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**MIL-STD-6018C**  
**29 January 2021**  
**Superseding**  
**MIL-STD-6018B**  
**15 December 2017**

# **DEPARTMENT OF DEFENSE INTERFACE STANDARD**

## **INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) STANDARD**



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1. This Military Standard is approved and mandatory for use by all Departments and Agencies of the Department of Defense that forward data onto the affected tactical data links implementing the IBS Common Message Format.
2. Beneficial comments (i.e., recommendations, additions, and/or deletions) and pertinent data which may be of use in improving this document may be submitted to:

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# DEPARTMENT OF DEFENSE INTERFACE STANDARD

## INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) STANDARD

### MAIN SECTION 1 – INTRODUCTION



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## SECTION 1

1 SCOPE1.1 PURPOSE OF DOCUMENT

1.1.1 This document describes the Integrated Broadcast Service (IBS) Common Message Format (CMF) implementation guidelines. CMF is a highly extensible format to be used for the exchange of near-real-time tactical information over existing and new line-of-sight, satellite, and terrestrial networks. Narrowband networks with extremely limited bandwidth and wideband networks with significant bandwidth are both specifically supported.

1.1.2 CMF is a single format with two representations, a compact binary version and a more human-readable Extensible Markup Language (XML)-compliant American Standard Code for Information Interchange (ASCII) version. The binary version, referred to as CMF-B, is optimized for limited bandwidth environments (but can also be used on other mediums). The XML-compliant version, named CMF-X, is for wideband networks and for use in environments where commercial XML technology can be utilized. Conversion between CMF-B and CMF-X is one-to-one and lossless, as they are both just separate representations of CMF and not separate formats.

1.1.3 CMF was developed as a generic format like XML and was built on XML concepts. CMF has constructs such as INTEGER, FLOAT, GROUP, etc. that are generic and can be understood separately from the elements and data values that comprise IBS intelligence information (i.e. Latitude, Longitude). The CMF Data Specification describes the generic building blocks of the format and is contained in [Appendix D](#) of this standard.

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1.1.4 This document, in conjunction with the resulting operational implementation files (e.g. the *IBS CMF Document Type Definition (DTD)* file), forms the information necessary to support injection and receipt of data elements on IBS networks, i.e., primarily the Session Layer in an Open Systems Interconnect (OSI) model. NOTE: This document assumes the reader is familiar with the commercial XML standard including standard notations, structures, and usage for both DTD files and XML documents.

1.1.5 An additional document is available to aid software developers with incorporation of the IBS CMF Parser Library software, i.e., primarily the Presentation Layer in an OSI model, into their application software. The document is entitled *CMF Parser Library Developer's Guide (PLDG)*. Related parsing requirements are identified in [Appendix A](#), *Minimum Implementation*, and [Appendix H](#), *CMF Parser API Specification* of this document.

1.1.6 Definition of the protocols used to transfer data to radio or network equipment is not provided in this document. Radio and network interfacing information, i.e., primarily the Network, Transport, Datalink, and Physical layers in an OSI model, is found in separate documents applicable to the respective equipment and/or network.

1.1.7 **IMPORTANT:** A complete review, understanding, and adherence by all IBS network participants to the rules, formats, and protocols provided in the CMF documentation is critical to the operation of the IBS networks. ANY question regarding the interpretation or intent should be addressed to the IBS community and resolved PRIOR to any implementation.

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1.2 BACKGROUND

1.2.1 In a Memorandum dated 24 October 1995, the Assistant Secretary of Defense for Command, Control, Communications and Intelligence (ASD/C3I) established the IBS Program. In a separate Memorandum dated 7 September 1999, ASD/C3I directed the use of a modified Tactical Information Broadcast Service Revision E format as the common IBS over-the-air message format. Additionally, the ASD/C3I Memorandum directed that the common IBS over-the-air message format will be adopted as a separate technical interface design within the J-series family of TDLS.

1.2.2 Military commanders involved across the military operations continuums require timely and accurate information and intelligence to successfully execute their missions. They employ intelligence data in direct support of command and control (C2), weapons, and sensors. Effective dissemination of this tactical and strategic intelligence requires secure, worldwide data communications with prioritized use of available bandwidth between producers and users at all echelons of command. IBS is a theater tailored dissemination architecture with global connectivity using a standardized format that is fully interoperable with current and programmed tactical and strategic warfare systems.

1.2.3 For dissemination, a robust, flexible architecture, using communication paths available through the Department of Defense Information Network (DODIN) and other communications systems as necessary, is being developed. This architecture focuses on the diverse communications capabilities of the users, those highly mobile, tactical users with limited communications bandwidth and higher echelon units with robust communications bandwidth. To the maximum extent possible, IBS will take advantage of the available bandwidth and disseminate data needed by these users across the frequency spectrum (e.g., Extremely High Frequency (EHF), Super High Frequency

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(SHF)) and high throughput communications systems (e.g., Defense Satellite Communications System (DSCS), and Military Satellite and Tactical Relay System (MILSTAR)). This allows for the limited Ultra High Frequency (UHF) communications paths to be optimized to support the highly mobile tactical users while retaining the capability to support all users should higher throughput communications not be available. Receivers will be standardized with the Common IBS Modules (CIBS-M) and Joint Tactical Terminal (JTT)/Joint Tactical Radio System (JTRS).

1.2.4 Information management capabilities are developed to augment Combatant Commanders (COCOMs) and Joint Task Force (JTF) intelligence and communications architectures. IBS incorporates dynamic user-defined prioritization and tasking to make the greatest use of available communications bandwidth, optimize use of sensor systems, and obtain the best operational utility. Global Command and Control System (GCCS)/Joint Command and Control (JC2) compatible capabilities are identified or developed to assist the theaters in deconflicting and correlating possible data conflicts resulting from the routing of information from multiple producers into composite channels. To reduce stand-alone information management systems, IBS integrates into theater communications network management functions to manage IBS broadcast requirements, wherever possible. Additionally, current communications between producers are enhanced with a network to facilitate more efficient tip-off and coordination. Users, with full duplex capability, have the ability to query producers and information providers for additional amplifying information.

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1.3 INTEROPERABILITY STANDARDS SUPPORT

MIL-STD-6018 supports the requirements for the joint tactical command, control, communications, and intelligence (C3I) interoperability standards as set forth in Department of Defense (DOD) Directive 4630.5, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)", DOD Instruction 4630.8, "Procedures for Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)", and CJCSI 3170.01 Series, "Operation of the Joint Capabilities Integration and Development System." These interoperability standards are detailed sufficiently in terms of message, data element, and protocol requirements to be referenced in supporting system, subsystem, and software specifications by service and agency development organizations and system development or maintenance contractors.

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**1.4 APPLICABILITY**

MIL-STD-6018 applies to all Tactical Data Processors (TDP) in development and operation that are required to interoperate with one or more other Service TDPs over an IBS data link. It contains message and data element standards for implementation on inter-service IBS interfaces. MIL-STD-6018 is not intended to design or specify actual TDP or operator displays or other man-machine interfaces.

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## 1.5 DOCUMENT STRUCTURE

MIL-STD-6018 is organized in six sections and ten appendices as described below. [Section 1](#) - Provides the scope, purpose, applicability, structure, background, coordination, and configuration management (CM). [Section 2](#) - Lists the applicable documents and standards used in developing this document and operating and interfacing with the IBS CMF. [Section 3](#) - Contains a glossary of terms and definitions. Certain terms concerning interoperability, compatibility, and commonality are included, as well as other terms that have discrete meaning within this document. [Section 4](#) - Contains the general requirements for both producers and users interfacing to IBS. It also contains the general requirements and overview of the messages of the IBS CMF. [Section 5](#) - Contains detailed requirements and procedures for interfacing to IBS. It contains detailed information on message and data elements of the IBS CMF. [Section 6](#) - Contains notes of a general nature that would be helpful in the use of this document. It also contains the Interface Change Proposals (ICPs) that have been incorporated into this document. The appendices to this document are described below.

### 1.5.1 [APPENDIX A](#) - MINIMUM IMPLEMENTATION

[Appendix A](#) identifies the minimum requirements that must be met by all users or producers interfacing with IBS. Satisfaction of these minimum requirements is mandatory to prevent adverse effects on the interface or IBS.

### 1.5.2 [APPENDIX B](#) - DATA ELEMENT DICTIONARY (DED)

[Appendix B](#) contains the data elements used in IBS. Appendix B, Part 1 contains descriptions of all Field elements. Appendix B, Part 2 contains descriptions of all Non-Field elements.

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## 1.5.3 [APPENDIX C](#) - [ELEMENT NAME AND ENUMERATION ABBREVIATIONS](#)

[Appendix C](#) provides guidelines for both determining and utilizing acceptable abbreviations and acronyms, hereafter to be identified as abbreviations. This appendix also provides the list of abbreviations approved by CMF governing bodies.

## 1.5.4 [APPENDIX D](#) - [DATA SPECIFICATION](#)

[Appendix D](#) provides an explanation of the structure, construction, data conventions, and maintenance procedures followed to utilize CMF.

## 1.5.5 [APPENDIX E](#) - [CMF BINARY TAG ASSIGNMENTS](#)

[Appendix E](#) provides the list of assigned CMF Tags and guidance for Tag assignment.

## 1.5.6 [APPENDIX F](#) - [CMF HEADER](#)

[Appendix F](#) provides a description and uses of the CMF Header.

## 1.5.7 [APPENDIX G](#) - DISUSED

## 1.5.8 [APPENDIX H](#) - [CMF PARSER API SPECIFICATION](#)

[Appendix H](#) defines both the Application Programming Interface (API) and behavioral requirements for the implementation of CMF parsing, encoding, and decoding solutions.

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1.5.9 [APPENDIX I](#) - [FUNCTIONAL IMPLEMENTATIONS](#)

[Appendix I](#) describes additional implementation guidance for unique types of reporting such as Theater Ballistic Missile, Geo-Observables, Unattended Ground Sensor, and Specific Emitter Identification reporting.

1.5.10 [APPENDIX J](#) - [REFERENCE TABLES](#)

[Appendix J](#) provides several reference tables including numbering and mathematical systems conversion as well as a list of constants and equivalent measures.

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1.6 COORDINATION

The IBS Message Standards Working Group (MSWG) developed this MIL-STD. It is based on information produced by and coordinated with the U.S. Army, U.S. Navy, U.S. Air Force, U.S. Marine Corps, the National Security Agency, and Global IBS Support Center (GIBSSC).

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## **1.7 CONFIGURATION MANAGEMENT**

Configuration Management of MIL-STD-6018 is the responsibility of the IBS Broadcast Joint Configuration Control Board (BJCCB) and the Joint Multi-TDL Configuration Control Board (JMTCCB).

### **1.7.1 RESPONSIBILITIES**

1.7.1.1 The IBS Community is responsible for the Configuration Management of MIL-STD-6018 as it relates to those functions within the boundaries of the IBS Broadcast at a data element level. IBS interaction and interoperability with the Link 16 and Variable Message Format (VMF) communities is staffed and approved through the IBS Broadcast Joint Configuration Control Board (BJCCB) before being sent to the Joint Message Standards Working Group (JMSWG) or the Joint Multi-TDL CCB for Configuration Management.

1.7.1.2 The JMSWG and the JMTCCB are responsible for configuration management of MIL-STD-6018 relating to any information, at the data element level, which crosses the boundaries between the IBS Community and the Link 16 and VMF communities. Configuration management responsibilities and procedures required to maintain these parts of MIL-STD-6018 are identified in Joint Interoperability and Engineering Organization (JIEO) Plan 3200 and the Joint Multi-TDL CCB Terms of Reference (TOR).

### **1.7.2 CHANGES**

1.7.2.1 Interface Change Proposals (ICPs) relating to MIL-STD-6018 will be prepared, submitted via the IBS BJCCB Secretariat, and processed in accordance with the IBS Configuration Management Plan.

1.7.2.2 BJCCB approved ICPs to MIL-STD-6018 will be submitted, and processed in accordance with the JMTCCB Terms of Reference (TOR). The Defense Information Systems Agency (DISA) will promulgate Approved/Disapproved changes to appropriate participants.

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1.8 DOCUMENTATION CLASSIFICATION

MIL-STD-6018 is classified in accordance with the IBS Security Classification Guide.

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1.9 DISTRIBUTION

1.9.1 Initial distribution of MIL-STD-6018 and any changes to it will be in accordance with the distribution list maintained by the IBS BJCCB. Corrections, additions, and deletions to the distribution list will be made in writing to the IBS BJCCB via Command, Services, and Agencies BJCCB principals and should be addressed to:

IBS BJCCB SECRETARIAT  
C/O GIBSSC  
9800 Savage Road Suite 6682  
Ft. George G. Meade, Md. 20755-6682  
OR  
Unclassified email address [IBS\\_CM@nsa.gov](mailto:IBS_CM@nsa.gov)

1.9.2 Upon final approval of MIL-STD-6018, distribution will be in accordance with established DISA procedures.

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29 January 2021  
Superseding  
MIL-STD-6018B  
15 December 2017**

# **DEPARTMENT OF DEFENSE INTERFACE STANDARD**

## **INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) STANDARD**

### **MAIN SECTION 2 – APPLICABLE DOCUMENTS**



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## SECTION 2

2 APPLICABLE DOCUMENTS2.1 GENERAL

The documents listed in this section are either referenced in portions of MIL-STD-6018 or were used as the basis for its content. While every effort has been made to ensure completeness of this list, MIL-STD-6018 users are cautioned that they must meet all specified requirements of documents cited in this document, whether or not they are listed.

2.2 GOVERNMENT SPECIFICATIONS AND STANDARDS

2.2.1 MIL-STD-962 - Defense Standards Format and Content

2.2.2 MIL-STD-6016 - Tactical Data Link (TDL) 16 Message Standard

2.2.3 MIL-STD-6017 - Variable Message Format (VMF)

2.2.4 MIL-STD-6020 - Data Forwarding Between Tactical Data Links (TDLs)

2.2.5 DoD Instruction 8330.01 - Interoperability of Information Technology (IT), including National Security Systems (NSS)

(Copies of this document are available at  
<http://www.esd.whs.mil/Directives/issuances/dodi/>)

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- 2.2.6 CJCSI 6610.01 - Tactical Data Link Standardization and Interoperability  
(Copies of this document are available at  
<http://www.jcs.mil/Library/CJCS-Instructions/>)
- 2.2.7 DISUSED
- 2.2.8 DISUSED
- 2.2.9 Geopolitical Entities, Names, and Codes (GENC) Standard  
(Copies of this document are available at  
[nsgreg.nga.mil/genc](http://nsgreg.nga.mil/genc))
- 2.2.10 ISO 3166-1 - Codes for the Representation of Countries and their Subdivisions - Part 1: Country Codes
- 2.2.11 National System For Geospatial Intelligence (NSG) Directive 2-1 - Exploitation And Reporting Structure (EARS-2): Electronic Reporting
- 2.2.12 Army Headquarters Manual FM 2-22.3, Human Intelligence Collector Operations, Appendix B - Source and Information Reliability Matrix  
(Copies of this document are available at  
<http://www.apd.army.mil>)
- 2.2.13 United States Signals Intelligence Directive (USSID CR1553)
- 2.2.14 Joint Publication 1-02 - Department of Defense Dictionary of Military and Associated Terms  
(Copies of this document are available at  
[www.dtic.mil/doctrine/new\\_pubs/jp1\\_02.pdf](http://www.dtic.mil/doctrine/new_pubs/jp1_02.pdf))

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2.2.15 DoD Instruction 8310.01 - Information Technology Standards in the DoD  
(Copies of this document are available at  
<http://www.esd.whs.mil/Directives/issuances/dodi/>)

**2.3 IBS SPECIFICATIONS, DOCUMENTATION, AND PRODUCTS**

- 2.3.1 Operational Requirements Document (ORD) for the Integrated Broadcast Service (IBS)  
(Copies of this document are available at  
<https://intelshare.intelink.sgov.gov/sites/ibs/SitePages/Home.aspx> (SIPRNet))
- 2.3.2 Integrated Broadcast Service (IBS) Enterprise Concept of Operations (CONOPS)  
(Copies of this document are available at  
<http://ibssso.web.nsa.smil.mil/> (SIPRNet))
- 2.3.3 Integrated Broadcast Service (IBS) Configuration Management Plan (CMP)  
(Copies of this document are available at  
<https://intelshare.intelink.sgov.gov/sites/ibs/SitePages/Home.aspx> (SIPRNet))
- 2.3.4 Integrated Broadcast Service (IBS) Common Message Format (CMF) Document Type Definition (DTD)  
(Copies of this document are available at  
<https://intelshare.intelink.sgov.gov/sites/ibs/> (SIPRNet))

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- 2.3.5 Integrated Broadcast Service (IBS) Common Message Format (CMF) Mnemonics Files  
(Copies of this document are available at <https://intelshare.intelink.sgov.gov/sites/ibs/> (SIPRNet))
- 2.3.6 Integrated Broadcast Service (IBS) Common Message Format (CMF) Parser Library Developer's Guide  
(Copies of this document are available at <https://intelshare.intelink.sgov.gov/sites/ibs/> (SIPRNet))
- 2.3.7 Integrated Broadcast Service (IBS) Common Interactive Broadcast (CIB) Interoperability Specification (IOS)  
(Copies of this document are available from the IBS Executive Agent)
- 2.3.8 IBS Security Classification Table (SCT)  
(Copies of this document are available at <https://intelshare.intelink.sgov.gov/sites/ibs/SitePages/Home.aspx> (SIPRNet))
- 2.4 COMMERCIAL SPECIFICATIONS, STANDARDS, AND DOCUMENTATION
- 2.4.1 Extensible Markup Language (XML), Specification 1.0, World-Wide-Web Consortium (W3C)  
(Copies of this document are available at [www.w3.org](http://www.w3.org))
- 2.4.2 Document Object Model (DOM) Level 1 Specification, World-Wide-Web Consortium (W3C)  
(Copies of this document are available at [www.w3.org](http://www.w3.org))

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2.5 OTHER DOCUMENTATION AND SOURCES

2.5.1 DISUSED

2.5.2 Tactical Information Broadcast Service (TIBS)  
Message Catalog

2.5.3 DISUSED

2.5.4 DISUSED

2.5.5 Tactical Data Intercomputer Message Format (TDIMF)

2.5.6 Broadcast Data Specification (BDS) for the TRAP  
Data Dissemination System (TDDS)

2.5.7 Source Data Specification (SDS) for the TRAP Data  
Dissemination System (TDDS)

2.5.8 Interoperability Standard for Tactical  
Reconnaissance Intelligence eXchange Service  
(TRIXS) UHF Network Waveform

2.5.9 Terms of Reference (TOR) for the Joint Multi-TDL  
Configuration Control Board  
(Copies of this document are available from the  
Joint Multi-TDL Configuration Control Board  
Chairman)

2.5.10 Military Equipment Parametrics and Engineering  
Database (MEPED)  
(Database is available at [www.meped.smil.mil](http://www.meped.smil.mil)  
(SIPRNet))

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2.5.11 SEAPORT On-line Database

(Database is available at

[mio.nmic.navy.smil.mil/seaport](http://mio.nmic.navy.smil.mil/seaport) (SIPRNet)

[mio.nmic.ic.gov/seaport](http://mio.nmic.ic.gov/seaport) (JWICS))

2.5.12 Interagency Intelligence Committee on Terrorism

(IICT), National Intelligence Priorities Framework

(NIPF) Counterterrorism (CT) Priorities

(Available at [nctc.sgov/iict.html](http://nctc.sgov/iict.html) (SIPRNet))

2.5.13 DoD Modernized Integrated Database (MIDB) Equipment

Codes Database

(Database is available at

<http://www.equipmentcode.smil.mil> (SIPRNet) and

<https://www.equipmentcode.ic.gov> (JWICS))

2.6 ORDER OF PRECEDENCE

In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

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# **DEPARTMENT OF DEFENSE INTERFACE STANDARD**

## **INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) STANDARD**

### **MAIN SECTION 3 – DEFINITIONS**



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DEFINITIONS

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## SECTION 3

3 DEFINITIONS

This section has three subsections. [Subsection 3.1](#) contains acronyms and meanings. [Subsection 3.2](#) contains a list of terms and definitions contained in this document. [Subsection 3.3](#) contains terminology and description for the Extensible Markup Language (XML) conventions.

3.1 ACRONYMS AND MEANING

A list of acronyms and their meaning is contained in [Table 3.1-1](#). The table contains acronyms used throughout MIL-STD-6018. Note that [Appendix C](#), [Table C.2-2](#) contains a list of acronyms and abbreviations approved specifically for use in CMF element, attribute, and enumerated names and values. These acronyms are also listed in [Table C.2-2](#), and in most cases are identical to those defined in [Table 3.1-1](#). See [Appendix C](#) for additional CMF element naming guidelines.

Table 3.1-1 Acronyms and Meanings

(Sheet 1 of 8)

ACRONYM	MEANING
2D	Two Dimensional
3D	Three Dimensional
AARGM	Advanced Anti-Radiation Guided Missile (replaces HARM)
ADEPT	Algorithm Development of Enhanced Processing Techniques
AEN	Arbitrary ELINT Notation
AIS	Automatic Identification System (Maritime Identification)
AKA, aka	Also Known As
ANSI	American National Standards Institute
AOA	Angle Of Arrival
API	Application Programming Interface
ARH	Anti-Radiation Homing
ASCII	American Standard Code for Information Interchange
ASD	Assistant Secretary of Defense

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Table 3.1-1 Acronyms and Meanings

(Sheet 2 of 8)

ACRONYM	MEANING
ASM	Air-to-Surface Missile
ASRAAM	Advanced Short-Range Air-to-Air Missile
BAS	Broad Area Search
BDA	Battle Damage Assessment
BE	Basic Encyclopedia
BFT	Blue Force Tracking (aka FFT)
BHI	Bomb Hit Indication
BJCCB	Broadcast Joint Configuration Control Board
BLOB	Binary Large OBject
BPS	Bits Per Second
C2	Command and Control
C3I	Command, Control, Communications, and Intelligence
C4I	Command, Control, Communications, Computer, and Intelligence
CAPI	CMF Application Programming Interface
CCB	Configuration Control Board
CED	Combined Emitter Database
CENOT	Communications Emitter Notation
CGI	CSEL Group Identification
CIB	Common Interactive Broadcast
CIBS-M	Common IBS - Module
CM	Configuration Management
CMF	Common Message Format
CMF-B	Common Message Format - Binary version
CMF-X	Common Message Format - XML compatible version
CMFPL	Common Message Format Parser Library
CNO	Chief Naval Operations
COBRA	Collection of Broadcasts from Remote Assets
COCOM	Combatant Commander
COMSEC	Communications Security
CONOPS	Concept of Operations
COTS	Commercial Off-The-Shelf
CSAR	Combat Search and Rescue
CSEL	Combat Survivor Evader Locator
CUI	Controlled Unclassified Information
CUS	CIB Uplink Site

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Table 3.1-1 Acronyms and Meanings

(Sheet 3 of 8)

ACRONYM	MEANING
DI	Data Item
DED	Data Element Dictionary
DFI	Data Field Identifier
DISA	Defense Information Systems Agency
DLCP	Data Link Change Proposal
DM	Data Mile(s)
DMPH	Data Miles Per Hour
DOD	Department of Defense
DODIN	Department of Defense Information Network
DOM	Document Object Model
DSA	Directed Search Area
DCS	Defense Satellite Communications System
DTD	Document Type Definition
DUI	Data Use Identifier
EA	Electronic Attack
EARS	Exploitation and Reporting Structure
ECF	Earth-Centered Fixed
ECR	Electronic Combat/Reconnaissance
EHF	Extremely High Frequency
ELINT	Electronic Intelligence
ENTR	Embedded National Tactical Receiver
EO	Electro-Optical
EOB	Electronic Order of Battle
EP	Electronic Protect
ES	Electronic Warfare Support
ESM	Electronic Support Measures
ESP	External Signal Parameters
EUN	Entity Update Number
EW	Electronic Warfare
FDM	Frequency Division Multiplex (aka Frequency Domain Multiplexing)
FFT	Friendly Force Tracking (aka BFT)
FIS	Foreign Instrumentation Signals
FOUO	For Official Use Only
FTR, FTRS	Fighter, Fighters

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Table 3.1-1 Acronyms and Meanings

(Sheet 4 of 8)

ACRONYM	MEANING
GCCS	Global Command and Control System
GENC	Geopolitical Entities, Names, and Codes
GIBSSC	Global IBS Support Center
GID	Global IDentifier
GPS	Global Positioning System
GTN	Global Track Number
HARM	High-Speed Anti-Radiation Missile
HF	High Frequency
HHR	Hand Held Radio
HUMINT	Human Intelligence
Hz	Hertz
I&W	Indications and Warning
IBS	Integrated Broadcast Service
IBS-I	Integrated Broadcast Service - Interactive
IBS-N	Integrated Broadcast Service - Network
IBS-NS	IBS Network Services
IBS-S	Integrated Broadcast Service - Simplex
ICP	Interface Change Proposal
ICR	IBS Change Request
IFF	Identification Friend or Foe
IIR	Imaging Infrared
IMO	International Maritime Organization
INS	Inertial Navigation System
IP	Isolated Person
IPB	Intelligence Preparation of the Battlefield
IR	Infrared
IRBSA	Infrared Battlespace Situational Awareness
ISR	Intelligence, Surveillance, and Reconnaissance
IT	Information Technology
JBFSA	Joint Blue Force Situational Awareness
JC2	Joint Command and Control
JCS	Joint Chiefs of Staff
JFC	Joint Force Commander
JIEO	Joint Interoperability Engineering Organization
JITC	Joint Interoperability Test Command
JMSWG	Joint Message Standards Working Group

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Table 3.1-1 Acronyms and Meanings

(Sheet 5 of 8)

ACRONYM	MEANING
JMTCCB	Joint Multi-TDL Configuration Control Board
JPRC	Joint Personnel Recovery Center
JRE	Joint Range Extension
JTF	Joint Task Force
JTIDS	Joint Tactical Information Distribution System
JTRS	Joint Tactical Radio System
JTT	Joint Tactical Terminal
JU	JTIDS Unit
KEYMAT	Keying Material
KHz	Kilohertz
LAN	Local Area Network
LASER	Light Amplification by Stimulated Emission of Radiation
LOB	Line-of-Bearing
LOC	Lines of Communication
LORAN	Long Range Aid to Navigation
LOS	Line of Sight
LPE	Low Probability of Exploitation
LSB	Least Significant Bit
LZ	Landing Zone
MEPED	Military Equipment Parametrics and Engineering Database
MIDB	Modernized Integrated DataBase
MIL-STD	Military Standard
MILSTAR	Military Satellite and Tactical Relay System
MMSI	Maritime Mobile Service Identity
MMW	Millimeter Wave
MSB	Most Significant Bit
MSL	Mean Sea Level
MSWG	Message Standards Working Group
MW	Missile Warning
NAN	Not A Number
NATO	North Atlantic Treaty Organization
NCOW	Net-Centric Operations and Warfare
NEWR	Network-Enabled Weapon Reporting
NFI	Non-Field Identifier
NIIRS	National Imagery Interpretability Rating Scale
NM	Nautical Mile(s)

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Table 3.1-1 Acronyms and Meanings

(Sheet 6 of 8)

ACRONYM	MEANING
NRT	Near Real-Time
NRTD	Near Real Time Dissemination
NSG	National System for Geospatial Intelligence
ONI	Office of Naval Intelligence
OPIR	Overhead Persistent Infrared
ORD	Operational Requirements Document
OSI	Open Systems Interconnect - 7-layer networking model
OSM	Operational Status Message
OTA	Over the Air
PDW	Pulse Descriptor Word
PGM	Precision-Guided Munitions
PIN	Place Identification Number
PLDG	Parser Library Developer's Guide
PRF	Pulse Repetition Frequency
PRI	Pulse Repetition Interval
PU	Participating Unit
PW	Pulse Width
PZ	Pickup Zone
R2	Reporting Responsibility
RF	Radio Frequency
RIT	Rapid Information Transmission
RT	Real-Time
RU	Reporting Unit
RWAC	Rapid Worldwide Area Collection
SAM	Surface-to-Air Missile
SAR	Search And Rescue
SCONUM	Ship Control Number
SCT	Security Classification Table
SEI	Specific Emitter Identification
SEW	Shared Early Warning
SHF	Super High Frequency
SIF	Selective Identification Feature
SIGINT	Signals Intelligence
SIPRNET	Secret Internet Protocol Router Network
SIS	Special Information System

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Table 3.1-1 Acronyms and Meanings

(Sheet 7 of 8)

ACRONYM	MEANING
STI	Security Table Index
TADIL	Tactical Digital Information Link
TBM	Theater Ballistic Missile
TBMD	Theater Ballistic Missile Defense
TCP/IP	Transmission Control Protocol/Internet Protocol
TDDS	TRAP Data Dissemination System
TDL	Tactical Data Link
TDMA	Time Division Multiple Access
TDOA	Time Difference Of Arrival
TDP	Tactical Data Processor
TES	Theater Event System
TIBS	Tactical Information Broadcast Service
TIDP-TE	Technical Interface Design Plan - Test Edition
TMW	Theater Missile Warning
TOE	Time of Entry
TOI	Time of Intercept
TOR	Terms of Reference
TOT	Time of Transmission
TQ	Track Quality
TRAP	Tactical Related Applications
TRIXS	Tactical Reconnaissance Intelligence eXchange Service
UAV	Unmanned Aerial Vehicle
UBS	UHFSATCOM Base Station
UGS	Unattended Ground Sensor
UHF	Ultra High Frequency (300-3000 MHz)
UIC	Urgent Interim Capability
URL	Uniform Resource Locator
URN	Unit Reference Number
USMTF	United States Message Text Format
USSID	United States Signal Intelligence Directive
USSTRATCOM	United States Strategic Command
VGC	Voice Grade Channel
VHF	Very High Frequency
VMF	Variable Message Format
W3C	World Wide Web Consortium
WAC	World Aeronautical Chart

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Table 3.1-1 Acronyms and Meanings

(Sheet 8 of 8)

ACRONYM	MEANING
WGS-84	World Geodetic System-84
WIA	Weapons Impact Assessment
WIFT	Weapon In Flight Tracking
WMO	World Meteorological Organization
WWSTAR	Worldwide Standard Reference
XAPI	XML Application Programming Interface
XML	Extensible Markup Language

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**3.2 TERMS AND DEFINITIONS**

A list of terms and definitions is contained in [Table 3.2-1](#).

Table 3.2-1 Terms and Definitions

(Sheet 1 of 11)

TERM	DEFINITION
abort	Act of premature termination of an activity or process.
amplify; amplification	Act or process of expanding or enhancing the information details associated with a track through the manipulation of unique descriptive fields.
association	The automatic or manual establishment of a relationship (other than positional) between two or more tracks when the information on them is deemed to pertain to the same contact.
assumed friend	A track which is assumed to be a friend because of its characteristics, behavior, or origin.
bandwidth	Range within a band of wavelengths or radio frequencies which is occupied by a modulated carrier wave and assigned to a service for operational activities.
bit	A binary digit. In the binary system of numbering, each digit can only have one of two values (0 or 1).
bps	Bits per second.
Chaining	Act or process used to identify relationships between two or more separate entities being reported on a network or datalink, i.e., pairings and correlations.

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Table 3.2-1 Terms and Definitions

(Sheet 2 of 11)

TERM	DEFINITION
CMF Document	A package or container for the transfer of one or more CMF messages over the IBS Enterprise.
command	An order given by a commander; that is, the will of the commander expressed for the purpose of bringing about a particular action. (Joint Pub 1-02)
Common Message Format	A data structure that allows flexibility and extensibility in the creation and maintenance of messages and data fields.
compatibility	The capability of two or more items or components of equipment or materiel to exist or function in the same system or environment without mutual interference. (Joint Pub 1-02)
composite (noun)	A group of CMF elements which are always sent together.
composite (verb)	The act of combining two or more CMF elements together into a composite (noun).
Control	The near real-time direction of weapons systems and supporting platforms for the accomplishment of assigned missions.
correlate; correlation	Chaining process used to join or couple separate entity reports being reported on a network or datalink to denote they are recognized as the same physical entity, e.g., ELINT emanating from a Radar site.
data	Basis of coded, factual information.
database	A collection of data elements organized for search and retrieval.

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Table 3.2-1 Terms and Definitions

(Sheet 3 of 11)

TERM	DEFINITION
data element	A basic unit (class) of information having a unique meaning and subcategories (data items) of distinct units or values. Examples of data elements are military personnel grade, sex, race, geographic location, and military unit. (Joint Pub 1-02)
Data Field Identifier (DFI)	A category of data whose specification includes one or more Data Use Identifier (DUI) specifications. Each DUI's class of data must fall within the bounds of the DFI category.
data forwarding	The process of receiving data on one digital data link and outputting the data, using proper format and link protocols, to another type of digital data link(s). In the process, a message(s) received on one link is translated to an appropriate message(s) on another link. Data forwarding is accomplished by the selected forwarding units(s) simultaneously participating on more than one type of data link. The data that is forwarded is based on the data received and is not dependent upon the local system data of the data forwarding unit or its implementation of the received message or the forwarded message.
Data Item (DI)	A subunit of descriptive information or value classified under a data element. For example, the data element "military personnel grade" contains data items such as sergeant, captain, and colonel. (Joint Pub 1-02).
datalink or data link	The means of connecting one location to another for the purpose of transmitting and receiving data. (Joint Pub 1-02)
Data Mile (DM)	A standard unit of distance - 6000 feet. (Joint Pub 1-02)

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Table 3.2-1 Terms and Definitions

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TERM	DEFINITION
data package	A quantity, number, or section of factual information with a specified beginning and a specified ending (see also: block [of data]).
data prioritization	Process of ranking data prior to broadcast over a network or datalink to ensure the highest-to-lowest priority information is distributed first-to-last (directly related to the timeliness categories as defined in the ORD).
data provider(s)	Primary agent(s) or supplier(s) of electronic data via a network or datalink.
Data Use Identifier (DUI)	A data element (class of data). The DUI specification determines the name and permitted contents of each message field to which the DUI is assigned, as explained below. A Data Field Identifier (DFI) specification includes a specification for each DUI under that DFI. Each DUI specification identifies the DUI name, and the data items and associated bit codes employed by the DUI.
deactivate	Act or process of causing an element to become either temporarily or permanently inactive on a network or datalink.
Default Condition	The state automatically assumed by a terminal's hardware or software in the absence of an input directing otherwise.
Directive	(1) A military communication in which policy is established or a specific action is ordered. (Joint Pub 1-02) (2) A plan issued with a view to putting it in effect when so directed, or in the event that a stated contingency arises. (Joint Pub 1-02) (3) Broadly speaking, any communication that initiates or governs action, conduct, or procedure. (Joint Pub 1-02)

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Table 3.2-1 Terms and Definitions  
(Sheet 5 of 11)

TERM	DEFINITION
drop track	Terminate reporting of a selected track (see also: Tell Off).
Emergency	Designation of high importance assigned to individual tracks to denote information of such a nature as to require immediate response from friendly elements to prevent loss of life - if a system is configured to do so, overrides all receive filters.
emitter	Actual or associated physical entity causing the radiation of electromagnetic waves, e.g., a radio antenna, radio, or radar.
encrypt; encryption	Act or process of converting a message into cipher.
entity	Any object maintaining a separate and self-containing existence, e.g., a track entity
Faker	Friendly track acting as a hostile for exercise purposes.
field	A particular area within a data set or package that is regularly recorded or filled with information.
filter	Act or process of intentionally minimizing or suppressing the data pass-through from one processor or source to another.
Flash	Designation of importance assigned to individual tracks allowing producers to request better accuracy in the location reported for a given track.
Force	Designation of importance assigned to individual tracks to denote tactical information of higher priority to consumers - if a system is configured to do so, overrides all receive filters.

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Table 3.2-1 Terms and Definitions

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TERM	DEFINITION
forwarding	Act or process of intentionally passing data from one processor or source to another.
friend	A track belonging to a declared friendly nation.
High Interest	Designation of importance to denote a particular interest to network or datalink consumers.
host	Of or pertaining to that processor or group of processors that interact directly with the operator to perform producer functions (see also: operator interface).
hostile	A track declared to belong to any opposing nation, party, group, or entity, which by virtue of its behavior or information collected on it such as characteristics, origin or nationality, contributes to the threat to friendly forces.
intelligence	The product resulting from the collection, processing, integration, analysis, evaluation, and interpretation of available information concerning foreign countries or areas. (Joint Pub 1-02)

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Table 3.2-1 Terms and Definitions

(Sheet 7 of 11)

TERM	DEFINITION
Interoperability	(1) The ability of systems, units or forces to provide services to and accept services from other systems, units or forces and to use the services so exchanged to enable them to operate effectively together. (Joint Pub 1-02) (2) The condition achieved among communications-electronics systems or items of communications-electronics equipment when information or services can be exchanged directly and satisfactorily between them and/or their users. The degree of interoperability should be defined when referring to specific cases. (Joint Pub 1-02) (3) The ability to exchange data in a prescribed manner and the processing of such data to extract intelligible information which can be used to control/coordinate operations.
Joint	Connote activities, operations, organization, etc., in which elements of more than one Service of the same nation participate. (Joint Pub 1-02)
Joker	Friendly track acting as a suspect for exercise purposes.
Julian Day	Specific, numbered day of the current year (from 1 to 366) based upon Greenwich Mean Time.
keyword	XML attribute names reserved by CMF for implementation of the format.
Link 11	An automatic HF/UHF data link exchanging picture compilation, command status and control information, using M-Series messages, a Roll Call protocol and either a parallel transmission (kineplex) frame (CLEW) or a single tone waveform (SLEW) characteristics at either 2250 or 1364 bits per second (for CLEW) or 2400 symbols per second (for SLEW). AKA: TADIL-A

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Table 3.2-1 Terms and Definitions

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TERM	DEFINITION
Link 16	A secure, jam-resistant, nodeless data link which utilizes the Joint Tactical Information Distribution System, and the protocols, conventions and fixed word message formats defined by the MIL-STD-6016. Aka: TADIL-J
mandatory field	A field which must always be reported by the producer.
message	Any thought or idea expressed briefly in a plain, coded, or secret language, prepared in a form suitable for transmission by any means of communications. (Joint Pub 1-02)
Message Standard	A set of protocols consisting of rules, procedures, formats, data element definitions, or other conventions for information exchange and related interactions agreed upon between cooperating systems to ensure interoperability.
message translation	The process by which a message or sequence of messages received on one data link is transformed to the appropriate message or message sequence required for transmission on another data link.
mnemonic	Of, from, or pertaining to a Mnemonics List containing an authorized list of terms for use in specific ASCII fields on a datalink and their approved standard abbreviations.
mode	Any of the available forms or variances of operation available to a datalink, i.e., LOS or Satellite mode.
network	A system or group of computers and terminals interconnected normally by wire. Also often referred to for interconnection by radio wave (aka data link).

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Table 3.2-1 Terms and Definitions

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TERM	DEFINITION
neutral	A track whose characteristics, behavior, origin, or nationality indicate that it is neither supporting nor opposing friendly forces.
Non-Field Identifier (NFI)	NFIs represent one of the four types of IBS non-field elements (Composite, Group, Packed, Repetitive). NFIs are composed of a digraph which represents the data element type and three digits which represent a one-up number within the data element type (e.g. GP001).
operator interface	Of or pertaining to that processor or group of processors that interact directly with the operator to perform datalink functions (see also: Host).
pair; pairing	Chaining process to identify a specific subject-to-object relationship between separate entities being reported on a network or datalink, e.g., one entity controlling another or engaging another, etc.
pair logic	Defines the reason for pairing two or more entities.
positive	Greater than zero; denoting the presence or conformity of something.
Pub	Publication.
remote	Associated with another unit other than the current subject unit.
reset	To delete the previously entered value and set again to No Data or Initial Value state.
scenario	An account or synopsis of a projected course of action or series of events.
SIGMA	Mathematical symbol and term for the Standard Deviation within a set of values.
Sign	A mathematical value (+ and/or -) that is used to characterize a number as either positive or negative.

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Table 3.2-1 Terms and Definitions

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TERM	DEFINITION
stale update	Cyclic (every 2 minutes) re-broadcast of all the available information associated with an individual track.
standard; standardization	Approved method or methodology in the performance of a task, activity, or procedure.
Security Table Index (STI)	Index to the Security Classification Table (SCT).
subnet	Sub-network.
subnet ID	Sub-network Identification (number).
suspect	Track which is potentially hostile because of its characteristics, behavior, origin, or nationality.
tactical	Of or relating to small-scale military actions that serve a larger purpose.
Tactical Data Link (TDL)	A Joint Chiefs of Staff (JCS) approved standardized communications link suitable for transmission of digital information. A TDL is characterized by its standardized message formats and transmission characteristics.
Tell	Basic designation of track(s) actively reported on a datalink (see also: Tell mode indicator).
theater	The entire land, sea and air area that is or may become directly involved in the operation of war.

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Table 3.2-1 Terms and Definitions  
(Sheet 11 of 11)

TERM	DEFINITION
Theater Event System (TES)	The Theater Missile Warning (TMW) mission, including Shared Early Warning (SEW), is largely accomplished by the Theater Event System (TES) and supports theater users primarily for passive defense, but also supports attack operations and active defense. The TES processes Overhead Persistent Infrared (OPIR) data into mission event and situational awareness data in the form of Missile Warning (MW) events and other events. In the future, TES may incorporate additional Infrared (IR) and radar sources.
transmission packet	Of or pertaining to all the data transmitted or received during a single net cycle time (aka: network packet).
VMF Unit	A system, platform, or unit communicating directly on a data link using VMF.
waveform	Representation of a radio wave that indicates its frequency and amplitude characteristics.

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## **3.3 EXTENSIBLE MARKUP LANGUAGE (XML) CONCEPTS**

### **3.3.1 INTRODUCTION**

Extensible Markup Language, abbreviated XML, describes a class of data objects called XML documents and partially describes the behavior of computer programs which process them. XML is an application profile or restricted form of SGML, the Standard Generalized Markup Language (ISO 8879). By construction, XML documents are conforming SGML documents. XML documents are made up of storage units called elements, which contain either parsed or unparsed data. Parsed data is made up of characters, some of which form character data, and some of which form markup. Markup encodes a description of the document's storage layout and logical structure. XML provides a mechanism to impose constraints on the storage layout and logical structure. A software module called an XML parser is used to read XML documents and provide access to their content and structure. It is assumed that an XML parser is doing its work on behalf of another module, called the application.

### **3.3.2 GOAL OF XML**

XML was developed by an XML Working Group (originally known as the SGML Editorial Review Board) formed under the auspices of the World Wide Web Consortium (W3C) in 1996. The design goals for XML are:

- a. XML will be straightforwardly usable over the Internet.
- b. XML will support a wide variety of applications.
- c. XML will be compatible with SGML.
- d. It will be easy to write programs which process XML documents.
- e. The number of optional features in XML is to be kept to the absolute minimum, ideally zero.
- f. XML documents should be human-legible and reasonably clear.

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- g. The XML design should be prepared quickly.
- h. The design of XML will be formal and concise.
- i. XML documents will be easy to create.
- j. Terseness in XML markup is of minimal importance

### 3.3.3 XML DOCUMENTS

Each XML document has both a logical and a physical structure. Physically, the document is composed of units called elements. An element may refer to other elements to cause their inclusion in the document. A document begins in a "root" or element. Logically, the document is composed of declarations, elements, comments, character references, and processing instructions, all of which are indicated in the document by explicit markup. The logical and physical structures must nest properly.

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**MIL-STD-6018C  
29 January 2021  
Superseding  
MIL-STD-6018B  
15 December 2017**

# **DEPARTMENT OF DEFENSE INTERFACE STANDARD**

## **INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) STANDARD**

### **MAIN SECTION 4 – GENERAL REQUIREMENTS**



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## GENERAL REQUIREMENTS

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## **4 GENERAL REQUIREMENTS**

### **4.1 GENERAL**

4.1.1 The IBS message standard provides a common method for formatting messages that is used by the IBS community to achieve joint interoperability. Interoperability is achieved by using the CMF.

4.1.2 This document provides message sets for use in all functional areas of IBS.

### **4.2 COMMON MESSAGE FORMAT (CMF) OVERVIEW**

#### **4.2.1 CMF PURPOSE**

4.2.1.1 The goal of IBS CMF is to provide capabilities to support the IBS data information exchange requirements. The IBS data requirements are documented in the IBS Data Element Dictionary (DED) (see [Appendix B](#)) and corresponding IBS Interface Change Proposals (ICPs) as they are developed and approved. CMF is originally based upon a combination of data capabilities from the Tactical Information Broadcast Service (TIBS), TRAP Data Dissemination System (TDDS), Tactical Reconnaissance Intelligence eXchange Service (TRIXS) networks, and Near-Real-Time Dissemination (NRTD) system.

4.2.1.2 As part of the TDL family, the IBS DED, which defines the data requirements for the IBS CMF, is harmonized with the MIL-STD-6016 DED for the Tactical Digital Information Link J (TADIL-J), also known as North Atlantic Treaty Organization (NATO) Link 16.

#### **4.2.2 CMF CONCEPT**

4.2.2.1 CMF provides fully extensible data types and flexible data structures to meet current and future tactical information requirements. An implementation of the commercial standard Extensible

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Markup Language (XML)<sup>1</sup> Document Type Definition (DTD) provides the basic data structure for CMF. By retaining DTD compatibility with the XML standard, commercially available tools can be used to create and maintain the DTD.

4.2.2.2 The DTD contains the implementation framework for the data elements and their tags, attributes, and structure to be found in an IBS data stream. Generic parsing software, which contains no hardcoded data information, uses the DTD to identify and parse data elements from the data stream. The contents of the DTD shall be based upon, and be compliant with, the data element names, ranges, and definitions found in the IBS DED.

4.2.2.3 Normally the IBS DED data elements are grouped into messages that describe one or more entities, define an identifiable function, or provide an object. The basic structure and representations of CMF do not directly identify messages, but messages may be defined within the data elements by the implementation of message identification elements in the DTD.

4.2.2.4 CMF provides two transmission representation types to support the narrowband and wideband mediums. CMF-B is an IBS custom, binary derivation of the XML tag-based standard developed for low bandwidth consumption, especially for such bandwidth-constrained networks as the Common Interactive Broadcast (CIB). Special attributes, rules, and parsing software exist for the CMF-B derivative of XML. Each CMF-X document (separately from any attached header, but also the header itself) is a "well-formed" and "valid" implementation of the XML commercial standard to be utilized primarily on mid to high bandwidth networks due to its fully character-based implementation.

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<sup>1</sup> Extensible Markup Language (XML), Specification 1.0

(<http://www.w3.org/TR/REC-xml>)

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4.2.2.5 CMF-X, being a true XML implementation, supports the use of commercially available tools, e.g., web browsers, for CMF-X parsing, databasing, and an XML Schema is available as well. A CMF Header is also defined (see [Appendix F](#)) to provide metadata assisting with the successful passage of CMF data across networks and can also be represented in either a CMF-X or CMF-B form. When used with the CMF Header, a packet of CMF has two root elements (CMF\_Hdr and CMF\_Doc) which shall be separate but related documents. In order to use standard XML tools on the pairings of separate but related header and data documents, transport headers such as CMF Header will need to be removed first.

4.2.2.6 The following two figures illustrate the use of packet, package and message in the context of this document.

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4.2.2.6.1 [Figure 4.2.2-1](#) shows the parts which are identified for a 'packet' of content and which shall be utilized for dissemination/receipt on a narrow or limited-bandwidth medium such as CIB:

## CIB Data Hierarchy

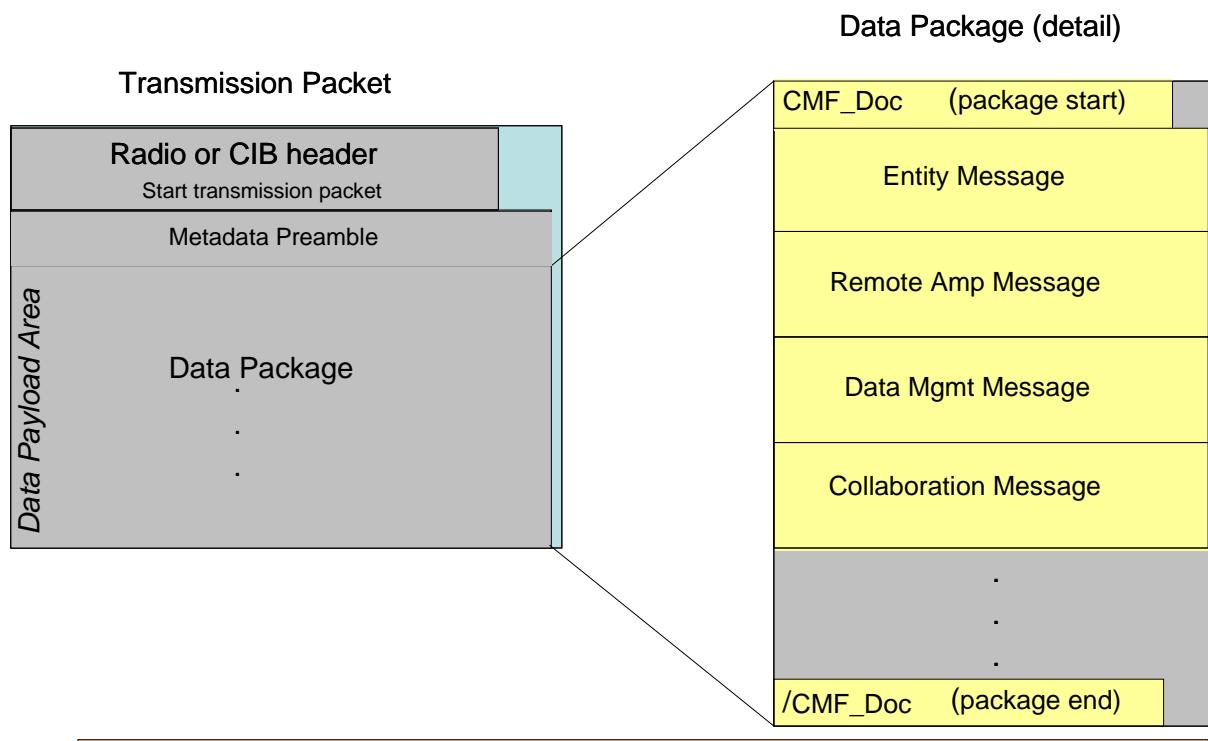


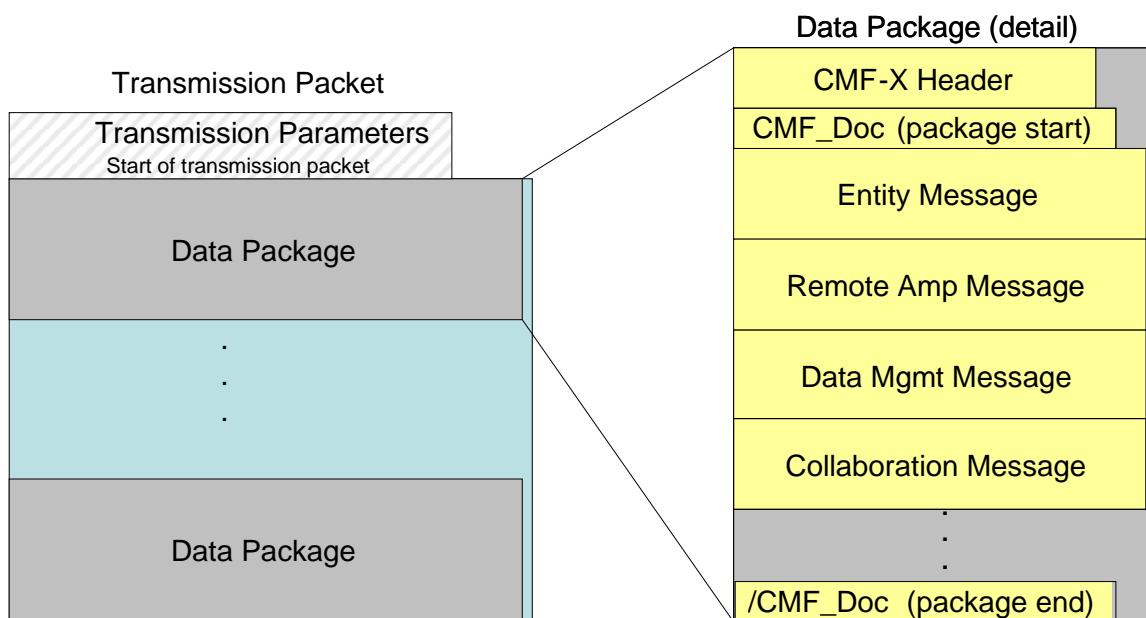
Figure 4.2.2-1 CIB 'PACKET' DESCRIPTION

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4.2.2.6.2 [Figure 4.2.2-2](#) shows the parts which are identified for a 'packet' of content and which shall be utilized for dissemination/receipt on a high bandwidth or XML-based medium (NOTE: this is not applicable to the CIB ICD LAN interface):

## Non-CIB Data Hierarchy



A transmission packet is a collection of data that is grouped together for transmission on a high bandwidth environment, typically a TCP/IP-based LAN. The diagram of the Transmission Packet above is only an inferential view and any actual transmission packets, depending upon the medium and/or protocol, may or may not be consistent with the diagram as depicted, but the data being transmitted will contain data packages that are groupings of related messages. Packages must contain a CMF Header containing security marking information and may also be logged to archive via functions within the CMF Header. Relationships can be reporting or elaborating the same entity, exercise content or other similarities.

Figure 4.2.2-2 NON-CIB 'PACKET' DESCRIPTION

4.2.2.7 CMF is a single format with a single set of data elements and attributes, but with two possible ways to represent the data. Since the two representations are 100% compatible, transferring data from one representation to the other does not affect data values, units, ranges, or accuracies. The more efficient CMF-B representation may be utilized for bandwidth-restricted mediums with full compatibility on transfer to or from CMF-X (see [Table 4.2.2-1](#)).

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Table 4.2.2-1 CMF TO NETWORK MATRIX

TRANSMISSION MEDIUM	FORMAT TYPE	USES DTD	USES STANDARD XML PARSING
CIB Channel	CMF-B	Yes	No
Networks (e.g., SIPRNET)	CMF-B	Yes	No
Networks (e.g., SIPRNET)	CMF-X	Yes	Yes

4.2.2.8 Note that CMF-B is not limited to only the narrowband, but may also be useful to maximize bandwidth usage on higher bandwidth mediums. Likewise, CMF-X could be utilized as a broadcast representation given adequate broadcast bandwidth.

4.2.2.9 There must be a balance between the efficiency of an implementation vs. the maintainability and flexibility of a data format. Therefore, note that in order to facilitate flexibility in the interest of future compatibility, CMF defines rules in addition to the required reporting structure (i.e. schema) to which producers shall adhere. These non-structural producer rules shall not be relied upon as part of the receiver implementation unless specifically noted herein. If data is received with the correct structure (per the schema), it shall not be rejected by consumers solely due to the non-structural producer rules. For example, a requirement for producers to send certain minimum information in an instance shall not be relied upon by a receive system's design and implementation unless the consumer system requires the absent information in order to properly interpret the message per the consumer role/function.

#### 4.2.3 DOCUMENT CONVENTIONS

4.2.3.1 Specific elements are referred to by their proper DED names using *italics* font and/or their DTD Names in [ ]: *Clock Time* [Clk\_Time], for example. Specific path names and file names are contained within <>: <CMF\_Mnemonics/Entity\_Type\_File>, for example.

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## **4.3 IMPLEMENTATION GUIDELINES**

4.3.1 With the initial architecture of IBS, there are both general CMF guidelines that apply to all IBS communications paths and specific guidelines that are unique to each medium. This is due to differences in capability, function, and purpose of each medium. Thus, CMF guidelines are addressed herein both generally and by specific medium of transmission including CIB Channel and other Networks.

4.3.2 NOTE: The guidelines within this section define CMF as it is to be specifically implemented. Some guidelines may supersede particular default CMF assumptions as defined in the Data Specification ([Appendix D](#)) and/or may be more restrictive to ensure proper operation of the IBS communications paths.

### **4.3.3 GENERAL GUIDELINES**

The following paragraphs provide guidelines that are applicable to CMF usage on all IBS communications paths. Note for all guidelines which are operationally configurable, operational IBS management shall be consulted for the current configuration.

#### **4.3.3.1 IBS ENTERPRISE PATH ASSIGNMENTS**

4.3.3.1.1 The CMF provides a capability to identify multiple communication paths for data reporting. Each path shall be operationally pre-assigned a number that shall be passed by the application to the parser to effect the desired processing of data for the respective path. The IBS Enterprise path assignments are: Path 4 = Network and Path 5 = CIB. Path 0, also called the "composite path," is intended for local system and testing purposes and shall not be used as an IBS Enterprise operational path.

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4.3.3.1.2 NOTE: Currently CMF-B can be created for both identified path and composite data, where CMF-X data only can be created as composite path data such that default values shall not be removed for CMF-X. CMF-X data created according to any path rules is interpretable by a CMF-X path receiver using any path. The data conversion shall be lossless with the exception of exclusions due to the receiving system path settings (i.e., not including DTD differences or errors encoded in the original document). See [Appendix D](#) for a complete description of path exclusions.

4.3.3.1.3 The path-based “path\_exclusion” DTD setting is used to specify data elements that are excluded from the specified output communication path(s) by the producer. The path exclusion capability is used to keep large, non-critical data elements from being disseminated on a bandwidth-limited communications path, such as Path 5 (= CIB), while allowing the data elements to be disseminated on other communications paths, such as Path 4 (= Network).

4.3.3.1.4 Producer systems shall specify the correct path number in order to ensure that data elements are included or excluded, as intended, for the output communication path that is being used. Receiver systems shall identify the correct path to ensure correct receipt of all data sent on that path.

4.3.3.1.5 Some features available in generic CMF and in the CMF Parser Library, including the capability to provide path-specific default element values and path-specific default element accuracies, are not used by IBS.

## 4.3.3.2 GLOBAL IDENTIFICATION AND NUMBERING

4.3.3.2.1 The Global IDentifier (GID) for CMF is composed of an IBS address and either a message or entity number. The IBS address is further composed of a subnet identifier and a node number. Consistent with the extensibility of CMF, each of these fields is easily

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extensible in range without rearrangement of fields or definition of new separate extensions.

4.3.3.2.2 The subnet identifier provides identification of operationally pre-defined sub-networks within the IBS architecture. The subnet identifier is one or more characters (initially two maximum) each in the range A-Z. The zero character is also defined as a subnet value. A subnet value containing zero indicates "subnet is not identified or all subnets". The "subnet is not identified or all subnets" meaning is used in destination addressing to indicate that a specific subnet is not being identified and thus the message is intended for the specified nodes (or groups) on all IBS subnets. The use of zero for other than destination addressing is provided only for backward compatibility to legacy participants that do not support a subnet value and therefore shall mean that the node provided is unique across all IBS subnets.

4.3.3.2.3 The node number provides an operationally pre-defined unique participant identifier that is part of an associated subnet. The node number utilizes an INTEGER (initially ranged 1-16383) whose entire range is available for each subnet, i.e., currently up to 16383 nodes per subnet.

4.3.3.2.4 Within CMF, the combinations of the subnet identifier and node number are used to provide the "addressing" of messages. The combination can identify unique data originators, transmitters, or intended recipients of CMF data. The assignment of the subnet and node number provide flexibility in identification such as identifying host systems as part of multiple regions (regardless of direct or indirect reporting), individual processors or processes as part of specified systems, combinations of the two approaches, or a number of other operationally necessitated possibilities due to architecture, priority, security, or loading considerations.

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4.3.3.2.5 The message or entity number shall be a unique (one-up) number assigned to a reported message or entity, e.g., sensor intercept, contact, track, etc., by the participant whom shall be identified by the combination of a subnet identifier and node number.

[Note: The CMF message/entity numbers shall be assigned at the time the message is created. Sequential message transmission is not required. Some messages may never be sent.] For consistency of understanding, when referencing or displaying a message or entity number, IBS display systems shall use the format "SnMx" where "S" is the subnet identifier, "n" is the node number, "M" is a character representing the CMF message or entity type ("E" = entity, "A" = (remote) amplification, "T" = text, "M" = management, "C" = collaboration, "N" = (operations) notification, "S" = (operational) status, "B" = BLOB (transfer), and "x" is the CMF entity or message number. Using the maximums of the currently defined ranges for each value, the format would be "SSnnnnnMxxxxxxxx".

4.3.3.2.6 For the *Entity Message* only, the combination of the address portion along with the reported entity number is also termed a Global Track Number (GTN) which is a sub-term to the more general GID.

4.3.3.2.7 When updating a previously reported entity, the reporting unit shall continue to utilize any previously reported entity number when updating information on the same physical entity when the entity is being updated within 24 hours of a previous report. This is in order to maintain continuity for tracking purposes. Any numbers which have been unreported for at least 24 hours are available to be reassigned and reused for the newest intercept reports. Entity numbers that have not been retained for reporting beyond 24 hours, or reported within the last 24 hours, shall be assigned by reusing the lowest available number, because the lowest number minimizes bandwidth usage.

4.3.3.2.8 In order to avoid confusion between reports, a report number (message or entity) shall not be reassigned until it has been

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unused for a period of 24 hours. This wait period includes any reason that the entity may have been removed from IBS, whether it was specifically dropped using the *Drop Entity Action* or whether the entity timed-out due to a period of non-reception. Due to the large range on *Entity Number* (chosen to meet operational requirements), it is extremely unlikely that a producer will exhaust all ability to assign numbers during a 24-hour period. However, as a safety precaution, in the event that such an extreme condition should arise that no numbers are thereby available, a producing system shall cease any new assignments until numbers become available. Using a previously used number before the 24 hour wait period expires could cause dangerous and conflicting information to be broadcast.

4.3.3.2.9 Packages shall be similarly assigned a one-up *Package Number* which is used for package deconfliction, sequencing, and data reduction.

4.3.3.2.10 To avoid redundant reporting of data to and from external datalinks, participants who place data onto the IBS communication paths shall place any non-IBS or legacy identifiers into the appropriate non-IBS or legacy identifier fields, where available. During migration from the legacy formats, a legacy identifier shall be provided in CMF for the respective legacy broadcast, i.e., the corollary legacy broadcast to the CMF broadcast, on which the data is being transmitted and, for entity messages, an associated legacy message type shall be placed in the *Source Message Type* field in CMF. The applicable legacy identifier shall be the first one provided for the respective legacy broadcast set of identifiers.

## **4.3.3.3 TRANSMITTER AND ORIGINATOR ADDRESSES**

4.3.3.3.1 The CMF format allows for the reporting of both an originator and transmitter address. The originator address uniquely identifies the IBS participant from which the contents of the package were originally created for reporting onto IBS. The transmitter

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address identifies which IBS participant placed the package on the medium where it is being received. If the transmitter is also the originator, the originator address shall not be reported. Thus for data received with a transmitter address but without the originator address, it shall be assumed that the originator is the same as the transmitter.

#### 4.3.3.3.1.1 Systems originating messages:

- a. Shall report their CMF address (*Subnet, Node*) in the *Transmitter Address* element.
- b. Shall not report the *Originator Address* element.

#### 4.3.3.3.1.2 Systems not originating the message and not identified as a pass-thru router:

- a. Shall report their CMF address in the *Transmitter Address* element.
- b. Shall report the originally received *Transmitter Address* in the *Originator Address* element, if the *Originator Address* does not exist.

#### 4.3.3.3.1.3 Systems not originating the message and identified as a pass-thru router:

- a. Shall not modify the *Transmitter Address* or *Originator Address* elements.

### 4.3.3.3A PACKAGE IDENTIFICATION AND GROUPING

4.3.3.3A.1 XML structure requires that all XML "documents" begin with a specified root element as the first element in the "document". In the same manner, CMF packages shall always begin with the root

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element. For the initial implementation of CMF, the root element is followed by a required group of package description elements. The first elements with values provided within the package description elements and thus always the first within the package are values representing the versions of the CMF parser and DTD that were used to create the package (see [Section D.3.4.1](#) of [Appendix D](#)). The package description elements are required for all IBS packages and shall not be reset.

#### 4.3.3.4 MESSAGE ELEMENTS

4.3.3.4.1 Sub-components of the root CMF element are the different CMF message elements each of which are of the GROUP element type. All of the message elements are defined to allow multiples within the package. All of the elements to be reported for any particular message are sub-components to the selected message element. For example, the *Entity Message* element is sent followed by all of the sub-elements describing the entity including its entity number. A package may contain one or more messages describing entities, perform data management or other operations on entities, or provide interaction between IBS participants. A package may also contain one or more message groups with each grouping of messages from particular producers, i.e., from different originators, and/or identified as being in a non-operational mode such as test, exercise, or simulation.

4.3.3.4.2 All entity and other messages shall contain a respective entity or message number to uniquely identify the entity or message. For single-instance messages (i.e., transient information), producers shall assign a unique one-up *Message Number* to each message by message type. The address portion of the global identifier is provided by the originator address (or transmitter address if originator address is not sent) in the package. Note that most groups within messages may be reset but CMF messages themselves cannot be

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reset because messages without a corresponding entity or message number are not unique.

4.3.3.4.3 Many implementation requirements for CMF are enforced "by structure" (DTD content models), but this standard also specifies additional requirements that are not enforced "by structure". These "producer rules" identify additional required elements and implementation requirements. Producers needing to segment messages across transmissions, shall report all structurally required elements, as well as those required by producer rule, and segment messages at the major element groupings (i.e., at the groups ending in "Elements").

## 4.3.3.4.4 SPECIFIC ELEMENT GUIDELINES

a. Producer systems shall populate the *Julian Day Of Intercept* element in all Entity Messages. If the message is not marked as extrapolated, the *Julian Day Of Intercept* and *Time Of Intercept* (TOI) shall be interpreted as the most recent occurrence of that day/time in the past, correcting to account for year rollover (i.e., because IBS data cannot be older than 24 hours when reported). If the message is marked as extrapolated, the message day/time shall be interpreted as the closest occurrence of that day/time (either past or future).

b. On translation of CMF to or from formats utilizing only uppercase (such as 5 or 6-bit ASCII) or only lowercase, characters shall be converted as CMF supports mixed case and may contain both uppercase and/or lowercase (see [Table D.2.6.3.5-1](#) and [Table D.2.6.3.5-2](#)).

c. Due to a current 32-bit ANSI constraint, the CMF range of FLOAT values shall be bounded by representation of magnitude 9.9999999999999 E 307 inclusive. The mantissa shall be constrained to representation of 15 significant digits. The smallest CMF FLOAT value,

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in magnitude, shall be 1 E-307 inclusive (see [Appendix D](#) for further details).

d. It is STRONGLY recommended that producers round their data to their reportable accuracy to avoid waste of bandwidth. For example, producers that can report a value accurate to the nearest hundredth of units would send 3.14 instead of 3.141592653.

#### **4.3.3.4.5 MUTUALLY EXCLUSIVE ELEMENTS**

4.3.3.4.5.1 When two or more elements are indicated as a mutually exclusive grouping but are not repeatable (e.g., not having a "\*" or "+" on the grouping), a report containing any one of the mutually exclusive elements shall, on receipt, replace any of the other elements when the elements are reporting similar (i.e., replacement or alternative) types of information. Likewise a reset of any of the elements within the grouping shall, on receipt, reset the other elements in the grouping (see [Table 4.3.3-1](#)).

4.3.3.4.5.2 For example, within the *Entity Polar Attitude Elements* content model the following construct exists,  
"(True\_Hdg\_Degrees | Magnetic\_Hdg\_Degrees | Hdg\_Cardinal)?". All three entries in the construct are reporting a type of "heading".

4.3.3.4.5.3 If any of the three types of "mutually exclusive" heading elements are reported, the newly reported heading type would replace the previously reported type of heading. Hdg\_Cardinal reported in an update to an Entity\_Msg would replace Magnetic\_Hdg\_Degrees. Likewise, a reset sent in Hdg\_Cardinal would replace data existent in either True\_Hdg\_Degrees or Magnetic\_Hdg\_Degrees had either of them been sent previously.

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Table 4.3.3-1 MUTUALLY EXCLUSIVE REPLACEMENT/RESET ELEMENTS

<b>Parent Element</b>	<b>Mutually Exclusive Elements That May Replace/Reset One Another</b>
Entity_Chain	(Entity_Chain_Pct_Conf   Entity_Chain_Genrl_Conf)?
Entity_ID_Elmnts	(Plat_Eval_Pct_Conf   Plat_Eval_Genrl_Conf)? (Entity_Sz   Entity_Strngth)? (Entity_Ellip_Area   Entity_Rectng_Area   Entity_Coverage_Sz)? (PIN_Confirm_Equip_ID   PIN_Unconfirm_Equip_ID   PIN_Unconfirm_Site)? (BE_Num_Std   BE_Num_Specific_Use   BE_Num_Field_Initiated)...)? ... (BE_Sfx   BE_Orig_Sfx))? (Oper_Name   Mission_Name)? (Tail_Num   Hull_Num)? (Nat_Alliance_Pct_Conf   Nat_Alliance_Genrl_Conf)? (Entity_Typ_Pct_Conf   Entity_Typ_Genrl_Conf)?
Ref_Polar_Plat_Elmnts	(Entity_LOB*   Bearing_Cone_Angle*) (Approx_Altitude   Measured_Altitude   IFF_3C_Alt)?
Entity_Polar_Loc_Elmnts	(Err_Circ_2D   Err_Rectng_2D   Err_Ellip_2D   Err_3D)?
Err_3D	(Err_Circ_2D   Err_Rectng_2D   Err_Ellip_2D)
Departure_Elmnts	(Actual_Polar_Loc   Estimated_Polar_Loc)? (Actual_Day_Time   Estimated_Day_Time)?
Dest_Elmnts	(Actual_Polar_Loc   Estimated_Polar_Loc)? (Actual_Day_Time   Estimated_Day_Time)?
Entity_Polar_Attud_Elmnts	(True_Hdg_Degrees   Magnetic_Hdg_Degrees   Hdg_Cardinal)? (Crs_Degrees   Crs_Cardinal)? (Approx_Altitude   Measured_Altitude   IFF_3C_Alt   Elevation)?
Entity_Pulse_Desc_Elmnts	((PRI , PRI_Grp_Indic?)   (PRF , PRF_Grp_Indic?))? (Mult_PRIs   Mult_PRFs)? (PRI_Rng   PRF_Rng)? (Mult_PRI_Rngs   Mult_PRF_Rngs)?
Sensr_Elmnts	(Combined_Sensr_Genrl_Conf   Combined_Sensr_Pct_Conf)?
Sensr_Search_Area_ID	(RWAC_Area_ID   Geographic_Area_ID)

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4.3.3.5 PERSISTENCE AND NON-PERSISTENCE

4.3.3.5.1 While the following sections describe the implementation of Persistence, Routine, Partial, and Stale reporting capabilities within IBS, all systems shall refer to the IBS Enterprise CONOPS to determine the required operational usage. For systems implementing these capabilities, this section describes the required protocol and procedures. In addition, all producer systems implementing these capabilities shall have a configurable option to ensure that Routine Full reporting (i.e., not Stale and not Partial) can be accomplished.

4.3.3.5.2 Events supported by CMF data may be viewed in terms of their persistence and the effect that characteristic has on information exchange. Persistent events exist continuously or for an indeterminate period of time rendering their characteristics subject to update or renewal. Such events dictate the need for dynamic information exchange. Dynamic information exchange shall consist of data content that is characterized by continuous change, activity, or progress. Non-persistent events, by contrast, exist for an instant or a well-defined period of time leading to transient information exchange. Transient information exchange shall consist of data content that endures for only a specific amount of time or a single moment in time. An entity that exists for an indeterminate time period, whose spectral, spatial, temporal characteristics exhibit change during its life, shall be persistent and requires dynamic information exchange. A specific request for single-instance information or a single-instance response to such a request shall be non-persistent and results in transient information exchange. Mishandling either type of information can result in error or confusion. CMF data categorization which shall be applied for reporting according to "dynamic" versus "transient" is summarized in the lists which follow.

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## 4.3.3.5.3 CMF DYNAMIC INFORMATION EXCHANGE

4.3.3.5.3.1      *Entity Message* (all elements within the message with the following exceptions):

### 4.3.3.5.3.2      Exceptions to *Entity Message*:

- a. *PR/CSAR Text*
- b. Element Resets (single instance transmission; updates do not occur except on stale updates)
- c. Certain elements that have multiples such as:
  - (1) *ELINT Notation*: all are transient (single instance transmission; updates do not occur)
  - (2) *PRI/PRF*: first is dynamic, but >1 is transient (single instance transmission; updates do not occur)
  - (3) *Frequency/Frequency Range*: first is dynamic, but >1 is transient (single instance transmission; updates do not occur)
- d. *DISUSED*
- e. *Algorithm Elements*
- f. *Chip Sequence Elements*
- g. *Signal Reference ID*
- h. *Signal Reference ID Temporary*
- i. *Sensor String Elements*
- j. *Entity Message Description Elements*

### 4.3.3.5.3.3 *Data Management Message*:

- a. Pairings (stale updated until Pair Off or one or both tracks drop; becomes transient at that time)

## 4.3.3.5.4 CMF TRANSIENT INFORMATION EXCHANGE

- a. *Data Management Message*
  - (1) Pairings (dynamic—and stale updated—until Pair Off or one or both tracks drop; becomes transient at

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that time)

- b. *Remote Amplification Message*
- c. *Text Message*
- d. *Collaboration Message*
- e. *Operational Status Message*
- f. *Operations Notification Message*
- g. *PR/CSAR Elements with Text* (within *Entity Message*)
- h. Element Resets (single instance transmission; updates do not occur except on stakes)
- i. Certain *Entity Message* elements that have multiples:
  - (1) *ELINT Notation*: all are transient (single instance transmission; updates do not occur)
  - (2) *PRI/PRF*: first is dynamic, but >1 is transient (single instance transmission; updates do not occur)
  - (3) *Frequency/Frequency Range*: first is dynamic, but >1 is transient (single instance transmission; updates do not occur)
- j. DISUSED
- k. *Algorithm Elements* (within *Entity Message*)
- l. *Chip Sequence Elements*
- m. *Signal Reference ID*
- n. *Signal Reference ID Temporary*
- o. *Sensor String Elements*
- p. *Entity Message Description Elements* (within *Entity Message*)
- q. *BLOB Transfer Message*

4.3.3.5.4.1      NOTE: Transient Information Exchanges, which are also deemed "single instance transmissions", may still occur as more than one physical data transmission per the Replication capability (see [Appendix F](#), [Section F.1.2.2.6](#)) and/or the CIB "retransmission" capability (see the CIB IOS document), but those capabilities are

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actually transmissions of the same data packet which are deconflicted by their respective protocols and are not updates or new reports of the data.

## **4.3.3.5.5 INFORMATION UPDATES**

4.3.3.5.5.1 Data update reporting for persistent events is essential to ensure that entity data remains current and accurate on the network. There are two categories of updates for dynamic information exchange: Routine Update and Stale Update.

### **4.3.3.5.5.2 ROUTINE OR PARTIAL UPDATES**

4.3.3.5.5.2.1 Routine updates occur when an entity maintains an active status and information about the entity has been revised. When information about an entity is revised a routine update shall be published. Routine updates are required for four reasons: (1) newly discovered information should be appended to an entity, (2) information on a previously reported entity has changed or needs to be corrected; or, data no longer applies (as in the case of element/field Reset), (3) one or more *Interest Indicators* such as *Force Tell Indicator*, *IBS*; *Emergency Indicator*, *IBS*; *Threat Warning*; *High Interest Indicator*; and *Deception Indicator* have been altered, and (4) an element is deemed inactive and it is appropriate to send a *Drop Entity Action* for the element. A routine update shall be sent according to the data prioritization policies and directives in effect at the time.

4.3.3.5.5.2.2 CMF implements a partial messaging capability for use with continually updated entities. It can be critical in narrowband environments, such as the IBS Common Interactive Broadcast (CIB), that this capability be used in order to achieve the necessary bandwidth savings. Although this capability is primarily geared towards narrowband environments, it can, if desired, be utilized in any network environment. This concept works by requiring periodic

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full reports, known as "stale updates" (described in [Section 4.3.3.5.5.3](#)), where all available data for an entity is transmitted at a predefined interval to ensure that all consumers (possibly newly "signed on" to listen to data, recently recovered from data interference issues, etc.) are able to receive all the information about the entity that is currently available. In between the stale update reports, however, bandwidth savings can be achieved by sending smaller routine update reports referred to as "partial updates". Partial updates shall be transmitted with only required data (e.g. Global Identifier, Location, Time of Intercept, etc.) that is necessary to create a valid entity, PLUS whatever data has changed or is new since the last transmission.

4.3.3.5.5.2.3 By not sending all of the non-required/non-changing data each time, unnecessary bandwidth consumption is alleviated and considerably more information can be exchanged across the CIB or other network. Additionally, for the bandwidth impaired users (small allotment of bandwidth afforded to the individual platform), the individual savings is important for that users ability to transmit critical messages in a timely manner.

4.3.3.5.5.2.4 This partial update capability shall be utilized with the *Entity Message* (the only "updating" message that can take advantage of partial messaging at this time). In order to correctly receive information that uses this capability, consumers shall have persistent store capability within their architecture. That is, they shall at least be able to store the current operational representation of the entity's active state in order to actually see the "current state" of the entity, its current information based on the latest *Entity Message* information. As the stale updates and partial updates are received, the persistent storage for a known entity shall be continuously modified.

4.3.3.5.5.2.5 Initially within the IBS architecture, the partial messaging capability will be available for use on the CIB only. If receiving CMF Tactical Data Processors (TDPs) do not

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properly process partial reports, be aware that data misinterpretation may occur.

4.3.3.5.5.3      STALE UPDATES

4.3.3.5.5.3.1    Stale updates shall be implemented to publish previously reported information on the CIB at regular intervals. Stale updates provide an opportunity to renew the information content reported for a previously reported entity. The new time of transmission enables host system databases to refresh an entity and avoid deleting the entity as non-current data. Stale updates also allow terminals that previously were not active on the CIB to receive information about active entities that were published prior to their entry onto the CIB.

4.3.3.5.5.3.2    All data providers shall implement stale updating at a minimum interval for individual entities in accordance with policies and directives in effect at the time. Stale updates on entities which are not being tracked (i.e., are reported only once as a single contact hit) are not required, but in that case would also never be available to a system which enters the CIB after the original report. Each stale update shall include all persistent data associated with the individual entity. Remote amplification messages, text messages, operational status messages, operations notification messages, flash requests, collaborative messages, information should not be stale updated.

4.3.3.5.5.3.3    Resets for any non-single instance (i.e., non-transient) data previously transmitted shall be included in all stale updates (i.e., preferably either on all future stale updates while the entity remains actively reported or beyond any reasonable track drop/timeout period). Additionally, Routine Full report producers shall send a reset value for any dynamic information exchange element whenever a valid value will not be sent and the element was previously reported.

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4.3.3.5.3.4 In support of assigned bandwidth considerations and depending upon the currency of the latest update successfully reported, producing systems may wish to adjust the priority of stale updates as part of their interactive data prioritization scheme. The minimum interval is contingent on the alignment of the data with the data prioritization scheme established.

4.3.3.5.4 RESETS

4.3.3.5.4.1 Certain CMF Elements permit field values to be reset to an initial value or no data state. Practical application of a particular field reset instance is dictated by the IBS CMF DTD message structure and operational intent. Guidance on the use of resets for specific circumstances follows.

4.3.3.5.4.2 Resets shall not be reported on elements sent as single-instance (transient) transmissions.

4.3.3.5.4.3 A reset on a repeatable FIELD type element shall indicate that all previously reported elements of that type are reset.

4.3.3.5.4.4 A reset of a repeatable parent element shall reset all children of the parent. A reset value anywhere within a repeatable parent element's children shall reset all of that child type only.

4.3.3.5.4.5 Reset of a Group or Packed element shall indicate that all children, optional as well as required, shall be reset.

4.3.3.5.4.6 If an element is not resettable either by the "reset" attribute or by special rules defined within this document (e.g. replacement of all *Entity Alternate ID Elements* as a group), then there is no method for the producer to clear the data once transmitted other than a drop indication on the track. In other words, if an element without reset capability needs to be cleared, the entire entity can simply be dropped and re-created. Format

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maintenance shall preclude instances of data not being resettable where resets are needed.

4.3.3.5.4.7 Except in certain specific cases where a rule is defined, (e.g. *Entity Alternate ID Elements* is treated as though reset if not reported) a lack of sending data shall not constitute a reset. Data shall be retained by the consumer for any elements that are not single instance transmissions, and, as defined by the Data Specification, a lack of sending data elements on routine or stale updates of the entity shall constitute a "No Change" to the data previously transmitted (unless there is a special rule called out for specific data elements).

## 4.3.3.5.5 REPEATABLE ELEMENTS

4.3.3.5.5.1 An update to an element containing repeatable elements shall replace all elements of the same reported repeating element name within the parent element from previous transmissions. The entire list of the reported element name shall be replaced using all currently reported valid values and shall not carry any enclosed reset values other than the child list element of that name if it is itself being reset per paragraph 4.3.3.5.5.4.4.

## 4.3.3.6 MNEMONICS

4.3.3.6.1 Certain CMF elements are declared to possess a set of defined possible mnemonic values. The defined values used for the CMF implementation for these elements are mnemonics ranging from 2-6 characters in length (various types of mnemonics are defined with different length ranges). The mnemonic value itself is a shorthand equivalent to a longer definition. The mnemonic is passed in the CMF data stream. The longer definition is limited to no more than 59 characters for display purposes. For the DTD schema, a separate "external" file exists for each element's declared set of possible mnemonic values and, alternatively, an XML Schema exists which contains all of the sets of the possible mnemonic values for all the

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elements within the schema. A separate XML file exists for TDPs to use to cross-reference a received mnemonic to find and display the longer definition.

4.3.3.6.2 The mnemonics capability exists within CMF to provide: 1) an easy to type and remember shorthand for operators to enter and rapidly process high-use surveillance values, and 2) a mechanism for which rapid updates may be fielded. In order to facilitate the latter purpose, there are both requirements and limitations on the use of mnemonics. The originator whom creates CMF for reporting onto IBS shall validate/verify that only a permitted mnemonic is reported. On the opposite end, receive systems shall accept ANY mnemonic received (without validation/verification). Systems having a capability to display a value for the associated element shall display the official long mnemonic definition, an equivalent, or the mnemonic as received. These rules permit new mnemonics to be rapidly added via simply the addition of a new mnemonic into the appropriate producer mnemonic list.

4.3.3.6.3 It is desirable that the definitions contain not only the military designation and/or usage, but also, where possible, the base or historical common terminology for the subject item, action, or function. Thus also within the definitions, some terms will be abbreviated and shall be abbreviated in a consistent manner with other existing mnemonic definitions. A definition which nearly replicates the mnemonic itself is inappropriate and inadequate for both operator use as well as long term understanding to enable proper mnemonic list maintenance. For some elements, IBS also intentionally contains and permits multiple mnemonics to exist with similar definitions in order to permit operators to use more than one well understood or recognized shorthand value.

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4.3.3.7     BINARY TAGS

The CMF-B representation utilizes binary integer values as the start tag in lieu of the standard character-named tag value used for CMF-X (i.e. per the XML standard). Per the CMF-B design, only 127 one-byte binary tags are possible, but 16,256 two-byte tags are possible without even considering use of even larger tags. As over 5 times more CMF elements exist than the number of one-byte tags which can be assigned, the use of one-byte versus two-byte tags for selected elements can be a perceptible level of impact for consideration in optimization of CMF message structures. Binary tag considerations and assignments are addressed in [Appendix E](#).

4.3.3.8     SUMMARY OF CONFIGURABLE GUIDELINES

4.3.3.8.1 See the associated references in [Table 4.3.3.8-1](#) for the CMF capabilities which are operationally configurable, pre-assigned, or limited and for which operational IBS management shall be consulted for assistance in obtaining and/or verifying the current configuration settings.

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Table 4.3.3.8-1 CMF Configurable Item List

CONFIGURABLE ITEM	REFERENCE
a. IBS Enterprise Paths	<a href="#">4.3.3.1</a>
b. Participant Address (Subnet, Node)	<a href="#">4.3.3.2.2</a> <a href="#">4.3.3.2.3</a>
c. Legacy Identifier(s)	<a href="#">4.3.3.2.10</a>
d. DTD and/or XML Schema	<a href="#">5.2.5</a> , <a href="#">A.2.2.3</a>
e. Package Number (for pass-thru determination)	<a href="#">5.4.1.1.6</a>
f. Time Of Transmit (for pass-thru determination)	<a href="#">5.4.1.1.7</a>
g. Transmitter Address (for pass-thru determination)	<a href="#">5.4.1.1.8</a>
h. TES Event ID	<a href="#">5.6.1.15.15</a>
i. URL Shortening Services	<a href="#">5.6.1.29.6.1.2</a>
j. Usage and format of UIC Elements	<a href="#">5.6.1.38</a>
k. Operational Asset Label and ID	<a href="#">5.11.1.6</a>
	<a href="#">5.2.5</a> ,
l. Parser API Certification/Deviation	<a href="#">A.2.4.1</a> , <a href="#">H.1.2</a>
m. Text Message Production	<a href="#">5.8</a> , <a href="#">A.3.2.4</a>
n. Operations Notification Message Production	<a href="#">5.10.1</a> , <a href="#">A.3.2.6</a>
o. Operational Status Message Production	<a href="#">5.11.1.3</a> , <a href="#">A.3.2.7</a>
p. Element's Value with Relevance Attribute	<a href="#">D.3.4.3.8.2.3</a>
q. Data Package Priority	<a href="#">F.1.2.2.3</a>
r. Security Table Index and Classification Table	<a href="#">F.1.2.2.4.1</a>
s. Data Package Replication Elements	<a href="#">F.1.2.2.6.2</a>

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## **4.4 MESSAGE TYPES DEFINED**

The CMF implementation consists of eight (8) "messages", each of which is specific in intent. Higher order functionality is supported through the use of multiple messages to accomplish operational processes. The CMF messages are as follows: *Entity Message*, *Data Management Message*, *Remote Amplification Message*, *Text Message*, *Collaboration Message*, *Operations Notification Message*, *Operational Status Message*, and *BLOB Transfer Message*. [Section 5](#) contains detailed information on each message and its data elements.

### **4.4.1 ENTITY MESSAGE**

The CMF *Entity Message* [Entity\_Msg] identifies a group of elements which describe an entity, i.e., an object, object group, target, site, etc., including the entity's characteristics, actions, and/or status. Characteristics may include physical attributes such as observable traits, environmental surroundings, or emissions; and/or non-physical attributes such as purpose, intent, or meaning.

### **4.4.2 DATA MANAGEMENT MESSAGE**

The CMF *Data Management Message* [Data\_Mgt\_Msg] identifies a group of elements that indicates one or more management actions to be applied or adhered to for one or more indicated entities or sets of data.

### **4.4.3 REMOTE AMPLIFICATION MESSAGE**

The CMF *Remote Amplification Message* [Remote\_Ampn\_Msg] identifies a group of elements that provides enhanced or expanded information on an entity originated by and/or being reported by another IBS participant.

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## 4.4.4 TEXT MESSAGE

The CMF *Text Message* [Txt\_Msg] element identifies a group of elements that provides the information details used to transmit and interpret free-text, i.e. unformatted or other textually coded data.

## 4.4.5 COLLABORATION MESSAGE

The CMF *Collaboration Message* [Collab\_Msg] identifies a group of elements specifying information provided by or to be utilized by more than one reporting unit to mutually determine initial entity identification, resolve ambiguities on entities, or improve accuracy of entity information with the intent of refinement for eventual entity message reporting.

## 4.4.6 OPERATIONS NOTIFICATION MESSAGE

The CMF *Operations Notification Message* [Ops\_Notify\_Msg] identifies a group of elements that provide announcements, coordination, direction, etc. regarding IBS Operations.

## 4.4.7 OPERATIONAL STATUS MESSAGE

The CMF *Operational Status Message* [Oper\_Status\_Msg] identifies a group of elements that provide information about the status of operational assets on and/or contributing to the IBS broadcast/network. The *Operational Status Message* is reflective of connectivity, equipment, and actual participation on the network/broadcast, but is also useful for receivers to enhance their understanding of the current contributors to the tactical picture.

## 4.4.8 BLOB TRANSFER MESSAGE

The CMF *BLOB Transfer Message* [BLOB\_Xfer\_Msg] provides the capability to disseminate data via a Binary Large OBject (BLOB). The BLOB is transferred via a CMF element, but implementations of data

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encoded within the BLOB may be defined externally to CMF and thus may not be decipherable to all CMF consumers.

#### 4.5 SYSTEM FILTER REQUIREMENTS

4.5.1 Data filters are used to effect data flow within the enterprise (e.g., prevent data link overload conditions, overload of a system database, and/or select or prevent data from entering a system). While filter behavior is left up to producer and consumer needs/implementations, there are certain fundamental filter rules that apply to CMF. The following sections document these requirements.

4.5.2 Geographic filter criteria shall apply only to CMF messages that have location information present.

4.5.3 Pass-through systems processing messages related to chaining events (i.e., the referenced entities as well as the Data Management chaining/unchaining messages) will treat the messages as a group from a filter action perspective. When filtering data (or when *Force Tell Indicator, IBS* or *Emergency Indicator, IBS* filter overrides apply (see [Section 5.6.1.16](#))), if any entity message qualifies to pass on to the next process, pass-through systems shall perform the same action on all subsequent corresponding chained entities and data management messages. This will continue for as long as at least one of the chained entities qualifies for that particular filter evaluation criteria.

4.5.4 Operations Notification Messages shall not be filtered.

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**MIL-STD-6018C  
29 January 2021  
Superseding  
MIL-STD-6018B  
15 December 2017**

# **DEPARTMENT OF DEFENSE INTERFACE STANDARD**

## **INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) STANDARD**

### **MAIN SECTION 5 – DETAILED REQUIREMENTS**



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## DETAILED REQUIREMENTS

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## SECTION 5

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5 DETAILED REQUIREMENTS FOR INTERFACING TO IBS AND IBS CMF

---

5.1 DESCRIPTION OF CMF MESSAGES

Section 5 includes a detailed description of the IBS Common Message Format (CMF) messages – *Data Management Message*, *Entity Message*, *Remote Amplification Message*, *Text Message*, *Collaboration Message*, *Operations Notification Message*, *Operational Status Message*, and *BLOB Transfer Message*.

5.2 CMF DOC OVERVIEW

5.2.1 Section 5 also describes the *CMF Doc* group. The *CMF Doc* group, which is a mandatory root element in all CMF documents, shall be used to encapsulate one or more of the CMF messages (messages may be in any order), or encapsulate one or more *Message Group* elements, which in turn each encapsulate one or more of the CMF messages (in any order).

5.2.2 The *CMF Doc* group identifies a CMF “packet” grouping that contains a logically organized set of CMF data as determined by the transmitter and/or transmission medium protocol. The element provides a set of data for one transmission opportunity including a package description along with one or more CMF messages or message groups. Some messages may explicitly identify relationships to other messages, but there shall be no implied relationship between the individual messages, or between messages within a message group, due to being reported within the same document package.

5.2.3 Several options are available for packaging the CMF messages in the *CMF DOC* element group:

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- a. A single CMF message may occur as a child element in the *CMF Doc* group.
- b. Multiple CMF messages may occur, in any order, as child elements in the *CMF Doc* group.
- c. Multiple *Message Group* elements may occur as child elements in the *CMF Doc* group, with each *Message Group* element containing one or more CMF messages, in any order, as child elements.

5.2.4 The *Message Group* element shall not be used if one or more CMF messages are direct child elements of the *CMF Doc* element.

5.2.5 All Participants shall generate CMF Docs using the appropriate CMF schema (DTD or XML Schema) version as made available through the IBS Configuration Management (CM) process. The DTD, or the corresponding XML Schema, defines various required fields to generate a *CMF Doc*. If a Participant uses the GIBSSC supplied Parser Library, they cannot generate an invalid *CMF Doc* per generic CMF structural rules as defined in the Data Specification ([Appendix D](#)). Additional rules contained throughout this specification are required to make the data itself fully valid and complete, but the GIBSSC supplied Parser Library shall ensure that the data it creates is "parseable".

## 5.3 DTD CONTENT MODEL STRUCTURE

5.3.1 The Document Type Definition (DTD) is an operational file that contains the implementation framework for the data elements and their tags, attributes, and structure to be found in an IBS data stream.

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5.3.2 A DTD Content Model is a simple grammar governing the allowed types of the child elements (information/data fields) and the order in which they are allowed to appear in the data stream. Content models show the relationship of elements to each other as well as their use - optional, required, etc. - within a content mode. Content models for CMF DOC and all CMF Messages are contained in each of their respective sections. Graphical representations (or Graphical Message Maps) of all IBS CMF structures follow each content definition. The following symbols are used in the content models and graphical representations:

Table 5.3.2-1 DTD/Message Map Symbol Definitions

+	minimum of 1 or more instances
*	0 or more instances
?	1 optional instance
no marking	1 required instance
	mutually exclusive elements
number in circle	exact number of instance on graphs
circular arrow	indicates element with child elements (see lower content model)

5.3.3 NOTE: See W3C DTD Specification for further information regarding DTD content model construction.

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5.4 CMF DOC SUMMARY

DTD NAME: CMF\_Doc

DED NAME: CMF\_DOC

PURPOSE: *CMF Doc* [CMF\_Doc] identifies a CMF “packet” grouping that contains a logically organized set of CMF data as determined by the transmitter and/or transmission medium protocol. The element provides a set of data for one transmission opportunity including a package description along with one or more CMF messages or message groups. *CMF Doc* is one of two elements that may serve as a “document element” (i.e. XML root element) for CMF documents. Each *CMF Doc* shall contain at least the minimum elements required by the “CMF Doc Package Structure” and as otherwise required by producer rules.

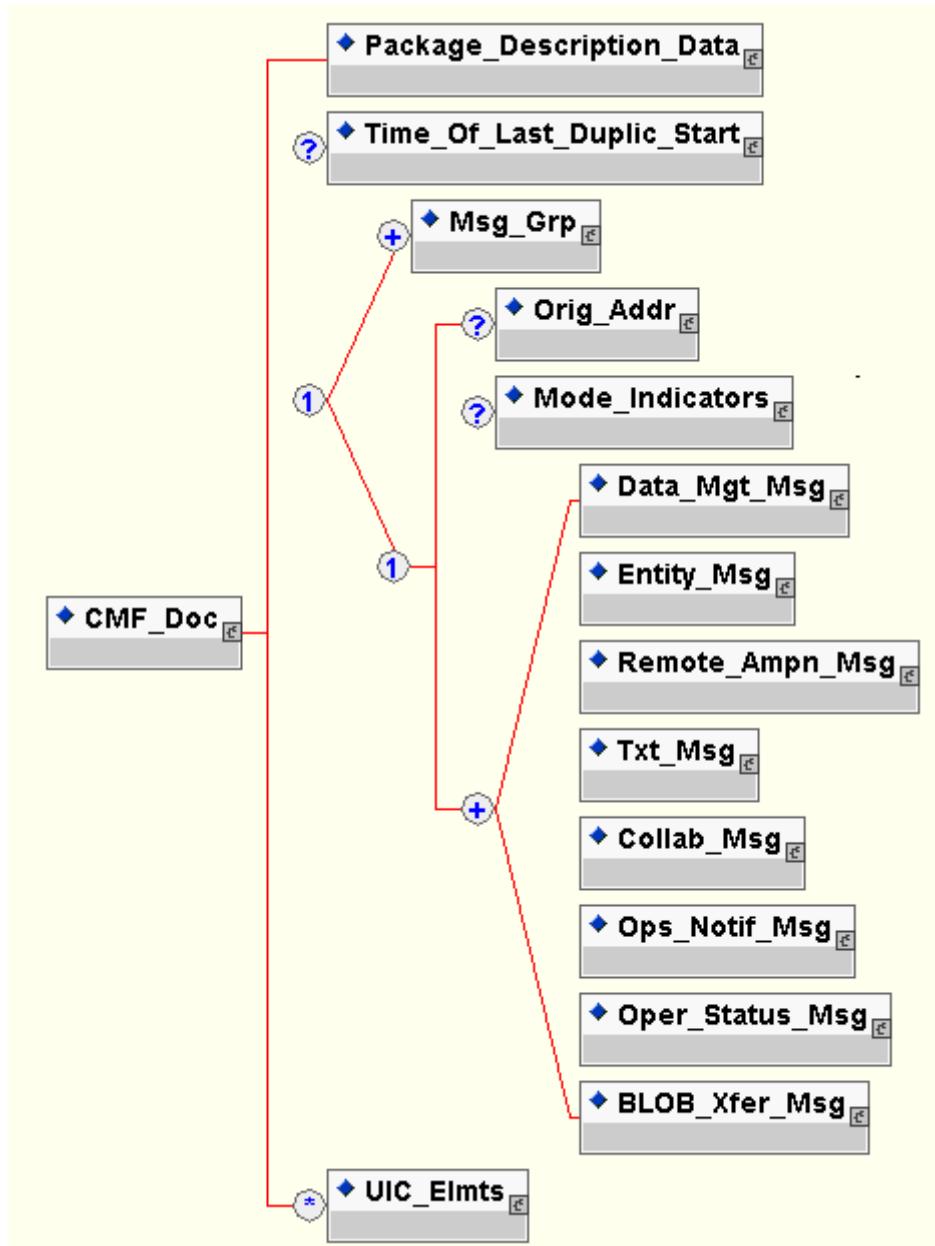
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5.4.1 CMF DOC ELEMENTS, STRUCTURE AND IMPLEMENTATION

CMF Doc Package Structure:

```
CMF_Doc (Package_Description_Data , Time_Of_Last_Duplic_Start? ,  
(Msg_Grp+ | (Orig_Addr? , Mode_Indicators? , (Data_Mgt_Msg |  
Entity_Msg | Remote_Ampn_Msg | Txt_Msg | Collab_Msg | Ops_Notif_Msg |  
Oper_Status_Msg | BLOB_Xfer_Msg)+)) , UIC_Elmnts*)
```



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## 5.4.1.1 PACKAGE DESCRIPTION DATA

### *5.4.1.1.1 The Package Description Data*

[*Package\_Description\_Data*] element identifies a grouping that contains general information describing an entire package of CMF data. The *Package Description Data* element is required for all CMF data packages. Each CMF data package shall contain at least the minimum elements required by the "Package Description Data Package Structure" and as otherwise required by producer rules.

*5.4.1.1.2 The CMF package description elements contain a Transmitter Address separate from the Originator Address. The relay subnet/node or producer subnet/node is placed in this Transmitter Address element.*

*5.4.1.1.3 The Package Description Data includes versioning information elements for both the version of the parser Application Programming Interface (API) definition and the specific DTD version utilized in encoding of the reported data instance. The versioning information is a required component of all CMF data packets (i.e. documents) and therefore shall be included by the originating CMF producer. Systems shall utilize the parser API version numbers found in the CMF Parser Library Developer's Guide (CMF PLDG). The DTD version numbers are declared in the DTD itself. For systems utilizing the CMF Parser Library (CMFPL) CMF API (CAPI) to build CMF data, the parser automates the setting of all the versioning information. Other systems shall determine compliance per a version of the parser API and pull the DTD version information from the DTD for inclusion of both in the Package Description Data versioning elements.*

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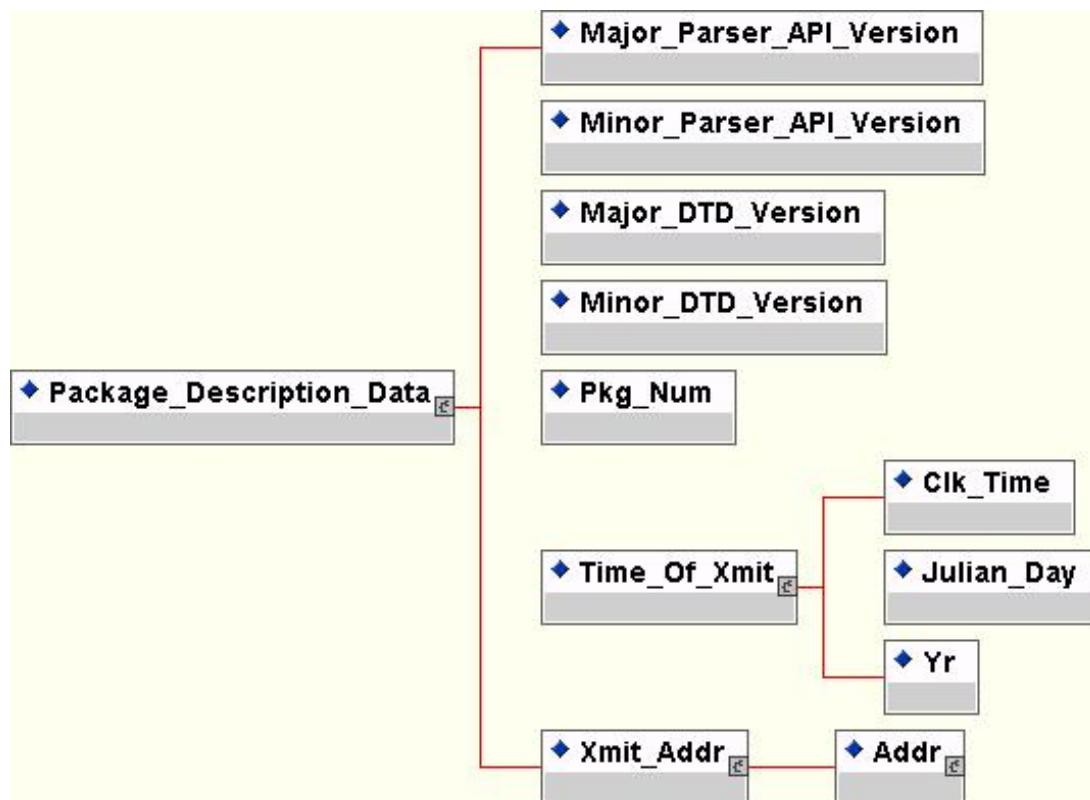
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Package Description Data Package Structure:

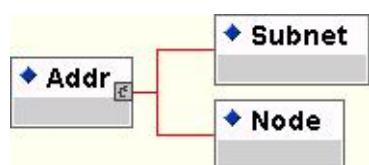
*Package\_Description\_Data (Major\_Parser\_API\_Version ,  
Minor\_Parser\_API\_Version , Major\_DTD\_Version , Minor\_DTD\_Version ,  
Pkg\_Num , Time\_Of\_Xmit , Xmit\_Addr)*

*Time\_Of\_Xmit (Clk\_Time , Julian\_Day , Yr)*

*Xmit\_Addr (Addr)*



*Addr (Subnet , Node)*



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## 5.4.1.1.4 MAJOR AND MINOR API VERSION

### 5.4.1.1.4.1 MAJOR PARSER API VERSION

The *Major Parser API Version* [Major\_Parser\_API\_Version] identifies the major level of parser API definition used to create the enclosing data package. It is compared with the parser major API version in use by the receiving software to determine backward compatibility. A difference indicates incompatibility.

### 5.4.1.1.4.2 MINOR PARSER API VERSION

The *Minor Parser API Version* [Minor\_Parser\_API\_Version] identifies the minor level of parser API definition used to create the enclosing data packet. It is compared with the parser minor API version in conjunction with the major parser API version in use by the receiving software to determine backward compatibility. A difference in version indicates differences in processing designed to be fully backward compatible (assuming there is not also a major level version difference) with other minor versions within the same major version.

5.4.1.1.4.3 NOTE: The parser API version to which a CMF product is built is found within the Revision History of the applicable Parser Library Developers Guide (PLDG) document and shall be implemented within the respective product for comparing against the API version within each received CMF document. This should not be confused with a version or build number of the CMF Parser Library (CMFPL) software itself.

## 5.4.1.1.5 MAJOR AND MINOR DTD VERSION

### 5.4.1.1.5.1 MAJOR DTD VERSION

The *Major DTD Version* [Major\_DTD\_Version] identifies the major level of the Document Type Definition (DTD) file used to create the

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enclosing data packet. It is compared with the DTD file major version in use by the receiving software to determine backward compatibility. Any difference indicates incompatibility.

### 5.4.1.1.5.2 MINOR DTD VERSION

The *Minor DTD Version* [Minor\_DTD\_Version] identifies the minor level of DTD file used to create the enclosing data packet. It is compared with the DTD file minor version in conjunction with the major DTD version in use by the receiving software to determine backward compatibility. A difference in version indicates differences in defined fields designed to be fully backward compatible (assuming there is not also a DTD major level version difference) with all other minor versions within the same major version.

### 5.4.1.1.6 PACKAGE NUMBER

The *Package Number* [Pkg\_Num] is a number assigned and used by the transmitting station which equates to the current package. This is the station that placed the package on the current medium (e.g. placed on a LAN or passed into a CIB radio) unless a system operates similar to a pass-thru router in which case the *Package Number* might not be modified within that IBS node. (The GIBSSC determines which systems in the architecture will operate in a router-like mode.) The *Package Number* [Pkg\_Num] is a one-up number that begins with "1" and reaches "268435455" (inclusive) before rolling over.

### 5.4.1.1.7 TIME OF TRANSMISSION (TOT)

The *Time Of Transmission* [Time\_Of\_Xmit], provided by the transmitter, shall include the year, the date, and time the report was entered into the transmission medium for dissemination (e.g. placed on a LAN or passed into a CIB radio) unless a system operates similar to a pass-thru router in which case the TOT might not be modified within

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that IBS node. (The GIBSSC determines which systems in the architecture will operate in a router-like mode.)

## 5.4.1.1.8 TRANSMITTER ADDRESS

The *Transmitter Address* [Xmit\_Addr] identifies which IBS participant placed the package on the medium where it is being received (e.g. placed on a LAN or passed into a CIB radio) unless a system operates similar to a pass-thru router in which case the *Transmitter Address* might not be modified within that IBS node. (The GIBSSC determines which systems in the architecture will operate in a router-like mode.) The CMF format allows for the reporting of both a *Transmitter Address* and an *Originator Address*. The *Originator Address* uniquely identifies the IBS participant from which the contents of the package were originally created for reporting onto IBS. If the transmitter is also the originator, the *Originator Address* shall not be reported. Thus for data received with a *Transmitter Address* but without the *Originator Address*, it shall be assumed that the originator is the same as the transmitter.

## 5.4.1.2 TIME OF LAST DUPLICATE START

The *Time of Last Duplicate Start* [Time\_Of\_Last\_Duplic\_Start] element identifies the time at which the IBS simplex channel net manager last started the broadcast. This value is used by the IBS simplex channel receivers to know when to clear the duplicate screening table.

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## Time Of Last Duplicate Start Package Structure:

*Time\_Of\_Last\_Duplic\_Start (Clk\_Time , Julian\_Day )*



### 5.4.1.3 MESSAGE GROUP

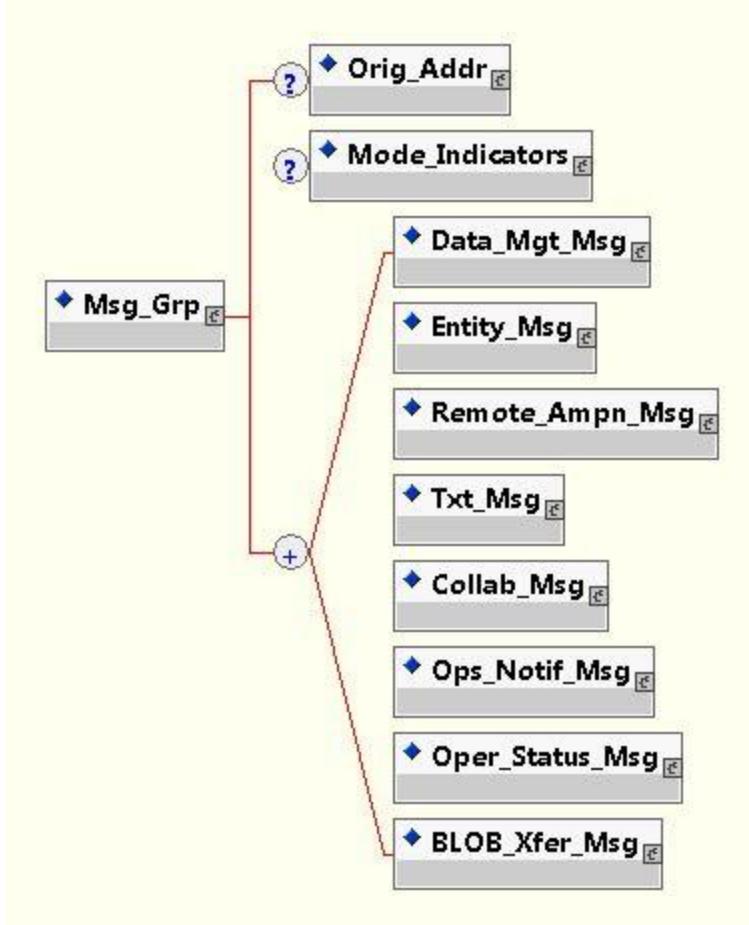
The *Message Group* [Msg\_Grp] element identifies a group of elements that is reported as a set because of a common reporting trait such as the same originator or report type, e.g., simulation, exercise, etc. The *Message Group* provides a structure to allow data having multiple traits of a specific attribute, e.g., more than one originator, to be sent in one CMF packet, i.e., *CMF\_Doc*. If reported, the *Message Group* shall contain at least the minimum elements required by the "Message Group Package Structure" and as otherwise required by producer rules. The *Message Group* shall not be used unless there are multiple messages in the CMF Document that are from different originators and/or have different *Mode Indicators*.

## Message Group Package Structure:

*Msg\_Grp (Orig\_Addr? , Mode\_Indicators? , (Data\_Mgt\_Msg | Entity\_Msg | Remote\_Ampn\_Msg | Txt\_Msg | Collab\_Msg | Ops\_Notif\_Msg | Oper\_Status\_Msg | BLOB\_Xfer\_Msg) +)*

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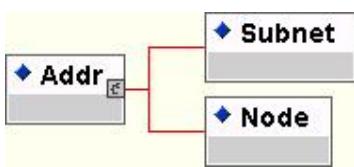
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*Orig\_Addr (Addr)*



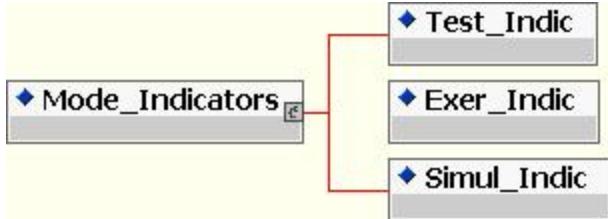
*Addr (Subnet , Node)*



*Mode\_Indicators (Test\_Indic , Exer\_Indic , Simul\_Indic)*

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#### 5.4.1.3.1 MESSAGE GROUP IMPLEMENTATION

5.4.1.3.1.1 Data transmitted onto a broadcast by any particular IBS producer typically are operational data that also are labeled as originating from the same producer. For the interactive broadcast, in this typical case, the messages are placed into the data package, i.e., document, as direct children of the root node, i.e., CMF Doc, following the Package Description elements. This applies as long as the data are from the same originator and all in the same mode, i.e., all operational or all test, etc.

5.4.1.3.1.2 A method is also provided within CMF for an IBS node to transmit, in a single package, i.e., document, information that was provided from more than one IBS originator and to indicate the different originators in the package. The messages from each originator shall be grouped using the *Message Group* [Msg\_Grp] element. Likewise, operational data and different modes of nonoperational data, e.g., test, exercise, simulation, etc., shall also be grouped separately using the *Message Group* element.

5.4.1.3.1.3 A single package may potentially contain eight different types of message groups as follows:

- a. Operational;
- b. Test;
- c. Test and Exercise;
- d. Test, Exercise and Simulated;
- e. Test and Simulated;
- f. Exercise;
- g. Exercise and Simulated; and

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h. Simulated.

5.4.1.3.1.4 Additionally, message groups may be included for one or more messages from multiple originators containing more than one mode of data (i.e. up to the eight groupings but for each originator) within one data package.

## 5.4.1.4 ORIGINATOR ADDRESS

The *Originator Address* [Orig\_Addr] uniquely identifies the IBS participant from which the contents of the package were originally created for reporting onto IBS. If *Originator Address* does not exist, *Transmitter Address* is the default.

## 5.4.1.5 MODE INDICATORS

The *Mode Indicators* [Mode\_Indicators] element identifies the message(s) in the package as being generated in support of friendly tests or exercises. Within the *Message Group* structure, these indicators are found at the grouping level and pertain to each message within the current grouping. The *Mode Indicators* shall not be present in a package unless one or more of the indicators has ever changed from its specified initial value, but they shall always be sent if any are set to other than their specified initial value.

### 5.4.1.5.1 TEST INDICATOR

The *Test Indicator* [Test\_Indic] indicates whether or not the message is a test message, i.e., canned or replay data for testing network equipment or systems. Once set, the indicator shall remain set for the duration of the reported entity or other message type. Once set to the non-initial value state, the indicator state shall not change. Per existing guidance regarding receive implementation support for future flexibility, receive systems shall be capable of accepting

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the indicator set to the Initial Value and properly handling the No Change condition.

### **5.4.1.5.2 EXERCISE INDICATOR, IBS**

The *Exercise Indicator, IBS* [Exer\_Indic] indicates whether or not the message identifies exercise data. Once set, the indicator shall remain set for the duration of the reported entity or other message type. Once set to the non-initial value state, the indicator state shall not change. Per existing guidance regarding receive implementation support for future flexibility, receive systems shall be capable of accepting the indicator set to the Initial Value and properly handling the No Change condition.

### **5.4.1.5.3 SIMULATION INDICATOR, IBS**

The *Simulation Indicator, IBS* [Simul\_Indic] indicates whether or not the message identifies simulated data. Once set, the indicator shall remain set for the duration of the reported entity or other message type. Once set to the non-initial value state, the indicator state shall not change. Per existing guidance regarding receive implementation support for future flexibility, receive systems shall be capable of accepting the indicator set to the Initial Value and properly handling the No Change condition.

### **5.4.1.6 URGENT INTERIM CAPABILITY (UIC) ELEMENTS**

*Urgent Interim Capability (UIC) Elements* [UIC\_Elmnts] {already defined in [Section 5.6.1.38](#)}

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**5.5 DATA MANAGEMENT MESSAGE SUMMARY**

DTD NAME: Data\_Mgt\_Msg

DED NAME: DATA MANAGEMENT MESSAGE

PURPOSE/SCOPE/DESCRIPTION: The CMF *Data Management Message* [Data\_Mgt\_Msg] identifies a group of elements that indicates one or more management actions to be applied or adhered to for one or more indicated entities or sets of data.

**5.5.1 DATA MANAGEMENT MESSAGE ELEMENTS, STRUCTURE AND IMPLEMENTATION**

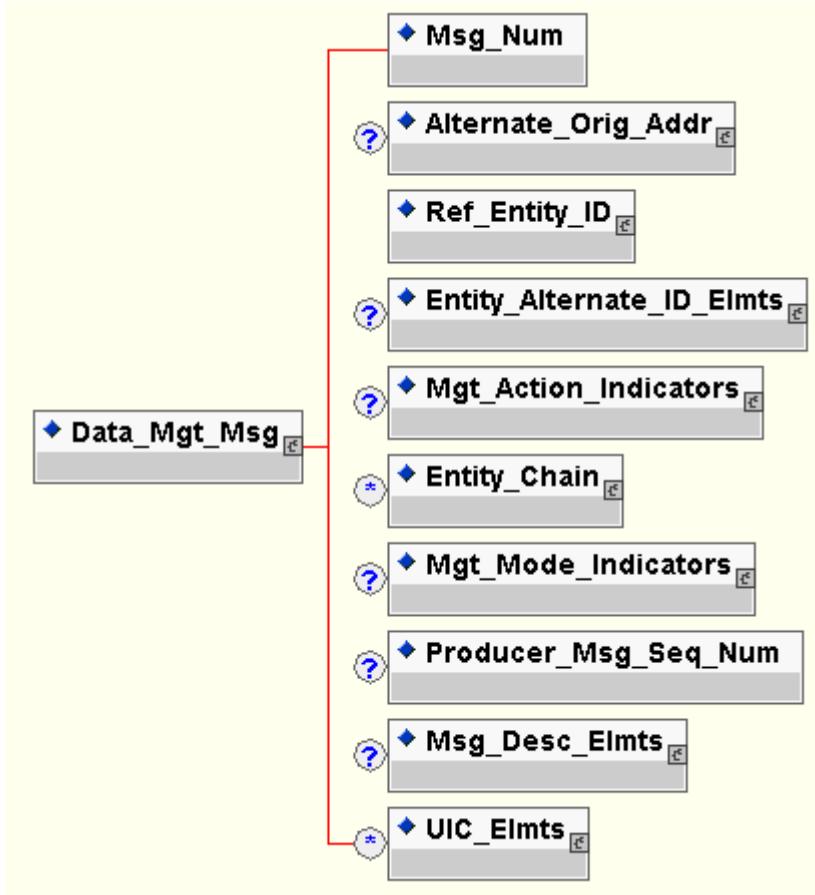
The *Data Management Message* supports coordination among participants. Each *Data Management Message* shall contain at least the minimum elements required by the "Data Management Message Package Structure" and as otherwise required by producer rules. All data management activities directed toward a specific entity are via a *Reference Entity ID*. The *Data Management Message* shall reference only those entities (Entity Messages) that have previously been reported. At least one type of coordination function, action, or indication for the referenced entity/entities shall be present in the *Data Management Message* (i.e., at least one of: flash action, chaining action, or unchaining action).

**Data Management Message Package Structure:**

*Data\_Mgt\_Msg* (*Msg\_Num* , *Alternate\_Orig\_Addr?* , *Ref\_Entity\_ID* ,  
*Entity\_Alternate\_ID\_Elmnts?* , *Mgt\_Action\_Indicators?* , *Entity\_Chain\** ,  
*Mgt\_Mode\_Indicators?* , *Producer\_Msg\_Seq\_Num?* , *Msg\_Desc\_Elmnts?* ,  
*UIC\_Elmnts\**)

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## 5.5.1.1 MESSAGE NUMBER

The *Message Number* [**Msg\_Num**] is a one-up number that shall be assigned by the CMF originator which uniquely identifies a reported message within the respective message type (i.e., separate one-up numbering is performed for the messages of each applicable message type). In the *Data Management Message* structure, the *Message Number* uniquely identifies the current *Data Management Message*.

## 5.5.1.2 ALTERNATE ORIGINATOR ADDRESS

The *Alternate Originator Address* [**Alternate\_Orig\_Addr**] identifies the legacy originator address for the producer of the reported message. In the *Data Management Message* structure it identifies the legacy address for the producer of the *Data Management Message*. It

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equates to the *TIBS Address* [TIBS\_Addr] or the *TDDS Address* [TDDS\_Addr] or the *TRIXS Address* [TRIXS\_Addr]. The *TIBS Address* [TIBS\_Addr] is a composite consisting of the *Subnet Address*, *TIBS Subnet* [TIBS\_Subnet] and the *TIBS Station Address* [TIBS\_Station\_Addr]. The *TDDS Address* [TDDS\_Addr] is a composite of the *TDDS Correlation Index* [TDDS\_CI] and the *TDDS Correlation Index* is a composite of *Correlation Index*. The *TRIXS Address* [TRIXS\_Addr] is a composite of the *Producer Designator Digraph* [Producer\_Digraph].

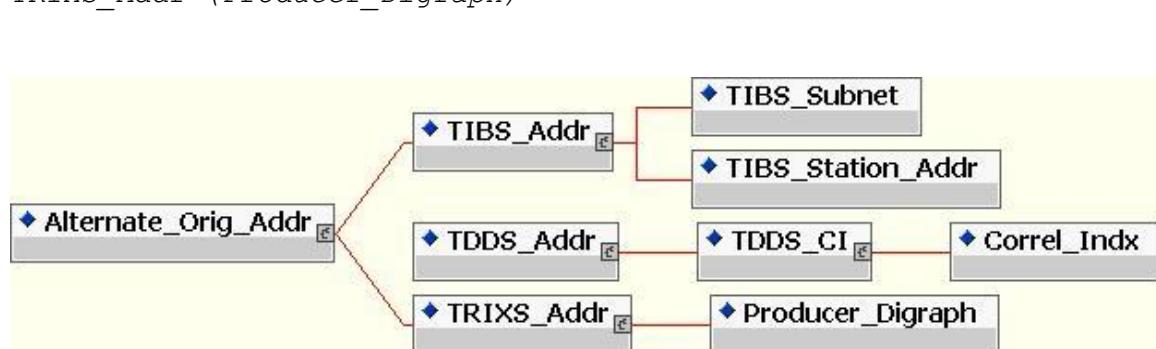
## Alternate Originator Address Package Structure:

*Alternate\_Orig\_Addr* (*TIBS\_Addr* | *TDDS\_Addr* | *TRIXS\_Addr*)

*TIBS\_Addr* (*TIBS\_Subnet* , *TIBS\_Station\_Addr*)

*TDDS\_Addr* (*TDDS\_CI*)

*TRIXS\_Addr* (*Producer\_Digraph*)



### 5.5.1.3 REFERENCE ENTITY ID

The *Reference Entity ID* [Ref\_Entity\_ID] identifies a unique global identifier for an entity (likely separately and/or previously reported) being referred to by a reported action or set of data. The *Reference Entity ID* consists of a composite of *Address* [Addr] and *Entity Number* [Entity\_Num]. A *Reference Entity ID* (as an immediate

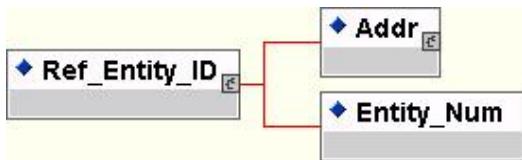
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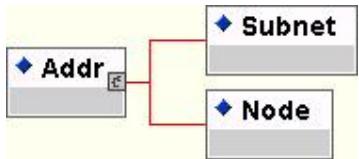
child element under the *Data Management Message* group) shall be reported in each *Data Management Message*. In the case of chaining (see [Section 5.5.1.6](#)), this is also known as the "primary". A "secondary" or multiple "secondary" *Reference Entity IDs* may be reported if the intent of the *Data Management Message* is to correlate or pair multiple entities. NOTE: The terms "primary" and "secondary" do not imply any sort of hierarchy, but they are just for reference purposes.

## Reference Entity ID Package Structure:

*Ref\_Entity\_ID* (*Addr* , *Entity\_Num*)



*Addr* (*Subnet* , *Node*)



### 5.5.1.4 ENTITY ALTERNATE ID ELEMENTS

Detailed description of *Entity Alternate ID Elements* is introduced later in this document in the *Entity Message* section. If reported, the value shall be the alternate identifier corresponding to the associated *Reference Entity ID*.

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Entity Alternate ID Elements Package Structure:

*Entity\_Alternate\_ID\_Elmnts ((Link\_11\_11B\_ID | Link\_16\_ID | TDSS\_ID |  
NATO\_Link\_1\_Trk\_Num | TIBS\_Trk\_Num | TRIXS\_Report\_Num | USMTF\_Trk\_ID |  
BINO\_Trk\_Num | VMF\_Entity\_ID\_Serial\_Num)\* , TES\_Event\_ID\*)*

*Link\_11\_11B\_ID (Link\_11\_11B\_Trk\_Num\_Ref , Link\_11\_11B\_PURU)*

*Link\_16\_ID (Link\_16\_Trk\_Num\_Ref , Link\_16\_Trk\_Num\_Src)*

*TDSS\_ID ((TDSS\_CI , TDSS\_SCN , TDSS\_Trk\_Num?) , TDSS\_Rpt\_Num? ,  
TDSS\_Trk\_Upd\_Num? , TDSS\_Chg\_Flag?)*

*TDSS\_CI (Correl\_Indx)*

*TIBS\_Trk\_Num (TIBS\_Subnet , TIBS\_Station\_Addr , TIBS\_Lbl ,  
TIBS\_Msg\_Num)*

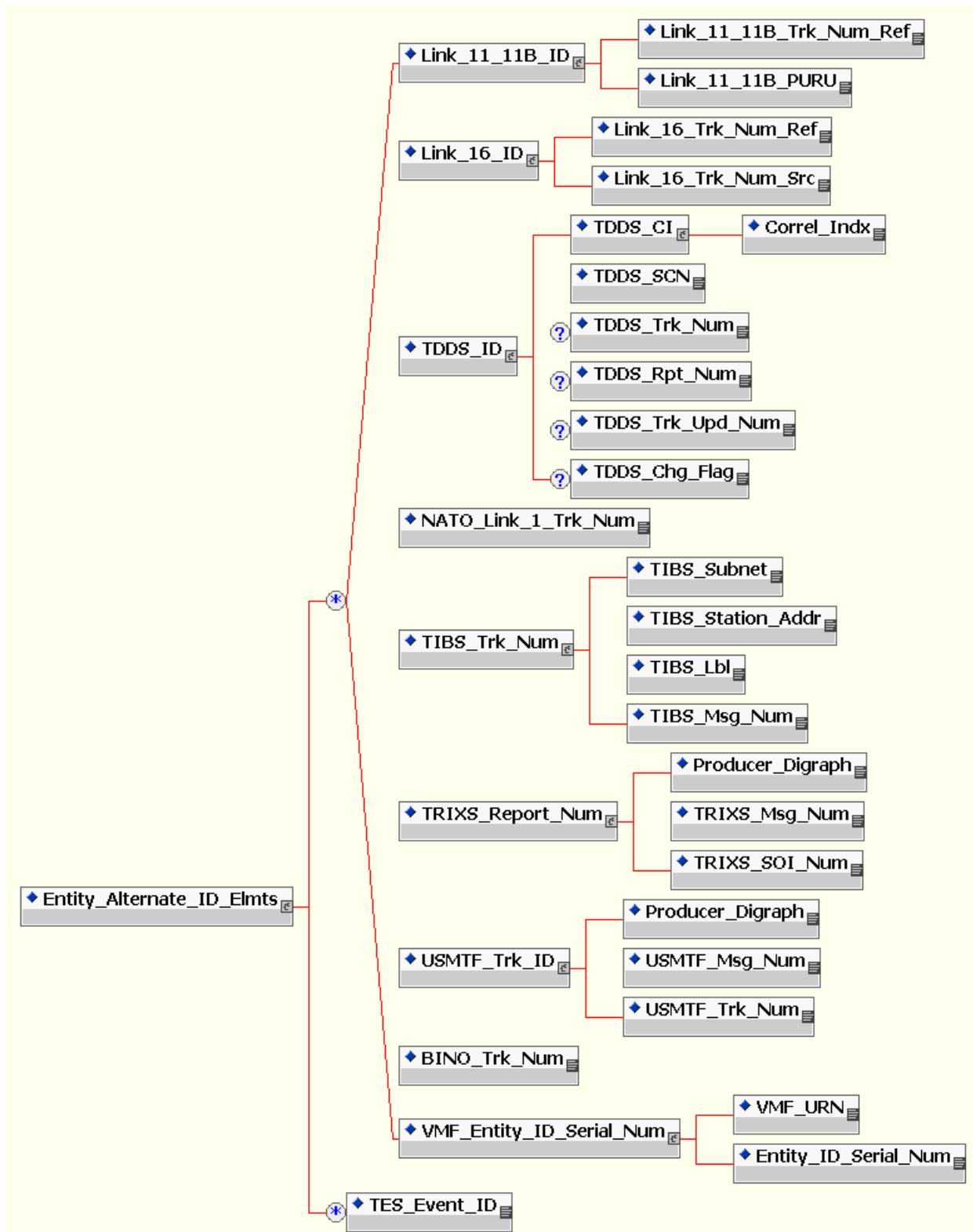
*TRIXS\_Report\_Num (Producer\_Digraph , TRIXS\_Msg\_Num , TRIXS\_SOI\_Num)*

*USMTF\_Trk\_ID (Producer\_Digraph , USMTF\_Msg\_Num , USMTF\_Trk\_Num)*

*VMF\_Entity\_ID\_Serial\_Num (VMF\_URN , Entity\_ID\_Serial\_Num)*

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## 5.5.1.5 MANAGEMENT ACTION INDICATORS

### 5.5.1.5.1 The *Management Action Indicators*

[Mgt\_Action\_Indicators] element provides a recommendation or status for a friendly action pertaining to the entity identified in the *Reference Entity ID*. If reported, the *Management Action Indicators* group shall contain at least the minimum elements required by the "Management Action Indicators Package Structure" and as otherwise required by producer rules. The *Management Action Indicators* [Mgt\_Action\_Indicators] shall consist of a single element: *Flash* [Flash].

#### Management Action Indicators Package Structure:

*Mgt\_Action\_Indicators* (*Flash?*)



### 5.5.1.5.2 FLASH

5.5.1.5.2.1 The *Flash* [Flash] element provides a means to request additional location/line of bearing data for the entity identified in the *Reference Entity ID*. It is an enumerated type with possible values identifying a no-flash or flash request.

5.5.1.5.2.2 The *Flash* request is a single instance transmission; updates to the message do not occur. Setting this field to "FLASH" alerts other IBS producers that a better location for the referenced entity is being requested.

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## 5.5.1.6 CHAINING (Correlation and Pairing)

Chaining is a process to identify and establish relationships between two or more separate entities (or messages) being reported on the network. The "primary" entity identified in the Data Management *Reference Entity ID* can be chained to a "secondary" entity identified in the *Entity Chaining Reference Entity ID*.

### 5.5.1.6.1 ENTITY CHAINING

The *Entity Chaining* [Entity\_Chain] element indicates a relationship between the "primary" and "secondary" entities. When chaining, the "primary" entity is chained to one or more "secondary" entities. There are no restrictions on the number of relationships an entity may have. The primary entity can be chained to multiple secondary entities and/or the same secondary entity in a different relationship via repeated *Entity Chaining* elements in a single Data Management element. If reported, the *Entity Chaining* group shall contain at least the minimum elements required by the "Entity Chaining Package Structure" and as otherwise required by producer rules. The *Entity Chaining* element provides a complex group of the following elements: *Entity Chain Type*, *Reference Entity ID*, *Entity Alternate ID Elements*, *Entity Relationship Indicator*, *Pair Logic*, *Unpair Logic*, *Entity Chain Percent Confidence*, and *Entity Chain General Confidence*.

#### Entity Chaining Package Structure:

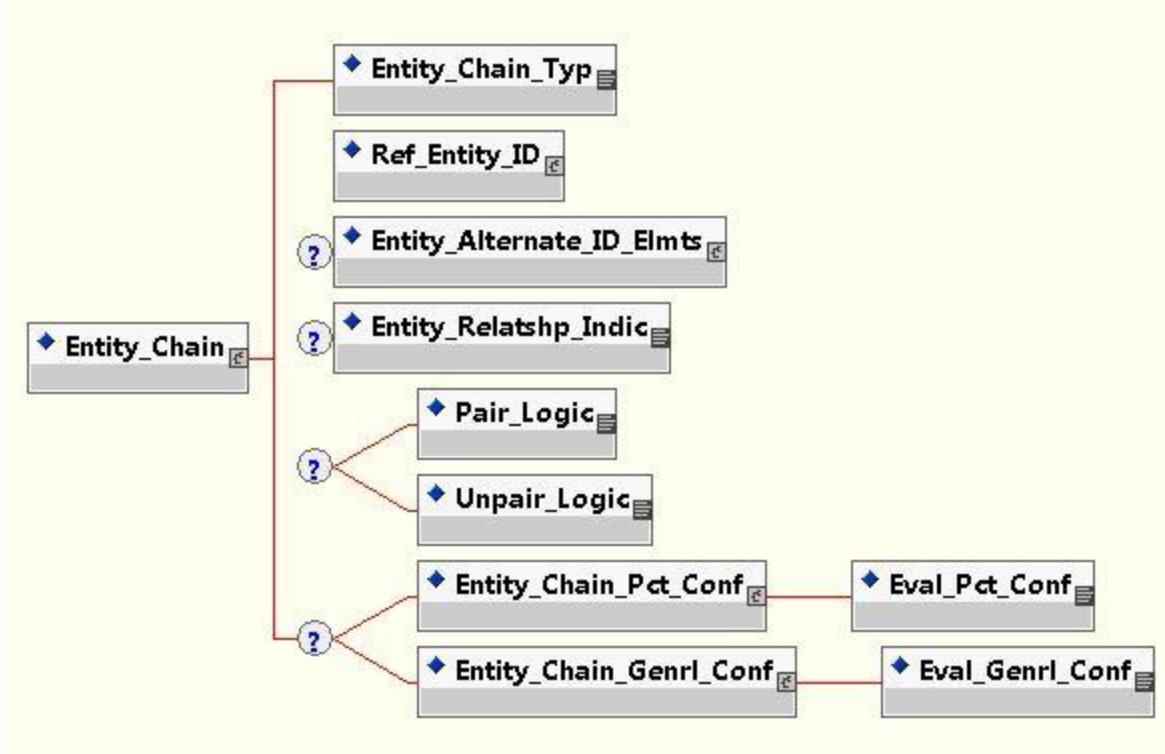
*Entity\_Chain* (*Entity\_Chain\_Typ* , *Ref\_Entity\_ID* ,  
*Entity\_Alternate\_ID\_Elmnts?* , *Entity\_Relatshp\_Indic?* , (*Pair\_Logic* |  
*Unpair\_Logic*)? , (*Entity\_Chain\_Pct\_Conf* | *Entity\_Chain\_Genrl\_Conf*)?)

*Entity\_Chain\_Pct\_Conf* (*Eval\_Pct\_Conf*)

*Entity\_Chain\_Genrl\_Conf* (*Eval\_Genrl\_Conf*)

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## 5.5.1.6.1.1 ENTITY CHAIN TYPE

5.5.1.6.1.1.1 The *Entity Chain Type* [**Entity\_Chain\_Typ**] provides the means to correlate or pair associated message data for threat resolution and entity correlation. It is an enumerated type with possible values identifying the specific action from among correlate, uncorrelate, pair, or unpair.

5.5.1.6.1.1.2 Correlate is used to associate equivalent entities or for components of a common or single entity. Pair is used to associate items in a subject-object relationship.

## 5.5.1.6.1.2 ENTITY RELATIONSHIP INDICATOR

The *Entity Relationship Indicator* [**Entity\_Relatshp\_Indic**] indicates whether the primary entity is the subject or the object of the relationship between the two entities, where the subject shall be reported as the acting entity and the object shall be reported as the

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entity being acted upon. An entity may be the subject in one relationship and the object in another. It is an enumerated type with possible values identifying the specific relationship. The *Entity Relationship Indicator* shall be reported for Pairings. The indicator is not used with correlation chaining.

### 5.5.1.6.1.2.1 PAIRING

Pairing is a subset of the chaining process used to identify a specific subject-object relationship between separate entities being reported on the IBS network. One of the pairing logic elements (*Pair Logic* or *Unpair Logic*) shall be reported whenever the *Data Management Message* is used to perform a pair ON or a pair OFF event, respectively.

#### 5.5.1.6.1.2.1.1 PAIR LOGIC

The *Pair Logic* [*Pair\_Logic*] element explains the relationship between paired entities. Allowable values are contained within an external mnemonics file <CMF\_Mnemonics/Pair\_Logic\_File.txt>. Mnemonic fields shall be verified against the appropriate mnemonic file. This can be done via the CMF Parser. Mnemonic verification shall always be performed only upon creation of CMF.

#### 5.5.1.6.1.2.1.2 UNPAIR LOGIC

5.5.1.6.1.2.1.2.1 The *Unpair Logic* [*Unpair\_Logic*] element explains the condition causing entities to be unpaired. Allowable values are contained within an external mnemonics file <CMF\_Mnemonics/Unpair\_Logic\_File.txt>. Mnemonic fields shall be verified against the appropriate mnemonic file. This can be done via the CMF Parser. Mnemonic verification shall always be performed only upon creation of CMF. Reset is an allowable condition for causing entities to be unpaired and is expressed by setting the reset attribute of an *Unpair Logic* element.

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### 5.5.1.6.1.2.1.2.2 DISUSED

#### 5.5.1.6.1.3 ENTITY CHAIN PERCENT CONFIDENCE

The *Entity Chain Percent Confidence* [Entity\_Chain\_Pct\_Conf] provides a numerical indication in the degree of confidence an operator/evaluator has in the specified entity chaining information (the provided correlation or pairing logic). *Entity Chain Percent Confidence* is a composite of *Evaluation Percent Confidence*. It is mutually exclusive with *Entity Chain General Confidence*.

#### 5.5.1.6.1.4 ENTITY CHAIN GENERAL CONFIDENCE

The *Entity Chain General Confidence* [Entity\_Chain\_Genrl\_Conf] provides a general indication in the degree of confidence an operator/evaluator has in the specified entity chaining information (the provided correlation or pairing logic). *Entity Chain General Confidence* is a composite of *Evaluation General Confidence*. It is mutually exclusive with *Entity Chain Percent Confidence*.

### 5.5.1.6.2 CHAINING UPDATES AND IMPLEMENTATION

5.5.1.6.2.1 If performing Partial reporting, chains shall be stale updated. The originator of the chain action is responsible for the update. A unit which originates a chaining, and receives or initiates a *Drop Entity Action* for any entity involved in a chaining, shall cease reporting the chaining for that entity.

5.5.1.6.2.2 Only the system originating the chained relationship shall perform the unchain (i.e., an UNPAIR or UNCORRELATE) action.

5.5.1.6.2.3 Before sending chaining data, all entities identified in any *Entity Chaining* repeatable groups shall have been reported. The reporting of all chained entities prior to the *Data Management*

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Message aids the consumer's ability to properly handle the management action.

5.5.1.6.2.4 The IBS Enterprise CONOPS prioritization process shall provide a method for producers to prioritize each *Data Management Message* such that the messages for at least the two highest priority entities to be chained shall arrive at the consumer prior to the *Data Management Message*. Nevertheless, transmission errors or protocols may still delay those messages and/or some of the lower priority messages may still arrive after the *Data Management Message*. Consumers shall, therefore, accept the messages identifying or comprising a chain in any order. For a minimum of the system's normal entity timeout period, they shall maintain and continue the attempt to chain any *Data Management Message* which has not yet identified a successful chain.

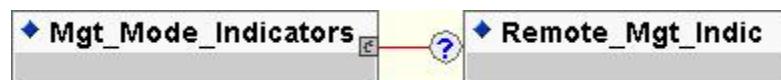
5.5.1.6.2.5 Other than stale updates, producers do not need to generate additional *Data Management Messages* if the same entity numbers are used throughout an event. If there is a change in entity GTN assignment, new *Data Management Messages* shall be generated with applicable chaining information. Examples would be due to a radar dropped track or reporting responsibility (R2) shift.

## 5.5.1.7 MANAGEMENT MODE INDICATORS

The *Management Mode Indicators* [Mgt\_Mode\_Indic] element identifies a group of elements specifying the content or methods by which to utilize or interpret a *Data Management Message*.

### Management Mode Indicators Structure:

*Mgt\_Mode\_Indicators* (*Remote\_Mgt\_Indic?*)



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## 5.5.1.7.1 REMOTE MANAGEMENT INDICATOR

The *Remote Management Indicator* [Remote\_Mgt\_Indic] indicates if a *Data Management Message* is an action being taken by a remote IBS unit upon an entity for which a different IBS unit has reporting responsibility, i.e., a remote action rather than a local action. It is a packed component type with possible values identifying whether the management action is from origin (local) or remote.

## 5.5.1.8 PRODUCER MESSAGE SEQUENCE NUMBER

### *5.5.1.8.1 The Producer Message Sequence Number*

[Producer\_Msg\_Seq\_Num] is a one-up number assigned by the producer to each CMF message (regardless of type) as it is reported to indicate the sequence in which the messages were generated. It is an optional element whose use is intended for producers that have a need to perform off-line message accountability analysis. Taking into account IBS architecture, analysts may utilize *Producer Message Sequence Number* values to determine if all message(s) within a sequence of messages from a specific producer were received.

*5.5.1.8.2 Upon startup, applications shall either initialize the Producer Message Sequence Number to its minimum value or continue its numbering from the previous shutdown.*

*5.5.1.8.3 The producer shall increment the Producer Message Sequence Number for each message reported (regardless of type) until the maximum value is reached, with rollover occurring from the maximum value back to the minimum value.*

## 5.5.1.9 MESSAGE DESCRIPTION ELEMENTS

*Message Description Elements* [Msg\_Desc\_Elmts] {already defined in [Section 5.8.1.4](#)}

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5.5.1.9.1 DESTINATION ADDRESS

*Destination Address [Dest\_Addr] {already defined in [Section 5.8.1.4.1](#)}*

5.5.1.9.2 ALTERNATE DESTINATION ADDRESS

*Alternate Destination Address [Alternate\_Dest\_Addr] {already defined in [Section 5.8.1.4.2](#)}*

5.5.1.9.3 TIME OF ENTRY

*Time of Entry [TOE] {already defined in [Section 5.8.1.4.3](#)}*

5.5.1.9.4 TIME OF ENTRY ORIGINATOR ADDRESS

*Time of Entry Originator Address [TOE\_Orig\_Addr] {already defined in [Section 5.8.1.4.4](#)}*

Message Description Elements Structure:

*Msg\_Desc\_Elmnts (Dest\_Addr? , Alternate\_Dest\_Addr? , (TOE , TOE\_Orig\_Addr?)?)*

*Dest\_Addr (Dest\_Grp? , Subnet? , Node?)*

*Alternate\_Dest\_Addr (TIBS\_Addr)*

*TIBS\_Addr (TIBS\_Subnet , TIBS\_Station\_Addr)*

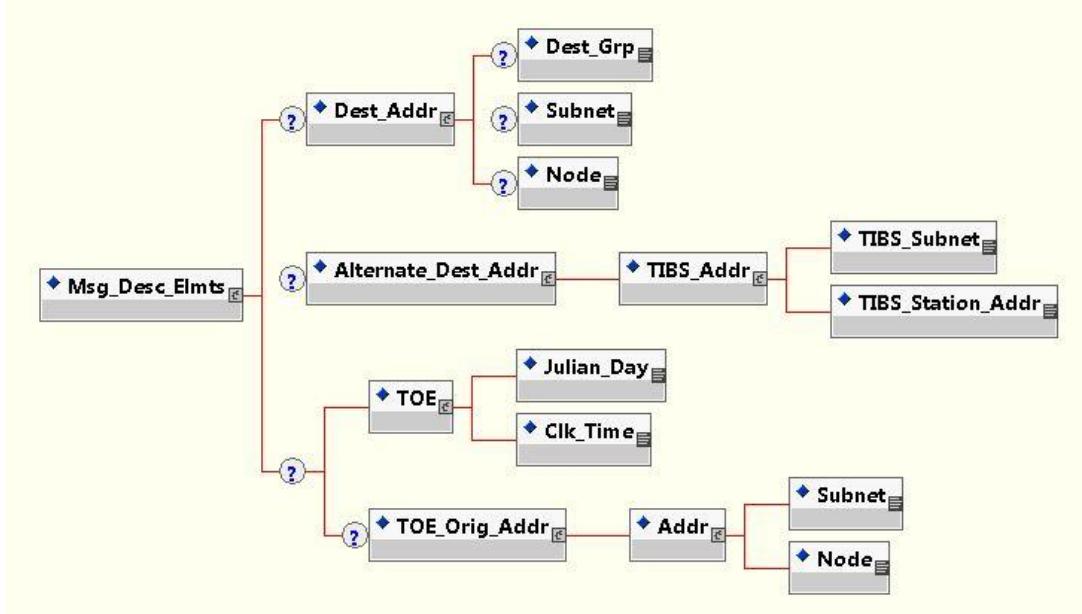
*TOE (Julian\_Day , Clk\_Time)*

*TOE\_Orig\_Addr (Addr)*

*Addr (Subnet, Node)*

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## 5.5.1.10 URGENT INTERIM CAPABILITY (UIC) ELEMENTS

*Urgent Interim Capability (UIC) Elements [UIC\_Elmnts] {already defined in [Section 5.6.1.38](#)}*

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## 5.6 ENTITY MESSAGE SUMMARY

DTD NAME: Entity\_Msg

DED NAME: ENTITY MESSAGE

PURPOSE/SCOPE/DESCRIPTION: The CMF *Entity Message* [Entity\_Msg] shall be used to describe an entity, such as an object, object group, target, site, etc., including the entity's characteristics, actions, and/or status. Characteristics may include physical attributes such as observable traits, environmental surroundings, or emissions; and/or non-physical attributes such as purpose, intent, or meaning. Each *Entity Message* shall contain at least the minimum elements required by the "Entity Message Package Structure" and as otherwise required by producer rules.

### 5.6.1 ENTITY MESSAGE ELEMENTS, STRUCTURE AND IMPLEMENTATION

5.6.1.1 The CMF *Entity Message* [Entity\_Msg] is a complex group element containing the elements in its content model as described in the "Entity Message Package Structure" and consists of both required elements and optional elements. A minimal *Entity Message* shall be composed of:

- a. Elements required by structure, which consist of *Entity Number* and *TOI* (Time of Intercept),
- b. Elements required by rule, which consist of *Julian Day of Intercept*, *Environment ID* (of the *Entity ID Elements*), *Entity Update Number*, and
- c. Elements conditionally required by rule and if data are available (i.e., if condition is other than an "Initial Value" and the current data held meets the defined criteria for reporting), which

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consist of: *Reference Polar Platform Elements*, *Entity Polar Location Elements*, *Provider Type*, *Source Message Type*, *Advisory Indicator*, *Extrapolation Indicator*, *Drop Entity Action*, *Entity Alternate ID Elements*, *Interest Indicators*, and *Message Filter Elements*.

5.6.1.2 NOTE: *Package Description Data* (including *Major Parser API Version* and *Minor Parser API Version*, *Major DTD Version* and *Minor DTD Version*, *Package Number*, *Time Of Transmission*, *Transmitter Address*); and *Time Of Last Duplicate Start*; and *Message Group* (including *Originator Address* and *Mode Indicators*), are introduced previous to this section.

5.6.1.3 The *Drop Entity Action* element shall be sent whenever set to a drop condition in order to remove the entity.

5.6.1.4 Location information (of the reported entity), using the polar WGS-84 coordinate system, shall always be transmitted with each *Entity Message* report. If an entity is being dropped, the last transmitted location shall be reported. Note that, depending upon sensor capabilities and/or the type of data being reported, location information using rectangular coordinates may also be reported in addition to polar location information. The types of polar entity location data available are:

- a. *Reference Polar Platform Elements* [Ref\_Polar\_Plat\_Elmnts] including a *Polar Single Location* [Polar\_Single\_Loc] and either one or more of the line of bearing children or the *Bearing Cone Angle* element. (NOTE: Cut LOBs and *Bearing Cone Angle* and their associated location information are also available, but Cut LOBs are not currently used at this time and *Bearing Cone Angle* is not used as part of the *Entity Message* (only with the Collaboration at present). Therefore, neither Cut LOBs nor *Bearing Cone Angle* need to be implemented until a future date.),

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b. and *Entity Location* located in *Entity Polar Location Elements*.

5.6.1.5 After the initial *Entity Message* report, entity location information and location-dependent elements (such as *Entity Elliptical Area* or *Entity Rectangular Area* which require an associated *Entity Location* as a required centerpoint) shall be replaced on each transmission receipt by any new location data that is reported, with the exception of error (e.g. *Error Circle 2D*, *Error 3D*, etc.) reporting. Error reporting shall be persisted as long as the error data itself is not reset and as long as the type of location data that is being reported supports the use of error data (e.g., *Error Circle 2D* applies to *Entity Location* within the same parent element *Entity Polar Location Elements*, but does not apply to *Entity LOB* or *Bearing Cone Angle* in a different parent element).

5.6.1.6 If a change occurs to the type of location data that is being reported for an entity (e.g. *Entity Location* is not reported, but is replaced by *Entity LOB*), and error data was associated with the previously reported location data, then upon receipt of the new type of location, the previously reported error data shall be reset.

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Table 5.6.1-1 Location Reporting Sequence Example (Sheet 1 of 2)

Report Sequence	CMF Example Entity Message Location Info (with DTD naming conventions)	Interpretation of example
Initial Report	Entity_Msg contains Ref_Polar_Plat_Elmnts / Polar_Single_Loc with Entity_LOB	Establishing initial Entity_LOB as location information for the Entity
Update 1	Entity_Msg contains Ref_Polar_Plat_Elmnts / Polar_Single_Loc with Entity_LOB	New Entity_LOB data replaces all previous Entity_LOB information
Update 2	Entity_Msg contains Entity_Polar_Loc_Elmnts / Entity_Loc with Err_Circ_2D	New Entity_Loc replaces previous Entity_LOB information. Err_Circ_2D data is associated with Entity_Loc (note: common parent element is Entity_Polar_Loc_Elmnts)
Update 3	Entity_Msg contains Entity_Polar_Loc_Elmnts / Entity_Loc (No Err_Circ_2D reported)	New Entity_Loc data replaces only the previous Entity_Loc and retains Err_Circ_2D information even though not retransmitted (Lack of Error data update is not interpreted as reset). The previously reported Err_Circ_2D info is now associated with the new Entity_Loc
Update 4	Entity_Msg contains Entity_Polar_Loc_Elmnts / Entity_Loc with Err_Circ_2D	New Entity_Loc replaces previous Entity_Loc information and Err_Circ_2D data replaces previous Err_Circ_2D

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Table 5.6.1-1 Location Reporting Sequence Example (Sheet 2 of 2)

<b>Report Sequence</b>	<b>CMF Example Entity Message Location Info (with DTD naming conventions)</b>	<b>Interpretation of example</b>
Update 5	Entity_Msg contains BOTH Entity_Polar_Loc_Elmnts / Entity_Loc and Entity_ID_Elmnts / Entity_Ellip_Area	New Entity_Loc data replaces the previous Entity_Loc and retains Err_Circ_2D information even though not retransmitted (Lack of Error data update is not interpreted as reset). The previously reported Err_Circ_2D info is now associated with the new Entity_Loc as is the Entity_Ellip_Area.
Update 6	Entity_Msg contains BOTH Entity_Polar_Loc_Elmnts / Entity_Loc and Ref_Polar_Plat_Elmnts / Polar_Single_Loc with Entity_LOB	New Entity_Loc data replaces the previous Entity_Loc and retains Err_Circ_2D information even though not retransmitted. The previous Entity_Ellip_Area is dropped as it was not retransmitted with the Entity_Loc. Additionally, the secondary reference platform location information is available as reference Polar_Single_Loc and an Entity_LOB.

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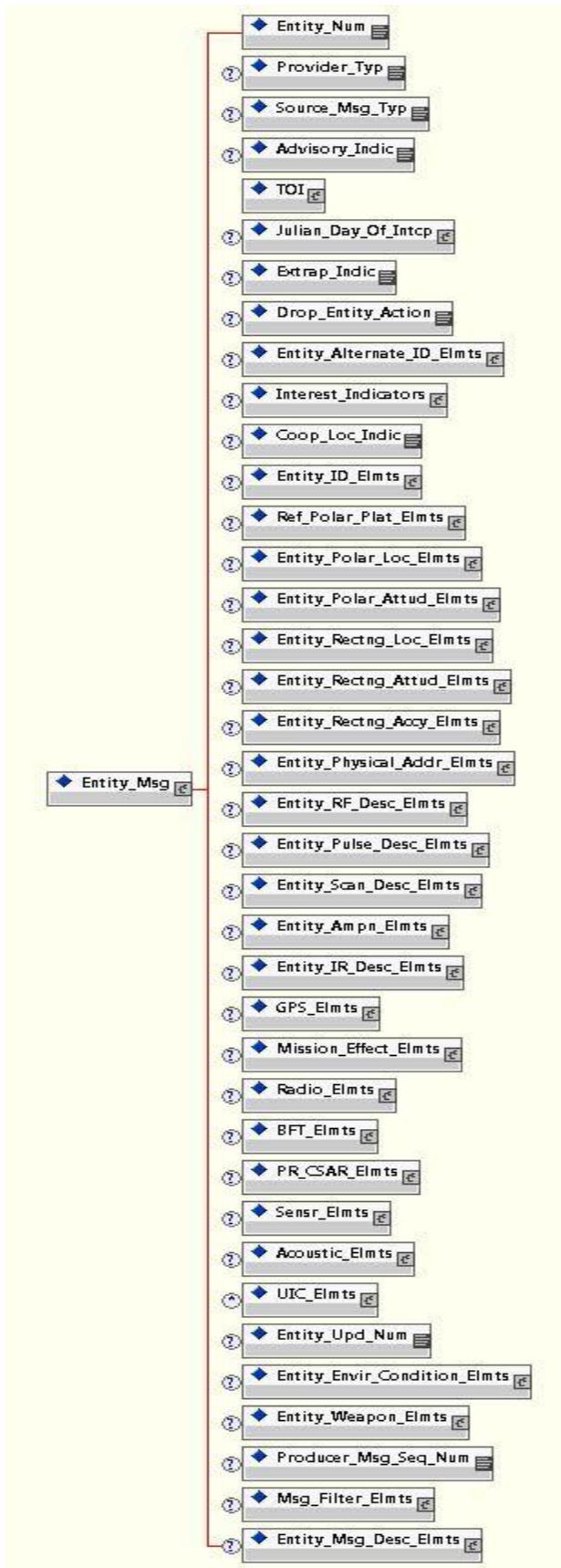
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Entity Message Package Structure:

```
Entity_Msg (Entity_Num , Provider_Typ? , Source_Msg_Typ? ,
Advisory_Indic? , TOI , Julian_Day_Of_Intcp? , Extrap_Indic? ,
Drop_Entity_Action? , Entity_Alternate_ID_Elmcts? ,
Interest_Indicators? , Coop_Loc_Indic? , Entity_ID_Elmcts? ,
Ref_Polar_Plat_Elmcts? , Entity_Polar_Loc_Elmcts? ,
Entity_Polar_Attud_Elmcts? , Entity_Rectng_Loc_Elmcts? ,
Entity_Rectng_Attud_Elmcts? , Entity_Rectng_Accy_Elmcts? ,
Entity_Physical_Addr_Elmcts? , Entity_RF_Desc_Elmcts? ,
Entity_Pulse_Desc_Elmcts? , Entity_Scan_Desc_Elmcts? ,
Entity_Ampn_Elmcts? , Entity_IR_Desc_Elmcts? , GPS_Elmcts? ,
Mission_Effect_Elmcts? , Radio_Elmcts? , BFT_Elmcts? , PR_CSAR_Elmcts? ,
Sensr_Elmcts? , Acoustic_Elmcts? , UIC_Elmcts*, Entity_Upd_Num? ,
Entity_Envir_Condition_Elmcts? , Entity_Weapon_Elmcts?,
Producer_Msg_Seq_Num? , Msg_Filter_Elmcts? , Entity_Msg_Desc_Elmcts?)
```

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TOI (Clk\_Time)



Julian\_Day\_Of\_Intcp (Julian\_Day)



## 5.6.1.7 ENTITY NUMBER

5.6.1.7.1 The *Entity Number* [Entity\_Num] is a number assigned by the originator (i.e. system reporting the data with a CMF reference) which, with other elements, uniquely identifies the entity described in this message.

5.6.1.7.2 The *Entity Number* within a CMF *Entity Message* is combined with the *Subnet* and *Node* information from the CMF package description elements to form the unique identifier for CMF.

## 5.6.1.8 PROVIDER TYPE

5.6.1.8.1 The *Provider Type* [Provider\_Typ] identifies the type of provider that is supplying the location of the entity.

5.6.1.8.2 BFT/FFT or PR/CSAR producers shall set the *Provider Type* as follows: set *Provider Type* equal to "BFT" or "SAR", respectively, and then BFT/FFT producers shall also set *Entity Activity* equal to "COBRA" or "JBFSA", as appropriate.

5.6.1.8.3 **IMPORTANT:** This element is being transitioned out of use, and will be replaced by the *Message Filter Elements* group (see [Section 5.6.1.43](#)). During the transition period, producers reporting *Message Filter Elements* group element values shall also report any

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corresponding *Provider Type* value, if available. For example, during the transition period, TES producers shall also report a *Provider Type* value of "IRBSA" whenever the *Provider Community* value of "TES" and a *Provider Data Category* value of "IR" or "RDR" is reported. Following full consumer implementation of the *Message Filter Elements* group elements, the *Provider Type* element will be removed or disused.

### 5.6.1.9 SOURCE MESSAGE TYPE

5.6.1.9.1 The *Source Message Type* [*Source\_Msg\_Typ*] indicates the original message format as input by the source into IBS.

5.6.1.9.2 The *Source Message Type* [*Source\_Msg\_Typ*] facilitates legacy translation and is intended to be removed after the migration period. The *Source Message Type* provides an enumerated list identifying the legacy provider type and the native message format. Source type identification includes CMF. For usage of source message type in support of legacy translations, refer to the legacy message maps.

### 5.6.1.10 ADVISORY INDICATOR

The *Advisory Indicator* [*Advisory\_Indic*] indicates if the message is being reported as advisory information (i.e., is being reported, due to deemed importance, prior to meeting normal reporting criteria (i.e. verification of intent, identity, etc.)). The possible values are non-advisory and advisory.

### 5.6.1.11 TOI (Time Of Intercept)

The *TOI* [*TOI*] (Time Of Intercept) contains the time of observation of the event or time for which the position or status is valid. It is a composite of *Clock Time*.

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**5.6.1.12 JULIAN DAY OF INTERCEPT**

The *Julian Day of Intercept* [Julian\_Day\_Of\_Intcp] identifies the day of the current or indicated year, in which the specified information was detected or identified. Producer systems shall populate the *Julian Day of Intercept* element in all *Entity Messages*. It is a composite of *Julian Day*.

**5.6.1.13 EXTRAPOLATION INDICATOR**

The *Extrapolation Indicator* [Extrap\_Indic] identifies whether the information contained in this message is a result of direct observation/measurement (not extrapolated) or whether the information is a projection or estimate outside of the observed range based on prior observation/measurement (extrapolated). It is an enumerated type with possible values representing non-extrapolated and extrapolated.

**5.6.1.14 DROP ENTITY ACTION**

5.6.1.14.1 The *Drop Entity Action* [Drop\_Entity\_Action] indicates the source platform is no longer reporting on the entity. It is an enumerated type and sent only to identify the end of reporting on the identified entity. A *Drop Entity Action* element setting of **DROP** indicates the producer will no longer report on the entity. Similarly, an element setting of **CANCEL** indicates the producer will no longer report on the entity and indicates that previous reports on the entity generated by the producer contained invalid data. Due to the inability to filter properly because of potential non-transmitted elements which were in the original message, all Enterprise user filters should be set to pass all cancel messages and consider passing all drop messages.

5.6.1.14.2 When entity reporting has stopped due to a drop entity action, all Chains and/or Management actions related to the entity

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shall also cease reporting. If the reporting of the pair-off reason is desired, or required operationally, the *Unpair Logic* shall be reported prior to reporting of the drop entity action. Unchaining (i.e., *Unpair Logic*) is a single instance transmission.

5.6.1.14.3 The *TOI* [TOI] (Time Of Intercept) shall be set either to zero ("0") or to the time of the drop indication for the *Drop Entity Action*.

5.6.1.14.4 The *Entity Update Number* shall be incremented and reported whenever *Drop Entity Action* is reported.

### **5.6.1.15 ENTITY ALTERNATE ID ELEMENTS**

5.6.1.15.1 The *Entity Alternate ID Elements* [*Entity\_Alternate\_ID\_Elmnts*] identifies a group of elements which provide one or more alternate identifiers used for uniquely identifying and reporting a CMF entity (or message) on other datalinks or in other environments. These alternate identifiers include legacy IBS identifiers and identifiers devised and controlled by authorities other than the Integrated Broadcast Service (IBS). Alternate identifiers are assigned either via an originating source outside of IBS or upon forwarding of an IBS originated entity (or message).

5.6.1.15.2 Note that neither *Entity Alternate ID Elements* nor its children contain reset attributes. Resets are employed by omitting a particular identifier from the transmission. Consequently, every transmission shall contain all applicable alternate identifiers. Any previously existing identifier not received in an update transmission shall be treated as being reset. Therefore, if *Entity Alternate ID Elements* itself is not received, all of the alternate identifiers would be treated as being reset.

5.6.1.15.3 Link 16, Link 11, and NATO Link 1 track numbers are reported to/from IBS as a character digit representation of octal

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ASCII. For example, if a track number value of 777 octal is to be reported, the value 777 is sent in decimal in both CMF-X and CMF-B, even though the true decimal value of a 777 octal representation is actually 511.

5.6.1.15.4 CMF by design (in accordance with [Appendix D](#)) supports a decimal number system only. The spec does not contain numerical data types specifically to represent non-decimal number systems (i.e. octal, binary, hexadecimal, etc.). There is no native support for representing alternative number systems. Octal representation is currently the only alternate number system that must be accommodated. Therefore, by convention certain elements have been identified as using the available decimal number system to represent an alternate number system such as octal. For a value octal XXX to be represented in the decimal number system, it must be understood that each "X" may take on the values 0, 1, ..., 7 only; 8 and 9 are not permitted.

5.6.1.15.5 The legacy track numbers on the Link 16, Link 11/11B and NATO Link 1 represented in CMF are limited by the implementation rules already established. These rules are available from their respective MIL-STD or other referenced documentation. Forwarding rules between datalink environments will be contained, as developed, in the MIL-STD-6020 document.

Entity Alternate ID Elements Structure:

*Entity\_Alternate\_ID\_Elmnts ((Link\_11\_11B\_ID | Link\_16\_ID | TDDS\_ID | NATO\_Link\_1\_Trk\_Num | TIBS\_Trk\_Num | TRIKS\_Report\_Num | USMTF\_Trk\_ID | BINO\_Trk\_Num | VMF\_Entity\_ID\_Serial\_Num)\* , TES\_Event\_ID\*)*

*Link\_11\_11B\_ID (Link\_11\_11B\_Trk\_Num\_Ref , Link\_11\_11B\_PURU)*

*Link\_16\_ID (Link\_16\_Trk\_Num\_Ref , Link\_16\_Trk\_Num\_Src)*

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*TDDS\_ID ((TDDS\_CI , TDDS\_SCN , TDDS\_Trk\_Num?) , TDDS\_Rpt\_Num? ,  
TDDS\_Trk\_Upd\_Num? , TDDS\_Chg\_Flag?)*

*TDDS\_CI (Correl\_Indx)*

*TIBS\_Trk\_Num (TIBS\_Subnet , TIBS\_Station\_Addr , TIBS\_Lbl ,  
TIBS\_Msg\_Num)*

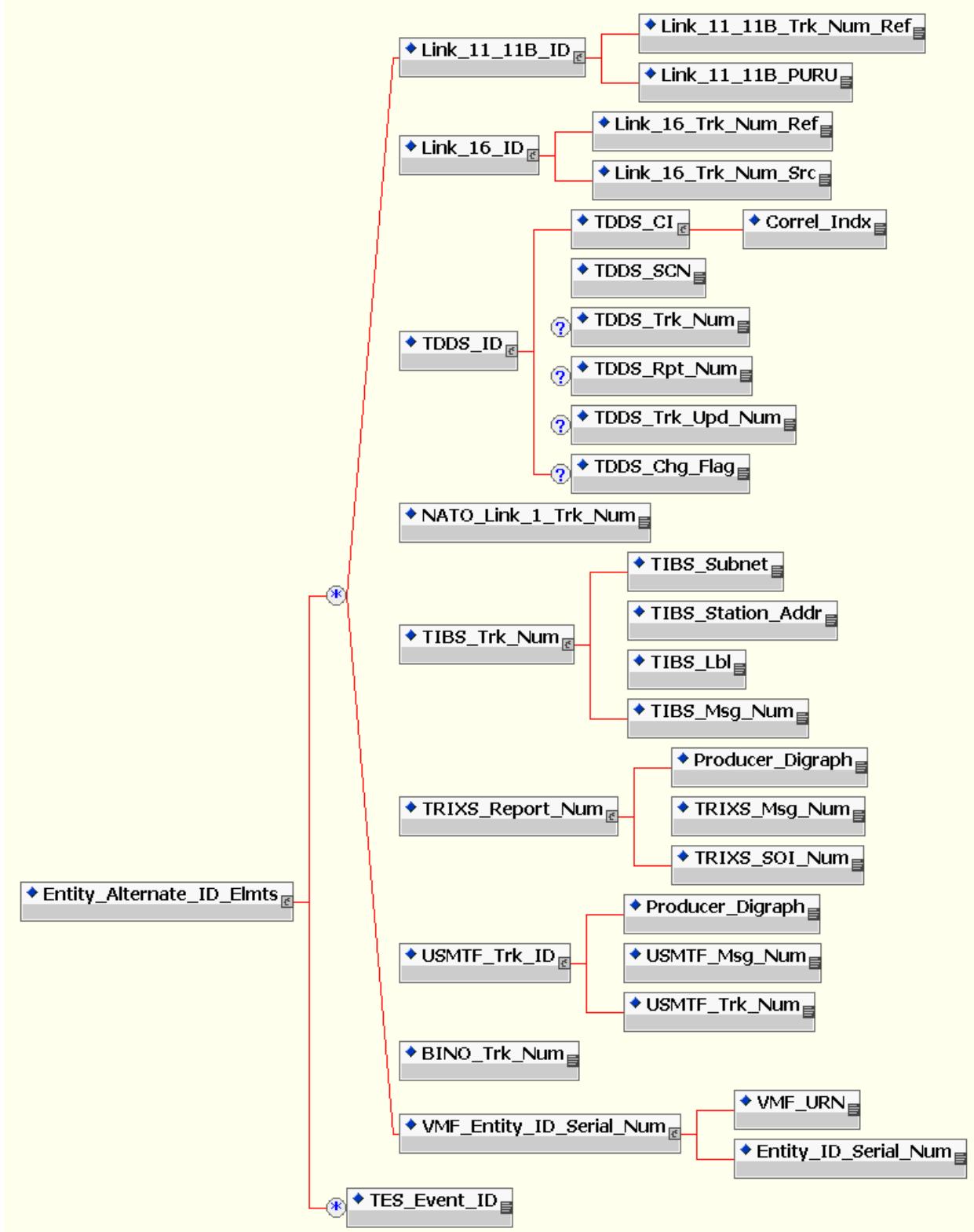
*TRIXS\_Report\_Num (Producer\_Digraph , TRIXS\_Msg\_Num , TRIXS\_SOI\_Num)*

*USMTF\_Trk\_ID (Producer\_Digraph , USMTF\_Msg\_Num , USMTF\_Trk\_Num)*

*VMF\_Entity\_ID\_Serial\_Num (VMF\_URN , Entity\_ID\_Serial\_Num)*

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**5.6.1.15.6 LINK 11/11B IDENTIFIER**

The *Link 11/11B Identifier* [Link\_11\_11B\_ID] denotes the entity as also being portrayed on, or forwarded from, Link 11/11B links by the referenced participating unit/reporting unit with the referenced Link 11/11B Track Number. The *Link 11/11B Identifier* is a composite of the *Link 11/11B Track Number, Reference* and the *Link 11/11B PU/RU*.

**5.6.1.15.6.1 LINK 11/11B TRACK NUMBER, REFERENCE**

The *Link 11/11B Track Number, Reference* [Link\_11\_11B\_Trk\_Num\_Ref] is the track number that the entity is identified by on Link 11 or 11B.

**5.6.1.15.6.2 LINK 11/11B PU/RU**

The *Link 11/11B PU/RU* [Link\_11\_11B\_PURU] identifies the unit which originated or is responsible for reporting the track on Link 11 or Link 11B. On Link 11, it is called a Participating Unit (PU) and on Link 11B it is called a Reporting Unit (RU).

**5.6.1.15.7 LINK 16 IDENTIFIER**

The *Link 16 Identifier* [Link\_16\_ID] denotes the entity as also being portrayed on, or forwarded from, a TADIL-J link by the referenced Joint or Participating Unit with the referenced Link 16 Track Number. The *Link 16 Identifier* is a composite of the *Link 16 Track Number, Reference* and the *Link 16 Track Number, Source*.

**5.6.1.15.7.1 LINK 16 TRACK NUMBER, REFERENCE**

The *Link 16 Track Number, Reference* [Link\_16\_Trk\_Num\_Ref] is the track number that the entity is identified by on Link 16.

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## 5.6.1.15.7.2 LINK 16 TRACK NUMBER, SOURCE

The *Link 16 Track Number, Source* [*Link\_16\_Trk\_Num\_Src*] is the track number of the unit (i.e., Joint Tactical Information Distribution System (JTIDS) Unit (JU) or Participating Unit (PU)) which originated the message.

## 5.6.1.15.8 TDDS IDENTIFIER

The *TDDS Identifier* [*TDDS\_ID*] is comprised of the TDDS Producer Identifier, Contact Identifier, Report Identifier, and Track Identifier elements. The *TDDS Identifier* is a group element with required elements *TDDS Correlation Index* and *TDDS Sequential Contact Number*, and optional elements *TDDS Track Number*, *TDDS Report Number*, *TDDS Track Update Number*, and *TDDS Change Flag*.

## 5.6.1.15.9 NATO LINK 1 TRACK NUMBER, 1

The *NATO Link 1 Track Number, 1* [*NATO\_Link\_1\_Trk\_Num*] is an alpha-numerically coded reference number used by the NATO Air Defense Ground Environment system to identify tracks. The number consists of five characters of two letters followed by three digits.

## 5.6.1.15.10 TIBS TRACK NUMBER

The *TIBS Track Number* [*TIBS\_Trk\_Num*] denotes the entity as also being portrayed on, or forwarded from, an IBS Interactive (IBS-I) network by the referenced originating node (Station and Subnet Address) with the referenced *TIBS Label* and *Message Number, TIBS*. The *TIBS Track Number* is a composite of *Subnet Address, TIBS*; *TIBS Station Address; TIBS Label; and, Message Number, TIBS*.

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### 5.6.1.15.11 TRIKS REPORT NUMBER

The *TRIXS Report Number* [TRIXS\_Report\_Num] is a unique serial number assigned to a specific TRIXS message. The *TRIXS Report Number* is a composite of *Producer Designator Digraph*; *Message Number*, *TRIXS*; and *SOI Number*, *TRIXS*.

### 5.6.1.15.12 USMTF TRACK IDENTIFIER

The *USMTF Track Identifier* [USMTF\_Trk\_ID] is a unique serial number assigned to a specific United States Message Text Format (USMTF) or United States Signal Intelligence Directive (USSID) message. The *USMTF Track Identifier* [USMTF\_Trk\_ID] is a composite of *Producer Designator Digraph*, *USMTF Message Number* and *USMTF Track Number*.

#### 5.6.1.15.12.1 USMTF MESSAGE NUMBER

The *USMTF Message Number* [USMTF\_Msg\_Num] is the number assigned to the message by the USMTF transmitting station, which contains the entity information described in the CMF message.

#### 5.6.1.15.12.2 USMTF TRACK NUMBER

The *USMTF Track Number* [USMTF\_Trk\_Num] is the number assigned to the entity by the USMTF source or transmitting station, which equates to the entity described in the CMF message.

#### 5.6.1.15.13 BINO TRACK NUMBER

The *BINO Track Number* [BINO\_Trk\_Num] is a numeric field representing the contact as assigned by Binocular (NRTD). It is represented with an integer value.

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5.6.1.15.14 VMF ENTITY ID SERIAL NUMBER

The *VMF Entity ID Serial Number* [VMF\_Entity\_ID\_Serial\_Num] is a single, globally understood entity ID reference numbering scheme used to identify entities, objects, or events on any VMF interface. The *VMF ID Serial Number* is a composite of *Unit Reference Number* and *Entity ID Serial Number*.

5.6.1.15.14.1 (VMF) UNIT REFERENCE NUMBER (URN)

The (VMF) *Unit Reference Number* [VMF\_URN] is a reference number used by units in a VMF interface to uniquely identify friendly military units, broadcast networks, and multicast groups. *Unit Reference Number* (URN) is assigned in accordance with interface operating procedures. It is represented by an integer value.

5.6.1.15.14.2 ENTITY ID SERIAL NUMBER

The *Entity ID Serial Number* [Entity\_ID\_Serial\_Num] is the serial number used for identification purposes of an entity. It is established by the system that promulgates an entity onto a communications net to identify that entity. It is used in conjunction with URN which identifies the promulgating system. This field is a sequential number that uniquely identifies each entity or update for that system. It is represented by an integer value.

5.6.1.15 TES EVENT IDENTIFIER

The *TES Event Identifier* [TES\_Event\_ID] is a reference number assigned by a Theater Event System (TES) producer to identify entities associated with a specific TES event. USSTRATCOM designates TES producers and assigns each a unique block of *TES Event Identifier* values in support of USSTRATCOM designated events. The *TES Event Identifier* is used to coordinate the exchange of amplifying threat information on a specific event. TES producers shall transmit the *TES*

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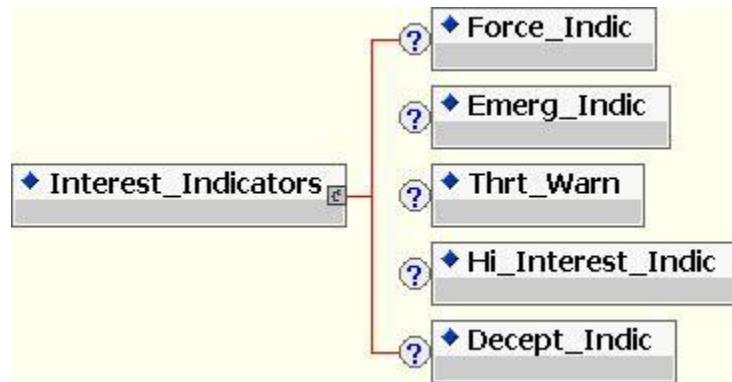
*Event Identifier* element in the *Entity Alternate ID Elements* group as part of each *Entity Message* for TES events. The *TES Event Identifier* is a numeric field, represented with an integer value.

## 5.6.1.16 INTEREST INDICATORS

The *Interest Indicators* [*Interest\_Indicators*] highlight the message for special consideration, processing, or as high priority. The *Interest Indicators* contains a group of optional elements including *Force Tell Indicator, IBS*; *Emergency Indicator, IBS*; *Threat Warning*; *High Interest Indicator*; and *Deception Indicator*. The *Interest Indicators* shall be reported if the values of any of the contained elements is in other than the “*Initial\_Value*” state.

### Interest Indicators Structure:

*Interest\_Indicators* (*Force\_Indic?* , *Emerg\_Indic?* , *Thrt\_Warn?* , *Hi\_Interest\_Indic?* , *Decept\_Indic?*)



### 5.6.1.16.1 FORCE TELL INDICATOR, IBS

The *Force Tell Indicator, IBS* [*Force\_Indic*] is a packed component with possible values representing non-force-tell and force-tell status. When an IBS producer generates an IBS value of "FORCE\_TELL\_STATUS" the track/point data is forced through all

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filters. If an IBS receive system implements the Force Tell Indicator it shall allow the IBS value of "FORCE\_TELL\_STATUS" to cause an override/bypass of any filters.

## 5.6.1.16.2 EMERGENCY INDICATOR, IBS

The *Emergency Indicator, IBS* [Emerg\_Indic] is a packed component with possible values representing non-emergency and emergency status. When an IBS producer generates an IBS value of "EMERGENCY\_STATUS" the track/point data is forced through all filters. If an IBS receive system implements the Emergency Indicator, it shall allow the IBS value of "EMERGENCY\_STATUS" to cause an override/bypass of any filters.

## 5.6.1.16.3 THREAT WARNING

The *Threat Warning* [Thrt\_Warn], when set, indicates that the weapon system associated with the reported entity represents a lethal threat. It is a packed component with possible values representing no threat warning and threat warning. The *Threat Warning* condition is normally reported if a potentially lethal, hostile threat has a posture which shows it is attempting to locate or identify, has been directed to engage, is preparing to launch/fire on, or has launched/fired on a friendly or non-hostile target. If the *Threat Warning* condition is reported, and at least one target is known, the producer shall also report a *Data Management Message* to chain the threat to any targeted entities.

## 5.6.1.16.4 HIGH INTEREST INDICATOR

The *High Interest Indicator* [Hi\_Interest\_Indic] indicates whether the reported message contains information of high interest. It is a packed component with possible values representing not high interest and high interest. The *High Interest Indicator* is normally used to identify entities which are exhibiting behavior/traits which may be of

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significant tactical concern/interest to IBS subscribers. This is determined per current mission parameters and/or rules of engagement even if the entity is not considered a threat. High interest examples may include:

- activity which is strikingly out of the norm such as an emitter in an abnormal or potential wartime mode,
- activity of a particularly suspicious nature, or
- particular activities on a mission watch list.

Such entities likely warrant a higher reporting priority and/or close observation/tracking by IBS participants.

### 5.6.1.16.5 DECEPTION INDICATOR

The *Deception Indicator* [Decept\_Indic] indicates whether the entity being reported is taking part in deception activity. It is a packed component with possible values representing no determination of deception operation and determination of deception operation.

### 5.6.1.17 COOPERATIVE LOCATION INDICATOR

The *Cooperative Location Indicator* [Coop\_Loc\_Indic] indicates whether the reported location was derived using reported locations from sensors on more than one platform. All source data contributing to the location may not be available and sources contributing to the location may not still be reporting. It is an enumerated type with possible values representing the basis of the reported location such as single source or more than one source.

### 5.6.1.18 ENTITY ID ELEMENTS

The *Entity ID Elements* [Entity\_ID\_Elmnts] provides a group of elements which contain details describing the identification, activity, content, status, size, strength, or designation of an entity. The *Entity ID Elements* is a complex grouping of elements to

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report the one or more ways in which an entity may be known, a measure of confidence in the identification, entity state of being, and entity actions. The *Entity ID Elements* group shall contain at least the minimum elements required by the "Entity ID Elements Structure" and as otherwise required by producer rules.

Entity ID Elements Structure:

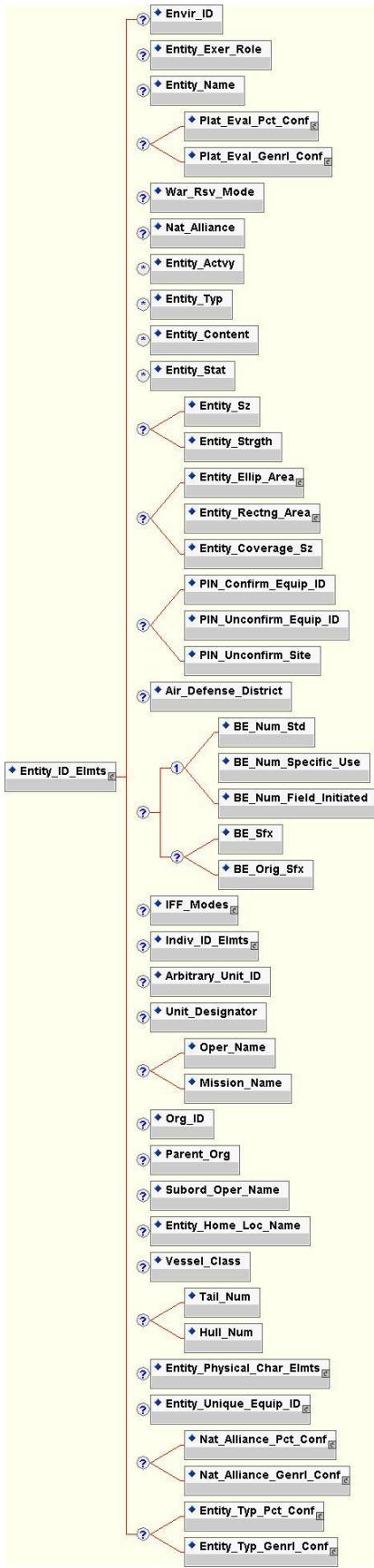
*Entity\_ID\_Elmts* (*Envir\_ID?* , *Entity\_Exer\_Role?* , *Entity\_Name?* ,  
*(Plat\_Eval\_Pct\_Conf | Plat\_Eval\_Genrl\_Conf)?* , *War\_Rsv\_Mode?* ,  
*Nat\_Alliance?* , *Entity\_Actvty\** , *Entity\_Typ\** , *Entity\_Content\** ,  
*Entity\_Stat\** , *(Entity\_Sz | Entity\_Strngth)?* , *(Entity\_Ellip\_Area |*  
*Entity\_Rectng\_Area | Entity\_Coverage\_Sz)?* , *(PIN\_Confirm\_Equip\_ID |*  
*PIN\_Unconfirm\_Equip\_ID | PIN\_Unconfirm\_Site)?* , *Air\_Defense\_District?*  
, *((BE\_Num\_Std | BE\_Num\_Specific\_Use | BE\_Num\_Field\_Initiated)* ,  
*(BE\_Sfx | BE\_Orig\_Sfx)?* , *IFF\_Modes?* , *Indiv\_ID\_Elmts?* ,  
*Arbitrary\_Unit\_ID?* , *Unit\_Designator?* , *(Oper\_Name | Mission\_Name)?* ,  
*Org\_ID?* , *Parent\_Org?* , *Subord\_Oper\_Name?* , *Entity\_Home\_Loc\_Name?* ,  
*Vessel\_Class?* , *(Tail\_Num | Hull\_Num)?* , *Entity\_Physical\_Char\_Elmts?* ,  
*Entity\_Unique\_Equip\_ID?* , *(Nat\_Alliance\_Pct\_Conf |*  
*Nat\_Alliance\_Genrl\_Conf)?* , *(Entity\_Typ\_Pct\_Conf |*  
*Entity\_Typ\_Genrl\_Conf)?*)

*Plat\_Eval\_Pct\_Conf* (*Eval\_Pct\_Conf*)

*Plat\_Eval\_Genrl\_Conf* (*Eval\_Genrl\_Conf*)

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## 5.6.1.18.1 ENVIRONMENT ID

The *Environment ID* [Envir\_ID] describes the symbolic class/identity of the track or unit entity described in this message. The *Environment ID* is an enumerated type containing possible values that represent a two-part identifier of the entity operational domain and relationship to the data producer. Producers shall report an *Environment ID* on all Entity Messages. If a more specific identification is not known to the producer, *Environment ID* shall be reported as "GRU" (General Reference, Unknown). If an *Environment ID* is not received or recognized, consumers shall use the previously reported *Environment ID* value, or otherwise shall set it to "GRU". *Environment ID* does not have a reset capability, therefore once *Environment ID* is transmitted, it cannot be reset to a "no data" condition.

## 5.6.1.18.2 ENTITY EXERCISE ROLE

5.6.1.18.2.1 The *Entity Exercise Role* [Entity\_Exer\_Role] element identifies whether an entity participating in an exercise is operating in the guise of a Suspect (Joker) or a Hostile (Faker). When the *Entity Exercise Role* is set to JOKER or FAKER, the *Exercise Indicator*, IBS [Exer\_Indic] shall be set to EXERCISE\_DATA.

5.6.1.18.2.2 While set to JOKER or FAKER, the element shall continue to be sent at each update/transmission of the reported entity. The *Entity Exercise Role* set to reset (with the entity still reported in the exercise mode) has the effect of indicating the entity no longer is operating as either JOKER or FAKER, but is still operating in an exercise.

## 5.6.1.18.3 ENTITY NAME

The *Entity Name* [Entity\_Name] is the free-text name of the entity being reported. It is represented by a string type of up to 38 characters.

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**5.6.1.18.4 PLATFORM EVALUATION PERCENT CONFIDENCE**

The *Platform Evaluation Percent Confidence* [Plat\_Eval\_Pct\_Conf] provides a numerical indication in the degree of confidence an operator/evaluator has in the *Environment ID*. It is a composite of *Evaluation Percent Confidence*.

**5.6.1.18.5 PLATFORM EVALUATION GENERAL CONFIDENCE**

The *Platform Evaluation General Confidence* [Plat\_Eval\_Genrl\_Conf] provides a general indication in the degree of confidence an operator/evaluator has in the *Environment ID*. It is a composite of *Evaluation General Confidence*.

**5.6.1.18.6 WARTIME RESERVE MODE, IBS**

The *Wartime Reserve Mode, IBS* [War\_Rsv\_Mode] indicates that an emitter is operating in its normal operating mode or in its Wartime Reserve Mode. It is an enumerated type with possible values representing not wartime reserve mode operation, possible wartime reserve mode operation, and wartime reserve mode operation.

**5.6.1.18.7 NATIONALITY/ALLIANCE**

5.6.1.18.7.1 The *Nationality/Alliance* [Nat\_Alliance] describes the real or virtual (exercise) Nationality or Alliance (or affiliation) of the referenced track, unit, or entity. Allowable values are contained in the <CMF\_Mnemonics/Nationality\_Alliance\_File>. The mnemonic fields shall be verified against the appropriate mnemonic file, which can be done via the CMF Parser. Mnemonic verification shall always be performed only upon creation of CMF. Virtual Nationality/Alliance values, such as Black Nationality/Alliance (Exercise), Blue Nationality/Alliance (Exercise), and Red Nationality/Alliance (Exercise), can be used to report a virtual nationality, alliance, or affiliation during exercises and operational

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testing. The virtual values shall not be reported unless *Exercise Indicator*, *IBS* is set to EXERCISE\_DATA.

5.6.1.18.7.2 The file's list of *Nationality/Alliance* [*Nat\_Alliance*] mnemonics is compatible with the Geopolitical Entities, Names, and Codes (GENC) Standard, which is the U.S. profile of ISO 3166-1. It also includes exceptions, consisting of additional geopolitical alliances/affiliations not contained in the GENC Standard. These exceptions consist of a letter followed by two numbers.

### **5.6.1.18.8 ENTITY ACTIVITY**

5.6.1.18.8.1 The *Entity Activity* [*Entity\_Actvy*] describes the operational activity of an entity. The *Entity Activity* [*Entity\_Actvy*] generally amplifies or further identifies the *Entity Type* and *Environment ID*. Allowable values are contained in the <CMF\_Mnemonics/*Entity\_Activity\_File*>. The mnemonic fields shall be verified against the appropriate mnemonic file, which can be done via the CMF Parser. Mnemonic verification shall always be performed only upon creation of CMF. The *Entity Activity* may be repeated as necessary to amplify the *Entity Type*.

5.6.1.18.8.2 When an *Entity Message* is received containing updated information concerning an entity for which data exists, the following guidelines for handling multiple mnemonics are established and shall apply to the *Entity Activity* mnemonics as well as other mnemonics elements having multiples.

5.6.1.18.8.2.1 If no mnemonics of an element are present in the received message, then all existing mnemonics for that element shall be retained.

5.6.1.18.8.2.2 If the received message contains a reset for the element, then all previously reported mnemonics for the element shall be deleted.

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5.6.1.18.8.2.3 If the received message contains any different mnemonics from those previously reported for an element, then all previously reported mnemonics for the element shall be replaced with the newly received list.

### 5.6.1.18.9 ENTITY TYPE, IBS

The *Entity Type, IBS* [Entity\_Type] indicates general or specific type of entity. Allowable values are contained in the <CMF\_Mnemonics/Entity\_Type\_File>. The mnemonic fields shall be verified against the appropriate mnemonic file, which can be done via the CMF Parser. Mnemonic verification shall always be performed only upon creation of CMF. CMF *Entity Type, IBS* amplifies *Environment ID*. The *Entity Type, IBS* may be repeated as necessary. Guidelines for handling multiples are identified in the *Entity Activity* description.

### 5.6.1.18.10 DISUSED

### 5.6.1.18.11 ENTITY CONTENT

The *Entity Content* [Entity\_Content] provides a description of things on-board or co-located with the referenced entity. The <CMF\_Mnemonics/Entity\_Content\_File> contains all of the allowable values. The mnemonic fields shall be verified against the appropriate mnemonic file, which can be done via the CMF Parser. Mnemonic verification shall always be performed only upon creation of CMF. The *Entity Content* element can be repeated as necessary to amplify the *Entity Type, IBS* (with the first *Entity Content* mnemonic being translated to/from legacy TIBS). Guidelines for handling multiples are identified in the *Entity Activity* description.

### 5.6.1.18.12 ENTITY STATUS

The *Entity Status* [Entity\_Stat] describes the operational status of an entity and/or may be used to amplify the *Entity Activity*. Allowable values are contained in the

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<CMF\_Mnemonics/Entity\_Status\_File>. The mnemonic fields shall be verified against the appropriate mnemonic file, which can be done via the CMF Parser. Mnemonic verification shall always be performed only upon creation of CMF. The *Entity Status* can be repeated as necessary to amplify the *Entity Activity* (with the first *Entity Status* mnemonic being translated to/from legacy TIBS). Guidelines for handling multiples are identified in the *Entity Activity* description.

## 5.6.1.18.13 ENTITY SIZE

The *Entity Size* [Entity\_Sz] describes the size of the referenced entity. It is represented by an integer value.

## 5.6.1.18.14 ENTITY STRENGTH

The *Entity Strength* [Entity\_Strgth] describes the strength of the referenced entity. It is represented by an enumerated type with possible values including qualitative assessments as well as a set of numerical ranges.

## 5.6.1.18.15 ENTITY ELLIPTICAL AREA

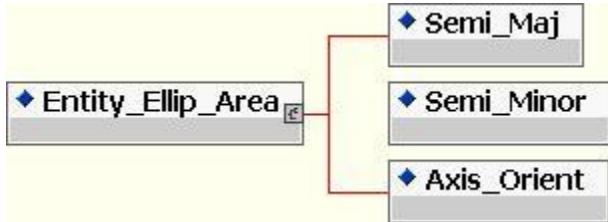
The *Entity Elliptical Area* [Entity\_Ellip\_Area] is used to describe the geographical elliptical boundaries of the reported entity or the physical, actionable area of the objective. The *Entity Elliptical Area* is a composite of *Area Semi-Major Axis*, *Area Semi-Minor Axis*, and the *Axis Orientation*, *IBS*. *Entity Elliptical Area* describes an item with a distinct identity and therefore is reported within the *Entity ID Elements* group. Placing that described entity in a geographical context entails use of the *Entity Polar Location Elements* group element. The location associated with *Entity Elliptical Area* [Entity\_Ellip\_Area] as the center point of the area is reported within *Entity Polar Location Elements* [Entity\_Polar\_Loc\_Elmts].

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## Entity Elliptical Area Structure:

*Entity\_Ellip\_Area (Semi\_Maj , Semi\_Minor , Axis\_Orient)*

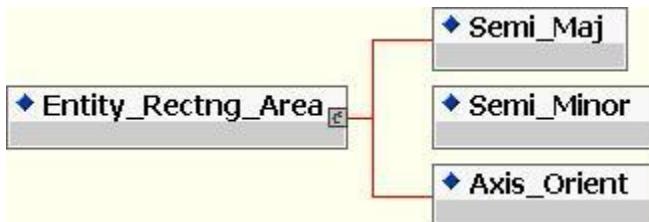


## 5.6.1.18.16 ENTITY RECTANGULAR AREA

The *Entity Rectangular Area* [Entity\_Rectng\_Area] is used to describe the geographical rectangular boundaries of the reported entity or the physical, actionable area of the objective. The *Entity Rectangular Area* is a composite of *Area Semi-Major Axis*, *Area Semi-Minor Axis*, and the *Axis Orientation*, IBS. *Entity Rectangular Area* describes an item with a distinct identity and therefore is reported within the *Entity ID Elements* group. Placing that described entity in a geographical context entails use of the *Entity Polar Location Elements* group element. The location associated with *Entity Rectangular Area* [Entity\_Rectng\_Area] as the center point of the area is reported within *Entity Polar Location Elements* [Entity\_Polar\_Loc\_Elmnts].

## Entity Rectangular Area Structure:

*Entity\_Rectng\_Area (Semi\_Maj , Semi\_Minor , Axis\_Orient)*



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## 5.6.1.18.17 ENTITY COVERAGE SIZE

The *Entity Coverage Size* [Entity\_Coverage\_Sz] provides an estimate of the size of an area of an entity based upon the largest dimension. It is an enumerated type providing a qualitative assessment of an area with possible values of small, medium, and large.

## 5.6.1.18.18 PIN CONFIRMED EQUIPMENT ID

The *PIN Confirmed Equipment ID* [PIN\_Confirm\_Equip\_ID] is a Place Identification Number (PIN) for the established entity. It is represented with a pattern field type.

## 5.6.1.18.19 PIN UNCONFIRMED EQUIPMENT ID

The *PIN Unconfirmed Equipment ID* [PIN\_Unconfirm\_Equip\_ID] is a PIN for the entity being developed where the site has been established. It is represented with a pattern field type.

## 5.6.1.18.20 PIN UNCONFIRMED SITE

The *PIN Unconfirmed Site* [PIN\_Unconfirm\_Site] is a PIN for the entity being developed and the site has not been established. It is represented with a pattern field type.

## 5.6.1.18.21 AIR DEFENSE DISTRICT

The *Air Defense District* [Air\_Defense\_District] is an alphanumeric identifier indicating the Air Defense District. It is represented with a pattern field type.

## 5.6.1.18.22 BE NUMBER, STANDARD

The *BE Number, Standard* [BE\_Num\_Std] is a unique 10 character Basic Encyclopedia (BE) reference number consisting of two parts; the World Aeronautical Chart (WAC) number and a unique installation number. It

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is represented with a pattern field type. All BE fields shall be checked, which can be done via the CMF Parser.

## 5.6.1.18.23 BE NUMBER, SPECIFIC USE

The *BE Number, Specific Use* [BE\_Num\_Specific\_Used] is a variation of *BE Number, Standard* [BE\_Num\_Std] utilized to denote specific type of installation such as an airfield or electronic site. It is represented with a pattern field type.

## 5.6.1.18.24 BE NUMBER, FIELD INITIATED

The *BE Number, Field Initiated* [BE\_Num\_Field\_Initiated] is a producer generated Basic Encyclopedia number consisting of the WAC number (4 characters), two alpha characters representing the exploitation element, and a 4 digit originator assigned installation identification number. It is represented with a pattern field type.

## 5.6.1.18.25 BE SUFFIX

The *BE Suffix* [BE\_Sfx] is a uniquely assigned BE number that identifies facilities within an installation to be uniquely identified as belonging to a parent installation. It is represented with a pattern field type. The *BE Suffix* shall be utilized only in conjunction with a corresponding BE value (i.e., a single *BE Number, Standard*; a *BE Number, Specific Use*; or a *BE Number, Field Initiated*) and thus the *BE Suffix* itself shall be treated as being reset when the associated BE value is reset (i.e., by reporting of a BE value without the previous *BE Suffix* present or by a reset of the BE value).

## 5.6.1.18.26 BE ORIGINATOR SUFFIX

The *BE Originator Suffix* [BE\_Orig\_Sfx] is a combination of a two-letter BE code of the originating intelligence producing agency and a three-digit, consecutively sequenced number for each new facility identified by the originating agency at that installation. (aka O-

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Suffix) It is represented with a pattern field type. The *BE Originator Suffix* shall be utilized only in conjunction with a corresponding Basic Encyclopedia (BE) value (i.e., a single *BE Number, Standard*; a *BE Number, Specific Use*; or a *BE Number, Field Initiated*) and thus the *BE Originator Suffix* itself shall be treated as being reset when the associated BE value is reset (i.e., by reporting of a BE value without the previous *BE Originator Suffix* present or by a reset of the BE value).

## **5.6.1.18.27 IFF MODES**

5.6.1.18.27.1 The *IFF Modes* [*IFF\_Modes*] identifies the Identification Friend or Foe (IFF) modes being reported. The *IFF Modes* is a group element consisting of optional elements for reporting the various possible IFF modes.

5.6.1.18.27.2 Included are separate fields covering the following *IFF Mode* types: *IFF Mode I*, *SIF Mode I*, *IFF Mode II*, *SIF Mode II*, *IFF Mode 3A*, *SIF Mode 3A*, and an *IFF Mode IV Indicator*. CMF facilitates the modes and settings independently. Zero is not a valid IFF/SIF value per IFF/SIF specifications; therefore, zero is not supported on CMF. IFF and Selective Identification Feature (SIF) shall not be reported for the same Mode number (e.g., *IFF Mode II* and *SIF Mode II*).

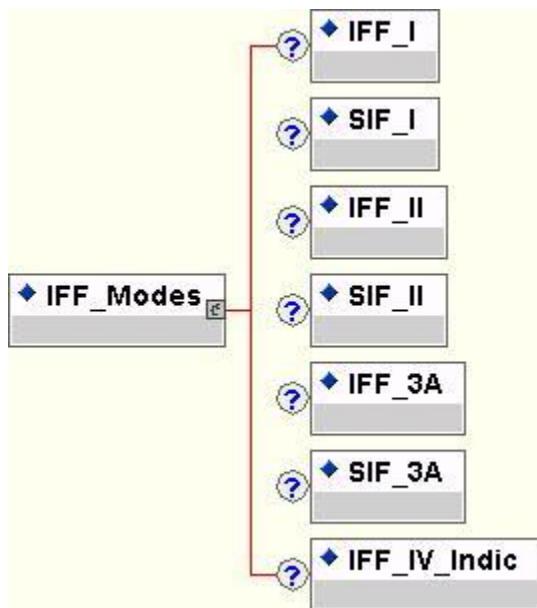
5.6.1.18.27.3 A reset of the parent *IFF Modes* element signifies that all IFF/SIF modes are being reset.

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## IFF Modes Structure:

*IFF\_Modes (IFF\_I? , SIF\_I? , IFF\_II? , SIF\_II? , IFF\_3A? , SIF\_3A? ,  
IFF\_IV\_Indic?)*



### 5.6.1.18.27.4 IFF MODE I CODE

5.6.1.18.27.4.1 The *IFF Mode I Code* [IFF\_I] provides Mode I (identification friend or foe) beacon reply information on an aircraft. Mode I uses a two character octal number, but it is not contiguous. (NOTE: This particular encoding is unique to the Mode I elements.) The ones digit shall contain the numbers 0 - 3 only. The eights digit shall only contain the numbers 0 - 7, if it is present (i.e., if it is not equal to zero). The number "00" is invalid. [Table 5.6.1-2](#) describes the valid values. It lists the unit digits across and the 8s digit down. The decimal equivalents fill out the table.

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Table 5.6.1-2 IFF Mode I decimal values

OCTAL DIGITS		Ones digit (across)			
		0	1	2	3
Eights digit (down)	0	Not valid	1	2	3
	1	8	9	10	11
	2	16	17	18	19
	3	24	25	26	27
	4	32	33	34	35
	5	40	41	42	43
	6	48	49	50	51
	7	56	57	58	59

5.6.1.18.27.4.2 Valid values for *IFF/SIF Mode I* are octal 1-3, 10-13, 20-23, 30-33, 40-43, 50-53, 60-63, and 70-73. CMF uses an integer field to report the equivalent decimal values as 1-3, 8-11, 16-19, 24-27, 32-35, 40-43, 48-51, and 56-59. Invalid values are octal 0, 4-7, 14-17, 24-27, 34-37, 44-47, 54-57, 64-67, and 74-77 with the equivalent invalid decimal values of 0, 4-7, 12-15, 20-23, 28-31, 36-39, 44-47, 52-55, and 60-63.

5.6.1.18.27.4.3 The DTD specifies this field in decimal and gives a range of 1 - 63; however, the values from [Table 5.6.1-2](#) are the only valid values allowed by the IFF equipment and shall be reported as their decimal equivalent on CMF.

#### 5.6.1.18.27.5 IFF MODE II / IFF MODE III CODES

The *IFF Mode II Code* [*IFF\_II*] and *IFF Mode 3A Code* [*IFF\_3A*] provide Mode II and Mode III (identification friend or foe) beacon reply information on an aircraft, respectively. Mode II and Mode III, including their SIF counterparts, use a four-character octal number (NOTE: The ones digit is normal octal and support the full octal range, unlike Mode I above), but the elements shall be reported as

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decimal values. The range of this number is 1 - 7777 octal or 1 - 4095 decimal. The DTD specifies these fields in decimal.

### **5.6.1.18.27.6 IFF MODE IV INDICATOR**

The *IFF Mode IV Indicator* is derived from a secure, encrypted identification (identification friend or foe) code and uses a CMF enumerated type to report a qualitative status selected from among the following allowable values: Not Interrogated, No Response, Invalid Response, or Valid Response.

### **5.6.1.18.28 INDIVIDUAL ID ELEMENTS**

The *Individual ID Elements* [*Indiv\_ID\_Elmnts*] identifies a group of elements which provide physical and/or personal characteristics of an individual. The *Individual ID Elements* is a group type element containing optional elements. Included are *Entity Name*; *Race*; *Gender*; *Date Of Birth*; *Place Of Birth*; *Eye Color*; *Hair Color*; *Hair Length*; *Height*; *Weight*; *Physique*; *Language ID*, *IBS*; and *Language ID List*.

#### Individual ID Elements Structure:

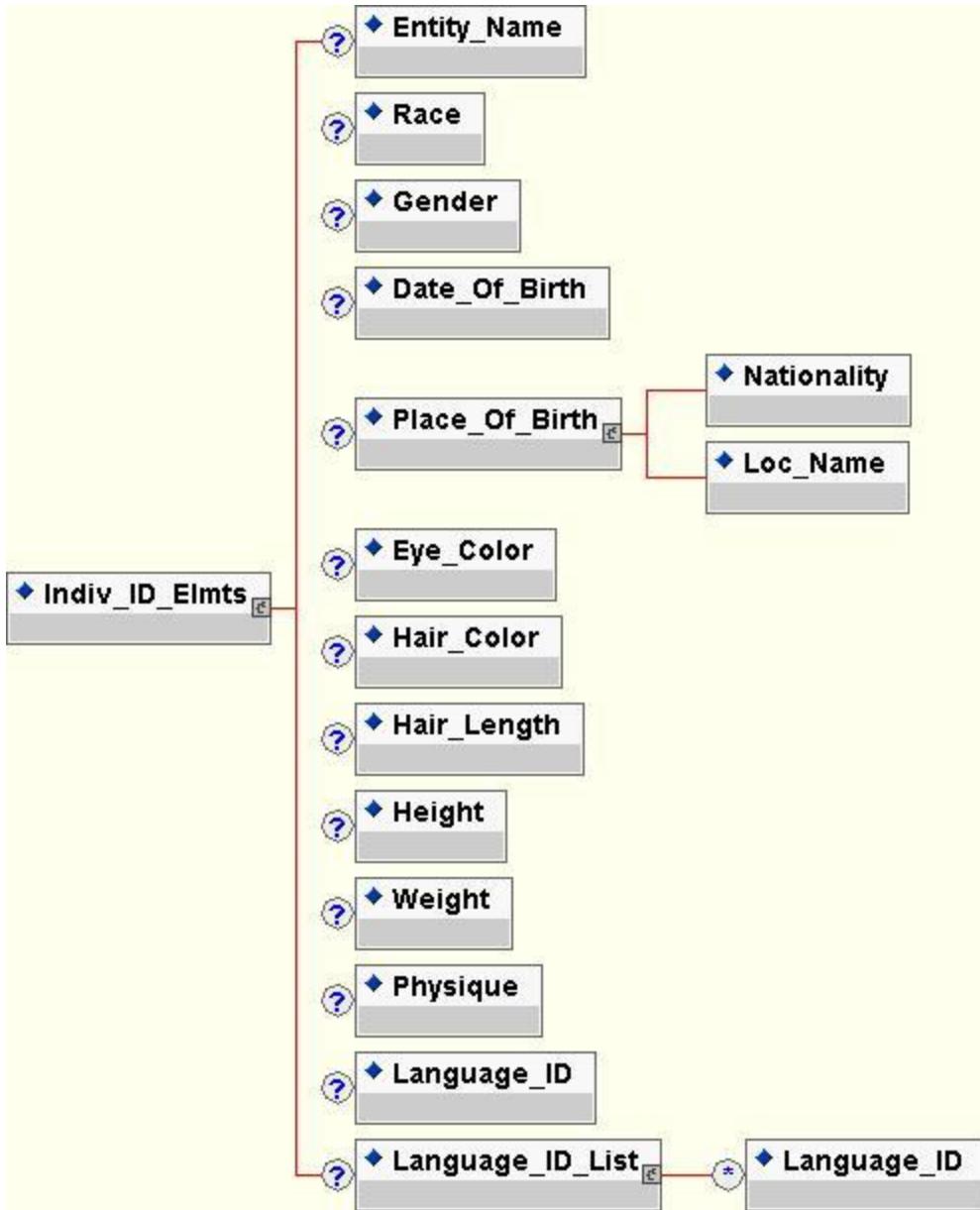
*Indiv\_ID\_Elmnts* (*Entity\_Name?* , *Race?* , *Gender?* , *Date\_Of\_Birth?* ,  
*Place\_Of\_Birth?* , *Eye\_Color?* , *Hair\_Color?* , *Hair\_Length?* , *Height?* ,  
*Weight?* , *Physique?* , *Language\_ID?* , *Language\_ID\_List?* )

*Place\_Of\_Birth* (*Nationality* , *Loc\_Name* )

*Language\_ID\_List* (*Language\_ID\** )

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## 5.6.1.18.28.1 PLACE OF BIRTH

The *Place Of Birth* [PlaceOfBirth] identifies the place or geographic location, including country, at which the subject person was born. In this case, it shall contain the city/place and country of the individual person reported as the subject entity. The *Place Of Birth* element is a composite of *Nationality*, IBS [Nationality] and *Location Name* [LocName] elements. Allowable values for the *Nationality*, IBS element are contained in a mnemonics file

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<CMF\_Mnemonics/Nationality\_File>. The mnemonic fields shall be verified against the appropriate mnemonic file, which can be done via the CMF Parser. Mnemonic verification shall always be performed only upon creation of CMF.

### 5.6.1.18.28.2 LOCATION NAME

The *Location Name* element indicates the textual name of the associated location being reported and is a string field type.

### 5.6.1.18.28.3 LANGUAGE ID, IBS / LANGUAGE ID LIST

The *Language ID, IBS* [Language\_ID] element is a mnemonic code that indicates the primary language in which the associated/reported individual is most proficient (if it is known). For potential or known multilingual individuals, any other languages are reported using the *Language ID List* [Language\_ID\_List] element. The *Language ID, IBS* [Language\_ID] element and the *Language ID List* [Language\_ID\_List] (a repeatable element that is a composite of *Language ID, IBS*) elements contain allowable values contained in the <CMF\_Mnemonics/Language\_ID\_File>. The mnemonic fields shall be verified against the appropriate mnemonic file, which can be done via the CMF Parser. Mnemonic verification shall always be performed only upon creation of CMF.

### 5.6.1.18.29 ARBITRARY UNIT IDENTIFIER

The *Arbitrary Unit Identifier* [Arbitrary\_Unit\_ID] is the arbitrary name or designation identifying a unit as assigned by the controlling authority (DIA, NSA, etc.). It is a string field type with a maximum length of 24 characters.

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**5.6.1.18.30 UNIT DESIGNATOR**

The *Unit Designator* [Unit\_Designator] is the name, designation or identification of a unit, agency, facility or organization as assigned by the owner. It is a string field type with a maximum length of 38 characters.

**5.6.1.18.31 OPERATION NAME**

The *Operation Name* [Oper\_Name] is the assigned name of the operation that the reported activity supports. It is a string field type with a maximum length of 32 characters.

**5.6.1.18.32 MISSION NAME**

The *Mission Name* [Mission\_Name] is the assigned name of the mission that the reported activity supports. It is a string field type with a maximum length of 32 characters.

**5.6.1.18.33 ORGANIZATION IDENTIFICATION**

The *Organization Identification* [Org\_ID] is the designation assigned to an organization by an appropriate authority. It is represented with a pattern field type.

**5.6.1.18.34 PARENT ORGANIZATION**

The *Parent Organization* [Parent\_Org] is the designation assigned to the parent organization of the reported entity. It is a string field type with a maximum length of 38 characters.

**5.6.1.18.35 SUBORDINATE OPERATION NAME**

The *Subordinate Operation Name* [Subord\_Oper\_Name] element contains the name of a subordinate operation on-going/simultaneously within the

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overall operation. It is a string field type with a maximum length of 23 characters.

### **5.6.1.18.36 ENTITY HOME LOCATION NAME**

The *Entity Home Location Name* [Entity\_Home\_Loc\_Name] element provides the name of the home location of the entity platform. For maritime platforms, use the port name usually found below the ship name on the stern of the vessel. For aircraft, use the home base if known. For land based platforms, use home garrison if known. It is a string field type with a maximum length of 25 characters.

### **5.6.1.18.37 VESSEL CLASS**

The *Vessel Class* [Vessel\_Class] element identifies the class of the vessel. It is a string field type with a maximum length of 25 characters.

### **5.6.1.18.38 TAIL NUMBER**

The *Tail Number* [Tail\_Num] element contains the number assigned to the tail or fuselage of an aircraft. It is a string field type with a maximum length of 6 characters.

### **5.6.1.18.39 HULL NUMBER**

The *Hull Number* [Hull\_Num] element contains the number assigned to the hull of a vessel. It is a string field type with a maximum length of 8 characters.

### **5.6.1.18.40 ENTITY PHYSICAL CHARACTERISTICS ELEMENTS**

The *Entity Physical Characteristics Elements* [Entity\_Physical\_Char\_Elmnts] element provides descriptive elements of

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the physical properties of entities such as dimension, color, or structure.

Entity Physical Characteristics Elements Structure:

*Entity\_Physical\_Char\_Elmts (Entity\_Len? , Entity\_Width? , Entity\_Height? , Entity\_Primary\_Color? , Entity\_Secondary\_Color? , Antenna\_Placement\* , Maritime\_Char? , Num\_Cylinders? , Num\_Blades? , Rdr\_Cross\_Section?)*

*Entity\_Primary\_Color (Exter\_Color)*

*Entity\_Secondary\_Color (Exter\_Color)*

*Antenna\_Placement (Placement\_Along\_Len , Placement\_Along\_Height , Placement\_Along\_Width, Antenna\_Quantity)*

*Maritime\_Char (Vessel\_Draft? , Vessel\_Grp\_Typ? , Vessel\_Waterline\_Color? , Vessel\_Upright\_Seq? , Vessel\_Raise\_Code? , Onboard\_Ref\_Point?)*

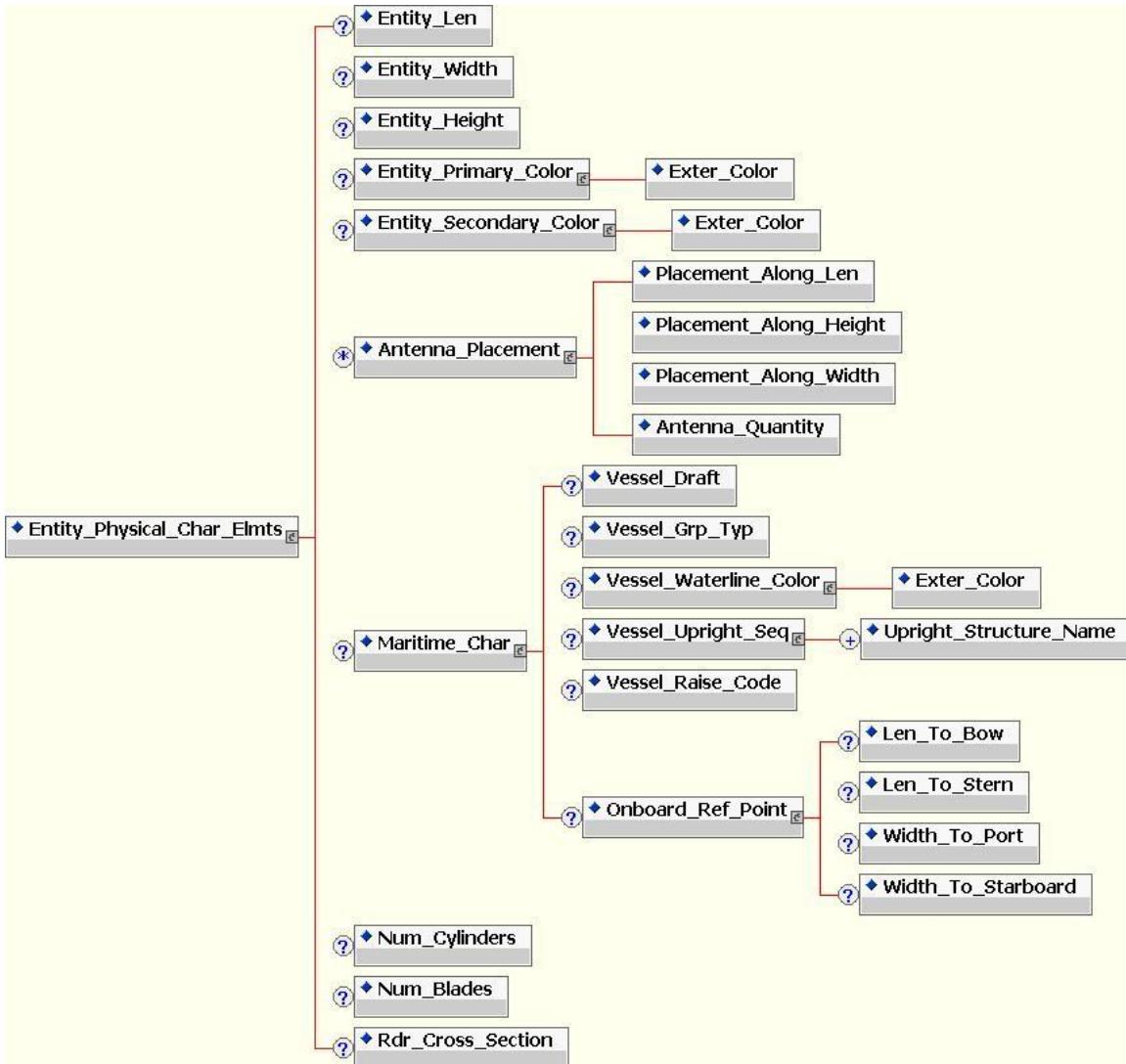
*Vessel\_Waterline\_Color (Exter\_Color)*

*Vessel\_Upright\_Seq (Upright\_Structure\_Name+)*

*Onboard\_Ref\_Point (Len\_To\_Bow? , Len\_To\_Stern? , Width\_To\_Port? , Width\_To\_Starboard?)*

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## 5.6.1.18.40.1 ENTITY LENGTH

The *Entity Length* [Entity\_Len] element contains the length of the entity.

## 5.6.1.18.40.2 ENTITY WIDTH

The *Entity Width* [Entity\_Width] element contains the width of the entity.

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### 5.6.1.18.40.3 ENTITY HEIGHT

The *Entity Height* [Entity\_Height] element contains the height of the entity.

### 5.6.1.18.40.4 ENTITY PRIMARY COLOR

The *Entity Primary Color* [Entity\_Primary\_Color] element contains the primary color of the reported entity. For ships, the primary color shall represent the hull color above the waterline. For aircraft, the primary color shall represent the general color of the fuselage. The *Entity Primary Color* [Entity\_Primary\_Color] element is a composite of the *Exterior Color* [Exter\_Color] element.

#### 5.6.1.18.40.4.1 EXTERIOR COLOR

The *Exterior Color* [Exter\_Color] element contains a color of the exterior of an entity.

#### 5.6.1.18.40.5 ENTITY SECONDARY COLOR

The *Entity Secondary Color* [Entity\_Secondary\_Color] element contains a secondary color of the reported entity. For ships, this color shall represent the color of the superstructure. For aircraft, this color shall represent the underside, tail, or wing color. The *Entity Secondary Color* [Entity\_Secondary\_Color] element is a composite of the *Exterior Color* [Exter\_Color] element.

#### 5.6.1.18.40.6 ANTENNA PLACEMENT

The *Antenna Placement* [Antenna\_Placement] element identifies the placement of an antenna or antenna group with respect to the platform. The *Antenna Placement* [Antenna\_Placement] is a composite of the antenna quantity and the location of antenna(s) along the entity length, height and width.

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### 5.6.1.18.40.6.1 PLACEMENT ALONG LENGTH

The *Placement Along Length* [Placement\_Along\_Len] element identifies placement of an object or objects along the length of an entity. The field is an enumerated type with possible values of FORWARD, CENTER, and AFT representing a qualitative, versus quantitative, placement assessment.

### 5.6.1.18.40.6.2 PLACEMENT ALONG HEIGHT

The *Placement Along Height* [Placement\_Along\_Height] element identifies placement of an object or objects along the height of an entity. The field is an enumerated type with possible values of LOWER, CENTER, and UPPER representing a qualitative, versus quantitative, placement assessment.

### 5.6.1.18.40.6.3 PLACEMENT ALONG WIDTH

The *Placement Along Width* [Placement\_Along\_Width] element identifies placement of an object or objects along the width of an entity. The field is an enumerated type with possible values of LEFT, CENTER, and RIGHT representing a qualitative, versus quantitative, placement assessment.

### 5.6.1.18.40.6.4 ANTENNA QUANTITY

The *Antenna Quantity* [Antenna\_Quantity] element identifies the number of antennas at a specific location.

### 5.6.1.18.40.7 MARITIME CHARACTERISTICS

The *Maritime Characteristics* [Maritime\_Char] element provides descriptive elements of maritime entities. The element is a group type with content consisting of the following optional elements:

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*Vessel Draft, Vessel Group Type, Vessel Waterline Color, Vessel Upright Sequence, Vessel Raise Code, and Onboard Reference Point.*

### **5.6.1.18.40.7.1 VESSEL DRAFT**

The *Vessel Draft* [Vessel\_Draft] element identifies the depth of vessel's hull under the waterline. This often is determined from painted scale markings on the hull. The element is an integer type.

### **5.6.1.18.40.7.2 VESSEL GROUP TYPE**

The *Vessel Group Type* [Vessel\_Grp\_Typ] identifies the vessel superstructure above the hull. The element is an enumerated type with values associated with identification according to one of three group type descriptions.

### **5.6.1.18.40.7.3 VESSEL WATERLINE COLOR**

The *Vessel Waterline Color* [Vessel\_Waterline\_Color] element identifies the color of the vessel hull at and below the waterline. The *Vessel Waterline Color* [Vessel\_Waterline\_Color] element is a composite of the *Exterior Color* [Exter\_Color] element.

### **5.6.1.18.40.7.4 VESSEL UPRIGHT SEQUENCE**

The *Vessel Upright Sequence* [Vessel\_Upright\_Seq] element describes the sequence of upright structures aboard a vessel starting at the bow and ending at the stern. The element is a repetitive type using the *Upright Structure Name* element.

### **5.6.1.18.40.7.5 UPRIGHT STRUCTURE NAME**

The *Upright Structure Name* [Upright\_Structure\_Name] element contains the name of an upright structure aboard a vessel. The element is an enumerated type with values associated with key structural features.

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## 5.6.1.18.40.7.6 VESSEL RAISE CODE

The *Vessel Raise Code* [Vessel\_Raise\_Code] element defines the hull profile from bow to stern as higher than or equal to the vessel's main deck (superstructure excluded). The element is an enumerated type with values associated with various sequences of hull profiles.

## 5.6.1.18.40.7.7 ONBOARD REFERENCE POINT

The *Onboard Reference Point* [Onboard\_Ref\_Point] element describes the physical location of a reference point on an entity. The element is a group type with optional elements as follows used to establish the specified reference location: *Length To Bow*, *Length To Stern*, *Width To Port*, and *Width To Starboard*.

### 5.6.1.18.40.7.7.1 LENGTH TO BOW

The *Length To Bow* [Len\_To\_Bow] element identifies the length from reference point to bow of ship. The element is a float type providing a scalar distance measurement.

### 5.6.1.18.40.7.7.2 LENGTH TO STERN

The *Length To Stern* [Len\_To\_Stern] element identifies the length from reference point to stern of ship. The element is a float type providing a scalar distance measurement.

### 5.6.1.18.40.7.7.3 WIDTH TO PORT

The *Width To Port* [Width\_To\_Port] element identifies the width from reference point to port side of ship. The element is a float type providing a scalar distance measurement.

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**5.6.1.18.40.7.7.4 WIDTH TO STARBOARD**

The *Width To Starboard* [Width\_To\_Starboard] element identifies the width from reference point to starboard side of ship. The element is a float type providing a scalar distance measurement.

**5.6.1.18.40.8 NUMBER OF CYLINDERS**

The *Number Of Cylinders* [Num\_Cylinders] element identifies the total number of engine cylinders of a vehicle.

**5.6.1.18.40.9 NUMBER OF BLADES**

The *Number Of Blades* [Num\_Blades] element identifies the total number of blades on the primary propulsion device/system of the reported entity.

**5.6.1.18.40.10 RADAR CROSS-SECTION**

The *Radar Cross Section, IBS* [Rdr\_Cross\_Section] element contains the measure of the ratio of backscatter power per steradian (unit solid angle) in the direction of the radar, from the target, to the power density that is intercepted by the target.

**5.6.1.18.41 ENTITY UNIQUE EQUIPMENT ID**

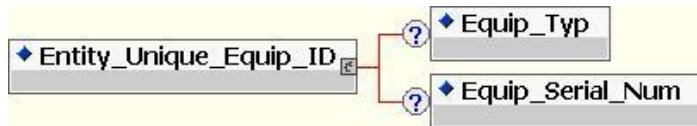
The *Entity Unique Equipment ID* [Entity\_Uneq\_Equip\_ID] provides a group of elements which identifies a uniquely assigned nomenclature/number for a specific piece of equipment that is part of the reported entity. The element is a group type containing optional elements *Equipment Type* and *Equipment Serial Number*.

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## Entity Unique Equipment ID Structure:

*Entity\_Unique\_Equip\_ID (Equip\_Typ? , Equip\_Serial\_Num?)*

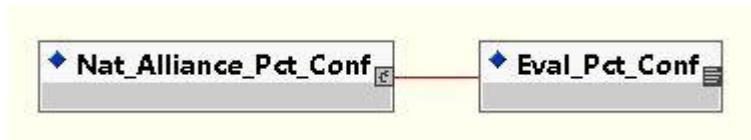


## 5.6.1.18.42 NATIONALITY/ALLIANCE PERCENT CONFIDENCE

The *Nationality/Alliance Percent Confidence* [Nat\_Alliance\_Pct\_Conf] provides a numerical indication in the degree of confidence an operator/evaluator has in the specified entity nationality or alliance information. This element shall only be reported if the *Nationality/Alliance* element is reported. *Nationality/Alliance Percent Confidence* is a composite of *Evaluation Percent Confidence*. It is mutually exclusive with *Nationality/Alliance General Confidence*.

## Nationality/Alliance Percent Confidence Structure:

*Nat\_Alliance\_Pct\_Conf (Eval\_Pct\_Conf)*



## 5.6.1.18.43 NATIONALITY/ALLIANCE GENERAL CONFIDENCE

The *Nationality/Alliance General Confidence* [Nat\_Alliance\_Genrl\_Conf] provides a general indication in the degree of confidence an operator/evaluator has in the specified entity nationality or alliance information. This element shall only be reported if the *Nationality/Alliance* element is reported. *Nationality/Alliance General Confidence* is a composite of *Evaluation*

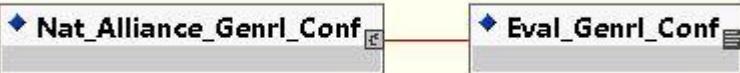
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*General Confidence.* It is mutually exclusive with *Nationality/Alliance Percent Confidence.*

## Nationality/Alliance General Confidence Structure:

*Nat\_Alliance\_Genrl\_Conf (Eval\_Genrl\_Conf)*

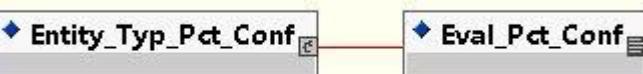


### 5.6.1.18.44 ENTITY TYPE PERCENT CONFIDENCE

The *Entity Type Percent Confidence* [Entity\_Typ\_Pct\_Conf] provides a numerical indication in the degree of confidence an operator/evaluator has in the specified *Entity Type, IBS* value. This element shall only be reported if a single *Entity Type, IBS* value is reported. *Entity Type Percent Confidence* is a composite of *Evaluation Percent Confidence*. It is mutually exclusive with *Entity Type General Confidence*.

## Entity Type Percent Confidence Structure:

*Entity\_Typ\_Pct\_Conf (Eval\_Pct\_Conf)*



### 5.6.1.18.45 ENTITY TYPE GENERAL CONFIDENCE

The *Entity Type General Confidence* [Entity\_Typ\_Genrl\_Conf] provides a general indication in the degree of confidence an operator/evaluator has in the specified *Entity Type, IBS* value. This element shall only be reported if a single *Entity Type, IBS* value is reported. *Entity Type General Confidence* is a composite of *Evaluation General Confidence*.

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*Confidence.* It is mutually exclusive with *Entity Type Percent Confidence.*

## Entity Type General Confidence Structure:

*Entity\_Typ\_Genrl\_Conf (Eval\_Genrl\_Conf)*



### 5.6.1.19 REFERENCE POLAR PLATFORM ELEMENTS

#### *5.6.1.19.1 The Reference Polar Platform Elements*

[Ref\_Polar\_Platform\_Elmnts] identifies a group of elements which provide details describing the location (in polar coordinates) and/or attitude (e.g., heading, orientation) of a (physical or virtual) platform (or location) used as a reference point for other reported data. For example, this could be a point of origin for computed lines of bearing from an entity or a sensor location at which a time measurement was recorded. The *Reference Polar Platform Elements* group shall contain at least the minimum elements required by the "Reference Polar Platform Elements Structure" and as otherwise required by producer rules.

#### *5.6.1.19.2 The Reference Polar Platform Elements*

[Ref\_Polar\_Platform\_Elmnts] is a complex group element containing the following elements: *Polar Single Location*, *Entity LOB*, *Bearing Cone Angle*, *Polar Start Location*, *Start Cut LOB*, *Polar Intermediate Location*, *Intermediate Cut LOB*, *Polar Stop Location*, *Stop Cut LOB*, *Position Fixing Method*, *Position Fix Quality*, *True Heading Degrees*, *Approximate Altitude*, *Measured Altitude*, *IFF 3C Altitude*, *Elevation*, *Height From Surface*, *Pitch*, and *Azimuth Corridor*.

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5.6.1.19.3 Individual elements contained within the *Reference Polar Platform Elements* [Ref\_Polar\_Platform\_Elmnts] shall be implemented in accordance with the DED. Those elements not described in detail in this section are described in [Section 5.6.1.20.](#)

5.6.1.19.4 Location may be reported via either fixed location or line of bearing (LOB). Separate CMF elements are employed for each report type. The *Entity Location* field of the *Entity Polar Location Elements* is used to report fixed locations. Line of bearing reports shall utilize one or more reference locations and related line of bearing fields (along with platform location quality, platform heading, platform altitude and platform orientation, as warranted) all contained within *Reference Polar Platform Elements*. The reference location is repeatable to be used as points for multiple LOBs. LOBs that are associated with one specific location shall be included in the same transmission as that location. If multiple Location/LOBs are used, the *Position Fixing Method*, *Position Fix Quality*, *Heading*, *Altitude*, *Elevation*, *Height From Surface*, and *Pitch* shall relate only to the first Location/LOB.

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Reference Polar Platform Elements Structure:

*Ref\_Polar\_Plat\_Elmnts (((Polar\_Single\_Loc , (Entity\_LOB\* | Bearing\_Cone\_Angle\*)) | ((Polar\_Start\_Loc , Start\_Cut\_LOB\*) , (Polar\_Intermed\_Loc , Intermed\_Cut\_LOB\*)\*) , (Polar\_Stop\_Loc , Stop\_Cut\_LOB\*))?)? , (Position\_Fix\_Method , Position\_Fix\_Qual?)? , True\_Hdg\_Degrees? , (Approx\_Altitude | Measured\_Altitude | IFF\_3C\_Alt | Elevation | Height\_From\_Srfc)? , Pitch? , Azimuth\_Corridor?)*

*Polar\_Single\_Loc (Loc)*

*Loc (Lat , Long)*

*Polar\_Start\_Loc (Loc)*

*Polar\_Intermed\_Loc (Loc)*

*Polar\_Stop\_Loc (Loc)*

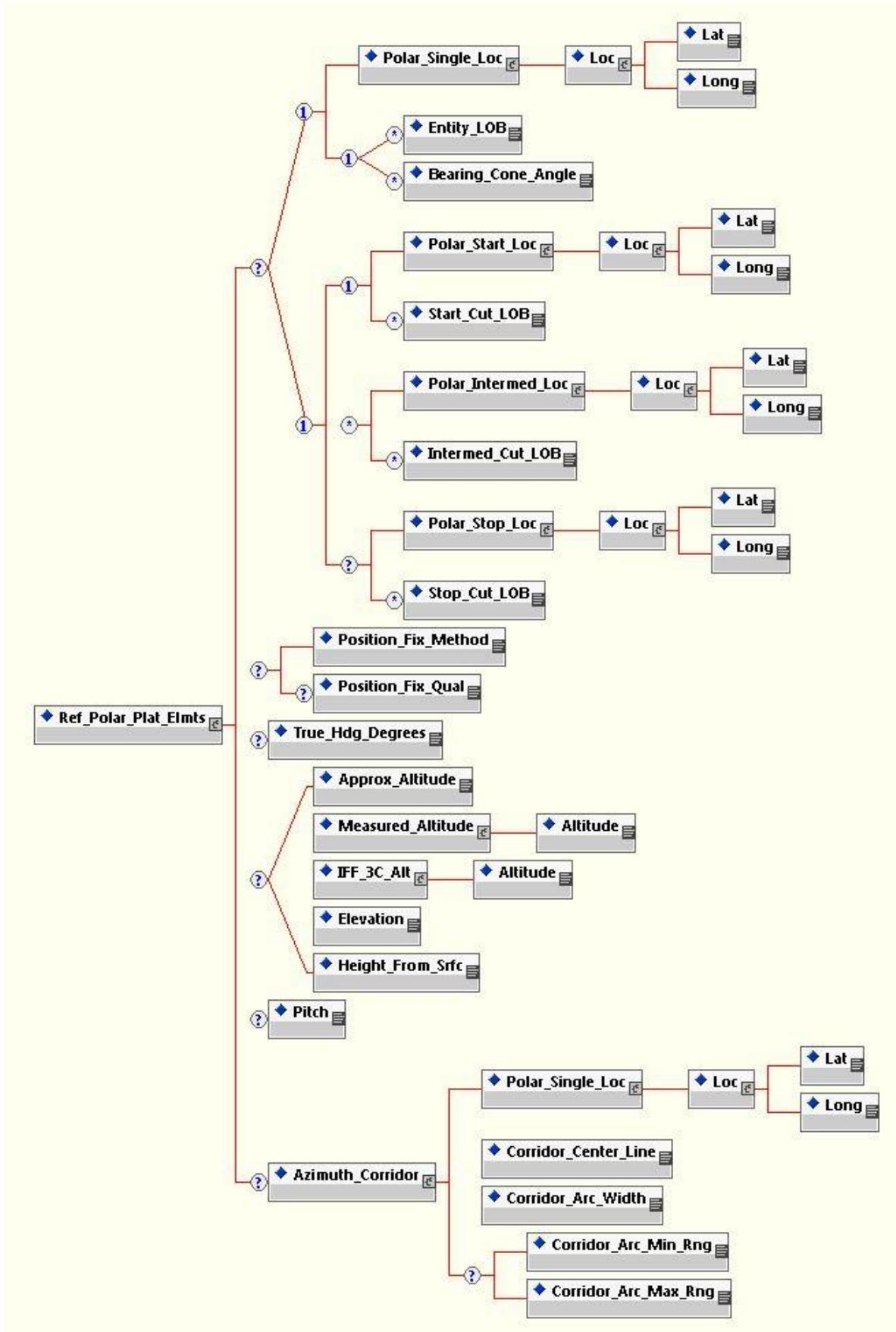
*Measured\_Altitude (Altitude)*

*IFF\_3C\_Alt (Altitude)*

*Azimuth\_Corridor (Polar\_Single\_Loc , Corridor\_Center\_Line , Corridor\_Arc\_Width, (Corridor\_Arc\_Min\_Rng , Corridor\_Arc\_Max\_Rng)?)*

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5.6.1.19.5 AZIMUTH CORRIDOR

5.6.1.19.5.1 The *Azimuth Corridor* [Azimuth\_Corridor] is an optional group element containing the following child elements: *Polar Single Location*, *Corridor Center Line*, *IBS*, *Corridor Arc Width*, *IBS*, and optional pair of elements *Corridor Arc Minimum Range* [Corridor\_Arc\_Min\_Rng] and *Corridor Arc Maximum Range* [Corridor\_Arc\_Max\_Rng]. The *Azimuth Corridor* [Azimuth\_Corridor] group identifies an unbounded or bounded area associated with an entity, such as the likely impact area/vector of a missile. TDPs may utilize the *Azimuth Corridor* elements to graphically display the missile warning trajectory information. The *Azimuth Corridor* group shall contain at least the minimum elements required by the "Reference Polar Platform Elements Structure" and as otherwise required by producer rules.

5.6.1.19.5.2 An unbounded azimuth corridor is defined by a *Polar Single Location* [Polar\_Single\_Loc] reference point, a *Corridor Center Line*, *IBS* [Corridor\_Center\_Line] azimuth, measured from true north and extending from the reference point, and a *Corridor Arc Width*, *IBS* [Corridor\_Arc\_Width] in degrees. The *Corridor Arc Width*, *IBS* is centered on the *Corridor Center Line*, *IBS*.

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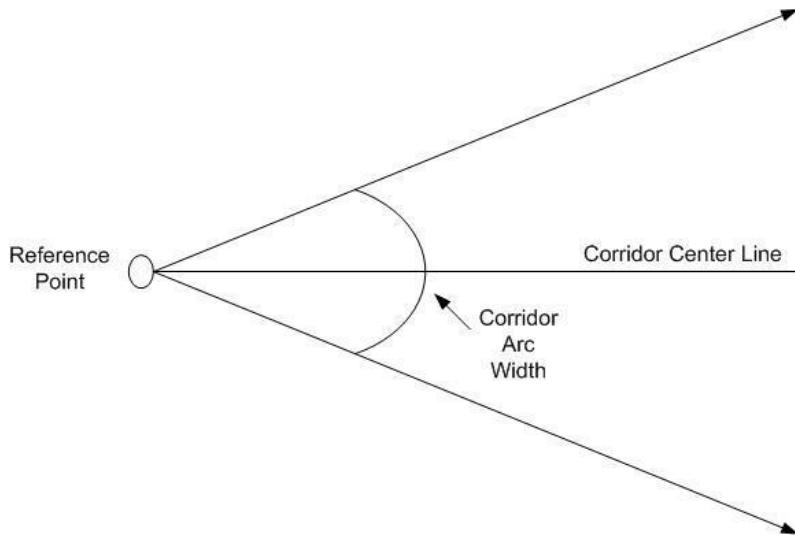


Figure 5.6.1.19.5.2-1 Azimuth Corridor (unbounded)

5.6.1.19.5.3 A bounded azimuth corridor is defined by the *Polar Single Location* reference point, *Corridor Center Line*, *IBS azimuth*, and *Corridor Arc Width*, *IBS*, as well as a *Corridor Arc Minimum Range* and *Corridor Arc Maximum Range*. The *Corridor Arc Minimum Range* and *Corridor Arc Maximum Range* distances are measured along the *Corridor Center Line*, *IBS*, extending from the reference point. When a bounded azimuth corridor is defined, producers shall provide a *Corridor Arc Maximum Range* value that is greater than the *Corridor Arc Minimum Range* value.

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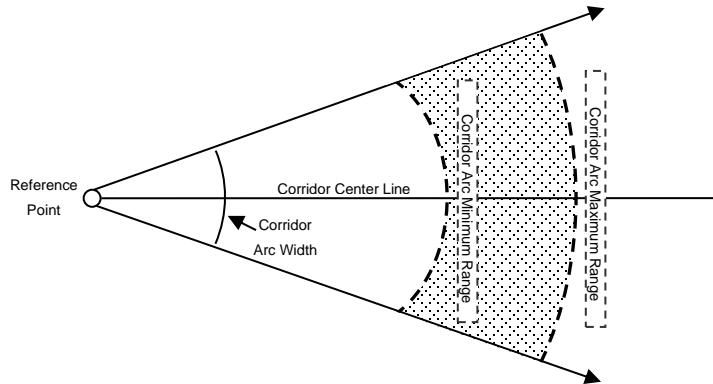


Figure 5.6.1.19.5.3-1 Azimuth Corridor with Bounded Wedge

5.6.1.19.5.4 When the *Corridor Arc Minimum Range* and *Corridor Arc Maximum Range* values are not received, TDPs possessing the operational database of minimum and maximum missile trajectory information (managed by USSTRATCOM/Missile Warning Functional Managers Office) may combine missile trajectory information with the unbounded azimuth corridor information in order to graphically display a bounded wedge.

#### 5.6.1.20 ENTITY POLAR LOCATION ELEMENTS

5.6.1.20.1 The *Entity Polar Location Elements* [Entity\_Polar\_Loc\_Elmnts] identifies a group of elements describing the position of an entity in polar (latitude and longitude) coordinates.

5.6.1.20.2 The *Entity Polar Location Elements* [Entity\_Polar\_Loc\_Elmnts] is a complex group element containing the following elements: *Entity Location*; *Position Fixing Method*; *Position Fix Quality*; *Error Circle 2D*; *Error Rectangle 2D*; *Error Ellipse 2D*; *Error 3D*; *Departure Elements*; *Arrival Elements*; *Destination Elements*, and *Track Quality, IBS*. The *Entity Polar Location Elements* group shall contain at least the minimum elements required by the "Entity

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Polar Location Elements Structure" and as otherwise required by producer rules.

5.6.1.20.3 Location may be reported via either fixed location or line of bearing (LOB). Separate CMF elements are employed for each report type. The *Entity Location* field of the *Entity Polar Location Elements* shall be used to report fixed locations. Error Data (i.e. *Error Circle 2D; Error Rectangle 2D; Error Ellipse 2D; Error 3D; Track Quality, IBS*) should take precedence over LOBs.

5.6.1.20.4 If the location data provides the location of a reported entity (i.e., not the reference point of a LOB), then the location and other location attributes sourced from Global Positioning System (GPS) information shall be placed into the CMF *Entity Polar Location Elements*. Note that, though the accuracy attributes on the *Latitude* and *Longitude* elements could be used to provide some limited accuracy indication on the respective polar location components, the reporting of a two dimensional (2D) or three dimensional (3D) error volume (which reflects the defined 95% error probability) is strongly preferred for indicating the accuracy of a polar location.

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Entity Polar Location Elements Structure:

*Entity\_Polar\_Loc\_Elmnts ((Entity\_Loc , (Position\_Fix\_Method ,  
Position\_Fix\_Qual?)? , (Err\_Circ\_2D | Err\_Rectng\_2D | Err\_Ellip\_2D |  
Err\_3D)? )? , Departure\_Elmnts? , Arrival\_Elmnts\* , Dest\_Elmnts? , TQ?)*

*Entity\_Loc (Loc)*

*Loc (Lat , Long)*

*Err\_Circ\_2D (Radius)*

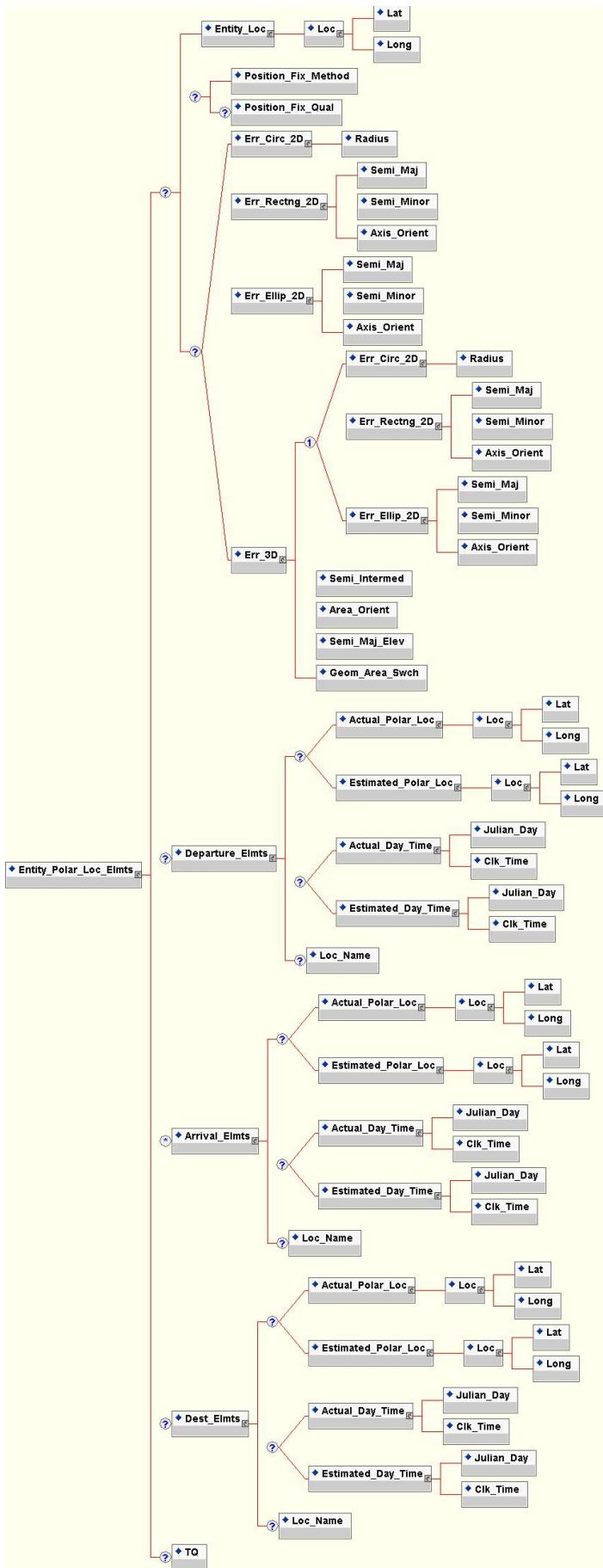
*Err\_Rectng\_2D (Semi\_Maj , Semi\_Minor , Axis\_Orient)*

*Err\_Ellip\_2D (Semi\_Maj , Semi\_Minor , Axis\_Orient)*

*Err\_3D ((Err\_Circ\_2D | Err\_Rectng\_2D | Err\_Ellip\_2D) , Semi\_Intermed ,  
Area\_Orient , Semi\_Maj\_Elev , Geom\_Area\_Swch)*

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**5.6.1.20.5 ENTITY LOCATION**

The *Entity Location* [Entity\_Loc] depicts the position of the entity being reported at the time the entity was observed (time of intercept). The *Entity Location* is a composite of *Location*, which itself is a composite of *Latitude* and *Longitude*.

**5.6.1.20.6 POSITION FIXING METHOD**

The *Position Fixing Method* [Position\_Fix\_Method] element identifies the device or method used to fix the position of an entity. It is an enumerated type field with possible values identifying the GPS, navigation source(s), or imagery source(s) employed in establishing the reported entity location.

**5.6.1.20.7 POSITION FIX QUALITY**

The *Position Fix Quality* [Position\_Fix\_Qual] denotes the quality of the entity position information. It is an enumerated type with values providing a qualitative assessment of the position measurement as good, bad, or unknown. *Position Fix Quality* is an optional element. If reported a *Position Fixing Method* element value shall also be reported.

**5.6.1.20.8 ERROR CIRCLE 2D**

The *Error Circle 2D* [Err\_Circ\_2D] identifies a two-dimensional (2D) area of a circle. For this shape, the associated location identifies the center point of a 3 sigma circle as defined by the reported radius and with the defined area having a 95% probability of containing the true location of the referenced entity. The *Error Circle 2D* is a composite of *Radius*.

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## 5.6.1.20.8.1 RADIUS

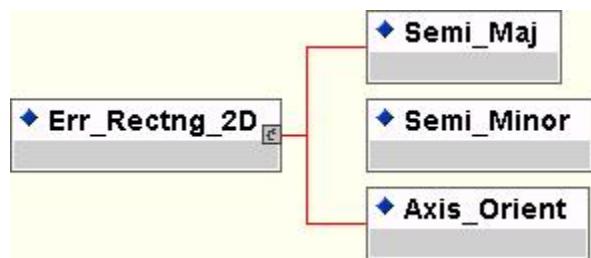
The *Radius* [Radius] is the distance from the center of a circle to any point on its circumference.

## 5.6.1.20.9 ERROR RECTANGLE 2D

The *Error Rectangle 2D* [Err\_Rectng\_2D] identifies that if the area semi-major axis and area semi-minor axis are equal, then the two-dimensional (2D) area is a square area of error. If they are not equal, then the area is a rectangular area of error. For this shape, the associated location identifies the center point of a 3-sigma square or rectangular area as defined by the lengths of the major axis and minor axis, resulting from the given semi-major axis and semi-minor axis, and with the defined area having a 95% probability of containing the true location of the referenced entity. The *Error Rectangle 2D* is a composite of *Area Semi-Major Axis*, *Area Semi-Minor Axis*, and *Axis Orientation, IBS*.

### Error Rectangle 2D Structure:

*Err\_Rectng\_2D* (*Semi\_Maj* , *Semi\_Minor* , *Axis\_Orient*)



## 5.6.1.20.9.1 AREA SEMI-MAJOR AXIS

5.6.1.20.9.1.1 The *Area Semi-Major Axis* [Semi\_Maj] field contains half the length of the longest axis used in conjunction with the area semi-minor axis, axis orientation, and latitude and longitude fields

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to describe the area of a circle, ellipse, square or rectangle. The length expressed in this field is doubled and centered on the position described by latitude and longitude.

### 5.6.1.20.9.2 AREA SEMI-MINOR AXIS

5.6.1.20.9.2.1 The *Area Semi-Minor Axis* [Semi\_Minor] field contains half the length of the shortest axis used, in conjunction with area semi-major axis, axis orientation, and latitude and longitude fields, to describe the area of a circle, ellipse, square or rectangle. This length is doubled and centered on the latitude/longitude position with an orientation of 90 degrees to the area semi-major axis.

### 5.6.1.20.9.3 AXIS ORIENTATION, IBS

The *Axis Orientation, IBS* [Axis\_Orient] is the offset from true north expressed in degrees and is used to orient the area major axis of a circle, ellipse, square, or rectangle.

### 5.6.1.20.10 ERROR ELLIPSE 2D

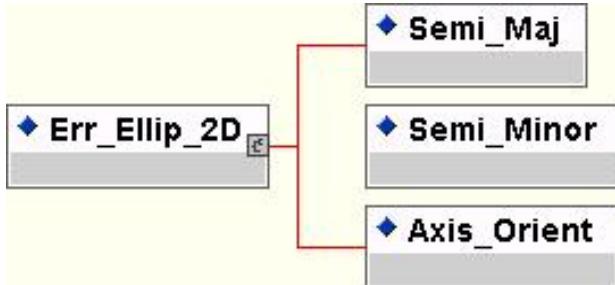
The *Error Ellipse 2D* [Err\_Ellip\_2D] identifies a condition where the area semi-major axis and area semi-minor axis are not equal and the two-dimensional (2D) area is an ellipse. For this shape, an associated location identifies the center point of a 3 sigma ellipse as defined by the lengths of the major axis and minor axis, resulting from the reported semi-major axis and semi-minor axis, and with the defined area having a 95% probability of containing the true location of the referenced entity. The *Error Ellipse 2D* is a composite of *Area Semi-Major Axis*, *Area Semi-Minor Axis*, and *Axis Orientation, IBS*.

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## Error Ellipse 2D Structure:

*Err\_Ellip\_2D (Semi\_Maj , Semi\_Minor , Axis\_Orient)*



### 5.6.1.20.11 ERROR 3D

5.6.1.20.11.1 The *Error 3D* [Err\_3D] contains the data elements required to describe a 3-dimensional error volume.

5.6.1.20.11.2 The *Error 3D* consists of one of *Error Circle 2D*, *Error Rectangle 2D*, or *Error Ellipse 2D* composited with the following: *Area Semi-Intermediate Axis* [Semi\_Intermed], *Area Orientation* [Area\_Orient], *Semi-Major Elevation* [Semi\_Maj\_Elev], and *Geometric Area Switch* [Geom\_Area\_Swch]. Note that the reporting of an *Error Circle 2D* is the technical equivalent of reporting an *Error Ellipse 2D* which has an *Area Semi-Major Axis* and an *Area Semi-Minor Axis* of equal lengths. Thus when an *Error Circle 2D* shape is reported, the radius in the direction of a true north 2D axis is the equivalent of the area semi-major axis for interpretation of the other element definitions and likewise, the axis which is perpendicular to a true north 2D axis in the 2D plane is the equivalent to the area semi-minor axis.

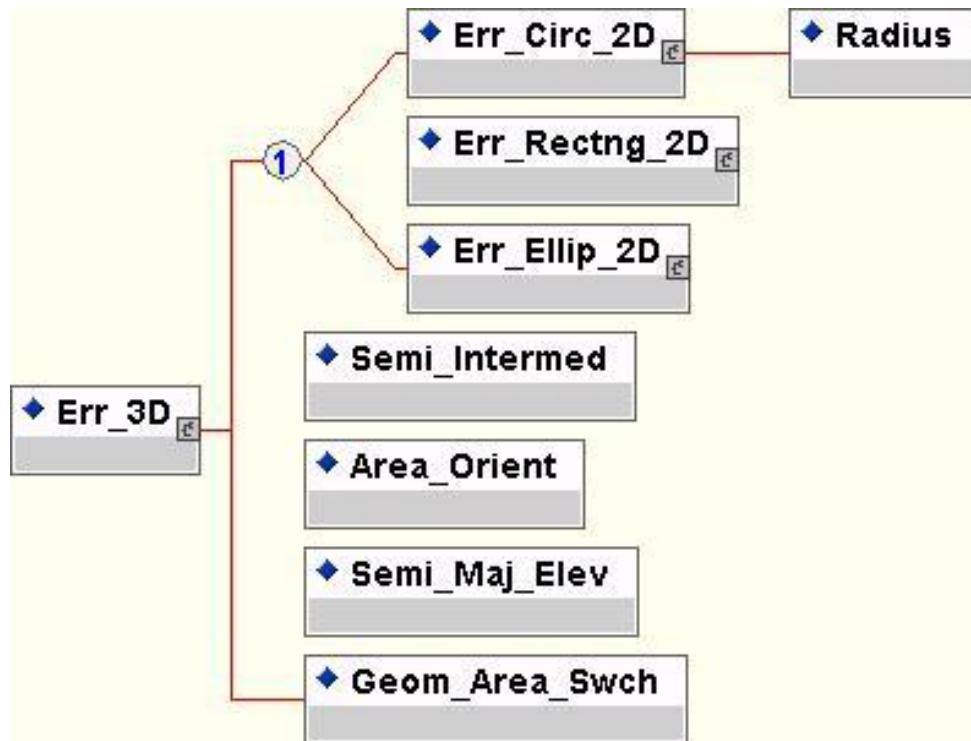
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Error 3D Structure:

*Err\_3D (( Err\_Circ\_2D | Err\_Rectng\_2D | Err\_Ellip\_2D) , Semi\_Intermed , Area\_Orient, Semi\_Maj\_Elev , Geom\_Area\_Swch)*

*Err\_Circ\_2D (Radius)*



#### 5.6.1.20.11.3 AREA SEMI-INTERMEDIATE AXIS

5.6.1.20.11.3.1 The *Area Semi-Intermediate Axis* [**Semi\_Intermed**] is used in conjunction with area semi-major axis, and area semi-minor axis to describe a cube, a three-dimensional rectangle, a cylinder, an ellipsoid, or a spheroid. This axis is intermediate in length between the Semi-Major and Semi-Minor axes. This field is doubled and centered on the intersection of the *Area Semi-Major Axis* and *Area Semi-Minor Axis* at 90 degrees to the plane defined by those axes. For these shapes, the volume is defined as having a 50% probability of containing the true location of the referenced entity.

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### 5.6.1.20.11.4 AREA ORIENTATION

The *Area Orientation* [Area\_Orient] is the angle or roll in degrees, between the area semi-minor axis and the plane defined by the local vertical and area semi-major axis, or when reported without major and minor axis, is the angle between an axis perpendicular to a 2D true north axis and the plane defined by the local vertical and a 2D true north axis.

### 5.6.1.20.11.5 SEMI-MAJOR ELEVATION

The *Semi-Major Elevation* [Semi\_Maj\_Elev] element is the semi-major elevation axis. It is the elevation of the cubical, 3D rectangular, cylindrical, 3D ellipsoidal, or spherical semi-major axis, in degrees, measured from local horizontal.

### 5.6.1.20.11.6 GEOMETRIC AREA SWITCH

The *Geometric Area Switch* [Geom\_Area\_Swch] identifies the three dimensional shape of the error volume by providing the two dimensional shape for the 3D plane. The 3D plane is the plane orthogonal to the area semi-major axis and area semi-minor axis. Depending upon whether the 2D plane is reported as an error ellipse 2D or as an error rectangle 2D, this switch reports a complete error volume which is cubical, 3D rectangular, cylindrical, 3D ellipsoidal, or spherical. The *Geometric Area Switch* is an enumerated type with possible values identifying a square/rectangle or a circle/ellipse shape for the 3rd dimension of the error volume. The values reported provide the following 3D results:

*Square/Rectangle* [SQ\_RECTNG]: If *Error Rectangle* 2D is reported, this switch value indicates a cube/3D rectangle. If *Error Ellipse* 2D is reported, this switch value indicates a cylinder.

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Circle/Ellipse [CIRC\_ELLIP]: If *Error Rectangle 2D* is reported, this switch value indicates a cylinder. If *Error Ellipse 2D* is reported, this switch value indicates a sphere/3D ellipsoid.

## 5.6.1.20.12 DEPARTURE ELEMENTS

The *Departure Elements* [Departure\_Elmnts] provides an estimated or actual departure location and time as well as a location name, if available, of a reported entity.

### Departure Elements Structure:

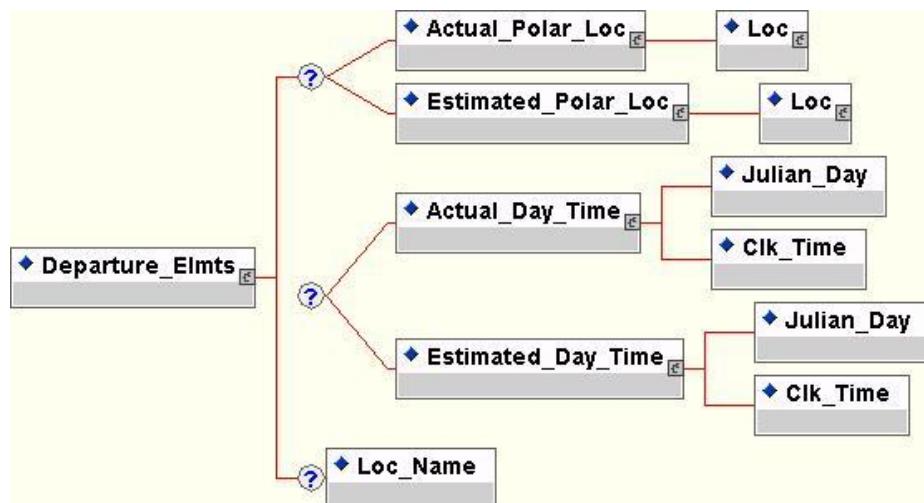
```
Departure_Elmnts ((Actual_Polar_Loc | Estimated_Polar_Loc)? ,  
(Actual_Day_Time | Estimated_Day_Time)? , Loc_Name? )
```

*Actual\_Polar\_Loc* (Loc )

*Estimated\_Polar\_Loc* (Loc )

*Actual\_Day\_Time* (Julian\_Day , Clk\_Time )

*Estimated\_Day\_Time* (Julian\_Day , Clk\_Time )



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## 5.6.1.20.13 ARRIVAL ELEMENTS

The *Arrival Elements* [Arrival\_Elmnts] provides an estimated or actual arrival location and time as well as a location name, if available, of a reported entity. The location is reported in spherical coordinates. The time is reported as Julian day and clock time. The location name is reported as string text of up to 38 characters.

### Arrival Elements Structure:

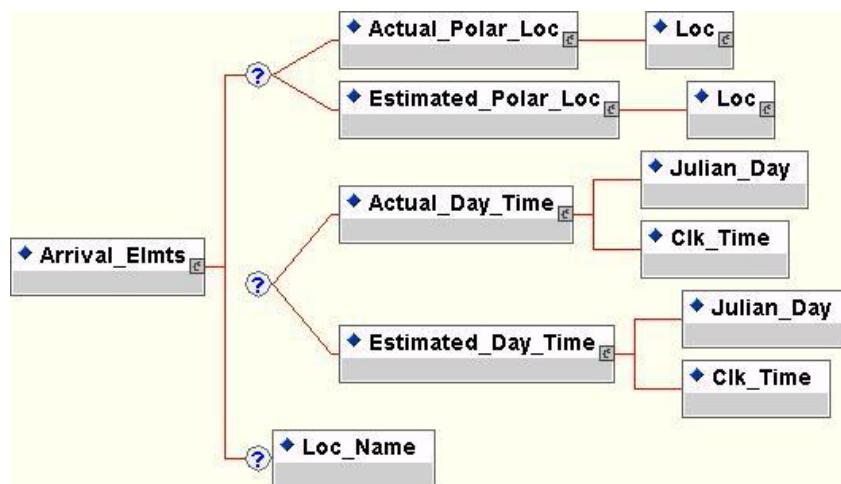
*Arrival\_Elmnts* ((*Actual\_Polar\_Loc* | *Estimated\_Polar\_Loc*)? ,  
(*Actual\_Day\_Time* | *Estimated\_Day\_Time*)? , *Loc\_Name*? )

*Actual\_Polar\_Loc* (*Loc* )

*Estimated\_Polar\_Loc* (*Loc* )

*Actual\_Day\_Time* (*Julian\_Day* , *Clk\_Time* )

*Estimated\_Day\_Time* (*Julian\_Day* , *Clk\_Time* )



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## 5.6.1.20.14 DESTINATION ELEMENTS

The *Destination Elements* [Dest\_Elmnts] provides an estimated or actual destination location and time as well as a location name, if available, of a reported entity. The location is reported in spherical coordinates. The time is reported as Julian day and clock time. The location name is reported as string text of up to 38 characters.

### Destination Elements Structure:

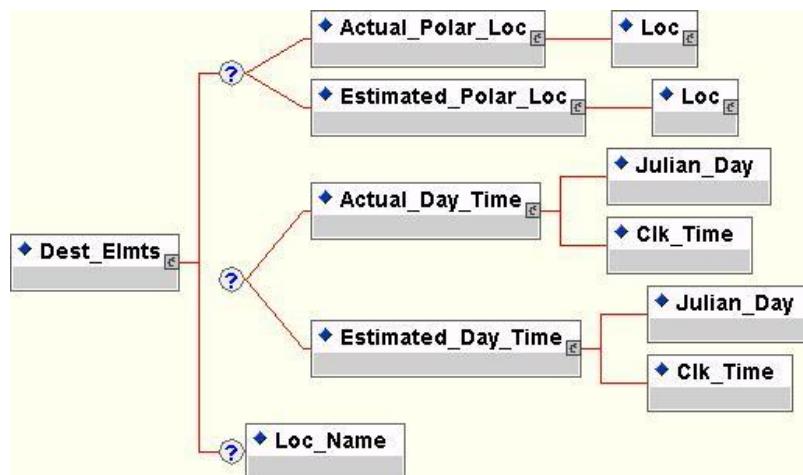
```
Dest_Elmnts ((Actual_Polar_Loc | Estimated_Polar_Loc) ? ,  
(Actual_Day_Time | Estimated_Day_Time) ? , Loc_Name? )
```

Actual\_Polar\_Loc (Loc )

Estimated\_Polar\_Loc (Loc )

Actual\_Day\_Time (Julian\_Day , Clk\_Time )

Estimated\_Day\_Time (Julian\_Day , Clk\_Time )



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## 5.6.1.20.15 TRACK QUALITY, IBS

The *Track Quality, IBS* [TQ] element identifies the accuracy of the reported entity location. The TQ value represents the size of an area having a 95% probability of containing the true location of the referenced entity. *Track Quality, IBS* shall only be populated by IBS/Link 16 concurrent producers/translators that calculate the TQ according to Link 16 requirements, and then only after receiving prior authorization from the IBS Broadcast Operations Integration Group (BOIG).

## 5.6.1.21 ENTITY POLAR ATTITUDE ELEMENTS

### 5.6.1.21.1 The Entity Polar Attitude Elements

[Entity\_Polar\_Attud\_Elmnts] identifies a group of elements describing the speed, heading, altitude and other characteristics of an entity. The *Entity Polar Attitude Elements* group shall contain at least the minimum elements required by the "Entity Polar Attitude Elements Structure" and as otherwise required by producer rules.

5.6.1.21.2 CMF provides separate field tags, with selectable units and accuracies, to identify the type of altitude being provided: *Approximate Altitude*, *Measured Altitude*, or *IFF 3C Altitude*.

#### Entity Polar Attitude Elements Structure:

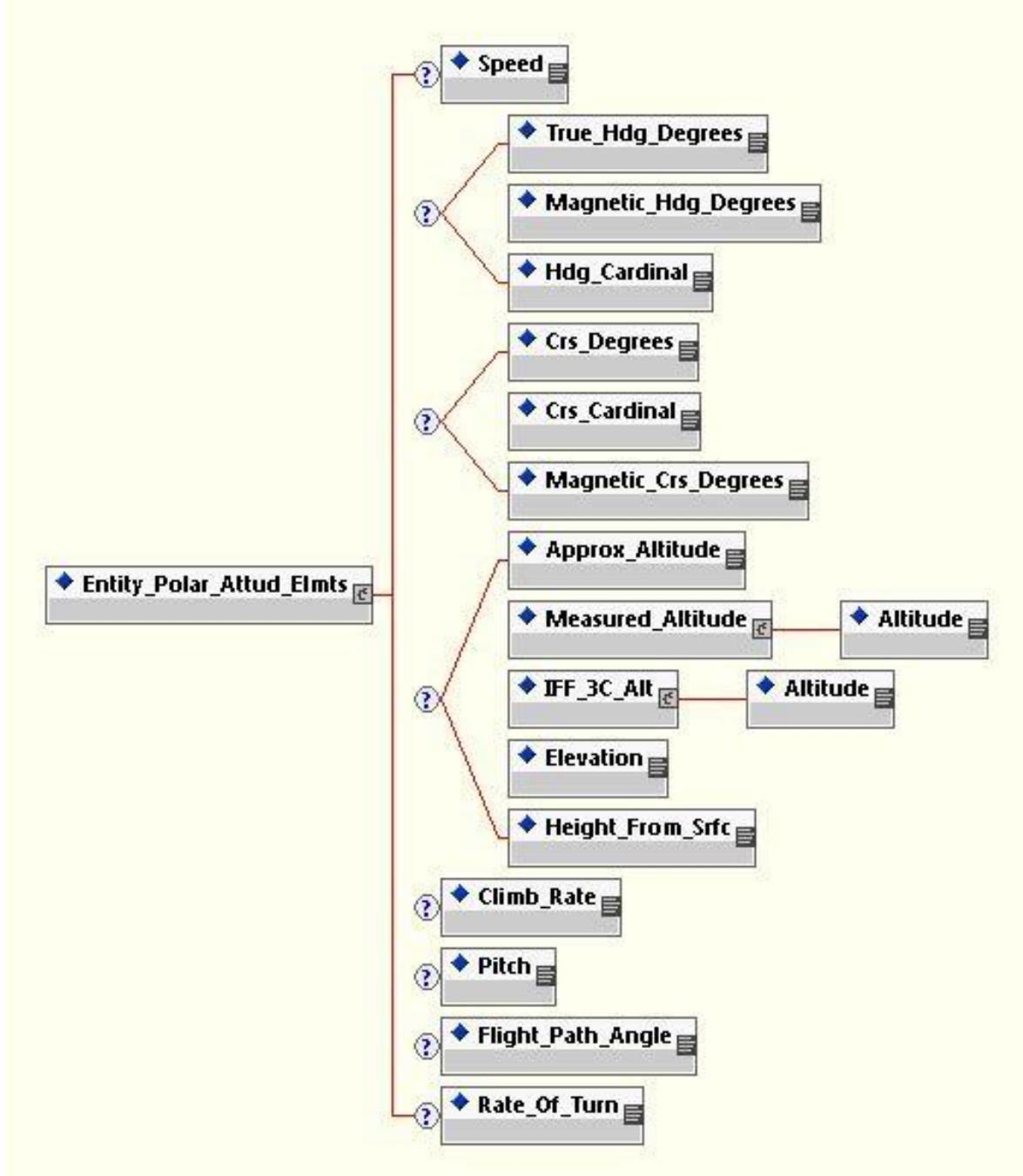
```
Entity_Polar_Attud_Elmnts (Speed? , (True_Hdg_Degrees |  
Magnetic_Hdg_Degrees | Hdg_Cardinal)? , (Crs_Degrees | Crs_Cardinal |  
Magnetic_Crs_Degrees)? , (Approx_Altitude | Measured_Altitude |  
IFF_3C_Alt | Elevation | Height_From_Srfc)? , Climb_Rate? , Pitch? ,  
Flight_Path_Angle? , Rate_Of_Turn?)
```

*Measured\_Altitude* (*Altitude*)

*IFF\_3C\_Alt* (*Altitude*)

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## 5.6.1.21.3 SPEED

5.6.21.3.1 The *Speed* [Speed] element contains a measure of the rate of change of two-dimensional position (also known as ground speed).

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5.6.1.21.3.2 IMPORTANT: The *Speed* element provides a choice of four units of measure: DMPH, MPH, KTS, and KPH. However, the upper range value for MPH, KTS, and KPH are inadequate for reporting on some entities and have been increased to provide the additional capability. Producers shall not report MPH, KTS, or KPH above their original ranges until operationally directed. If it becomes necessary to report above their original ranges, producers may use DMPH.

5.6.1.21.4 TRUE HEADING, DEGREES

The *True Heading, Degrees* [True\_Hdg\_Degrees] indicates the angle of the longitudinal axis of an object in degrees with respect to true north.

5.6.1.21.5 MAGNETIC HEADING, DEGREES

The *Magnetic Heading, Degrees* [Magnetic\_Hdg\_Degrees] indicates the angle of the longitudinal axis of an object in degrees with respect to magnetic north.

5.6.1.21.6 HEADING, CARDINAL

The *Heading, Cardinal* [Hdg\_Cardinal] indicates the angle of the longitudinal axis of an object in terms of points on a compass.

5.6.1.21.7 COURSE, DEGREES

The *Course, Degrees* [Crs\_Degrees] indicates the actual direction of travel of an object in degrees with respect to true north.

5.6.1.21.8 COURSE, CARDINAL

The *Course, Cardinal* [Crs\_Cardinal] indicates the actual direction of travel of an object in terms of points on a compass.

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### 5.6.1.21.8A MAGNETIC COURSE, DEGREES

The *Magnetic Course, Degrees* [Magnetic\_Crs\_Degrees] element indicates the actual direction of travel of an object in degrees with respect to magnetic north.

### 5.6.1.21.9 APPROXIMATE ALTITUDE

The *Approximate Altitude* [Approx\_Altitude] reports altitude as low, medium, or high.

### 5.6.1.21.10 MEASURED ALTITUDE

The *Measured Altitude* [Measured\_Altitude] is the height of an object as measured radially outward from the earth as a quantity above/below mean sea level (MSL). The *Measured Altitude* is a composite of *Altitude*.

### 5.6.1.21.11 ALTITUDE

The *Altitude* [Altitude] is the altitude (height) of an object as measured radially outward from the earth as a quantity above/below mean sea level (MSL).

### 5.6.1.21.12 IFF MODE 3C ALTITUDE

The *IFF Mode 3C Altitude* [IFF\_3C\_Alt] is the altitude of the entity as reported via its Mode 3C IFF Transponder. The *IFF Mode 3C Altitude* is a composite of *Altitude*.

### 5.6.1.21.13 ELEVATION

5.6.1.21.13.1 The *Elevation* [Elevation] is the vertical distance of a point, or level, on, or affixed to, the surface of the earth measured from mean sea level (MSL).

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**5.6.1.21.13A HEIGHT FROM SURFACE**

The *Height From Surface* [Height\_From\_Srfc] element indicates the distance of an entity above or below the surface of the land or water at the location of the entity, with positive values indicating outward from the earth.

**5.6.1.21.14 CLIMB RATE**

The *Climb Rate* [Climb\_Rate] is the rate of change of vertical position.

**5.6.1.21.15 PITCH**

The *Pitch* [Pitch] is the angle of the longitudinal axis of an object with respect to the local horizontal.

**5.6.1.21.16 FLIGHT PATH ANGLE**

The *Flight Path Angle* [Flight\_Path\_Angle] is the angle of the velocity vector of an object with respect to the local vertical.

**5.6.1.21.17 RATE OF TURN**

The *Rate Of Turn* [Rate\_Of\_Turn] element identifies the rate at which a vessel is turning. It is a float type field containing a simple scalar value.

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5.6.1.22 ENTITY RECTANGULAR LOCATION ELEMENTS

5.6.1.22.1 The *Entity Rectangular Location Elements*

[Entity\_Rectng\_Loc\_Elmnts] identifies a group of elements which describe the position of an entity using rectangular coordinates, i.e., x, y, and z. The *Entity Rectangular Location Elements* group shall contain at least the minimum elements required by the "Entity Rectangular Location Elements Structure" and as otherwise required by producer rules.

5.6.1.22.2 This element primarily is used for missile-related reporting though it is not precluded from other application.

Entity Rectangular Location Elements Structure:

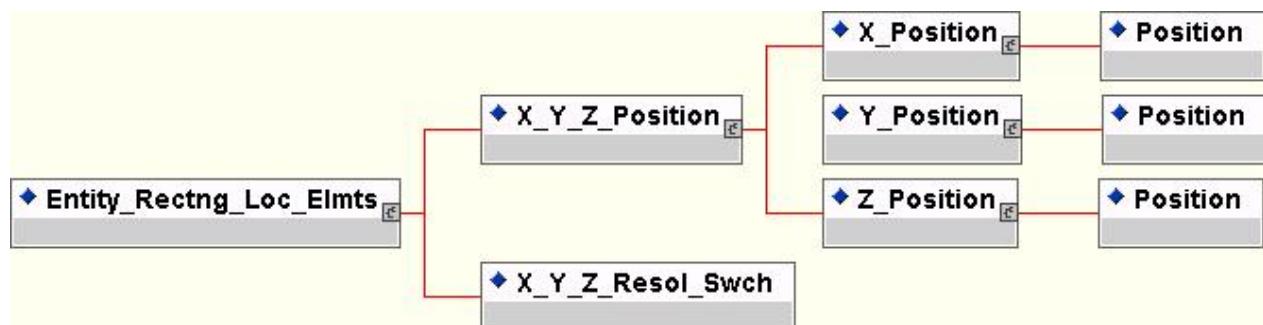
*Entity\_Rectng\_Loc\_Elmnts (X\_Y\_Z\_Position , X\_Y\_Z\_Resol\_Swch)*

*X\_Y\_Z\_Position (X\_Position , Y\_Position , Z\_Position)*

*X\_Position (Position)*

*Y\_Position (Position)*

*Z\_Position (Position)*



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## 5.6.1.22.3 X Y Z POSITION

5.6.1.22.3.1 The *X Y Z Position* [*X\_Y\_Z\_Position*] element defines the position (coordinate) of the specified element along the *X*, *Y*, *Z* axis of the WGS-84 Earth-Centered Fixed (ECF) Cartesian coordinate system. Combined, the composited child fields contain the values of the original *X*, *Y*, and *Z* position.

5.6.1.22.3.2 The *X Y Z Position* and *X Y Z Velocity* elements are distributed between the *Entity Rectangular Location Elements* and the *Entity Rectangular Attitude Elements*. The values in these data fields must be considered integral, related components for defining composite values. The position and velocity fields shall be transmitted together.

## 5.6.1.22.4 X Y Z RESOLUTION SWITCH

The *X Y Z Resolution Switch* [*X\_Y\_Z\_Resol\_Swch*] in the *Entity Rectangular Location Elements* is a covariance resolution switch. This switch indicates whether the *X*, *Y*, and *Z* position information has been obtained from one or more sources of the same type. It is an enumerated type with allowable values of fine resolution and coarse resolution.

## 5.6.1.23 ENTITY RECTANGULAR ATTITUDE ELEMENTS

5.6.1.23.1 The *Entity Rectangular Attitude Elements* [*Entity\_Rectng\_Attud\_Elmnts*] identifies a group of elements which provide details describing an entity's attitude characteristic, such as speed and direction, using a rectangular coordinate system (*x*, *y*, and *z*) or other movement parameters, e.g., stage of flight for a missile entity. The *Entity Rectangular Attitude Elements* group shall contain at least the minimum elements required by the "Entity

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Rectangular Attitude Elements Structure" and as otherwise required by producer rules.

5.6.1.23.2 This element primarily is used for missile-related reporting though it is not precluded from other application.

Entity Rectangular Attitude Elements Structure:

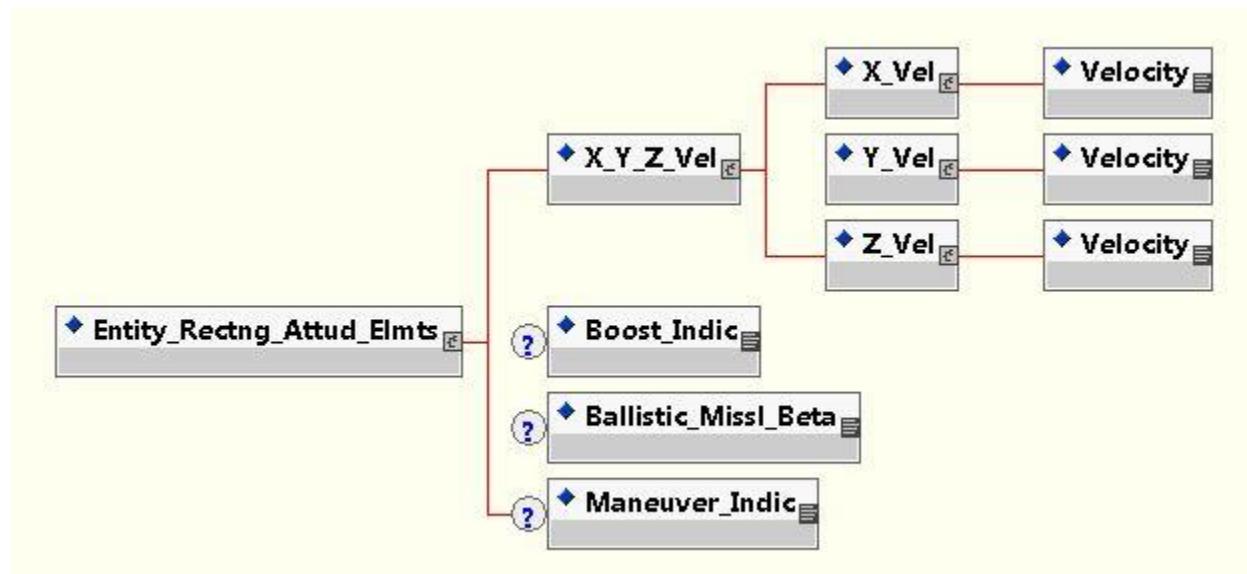
*Entity\_Rectng\_Attud\_Elmnts (X\_Y\_Z\_Vel , Boost\_Indic? ,  
Ballistic\_Missl\_Beta? , Maneuver\_Indic?)*

*X\_Y\_Z\_Vel (X\_Vel , Y\_Vel , Z\_Vel)*

*X\_Vel (Velocity)*

*Y\_Vel (Velocity)*

*Z\_Vel (Velocity)*



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## 5.6.1.23.3 X Y Z VELOCITY

5.6.1.23.3.1 The *X Y Z Velocity* [*X\_Y\_Z\_Vel*] data fields in the *Entity Rectangular Attitude Elements* element define the rate of change in position of the specified element in the direction of the X, Y, Z axis of the ECF Cartesian coordinate system. Combined, the composited child fields contain the values of the original X, Y, and Z velocity.

5.6.1.23.3.2 The *X Y Z Position* and *X Y Z Velocity* elements are distributed between the *Entity Rectangular Location Elements* and the *Entity Rectangular Attitude Elements*. The values in these data fields must be considered integral, related components for defining composite values. The position and velocity fields shall be transmitted together.

## 5.6.1.23.4 BOOST INDICATOR

The *Boost Indicator* [*Boost\_Indic*] is used to specify whether or not a missile is in the boost phase. It is an enumerated type with possible values of non-boost and boost. *Boost Indicator* shall be reported with a value of *NON\_BOOST* when the *Ballistic Missile Beta, IBS* field is reported.

## 5.6.1.23.5 BALLISTIC MISSILE BETA, IBS

The *Ballistic Missile Beta, IBS* [*Ballistic\_Missl\_Beta*] expresses measured atmospheric drag effects on a ballistic missile with a constant reference area. Beta is defined as the mass of the object divided by the product of its coefficient of drag and reference area. This field will only be reported when *Boost Indicator* [*Boost\_Indic*] is set to a value representing a missile that is not in the boost phase. It is expressed as an integer value.

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5.6.1.23.6 MANEUVERING INDICATOR, IBS

5.6.1.23.6.1 The *Maneuvering Indicator, IBS* [Maneuver\_Indic] element provides an indication on whether an entity is maneuvering post boost. It is an enumerated type with possible values indicating if the entity is maneuvering, or the maneuver has completed. The *Maneuvering Indicator, IBS* element shall not be reported if the *Boost Indicator* is set to the value of "BOOST".

5.6.1.24 ENTITY RECTANGULAR ACCURACY ELEMENTS

5.6.1.24.1 The *Entity Rectangular Accuracy Elements* [Entity\_Rectng\_Accy\_Elmnts] identifies a group of elements which provide covariance matrix data (either full or partial matrices) which indicate the accuracy of the position and velocity measurements of an entity and can be utilized to predict or extrapolate future positions. The *Entity Rectangular Accuracy Elements* group shall contain at least the minimum elements required by the "Entity Rectangular Accuracy Elements Structure" and as otherwise required by producer rules.

5.6.1.24.2 This element is primarily used for missile-related reporting, although it is not precluded from uses on other applications.

5.6.1.24.3 Accuracy is represented either by the *Full Covariance Matrix* [Full\_Covar\_Mtrx] or by the *Partial Covariance Matrix* [Partial\_Covar\_Mtrx] plus an optional *Error Sum 3D* [Err\_Sum\_3D] element.

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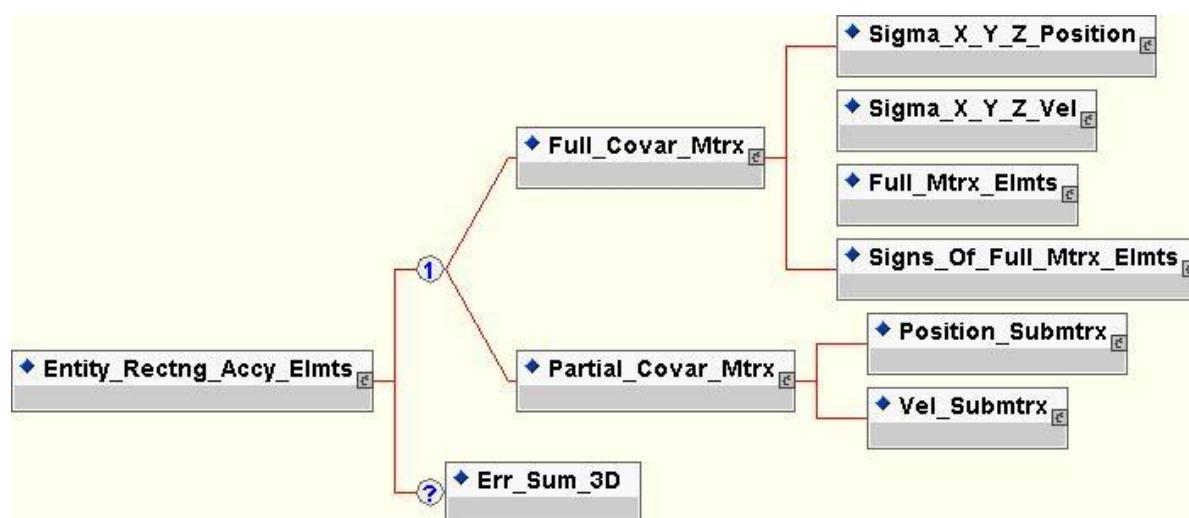
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## Entity Rectangular Accuracy Elements Structure:

*Entity\_Rectng\_Accy\_Elmnts (Full\_Covar\_Mtrx | Partial\_Covar\_Mtrx , Err\_Sum\_3D?)*

*Full\_Covar\_Mtrx (Sigma\_X\_Y\_Z\_Position , Sigma\_X\_Y\_Z\_Vel , Full\_Mtrx\_Elmnts , Signs\_Of\_Full\_Mtrx\_Elmnts)*

*Partial\_Covar\_Mtrx (Position\_Submtrx , Vel\_Submtrx)*



### 5.6.1.24.4 COVARIANCE DATA ELEMENTS

The covariance data elements are used along with root variance data to construct the covariance matrix, which describes the uncertainties associated with a track message. The covariance data elements represent the elements of the Cholesky decomposition of the pre-compensated correlation matrix. Note: covariance data elements 11 through 16 are not sent. Covariance data element 11 is always equal to 1.0. The recipient of the message shall solve for covariance data elements 12 through 16 by using the definition of the correlation matrix and the signs of covariance data elements 12 through 16 which are provided in the message.

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**5.6.1.24.4.1 FULL COVARIANCE MATRIX****5.6.1.24.4.1.1 The *Full Covariance Matrix* [Full\_Covar\_Mtrx]**

identifies the complete set of components necessary to re-construct a symmetric 6x6 element matrix representing the calculated tracking errors and statistical estimates of biases produced by emplacement errors, alignment errors, and systematic errors. This matrix indicates the accuracy of reported position and velocity measurements of an entity and can be utilized to predict or extrapolate future positions.

**5.6.1.24.4.1.2 The *Full Covariance Matrix* consists of error representations of position and velocity, position and velocity representations, and sign values for matrix data elements.****5.6.1.24.4.1.3 SIGMA X Y Z POSITION and SIGMA X Y Z VELOCITY**

The *Sigma X Y Z Position* [Sigma\_X\_Y\_Z\_Position] and *Sigma X Y Z Velocity* [Sigma\_X\_Y\_Z\_Vel] elements contain the square roots of the variances of the errors in the x, y, and z axis position state vectors expressed in the ECF WGS-84 coordinate system.

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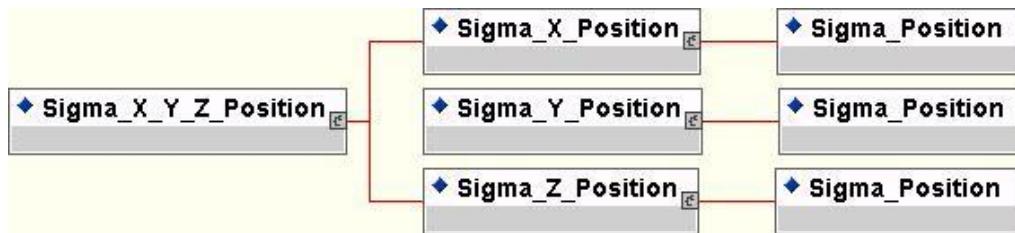
Sigma X Y Z Position Structure:

*Sigma\_X\_Y\_Z\_Position (Sigma\_X\_Position , Sigma\_Y\_Position ,  
Sigma\_Z\_Position)*

*Sigma\_X\_Position (Sigma\_Position)*

*Sigma\_Y\_Position (Sigma\_Position)*

*Sigma\_Z\_Position (Sigma\_Position)*



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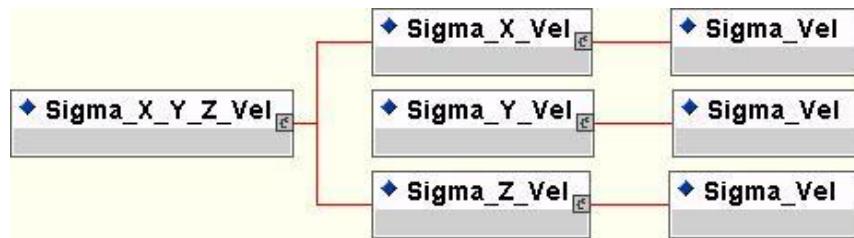
## Sigma X Y Z Structure:

*Sigma\_X\_Y\_Z\_Vel (Sigma\_X\_Vel , Sigma\_Y\_Vel , Sigma\_Z\_Vel)*

*Sigma\_X\_Vel (Sigma\_Vel)*

*Sigma\_Y\_Vel (Sigma\_Vel)*

*Sigma\_Z\_Vel (Sigma\_Vel)*



### 5.6.1.24.4.1.4 FULL MATRIX ELEMENTS

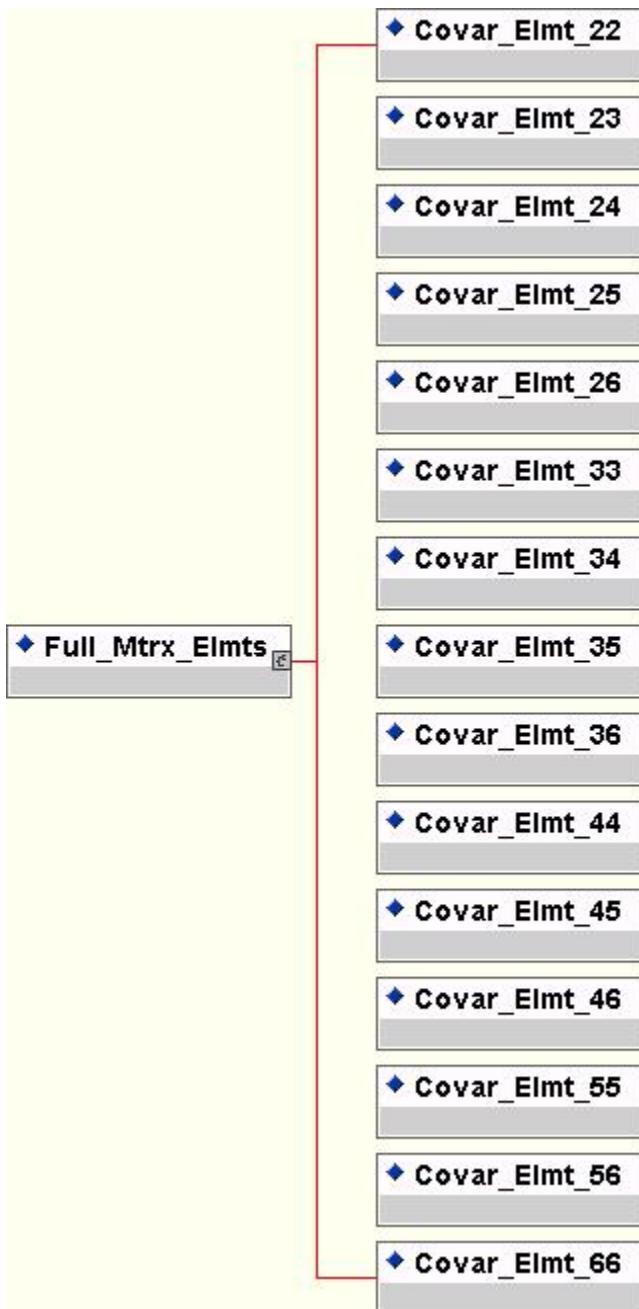
The *Full Matrix Elements* [Full\_Mtrx\_Elmnts] identifies a grouping of elements which compose the full set of x, y, z position and velocity vector elements (row/column variables) in a covariance 6x6 matrix. Each row/column element within the matrix defines the covariance relationship between each of the different measured variables. This covariance relationship is the likelihood that, when the row variable changes, the column variables it is related to, changes in a particular manner.

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## Full Matrix Elements Structure:

Full\_Mtrx\_Elmts (Covar\_Elmt\_22 , Covar\_Elmt\_23 , Covar\_Elmt\_24 ,  
Covar\_Elmt\_25 , Covar\_Elmt\_26 , Covar\_Elmt\_33 , Covar\_Elmt\_34 ,  
Covar\_Elmt\_35 , Covar\_Elmt\_36 , Covar\_Elmt\_44 , Covar\_Elmt\_45 ,  
Covar\_Elmt\_46 , Covar\_Elmt\_55 , Covar\_Elmt\_56 , Covar\_Elmt\_66)



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5.6.1.24.4.1.5 SIGNS OF FULL MATRIX ELEMENTS

The *Signs Of Full Matrix Elements* [Signs\_Of\_Full\_Mtrx\_Elmts] identifies a group of elements which provide sign values for each of the covariance data elements in a full covariance matrix.

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Signs of Full Matrix Elements Structure:

*Signs\_Of\_Full\_Mtrx\_Elmnts (Sign\_12 , Sign\_13 , Sign\_14 , Sign\_15 ,  
Sign\_16 , Sign\_23 , Sign\_24 , Sign\_25 , Sign\_26 , Sign\_34 , Sign\_35 ,  
Sign\_36 , Sign\_45 , Sign\_46 , Sign\_56)*



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## 5.6.1.24.4.2 PARTIAL COVARIANCE MATRIX

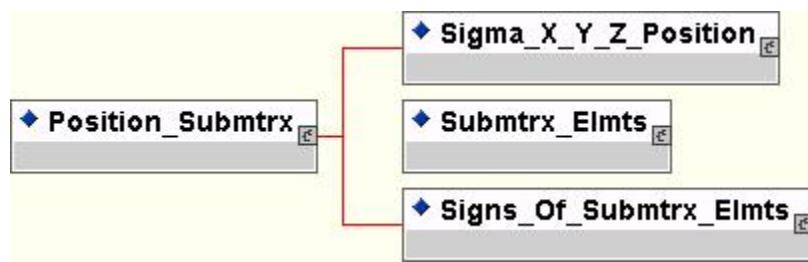
The *Partial Covariance Matrix* [Partial\_Covar\_Mtrx] identifies a grouping of elements which compose the two 3x3 sub-matrices describing the covariance relationship between the position measurements and the velocity measurements.

### 5.6.1.24.4.2.1 POSITION SUBMATRIX

The *Position Submatrix* [Position\_Submtrx] identifies a grouping of elements which compose the 3x3 element matrix representing the covariance relationship between each measured x, y, z Cartesian location variable. The element consists of the *Sigma X Y Z Position* [Sigma\_X\_Y\_Z\_Position] (described previously), *Submatrix Elements* [Submtrx\_Elmnts], and *Signs of Submatrix Elements* [Signs\_Of\_Submtrx\_Elmnts].

#### Position Submatrix Structure:

*Position\_Submtrx* (*Sigma\_X\_Y\_Z\_Position* , *Submtrx\_Elmnts* ,  
*Signs\_Of\_Submtrx\_Elmnts*)



#### 5.6.1.24.4.2.1.1 SUBMATRIX ELEMENTS

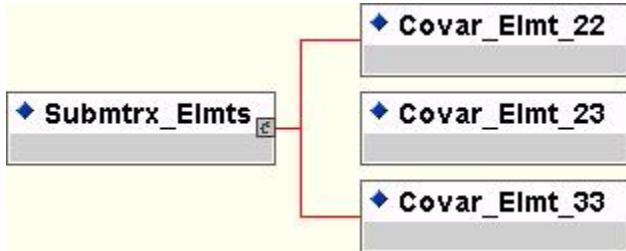
The *Submatrix Elements* [Submtrx\_Elmnts] identifies a grouping of elements which compose a set of measured covariance variables which make up either a positional sub-matrix or a velocity sub-matrix.

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## Submatrix Elements Structure:

*Submtrx\_Elmnts (Covar\_Elmt\_22 , Covar\_Elmt\_23 , Covar\_Elmt\_33)*

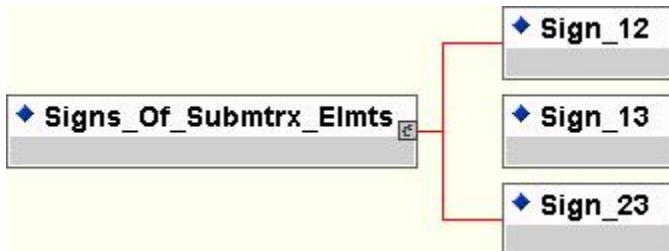


### 5.6.1.24.4.2.1.2 SIGNS OF SUBMATRIX ELEMENTS

The *Signs of Submatrix Elements* [Signs\_Of\_Submtrx\_Elmnts] identifies a grouping of elements which compose the set of sign values for each of the three covariance data elements in a position or velocity submatrix.

## Signs of Submatrix Elements Structure:

*Signs\_Of\_Submtrx\_Elmnts (Sign\_12 , Sign\_13 , Sign\_23)*

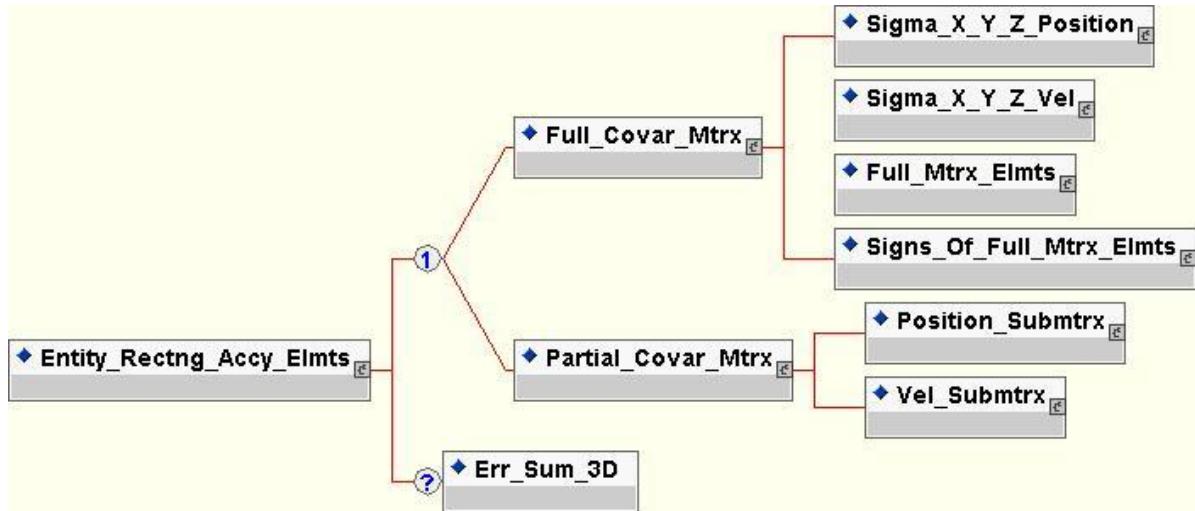


### 5.6.1.24.4.2.2 VELOCITY SUBMATRIX

The *Velocity Submatrix* [Vel\_Submtrx] identifies a grouping of elements which compose a 3x3 element matrix representing the covariance relationship between each measured x, y, z velocities with respect to the x, y, z Cartesian location variables in a position submatrix. The element consists of the *Sigma X Y Z Velocity*

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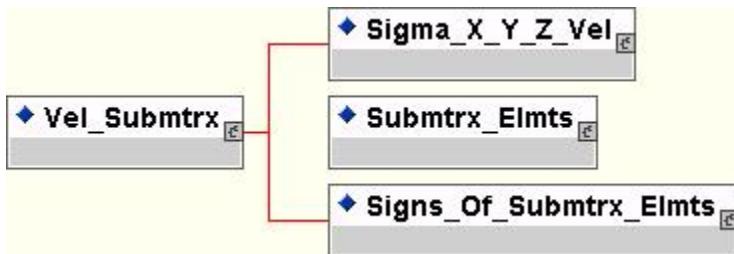
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[Sigma\_X\_Y\_Z\_Vel] (described previously), Submatrix Elements [Submtrx\_Elmnts], and Signs of Submatrix Elements [Signs\_of\_Submtrx\_Elmnts].

### Velocity Submatrix Elements Structure:

*Vel\_Submtrx (Sigma\_X\_Y\_Z\_Vel , Submtrx\_Elmnts , Signs\_of\_Submtrx\_Elmnts)*



#### 5.6.1.24.4.3 ERROR SUM 3D

5.6.1.24.4.3.1 The Error Sum 3D [Err\_Sum\_3D] represents the value resulting from an algorithm which sums the three dimensional positional variances contained in the covariance matrix plus the sum

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of the velocity variances in the covariance matrix times a squared factor, as represented by the following equation:

$$\text{Error Sum 3D} = \left[ \left( \sigma_{p_x}^2(t) + \sigma_{p_y}^2(t) + \sigma_{p_z}^2(t) \right) + \left( \left( \sigma_{v_x}^2(t) + \sigma_{v_y}^2(t) + \sigma_{v_z}^2(t) \right) * \Delta t^2 \right) \right]$$

where the factor  $\Delta t^2$  is a parameter that varies the dependence of *Error Sum 3D* on the velocity errors of the reported entity. For ballistic missile tracks, the default value of  $\Delta t$  is 6 seconds.

5.6.1.24.4.3.2 The value provides a representation of the positional and velocity errors for the reported entity, such as a ballistic missile track. The *Error Sum 3D* is represented as an area-equivalent in units of square feet.

#### 5.6.1.25 ENTITY PHYSICAL ADDRESS ELEMENTS

The *Entity Physical Address Elements* [Entity\_Physical\_Addr\_Elmnts] provides a location equivalent to a mail address (street address, city, state/province, country, and postal delivery code). The *Entity Physical Address Elements* group shall contain at least the minimum elements required by the "Entity Physical Address Elements Structure" and as otherwise required by producer rules.

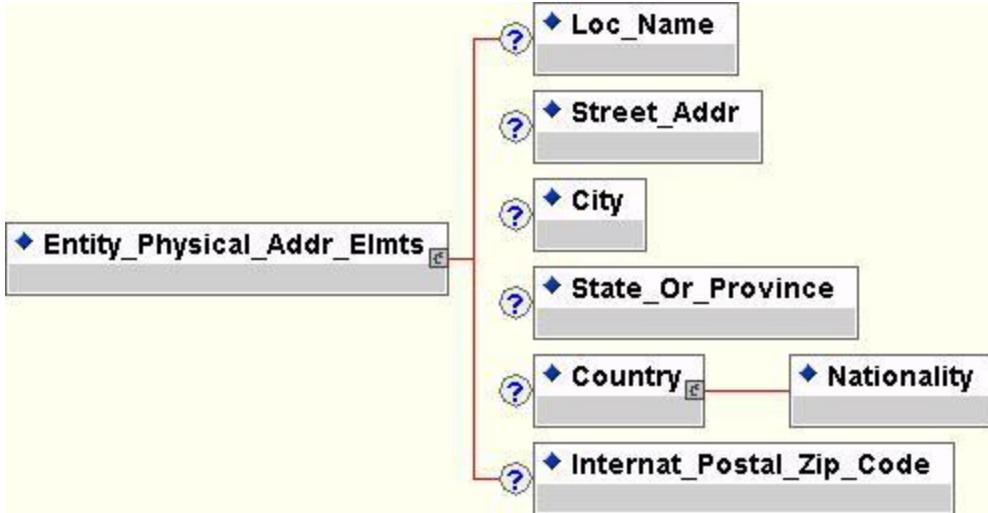
##### Entity Physical Address Elements Structure:

*Entity\_Physical\_Addr\_Elmnts* (*Loc\_Name?* , *Street\_Addr?* , *City?* ,  
*State\_Or\_Province?* , *Country?* , *Internat\_Postal\_Zip\_Code?* )

*Country* (*Nationality* )

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## 5.6.1.26 ENTITY RF DESCRIPTION ELEMENTS

### 5.6.1.26.1 The *Entity RF Description Elements*

[Entity\_RF\_Desc\_Elmnts] identifies a group of elements which provide details describing radio frequency (RF) characteristics of an entity's emitter including transmission frequency and frequency-related attributes, modulation type and characterization, data rate, and waveform characteristics. The *Entity RF Description Elements* group shall contain at least the minimum elements required by the "Entity RF Description Elements Structure" and as otherwise required by producer rules.

### 5.6.1.26.2 The Entity RF Description Elements

[Entity\_RF\_Desc\_Elmnts] is a complex group containing the following elements: *Frequency*; *Multiple Frequencies*; *Frequency Range*; *Multiple Frequency Ranges*; *Frequency Capability Indicators*; *Frequency Agility Characteristics*; *Frequency Stability*; *VG Channel Spacing*; *Number Of VG Channels*; *Subcarrier Tone Spacing*; *Number Of Subcarrier Tones*; *Pilot Tone*; *Number Of Pilot Tones*; *Bit Rate*; *ELINT Emitter Modulation*; *Communications External Modulation*; *Emitter Function*; *Emission Polarization, IBS*; and *Signal Bandwidth*.

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Entity RF Description Elements Structure:

*Entity\_RF\_Desc\_Elmnts (Freq? , Mult\_Freq? , Freq\_Rng? , Mult\_Freq\_Rngs?  
, Freq\_Capab\_Indicators? , Freq\_Agil\_Char? , Freq\_Stab? ,  
VG\_Chnl\_Spacing? , Num\_VG\_Chnls? , Subcarrier\_Tone\_Spacing? ,  
Num\_Subcarrier\_Tones? , Pilot\_Tone? , Num\_Pilot\_Tones? , Bit\_Rate? ,  
ELINT\_Emrtr\_Modulat? , Comms\_External\_Modulat? , Emtr\_Func? ,  
Emission\_Polarization? , Signal\_Bandwidth?)*

*Mult\_Freq (Freq\*)*

*Freq\_Rng (Freq , Freq)*

*Mult\_Freq\_Rngs (Freq\_Rng\*)*

*Freq\_Capab\_Indicators (Freq\_Agil\_Indic? , Jam\_Indic? )*

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## 5.6.1.26.3 FREQUENCY REPORTING

5.6.1.26.3.1 Reporting single frequencies and frequency ranges should be mutually exclusive. The producer shall not produce a report with both a *Frequency* and a *Frequency Range*, nor a report with both *Multiple Frequencies* and *Multiple Frequency Ranges*.

5.6.1.26.3.2 When reporting multiple single/discrete frequencies, the primary frequency, as determined by the producer, shall be placed in the *Frequency* [Freq] field, and all remaining frequency data shall be in the *Multiple Frequencies* [Mult\_Freq] repeatable field.

5.6.1.26.3.3 When reporting multiple frequency ranges, the primary frequency range, as determined by the producer, shall be placed in the *Frequency Range* [Freq\_Rng] field, and all remaining frequency ranges shall be placed in the *Multiple Frequency Ranges* [Mult\_Freq\_Rngs] repeatable field.

5.6.1.26.3.4 Operation of multiple ranges is facilitated by the first frequency supplied in the CMF *Frequency Range* [Freq\_Rng] field being the lowest of the range.

## 5.6.1.26.4 FREQUENCY

The *Frequency* [Freq] element expresses the frequency or upper/lower frequency in a frequency range of an emitter. The element is a float type.

## 5.6.1.26.5 MULTIPLE FREQUENCIES

The *Multiple Frequencies* [Mult\_Freq] element contains multiple frequency values reported in order of occurrence. The element is a repetitive type element of *Frequency* [Freq] with maximum allowed iterations.

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**5.6.1.26.6 FREQUENCY RANGE**

The *Frequency Range* [Freq\_Rng] element composites two occurrences of the *Frequency* [Freq] element to provide the lower and upper values of a range of frequency range. {The form of the composite element appears as *Freq\_Rng* (Freq , Freq) in content model form for clarity.} The first frequency value shall be the lower frequency and the second frequency value shall be the upper frequency.

**5.6.1.26.7 MULTIPLE FREQUENCY RANGES**

The *Multiple Frequency Ranges* [Mult\_Freq\_Rngs] element contains multiple frequency range values. The element is a repetitive type element of *Frequency Range* [Freq\_Rng] with maximum allowed iterations.

**5.6.1.26.8 FREQUENCY CAPABILITY INDICATORS**

The *Frequency Capability Indicators* [Freq\_Capab\_Indicators] element indicates the agility and jamming status of the referenced emitter. The element is a packed type containing the *Frequency Agility Indicator, IBS* [Freq\_Agil\_Indic] element and the *Jamming Indicator* [Jam\_Indic] element.

**5.6.1.26.9 FREQUENCY AGILITY INDICATOR, IBS**

The *Frequency Agility Indicator, IBS* [Freq\_Agil\_Indic] element indicates the referenced emitter is exhibiting radio frequency agility characteristics. The element is a packed component type.

**5.6.1.26.10 JAMMING INDICATOR**

The *Jamming Indicator* [Jam\_Indic] element indicates the presence or absence of jamming on the referenced emitter. The element is a packed component type.

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### 5.6.1.26.11 FREQUENCY AGILITY CHARACTERISTICS

The *Frequency Agility Characteristics* [Freq\_Agil\_Char] element describes the agility characteristics displayed by a given pulsed emitter in terms of occurrence. The element is an enumerated type with values associated with the absence of a change in the RF characteristic as well as identification of changes in RF and/or PRI characteristics.

### 5.6.1.26.12 RADIO FREQUENCY STABILITY

The *Radio Frequency Stability* [Freq\_Stab] element reports the stability of the radio frequency (RF) signal in terms of deviation from the center frequency. The element is a float type.

### 5.6.1.26.13 VG CHANNEL SPACING

The *VG Channel Spacing* [VG\_Chnl\_Spacing] element describes the separation between the start of one voice grade channel (VGC) to the start of the next VGC on a communications circuit. The element is an integer type.

### 5.6.1.26.14 NUMBER OF VG CHANNELS

The *Number Of VG Channels* [Num\_VG\_Chnls] element describes the number of voice grade channels (VGC) within a communications circuit. The element is an integer type.

### 5.6.1.26.15 SUBCARRIER TONE SPACING

The *Subcarrier Tone Spacing* [Subcarrier\_Tone\_Spacing] element describes the separation between the start of one audio tone to the start of the next audio tone used as subcarriers for telemetry circuits. The element is an integer type.

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### **5.6.1.26.16 NUMBER OF SUBCARRIER TONES**

The *Number Of Subcarrier Tones* [Num\_Subcarrier\_Tones] element describes the number of subcarrier tones within a communications circuit. The element is an integer type.

### **5.6.1.26.17 PILOT TONE**

The *Pilot Tone* [Pilot\_Tone] element describes the frequency of the pilot tone(s) used by receivers to determine if sufficient power exists for processing the data contained in the baseband. The element is a float type.

### **5.6.1.26.18 NUMBER OF PILOT TONES**

The *Number Of Pilot Tones* [Num\_Pilot\_Tones] element describes the number of pilot tones present in a communications circuit. The element is an integer type.

### **5.6.1.26.19 BIT RATE**

The *Bit Rate* [Bit\_Rate] element identifies the number of bits per second used by a communications channel for data transfer. The element is a float type. *Bit Rate* is used in conjunction with the *Communications External Modulation* [Comms\_External\_Modulat] element, to specify the data transfer rate for the identified communications type.

### **5.6.1.26.20 ELINT Emitter MODULATION**

The *ELINT Emitter Modulation* [ELINT\_Emrtr\_Modulat] element describes the primary modulation in use by the referenced ELINT emitter. The element is a string type field. Allowable values are contained in the <CMF\_Mnemonics/Emitter\_Modulation\_File>. The mnemonic fields shall be verified against the appropriate mnemonic file, which can be done via

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the CMF Parser. Mnemonic verification shall always be performed only upon creation of CMF.

### **5.6.1.26.21 COMMUNICATIONS EXTERNAL MODULATION**

The *Communications External Modulation* [Comms\_External\_Modulat] element identifies the modulation characteristics (or lack thereof) of an RF carrier or pulsed RF signals in accordance with USSID 371 defined codes. The element is an enumerated type with values corresponding to specific modulation types.

### **5.6.1.26.22 EMITTER FUNCTION**

The *Emitter Function* [Emtr\_Func] element describes the emitter's function. The element is a string type field. Allowable values are contained in the <CMF\_Mnemonics/Emitter\_Function\_File>. The mnemonic fields shall be verified against the appropriate mnemonic file, which can be done via the CMF Parser. Mnemonic verification shall always be performed only upon creation of CMF.

### **5.6.1.26.23 EMISSION POLARIZATION, IBS**

The *Emission Polarization, IBS* [Emission\_Polarization] element describes the polarization of an Electronic Warfare Support (ES) emission. The field is an enumerated type with values corresponding with specific polarization type characteristics.

### **5.6.1.26.24 SIGNAL BANDWIDTH**

*Signal Bandwidth* [Signal\_Bandwidth] {defined in [Section 5.6.1.29.9.3](#)}

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**5.6.1.27 ENTITY PULSE DESCRIPTION ELEMENTS****5.6.1.27.1 The Entity Pulse Description Elements**

[Entity\_Pulse\_Desc\_Elmnts] identifies a group of elements which provide details describing the measurable characteristics of a radio frequency pulse or group of pulses transmitted by an emitter. The *Entity Pulse Description Elements* group shall contain at least the minimum elements required by the "Entity Pulse Description Elements Structure" and as otherwise required by producer rules.

**5.6.1.27.2 The Entity Pulse Description Elements**

[Entity\_Pulse\_Desc\_Elmnts] is a complex group element containing the following: *Pulse Width Duration, Pulse Width Switching Indicator, Pulse Width Switching High Value, Pulse Width Switching Low Value, Pulse Rate, PRI, PRI Group Indicator, PRF, PRF Group Indicator, Multiple PRIs, Multiple PRFs, PRI Range, PRF Range, Multiple PRI Ranges, Multiple PRF Ranges, PRI Type, PRI Stability, PRI Agility Characteristics, PRI Stagger Legs, Jitter Range, Hop Rate, Hop Spacing, Hop Dwell, Hop Spread Type, Chip Rate, ELINT Pulsed Modulation, Number Of PRI Positions, Total Number Of Pulses, Total Number Of Pulse Groups, Pulse Group Characteristics, PRI Profile, Measurement Reference Period, and Illumination Time.*

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Entity Pulse Description Elements Structure:

*Entity\_Pulse\_Desc\_Elmts (PW\_Dur? , PW\_Swch\_Indic? , PW\_Swch\_Hi? , PW\_Swch\_Lo? , Pulse\_Rate? , ((PRI , PRI\_Grp\_Indic?) | (PRF , PRF\_Grp\_Indic?))? , (Mult\_PRIs | Mult\_PRFs)? , (PRI\_Rng | PRF\_Rng)? , (Mult\_PRI\_Rngs | Mult\_PRF\_Rngs)? , PRI\_Typ? , PRI\_Stab? , PRI\_Agil\_Char? , PRI\_Stag\_Legs? , Jitter\_Rng? , Hop\_Rate? , Hop\_Spacing? , Hop\_Dwell? , Hop\_Spread\_Typ? , Chip\_Rate? , ELINT\_Pulse\_Modulat? , Num\_Of\_PRI\_Positions? , (Total\_Num\_Pulses , (Total\_Num\_Pulse\_Grps , Pulse\_Grp\_Char\*))?)? , PRI\_Profile? , Meas\_Ref\_Period? , Illum\_Time?)*

*Mult\_PRIs (PRI\*)*

*Mult\_PRFs (PRF\*)*

*PRI\_Rng (PRI , PRI)*

*PRF\_Rng (PRF , PRF)*

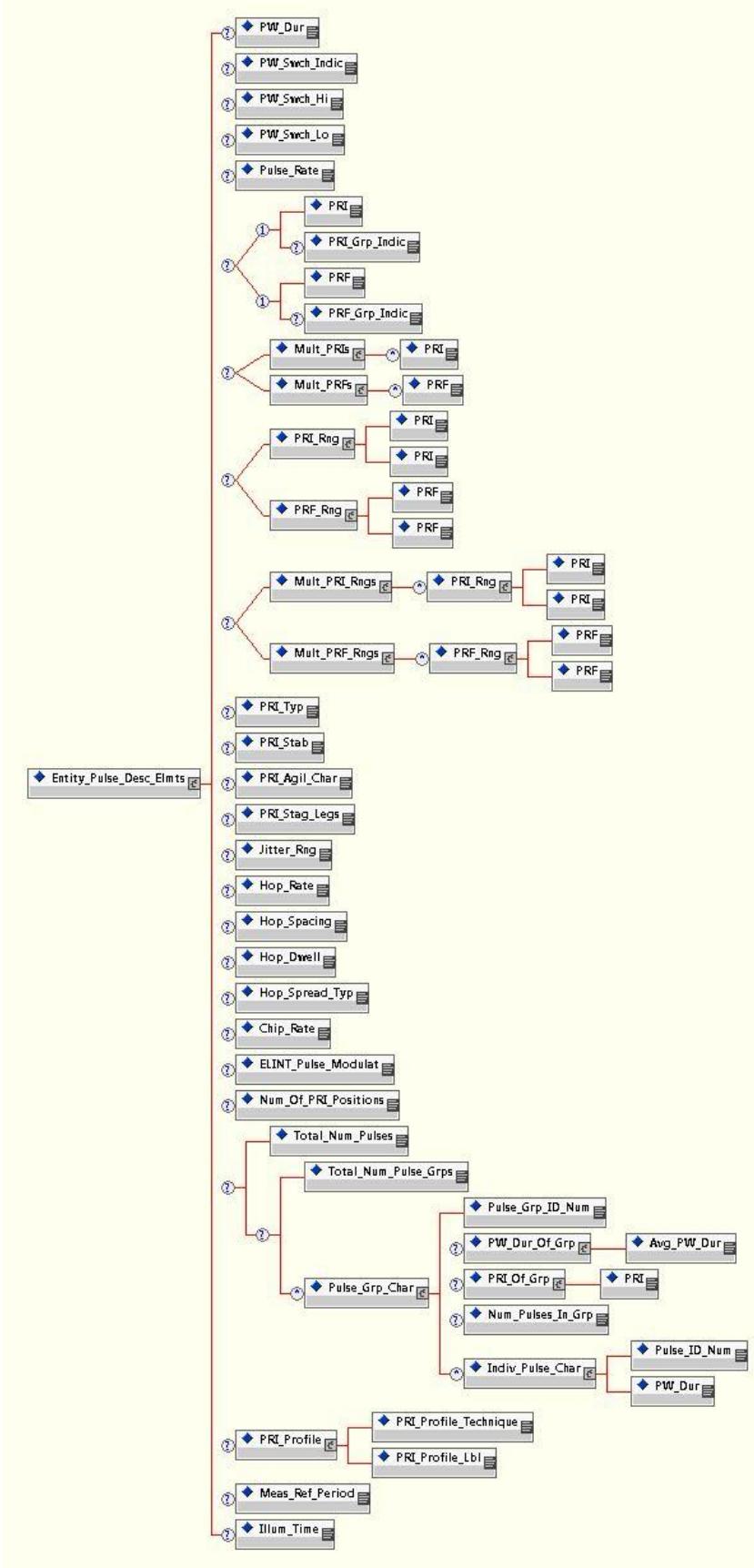
*Mult\_PRI\_Rngs (PRI\_Rng\*)*

*Mult\_PRF\_Rngs (PRF\_Rng\*)*

*PRI\_Profile (PRI\_Profile\_Technique , PRI\_Profile\_Lbl)*

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## 5.6.1.27.3 PULSE WIDTH REPORTING

### 5.6.1.27.3.1 PULSE WIDTH DURATION

The *Pulse Width Duration* [PW\_Dur] element identifies the time duration between the half power points of the envelope of the radio frequency pulse of an electronic emitter. The element is a float type.

### 5.6.1.27.3.2 PULSE WIDTH SWITCHING INDICATOR

The *Pulse Width Switching Indicator* [PW\_Swch\_Indic] element indicates the referenced emitter is exhibiting pulse width switching characteristics. The element is an enumerated type with values identifying the presence or absence of a pulse width switching characteristic exhibited by an emitter.

### 5.6.1.27.3.3 PULSE WIDTH SWITCHING HIGH VALUE

The *Pulse Width Switching High Value* [PW\_Swch\_Hi] element identifies the time duration of the widest measured pulse in a pulse width switching emitter. The element is a float type.

### 5.6.1.27.3.4 PULSE WIDTH SWITCHING LOW VALUE

The *Pulse Width Switching Low Value* [PW\_Swch\_Lo] element identifies the time duration of the narrowest measured pulse in a pulse width switching emitter. The element is a float type.

### 5.6.1.27.3.5 PULSE RATE, COMINT

The *Pulse Rate, COMINT* [Pulse\_Rate] element identifies the COMINT pulse repetition frequency at which pulses, or a group of pulses, are transmitted by an electronic emitter, expressed in pulses per second. The element is an integer type.

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5.6.1.27.4 PRI/PRF REPORTING

5.6.1.27.4.1 Pulse Repetition Interval (PRI)/Pulse Repetition Frequency (PRF) reporting on IBS can be accomplished in multiple ways. Single PRI or PRF values can be reported, multiple PRI or PRF values can be reported, PRI or PRF ranges can be reported, and multiple PRI or multiple PRF ranges can be reported.

5.6.1.27.4.2 Additionally, varied combinations can be supported to include, but not limited to,

- a. a PRI value and multiple PRI values can be reported,
- b. a single PRI value and multiple PRF values can be reported,
- c. a PRI value, multiple PRF values, PRI ranges, and multiple PRF ranges,
- d. An average PRI (PRF) value and multiple PRI (PRF) values,
- e. etc.

5.6.1.27.4.3 When reporting single *PRI* (or *PRF*), the *PRI* (or *PRF*) shall be placed in the *PRI* (or *PRF*) field.

5.6.1.27.4.4 When reporting multiple *PRI* (or *PRF*) ranges, the primary *PRI* (or *PRF*) range, as determined by the producer, shall be placed in the *PRI Range* [PRI\_Rng] (or *PRF Range* [PRF\_Rng]) field, and all remaining *PRI* (or *PRF*) ranges shall be placed in the *Multiple PRI Ranges* [Mult\_PRI\_Rngs] (or *Multiple PRF Ranges* [Mult\_PRF\_Rngs]) repeatable field.

5.6.1.27.4.4.1 When multiple *PRI* (or *PRF*) ranges are reported, the first *PRI* (or *PRF*) supplied in the CMF *PRI Range* [PRI\_Rng] (or *PRF Range* [PRF\_Rng]) shall be the lowest *PRI* (*PRF*) value of the range, and the second value shall be the highest value of the range.

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### 5.6.1.27.4.5 PRI

The *PRI* [PRI] element identifies the measured time interval between two transmitted pulses or pulse groups. The element is a float type, and its presence in the message is mutually exclusive with the presence of a single *PRF* [PRF].

### 5.6.1.27.4.6 PRI GROUP INDICATOR

The *PRI Group Indicator* [PRI\_Grp\_Indic] element indicates whether the *PRI* value represents an average or group measurement. The element is an enumerated type with values identifying the *PRI* type being reported. The AVG\_PRI\_ENTERED value shall be used when the *PRI* value represents an average between multiple stagger measurements. The GRP\_OF\_PRI\_ENTERED value shall be used when the *PRI* value represents the grouping (sum) of multiple stagger measurements. If the producing system does not populate this field, the *PRI* shall be interpreted as an average.

### 5.6.1.27.4.7 PRF (PULSE REPETITION FREQUENCY)

The *PRF* [PRF] element identifies the rate at which pulses or pulse groups are transmitted. The element is a float type, and its presence in the message is mutually exclusive with the presence of a single *PRI* [PRI].

### 5.6.1.27.4.8 PRF GROUP INDICATOR

The *PRF Group Indicator* [PRF\_Grp\_Indic] element indicates whether the *PRF* value represents an average or group measurement. The element is an enumerated type with values identifying the *PRF* type being reported. The AVG\_PRF\_ENTERED value shall be used when the *PRF* value represents an average between multiple stagger frequency measurements. The GRP\_OF\_PRF\_ENTERED value shall be used when the *PRF* value represents the grouping (sum) of multiple stagger frequency

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measurements. If the producing system does not populate this field, the *PRF* shall be interpreted as an average.

### **5.6.1.27.4.9 MULTIPLE PRIs**

The *Multiple PRIs* [Mult\_PRIs] element identifies multiple *PRI* values reported in order of occurrence (also known as "Firing Order"). The element is a repetitive type element of *PRI* [PRI] with maximum allowed iterations. The presence of this element in the message is mutually exclusive with the presence of *Multiple PRFs* [Mult\_PRFs].

### **5.6.1.27.4.10 MULTIPLE PRFs**

The *Multiple PRFs* [Mult\_PRFs] element identifies multiple *PRF* values reported in order of occurrence (also known as "Firing Order"). The element is a repetitive type element of *PRF* [PRF] with maximum allowed iterations. The presence of this element in the message is mutually exclusive with the presence of *Multiple PRIs* [Mult\_PRIs].

### **5.6.1.27.4.11 PRI RANGE**

5.6.1.27.4.11.1 The *PRI Range* [PRI\_Rng] element reports a range of *PRI*s, with the first *PRI* in the composite being the lowest and the second being the highest.

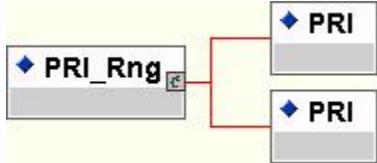
5.6.1.27.4.11.2 The element composites two occurrences of the *PRI* [PRI] element to provide the lower and upper values of a range of pulse repetition intervals. The form of the composite element appears as *PRI\_Rng* (PRI, PRI) in content model form for clarity. The first *PRI* value shall be the lower *PRI* and the second *PRI* value shall be the upper *PRI*. The presence of this element in the message is mutually exclusive with the presence of *PRF Range* [PRF\_Rng].

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## PRI Range Structure:

*PRI\_Rng (PRI , PRI)*



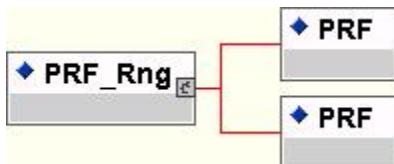
### 5.6.1.27.4.12 PRF RANGE

5.6.1.27.4.12.1 The *PRF Range* [PRF\_Rng] element reports a range of pulse repetition frequencies (PRFs), with the first PRF in the composite being the lowest and the second being the highest.

5.6.1.27.4.12.2 The element composites two occurrences of the *PRF* [PRF] element to provide the lower and upper values of a range of pulse repetition frequencies. The form of the composite element appears as *PRF\_Rng (PRF, PRF)* in content model form for clarity. The first PRF value shall be the lower PRF and the second PRF value shall be the upper PRF. The presence of this element in the message is mutually exclusive with the presence of *PRI Range* [PRI\_Rng].

## PRF Range Structure:

*PRF\_Rng (PRF , PRF)*



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### 5.6.1.27.4.13 MULTIPLE PRI RANGES

The *Multiple PRI Ranges* [Mult\_PRI\_Rngs] element contains multiple *PRI Range* [PRI\_Rng] values. The element is a repetitive type element of *PRI Range* [PRI\_Rng] with maximum allowed iterations. The presence of this element in the message is mutually exclusive with the presence of *Multiple PRF Ranges* [Mult\_PRF\_Rngs].

### 5.6.1.27.4.14 MULTIPLE PRF RANGES

The *Multiple PRF Ranges* [Mult\_PRF\_Rngs] element contains multiple *PRF Range* [PRF\_Rng] values. The element is a repetitive type element of *PRF Range* [PRF\_Rng] with maximum allowed iterations. The presence of this element in the message is mutually exclusive with the presence of *Multiple PRI Ranges* [Mult\_PRI\_Rngs].

### 5.6.1.27.5 PRI TYPE

The *PRI Type* [PRI\_Typ] element identifies the type of *PRI* being measured. The element is an enumerated type with values identifying specific *PRI* characteristics exhibited by an emitter.

### 5.6.1.27.6 PRI STABILITY

The *PRI Stability* [PRI\_Stab] element reports the stability of the *PRI* in terms of deviation from the center *PRI*. The element is a float type.

### 5.6.1.27.7 PRI AGILITY CHARACTERISTICS

The *PRI Agility Characteristics* [PRI\_Agil\_Char] element indicates the presence of agility on the referenced emitter. The element is an enumerated type with values identifying whether pulse or RF changes are being exhibited by an emitter.

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**5.6.1.27.8 PRI STAGGER LEGS**

The *PRI Stagger Legs* [*PRI\_Stag\_Legs*] element identifies the number of stagger levels (i.e. positions) occurring in a pulse sequence/cycle of the reported emitter. Specifically, the *PRI Stagger Legs* element shall be the number of levels detected, regardless if the individual staggers were measured in *PRI* or *PRF*, and even if some of the individual measured stagger values are not reported. This element may be used in conjunction with *Number of PRI Positions* [*Num\_Of\_PRI\_Positions*] to describe the stagger characteristics. For example, with a "5-element/12-position stagger", the value "5" would be reported in the *Number of PRI Positions* element and the value "12" would be reported in the *PRI Stagger Legs* [*PRI\_Stag\_Legs*] element. The element is an integer type.

**5.6.1.27.9 DISUSED****5.6.1.27.10 DISUSED****5.6.1.27.11 JITTER RANGE**

The *Jitter Range* [*Jitter\_Rng*] element identifies the jitter measurement reflected by a random variation of a range value centered at the *PRI*.

**5.6.1.27.12 HOP RATE**

The *Hop Rate* [*Hop\_Rate*] element indicates the hop rate of a frequency hop transmission.

**5.6.1.27.13 HOP SPACING ELEMENT**

The *Hop Spacing Element* [*Hop\_Spacing*] element indicates the spacing between hops of a frequency hop transmission.

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### 5.6.1.27.14 HOP DWELL

The *Hop Dwell* [Hop\_Dwell] element identifies the period of time a frequency hop transmission dwells on an individual radio frequency.

### 5.6.1.27.15 HOP SPREADER TYPE

The *Hop Spreader Type* [Hop\_Spread\_Typ] element provides a description of the characteristic parameters of frequency hopping/direct sequence spread spectrum type communications systems. The element is an enumerated type with values identifying the characteristic exhibited by the emitter.

### 5.6.1.27.16 CHIP RATE

The *Chip Rate* [Chip\_Rate] element identifies the chip rate of a direct sequence spread spectrum transmission. The element is a float type.

### 5.6.1.27.17 ELINT PULSED MODULATION

The *ELINT Pulsed Modulation* [ELINT\_Pulse\_Modulat] element reports the pulsed emitter modulation code.

### 5.6.1.27.18 NUMBER OF PRI POSITIONS

The *Number Of PRI Positions* [Num\_Of\_PRI\_Positions] element identifies the number of unique PRI values in a PRI sequence. Specifically, the *Number Of PRI Positions* element shall be the number of unique values detected, regardless if the individual staggers were measured in *PRI* or *PRF*, and even if some of the individual measured position values are not reported. This element may be used in conjunction with *PRI Stagger Legs* [PRI\_Stag\_Legs] to describe the stagger characteristics. For example, with a "5-element/12-position stagger", the value "5" would be reported in the *Number of PRI*

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*Positions* element and the value "12" would be reported in the *PRI Stagger Legs* element. The element is an integer type.

#### 5.6.1.27.19 TOTAL NUMBER OF PULSES

The *Total Number Of Pulses* [Total\_Num\_Pulses] element identifies the total number of pulses collected from an emitter during a collection opportunity (regardless of grouping). The element is an integer type.

#### 5.6.1.27.20 TOTAL NUMBER OF PULSE GROUPS

The *Total Number Of Pulse Groups* [Total\_Num\_Pulse\_Grps] element identifies the number of observed pulse groups during a collection opportunity. The element is an integer type.

#### 5.6.1.27.21 PULSE GROUP CHARACTERISTICS

The *Pulse Group Characteristics* [Pulse\_Grp\_Char] element provides elements describing the measurable characteristics of a radio frequency pulse in a group of pulses transmitted by an emitter. The element is a group type containing in content the following elements: *Pulse Group ID Number*, *Pulse Width Duration Of Group*, *PRI Of Group*, *Number Of Pulses In Group*, and *Individual Pulse Characteristics*.

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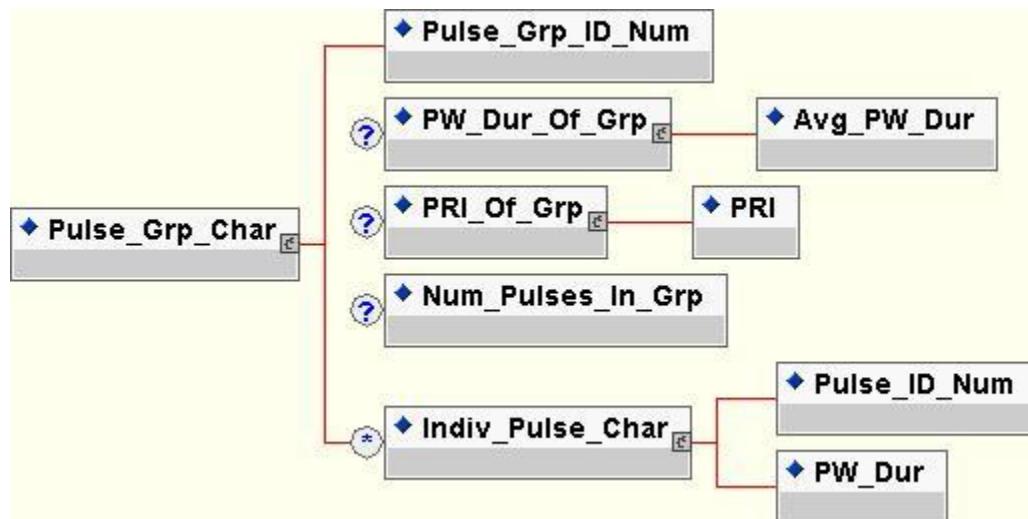
## Pulse Group Characteristics Structure:

*Pulse\_Grp\_Char (Pulse\_Grp\_ID\_Num , PW\_Dur\_Of\_Grp? , PRI.Of\_Grp? , Num\_Pulses\_In\_Grp? , Indiv\_Pulse\_Char\*)*

*PW\_Dur\_Of\_Grp (Avg\_PW\_Dur)*

*PRI.Of\_Grp (PRI)*

*Indiv\_Pulse\_Char (Pulse\_ID\_Num , PW\_Dur)*



### 5.6.1.27.21.1 PULSE GROUP ID NUMBER

The *Pulse Group ID Number* [Pulse\_Grp\_ID\_Num] element identifies a specific pulse group within a set of pulses.

### 5.6.1.27.21.2 PULSE WIDTH DURATION OF GROUP

The *Pulse Width Duration Of Group* [PW\_Dur\_Of\_Grp] element provides the average of the time durations between the half power points of the envelope of a group of radio frequency pulses of an electronic

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emitter. The element is a composite of the *Average Pulse Width Duration* [Avg\_PW\_Dur] element.

### 5.6.1.27.21.3 AVERAGE PULSE WIDTH DURATION

The *Average Pulse Width Duration* [Avg\_PW\_Dur] element provides the average of the time durations between the half power points of the envelope of two or more radio frequency pulses of an electronic emitter.

### 5.6.1.27.21.4 PRI OF GROUP

The *PRI Of Group* [PRI\_Of\_Grp] element identifies the average measured time interval between two or more pulse groups. The element is a composite of *PRI* [PRI].

### 5.6.1.27.21.5 NUMBER OF PULSES IN GROUP

The *Number Of Pulses In Group* [Num\_Pulses\_In\_Grp] element identifies the number of pulses within a specific pulse group.

### 5.6.1.27.21.6 INDIVIDUAL PULSE CHARACTERISTICS

The *Individual Pulse Characteristics* [Indiv\_Pulse\_Char] element provides elements describing the measurable characteristics of a radio frequency pulse transmitted by an emitter. The element is a group type containing in content the following: *Pulse ID Number* and *Pulse Width Duration*.

#### 5.6.1.27.21.6.1 PULSE ID NUMBER

The *Pulse ID Number* [Pulse\_ID\_Num] element identifies a single pulse within a pulse group.

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## 5.6.1.27.22 PRI PROFILE

The *PRI Profile* [PRI\_Profile] element provides a grouping of elements necessary to identify an entity-specific PRI profile. The element is a group type containing in content the following: *PRI Profile Technique* and *PRI Profile Label*.

### 5.6.1.27.22.1 PRI PROFILE TECHNIQUE

The *PRI Profile Technique* [PRI\_Profile\_Technique] element identifies the method applied to determine the PRI identification technique. The element is an enumerated type with values identifying the specific technique employed.

### 5.6.1.27.22.2 PRI PROFILE LABEL

The *PRI Profile Label* [PRI\_Profile\_Lbl] element provides identification of the PRI pattern that determines the specific emitter mode. The element is a string type with a maximum allowed length of eight characters.

### 5.6.1.27.23 MEASUREMENT REFERENCE PERIOD

The *Measurement Reference Period* [Meas\_Ref\_Period] element provides the basic period of the measurement instrument used to determine the reported time values to include PRI/PGRI.

### 5.6.1.27.24 ILLUMINATION TIME

The *Illumination Time* [Illum\_Time] element indicates the time required for the main antenna lobe of a signal to pass through the main lobe of the receiving antenna. Measurement is made at the half power points (0.707 of peak amplitude) of the beam envelope, which represents the integrated pulse-to-pulse response of the equipment to the signal.

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## 5.6.1.28 ENTITY SCAN DESCRIPTION ELEMENTS

### 5.6.1.28.1 The Entity Scan Description Elements

[Entity\_Scan\_Desc\_Elmnts] identifies a group of elements which describe the scan characteristics of a beam of electromagnetic energy. The *Entity Scan Description Elements* group shall contain at least the minimum elements required by the "Entity Scan Description Elements Structure" and as otherwise required by producer rules.

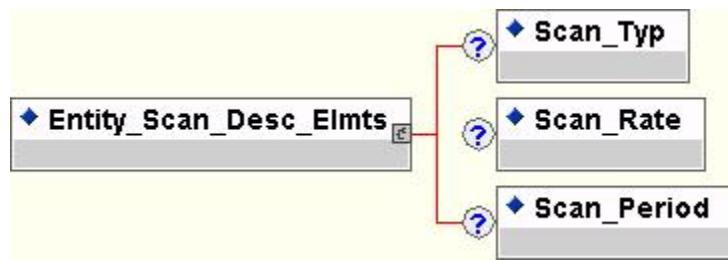
### 5.6.1.28.2 The Entity Scan Description Elements

[Entity\_Scan\_Desc\_Elmnts] is a group element containing the following optional elements: *Scan Type*, *Scan Rate*, and *Scan Period*.

5.6.1.28.3 Individual elements contained within the *Entity Scan Description Elements* [Entity\_Scan\_Desc\_Elmnts] shall be implemented in accordance with the DED. Each element is not described in detail herein.

#### Entity Scan Description Elements Structure:

*Entity\_Scan\_Desc\_Elmnts* (*Scan\_Typ?* , *Scan\_Rate?* , *Scan\_Period?*)



## 5.6.1.29 ENTITY AMPLIFICATION ELEMENTS

5.6.1.29.1 The *Entity Amplification Elements* [Entity\_Ampn\_Elmnts] identifies a group of elements which provide functional classification or identification nomenclature which categorizes an entity or an entity's emitter using one of various Department Of Defense (DoD) or other catalogs, lists, and/or databases. The *Entity Amplification*

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*Elements* group shall contain at least the minimum elements required by the "Entity Amplification Elements Structure" and as otherwise required by producer rules.

5.6.1.29.2 The *Entity Amplification Elements* [Entity\_Ampn\_Elmnts] is a group element containing the following elements: *Amplification Identification*, *Source File Identification*, *Support Text*, *Sensor Product File*, *Amplification Text*, *Amplification ID Declared Elements*, *Radar Characteristics*, *Algorithm Elements*, *Chip Sequence Elements*, *Signal Loss Time*, *EOB Association Confidence*, *Signal File Location*, *Validation Indicator*, *Signal Reference ID*, and *Signal Reference ID Temporary*.

## Entity Amplification Elements Structure:

*Entity\_Ampn\_Elmnts* (*Ampn\_ID\** , *Src\_File\_ID?* , *Support\_Txt?* ,  
*Sensr\_Product\_File\** , *Ampn\_Txt?* , *Ampn\_ID\_Declared\_Elmnts?* ,  
*Radar\_Char?* , *Alg\_Elmnts\** , *Chip\_Seq\_Elmnts?* , *Signal\_Loss\_Time?* ,  
*EOB\_Assoc\_Conf?* , *Signal\_File\_Loc?* , *Report\_Validation\_Indic?* ,  
(*Signal\_Ref\_ID* | *Signal\_Ref\_ID\_Temporary*)?)

*Sensr\_Product\_File* (*URL* , *Media\_Ref\_ID?*)

*Ampn\_Txt* (*Support\_Txt*)

*Ampn\_ID\_Declared\_Elmnts* (*Entity\_Name?* , *IMO\_Num?* , *MMSI\_Num?* ,  
*Internat\_Call\_Sign?*)

*Radar\_Char* (*Manufact\_Name?* , *Beam\_Width?* , *Signal\_Bandwidth?*)

*Alg\_Elmnts* (*Alg\_ID* , *Total\_Num\_Alg\_Values* , *Alg\_Values*)

*Alg\_ID* (*Alg\_Name* , *Version?*)

*Alg\_Values* ((*Alg\_Float\_Value\_Set* | *Alg\_Txt\_Value\_Set*)+)

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*Alg\_Float\_Value\_Set (Alg\_Float\_Value+)*

*Alg\_Txt\_Value\_Set (Alg\_Txt\_Value+)*

*Chip\_Seq\_Elmts (Num\_Chip\_Bits , Chip\_Seq)*

*Chip\_Seq (Seven\_Bit\_Map+)*

*Signal\_Loss\_Time (Clk\_Time)*

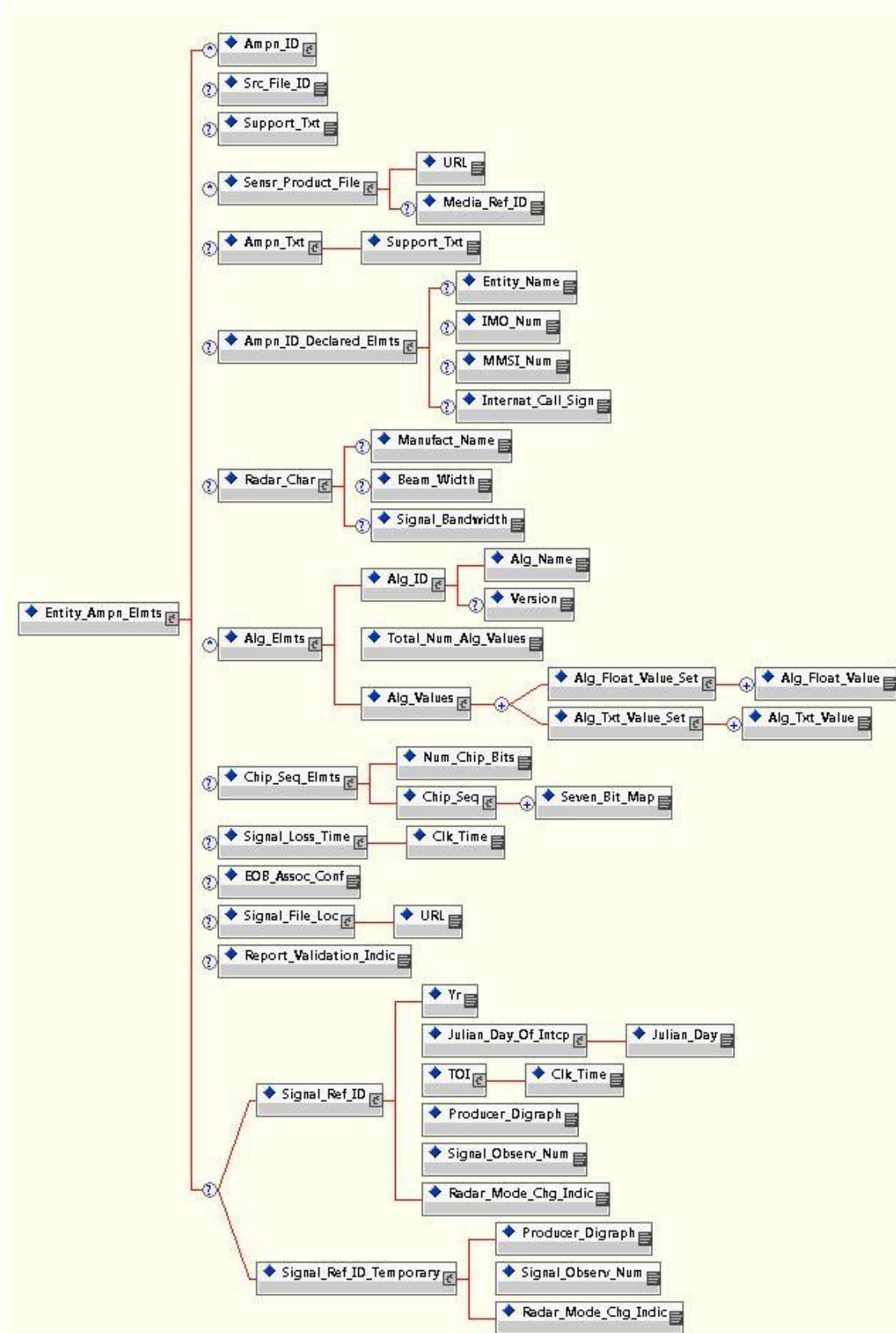
*Signal\_File\_Loc (URL)*

*Signal\_Ref\_ID (Yr , Julian\_Day\_Of\_Intcp , TOI , Producer\_Digraph ,  
Signal\_Observ\_Num , Radar\_Mode\_Chg\_Indic)*

*Signal\_Ref\_ID\_Temporary (Producer\_Digraph , Signal\_Observ\_Num ,  
Radar\_Mode\_Chg\_Indic)*

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5.6.1.29.3 AMPLIFICATION IDENTIFICATION5.6.1.29.3.1 The *Amplification Identification* [Ampn\_ID]

identifies an element which provides a functional classification or identification nomenclature which categorizes an entity or entity's emitter using one of various Department of Defense or other catalogs, lists, and/or databases. The *Amplification Identification* [Ampn\_ID] element also provides for an optional assessment of the identification confidence via qualitative or quantitative measures.

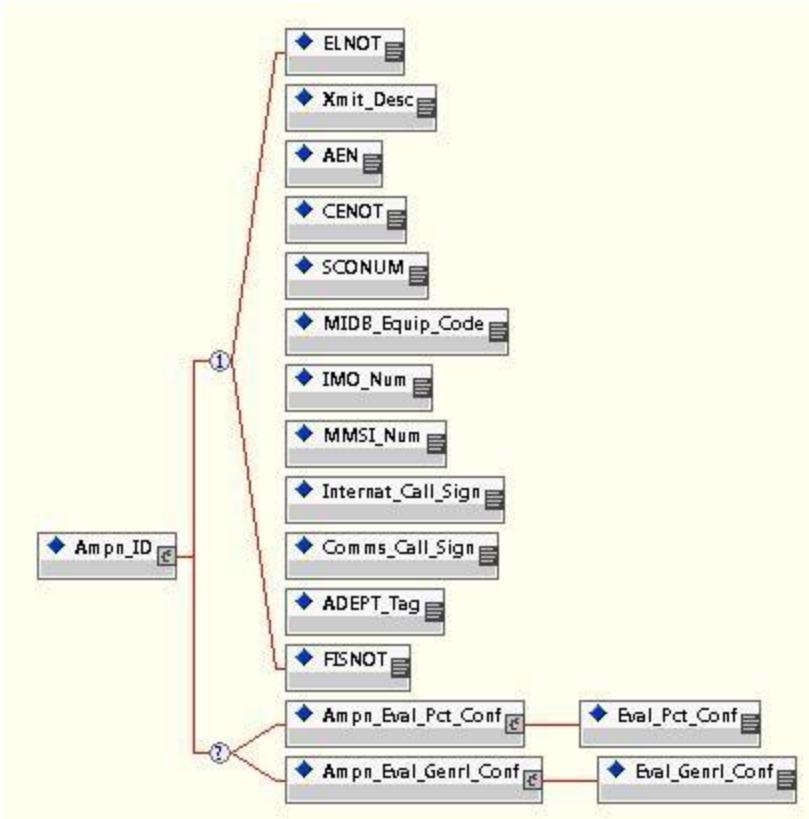
5.6.1.29.3.2 When updates are reported, all previously reported ones of that amplification type element are replaced. For example, if the old list had several, and the new list has only one, what remains is only the new one. All records of previously sent/received values are removed. Therefore, in order to maintain a complete list of current Amplification IDs of a particular type, all currently held IDs of the same type shall be sent, if any of that type is sent.

5.6.1.29.3.3 If a reset is transmitted for a specific type (e.g. anywhere within an ELINT Notation list), all Amplification IDs of that particular type shall be removed.

5.6.1.29.3.4 The fields contained in the Amplification Identification group include *ELINT Notation*, *Transmission Description*, *Arbitrary ELINT Notation*, *Communications Emitter Notation*, *Ship Control Number*, *MIDB Equipment Code*, *IMO Number*, *MMSI Number*, *International Call Sign*, *Communications Call Sign*, *ADEPT\_Tag*, *FIS Notation*, *Amplification Evaluation Percent Confidence*, and *Amplification Evaluation General Confidence*. The same concept described above for replacement of values and resets works for each of these fields.

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*Ampn\_ID ((ELNOT | Xmit\_Desc | AEN | CENOT | SCONUM | MIDB\_Equip\_Code | IMO\_Num | MMSI\_Num | Internat\_Call\_Sign | Comms\_Call\_Sign | ADEPT\_Tag | FISNOT), (Ampn\_Eval\_Pct\_Conf | Ampn\_Eval\_Genrl\_Conf)?)*

*Ampn\_Eval\_Pct\_Conf (Eval\_Pct\_Conf)*

*Ampn\_Eval\_Genrl\_Conf (Eval\_Genrl\_Conf)*

## 5.6.1.29.3.5 ELINT NOTATION

The *ELINT Notation* [ELNOT] provides the identifier of an entity as recorded in the Combined Emitter Database (CED). It is represented with a pattern field type.

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**5.6.1.29.3.6 TRANSMISSION DESCRIPTION**

5.6.1.29.3.6.1 The *Transmission Description* [Xmit\_Desc] indicates general or specific type of emitter and/or transmission. Allowable values for the *Transmission Description* mnemonic field are contained in the <CMF\_Mnemonics/Transmission\_Description\_File>. The mnemonic fields shall be verified against the appropriate mnemonic file, which can be done via the CMF Parser. Mnemonic verification shall always be performed only upon creation of CMF.

**5.6.1.29.3.7 ARBITRARY ELINT NOTATION**

The *Arbitrary ELINT Notation* [AEN] is a temporary identifier for entities not listed in the CED or MIDB equipment codes. It is represented with a pattern field type.

**5.6.1.29.3.8 COMMUNICATIONS EMITTER NOTATION**

The *Communications Emitter Notation* [CENOT] is the identifier of an entity as recorded in the Combined Emitter Database (CED). It is represented with a pattern field type.

**5.6.1.29.3.9 SHIP CONTROL NUMBER**

The *Ship Control Number* [SCONUM] is an alphanumeric identifier assigned to a contact by the Office of Naval Intelligence (ONI), listed in the Worldwide Standard Reference (WWSTAR) and DST-2050G-612 (Series). It is represented with a pattern field type.

**5.6.1.29.3.10 MIDB EQUIPMENT CODE**

The *MIDB Equipment Code* [MIDB\_Equip\_Code] is the equipment identification assigned by the National Level Repository for General Military Intelligence, also known as the Modernized Integrated Database (MIDB). It is represented with a pattern field type.

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### 5.6.1.29.3.11 IMO NUMBER

The *IMO Number* [IMO\_Num] element identifies the International Maritime Organization (IMO) number, which is a unique ship number assigned by International Maritime Organization (related to ships construction).

### 5.6.1.29.3.12 MMSI NUMBER

The *MMSI Number* [MMSI\_Num] element identifies the Maritime Mobile Service Identity (MMSI) number, which is a number assigned to a ship station, group ship station, coast station, or group coast station electronic identity by the International Telecommunication Union (ITU). It is represented with a numeric pattern field type and all digits are considered significant including leading zeroes.

### 5.6.1.29.3.13 INTERNATIONAL CALL SIGN

The *International Call Sign* [Internat\_Call\_Sign] element contains the international call sign assigned to an entity.

### 5.6.1.29.3.14 COMMUNICATIONS CALL SIGN

The *Communications Call Sign* [Comms\_Call\_Sign] element contains a combination of characters or pronounceable words which identifies a communications facility, a command, an authority, an activity, or a unit; used primarily for establishing and maintaining communications. With the exception of *International Call Sign* which is a separate element, this element supports reporting of call signs as defined by Joint Pub 1-02 such as collective call sign; indefinite call sign; net call sign; tactical call sign; visual call sign; and voice call sign. The element is a string type with a maximum length of 20 characters.

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**5.6.1.29.3.14A ADEPT TAG**

The *ADEPT Tag* [ADEPT\_Tag] element identifies the Algorithm Development of Enhanced Processing Techniques (ADEPT) Tag, which is a five character field that can be reported whenever a particular behavior (e.g., PRI) is observed in an intercept. The behavior is matched against the ADEPT Public Data Base, which is maintained by the Naval Research Laboratory. The element is a pattern type field element.

**5.6.1.29.3.14B FIS NOTATION**

The *FIS Notation* [FISNOT] element identifies the Foreign Instrumentation Signals (FIS) Notation which is an identifier of the entity as recorded in the Vintage Harvest Signals Data Base. The element is a string field type of between five and 10 characters.

**5.6.1.29.3.15 AMPLIFICATION EVALUATION PERCENT CONFIDENCE**

The *Amplification Evaluation Percent Confidence* [Ampn\_Eval\_Pct\_Conf] provides a numerical indication in the degree of confidence an operator/evaluator has in the corresponding *ELINT Notation*, *Transmission Description*, *Arbitrary ELINT Notation*, *Communications Emitter Notation*, *Ship Control Number*, *MIDB Equipment Code*, *IMO Number*, *MMSI Number*, *International Call Sign*, *Communications Call Sign*, *ADEPT Tag*, or *FIS Notation*. *Amplification Evaluation Percent Confidence* shall be utilized only in conjunction with a corresponding Amplification ID value (i.e. a single ELNOT, SCONUM, etc.) and shall be treated as being reset when the associated individual Amplification ID is reset (i.e. by a replacement list or a reset of the Amplification ID list of that type).

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### 5.6.1.29.3.16 AMPLIFICATION EVALUATION GENERAL CONFIDENCE

The *Amplification Evaluation General Confidence* [Ampn\_Eval\_Genrl\_Conf] provides a general indication in the degree of confidence an operator/evaluator has in the corresponding *ELINT Notation*, *Transmission Description*, *Arbitrary ELINT Notation*, *Communications Emitter Notation*, *Ship Control Number*, *Midb Equipment Code*, *IMO Number*, *MMSI Number*, *International Call Sign*, *Communications Call Sign*, *ADEPT Tag*, or *FIS Notation*. *Amplification Evaluation General Confidence* shall be utilized only in conjunction with a corresponding *Amplification ID* value (i.e. a single ELNOT, SCONUM, etc.) and shall be treated as being reset when the associated individual *Amplification ID* is reset (i.e. by a replacement list or a reset of the *Amplification ID* list of that type).

### 5.6.1.29.4 SOURCE FILE IDENTIFICATION

The *Source File Identification* [Src\_File\_ID] is the identification number entered in this field that identifies the file or Signal ID assigned by the originator of this message. Its primary purpose is for “query” reference and post-mission data reduction/analysis. It is represented by an integer value.

### 5.6.1.29.5 SUPPORT TEXT

The *Support Text* [Support\_Txt] field provides for reporting of between 1 to 40 characters of ancillary information on an entity expressed in natural language.

### 5.6.1.29.6 SENSOR PRODUCT FILE

The *Sensor Product File* [Sensr\_Product\_File] element identifies the web location of derived sensor products to include electro-optic, infrared, seismic, acoustic, and other geophysical disciplines. The

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element is a group type element with required element *Uniform Resource Locator (URL)* [URL] and optional *Media Reference ID* [Media\_Ref\_ID].

### **5.6.1.29.6.1 UNIFORM RESOURCE LOCATOR (URL)**

5.6.1.29.6.1.1 The *Uniform Resource Locator (URL)* [URL] element provides the source file name and/or internet protocol (IP) address and/or path that contains complete or relative path to a resource. The element is a string type with a maximum length of 128 characters.

5.6.1.29.6.1.2 Due to significant bandwidth concerns, producers reporting a URL element shall make use of a GIBSSC-identified URL shortening service. Additionally, where the URL is a Secret Internet Protocol Router Network (SIPRNet) path and the GIBSSC-identified URL shortening service is utilized, the URL shall be reported as a path relative to the service domain and page. Consumers receiving a URL which does not include the application protocol prefix (e.g., "http", "ftp", etc.) with the service domain and page shall prepend the appropriate prefix and SIPRNet shortening service domain and page before referencing the URL.

5.6.1.29.6.1.3 For example, assume a desired URL of "https://www.ibss01.nsa.smil.mil/Example IBS Documentation Page" is passed to a SIPRNet shortening service such as a notional one located at "www.shortenthis.smil.mil". The returned shortened URL might be "http://www.shortenthis.smil.mil/SclkDr" and the resulting relative URL to report would be "/SclkDr". If the shortening service had been other than SIPRNet, the URL to be reported would be an entire shortened string such as "http://www.shortenthis.ic.gov/SclkDr".

### **5.6.1.29.6.2 MEDIA REFERENCE ID**

The *Media Reference ID* [Media\_Ref\_ID] element contains the assigned reference identifier that corresponds with the sensor product URL. *Media Reference ID* shall be utilized only in conjunction with a

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corresponding sensor product *URL* value and shall be treated as being reset when the associated individual sensor product URL is reset (i.e., by a replacement *Sensor Product File* list or a reset of the associated sensor product *URL* element). The element is a string type with a maximum length of 5 characters.

## **5.6.1.29.7 AMPLIFICATION TEXT**

The *Amplification Text* [Ampn\_Txt] element contains 1 to 40, 7-bit ASCII characters of amplifying textual information. The element is a composite of *Support Text* [Support\_Txt].

## **5.6.1.29.8 AMPLIFICATION ID DECLARED ELEMENTS**

The *Amplification ID Declared Elements* [Ampn\_ID\_Declared\_Elmnts] element contains amplification elements as declared/professed by the reported entity itself. These declared values will enhance or contradict data identified by alternate means as reported in the primary instance of these elements (i.e., within *Entity ID Elements* for *Entity Name* and/or within *Entity Amplification ID Elements* for *IMO Number*, *MMSI Number* and *International Call Sign*). Any of the declared elements shall only be populated if the value is different from what is reported in the respective primary instance. If no contradictory values are known for one of the elements, then that respective data shall be reported only in the primary instance. The element is a group type with content as follows: *Entity Name* [Entity\_Name], *IMO Number* [IMO\_Num], *MMSI Number* [MMSI\_Num], and *International Call Sign* [Internat\_Call\_Sign].

## **5.6.1.29.9 RADAR CHARACTERISTICS**

The *Radar Characteristics* [Radar\_Char] element describes characteristics of a radar. It is a group type element consisting of optional elements *Manufacturer Name*, *Beam Width*, and *Signal Bandwidth*.

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**5.6.1.29.9.1 MANUFACTURER NAME**

The *Manufacturer Name* [Manufact\_Name] element provides the actual name of company/builder of reported equipment. The *Manufacturer Name* is a string field type.

**5.6.1.29.9.2 BEAM WIDTH**

The *Beam Width* [Beam\_Width] element indicates the 3 dB beam width of the main lobe of the emitter.

**5.6.1.29.9.3 SIGNAL BANDWIDTH**

The *Signal Bandwidth* [Signal\_Bandwidth] element provides the width of the frequency range of the reported signal.

**5.6.1.29.10 ALGORITHM ELEMENTS**

The *Algorithm Elements* [Alg\_Elmnts] element groups a set of elements resulting from the application of a specified algorithm. Although new *Algorithm Elements* may be transmitted, *Algorithm Elements* are not continuously updating and therefore are considered Transient Information Exchanges without a need to be reset. This applies to all children of *Algorithm Elements*, as well.

**5.6.1.29.10.1 ALGORITHM ID**

The *Algorithm ID* [Alg\_ID] element designates the algorithm name and version used to produce the related algorithm set. The element is a group type with a required *Algorithm Name* and an optional *Version*.

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## 5.6.1.29.10.1.1 ALGORITHM NAME

The *Algorithm Name* [Alg\_Name] element designates the algorithm used to produce related algorithm value set. The element is a string type with a maximum of 9 characters.

## 5.6.1.29.10.1.2 VERSION

The *Version* [Version] element designates the version of software, document, algorithm, etc. The element is a string type with a maximum of 9 characters.

## 5.6.1.29.10.2 TOTAL NUMBER OF ALGORITHM VALUES

The *Total Number Of Algorithm Values* [Total\_Num\_Alg\_Values] element identifies the total number of algorithm values used to represent the SEI signature of the entity. This indicates how many times the *Algorithm Values* field will be repeated.

## 5.6.1.29.10.3 ALGORITHM VALUES

The *Algorithm Values* [Alg\_Values] element provides text and/or float algorithm values. The element is a group type.

### 5.6.1.29.10.3.1 ALGORITHM FLOAT VALUE SET

The *Algorithm Float Value Set* [Alg\_Float\_Value\_Set] element contains one or more float values utilized by a collaborative algorithm.

#### 5.6.1.29.10.3.1.1 ALGORITHM FLOAT VALUE

An *Algorithm Float Value* [Alg\_Float\_Value] element identifies the algorithm float value. The element is a float type.

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### 5.6.1.29.10.3.2 ALGORITHM TEXT VALUE SET

The *Algorithm Text Value Set* [Alg\_Txt\_Value\_Set] element contains one or more text values utilized by a collaborative algorithm.

#### 5.6.1.29.10.3.2.1 ALGORITHM TEXT VALUE

An *Algorithm Text Value* [Alg\_Txt\_Value] element contains the algorithm text value. The element is a string type.

### 5.6.1.29.11 CHIP SEQUENCE ELEMENTS

The *Chip Sequence Elements* [Chip\_Seq\_Elmnts] element provides elements necessary to report a chip sequence. The element is a composite type consisting of *Number Of Chip Bits* and *Chip Sequence*. Although new *Chip Sequence Elements* may be transmitted, *Chip Sequence Elements* are not continuously updating and therefore are considered Transient Information Exchanges without a need to be reset. This applies to all children of *Chip Sequence Elements*, as well.

#### 5.6.1.29.11.1 NUMBER OF CHIP BITS

The *Number Of Chip Bits* [Num\_Chip\_Bits] element contains the number of chip bits in a chip sequence. The element is an integer type.

#### 5.6.1.29.11.2 CHIP SEQUENCE

The *Chip Sequence* [Chip\_Seq] element identifies a series of RF phase reversals. The element is a repetitive type with repetitions of the *Seven Bit Map* element.

#### 5.6.1.29.11.2.1 SEVEN BIT MAP

The *Seven Bit Map* [Seven\_Bit\_Map] element provides a series of seven bits useful for variety of bit-based data to be read from left-

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to right. It is handled as an integer by reading 7-bits as a decimal value.

### 5.6.1.29.12 SIGNAL LOSS TIME

The *Signal Loss Time* [Signal\_Loss\_Time] element identifies the time when signal energy was no longer detected. The element is a composite of *Clock Time*.

### 5.6.1.29.13 EOB ASSOCIATION CONFIDENCE

The *EOB Association Confidence* [EOB\_Assoc\_Conf] element indicates the degree of confidence the collection system has regarding the association of an emitter to a specific site. The element is an enumerated type with possible values identifying qualitative assessment of emitter/site association.

### 5.6.1.29.14 SIGNAL FILE LOCATION

The *Signal File Location* [Signal\_File\_Loc] element provides the path to a digitized pulse descriptor word (PDW) file containing specific emitter identification information. The element is a composite of the *URL* element.

### 5.6.1.29.15 REPORT VALIDATION INDICATOR

The *Report Validation Indicator* [Report\_Validation\_Indic] element indicates the validation of specified and/or correlated data. The element is an enumerated type with values associated with the status of the validation process.

### 5.6.1.29.16 SIGNAL REFERENCE ID

The *Signal Reference ID* [Signal\_Ref\_ID] element identifies a specific emitter collection. The element is a composite with content

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consisting of the following: *Year, Julian Day Of Intercept, TOI, Producer Designator Digraph, Signal Observation Number, and Radar Mode Change Indicator.* Although new *Signal Reference ID* composites may be transmitted, *Signal Reference ID* are not continuously updating and therefore are considered Transient Information Exchanges without a need to be reset. This applies to all composited children of *Signal Reference ID*, as well.

### 5.6.1.29.16.1 SIGNAL OBSERVATION NUMBER

The *Signal Observation Number* [*Signal\_Observ\_Num*] element contains a one-up number assigned by a specific producer to each unique collection per radio day. (Rollover occurs from the maximum value back to the minimum value).

### 5.6.1.29.16.2 RADAR MODE CHANGE INDICATOR

The *Radar Mode Change Indicator* [*Radar\_Mode\_Chg\_Indic*] element contains a one-up alpha character indicator for each unique radar mode (PRI/PW\_Dur) observed for a specific emitter during collection in a radio day.

### 5.6.1.29.17 SIGNAL REFERENCE ID TEMPORARY

The *Signal Reference ID Temporary* [*Signal\_Ref\_ID\_Temporary*] element identifies a temporary specific emitter collection. The element is a composite with content consisting of the following: *Producer Designator Digraph, Signal Observation Number, and Radar Mode Change Indicator.* Although new *Signal Reference ID Temporary* composites may be transmitted, *Signal Reference ID Temporary* are not continuously updating and therefore are considered Transient Information Exchanges without a need to be reset. This applies to all composited children of *Signal Reference ID Temporary* as well.

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## 5.6.1.30 ENTITY IR DESCRIPTION ELEMENTS

The *Entity IR Description Elements* [Entity\_IR\_Desc\_Elmnts] identifies a group element containing a single element, which provides details describing infrared (IR) contact reports. The *Entity IR Description Elements* group shall contain at least the minimum elements required by the "Entity IR Description Elements Structure" and as otherwise required by producer rules. The *Entity IR Description Elements* contains the element *IR Maximum Intensity*.

### Entity IR Description Elements Structure:

*Entity\_IR\_Desc\_Elmnts* (*IR\_Max\_Intensity?*)



## 5.6.1.30.1 IR MAXIMUM INTENSITY

The *IR Maximum Intensity* [IR\_Max\_Intensity] element identifies the maximum intensity of a detected burn as recorded by an infrared (IR) sensor. The measurement is dependent upon weather, atmospheric conditions, and sensor collection angle.

## 5.6.1.31 GPS ELEMENTS

The *GPS Elements* [GPS\_Elmnts] provides the Global Positioning System (GPS) time of day and the GPS source's datum used prior to conversion to the reported WGS-84. The *GPS Elements* group shall contain at least the minimum elements required by the "GPS Elements Structure" and as otherwise required by producer rules.

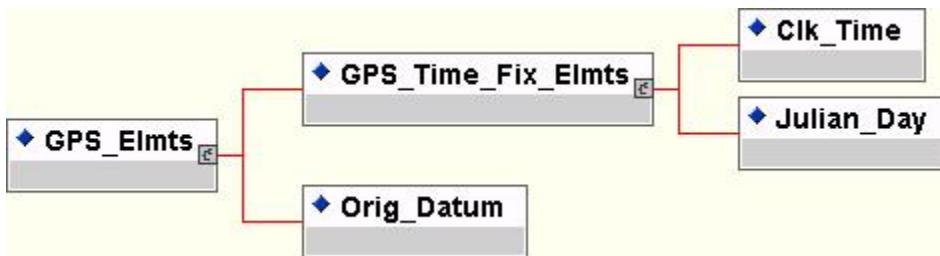
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## GPS Elements Structure:

*GPS\_Elmnts (GPS\_Time\_Fix\_Elmnts , Orig\_Datum)*

*GPS\_Time\_Fix\_Elmnts (Clk\_Time , Julian\_Day)*



### 5.6.1.31.1 GPS TIME OF FIX ELEMENTS

The *GPS Time Of Fix Elements* [GPS\_Time\_Fix\_Elmnts] provides a time of day based on a GPS source. It is a composite of *Clock Time* [Clk\_Time] and *Julian Day* [Julian\_Day].

### 5.6.1.31.2 ORIGINATOR DATUM

The *Originator Datum* [Orig\_Datum] identifies the GPS source's data geographic reference model used by the originator prior to conversion to WGS-84.

### 5.6.1.32 MISSION EFFECT ELEMENTS

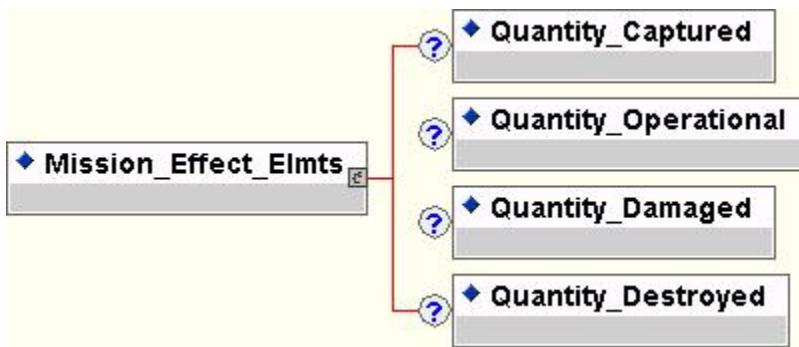
The *Mission Effect Elements* [Mission\_Effect\_Elmnts] describes the operational status of personnel/equipment concluding a mission. The *Mission Effect Elements* group shall contain at least the minimum elements required by the "Mission Effect Elements Structure" and as otherwise required by producer rules.

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## Mission Effect Elements Structure:

*Mission\_Effect\_Elmnts (Quantity\_Captured? , Quantity\_Operational? ,  
Quantity\_Damaged? , Quantity\_Destroyed? )*



### 5.6.1.32.1 QUANTITY OF EQUIPMENT/WEAPONS CAPTURED

The *Quantity Of Equipment/Weapons Captured* [Quantity\_Captured] identifies the total number of equipment and/or weapons being reported as captured for the reported entity at the conclusion of a mission.

### 5.6.1.32.2 QUANTITY OPERATIONAL, IBS

The *Quantity Operational, IBS* [Quantity\_Operational] identifies the total number of equipment and/or weapons being reported as operational for the reported entity at the conclusion of a mission.

### 5.6.1.32.3 QUANTITY DAMAGED

The *Quantity Damaged* [Quantity\_Damaged] identifies the total number of equipment and/or weapons being reported as damaged for the reported entity at the conclusion of a mission.

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**5.6.1.32.4 QUANTITY DESTROYED**

The *Quantity Destroyed* [Quantity\_Destroyed] identifies the total number of equipment and/or weapons being reported as destroyed for the reported entity at the conclusion of a mission.

**5.6.1.33 RADIO ELEMENTS**

The *Radio Elements* [Radio\_Elmnts] identifies a group of elements which provide details describing a radio. The *Radio Elements* group shall contain at least the minimum elements required by the "Radio Elements Structure" and as otherwise required by producer rules. The *Radio Elements* [Radio\_Elmnts] is a group element containing the following optional elements: *Radio Type*, *IBS*; *Radio ID*; *Radio Mode*; *Radio Message Number*; *Radio Indicators*; *UHF Base Station ID*; and, *Keying Material Information*.

**Radio Elements Structure:**

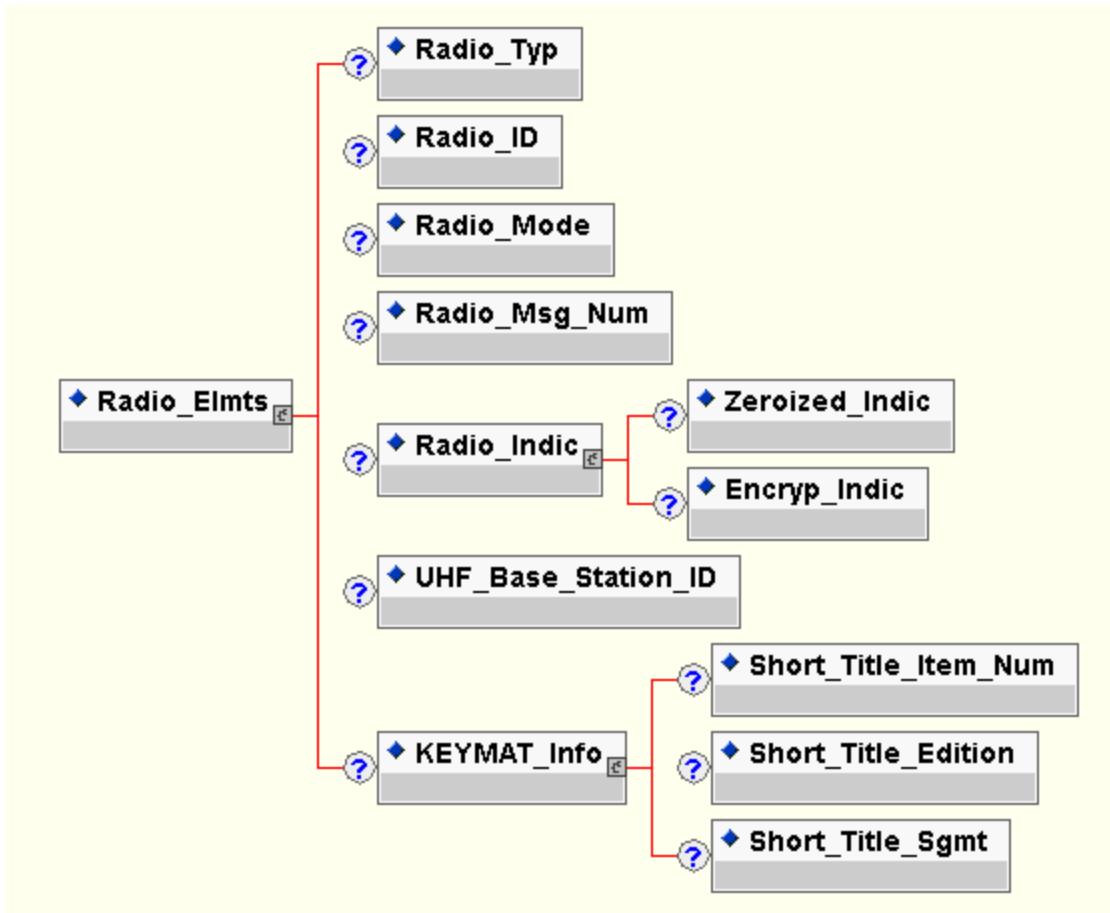
*Radio\_Elmnts* (*Radio\_Typ?* , *Radio\_ID?* , *Radio\_Mode?* , *Radio\_Msg\_Num?* ,  
*Radio\_Indic?* , *UHF\_Base\_Station\_ID?* , *KEYMAT\_Info?*)

*Radio\_Indic* (*Zeroized\_Indic?* , *Encryp\_Indic?*)

*KEYMAT\_Info* (*Short\_Title\_Item\_Num?* , *Short\_Title\_Edition?* ,  
*Short\_Title\_Sgmt?*)

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## 5.6.1.33.1 RADIO TYPE, IBS

The *Radio Type, IBS* [*Radio\_Typ*] specifies general radio capabilities by identifying the radio nomenclature and/or name.

## 5.6.1.33.2 RADIO ID

The *Radio ID* [*Radio\_ID*] identifies the radio transceiver by serial number.

## 5.6.1.33.3 RADIO MODE

The *Radio Mode* [*Radio\_Mode*] describes the operational mode of a radio.

## 5.6.1.33.4 RADIO MESSAGE NUMBER

The *Radio Message Number* [*Radio\_Msg\_Num*] is a one-up number assigned and used by the transmitting station to identify the current radio message.

## 5.6.1.33.5 RADIO INDICATORS

The *Radio Indicators* [*Radio\_Indic*] identifies the specific operating conditions of the reported transmitting radio. It has two optional children: *Zeroized Indicator* [*Zeroized\_Indic*] and *Encryption Indicator* [*Encryp\_Indic*].

### 5.6.1.33.5.1 ZEROIZED INDICATOR

The *Zeroized Indicator* [*Zeroized\_Indic*] indicates whether the referenced combat radio is operating on a non-zeroized (normal) or zeroized encryption key.

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**5.6.1.33.5.2 ENCRYPTION INDICATOR**

The *Encryption Indicator* [Encryp\_Indic] indicates whether the radio is operating on the current or previous encryption key.

**5.6.1.33.6 UHF BASE STATION ID**

The *UHF Base Station ID* [UHF\_Base\_Station\_ID] uniquely identifies the radio's associated UHF base station.

**5.6.1.33.7 KEYING MATERIAL INFORMATION**

The *Keying Material Information* [KEYMAT\_Info] provides details regarding Communications Security (COMSEC) keying materials.

**5.6.1.33.7.1 SHORT TITLE ITEM NUMBER**

The optional *Short Title Item Number* [Short\_Title\_Item\_Num] is a string type element that uniquely identifies the COMSEC keying material that was utilized to decrypt the data passed by a device.

**5.6.1.33.7.2 SHORT TITLE EDITION**

The optional *Short Title Edition* [Short\_Title\_Edition] is a string type element that identifies an edition of COMSEC keying material in a series of printings of the same short title.

**5.6.1.33.7.3 SHORT TITLE SEGMENT**

The optional *Short Title Segment* [Short\_Title\_Sgmt] is an integer type element that identifies an increment within a specified edition of the keying material short title.

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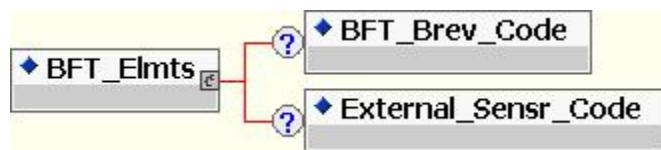
## 5.6.1.34 BFT ELEMENTS

The *BFT Elements* [BFT\_Elmnts] identifies a group of Blue Force Tracking (BFT), also known as Friendly Forces Tracking (FFT), elements. The *BFT Elements* group shall contain at least the minimum elements required by the "BFT Elements Structure" and as otherwise required by producer rules. The *BFT Elements* [BFT\_Elmnts] is a group element consisting of optional elements *BFT Brevity Code* [BFT\_Brev\_Code] and *External Sensor Code* [External\_Sensr\_Code]. The *BFT Brevity Code* is represented as an integer value.

5.6.1.34.1 Note that producers desiring to report BFT/FFT theater/mission-defined values, other than a brevity code or external sensor code, received from Collection of Broadcasts from Remote Assets (COBRA) waveform radios (and not reporting in a PR/CSAR message mode) shall perform a look-up of the mission/theater-assigned textual string and report it in the *Support Text* [Support\_Txt] element under the *Entity Amplification Elements* [Entity\_Ampn\_Elmnts].

### BFT Elements Structure:

*BFT\_Elmnts* (*BFT\_Brev\_Code?* , *External\_Sensr\_Code?*)



## 5.6.1.34.2 BFT BREVITY CODE

The *BFT Brevity Code* [BFT\_Brev\_Code] identifies a status/canned message, defined on a case by case (mission) basis. Often, the definition of the brevity codes may not be known by anyone other than specific users.

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## 5.6.1.34.3 EXTERNAL SENSOR CODE

The *External Sensor Code* [*External\_Sensr\_Code*] contains coded data from a sensor external to IBS.

## 5.6.1.35 PR/CSAR ELEMENTS

5.6.1.35.1 The *PR/CSAR Elements* [*PR\_CSAR\_Elmnts*] identifies a group of personnel recovery/combat search and rescue (PR/CSAR) elements. The *PR/CSAR Elements* group shall contain at least the minimum elements required by the "PR/CSAR Elements Structure" and as otherwise required by producer rules. The *PR/CSAR Elements* [*PR\_CSAR\_Elmnts*] is a group element containing optional elements *PR/CSAR Group Identifier*, *PR/CSAR Indicators*, *PR/CSAR Canned Message*, *PR/CSAR Query Response*, *PR/CSAR Text*, *Text Packet Number*, *Text Total Packets*, *Isolated Personnel Relationship*, *Isolated Personnel Physical Status*, *Isolated Personnel Authentication Status*, *Isolated Personnel Communications Capability*, and *CSEL Hand Held Radio Message Type*.

## 5.6.1.35.2 DISUSED

### PR/CSAR Elements Structure:

*PR\_CSAR\_Elmnts* (*PR\_CSAR\_Grp\_ID?* , *PR\_CSAR\_Indic?* , *PR\_CSAR\_Canned\_Msg?* , *PR\_CSAR\_Qry\_Resp?* , *PR\_CSAR\_Txt?* , (*Txt\_Pkt\_Num* , *Txt\_Total\_Pkts*)? , *Isol\_Pers\_Relatshp?* , *Isol\_Pers\_Physical\_Stat?* , *Isol\_Pers\_Authent\_Stat?* , *Isol\_Pers\_Comms\_Capab\** , *CSEL\_HHR\_Msg\_Typ?*)

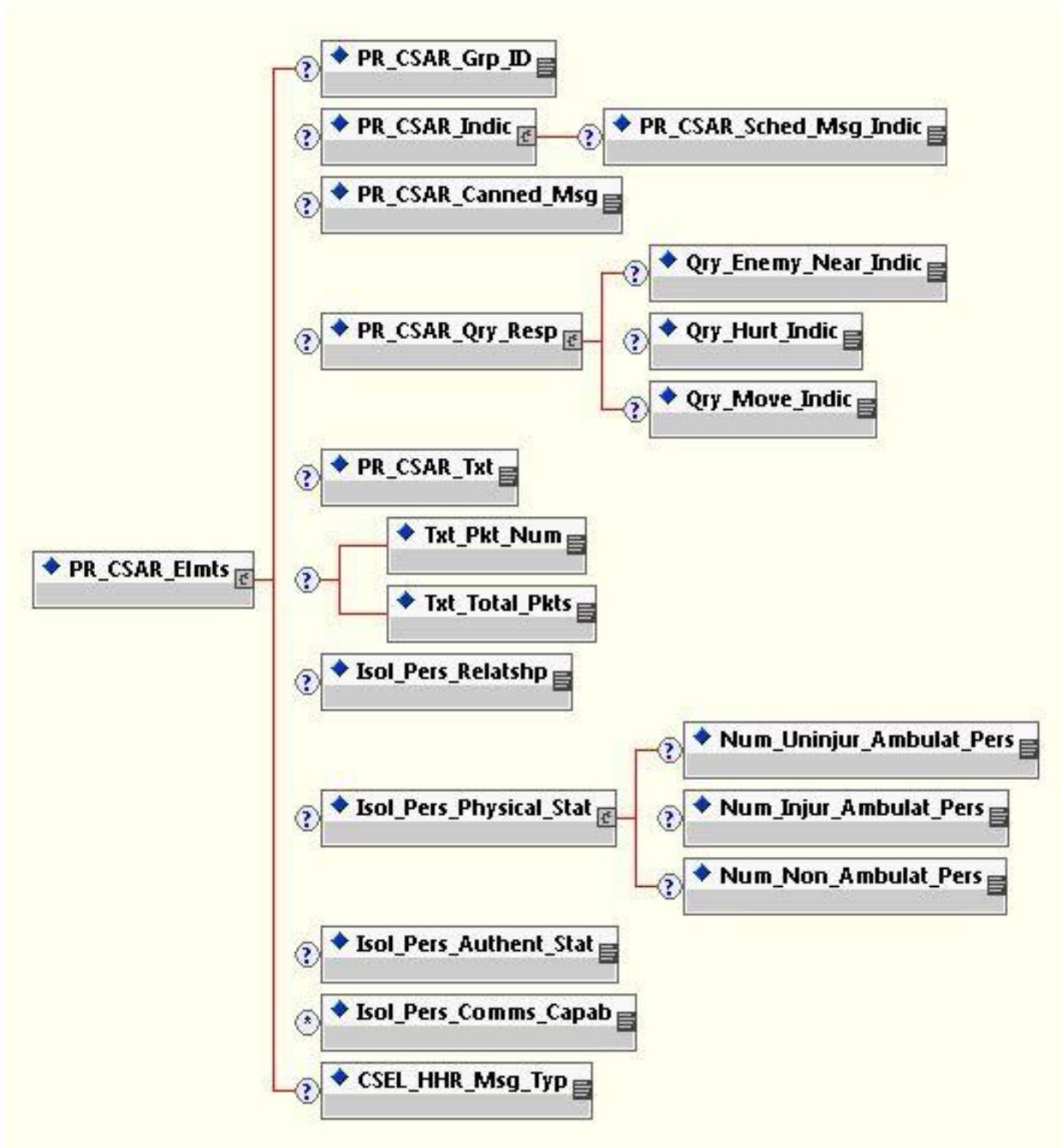
*PR\_CSAR\_Indic* (*PR\_CSAR\_Sched\_Msg\_Indic?* )

*PR\_CSAR\_Qry\_Resp* (*Qry\_Enemy\_Near\_Indic?* , *Qry\_Hurt\_Indic?* , *Qry\_Move\_Indic?*)

*Isol\_Pers\_Physical\_Stat* (*Num\_Uninjur\_Ambulat\_Pers?* , *Num\_Injur\_Ambulat\_Pers?* , *Num\_Non\_Ambulat\_Pers?*)

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## 5.6.1.35.3 PR/CSAR GROUP IDENTIFIER

The *PR/CSAR Group Identifier* [PR\_CSAR\_Grp\_ID] represents a subordinate element of the organization responsible for the asset (radio) and is used by a ground station for routing.

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## 5.6.1.35.4 PR/CSAR INDICATORS

The *PR/CSAR Indicators* [PR\_CSAR\_Indic] contains a group of optional indicators that identify the specific operating conditions of the PR/CSAR transmitter.

### 5.6.1.35.4.1 PR/CSAR SCHEDULED MESSAGE INDICATOR

The *PR/CSAR Scheduled Message Indicator* [PR\_CSAR\_Sched\_Msg\_Indic] indicates whether a message was transmitted on a scheduled or unscheduled (immediate) basis.

### 5.6.1.35.5 PR/CSAR CANNED MESSAGE

The *PR/CSAR Canned Message* [PR\_CSAR\_Canned\_Msg] is a preformatted (canned) survivor message that corresponds to a value generated from a PR/CSAR radio.

### 5.6.1.35.6 PR/CSAR QUERY RESPONSE

The *PR/CSAR Query Response* [PR\_CSAR\_Qry\_Resp] provides responses to pre-programmed queries. The *PR/CSAR Query Response* is a packed element containing a set of yes/no responses to established queries.

### 5.6.1.35.7 PR/CSAR TEXT

5.6.1.35.7.1 The *PR/CSAR Text* [PR\_CSAR\_Txt] element provides critical information from the subject (survivor) of a personnel recovery/combat search and rescue event.

5.6.1.35.7.2 PR/CSAR text shall be sent as a single string in a single report. Fragmentation of the text across reports is not permitted.

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5.6.1.35.7.3 *PR/CSAR Text* packets shall not be combined at the translators during migration from legacy IBS formats to CMF, since it would both require buffering until all the packets were received and it also complicates the re-separation on output back to any legacies.

### **5.6.1.35.8 TEXT PACKET NUMBER**

The *Text Packet Number* [Txt\_Pkt\_Num] indicates the reported text packet number within a sequence of related text packets.

### **5.6.1.35.9 TEXT TOTAL PACKETS**

The *Text Total Packets* [Txt\_Total\_pkts] indicates the total number of text packets comprising a sequence of related text packets.

### **5.6.1.35.10 ISOLATED PERSONNEL RELATIONSHIP**

The *Isolated Personnel Relationship* [Isol\_Pers\_Relatshp] element expresses the relationship of reported isolated personnel or evacuees to friendly personnel performing a rescue. It is an enumerated type with possible values indicating if the relationship is friendly, neutral, hostile, or if multiple relationships are present.

### **5.6.1.35.11 ISOLATED PERSONNEL PHYSICAL STATUS**

5.6.1.35.11.1 The *Isolated Personnel Physical Status* [Isol\_Pers\_Physical\_Stat] element provides an optional group of elements which describes the mobility and injury state of isolated personnel or evacuees. It includes the optional elements *Number of Uninjured Ambulatory Personnel*, *Number of Injured Ambulatory Personnel*, and *Number of Non-Ambulatory Personnel*.

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### 5.6.1.35.11.1.1 NUMBER OF UNINJURED AMBULATORY PERSONNEL

The *Number of Uninjured Ambulatory Personnel*

[Num\_Uninjur\_Ambulat\_Pers] element provides an integer value which specifies the number of reported personnel whom have not been injured and are able to walk.

### 5.6.1.35.11.1.2 NUMBER OF INJURED AMBULATORY PERSONNEL

The *Number of Injured Ambulatory Personnel* [Num\_Injur\_Ambulat\_Pers] element provides an integer value which specifies the number of reported personnel whom may be injured but are able to walk.

### 5.6.1.35.11.1.3 NUMBER OF NON-AMBULATORY PERSONNEL

The *Number of Non-Ambulatory Personnel* [Num\_Non\_Ambulat\_Pers] element provides an integer value which specifies the number of reported personnel whom may be injured and are not able to walk.

### 5.6.1.35.12 ISOLATED PERSONNEL AUTHENTICATION STATUS

The *Isolated Personnel Authentication Status*

[Isol\_Pers\_Authent\_Stat] element indicates whether reported isolated personnel have authenticated their identity. The field is an enumerated type with possible values to indicate whether the isolated personnel have properly authenticated or if they have done so under duress.

### 5.6.1.35.13 ISOLATED PERSONNEL COMMUNICATIONS CAPABILITY

The *Isolated Personnel Communications Capability*

[Isol\_Pers\_Comms\_Capab] element identifies the type of communications or signaling equipment available to reported isolated personnel or evacuees. This element does not necessarily indicate which communications capability is actually being used. This optional

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element is an enumerated type with possible values representing the set of likely types of communications/signaling equipment that might be in the possession of the isolated personnel. The element may be repeated to indicate more than one capability, but shall not be repeated more than the total number of available defined values.

### 5.6.1.35.14 CSEL HAND HELD RADIO MESSAGE TYPE

The *CSEL Hand Held Radio Message Type* [CSEL\_HHR\_Msg\_Typ] element is an enumerated type with possible values which indicate the specific message type originally transmitted by a CSEL Hand Held Radio.

### 5.6.1.36 SENSOR ELEMENTS

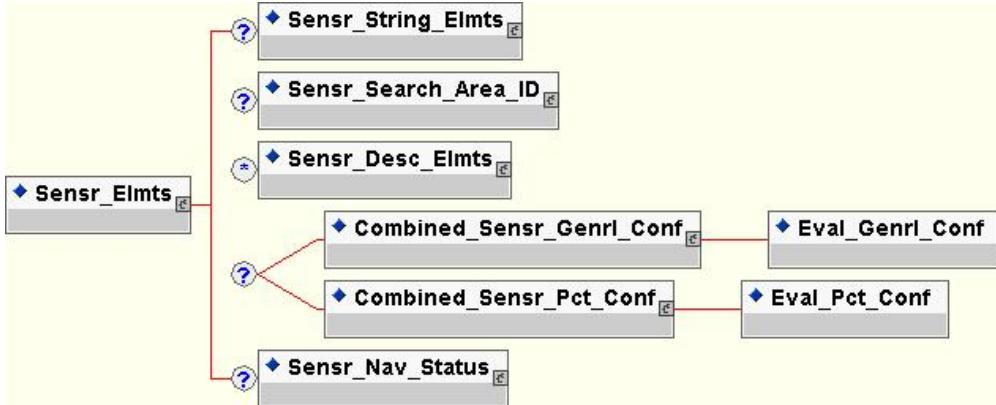
The *Sensor Elements* [Sensr\_Elmnts] provides elements which identify the characteristics of one or more sensors from which the reported entity information was obtained. The *Sensor Elements* group shall contain at least the minimum elements required by the "Sensor Elements Structure" and as otherwise required by producer rules. The element is a group type with content as follows: *Sensor String Elements*, *Sensor Search Area Identifier*, *Sensor Description Elements*, *Combined Sensor General Confidence*, *Combined Sensor Percent Confidence*, and *Sensor Navigation Status*.

#### Sensor Elements Structure:

```
Sensr_Elmnts (Sensr_String_Elmnts? , Sensr_Search_Area_ID? ,  
Sensr_Desc_Elmnts* , (Combined_Sensr_Genrl_Conf |  
Combined_Sensr_Pct_Conf)? , Sensr_Nav_Status?)
```

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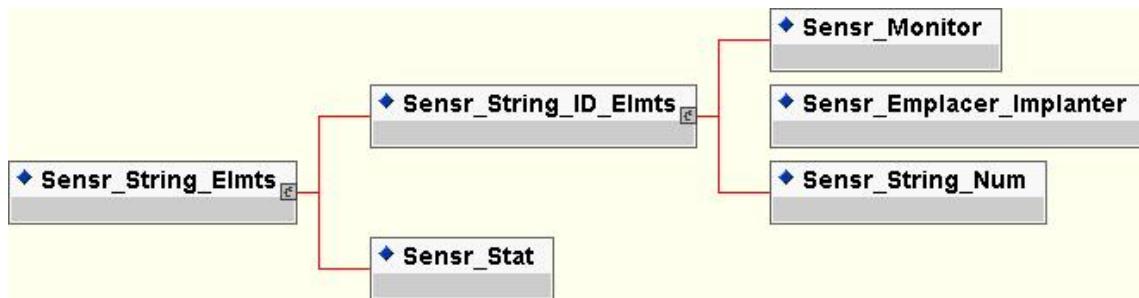
## 5.6.1.36.1 SENSOR STRING ELEMENTS

The *Sensor String Elements* [Sensr\_String\_Elmnts] element identifies the sensor string identifier and status of a specific ground sensor. The element is a composite of *Sensor String ID Elements* and *Sensor Status*. Although new *Sensor String Elements* composites may be transmitted, *Sensor String Elements* are not continuously updating and therefore are considered Transient Information Exchanges without a need to be reset. This applies to all composited children of *Sensor String Elements* as well.

### Sensor String Elements Structure:

*Sensr\_String\_Elmnts* (*Sensr\_String\_ID\_Elmnts* , *Sensr\_Stat*)

*Sensr\_String\_ID\_Elmnts* (*Sensr\_Monitor* , *Sensr\_Emplacer\_Implanter* ,  
*Sensr\_String\_Num*)



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## 5.6.1.36.1.1 SENSOR STRING ID ELEMENTS

The *Sensor String ID Elements* [*Sensr\_String\_ID\_Elmnts*] element identifies the monitor, emplacer/implanter, and string number of a specific ground sensor string. The element is a composite of the following: *Sensor Monitor*, *Sensor Emplacer-Implanter*, and *Sensor String Number*.

### 5.6.1.36.1.1.1 SENSOR MONITOR

The *Sensor Monitor* [*Sensr\_Monitor*] element identifies the sensor monitoring service, agency, or organization. The element is an enumerated type with values identifying the monitoring activity.

### 5.6.1.36.1.1.2 SENSOR EMPLACER-IMPLANTER

The *Sensor Emplacer-Implanter* [*Sensr\_Emplacer\_Implanter*] element identifies the service, agency, or organization which performed the sensor emplacement or implantation. The element is an enumerated type with values identifying the responsible activity.

### 5.6.1.36.1.1.3 SENSOR STRING NUMBER

The *Sensor String Number* [*Sensr\_String\_Num*] element provides identification for a string of one or more sensors.

### 5.6.1.36.1.2 SENSOR STATUS

The *Sensor Status* [*Sensr\_Stat*] element identifies the status of the sensor string. The element is an enumerated type with values corresponding to the current state.

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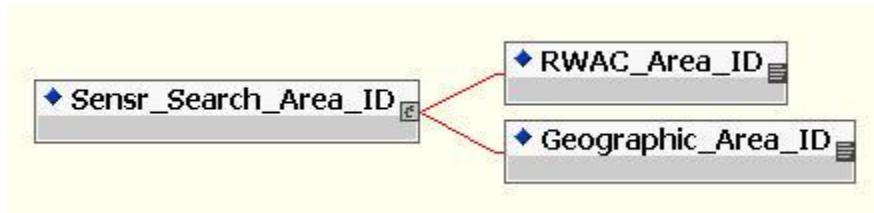
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## 5.6.1.36.2 SENSOR SEARCH AREA IDENTIFIER

The optional *Sensor Search Area Identifier* [Sensr\_Search\_Area\_ID] element uniquely indicates a geographic search area assigned to the sensor(s) used for data collection on the entity. The *Sensor Search Area Identifier* group type element consists of the following child elements: *Rapid Worldwide Area Collection Identifier*, and *Geographic Area Identifier*.

### Sensor Search Area Identifier Structure:

*Sensr\_Search\_Area\_ID* (*RWAC\_Area\_ID* | *Geographic\_Area\_ID*)



## 5.6.1.36.2.1 RAPID WORLDWIDE AREA COLLECTION IDENTIFIER

The *Rapid Worldwide Area Collection Identifier* [*RWAC\_Area\_ID*] element is a unique reference identifier assigned to a Rapid Worldwide Area Collection (RWAC) geographic area, as defined in the National System for Geospatial Intelligence (NSG) Directive 2-1, Exploitation and Reporting Structure (EARS-2): Electronic Reporting. The element is a string type with a maximum length of 10 characters.

## 5.6.1.36.2.2 GEOGRAPHIC AREA IDENTIFIER

The *Geographic Area Identifier* [*Geographic\_Area\_ID*] is a unique reference which identifies a Broad Area Search (BAS) geographic area, a Directed Search Area (DSA) geographic area, or a Lines of Communication (LOC) geographic area, as defined in the National System

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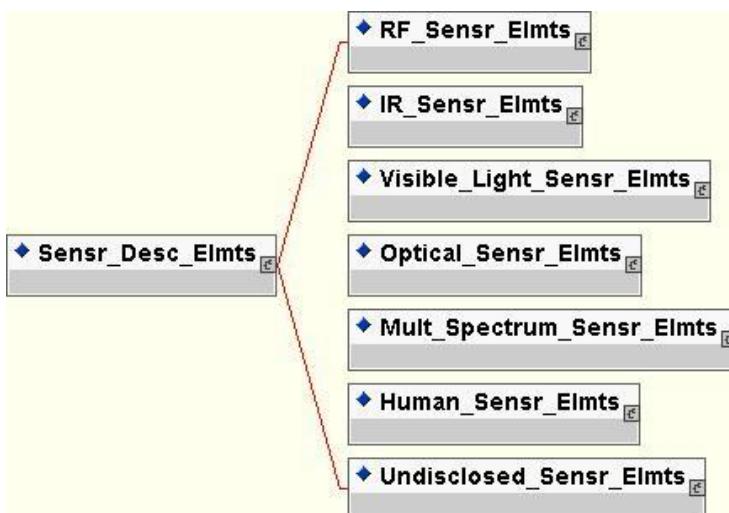
for Geospatial Intelligence (NSG) Directive 2-1, Exploitation and Reporting Structure (EARS-2): Electronic Reporting. The element is a string type with a maximum length of 10 characters.

## 5.6.1.36.3 SENSOR DESCRIPTION ELEMENTS

The optional and repeatable *Sensor Description Elements* [Sensr\_Desc\_Elmnts] element identifies a group of elements which describes a sensor which was used to collect information about the entity being reported. The element is a group type consisting of the following child elements: *RF Sensor Elements*, *IR Sensor Elements*, *Visible Light Sensor Elements*, *Optical Sensor Elements*, *Multiple Spectrum Sensor Elements*, *Human Sensor Elements*, and *Undisclosed Sensor Elements*.

### Sensor Description Elements Structure:

```
Sensr_Desc_Elmnts (RF_Sensr_Elmnts | IR_Sensr_Elmnts |  
Visible_Light_Sensr_Elmnts | Optical_Sensr_Elmnts |  
Mult_Spectrum_Sensr_Elmnts | Human_Sensr_Elmnts |  
Undisclosed_Sensr_Elmnts)
```



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## 5.6.1.36.3.1 RF SENSOR ELEMENTS

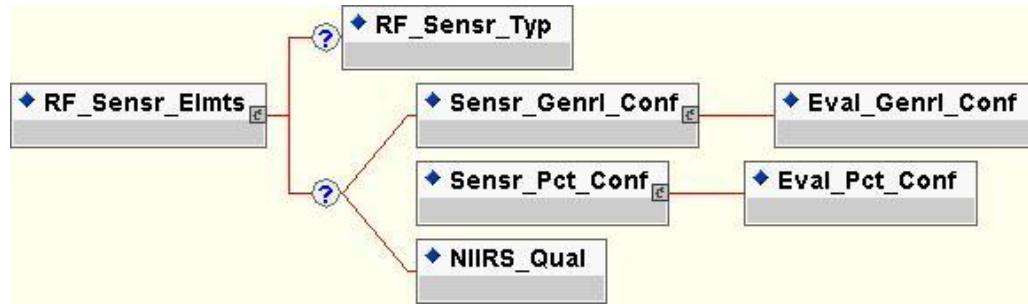
The *RF Sensor Elements* [RF\_Sensr\_Elmnts] element identifies a group of elements which describe a general and/or specific form, variety, or kind of sensor utilizing acquisition, detection, or identification technology or processes based on the radio frequency region of the electromagnetic spectrum. The group type element consists of the following child elements: *RF Sensor Type*, *Sensor General Confidence*, *Sensor Percent Confidence*, and *NIIRS Quality*.

### RF Sensor Elements Structure:

*RF\_Sensr\_Elmnts* (*RF\_Sensr\_Typ?* , (*Sensr\_Genrl\_Conf* | *Sensr\_Pct\_Conf* | *NIIRS\_Qual*)?)

*Sensr\_Genrl\_Conf* (*Eval\_Genrl\_Conf*)

*Sensr\_Pct\_Conf* (*Eval\_Pct\_Conf*)



## 5.6.1.36.3.1.1 RF SENSOR TYPE

The *RF Sensor Type* [RF\_Sensr\_Typ] element identifies a radio frequency technology or process used to detect or identify the reported entity information. The element is an enumerated type with values identifying the RF sensor type.

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**5.6.1.36.3.1.2 SENSOR GENERAL CONFIDENCE**

The *Sensor General Confidence* [Sensr\_Genrl\_Conf] element provides a general indication in the degree of confidence an operator/evaluator has in the sensor's performance in accurately acquiring or recognizing desired characteristics (e.g., signal, object, or location) related to the reported entity. The element is a composite consisting of *Evaluation General Confidence*.

**5.6.1.36.3.1.3 SENSOR PERCENT CONFIDENCE**

The *Sensor Percent Confidence* [Sensr\_Pct\_Conf] element provides a numerical indication in the degree of confidence an operator/evaluator has in the sensor's performance in accurately acquiring or recognizing desired characteristics (e.g., signal, object, or location) related to the reported entity. The element is a composite consisting of *Evaluation Percent Confidence*.

**5.6.1.36.3.1.4 NIIRS QUALITY**

The *NIIRS Quality* [NIIRS\_Qual] element indicates the rating of the imagery product using the National Imagery Interpretability Rating Scale (NIIRS). It is a float type.

**5.6.1.36.3.2 IR SENSOR ELEMENTS**

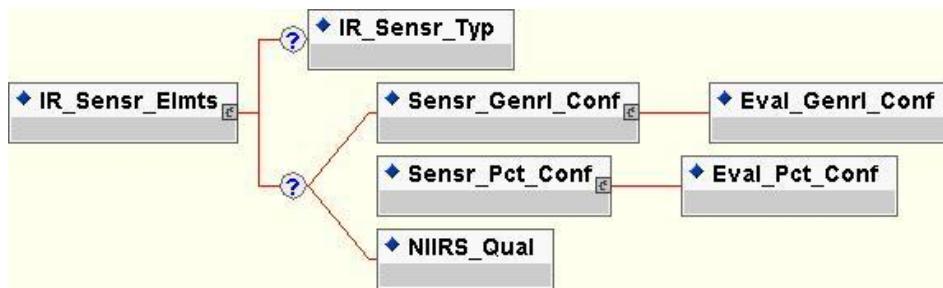
The *IR Sensor Elements* [IR\_Sensr\_Elmnts] element identifies a group of elements which describe a general and/or specific form, variety, or kind of sensor utilizing acquisition, detection, or identification technology or processes based on the infrared region of the electromagnetic spectrum. The group type element consists of the following child elements: *IR Sensor Type*, *Sensor General Confidence*, *Sensor Percent Confidence*, and *NIIRS Quality*.

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## IR Sensor Elements Structure:

*IR\_Sensr\_Elmnts (IR\_Sensr\_Typ? , (Sensr\_Genrl\_Conf | Sensr\_Pct\_Conf | NIIRS\_Qual)?)*



### 5.6.1.36.3.2.1 IR SENSOR TYPE

The *IR Sensor Type* [IR\_Sensr\_Typ] element identifies an infrared technology or process used to detect or identify the reported entity information. The element is an enumerated type with values identifying the IR sensor type.

### 5.6.1.36.3.3 VISIBLE LIGHT SENSOR ELEMENTS

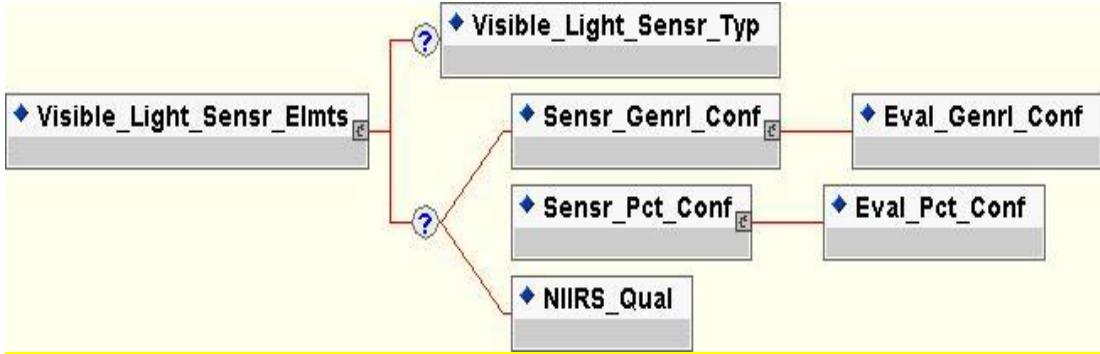
The *Visible Light Sensor Elements* [Visible\_Light\_Sensr\_Elmnts] element identifies a group of elements which describe a general and/or specific form, variety, or kind of sensor utilizing acquisition, detection, or identification technology or processes based on the visible light region of the electromagnetic spectrum. The group type element consists of the following child elements: *Visible Light Sensor Type*, *Sensor General Confidence*, *Sensor Percent Confidence*, and *NIIRS Quality*.

## Visible Light Sensor Elements Structure:

*Visible\_Light\_Sensr\_Elmnts (Visible\_Light\_Sensr\_Typ? , (Sensr\_Genrl\_Conf | Sensr\_Pct\_Conf | NIIRS\_Qual)?)*

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#### 5.6.1.36.3.3.1 VISIBLE LIGHT SENSOR TYPE

The *Visible Light Sensor Type* [Visible\_Light\_Sensr\_Typ] element identifies a visible light technology or process used to detect or identify the reported entity information. The element is an enumerated type with values identifying the visible light sensor type.

#### 5.6.1.36.3.4 OPTICAL SENSOR ELEMENTS

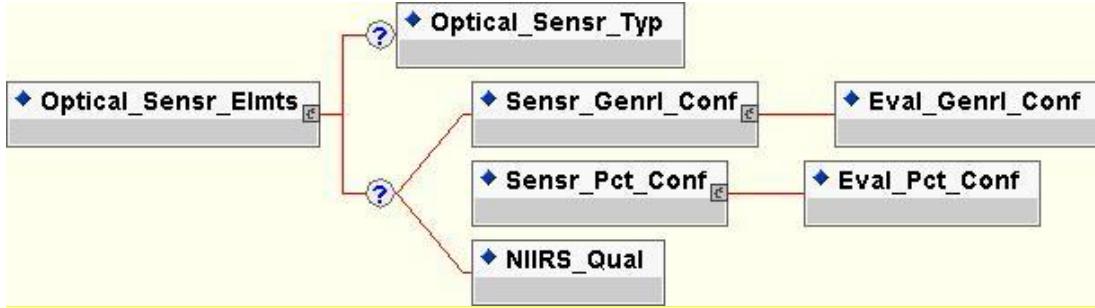
The *Optical Sensor Elements* [Optical\_Sensr\_Elmnts] element identifies a group of elements which describe a general and/or specific form, variety, or kind of sensor utilizing acquisition, detection, or identification technology or processes based on the optical region of the electromagnetic spectrum. The group type element consists of the following child elements: *Optical Sensor Type*, *Sensor General Confidence*, *Sensor Percent Confidence*, and *NIIRS Quality*.

##### Optical Sensor Elements Structure:

*Optical\_Sensr\_Elmnts* (*Optical\_Sensr\_Typ?* , (*Sensr\_Genrl\_Conf* |  
*Sensr\_Pct\_Conf* | *NIIRS\_Qual*)?)

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## 5.6.1.36.3.4.1 OPTICAL SENSOR TYPE

The *Optical Sensor Type* [Optical\_Sensr\_Typ] element identifies an optical technology or process used to detect or identify the reported entity information. The element is an enumerated type with values identifying the optical sensor type.

## 5.6.1.36.3.5 MULTIPLE SPECTRUM SENSOR ELEMENTS

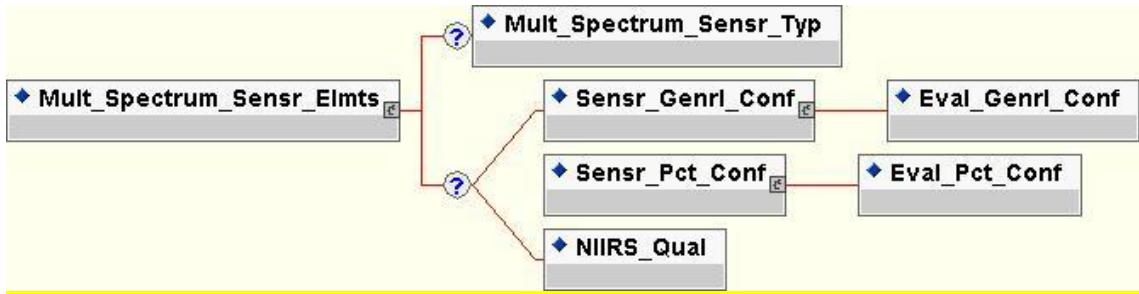
The *Multiple Spectrum Sensor Elements* [Mult\_Spectrum\_Sensr\_Elmnts] element identifies a group of elements which describe a general and/or specific form, variety, or kind of sensor utilizing acquisition, detection, or identification technology or processes based simultaneously on multiple regions of the electromagnetic spectrum. The group type element consists of the following child elements: *Multiple Spectrum Sensor Type*, *Sensor General Confidence*, *Sensor Percent Confidence*, and *NIIRS Quality*.

### Multiple Spectrum Sensor Elements Structure:

```
Mult_Spectrum_Sensr_Elmnts (Mult_Spectrum_Sensr_Typ? ,  
(Sensr_Genrl_Conf | Sensr_Pct_Conf | NIIRS_Qual)?)
```

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## 5.6.1.36.3.5.1 MULTIPLE SPECTRUM SENSOR TYPE

The *Multiple Spectrum Sensor Type* [Mult\_Spectrum\_Sensr\_Typ] element identifies a simultaneous multiple spectrum technology or process used to detect or identify the reported entity information. The element is an enumerated type with values identifying the multiple spectrum sensor type.

## 5.6.1.36.3.6 HUMAN SENSOR ELEMENTS

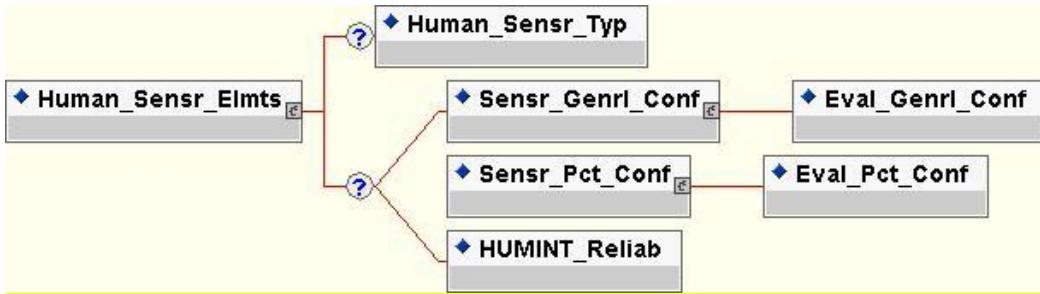
The *Human Sensor Elements* [Human\_Sensr\_Elmnts] element identifies a group of elements which describe a general or specific form, variety, or kind of human-based acquisition, detection, or identification technology or process. The group type element consists of the following child elements: *Human Sensor Type*, *Sensor General Confidence*, *Sensor Percent Confidence*, and *HUMINT Reliability*.

### Human Sensor Elements Structure:

*Human\_Sensr\_Elmnts* (*Human\_Sensr\_Typ?* , (*Sensr\_Genrl\_Conf* |  
*Sensr\_Pct\_Conf* | *HUMINT\_Reliab*)?)

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## 5.6.1.36.3.6.1 HUMAN SENSOR TYPE

The *Human Sensor Type* [Human\_Sensr\_Typ] element identifies a human method or process used to detect or identify the reported entity information. The element is an enumerated type with values identifying the human method or process that was utilized.

## 5.6.1.36.3.6.2 HUMINT RELIABILITY

The *HUMINT Reliability* [HUMINT\_Reliab] element provides an assessment of the reliability of the HUMINT source including an evaluation of authenticity, trustworthiness, and/or competency. The element is an enumerated type with values identifying the reliability assessment.

## 5.6.1.36.3.7 UNDISCLOSED SENSOR ELEMENTS

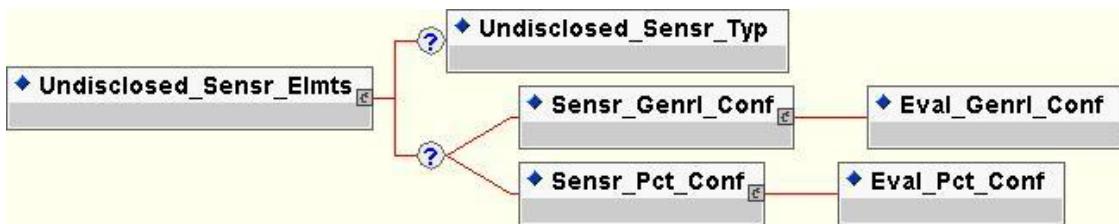
The *Undisclosed Sensor Elements* [Undisclosed\_Sensr\_Elmnts] element identifies a group of elements which describe one or more sensors which were utilized in the acquisition, detection, or identification of the reported entity but which the full technology or process is not disclosed or is not available. The group type element consists of the following child elements: *Undisclosed Sensor Type*, *Sensor General Confidence*, and *Sensor Percent Confidence*.

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## Undisclosed Sensor Elements Structure:

*Undisclosed\_Sensr\_Elmts (Undisclosed\_Sensr\_Typ? , (Sensr\_Genrl\_Conf | Sensr\_Pct\_Conf)?)*



### 5.6.1.36.3.7.1 UNDISCLOSED SENSOR TYPE

The *Undisclosed Sensor Type* [Undisclosed\_Sensr\_Typ] element identifies one or more aspects of an undisclosed class of sensor or sensors which was used to detect or identify the reported entity information. The element is an enumerated type with values identifying the undisclosed sensor type.

### 5.6.1.36.4 COMBINED SENSOR GENERAL CONFIDENCE

The *Combined Sensor General Confidence* [Combined\_Sensr\_Genrl\_Conf] element provides a general indication in the degree of confidence an operator/evaluator has in the overall performance of the entire set of utilized sensors in accurately acquiring or recognizing desired characteristics (e.g., signal, object, or location) related to the reported entity. The optional *Combined Sensor General Confidence* element can be used in lieu of reporting confidence information on each individual sensor or to provide an overall confidence assessment in addition to individual confidence values for each sensor. The element is a composite consisting of *Evaluation General Confidence*.

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### 5.6.1.36.5 COMBINED SENSOR PERCENT CONFIDENCE

The *Combined Sensor Percent Confidence* [Combined\_Sensr\_Pct\_Conf] element provides a numerical indication in the degree of confidence an operator/evaluator has in the overall performance of the entire set of utilized sensors in accurately acquiring or recognizing desired characteristics (e.g. signal, object, or location) related to the reported entity. The optional *Combined Sensor Percent Confidence* element can be used in lieu of reporting confidence information on each individual sensor or to provide an overall confidence assessment in addition to individual confidence values for each sensor. The element is a composite consisting of *Evaluation Percent Confidence*.

### 5.6.1.36.6 SENSOR NAVIGATION STATUS

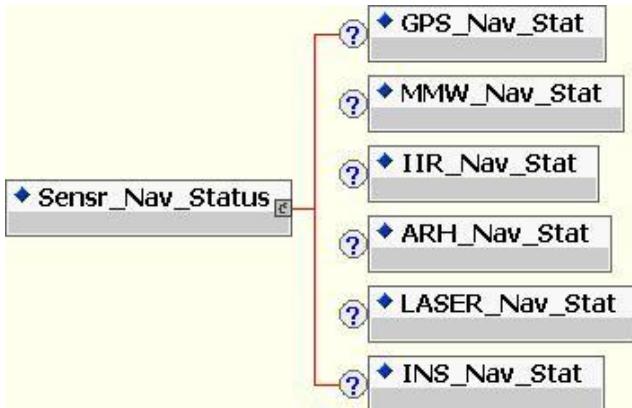
The *Sensor Navigation Status* [Sensr\_Nav\_Status] element provides a packed set of elements which indicate the status of potential guidance/navigation mechanisms or systems used by the sensor(s) providing the entity information. The *Sensor Navigation Status* is a packed type containing the following packed component elements: *Global Positioning System Navigation Status* [GPS\_Nav\_Stat], *Millimeter Wave Navigation Status* [MMW\_Nav\_Stat], *Imaging Infrared Navigation Status* [IIR\_Nav\_Stat], *Anti-Radiation Homing Navigation Status* [ARH\_Nav\_Stat], *LASER Navigation Status* [LASER\_Nav\_Stat], and *Inertial Navigation System Navigation Status* [INS\_Nav\_Stat].

#### Sensor Navigation Status Structure:

*Sensr\_Nav\_Status* (*GPS\_Nav\_Stat?* , *MMW\_Nav\_Stat?* , *IIR\_Nav\_Stat?* ,  
*ARH\_Nav\_Stat?* , *LASER\_Nav\_Stat?* , *INS\_Nav\_Stat?*)

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## 5.6.1.36.6.1 GLOBAL POSITIONING SYSTEM NAVIGATION STATUS

The *Global Positioning System Navigation Status* [GPS\_Nav\_Status] element indicates the tracking status of a GPS-based guidance/navigation mechanism or system potentially used by the sensor(s) providing the entity information. It is a packed component with possible values representing not-tracking and tracking status.

## 5.6.1.36.6.2 MILLIMETER WAVE NAVIGATION STATUS

The *Millimeter Wave Navigation Status* [MMW\_Nav\_Status] element indicates the tracking status of a MMW-based guidance/navigation mechanism or system potentially used by the sensor(s) providing the entity information. It is a packed component with possible values representing not-tracking and tracking status.

## 5.6.1.36.6.3 IMAGING INFRARED NAVIGATION STATUS

The *Imaging Infrared Navigation Status* [IIR\_Nav\_Status] element indicates the tracking status of an IIR-based guidance/navigation mechanism or system potentially used by the sensor(s) providing the entity information. It is a packed component with possible values representing not-tracking and tracking status.

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### 5.6.1.36.6.4 ANTI-RADIATION HOMING NAVIGATION STATUS

The *Anti-Radiation Homing Navigation Status* [ARH\_Nav\_Stat] element indicates the tracking status of an ARH-based guidance/navigation mechanism or system potentially used by the sensor(s) providing the entity information. It is a packed component with possible values representing not-tracking and tracking status.

### 5.6.1.36.6.5 LASER NAVIGATION STATUS

The *LASER Navigation Status* [LASER\_Nav\_Stat] element indicates the tracking status of a laser-based guidance/navigation mechanism or system potentially used by the sensor(s) providing the entity information. It is a packed component with possible values representing not-tracking and tracking status.

### 5.6.1.36.6.6 INERTIAL NAVIGATION SYSTEM NAVIGATION STATUS

The *Inertial Navigation System Navigation Status* [INS\_Nav\_Stat] element indicates the tracking status of an INS-based guidance/navigation mechanism or system potentially used by the sensor(s) providing the entity information. It is a packed component with possible values representing not-tracking and tracking status.

### 5.6.1.37 ACOUSTIC ELEMENTS

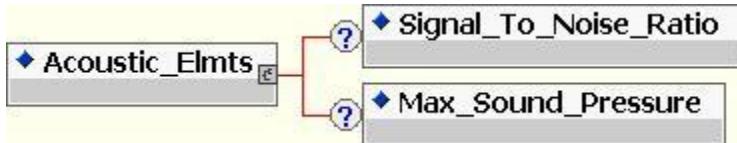
The *Acoustic Elements* [Acoustic\_Elmnts] element describes sound propagation through the atmosphere. The *Acoustic Elements* group shall contain at least the minimum elements required by the "Acoustic Elements Structure" and as otherwise required by producer rules. The element is a group type with content consisting of the following: *Signal To Noise Ratio* and *Maximum Sound Pressure*.

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## Acoustic Elements Structure:

*Acoustic\_Elmnts (Signal\_To\_Noise\_Ratio? , Max\_Sound\_Pressure?)*



### 5.6.1.37.1 SIGNAL-TO-NOISE RATIO

The *Signal To Noise Ratio* [Signal\_To\_Noise\_Ratio] element is the value of the signal compared to the value of the noise in a particular application.

### 5.6.1.37.2 MAXIMUM SOUND PRESSURE

The *Maximum Sound Pressure* [Max\_Sound\_Pressure] element identifies the maximum sound pressure at any point in the detection radius of a sensor.

### 5.6.1.38 URGENT INTERIM CAPABILITY (UIC)

5.6.1.38.1 The purpose of the "Urgent Interim Capability" (UIC) is to provide the ability to rapidly report new important types of information in a defined yet flexible manner outside of existing fields/structures. This capability will provide interim reporting until the new information transfer requirements can be vetted through the normal approval channels for addition to the format. This capability provides a prescribed and controlled way to quickly allow for the transfer of new information without "force-fitting" data into existing elements/structures. The *Urgent Interim Capability Elements* group shall contain at least the minimum elements required by the "UIC Elements Structure" and as otherwise required by producer rules.

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5.6.1.38.2 The use of the capability must be approved by the BJCCB. An IBS Change Request (ICR) detailing how the UIC is to be used shall be submitted and approved prior to the use of this capability. Additionally the ICR shall contain a plan detailing the operational logistics and any known related format issues and/or restrictions for the migration of the information transfer requirements from the UIC into conventional CMF fields/structures. Producers shall implement all minimum implementation requirements as detailed in the approved UIC ICR. The ICR for the UIC capability shall always be accompanied by an ICR to begin the final solution process and the UIC ICR shall always have a targeted cessation date for the interim implementation.

5.6.1.38.3 A proposal for the use of the UIC shall consist of a unique name for the new capability and a list of name/value-type/value-definition triplets. When a capability utilizing the UIC is used operationally the identifier and the name of the capability are transferred via the UIC\_ID and UIC\_Field\_Name elements. The names of the fields are transferred via UIC\_Field\_Name elements, and the values are transferred via the UIC\_Integer, UIC\_Float, and/or UIC\_String elements. Additionally, the UIC\_Unit element is used for transferring the units of the value. For maximum flexibility these elements are generally unconstrained with regards to their ranges/allowable values. The value-definition components of a UIC usage proposal shall thoroughly document what a CMF producing processor shall/shall not place into these fields, as well as what a CMF-receiving processor shall/shall not expect to receive in these fields. Upon incorporation into conventional CMF elements/structures the appropriate ranges and other element/structure limitations will be enforced in the traditional manner.

5.6.1.38.4 Development efforts for the handling of UIC data within a tactical data processor (TDP) may take various forms. It is highly desirable and recommended that all TDPs support a generic

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method for some minimal display of UIC data, but a TDP may be set up to uniquely process a particular UIC data set (as identified by its UIC\_ID). A TDP could include the ability to display (such as in a grid view) data from new or unrecognized UIC data sets. If this or a similar capacity were added to a TDP, the details regarding operator interaction are left at the TDP implementer's discretion. If development efforts are undertaken to establish processing for a particular UIC data set, care should be made to note and account for any migration notes documented in the ICR detailing that instance of the UIC's usage. It is critical that any implementation unique to a particular UIC be performed in a manner consistent with a path to migrate effectively and efficiently to the final format solution.

5.6.1.38.5 UIC usage is intended for exceptionally high priority information transfer requirements. Its usage is meant to cover those instances in which utilization of the customary mechanisms for format modification would prove to be a timeliness barrier to meeting the war-fighter's needs. UIC usage is always preferred over "force-fitting" data into existing elements/structures. Furthermore, UIC usage is intended to fill an interim gap until the necessary format modification can be made.

UIC Elements Structure:

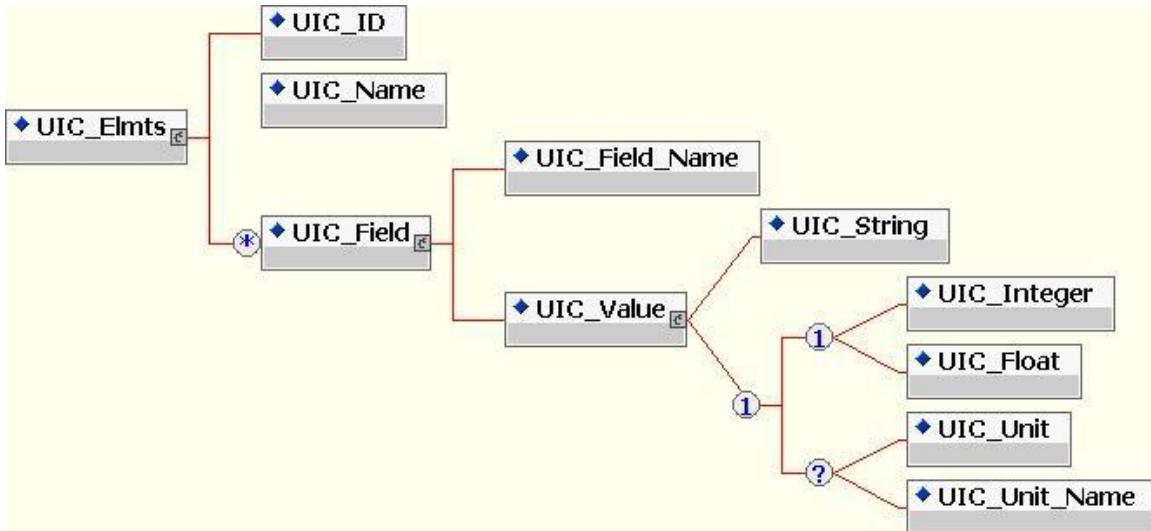
*UIC\_Elmts (UIC\_ID , UIC\_Name , UIC\_Field\*)*

*UIC\_Field (UIC\_Field\_Name , UIC\_Value)*

*UIC\_Value (UIC\_String | ((UIC\_Integer | UIC\_Float) , (UIC\_Unit | UIC\_Unit\_Name) ?))*

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## 5.6.1.38.6 URGENT INTERIM CAPABILITY (UIC) ELEMENTS

*Urgent Interim Capability (UIC) Elements [UIC\_Elmts]* establishes a grouping containing those elements which make up a set of data fields for a UIC.

### 5.6.1.38.6.1 UIC IDENTIFIER

*UIC Identifier [UIC\_ID]* provides the identification of a particular UIC. Producers shall report the BJCCB-assigned ID for a corresponding approved UIC.

### 5.6.1.38.6.2 UIC NAME

*UIC Name [UIC\_Name]* identifies the name of a particular UIC. This name is for informational and/or display purposes only.

### 5.6.1.38.6.3 UIC FIELD

*UIC Field [UIC\_Field]* provides a grouping composing a single instance of a UIC field and containing the associated field names and field values.

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5.6.1.38.6.3.1 UIC FIELD NAME

*UIC Field Name* [UIC\_Field\_Name] identifies the name of a particular UIC field.

5.6.1.38.6.3.2 UIC VALUE

*UIC Value* [UIC\_Value] contains the value and/or units for a UIC field.

5.6.1.38.6.3.2.1 UIC STRING

*UIC String* [UIC\_String] contains the value of a UIC field when that field is of type string.

5.6.1.38.6.3.2.2 UIC INTEGER

*UIC Integer* [UIC\_Integer] contains the value of a UIC field when that field is of type integer.

5.6.1.38.6.3.2.3 UIC FLOAT

*UIC Float* [UIC\_Float] contains the value of a UIC field when that field is of type float.

5.6.1.38.6.3.2.4 UIC UNIT

*UIC Unit* [UIC\_Unit] contains the pre-defined unit of measure for a UIC field.

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5.6.1.38.6.3.2.5 UIC UNIT NAME

*UIC Unit Name* [*UIC\_Unit\_Name*] identifies the unit of measure for a UIC field not currently implemented by CMF but as defined by the UIC ICR.

5.6.1.39 ENTITY UPDATE NUMBER

5.6.1.39.1 *Entity Update Number* [*Entity\_Upd\_Num*] (aka EUN) identifies sequential reports of an entity (i.e., one contact). Combined with a full Global Track Number (GTN) (see [Section 4](#), [paragraph 4.3.3.2](#)), this number allows unique identification of an individual contact update or history point/observation of an entity.

5.6.1.39.2 The EUN is a one-up count and shall be assigned by the producer (with rollover at maximum value) for each report instance. Producers shall assign an EUN value of "1" for the first report of an entity and the value shall be incremented by 1 for each subsequent report on that specific entity, throughout the life of the associated GTN. Due to the relationship of the EUN with the GTN, the EUN shall restart at 1 whenever the associated GTN is reused (i.e., after a minimum of 24 hours per [Section 4.3.3.2](#)).

5.6.1.39.3 Note that the EUN values may be limited at the producer to a more restrictive range by CONOP or other operational guidance. Consequently although the EUN in combination with a GTN will uniquely identify a contact update within the reported range, since the EUN may rollover due to range limitations, consumers may not wish to rely on only the EUN for proper sequencing (e.g., may also utilize *TOI* as necessary).

5.6.1.39.4 The producer shall report the same EUN for reports that are retransmitted (including dual-path producers) over the IBS Enterprise.

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5.6.1.39.5 Since a stale report will not always contain the same information as any immediately prior report on an entity, any producer originating CMF data shall increment an existing EUN for any stale report. Any CMF system not originating reports on an entity, but which is transferring data and creating stale reports from its database, shall within any stale reports it creates, report the last received EUN value.

## 5.6.1.40 ENTITY ENVIRONMENTAL CONDITION ELEMENTS

### The *Entity Environmental Condition Elements*

[Entity\_Envir\_Condition\_Elmnts] group provides elements which indicate natural and/or man-made conditions at the reported entity location. The *Entity Environmental Condition Elements* group shall contain at least the minimum elements required by the "Entity Environmental Condition Structure" and as otherwise required by producer rules. The child element *Environmental Condition* is a repeatable element. Due to bandwidth considerations and potential operator load, producers shall report *Environmental Condition* values within the *Entity Environmental Condition Elements* group in order of highest tactical significance and preferably should report no more than five values.

### Entity Environmental Condition Elements Structure:

*Entity\_Envir\_Condition\_Elmnts* (*Envir\_Condition\**)



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**5.6.1.40.1 ENVIRONMENTAL CONDITION**

The *Environmental Condition* [Envir\_Cond] element identifies a natural or man-made environmental condition. The element is an enumerated type with values identifying the environmental condition.

**5.6.1.41 ENTITY WEAPON ELEMENTS**

The *Entity Weapon Elements* [Entity\_Weapon\_Elmnts] structure provides a group of elements which characterize one or more armaments as part of, or related to, the reported entity. The *Entity Weapon Elements* group shall contain at least the minimum elements required by the "Entity Weapon Elements Structure" and as otherwise required by producer rules.

**Entity Weapon Elements Structure:**

*Entity\_Weapon\_Elmnts* (*Weapon\_State?* , *Weapon\_Attk\_Strategy?* ,  
*Aimpoint?* , *Time\_To\_Fuze?* , *Weapon\_Self\_Assess?* , *Colocated\_Threat?*)

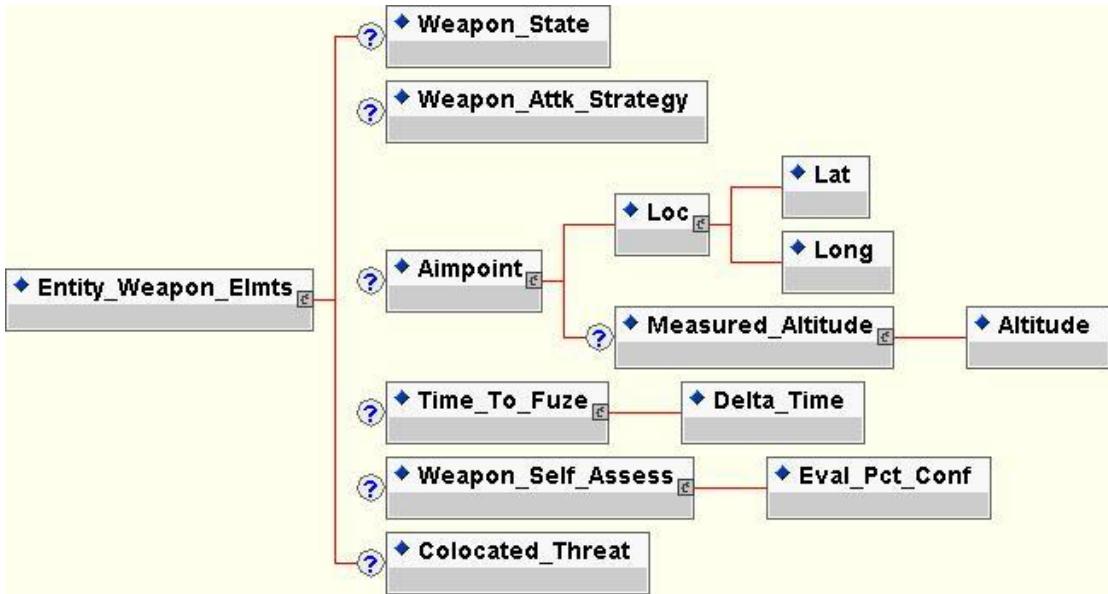
*Aimpoint* (*Loc* , *Measured\_Altitude?*)

*Time\_To\_Fuze* (*Delta\_Time*)

*Weapon\_Self\_Assess* (*Eval\_Pct\_Conf*)

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## 5.6.1.41.1 WEAPON STATE

The *Weapon State* [**Weapon\_State**] element identifies the current mission phase or posture of an armament. For example, the *Weapon State* distinguishes between general or specific BHI, or other potential modes of a network-enabled missile. The element is an enumerated type with values corresponding to the possible states.

## 5.6.1.41.2 WEAPON ATTACK STRATEGY

The *Weapon Attack Strategy* [**Weapon\_Attk\_Strategy**] element indicates the method, reason, or impetus by which the weapon is attacking its target. The element is an enumerated type with values corresponding to the possible attack methods.

## 5.6.1.41.3 AIMPOINT

The *Aimpoint* [**Aimpoint**] structure provides a group of elements which indicate the polar geo-location or point in space at which a weapon is directed, is targeted, and/or intends to fuze (i.e.,

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detonate and/or explode). The *Aimpoint* is a group element with the following child elements: *Location* and *Measured Altitude*.

### **5.6.1.41.4 TIME TO FUZE**

The *Time To Fuze* [*Time\_To\_Fuze*] element indicates the time between the reported time of intercept and the planned or estimated detonation or explosion (i.e., fuzing) of an associated or reported weapon. *Time To Fuze* is a composite element containing the *Delta Time* element.

### **5.6.1.41.5 WEAPON SELF ASSESSMENT**

The *Weapon Self Assessment* [*Weapon\_Self\_Assess*] element indicates an accumulated total percent probability of mission success based on all factors known by the weapon. The element is a composite consisting of *Evaluation Percent Confidence*.

### **5.6.1.41.6 CO-LOCATED THREAT**

The *Co-Located Threat* [*Colocated\_Threat*] is an enumerated type element that indicates whether a weapon has detected other threat(s) in the vicinity of its current target.

### **5.6.1.42 PRODUCER MESSAGE SEQUENCE NUMBER**

*Producer Message Sequence Number* [*Producer\_Msg\_Seq\_Num*] {already defined}

### **5.6.1.43 MESSAGE FILTER ELEMENTS**

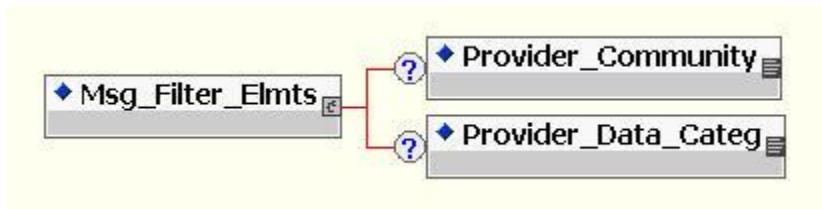
5.6.1.43.1 The *Message Filter Elements* [*Msg\_Filter\_Elmnts*] is a group of elements which simplifies filtering of CMF messages. The *Message Filter Elements* group shall contain at least the minimum elements required by the "Message Filter Elements Structure" and as otherwise required by producer rules.

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## Message Filter Elements Structure:

*Msg\_Filter\_Elmnts (Provider\_Community? , Provider\_Data\_Categ?)*



### 5.6.1.43.2 PROVIDER COMMUNITY

The *Provider Community* [Provider\_Community] element provides a recognized community name associated with the primary source that made the reported data available for an IBS system to disseminate. Producers should populate the *Provider Community* element if a consumer filtering requirement has been identified for the relevant providing community of the data being reported. Allowable values are contained in the <CMF\_Mnemonics/Provider\_Community\_File>. The mnemonic fields shall be verified against the appropriate mnemonic file, which can be done via the CMF Parser. Mnemonic verification shall always be performed only upon creation of CMF.

### 5.6.1.43.3 PROVIDER DATA CATEGORY

The *Provider Data Category* [Provider\_Data\_Categ] element identifies the primary sensor/source data category of the reported message. Producers should populate the *Provider Data Category* element if a consumer filtering requirement has been identified for the relevant provider's sensor or source category of the data being reported. Allowable values are contained in the <CMF\_Mnemonics/Provider\_Data\_Category\_File>. The mnemonic fields shall be verified against the appropriate mnemonic file, which can be

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done via the CMF Parser. Mnemonic verification shall always be performed only upon creation of CMF.

## 5.6.1.43.4 MESSAGE FILTER ELEMENTS USAGE

5.6.1.43.4.1 The child elements of the *Message Filter Elements* group are individually optional. Some child elements may have specific requirements identified below or in [Appendix I](#) (Functional Implementations). Other child elements may still be optionally set.

5.6.1.43.4.2 Friendly Forces Tracking producers shall set the *Provider Data Category* equal to "FFT" and shall also set *Entity Activity* equal to "COBRA" or "JBFSA", as appropriate.

5.6.1.43.4.3 PR/CSAR producers shall set the *Provider Data Category* equal to "SAR".

5.6.1.43.4.4 IMPORTANT: The elements of the *Message Filter Elements* group are being transitioned to replace the *Provider Type* element. During the transition period, producers who use the *Message Filter Elements* shall also report any *Provider Type* value that corresponds to the reported value(s) of this group. For example, whenever the *Provider Community* value of "BSA" and the *Provider Data Category* value of "IR" is reported, a *Provider Type* value of "IRBSA" is also reported. Following full consumer implementation of this element, the *Provider Type* element will be removed or disused. At that time, producers will no longer be required to generate corresponding *Provider Type* values in addition to *Message Filter Elements*.

## 5.6.1.44 ENTITY MESSAGE DESCRIPTION ELEMENTS

The *Entity Message Description Elements* [Entity\_Msg\_Desc\_Elmnts] identifies a group of elements which contain general information describing the entire encompassing *Entity Message*. The group consists of the *Destination Address* and IBS Enterprise time of entry

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information. The *Entity Message Description Elements* group shall contain at least the minimum elements required by the "Entity Message Description Elements Structure" and as otherwise required by producer rules.

## Entity Message Description Elements Structure:

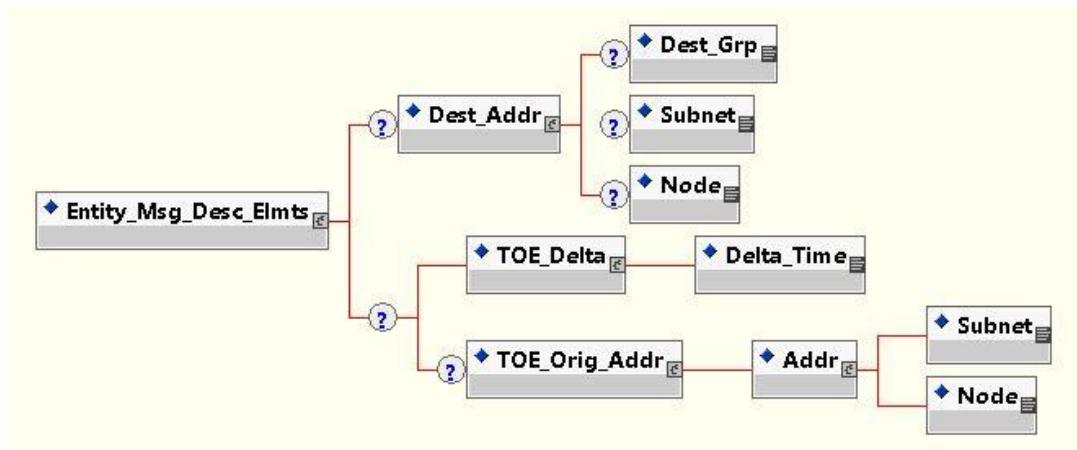
*Entity\_Msg\_Desc\_Elmnts* (*Dest\_Addr?* , (*TOE\_Delta* , *TOE\_Orig\_Addr?*)?)

*Dest\_Addr* (*Dest\_Grp?* , *Subnet?* , *Node?*)

*TOE\_Delta* (*Delta\_Time*)

*TOE\_Orig\_Addr* (*Addr*)

*Addr* (*Subnet*, *Node*)



### 5.6.1.44.1 DESTINATION ADDRESS

*Destination Address* [*Dest\_Addr*] {already defined in [Section 5.8.1.4.1](#)}

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5.6.1.44.2 TIME OF ENTRY DELTA

5.6.1.44.2.1 The *Time of Entry Delta* [TOE\_Delta] is an offset from the *TOI* to describe the IBS Enterprise time of entry. It is a composite of *Delta Time*.

5.6.1.44.2.1.1 The *Time of Entry Delta* element is intended to be populated by IBS Enterprise Nodes only. Producers shall not utilize the *Time of Entry Delta* element.

5.6.1.44.2.2 *Time of Entry Delta* is calculated by taking the time an *Entity Message* enters the IBS Enterprise and subtracting the entity *TOI* (adjusting as necessary for any difference between the date the message was received and the *Julian Day of Intercept*). The result can be positive or negative (due to potential reporting of future times), expressed in seconds.

5.6.1.44.2.3 Consumer systems can calculate the time an entity message entered the IBS Enterprise by adding *Time of Entry Delta* to the entity *TOI*.

5.6.1.44.2.4 Consumer systems can determine the amount of time the IBS Enterprise took to deliver the message by subtracting the time the consumer received the message from the time the message entered the IBS Enterprise as calculated in [Section 5.6.1.44.2.3](#) (adjusting as necessary for any difference between the date the message was received and the *Julian Day of Intercept*).

5.6.1.44.3 TIME OF ENTRY ORIGINATOR ADDRESS

*Time of Entry Originator Address* [TOE\_Orig\_Addr] {already defined in [Section 5.8.1.4.4](#)}

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**5.7 REMOTE AMPLIFICATION MESSAGE SUMMARY**

DTD NAME: Remote\_Ampn\_Msg

DED NAME: REMOTE AMPLIFICATION MESSAGE

PURPOSE/SCOPE/DESCRIPTION: The CMF *Remote Amplification Message* [Remote\_Ampn\_Msg] identifies a group of elements that provides enhanced or expanded information on an entity originated by and/or being reported by another IBS participant. The originating and/or currently reporting source, in accordance with reporting protocols, determines which portions of the information from this message to include in any subsequent entity reports. Each *Remote Amplification Message* shall contain at least the minimum elements required by the "Remote Amplification Message Structure" and as otherwise required by producer rules.

**5.7.1 REMOTE AMPLIFICATION MESSAGE ELEMENTS, STRUCTURE AND IMPLEMENTATION**

5.7.1.1 Remote track amplification is performed with the *Remote Amplification Message*. The *Remote Amplification Message* combines a *Remote Address* [Remote\_Addr] with the *Entity Message* format to allow remote nodes to amplify any of the fields within an *Entity Message*. This message is sent as a single-instance (i.e., transient information). Producers shall assign a unique one-up message number to each message transmission.

5.7.1.2 NOTE: *Message Number, Alternate Originator Address, Entity Message, Producer Message Sequence Number, and Urgent Interim Capability (UIC) Elements* are introduced earlier in this document. *Remote Amplification Message* unique content begins below.

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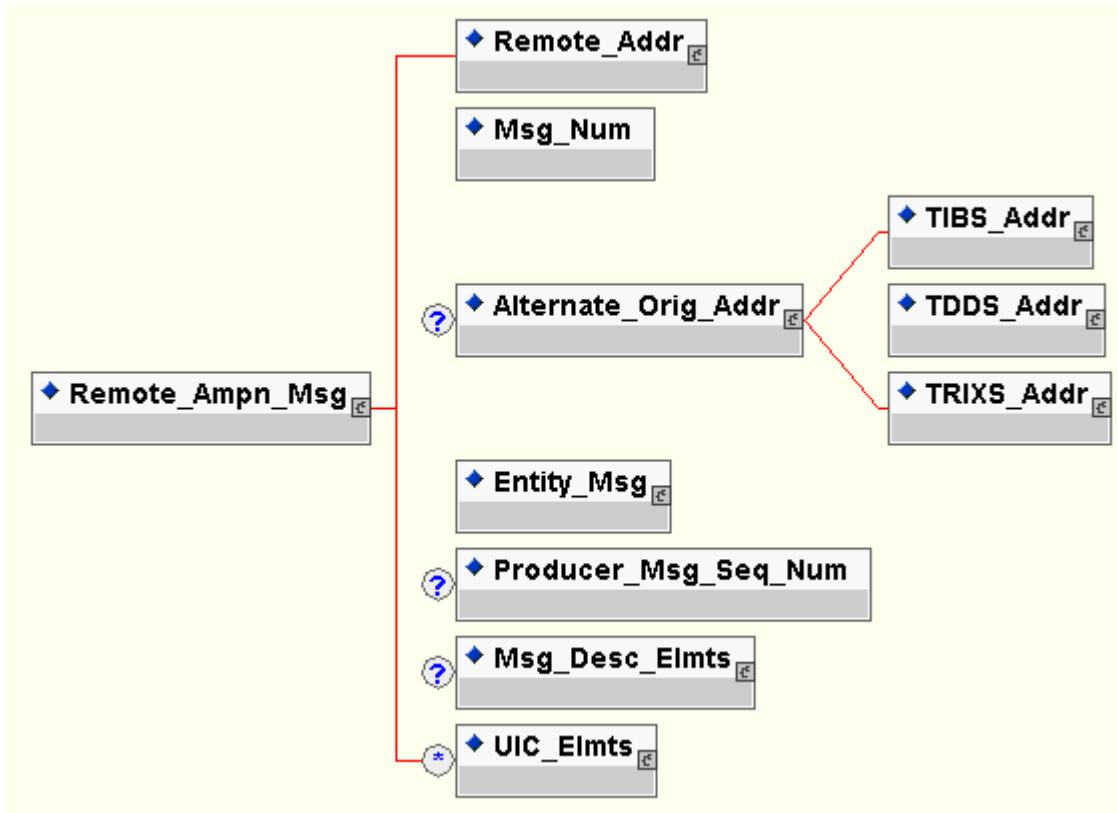
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## Remote Amplification Message Structure:

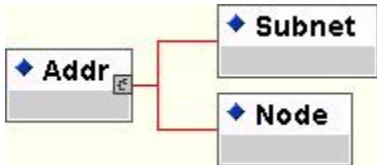
*Remote\_Ampn\_Msg (Remote\_Addr , Msg\_Num , Alternate\_Orig\_Addr? , Entity\_Msg , Producer\_Msg\_Seq\_Num? , Msg\_Desc\_Elmnts? , UIC\_Elmnts\*)*

*Remote\_Addr (Addr)*

*Alternate\_Orig\_Addr (TIBS\_Addr | TDDS\_Addr | TRIXS\_Addr)*



*Addr (Subnet , Node)*



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*TIBS\_Addr (TIBS\_Subnet , TIBS\_Station\_Addr)*



*TDSS\_Addr (TDSS\_CI)*

*TDSS\_CI (Correl\_Idx)*



#### 5.7.1.3 REMOTE ADDRESS

5.7.1.3.1 The *Remote Address* [Remote\_Addr] is the address of the IBS participant that originated and/or is currently responsible for reporting the entity to be amplified. The *Remote Address* and the *Entity Number* within the enclosed *Entity Message*, comprise the global identifier for the subject entity. The *Originator Address* (or *Transmitter Address* if *Originator Address* is not reported) and the *Message Number* together uniquely identify the *Remote Amplification Message* and make up the GID for the message.

5.7.1.3.2 As noted above, when sending a *Remote Amplification Message*, *Remote Address* shall be set to the source or reporting producer address of the entity being remote amplified. This is the contributor for whom the *Remote Amplification Message* is intended and thus, when receiving a *Remote Amplification Message*, *Remote Address* will identify the address of the effective owner of the entity. Only the original or current producer which reported the entity which is referenced by a particular *Remote Amplification Message* (or optionally, a surrogate system providing the producer's data to IBS) shall process and may optionally apply any portions of the message

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when received. Pass-thru systems send *Remote Amplification Messages* on to other systems.

5.7.1.3.3 When sending a *Remote Amplification Message*, the *Originator Address* shall be set to the address of the unit performing the remote amplification. When receiving a *Remote Amplification Message*, the *Originator Address* identifies the unit that performed the remote amplification. Typically, the *Transmitter Address* will match the *Originator Address*. During relay processing, the *Transmitter Address* could be set to the address of the relay. The *Remote Address*, the *Originator Address*, and the *Transmitter Address* would all have different addresses in this case.

5.7.1.3.4 Remote amplification messages will enclose a full *Entity Message* for the provided amplifying data. Unless differing guidance is herein provided, normal rules shall be followed for production of the enclosed *Entity Message* data. Note that some rules may not apply for remote amplification if they do not make sense or are invalid in the amplification context (such as amplified destination addressing within the *Entity Message*). Producers shall send all actively-reported repeatable fields on remote amplification rather than only the additions they may wish to add. The required *TOI* [*TOI*] (Time Of Intercept) shall be set to 0, to the time of the amplification data, or the time of the referenced message when performing remote track amplification.

5.7.1.3.5 Remote amplification of *Interest Indicators* (*Force Tell Indicator*, *IBS*; *Emergency Indicator*, *IBS*; *Threat Warning*; *High Interest Indicator*; *Deception Indicator*) is allowed in order to increase the mode of the entity (i.e., set an indicator to something other than the Initial Value or No Data state). Attempts to decrease (i.e., reset an indicator or set it back to the Initial Value state) should be rejected by the owner of the entity. The producer with reporting responsibility for the entity should automatically accept

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mode increases from a remote source and automatically reject any mode decreases from a remote source.

## **5.7.1.4 MESSAGE DESCRIPTION ELEMENTS**

*Message Description Elements [Msg\_Desc\_Elmnts] {already defined in [Section 5.8.1.4.4](#)}*

### **5.7.1.4.1 DESTINATION ADDRESS**

*Destination Address [Dest\_Addr] {already defined in [Section 5.8.1.4.1](#)}*

### **5.7.1.4.2 ALTERNATE DESTINATION ADDRESS**

*Alternate Destination Address [Alternate\_Dest\_Addr] {already defined in [Section 5.8.1.4.2](#)}*

### **5.7.1.4.3 TIME OF ENTRY**

*Time of Entry [TOE] {already defined in [Section 5.8.1.4.3](#)}*

### **5.7.1.4.4 TIME OF ENTRY ORIGINATOR ADDRESS**

*Time of Entry Originator Address [TOE\_Orig\_Addr] {already defined in [Section 5.8.1.4.4](#)}*

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## Message Description Elements Structure:

*Msg\_Desc\_Elmnts (Dest\_Addr? , Alternate\_Dest\_Addr? , (TOE , TOE\_Orig\_Addr?)?)*

*Dest\_Addr (Dest\_Grp? , Subnet? , Node?)*

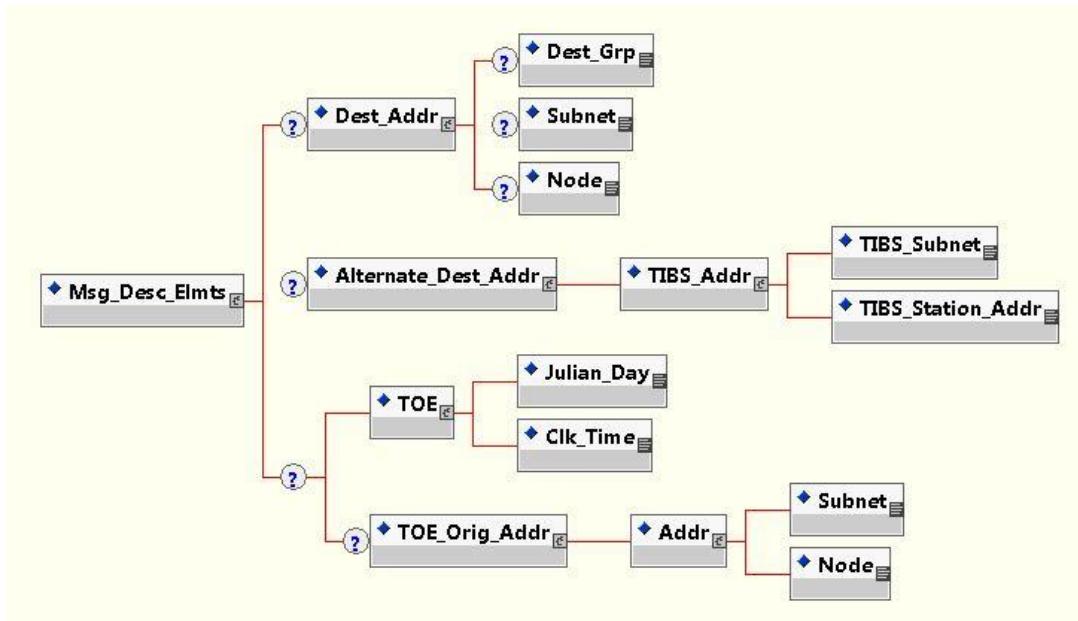
*Alternate\_Dest\_Addr (TIBS\_Addr)*

*TIBS\_Addr (TIBS\_Subnet , TIBS\_Station\_Addr)*

*TOE (Julian\_Day , Clk\_Time)*

*TOE\_Orig\_Addr (Addr)*

*Addr (Subnet, Node)*



## 5.7.1.5 URGENT INTERIM CAPABILITY (UIC) ELEMENTS

*Urgent Interim Capability (UIC) Elements [UIC\_Elmnts] {already defined in [Section 5.6.1.38](#)}*

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**5.8 TEXT MESSAGE SUMMARY**DTD NAME: Txt\_Msg

DED NAME: TEXT MESSAGE

PURPOSE/SCOPE/DESCRIPTION: The CMF *Text Message* [Txt\_Msg] identifies a group of elements that provides the information details used to transmit and interpret free-text, i.e., unformatted, or other textually coded data. CMF textual messaging provides a rudimentary means of free-flow communication between IBS participants. Textual messaging most commonly is used to request additional information associated with a reported activity or to apprise specific consumers of situations requiring particular attention. *Text Message* employment is intended only for use during unique situations and/or circumstances. This capability may be used for operational communications when other means of communication are either inoperable or inadequate. Each *Text Message* shall contain at least the minimum elements required by the "Text Message Structure" and as otherwise required by producer rules.

**5.8.1 TEXT MESSAGE ELEMENTS, STRUCTURE and IMPLEMENTATION**

5.8.1.1 The *Text Message* [Txt\_Msg] is a complex group element containing the following elements in its content model: *Message Description Elements*, *Message Number*, *Alternate Originator Address*, *Reference Entity ID*, *Entity Alternate ID Elements*, *Interest Indicators*, *Cooperative Location Indicator*, *Location*, *Free Text*, *Producer Message Sequence Number*, and *Urgent Interim Capability (UIC) Elements*. The *Message Number* and the *Free Text* are required elements; the remaining elements are optional.

5.8.1.2 The *Text Message* is sent as a single-instance (i.e., transient information). Producers shall assign a unique one-up

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message number to each message transmission. The producer may report a *Reference Entity ID* to identify a previously reported entity associated with the information in the *Text Message*. The producer can optionally provide a *Location* either for the referenced entity, if reported, or otherwise for the *Text Message* textual context. The producer may also indicate if the location was determined cooperatively via the use of *Cooperative Location Indicator*. The *Location* element shall be reported if the *Cooperative Location Indicator* is used.

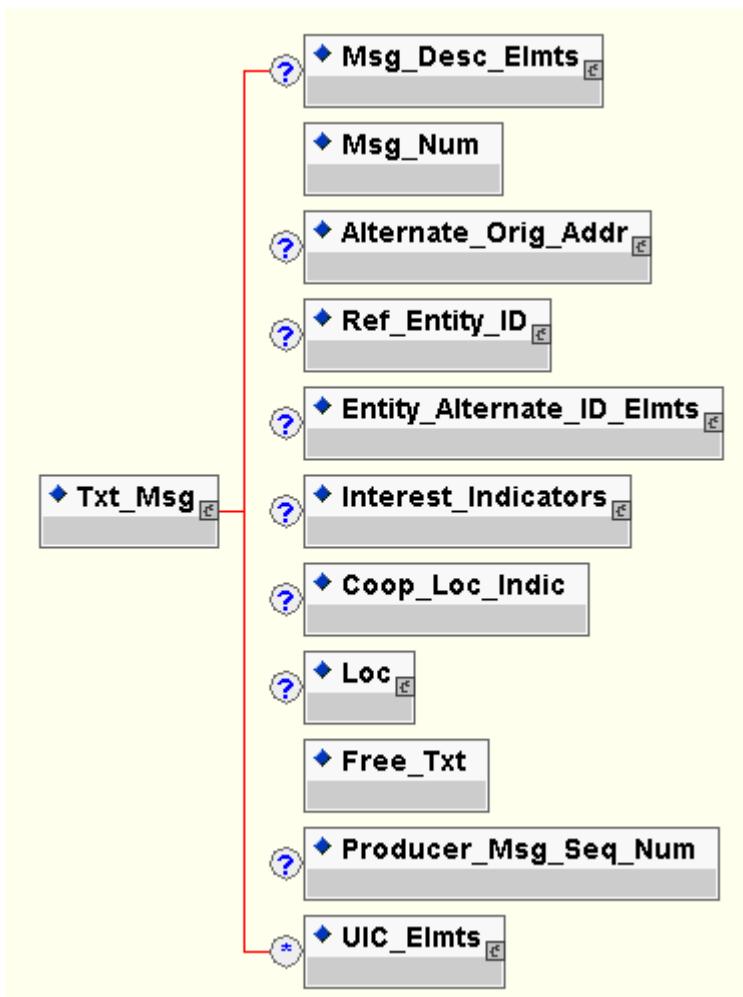
5.8.1.3 NOTE: *Message Number, Alternate Originator Address, Reference Entity ID, Entity Alternate ID Elements, Interest Indicators, Cooperative Location Indicator, Location, Producer Message Sequence Number, and Urgent Interim Capability (UIC) Elements* are introduced earlier in this document.

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Text Message Structure:

```
Txt_Msg (Msg_Desc_Elmts? , Msg_Num , Alternate_Orig_Addr? ,  
Ref_Entity_ID? , Entity_Alternate_ID_Elmts? , Interest_Indicators? ,  
Coop_Loc_Indic? , Loc? , Free_Txt , Producer_Msg_Seq_Num? ,  
UIC_Elmts*)
```



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Message Description Elements Structure:

*Msg\_Desc\_Elmnts (Dest\_Addr? , Alternate\_Dest\_Addr? , (TOE , TOE\_Orig\_Addr?)?)*

*Dest\_Addr (Dest\_Grp? , Subnet? , Node?)*

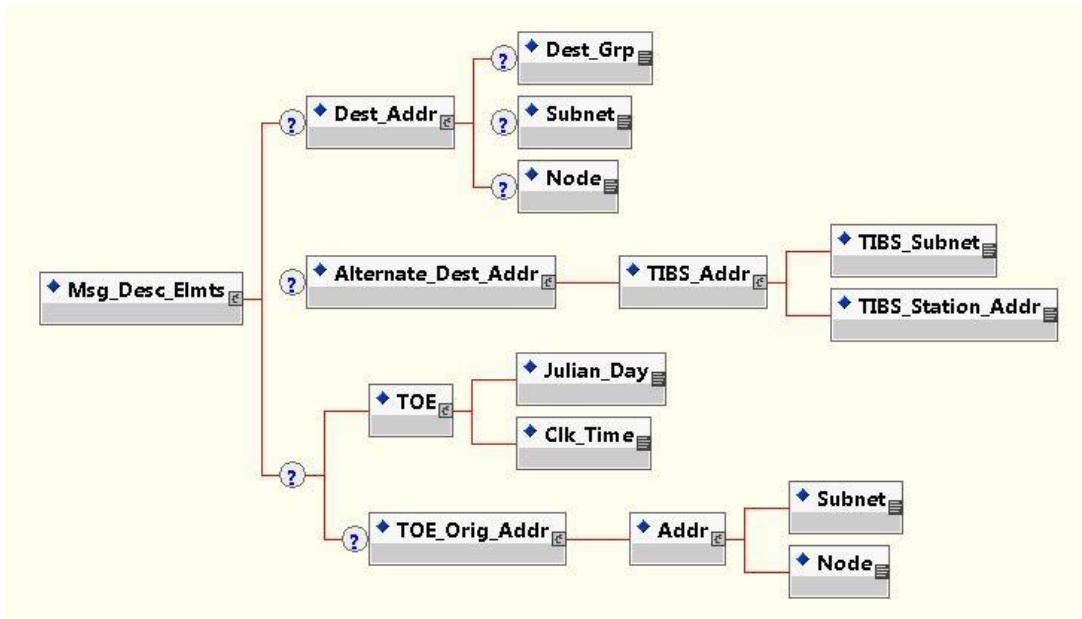
*Alternate\_Dest\_Addr (TIBS\_Addr)*

*TIBS\_Addr (TIBS\_Subnet , TIBS\_Station\_Addr)*

*TOE (Julian\_Day , Clk\_Time)*

*TOE\_Orig\_Addr (Addr)*

*Addr (Subnet, Node)*



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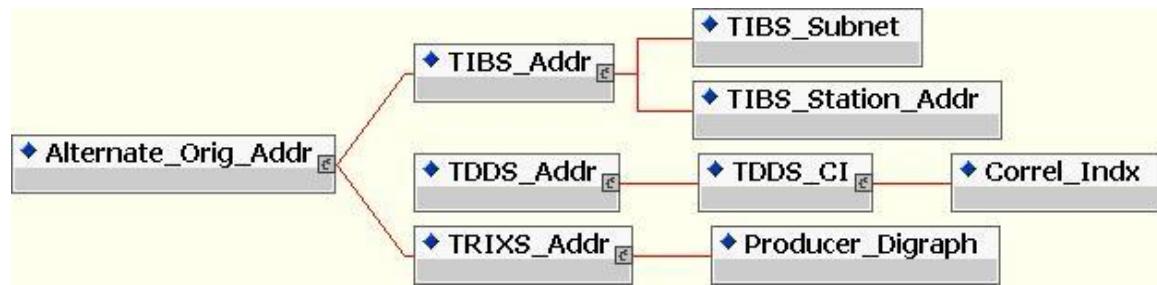
*Alternate\_Orig\_Addr (TIBS\_Addr | TDDS\_Addr | TRIXS\_Addr)*

*TIBS\_Addr (TIBS\_Subnet , TIBS\_Station\_Addr)*

*TDDS\_Addr (TDDS\_CI)*

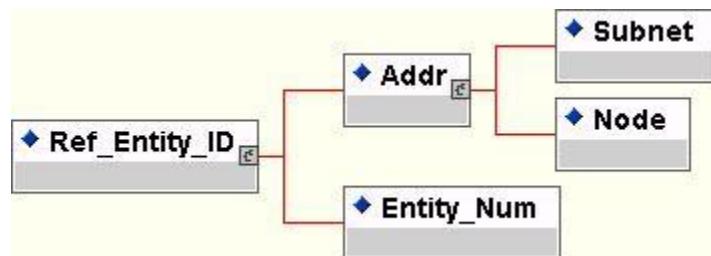
*TDDS\_CI (Correl\_Idx)*

*TRIXS\_Addr (Producer\_Digraph)*



*Ref\_Entity\_ID (Addr , Entity\_Num)*

*Addr (Subnet , Node)*



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*Entity\_Alternate\_ID\_Elmnts ((Link\_11\_11B\_ID | Link\_16\_ID | TDDS\_ID |  
NATO\_Link\_1\_Trk\_Num | TIBS\_Trk\_Num | TRIXS\_Report\_Num | USMTF\_Trk\_ID |  
BINO\_Trk\_Num | VMF\_Entity\_ID\_Serial\_Num)\* , TES\_Event\_ID\*)*

*Link\_11\_11B\_ID (Link\_11\_11B\_Trk\_Num\_Ref , Link\_11\_11B\_PURU)*

*Link\_16\_ID (Link\_16\_Trk\_Num\_Ref , Link\_16\_Trk\_Num\_Src)*

*TDDS\_ID ((TDDS\_CI , TDDS\_SCN , TDDS\_Trk\_Num?) , TDDS\_Rpt\_Num? ,  
TDDS\_Trk\_Upd\_Num? , TDDS\_Chg\_Flag?)*

*TDDS\_CI (Correl\_Indx)*

*TIBS\_Trk\_Num (TIBS\_Subnet , TIBS\_Station\_Addr , TIBS\_Lbl ,  
TIBS\_Msg\_Num)*

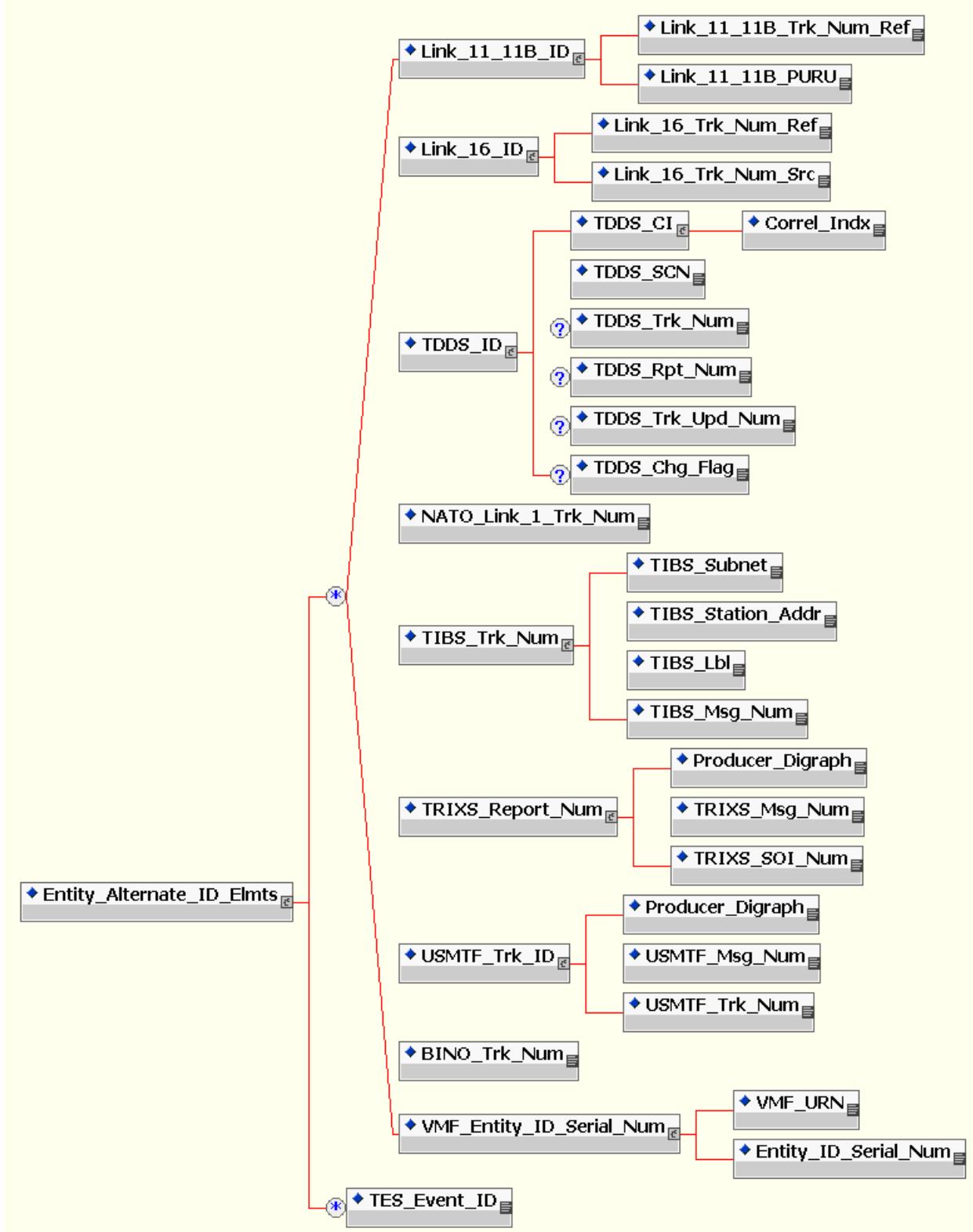
*TRIXS\_Report\_Num (Producer\_Digraph , TRIKS\_Msg\_Num , TRIKS\_SOI\_Num)*

*USMTF\_Trk\_ID (Producer\_Digraph , USMTF\_Msg\_Num , USMTF\_Trk\_Num)*

*VMF\_Entity\_ID\_Serial\_Num (VMF\_URN , Entity\_ID\_Serial\_Num)*

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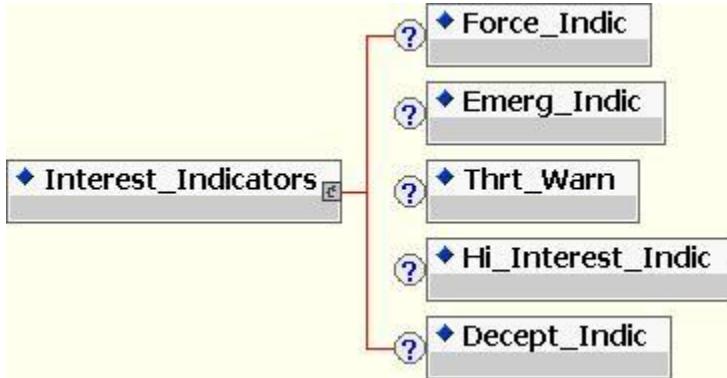
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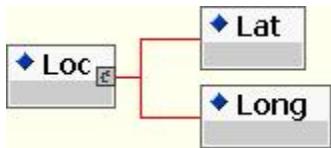
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*Interest\_Indicators (Force\_Indic? , Emerg\_Indic? , Thrt\_Warn? , Hi\_Interest\_Indic? , Decept\_Indic?)*



*Loc (Lat , Long)*



#### 5.8.1.4 MESSAGE DESCRIPTION ELEMENTS

The *Message Description Elements* [Msg\_Desc\_Elmnts] identifies a group of elements which contain general information describing the entire encompassing message. The group consists of the *Destination Address*, *Alternate Destination Address*, and IBS Enterprise time of entry information. The *Destination Address* is the intended recipient of the current message and the *Alternate Destination Address* provides the recipient's associated legacy TIBS 70-bit address. The IBS Enterprise time of entry information enables a consumer to determine the amount of time taken by the IBS Enterprise to deliver the reported message.

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**5.8.1.4.1 DESTINATION ADDRESS**

5.8.1.4.1.1 The *Destination Address* [*Dest\_Addr*] identifies the intended recipient (or recipients if group addressing is used) of the current message. The *Destination Address* is a group of optional elements including *Destination Group*, *Subnet* and *Node*. The *Destination Group* [*Dest\_Grp*] identifies that the message is intended only for nodes assigned to a designated group. Group addressing supports up to 15 separately addressed groups and are operationally defined. The *Subnet* [*Subnet*] identifies the IBS network on which the entity or message was originated, or the sub-network being referenced. The *Node* [*Node*] identifies the originating station or node of the producer of the referenced message. These three fields work together to uniquely identify a specific recipient or a group of recipients.

5.8.1.4.1.2 It is highly recommended that receive systems be capable of filtering by the *Destination Address*, but at a minimum some method of recognizing and displaying messages directed to the particular receiver shall be supported.

5.8.1.4.1.3 Destination addressing can be at various levels. For instance, an item might be directed to a group, a subnet, or an individual node on the network. The role of each component within the IBS architecture will determine any filtering necessary for routing according to *Destination Address*.

**5.8.1.4.2 ALTERNATE DESTINATION ADDRESS**

The *Alternate Destination Address* [*Alternate\_Dest\_Addr*] is the legacy TIBS Address consisting of the *Subnet Address*, *TIBS* [*TIBS\_Subnet*] and the *TIBS Station Address* [*TIBS\_Station\_Addr*] that corresponds to the CMF *Destination Address*.

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5.8.1.4.3 TIME OF ENTRY

5.8.1.4.3.1 The *Time of Entry* [TOE] element describes the day and time that a message enters the IBS Enterprise. It is a composite of the *Julian Day* and *Clock Time* elements.

5.8.1.4.3.1.1 The *Time of Entry* element is intended to be populated by IBS Enterprise Nodes only. Producers shall not utilize the *Time of Entry* element.

5.8.1.4.3.2 Consumer systems can determine the amount of time the IBS Enterprise took to deliver the message by subtracting the time the consumer received the message from the *Clock Time* in the *Time of Entry* (adjusting as necessary for any difference between the date the message was received and the *Julian Day* in the *Time of Entry*).

5.8.1.4.4 TIME OF ENTRY ORIGINATOR ADDRESS

5.8.1.4.4.1 The optional *Time of Entry Originator Address* [TOE\_Orig\_Addr] is the CMF Address of the IBS Enterprise Node where the time of entry information was generated. It is a composite of *Address*.

5.8.1.4.4.1.1 The *Time of Entry Originator Address* element is intended to be populated by IBS Enterprise Nodes only. Producers shall not utilize the *Time of Entry Originator Address* element.

5.8.1.5 FREE TEXT

5.8.1.5.1 The *Free Text* [Free\_Txt] element enables exchange of free-form, text-type character information. The element is a string field type allowing up to 40 7-bit ASCII characters of unformatted text to be sent.

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5.8.1.5.2 The CMF *Text Message* is structured to support two modes of textual messaging: (1) non-addressed textual messaging and (2) addressed textual messaging.

#### 5.8.1.5.3 NON-ADDRESSED TEXTUAL MESSAGING

Non-addressed Textual Messaging does not alert a specific participant to the message. The structure allows the sender to convey a range of 1 to 40, 7-bit ASCII characters in a single message. A non-addressed *Text Message* may entail as little as a *Message Number* and a single character of text.

#### 5.8.1.5.4 ADDRESSED TEXTUAL MESSAGING

5.8.1.5.4.1 Addressed textual messaging supports alerting a specific participant (or set of participants via group addressing) to a message. Addressing the message to a specific station does not preclude other stations from viewing the message as all participants are members of a common network.

5.8.1.5.4.2 The *Destination Address* element within the *Message Description Elements* is used to specify the station or group of stations as primary recipients for an addressed CMF *Text Message*. The *Destination Address* is a group element consisting of three optional elements (*Destination Group*, *Subnet*, and *Node*) that indicate the intended recipient's group address, subnet identification, and individual address.

5.8.1.5.4.3 Systems should generate an alert when receiving a message addressed to their station and also when a message is intended for a group or subnet in which the station is a member.

#### 5.8.1.5.4.4 DISUSED

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5.8.1.6 URGENT INTERIM CAPABILITY (UIC) ELEMENTS

*Urgent Interim Capability (UIC) Elements [UIC\_Elmnts] {already defined in [Section 5.6.1.38](#)}*

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**5.9 COLLABORATION MESSAGE SUMMARY**

DTD NAME: Collab\_Msg

DED NAME: COLLABORATION MESSAGE

PURPOSE/SCOPE/DESCRIPTION: The CMF *Collaboration Message* [Collab\_Msg] identifies a group of elements specifying information provided by or to be utilized by more than one reporting unit to mutually determine initial entity identification, resolve ambiguities on entities, or improve accuracy of entity information with the intent of refinement for eventual entity message reporting. Each *Collaboration Message* shall contain at least the minimum elements required by the "Collaboration Message Structure" and as otherwise required by producer rules.

**5.9.1 COLLABORATION MESSAGE ELEMENTS, STRUCTURE and IMPLEMENTATION**

5.9.1.1 The CMF *Collaboration Message* [Collab\_Msg] is a complex group element containing the following elements: *Message Number*, *Alternate Originator Address*, *Reference Entity ID*, *Entity Alternate Identification Elements*, *Source File Identification*, *ELINT Pulse Modulation*, *Collaboration Measurement Set*, *Collection Elements*, *Producer Message Sequence Number*, *Message Description Elements*, and *Urgent Interim Capability (UIC) Elements*. Three (3) types of message collaboration constructs are supported via the *Collaboration Message* utilizing the *Collaboration Measurement Set* content model: Geo-observable LOB only; Time Difference of Arrival (TDOA); and TDOA Rate of Change (also known as TDOA-Dot). These three uses of the *Collaboration Measurement Set* are discussed in [Appendix I, Section I.4](#). Additionally, the *Collaboration Message* can be utilized to pass an additional message type to describe a collection of analysis data within the *Collection Elements*. Use of the *Collection Elements* is

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discussed in [Appendix I](#), [Section I.5](#). Various fields within the *Collaboration Message* become required or excluded depending on which of the four messages constructs are intended.

5.9.1.2 A *Collaboration Message* shall have at least one of a *Collaboration Measurement Set* or *Collection Elements* in order to be useful. The *Collection Elements* construct currently exists only for the non-CIB networks (via the path-exclusion feature). When moving data from a path where *Collection Elements* is utilized (e.g., non-CIB), to a path where it is not utilized (e.g., CIB), this data shall be stripped from the message. When this occurs, the message shall only be forwarded if it contains *Collaboration Measurement Set* data.

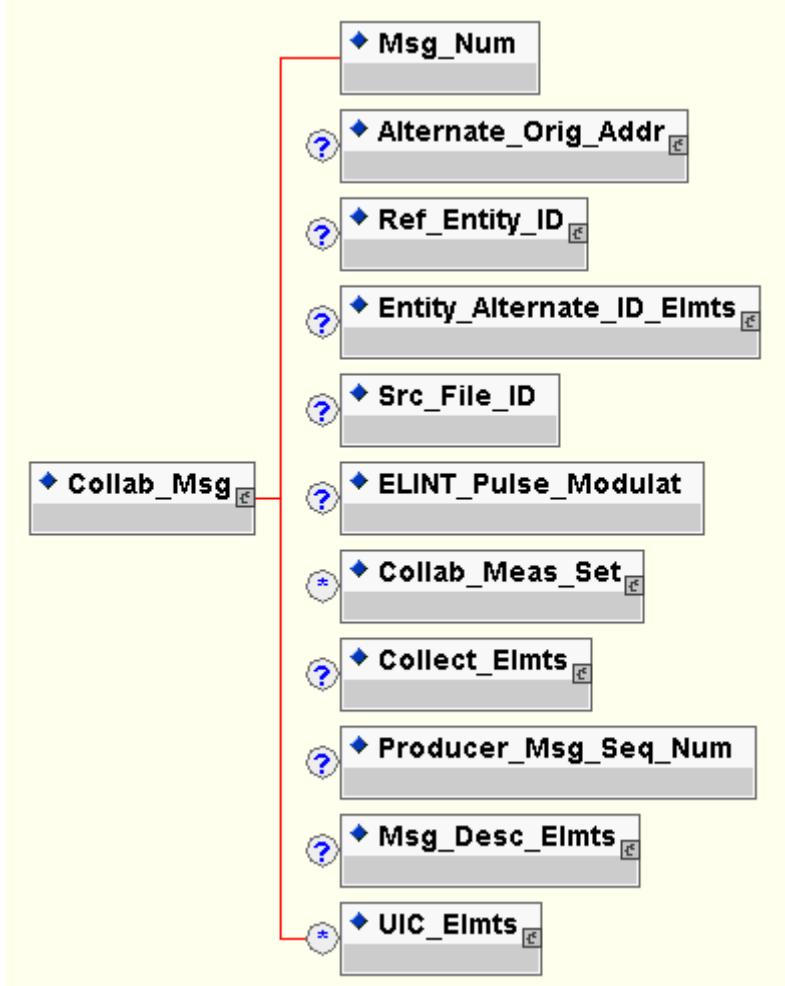
5.9.1.3 NOTE: *Message Number*, *Alternate Originator Address*, *Reference Entity ID*, *Entity Alternate ID Elements*, *Source File Identification*, *ELINT Pulse Modulation*, *Producer Message Sequence Number*, *Message Description Elements*, and *Urgent Interim Capability (UIC) Elements* are introduced earlier in this document. *Collaboration Message* unique content begins below.

Collaboration Message Structure:

```
Collab_Msg (Msg_Num , Alternate_Orig_Addr? , Ref_Entity_ID? ,
Entity_Alternate_ID_Elmnts? , Src_File_ID? , ELINT_Pulse_Modulat? ,
Collab_Meas_Set* , Collect_Elmnts? , Producer_Msg_Seq_Num? ,
Msg_Desc_Elmnts? , UIC_Elmnts*)
```

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*Alternate\_Orig\_Addr (TIBS\_Addr | TDDS\_Addr | TRIXS\_Addr)*

*TIBS\_Addr (TIBS\_Subnet , TIBS\_Station\_Addr)*

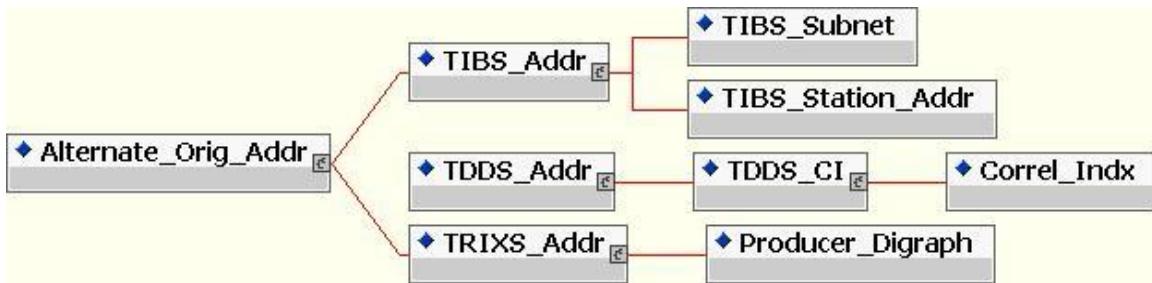
*TDDS\_Addr (TDDS\_CI)*

*TDDS\_CI (Correl\_Indx)*

*TRIXS\_Addr (Producer\_Digraph)*

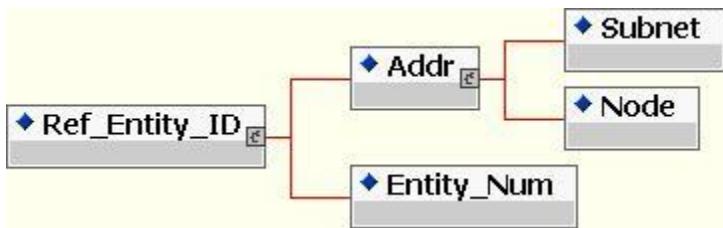
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*Ref\_Entity\_ID (Addr , Entity\_Num)*

*Addr (Subnet , Node)*



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*Entity\_Alternate\_ID\_Elmnts ((Link\_11\_11B\_ID | Link\_16\_ID | TDDS\_ID |  
NATO\_Link\_1\_Trk\_Num | TIBS\_Trk\_Num | TRIXS\_Report\_Num | USMTF\_Trk\_ID |  
BINO\_Trk\_Num | VMF\_Entity\_ID\_Serial\_Num)\* , TES\_Event\_ID\*)*

*Link\_11\_11B\_ID (Link\_11\_11B\_Trk\_Num\_Ref , Link\_11\_11B\_PURU)*

*Link\_16\_ID (Link\_16\_Trk\_Num\_Ref , Link\_16\_Trk\_Num\_Src)*

*TDDS\_ID ((TDDS\_CI , TDDS\_SCN , TDDS\_Trk\_Num?) , TDDS\_Rpt\_Num? ,  
TDDS\_Trk\_Upd\_Num? , TDDS\_Chg\_Flag?)*

*TDDS\_CI (Correl\_Indx)*

*TIBS\_Trk\_Num (TIBS\_Subnet , TIBS\_Station\_Addr , TIBS\_Lbl ,  
TIBS\_Msg\_Num)*

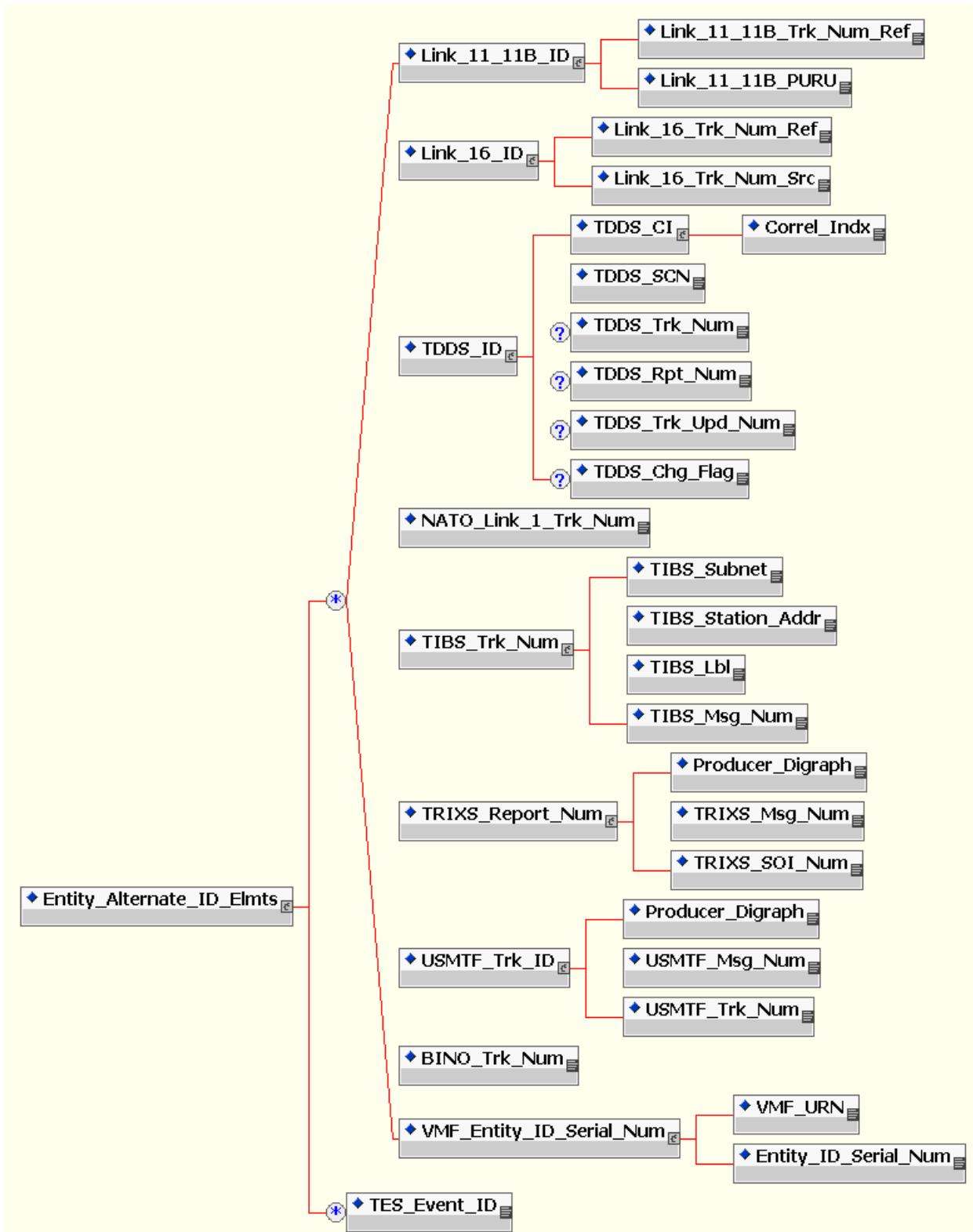
*TRIXS\_Report\_Num (Producer\_Digraph , TRIKS\_Msg\_Num , TRIKS\_SOI\_Num)*

*USMTF\_Trk\_ID (Producer\_Digraph , USMTF\_Msg\_Num , USMTF\_Trk\_Num)*

*VMF\_Entity\_ID\_Serial\_Num (VMF\_URN , Entity\_ID\_Serial\_Num)*

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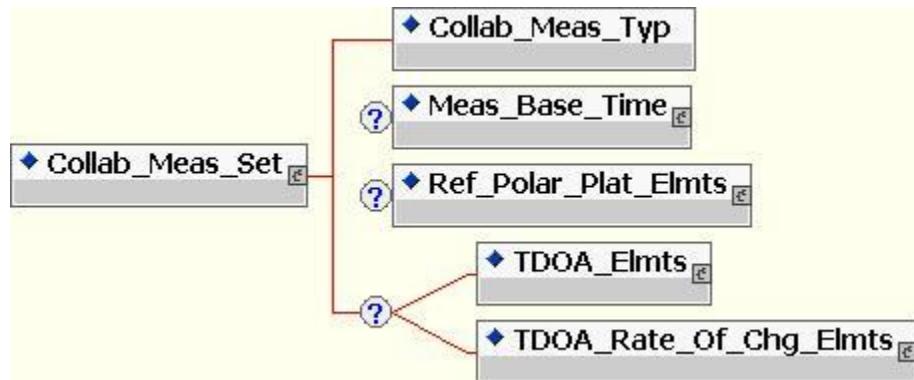
## 5.9.1.4 COLLABORATION MEASUREMENT SET

5.9.1.4.1 The *Collaboration Measurement Set* [Collab\_Meas\_Set] identifies a group of elements which as a combined unit uniquely distinguish a specific portion of collaboratively exchanged information. The *Collaboration Measurement Set* [Collab\_Meas\_Set] is a complex group element containing the following elements: *Collaboration Measurement Base Time*, *Reference Polar Platform Elements*, *TDOA Elements*, and *TDOA Rate Of Change Elements*. Each *Collaboration Measurement Set* shall contain at least the minimum elements required by the "Collaboration Measurement Set Structure" and as otherwise required by producer rules.

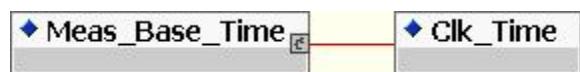
5.9.1.4.2 When multiple *Collaboration Measurement Set* groups are reported, all TDOA data shall be sent before TDOA rate-of-change data.

### Collaboration Measurement Set Structure:

*Collab\_Meas\_Set* (*Collab\_Meas\_Typ* , *Meas\_Base\_Time?* ,  
*Ref\_Polar\_Plat\_Elmnts?* , (*TDOA\_Elmnts* | *TDOA\_Rate\_Of\_Chg\_Elmnts*) ?)



*Meas\_Base\_Time* (*Clk\_Time*)



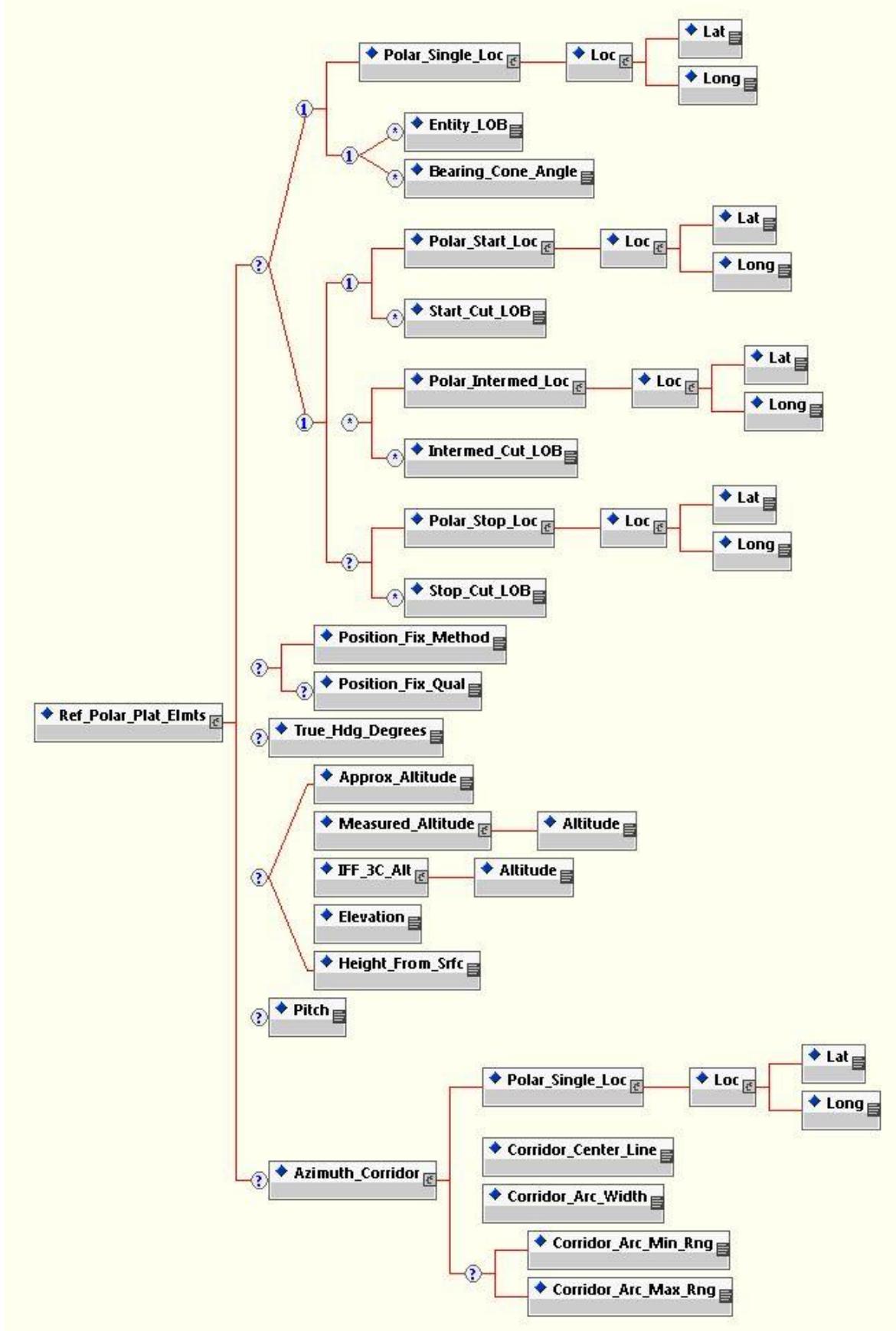
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*Ref\_Polar\_Plat\_Elmnts (((Polar\_Single\_Loc , (Entity\_LOB\* |  
Bearing\_Cone\_Angle\*)) | ((Polar\_Start\_Loc , Start\_Cut\_LOB\*) ,  
(Polar\_Intermed\_Loc , Intermed\_Cut\_LOB\*)\*) , (Polar\_Stop\_Loc ,  
Stop\_Cut\_LOB\*)?))? , (Position\_Fix\_Method , Position\_Fix\_Qual?)? ,  
True\_Hdg\_Degrees? , (Approx\_Altitude | Measured\_Altitude | IFF\_3C\_Alt  
| Elevation | Height\_From\_Srfc)? , Pitch? , Azimuth\_Corridor?)*

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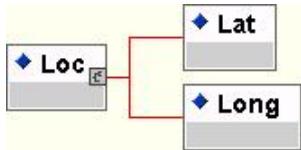
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*Loc (Lat , Long)*



#### 5.9.1.4.3 COLLABORATION MEASUREMENT TYPE

The *Collaboration Measurement Type* [Collab\_Meas\_Typ] provides an identification of the kind of measurement data comprising a reported measurement set. It is an enumerated type which shall have possible values indicating a measurement type of geo-observable for TDOA or TDOA Rate of Change data, or LOB-only for AOA data.

#### 5.9.1.4.4 MEASUREMENT BASE TIME

The *Measurement Base Time* [Meas\_Base\_Time] provides the time associated with measurements or sets of measurements. A composite of *Clock Time* [Clk\_Time], it performs as a reference time for events and measurements. The need to send a time with each measurement is eliminated.

#### 5.9.1.4.5 REFERENCE POLAR PLATFORM ELEMENTS

The *Reference Polar Platform Elements* [Ref\_Polar\_Plat\_Elmnts] identifies a group of elements which provide details describing the location and/or attitude, i.e. speed, heading, orientation, etc., of a (physical or virtual) platform (or location) used, or available to be used, as a reference point of other reported data, e.g., a point of origin for computed lines of bearing to an entity or a sensor location at which a time measurement was recorded. The *Reference Polar Platform Elements* [Ref\_Polar\_Plat\_Elmnts] element shall not be included when reporting TDOA data or TDOA Rate of Change data.

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5.9.1.4.6 TDOA ELEMENTS

The *TDOA Elements* [TDOA\_Elmnts] identifies a group of elements necessary to distinguish and report all or a portion of a specific set of TDOA measurements. The *TDOA Elements* [TDOA\_Elmnts] is a complex group element containing the following optional elements: *Dwell Description Data*, *Sensor 1 Rectangular Reference*, *Sensor 2 Rectangular Reference*, *Time Resolution*, *Time Precision*, *Total Number Of Delta Time Sets*, *TDOA Set*, *Final Set Type*, and *TDOA Measurement Errors*. Each *TDOA Elements* group shall contain at least the minimum elements required by the "TDOA Elements Structure" and as otherwise required by producer rules.

TDOA Elements Structure:

*TDOA\_Elmnts* (*Dwell\_Desc\_Data?* , *Sensr\_1\_Rectng\_Ref?* ,  
*Sensr\_2\_Rectng\_Ref?* , *Time\_Resol?* , *Time\_Precision?* ,  
*Total\_Num\_Delta\_Time\_Sets?* , *TDOA\_Set* , *Final\_Set\_Typ?* ,  
*TDOA\_Meas\_Errs?*)

*Dwell\_Desc\_Data* (*Boresite\_Aim\_Loc?* , *Sensr\_1\_ID?* , *Sensr\_2\_ID?*)

*Boresite\_Aim\_Loc* (*Loc*)

*Sensr\_1\_Rectng\_Ref* (*Ref\_X\_Y\_Z\_Position?* , *Ref\_X\_Y\_Z\_Vel?*)

*Sensr\_2\_Rectng\_Ref* (*Ref\_X\_Y\_Z\_Position?* , *Ref\_X\_Y\_Z\_Vel?*)

*TDOA\_Set* (*Delta\_Time\_Set+*)

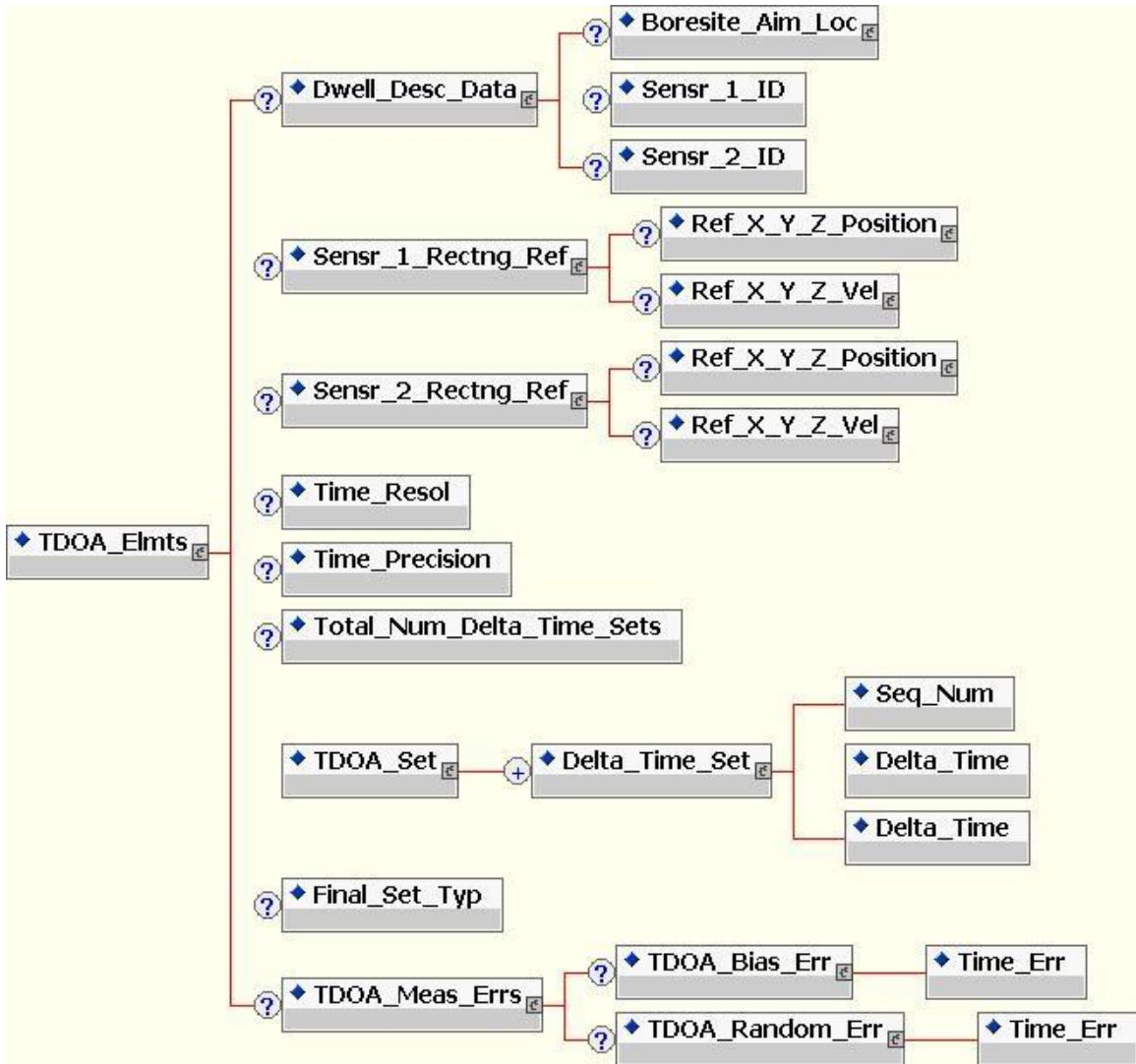
*TDOA\_Meas\_Errs* (*TDOA\_Bias\_Err?* , *TDOA\_Random\_Err?*)

*TDOA\_Bias\_Err* (*Time\_Err*)

*TDOA\_Random\_Err* (*Time\_Err*)

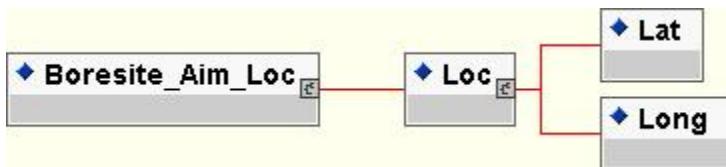
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*Boresite\_Aim\_Loc (Loc)*

*Loc (Lat , Long)*



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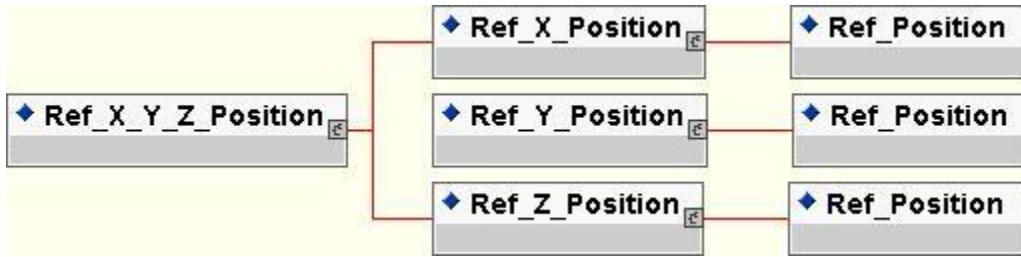
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*Ref\_X\_Y\_Z\_Position (Ref\_X\_Position , Ref\_Y\_Position , Ref\_Z\_Position)*

*Ref\_X\_Position (Ref\_Position)*

*Ref\_Y\_Position (Ref\_Position)*

*Ref\_Z\_Position (Ref\_Position)*

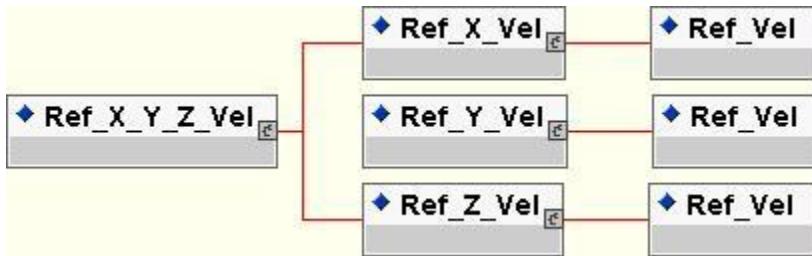


*Ref\_X\_Y\_Z\_Vel (Ref\_X\_Vel , Ref\_Y\_Vel , Ref\_Z\_Vel)*

*Ref\_X\_Vel (Ref\_Vel)*

*Ref\_Y\_Vel (Ref\_Vel)*

*Ref\_Z\_Vel (Ref\_Vel)*



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## 5.9.1.4.6.1 DWELL DESCRIPTION DATA

The *Dwell Description Data* [Dwell\_Desc\_Data] identifies a group of elements which uniquely distinguish the sensor collection time period(s) associated with specified information. The *Dwell Description Data* [Dwell\_Desc\_Data] is a complex group element containing the following optional elements: *Boresite Aim Location*, *Sensor 1 Identifier*, and *Sensor 2 Identifier*.

### 5.9.1.4.6.1.1 BORESITE AIM LOCATION

The *Boresite Aim Location* [Boresite\_Aim\_Loc] provides a mathematical estimate of the location pointed to by the effective center of the boresite of the sensor aperture.

### 5.9.1.4.6.1.2 SENSOR 1 IDENTIFIER

The *Sensor 1 Identifier* [Sensr\_1\_ID] is an operationally assigned value used to indicate the primary sensor used to provide a reference for reporting collaborative geo-observable data. The *Sensor 1 Identifier* provides a cooperative collection processor the opportunity to apply known characteristics of the identified sensor to improve collaborative results. Sensors can be on a common platform or on different platforms.

### 5.9.1.4.6.1.3 SENSOR 2 IDENTIFIER

The *Sensor 2 Identifier* [Sensr\_2\_ID] is an operationally assigned value used to indicate the secondary sensor used to provide a reference for reporting collaborative geo-observable data. The *Sensor 2 Identifier* provides a cooperative collection processor the opportunity to apply known characteristics of the identified sensor to improve collaborative results. Sensors can be on a common platform or on different platforms.

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### 5.9.1.4.6.2 SENSOR 1 RECTANGULAR REFERENCE

The *Sensor 1 Rectangular Reference* [Sensr\_1\_Rectng\_Ref] groups the x, y, and z position and velocity of the Sensor 1 reference point or platform in ECF Cartesian coordinates as defined in the World Geodetic System-84 (WGS-84).

### 5.9.1.4.6.3 SENSOR 2 RECTANGULAR REFERENCE

The *Sensor 2 Rectangular Reference* [Sensr\_2\_Rectng\_Ref] groups the x, y, and z position and velocity of the Sensor 2 reference point or platform in ECF Cartesian coordinates as defined in the World Geodetic System-84 (WGS-84).

### 5.9.1.4.6.4 TIME RESOLUTION

The *Time Resolution* [Time\_Resol] defines the value of the least significant bit (LSB) in seconds for a reported series of *Delta Time* [Delta\_Time] fields.

### 5.9.1.4.6.5 TIME PRECISION

The *Time Precision* [Time\_Precision] defines the precision of the *Delta Time* [Delta\_Time] fields in the associated *Delta Time Set* [Delta\_Time\_Set]. The precision in the *Time Precision* field shall be no smaller than the *Time Resolution* field and no greater than the largest delta time representable by the upper range of the *Delta Time* [Delta\_Time] field given the time resolution setting.

### 5.9.1.4.6.6 TOTAL NUMBER DELTA TIME SETS

The *Total Number Delta Time Sets* [Total\_Num\_Delta\_Time\_Sets] on first report indicates the total number of pairs of values (number of delta time sets with each set containing one pair) being reported. On

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subsequent reports of the same event, this value shall equal zero as a continuation indicator.

## 5.9.1.4.6.7 TDOA SET

The *TDOA Set* [TDOA\_Set] defines the repetitive construct for providing a set of *Delta Time* values associated with TDOA data. The construct identifies a structure of elements which provide one or two TDOA measurements.

### TDOA Set Structure:

*TDOA\_Set (Delta\_Time\_Set+)*

*Delta\_Time\_Set (Seq\_Num , Delta\_Time , Delta\_Time)*



*TDOA\_Meas\_Errs (TDOA\_Bias\_Err? , TDOA\_Random\_Err?)*

*TDOA\_Bias\_Err (Time\_Err)*

*TDOA\_Random\_Err (Time\_Err)*



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## **5.9.1.4.6.7.1 DELTA TIME SET**

The *Delta Time Set* [Delta\_Time\_Set] identifies a pair of time values with an associated sequencing which may be grouped together with other delta time sets to describe a sequence of intercepts (such as a series of pulses) or a group of time increments (such as time differences).

### **5.9.1.4.6.7.1.1 SEQUENCE NUMBER**

The *Sequence Number* [Seq\_Num] provides a capability to identify and maintain order of associated fields. Instances of an associated field are transmitted with a one-up count of this field with a rollover from the maximum value back to the minimum value.

### **5.9.1.4.6.7.1.2 DELTA TIME**

The *Delta Time* [Delta\_Time] identifies an increment of time such as a time offset from a set time or time difference between two other time values.

### **5.9.1.4.6.8 FINAL SET TYPE**

The *Final Set Type* [Final\_Set\_Typ] identifies the number of valid entries in the last set of entries for a series of sets. This field is necessary to accommodate the case where the total number of set elements reported is odd. In this case, the producer shall report the last two values of a set containing only one valid value and the second value set to zero. The zero value shall be discarded by the recipient prior to processing the data set. The field is an enumerated type with possible settings of a single entry set of values and a double entry set of values.

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### 5.9.1.4.6.9 TDOA MEASUREMENT ERRORS

The *TDOA Measurement Errors* [TDOA\_Meas\_Errs] identifies a group of elements which provide the type and/or amount of known, measurable, or estimated inaccuracies in reported TDOA values. The *TDOA Measurement Errors* is a group element containing optional elements *TDOA Bias Error* and *TDOA Random Error*.

#### 5.9.1.4.6.9.1 TDOA BIAS ERROR

The *TDOA Bias Error* [TDOA\_Bias\_Err] indicates the originator's best estimate of long-term uncorrectable TDOA Error due to errors in clock accuracy or platform location. The *TDOA Bias Error* [TDOA\_Bias\_Err] is a composite of *Time Error*.

##### 5.9.1.4.6.9.1.1 TIME ERROR

The *Time Error* [Time\_Err] identifies the amount of error measured and/or estimated in a time-related measurement.

##### 5.9.1.4.6.9.2 TDOA RANDOM ERROR

The *TDOA Random Error* [TDOA\_Random\_Err] indicates originator's best estimate of TDOA Error due to noise or other short-term bias effects which will change from one measurement to the next. The *TDOA Random Error* [TDOA\_Random\_Err] is a composite of *Time Error*.

### 5.9.1.4.7 TDOA RATE OF CHANGE ELEMENTS

The *TDOA Rate Of Change Elements* [TDOA\_Rate\_Of\_Chg\_Elmnts] identifies a group of elements necessary to distinguish and report all or a portion of a specific set of TDOA Rate Of Change measurements. Each *TDOA Rate Of Change Elements* group shall contain at least the minimum elements required by the "TDOA Rate Of Change Elements Structure" and as otherwise required by producer rules.

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TDOA Rate of Change Elements Structure:

*TDOA\_Rate\_Of\_Chg\_Elmnts (Dwell\_Desc\_Data? , Sensr\_1\_Rectng\_Ref? ,  
Sensr\_2\_Rectng\_Ref? , Time\_Resol? , Time\_Precision? ,  
Total\_Num\_Delta\_Time\_Sets? , TDOA\_Rate\_Of\_Chg\_Set , Final\_Set\_Typ? ,  
TDOA\_Rate\_Of\_Chg\_Meas\_Errs?)*

*Dwell\_Desc\_Data (Boresite\_Aim\_Loc? , Sensr\_1\_ID? , Sensr\_2\_ID?)*

*Sensr\_1\_Rectng\_Ref (Ref\_X\_Y\_Z\_Position? , Ref\_X\_Y\_Z\_Vel?)*

*Sensr\_2\_Rectng\_Ref (Ref\_X\_Y\_Z\_Position? , Ref\_X\_Y\_Z\_Vel?)*

*TDOA\_Rate\_Of\_Chg\_Set (Delta\_Time\_Set+)*

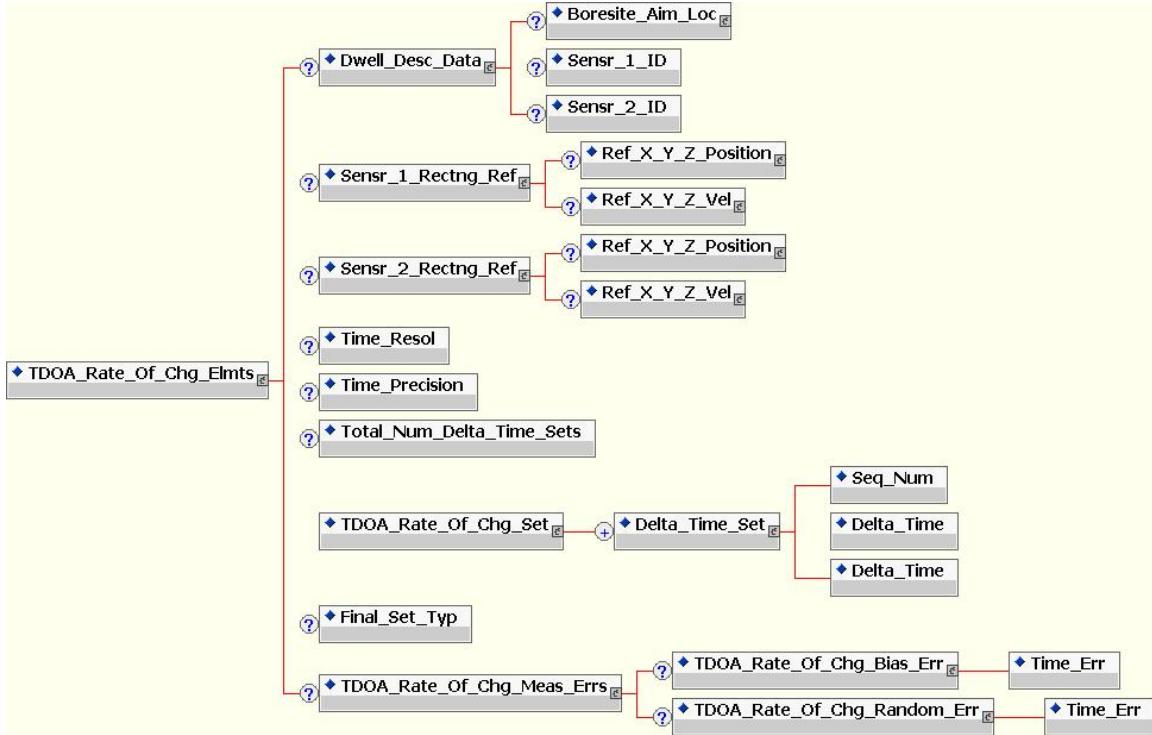
*TDOA\_Rate\_Of\_Chg\_Meas\_Errs (TDOA\_Rate\_Of\_Chg\_Bias\_Err? ,  
TDOA\_Rate\_Of\_Chg\_Random\_Err?)*

*TDOA\_Rate\_Of\_Chg\_Bias\_Err (Time\_Err)*

*TDOA\_Rate\_Of\_Chg\_Random\_Err (Time\_Err)*

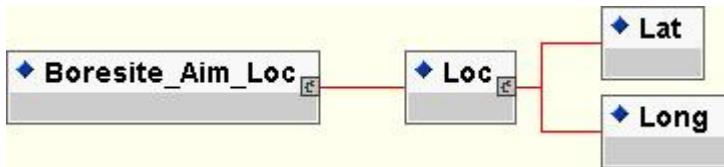
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*Boresite\_Aim\_Loc (Loc)*

*Loc (Lat , Long)*



*Ref\_X\_Y\_Z\_Position (Ref\_X\_Position , Ref\_Y\_Position , Ref\_Z\_Position)*

*Ref\_X\_Position (Ref\_Position)*

*Ref\_Y\_Position (Ref\_Position)*

*Ref\_Z\_Position (Ref\_Position)*

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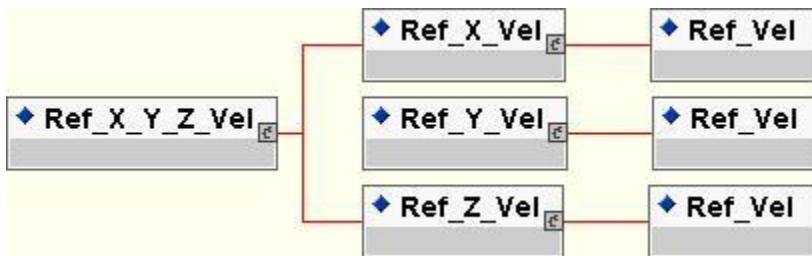


*Ref\_X\_Y\_Z\_Vel (Ref\_X\_Vel , Ref\_Y\_Vel , Ref\_Z\_Vel)*

*Ref\_X\_Vel (Ref\_Vel)*

*Ref\_Y\_Vel (Ref\_Vel)*

*Ref\_Z\_Vel (Ref\_Vel)*



## 5.9.1.4.7.1 TDOA RATE OF CHANGE SET

The *TDOA Rate Of Change Set* [TDOA\_Rate\_Of\_Chg\_Set] defines the repetitive construct for providing a set of *Delta Time* values associated with TDOA Rate Of Change data. The construct identifies a structure of elements which provide one or two TDOA Rate Of Change measurements where each TDOA Rate Of Change is the calculated derivative, i.e., acceleration delta of time, for an associated TDOA value.

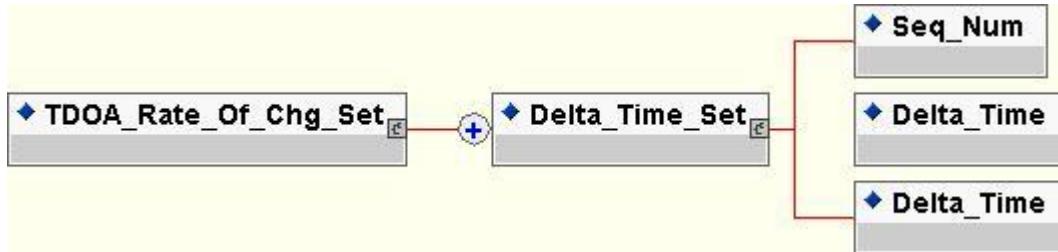
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## TDOA Rate of Change Set Structure:

*TDOA\_Rate\_Of\_Chg\_Set (Delta\_Time\_Set+)*

*Delta\_Time\_Set (Seq\_Num , Delta\_Time , Delta\_Time)*



### 5.9.1.4.7.1.1 DELTA TIME SET

The *Delta Time Set* [Delta\_Time\_Set] identifies a pair of time values with an associated sequencing which may be grouped together with other delta time sets to describe a sequence of intercepts (such as a series of pulses) or a group of time increments (such as time differences).

#### 5.9.1.4.7.1.1.1 SEQUENCE NUMBER

The *Sequence Number* [Seq\_Num] provides a capability to identify and maintain order of associated fields. Instances of an associated field are transmitted with a one-up count of this field with a rollover from the maximum value back to the minimum value.

#### 5.9.1.4.7.1.1.2 DELTA TIME

The *Delta Time* [Delta\_Time] identifies an increment of time such as a time offset from a set time or time difference between two other time values.

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## 5.9.1.4.7.2 TDOA RATE OF CHANGE MEASUREMENT ERRORS

The *TDOA Rate Of Change Measurement Errors*

[TDOA\_Rate\_Of\_Chg\_Meas\_Errs] identifies a group of elements which provide the type and/or amount of known, measurable, or estimated inaccuracies in reported TDOA Rate Of Change values. The *TDOA Rate Of Change Measurement Errors* is a group element containing optional elements *TDOA Rate Of Change Bias Error* and *TDOA Rate Of Change Random Error*.

### TDOA Rate of Change Measurement Errors Structure:

*TDOA\_Rate\_Of\_Chg\_Meas\_Errs* (*TDOA\_Rate\_Of\_Chg\_Bias\_Err?* ,  
*TDOA\_Rate\_Of\_Chg\_Random\_Err?*)

*TDOA\_Rate\_Of\_Chg\_Bias\_Err* (*Time\_Err*)

*TDOA\_Rate\_Of\_Chg\_Random\_Err* (*Time\_Err*)



## 5.9.1.4.7.2.1 TDOA RATE OF CHANGE BIAS ERROR

The *TDOA Rate Of Change Bias Error* [TDOA\_Rate\_Of\_Chg\_Bias\_Err] indicates originator's best estimate of long-term uncorrectable TDOA Rate Of Change Error due to errors in clock accuracy or platform location. The *TDOA Rate Of Change Bias Error* [TDOA\_Rate\_Of\_Chg\_Bias\_Err] is a composite of *Time Error*.

## 5.9.1.4.7.2.2 TDOA RATE OF CHANGE RANDOM ERROR

The *TDOA Rate Of Change Random Error* [TDOA\_Rate\_Of\_Chg\_Random\_Error] indicates originator's best estimate

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of TDOA Rate Of Change Error due to noise or other short-term bias effects which will change from one measurement to the next. The *TDOA Rate Of Change Random Error* [TDOA\_Rate\_Of\_Chg\_Random\_Error] is a composite of *Time Error*.

## 5.9.1.4.7.3 MUTUAL-USE TDOA RATE OF CHANGE ELEMENTS

For TDOA Rate of Change reporting, the *Dwell Description Data*, *Sensor 1 Rectangular Reference*, *Sensor 2 Rectangular Reference*, *Time Resolution*, *Time Precision*, *Total Number Delta Time Sets*, and the *Final Set Type* elements are utilized in a similar manner as described under the *TDOA Elements* paragraphs (see [Section 5.9.1.4.6](#)). The same producer rules shall be followed for these elements.

## 5.9.1.5 COLLECTION ELEMENTS

The *Collection Elements* [Collect\_Elmnts] element provides descriptive elements of the collection. The element is a group type containing the following optional elements: *Collection System Characteristics*, *Collection Termination Time*, *Collection Mission ID*, and *Collection Event ID*. The *Collection Elements* group shall contain at least the minimum elements required by the "Collection Elements Structure" and as otherwise required by producer rules.

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Collection Elements Structure:

*Collect\_Elmnts (Collect\_Sys\_Char? , Collect\_Term\_Time? ,  
(Collect\_Mission\_ID , Collect\_Event\_ID?) \*)*

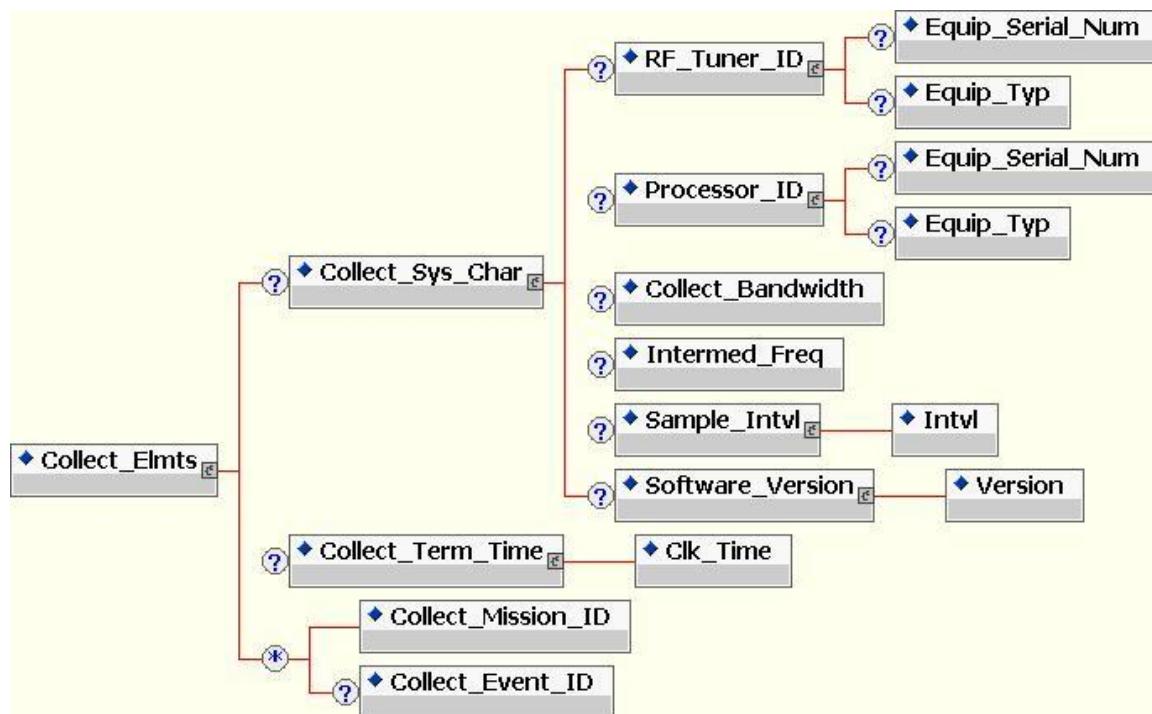
*Collect\_Sys\_Char (RF\_Tuner\_ID? , Processor\_ID? , Collect\_Bandwidth?  
Intermed\_Freq? , Sample\_Intvl? , Software\_Version?)*

*RF\_Tuner\_ID (Equip\_Serial\_Num? , Equip\_Typ?)*

*Processor\_ID (Equip\_Serial\_Num? , Equip\_Typ?)*

*Software\_Version (Version)*

*Collect\_Term\_Time (Clk\_Time)*



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## 5.9.1.5.1 COLLECTION SYSTEM CHARACTERISTICS

The *Collection System Characteristics* [Collect\_Sys\_Char] element describes the collection system equipment. The element is a group type with a content consisting of the following optional elements: *RF Tuner ID*, *Processor ID*, *Collection Bandwidth*, *Intermediate Frequency*, *Sample Interval*, and *Software Version*.

### 5.9.1.5.1.1 RF TUNER ID

The *RF Tuner ID* [RF\_Tuner\_ID] element describes RF tuner equipment. The element is a group type containing optional elements *Equipment Serial Number* and *Equipment Type*.

#### 5.9.1.5.1.1.1 EQUIPMENT SERIAL NUMBER

The *Equipment Serial Number* [Equip\_Serial\_Num] element contains the serial number assigned by the equipment manufacturer. The element is a string type with a maximum length of 20 characters.

#### 5.9.1.5.1.1.2 EQUIPMENT TYPE

The *Equipment Type* [Equip\_Typ] element provides the name or nomenclature assigned by the manufacturer or developing organization. The element is a string type with a maximum length of 15 characters.

#### 5.9.1.5.1.2 PROCESSOR ID

The *Processor ID* [Processor\_ID] element describes collection processor equipment. The element is a group type containing optional elements *Equipment Serial Number* and *Equipment Type*.

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## 5.9.1.5.1.3 COLLECTION BANDWIDTH

The *Collection Bandwidth* [Collect\_Bandwidth] element identifies the width of frequency range in which the collection was performed. The element is a float type.

## 5.9.1.5.1.4 INTERMEDIATE FREQUENCY

The *Intermediate Frequency* [Intermed\_Freq] element identifies the intermediate frequency of the collection equipment. The element is a float type.

## 5.9.1.5.1.5 SAMPLE INTERVAL

The *Sample Interval* [Sample\_Intvl] element defines a time interval between two or more particular measured samples. The reciprocal of this value provides the effective sampling rate. The *Sample Interval* is a composite of *Interval*.

### 5.9.1.5.1.5.1 INTERVAL

The *Interval* [Intvl] is the difference between two times.

## 5.9.1.5.1.6 SOFTWARE VERSION

The *Software Version* [Software\_Version] element designates a specific edition or release of a software package. The element is a composite of *Version*.

### 5.9.1.5.1.6.1 VERSION

The *Version* [Version] element designates the version of software, document, algorithm, etc.

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**5.9.1.5.2 COLLECTION TERMINATION TIME**

The *Collection Termination Time* [Collect\_Term\_Time] element identifies the time collection terminated. The element is a composite of *Clock Time*.

**5.9.1.5.3 COLLECTION MISSION ID**

The *Collection Mission ID* [Collect\_Mission\_ID] element uniquely identifies the collection mission. The element is a string type with a maximum length of 9 characters.

**5.9.1.5.4 COLLECTION EVENT ID**

The *Collection Event ID* [Collect\_Event\_ID] element uniquely identifies the specific collection event. The element is an integer type.

**5.9.1.6 MESSAGE DESCRIPTION ELEMENTS**

*Message Description Elements* [Msg\_Desc\_Elmts] {already defined}

**5.9.1.6.1 DESTINATION ADDRESS**

*Destination Address* [Dest\_Addr] {already defined}

**5.9.1.6.2 ALTERNATE DESTINATION ADDRESS**

*Alternate Destination Address* [Alternate\_Dest\_Addr] {already defined}

**5.9.1.6.3 TIME OF ENTRY**

*Time of Entry* [TOE] {already defined}

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**5.9.1.6.4 TIME OF ENTRY ORIGINATOR ADDRESS**

*Time of Entry Originator Address [TOE\_Orig\_Addr] {already defined}*

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## Message Description Elements Structure:

*Msg\_Desc\_Elmnts (Dest\_Addr? , Alternate\_Dest\_Addr? , (TOE , TOE\_Orig\_Addr?)?)*

*Dest\_Addr (Dest\_Grp? , Subnet? , Node?)*

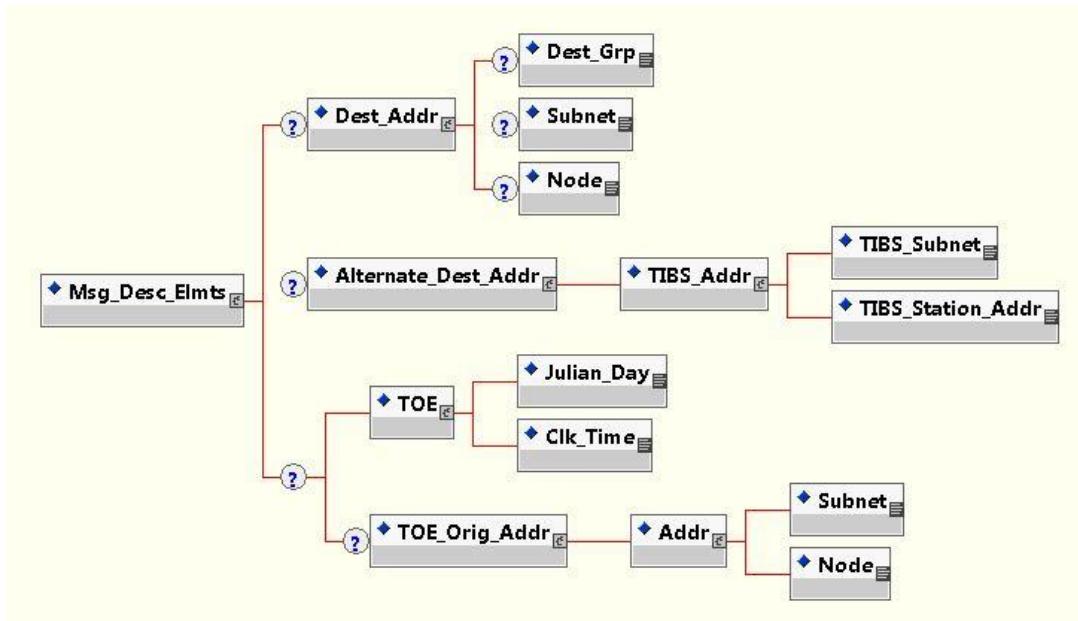
*Alternate\_Dest\_Addr (TIBS\_Addr)*

*TIBS\_Addr (TIBS\_Subnet , TIBS\_Station\_Addr)*

*TOE (Julian\_Day , Clk\_Time)*

*TOE\_Orig\_Addr (Addr)*

*Addr (Subnet, Node)*



### 5.9.1.7 URGENT INTERIM CAPABILITY (UIC) ELEMENTS

*Urgent Interim Capability (UIC) Elements [UIC\_Elmnts] {already defined in [Section 5.6.1.38](#)}*

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## 5.10 OPERATIONS NOTIFICATION MESSAGE SUMMARY

DTD NAME: Ops\_Notify\_Msg

DED NAME: OPERATIONS NOTIFICATION MESSAGE

PURPOSE/SCOPE/DESCRIPTION: *Operations Notification Message* [Ops\_Notify\_Msg] identifies a group of elements that provide announcements, coordination, direction, etc. regarding IBS Operations.

5.10.1 OPERATIONS NOTIFICATION MESSAGE ELEMENTS, STRUCTURE and IMPLEMENTATION

5.10.1.1 The *Operations Notification Message* [Ops\_Notify\_Msg] may be used to make IBS users aware of actions or events such as broadcast frequency changes, warnings, outages, degraded operations, etc. This message shall be produced ONLY by the GIBSSC or GIBSSC-designated IBS components to disseminate information to the entire IBS broadcast and network community. The information is intended to pertain only to the operation of the IBS broadcast and network and shall not be used for conveyance of tactical information between IBS participants. Each *Operations Notification Message* shall contain at least the minimum elements required by the "Operations Notification Message Structure" and as otherwise required by producer rules.

5.10.1.2 NOTE: All consumer systems shall provide a mechanism to present all information contained in an *Operations Notification Message* (with the optional exception of the *Producer Message Sequence Number*) to the appropriate platform personnel or site personnel. This might be as a direct presentation on the operator's display or could be via flagging of the message for later review. An example of the latter is the case of a fighter cockpit where the user is time and display limited, but the message is flagged for ground crew review and potential applicable action.

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5.10.1.3 A *Message Number* [Msg\_Num] shall be utilized in an *Operations Notification Message* just as it is in other messages. It is a required one-up number assigned to each *Operations Notification Message* by the data originator. References to an *Operations Notification Message* use the package originator ID and the "N" character as the message type (i.e., *Subnet*, *Node*, *Message Type*, and *Message Number* in the template of "SSnnnnnMxxxxxxxxx" such as BK00006N130045829 – see [Section 4.3.3.2](#).

5.10.1.3.1 Additionally, an *Operations Notification Message* may be directed/routed to a particular group of IBS users, an IBS subnet, all IBS subnets, and/or an IBS node using the destination addressing [Dest\_Addr] capability within the *Message Description Elements* [Msg\_Desc\_Elmnts] (see description of destination addressing in [Section 5.8.1.4.1](#)). Consumer systems shall be capable of recognizing and processing messages directed to their address. It is highly recommended that receive systems be capable of filtering by the *Destination Address*.

5.10.1.4 *Notification Subject* is a required element for identifying the topic of a notification message. The subject is normally a short text description containing letters, numbers, and/or symbols which clearly identifies the specific area of information being conveyed to the IBS community. The *Notification Subject* is, ideally, uniquely different from any previous subject even if it is a follow-up to a previous notification. For example, were a previous subject to be "PACOM CUS Outage", a later appropriately named subject might be "PACOM CUS Outage 15Jun". Each *Operations Notification Message* is further categorized into one of four types of notification using the required *Notification Type* [Notif\_Typ] element. The *Notification Subject* and *Notification Type* elements provide for quick user identification of notification messages and/or automated TDP topic or categorized storage/search.

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5.10.1.5 An *Operations Notification Message* may optionally have an included *Effective Time* [*Effective\_Time*] and/or an *Expire Time* [*Expire\_Time*] to indicate to users the points in time for which the notification information shall be applicable. Based upon the inclusion or exclusion of these times, the GIBSSC may convey to the users the time for action(s) to be commenced or ceased; standing orders to become effective or terminated; or for information to become valid or invalid. If the *Effective Time* is not present, the information shall be interpreted to be in effect immediately. If the *Expire Time* is not present, the information shall be interpreted to be in effect until further notice.

5.10.1.6 A *Reference Info* [*Ref\_Info*] element provides child elements which support either a World-Wide-Web Consortium (W3C) standard *Uniform Resource Locator* [*URL*] reference or a more general *Message Reference* [*Msg\_Ref*] to permit elaboration or modifying information to a previous or separately disseminated report or message. A URL is a network hierarchical path to a file containing a reference message. Using a URL shortening service (as specified in [Section 5.6.1.29.6.1](#)), a URL such as the following:

"[http://www.ibs.com/archive/correspondence/SOCOM\\_Letter\\_07Oct04.txt](http://www.ibs.com/archive/correspondence/SOCOM_Letter_07Oct04.txt)"

would be sent as follows:

<http://www.shortenthis.gov/X861x>.

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5.10.1.7 The *Message Reference* capability provides a flexible and general-purpose text area for identification of referenced messages from various sources. The following are possible examples of ways to identify both a message source and the message identifying information:

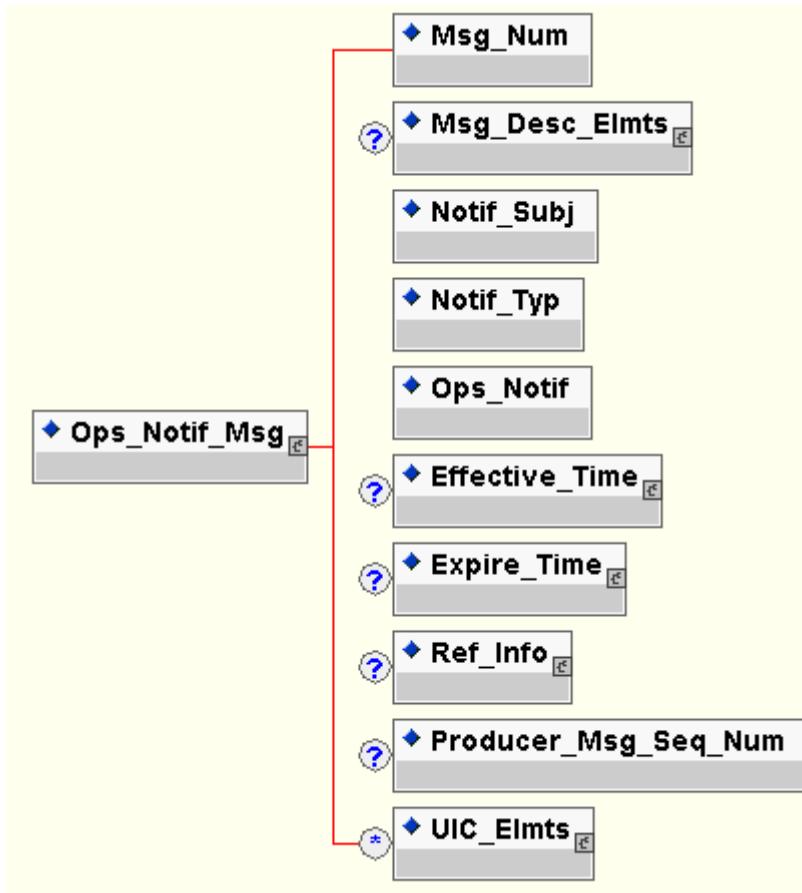
DMS: <up to 38 character subject> DTG:DDHHMMZMMYY

NIPRNET e-mail: Pierce e-mail to IME's dated 12July08 10:24am

SMS: from: 903.555.3402 to: 782.555.6111 dated 04Jan06 08:00am

## Operations Notification Message Structure:

*Ops\_Notif\_Msg (Msg\_Num , Msg\_Desc\_Elmnts? , Notif\_Subj , Notif\_Typ ,  
Ops\_Notif , Effective\_Time? , Expire\_Time? , Ref\_Info? ,  
Producer\_Msg\_Seq\_Num? , UIC\_Elmnts\*)*



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5.10.1.8 MESSAGE NUMBER

*Message Number* [Msg\_Num] {already defined}

5.10.1.8A MESSAGE DESCRIPTION ELEMENTS

*Message Description Elements* [Msg\_Desc\_Elmnts] {already defined}

5.10.1.8A.1 DESTINATION ADDRESS

*Destination Address* [Dest\_Addr] {already defined}

5.10.1.8A.2 ALTERNATE DESTINATION ADDRESS

*Alternate Destination Address* [Alternate\_Dest\_Addr] {already defined}

5.10.1.8A.3 TIME OF ENTRY

*Time of Entry* [TOE] {already defined}

5.10.1.8A.4 TIME OF ENTRY ORIGINATOR ADDRESS

*Time of Entry Originator Address* [TOE\_Orig\_Addr] {already defined}

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## Message Description Elements Structure:

*Msg\_Desc\_Elmnts (Dest\_Addr? , Alternate\_Dest\_Addr? , (TOE , TOE\_Orig\_Addr?)?)*

*Dest\_Addr (Dest\_Grp? , Subnet? , Node?)*

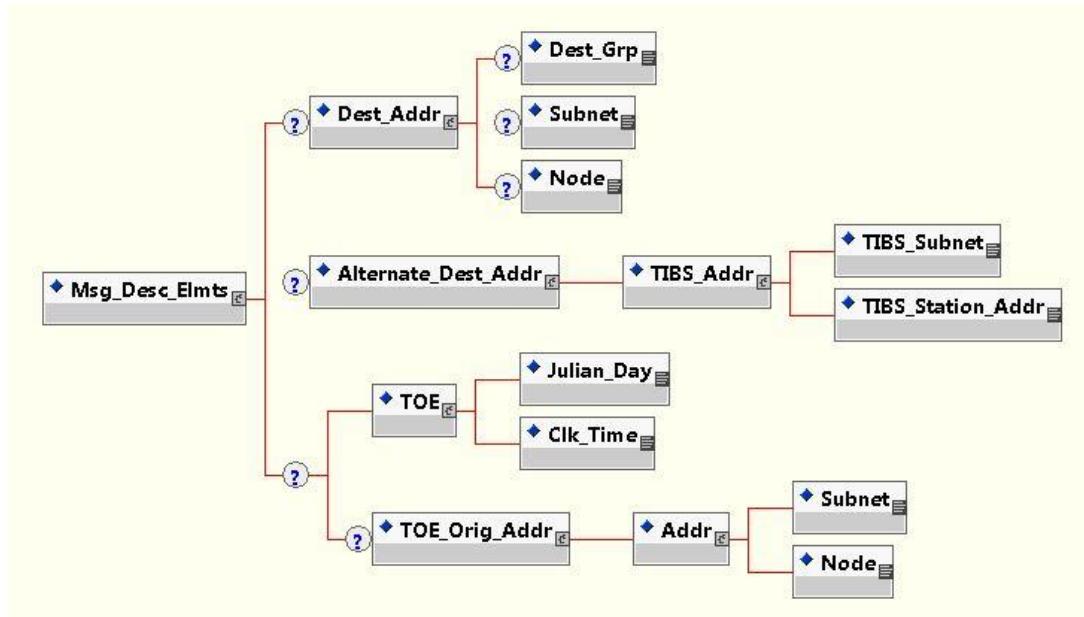
*Alternate\_Dest\_Addr (TIBS\_Addr)*

*TIBS\_Addr (TIBS\_Subnet , TIBS\_Station\_Addr)*

*TOE (Julian\_Day , Clk\_Time)*

*TOE\_Orig\_Addr (Addr)*

*Addr (Subnet, Node)*



### 5.10.1.9 NOTIFICATION SUBJECT

*Notification Subject [Notif\_Subj] indicates the topic or title of an Operations Notification Message.*

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## 5.10.1.10 NOTIFICATION TYPE

*Notification Type* [Notif\_Typ] indicates the category of administrative information or action provided in an *Operations Notification Message*.

## 5.10.1.11 OPERATIONS NOTIFICATION

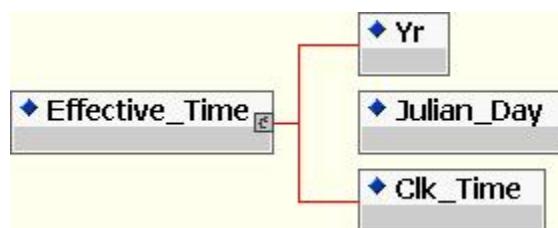
*Operations Notification* [Ops\_Notify] is a STRING element which provides status, change, alert, or announcement information from the GIBSSC to the IBS community regarding operation of the IBS Enterprise.

## 5.10.1.12 EFFECTIVE TIME

*Effective Time* [Effective\_Time] identifies the specific point in time at which directed action is to commence; information becomes valid; or a standing order goes into effect.

### Effective Time Structure:

*Effective\_Time* (Yr , Julian\_Day , Clk\_Time)



## 5.10.1.13 EXPIRE TIME

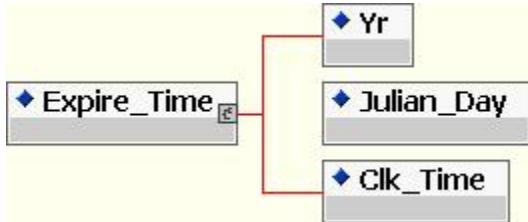
*Expire Time* [Expire\_Time] identifies the specific point in time at which directed action is to cease; information ceases to be valid; or a standing order ceases to be in effect.

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## Expire Time Structure:

*Expire\_Time (Yr , Julian\_Day , Clk\_Time)*

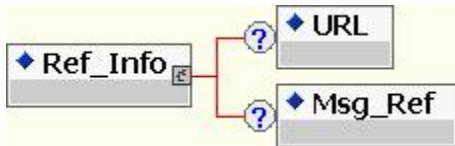


## 5.10.1.14 REFERENCE INFORMATION

*Reference Information [Ref\_Info] provides a bibliographic location or other information identifying related messages or information.*

## Reference Information Structure:

*Ref\_Info (URL? , Msg\_Ref?)*



## 5.10.1.14.1 URL (UNIFORM RESOURCE LOCATOR)

*Uniform Resource Locator [URL] {already defined}*

## 5.10.1.14.2 MESSAGE REFERENCE

*Message Reference [Msg\_Ref] provides information to identify a related message (non-URL-based) .*

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**5.10.1.15 PRODUCER MESSAGE SEQUENCE NUMBER**

*Producer Message Sequence Number [Producer\_Msg\_Seq\_Num] {already defined}*

**5.10.1.16 URGENT INTERIM CAPABILITY (UIC) ELEMENTS**

*Urgent Interim Capability (UIC) Elements [UIC\_Elmnts] {already defined in [Section 5.6.1.38](#)}*

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## 5.11 OPERATIONAL STATUS MESSAGE SUMMARY

DTD NAME: Oper\_Status\_Msg

DED NAME: OPERATIONAL STATUS MESSAGE

PURPOSE/SCOPE/DESCRIPTION: The CMF *Operational Status Message* [Oper\_Status\_Msg] is reported by IBS participants to indicate the current operational reporting posture of assets on or contributing to the broadcast or network.

### 5.11.1 OPERATIONAL STATUS MESSAGE ELEMENTS, STRUCTURE and IMPLEMENTATION

5.11.1.1 An *Operational Status Message* shall be used only for reporting contributory and connectivity status of assets which are part of or are contributing to IBS. Assets may include IBS communications nodes, reporting units, sensor platforms, or other assets contributing information into or composing the IBS architecture. Status shall NOT be based upon tactical data from intelligence sensors, collection, or reconnaissance information (as that status is to be reported via other IBS messages). The statuses which can be provided give the IBS community operational, degraded, and non-operational types of indication. Each *Operational Status Message* shall contain at least the minimum elements required by the "Operational Status Message Structure" and as otherwise required by producer rules.

5.11.1.2 The status may be reported, using an *Operational Status Message*, either by the asset itself or possibly by some surrogate within the IBS system such as a coordinating or monitoring element or unit. Support for display of *Operational Status Messages* is not required, but is strongly recommended for all tactical display systems. Only producers supporting assets wishing to report status

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for themselves or others need to support output of the *Operational Status Message*, but all systems which pass IBS data through to other systems shall support their receipt and passage.

5.11.1.3 NOTE: Due to IBS Bandwidth considerations, the possibility exists that excess status reporting could be performed at the expense of tactical data reporting. Therefore, the GIBSSC has the responsibility to actively control and monitor which systems are permitted to utilize (produce) the *Operational Status Message* as well as the frequency of status reporting by all such IBS participants.

5.11.1.4 A *Message Number* [Msg\_Num] shall be utilized in an *Operational Status Message* just as it is in other messages. It is a required one-up number assigned to each *Operational Status Message* by the data originator. An optional *Time of Status* [Time\_Of\_Status] is also defined to allow reporting of a *Julian Day* and *Clock Time* when desired to indicate the time that the status was indicated, measured, or observed by the originating source.

5.11.1.5 *Operational Status Message* producers shall identify the asset for which the message is being reported. Continuity between subsequent operational status reports on the same asset shall be maintained through the use of at least one of the following: 1) an originator ID; 2) an *Operational Asset Label*; 3) the combination of an *Operational Asset Label* and an *Operational Asset ID*; 4) a *Reference Entity ID*. Self-reporting assets (i.e., reported status is for the entity/unit/system identified as the originator of the data package) always provide the originator ID (*Originator Address* or *Transmitter Address*) in the *CMF Doc* structure. Self-reporting assets shall also report an *Operational Asset Label* [Oper\_Asset\_Lbl] (with or without an associated *Operational Asset ID* [Oper\_Asset\_ID]) and/or a *Reference Entity ID* [Ref\_Entity\_ID] to maintain reporting continuity when using something other than their originator ID.

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5.11.1.6 The *Operational Asset Label* is an optional short text name or moniker chosen by the producer which uniquely identifies the reported asset or set of assets for which status is being provided. In addition to the *Operational Asset Label*, an *Operational Asset ID* can be reported to uniquely identify an asset within a set of assets identified by the label. If either the *Operational Asset Label* or the combination of the *Operational Asset Label* and *Operational Asset ID* are reported, they shall continue to be reported for continuity. The GIBSSC will monitor and control the *Operational Asset Label/ID* assignments to avoid conflicts among the various assets.

5.11.1.7 If the asset for which the status is being reported, is also being reported tactically using an *Entity Message*, a *Reference Entity ID* should be utilized to provide additional or alternative identification of the asset. An example might be where a coordinating element is reporting the status of one or more tactical Blue Force reporting units whom are collecting and contributing data into IBS and tactical information is also being reported via Entity Messages for those units.

5.11.1.8 The optional *Entity Alternate ID Elements* [Entity\_Alternate\_ID\_Elmnts] is available for maintaining IDs from non-IBS sources (see [Section 5.6.1.15](#)). If the *Reference Entity ID* is reported, the *Entity Alternate ID Elements* value shall be the alternate identifier corresponding to the *Reference Entity ID*. NOTE: The receipt of a non-IBS message may result in the reporting of an Entity Alternate ID Element without a corresponding *Reference Entity ID* (i.e., possibly not reported as an entity on IBS).

5.11.1.9 If a surrogate is reporting the status of an asset (i.e., the originator of the packet and the message is not the asset itself), then either an *Operational Asset Label* or a *Reference Entity ID* shall be reported so that there is at least one IBS method of proper asset identification.

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5.11.1.10 The *Location* [Loc] of the asset may also be optionally provided with the status information. Any such asset location would ideally facilitate a status message-unique display capability on a tactical map or possibly on a separate status map. Conversely and/or additionally, status messages without a reported location may necessitate some other display/access method such as an alert window, database, etc.

5.11.1.11 As noted, receiving systems are provided one or more of the possible identifiers for an *Operational Status Message*. Receive systems shall support asset identification by, in precedence order: a *Reference Entity ID*, the combination of *Operational Asset Label* and *Operational Asset ID*, an *Operational Asset Label*, and an originator's ID (*Transmitter Address* or *Originator Address*). If the asset's status is self-reported, the originator's ID will always be present, but higher precedence identifiers could also be provided. A reference ID is displayed/searched/accessible via the subnet, the node, the known message type ("E" for entity), and the entity number. In lieu of the other identifiers, an originator ID works likewise but requires only its subnet and node components to provide the unique look-up value for the asset.

5.11.1.12 There are two separate status components which may be indicated utilizing the *Operational Status Message*: 1) the asset's ability to contribute data and 2) the asset's connectivity to IBS. An asset's contributory status is reported as "Operational", "Degraded", or "Non-Operational" using the *Operational Status, IBS* [Oper\_Status] element. The connectivity of a self-reporting asset shall be indicated by actual receipt of any status message regardless of the asset's indicated ability to contribute data. Each of these status components (i.e., contribution capability and connectivity status) will ideally drive a separate Operational, Degraded, or Non-Operational status indication for the asset on consumer TDPs.

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5.11.1.13 Assets may utilize the *Operational Status*, IBS element to only perform a "Comms Check" or connectivity status check and to likewise thereby indicate only the status of the asset's connectivity without providing the contributory status.

5.11.1.14 Lack of receipt of a status message from a particular asset cannot indicate a lack of connectivity without a known expectation of the status message to have been sent. Thus the IBS *Operational Status Message* provides a method for status providers to indicate to all IBS consumers a *Status Interval* [Status\_Intvl] which indicates the periodic rate at which the consumers shall expect to receive a status report for that asset. If a status message is not received within one *Status Interval* period from the previous reported status, then the consumer may identify the asset's connectivity status as "Degraded". If still not received within two *Status Interval* periods, then the asset's connectivity status shall be deemed as "Non-Operational". Any actual receipt of a status message shall be deemed (defacto) to indicate the asset's connectivity status as "Operational".

5.11.1.15 Note that for surrogate status producers, the *Operational Status*, IBS value indicates the combined "contributory" and/or "connectivity" status for the reported asset. In other words, there is no method for distinguishing why the asset may be indicated as degraded or non operational (i.e., consumer cannot tell if it is because the asset cannot contribute or if it has a connectivity issue, or possibly even both) and is thus simply considered to be indicating an overall "effective" contributing capability status. For other than "Comms Check", consumer systems shall not provide an indication of the asset's connectivity status if the *Operational Asset Label* is reported without a *Reference Entity ID*; or the *Address* portion of the *Reference Entity ID* is not the same as the originator ID.

5.11.1.16 A *Reference Info* [Ref\_Info] element provides child elements which support either a World-Wide-Web Consortium (W3C)

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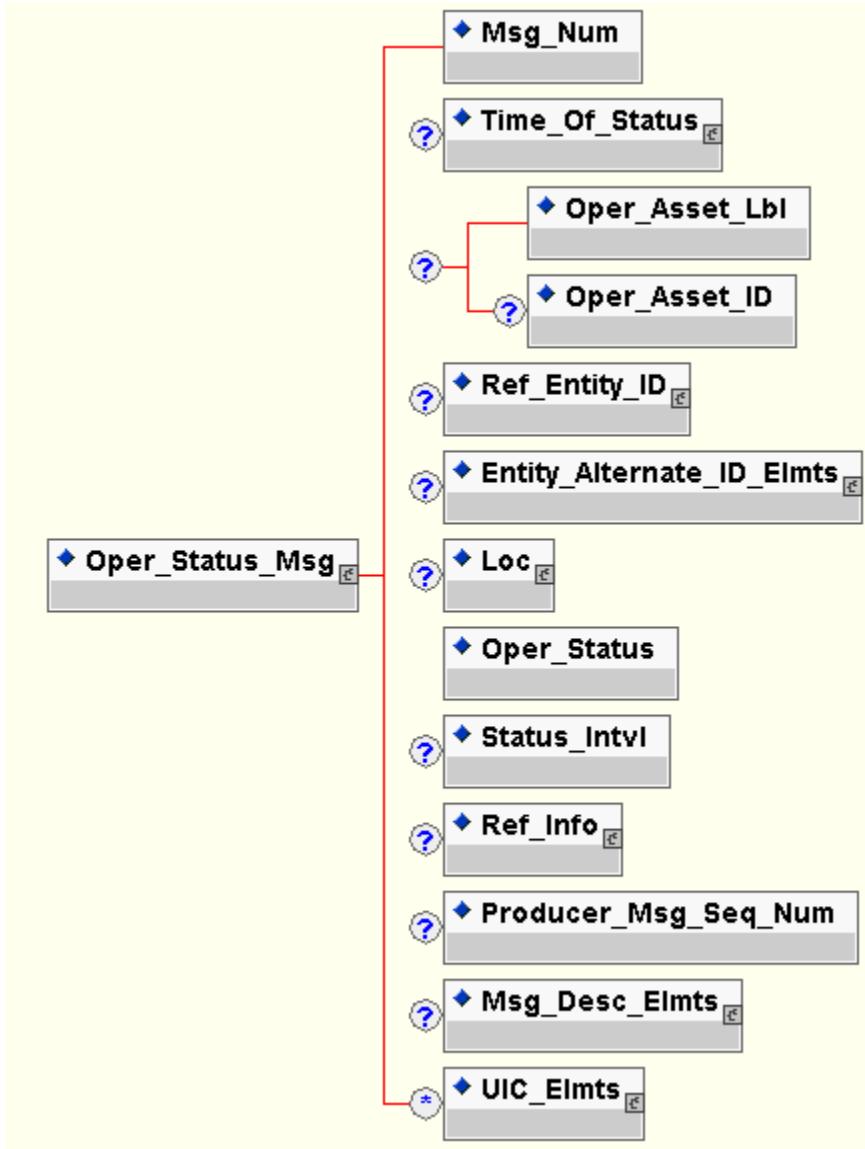
standard *Uniform Resource Locator* [URL] reference or a more general *Message Reference* [Msg\_Ref] to permit elaboration or modifying information regarding the status of the referenced system. A URL is a network hierarchical path to a file containing a reference message (as specified in [Section 5.6.1.29.6.1](#)). The message reference capability provides a flexible and general-purpose text area for identification of referenced messages from various sources (as addressed in [Section 5.10.1.7](#)).

Operational Status Message Structure:

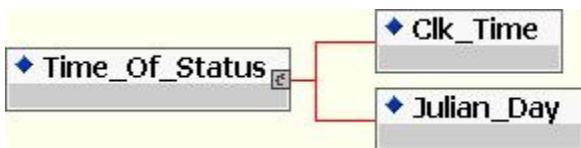
```
Oper_Status_Msg (Msg_Num , Time_Of_Status? , (Oper_Asset_Lbl ,  
Oper_Asset_ID?)? , Ref_Entity_ID? , Entity_Alternate_ID_Elmts? , Loc?  
, Oper_Status , Status_Intvl? , Ref_Info? , Producer_Msg_Seq_Num?  
Msg_Desc_Elmts? , UIC_Elmts*)
```

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*Time\_Of\_Status (Clk\_Time , Julian\_Day)*

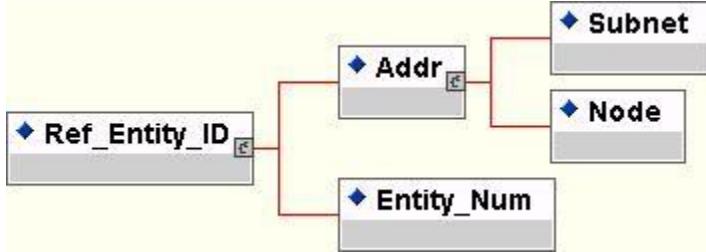


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*Ref\_Entity\_ID (Addr , Entity\_Num)*

*Addr (Subnet , Node)*



*Entity\_Alternate\_ID\_Elmnts ((Link\_11\_11B\_ID | Link\_16\_ID | TDDS\_ID |  
NATO\_Link\_1\_Trk\_Num | TIBS\_Trk\_Num | TRIKS\_Report\_Num | USMTF\_Trk\_ID |  
BINO\_Trk\_Num | VMF\_Entity\_ID\_Serial\_Num)\* , TES\_Event\_ID\*)*

*Link\_11\_11B\_ID (Link\_11\_11B\_Trk\_Num\_Ref , Link\_11\_11B\_PURU)*

*Link\_16\_ID (Link\_16\_Trk\_Num\_Ref , Link\_16\_Trk\_Num\_Src)*

*TDDS\_ID ((TDDS\_CI , TDDS\_SCN , TDDS\_Trk\_Num?) , TDDS\_Rpt\_Num? ,  
TDDS\_Trk\_Upd\_Num? , TDDS\_Chg\_Flag?)*

*TDDS\_CI (Correl\_Indx)*

*TIBS\_Trk\_Num (TIBS\_Subnet , TIBS\_Station\_Addr , TIBS\_Lbl ,  
TIBS\_Msg\_Num)*

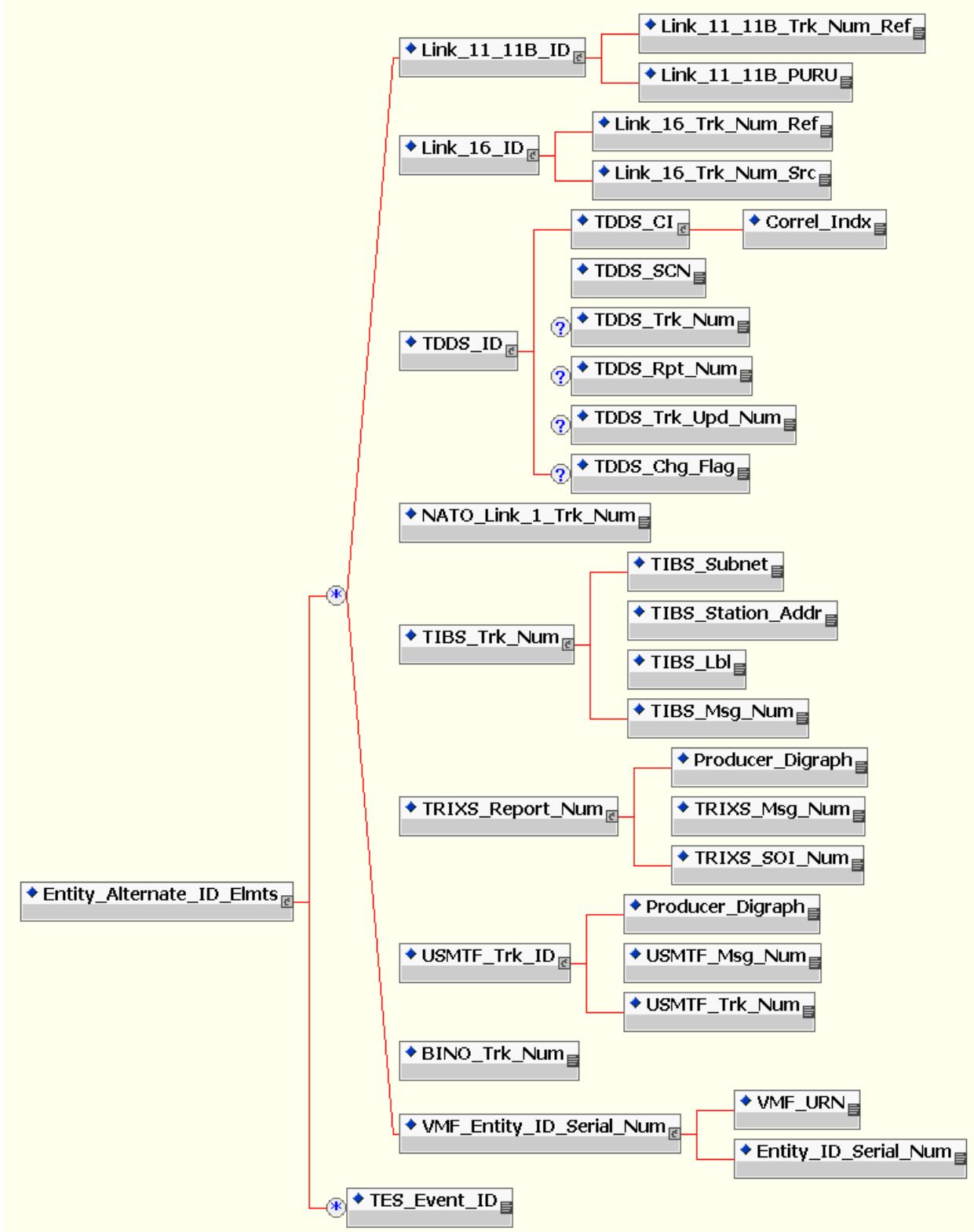
*TRIXS\_Report\_Num (Producer\_Digraph , TRIKS\_Msg\_Num , TRIKS\_SOI\_Num)*

*USMTF\_Trk\_ID (Producer\_Digraph , USMTF\_Msg\_Num , USMTF\_Trk\_Num)*

*VMF\_Entity\_ID\_Serial\_Num (VMF\_URN , Entity\_ID\_Serial\_Num)*

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### 5.11.1.17 TIME OF STATUS

*Time of Status* [*Time\_Of\_Status*] provides the time at which reported status was indicated, measured, or observed by the originating source.

### 5.11.1.18 OPERATIONAL ASSET LABEL

*Operational Asset Label* [*Oper\_Asset\_Lbl*] provides a unique title as sorting/access criterion which may identify the subject asset participating on or contributing to the broadcast/network or which may act as a pseudo-identification for subject assets which must remain anonymous (for example, not directly revealing the asset type, purpose, or other sensitive information).

### 5.11.1.19 OPERATIONAL ASSET ID

*Operational Asset ID* [*Oper\_Asset\_ID*] provides an identifier which, when reported, is used in conjunction with an *Operational Asset Label* to uniquely identify an asset within a set of assets identified or pseudo-identified by the label.

### 5.11.1.20 OPERATIONAL STATUS

5.11.1.20.1 *Operational Status, IBS* [*Oper\_Status*] signifies the current condition of an asset's ability to participate on or contribute to the broadcast/network.

5.11.1.20.2 Value definitions for the *Operational Status, IBS* element are as follows:

- a. OPERATIONAL: Nominal system performance as determined and reported by the asset.
- b. DEGRADED: Less than nominal system performance as determined and reported by the asset.

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- c. NON-OPERATIONAL: Unable to successfully participate on or contribute to IBS.
- d. COMMS CHECK: Indicates the *Operational Status Message* is being used to determine connectivity status without comment on data contribution ability.

## 5.11.1.21 STATUS INTERVAL

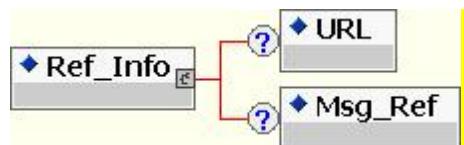
*Status Interval* [Status\_Intvl] indicates the maximum periodic rate at which IBS consumers should expect to receive a status report on an asset for which status is being provided.

## 5.11.1.22 REFERENCE INFORMATION

*Reference Information* [Ref\_Info] {already defined}

Reference Information Structure:

*Ref\_Info* (URL? , Msg\_Ref?)



### 5.11.1.22.1 URL (UNIFORM RESOURCE LOCATOR)

*Uniform Resource Locator* [URL] {already defined}

### 5.11.1.22.2 MESSAGE REFERENCE

*Message Reference* [Msg\_Ref] {already defined}

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**5.11.1.23 PRODUCER MESSAGE SEQUENCE NUMBER**

*Producer Message Sequence Number [Producer\_Msg\_Seq\_Num] {already defined}*

**5.11.1.24 MESSAGE DESCRIPTION ELEMENTS**

*Message Description Elements [Msg\_Desc\_Elmts] {already defined}*

**5.11.1.24.1 DESTINATION ADDRESS**

*Destination Address [Dest\_Addr] {already defined}*

**5.11.1.24.2 ALTERNATE DESTINATION ADDRESS**

*Alternate Destination Address [Alternate\_Dest\_Addr] {already defined}*

**5.11.1.24.3 TIME OF ENTRY**

*Time of Entry [TOE] {already defined}*

**5.11.1.24.4 TIME OF ENTRY ORIGINATOR ADDRESS**

*Time of Entry Originator Address [TOE\_Orig\_Addr] {already defined}*

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## Message Description Elements Structure:

*Msg\_Desc\_Elmnts (Dest\_Addr? , Alternate\_Dest\_Addr? , (TOE , TOE\_Orig\_Addr?)?)*

*Dest\_Addr (Dest\_Grp? , Subnet? , Node?)*

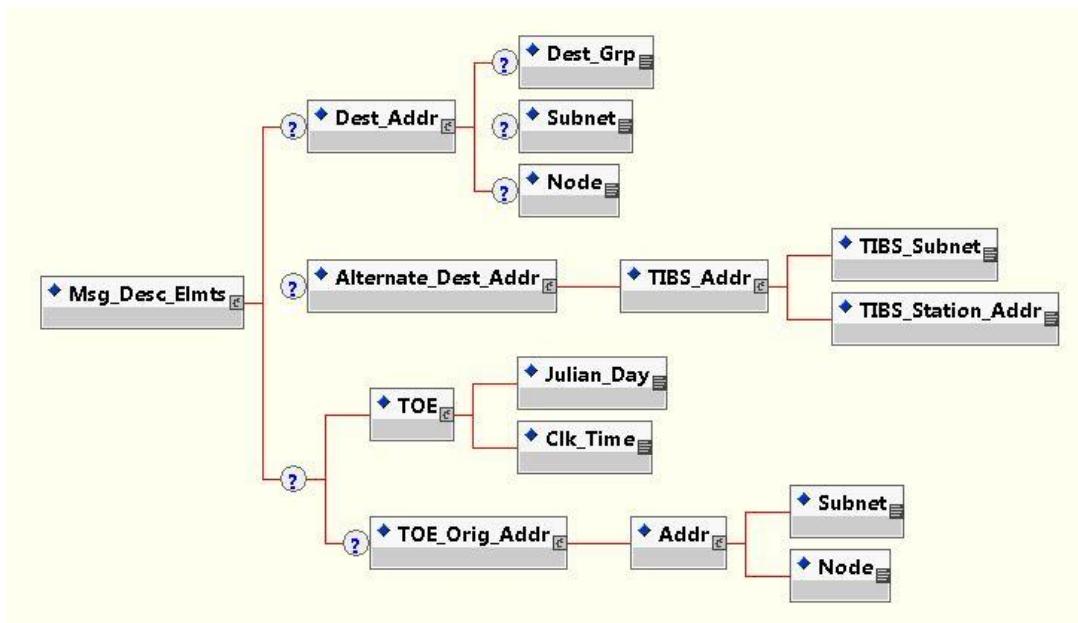
*Alternate\_Dest\_Addr (TIBS\_Addr)*

*TIBS\_Addr (TIBS\_Subnet , TIBS\_Station\_Addr)*

*TOE (Julian\_Day , Clk\_Time)*

*TOE\_Orig\_Addr (Addr)*

*Addr (Subnet, Node)*



## 5.11.1.25 URGENT INTERIM CAPABILITY (UIC) ELEMENTS

*Urgent Interim Capability (UIC) Elements [UIC\_Elmnts] {already defined in [Section 5.6.1.38](#)}*

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**5.12 BLOB TRANSFER MESSAGE SUMMARY**

DTD NAME: BLOB\_Xfer\_Msg

DED NAME: BLOB TRANSFER MESSAGE

PURPOSE/SCOPE/DESCRIPTION: The CMF *BLOB Transfer Message* [BLOB\_Xfer\_Msg] provides the capability to disseminate data via a BLOB. The *BLOB Transfer Message* supports the ability to split up the data and send it in multiple related messages, which the consumer reassembles into the entire originated data object. Each *BLOB Transfer Message* shall contain at least the minimum elements required by the "BLOB Transfer Message Structure" and as otherwise required by producer rules.

5.12.1 The *BLOB Transfer Message* is a limited-use capability. Producers shall receive BJCCB approval prior to each implementation of the capability. A unique *BLOB Type Identifier* value is assigned for each approved implementation.

**5.12.2 BLOB TRANSFER MESSAGE ELEMENTS, STRUCTURE and IMPLEMENTATION**

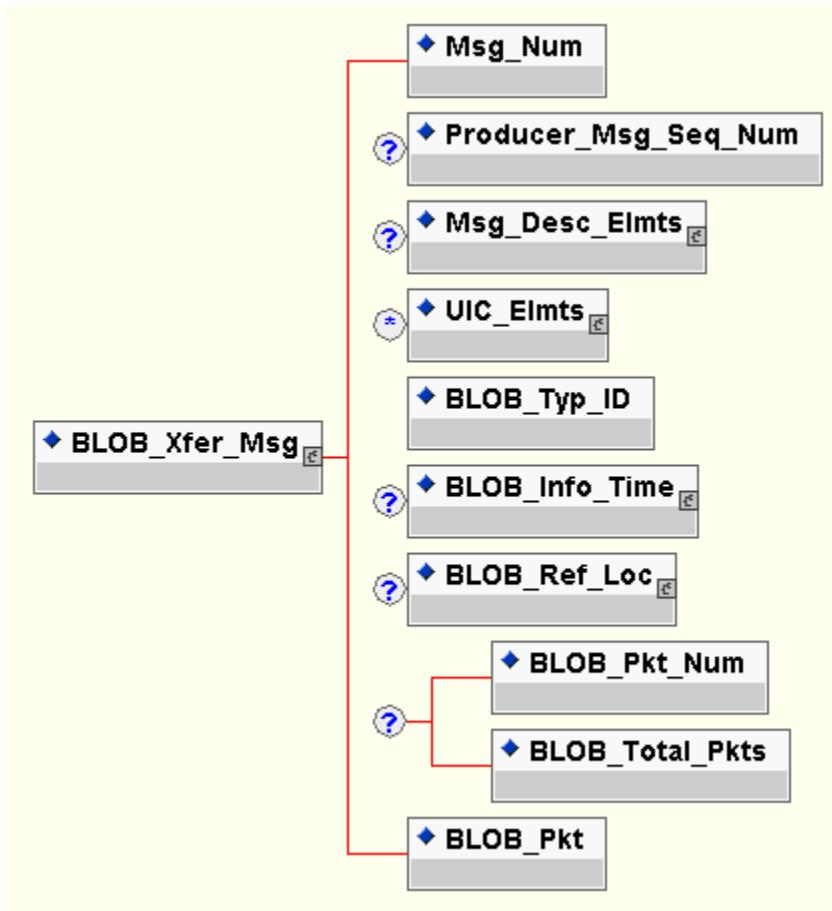
The CMF *BLOB Transfer Message* [BLOB\_Xfer\_Msg] is a complex group element containing the following elements: *Message Number*, *Producer Message Sequence Number*, *Message Description Elements*, *Urgent Interim Capability (UIC) Elements*, *BLOB Type Identifier*, *BLOB Information Time*, *BLOB Reference Location*, *BLOB Packet Number*, *BLOB Total Packets*, and *BLOB Packet*.

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## BLOB Transfer Message Structure:

```
BLOB_Xfer_Msg (Msg_Num , Producer_Msg_Seq_Num? , Msg_Desc_Elmts? ,  
UIC_Elmts* , BLOB_Typ_ID , BLOB_Info_Time? , BLOB_Ref_Loc? ,  
(BLOB_Pkt_Num , BLOB_Total_pkts)? , BLOB_Pkt)
```



### 5.12.2.1 MESSAGE NUMBER

*Message Number [Msg\_Num] {already defined in [Section 5.5.1.1](#)}*

### 5.12.2.2 PRODUCER MESSAGE SEQUENCE NUMBER

*Producer Message Sequence Number [Producer\_Msg\_Seq\_Num] {already defined in [Section 5.5.1.8](#)}*

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## 5.12.2.3 MESSAGE DESCRIPTION ELEMENTS

*Message Description Elements [Msg\_Desc\_Elmnts] {already defined in [Section 5.5.1.9](#)}*

## 5.12.2.4 URGENT INTERIM CAPABILITY (UIC) ELEMENTS

*Urgent Interim Capability (UIC) Elements [UIC\_Elmnts] {already defined in [Section 5.6.1.38](#)}*

## 5.12.2.5 BLOB TYPE IDENTIFIER

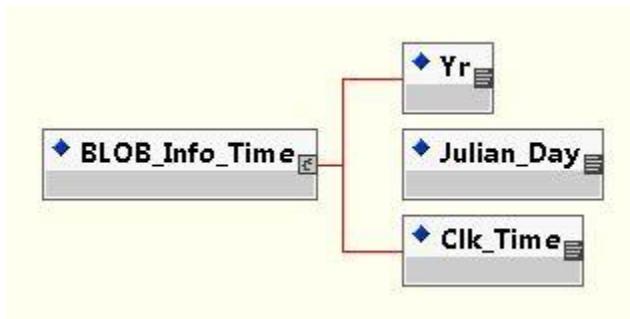
*BLOB Type Identifier [BLOB\_Typ\_ID] identifies a particular BLOB transfer implementation. Producers shall report the BJCCB-assigned number for a corresponding approved BLOB transfer implementation.*

## 5.12.2.6 BLOB INFORMATION TIME

*BLOB Information Time [BLOB\_Info\_Time] provides the date and time associated with the BLOB data being transferred. It is also the date and time for which the *BLOB Reference Location*, if reported, is valid. The same *BLOB Information Time* shall be reported in each packet of a multiple packet BLOB transmission (see [Section 5.12.2.10](#)).*

### BLOB Information Time Structure:

*BLOB\_Info\_Time (Yr, Julian\_Day , Clk\_Time)*



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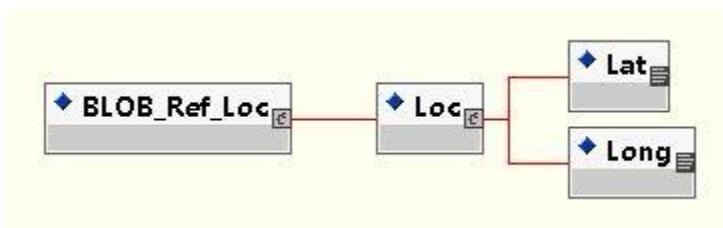
## 5.12.2.7 BLOB REFERENCE LOCATION

*BLOB Reference Location [BLOB\_Ref\_Loc]* provides a reference location associated with the BLOB data being transferred. The *BLOB Information Time* shall also be reported if the *BLOB Reference Location* is reported. The same *BLOB Reference Location* shall be reported in each packet of a multiple packet BLOB transmission (see [Section 5.12.2.10](#)).

### BLOB Reference Location Structure:

*BLOB\_Ref\_Loc (Loc)*

*Loc (Lat , Long)*



## 5.12.2.8 BLOB PACKET NUMBER

*BLOB Packet Number [BLOB\_Pkt\_Num]* indicates the reported BLOB packet number within a sequence of related BLOB packets. Producers shall report the *BLOB Packet Number* when utilizing the multiple packet transfer capability.

## 5.12.2.9 BLOB TOTAL PACKETS

*BLOB Total Packets [BLOB\_Total\_pkts]* indicates the total number of BLOB packets comprising a sequence of related BLOB packets. Producers shall report the *BLOB Total Packets* when utilizing the multiple packet transfer capability.

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5.12.2.10 BLOB PACKET

5.12.2.10.1 The *BLOB Packet* [BLOB\_Pkt] element provides a packet containing a binary large data object. The data is reported over the IBS Enterprise using the CMF STRING type of multiple 7-bit ASCII characters, but how the bits are encoded within the string may not be decipherable to all CMF consumers.

5.12.2.10.2 The maximum size of each *BLOB Packet* element is limited to meet CIB overall message size constraints. However, the *BLOB Transfer Message* supports a multiple packet transmission capability for those instances where the total BLOB data size exceeds the maximum size of a single packet. Producers utilizing the multiple packet transmission capability shall sequentially report the multiple messages used to transfer the entire BLOB. For multiple packet transfers, consumers shall reassemble the entire BLOB using the *BLOB Type Identifier*, the one-up *Message Number* values, the *BLOB Packet Number* values, and the *Total BLOB Packets* value. Due to IBS transmission protocols, BLOB messages may be received out of order.

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**MIL-STD-6018C  
29 January 2021  
Superseding  
MIL-STD-6018B  
15 December 2017**

# **DEPARTMENT OF DEFENSE INTERFACE STANDARD**

## **INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) STANDARD**

### **MAIN SECTION 6 – NOTES**



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## NOTES

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## SECTION 6

6 NOTES

This section contains information of a general or explanatory nature.

6.1 INTENDED USE

This standard will be used by all tactical data systems that have a requirement for IBS digital exchange.

6.2 INTERFACE CHANGE PROPOSALS INCORPORATION

Table 6.2-1 contains the Interface Change Proposals (ICPs) that have been incorporated into this update of MIL-STD-6018.

Table 6.2-1 Incorporated Interface Change Proposals

(Sheet 1 of 4)

ICP NUMBER	DLCP NUMBER	ICP TITLE
TM15-103Ch2	ML650	Add new Unit Type value
TM17-073Ch2	MD698	Removal of Profile Indicator in the J/FJ3.6.
TE18-002	No DLCP Equivalent	Text Message Minimum Implementation Enhancements
TE18-003	No DLCP Equivalent	Collaboration Message Minimum Implementation
TE18-004Ch1	No DLCP Equivalent	Remote Amplification Message Minimum Implementation
TE18-005Ch1	No DLCP Equivalent	Core Minimum Implementation Update

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Table 6.2-1 Incorporated Interface Change Proposals

(Sheet 2 of 4)

ICP NUMBER	DLCP NUMBER	ICP TITLE
TE18-006	No DLCP Equivalent	Entity Message Min-Imp Updates
TE18-007Ch1	No DLCP Equivalent	IBS CMF IMP-B1 Space and Missile Types Update
TE18-008	No DLCP Equivalent	Altitude and Height from Surface "Less Than" Attribute
TE18-009Ch1	No DLCP Equivalent	Error Sum 3D Corrections
TE18-010	No DLCP Equivalent	IFF Mode 3 Correction
TM18-011	No DLCP Equivalent	Add Land Platform Value to IBS
TM18-017Ch2	MD730	Additional values for DFI 749, 804, 810 and 1622
TM18-066Ch2	MD751	Adding SS-N-27B to Air Specific Type
TM18-073Ch4	MD762	Theater defined Specific Types
TM18-078Ch4	MD747	Creation of a J/FJ6.2 Hypersonic Vehicle Amplification Message
TM18-108Ch4	MD758	Follow additions to the Booster Fall Area change Amplification Message.
TM18-113Ch2	MD763	Change to DFI 1797
TM19-020Ch1	No DLCP Equivalent	UAV Description Updates
TM19-022	No DLCP Equivalent	Remove IBS Metric Use Restrictions
TM19-024Ch1	No DLCP Equivalent	IBS Missile Event Reporting Update
TM19-026	No DLCP Equivalent	IBS Speed Range Updates
TE19-028	No DLCP Equivalent	Required Use of URL Shortening Services

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Table 6.2-1 Incorporated Interface Change Proposals

(Sheet 3 of 4)

ICP NUMBER	DLCP NUMBER	ICP TITLE
TE19-029	No DLCP Equivalent	MS6018 Annex A Biblio Update
TE19-030	No DLCP Equivalent	Message and Entity Number Use
TE19-031	No DLCP Equivalent	IBS Enterprise Path Definitions
TE19-032	No DLCP Equivalent	Drop Entity Action Use
TE19-033	No DLCP Equivalent	Add GIBSSC Refs in MS6018
TM19-035Ch3	MD755	Specific types updates
TE19-071	No DLCP Equivalent	MIL-STD-6018B Appendix B Usage Section Removal
TE19-148	No DLCP Equivalent	Add UIC Elements to Other CMF Messages
TM19-149	No DLCP Equivalent	Remove Duplicate UAV Entries
TE19-150	No DLCP Equivalent	Country Name Change, IBS
TE19-151Ch1	No DLCP Equivalent	NGA CSEL Format Update
TE19-152	No DLCP Equivalent	Mandatory Use of Entity Update Number
TE19-153	No DLCP Equivalent	CMF Transmitter and Originator Address Consumer Requirement
TE19-154	No DLCP Equivalent	MIL-STD-6018 Appendix B Reset Attribute Corrections
TE19-155	No DLCP Equivalent	Message Filter Elements Minimum Implementation
TM19-156Ch1	No DLCP Equivalent	Entity Relationship Indicator Clarification
TE19-157	No DLCP Equivalent	Message Filter Elements Update
TE20-016	No DLCP Equivalent	MIL-STD-6018B Editorial Corrections
TM20-017Ch1	No DLCP Equivalent	Add IBS Track Quality Element

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Table 6.2-1 Incorporated Interface Change Proposals

(Sheet 4 of 4)

ICP NUMBER	DLCP NUMBER	ICP TITLE
TM20-018	No DLCP Equivalent	CMF IMP-B3 UAV Description Updates
TE20-019	No DLCP Equivalent	Filter Processing Clarifications
TE20-099	No DLCP Equivalent	Comment Resolution for MIL- STD-6018C

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6.3 IDENTIFICATION OF CMF IMPLEMENTATION RELEASES6.3.1 PURPOSE OF IMPLEMENTATION IDENTIFICATION

6.3.1.1 The Integrated Broadcast Service (IBS) Common Message Format (CMF) is based upon the World-Wide Web Consortium (W3C) Extensible Markup Language (XML) and thus requires systems producing or consuming CMF data to utilize an XML-based schema (i.e., Document Type Definition (DTD) or XML Schema) officially released by, or on behalf of the IBS Program Office. The required schema incorporates the applicable components of the CMF data specification and any finalized Interface Change Proposals (ICPs) as determined by the CMF approval bodies per the IBS Configuration Management (CM) process. The cycle for Defense Information Systems Agency (DISA) publication of the CMF specification is not anticipated to regularly and directly coincide with IBS operationally-dictated timeframes for system development and fielding. Thus to support system development, an operational necessity will often exist to incorporate one or more ICPs (i.e., a "snapshot" list of ICPs) into the official IBS schemas and other associated implementation files (e.g., the Mnemonic Definition List file) independently from a published revision of the full specification. Consequently, IBS system deployments will be limited to the capabilities of the last published specification in combination with only those approved ICP capabilities which have been included within released IBS schemas and other associated implementation files.

6.3.1.2 This section defines the method for identification of a released set of IBS CMF implementation files. The release of a determined set of CMF implementation files is called an "Implementation". The identification of an Implementation is in regards to the sequence and/or content of such a "snapshot" list of approved specification changes (i.e., official released schemas and/or related files implemented concurrently with a published specification revision or representing the most-recently published specification along with one or more specific approved ICPs). The method for

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identification of Implementations will assist the community in knowing exactly which specification capabilities are incorporated into any particular set of released implementation files as well as any relationship of a released set of implementation files to a previous set. This information is required by developers, operational users, and planners for the proper operation and control of the IBS architecture and interfacing systems.

### 6.3.2 DETERMINATION OF IMPLEMENTATION RELEASE DATES

6.3.2.1 In order to determine the targeted date for an Implementation release, all new CMF requirements and change requests submitted into the IBS change management process will identify the anticipated timeframe that a targeted consumer will be capable of utilizing the change and the earliest date that a producer may be capable of producing the change. One or both of these dates, adjusted for appropriate system development and system test/acceptance time, are then compared against the totality of the anticipated time for solution development, ICR/ICP approval cycle time (per assigned priority), implementation file development period, and implementation file test time to identify the potential time window for release of implementation files, or alternatively, any potential critical path issues.

6.3.2.2 In the absence of a critical path issue, an implementation release date is chosen within the available time window (i.e., the window between the time of earliest possible approved/tested file release and the time of absolute need by a producer or consumer development effort). The optimum criteria for the chosen date is that which will best facilitate inclusion of other desirable pending ICP changes into one Implementation release and/or will meet other logistical or operational program issues such as infrastructure impacts/updates, backward compatibility migration needs, etc.

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6.3.2.3 The evaluation of the timeline, per the above listed criteria, may be undertaken and a targeted implementation release date identified as a precursor step to determination of the recommended technical solution for a requested change. Nevertheless, as aspects of the recommended solution are realized and being solidified, the targeted implementation release date may require reconsideration and/or system-specific implementation caveats, particularly if potential infrastructure or backward compatibility migration issues are identified (see section 6.3.4).

6.3.2.4 The importance of the targeted implementation release date for a specific ICP is that the date determines if the ICP capability can be included within the capability of a particular Implementation (i.e., determine the ICP list or "snapshot" in which the capability for the ICP in question can be made available).

### 6.3.3 IMPLEMENTATION RELEASE NOMENCLATURE

6.3.3.1 As ICPs are identified and their targeted implementation release dates are determined, ICPs will be grouped such that their respective capabilities become a list or "snapshot" capability making up one correspondingly scheduled Implementation release. Each Implementation resulting in a major or minor schema number change is assigned the next one-up number from the previous Implementation. For example, assuming two separate releases where there were changes other than just CMF Mnemonics files, Implementation 1 (aka IMP-1) identifies the first set of implementation files released since the designation of CMF as a MIL-STD and Implementation 2 (aka IMP-2) is the second, and so forth. Note that if the first implementation of a published standard (e.g., MIL-STD-6018, MIL-STD-6018A) does not include any changes from the last implementation of the previous published standard, then the implementation number will be 0 (e.g., IMP-0, IMP-A0).

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6.3.3.2 Once the CMF MIL-STD has been revised, the revision letter for the current standard precedes the one-up number for Implementation releases and the one-up number restarts at one (1) for the first release after each new revision of the standard. Again, as an example, assuming two separate releases after a revised standard has been released and where there were changes other than just CMF Mnemonics files, Implementation A1 (aka IMP-A1) identifies the first set of released implementation files and Implementation A2 (aka IMP-A2) is the second, and so forth.

6.3.3.3 Implementation releases of only CMF Mnemonics files will have the same one-up number as the previous Implementation, but will either add a decimal one-up notation or increment the previous one, if one existed. This includes "mnemonics only" updates to previous implementations deemed operationally valid. For example, assuming a previous release of Implementation 1 (aka IMP-1), a second release of only Mnemonics files would be Implementation 1.1 (aka IMP-1.1).

### 6.3.3.4 DISUSED

6.3.3.5 As part of each Implementation release, the current specification release (i.e., MIL-STD-6018, MIL-STD-6018A, etc.) and the snapshot (i.e., list) of all ICPs which are incorporated will be clearly identified within documentation as part of the release. [Table 6.3-1](#) illustrates a notional series of CMF Implementation releases with corresponding identification of some notional ICP lists and released versions of included schema and associated files.

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Table 6.3-1 Notional CMF Implementation Identification  
(Sheet 1 of 2)

MIL-STD	ICPs Included*	DTD	Mnemonics	Implementation
MIL-STD-6018	Predecessor TIDP-TE content plus FUNCTIONAL CHANGES from: TE10-220 Ch1 (included in 6018)	3.2	3.2.0	IMP-1
MIL-STD-6018	(ICPs included in IMP-1) plus MNEMONICS CHANGES from: TE11-007 Ch1	3.2	3.2.1	IMP-1.1
MIL-STD-6018	(ICPs included in IMP-1.1) plus FUNCTIONAL CHANGES from: TE11-009 TE11-023 Ch4	3.3	3.3.0	IMP-2
MIL-STD-6018	(ICPs included in IMP-2) plus MNEMONICS ONLY CHANGES (IMP-B1 alignment) from: TM15-004 Ch3 TM15-005 Ch2	3.3	3.3.1	IMP-2.1
MIL-STD-6018A	(ICPs included in IMP-2) (no changes from IMP-2)	3.3	3.3.0	IMP-A0

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Table 6.3-1 Notional CMF Implementation Identification  
 (Sheet 2 of 2)

MIL-STD	ICPs Included*	DTD	Mnemonics	Implementation
MIL-STD-6018A	(ICPs included in IMP-2) plus MNEMONICS ONLY CHANGES (IMP-B1 alignment) from: TM15-004 Ch3 TM15-005 Ch2	3.3	3.3.1	IMP-A0.1
MIL-STD-6018A	(ICPs included in IMP-A0) Plus FUNCTIONAL CHANGES from: TE13-108 Ch2 TE14-005 Ch1	3.4	3.4.0	IMP-A1
MIL-STD-6018A	(ICPs included in IMP-A1) Plus MNEMONICS CHANGES from: TE14-009	3.4	3.4.1	IMP-A1.1
MIL-STD-6018A	(ICPs included in IMP-A1.1) Plus MNEMONICS ONLY CHANGES (IMP-B1 alignment) from: TM15-004 Ch3 TM15-005 Ch2	3.4	3.4.2	IMP-A1.2
MIL-STD-6018C	(ICPs included in IMP-A1.1) plus FUNCTIONAL CHANGES from: TM15-004 Ch3 TM15-005 Ch2	3.5	3.5.0	IMP-B1

\* ICPs are notional examples only and do not reflect actual ICP numbers

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**6.3.4 IMPLEMENTATION FIELDING STRATEGY CONSIDERATIONS**

6.3.4.1 Typical fielding of new IBS capability will be first at critical infrastructure components (e.g., IBS Network Services (IBS-NS), Theater Interface Nodes (TINs), and CIB Uplink Site (CUS)) and then to any implementing producer(s).

6.3.4.2 Depending upon the nature of the CMF change and the related approach to fielding as a backward-compatible change, fielding by some producers and/or all consumer systems may need to wait until both infrastructure and other select producer changes are in place.

6.3.4.3 Some changes, in order to be deemed backward-compatible, may need to be fielded to all receive/consumer systems and infrastructure nodes prior to any producer actually utilizing the change capability.

6.3.4.4 By definition (see section 4.3.3.6.2), mnemonic changes are rapidly incorporated into all producer systems. Receive/consumer systems pass and/or display new mnemonics values for all fields currently implemented by their system regardless of existence in the previously released definitions list(s).

6.3.4.4.1 To support the incorporation of mnemonics changes within an IBS system operating at a previous implementation level, IBS will issue "mnemonics only" implementation files for releases deemed operationally valid. The "mnemonics only" implementation release updates will only incorporate mnemonic changes (either mnemonics files in the case of a DTD based system, or an updated schema for a schema based system). Although an implementation release may reference an ICP that also contains functional changes, only mnemonics changes within the ICP will be incorporated into the "mnemonics only" implementation. The release number will be a decimal increment as discussed in paragraph 6.3.3.3.

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6.3.5 IMPLEMENTATION TRACKING

6.3.5.1 To ensure the synchronization of operational implementations with MIL-STD releases, the GIBSSC will be responsible for the establishing, assigning, maintaining, and tracking the implementation content and identification.

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**MIL-STD-6018C  
29 January 2021  
Superseding  
MIL-STD-6018B  
15 December 2017**

# **DEPARTMENT OF DEFENSE INTERFACE STANDARD**

## **INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) STANDARD**

### **APPENDIX A – MINIMUM IMPLEMENTATION**



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## MINIMUM IMPLEMENTATION

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## MINIMUM IMPLEMENTATION

### A.1 SCOPE

A.1.1 This appendix identifies the minimum implementation requirements that shall be met by all systems utilizing CMF and/or interfacing with the IBS Enterprise. The minimum implementation is defined in terms of requirements that shall be met at each of the following levels: functional, related functionality, message, related message(s), element grouping, data element, element attribute, and data item. Though this appendix is not explicitly organized at these levels, all of the levels are critical to IBS interoperability and are covered either directly or indirectly herein. This appendix is a mandatory part of this document and the requirements defined herein shall be fully implemented for compliance.

A.1.2 For the purpose of this appendix only, a producer is any implementation that creates or modifies CMF data (with the exception of a pass-through system which may only update metadata in the header or packaging information and/or reformat between CMF-X and CMF-B).

A.1.3 For the purpose of this appendix only, a consumer is any implementation that only receives and does not output CMF data or, for implementations which both receive and output CMF data, a consumer pertains to only the receive portion or only up to the point that data may be created or modified.

A.1.4 For the purpose of this appendix only, a display, display system, or TDP is any implementation, or portion of an implementation, which has the ability to present data to the appropriate platform or site personnel, whether presented online or offline. This might be as a direct presentation on an operator's display, sounding an audible alarm, or flagging of a message for later review.

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A.1.5 For the purpose of this appendix only, an IBS infrastructure product (i.e., Enterprise Node such as IBS-NS or CUS) is a principal component of the IBS architecture under the operational oversight of the GIBSSC. Some of these nodes (and some non-Enterprise Nodes) may also be termed as "pass-thru" systems which pass CMF on to other systems. Pass-thru systems do not alter the content of the IBS data other than potentially changing metadata such as transmission times, package numbers, or package checksums, and/or reformatting between CMF-X and CMF-B.

A.1.6 Pass-thru systems shall comply with Producer requirements for any changes to the metadata and any reformatting or transmission operations, but otherwise are primarily considered as Consumer systems. Additionally, pass-thru systems operating as an Enterprise Node shall support the unique requirements for that role.

A.1.7 For the purpose of this appendix only, a Surrogate Producer is a system which accepts CMF-formatted data from a non-Enterprise node for direct placement onto the IBS Enterprise. A Surrogate Producer takes responsibility for some or all of the normal producer functions (e.g., acceptance/rejection of *Remote Amplification Messages*) rather than referring them all back to the originating CMF system. Surrogate Producers shall, for their relegated functions, comply with the requirements as though they are the original Producer.

## **A.2 CORE CMF CAPABILITY MINIMUM IMPLEMENTATION REQUIREMENTS**

A.2.1 FORMAT REPRESENTATION CAPABILITIES – All systems passing or receiving CMF data via a CIB medium shall implement the CMF-B representation. All systems passing or receiving CMF data via a non-CIB medium shall implement CMF-X and/or CMF-B as dependent upon the capabilities of any other system with which they will interface.

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A.2.2 STRUCTURE CAPABILITIES - For all portions of the CMF structure implemented, all systems shall implement all data elements within and supporting the defined:

- 1) element types
- 2) definitions
- 3) set of defined values
- 4) ranges
- 5) attributes including attribute ranges, units, etc.
- 6) path limits
- 7) structure (presence, repeatability, exclusivity, grouping)
- 8) resets
- 9) partial reports
- 10) stale reporting and
- 11) namespace

A.2.2.1 All producer systems shall implement validation and verification for all data including mnemonics files.

A.2.2.2 All consumer systems shall not implement validation and verification for mnemonics files.

A.2.2.3 IBS systems shall only utilize an appropriate configuration-managed version of the appropriate CMF schema (DTD or XML Schema) as maintained and released through official IBS distribution channels and shall not modify its contents in any manner, to include additions or deletions (reference [Sections 5.2.5](#), [D.1.2.5](#), [D.3.1](#), and [D.4 Item 8](#)).

A.2.3 RULE APPLICABILITY - As noted under CMF Concept in [Section 4](#) and to preserve the flexibility and extensibility of the format (i.e. forward compatibility), unless a special consumer rule likewise exists, consumers shall support all generic capabilities of CMF. This is as described in the Data Specification (see [Appendix D](#)) and as defined in the Data Element Dictionary (see [Appendix B](#)), regardless of

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any special rules provided for producers. For example, even if a producer may in some instances be required to always send a particular element which is defined by the element structure as optional, the consumer shall still be capable of handling the No Change condition (i.e. the element not being present.)

A.2.4 CMF-B PARSING CAPABILITY - The CMF Parser Library (CMFPL), or an equivalent which fully implements the data specifications as identified in [Appendix D](#) and the Application Programming Interface (API) specifications as identified in [Appendix H](#), shall be utilized for ALL systems producing or consuming CMF-B data. Use of the CMFPL for CMF-B encoding and/or decoding is the default expectation and is VERY strongly preferred. Organizations wishing to utilize an equivalent parser implementation but one which still meets the API specifications shall make their API implementation available for certification testing separate from their system application and may incur additional costs to cover the additional testing.

A.2.4.1 NOTE: Only with the written approval of the IBS Executive Agent and the GIBSSC and without any deviation from equivalent behavior, an exception may be granted for an implementation which has a justifiable reason to deviate from the API specification. Any such deviation shall be coordinated and approved in advance to permit adequate time to: 1) consider the request, 2) determine funding responsibility for the costs of certification testing and other IBS incurred costs from the deviation, and 3) to develop deviation-specific certification test items. Also note that the organization requesting the deviation will likely be responsible for any incurred costs and may also incur a considerable delay in obtaining certification.

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A.2.5 CMF-X PARSING CAPABILITY - The CMFPL, or an equivalent which fully implements the subset of XML constructs noted in the data specifications as identified in [Appendix D](#) and the API specifications as identified in [Appendix H](#), shall be utilized for ALL systems producing or consuming CMF-X data. Though most commercial XML parsers should be fully capable of encoding and decoding CMF-X information, as long as the few "Special CMF Production Rules" or considerations as noted in the data specification (see [Appendix D](#)) are properly accommodated, the use of the CMFPL is still recommended as it handles all those special rules and includes a considerable number of helpful IBS-related utility functions.

A.2.6 The following Core Capability Min-Implementation Reference List (see [Table A.2.6-1](#)) further identifies minimum core capability requirements, identifies their applicability, and provides references to the appropriate location where more detail can be found.

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Table A.2.6-1 Core Capability Min-Implementation Reference List

(Sheet 1 of 33)

REQUIREMENT / IMPLICATION unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
CORE CONCEPT and CONFIGURATION								
[As separate representations of a single format, conversion between CMF-B and CMF-X at the document level shall be one-to-one and lossless.] Also see 1.1.2 and 4.2.2.7.	4.3.3.1.2	—	—	—	M	M		
[CMF Producers shall utilize both the CMF_Hdr and CMF_Doc root elements, as specified, in the respective CMF Header and CMF Document.] Also see 5.4.	4.2.2.5, 4.3.3.3A.1	M	—	C	—	M	Applies to Display systems that directly handle CMF data.	
[CMF Consumers/TDPs shall recognize the CMF Header and CMF Document as separate but related data documents.] Also see 5.4.	4.2.2.5, 4.3.3.3A.1, D.1.2.4	—	M	C	—	M	Applies to Display systems which receive data where this item has not been handled.	
[Systems shall comply with the CIB Packet structure.] Also see 2.3.7 (Reference to CIB IOS Specification).	4.2.2.6.1	C	C	—	—	—	Applies to all systems interfacing directly to the CIB.	

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
 (Sheet 2 of 33)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Systems shall comply with the non-CIB Packet structure.]	4.2.2.6.2	C	C	—	—	—	Applies to all systems interfacing via a non-CIB medium.	
[Consumers/TDPs shall not rely on data received to have been reported per the non-structural producer rules.]	4.2.2.9	—	M	M	M	M		
[Systems shall refer to GIBSSC to obtain current configuration info for all operationally configurable items.] Also see 4.3.3.1, 4.3.3.2.2, 4.3.3.2.3, and 4.3.3.2.10.	4.3.3, 4.3.3.8	M	M	M	—	—		
[Systems shall use Paths as follows: Path 4 = Network, Path 5 = CIB, Path 0 = COMPOSITE (NOT FOR ENTERPRISE OPERATIONAL USAGE) CMF-X is pathless (i.e., is always composite) except for path exclusions.]	4.3.3.1.1, 4.3.3.1.2	M	M	C	—	M	Applies to Display systems which directly handle CMF data.	

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT	
		Producer	Consumer	Display	Parser	DTD			
[Default values shall not be removed for path 0 or CMF-X.]	4.3.3.1.1, 4.3.3.1.2, D.2.7.5.1	—	—	—	M	—			
[Systems shall specify the correct path number for the CMF input and/or output paths being used.]	4.3.3.1.4	M	M	—	—	—			
[Pass-thru systems shall support receipt and passage of all CMF messages.] Also see A.1.5.	A.3.1	M	M	—	—	—			
<b>GLOBAL IDENTIFICATION</b>									
[All messages shall include a respective entity or message number. The entity or message number combined with an associated IBS address shall comprise the Global Identifier (GID) to uniquely identify the entity or message.] Also see 4.3.3.2.1.	4.3.3.4.2	M	M	M	—	—			
[CMF message/entity numbers shall be assigned at the time the message is created.]	4.3.3.2.5	M	—	—	—	—			

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
For single-instance messages (i.e., transient information), producers shall assign a unique one-up Message Number to each message by message type.	4.3.3.4.2	M	—	—	—	—		
[Display systems shall utilize the IBS identified format for any display of an IBS Global Identifier (GID).]	4.3.3.2.5	—	—	M	—	—		
[Non-IBS or legacy identifiers shall be reported, when available, and are normally located in an "alternate ID" structure such as the Entity Alternate ID Elements.]	4.3.3.2.10	M	—	—	—	—		
[During the legacy format migration period, producers shall place the legacy identifier from the actual legacy source, when available, into the first instance of alternate identifiers.]	4.3.3.2.10	M	—	—	—	—		
SPECIFIC ELEMENT GUIDELINES								
[CMF character data shall be processed as 7-bit ASCII within the limitations of tables D.2.6.3.5-1 and D.2.6.3.5-2.]	4.3.3.4.4(b)	M	M	M	M	M		

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT	
		Producer	Consumer	Display	Parser	DTD			
[Systems shall limit all CMF floating point values within the 32-bit ANSI constraint.]	4.3.3.4.4(c)	M	—	—	M	M			
[Producer Message Sequence Number shall be reported as a one-up number across all messages.] Also see 5.6.1.42, 5.7.1.2, 5.8.1.3, 5.9.1.3, 5.10.1.5, and 5.11.1.23.	5.5.1.8	C	—	—	—	M	Applies if Producer Message Sequence Number is reported.		
[IBS Enterprise Nodes shall be the only producers to populate the time of entry elements.] Also see 5.5.1.9.3, 5.5.1.9.4, 5.6.1.44.2, 5.6.1.44.3, 5.7.1.4.3, 5.7.1.4.4, 5.8.1.4.3, 5.8.1.4.4, 5.9.1.6.3, 5.9.1.6.4, 5.10.1.8A.3, 5.10.1.8A.4, 5.11.1.24.3, and 5.11.1.24.4.	5.6.1.44.2.1.1, 5.8.1.4.3.1.1, 5.8.1.4.4.1.1	M	—	—	—	—			
<b>MUTUAL EXCLUSION ELEMENTS</b>									
[Special replacement and reset rules shall be applied for non-repeatable mutually exclusive groupings.] Also see Table 4.3.3-1.	4.3.3.4.5.1	M	M	C	—	M	Applies to Display systems which directly handle CMF data.		

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
PERSISTENCE AND NON-PERSISTENCE								
[All systems shall refer to the IBS Enterprise CONOPS to determine applicability for implementation of Persistence, Routine, Partial, and Stale reporting protocol and procedures as addressed within this standard.] Also see 2.3.2 (Reference to IBS Enterprise CONOPS).	4.3.3.5.1	M	M	M	—	—		

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Producers implementing Partial and/or Stale reporting protocols or procedures shall have a configurable option to perform Routine Full reporting.] Also see 2.3.2 (Reference to IBS Enterprise CONOPS).	4.3.3.5.1	C	-	-	-	-	Applies if the Producer implements Partial and/or Stale reporting.	
[Producer systems implementing Routine Full reporting shall comply with the special reset requirements for Dynamic Information Exchange elements.] Also see 2.3.2 (Reference to IBS Enterprise CONOPS).	4.3.3.5.1, 4.3.3.5.5.3.1 thru 4.3.3.5.5.3.4	C	-	-	-	-	Applies if the CONOPS mandates Routine Full reporting or a producer chooses to implement that capability.	Applicable producers are recommended to develop and utilize a "pre-initialized reset template" based upon the full set of operational elements that are reportable by the respective producer.

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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Systems shall apply dynamic information exchange rules for all elements which are identified as dynamic, and transient information exchange rules for all elements which are identified as transient.] Also see 4.3.3.5.3, 4.3.3.5.4, and 2.3.2 (Reference to IBS Enterprise CONOPS).	4.3.3.5.2	C	C	-	-	-	Applies if the CONOPS mandates Persistence, Routine, Partial, and/or Stale reporting or a system chooses to implement them.	
[A routine update shall be sent when applicable.]	4.3.3.5.5.2.1	M	-	-	-	-		
[After the first report of a message containing dynamic information exchange data, producers shall for any subsequent update to that message information (other than a Stale Update), report only the minimum data for a valid message and any data that has changed (aka a Partial Update report).] Also see 2.3.2 (Reference to IBS Enterprise CONOPS).	4.3.3.5.5.2.2	C	-	-	-	-	Applies if the CONOPS mandates Partial reporting or a producer chooses to implement that capability.	

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Consumers shall implement a persistent store which maintains the current state of the reported data, particularly in regard to any dynamic exchange data.] Also see D.2.7.1.5 and 2.3.2 (Reference to IBS Enterprise CONOPS).	4.3.3.5.5.2.4	-	C	C	-	-	Applies if the CONOPS mandates Persistence, Routine, Partial, and Stale reporting or a consumer chooses to implement the data retention.	A Consumer which does not implement to retain data from a Partial Reporting Producer may not consistently have all of the active information in their most recently held report (i.e. until a Stale report is received).
[At the appropriate interval, producers shall output a report containing all currently persisted information for any dynamic exchange data related to the previous report (aka a Stale Update report).] Also see 2.3.2 (Reference to IBS Enterprise CONOPS).	4.3.3.5.5.3.1, 4.3.3.5.5.3.2	C	-	-	-	-	Applies if the CONOPS mandates Stale reporting or a producer chooses to implement that capability.	

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[Stale Update reports shall contain reset indications, as applicable, for any previously reported dynamic exchange data.] Also see 2.3.2 (Reference to IBS Enterprise CONOPS).	4.3.3.5.5.3.3	C	—	—	—	—	Applies if the CONOPS mandates Stale reporting or a producer chooses to implement that capability.	
Resets shall not be reported on elements sent as single-instance (transient) transmissions.	4.3.3.5.5.4.2	M	—	—	—	C	Does not apply to declaration of elements which are dual use as both dynamic exchange data and single-instance transmission (i.e. transient data).	
[Producers shall set elements to an initial or no data state; and Consumers/TDPs shall interpret received data; both in accordance with the specific reset rules.] Also see D.2.7.1.6 and D.2.7.2.	4.3.3.5.5.4.3 thru 4.3.3.5.5.4.6, 4.3.3.5.5.5.1	M	M	M	—	M		

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Except where indicated otherwise by a specific rule, a lack of sending data in a report shall be both intended and interpreted as a "No Change" to the data previously transmitted.] Also see D.2.7.1.2.	4.3.3.5.5.4.7	M	M	M	—	—		
[For non-"Routine Full" Reporting, optional elements shall not be reported if the producer has no value to report.] Also see 2.3.2 (Reference to IBS Enterprise CONOPS).	D.2.7.1.4	C	—	—	—	—	Applies if the CONOPS mandates Persistence, Routine, Partial, and Stale reporting.	
<b>MNEMONICS</b>								
[Systems shall display only the official or equivalent long mnemonics definition; or the mnemonic as received.] Also see 4.3.3.6.1.	4.3.3.6.2	—	—	C	—	—	Applies if the display presents data for the associated element.	

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Producers shall validate and verify all reported mnemonics. Includes: Pair Logic, Unpair Logic, Nat_Alliance, Entity_Actvy, Entity_Typ, Entity_Content, Entity_Stat, Nationality, Language_ID, ELINT_Emrtr_Modulat, Emtr_Func, Xmit_Desc, Provider_Community, Provider_Data_Categ.]	4.3.3.6.2, 5.5.1.6.1.2.1.1, 5.5.1.6.1.2.1.2.1, 5.6.1.18.7.1, 5.6.1.18.8, 5.6.1.18.9, 5.6.1.18.11, 5.6.1.18.12, 5.6.1.18.28.1, 5.6.1.18.28.3, 5.6.1.26.20, 5.6.1.26.22, 5.6.1.29.3.6.1, 5.6.1.43.2, 5.6.1.43.3	M	—	—	—	—		
[Consumer systems shall accept ANY mnemonic received (i.e. without validation / verification).]	4.3.3.6.2	—	M	M	—	—		

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
DTD/SCHEMA USAGE								
[Systems producing or consuming CMF data shall utilize, without changes, the appropriate configuration-managed version of the IBS DTD or XML-Schema.] Also see 6.3.1.1.	5.2.5, A.2.2.3, D.1.2.5, D.3.1, D.4 Item 8	M	M	M	M	—		
[A DTD with non-standard XML parsing shall be utilized for processing CMF-B data.] Also see 4.2.2.7, Table 4.2.2-1 and Table D.1.2-1.	D.1.2.5, D.3.1, D.4 Item 8	M	M	M	M	—		
[Either a DTD or XML-Schema with standard XML parsing shall be utilized for processing CMF-X data.] Also see 4.2.2.7, Table 4.2.2-1 and Table D.1.2-1.	D.1.2.5, D.3.1, D.4 Item 8	M	M	M	M	—		
[CMF-X documents shall follow XML standard tagging and attribute rules.] Also see D.2.4.	D.2.2	M	M	C	M	M	Applies to Display systems that directly handle CMF data.	
[All CMF documents shall include the XML Prolog.]	D.2.2	M	—	—	M	M		

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
CMF DATA REPRESENTATION								
[CMF shall be reported using only the defined data representations as summarized in Table D.2.6-1.]	D.2.6.1	M	—	—	M	M		
[Producers shall provide values for all transmitted CMF FIELD type elements unless reset is sent for the element.]	D.2.6.2.1, D.2.6.3.1	M	—	—	—	—		Note that element values may still be removed as part of the parser encoding into CMF-B.
All data representations in CMF-X shall be passed as character strings.	D.2.6.2.3	M	M	C	M	—	Applies to Display systems which directly handle CMF-X data.	

Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Producers shall report INTEGER data representations within the defined character and value limits.]	D.2.6.2.4.1, D.2.6.3.2.1, D.2.6.3.2.4	M	—	—	M	M		
[CMF numerical values shall not contain comma separators.]	D.2.6.1, D.2.6.2.4.1, D.2.6.2.9.2, D.2.6.3.2.1, D.2.6.3.4.1	M	—	—	M	M		
[Data shall be reported and interpreted within the CMF-defined meaning for less-than and greater-than value qualifiers.] Also see value_qualifier in Tables D.3.3.2-1 and D.3.3.2-2.	D.2.6.2.4.2	M	M	C	M	M	Applies to Display systems which directly handle CMF data.	
[Where the unit attribute is defined, it shall be included with an appropriately defined value within any CMF-X data.] Also see Tables D.3.3.2-1 and D.3.3.2-2.	D.2.6.2.4.2, D.2.6.2.9.3	M	—	—	M	M		

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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[INTEGER values shall be adjusted, reported, and interpreted with inclusion of the value modifiers (value offset or value multiplier) and according to the proper calculation precedence.]	D.2.6.2.4.3	M	C	C	M	M	Applies to systems that directly handle CMF data or Display systems which receive data where this item has not been handled.	
[Producers shall report ENUMERATED values using the exact character string from one of the defined values.]	D.2.6.2.8	M	—	—	M	M		
[Producers shall report FLOAT data representations according to the defined notations.]	D.2.6.2.9.1	M	—	—	M	M		
[Both the scientific notation and decimal forms of floating point values shall be accepted by the decoding parser.]	D.2.6.2.9.2	—	—	—	M	—		
[Where the FLOAT accuracy attribute is defined, it shall be included in reported CMF-X data with a value in the defined CMF format and allowable range.] Also see 4.3.3.4.4(d) and Tables D.3.3.2-1 and D.3.3.2-2.	D.2.6.2.9.3, D.2.6.2.9.4	M	—	—	M	—		

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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Where an accuracy attribute is not provided, accuracy shall be implied and interpreted as implied within the limits of the allowed range.] Also see D.2.6.3.4.12.1 and Tables D.3.3.2-1 and D.3.3.2-2.	D.2.6.2.9.4	M	M	M	M	—		Where an accuracy attribute is not available, Producers shall round the resulting implied accuracy to within any given upper and/or lower accuracy range.  Producers are strongly recommended to always round data to within their respective sensor accuracy.
[Producers shall report STRING data representations within the defined character and value limits.]	D.2.6.2.10	M	—	—	M	M		

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Producers shall report PATTERN data representations within the defined character and value limits.] Also see Table D.2.6.2.11-1 for allowable Field-IDs.	D.2.6.2.11.2, D.2.6.2.11.4, D.2.6.2.11.5, D.2.6.2.11.6	M	—	—	M	M		
[Producers shall report PACKED elements and PACKED COMPONENT data representations within the defined character and value limits.]	D.2.6.2.12.2	M	—	—	M	M		
[CMF binary data representations shall comply with CMF-defined byte orientation, alignment, extension/continuation, and termination constructs.]	D.2.6.3.1.2	—	—	—	M	M		
[CMF-B INTEGER data representations shall be compliant with the defined bit formats, structure rules, and value limits.]	D.2.6.3.2.1, D.2.6.3.2.4	—	—	—	M	M		
[CMF numerical values may be reported with leading zeroes, but they shall not be preserved via CMF-B.]	D.2.6.3.2.1, D.2.6.3.4.1	—	—	—	M	—		

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[CMF-B ENUMERATED data representations shall be compliant with the defined bit formats, structure rules, and value limits.]	D.2.6.3.3.1	—	—	—	M	M		
[CMF-B FLOAT data representation shall be compliant with the defined bit formats, structure rules, and value limits.] Also see D.2.6.3.4.2, D.2.6.3.4.3, D.2.6.3.4.6, D.2.6.3.4.8, D.2.6.3.4.9, D.2.6.3.4.10, D.2.6.3.4.11, and D.2.6.3.4.12.	D.2.6.3.4.1	—	—	—	M	M		
[If the unit equivalents attribute is defined in the DTD and the producer sends data in other than the assigned default unit, the selectable units indicator and unit value shall be set.]	D.2.6.3.4.11.2	C	—	—	M	—	Applies to Producers if setting of the selectable units indicator is not performed by a compliant parser.	

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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[CMF-B data shall not contain any value for elements or attributes which are required in the content model but have a defined default element, accuracy, or unit value which matches the respective producer provided value for the given path.]	D.2.6.3.4.11.1, D.2.6.3.4.12.1, D.2.6.3.4.12.2, D.2.7.1.3	—	—	—	M	—		
[CMF-B STRING data representation shall be compliant with the defined bit formats, structure rules, and value limits.]	D.2.6.3.5.1, D.2.6.3.5.2	—	—	—	M	M		
[CMF-B PATTERN data representation shall be compliant with the defined bit formats, structure rules, and value limits.]	D.2.6.3.6.2, D.2.6.3.6.3	—	—	—	M	M		
[CMF-B PACKED COMPONENT data representation shall be compliant with the defined bit formats, structure rules, and value limits.]	D.2.6.3.7.2, D.2.6.3.7.3	—	—	—	M	M		

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
GENERAL REPORTING CONSTRUCTS								
[Systems shall support the "No Data" and "Initial Value" states.]	D.2.7.1.1, D.2.7.1.4	—	M	C	—	M	Applies to Display systems which receive data where this item has not been handled.	
[Systems shall report and handle the reset attribute.]	D.2.7.2.2, D.2.7.2.3, D.2.7.2.4, D.2.8.5.6, D.2.8.6.9, D.2.8.7.8, D.2.8.8.4, D.2.8.8.12, D.2.8.9.6, D.2.6.3.7.2	M	M	C	M	M	Applies to Display systems which receive data where this item has not been handled.	
[Systems shall maintain case as defined for CMF (both CMF-B and CMF-X).]	D.2.7.3	M	M	C	M	M	Applies to Display systems which directly handle CMF data.	
[Systems shall adhere to whitespace restrictions and significance.]	D.2.7.4.1, D.2.7.4.2	M	M	C	M	M	Applies to Display systems which directly handle CMF data.	

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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[CMF data generated with the lack of a path or using Path = 0 shall not utilize the default value removal capability, but shall be a composite of the original data.] Also see D.2.7.5.2.	D.2.7.5.1	—	—	—	M	—		
[The tag value of 0 shall be reserved and recognized as the Processing Instruction (PI) for CMF-B data.]	D.2.7.6.1, D.2.7.6.2	C	C	C	M	M	Applies to Producer, Consumer, and Display systems with a need to process a PI.	
[CMF shall be constructed as a nested set of elements starting at a defined root node per standard XML-based hierarchy, with the exception that "mixed content model" data is not permitted.]	D.2.8.1, D.2.8.4	M	—	—	M	M		
[CMF data shall be constructed using only the defined types of packaging elements as summarized in Table D.2.8-1.] Also see D.2.8.5, D.2.8.6, D.2.8.7, D.2.8.8, and D.2.8.9.	D.2.8.2	M	—	—	M	M		

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Unless permitted by a specific/special rule, fixed attributes shall not be included in CMF-X data.]	D.3.3.2.1	M	—	—	M	M		See exception in Note at the bottom of Table 3.3.2-1.
[GROUP elements in CMF-B shall include the defined length value and a receiving parser shall use this value to aid in skipping past unrecognized data at the end of a group.]	D.2.8.6.1	C	—	—	M	—	Applies to the producer application if not using the CMF Parser.	
[Follow-on reports of REPETITIVE elements shall be treated as replacements and order shall be maintained.]	D.2.8.8.4	M	M	C	M	M	Applies to Display systems which receive data where this item has not been handled.	

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT	
		Producer	Consumer	Display	Parser	DTD			
[CMF-B parsing shall process errors according to the Error Handling Table D.2.9.1-1.] Also see D.3.4.3.2.	D.2.9.1	—	—	—	M	M		Consumers / TDPs shall expect a bypass to the end of the current GROUP on a sync error, but may possibly have availability of data on other errors.	
[CMF-X parsing shall process errors according to the Error Handling Table D.2.9.2-1.]	D.2.9.2	—	—	—	M	M		Consumers / TDPs may possibly have availability of data on errors.	
<b>DTD/SCHEMA CONVENTIONS</b>									
CMF, both B and X, is defined via a single DTD to which all IBS participants shall adhere.	D.3.1	M	M	M	M	M			
[DTD declarations internal to XML documents (i.e., packages) shall not be generated or processed.]	D.3.2	M	M	M	M	—			

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[The pre-defined attribute names or CMF keywords shall be used in the DTD to define CMF elements as identified in Table D.3.3.2-1 and D.3.3.2-2).]	D.3.3.2.2	—	—	—	M	M		
[Systems shall properly implement XML Validation, additional CMF-specific Validation, and CMF Verification capabilities.] Also see D.3.3.3.3, D.3.3.3.4, D.3.3.3.6, and D.3.3.3.7.	D.2.2, D.3.3.3.1, D.3.3.3.2, D.3.3.3.5	C	—	—	M	—	Applies to Producers if the CMF and XML validation / verification are not provided by a compliant parser.	
[Element values shall be verified against ALL applicable attribute definitions in the DTD on creation or at any point where CMF data is created or modified for subsequent forward passage.]	D.3.3.3.6	C	—	—	M	—	Applies to Producers if the CMF and XML validation / verification operations are not provided by a compliant parser.	

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Verification shall not be performed upon receipt.]	D.3.3.3.6, D.3.3.3.7	—	M	C	M	—	Applies to Display systems which directly handle CMF data.	Systems using the CMFPL must properly configure verification on receipt to be disabled.
DTD/SCHEMA MODIFICATION								
[Systems shall comply with the behavior for Adding Elements to DTDs as specified in Table D.3.4.2.3-1.]	D.3.4.2.3	—	—	—	M	M		
[Systems shall comply with the behavior for Removing Elements from DTDs as specified in Table D.3.4.2.4-1.]	D.3.4.2.4	—	—	—	M	M		
[Systems shall comply with the behavior for Modifying Elements of DTDs as specified in Table D.3.4.2.5-1.]	D.3.4.2.5	—	—	—	M	M		
[Systems shall comply with the behavior for Adding Attributes to elements as specified in Table D.3.4.2.6-1.]	D.3.4.2.6	—	—	—	M	M		

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Systems shall comply with the behavior for Removing Attributes from elements as specified in Table D.3.4.2.7-1.]	D.3.4.2.7	—	—	—	M	M		
[Systems shall comply with the behavior for Modifying Attributes of elements as specified in Table D.3.4.2.8-1.]	D.3.4.2.8	—	—	—	M	M		
[If unrecognized attributes are encountered in parser operations, a warning shall be issued and the attribute shall receive no further processing.]	D.3.4.3.6	—	—	—	M	M		
DTD/SCHEMA CRITERION and ATTRIBUTE LIMITATIONS								
[Use of elements and their children which are marked as not operationally valid by the "relevance" attribute shall not be utilized in production, translations, displays, or other processing.]	D.3.4.3.8.2.1	M	M	M	—	—		

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Data marked as non-operational by the "relevance" attribute and which is presented in a human readable form, shall be indicated as non-operational.]	D.3.4.3.8.2.1	—	—	M	—	—		
[If a "relevance" attribute is encountered with a value of "DISUSED" for a reported element during parser operations, a warning shall be issued and the attribute shall be included in the DOM.]	D.3.4.3.8.2.4	—	—	—	M	—		
[Detailed requirements for the declaration and validation of attributes and DTD structures shall be performed in accordance with Table 3.4.3.8-1.]	D.3.4.3.8.3	—	—	—	M	—		
SPECIAL CMF PRODUCTION RULES								
[Where the "unit" attribute is defined in the DTD, it shall be included in the CMF-X data.]	D.4 Item 1, D.4 Item 6	C	—	—	M	—	Applies to the producer application if not using the CMF Parser.	

Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[For REPETITIVE elements, the appropriate "element_iterations" attribute and value shall be included in the CMF-X data.] Also see D.2.8.8.	D.4 Item 2, D.2.8.8.1	C	—	—	M	—	Applies to the producer application if not using the CMF Parser.	
[For INTEGER elements having a value qualifier, set the appropriate reported value within the defined range.]	D.4 Item 3	C	—	—	M	—	Applies to the producer application if not using the CMF Parser.	
Reset attributes shall be properly nested.	D.4 Item 4	C	—	—	M	—	Applies to the producer application if not using the CMF Parser.	
[Values shall be included for any reported FIELD element contingent on the "reset" attribute setting.]	D.4 Item 5	C	—	—	M	—	Applies to the producer application if not using the CMF Parser.	
[Processing instructions shall only be utilized on "GROUP" elements.]	D.2.7.6.1, D.4 Item 7	M	—	—	M	—		

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT	
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser	DTD		
[Systems shall comply with CMF DTD/schema naming conventions and usage requirements.]	D.4 Item 8	M	M	C	M	M	Applies to Display systems which directly handle CMF DTD/Schema filenames.		
[Every CMF_Doc and CMF_Hdr shall include the specified "DOCTYPE" node.]	D.4 Item 9	C	-	-	M	M	Applies to the producer application if not using the CMF Parser.		
[The Parser API and DTD Versions shall be set, checked, processed, inhibited and/or reported appropriately for all CMF documents (includes CMF_Doc and CMF_Hdr).] Also see 5.4.1.1.4, 5.4.1.1.5, D.3.4.1.1 through D.3.4.1.3.2, D.3.4.3.3, and F.1.2.2.1.	5.4.1.1.3, 5.4.1.1.4.3, D.3.4.1, D.4 Item 10	M	M	C	M	M	Applies to Display systems which directly handle CMF data.	If using the CMF Parser and it is appropriately configured, checking is automatically handled and issues reported to the application.	
[Operating version numbers and any mismatches shall be reported.]	D.3.4.1.3.1	-	-	C	-	-	Applies if physically possible.		

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional						
Producer	Consumer	Display	Parser	DTD				
[The parser API version numbers shall be utilized as found in the CMF PLDG.  Similarly, the DTD version numbers shall be utilized as declared within the DTD.]	5.4.1.1.3	C	C	-	M	M	Applies to systems not utilizing the CMFPL.	For producers utilizing the CMFPL CAPI, the parser automates the retrieval, setting, and checking of all the versioning information.  Systems not utilizing the CMFPL determine which version of the parser API to which they are compliant and obtain the DTD version from their DTD for inclusion in all documents and/or for all version checking.

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[For CMF-X, every CMF_Doc and CMF_Hdr shall include the namespace attribute "xmlns" as specified.]	D.4 Item 11	C	—	—	M	M	Applies to the producer application if not using the CMF Parser.	
[FLOAT type elements shall not utilize values containing comma separators or indicating infinity (INF), negative infinity (-INF), or not-a-number (NAN).]	D.4 Item 12, D.2.6.2.9.2	C	—	—	M	M	Applies to the producer application if not using the CMF Parser.	
[Attributes which limit other attributes shall be enforced.]	D.4 Item 13	C	—	—	M	—	Applies to the producer application if not using the CMF Parser.	
[Empty tags are not permitted other than in a reset condition when the reset attribute is reported.]	D.4 Item 14	C	—	—	M	—	Applies to the producer application if not using the CMF Parser.	
[The "relevance" attribute shall be included in CMF-X data upon the reporting of any element where it is defined (including conversions from CMF-B).]	D.3.4.3.8.2.3, D.4 Item 15	C	—	—	M	—	Applies to the producer application if not using the CMF Parser.	

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Table A.2.6-1 Core Capability Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
PARSER API								
[All CMF data shall be parsed by a compliant CMF parser component.] Also see A.2.4 and A.2.5.	H.1.2	M	M	-	M	-		
[In order for a CMF-B parser component to be certified, it shall fully comply with the CMF-B API specification.]	H.1.1.1	-	-	-	M	-		
[In order for a CMF-X parser component to be certified, it shall fully comply with the CMF-X API specification.]	H.1.1.2	-	-	-	M	-		
FILTERING								
Geographic filter criteria shall apply only to CMF messages that have location information present.	4.5.2	M	M	-	-	-		
[When filtering data, if any entity message qualifies to pass on to the next process, pass-through systems shall perform the same action on all subsequent corresponding chained entities and data management messages.]	4.5.3	M	M	-	-	-		
Operations Notification Messages shall not be filtered.	4.5.4	M	M	-	-	-		

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**A.3 PACKAGE AND MESSAGE MINIMUM IMPLEMENTATION REQUIREMENTS**

A.3.1 PACKAGE AND MESSAGE OVERVIEW - All systems utilizing CMF shall implement at least the minimum set of preface or wrapper information (prior to the messages) and at least the minimum applicable messages according to their role (see [Table A.3.1-1](#)) as detailed in the following sections and utilizing any applicable guidelines pertaining to their respective content. Note that all IBS infrastructure products that pass data through for other products such as IBS Network Services (IBS-NS), CIB Uplink Site (CUS), Joint Tactical Terminal (JTT), etc. shall be capable of processing all portions of all CMF structures at least to the level necessary to complete the transfer of the data in accordance with all CMF specifications and guidelines.

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Table A.3.1-1 Implementation Applicability

	Applicable to which:	
	Producers	Consumers
• CMF Document	All	All
▪ Message Group	As needed	All
○ Entity Message	All	All
○ Data Management Message	Role-based	All
○ Remote Amplification Message	Optional	N/A
○ Text Message	Limited	All
○ Collaboration Message	Special	Special
○ Operations Notification Message	Limited	All
○ Operational Status Message	Limited	Optional
○ BLOB Transfer Message	Special	Optional
• CMF Header		
○ Data Package Description Elements	All but CIB	All but CIB
○ Archive File Elements	As needed	As needed
○ Archive Record Elements	As needed	As needed
• CIB Header	CIB-only	CIB-only
• Metadata Preamble	CIB-only	CIB-only

Explanation of Terms (in the context of this table only)

All = applies to all systems, but implementation of individual groups/elements within the structure may be role-based.

Producer = creator of CMF data (includes any intermediate translator).

Consumer = recipient of CMF data (e.g. radio, TDP, etc.)

As needed = use is dependent upon data content and system capability.

Role-based = use is determined by operational function/mission of the producer.

Optional = use is determined by producer or consumer acquisition authority.

Limited = use is only authorized by the GIBSSC.

Special = specific use for a pre-defined subset of the IBS community.

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A.3.2 CMF DOCUMENT CONTENTS - The *CMF Doc* [CMF\_Doc] group, which is a mandatory element in all CMF documents, is used to encapsulate one or more of the CMF messages, or encapsulate one or more *Message Group* [Msg\_Grp] elements, which in turn each encapsulate one or more of the CMF messages.

A.3.2.1 CMF DOCUMENT MINIMUM REQUIREMENTS - All producer systems shall implement the appropriate elements at the *CMF Doc* level to package one or more CMF messages. A minimal implementation includes the *Package Description Elements*, *Originator Address* (if the originator is not the system passing the data), and *Mode Indicators* (if they are set to anything other than their initial value). All consumers shall implement to accept and process these same minimum elements at the *CMF Doc* level and shall also process any *Message Group* structures in order to extract any supported message types. Additionally, in order to support the rapid fielding of any urgent critical new capabilities within IBS on an interim solution basis, all consumers shall fully implement the processing of the *Urgent Interim Capability* (UIC) element structures within the *CMF Doc* to include display (see [Section A.1.4](#)) along with other supported *CMF Doc* information to a consumer's operator.

A.3.2.1.1 The following CMF\_Doc Min-Implementation Reference List (see [Table A.3.2.1-1](#)) further identifies *CMF Doc* level requirements, identifies their applicability, and provides references to the appropriate location where more detail can be found.

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Table A.3.2.1-1 CMF Doc Min-Implementation Reference List

(Sheet 1 of 8)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
CMF DOCUMENT PACKAGE STRUCTURE								
[The CMF Doc element shall be the root in all CMF Documents.]	5.2.1	M	M	—	—	M		
Each CMF Doc shall contain at least the minimum elements required by the "CMF Doc Package Structure" and as otherwise required by producer rules.  Minimum elements - by structure: Package_Description_Data; and at least one of: Msg_Grp, Data_Mgt_Msg, Entity_Msg, Remote_Ampn_Msg, Txt_Msg, Collab_Msg, Ops_Notify_Msg, Oper_Status_Msg, or BLOB_Xfer_Msg Also see 5.4.1.3, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10, 5.11, and 5.12.	5.4, A.3.2.1	M	—	—	—	—		
Conditional Minimum elements - by rule: Orig_Addr, Mode_Indicators	4.3.3.3.1, 5.4.1.5, 5.6.1.18.2, 5.6.1.18.7.1							The rules for the Section 5.6 references are provided in Table A.3.2.2-1 (Entity Msg Min-Imp).
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Table A.3.2.1-1 CMF Doc Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
(CONTINUED)								
Also see 5.4.1.4. See entry/entries below for specific conditions.								
CMF DOCUMENT PACKAGE IDENTIFICATION								
Each CMF data package shall contain at least the minimum elements required by the "Package Description Data Package Structure" and as otherwise required by producer rules.  Minimum elements - by structure: Major_Parser_API_Version, Minor_Parser_API_Version, Major_DTD_Version, Minor_DTD_Version, Pkg_Num, Time_Of_Xmit, Xmit_Addr Also see 5.4.1.1.4, 5.4.1.1.5, 5.4.1.1.6, 5.4.1.1.7, and 5.4.1.1.8. [Packages shall be assigned a one-up Package Number.]	5.4.1.1.1	M	-	-	-	-		
	4.3.3.2.9, 5.4.1.1.6	M	-	-	-	-		

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Table A.3.2.1-1 CMF Doc Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT	
		Producer	Consumer	Display	Parser	DTD			
[Each Time Of Transmission composite shall contain at least the minimum elements required by the "Package Description Data Package Structure" and as otherwise required by producer rules.]  Minimum elements - by structure: Clk_Time, Julian_Day, Yr	5.4.1.1.3, 5.4.1.1.7	M	-	-	-	-			
<b>ORIGINATOR IDENTIFICATION</b>									
[For data received with a transmitter address but without the originator address, consumers shall assume that the originator is the same as the transmitter.]	4.3.3.3.1, 5.4.1.1.8	-	M	-	-	-			
Systems originating messages shall report their CMF address (Subnet, Node) in the Transmitter Address element.	4.3.3.3.1.1a	M	-	-	-	-			
Systems originating messages shall not report the Originator Address element.	4.3.3.3.1.1b	M	-	-	-	-			

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Table A.3.2.1-1 CMF Doc Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
Systems not originating the message and not identified as a pass-thru router shall report their CMF Address in the Transmitter Address element.	4.3.3.3.1.2a	M	—	—	—	—		
Systems not originating the message and identified as a pass-thru router shall not modify the Transmitter Address or Originator Address elements.	4.3.3.3.1.3a	M	—	—	—	—		
Systems not originating the message and not identified as a pass-thru router shall report the originally received Transmitter Address in the Originator Address element.	4.3.3.3.1.2b	C	—	—	—	—	Applies to producers only if the Originator Address does not exist.	
[Each Transmitter Address composite shall contain at least the minimum elements required by the "Package Description Data Package Structure" and as otherwise required by producer rules.]  Minimum elements - by structure: Subnet, Node	5.4.1.1.3, 5.4.1.1.8	M	—	—	—	—		

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Table A.3.2.1-1 CMF Doc Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
MODE INDICATION  [The Mode Indicators shall not be present in a package unless one or more of the indicators has ever changed from its specified initial value.]	5.4.1.5	M	—	—	—	—		
[The Mode Indicators shall always be sent if any are set to other than their specified initial value.]	5.4.1.5	M	—	—	—	—		
[Once set to a non-initial value state, the Test, Exercise, and Simulation Indicator states shall not change, respectively.]	5.4.1.5.1, 5.4.1.5.2, 5.4.1.5.3	M	—	—	—	—		
[Consumer systems shall accept the Test, Exercise, and Simulation Indicators set to the Initial Value and properly handle the No Change condition.]	5.4.1.5.1, 5.4.1.5.2, 5.4.1.5.3	—	M	C	—	—	Applies to display systems which receive data where this item has not been handled.	

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Table A.3.2.1-1 CMF Doc Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
CMF MESSAGE GROUPING								
If reported, the Message Group shall contain at least the minimum elements required by the "Message Group Package Structure" and as otherwise required by producer rules.  Minimum elements - by structure: at least one of: Data_Mgt_Msg, Entity_Msg, Remote_Amp_Msg, Txt_Msg, Collab_Msg, Ops_Notif_Msg, Oper_Status_Msg, or BLOB_Xfer_Msg Also see 5.5, 5.6, 5.7, 5.8, 5.9, 5.10, 5.11, and 5.12.  Conditional Minimum elements - by rule: Orig_Addr, Mode_Indicators Also see 5.4.1.4. See previously referenced entry/entries for specific conditions.	5.4.1.3, A.3.2.1	M	-	-	-	-	The rules for the Section 5.6 references are provided in Table A.3.2.2-1 (Entity Msg Min-Imp) .	

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**Table A.3.2.1-1 CMF Doc Min-Implementation Reference List**  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
The Message Group element shall not be used if one or more CMF messages are direct child elements of the CMF Doc element.	5.2.4	M	—	—	—	—		
The Message Group shall not be used unless there are multiple messages in the CMF Document that are from different originators and/or have different Mode Indicators. Also see 5.4.1.3.1.1.	5.4.1.3	M	—	—	—	—		
[Producers shall use separate Message Groups for each different originator and/or mode indicator combination.] Also see 5.4.1.3.1.3 and 5.4.1.3.1.4.	5.4.1.3.1.2	M	—	—	—	—		
[A relationship shall never be implied or assumed merely by the presence of multiple messages in a package.]	5.2.2	M	M	C	—	—	Applies to Display systems that directly handle CMF data and/or if a Consumer portion of the system does not separate the messages.	

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**Table A.3.2.1-1 CMF Doc Min-Implementation Reference List**  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
<b>UIC ELEMENTS</b>								
The Urgent Interim Capability Elements group shall contain at least the minimum elements required by the "UIC Elements Structure" and as otherwise required by producer rules.  Minimum elements - by structure: UIC_ID, UIC_Name Also see 5.6.1.38.	5.4.1.6	M	—	—	—	—		
Producers shall implement all minimum implementation requirements as detailed in the approved UIC ICR.	5.6.1.38.2	M	—	—	—	—		
[Producers shall report the BJCCB-assigned UIC ID for a corresponding approved UIC.]	5.6.1.38.6.1	M	—	—	—	—		
[Consumers shall fully implement the processing of the Urgent Interim Capability (UIC) element structures within the CMF Doc.]	A.3.2.1	—	M	M	—	—		

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A.3.2.2 ENTITY MESSAGE MINIMUM REQUIREMENTS - All producer systems shall implement the appropriate elements within an *Entity Message* [Entity\_Msg] construct to support the minimum required *Entity Message* elements as denoted under the discussion of the CMF Concept (see [Section 4](#)) in addition to any other elements of the *Entity Message* within the producer's information collection and IBS reporting responsibilities. In accordance with the defined IBS partial reporting protocol, all supported elements may not appear in each *Entity Message*. All consumers shall accept and process those same minimum elements and any other elements of the *Entity Message* as necessary to support the consumer's display, translation, routing, or other IBS role requirements. Additionally, in order to support the rapid fielding of any urgent critical new capabilities within IBS on an interim solution basis, all consumers shall fully implement the processing of the Urgent Interim Capability (UIC) element structures within the *Entity Message* to include display along with other supported *Entity Message* information to a consumer's operator.

A.3.2.2.1 The following Entity\_Msg Min-Implementation Reference List (see [Table A.3.2.2-1](#)) further identifies minimum *Entity Message* requirements, identifies their applicability, and provides references to the appropriate location where more detail can be found.

Table A.3.2.2-1 Entity Msg Min-Implementation Reference List

(Sheet 1 of 58)

REQUIREMENT / IMPLICATION unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
ENTITY MESSAGE STRUCTURE								
The CMF Entity Message shall be used to report an entity, such as an object, object group, target, site, etc., including the entity's characteristics, actions, and/or status.	5.6	M	—	—	—	—		
Each Entity Message shall contain at least the minimum elements required by the "Entity Message Package Structure" and as otherwise required by producer rules.  Minimum elements - by structure: Entity_Num, TOI Also see 5.6.1.7 and 5.6.1.11.  Mandatory Minimum elements - by rule: Julian_Day_Of_Intcp, Envir_ID (of Entity_ID_Elmnts), Entity_Upd_Num  (CONTINUED)	5.6, 5.6.1.1,  5.6.1.1a,  4.3.3.4.4, 5.6.1.1b, 5.6.1.12, 5.6.1.14.4, 5.6.1.18.1, 5.6.1.39.2	M	—	—	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
(CONTINUED)								
Conditional Minimum elements - by rule: One of: Ref_Polar_Plat_Emts OR Entity_Polar_Loc_Elmnts; Provider_Typ, Src_Msg_Typ, Advisory_Indic, Extrap_Indic, Drop_Entity_Action, Entity_Alternate_ID_Elmnts, Interest_Indicators, Msg_Filter_Elmnts Also see 5.6.1.8, 5.6.1.9, 5.6.1.10, 5.6.1.13, 5.6.1.14, 5.6.1.15, 5.6.1.16, 5.6.1.19, 5.6.1.20, 5.6.1.39, and 5.6.1.43. See entry/entries below for specific conditions.		5.6.1.1c, 5.6.1.3, 5.6.1.4, 5.6.1.16, I.7.2.4.2.4, I.7.2.4.3.4						

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Segmentation of Entity Messages shall be at the major element groupings (i.e., at the groups ending in "Elements").]	4.3.3.4.3	C	—	—	—	—	Applies to producers supporting Entity Message segmentation (e.g., due to bandwidth limitations).	
[The Advisory Indicator element shall be reported.] Also see 5.6.1.10.	5.6.1.1c	C	—	—	—	—	Applies if the element is in other than the "Initial_Value" state.	
[The Extrapolation Indicator element shall be reported.] Also see 5.6.1.13.	5.6.1.1c	C	—	—	—	—	Applies if the element is in other than the "Initial_Value" state.	
ENTITY UNIQUE IDENTIFICATION								
[A unique one-up Entity Number shall be assigned to each entity by the data originator as part of the IBS Global Identifier.] Also see 4.3.3.2.	4.3.3.2.5, 4.3.3.4.2	M	—	—	—	—		

Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
When updating a previously reported entity, the reporting unit shall continue to utilize any previously reported entity number when updating information on the same physical entity when the entity is being updated within 24 hours of a previous report.	4.3.3.2.7	M	—	—	—	—		
[Entity numbers that have not been retained for reporting beyond 24 hours, or reported within the last 24 hours, shall be assigned by reusing the lowest available number.]	4.3.3.2.7	M	—	—	—	—		
[If a producer uses all available Entity Number values within a 24-hour period, the producer shall cease any new assignments until numbers become available.]	4.3.3.2.8	M	—	—	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
SOURCE and PROVIDER INFORMATION								
[The Source Message Type element shall be reported.] Also see 5.6.1.9.	5.6.1.1c	C	—	—	—	—	Applies if the element is in other than the "Initial_Value" state.	
[The Provider Type element shall be reported.] Also see 5.6.1.8.	5.6.1.1c	C	—	—	—	—	Applies if the current data is sourced from one of the available values of Provider Type.	
[The Message Filter Elements shall be reported.] Also see 5.6.1.43.	5.6.1.1c	C	—	—	—	—	Applies if the current data is sourced from one of the available values of Message Filter Elements.	

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Producers with the capability to report elements from the Message Filter Elements group shall also report any corresponding Provider Type value.]	5.6.1.8.3, 5.6.1.43.4.4	C	—	—	—	—	Applies if Provider Type value is available.	
DAY and TIME OF INTERCEPT								
[If the message is not marked as extrapolated, the message day and time shall be interpreted as the closest occurrence of that day/time in the past.] Also see 5.6.1.12.	4.3.3.4.4	—	M	M	—	—		
If the message is marked as extrapolated, the message day/time shall be interpreted as the closest occurrence of that day/time (either past or future). Also see 5.6.1.12.	4.3.3.4.4	—	M	M	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
LOCATION INFORMATION								
[Location information within either the Entity Polar Location Elements or the Reference Polar Platform Elements shall always be transmitted with each Entity Message.] Also see 5.6.1.4a, 5.6.1.4b, 5.6.1.19, 5.6.1.20, and 5.6.1.20.5.	5.6.1.4	M	—	—	—	—		
If an entity is being dropped, the last transmitted location shall be reported.	5.6.1.4	M	—	—	—	—		
[After the initial Entity Message, location and location-dependent elements shall be replaced on each transmission receipt with new location data, (with the exception of location error information which is handled differently).]	5.6.1.5	—	M	C	—	—	Applies to Display systems which receive data where this item has not been handled.	
[Location error reporting shall be persisted as long as the error data itself is not reset and as long as the type of location being reported supports the use of error data.]	5.6.1.5	—	M	C	—	—	Applies to Display systems which receive data where this item has not been handled.	

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT	
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser	DTD		
[If the type of location data is changed, and error data was associated with the previously reported location, the previously reported error data shall be reset along with the previously reported location.] Also see Table 5.6.1-1 (Location Reporting Sequence Example).	5.6.1.6	—	M	C	—	—	—	Applies to Display systems which receive data where this item has not been handled.	
DROPPING AN ENTITY									
The Drop Entity Action element shall be sent whenever set to a drop condition in order to remove the entity.	5.6.1.1c, 5.6.1.3	M	—	—	—	—	—		
[The Time Of Intercept shall be set either to zero ("0") or to the time of the drop indication for the Drop Entity Action.]	5.6.1.14.3	M	—	—	—	—	—		
ALTERNATE IDENTIFIERS									
[Every Entity Message transmission shall contain all applicable alternate identifiers.]	5.6.1.15.2	C	—	—	—	—	—	Applies if the entity has been assigned an ID for reporting on other datalinks or in other environments.	

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Entity Message reports shall contain the Entity Alternate ID Elements group.] Also see 5.6.1.15.1.	5.6.1.1c	C	—	—	—	—	Applies if the entity has been assigned an ID for reporting on other datalinks or in other environments.	
[Any previously reported Entity Alternate ID Elements not received in an update transmission shall be treated as being reset.]	5.6.1.15.2	—	M	C	—	—	Applies to systems that directly handle CMF data or Display systems which receive data where this item has not been handled.	
[TES producers shall transmit the TES Event Identifier element in the Entity Alternate ID Elements group.] Also see I.2.1.1.3.1.	5.6.1.15.15	M	—	—	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
INTEREST INDICATIONS  [The Interest Indicators shall be reported.]								
	5.6.1.1c, 5.6.1.16	C	—	—	—	—	Applies if any of the contained elements is other than the "Initial_Value" state.	
If an IBS receive system implements the Force Tell Indicator it shall allow the IBS value of "FORCE_TELL_STATUS" to cause an override/bypass of any filters.	5.6.1.16.1	—	M	C	—	—	Applies to Display systems which receive data where this item has not been handled.	
If an IBS received system implements the Emergency Indicator, it shall allow the IBS value of "EMERGENCY_STATUS" to cause an override/bypass of any filters.	5.6.1.16.2	—	M	C	—	—	Applies to Display systems which receive data where this item has not been handled.	

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[The producer shall report a Data Management Message to chain a reported threat entity to any targeted entities.]	5.6.1.16.3	C	—	—	—	—	Applies if the Threat Warning condition is reported, and at least one target is known.	

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
ENTITY IDENTIFYING CHARACTERISTICS								
The Entity ID Elements group shall contain at least the minimum elements required by the "Entity ID Elements Structure" and as otherwise required by producer rules.	5.6.1.18,	M	-	-	-	-		
Mandatory Minimum elements - by rule: Envir_ID	5.6.1.1b, 5.6.1.18.1,							
Conditional Minimum elements - by rule: Entity_Name, Nat_Alliance, Entity_Typ, One of: BE_Num_Std OR BE_Num_Specific_Use OR BE_Num_Field_Initiated Also see 5.6.1.18.3, 5.6.1.18.7, 5.6.1.18.9, 5.6.1.18.22, 5.6.1.18.23, and 5.6.1.18.24. See entry/entries below for specific conditions.	5.6.1.18.25, 5.6.1.18.26, 5.6.1.18.42, 5.6.1.18.43, 5.6.1.18.44, 5.6.1.18.45, 5.6.1.29.8, I.7.2.4.3.4							

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Exercise Indicator, IBS (in the CMF Doc) shall be reported with a value of EXERCISE_DATA when the Exercise Role element is reported with a value of JOKER or FAKER.] Also see 5.4.1.5.2.	5.6.1.18.2.1	C	—	—	—	—	Applies if producer systems are reporting Exercise Role.	
[Exercise Indicator, IBS (in the CMF Doc) shall be set to EXERCISE_DATA when virtual Nationality/Alliance values are reported.] Also see 5.4.1.5.2.	5.6.1.18.7.1	C	—	—	—	—	Applies if producer systems are reporting virtual Nationality/Alliance values.	
[A BE element shall be reported when the BE Suffix or BE Originator Suffix element is reported.] Also see 5.6.1.18.22, 5.6.1.18.23, 5.6.1.18.24.	5.6.1.18.25, 5.6.1.18.26	C	—	—	—	—	Applies if producer systems are reporting BE Suffix or BE Originator Suffix.	
[Nationality/Alliance shall be reported when Nationality/Alliance Percent Confidence or Nationality/Alliance General Confidence is reported.] Also see 5.6.1.18.7.1.	5.6.1.18.42, 5.6.1.18.43	C	—	—	—	—	Applies if producer systems are reporting Nationality/Alliance confidence.	

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[A single Entity Type, IBS value shall be reported when Entity Type Percent Confidence or Entity Type General Confidence is reported.] Also see 5.6.1.18.9.	5.6.1.18.44, 5.6.1.18.45	C	—	—	—	—	Applies if producer systems are reporting Entity Type confidence.	
[If a more specific identification is not known to the producer, Environment ID value shall be reported as "GRU".]	5.6.1.18.1	M	—	—	—	—		
If an Environment ID is not received or recognized, consumers shall use the previously reported Environment ID value, or otherwise shall set it to "GRU".	5.6.1.18.1	—	M	C	—	—	Applies to display systems which receive data where this item has not been handled.	
[While Entity Exercise Role is set to JOKER or FAKER, the element shall continue to be sent at each transmission of the reported entity.]	5.6.1.18.2.2	M	—	—	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[All systems shall properly handle the special rules for retention and reset of mnemonics elements which can have multiples. This shall include Entity Activity, Entity Type, Entity Content, and Entity Status.]	5.6.1.18.8.2, 5.6.1.18.9, 5.6.1.18.11, 5.6.1.18.12	—	C	C	—	M	Applies when an Entity Message is received containing mnemonics that are capable of multiples.	
[The BE Suffix shall be treated as being reset when the associated BE value is reset.]	5.6.1.18.25	—	M	C	—	—	Applies to display systems which received data where this item has not been handled.	
[The BE Originator Suffix shall be treated as being reset when the associated BE value is reset.]	5.6.1.18.26	—	M	C	—	—	Applies to display systems which received data where this item has not been handled.	
[IFF and SIF shall not be reported for the same Mode number.]	5.6.1.18.27.2	M	—	—	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT			
		M=Mandatory	C=Conditional	O=Optional	Producer	Consumer	Display	Parser	DTD		
[The valid decimal values from Table 5.6.1-2 shall be the only values reported for IFF/SIF Mode I.]	5.6.1.18.27.4.3, Table 5.6.1-2	M	—	—	—	—	—	—	—		
[The IFF Mode II Code and IFF Mode III Code elements shall be reported as decimal values.]	5.6.1.18.27.5	M	—	—	—	—	—	—	—		
[The Place Of Birth element shall contain the city/place and country of the individual person reported as the subject entity.]	5.6.1.18.28.1	M	—	—	—	—	—	—	—		
[For ships, the Primary Color value shall represent the hull color above the waterline. For aircraft, the Primary Color shall represent the general color of the fuselage.]	5.6.1.18.40.4	M	—	—	—	—	—	—	—		
[For ships, the Secondary Color value shall represent the color of the superstructure. For aircraft, the Secondary Color shall represent the underside, tail, or wing color.]	5.6.1.18.40.5	M	—	—	—	—	—	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
REFERENCE POLAR PLATFORM ELEMENTS								
The Reference Polar Platform Elements group shall contain at least the minimum elements required by the "Reference Polar Platform Elements Structure" and as otherwise required by producer rules.	5.6.1.1c, 5.6.1.4, 5.6.1.19,	C	-	-	-	-	Applies if the current data meets the defined criteria for reporting.	
Minimum elements - by rule: One of: Polar_Single_Loc OR Polar_Start_Loc	5.6.1.19.4,							
Conditional Minimum elements - by rule: Entity_LOB, Bearing_Cone_Angle, Start_Cut_LOB, Intermed_Cut_LOB, Stop_Cut_LOB See entry/entries below for specific conditions.	5.6.1.19.4							

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[An appropriate related line of bearing field or fields (Entity LOB, Bearing Cone Angle, Start Cut LOB, etc.) shall be reported with each reference location.]	5.6.1.19.4	C	—	—	—	—	Applies according to the number of locations being reported (single location or multiple moving locations).	
LOBs that are associated with one specific location shall be included in the same transmission as that location.	5.6.1.19.4	M	—	—	—	—		
If multiple Location/LOBs are used, the Position Fixing Method, Position Fix Quality, Heading, Altitude, and Pitch shall relate only to the first Location/LOB.	5.6.1.19.4	M	M	M	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
The Azimuth Corridor group shall contain at least the minimum elements required by the "Reference Polar Platform Elements Structure" and as otherwise required by producer rules.  Minimum elements - by structure: Polar_Single_Loc, Corridor_Center_Line, Corridor_Arc_Width Also see Figure 5.6.1.19.5.2-1, 5.6.1.19.5.4, and I.2.1.1.1.6.	5.6.1.19.4, 5.6.1.19.5.1	M	—	—	—	—		
When a bounded azimuth corridor is defined, producers shall provide a Corridor Arc Maximum Range value that is greater than the Corridor Arc Minimum Range value.  Also see Figure 5.6.1.19.5.3-1, I.2.1.1.2.8, and I.2.1.1.2.9.	5.6.1.19.5.3	M	—	—	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
ENTITY POLAR LOCATION ELEMENTS								
The Entity Polar Location Elements group shall contain at least the minimum elements required by the "Entity Polar Location Elements Structure" and as otherwise required by producer rules.	5.6.1.1c, 5.6.1.4, 5.6.1.20.2,	C	—	—	—	—	Applies if the current data meets the defined criteria for reporting.	
Mandatory Minimum elements - by rule: Entity_Loc	5.6.1.20.3, 5.6.1.20.4							
Producers shall not report Track Quality, IBS without prior authorization from the IBS Broadcast Operations Integration Group (BOIG).	5.6.1.20.15	M	—	—	—	—		

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		Producer	Consumer	Display	Parser	DTD		
ENTITY POLAR ATTITUDE ELEMENTS								
The Entity Polar Attitude Elements group shall contain at least the minimum elements required by the "Entity Polar Attitude Elements Structure" and as otherwise required by producer rules.	5.6.1.21.1,	M	—	—	—	—		
Conditional Minimum elements - by rule: Speed, One of: Measured_Altitude OR Elevation, Flight_Path_Angle Also see 5.6.1.21.3, 5.6.1.21.10, 5.6.1.21.13, and 5.6.1.21.16. See entry/entries below for specific conditions.	I.7.2.4.2.4, I.7.2.4.3.4, I.7.2.4.3.5							
Producers shall not report MPH, KTS, or KPH above their original ranges until operationally directed. Also see Appendix B, DFI/DUI 367/801.	5.6.1.21.3.2	M	—	—	—	—		

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		Producer	Consumer	Display	Parser	DTD		
ENTITY RECTANGULAR LOCATION ELEMENTS								
The Entity Rectangular Location Elements group shall contain at least the minimum elements required by the "Entity Rectangular Location Elements Structure" and as otherwise required by producer rules.	5.6.1.22.1,	M	-	-	-	-		
Mandatory Minimum elements - by structure: X_Y_Z_Position, X_Y_Z_Resol_Swch Also see 5.6.1.22.3 and 5.6.1.22.4.	5.6.1.22.3.2							
Conditional Minimum elements - by rule: X_Y_Z_Position Also see 5.6.1.23.3.2 and I.2.3.1. See entry/entries below for specific conditions.	5.6.1.22.3.2	C	-	-	-	-	Applies if producer systems are reporting X Y Z Velocity.	
[X Y Z Position shall be reported when the X Y Z Velocity elements are reported.] Also see 5.6.1.22.3.1, 5.6.1.23.3.1, and I.2.3.1.	5.6.1.22.3.2							

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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		Producer	Consumer	Display	Parser	DTD		
ENTITY RECTANGULAR ATTITUDE ELEMENTS								
The Entity Rectangular Attitude Elements group shall contain at least the minimum elements required by the "Entity Rectangular Attitude Elements Structure" and as otherwise required by producer rules.	5.6.1.23.1, 5.6.1.23.2,	M	-	-	-	-		
Mandatory Minimum elements - by structure: X_Y_Z_Vel Also see 5.6.1.23.3.								
Conditional Minimum elements - by rule: X_Y_Z_Vel, Boost_Indic Also see 5.6.1.22.3.1 and 5.6.1.23.5. See entry/entries below for specific conditions.	5.6.1.22.3.2, 5.6.1.23.3.2, 5.6.1.23.4, I.2.4.23							
[X Y Z Velocity shall be reported when the X Y Z Position elements are reported.] Also see 5.6.1.22.3.1, 5.6.1.23.3.1, and I.2.3.1.	5.6.1.23.3.2	C	-	-	-	-	Applies if producer systems are reporting X Y Z Position.	

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		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
Boost Indicator shall be reported with a value of NON_BOOST when the Ballistic Missile Beta, IBS field is reported. Also see 5.6.1.23.5 and I.2.4.23.	5.6.1.23.4	C	—	—	—	—	Applies if Producer systems are reporting Ballistic Missile Beta, IBS.	
The Maneuvering Indicator, IBS element shall not be reported if the Boost Indicator is set to the value of "BOOST". Also see 5.6.1.23.4.	5.6.1.23.6.1	M	—	—	—	—		
ENTITY RECTANGULAR ACCURACY ELEMENTS								
The Entity Rectangular Accuracy Elements group shall contain at least the minimum elements required by the "Entity Rectangular Accuracy Elements Structure" and as otherwise required by producer rules.  The Entity Rectangular Accuracy Elements group has no elements which are mandatory by structure or producer rule (mandatory or conditional). Also see 5.6.1.24.1.	—	—	—	—	—	—		

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		Producer	Consumer	Display	Parser	DTD		
PHYSICAL ADDRESS INFORMATION								
The Entity Physical Address Elements group shall contain at least the minimum elements required by the "Entity Physical Address Elements Structure" and as otherwise required by producer rules.	—	—	—	—	—	—		
The Entity Physical Address Elements group has no elements which are mandatory by structure or producer rule (mandatory or conditional). Also see 5.6.1.25.								
RF DESCRIPTION ELEMENTS								
The Entity RF Description Elements group shall contain at least the minimum elements required by the "Entity RF Description Elements Structure" and as otherwise required by producer rules.	—	—	—	—	—	—		
The Entity RF Description Elements group has no elements which are mandatory by structure or producer rule (mandatory or conditional). Also see 5.6.1.26.								

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		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[CMF reports shall not contain both a Frequency and a Frequency Range, nor both Multiple Frequencies and Multiple Frequency Ranges.]	5.6.1.26.3.1	M	—	—	—	—		
[When reporting multiple single/discrete frequencies, the primary frequency shall be placed in the Frequency field, and all remaining frequencies shall be in the Multiple Frequencies field.]	5.6.1.26.3.2	M	—	—	—	—		
[When reporting multiple frequency ranges, the primary frequency range shall be placed in the Frequency Range field, and all remaining ranges shall be placed in the Multiple Frequency Ranges field.]	5.6.1.26.3.3	M	—	—	—	—		
[The first frequency value of a Frequency Range shall be the lower frequency and the second value shall be the upper frequency.] Also see 5.6.1.26.3.4.	5.6.1.26.6	M	—	—	—	—		

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		Producer	Consumer	Display	Parser	DTD		
ENTITY PULSE DESCRIPTION ELEMENTS								
The Entity Pulse Description Elements group shall contain at least the minimum elements required by the "Entity Pulse Description Elements Structure" and as otherwise required by producer rules.	—	—	—	—	—	—		
The Entity Pulse Description Elements group has no elements which are mandatory by structure or producer rule (mandatory or conditional). Also see 5.6.1.27.								
When reporting single PRI (or PRF), the PRI (or PRF) shall be placed in the PRI (or PRF) field.	5.6.1.27.4.3	M	—	—	—	—		
[When reporting multiple PRI (or PRF) ranges, the primary PRI (or PRF) range shall be placed in the PRI Range (or PRF Range) field, and all remaining ranges shall be placed in the Multiple PRI Ranges (or Multiple PRF Ranges) field.]	5.6.1.27.4.4	M	—	—	—	—		

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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
When multiple PRI (or PRF) ranges are reported, the first PRI (or PRF) supplied in the CMF PRI Range (or PRF Range) shall be the lowest PRI (PRF) value of the range, and the second value shall be the highest value of the range.	5.6.1.27.4.4.1	M	—	—	—	—		
[The AVG_PRI_ENTERED value of the PRI Group Indicator shall be used when the PRI value represents an average between multiple stagger measurements. The GRP_OF_PRI_ENTERED value shall be used when the PRI value represents the grouping (sum) of multiple stagger measurements.]	5.6.1.27.4.6	M	—	—	—	—		
[If the producing system does not populate the PRI Group Indicator field, the PRI shall be interpreted as an average.]	5.6.1.27.4.6	—	M	C	—	—	Applies to display systems which receive data where this item has not been handled.	

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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[The AVG_PRF_ENTERED value of the PRF Group Indicator shall be used when the PRF value represents an average between multiple stagger frequency measurements. The GRP_OF_PRF_ENTERED value shall be used when the PRF value represents the grouping (sum) of multiple stagger frequency measurements.]	5.6.1.27.4.8	M	—	—	—	—	—	—
[If the producing system does not populate the PRF Group Indicator field, the PRF shall be interpreted as an average.]	5.6.1.27.4.8	—	M	C	—	—	Applies to display systems which receive data where this item has not been handled.	—
[When reporting a PRI Range, the first value shall be the lower PRI and the second value shall be the upper PRI.]	5.6.1.27.4.11.2	M	—	—	—	—	—	—
[When reporting a PRF Range, the first value shall be the lower PRF and the second value shall be the upper PRF.]	5.6.1.27.4.12.2	M	—	—	—	—	—	—

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		Producer	Consumer	Display	Parser	DTD		
[The PRI Stagger Legs element shall be the number of levels detected, regardless if the individual staggers were measured in PRI or PRF, and even if some of the individual measured stagger values are not reported.]	5.6.1.27.8	M	—	—	—	—		
[The Number Of PRI Positions element shall be the number of unique values detected, regardless if the individual staggers were measured in PRI or PRF, and even if some of the individual measured position values are not reported.]	5.6.1.27.18	M	—	—	—	—		

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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
ENTITY SCAN DESCRIPTION ELEMENTS								
The Entity Scan Description Elements group shall contain at least the minimum elements required by the "Entity Scan Description Elements Structure" and as otherwise required by producer rules.  The Entity Scan Description Elements group has no elements which are mandatory by structure or producer rule (mandatory or conditional). Also see 5.6.1.28.	-	-	-	-	-	-		

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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
ENTITY AMPLIFICATION ELEMENTS								
The Entity Amplification Elements group shall contain at least the minimum elements required by the "Entity Amplification Elements Structure" and as otherwise required by producer rules.	5.6.1.29,	M	—	—	—	—		The Amplification ID and some of its specific child elements may be required per the conditions referenced.
Conditional Minimum elements - by rule: Ampl_ID Also see 5.6.1.29.3, 5.6.1.29.3.11, 5.6.1.29.3.12, and 5.6.1.29.3.13. See entry/entries below for specific conditions.	5.6.1.29.3.15, 5.6.1.29.3.16, 5.6.1.29.8							
[To maintain a complete list of current Amplification IDs of a particular type, all currently held IDs of the same type shall be sent if any of that type is sent.] Also see 5.6.1.29.3.4.	5.6.1.29.3.2	M	—	—	—	—		

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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[If a reset is transmitted for a specific type, all Amplification IDs of that particular type shall be removed.]	5.6.1.29.3.3	M	M	C	—	—	Applies to display systems which receive data where this item has not been handled.	
[A corresponding Amplification ID value shall be reported with each Amplification Evaluation Percent Confidence or Amplification Evaluation General Confidence value.] Also see 5.6.1.29.3.1.	5.6.1.29.3.15, 5.6.1.29.3.16	C	—	—	—	—	Applies to Producer systems reporting Amplification Evaluation Percent Confidence or Amplification Evaluation General Confidence.	
[Any Amplification ID of the same type shall be treated as being reset if a replacement list of that type is received without that ID or an Amplification ID of that type is reset.] Also see 5.6.1.29.3.1.	5.6.1.29.3.15, 5.6.1.29.3.16	M	M	C	—	—	Applies to display systems which received data where this item has not been handled.	

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		Producer	Consumer	Display	Parser	DTD		
[The corresponding Amplification ID or Entity Name must be reported with the contradictory values when any declared elements are reported.] Also see 5.6.1.18.3, 5.6.1.29.3.	5.6.1.29.8	C	—	—	—	—	Applies if producer systems are reporting Amplification ID Declared Elements.	
[Producers reporting a URL shall make use of a GIBSSC-identified URL shortening service.]	5.6.1.29.6.1.2	M	—	—	—	—		
[Where the URL is a SIPRNet path and the GIBSSC-identified URL shortening service is utilized, the URL shall be reported as a path relative to the service domain and page.] Also see 5.6.1.29.6.1.3.	5.6.1.29.6.1.2	M	—	—	—	—		
[Consumers receiving a URL which does not include the application prefix with the service domain and page shall prepend the appropriate prefix, SIPRNet shortening service domain, and page before referencing the URL.]	5.6.1.29.6.1.2	—	M	C	—	—	Applies to display systems which receive data where this item has not been handled.	

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		Producer	Consumer	Display	Parser	DTD		
[Media Reference ID shall be treated as being reset when the associated individual sensor product URL is reset.]	5.6.1.29.6.2	—	M	C	—	—	Applies to display systems which receive data where this item has not been handled.	
IR DESCRIPTION ELEMENTS		—	—	—	—	—		
The Entity IR Description Elements group shall contain at least the minimum elements required by the "Entity IR Description Elements Structure" and as otherwise required by producer rules.  The Entity IR Description Elements group has no elements which are mandatory by structure or producer rule (mandatory or conditional). Also see 5.6.1.30.		—	—	—	—	—		

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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
GPS ELEMENTS								
The GPS Elements group shall contain at least the minimum elements required by the "GPS Elements Structure" and as otherwise required by producer rules.  The GPS Elements group has no elements which are mandatory by structure or producer rule (mandatory or conditional). Also see 5.6.1.31.	-	-	-	-	-	-		
MISSION EFFECT ELEMENTS								
The Mission Effect Elements group shall contain at least the minimum elements required by the "Mission Effect Elements Structure" and as otherwise required by producer rules.  The Mission Effect Elements group has no elements which are mandatory by structure or producer rule (mandatory or conditional). Also see 5.6.1.32.	-	-	-	-	-	-		

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		Producer	Consumer	Display	Parser	DTD		
RADIO ELEMENTS								
The Radio Elements group shall contain at least the minimum elements required by the "Radio Elements Structure" and as otherwise required by producer rules.	—	—	—	—	—	—		
The Radio Elements group has no elements which are mandatory by structure or producer rule (mandatory or conditional). Also see 5.6.1.33.								
BFT/FFT REPORTING								
The BFT Elements group shall contain at least the minimum elements required by the "BFT Elements Structure" and as otherwise required by producer rules.	—	—	—	—	—	—		
The BFT Elements group has no elements which are mandatory by structure or producer rule (mandatory or conditional). Also see 5.6.1.34.								

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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT	
		Producer	Consumer	Display	Parser	DTD			
[BFT/FFT producers shall set Provider Type equal to "BFT", Provider Data Category equal to "FFT", and Entity Activity equal to "COBRA" or "JBFSA", as appropriate.] Also see 5.6.1.43.4.4.	5.6.1.8.2, 5.6.1.43.4.2	M	—	—	—	—			
[BFT/FFT producers reporting certain theater/mission-defined values shall report the corresponding look-up string in the Support Text element of the Entity Amplification Elements.]	5.6.1.34.1	M	—	—	—	—			
<b>PR/CSAR REPORTING</b>									
The PR/CSAR Elements group shall contain at least the minimum elements required by the "PR/CSAR Elements Structure" and as otherwise required by producer rules.  The PR/CSAR Elements group has no elements which are mandatory by structure or producer rule (mandatory or conditional). Also see 5.6.1.35.1.	—	—	—	—	—	—			

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		Producer	Consumer	Display	Parser	DTD		
PR/CSAR producers shall set Provider Type and Provider Data Category to "SAR". Also see 5.6.1.43.4.4.	5.6.1.8.2, 5.6.1.43.4.3	M	—	—	—	—		
PR/CSAR text shall be sent as a single string in a single report.	5.6.1.35.7.2	M	—	—	—	—		
[PR/CSAR Text packets shall not be combined at the translators during migration from legacy IBS formats to CMF.]	5.6.1.35.7.3	M	—	—	—	—		
[The Isolated Personnel element shall not be repeated more than the total number of available defined values.]	5.6.1.35.13	M	—	—	—	—		

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		Producer	Consumer	Display	Parser	DTD		
SENSOR ELEMENTS								
The Sensor Elements group shall contain at least the minimum elements required by the "Sensor Elements Structure" and as otherwise required by producer rules.	—	—	—	—	—	—		
The Sensor Elements group has no elements which are mandatory by structure or producer rule (mandatory or conditional). Also see 5.6.1.36.								
ACOUSTIC ELEMENTS								
The Acoustic Elements group shall contain at least the minimum elements required by the "Acoustic Elements Structure" and as otherwise required by producer rules.	—	—	—	—	—	—		
The Acoustic Elements group has no elements which are mandatory by structure or producer rule (mandatory or conditional). Also see 5.6.1.37.								

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		Producer	Consumer	Display	Parser	DTD		
<b>UIC ELEMENTS</b>								
The Urgent Interim Capability Elements group shall contain at least the minimum elements required by the "UIC Elements Structure" and as otherwise required by producer rules.  Minimum elements - by structure: UIC_ID, UIC_Name Also see 5.6.1.38.6.1 and 5.6.1.38.6.2.	5.6.1.38	M	—	—	—	—		
Producers shall implement all minimum implementation requirements as detailed in the approved UIC ICR.	5.6.1.38.2	M	—	—	—	—		
[Producers shall report the BJCCB-assigned UIC ID for a corresponding approved UIC.]	5.6.1.38.6.1	M	—	—	—	—		
<b>ENTITY UPDATE NUMBER</b>								
[The Entity Update Number is a one-up count and shall be assigned by the producer for each report instance.]	5.6.1.14.4, 5.6.1.39.2	M	—	—	—	—		

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		Producer	Consumer	Display	Parser	DTD		
[Producers shall assign an Entity Update Number value of "1" for the first report and increment by 1 for each subsequent report, throughout the life of the associated Global Track Number.]	5.6.1.39.2	M	—	—	—	—		
[Due to the relationship of the EUN with the GTN, the EUN shall also restart at 1 whenever the associated GTN is reused.] Also see 4.3.3.2.7 and 4.3.3.2.8.	5.6.1.39.2	M	—	—	—	—		
The producer shall report the same EUN for reports that are retransmitted (including dual-path producers) over the IBS Enterprise.	5.6.1.39.4	M	M	—	—	—		
[Any producer originating CMF data shall increment an existing EUN for any stale report.]	5.6.1.39.5	M	—	—	—	—		
[Any CMF system not originating reports on an entity shall within any stale reports it creates, report the last received EUN value.]	5.6.1.39.5	M	—	—	—	—		

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		Producer	Consumer	Display	Parser	DTD		
ENTITY ENVIRONMENTAL CONDITION ELEMENTS								
The Entity Environmental Condition Elements group shall contain at least the minimum elements required by the "Entity Environmental Condition Elements Structure" and as otherwise required by producer rules.	—	—	—	—	—	—		
The Entity Environmental Condition Elements group has no elements which are mandatory by structure or producer rule (mandatory or conditional). Also see 5.6.1.40.								
[If reporting Environmental Condition, producers shall report the values in order of highest tactical significance.]	5.6.1.40	M	—	—	—	—		

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		Producer	Consumer	Display	Parser	DTD		
ENTITY WEAPON ELEMENTS and WEAPON REPORTING								
The Entity Weapon Elements group shall contain at least the minimum elements required by the "Entity Weapon Elements Structure" and as otherwise required by producer rules.	5.6.1.41,	M	-	-	-	-		
Conditional Minimum elements - by rule: Weapon_State, Aimpoint, Time_To_Fuze, Weapon_Self_Assess, Sensr_Nav_Status Also see 5.6.1.36.6, 5.6.1.41.1, 5.6.1.41.3, 5.6.1.41.4, 5.6.1.41.5, and I.7.2.4.3.6. See entry/entries below for specific conditions.	I.7.2.4.3.4, I.7.2.4.3.5							
[BHI producers shall report the weapon and target as separate Entity Messages.]	I.7.2.4.1.1	M	-	-	-	-		

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		Producer	Consumer	Display	Parser	DTD		
[BHI producers shall report the Provider Type element in both the target and weapon Entity Messages as "WEAPON", and the Provider Data Category element as "WPN".] Also see 5.6.1.8 and 5.6.1.43.4.4.	I.7.2.4.2.4, I.7.2.4.3.4	M	—	—	—	—		
[The BHI target report shall include a three-dimensional location reported as a latitude, longitude, and (Measured Altitude or Elevation).] Also see 5.6.1.21.10 and 5.6.1.21.13.	I.7.2.4.2.4	M	—	—	—	—		
[The BHI target report shall include one or more target identification elements.]	I.7.2.4.2.4	M	—	—	—	—		
[The BHI weapon report shall include a three-dimensional location reported as a latitude, longitude, and Measured Altitude]. Also see 5.6.1.21.10.	I.7.2.4.3.4	M	—	—	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[The BHI weapon report shall be reported with the following elements: Entity Type, IBS; Weapon State; Weapon Self Assessment; Aimpoint, and Time To Fuze.] Also see 5.6.1.18.9, 5.6.1.41.1, 5.6.1.41.3, 56.1.41.4, and 5.6.1.41.5.	I.7.2.4.3.4	M	—	—	—	—		
[If data is available, the BHI weapon message shall include Speed, (Flight Path Angle or X Y Z Velocity), and Sensor Navigation Status.] Also see 5.6.1.21.3, 5.6.1.21.16, 5.6.1.23.3, and 5.6.1.36.6.	I.7.2.4.3.5	M	—	—	—	—		
[For AARGM reporting, the weapon's Time of Intercept shall be reported as an extrapolated time.] Also see 5.6.1.13.	I.7.2.4.3.6	M	—	—	—	—		
[For AARGM reporting, the Time To Fuze element shall be reported as zero.] Also see 5.6.1.41.4.	I.7.2.4.3.6	M	—	—	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
MESSAGE FILTER ELEMENTS								
The Message Filter Elements group shall contain at least the minimum elements required by the "Message Filter Elements Structure" and as otherwise required by producer rules.  Conditional Minimum elements - by rule: Provider_Community, Provider_Data_Categ Also see 5.6.1.43.2 and 5.6.1.43.3. See entry/entries above and below for specific conditions.	5.6.1.1c, 5.6.1.43,  5.6.1.43.4.2, 5.6.1.43.4.3, I.1.1.3.7, I.3.6, I.5.1.2, I.6.4, I.7.2.4.2.4, I.7.2.4.3.4	C	-	-	-	-	Applies if the current data meets the defined criteria for reporting.	

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
ENTITY MESSAGE DESCRIPTION ELEMENTS								
The Entity Message Description Elements group shall contain at least the minimum elements required by the "Entity Message Description Elements Structure" and as otherwise required by producer rules.	—	—	—	—	—	—	—	
The Entity Message Description Elements group has no elements which are mandatory by structure or producer rule (mandatory or conditional). Also see 5.6.1.44.								
MISSILE AND SPACE REPORTING								
[Reporting of missiles transitioning between ballistic and non-ballistic flight shall follow the applicable category in which it is operating.]	I.2.1	M	—	—	—	—	—	
As data is available, the launch point, missile, and impact point shall be reported as separate entities of a single ballistic missile event. Also see Ballistic Missile Event Sequencing Table (Table I.2-1).	I.2.1.1.1.1	M	—	—	—	—	—	

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
(Sheet 49 of 58)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[The launch point shall be identified with an Environment ID set to SRx, LNx, or GRx, and Entity Activity set to LNCH.] Also see 5.6.1.18.1.	I.2.1.1.1.2	M	—	—	—	—		
[Once the entity is reported as maneuvering, the launch data shall never change.] Also see 5.6.1.23.6.1.	I.2.1.1.1.2.1	M	—	—	—	—		
[Ballistic missiles shall be identified with an Environment ID set to SSx, ASx, ARx, or GRx, and Entity Activity set to BURN (boost phase), BNOUT (booster burnout) or SPC (post boost).] Also see 5.6.1.18.1.	I.2.1.1.1.3	M	—	—	—	—		
[If a missile is no longer being observed (burned out, but without the accompanying impact point), and thus will no longer be reported on by the producer, the ENDOBS mnemonic in the Entity Status field shall be populated in the final missile entity report.] Also see 5.6.1.18.8.	I.2.1.1.1.3	M	—	—	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
 (Sheet 50 of 58)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
A ballistic missile shall be reported with an Entity Type, IBS value. Also see 5.6.1.18.9.	I.2.1.1.1.3.1	M	—	—	—	—		
All ballistic missile events shall include an impact point, an azimuth corridor, or both. Also see 5.6.1.19.5.	I.2.1.1.1.4	M	—	—	—	—		
[An impact point shall be identified with an Environment ID set to GRU and Entity Activity set to IMPCT.] Also see 5.6.1.18.1 and 5.6.1.18.8.	I.2.1.1.1.4	M	—	—	—	—		
[If a producer reports 3-dimensional ballistic missile error information, it shall send either the Full Covariance Matrix or the Partial Covariance Matrix.] Also see 5.6.1.24.4.1 and 5.6.1.24.4.2.	I.2.1.1.1.7	M	—	—	—	—		
TES-SPECIFIC BALLISTIC MISSILE REPORTING								
[TES producers shall assign the same TES Event Identifier value to each entity (launch point, missile, and impact point) involved in a missile event.] Also see 5.6.1.15.15.	I.2.1.1.3.1	M	—	—	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
Each TES producer shall include the Producer Message Sequence Number data element in every CMF message.	I.2.1.1.3.2	M	—	—	—	—		
[TES producers shall report the Entity Update Number to identify sequential reports of an entity.]	I.2.1.1.3.3	M	—	—	—	—		
[TES producers shall not generate reports containing the partial covariance matrix.]	I.2.1.1.3.5	M	—	—	—	—		
[TES producers shall report metric units where available in CMF.]	I.2.1.1.3.6	M	—	—	—	—		
[TES IR producers shall set Provider Community to "TES" and Provider Data Category to "IR".] Also see 5.6.1.43.2 and 5.6.1.43.3.	I.2.1.1.3.7	M	—	—	—	—		
[TES Radar producers shall set Provider Community to "TES" and Provider Data Category to "RDR".] Also see 5.6.1.43.2 and 5.6.1.43.3.	I.2.1.1.3.7	M	—	—	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[During the transition from the use of Provider Type to Message Filter Elements, TES producers shall set Provider Type to "IRBSA".] Also see 5.6.1.8.3 and 5.6.1.43.4.	I.2.1.1.3.8	M	—	—	—	—		
TES producers shall report the Cooperative Location Indicator set to "COOPERATIVE" for entity locations that were derived using reported locations from sensors on more than one platform. Also see 5.6.1.17.	I.2.1.1.3.9	M	—	—	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
 (Sheet 53 of 58)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
NON-BALLISTIC MISSILE REPORTING								
As data is available, the launch point, missile, and impact point shall be reported as separate entities of a single non-ballistic missile event.	I.2.1.2.1.1	M	—	—	—	—		
[The launch point shall be identified with an Environment ID set to SRx, LNx, or GRx, and Entity Activity set to LNCH.] Also see 5.6.1.18.1.	I.2.1.2.1.2	M	—	—	—	—		
[Once the entity is reported as maneuvering, the launch data shall never change.] Also see 5.6.1.23.6.1.	I.2.1.2.1.2.1	M	—	—	—	—		
[Non-ballistic missiles shall be identified with an Environment ID set to SSx, SAx, ASx, or GRx.] Also see 5.6.1.18.1.	I.2.1.2.1.3	M	—	—	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[If a missile is no longer being observed (burned out, but without the accompanying impact point), and thus will no longer be reported on by the producer, the ENDOBS mnemonic in the Entity Status field shall be populated in the final missile entity report.] Also see 5.6.1.18.8.	I.2.1.2.1.3	M	—	—	—	—		
[A non-ballistic missile shall be reported with an Entity Type, IBS value.] Also see 5.6.1.18.9.	I.2.1.2.1.3.1	M	—	—	—	—		
All non-ballistic missile events shall include an impact point, an azimuth corridor, or both. Also see 5.6.1.19.5.	I.2.1.2.1.4	M	—	—	—	—		
[An impact point shall be identified with an Environment ID set to GRU and Entity Activity set to IMPCT.] Also see 5.6.1.18.1 and 5.6.1.18.8.	I.2.1.2.1.4	M	—	—	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[If a producer reports 3-dimensional non-ballistic missile error information, it shall send either the Full Covariance Matrix or the Partial Covariance Matrix.] Also see 5.6.1.24.4.1 and 5.6.1.24.4.2.	I.2.1.2.1.7	M	—	—	—	—		
TES-SPECIFIC NON-BALLISTIC MISSILE REPORTING								
[TES producers shall assign the same TES Event Identifier value to each entity (launch point, missile, and impact point) involved in a missile event.] Also see 5.6.1.15.15.	I.2.1.2.3.1	M	—	—	—	—		
Each TES producer shall include the Producer Message Sequence Number data element in every CMF message.	I.2.1.2.3.2	M	—	—	—	—		
[TES producers shall report the Entity Update Number to identify sequential reports of an entity.]	I.2.1.2.3.3	M	—	—	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[TES producers shall not generate reports containing the partial covariance matrix.]	I.2.1.2.3.4	M	—	—	—	—		
[TES producers shall report metric units where available in CMF.]	I.2.1.2.3.5	M	—	—	—	—		
[TES IR producers shall set Provider Community to "TES" and Provider Data Category to "IR".] Also see 5.6.1.43.2 and 5.6.1.43.3.	I.2.1.2.3.6	M	—	—	—	—		
[TES Radar producers shall set Provider Community to "TES" and Provider Data Category to "RDR".] Also see 5.6.1.43.2 and 5.6.1.43.3.	I.2.1.2.3.6	M	—	—	—	—		
[During the transition from the use of Provider Type to Message Filter Elements, TES producers shall set Provider Type to "IRBSA".] Also see 5.6.1.8.3 and 5.6.1.43.4.	I.2.1.2.3.7	M	—	—	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
TES producers shall report the Cooperative Location Indicator set to "COOPERATIVE" for entity locations that were derived using reported locations from sensors on more than one platform. Also see 5.6.1.17.	I.2.1.2.3.8	M	—	—	—	—		
SPACE-SPECIFIC REPORTING								
[Space tracks shall be identified with the first two characters of the Environment ID set "SP".]	I.2.2.2	M	—	—	—	—		
FULL AND PARTIAL COVARIANCE MATRIX								
[The Sigma X Y Z Position values shall be logarithmically encoded according to the formula in paragraph I.2.5.4.11.2.] Also see 5.6.1.24.4.1.3.	I.2.4.4	M	—	—	—	—		
[The Sigma X Y Z Velocity values shall be logarithmically encoded according to the formula in paragraph I.2.5.4.11.3.] Also see 5.6.1.24.4.1.3.	I.2.4.35	M	—	—	—	—		

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Table A.3.2.2-1 Entity Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
UGS REPORTING  [UGS messages shall include the Provider Type and Provider Community data elements set to "UGS".] Also see 5.6.1.8, 5.6.1.43.2, and 5.6.1.43.4.4.	I.3.6	M	—	—	—	—		
SEI REPORTING  [SEI messages shall include the Provider Type and Provider Community data elements set to a value of "SEI".] Also see 5.6.1.8, 5.6.1.43.2, and 5.6.1.43.4.4.	I.5.1.2	M	—	—	—	—		
RIT REPORTING  [RIT messages shall include the Provider Type and Provider Community data elements set to a value of "RIT".] Also see 5.6.1.8, 5.6.1.43.2, and 5.6.1.43.4.4.	I.6.4	M	—	—	—	—		

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**A.3.2.3 DATA MANAGEMENT MESSAGE MINIMUM REQUIREMENTS -**

Implementation of the *Data Management Message* [Data\_Mgt\_Msg] is dependent upon a systems' need to utilize the message capabilities.

**A.3.2.3.1 DATA MANAGEMENT UNIQUE REQUIREMENTS**

A.3.2.3.1.1 If the *Data Management Message* is implemented by a producer, the *Message Number* and *Reference Entity ID* shall be reported. Additionally, the *Alternate Originator Address* and *Entity Alternate ID Elements* shall be reported when available. Producer support for the remaining elements depends solely upon the producer role regarding use of the message itself. Additionally, in order to support the rapid fielding of any urgent critical new capabilities within IBS on an interim solution basis, all consumers of the *Data Management Message* shall fully implement the processing of the Urgent Interim Capability (UIC) element structures, to include display (see [Section A.1.4](#)), along with other supported *Data Management Message* information to a consumer's operator.

A.3.2.3.1.1.1 For example, a producer of Theater Ballistic Missile (TBM) events utilizes the chaining capability of a *Data Management Message* to relate multiple entities using *Reference Entity ID*, but might not utilize the other capabilities.

A.3.2.3.1.2 All consumers, per their IBS role requirements, shall implement to accept and process the *Data Management Message* to support the consumer's display, translation, and routing.

A.3.2.3.1.2.1 For example, any consumer supporting the display, translation, or routing of TBM events will implement the portions of a *Data Management Message* to properly convey the TBM chaining information.

A.3.2.3.2 The following Data\_Mgt\_Msg Min-Implementation Reference List (see [Table A.3.2.3-1](#)) further identifies minimum *Data*

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*Management Message requirements, identifies their applicability, and provides references to the appropriate location where more detail can be found.*

Table A.3.2.3-1 Data Mgt Msg Min-Implementation Reference List  
 (Sheet 1 of 10)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT	
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser	DTD		
DATA MANAGEMENT MESSAGE STRUCTURE									
Each Data Management Message shall contain at least the minimum elements required by the "Data Management Message Package Structure" and as otherwise required by producer rules.  Minimum elements - by structure: Msg_Num, Ref_Entity_ID Also see 5.5.1.1, 5.5.1.3, and A.3.2.3.1.1.  Mandatory Minimum elements - by rule: At least one of Mgt_Action_Indicators or Entity_Chain Also see 5.5.1.5 and 5.5.1.6.  Conditional Minimum elements - by rule: Alternate_Orig_Addr, Entity_Alternate_ID_Elmnts Also see 5.5.1.2 and 5.5.1.4. See entry/entries below for specific conditions.	5.5.1,  5.5.1,  A.3.2.3.1.1	M	-	-	-	-			

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Table A.3.2.3-1 Data Mgt Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[A unique one-up Message Number shall be assigned to each Data Management Message by the data originator as part of the IBS Global Identifier.] Also see 4.3.3.2.	4.3.3.2.5, 4.3.3.4.2, 5.5.1.1	M	-	-	-	-		
The Data Management Message shall reference only those entities (Entity Messages) that have previously been reported.	5.5.1, 5.5.1.6.2.3	M	-	-	-	-		
At least one type of coordination function, action, or indication for the referenced entity/entities shall be present in the Data Management Message. Also see 5.5.1.5 and 5.5.1.6.	5.5.1	M	-	-	-	-		
A Reference Entity ID (as an immediate child element under the Data Management Message group) shall be reported in each Data Management Message. Also see 5.5.1.	5.5.1.3	M	-	-	-	-		

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Table A.3.2.3-1 Data Mgt Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[The Alternate Originator Address shall be reported when available.] Also see 5.5.1.2.	A.3.2.3.1.1	C	-	-	-	-	Applies if the producer of the message reported the referenced entity on other datalinks or in other environments.	
[The Entity Alternate ID Elements value, as a direct child of the Data Management Message group, shall be the alternate identifier corresponding to the associated Reference Entity ID.] Also see 5.6.1.15.2.	5.5.1.4, A.3.2.3.1.1	C	-	-	-	-	Applies if the referenced entity has been assigned an ID for reporting on other datalinks or in other environments.	

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Table A.3.2.3-1 Data Mgt Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
If reported, the Management Action Indicators group shall contain at least the minimum elements required by the "Management Action Indicators Package Structure" and as otherwise required by producer rules.  Mandatory Minimum elements - by rule: Flash Also see 5.5.1.5.2.	5.5.1.5.1	M	-	-	-	-		

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Table A.3.2.3-1 Data Mgt Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
If reported, the Entity Chaining group shall contain at least the minimum elements required by the "Entity Chaining Package Structure" and as otherwise required by producer rules.  Minimum elements - by structure: Entity_Chain_Typ, Ref_Entity_ID Also see 5.5.6.1.1.1 and 5.5.1.3.  Conditional Minimum elements - by rule: Entity_Alternate_ID_Elmnts, Entity_Relatshp_Indic, Pair_Logic, Unpair_Logic Also see 5.5.1.6.1.2.1.1 and 5.5.1.6.1.2.1.2. See entry/entries below for specific conditions.	5.5.1.6.1,  5.5.1.4, 5.5.1.6.1.2, 5.5.1.6.2.1	M	—	—	—	—		

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Table A.3.2.3-1 Data Mgt Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[The Entity Alternate ID Elements value, within the Entity Chaining group, shall be the alternate identifier corresponding to the associated Reference Entity ID.] Also see 5.6.1.15.2.	5.5.1.4	C	—	—	—	—	Applies if the referenced entity has been assigned an ID for reporting on other datalinks or in other environments.	
The Entity Relationship Indicator shall be reported for Pairings.	5.5.1.6.1.2	M	—	—	—	—		
[Using the Entity Relationship Indicator, the subject shall be reported as the acting entity, and the object shall be reported as the entity being acted upon.]	5.5.1.6.1.2	M	—	—	—	—		
When pairing, one of the pairing logic elements shall be reported.	5.5.1.6.1.2.1	M	—	—	—	—		
[Chaining reports shall be stale updated.]	5.5.1.6.2.1	C	—	—	—	—	Applies if the producer is performing Partial reporting.	

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Table A.3.2.3-1 Data Mgt Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
A unit which originates a chaining, and receives or initiates a Drop Entity Action for any entity involved in a chaining, shall cease reporting the chaining for that entity.	5.5.1.6.2.1, 5.6.1.14.2	M	—	—	—	—		
Only the system originating the chained relationship shall perform the unchain action.	5.5.1.6.2.2	M	—	—	—	—		
[Consumers shall accept Data Management Messages comprising a chain in any order, and maintain chain data to achieve a successful chain.]	5.5.1.6.2.4	—	M	C	—	—	Applies to Display systems which receive data where this item has not been handled.	
If there is a change in entity GTN assignment, new Data Management Messages shall be generated with applicable chaining information. Also see I.2.1.1.1.5.	5.5.1.6.2.5	M	—	—	—	—		
If the Threat Warning condition is reported, and at least one target is known, the producer shall report a Data Management Message to chain the threat to any targeted entities.	5.6.1.16.3	M	—	—	—	—		

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Table A.3.2.3-1 Data Mgt Msg Min-Implementation Reference List  
(Sheet 8 of 10)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
<b>UIC ELEMENTS</b>								
The Urgent Interim Capability Elements group shall contain at least the minimum elements required by the "UIC Elements Structure" and as otherwise required by producer rules.  Minimum elements - by structure: UIC_ID, UIC_Name Also see 5.6.1.38.	5.7.1.5	M	—	—	—	—		
Producers shall implement all minimum implementation requirements as detailed in the approved UIC ICR.	5.6.1.38.2	M	—	—	—	—		
[Producers shall report the BJCBC-assigned UIC ID for a corresponding approved UIC.]	5.6.1.38.6.1	M	—	—	—	—		
[Consumers of the Data Management Message shall fully implement the processing of the Urgent Interim Capability (UIC) element structures.]	A.3.2.3.1.1	—	M	M	—	—		

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Table A.3.2.3-1 Data Mgt Msg Min-Implementation Reference List  
(Sheet 9 of 10)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
MISSILE EVENT SPECIFIC PROCESSING								
[Missile event producers shall comply with the Data Management Message specific guidance contained in Tables I.2-1 and I.2-2.]	I.2.1.1.1.1, I.2.1.2.1.1, Table I.2-1, Table I.2-2	M	—	—	—	—		
Entities shall be paired using the "MSL" setting for Pair Logic throughout a ballistic or non-ballistic missile event.	I.2.1.1.1.5, I.2.1.2.1.5	M	—	—	—	—		
The launch point (subject) shall be paired to the missile (object).	I.2.1.1.1.5, I.2.1.2.1.5	M	—	—	—	—		
The missile (subject) shall be paired to the impact point (object).	I.2.1.1.1.5, I.2.1.2.1.5	M	—	—	—	—		
[Prior to any drop of a paired missile track, an Unpair Logic with the value set to "POF" (Pair Off) shall be reported for each respective missile pairing at the end of the event.]	I.2.1.1.1.5.1, I.2.1.2.1.5.1	M	—	—	—	—		

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Table A.3.2.3-1 Data Mgt Msg Min-Implementation Reference List  
(Sheet 10 of 10)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
WEAPON REPORTING								
The Unpair Logic shall also be reported prior to any missile event entity drop or cancel which occurs before the end of the event, such as when the producer has lost tracking on the missile (DROP) or has determined that invalid information was previously generated (CANCEL).	I.2.1.1.1.5.1, I.2.1.2.1.5.1	M	-	-	-	-		
[The two Entity Messages of BHI reporting shall be paired using a Data Management Message.]	I.7.2.4.1.1	M	-	-	-	-		
[The chaining relationship for BHI reports in the Data Management Message shall be "TGT" with the weapon as the subject and the target as the object.]	I.7.2.4.1.1, I.7.2.4.1.2	M	-	-	-	-		
[If the weapon has diverted or flexed to an alternate target, an unpairing of an existing chain, if any, shall be reported and a new chain generated.]	I.7.2.4.1.3	M	-	-	-	-		

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### A.3.2.4 REMOTE AMPLIFICATION MESSAGE MINIMUM REQUIREMENTS - The

*Remote Amplification Message [Remote\_Ampn\_Msg]* is only applicable for producers as part of their receive functionality since a producer may get *Remote Amplification Messages* from other systems on its own data. It is optional for producers to generate the *Remote Amplification Message* based upon a system's ability to identify amplifying information for entities reported by other remote producers. However, it is strongly recommended that producers process *Remote Amplification Messages* received from other systems regarding *Entity Messages* which they have reported. Additionally, in order to support the rapid fielding of any urgent critical new capabilities within IBS on an interim solution basis, all consumers of the *Remote Amplification Message* shall fully implement the processing of the Urgent Interim Capability (UIC) element structures, to include display (see [Section A.1.4](#)), along with other supported *Remote Amplification Message* information to a consumer's operator.

A.3.2.4.1 If the *Remote Amplification Message* is implemented by a producer, the *Alternate Originator Address* shall be reported when available.

A.3.2.4.2 The following *Remote\_Ampn\_Msg* Min-Implementation Reference List (see [Table A.3.2.4-1](#)) further identifies minimum *Remote Amplification Message* requirements, identifies their applicability, and provides references to the appropriate location where more detail can be found.

Table A.3.2.4-1 Remote Ampn Msg Min-Implementation Reference List  
 (Sheet 1 of 4)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
Each Remote Amplification Message shall contain at least the minimum elements required by the "Remote Amplification Message Structure" and as otherwise required by producer rules.  Mandatory Minimum elements - by structure: Msg_Num, Entity_Msg, Remote_Addr Also see 5.5.1.1, 5.6, and 5.7.1.3.  Conditional Minimum elements - by rule: Alternate_Orig_Addr See entry/entries below for specific conditions.	5.7,  5.7.1.2,  A.3.2.4.1	M	-	-	-	-		
[A unique one-up Message Number shall be assigned to each Remote Amplification Message by the data originator as part of the IBS Global Identifier.] Also see 4.3.3.2, and 5.7.1.3.1.	4.3.3.2.5, 4.3.3.4.2, 5.7.1.1	M	-	-	-	-		

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Table A.3.2.4-1 Remote Ampn Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[When sending a Remote Amplification Message, Remote Address shall be set to the source or reporting producer address of the entity being remote amplified.]	5.7.1.3.2	M	—	—	—	—		
[On receipt, the Remote Amplification Message shall be ignored by all IBS systems except for the source that originated and/or is currently responsible for reporting the entity.]	5.7.1.3.2	M	M	M	—	—		
[The Alternate Originator Address shall be reported.] Also see 5.5.1.2.	A.3.2.4.1	C	—	—	—	—	Applies if the referenced entity has been assigned an ID for reporting on other datalinks or in other environments.	
[Unless differing guidance is provided, normal rules shall be followed for production of the enclosed Entity Message data.]	5.7.1.3.4	M	—	—	—	—		

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Table A.3.2.4-1 Remote Ampn Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT	
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser			
Producers shall send all actively-reported repeatable fields on remote amplification rather than only the additions they may wish to add.	5.7.1.3.4	C	—	—	—	—	Applies when an amplifying producer is providing any additional values to a repeatable element.		
[The TOI within an enclosed Entity Message of a Remote Amplification Message shall be set to 0, to the time of the amplification data, or the time of the referenced entity message.] Also see 5.6.1.11.	5.7.1.3.4	M	—	—	—	—			
<b>UIC ELEMENTS</b>									
The Urgent Interim Capability Elements group shall contain at least the minimum elements required by the "UIC Elements Structure" and as otherwise required by producer rules.  Minimum elements - by structure: UIC_ID, UIC_Name Also see 5.6.1.38.	5.7.1.5	M	—	—	—	—			

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Table A.3.2.4-1 Remote Ampn Msg Min-Implementation Reference List  
 (Sheet 4 of 4)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
Producers shall implement all minimum implementation requirements as detailed in the approved UIC ICR.	5.6.1.38.2	M	—	—	—	—		
[Producers shall report the BJCCB-assigned UIC ID for a corresponding approved UIC.]	5.6.1.38.6.1	M	—	—	—	—		
[Consumers of the Remote Amplification Message shall fully implement the processing of the Urgent Interim Capability (UIC) element structures.]	A.3.2.4	—	M	M	—	—		

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A.3.2.5 TEXT MESSAGE MINIMUM REQUIREMENTS – Due to intentional limitation on the use of the *Text Message* [Txt\_Msg] to critical information, only producer systems which have been approved for its use shall implement it. In order to ensure the transfer of any such critical information, all consumer systems shall implement the *Text Message*. Additionally, in order to support the rapid fielding of any urgent critical new capabilities within IBS on an interim solution basis, all consumers of the *Text Message* shall fully implement the processing of the Urgent Interim Capability (UIC) element structures, to include display (see [Section A.1.4](#)), along with other supported *Text Message* information to a consumer's operator.

A.3.2.5.1 If the *Text Message* is implemented by a producer, the *Alternate Originator Address* and *Entity Alternate ID Elements* shall be reported when available. If the *Entity Alternate ID Elements* value is reported, it shall be the alternate identifier corresponding to the associated *Reference Entity ID*.

A.3.2.5.2 The following *Txt\_Msg Min-Implementation Reference List* (see [Table A.3.2.5-1](#)) further identifies minimum *Text Message* requirements, identifies their applicability, and provides references to the appropriate location where more detail can be found.

Table A.3.2.5-1 Txt Msg Min-Implementation Reference List  
 (Sheet 1 of 4)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
Each Text Message shall contain at least the minimum elements required by the "Text Message Structure" and as otherwise required by producer rules.  Mandatory Minimum elements - by structure: Msg_Num, Free_Txt Also see 5.5.1.1 and 5.8.1.5.1.	5.8,  5.8.1.1, 5.8.1.3,	M	—	—	—	—		
Conditional Minimum elements - by rule: Entity_Alternate_ID_Elmnts, Alternate_Orig_Addr, Loc, Interest_Indicators See entry/entries below for specific conditions. Also see 5.5.1.2 and 5.6.1.15.	5.6.1.16, 5.8.1.2, A.3.2.5.1							
[A unique one-up Message Number shall be assigned to each Text Message by the data originator as part of the IBS Global Identifier.] Also see 4.3.3.2.	4.3.3.2.5, 4.3.3.4.2, 5.8.1.2	M	—	—	—	—		

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Table A.3.2.5-1 Txt Msg Min-Implementation Reference List  
(Sheet 2 of 4)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[The Entity Alternate ID Elements value shall be the alternate identifier corresponding to the associated Reference Entity ID.] Also see 5.6.1.15.	A.3.2.5.1	C	-	-	-	-	Applies if the referenced entity has been assigned an ID for reporting on other datalinks or in other environments.	
[The Alternate Originator Address shall be reported when available.] Also see 5.5.1.2.	A.3.2.5.1	C	-	-	-	-	Applies if the producer of the message reported the referenced entity on other datalinks or in other environments.	
[The Location element shall be reported in Text Messages.] Also see 5.6.1.17.	5.8.1.2	C	-	-	-	-	Applies if the Cooperative Location Indicator is reported.	

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Table A.3.2.5-1 Txt Msg Min-Implementation Reference List  
(Sheet 3 of 4)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT	
		Producer	Consumer	Display	Parser	DTD			
[The Interest Indicators shall be reported in Text Messages.]	5.6.1.16	C	—	—	—	—	Applies if a value of any of the child elements is other than its "Initial_Value".		
[Receive systems shall be capable of recognizing and processing Text Messages directed to their address.]	5.8.1.4.1.2	—	M	M	—	—		Text Messages may be routed to a particular group of IBS users, an IBS subnet, all IBS subnets, and/or an IBS node.	
<b>UIC ELEMENTS</b>									
The Urgent Interim Capability Elements group shall contain at least the minimum elements required by the "UIC Elements Structure" and as otherwise required by producer rules.  Minimum elements - by structure: UIC_ID, UIC_Name Also see 5.6.1.38.	5.8.1.6	M	—	—	—	—			

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Table A.3.2.5-1 Txt Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
Producers shall implement all minimum implementation requirements as detailed in the approved UIC ICR.	5.6.1.38.2	M	—	—	—	—		
[Producers shall report the BJCCB-assigned UIC ID for a corresponding approved UIC.]	5.6.1.38.6.1	M	—	—	—	—		
[Consumers of the Text Message shall fully implement the processing of the Urgent Interim Capability (UIC) element structures.]	A.3.2.5	—	M	M	—	—		

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### A.3.2.6 COLLABORATION MESSAGE MINIMUM REQUIREMENTS - Only

systems which participate in collaborative collection activities shall implement the *Collaboration Message* [Collab\_Msg]. This includes any producer of the collaborative information and consumer systems in support of related analysis functions and/or consumer systems for producers to receive collaborative information from other producers. Additionally, in order to support the rapid fielding of any urgent critical new capabilities within IBS on an interim solution basis, all consumers of the *Collaboration Message* shall fully implement the processing of the Urgent Interim Capability (UIC) element structures, to include display (see [Section A.1.4](#)), along with other supported *Collaboration Message* information to a consumer's operator.

A.3.2.6.1 If the *Collaboration Message* is implemented by a producer, the *Alternate Originator Address* and *Entity Alternate ID Elements* shall be reported when available. If the *Entity Alternate ID Elements* value is reported, it shall be the alternate identifier corresponding to the associated *Reference Entity ID*.

A.3.2.6.2 The following Collab\_Msg Min-Implementation Reference List (see [Table A.3.2.6-1](#)) further identifies minimum *Collaboration Message* requirements, identifies their applicability, and provides references to the appropriate location where more detail can be found.

Table A.3.2.6-1 Collab Msg Min-Implementation Reference List  
 (Sheet 1 of 14)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
Each Collaboration Message shall contain at least the minimum elements required by the "Collaboration Message Structure" and as otherwise required by producer rules.	5.9,	M	—	—	—	—		
Mandatory Minimum elements - by structure: Msg_Num Also see 5.5.1.1.	5.9.1.3,							
Mandatory Minimum elements - by rule: At least one of: Collab_Meas_Set OR Collect_Elmnts Also see 5.9.1.4.1 and 5.9.1.5.	5.9.1.2,							
Conditional Minimum elements - by rule: Entity_Alternate_ID_Elmnts, Alternate_Orig_Addr, Ref_Entity_ID See entry/entries below for specific conditions. Also see 5.5.1.2, 5.5.1.3, and 5.6.1.15.	A.3.2.6.1, I.5.1.1							

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Table A.3.2.6-1 Collab Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[If Reference Entity ID is reported, the Entity Alternate ID Elements shall be reported with any alternate identifiers corresponding to the associated Reference Entity ID.] Also see 5.6.1.15.	A.3.2.6.1	C	-	-	-	-	Applies if the referenced entity has been assigned an ID for reporting on other datalinks or in other environments.	
[If Reference Entity ID is reported, the Alternate Originator Address shall be reported.] Also see 5.5.1.2.	A.3.2.6.1	C	-	-	-	-	Applies if a producer of the message reported the referenced entity on other datalinks or in other environments.	
[The Reference Entity ID shall be reported.] Also see 5.5.1.3.	I.5.1.1	C	-	-	-	-	Applies when the Collection Elements are being reported.	

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Table A.3.2.6-1 Collab Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
Each Collaboration Measurement Set shall contain at least the minimum elements required by the "Collaboration Measurement Set Structure" and as otherwise required by producer rules.  Mandatory Minimum elements - by structure: Collab_Meas_Typ Also see 5.9.1.4.3.  Conditional Minimum elements - by rule: Meas_Base_Time, One of: Ref_Polar_Plat_Elmnts OR TDOA_Elmnts OR TDOA_Rate_Of_Chg_Elmnts See entry/entries below for specific conditions. Also see 5.9.1.4.5, 5.9.1.4.6, and 5.9.1.4.7.	5.9.1.4.1,  5.9.1.4.2,  I.4.3, I.4.4.1, I.4.5.1, I.4.6.1	M	-	-	-	-		
[The Measurement Base Time element shall be reported on, and only on, the first transmitted message of any set of collaboration data.] Also see 5.9.1.4.4, I.4.4.1, I.4.5.1, and I.4.6.1.	I.4.3	C	-	-	-	-	Applies when a producer is reporting any of the three Geo-Observable data types.	

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Table A.3.2.6-1 Collab Msg Min-Implementation Reference List  
 (Sheet 4 of 14)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT	
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser	DTD		
When multiple Collaboration Measurement Set groups are reported, all TDOA data shall be sent before TDOA rate-of-change data.	5.9.1.4.2	M	—	—	—	—	—		
GEO-OBSERVABLE AOA DATA TRANSFER									
[For AOA data transfer, the Collaboration Measurement Type shall be set to "LOB_ONLY".]	5.9.1.4.3	C	—	—	—	—	—	Applies when a producer is reporting Geo-Observable LOB-only data.	
[The Reference Polar Platform Elements shall be reported with, at a minimum, at least one source reference location and enclosed LOB elements containing one or more AOA measurements.] Also see 5.9.1.4.5.	I.4.4.1	C	—	—	—	—	—	Applies when a producer is reporting Geo-observable LOB-only data.	
[Once a producer starts to transmit a geo-observable AOA sequence, updates shall not be reported until the entire AOA data set has been sent.]	I.4.4.2	M	—	—	—	—	—		

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Table A.3.2.6-1 Collab Msg Min-Implementation Reference List  
 (Sheet 5 of 14)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
GEO-OBSERVABLE TDOA DATA TRANSFER								
[The Collaboration Measurement Type shall be set to "GEO_OBSERV".]	5.9.1.4.3	C	—	—	—	—	Applies when a producer is reporting Geo- Observable TDOA data.	
Each TDOA Elements group shall contain at least the minimum elements required by the "TDOA Elements Structure" and as otherwise required by producer rules.  Mandatory Minimum elements - by structure: TDOA_Set  Conditional Minimum elements - by rule: Dwell_Desc_Data, Sensr_1_Rectng_Ref, Sensr_2_Rectng_Ref, Time_Resol, Time_Precision, Total_Num_Delta_Time_Sets, Final_Set_Typ, TDOA_Meas_Errs See entry/entries below for specific conditions. Also see 5.9.1.4.6.1, 5.9.1.4.6.2, 5.9.1.4.6.3, 5.9.1.4.6.4, 5.9.1.4.6.5, 5.9.1.4.6.6, 5.9.1.4.6.8, and 5.9.1.4.6.9.	5.9.1.4.6, I.4.5.1,  I.4.5.4	C	—	—	—	—	Applies when a producer is reporting Geo- Observable TDOA data.	

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Table A.3.2.6-1 Collab Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[A TDOA data set shall consist of 1 to multiple consecutive TDOA values reported in the TDOA Set element.]	I.4.5.1	M	—	—	—	—		
[All elements and children elements of Dwell Description Data, Sensor 1 Rectangular Reference, Sensor 2 Rectangular Reference, Time Resolution, Time Precision, and Total Number of Delta Time Sets shall be reported in a TDOA data set.] Also see 5.9.1.4.6, 5.9.1.4.6.1, 5.9.1.4.6.2, 5.9.1.4.6.3, 5.9.1.4.6.4, 5.9.1.4.6.5, and 5.9.1.4.6.6.	I.4.5.1, I.4.5.4	C	—	—	—	—	Applies when a producer is reporting the first grouping of a Geo- Observable TDOA data set.	
[If the error estimates are available, the respective types of error data in the TDOA Measurement Errors element shall be reported.] Also see 5.9.1.4.6.9.	I.4.5.4	C	—	—	—	—	Applies when a producer is reporting the first grouping of a Geo- Observable TDOA data set.	

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Table A.3.2.6-1 Collab Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT	
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser	DTD		
[A TDOA data set shall contain the Final Set Type element.] Also see 5.9.1.4.6.8.	I.4.5.4	C	—	—	—	—	—	Applies when a producer is reporting the last grouping of a Geo-Observable TDOA data set.	
The precision in the Time Precision field shall be no smaller than the Time Resolution field and no greater than the largest delta time representable by the upper range of the Delta Time field given the time resolution setting.	5.9.1.4.6.5	M	—	—	—	—	—		
[On subsequent reports of the same event, the Total Number Delta Time Sets value shall equal zero.]	5.9.1.4.6.6	M	—	—	—	—	—	Consumers use the zero value as an indication of subsequent reports on the same event.	
[When the total number of set elements reported is odd, the producer shall report the last two values of a set containing only one valid value and the second value set to zero.]	5.9.1.4.6.8	M	—	—	—	—	—		

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Table A.3.2.6-1 Collab Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT	
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser	DTD		
[If the Final Set Type is set to indicate a single entry set then the second value of the last set shall be discarded by the recipient prior to processing the data set.]	5.9.1.4.6.8	—	M	C	—	—	—	Applies to systems that directly handle CMF data or Display systems which receive data where this item has not been handled.	
[The Reference Polar Platform Elements element shall not be included when reporting TDOA data.] Also see 5.6.1.19.	5.9.1.4.5	M	—	—	—	—	—		
If the system is in the process of reporting a TDOA group, the sequence shall be completed before transmitting any subsequent TDOA group.	I.4.5.3	M	—	—	—	—	—		
GEO-OBSERVABLE TDOA RATE OF CHANGE DATA TRANSFER									
[The Collaboration Measurement Type shall be set to "GEO_OBSERV".]	5.9.1.4.3	C	—	—	—	—	—	Applies when a producer is reporting Geo- Observable TDOA Rate Of Change data.	

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Table A.3.2.6-1 Collab Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
Each TDOA Rate Of Change Elements group shall contain at least the minimum elements required by the "TDOA Rate Of Change Elements Structure" and as otherwise required by producer rules.  Mandatory Minimum elements - by structure: TDOA_Rate_Chg_Set  Conditional Minimum elements - by rule: Dwell_Desc_Data, Sensr_1_Rectng_Ref, Sensr_2_Rectng_Ref, Time_Resol, Time_Precision, Total_Num_Delta_Time_Sets, Final_Set_Typ, TDOA_Rate_Chg_Meas_Errs See entry/entries below for specific conditions. Also see 5.9.1.4.7, 5.9.1.4.6.1, 5.9.1.4.6.2, 5.9.1.4.6.3, 5.9.1.4.6.4, 5.9.1.4.6.5, 5.9.1.4.6.6, 5.9.1.4.6.8, and 5.9.1.4.7.2.	5.9.1.4.7, I.4.6.1,  I.4.6.4	C	-	-	-	-	Applies when a producer is reporting Geo-Observable TDOA Rate Of Change data.	

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Table A.3.2.6-1 Collab Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[A TDOA Rate of Change data set shall consist of 1 to multiple consecutive TDOA Rate of Change values reported in the TDOA Rate Of Change Set element.]	I.4.6.1	M	—	—	—	—		
[All elements and children elements of Dwell Description Data, Sensor 1 Rectangular Reference, Sensor 2 Rectangular Reference, Time Resolution, Time Precision, and Total Number of Delta Time Sets shall be reported in a TDOA Rate Of Change data set.] Also see 5.9.1.4.7, 5.9.1.4.6.1, 5.9.1.4.6.2, 5.9.1.4.6.3, 5.9.1.4.6.4, 5.9.1.4.6.5, and 5.9.1.4.6.6.	I.4.6.4	C	—	—	—	—	Applies when a producer is reporting the first grouping of a Geo- Observable TDOA Rate Of Change data set.	
[If the error estimates are available, the respective types of error data in the TDOA Rate Of Change Measurement Errors element shall be reported.] Also see 5.9.1.4.7.2.	I.4.6.4	C	—	—	—	—	Applies when a producer is reporting the first grouping of a Geo- Observable TDOA Rate Of Change data set.	

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**Table A.3.2.6-1 Collab Msg Min-Implementation Reference List**  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[A TDOA Rate Of Change data set shall contain the Final Set Type element.] Also see 5.9.1.4.6.8.	I.4.6.4	C	—	—	—	—	Applies when a producer is reporting the last grouping of a Geo-Observable TDOA Rate Of Change data set.	
The precision in the Time Precision field shall be no smaller than the Time Resolution field and no greater than the largest delta time representable by the upper range of the Delta Time field given the time resolution setting.	5.9.1.4.6.5, 5.9.1.4.7.3	M	—	—	—	—		
[On subsequent reports of the same event, the Total Number Delta Time Sets value shall equal zero.]	5.9.1.4.6.6, 5.9.1.4.7.3	M	—	—	—	—		
[When the total number of set elements reported is odd, the producer shall report the last two values of a set containing only one valid value and the second value set to zero.]	5.9.1.4.6.8, 5.9.1.4.7.3	M	—	—	—	—		

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Table A.3.2.6-1 Collab Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[If the Final Set Type is set to indicate a single entry set then the zeroed second value of the last set shall be discarded by the recipient prior to processing the data set.]	5.9.1.4.6.8, 5.9.1.4.7.3	—	M	C	—	—	Applies to systems that directly handle CMF data or Display systems which receive data where this item has not been handled.	
[The Reference Polar Platform Elements element shall not be included when reporting TDOA Rate of Change data.]	5.9.1.4.5	M	—	—	—	—		
If the system is in the process of reporting a TDOA Rate of Change group, the sequence shall be completed before transmitting any subsequent TDOA Rate of Change group.	I.4.6.3	M	—	—	—	—		

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Table A.3.2.6-1 Collab Msg Min-Implementation Reference List  
 (Sheet 13 of 14)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
COLLECTION ELEMENTS TRANSFER (SEI REPORTING)								
The Collection Elements group shall contain at least the minimum elements required by the "Collection Elements Structure" and as otherwise required by producer rules.  Conditional Minimum elements - by rule: One of: Collect_Sys_Char OR Collect_Term_Time OR Collect_Mission_ID See entry/entries below for specific conditions. Also see 5.9.1.5.1, 5.9.1.5.2, and 5.9.1.5.3.	5.9.1.5  I.5.1.3	M	—	—	—	—		
[The Collection Elements group shall include at least one of the following elements: Collection System Characteristics, Collection Termination Time, or Collection Mission ID. Also see 5.9.1.5.1, 5.9.1.5.2, and 5.9.1.5.3.]	I.5.1.3	C	—	—	—	—	Applies if the producer is reporting SEI data.	
[Collection Elements shall be removed prior to injection onto an excluded path.]	5.9.1.2	M	—	—	—	—		

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Table A.3.2.6-1 Collab Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[When Collection Elements are removed prior to injection onto an excluded path, the message shall only be forwarded if it contains Collaboration Measurement Set data.]	5.9.1.2	M	—	—	—	—		
<b>UIC ELEMENTS</b>								
The Urgent Interim Capability Elements group shall contain at least the minimum elements required by the "UIC Elements Structure" and as otherwise required by producer rules.  Minimum elements - by structure: UIC_ID, UIC_Name Also see 5.6.1.38.	5.9.1.7	M	—	—	—	—		
Producers shall implement all minimum implementation requirements as detailed in the approved UIC ICR.	5.6.1.38.2	M	—	—	—	—		
[Producers shall report the BJCCB-assigned UIC ID for a corresponding approved UIC.]	5.6.1.38.6.1	M	—	—	—	—		
[Consumers of the Collaboration Message shall fully implement the processing of the Urgent Interim Capability (UIC) element structures.]	A.3.2.6	—	M	M	—	—		

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### A.3.2.7 OPERATIONS NOTIFICATION MESSAGE MINIMUM REQUIREMENTS -

The *Operations Notification Message* [Ops\_Notify\_Msg] is produced by ONLY the GIBSSC or GIBSSC-designated IBS components to disseminate information to the entire IBS broadcast and network community. Thus the only systems designated and approved by the GIBSSC shall implement origination of this message. Any system so designated, shall implement support for the *Operations Notification Message* in its entirety.

A.3.2.7.1 All consumer systems shall provide a mechanism to present all information contained in an *Operations Notification Message* (with the optional exception of the *Producer Message Sequence Number*) to the appropriate platform personnel or site personnel. Additionally, in order to support the rapid fielding of any urgent critical new capabilities within IBS on an interim solution basis, all consumers of the *Operations Notification Message* shall fully implement the processing of the Urgent Interim Capability (UIC) element structures, to include display (see [Section A.1.4](#)), along with other supported *Operations Notification Message* information to a consumer's operator.

A.3.2.7.2 The following Ops\_Notify\_Msg Min-Implementation Reference List (see [Table A.3.2.7-1](#)) further identifies minimum *Operations Notification Message* requirements, identifies their applicability, and provides references to the appropriate location where more detail can be found.

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Table A.3.2.7-1 Ops Notif Msg Min-Implementation Reference List  
 (Sheet 1 of 5)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
OPERATIONS NOTIFICATION MESSAGE STRUCTURE								
Each Operations Notification Message shall contain at least the minimum elements required by the "Operations Notification Message Structure" and as otherwise required by producer rules.  Minimum elements - by structure: Msg_Num, Notif_Subj, Notif_Typ, Ops_Notif Also see 5.10.1.8, 5.10.1.9, 5.10.1.10, and 5.10.1.11.	5.10.1.1	M	-	-	-	-		

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Table A.3.2.7-1 Ops Notif Msg Min-Implementation Reference List  
(Sheet 2 of 5)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
OPERATIONS NOTIFICATION MESSAGE USAGE  [The Operations Notification Message shall be produced only by the GIBSSC or GIBSSC-designated components.]	5.10.1.1	M	-	-	-	-		
[The Operations Notification Message shall not be used for the conveyance of tactical information.]	5.10.1.1	M	-	-	-	-		
[All consumer systems shall provide a mechanism to provide information from an Operations Notification Message to the appropriate platform personnel or site personnel.]	5.10.1.2, A.3.2.7.1	-	M	M	-	-		
GLOBAL IDENTIFICATION  [A unique one-up Message Number shall be assigned to each Operations Notification Message by the data originator as part of the IBS Global Identifier.] Also see 4.3.3.2.	4.3.3.2.5, 4.3.3.4.2, 5.10.1.3	M	-	-	-	-		

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Table A.3.2.7-1 Ops Notif Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
Consumer systems shall be capable of recognizing and processing messages directed to their address. Also see 5.8.1.4.1.	5.10.1.3.1	-	M	M	-	-		Operations Notification Messages may be routed to a particular group of IBS users, an IBS subnet, all IBS subnets, and/or an IBS node.
SPECIFIC ELEMENT GUIDELINES  [Systems shall appropriately interpret the effective time period of the operations notification information according to the presence or absence of the time elements.]	5.10.1.5	M	M	M	-	-		

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Table A.3.2.7-1 Ops Notif Msg Min-Implementation Reference List  
 (Sheet 4 of 5)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[Where the URL is a SIPRNet path and the GIBSSC-identified URL shortening service is utilized, the URL shall be reported as a relative path.] Also see 5.6.1.29.6.1.2 and 5.10.1.6.	5.10.1.14.1	M	-	-	-	-		Note: URLs may be reported as a full URL, a complete shortened URL, or a relative path URL, depending upon use of a shortening service and/or the network being referenced.
[Consumers receiving a relative path URL shall prepend the appropriate prefix and SIPRNet shortening service domain and page before referencing the URL.] Also see 5.6.1.29.6.1.2 and 5.10.1.6.	5.10.1.14.1	-	M	-	-	-		Note: URLs may be reported as a full URL, a complete shortened URL, or a relative path URL, depending upon use of a shortening service and/or the network being referenced.

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Table A.3.2.7-1 Ops Notif Msg Min-Implementation Reference List  
 (Sheet 5 of 5)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
<b>UIC ELEMENTS</b>								
The Urgent Interim Capability Elements group shall contain at least the minimum elements required by the "UIC Elements Structure" and as otherwise required by producer rules.  Minimum elements - by structure: UIC_ID, UIC_Name Also see 5.6.1.38.	5.10.1.16	M	—	—	—	—		
Producers shall implement all minimum implementation requirements as detailed in the approved UIC ICR.	5.6.1.38.2	M	—	—	—	—		
[Producers shall report the BJCCB-assigned UIC ID for a corresponding approved UIC.]	5.6.1.38.6.1	M	—	—	—	—		
[Consumers of the Operations Notification Message shall fully implement the processing of the Urgent Interim Capability (UIC) element structures.]	A.3.2.7.1	—	M	M	—	—		

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## A.3.2.8 OPERATIONAL STATUS MESSAGE MINIMUM REQUIREMENTS -

Requirements for production of the *Operational Status Message* (OSM) [Oper\_Status\_Msg] are determined by operational requirements and functionality of a given system in coordination with the GIBSSC. Only producer assets needing to report status for themselves or others are considered for production of the OSM. Due to bandwidth concerns, GIBSSC has the responsibility to actively control/throttle, monitor and approve which systems will be permitted to utilize the OSM as well as the frequency of status reporting by all such IBS participants. Any producer identified and approved for implementation of the *Operational Status Message* will also be instructed as to which portions of the messages are to be implemented.

A.3.2.8.1 Consumers are not required to implement the OSM; however, implementation and processing of the OSM is strongly recommended, particularly for those systems which include a display and/or logging/archive function. Additionally, in order to support the rapid fielding of any urgent critical new capabilities within IBS on an interim solution basis, all consumers of the OSM that implement the OSM shall also fully implement the processing of the Urgent Interim Capability (UIC) element structures, to include display (see [Section A.1.4](#)), along with other supported OSM information to a consumer's operator.

A.3.2.8.2 The following Oper\_Status\_Msg Min-Implementation Reference List (see [Table A.3.2.8-1](#)) further identifies minimum *Operational Status Message* requirements, identifies their applicability, and provides references to the appropriate location where more detail can be found.

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Table A.3.2.8-1 Oper Status Msg Min-Implementation Reference List  
 (Sheet 1 of 6)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
OPERATIONAL STATUS MESSAGE STRUCTURE								
Each Operational Status Message shall contain at least the minimum elements required by the "Operational Status Message Structure" and as otherwise required by producer rules.  Minimum elements - by structure: Msg_Num, Oper_Status Also see 5.11.1.4 and 5.11.1.20.  Conditional Minimum elements - by rule: At least one of: Orig_Addr (in CMF Doc), Ref_Entity_ID, and Oper_Asset_Lbl Also see 5.4.1.1.8, 5.4.1.4, 5.5.1.3, and 5.11.1.18. See entry/entries below for specific conditions.	5.11.1.1,  5.11.1.5, 5.11.1.9	M	-	-	-	-		

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Table A.3.2.8-1 Oper Status Msg Min-Implementation Reference List  
 (Sheet 2 of 6)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
OPERATIONAL STATUS MESSAGE REPORTING AND PROCESSING								
[Operational Status Messages shall be used only for reporting status of assets which are part of or contributing to IBS.]	5.11.1.1	M	-	-	-	-		
[The Operational Status Message shall not be based upon tactical data from intelligence sensors, collection, or reconnaissance information.]	5.11.1.1	M	-	-	-	-		
[A unique one-up Message Number shall be assigned to each Operational Status Message by the data originator as part of the IBS Global Identifier. Also see 4.3.3.2.]	4.3.3.2.5, 4.3.3.4.2, 5.11.1.4	M	-	-	-	-		
Operational Status Message producers shall identify the asset for which the message is being reported.	5.11.1.5	M	-	-	-	-		

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Table A.3.2.8-1 Open Status Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Producers shall maintain continuity between subsequent operational status reports on the same asset.] Also see 5.11.1.6, 5.11.1.7, 5.11.1.9, 5.11.1.11, 5.11.1.18, and 5.11.1.19.	5.11.1.5	M	-	-	-	-		
[If Operational Asset Label or Operational Asset ID are reported, they shall continue to be reported.]	5.11.1.6	M	-	-	-	-		
If the Reference Entity ID is reported, the Entity Alternate ID Elements value shall be the alternate identifier corresponding to the Reference Entity ID.	5.11.1.8	M	-	-	-	-		
[Surrogates shall report an Operational Asset Label and/or a Reference Entity ID.]	5.11.1.9	M	-	-	-	-		
[Receive systems shall utilize the Operational Status Message continuity identifiers in precedence order.]	5.11.1.11	-	M	M	-	-		

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Table A.3.2.8-1 Oper Status Msg Min-Implementation Reference List  
 (Sheet 4 of 6)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Receipt of the Operational Status Message from self-reporting assets shall be used to indicate a connected status.]	5.11.1.12	-	C	C	-	-	Applies to systems that support asset connectivity status.	
[Lack of receipt of a status message for two status interval periods, from an asset that reports status at a known rate, shall be used to indicate a "Non-Operational" connectivity status.] Also see 5.11.1.21.	5.11.1.14	-	C	C	-	-	Applies to systems that support asset connectivity status.	
For other than "Comms Check", consumer systems shall not provide an indication of the asset's connectivity status if the Operational Asset Label is reported without a Reference Entity ID; or the Address portion of the Reference Entity ID is not the same as the originator ID.	5.11.1.15	-	C	C	-	-	Applies to systems that support asset connectivity status.	

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Table A.3.2.8-1 Open Status Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Where the URL is a SIPRNet path and the GIBSSC-identified URL shortening service is utilized, the URL shall be reported as a relative path.] Also see 5.6.1.29.6.1.2 and 5.11.1.16.	5.11.1.22.1	M	-	-	-	-		URLs may be reported as a full URL, a complete shortened URL, or a relative path URL, depending upon use of a shortening service and/or the network being referenced.
[Consumers receiving a relative path URL shall prepend the appropriate prefix and SIPRNet shortening service domain and page before referencing the URL.] Also see 5.6.1.29.6.1.2.	5.11.1.22.1	-	M	-	-	-		URLs may be reported as a full URL, a complete shortened URL, or a relative path URL, depending upon use of a shortening service and/or the network being referenced.

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Table A.3.2.8-1 Oper Status Msg Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
<b>UIC ELEMENTS</b>								
The Urgent Interim Capability Elements group shall contain at least the minimum elements required by the "UIC Elements Structure" and as otherwise required by producer rules.  Minimum elements - by structure: UIC_ID, UIC_Name Also see 5.6.1.38.	5.11.1.25	M	—	—	—	—		
Producers shall implement all minimum implementation requirements as detailed in the approved UIC ICR.	5.6.1.38.2	M	—	—	—	—		
[Producers shall report the BJCCB-assigned UIC ID for a corresponding approved UIC.]	5.6.1.38.6.1	M	—	—	—	—		
[Consumers of the Operational Status Message shall fully implement the processing of the Urgent Interim Capability (UIC) element structures.]	A.3.2.8.1	—	M	M	—	—		

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A.3.2.9 BLOB TRANSFER MESSAGE MINIMUM REQUIREMENTS - Due to intentional limitation on the use of the *BLOB Transfer Message* [BLOB\_Xfer\_Msg], it shall only be implemented by producer systems which have been approved for its use. Consumer systems may implement the *BLOB Transfer Message*, but the data may not be decipherable without coordination with the producer.

A.3.2.9.1 The following BLOB\_Xfer\_Msg Min-Implementation Reference List (see [Table A.3.2.9-1](#)) further identifies minimum *BLOB Transfer Message* requirements, identifies their applicability, and provides references to the appropriate location where more detail can be found.

Table A.3.2.9-1 BLOB Xfer Msg Min-Implementation Reference List  
 (Sheet 1 of 3)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[Only producer systems which have been approved for its use shall implement the BLOB Transfer Message.]	5.12.1, A.3.2.9	M	—	—	—	—	—	—
Each BLOB Transfer Message shall contain at least the minimum elements required by the "BLOB Transfer Message Structure" and as otherwise required by producer rules.  Minimum elements - by structure: Msg_Num, BLOB_Typ_ID, BLOB_Pkt Also see 5.12.2.1, 5.12.2.5, and 5.12.2.10.	5.12	M	—	—	—	—	—	—
<b>UIC ELEMENTS</b>								
The Urgent Interim Capability Elements group shall contain at least the minimum elements required by the "UIC Elements Structure" and as otherwise required by producer rules.  Minimum elements - by structure: UIC_ID, UIC_Name Also see 5.6.1.38.	5.12.2.4	M	—	—	—	—	—	—

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Table A.3.2.9-1 BLOB Xfer Msg Min-Implementation Reference List  
(Sheet 2 of 3)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
Producers shall implement all minimum implementation requirements as detailed in the approved UIC ICR.	5.6.1.38.2	M	—	—	—	—		
[Producers shall report the BJCCT-assigned UIC ID for a corresponding approved UIC.]	5.6.1.38.6.1	M	—	—	—	—		
[Producers shall report the BJCCT-assigned BLOB Type Identifier for a corresponding approved BLOB transfer implementation.]	5.12.2.5	M	—	—	—	—		
[The same BLOB Information Time value shall be reported with each BLOB packet of a multiple packet transmission.]	5.12.2.6	C	—	—	—	—	Applies if utilizing the multiple BLOB packet transmission capability and reporting BLOB Information Time.	
[If the BLOB Reference Location is reported, the BLOB Information Time shall also be reported.] Also see 5.12.2.6.	5.12.2.7	M	—	—	—	—		

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Table A.3.2.9-1 BLOB Xfer Msg Min-Implementation Reference List  
 (Sheet 3 of 3)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[The same BLOB Reference Location shall be reported with each BLOB packet of a multiple packet transmission.]	5.12.2.7	C	—	—	—	—	Applies if utilizing the multiple BLOB packet transmission capability and reporting BLOB Reference Location.	
[Producers shall report BLOB Packet Number and BLOB Total Packets with each BLOB Packet.]	5.12.2.8, 5.12.2.9	C	—	—	—	—	Applies if utilizing the multiple BLOB packet transmission capability.	
[Producers shall sequentially report the multiple messages used to transfer the entire BLOB.] Also see 5.12.2.8 and 5.12.2.9.	5.12.2.10.2	C	—	—	—	—	Applies if utilizing the multiple BLOB packet transmission capability.	
[Consumers shall reassemble the entire BLOB using the BLOB Type Identifier, the one up Message Number values, the BLOB Packet Number values, and the BLOB Total Packets value.]	5.12.2.10.2	—	C	—	—	—	Applies if multiple BLOB packet transmissions are to be received.	

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## A.3.3 HEADER MINIMUM IMPLEMENTATION REQUIREMENTS

A.3.3.1 All systems passing CMF data (CMF-X or CMF-B) across a non-CIB IBS medium shall utilize the *CMF Header* as a preface to the CMF data (i.e., CMF\_Doc) in order to properly include security marking information and to provide interoperability between systems. Additionally, in order to support the rapid fielding of any urgent critical new capabilities within IBS on an interim solution basis, all consumers shall fully implement the processing of the Urgent Interim Capability (UIC) element structures within the *CMF Header* to include display (see [Section A.1.4](#)), along with other supported *CMF Header* information to a consumer's operator. The *CMF Header* provides a group of elements that precedes a data package, an archive file, or a record of an archive file, and describes the content of the subsequent information. The *CMF Header* content model contains three mutually exclusive groups (*Data Package Description Elements*, *Archive File Elements*, or *Archive Record Elements*). [Appendix F](#) (CMF Header) provides specific implementation details.

A.3.3.1.1 Note: CMF data transmitted via the CIB requires a different format which is referred to as the "CIB HEADER" and is documented in the CIB Interoperability Specification (IOS). Additional amplifying information is provided in this document (see [Appendix F](#), [Section F.2](#)) and the IBS Enterprise CONOPS ([Section 4.2](#)).

A.3.3.2 Systems providing CMF messages over a non-CIB interface shall utilize the *CMF Header's Data Package Description Elements* group.

A.3.3.3 Systems receiving CMF messages via a non-CIB interface shall be capable of processing the *CMF Header's Data Package Description Elements* group.

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A.3.3.4 Systems with a local CMF archiving requirement should utilize the *CMF Header* archiving capability, to facilitate an interoperable external archive file exchange. For the purpose of this standard, CMF archiving is the logging of data where the CMF-sourced messages contain the CMF message content as transmitted or received.

A.3.3.5 Systems supporting external CMF archive file exchange shall be capable of providing the files in the *CMF Header* archiving structure. Such external archive file exchange is intended as a non-operational transfer of captured CMF data in a file-based format. This should not be confused with archived data retransmission (streamed) from an archive file by a replay function.

A.3.3.6 Systems receiving CMF archive files shall be capable of processing the *CMF Header* archiving structure. Again, such external archive file exchange is intended as a non-operational transfer of captured CMF data in a file-based format. This should not be confused with archived data retransmission (streamed) from an archive file by a replay function.

A.3.3.7 The following CMF\_Hdr Min-Implementation Reference List (see [Table A.3.3-1](#)) further identifies minimum *CMF Header* requirements, identifies their applicability, and provides references to the appropriate location where more detail can be found.

Table A.3.3-1 CMF Hdr Min-Implementation Reference List  
(Sheet 1 of 14)

REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
CMF HEADER STRUCTURE								
Each CMF Header shall contain at least the minimum elements required by the "CMF HEADER PACKAGE STRUCTURE" and as otherwise required by producer rules.  Minimum elements - by structure: one and only one of: Data_Pkg_Desc_Elmnts, Archive_File_Elmnts, or Archive_Record_Elmnts Also see A.3.1, A.3.3.1, F.1.1.1.1, F.1.1.1.2, and F.1.1.1.3.	F.1.1,  F.1.1.2	M	-	-	-	-		
DATA PACKAGE DESCRIPTION ELEMENTS STRUCTURE								
The Data Package Description Elements portion of the CMF Header shall be utilized for systems exchanging CMF data across a non-CIB interface.	F.1.2.3	M	M	C	-	-	Applies to display systems which receive data where this item has not been handled.	

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Table A.3.3-1 CMF Hdr Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[If the Data Package Description Elements are used, the associated data package (i.e., CMF_Doc) shall follow immediately.]	F.1.1.1.1	M	M	C	—	—	Applies to display systems which receive data where this item has not been handled.	
Each Data Package Description Elements shall contain at least the minimum elements required by the "Data Package Description Elements Package Structure" and as otherwise required by producer rules.  Minimum elements - by structure: Hdr_Vers_Elmnts, Data_Pkg_Len  Mandatory minimum elements - by rule: Security_Classif_Elmnts  Conditional minimum elements - by rule: Data_Pkg_Priority, Data_Pkg_Chksm See entry/entries below for specific conditions.	F.1.2.1,  F.1.2.2,  F.1.2.2.4.2,  F.1.2.2.3, F.1.2.2.5	M	—	—	—	—		

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Table A.3.3-1 CMF Hdr Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[If a data packet is manipulated in any way, a new Data Package Length shall be computed prior to further transfer.]	F.1.2.2.2	M	M	—	—	—		
[The Data Package Priority element shall be reported for each message utilizing the prioritization guidelines as provided by the GIBSSC.]	F.1.2.2.3	C	—	—	—	—	Applies to systems as identified by the GIBSSC.	
The Security Classification Elements group shall contain at least the minimum elements required by the "Data Package Description Elements Package Structure" and as otherwise required by producer rules.  Minimum elements – by structure: Security Tbl_Indx	F.1.2.2.4.1,  F.1.2.2	M	M	—	—	—		
[The CMF producing system shall always report the Security Table Index (STI) which conveys the correct classification markings.] Also see the IBS Enterprise CONOPS for STI implementation details.	F.1.2.2.4.2	M	—	—	—	—		

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Table A.3.3-1 CMF Hdr Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[All messages in a single CMF Doc shall have the identical set of security classification markings.]	F.1.2.2.4.3	M	—	—	—	—		
[The Data Package Checksum shall be calculated and reported by summing the individual bytes of the data package.]	F.1.2.2.5	C	—	—	—	—	Applies to all systems which transmit CMF data over mediums which do not have data integrity validation as part of the connection protocol.	
[If a received message contains a checksum and the data packet is manipulated in any way, a new Data Package Checksum shall be computed prior to further transfer.]	F.1.2.2.5	M	M	—	—	—		
[Systems not designated as a selected infrastructure component by the GIBSSC shall remove any received Data Package Replications Elements from a message.]	F.1.2.2.6.2	M	—	—	—	—		

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Table A.3.3-1 CMF Hdr Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
[Consumers shall not propagate replicated messages.]	F.1.2.2.6.2	—	C	—	—	—	Applies to receive terminals.	
LOCAL SCOPE ELEMENTS REPORTING								
[The Local Scope Elements shall never be disseminated onto IBS Enterprise paths.]	F.1.2.2.7	M	—	—	—	—		
[Local Scope Elements shall be built using CMF Path 0.]	F.1.2.2.7	C	—	—	—	—	Applies if implementing Local Scope Elements.	
[Producers appending Local Scope Elements shall update the STI as appropriate.]	F.1.2.2.7	C	—	—	—	—	Applies if implementing Local Scope Elements.	
[Producers shall utilize a uniquely assigned Local Capability Indicator for each Local Scope Elements grouping.]	F.1.2.2.7.2.1	C	—	—	—	—	Applies if implementing Local Scope Elements.	

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Table A.3.3-1 CMF Hdr Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
<b>UIC ELEMENTS</b>								
The Urgent Interim Capability Elements group shall contain at least the minimum elements required by the "UIC Elements Structure" and as otherwise required by producer rules.  Minimum elements - by structure: UIC_ID, UIC_Name Also see 5.6.1.38.	F.1.2.2.8	M	—	—	—	—		
Producers shall implement all minimum implementation requirements as detailed in the approved UIC ICR.	5.6.1.38.2	M	—	—	—	—		
[Producers shall report the BJCCB-assigned UIC ID for a corresponding approved UIC.]	5.6.1.38.6.1	M	—	—	—	—		
[Consumers shall fully implement the processing of the Urgent Interim Capability (UIC) element structure with the CMF Header.]	A.3.3.1	—	M	M	—	—		

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Table A.3.3-1 CMF Hdr Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY M=Mandatory, C=Conditional, O=Optional					CONDITION	COMMENT
		Producer	Consumer	Display	Parser	DTD		
ARCHIVE FILE HEADER USAGE								
To archive any CMF data for local logging, an IBS system shall either directly create CMF Archive Files or shall provide a capability to provide a CMF Archive File by converting from their local file format.	F.1.3.1.1.3	M	M	—	—	—		
If the CMF Archive File capability is not used directly and the system supports external CMF archive file exchange, an equivalent solution shall be utilized.	F.1.3.1.1.3	M	M	—	—	—		
All Archive File headers and records shall be created as CMF-X if the archived data is CMF-X or mixed format.	F.1.3.1.1.3	M	M	—	—	—		
All Archive File headers and records shall be created as CMF-B if the archived data is CMF-B.	F.1.3.1.1.3	M	M	—	—	—		
[One Archive File Elements group shall be utilized as a header at the beginning of each CMF archive file.]	F.1.1.1.2, F.1.3.1	M	M	—	—	—		

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Table A.3.3-1 CMF Hdr Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
Each Archive File Elements shall contain at least the minimum elements required by the "Archive File Elements Package Structure" and as otherwise required by producer rules.	F.1.3.1,	M	M	-	-	-		
Minimum elements - by structure: Hdr_Vers_Elmnts, File_Xmit_Rcv_Indic, At least one of: Mixed_Records_Indic OR (Data_Pkg_Hdr_Typ and Data_Format_Elmnts); Time_Of_File_Archive_Start, Time_Of_File_Archive_Stop Also see F.1.2.2.1, F.1.3.1.3, F.1.3.1.4, F.1.3.1.5, F.1.3.1.6, F.1.3.1.8, and F.1.3.1.9.	F.1.3.1.1,							
Mandatory Minimum elements - by rule: Security_Classif_Elmnts Also see F.1.3.1.10.	F.1.3.1.10.1							
[After the Archive File Elements document, the file shall contain one or more file records using the Archive Record Elements group with each of those groups preceding exactly one archive data package.]	F.1.3.1	M	M	-	-	-		

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Table A.3.3-1 CMF Hdr Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT	
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser			
Archive files shall indicate whether they contain data which was received, transmitted, or both.	F.1.3.1.3.2	M	M	—	—	—			
The Path Number element shall be included in the Data Format Elements of the Archive File Elements for all archiving of CMF-X and CMF-B data packages. Also see F.1.3.1.1.	F.1.3.1.6.2	C	C	—	—	—	Applies if the archive file is indicated as not containing mixed records.		
The time associated with the Time Of File Archive Stop shall not be earlier than the Time Of File Archive Start time.	F.1.3.1.9	M	M	—	—	—			
If archiving is required across multiple days, the archive file shall be closed at midnight GMT and a new one created/opened.	F.1.3.1.9	M	M	—	—	—			
<b>ARCHIVE RECORD HEADER USAGE</b>									
[A CMF Header with the Archive Record Elements structure shall be utilized as the header to each record within a CMF archive file.]	F.1.1.1.3	M	M	—	—	—			

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**Table A.3.3-1 CMF Hdr Min-Implementation Reference List**  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
Each Archive Record Elements shall contain at least the minimum elements required by the "Archive Record Elements Package Structure" and as otherwise required by producer rules.	F.1.3.2,	M	M	—	—	—		
Minimum elements - by structure: Record_Xmit_Rcv_Indic, Time_Of_Record_Archive, Archive_Record_Len Also see F.1.2.2.1, F.1.3.1.3, F.1.3.1.4, F.1.3.1.5, F.1.3.1.6, F.1.3.1.8, and F.1.3.1.9.	F.1.3.2.1,							
Mandatory Minimum elements - by rule: Security_Classif_Elmnts Also see F.1.3.1.10.	F.1.3.2.7.1,							
Conditional Minimum elements - by rule: Data_Pkg_Hdr_Typ, Data_Format_Elmnts See entry/entries below for specific conditions.	F.1.3.2.3.1, F.1.3.2.4							
[Each record shall contain the Archive Record Elements header, any of the applicable data headers, and the data package itself.]	F.1.1.1.3	M	M	—	—	—		

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Table A.3.3-1 CMF Hdr Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[The Data Package Header Type shall be included in each Archive Record Elements structure.]	F.1.3.2.3.1	C	C	—	—	—	Applies if the archive file is indicated as containing mixed records.	
[The Data Format Elements shall be present at the Archive Record Elements level.]	F.1.3.2.4	C	C	—	—	—	Applies if the archive file is indicated as containing mixed records.	
The Path Number element shall be included in the Data Format Elements of the Archive Record Elements for all archiving of CMF-X and CMF-B data packages. Also see F.1.3.2.1.	F.1.3.1.6.2	C	C	—	—	—	Applies if the archive file is indicated as containing mixed records.	
[The Archive Record Length shall indicate the number of bytes within the data package portion of an archive record including any data header, but not including the archive record header.]	F.1.3.2.6	M	M	—	—	—		

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Table A.3.3-1 CMF Hdr Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
CIB HEADER SUPPORT								
[The Data Package Priority shall be passed from the CMF Header into the CIB Header prior to transmission.] Also see 2.3.7 (Reference to IBS CIB IOS)	F.1.2.2.3	C	—	—	—	—	Applies to systems which directly inject CMF into the CIB.	
[The Data Package Priority shall be passed from the CIB Header to the CMF Header for non-CIB network use.] Also see 2.3.7 (Reference to IBS CIB IOS)	F.1.2.2.3	—	C	—	—	—	Applies to consumer systems which transfer CIB data into CMF.	
METADATA PREAMBLE SUPPORT								
[Systems shall remove the CMF Header and transfer the Security Table Index (STI) into the CIB Metadata Preamble prior to CIB transmission.] Also see F.2.3 and 2.3.7 (Reference to IBS CIB IOS)	F.1.2.2.4.4, F.2.3.1,	C	—	—	—	—	Applies to a producer which directly injects data into a broadcast terminal.	
[Systems shall transfer the Security Table Index (STI) from the CIB Metadata Preamble into an added CMF Header on receipt from CIB.] Also see F.2.3 and 2.3.7 (Reference to IBS CIB IOS)	F.1.2.2.4.4, F.2.3.1	—	C	—	—	—	Applies to consumer systems which transfer CIB data into CMF.	

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Table A.3.3-1 CMF Hdr Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser		
[If the producer reports directly over-the-air without a received CMF Header, the settings of the Metadata Preamble fields shall still follow the rules for transferring the corresponding CMF Header element(s).] Also see F.1.2.2.4.4, F.2.3.1, F.2.3.2, and 2.3.7 (Reference to IBS CIB IOS).	F.2.3	C	—	—	—	—	Applies to a producer which directly injects data into a broadcast terminal.	
Producers shall appropriately set the continuation indicator in the Message Preamble.	F.2.3.2	C	—	—	—	—	Applies to a producer which directly injects data into a broadcast terminal.	
Consumers shall continue reading bytes from the Metadata Preamble until the continuation indicator indicates there are no more words remaining.	F.2.3.2	—	C	—	—	—	Applies to consumer systems which transfer CIB data into CMF.	

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Table A.3.3-1 CMF Hdr Min-Implementation Reference List  
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REQUIREMENT / IMPLICATION  unbracketed text = Quoted Requisite [bracketed text] = Abridged Requisite	REFERENCE SECTION(S)	APPLICABILITY					CONDITION	COMMENT	
		M=Mandatory, C=Conditional, O=Optional	Producer	Consumer	Display	Parser	DTD		
Consumers shall ignore bytes read which they do not yet support through the last word of the Metadata Preamble.	F.2.3.2	—	C	—	—	—	—	Applies to consumer systems which transfer CIB data into CMF.	

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**A.3.4 CMF STANDARD MAINTENANCE GUIDELINES AND REQUIREMENTS**

A.3.4.1 The following sections identify both guidelines derived from referenced requirements and/or specific requirements for the designers and maintainers to follow in the development and maintenance of the CMF standards document(s) and any implementation files derived therefrom.

A.3.4.2 The following CMF Maintenance Min-Implementation Reference List (see [Table A.3.4-1](#)) further identifies guidelines and/or minimum requirements for maintenance of the CMF standards document(s) and derived implementation files, identifies their applicability, and provides references to the appropriate location where more detail can be found.

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Table A.3.4-1 CMF Maintenance Min-Implementation Reference List

RESERVED for table to contain CMF Maintenance Min-Implementation Reference List

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15 December 2017

# DEPARTMENT OF DEFENSE INTERFACE STANDARD

## INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) STANDARD

### APPENDIX B – DATA ELEMENT DICTIONARY (PART I – FIELD ELEMENTS)



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DATA ELEMENT DICTIONARY  
(FIELD ELEMENTS)

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## B1.1 SCOPE

B1.1.1 This document defines the unclassified "field" data elements used in CMF. (Unclassified "Non-field" data elements are defined in Appendix B, Part II.) Where possible, all information associated with "field" elements shall be unclassified. If any portion of a "field" element contains classified or Controlled Unclassified Information (CUI) (e.g., For Official Use Only (FOUO)), that portion shall be contained in Appendix B, Annex A, Part 1. "Field" elements defined in this appendix that contain classified or CUI portions are indicated as such with the marking of "\*SEE ANNEX A\*" in the appropriate item.

B1.1.2 The "field" data elements are uniquely specified by two numbers, the Data Field Identifier (DFI) and its Data Use Identifier (DUI). The DFI includes a single concept and is the generic representation of the DUIs grouped under it (i.e., a DFI is a logical grouping of related DUIs for shared definition, documentation ordering, and numerical reference purposes). The DUIs, which are representative of the DFI concept, contain the Data Items (DIs) used to compose a "field" data element. The DFIs are listed in numerical sequence. Alphabetical and numerical indexes of the DFIs and DUIs are included before the first DFI.

## B1.2 APPLICABLE DOCUMENTS

The documents listed in section 2 of this standard are applicable to this appendix.

## B1.3 DEFINITIONS

The definitions in section 3 of this standard apply to this appendix.

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### B1.4 GENERAL REQUIREMENTS

#### B1.4.1 RULES AND CONVENTIONS

This section describes the structure and use of DFIs, DUIs, and DIS as well as the related data to be used in defining "field" data elements.

##### B1.4.1.1 GENERAL

- a. Every special character used in the formatting of a DFI shall have a predetermined meaning.
- b. Use readily understood terms.
- c. Acronyms may be used as part of a name, unless the meaning is likely to be unclear within the context of the particular element. They must be spelled out in the definition or explanation and/or be listed in Section 3. Additionally, they shall follow the abbreviation and naming guidelines as provided in Appendix C.
- d. DFI and DUI names shall be as short as practicable.

##### B1.4.1.2 DFI

All DFIs shall have an assigned DFI Number which is a one-up-number starting at 1 (see B1.4.1.5 item 2 below for the full number format) and which shall be unique to the given DFI Name and Definition as may be shared across the family of Tactical Data Links (TDLs). New DFIs added by IBS shall start at 8001. All DFIs must have at least one associated DUI utilized by IBS.

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B1.4.1.2.1 DFI NAME

- a. Each DFI name shall be unique.
- b. The DFI name shall identify a single concept.
- c. The DFI name shall be a generic representation of the contained DUIs.
- d. The DFI name shall be singular.
- e. Group words (type, category, degree, designator, etc.) in DFI names shall follow modifying words and phrases, e.g., "Aircraft Type" rather than "Type of Aircraft."
- f. All DFI names shall be unclassified.

B1.4.1.2.2 DFI DEFINITION

- a. The DFI definition shall be provided only when necessary for amplification.
- b. The DFI definition shall be a generic definition of the concept represented by the associated DUIs.
- c. The DFI definition shall attempt to use definitions from previously accepted standards.
- d. The DFI definition shall be based on a review of all appropriate definition sources.
- e. For DFI entries where a general usage will always apply to every subordinate DUI, the DFI definition shall provide adequate information to identify in standard, well known, or fully identified

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terms, the full point of reference and/or reference system to accurately and consistently interpret the related element(s) (e.g., for a DFI of Latitude: "THE ANGULAR DISTANCE NORTH OR SOUTH FROM THE EQUATOR TO A POINT ON THE EARTH'S SURFACE, MEASURED IN DEGREES, FROM 0 DEGREES AT THE EQUATOR UP TO, BUT NOT EXCEEDING, THE 90 DEGREE ANGLES NORTH AND SOUTH BETWEEN THE EQUATOR AND THE POLES.").

f. Where possible, DFI definitions shall be unclassified. If the DFI definition is classified or contains Controlled Unclassified Information (CUI) (e.g., FOUO), it shall contain the words "\*SEE ANNEX A\*" and an entry which contains the classified or CUI definition shall exist in the annex for the respective DFI.

### B1.4.1.3 DUI

All DUIs shall have an assigned one-up DUI Number for each respective DFI (see B1.4.1.5 item 7 below for the full number format) which shall be unique to the given DUI Name and Explanation as may be shared across the family of TDLs. New DUIs added by IBS shall start from 001 if the respective DFI is newly assigned by IBS. If the DFI is adopted from another TDL standard, then new DUIs added by IBS shall start from 801. All DUIs must have associated DISs.

#### B1.4.1.3.1 DUI NAME

a. Each DUI name shall be unique. (Note that the DUI name, within a respective DFI, must also be unique across the family of TDLs. One option is to add the characters ", IBS" at the end of the DUI name.)

b. All DUI names shall be singular.

c. Parallelism of phraseology of all DUI names within the DFI shall be preserved.

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d. DUI names shall be representative of the DFI concept.

e. DUI names shall normally be fully spelled-out except for acronyms, but shall otherwise follow the CMF element naming and abbreviation rules as defined in Appendix C.

f. All DUI names shall be unclassified.

**B1.4.1.3.2 DOCUMENT TYPE DEFINITION (DTD) DUI NAME**

a. The name of the data element to be represented in the Document Type Definition (DTD) shall be enclosed in brackets immediately below the DUI name.

b. Each DTD DUI name shall be unique.

c. Each DTD DUI name shall be singular.

d. Each DTD DUI name shall reflect the basic meaning/content of the DUI Name, but shall be significantly shortened to follow the CMF element naming and abbreviation rules as defined in Appendix C. It shall be represented exactly as to be listed in the DTD.

e. All DTD DUI names shall be unclassified.

**B1.4.1.3.3 DUI EXPLANATION**

a. A DUI explanation shall exist for each DUI.

b. A DUI explanation shall not be a restatement of the name.

c. A DUI explanation shall not be solely an example.

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d. If not fully addressed within the DFI definition, the DUI explanation shall provide adequate information to identify in standard, well known, or fully identified terms, the full point of reference and/or reference system to accurately and consistently interpret the related element (e.g., for a DUI of Altitude: "THE ALTITUDE (HEIGHT) OF AN OBJECT AS MEASURED RADIALLY OUTWARD FROM THE EARTH AS A QUANTITY ABOVE/BELOW MEAN SEA LEVEL (MSL).").

e. If not addressed within the DI entries, the DUI explanation shall provide adequate source reference title and location information to fully obtain, understand, and maintain details of the purpose and breakout for any DUI element which is externally based or controlled by other than IBS (i.e., other source authority numbering/serializing elements, external descriptive dictionaries, target databases, etc.).

f. Where possible, DUI explanations shall be unclassified. If the DUI explanation is classified or contains CUI, it shall contain the words "\*SEE ANNEX A\*" and an entry which contains the classified or CUI explanation shall exist in the annex for the respective DUI.

### B1.4.1.4 DATA ITEM (DI)

a. The first line in the Data Item column shall indicate the DUI(s), by number, to which the subsequent DI details apply. The subsequent lines shall detail the individual values, or ranges of values, via DI definitions and applicable attributes which define the given DUI(s) and thus define the respective CMF element(s). Any value(s) or value range(s) defined for use in the CMF-X representation of the element(s) shall be listed in the Data Item column. The other columns shall respectively define the CMF-B equivalent value(s) and other attributes of the DUI/element(s).

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b. Split DUI numbers shall be indicated by commas and/or "And" between the DUI numbers, e.g., "FOR DUIS 001 AND 005," "FOR DUIS 001, 003, AND 005," etc.

c. Ranges of DUI numbers shall be indicated by a dash between the inclusive DUI numbers, e.g., "FOR DUIS 003-006."

### B1.4.1.4.1 DI VALUES

a. Immediately following the identification of DUI(s) in the first line of the Data Item column, all applicable declarations for major overriding attributes such as the Reset attribute (see Paragraph B1.4.2 item 22 and Figure B1.1) shall be entered prior to the individual lines for the DI value definitions.

b. Subsequent to the identification of DUI(s) and any applicable major overriding attribute declarations (see item "a" above), each defined value or value range that may be sent or received in the CMF-X representation of IBS shall have a CMF-X representation entry for the DUI(s) in the first column (i.e., Data Item) as either ENUMERATED values, PACKED\_COMPONENT values, STRING values, a STRING description, a PATTERN description, singular INTEGER values, or a range of FLOAT or INTEGER values. Some Data Item entries may be classified or contain CUI. If the value or range for the Data Item column is classified or contains CUI, the column shall contain the words "\*SEE ANNEX A\*" and an entry which contains the classified information or CUI shall exist in the annex for the respective item.

c. Elements of Data Representation Type ENUMERATED, PACKED\_COMPONENT and STRING type having a set of defined values shall have a Data Item entry on separate lines for each CMF-X value. With very few exceptions, if any, these values shall be all capital letters and follow the other conventions for mnemonics, element names, and abbreviation construction (see section 4.3.3.6; Appendix D, Data

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Specification; and Appendix C, Element Name and Enumeration Abbreviations).

d. Elements of the STRING Data Representation Type without a set of defined values but with a lower and/or upper limit on the number of characters shall have a string description Data Item entry. The string description entry shall be of the form "x TO y CHARACTERS" or "MORE THAN x CHARACTERS", where x and y are the lower and upper limits, respectively.

e. Elements of the PATTERN Data Representation Type shall have a pattern description Data Item entry per the pattern specification as detailed in section D.2.6.2.11 (Appendix D, Data Specification).

f. Elements of Data Representation Type INTEGER having a set of defined values shall have a Data Item entry on separate lines for each CMF-X value indicated as the numerical non-negative integer value (e.g., "250 SECONDS").

g. All FLOAT or INTEGER value representations in the Data Item column shall contain comma delimiters at all multiples of one thousand (e.g., "1,000", "20,000", and "1,000,000").

h. All FLOAT or INTEGER value range representations in the Data Item column shall be indicated with the word "THROUGH" between the lower range and upper range (e.g., "1 THROUGH 100"). If only one range limitation is to be defined (i.e., only a lower range or upper range), the form shall be "GREATER THAN OR EQUAL x" or "LESS THAN OR EQUAL y" (or optionally for FLOAT types: "GREATER THAN x EXCLUSIVE" or "LESS THAN y EXCLUSIVE"), where x and y are the lower or upper range, respectively. If neither a lower nor upper range is to be defined, the Data Item column entry shall contain the word "UNRANGED".

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i. All FLOAT or INTEGER value representations in the Data Item column shall include units, appropriate factors of units, and/or exclusions, if applicable (e.g., "0 EXCLUSIVE THROUGH 9E6 NAUTICAL MILES (NM)"; "0.0 THROUGH 360.0 EXCLUSIVE DEGREES"; "GREATER THAN 2,000 EXCLUSIVE FEET"; "1 THROUGH 10,000 METERS"; "1 FEMTOSECOND THROUGH 15 PETASECONDS"). Note that the base reported CMF unit (i.e., non-factored) applicable to the Data Item shall be provided in the DI Explanation column such as "REPORTED IN SECONDS".

j. All FLOAT value ranges with multiple possible units shall have a set of CMF-X value range and/or value qualifier entries on separate lines in the Data Item column for each unit, each with a respective entry in the Unit Equivalent column equating to the Data Item column unit (see UNIT EQUIV below). All columns on the same set of lines for each entry of the same unit shall reflect the appropriate values for that unit (as to be indicated in the DI Explanation column).

k. All elements of Data Representation Type FLOAT which are to permit the use of a "less than" and/or "greater than" value qualifier capability for the DUI element shall have the words "LESS THAN" and/or "GREATER THAN", respectively as individual entries after the listed value or range entries in the Data Item column. NOTE: The "less than" and/or "greater than" capabilities can only be declared if a lower and/or upper range, respectively is also indicated for the element.

l. All elements of Data Representation Type INTEGER which are to permit the use of a "less than" and/or "greater than" capability for the DUI element shall have statement(s) identifying the appropriate range value and indicate the setting of the Value Qualifier attribute as individual entries after the listed value(s) or ranges in the Data Item column (i.e., "x" WITH VALUE QUALIFIER ATTRIBUTE SET TO "LESS THAN" and/or "y" WITH VALUE QUALIFIER ATTRIBUTE SET TO "GREATER THAN", respectively where x is lower range and y is upper range). NOTE: The

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"less than" and/or "greater than" capabilities can only be declared if a lower and/or upper range, respectively is also indicated for the element. Also, for the INTEGER type, the indicated lower range or lowest defined value must be a value greater than zero.

m. For some elements of the Urgent Interim Capability (UIC) structure, the Data Item column shall contain the words "NO LIMIT" to represent the DI value/value range. This definition effectively leaves the DUI element unranged, but each UIC change proposal shall specifically identify the value limitations of such elements. For these elements, the Value Range column shall have the same definition of "NO LIMIT".

### B1.4.1.4.2 DI VALUE RANGE

a. The Value Range column defines a value, or range of values, that are sent or received in the binary (CMF-B) implementation of IBS, depending on which Data Representation Type is indicated for the DUI element. Each entry shall correspond to the value, or range of values, indicated in the Data Item column. Some Value Range entries may be classified or contain CUI. If the value or range for the Value Range column is classified or contains CUI, the column shall contain the words "\*SEE ANNEX A\*" and an entry which contains the classified or controlled information shall exist in the annex for the respective item.

b. INTEGER. If the Data Representation Type is INTEGER, the Value Range entry shall be indicated as a non-negative integer value or range of values for passage in CMF-B to correspond to the CMF-X value or range in the Data Item column. The INTEGER value representations in the Value Range column shall NOT contain denominational comma delimiters nor unit indications, but otherwise shall follow the definition rules as indicated for the Data Item column (e.g., "250", "0 THROUGH 9E6", "1 THROUGH 10", "GREATER THAN

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2000"). If the Data Item column entry contains the word "UNRANGED", so shall the Value Range column. If the Data Item column entry indicates a Less Than or Greater Than capability for a Data Representation Type of INTEGER, the Value Range column for that entry shall indicate "GREATER THAN x" or "LESS THAN y" where x and y are the lowest value or highest value, respectively of the defined positive integer values or range for the DUI element. (Note: "less than" capability is not supported for INTEGERS when zero is one of the defined legal values, is the lower range value, or the INTEGER is "UNRANGED".)

c. ENUMERATED. If the Data Representation Type is ENUMERATED, the Value Range entry shall represent a CMF-B numerical equivalent to the corresponding enumeration string from the Data Item column and shall be indicated as a non-negative integer value.

d. FLOAT. If the Data Representation Type is FLOAT, the Value Range entry shall represent a lower and/or upper range of values defined for passage in CMF-B to correspond to the CMF-X range in the Data Item column. The FLOAT value representations in the Value Range column shall NOT contain denominational comma delimiters nor unit indications and may be expressed in scientific notation, but otherwise follow the definition rules as indicated for the Data Item column (e.g., "-10E-3 EXCLUSIVE THROUGH 10E3"; "0.0 THROUGH 360.0 EXCLUSIVE"; "GREATER THAN 2000 EXCLUSIVE"; "1 THROUGH 1000"; "0.009 THROUGH 2.009"). If the Data Item column entry contains the word "UNRANGED", so shall the Value Range column. If the Data Item column entry contains "LESS THAN" or "GREATER THAN" for a Data Representation Type of FLOAT, the Value Range column for that entry shall indicate the identical range as defined by the other range identification entry of the same unit in the Value Range column.

e. STRING. If the Data Representation Type is STRING, the Value Range entry for the CMF-B definition shall represent the same unique

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string of alphanumeric characters or the identical string description as is entered in the Data Item column. The DI Explanation column shall provide detail on the full meaning, use, character position breakout, and other attributes of the STRING entry.

f. PATTERN. If the Data Representation Type is PATTERN, the Value Range entry for the CMF-B definition shall represent the same pattern description as is entered in the Data Item column. The DI Explanation column shall provide detail on the full meaning, use, character position breakout, and other attributes of the PATTERN entry.

g. PACKED COMPONENT. If the Data Representation Type is PACKED\_COMPONENT, the Value Range entry shall represent a CMF-B numerical equivalent to the corresponding character value from the "Data Item" column (e.g. "On", "Off", "Enabled", "Disabled") and shall be indicated as one of the two possible integer PACKED\_COMPONENT values (see Appendix D, Data Specification).

**B1.4.1.4.3 DI UNIT EQUIV (Unit Equivalent)**

a. For DI's that have the capability of reporting in more than one unit of measurement ("FLOAT" type), the UNIT EQUIV shall list the non-negative integer value which indicates a specific unit of measure equivalent to the unit definition provided in the DI Explanation column for the given DI entry. Separate DI entries shall be provided to define the values for each separate unit and each set of entries shall have a different integer value in the UNIT EQUIV column. The Unit Equivalent values shall, by definition, be unclassified.

b. The specified unit, any overall Default unit, and Default units for each IBS communications path, if they are to exist shall be indicated in the DI explanation column (e.g., if only one unit defined, then "REPORTED IN SECONDS.", or if multiple units then

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"DEFAULT UNIT = NM" and/or "PATH 5 DEFAULT UNIT = METERS"). Also, the Explanation column for each entry having a UNIT EQUIV value shall contain a comment such as "IF THE UNIT EQUIVALENT VALUE ATTRIBUTE IS SET TO 1, RADIUS IS REPORTED IN NAUTICAL MILES".

### B1.4.1.4.4 DI VALUE MOD (Value Modifier)

a. If the value modifier capability is to be applied for the respective DI, the DI Value Mod column shall indicate the appropriate action or actions which must be applied to any respective reported value to determine the actual value. The value modifiers are simply scaling constants which shall, by definition, be unclassified.

b. MULT (Value Multiplier). Provides a unit-less constant with which consumers can multiply the reported value (within the "VALUE RANGE") to determine the actual value. This constant multiplier allows for more efficient usage of bandwidth by reducing the transmitted size of integers or by allowing what would normally be reported as multiples of a fixed point value to be transmitted in the more bandwidth-efficient INTEGER. The Value Multiplier shall be declared in the Value Mod column in the form of "MULT: value" (e.g., "MULT: 10E-3", "MULT: 10.5", "MULT: -1.25"). The true resulting value or value range for the respective DI shall be fully detailed in the Explanation column (e.g., "SPEED VALUE DETERMINED BY MULTIPLYING REPORTED VALUE BY THE VALUE MULTIPLIER. WHEN THE MULTIPLIER IS APPLIED, THE TRUE VALUE RANGE OF SPEED IS 1 THROUGH 100 METERS PER SECOND IN 1/1023 INCREMENTS.").

c. OFF (Value Offset). Provides an offset unit-less constant value with which consumers can add to a reported value to determine the actual value. This constant offset allows for more efficient usage of bandwidth by allowing a large or negative integer range, or values with a static fixed point value to be offset into the range of the more bandwidth-efficient INTEGER. The Value Offset shall be

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declared in the VALUE MOD column in the form of "OFF: value" (e.g., "OFF: 1024", "OFF: -128", "OFF: 2.5"). The true resulting value or value range for the respective DI shall be fully detailed in the Explanation column (e.g., "SPEED VALUE DETERMINED BY ADDING REPORTED VALUE TO THE OFFSET VALUE. WHEN THE OFFSET IS APPLIED, THE TRUE VALUE RANGE OF SPEED IS 2.5 THROUGH 100.5 MILES PER HOUR IN INCREMENTS OF 2.").

d. If both value modifier capabilities (i.e., Value Multiplier and Value Offset) are to exist for the respective Data Item, both shall be declared in the Value Mod column and consumers obtain the true value or value range by applying the offset before applying the multiplier. Detail for the composite actions on the effective DI value(s) shall be provided in the Explanation column (e.g., "AFTER APPLICATION OF THE VALUE OFFSET AND VALUE MULTIPLIER THE TRUE VALUE RANGE WILL BE -22128.06 THROUGH 22128.06 FEET PER SECOND.").

### B1.4.1.4.5 DI ACCURACY

a. The DI Accuracy column indicates the type and extent of accuracy capability defined for use on a respective DI entry of type FLOAT. Some Accuracy entries may be classified or contain CUI. If the value or range for the Accuracy column is classified or contains CUI, the column shall contain the words "\*SEE ANNEX A\*" and an entry which contains the classified or controlled information shall exist in the annex for the respective item.

b. If a DI entry of type FLOAT is not to have the capability for the producer to explicitly report an accuracy value (i.e., the Accuracy attribute will not exist for the element in the DTD), the DI Accuracy column shall contain the word "IMPLIED". Such entries indicate that only the resolution of the reported DUI element value shall "imply" its accuracy.

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c. If a DI entry of type FLOAT is to have the capability for the producer to explicitly report an accuracy value (i.e., the Accuracy attribute will exist for the element in the DTD), the accuracy range shall be indicated in the DI Accuracy column with the word "THROUGH" between the lower range and upper range (e.g., "1E-6 THROUGH 1E-3 FEET"). If only one range limitation is to be defined (i.e., only a lower range or upper range), the form shall be "GREATER THAN OR EQUAL TO x" or "LESS THAN OR EQUAL TO y", where x and y are the lower or upper range, respectively. If neither a lower nor upper range is to be defined, the DI Accuracy column entry shall contain the word "UNRANGED".

d. A defined range for an entry in the DI Accuracy column shall be expressed in the same unit of accuracy as the value or value range in the respective Data Item column (e.g., "1E-6 THROUGH 1E-3 FEET"). Also, the Explanation column for the entry shall identify any default accuracy value, if applicable.

e. If the capability is to exist for use of a "less than" and/or "greater than" indication for the reported accuracy value, the words "LESS THAN" and/or "GREATER THAN", respectively shall occur subsequent to the range information in the DI Accuracy column (separated by a comma). NOTE: The "less than" and/or "greater than" capabilities can only be declared if a lower and/or upper range, respectively is also indicated for the element.

f. For some elements of the Urgent Interim Capability (UIC) structure, the Accuracy column shall contain the words "NO LIMIT" to represent the accuracy value/value range. This definition effectively leaves the DUI element accuracy unranged, but each UIC change proposal shall specifically identify the value limitations of such elements. For these elements, the accuracy column shall contain the definition of "NO LIMIT".

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B1.4.1.4.6 DI EXPLANATION

a. The DI explanation shall, when necessary, provide detail to express the meaning and/or intent of the DI as well as the special attributes of the respective DI entry (i.e., initial value indication, default values, defined unit, default units, default accuracy values, etc.).

b. The DI explanation shall attempt to use explanations from previously accepted standards.

c. The DI explanation shall be based upon a review of all appropriate sources.

d. The DI explanation shall not be a restatement of the name unless it is spelling out an acronym or abbreviation.

e. If not fully addressed within the DFI definition, the DI explanation shall provide adequate information to identify in standard, well known, or fully identified terms, the full point of reference and/or reference system to accurately and consistently interpret the related element(s) or specified DI values (e.g., for a DI of Latitude: "REPRESENTS 90 DEGREES SOUTH LATITUDE THROUGH 90 DEGREES NORTH LATITUDE THE ALTITUDE (HEIGHT) OF AN OBJECT AS MEASURED RADIALLY OUTWARD FROM THE EARTH AS A QUANTITY ABOVE/BELOW MEAN SEA LEVEL (MSL)" or for a DI of Horizon Angle: "0 DEGREES = AWAY FROM EARTH")

f. If not already specified in the DUI explanation, the DI explanation shall provide adequate source reference title and location information to fully obtain, understand, and maintain details of the purpose and breakout of any DI value which is externally based or controlled by other than IBS (i.e., other source authority

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numbering/serializing elements, external descriptive dictionaries, target databases, etc.).

g. Components of the DI explanation shall be separated by commas with component items (e.g., definitions, attributes, commentary detail) on separate lines where possible.

h. If a DI entry is of type STRING and Section 5 indicates it is to be implemented in a mnemonic file, the DI explanation shall provide a definition which is composed in length and content per mnemonic construction rules (see Section 4.3.3.6).

i. If the DUI element(s) for which the subsequent DI details apply are to be excluded from one or more IBS paths, then for the first DI line after any Reset attribute indication, all columns shall be empty with the exception of the DI Explanation column which shall contain the path exclusion indication in the form of "PATH n EXCLUDED" where "n" is the indicated path. Multiple such lines may exist; one for each path exclusion to be indicated. Note when multiple DUI elements share a DI definition, the listed exclusion(s) apply to all listed DUIs (i.e., therefore, separate DI definitions may be required).

j. If the value in the Data Item column is to be the Initial Value for a DUI element, the DI explanation shall contain the words "(INITIAL VALUE)".

k. Elements of the ENUMERATED Data Representation Type shall normally provide details in the DI Explanation column on the full meaning and/or usage for each enumeration string in the Data Item column (e.g., assuming the enumerations were "SMALL", "MEDIUM", and "LARGE"; the DI explanations might be "ENTITY WEIGHS LESS THAN 10 POUNDS", "ENTITY WEIGHS MORE THAN 10 AND LESS THEN 100 POUNDS", and "ENTITY WEIGHS MORE THAN 100 POUNDS").

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1. Elements of the STRING Data Representation Type having a set of defined values shall, if applicable, precede the individual value entries with a statement in the DI Explanation column detailing any string value upper and/or lower range limitations, character position breakouts, or other string attributes (e.g., "THE VALUE FOR HUMAN NICKNAME IS PASSED AS A STRING OF ONE TO FIVE CHARACTERS.", "THE VALUE FOR SERIAL NUMBER IS PASSED AS A STRING OF ONE TO SIX CHARACTERS WHERE NO TWO CONSECUTIVE CHARACTERS MAY BE NUMERIC.", or "THE VALUE FOR LOCK CODE IS PASSED AS A STRING OF FIVE TO TEN CHARACTERS WHICH IS FILLED WITH TRAILING ZERO CHARACTERS UP TO FIVE CHARACTERS, AS NECESSARY.").

m. Elements of the PATTERN Data Representation Type shall normally provide details in the DI Explanation column for each component of the given pattern including the meaning, source, and/or purpose for the component, component usage, and other range/content limitations of the component (e.g., "ALL VALUES ARE BASED UPON THE MEDICAL CARE GUIDE VOLUME II PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION. THE VALUES ARE ONE ALPHABETIC CHARACTER (B), ONE ALPHANUMERIC CHARACTER (0-9, A-Z), AND FOUR NUMERIC DIGITS (INTEGER VALUES 0-9999). THE LEADING ALPHABETIC CHARACTER "B" INDICATES THIS IS A CODE BLUE IDENTIFIER VALUE, THE ALPHANUMERIC CHARACTER INDICATES THE MEDICAL REASON CODE, AND THE FOUR NUMERIC DIGITS ARE THE PATIENT DATABASE NUMBER.").

n. If a DI entry has units (applicable for types of either INTEGER or FLOAT), then for each set of unit DI entries, the DI Explanation column shall identify the single defined unit, the default unit and/or default path unit if they apply to the given unit in the form of "REPORTED IN unit.", "DEFAULT UNIT = unit" and/or "PATH n DEFAULT UNIT = unit", respectively (see examples in B1.4.1.4.3 (b)).

o. For DI entries of type FLOAT having multiple units, any potential default unit items indicated in the DI Explanation column shall be followed by a new line with the unit equivalent statement

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(see B1.4.1.4.3 (b)), and that shall be followed, if applicable, by a default accuracy value for the given unit in the form of "DEFAULT ACCURACY (unit) = value".

p. For DI entries of type INTEGER having multiplier or offset modifiers, any potential default unit items indicated in the DI Explanation column shall be followed by a new line with a statement indicating the true value/range after application of the multiplier and/or offset (see example in B1.4.1.4.4).

q. If the Data Item column entry indicates a less than or greater than capability for a Data Representation Type of INTEGER, the DI Explanation column for that entry shall have a statement indicating the actual meaning of the value reported. The statement shall be in the form "IF THE "LESS THAN" VALUE QUALIFIER ATTRIBUTE IS SET, THE ACTUAL VALUE FOR <element name> IS SOMETHING LESS THAN x" or "IF THE "GREATER THAN" VALUE QUALIFIER ATTRIBUTE IS SET, THE ACTUAL VALUE FOR <element name> IS SOMETHING GREATER THAN y", where x and y are the lowest value or highest value, respectively of the defined positive integer values or range for the DUI element (e.g., "IF THE "LESS THAN" VALUE QUALIFIER ATTRIBUTE IS SET, THE ACTUAL VALUE FOR RADIUS IS SOMETHING LESS THAN 1."). (Note: "less than" capability is not supported for INTEGERS when zero is one of the defined legal values or is the lower range value.)

r. If the Data Item column entry indicates a less than or greater than capability for a Data Representation Type of FLOAT, the DI Explanation column for that entry shall have a statement indicating the actual meaning of the value reported. The statement shall be in the form "IF THE "LESS THAN" VALUE QUALIFIER ATTRIBUTE IS SET, THE ACTUAL VALUE FOR <element name> IS SOMETHING LESS THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE)." or "IF THE "GREATER THAN" VALUE QUALIFIER ATTRIBUTE IS SET, THE ACTUAL VALUE FOR <element name> IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE

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GIVEN RANGE)." (e.g., "IF THE "GREATER THAN" VALUE QUALIFIER ATTRIBUTE IS SET, THE ACTUAL VALUE FOR RADIUS IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).").

s. Where possible, DI explanations shall be unclassified. If the DI explanation is classified or contains CUI, it shall contain the words "\*SEE ANNEX A\*" and an entry which contains the classified or CUI explanation shall exist in the annex for the respective DI.

### B1.4.1.5 DEFINITION OF SYMBOLS USED IN DFI AND DUI NAME

- a. Hyphen (-) shall be used in compound terms.
- b. Virgule (/) shall be used with bona fide acronyms and in the expression "and/or" only.
- c. Parentheses () shall be used to enclose an acronym when both title and acronym are included in name.
- d. Comma (,) shall be used in its normal sense.
- e. Bracket [] shall be used to enclose the DTD name.
- f. Underscore (\_) shall be used in DTD names to separate words.

### B1.4.2 DESCRIPTION

Figure B1-1 shows the format of the DFI information that can be displayed on individual DFIs. In order to explain the information in the DFI listings, the paragraphs that follow which describe Figure B1-1 are keyed to the numbers in the figure, i.e., the parenthetical numbers to the left of the text correspond to the bold parenthetical numbers in Figure B1-1. In the figure, all information is in capital letters (with the exception of the DTD DUI name); parentheses and

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dashes are exactly as printed in the listing. Zs indicate zero suppression, 9s indicate numerics, and Xs indicate alphanumerics.

(1) Classification. The highest classification of the information contained in this appendix is printed at the top and bottom of each page. In accordance with security marking guidance, the page classification shall include any applicable control markings. Each paragraph may have its classification printed to the left in parentheses, as applicable. US markings are one to two characters in length to be followed by the appropriate shortened control markings. The classification at the top of the page is followed immediately by the document title and applicable section.

(2) DFI Number. The DFI number shall be printed at both the top and bottom of each page. The DFI number consists of a maximum of 5 digits with the first two leading zeroes suppressed. The DFI numbers shall, by definition, be unclassified.

(3) DFI Name. The DFI name shall be printed at the top of each page. The DFI name is limited to a maximum of 30 alphanumeric characters for the first line and a maximum of 28 for the second line. All DFI names shall be unclassified.

(4) DFI Definition. The DFI definition is used only when the meaning of the DFI is unclear. It consists of a maximum of 62 alphanumeric characters for the first line and 60 per line for the second through tenth lines (a maximum of 10 lines). Where possible, DFI definitions shall be unclassified. If the DFI definition is classified or contains CUI, it shall contain the words "\*SEE ANNEX A\*" and an entry which contains the classified or CUI definition shall exist in the annex for the respective DFI.

(5) Data Standard Usage. This information indicates the name of those standards using this DFI. It consists of 9 alphanumeric

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characters followed by a space with a maximum of three 9 character groups per line and a maximum of 3 lines. For IBS, the standard shall be listed as "IBS". The Data Standard Usage for IBS shall, by definition, be unclassified.

(6) Status. This item identifies the current status of the DFI. It consists of a maximum of 3 lines of alphanumeric characters with a maximum of 20 characters per line. Where possible, the Status shall be unclassified. If the Status is classified or contains CUI, it shall contain the words "\*SEE ANNEX A\*" and an entry which contains the classified or CUI Status shall exist in the annex for the respective DFI.

(7) DUI Number. The DUI number shall consist of 3 digits (i.e., with no leading zero suppression). The DUI numbers shall, by definition, be unclassified.

(8) DUI Name. The DUI name consists of a maximum of 30 alphanumeric characters for the first line and a maximum of 28 alphanumeric characters for the second line. All DUI names shall be unclassified.

(9) DUI Explanation. The DUI explanation consists of a maximum of 36 alphanumeric characters for the first line and 34 alphanumeric characters for all following lines with a maximum of 999 lines. Where possible, DUI explanations shall be unclassified. If the DUI explanation is classified or contains CUI, it shall contain the words "\*SEE ANNEX A\*" and an entry which contains the classified or CUI Explanation shall exist in the annex for the respective DUI.

(10) Applicability. This item identifies message(s) that use the DUI. It consists of a maximum of 999 lines per DUI with 1 message per line. The NFI element name of each message that contains the DUI element within its structure shall be listed (see section 4.4 for

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applicable messages). Since all DUI and NFI names shall be unclassified then, by definition, all Applicability entries shall be unclassified.

(11) Change Bars. Change bars appear to the right of a line that has changed from a previous edition. Change bars shall, by definition, be unclassified.

(12) DTD DUI Name. This item identifies the name of the element exactly as to be listed in the DTD and is enclosed in square brackets. All DTD DUI names shall be unclassified.

(13) Data Element Type. Consists of up to 10 alphanumeric characters indicating one of the five CMF element types (Field, Group, Composite, Repetitive, Packed) used in the XML-based hierarchy of nested elements. Shall always be represented herein as "FIELD" because only "Field" types are defined in Part I ("Group", "Composite", "Packed", and "Repetitive" are separately defined in Part II). The Data Element Types shall, by definition, be unclassified.

(14) Data Representation Type. Consists of up to 25 alphanumeric characters indicating one of six CMF data representation types which are applicable to the "Field" element type (INTEGER, ENUMERATED, FLOAT, STRING, PATTERN, or PACKED\_COMPONENT). The Data Representation Types shall, by definition, be unclassified.

### (15) DISUSED

(16) Data Item. The DI lists the values or range of values that may be received in the full CMF-X implementation (see section B1.4.1.4 for Data Item entry details). Some Data Item entries may be classified or contain CUI. If the value or range for the Data Item column is classified or contains CUI, the column shall contain the words "\*SEE ANNEX A\*" and an entry which contains the classified or

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controlled information shall exist in the annex for the respective item.

(17) Value Range. Identifies the equivalent CMF-B value or value range to that which is defined in the respective Data Item column (see section B1.4.1.4.2 for Value Range entry details). Some Value Range entries may be classified or contain CUI. If the value or range for the Value Range column is classified or contains CUI, the column shall contain the words “\*SEE ANNEX A\*” and an entry which contains the classified or controlled information shall exist in the annex for the respective item.

(18) Unit Equivalent. For CMF-B, provides the respective equivalent (i.e., assigned) numerical CMF-B values for each possible character-based unit selection (in CMF-X) defined for the “unit” attribute of an element (see section B1.4.1.4.3 for Unit Equivalent entry details). The Unit Equivalent values shall, by definition, be unclassified.

(19) Value Modifier. Indicates an action or actions that must be applied to a reported value (from within those defined in the Data Item column) to determine the actual value (see section B1.4.1.4.4 for Value Modifier entry details). The value modifiers are simply scaling constants which shall, by definition, be unclassified.

(20) Accuracy. Indicates the range of accuracy values that may be reported as an attribute of a DUI element’s data value (see section B1.4.1.4.5 for Accuracy entry details). Some Accuracy entries may be classified or contain CUI. If the value or range for the Accuracy column is classified or contains CUI, the column shall contain the words “\*SEE ANNEX A\*” and an entry which contains the classified or controlled information shall exist in the annex for the respective item.

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(21) Explanation. Provides any amplifying information that may be necessary for definition of individual values within a data item (see section B1.4.1.4.6 for DI Explanation entry details). Where possible, DI explanations shall be unclassified. If the DI explanation is classified or contains CUI, it shall contain the words “\*SEE ANNEX A\*” and an entry which contains the classified or CUI Explanation shall exist in the annex for the respective DI.

(22) Reset Attribute. Indicates whether an element can be reset to the No Data or Initial Value state. Valid entries for the Reset Attribute shall be “YES” if the respective DUI element is to have a reset capability (i.e., a Reset attribute is to be defined for the element) or “NO”, otherwise. The Reset Attribute values shall, by definition, be unclassified.

(23) Page numbering within the DFI. The page numbering shall, by definition, be unclassified.

(24) Relevance Attribute. If present within one of the DUI portions of a DFI listing, indicates the operational relevance of the respective DUI (see section D.3.4.3.8.2 for usage and valid values). Where the relevance attribute is not present in the listing for a DUI, the respective DUI shall be deemed fully operationally relevant. The Relevance Attribute values shall, by definition, be unclassified.

(25) Physical page numbering within the document. The physical page numbering shall, by definition, be unclassified.

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DFI NO ZZ999 PAGE ZZ9 OF Z99  
(2) (23)

(2)	(3)	DEFINITION (4)
DFI NAME		
ZZ999 XXXX....XXX		XXXXXX.....XXXXXX
XX....XXX		XXX.....XXXX
DATA STANDARD USAGE: XXXXXXXXX XXXXXXXXX		STATUS: XXXX....XXXXX
(5)		(6)
(7) (8)	EXPLANATION (9)	(10) APPLICABILITY
DUI NAME		
999 XXXX....XXX	XXXXXX.....XXXXXX	XXXXXX XXXXXXXX,
XX....XXX	XXX.....XXXX	XXXX XXXXXXXX (11)
(12) [XX_Xxxx]		
RELEVANCE ATTRIBUTE: X...X		
(24)		
DATA (13)	DATA (14)	
ELEMENT	REPRESENTATION	
TYPE	TYPE	
XXXXXX	XXXXXX	
(16)	(17)	(18) (19)
DATA ITEM	VALUE RANGE	UNIT EQUIV VALUE MOD
---	---	(20) ACCURACY (21) EXPLANATION
--- FOR DUI 999 ---		
RESET ATTRIBUTE: XXX (22)		
XXXX....XXX	X THROUGH XXXX	X XXX XXX
XXXX....XXX	X THROUGH XXXX	X XXX XXX

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**(2) (23)**

<b>(2)</b> DFI	<b>(3)</b> NAME						
ZZ999	XXXX....XXX XX....XXX						
		<b>(16)</b> DATA ITEM (CONTINUED)	<b>(17)</b> VALUE RANGE	<b>(18)</b> UNIT	<b>(19)</b> UNIT	<b>(20)</b> EQUIV MOD	<b>(21)</b> EXPLANATION
		XXXX.....XXXX	X THROUGH XXXX	X	XXX	XXX	XXXX....XXXX XXXX....XXX
		XXXX.....XXXX	X THROUGH XXXX	X	XXX	XXX	XXXX....XXXX XXXX....XXX
		XXXX.....XXXX	X THROUGH XXXX	X	XXX	XXX	XXXX....XXXX XXXX....XXX

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Figure B1-1 DFI Format (Sheet 2 of 2)

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B1.5 DETAILED REQUIREMENTSB1.5.1 INDEX OF DFIs AND DUIs

To assist in using this standard, four listings immediately follow this page. The first list, Table B1-1, is ordered alphabetically by DFI name, the second list, Table B1-2, is ordered numerically by DFI number, the third, Table B1-3, is ordered alphabetically by DUI name, and the fourth, Table B1-4, is ordered numerically by DUI number.

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TABLE B1-1. ALPHABETICAL LIST OF DATA FIELD IDENTIFIERS (DFIs)

SHEET 1

DFI NAME	DFI No.
ABSOLUTE VALUE	1103
ACTION INDICATORS	8072
ACTION/INFORMATION INDICATOR	1740
AIR DEFENSE DISTRICT	8021
ALGORITHM	8100
ALTERNATE FIELD INDICATOR	351
ALTITUDE (HEIGHT)	365
ANTENNA SCAN RATE	1580
ARC WIDTH	454
AREA	4193
AUTHENTICATION	343
AXIS	419
AXIS ORIENTATION	1806
BASIC ENCYCLOPEDIA (BE) NUMBER	8033
BEAM CHARACTERISTICS	8101
BEARING	372
BETA	1105
BITMAP	8109
CALL SIGN	4100
CANNED MESSAGE	8113
CHIP RATE	8005
CLIMB RATE	8057
CODED NUMBER	4003
COLLECTION	8073
COLOR	4118
COMMUNICATIONS CHANNELS	8027
COMMUNICATIONS EQUIPMENT	341
CONFIDENCE	431
CORRELATION INDICATOR	1862
COUNT	8110
COVARIANCE DATA ELEMENT	1106
DATA ELEMENT TYPE	8111
DATA PACKAGE CHECKSUM	8092
DATA PACKAGE HEADER TYPE	8091
DATA PACKAGE LENGTH	8088
DATA RATE	8030
DATA TYPE DESIGNATOR	4093
DATA TYPE INDICATOR	385
DAY	4019
DIRECTION	8070
ELEVATION	4130

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TABLE B1-1. ALPHABETICAL LIST OF DATA FIELD IDENTIFIERS (DFIs)

SHEET 2

DFI NAME	DFI No.
EMERGENCY INDICATOR	355
EMISSION POLARIZATION	434
EMITTER FUNCTION CODE	8095
EMITTER PULSE	8107
EMITTER/TRANSMISSION DESCRIPTION	8036
ENTITY ACTIVITY/STATUS	8018
ENTITY CONTENT	8047
ENTITY RELATIONSHIP	8071
ENTITY TYPE	8019
ENVIRONMENT ID	8001
EQUIPMENT MODEL	4070
EQUIPMENT STATUS	1665
ERROR MEASUREMENT	8087
EVENT IDENTIFIER	8119
EXTERNAL CONNECTION	8090
EXTERNAL SENSOR CODE	8112
FLIGHT PATH ANGLE	8081
FLIGHT/FORCE SIZE	386
FORCE TELL INDICATOR	354
FREE-TEXT	8052
FREQUENCY	417
FREQUENCY AGILITY	1203
FREQUENCY HOP TRANSMISSION CHARACTERISTICS	8097
GEOGRAPHIC DEFINITION	4192
HEIGHT	4113
IBS RELATED MESSAGE TYPE	8003
IDENTITY	376
INDICATOR	1107
INFORMATION MANAGEMENT ACTION NUMBER	1606
INFORMATION UPDATE INDICATOR	4047
INTENSITY	8075
JAMMING INDICATOR	8098
JITTER RANGE	8096
KEYING MATERIAL INFORMATION	8120
LABEL	270
LATITUDE	281
LENGTH	4032
LOCALLY DEFINED AMPLIFYING DATA	754
LOCATION ACCURACY	4119
LONGITUDE	282
MEASUREMENT TYPE	8084
MIDB EQUIPMENT CODE	8035

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TABLE B1-1. ALPHABETICAL LIST OF DATA FIELD IDENTIFIERS (DFIs)

SHEET 3

DFI NAME	DFI No.
MILITARY IDENTIFICATION	4004
MIXED RECORDS INDICATOR	8093
MODE I CODE	293
MODE II CODE	294
MODE III CODE	295
MODULATION CODE	1849
NAME	4150
NATION OF ORIGIN	4127
NOTIFICATION TYPE	8115
NUMBER	4085
OCCUPATIONAL SPECIALITY CODE	4148
OPERATIONAL STATUS	753
ORGANIZATION IDENTIFIER	8116
PERSONAL IDENTIFICATION CHARACTERISTICS	8067
PHYSICAL ADDRESS	8077
PITCH	8020
PLACE/PLATFORM IDENTIFICATION NUMBER (PIN)	8032
PLACEMENT	8106
POSITION, WGS-84	1108
POWER RATIO	8022
PRIORITY DESIGNATOR	4129
PRODUCER/COLLECTION DESIGNATOR	8006
PULSE DURATION	435
PULSE REPETITION FREQUENCY	440
PULSE REPETITION INTERVAL	1903
PULSE WIDTH SWITCHING INDICATOR	8099
QUANTITY	4029
RADIO FREQUENCY	4104
RADIO IDENTIFICATION	8028
RADIO MODE	8083
RADIO TYPE	1648
RADIUS	4031
RANGE	757
RATE	4144
RELIABILITY EVALUATION	4051
RESOURCE LOCATOR	8103
RF/PRI AGILITY INDICATOR	8013
ROOT VARIANCE	1109
SCAN TYPE	433
SECOND	380

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TABLE B1-1. ALPHABETICAL LIST OF DATA FIELD IDENTIFIERS (DFIs)

SHEET 4

DFI NAME	DFI No.
SECURE IFF INDICATOR	298
SECURITY CLASSIFICATION	4083
SEMI-MAJOR ELEVATION	8058
SENSOR STRING	8104
SENSOR TYPE	1953
SEQUENCE NUMBER	8055
SERIAL NUMBER	4046
SET TYPE	8094
SIGN	1110
SIGNALS	4225
SIGNIFICANT DATE	8078
SIMULATION INDICATOR	1604
SOUND PRESSURE	8105
SPEED	367
STATION IDENTIFICATION	8008
SUBJECT	8114
THREAT EVALUATION	424
TIME ERROR	8086
TIME GROUP	8039
TIME INTERVAL	4037
TRACK NUMBER, LINK 11/11B	269
TRACK NUMBER, LINK 16	769
TRACK NUMBER, NATO LINK 1	747
TRACKING MODIFIER	1906
TRANSMIT/RECEIVE INDICATOR	8089
VELOCITY, WGS-84	1113
VERSION	8108
VESSEL CHARACTERISTICS	8102
WARTIME RESERVE MODE INDICATOR	1821
WEAPON PROFILE	8118
WEATHER DESCRIPTION	4175
WIDTH	4033
YEAR	4098

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TABLE B1-2. NUMERICAL LIST OF DATA FIELD IDENTIFIERS (DFIs)

SHEET 1

DFI NAME	DFI No.
TRACK NUMBER, LINK 11/11B	269
LABEL	270
LATITUDE	281
LONGITUDE	282
MODE I CODE	293
MODE II CODE	294
MODE III CODE	295
SECURE IFF INDICATOR	298
COMMUNICATIONS EQUIPMENT	341
AUTHENTICATION	343
ALTERNATE FIELD INDICATOR	351
FORCE TELL INDICATOR	354
EMERGENCY INDICATOR	355
ALTITUDE (HEIGHT)	365
SPEED	367
BEARING	372
IDENTITY	376
SECOND	380
DATA TYPE INDICATOR	385
FLIGHT/FORCE SIZE	386
FREQUENCY	417
AXIS	419
THREAT EVALUATION	424
CONFIDENCE	431
SCAN TYPE	433
EMISSION POLARIZATION	434
PULSE DURATION	435
PULSE REPETITION FREQUENCY	440
ARC WIDTH	454
TRACK NUMBER, NATO LINK 1	747
OPERATIONAL STATUS	753
LOCALLY DEFINED AMPLIFYING DATA	754
RANGE	757
TRACK NUMBER, LINK 16	769
ABSOLUTE VALUE	1103
BETA	1105
COVARIANCE DATA ELEMENT	1106
INDICATOR	1107
POSITION, WGS-84	1108
ROOT VARIANCE	1109
SIGN	1110
VELOCITY, WGS-84	1113
FREQUENCY AGILITY	1203
ANTENNA SCAN RATE	1580

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TABLE B1-2. NUMERICAL LIST OF DATA FIELD IDENTIFIERS (DFIs)

SHEET 2

DFI NAME	DFI No.
SIMULATION INDICATOR	1604
INFORMATION MANAGEMENT ACTION NUMBER	1606
RADIO TYPE	1648
EQUIPMENT STATUS	1665
ACTION/INFORMATION INDICATOR	1740
AXIS ORIENTATION	1806
WARTIME RESERVE MODE INDICATOR	1821
MODULATION CODE	1849
CORRELATION INDICATOR	1862
PULSE REPETITION INTERVAL	1903
TRACKING MODIFIER	1906
SENSOR TYPE	1953
CODED NUMBER	4003
MILITARY IDENTIFICATION	4004
DAY	4019
QUANTITY	4029
RADIUS	4031
LENGTH	4032
WIDTH	4033
TIME INTERVAL	4037
SERIAL NUMBER	4046
INFORMATION UPDATE INDICATOR	4047
RELIABILITY EVALUATION	4051
EQUIPMENT MODEL	4070
SECURITY CLASSIFICATION	4083
NUMBER	4085
DATA TYPE DESIGNATOR	4093
YEAR	4098
CALL SIGN	4100
RADIO FREQUENCY	4104
HEIGHT	4113
COLOR	4118
LOCATION ACCURACY	4119
NATION OF ORIGIN	4127
PRIORITY DESIGNATOR	4129
ELEVATION	4130
RATE	4144
OCCUPATIONAL SPECIALITY CODE	4148
NAME	4150

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TABLE B1-2. NUMERICAL LIST OF DATA FIELD IDENTIFIERS (DFIs)

SHEET 3

DFI NAME	DFI No.
WEATHER DESCRIPTION	4175
GEOGRAPHIC DEFINITION	4192
AREA	4193
SIGNALS	4225
ENVIRONMENT ID	8001
IBS RELATED MESSAGE TYPE	8003
CHIP RATE	8005
PRODUCER/COLLECTION DESIGNATOR	8006
STATION IDENTIFICATION	8008
RF/PRI AGILITY INDICATOR	8013
ENTITY ACTIVITY/STATUS	8018
ENTITY TYPE	8019
PITCH	8020
AIR DEFENSE DISTRICT	8021
POWER RATIO	8022
COMMUNICATIONS CHANNELS	8027
RADIO IDENTIFICATION	8028
DATA RATE	8030
PLACE/PLATFORM IDENTIFICATION NUMBER (PIN)	8032
BASIC ENCYCLOPEDIA (BE) NUMBER	8033
MIDB EQUIPMENT CODE	8035
EMITTER/TRANSMISSION DESCRIPTION	8036
TIME GROUP	8039
ENTITY CONTENT	8047
FREE-TEXT	8052
SEQUENCE NUMBER	8055
CLIMB RATE	8057
SEMI-MAJOR ELEVATION	8058
PERSONAL IDENTIFICATION CHARACTERISTICS	8067
DIRECTION	8070
ENTITY RELATIONSHIP	8071
ACTION INDICATORS	8072
COLLECTION	8073
INTENSITY	8075
PHYSICAL ADDRESS	8077
SIGNIFICANT DATE	8078
FLIGHT PATH ANGLE	8081
RADIO MODE	8083
MEASUREMENT TYPE	8084
TIME ERROR	8086

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TABLE B1-2. NUMERICAL LIST OF DATA FIELD IDENTIFIERS (DFIs)

SHEET 4

DFI NAME	DFI No.
ERROR MEASUREMENT	8087
DATA PACKAGE LENGTH	8088
TRANSMIT/RECEIVE INDICATOR	8089
EXTERNAL CONNECTION	8090
DATA PACKAGE HEADER TYPE	8091
DATA PACKAGE CHECKSUM	8092
MIXED RECORDS INDICATOR	8093
SET TYPE	8094
EMITTER FUNCTION CODE	8095
JITTER RANGE	8096
FREQUENCY HOP TRANSMISSION CHARACTERISTICS	8097
JAMMING INDICATOR	8098
PULSE WIDTH SWITCHING INDICATOR	8099
ALGORITHM	8100
BEAM CHARACTERISTICS	8101
VESSEL CHARACTERISTICS	8102
RESOURCE LOCATOR	8103
SENSOR STRING	8104
SOUND PRESSURE	8105
PLACEMENT	8106
EMITTER PULSE	8107
VERSION	8108
BITMAP	8109
COUNT	8110
DATA ELEMENT TYPE	8111
EXTERNAL SENSOR CODE	8112
CANNED MESSAGE	8113
SUBJECT	8114
NOTIFICATION TYPE	8115
ORGANIZATION IDENTIFIER	8116
WEAPON PROFILE	8118
EVENT IDENTIFIER	8119
KEYING MATERIAL INFORMATION	8120

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TABLE B1-3. ALPHABETICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 1

DUI NAME	DFI No.	DUI No.
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 23, IBS	1103	801
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 24, IBS	1103	802
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 25, IBS	1103	803
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 26, IBS	1103	804
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 34, IBS	1103	805
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 35, IBS	1103	806
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 36, IBS	1103	807
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 45, IBS	1103	808
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 46, IBS	1103	809
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 56, IBS	1103	810
ADEPT TAG	8036	006
ADVISORY INDICATOR	4093	812
AIR DEFENSE DISTRICT	8021	001
ALGORITHM FLOAT VALUE	8100	001
ALGORITHM NAME	8100	003
ALGORITHM TEXT VALUE	8100	002
ALTITUDE	365	801
ANTENNA QUANTITY	4029	807
ANTI-RADIATION HOMING NAVIGATION STATUS	1665	804
APPROXIMATE ALTITUDE	365	802
ARBITRARY ELINT NOTATION	8036	002
ARBITRARY UNIT IDENTIFIER	4150	801
ARCHIVE RECORD LENGTH	8088	002
AREA ORIENTATION	1806	802
AREA SEMI-INTERMEDIATE AXIS	419	803
AREA SEMI-MAJOR AXIS	419	801
AREA SEMI-MINOR AXIS	419	802
AVERAGE PULSE WIDTH DURATION	435	807
AXIS ORIENTATION, IBS	1806	801
BALLISTIC MISSILE BETA, IBS	1105	801
BE NUMBER FIELD INITIATED	8033	004
BE NUMBER SPECIFIC USE	8033	002
BE NUMBER STANDARD	8033	001
BE ORIGINATOR SUFFIX	8033	006
BE SUFFIX	8033	003
BEAM WIDTH	8101	001
BEARING CONE ANGLE	372	805
BFT BREVITY CODE	754	801
BINO TRACK NUMBER	4046	820
BIT RATE	8030	005
BLOB PACKET	8052	006
BLOB PACKET NUMBER	4046	837
BLOB TOTAL PACKETS	4046	838
BLOB TYPE IDENTIFIER	4085	806
BOOST INDICATOR	1107	003

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TABLE B1-3. ALPHABETICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 2

DUI NAME	DFI No.	DUI No.
CHIP RATE	8005	001
CITY	8077	002
CLIMB RATE	8057	001
CLOCK TIME	380	801
CO-LOCATED THREAT	1740	801
COLLABORATION MEASUREMENT TYPE	8084	001
COLLECTION BANDWIDTH	4104	804
COLLECTION EVENT ID	8073	003
COLLECTION MISSION ID	8073	002
COMMUNICATIONS CALL SIGN	4100	802
COMMUNICATIONS Emitter NOTATION	8036	003
COMMUNICATIONS EXTERNAL MODULATION	1849	803
COOPERATIVE LOCATION INDICATOR	1862	802
CORRELATION INDEX	1862	801
CORRIDOR ARC MAXIMUM RANGE	757	802
CORRIDOR ARC MINIMUM RANGE	757	801
CORRIDOR ARC WIDTH, IBS	454	801
CORRIDOR CENTER LINE, IBS	372	806
COURSE, CARDINAL	8070	005
COURSE, DEGREES	8070	004
COVARIANCE DATA ELEMENT 22, IBS	1106	801
COVARIANCE DATA ELEMENT 33, IBS	1106	802
COVARIANCE DATA ELEMENT 44, IBS	1106	803
COVARIANCE DATA ELEMENT 55, IBS	1106	804
COVARIANCE DATA ELEMENT 66, IBS	1106	805
CSEL HAND HELD RADIO MESSAGE TYPE	8003	007
DATA FORMAT	8003	006
DATA PACKAGE CHECKSUM	8092	001
DATA PACKAGE HEADER TYPE	8091	001
DATA PACKAGE LENGTH	8088	001
DATA PACKAGE PRIORITY	4129	801
DATE OF BIRTH	8078	001
DECEPTION INDICATOR	4093	802
DELTA TIME	8039	001
DESTINATION GROUP	8008	005
DISUSED	1903	804
DISUSED	1903	805
DROP ENTITY ACTION	1606	801
ELEVATION	4130	801
ELINT Emitter MODULATION	1849	801
ELINT NOTATION	8036	001
ELINT PULSE MODULATION	1849	802

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TABLE B1-3. ALPHABETICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 3

DUI NAME	DFI No.	DUI No.
EMERGENCY INDICATOR, IBS	355	801
EMISSION POLARIZATION, IBS	434	801
EMITTER FUNCTION	8095	001
ENCRYPTION INDICATOR	4093	811
ENTITY ACTIVITY	8018	001
ENTITY CHAIN TYPE	8071	001
ENTITY CONTENT	8047	001
ENTITY COVERAGE SIZE	4193	801
ENTITY EXERCISE ROLE	385	805
ENTITY HEIGHT	4113	801
ENTITY HOME LOCATION NAME	4150	811
ENTITY ID SERIAL NUMBER	4046	004
ENTITY LENGTH	4032	801
ENTITY LINE OF BEARING	372	801
ENTITY NAME	4150	808
ENTITY NUMBER	4046	807
ENTITY RELATIONSHIP INDICATOR	8071	005
ENTITY SIZE	386	801
ENTITY STATUS	8018	003
ENTITY STRENGTH	386	802
ENTITY TYPE, IBS	8019	001
ENTITY UPDATE NUMBER	4046	836
ENTITY WIDTH	4033	801
ENVIRONMENTAL CONDITION	4175	801
ENVIRONMENT ID	8001	001
EOB ASSOCIATION CONFIDENCE	431	804
EQUIPMENT SERIAL NUMBER	4046	825
EQUIPMENT TYPE	4070	801
ERROR SUM 3D	8087	001
EVALUATION GENERAL CONFIDENCE	431	802
EVALUATION PERCENT CONFIDENCE	431	801
EXERCISE INDICATOR, IBS	385	803
EXTERIOR COLOR	4118	801
EXTERNAL CONNECTION ID	4085	801
EXTERNAL CONNECTION LABEL	8090	002
EXTERNAL CONNECTION NUMBER	4085	802
EXTERNAL CONNECTION TYPE	8090	001
EXTERNAL SENSOR CODE	8112	001
EXTRAPOLATION INDICATOR	1906	801
EYE COLOR	8067	001

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TABLE B1-3. ALPHABETICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 4

DUI NAME	DFI No.	DUI No.
FILE TRANSMIT/RECEIVE INDICATOR	8089	001
FINAL SET TYPE	8094	001
FIS NOTATION	8036	005
FLASH	8072	004
FLIGHT PATH ANGLE	8081	001
FORCE TELL INDICATOR, IBS	354	801
FREE-TEXT	8052	001
FREQUENCY	417	801
FREQUENCY AGILITY CHARACTERISTICS	8013	001
FREQUENCY AGILITY INDICATOR, IBS	1203	801
GENDER	8067	008
GEOGRAPHIC AREA IDENTIFIER	4193	806
GEOMETRIC AREA SWITCH	351	801
GPS POSITIONING SYSTEM NAVIGATION STATUS	1665	801
HAIR COLOR	8067	002
HAIR LENGTH	8067	003
HEADING, CARDINAL	8070	002
HEIGHT	8067	004
HEIGHT FROM SURFACE	365	803
HIGH INTEREST INDICATOR	4093	801
HOP DWELL	8097	001
HOP RATE	8097	002
HOP SPACING	8097	003
HOP SPREADER TYPE	8097	004
HULL NUMBER	4046	831
HUMAN SENSOR TYPE	1953	808
HUMINT RELIABILITY	4051	802
IFF MODE 3A CODE	295	801
IFF MODE I CODE	293	801
IFF MODE II CODE	294	801
IFF MODE IV INDICATOR	298	801
ILLUMINATION TIME	435	808
IMAGING INFRARED NAVIGATION STATUS	1665	803
IMO NUMBER	4046	829
INERTIAL NAVIGATION SYSTEM NAVIGATION STATUS	1665	806
INTERMEDIATE CUT LOB	372	803
INTERMEDIATE FREQUENCY	4104	802
INTERNATIONAL CALL SIGN	4100	801
INTERNATIONAL POSTAL ZIP CODE	8077	004
INTERVAL	4037	801
IR MAXIMUM INTENSITY	8075	001
IR SENSOR TYPE	1953	804
ISOLATED PERSONNEL AUTHENTICATION STATUS	343	801
ISOLATED PERSONNEL COMMUNICATIONS CAPABILITY	341	801
ISOLATED PERSONNEL RELATIONSHIP	376	801
JAMMING INDICATOR	8098	001
JITTER RANGE	8096	001

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TABLE B1-3. ALPHABETICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 5

DUI NAME	DFI No.	DUI No.
JULIAN DAY	4019	801
LANGUAGE IDENTIFIER, IBS	4148	801
LASER NAVIGATION STATUS	1665	805
LATITUDE, SECONDS	281	801
LENGTH TO BOW	4032	802
LENGTH TO STERN	4032	803
LINK 11/11B PU/RU	269	802
LINK 11/11B TRACK NUMBER, REFERENCE	269	801
LINK 16 TRACK NUMBER, REFERENCE	769	802
LINK 16 TRACK NUMBER, SOURCE	769	801
LOCAL CAPABILITY FIELD NAME	4150	817
LOCAL CAPABILITY FLOAT	8111	006
LOCAL CAPABILITY IDENTIFIER	4085	805
LOCAL CAPABILITY INTEGER	8111	005
LOCAL CAPABILITY NAME	4150	816
LOCAL CAPABILITY STRING	8111	004
LOCAL CAPABILITY UNIT	4093	819
LOCAL CAPABILITY UNIT NAME	4150	818
LOCATION NAME	4150	807
LONGITUDE, SECONDS	282	801
MAGNETIC COURSE, DEGREES	8070	006
MAGNETIC HEADING, DEGREES	8070	003
MAJOR DTD VERSION	4046	804
MAJOR PARSER API VERSION	4046	802
MANEUVERING INDICATOR, IBS	1107	801
MANUFACTURER NAME	4150	810
MAXIMUM SOUND PRESSURE	8105	001
MEASUREMENT REFERENCE PERIOD	380	802
MEDIA REFERENCE ID	4046	833
MESSAGE NUMBER	4046	806
MESSAGE NUMBER, TIBS	4046	808
MESSAGE NUMBER, TRIKS	4046	809
MESSAGE REFERENCE	8052	005
MIDB EQUIPMENT CODE	8035	001
MILLIMETER WAVE NAVIGATION STATUS	1665	802
MINOR DTD VERSION	4046	805
MINOR PARSER API VERSION	4046	803
MISSION NAME	4150	804
MIXED RECORDS INDICATOR	8093	001
MMSI NUMBER	4046	828
MULTIPLE SPECTRUM SENSOR TYPE	1953	807
NATIONALITY, IBS	4127	802
NATIONALITY/ALLIANCE	4127	801
NATO LINK 1 TRACK NUMBER, 1	747	801
NIIRS QUALITY	4051	801
NODE	8008	001
NOTIFICATION SUBJECT	8114	001
NOTIFICATION TYPE	8115	001
NUMBER OF BLADES	4029	806
NUMBER OF CHIP BITS	8005	002

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TABLE B1-3. ALPHABETICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 6

DUI NAME	DFI No.	DUI No.
NUMBER OF CYLINDERS	4029	805
NUMBER OF INJURED AMBULATORY PERSONNEL	4029	810
NUMBER OF NON-AMBULATORY PERSONNEL	4029	811
NUMBER OF PILOT TONES	8027	006
NUMBER OF PRI POSITIONS	1903	810
NUMBER OF PULSES IN GROUP	8107	003
NUMBER OF SUBCARRIER TONES	8027	004
NUMBER OF UNINJURED AMBULATORY PERSONNEL	4029	809
NUMBER OF VG CHANNELS	8027	003
OPERATION NAME	4150	803
OPERATIONAL ASSET ID	270	802
OPERATIONAL ASSET LABEL	270	801
OPERATIONAL STATUS, IBS	753	801
OPERATIONS NOTIFICATION	8052	004
OPTICAL SENSOR TYPE	1953	806
ORGANIZATION IDENTIFICATION	4150	806
ORIGINATOR DATUM	4192	801
PACKAGE NUMBER	4046	818
PAIR LOGIC	8071	004
PARENT ORGANIZATION	4150	805
PATH NUMBER	4085	803
PHYSIQUE	8067	006
PILOT TONE	8027	005
PIN CONFIRMED EQUIPMENT ID	8032	001
PIN UNCONFIRMED EQUIPMENT ID	8032	002
PIN UNCONFIRMED SITE	8032	003
PITCH	8020	001
PLACEMENT ALONG HEIGHT	8106	002
PLACEMENT ALONG LENGTH	8106	001
PLACEMENT ALONG WIDTH	8106	003
POSITION	1108	801
POSITION FIX QUALITY	4119	802
POSITION FIXING METHOD	4119	801
PR/CSAR CANNED MESSAGE	8113	001
PR/CSAR GROUP IDENTIFIER	8116	001
PR/CSAR SCHEDULED MESSAGE INDICATOR	4093	809
PR/CSAR TEXT	8052	003
PRF	440	801
PRF GROUP INDICATOR	440	802

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TABLE B1-3. ALPHABETICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 7

DUI NAME	DFI No.	DUI No.
PRI	1903	806
PRI AGILITY CHARACTERISTICS	8013	002
PRI GROUP INDICATOR	1903	807
PRI PROFILE LABEL	1903	809
PRI PROFILE TECHNIQUE	1903	808
PRI STABILITY	1903	801
PRI STAGGER LEGS	1903	803
PRI TYPE	1903	802
PRODUCER DESIGNATOR DIGRAPH	8006	001
PRODUCER MESSAGE SEQUENCE NUMBER	8055	002
PROVIDER COMMUNITY	385	807
PROVIDER DATA CATEGORY	385	808
PROVIDER TYPE	385	806
PULSE GROUP ID NUMBER	4046	826
PULSE ID NUMBER	4046	827
PULSE RATE, COMINT	8030	002
PULSE WIDTH DURATION	435	806
PULSE WIDTH SWITCHING HIGH VALUE	435	804
PULSE WIDTH SWITCHING INDICATOR	8099	001
PULSE WIDTH SWITCHING LOW VALUE	435	805
QUANTITY DAMAGED	4029	803
QUANTITY DESTROYED	4029	804
QUANTITY OF EQUIPMENT/WEAPONS CAPTURED	4029	801
QUANTITY OPERATIONAL, IBS	4029	802
QUERY ARE YOU HURT INDICATOR	4093	814
QUERY ENEMY NEARBY INDICATOR	4093	813
QUERY WILL YOU MOVE INDICATOR	4093	815
RACE	8067	007
RADAR CROSS SECTION, IBS	4225	801
RADAR MODE CHANGE INDICATOR	4093	817
RADIO FREQUENCY STABILITY	4104	801
RADIO ID	8028	001
RADIO MESSAGE NUMBER	4046	816
RADIO MODE	8083	001
RADIO TYPE, IBS	1648	801
RADIUS, IBS	4031	801
RAPID WORLDWIDE AREA COLLECTION IDENTIFIER	4193	805
RATE OF TURN	4144	801
RECORD TRANSMIT/RECEIVE INDICATOR	8089	002
REFERENCE POSITION	1108	803
REFERENCE VELOCITY	1113	802

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TABLE B1-3. ALPHABETICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 8

DUI NAME	DFI No.	DUI No.
REMOTE MANAGEMENT INDICATOR	4093	816
REPLICATION COUNT	8110	001
REPLICATION INTERVAL	4037	803
REPORT VALIDATION INDICATOR	385	804
RF SENSOR TYPE	1953	803
SCAN PERIOD	1580	802
SCAN RATE	1580	801
SCAN TYPE, IBS	433	801
SECURITY TABLE INDEX	4083	807
SEMI-MAJOR ELEVATION	8058	001
SENSOR 1 IDENTIFIER	1953	801
SENSOR 2 IDENTIFIER	1953	802
SENSOR EMPLACER/IMPLANTER	8104	002
SENSOR MONITOR	8104	001
SENSOR STATUS	8104	003
SENSOR STRING NUMBER	8104	004
SEQUENCE NUMBER	8055	001
SEVEN BIT MAP	8109	001
SHIP CONTROL NUMBER	4003	801
SHORT TITLE EDITION	8120	002
SHORT TITLE ITEM NUMBER	8120	001
SHORT TITLE SEGMENT	8120	003
SIF MODE 3A CODE	295	802
SIF MODE I CODE	293	802
SIF MODE II CODE	294	802
SIGMA POSITION	1109	801
SIGMA VELOCITY	1109	802
SIGN OF COVARIANCE DATA ELEMENT 12, IBS	1110	801
SIGN OF COVARIANCE DATA ELEMENT 13, IBS	1110	802
SIGN OF COVARIANCE DATA ELEMENT 14, IBS	1110	803
SIGN OF COVARIANCE DATA ELEMENT 15, IBS	1110	804
SIGN OF COVARIANCE DATA ELEMENT 16, IBS	1110	805
SIGN OF COVARIANCE DATA ELEMENT 23, IBS	1110	806
SIGN OF COVARIANCE DATA ELEMENT 24, IBS	1110	807
SIGN OF COVARIANCE DATA ELEMENT 25, IBS	1110	808
SIGN OF COVARIANCE DATA ELEMENT 26, IBS	1110	809
SIGN OF COVARIANCE DATA ELEMENT 34, IBS	1110	810
SIGN OF COVARIANCE DATA ELEMENT 35, IBS	1110	811
SIGN OF COVARIANCE DATA ELEMENT 36, IBS	1110	812
SIGN OF COVARIANCE DATA ELEMENT 45, IBS	1110	813
SIGN OF COVARIANCE DATA ELEMENT 46, IBS	1110	814
SIGN OF COVARIANCE DATA ELEMENT 56, IBS	1110	815
SIGNAL BANDWIDTH	4104	803

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TABLE B1-3. ALPHABETICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 9

DUI NAME	DFI No.	DUI No.
SIGNAL OBSERVATION NUMBER	4046	830
SIGNAL TO NOISE RATIO	8022	002
SIMULATION INDICATOR, IBS	1604	801
SOI NUMBER, TRIXS	4046	810
SOURCE FILE IDENTIFICATION	4046	815
SOURCE MESSAGE TYPE	8003	002
SPEED, IBS	367	801
START CUT LOB	372	802
STATE OR PROVINCE	8077	003
STATION ADDRESS, TIBS	8008	002
STATUS INTERVAL	4037	804
STOP CUT LOB	372	804
STREET ADDRESS	8077	001
SUBCARRIER TONE SPACING	8027	002
SUBNET ADDRESS	8008	004
SUBNET ADDRESS, TIBS	8008	003
SUBORDINATE OPERATION NAME	4150	812
SUPPORT-TEXT	8052	002
TAIL NUMBER	4046	832
TDDS CHANGE FLAG	4093	807
TDDS REPORT NUMBER	4046	811
TDDS SEQUENTIAL CONTACT NUMBER	4046	801
TDDS TRACK NUMBER	4046	819
TDDS TRACK UPDATE NUMBER	4047	801
TES EVENT IDENTIFIER	8119	001
TEST INDICATOR	385	801
TEXT PACKET NUMBER	4046	821
TEXT TOTAL PACKETS	4046	822
THREAT WARNING	424	801
TIBS LABEL	8003	001
TIME ERROR	8086	001
TIME PRECISION	8039	003
TIME RESOLUTION	8039	002
TOTAL NUMBER DELTA TIME SETS	8039	004
TOTAL NUMBER OF ALGORITHM VALUES	4029	808
TOTAL NUMBER OF PULSE GROUPS	8107	002
TOTAL NUMBER OF PULSES	8107	001
TRACK QUALITY, IBS	280	801
TRANSMISSION DESCRIPTION	8036	004
TRUE HEADING, DEGREES	8070	001
UHF BASE STATION ID	4046	823

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TABLE B1-3. ALPHABETICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 10

DUI NAME	DFI No.	DUI No.
UIC FIELD NAME	4150	814
UIC FLOAT	8111	003
UIC IDENTIFIER	4085	804
UIC INTEGER	8111	002
UIC NAME	4150	813
UIC STRING	8111	001
UIC UNIT	4093	818
UIC UNIT NAME	4150	815
UNDISCLOSED SENSOR TYPE	1953	809
UNIT IDENTITY/UNIT DESIGNATOR	4150	802
UNIFORM RESOURCE LOCATOR (URL)	8103	001
UNPAIR LOGIC	8071	003
UPRIGHT STRUCTURE NAME	8102	003
URN	4004	012
USMTF MESSAGE NUMBER	4046	834
USMTF TRACK NUMBER	4046	835
ENTITY UPDATE NUMBER	4046	836
VELOCITY IN WGS-84	1113	801
VERSION	8108	001
VESSEL CLASS	8102	001
VESSEL DRAFT	8102	002
VESSEL GROUP TYPE	8102	004
VESSEL RAISE CODE	8102	005
VG CHANNEL SPACING	8027	001
VISIBLE LIGHT SENSOR TYPE	1953	805
WARTIME RESERVE MODE, IBS	1821	801
WEAPON ATTACK STRATEGY	8118	002
WEAPON STATE	8118	001
WEIGHT	8067	005
WIDTH TO PORTSIDE	4033	802
WIDTH TO STARBOARD	4033	803
X Y Z RESOLUTION SWITCH	1108	802
YEAR, IBS	4098	801
ZEROIZED INDICATOR	4093	810

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TABLE B1-4. NUMERICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 1

DUI NAME	DFI No.	DUI No.
LINK 11/11B TRACK NUMBER, REFERENCE	269	801
LINK 11/11B PU/RU	269	802
OPERATIONAL ASSET LABEL	270	801
OPERATIONAL ASSET ID	270	802
TRACK QUALITY, IBS	280	801
LATITUDE, SECONDS	281	801
LONGITUDE, SECONDS	282	801
IFF MODE I CODE	293	801
SIF MODE I CODE	293	802
IFF MODE II CODE	294	801
SIF MODE II CODE	294	802
IFF MODE 3A CODE	295	801
SIF MODE 3A CODE	295	802
IFF MODE IV INDICATOR	298	801
ISOLATED PERSONNEL COMMUNICATIONS CAPABILITY	341	801
ISOLATED PERSONNEL AUTHENTICATION STATUS	343	801
GEOMETRIC AREA SWITCH	351	801
FORCE TELL INDICATOR, IBS	354	801
EMERGENCY INDICATOR, IBS	355	801
ALTITUDE	365	801
APPROXIMATE ALTITUDE	365	802
HEIGHT FROM SURFACE	365	803
SPEED, IBS	367	801
ENTITY LINE OF BEARING	372	801
START CUT LOB	372	802
INTERMEDIATE CUT LOB	372	803
STOP CUT LOB	372	804
BEARING CONE ANGLE	372	805
CORRIDOR CENTER LINE, IBS	372	806
ISOLATED PERSONNEL RELATIONSHIP	376	801
CLOCK TIME	380	801
MEASUREMENT REFERENCE PERIOD	380	802
TEST INDICATOR	385	801
EXERCISE INDICATOR, IBS	385	803
REPORT VALIDATION INDICATOR	385	804
ENTITY EXERCISE ROLE	385	805
PROVIDER TYPE	385	806
PROVIDER COMMUNITY	385	807
PROVIDER DATA CATEGORY	385	808
ENTITY SIZE	386	801
ENTITY STRENGTH	386	802
FREQUENCY	417	801
AREA SEMI-MAJOR AXIS	419	801
AREA SEMI-MINOR AXIS	419	802
AREA SEMI-INTERMEDIATE AXIS	419	803
THREAT WARNING	424	801

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TABLE B1-4. NUMERICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 2

DUI NAME	DFI No.	DUI No.
EVALUATION PERCENT CONFIDENCE	431	801
EVALUATION GENERAL CONFIDENCE	431	802
EOB ASSOCIATION CONFIDENCE	431	804
SCAN TYPE, IBS	433	801
EMISSION POLARIZATION, IBS	434	801
PULSE WIDTH SWITCHING HIGH VALUE	435	804
PULSE WIDTH SWITCHING LOW VALUE	435	805
PULSE WIDTH DURATION	435	806
AVERAGE PULSE WIDTH DURATION	435	807
ILLUMINATION TIME	435	808
PRF	440	801
PRF GROUP INDICATOR	440	802
CORRIDOR ARC WIDTH, IBS	454	801
NATO LINK 1 TRACK NUMBER, 1	747	801
OPERATIONAL STATUS, IBS	753	801
BFT BREVITY CODE	754	801
CORRIDOR ARC MINIMUM RANGE	757	801
CORRIDOR ARC MAXIMUM RANGE	757	802
LINK 16 TRACK NUMBER, SOURCE	769	801
LINK 16 TRACK NUMBER, REFERENCE	769	802
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 23, IBS	1103	801
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 24, IBS	1103	802
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 25, IBS	1103	803
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 26, IBS	1103	804
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 34, IBS	1103	805
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 35, IBS	1103	806
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 36, IBS	1103	807
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 45, IBS	1103	808
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 46, IBS	1103	809
ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 56, IBS	1103	810
BALLISTIC MISSILE BETA, IBS	1105	801
COVARIANCE DATA ELEMENT 22, IBS	1106	801
COVARIANCE DATA ELEMENT 33, IBS	1106	802
COVARIANCE DATA ELEMENT 44, IBS	1106	803
COVARIANCE DATA ELEMENT 55, IBS	1106	804
COVARIANCE DATA ELEMENT 66, IBS	1106	805
BOOST INDICATOR	1107	003
MANEUVERING INDICATOR, IBS	1107	801
POSITION	1108	801
X Y Z RESOLUTION SWITCH	1108	802
REFERENCE POSITION	1108	803
SIGMA POSITION	1109	801

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TABLE B1-4. NUMERICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 3

DUI NAME	DFI No.	DUI No.
SIGMA VELOCITY	1109	802
SIGN OF COVARIANCE DATA ELEMENT 12, IBS	1110	801
SIGN OF COVARIANCE DATA ELEMENT 13, IBS	1110	802
SIGN OF COVARIANCE DATA ELEMENT 14, IBS	1110	803
SIGN OF COVARIANCE DATA ELEMENT 15, IBS	1110	804
SIGN OF COVARIANCE DATA ELEMENT 16, IBS	1110	805
SIGN OF COVARIANCE DATA ELEMENT 23, IBS	1110	806
SIGN OF COVARIANCE DATA ELEMENT 24, IBS	1110	807
SIGN OF COVARIANCE DATA ELEMENT 25, IBS	1110	808
SIGN OF COVARIANCE DATA ELEMENT 26, IBS	1110	809
SIGN OF COVARIANCE DATA ELEMENT 34, IBS	1110	810
SIGN OF COVARIANCE DATA ELEMENT 35, IBS	1110	811
SIGN OF COVARIANCE DATA ELEMENT 36, IBS	1110	812
SIGN OF COVARIANCE DATA ELEMENT 45, IBS	1110	813
SIGN OF COVARIANCE DATA ELEMENT 46, IBS	1110	814
SIGN OF COVARIANCE DATA ELEMENT 56, IBS	1110	815
VELOCITY IN WGS-84	1113	801
REFERENCE VELOCITY	1113	802
FREQUENCY AGILITY INDICATOR, IBS	1203	801
SCAN RATE	1580	801
SCAN PERIOD	1580	802
SIMULATION INDICATOR, IBS	1604	801
DROP ENTITY ACTION	1606	801
RADIO TYPE, IBS	1648	801
GPS POSITIONING SYSTEM NAVIGATION STATUS	1665	801
MILLIMETER WAVE NAVIGATION STATUS	1665	802
IMAGING INFRARED NAVIGATION STATUS	1665	803
ANTI-RADIATION HOMING NAVIGATION STATUS	1665	804
LASER NAVIGATION STATUS	1665	805
INERTIAL NAVIGATION SYSTEM NAVIGATION STATUS	1665	806
AXIS ORIENTATION, IBS	1806	801
AREA ORIENTATION	1806	802
WARTIME RESERVE MODE, IBS	1821	801
ELINT Emitter MODULATION	1849	801
ELINT PULSE MODULATION	1849	802
COMMUNICATIONS EXTERNAL MODULATION	1849	803
CORRELATION INDEX	1862	801
COOPERATIVE LOCATION INDICATOR	1862	802
PRI STABILITY	1903	801
PRI TYPE	1903	802
PRI STAGGER LEGS	1903	803

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TABLE B1-4. NUMERICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 4

DUI NAME	DFI No.	DUI No.
DISUSED	1903	804
DISUSED	1903	805
PRI	1903	806
PRI GROUP INDICATOR	1903	807
PRI PROFILE TECHNIQUE	1903	808
PRI PROFILE LABEL	1903	809
NUMBER OF PRI POSITIONS	1903	810
EXTRAPOLATION INDICATOR	1906	801
SENSOR 1 IDENTIFIER	1953	801
SENSOR 2 IDENTIFIER	1953	802
RF SENSOR TYPE	1953	803
IR SENSOR TYPE	1953	804
VISIBLE LIGHT SENSOR TYPE	1953	805
OPTICAL SENSOR TYPE	1953	806
MULTIPLE SPECTRUM SENSOR TYPE	1953	807
HUMAN SENSOR TYPE	1953	808
UNDISCLOSED SENSOR TYPE	1953	809
SHIP CONTROL NUMBER	4003	801
URN	4004	012
JULIAN DAY	4019	801
QUANTITY OF EQUIPMENT/WEAPONS CAPTURED	4029	801
QUANTITY OPERATIONAL, IBS	4029	802
QUANTITY DAMAGED	4029	803
QUANTITY DESTROYED	4029	804
NUMBER OF CYLINDERS	4029	805
NUMBER OF BLADES	4029	806
ANTENNA QUANTITY	4029	807
TOTAL NUMBER OF ALGORITHM VALUES	4029	808
NUMBER OF UNINJURED AMBULATORY PERSONNEL	4029	809
NUMBER OF INJURED AMBULATORY PERSONNEL	4029	810
NUMBER OF NON-AMBULATORY PERSONNEL	4029	811
RADIUS, IBS	4031	801
ENTITY LENGTH	4032	801
LENGTH TO BOW	4032	802
LENGTH TO STERN	4032	803
ENTITY WIDTH	4033	801
WIDTH TO PORTSIDE	4033	802
WIDTH TO STARBOARD	4033	803
INTERVAL	4037	801
REPLICATION INTERVAL	4037	803
STATUS INTERVAL	4037	804
ENTITY ID SERIAL NUMBER	4046	004
TDDS SEQUENTIAL CONTACT NUMBER	4046	801

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TABLE B1-4. NUMERICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 5

DUI NAME	DFI No.	DUI No.
MAJOR PARSER API VERSION	4046	802
MINOR PARSER API VERSION	4046	803
MAJOR DTD VERSION	4046	804
MINOR DTD VERSION	4046	805
MESSAGE NUMBER	4046	806
ENTITY NUMBER	4046	807
MESSAGE NUMBER, TIBS	4046	808
MESSAGE NUMBER, TRIKS	4046	809
SOI NUMBER, TRIKS	4046	810
TDDS REPORT NUMBER	4046	811
SOURCE FILE IDENTIFICATION	4046	815
RADIO MESSAGE NUMBER	4046	816
PACKAGE NUMBER	4046	818
TDDS TRACK NUMBER	4046	819
BINO TRACK NUMBER	4046	820
TEXT PACKET NUMBER	4046	821
TEXT TOTAL PACKETS	4046	822
UHF BASE STATION ID	4046	823
EQUIPMENT SERIAL NUMBER	4046	825
PULSE GROUP ID NUMBER	4046	826
PULSE ID NUMBER	4046	827
MMSI NUMBER	4046	828
IMO NUMBER	4046	829
SIGNAL OBSERVATION NUMBER	4046	830
HULL NUMBER	4046	831
TAIL NUMBER	4046	832
MEDIA REFERENCE ID	4046	833
USMTF MESSAGE NUMBER	4046	834
USMTF TRACK NUMBER	4046	835
ENTITY UPDATE NUMBER	4046	836
BLOB PACKET NUMBER	4046	837
BLOB TOTAL PACKETS	4046	838
TDDS TRACK UPDATE NUMBER	4047	801
NIIRS QUALITY	4051	801
HUMINT RELIABILITY	4051	802
EQUIPMENT TYPE	4070	801
SECURITY TABLE INDEX	4083	807
EXTERNAL CONNECTION ID	4085	801
EXTERNAL CONNECTION NUMBER	4085	802
PATH NUMBER	4085	803
UIC IDENTIFIER	4085	804
LOCAL CAPABILITY IDENTIFIER	4085	805
BLOB TYPE IDENTIFIER	4085	806
HIGH INTEREST INDICATOR	4093	801

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TABLE B1-4. NUMERICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 6

DUI NAME	DFI No.	DUI No.
DECEPTION INDICATOR	4093	802
TDDS CHANGE FLAG	4093	807
PR/CSAR SCHEDULED MESSAGE INDICATOR	4093	809
ZEROIZED INDICATOR	4093	810
ENCRYPTION INDICATOR	4093	811
ADVISORY INDICATOR	4093	812
QUERY ENEMY NEARBY INDICATOR	4093	813
QUERY ARE YOU HURT INDICATOR	4093	814
QUERY WILL YOU MOVE INDICATOR	4093	815
REMOTE MANAGEMENT INDICATOR	4093	816
RADAR MODE CHANGE INDICATOR	4093	817
UIC UNIT	4093	818
LOCAL CAPABILITY UNIT	4093	819
YEAR, IBS	4098	801
INTERNATIONAL CALL SIGN	4100	801
COMMUNICATIONS CALL SIGN	4100	802
RADIO FREQUENCY STABILITY	4104	801
INTERMEDIATE FREQUENCY	4104	802
SIGNAL BANDWIDTH	4104	803
COLLECTION BANDWIDTH	4104	804
ENTITY HEIGHT	4113	801
EXTERIOR COLOR	4118	801
POSITION FIXING METHOD	4119	801
POSITION FIX QUALITY	4119	802
NATIONALITY/ALLIANCE	4127	801
NATIONALITY, IBS	4127	802
DATA PACKAGE PRIORITY	4129	801
ELEVATION	4130	801
RATE OF TURN	4144	801
LANGUAGE IDENTIFIER, IBS	4148	801
ARBITRARY UNIT IDENTIFIER	4150	801
UNIT IDENTITY/UNIT DESIGNATOR	4150	802
OPERATION NAME	4150	803
MISSION NAME	4150	804
PARENT ORGANIZATION	4150	805
ORGANIZATION IDENTIFICATION	4150	806
LOCATION NAME	4150	807
ENTITY NAME	4150	808
MANUFACTURER NAME	4150	810
ENTITY HOME LOCATION NAME	4150	811

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TABLE B1-4. NUMERICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 7

DUI NAME	DFI No.	DUI No.
SUBORDINATE OPERATION NAME	4150	812
UIC NAME	4150	813
UIC FIELD NAME	4150	814
UIC UNIT NAME	4150	815
LOCAL CAPABILITY NAME	4150	816
LOCAL CAPABILITY FIELD NAME	4150	817
LOCAL CAPABILITY UNIT NAME	4150	818
ENVIRONMENTAL CONDITION	4175	801
ORIGINATOR DATUM	4192	801
ENTITY COVERAGE SIZE	4193	801
RAPID WORLDWIDE AREA COLLECTION IDENTIFIER	4193	805
GEOGRAPHIC AREA IDENTIFIER	4193	806
RADAR CROSS SECTION, IBS	4225	801
ENVIRONMENT ID	8001	001
TIBS LABEL	8003	001
SOURCE MESSAGE TYPE	8003	002
DATA FORMAT	8003	006
CSEL HAND HELD RADIO MESSAGE TYPE	8003	007
CHIP RATE	8005	001
NUMBER OF CHIP BITS	8005	002
PRODUCER DESIGNATOR DIGRAPH	8006	001
NODE	8008	001
STATION ADDRESS, TIBS	8008	002
SUBNET ADDRESS, TIBS	8008	003
SUBNET ADDRESS	8008	004
DESTINATION GROUP	8008	005
FREQUENCY AGILITY CHARACTERISTICS	8013	001
PRI AGILITY CHARACTERISTICS	8013	002
ENTITY ACTIVITY	8018	001
ENTITY STATUS	8018	003
ENTITY TYPE, IBS	8019	001
PITCH	8020	001
AIR DEFENSE DISTRICT	8021	001
SIGNAL TO NOISE RATIO	8022	002
VG CHANNEL SPACING	8027	001
SUBCARRIER TONE SPACING	8027	002
NUMBER OF VG CHANNELS	8027	003
NUMBER OF SUBCARRIER TONES	8027	004
PILOT TONE	8027	005
NUMBER OF PILOT TONES	8027	006
RADIO ID	8028	001
PULSE RATE, COMINT	8030	002
BIT RATE	8030	005
PIN CONFIRMED EQUIPMENT ID	8032	001

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TABLE B1-4. NUMERICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 8

DUI NAME	DFI No.	DUI No.
PIN UNCONFIRMED EQUIPMENT ID	8032	002
PIN UNCONFIRMED SITE	8032	003
BE NUMBER STANDARD	8033	001
BE NUMBER SPECIFIC USE	8033	002
BE SUFFIX	8033	003
BE NUMBER FIELD INITIATED	8033	004
BE ORIGINATOR SUFFIX	8033	006
MIDB EQUIPMENT CODE	8035	001
ELINT NOTATION	8036	001
ARBITRARY ELINT NOTATION	8036	002
COMMUNICATIONS Emitter NOTATION	8036	003
TRANSMISSION DESCRIPTION	8036	004
FIS NOTATION	8036	005
ADEPT TAG	8036	006
DELTA TIME	8039	001
TIME RESOLUTION	8039	002
TIME PRECISION	8039	003
TOTAL NUMBER DELTA TIME SETS	8039	004
ENTITY CONTENT	8047	001
FREE-TEXT	8052	001
SUPPORT-TEXT	8052	002
PR/CSAR TEXT	8052	003
OPERATIONS NOTIFICATION	8052	004
MESSAGE REFERENCE	8052	005
BLOB PACKET	8052	006
SEQUENCE NUMBER	8055	001
PRODUCER MESSAGE SEQUENCE NUMBER	8055	002
CLIMB RATE	8057	001
SEMI-MAJOR ELEVATION	8058	001
EYE COLOR	8067	001
HAIR COLOR	8067	002
HAIR LENGTH	8067	003
HEIGHT	8067	004
WEIGHT	8067	005
PHYSIQUE	8067	006
RACE	8067	007
GENDER	8067	008
TRUE HEADING, DEGREES	8070	001
HEADING, CARDINAL	8070	002
MAGNETIC HEADING, DEGREES	8070	003
COURSE, DEGREES	8070	004
COURSE, CARDINAL	8070	005
MAGNETIC COURSE, DEGREES	8070	006
ENTITY CHAIN TYPE	8071	001

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TABLE B1-4. NUMERICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 9

DUI NAME	DFI No.	DUI No.
UNPAIR LOGIC	8071	003
PAIR LOGIC	8071	004
ENTITY RELATIONSHIP INDICATOR	8071	005
FLASH	8072	004
COLLECTION MISSION ID	8073	002
COLLECTION EVENT ID	8073	003
IR MAXIMUM INTENSITY	8075	001
STREET ADDRESS	8077	001
CITY	8077	002
STATE OR PROVINCE	8077	003
INTERNATIONAL POSTAL ZIP CODE	8077	004
DATE OF BIRTH	8078	001
FLIGHT PATH ANGLE	8081	001
RADIO MODE	8083	001
COLLABORATION MEASUREMENT TYPE	8084	001
TIME ERROR	8086	001
ERROR SUM 3D	8087	001
DATA PACKAGE LENGTH	8088	001
ARCHIVE RECORD LENGTH	8088	002
FILE TRANSMIT/RECEIVE INDICATOR	8089	001
RECORD TRANSMIT/RECEIVE INDICATOR	8089	002
EXTERNAL CONNECTION TYPE	8090	001
EXTERNAL CONNECTION LABEL	8090	002
DATA PACKAGE HEADER TYPE	8091	001
DATA PACKAGE CHECKSUM	8092	001
MIXED RECORDS INDICATOR	8093	001
FINAL SET TYPE	8094	001
EMITTER FUNCTION	8095	001
JITTER RANGE	8096	001
HOP DWELL	8097	001
HOP RATE	8097	002
HOP SPACING	8097	003
HOP SPREADER TYPE	8097	004
JAMMING INDICATOR	8098	001
PULSE WIDTH SWITCHING INDICATOR	8099	001
ALGORITHM FLOAT VALUE	8100	001
ALGORITHM TEXT VALUE	8100	002
ALGORITHM NAME	8100	003
BEAM WIDTH	8101	001
VESSEL CLASS	8102	001

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TABLE B1-4. NUMERICAL LIST OF DATA USE IDENTIFIERS (DUIs)

SHEET 10

DUI NAME	DFI No.	DUI No.
VESSEL DRAFT	8102	002
UPRIGHT STRUCTURE NAME	8102	003
VESSEL GROUP TYPE	8102	004
VESSEL RAISE CODE	8102	005
UNIFORM RESOURCE LOCATOR (URL)	8103	001
SENSOR MONITOR	8104	001
SENSOR EMPLACER/IMPLANTER	8104	002
SENSOR STATUS	8104	003
SENSOR STRING NUMBER	8104	004
MAXIMUM SOUND PRESSURE	8105	001
PLACEMENT ALONG LENGTH	8106	001
PLACEMENT ALONG HEIGHT	8106	002
PLACEMENT ALONG WIDTH	8106	003
TOTAL NUMBER OF PULSES	8107	001
TOTAL NUMBER OF PULSE GROUPS	8107	002
NUMBER OF PULSES IN GROUP	8107	003
VERSION	8108	001
SEVEN BIT MAP	8109	001
REPLICATION COUNT	8110	001
UIC STRING	8111	001
UIC INTEGER	8111	002
UIC FLOAT	8111	003
LOCAL CAPABILITY STRING	8111	004
LOCAL CAPABILITY INTEGER	8111	005
LOCAL CAPABILITY FLOAT	8111	006
EXTERNAL SENSOR CODE	8112	001
PR/CSAR CANNED MESSAGE	8113	001
NOTIFICATION SUBJECT	8114	001
NOTIFICATION TYPE	8115	001
PR/CSAR GROUP IDENTIFIER	8116	001
WEAPON STATE	8118	001
WEAPON ATTACK STRATEGY	8118	002
TES EVENT IDENTIFIER	8119	001
SHORT TITLE ITEM NUMBER	8120	001
SHORT TITLE EDITION	8120	002
SHORT TITLE SEGMENT	8120	003

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B1.5.2 MESSAGE ELEMENTS

DFI NAME  
269 TRACK NUMBER, LINK 11/11B

DEFINITION  
A SET OF COMMON REFERENCE NUMBERS USED TO ASSOCIATE DIRECTIVES AND TACTICAL INFORMATION BY IDENTIFYING SYSTEM ENTITIES SUCH AS PARTICIPATING UNITS, TRACKS, TARGETS, AND SPECIAL POINTS. THE NUMBERS ARE EXPRESSED IN OCTAL.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME

EXPLANATION

APPLICABILITY

801 LINK 11/11B TRACK NUMBER,  
REFERENCE  
[Link\_11\_11B\_Trk\_Num\_Ref]

TRACK NUMBER THAT THE ENTITY IS  
IDENTIFIED BY ON LINK 11 OR 11B.

DATA MANAGEMENT MESSAGE,  
ENTITY MESSAGE,  
TEXT MESSAGE,  
COLLABORATION MESSAGE,  
OPERATIONAL STATUS MESSAGE

802 LINK 11/11B PU/RU  
[Link\_11\_11B\_PURU]

IDENTIFIES THE UNIT WHICH  
ORIGINATED OR IS RESPONSIBLE FOR  
REPORTING THE TRACK ON LINK 11 OR  
LINK 11B. ON LINK 11, IT IS  
CALLED A PARTICIPATING UNIT (PU)  
AND ON LINK 11B IT IS CALLED A  
REPORTING UNIT (RU).

DATA MANAGEMENT MESSAGE,  
ENTITY MESSAGE,  
TEXT MESSAGE,  
COLLABORATION MESSAGE,  
OPERATIONAL STATUS MESSAGE

DATA ELEMENT TYPE  
FIELD

DATA REPRESENTATION TYPE  
PATTERN

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
-----------	-------------	------------	-----------	----------	-------------

----- FOR DUI 801 -----

RESET ATTRIBUTE: NO

4N 4N

THE VALUES ARE FOUR NUMERIC DIGITS (INTEGER VALUE 0-9999). THE VALUE OF THE NUMERIC DIGITS IS EXPRESSED AS AN OCTAL REPRESENTATION RATHER THAN AS DECIMAL. ANY TRANSLATION OF THE NUMERIC PATTERN FROM CMF-B MUST

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DFI NAME  
269 TRACK NUMBER, LINK 11/11B

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
								INCLUDE CONVERSION OF THE OCTAL BINARY VALUE TO A DECIMAL BINARY VALUE. 0-4095 = LINK 11/11B TRACK NUMBER IN RANGE 0000-7777 OCTAL EXCEPT 0 (0 OCTAL), 63 (77 OCTAL), 127 (177 OCTAL) AND 4095 (7777 OCTAL) ARE ILLEGAL. TRACKS FORWARDED ONTO LINK 11 OR LINK 11B FROM LINK 16 WITH TRACK NUMBERS >4095 (7777 OCTAL) ARE REPORTED ON LINK 11 OR LINK 11B AS 126 (176 OCTAL). IBS MAINTAINS ANY GIVEN LINK 11/11B TRACK NUMBER FOR CROSS-REFERENCING PURPOSES THROUGH GATEWAYS AND ON OPERATOR DISPLAYS, BUT DOES NOT ENFORCE THE VALUES.

----- FOR DUI 802 -----

RESET ATTRIBUTE: NO

3N

3N

THE VALUES ARE THREE NUMERIC DIGITS (INTEGER VALUES 0-999). THE VALUE OF THE NUMERIC DIGITS IS EXPRESSED AS AN OCTAL REPRESENTATION RATHER THAN AS DECIMAL. ANY TRANSLATION OF THE NUMERIC PATTERN FROM CMF-B MUST INCLUDE CONVERSION OF THE OCTAL BINARY VALUE TO A DECIMAL BINARY VALUE.

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DFI      NAME  
269      TRACK NUMBER, LINK 11/11B

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
								0-127 = LINK 11/11B IU NUMBER IN RANGE 000-177 OCTAL EXCEPT 0(0 OCTAL), 63(77 OCTAL), AND 127(177 OCTAL) ARE ILLEGAL. TRACKS FORWARDED ONTO LINK 11 OR LINK 11B FROM LINK 16 WITH IUS>127(177 OCTAL) ARE REPORTED ON LINK 11 OR LINK 11B AS 126 (176 OCTAL). IBS MAINTAINS ANY GIVEN LINK 11/11B IU FOR CROSS- REFERENCING PURPOSES THROUGH GATEWAYS AND ON OPERATOR DISPLAYS BUT DOES NOT ENFORCE THE VALUES.

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DFI	NAME	DEFINITION			
270	LABEL	DEFINES THE GENERAL MESSAGE CLASSIFICATION AS A CRITERION FOR SELECTIVE ACCESS OF INFORMATION.			
DATA STANDARD USAGE: IBS		STATUS:			
DUI NAME		EXPLANATION			
801 OPERATIONAL ASSET LABEL [Oper_Asset_Lbl]		PROVIDES A UNIQUE TITLE AS SORTING/ACCESS CRITERION WHICH MAY IDENTIFY THE SUBJECT ASSET OR ELEMENTS PARTICIPATING ON OR CONTRIBUTING TO THE BROADCAST/NETWORK OR WHICH MAY ACT AS A PSEUDO IDENTIFICATION FOR SUBJECT ASSETS WHICH MUST REMAIN ANONYMOUS.			
802 OPERATIONAL ASSET ID [Oper_Asset_ID]		PROVIDES AN IDENTIFIER WHICH, WHEN REPORTED, IS USED IN CONJUNCTION WITH AN OPERATIONAL ASSET LABEL TO UNIQUELY IDENTIFY AN ASSET WITHIN A SET OF ASSETS IDENTIFIED OR PSEUDO-IDENTIFIED BY THE LABEL.			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	OPERATIONAL STATUS MESSAGE			
FIELD	STRING				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: NO					
1 TO 16 CHARACTERS	1 TO 16				
----- FOR DUI 802 -----					
RESET ATTRIBUTE: NO					
1 TO 24 CHARACTERS	1 TO 24				

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APPENDIX B, PART I

DFI	NAME	DEFINITION				
280	TRACK QUALITY	AN ESTIMATE OF THE QUALITY OF TRACK INFORMATION ON THE BASIS OF ITS RELIABILITY.				
	DATA STANDARD USAGE: IBS	STATUS:				
	DUI NAME	EXPLANATION				
	801 TRACK QUALITY, IBS [TQ]	THE TRACK QUALITY IS STATED AS A NUMERICAL VALUE FROM 0 TO 15 WITH THE HIGHER VALUES INDICATING THE HIGHER TRACK QUALITIES. THE TQ IS BASED ON THE POSITIONAL ACCURACY OF A TRACK REPRESENTED BY AN AREA IN SQUARE DATA MILES WITHIN WHICH IT IS ASSESSED THAT THERE IS A 95% PROBABILITY THAT THE TRACK LIES.				
	DATA ELEMENT TYPE	DATA REPRESENTATION TYPE				
	FIELD	INTEGER				
	DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
	----- FOR DUI 801 -----					
	RESET ATTRIBUTE: NO					
	0	0				NON REAL-TIME TRACK
	1	1				> 2,755 SQUARE DATA MILES
	2	2				EQUAL TO OR < 2,755 SQUARE DATA MILES
	3	3				EQUAL TO OR < 686 SQUARE DATA MILES
	4	4				EQUAL TO OR < 439 SQUARE DATA MILES
	5	5				EQUAL TO OR < 247 SQUARE DATA MILES
	6	6				EQUAL TO OR < 110 SQUARE DATA MILES
	7	7				EQUAL TO OR < 27.0 SQUARE DATA MILES

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DFI      NAME  
280      TRACK QUALITY

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
8	8							EQUAL TO OR < 4.40 SQUARE DATA MILES
9	9							EQUAL TO OR < 1.10 SQUARE DATA MILES
10	10							EQUAL TO OR < 0.0281 SQUARE DATA MILES
11	11							EQUAL TO OR < 0.0070 SQUARE DATA MILES
12	12							EQUAL TO OR < 0.0018 SQUARE DATA MILES
13	13							EQUAL TO OR < 0.0004 SQUARE DATA MILES
14	14							EQUAL TO OR < 0.0001 SQUARE DATA MILES
15	15							EQUAL TO OR < 0.00003 SQUARE DATA MILES

**UNCLASSIFIED**

B1-63

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART IDFI NAME  
281 LATITUDE

DEFINITION  
THE ANGULAR DISTANCE NORTH OR SOUTH FROM THE EQUATOR TO A POINT ON THE EARTH'S SURFACE, MEASURED IN DEGREES, FROM 0 DEGREES AT THE EQUATOR UP TO, BUT NOT EXCEEDING, THE 90 DEGREE ANGLES NORTH AND SOUTH BETWEEN THE EQUATOR AND THE POLES.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME

EXPLANATION

APPLICABILITY

801 LATITUDE, SECONDS  
[Lat]

PROVIDES LATITUDE IN SECONDS.

ENTITY MESSAGE,  
TEXT MESSAGE,  
COLLABORATION MESSAGE,  
OPERATIONAL STATUS MESSAGE,  
BLOB TRANSFER MESSAGE

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
FIELD	FLOAT

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 801 -----

RESET ATTRIBUTE: YES

-324,000 THROUGH 324,000 SECONDS OF LATITUDE	-324,000 THROUGH 324,000	UNRANGED	REPRESENTS 90 DEGREES SOUTH LATITUDE THROUGH 90 DEGREES NORTH LATITUDE. NEGATIVE VALUES REPRESENT THE SOUTHERN HEMISPHERE.
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**UNCLASSIFIED**

B1-64

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART IDFI NAME  
282 LONGITUDE

DEFINITION  
THE ANGULAR DISTANCE EAST OR WEST FROM THE PRIME OR ZERO MERIDIAN TO A POINT ON THE EARTH'S SURFACE, MEASURED IN DEGREES, FROM 0 DEGREES AT THE PRIME OR ZERO MERIDIAN UP TO, BUT NOT EXCEEDING, THE 180 DEGREE ANGLES EAST AND WEST BETWEEN THE PRIME OR ZERO MERIDIAN AND THE 180 DEGREE MERIDIAN.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME

EXPLANATION

APPLICABILITY

801 LONGITUDE, SECONDS  
[Long]

PROVIDES LONGITUDE IN SECONDS.

ENTITY MESSAGE,  
TEXT MESSAGE,  
COLLABORATION MESSAGE,  
OPERATIONAL STATUS MESSAGE,  
BLOB TRANSFER MESSAGEDATA  
ELEMENT  
TYPEDATA  
REPRESENTATION  
TYPE

FIELD FLOAT

DATA ITEM VALUE RANGE UNIT EQUIV VALUE MOD ACCURACY EXPLANATION

----- FOR DUI 801 -----

RESET ATTRIBUTE: YES

-648,000 THROUGH 648,000 SECONDS OF LONGITUDE	-648,000 THROUGH 648,000	UNRANGED	REPRESNTS 180 DEGREES EAST LONGITUDE THROUGH 180 DEGREES WEST LONGITUDE. NEGATIVE VALUES REPRESENT THE WESTERN HEMISPHERE.
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**UNCLASSIFIED**

B1-65

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APPENDIX B, PART I

DFI	NAME	DEFINITION		
293	MODE I CODE			
	DATA STANDARD USAGE: IBS	STATUS:		
	DUI NAME	EXPLANATION	APPLICABILITY	
	801 IFF MODE I CODE [IFF_I]	PROVIDES MODE I BEACON REPLY INFORMATION ON AIRCRAFT.	ENTITY MESSAGE	
	802 SIF MODE I CODE [SIF_I]	A SPECIAL TACTICAL CODE FOR SHIPBOARD OR AIRCRAFT. OFTEN DENOTES PLATFORM MISSION. ONE PART OF SELECTIVE IDENTIFICATION FEATURE (SIF).	ENTITY MESSAGE	
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE			
FIELD	INTEGER			
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD ACCURACY	EXPLANATION
----- FOR DUIS 801 AND 802 -----				
RESET ATTRIBUTE: YES				
1 THROUGH 63	1 THROUGH 63	MEANING DETERMINED OPERATIONALLY.		

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APPENDIX B, PART I

DFI	NAME	DEFINITION	
294	MODE II CODE		
	DATA STANDARD USAGE: IBS	STATUS:	
	DUI NAME	EXPLANATION	APPLICABILITY
	801 IFF MODE II CODE [IFF_II]	PROVIDES MODE II BEACON REPLY INFORMATION ON AIRCRAFT.	ENTITY MESSAGE
	802 SIF MODE II CODE [SIF_II]	A FIXED CODE DENOTING THE UNIT IDENTITY OF A SHIP OR SQUADRON IDENTITY OF AN AIRCRAFT. ONE PART OF SIF.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	INTEGER		
DATA ITEM	VALUE RANGE	UNIT EQUIV MOD ACCURACY	EXPLANATION
----- FOR DUIS 801 AND 802 -----			
RESET ATTRIBUTE: YES			
1 THROUGH 4095	1 THROUGH 4095		MEANING DETERMINED OPERATIONALLY.

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DFI	NAME	DEFINITION
295	MODE III CODE	
DATA STANDARD USAGE: IBS		STATUS:
DUI NAME		EXPLANATION
801 IFF MODE 3A CODE [IFF_3A]		PROVIDES MODE III BEACON REPLY INFORMATION ON AIRCRAFT.
802 SIF MODE 3A CODE [SIF_3A]		A CODE DENOTING ACTIVITY OR STATUS, CERTAIN EMERGENCY CONDITIONS, COMMERCIAL AIR TRAFFIC CONTROL SCHEMES, ETC. ONE PART OF SIF.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	INTEGER	
DATA ITEM	VALUE RANGE	UNIT EQUIV MOD ACCURACY EXPLANATION
----- FOR DUIS 801 AND 802 -----		
RESET ATTRIBUTE: YES		
1 THROUGH 4095	1 THROUGH 4095	MEANING DETERMINED OPERATIONALLY.

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APPENDIX B, PART I

DFI	NAME	DEFINITION			
298	SECURE IFF INDICATOR				
	DATA STANDARD USAGE: IBS	STATUS:			
	DUI NAME	EXPLANATION			
	801 IFF MODE IV INDICATOR [IFF_IV_Indic]	A SECURE, ENCRYPTED IDENTIFICATION CODE.			
	DATA ELEMENT TYPE	APPLICABILITY			
	REPRESENTATION TYPE	ENTITY MESSAGE			
	FIELD	ENUMERATED			
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
NOT_INTERROGATED	0				NO RESPONSE
NO_RESP	1				INVALID RESPONSE
INVALID_RESP	2				VALID RESPONSE
VALID_RESP	3				

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION
341	COMMUNICATIONS EQUIPMENT	
DATA STANDARD USAGE:	IBS	STATUS:
DUI NAME	EXPLANATION	APPLICABILITY
801 ISOLATED PERSONNEL COMMUNICATIONS CAPABILITY [Isol_Pers_Comms_Capab]	IDENTIFIES THE TYPE OF COMMUNICATIONS OR SIGNALING EQUIPMENT AVAILABLE TO REPORTED ISOLATED PERSONNEL OR EVACUEES.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	ENUMERATED	
DATA ITEM	VALUE RANGE	UNIT EQUIV VALUE MOD ACCURACY EXPLANATION
----- FOR DUI 801 -----		
RESET ATTRIBUTE: YES		
SMOKE_FLARE	1	SMOKE OR FLARE
SIGNAL_MIRROR	2	SIGNAL MIRROR
SIGNAL_PANEL	3	SIGNALING PANEL
IR_SIGNAL	4	INFRARED SIGNALING DEVICE
GPS_BEACON	5	GLOBAL POSITIONING SYSTEM BEACON
FFT_DEVICE	6	FRIENDLY FORCE TRACKER DEVICE
CELL_PHONE	7	CELL PHONE
BLOS_TACTICAL_RADIO	8	BEYOND-LINE-OF-SIGHT TACTICAL RADIO
LOS_TACTICAL_RADIO	9	LINE-OF-SIGHT TACTICAL RADIO
EPLRS_RADIO	10	ENHANCED POSITION LOCATION REPORTING SYSTEM RADIO
BEACON_RADIO	11	BEACON RADIO
SURVIVAL_RADIO	12	SURVIVAL RADIO

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DFI	NAME	DEFINITION
343	AUTHENTICATION	
	DATA STANDARD USAGE: IBS	STATUS:
	DUI NAME	EXPLANATION
801	ISOLATED PERSONNEL AUTHENTICATION STATUS [Isol_Pers_Authent_Stat]	INDICATES WHETHER REPORTED ISOLATED PERSONNEL HAVE AUTHENTICATED THEIR IDENTITY.
	DATA ELEMENT TYPE	APPLICABILITY
	REPRESENTATION TYPE	ENTITY MESSAGE
	FIELD	
	ENUMERATED	

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 801 -----

RESET ATTRIBUTE: YES

NOT_AUTHENT	1	NOT AUTHENTICATED
AUTHENT	2	AUTHENTICATED
AUTHENT_DURESS	3	AUTHENTICATED UNDER DURESS

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DFI	NAME	DEFINITION			
351	ALTERNATE FIELD INDICATOR	CHANGES THE DATA FIELD IDENTIFIER (DFI) CONTENT WITHIN A MESSAGE OR THE MEANING OF A DFI.			
DATA STANDARD USAGE: IBS		STATUS:			
DUI NAME	EXPLANATION	APPLICABILITY			
801 GEOMETRIC AREA SWITCH [Geom_Area_Swch]	IDENTIFIES THE THREE DIMENSIONAL SHAPE OF THE ERROR VOLUME BY PROVIDING THE TWO DIMENSIONAL SHAPE FOR THE 3D PLANE. THE 3D PLANE IS THE PLANE ORTHOGONAL TO THE AREA SEMI-MAJOR AXIS AND AREA SEMI-MINOR AXIS. DEPENDING UPON WHETHER THE 2D PLANE IS REPORTED AS AN ERROR ELLIPSE 2D OR AS AN ERROR RECTANGLE 2D, THIS SWITCH REPORTS A COMPLETE ERROR VOLUME WHICH IS CUBICAL, 3D RECTANGULAR, CYLINDRICAL, 3D ELLIPSOIDAL, OR SPHERICAL.	ENTITY MESSAGE			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE				
FIELD	ENUMERATED				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
SQ_RECTNG	0				SQUARE/RECTANGLE. IF ERROR RECTANGLE 2D IS REPORTED, THIS SWITCH INDICATES A CUBE/3D RECTANGLE. IF ERROR ELLIPSE 2D IS REPORTED, THIS SWITCH INDICATES A CYLINDER.
CIRC_ELLIP	1				CIRCLE/ELLIPSE. IF ERROR

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DFI      NAME  
351      ALTERNATE FIELD INDICATOR

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
								RECTANGLE 2D IS REPORTED, THIS SWITCH INDICATES A CYLINDER. IF ERROR ELLIPSE 2D IS REPORTED, THIS SWITCH INDICATES A SPHERE/3D ELLIPSOID.

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DFI NAME DEFINITION  
354 FORCE TELL INDICATOR THIS INDICATOR CAUSES TRACK/POINT DATA TO BE FORCED THROUGH  
CONTROLLABLE RECEIVE FILTERS.

DATA STANDARD USAGE: IBS STATUS:

DUI NAME	EXPLANATION	APPLICABILITY
801 FORCE TELL INDICATOR, IBS [Force_Indic]	THIS INDICATOR CAUSES TRACK/POINT DATA TO BE FORCED THROUGH CONTROLLABLE RECEIVE FILTERS.	ENTITY MESSAGE, TEXT MESSAGE

DATA ELEMENT TYPE

FIELD REPRESENTATION TYPE

FIELD PACKED COMPONENT

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
NON_FORCE_TELL	1	(INITIAL VALUE)			
FORCE_TELL_STATUS	2				

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DFI	NAME	DEFINITION
355	EMERGENCY INDICATOR	INDICATES WHETHER OR NOT A UNIT OR TRACK HAS AN EMERGENCY.
DATA STANDARD USAGE: IBS		STATUS:
DUI NAME		EXPLANATION
801 EMERGENCY INDICATOR, IBS [Emerg_Indic]		INDICATES THAT THE REFERENCED UNIT OR TRACK IS IN AN EMERGENCY STATUS.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	PACKED COMPONENT	
DATA ITEM	VALUE RANGE	UNIT EQUIV VALUE MOD ACCURACY EXPLANATION
----- FOR DUI 801 -----		
RESET ATTRIBUTE: YES		
NON_EMERGENCY EMERGENCY_STATUS	1 2	(INITIAL VALUE)

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DFI	NAME	DEFINITION	
365	ALTITUDE (HEIGHT)		
	DATA STANDARD USAGE:	STATUS:	
DUI NAME		EXPLANATION	APPLICABILITY
801	ALTITUDE [Altitude]	THE ALTITUDE (HEIGHT) OF AN OBJECT AS MEASURED RADIALLY OUTWARD FROM THE EARTH AS A QUANTITY ABOVE/BELOW MEAN SEA LEVEL (MSL).	ENTITY MESSAGE, COLLABORATION MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	FLOAT		
DUI NAME		EXPLANATION	APPLICABILITY
802	APPROXIMATE ALTITUDE [Approx_Altitude]	REPORTS ALTITUDE AS LOW, MEDIUM, OR HIGH.	ENTITY MESSAGE, COLLABORATION MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	ENUMERATED		
DUI NAME		EXPLANATION	APPLICABILITY
803	HEIGHT FROM SURFACE [Height_From_Srfc]	THE DISTANCE OF AN ENTITY ABOVE OR BELOW THE SURFACE OF THE LAND OR WATER AT THE LOCATION OF THE ENTITY, WITH POSITIVE VALUES INDICATING OUTWARD FROM THE EARTH.	ENTITY MESSAGE, COLLABORATION MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	FLOAT		

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DFI NAME  
365 ALTITUDE (HEIGHT)

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUIS 801 AND 803 -----					
RESET ATTRIBUTE: YES					
-204,750 THROUGH 209,919,900 FEET	-204,750 THROUGH 209,919,900	1	1 THROUGH 500 FEET	DEFAULT UNIT = FEET. IF THE UNIT EQUIVALENT ATTRIBUTE IS SET TO 1, ALTITUDE IS REPORTED IN FEET. DEFAULT ACCURACY (FEET) = 25	
-62,408 THROUGH 63,983,586 METERS	-62,408 THROUGH 63,983,586	2	1 THROUGH 3000 METERS	DEFAULT UNIT = FEET. IF THE UNIT EQUIVALENT ATTRIBUTE IS SET TO 2, ALTITUDE IS REPORTED IN METERS. DEFAULT ACCURACY (METERS) = 1.	
GREATER_THAN (FEET)	-204,750 THROUGH 209,919,900	1		IF "GREATER THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).	
LESS_THAN (FEET)	-204,750 THROUGH 209,919,900	1		IF "LESS THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE IS SOMETHING LESS THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).	
GREATER_THAN (METERS)	-62,408 THROUGH 63,983,586	2		IF "GREATER THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).	

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DFI      NAME  
365      ALTITUDE (HEIGHT)

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
LESS_THAN (METERS)	-62,408 THROUGH 63,983,586			2			IF "LESS THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE IS SOMETHING LESS THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).

----- FOR DUI 802 -----

RESET ATTRIBUTE: YES

LO_ALT	0
MEDIUM_ALT	1
HI_ALT	2

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DFI	NAME	DEFINITION			
367	SPEED				
DATA STANDARD USAGE: IBS			STATUS:		
DUI NAME		EXPLANATION		APPLICABILITY	
801 SPEED, IBS [Speed]		THE RATE OF CHANGE OF TWO-DIMENSIONAL POSITION (AKA GROUND SPEED).		ENTITY MESSAGE	
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE				
FIELD	FLOAT				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
0 THROUGH 40,920 DATA MILES PER HOUR (DMPH)	0 THROUGH 40920	0	1E-1 THROUGH 10E0	2.	DEFAULT UNIT = DMPH. IF THE UNIT EQUIVALENT ATTRIBUTE IS SET TO 0, SPEED IS REPORTED IN DMPH. DEFAULT ACCURACY (DMPH) = 2.
0 THROUGH 46,500 MILES PER HOUR (MPH)	0 THROUGH 46500	1	1E-1 THROUGH 10E0	1.	DEFAULT UNIT = DMPH. IF THE UNIT EQUIVALENT ATTRIBUTE IS SET TO 1, SPEED IS REPORTED IN MPH. DEFAULT ACCURACY (MPH) = 1.  IMPORTANT: SINCE THE UPPER RANGE VALUE HAS INCREASED AND WILL TAKE TIME FOR CONSUMERS TO IMPLEMENT, PRODUCERS SHALL NOT REPORT ANY VALUES ABOVE THE ORIGINAL UPPER RANGE OF 20,460 MPH UNTIL OPERATIONALLY DIRECTED OR MAY USE DMPH.

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APPENDIX B, PART IDFI      NAME  
367      SPEED

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
0 THROUGH 40,407 KNOTS (KTS)	0 THROUGH 40407	2	1E-1		THROUGH	50E0	DEFAULT UNIT = DMPH. IF THE UNIT EQUIVALENT ATTRIBUTE IS SET TO 2, SPEED IS REPORTED IN KTS. DEFAULT ACCURACY (KTS) = 1.
0 THROUGH 74,834 KILOMETERS PER HOUR (KPH)	0 THROUGH 74834	3	1E-1		THROUGH	10E0	IMPORTANT: SINCE THE UPPER RANGE VALUE HAS INCREASED AND WILL TAKE TIME FOR CONSUMERS TO IMPLEMENT, PRODUCERS SHALL NOT REPORT ANY VALUES ABOVE THE ORIGINAL UPPER RANGE OF 20,460 KTS UNTIL OPERATIONALLY DIRECTED OR MAY USE DMPH. DEFAULT UNIT = DMPH. IF THE UNIT EQUIVALENT ATTRIBUTE IS SET TO 3, SPEED IS REPORTED IN KPH. DEFAULT ACCURACY (KPH) = 1.

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APPENDIX B, PART I

DFI	NAME	DEFINITION
372	BEARING	EXPRESSES THE ANGULAR DISPLACEMENT FROM NORTH FROM ONE OBJECT TO ANOTHER.
	DATA STANDARD USAGE: IBS	STATUS:
	DUI NAME	EXPLANATION
	801 ENTITY LINE OF BEARING [Entity_LOB]	EXPRESSES THE ANGULAR DISPLACEMENT CLOCKWISE RELATIVE TO TRUE NORTH, FROM THE LATITUDE/LONGITUDE LOCATION TO AN OBJECT.
	802 START CUT LOB [Start_Cut_LOB]	PROVIDES A CUT (AKA MEASURED LINE OF BEARING), EXPRESSED AS THE ANGLE FROM TRUE NORTH, TO THE REPORTED ENTITY FROM THE INITIAL REFERENCE LOCATION OF A SERIES OF MEASUREMENTS.
	803 INTERMEDIATE CUT LOB [Intermed_Cut_LOB]	PROVIDES A CUT (AKA MEASURED LINE OF BEARING), EXPRESSED AS THE ANGLE FROM TRUE NORTH, TO THE REPORTED ENTITY FROM AN INTERMEDIATE REFERENCE LOCATION WITHIN A SERIES OF MEASUREMENTS.
	804 STOP CUT LOB [Stop_Cut_LOB]	PROVIDES A CUT (AKA MEASURED LINE OF BEARING), EXPRESSED AS THE ANGLE FROM TRUE NORTH, TO THE REPORTED ENTITY FROM THE FINAL REFERENCE LOCATION OF A SERIES OF MEASUREMENTS.
	805 BEARING CONE ANGLE [Bearing_Cone_Angle]	INTERFEROMETER-BASED MEASUREMENT, REFERENCED FROM TRUE NORTH, DELINEATING THE SURFACE OF A CONE CENTERED ABOUT THE LONGITUDINAL AXIS OF THE REPORTED REFERENCE PLATFORM AS INDICATED BY PLATFORM HEADING. THE SURFACE OF THE CONE DESCRIBES THE SET OF POTENTIAL VECTORS THAT LEADS TO A LINE OF BEARING DETERMINATION AFTER CORRECTION FOR DEPRESSION ANGLE AND ADJUSTMENT FOR PITCH.

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APPENDIX B, PART I

DFI NAME  
372 BEARING

DUI NAME	EXPLANATION	APPLICABILITY
806 CORRIDOR CENTER LINE, IBS [Corridor_Center_Line]	ANGLE, MEASURED CLOCKWISE FROM TRUE NORTH, OF THE CENTER LINE OF AN AZIMUTH CORRIDOR. THE CENTER LINE EXTENDS FROM THE REFERENCED CORRIDOR ORIGIN LOCATION.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	FLOAT	

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUIS 801 - 805 -----					
RESET ATTRIBUTE: YES					
0 THROUGH, BUT NOT INCLUDING, 360 DEGREES	0 THROUGH 360 EXCLUSIVE		0	THROUGH	
			180		
----- FOR DUI 806 -----					
RESET ATTRIBUTE: YES					
0 THROUGH 360 DEGREES EXCLUSIVE	0 THROUGH 360 EXCLUSIVE			UNRANGED	

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DFI NAME DEFINITION  
376 IDENTITY

DATA STANDARD USAGE: IBS STATUS:

DUI NAME	EXPLANATION	APPLICABILITY
801 ISOLATED PERSONNEL RELATIONSHIP [Isol_Pers_Relatshp]	EXPRESSES THE RELATIONSHIP OF REPORTED ISOLATED PERSONNEL OR EVACUEES TO FRIENDLY PERSONNEL PERFORMING A RESCUE.	ENTITY MESSAGE

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
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FIELD ENUMERATED

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 801 -----

RESET ATTRIBUTE: YES

FRIEND	1	FRIEND PERSONNEL
NEUTRAL	2	NEUTRAL PERSONNEL
HOSTILE	3	HOSTILE PERSONNEL
MULT	4	MULTIPLE RELATIONS PRESENT

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APPENDIX B, PART I

DFI	NAME	DEFINITION			
380	SECOND	A UNIT OF TIME.			
DATA STANDARD USAGE: IBS		STATUS:			
DUI NAME		EXPLANATION			
801 CLOCK TIME [Clk_Time]		PROVIDES A TIME OF DAY REPORTED IN SECONDS. TIME PROVIDED IS UTC TIME UNLESS IDENTIFIED OTHERWISE.			
		CMF HEADER, CMF DOC (PACKAGE HEADER), DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, REMOTE AMPLIFICATION MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONS NOTIFICATION MESSAGE, OPERATIONAL STATUS MESSAGE, BLOB TRANSFER MESSAGE			
802 MEASUREMENT REFERENCE PERIOD [Meas_Ref_Period]		THE BASIC PERIOD OF THE MEASUREMENT INSTRUMENT USED TO DETERMINE THE REPORTED TIME VALUES TO INCLUDE PRI/PGRI.			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	ENTITY MESSAGE			
FIELD	FLOAT				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
0 THROUGH, BUT NOT INCLUDING, 86,400 SECONDS	0 THROUGH 86400 EXCLUSIVE		UNRANGED	REPORTED IN SECONDS OF A DAY. DEFAULT ACCURACY = 60 SECONDS.	

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DFI NAME  
380 SECOND

----- FOR DUI 802 -----

RESET ATTRIBUTE: YES

0 THROUGH 100 SECONDS 0 THROUGH 100

UNRANGED REPORTED IN SECONDS.  
DEFAULT ACCURACY = 1E-6

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DFI	NAME	DEFINITION	
385	DATA TYPE INDICATOR	AN INDICATION OF THE TYPE OF TRACK DATA BEING REPORTED.	
	DATA STANDARD USAGE: IBS	STATUS:	
	DUI NAME	EXPLANATION	APPLICABILITY
801	TEST INDICATOR [Test_Indic]	INDICATES WHETHER OR NOT THE MESSAGE IS A TEST MESSAGE (I.E. CANNED OR REPLAY DATA FOR TESTING NETWORK EQUIPMENT OR SYSTEMS.)	CMF DOC (PACKAGE HEADER), MESSAGE GROUP
803	EXERCISE INDICATOR, IBS [Exer_Indic]	INDICATES WHETHER OR NOT THE MESSAGE IDENTIFIES EXERCISE DATA.	CMF DOC (PACKAGE HEADER), MESSAGE GROUP
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	PACKED COMPONENT		
	DUI NAME	EXPLANATION	APPLICABILITY
804	REPORT VALIDATION INDICATOR [Report_Validation_Indic]	INDICATES IF ALL, OR AT LEAST THE MOST SIGNIFICANT PORTIONS, OF THE REPORTED INFORMATION REGARDING THE IDENTIFIED ENTITY HAS BEEN OBSERVED, ANALYZED, AND/OR VERIFIED AGAINST SIMILAR REPORTS AND/OR OTHER INTELLIGENCE BY MORE THAN ONE OBSERVER, ANALYST, OR SYSTEM.	ENTITY MESSAGE
805	ENTITY EXERCISE ROLE [Entity_Exer_Role]	IDENTIFIES WHETHER A FRIENDLY ENTITY PARTICIPATING IN AN EXERCISE IS OPERATING IN THE GUISE OF A SUSPECT (JOKER) OR A HOSTILE (FAKER).	ENTITY MESSAGE

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DFI NAME  
385 DATA TYPE INDICATOR

806 PROVIDER TYPE  
[Provider\_Typ]

THE TYPE OF PROVIDER THAT IS SUPPLYING THE LOCATION OF THE ENTITY.

IMPORTANT: THIS ELEMENT IS BEING TRANSITIONED OUT OF USE, AND WILL BE REPLACED BY THE MESSAGE FILTER ELEMENTS GROUP. DURING THE TRANSITION PERIOD, PRODUCERS REPORTING THE MESSAGE FILTER ELEMENTS GROUP VALUES SHALL ALSO REPORT ANY CORRESPONDING PROVIDER TYPE VALUE, IF AVAILABLE. FOLLOWING FULL CONSUMER IMPLEMENTATION OF THE MESSAGE FILTER ELEMENTS GROUP ELEMENTS, THE PROVIDER TYPE ELEMENT WILL BE REMOVED OR DISUSED.

DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE

FIELD ENUMERATED

DUI NAME

EXPLANATION APPLICABILITY

807 PROVIDER COMMUNITY  
[Provider\_Community]

PROVIDES A RECOGNIZED COMMUNITY NAME ASSOCIATED WITH THE PRIMARY SOURCE THAT MADE THE REPORTED DATA AVAILABLE FOR AN IBS SYSTEM TO DISSEMINATE.

808 PROVIDER DATA CATEGORY  
[Provider\_Data\_Categ]

IDENTIFIES THE PRIMARY SENSOR/SOURCE DATA CATEGORY OF THE REPORTED MESSAGE.

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DFI NAME  
385 DATA TYPE INDICATOR

DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE  
  
FIELD STRING

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 801 -----

RESET ATTRIBUTE: NO

NON_TEST_DATA	1	(INITIAL VALUE)
TEST_DATA	2	

----- FOR DUI 803 -----

RESET ATTRIBUTE: NO

NON_EXERCISE_DATA	1	(INITIAL VALUE)
EXERCISE_DATA	2	

----- FOR DUI 804 -----

RESET ATTRIBUTE: YES

VALIDATED	1	PATH 5 EXCLUDED
VALIDATION_IN_PROGRESS	2	DATA HAS BEEN VALIDATED
VALIDATION_NOT_STARTED	3	VALIDATION IN PROGRESS/INCOMPLETE
		VALIDATION PROCESS HAS NOT STARTED

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DFI      NAME  
385      DATA TYPE INDICATOR

----- FOR DUI 805 -----

RESET ATTRIBUTE: YES

JOKER	1	A FRIENDLY ENTITY ACTING AS A SUSPECT. ONLY USED IN EXERCISES.
FAKER	2	A FRIENDLY ENTITY ACTING AS A HOSTILE. ONLY USED IN EXERCISES.

----- FOR DUI 806 -----

RESET ATTRIBUTE: NO

BFT	1	BLUE FORCE TRACKING (BFT) PROVIDER
SAR	2	SEARCH AND RESCUE (SAR) PROVIDER
UGS	3	UNATTENDED GROUND SENSOR (UGS) PROVIDER
AIS	4	AUTOMATIC IDENTIFICATION SYSTEM (AIS) PROVIDER
SEI	5	SPECIFIC Emitter IDENTIFICATION (SEI) PROVIDER
IRBSA	6	INFRARED BATTLESPACE AWARENESS PROVIDER
MULTI_PLATFORM_FUSION	7	MULTI-PLATFORM FUSION PROVIDER
RIT	8	RAPID INFORMATION TRANSMISSION (I.E., IMAGERY AND/OR HUMINT DERIVED/ENHANCED INFORMATION) PROVIDER
WEAPON_DERIVED	9	NETWORK ENABLED WEAPON PROVIDER

----- FOR DUI 807 -----

RESET ATTRIBUTE: YES

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DFI      NAME  
385      DATA TYPE INDICATOR

THE VALUE FOR PROVIDER  
COMMUNITY IS A STRING OF  
ONE TO FIVE CHARACTERS AS  
SHOWN IN THE "DATA ITEM".

AIS	AIS	AUTOMATIC IDENTIFICATION SYSTEM
BSA	BSA	BATTLESPACE AWARENESS
MULPF	MULPF	MULTI-PLATFORM FUSION
RIT	RIT	RAPID INFORMATION TRANSMISSION
SEI	SEI	SPECIFIC Emitter IDENTIFICATION
TES	TES	THEATER EVENT SYSTEM
UGS	UGS	UNATTENDED GROUND SENSOR
SIGNT	SIGNT	SIGNALS INTELLIGENCE

----- FOR DUI 808 -----

RESET ATTRIBUTE: YES

THE VALUE FOR PROVIDER DATA  
CATEGORY IS A STRING OF ONE  
TO FIVE CHARACTERS AS SHOWN  
IN THE "DATA ITEM".

FFT	FFT	FRIENDLY FORCES TRACKING
IR	IR	INFRARED-DERIVED
SAR	SAR	SEARCH AND RESCUE
RDR	RDR	RADAR-DERIVED
WPN	WPN	NETWORK ENABLED WEAPON-DERIVED
COMNT	COMNT	COMMUNICATIONS INTELLIGENCE-DERIVED
ELINT	ELINT	ELECTRONIC INTELLIGENCE-DERIVED
FISNT	FISNT	FOREIGN INSTRUMENTATION SIGNALS INTELLIGENCE-DERIVED

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B1-90

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APPENDIX B, PART I

DFI NAME  
386 FLIGHT/FORCE SIZE DEFINITION  
EXPRESSES AN ESTIMATE OF THE NUMBER OF ENTITIES REPRESENTED BY A  
SINGLE TRACK.

DATA STANDARD USAGE: IBS STATUS:

DUI NAME	EXPLANATION	APPLICABILITY
801 ENTITY SIZE [Entity_Sz]	SIZE OF THE REFERENCED SURFACE, SUBSURFACE, AIR, LAND (GROUND), OR SPACE ENTITY.	ENTITY MESSAGE

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
-------------------	--------------------------

FIELD INTEGER

DUI NAME	EXPLANATION	APPLICABILITY
802 ENTITY STRENGTH [Entity_Strngth]	ESTIMATED STRENGTH OF THE REFERENCED ENTITY.	ENTITY MESSAGE

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
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FIELD ENUMERATED

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 801 -----

RESET ATTRIBUTE: YES

1 THROUGH 127                  1 THROUGH 127

----- FOR DUI 802 -----

RESET ATTRIBUTE: YES

FEW                  1                  2 TO 7

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DFI      NAME  
386      FLIGHT FORCE/SIZE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
MANY	2							MORE THAN 7
8 THROUGH 10	3							
11 THROUGH 15	4							
16 THROUGH 20	5							
21 THROUGH 30	6							
31 THROUGH 40	7							
41 THROUGH 50	8							
51 THROUGH 70	9							
71 THROUGH 100	10							
101 THROUGH 200	11							
201 THROUGH 300	12							
301 THROUGH 400	13							
401 THROUGH 500	14							
501 THROUGH 600	15							
601 THROUGH 700	16							
701 THROUGH 800	17							
801 THROUGH 900	18							
901 THROUGH 1000	19							
1001 THROUGH 1500	20							
1501 THROUGH 2000	21							
2001 THROUGH 2500	22							
2501 THROUGH 3000	23							
3001 THROUGH 3500	24							
3501 THROUGH 4000	25							
4001 THROUGH 4500	26							
4501 THROUGH 5000	27							
5001 THROUGH 5500	28							
5501 THROUGH 6000	29							
6001 THROUGH 6500	30							
6501 THROUGH 7000	31							
7001 THROUGH 7500	32							
7501 THROUGH 8000	33							
8001 THROUGH 8500	34							
8501 THROUGH 9000	35							
9001 THROUGH 9500	36							
9501 THROUGH 10000	37							
10001 THROUGH 20000	38							
20001 THROUGH 30000	39							
30001 THROUGH 40000	40							
40001 THROUGH 50000	41							

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DFI      NAME  
386      FLIGHT FORCE/SIZE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
50001 THROUGH 60000	42							
60001 THROUGH 70000	43							
70001 THROUGH 80000	44							
80001 THROUGH 90000	45							
90001 THROUGH 100000	46							
100001 THROUGH 200000	47							
200001 THROUGH 300000	48							
300001 THROUGH 400000	49							
400001 THROUGH 500000	50							
500001 THROUGH 600000	51							
600001 THROUGH 700000	52							
700001 THROUGH 800000	53							
800001 THROUGH 900000	54							
900001 THROUGH 1000000	55							
GREATER THAN 1000000	56							

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APPENDIX B, PART I

DFI NAME DEFINITION  
417 FREQUENCY EXPRESSES THE FREQUENCY OR FREQUENCY RANGE OF AN EMITTER.

DATA STANDARD USAGE: IBS STATUS:

DUI NAME	EXPLANATION	APPLICABILITY
801 FREQUENCY [Freq]	MEASUREMENT BETWEEN REPETITIVE PATTERNS OF A WAVEFORM.	ENTITY MESSAGE

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
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FIELD FLOAT

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 801 -----

RESET ATTRIBUTE: YES

1 HZ THROUGH 99,999,999 PHZ	1 THROUGH 9999999E15	UNRANGED	FREQUENCY REPORTED IN HERTZ
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GREATER THAN	1 THROUGH 9999999E15	UNRANGED	IF "GREATER THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE FOR FREQUENCY IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).
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LESS THAN	1 THROUGH 9999999E15	UNRANGED	IF "LESS THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE FOR FREQUENCY IS SOMETHING LESS THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).
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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	
419	AXIS		
	DATA STANDARD USAGE: IBS		STATUS:
	DUI NAME	EXPLANATION	APPLICABILITY
801	AREA SEMI-MAJOR AXIS [Semi_Maj]	THIS FIELD CONTAINS HALF THE LENGTH OF THE LONGEST AXIS USED IN CONJUNCTION WITH THE AREA SEMI-MINOR AXIS, AXIS ORIENTATION, LATITUDE AND LONGITUDE FIELDS, TO DESCRIBE THE AREA OF A CIRCLE, ELLIPSE, SQUARE OR RECTANGLE. THE LENGTH EXPRESSED IN THIS FIELD IS DOUBLED AND CENTERED ON THE POSITION DESCRIBED BY LATITUDE AND LONGITUDE.	ENTITY MESSAGE
802	AREA SEMI-MINOR AXIS [Semi_Minor]	THIS FIELD CONTAINS HALF THE LENGTH OF THE SHORTEST AXIS USED, IN CONJUNCTION WITH AREA SEMI-MAJOR AXIS, AXIS ORIENTATION, LATITUDE AND LONGITUDE FIELDS TO DESCRIBE THE AREA OF A CIRCLE, ELLIPSE, SQUARE OR RECTANGLE. THIS LENGTH IS DOUBLED AND CENTERED ON THE LATITUDE/LONGITUDE POSITION WITH AN ORIENTATION OF 90 DEGREES TO THE AREA SEMI-MAJOR AXIS.	ENTITY MESSAGE
803	AREA SEMI-INTERMEDIATE AXIS [Semi_Intermed]	USED IN CONJUNCTION WITH AREA SEMI-MAJOR AXIS, AND AREA SEMI-MINOR AXIS TO DESCRIBE A CUBE, A THREE-DIMENSIONAL RECTANGLE, A CYLINDER OR A SPHEROID. FOR THESE SHAPES, THE VOLUME IS DEFINED AS HAVING A 50% PROBABILITY OF CONTAINING THE TRUE LOCATION OF THE REFERENCED ENTITY.	ENTITY MESSAGE

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APPENDIX B, PART IDFI      NAME  
419      AXISDATA                DATA  
ELEMENT            REPRESENTATION  
TYPE              TYPE

FIELD             FLOAT

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUIS 801 AND 802 -----

RESET ATTRIBUTE: YES

0 THROUGH 999 NAUTICAL MILES (NM)	0 THROUGH 999	1	1E-3 THROUGH 1	DEFAULT UNIT = NM. IF THE UNIT EQUIVALENT VALUE ATTRIBUTE IS SET TO 1, SEMI-MAJOR OR SEMI-MINOR IS REPORTED IN NM. DEFAULT ACCURACY (NM) = 1E-1.
0 THROUGH 1023 DATA MILES (DM)	0 THROUGH 1023	2	1E-1 THROUGH 1	DEFAULT UNIT = NM. IF THE UNIT EQUIVALENT VALUE ATTRIBUTE IS SET TO 2, SEMI-MAJOR OR SEMI-MINOR IS REPORTED IN DM. DEFAULT ACCURACY (DM) = 1.
0 THROUGH 1870 KILOMETERS	0 THROUGH 1870	3	1E-3 THROUGH 1	DEFAULT UNIT = NM. IF THE UNIT EQUIVALENT VALUE ATTRIBUTE IS SET TO 3, SEMI-MAJOR OR SEMI-MINOR IS REPORTED IN KILOMETERS. DEFAULT ACCURACY (KILOMETERS) = 1E-1.

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APPENDIX B, PART IDFI NAME  
419 AXIS

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT	VALUE EQUIV	MOD	ACCURACY	EXPLANATION
GREATER THAN (NM)	0 THROUGH 999		1		1E-3 THROUGH 1	IF "GREATER THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE FOR SEMI-MAJOR OR SEMI-MINOR IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).
LESS THAN (NM)	0 THROUGH 999		1		1E-3 THROUGH 1	IF "LESS THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE FOR SEMI-MAJOR OR SEMI-MINOR IS SOMETHING LESS THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).
GREATER THAN (DM)	0 THROUGH 1023		2		1E-1 THROUGH 1	IF "GREATER THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE FOR SEMI-MAJOR OR SEMI-MINOR IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).
LESS THAN (DM)	0 THROUGH 1023		2		1E-1 THROUGH 1	IF "LESS THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE FOR SEMI-MAJOR OR SEMI-MINOR IS SOMETHING LESS THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).
GREATER THAN (KILOMETERS)	0 THROUGH 1870		3		1E-3 THROUGH 1	IF "GREATER THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE FOR SEMI-MAJOR OR SEMI-MINOR IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).

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APPENDIX B, PART IDFI NAME  
419 AXIS

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
LESS THAN (KILOMETERS)	0 THROUGH 1870	3	1E-3	THROUGH 1	IF "LESS THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE FOR SEMI-MAJOR OR SEMI-MINOR IS SOMETHING LESS THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).

----- FOR DUI 803 -----

RESET ATTRIBUTE: YES

0 THROUGH 1023 NAUTICAL MILES (NM)	0 THROUGH 1023	1	UNRANGED	DEFAULT UNIT = NM. IF THE UNIT EQUIVALENT VALUE ATTRIBUTE IS SET TO 1, SEMI-INTERMEDIATE AXIS IS REPORTED IN 1 NM INCREMENTS.
0 THROUGH 1023 DATA MILES (DM)	0 THROUGH 1023	2	UNRANGED	DEFAULT UNIT = NM. IF THE UNIT EQUIVALENT VALUE ATTRIBUTE IS SET TO 2, THE SEMI-INTERMEDIATE AXIS IS REPORTED IN 1 DM INCREMENTS.
0 THROUGH 1870 KILOMETERS	0 THROUGH 1870	3	UNRANGED	DEFAULT UNIT = NM. IF THE UNIT EQUIVALENT VALUE ATTRIBUTE IS SET TO 3, THE SEMI-INTERMEDIATE AXIS IS REPORTED IN 1 KILOMETER INCREMENTS.

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DFI	NAME	DEFINITION			
424	THREAT EVALUATION				
	DATA STANDARD USAGE: IBS	STATUS:			
	DUI NAME	EXPLANATION	APPLICABILITY		
	801 THREAT WARNING [Thrt_Warn]	WHEN SET, INDICATES THAT THE WEAPON SYSTEM ASSOCIATED WITH THE REPORTED ENTITY REPRESENTS A LETHAL THREAT.	ENTITY MESSAGE, TEXT MESSAGE		
	DATA ELEMENT TYPE	REPRESENTATION TYPE			
	FIELD	PACKED COMPONENT			
	DATA ITEM	VALUE RANGE	UNIT EQUIV VALUE MOD ACCURACY EXPLANATION		
	----- FOR DUI 801 -----				
	RESET ATTRIBUTE: YES				
	NO_THREAT_WARNING	1	(INITIAL VALUE)		
	THREAT_WARNING	2			

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DFI	NAME	DEFINITION
431	CONFIDENCE	PROVIDES THE DEGREE OF CONFIDENCE OF THE REPORTED Emitter EVALUATION.
 DATA STANDARD USAGE: IBS		
		STATUS:
DUI NAME		EXPLANATION
801	EVALUATION PERCENT CONFIDENCE [Eval_Pct_Conf]	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS RELATIVE TO THE DETERMINATION OF A VALUE IN ANOTHER IDENTIFIED FIELD.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	INTEGER	
DUI NAME		EXPLANATION
802	EVALUATION GENERAL CONFIDENCE [Eval_Genrl_Conf]	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS RELATIVE TO THE DETERMINATION OF A VALUE IN ANOTHER IDENTIFIED FIELD.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	ENUMERATED	
804	EOB ASSOCIATION CONFIDENCE [EOB_Assoc_Conf]	INDICATES THE DEGREE OF CONFIDENCE THE COLLECTION SYSTEM HAS REGARDING THE ASSOCIATION OF AN Emitter TO A SPECIFIC SITE.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	ENTITY MESSAGE

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DFI NAME  
431 CONFIDENCE

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
0 THROUGH 100 PERCENT 0 THROUGH 100					
----- FOR DUI 802 -----					
RESET ATTRIBUTE: YES					
POSITIVE	1				
PRBABL	2				PROBABLE
POSBL	3				POSSIBLE
LO	4				LOW
UNK	5				UNKNOWN
----- FOR DUI 804 -----					
RESET ATTRIBUTE: YES					
SITE_ASSOC	1				PATH 5 EXCLUDED CONFIDENCE ELLIPSE ENCOMPASSES AT LEAST ONE EOB SITE CREDITED WITH AN EMITTER WHOSE EMITTER IS THE SAME AS THE INTERCEPT EMITTER.
SITE_NO_ASSOC	2				CONFIDENCE ELLIPSE ENCOMPASSES AT LEAST ONE EOB SITE BUT NO SITE EMITTER IS THE SAME AS THE INTERCEPT EMITTER.
NO_SITE	3				ASSOCIATION WAS ATTEMPTED BUT NO EOB OR SOFT SITE(S) FALL WITHIN CONFIDENCE ELLIPSE.

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DFI      NAME  
431      CONFIDENCE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SOFT_ASSOC	4							CONFIDENCE ELLIPSE ENCOMPASSES A SOFT SITE WHOSE EMITTER IS THE SAME AS THE INTERCEPT EMITTER.
SOFT_NO_ASSOC	5							CONFIDENCE ELLIPSE ENCOMPASSES AT LEAST ONE SOFT SITE BUT NO SITE EMITTER IS THE SAME AS THE INTERCEPT EMITTER.

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APPENDIX B, PART I

DFI	NAME	DEFINITION
433	SCAN TYPE	THE SCAN TYPE OF AN EMITTER.
	DATA STANDARD USAGE: IBS	STATUS:
	DUI NAME	EXPLANATION
	801 SCAN TYPE, IBS [Scan_Typ]	THE TYPE OF PATTERN OR SCAN THAT THE EMITTED ELECTROMAGNETIC ENERGY FOLLOWS AS A VOLUME IN SPACE IS SEARCHED.
	DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
	FIELD	ENUMERATED
DATA ITEM	VALUE RANGE	UNIT EQUIV VALUE MOD ACCURACY EXPLANATION
----- FOR DUI 801 -----		
RESET ATTRIBUTE: YES		
FIXED_SCAN	1	THE CIRCULAR OR ROTATING MOVEMENT OF EMITTED OR ELECTROMAGNETIC ENERGY.
CIRCLR_ROTATING_ SCAN	2	
LOBE_SWITCH	3	
HT_FIND	4	
SECTOR_SCAN	5	
CONICAL_SCAN	6	
COMPLEX_SCAN	7	
SPIRAL	8	
RASTER	9	
VARIABLE_RANDOM	10	

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APPENDIX B, PART IDFI      NAME  
433      SCAN TYPE

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
STEADY	11				NOT TRACKING.
MANUAL	12				
UNI_DIRECT	13				THE UNI-DIRECTIONAL MOVEMENT, IN AN UNDETERMINED PLANE, OF EMITTED ELECTROMAGNETIC ENERGY.
UNDETERMINED	14				THE SCAN TYPE IS UNKNOWN.
HORIZ_SECTOR_BIDIRECT	15				THE BI-DIRECTIONAL MOVEMENT, IN A HORIZONTAL PLANE, OF EMITTED ELECTROMAGNETIC ENERGY.
HORIZ_SECTOR_UNIDIRECT	16				THE UNI-DIRECTIONAL MOVEMENT, IN A HORIZONTAL PLANE, OF EMITTED ELECTROMAGNETIC ENERGY.
VERT_SECTOR_BIDIRECT	17				NODDING. THE BI-DIRECTIONAL MOVEMENT, IN A VERTICAL PLANE, OF EMITTED ELECTROMAGNETIC ENERGY.
VERT_SECTOR_UNIDIRECT	18				(UNI) THE UNI-DIRECTIONAL MOVEMENT, IN A VERTICAL PLANE, OF EMITTED ELECTROMAGNETIC ENERGY.
SECTOR_AND_CONICAL	19				THE SECTOR AND CONICAL MOVEMENT OF EMITTED ELECTROMAGNETIC ENERGY.
BI_DIRECT	20				PLANE UNDETERMINED. THE BI- DIRECTIONAL MOVEMENT OF EMITTED ELECTROMAGNETIC ENERGY.
CIRCLR_CONICAL	21				THE CIRCULAR AND CONICAL MOVEMENT OF EMITTED ELECTROMAGNETIC ENERGY.
HELICAL	22				THE HELICAL MOVEMENT OF EMITTED ELECTROMAGNETIC ENERGY.
IRREGULAR	23				THE IRREGULAR, UNSTEADY, OR MANUAL MOVEMENT OF EMITTED ELECTROMAGNETIC ENERGY.
TRKNG	24				THE TRACKING BEAM MOVEMENT OF EMITTED ELECTROMAGNETIC

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APPENDIX B, PART IDFI      NAME  
433      SCAN TYPE

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	MOD	ACCURACY	EXPLANATION
PALMER_CONICAL	25				ENERGY, EXCLUDING CONICAL OR LOBE SWITCHING.
CIRCLR_VERT_SECTOR	26				CIRCULAR AND VERTICAL SECTOR OCCURRING SIMULTANEOUSLY. USED ONLY IF THE SECTOR SCAN RATE IS FASTER THAN TWO SCANS PER SECOND. IF THE SECTOR SCAN RATE IS SLOWER THAN TWO SCANS PER SECOND, CODE THE CIRCULAR AND SECTOR SCANS SEPARATELY.
SPIRAL_CONICAL	27				THE COMBINATION OF SPIRAL AND CONICAL MOVEMENT OF EMITTED ELECTROMAGNETIC ENERGY.
HELICAL_CONICAL	28				THE COMBINATION OF HELICAL AND CONICAL MOVEMENT OF EMITTED ELECTROMAGNETIC ENERGY.
OTHR_COMBOs	29				OTHER PATTERNS. PATTERNS THAT CANNOT BE ADEQUATELY OR PROPERLY DESCRIBED BY ANY OTHER ACTIVE TRACKING SCAN CODES (I.E., COMPLEX OR UNUSUAL MECHANICAL SCAN PATTERNS).
WITH_DIRECTOR	30				
OTHR	31				UNSPECIFIED.

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DFI	NAME	DEFINITION
434	EMISSION POLARIZATION	THE POLARIZATION OF AN EMISSION.
DATA STANDARD USAGE: IBS		STATUS:
DUI NAME		EXPLANATION
801 EMISSION POLARIZATION, IBS [Emission_Polarization]		DESCRIBES THE POLARIZATION OF AN ELECTRONIC WARFARE SUPPORT (ES) EMISSION.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	ENUMERATED	ENTITY MESSAGE
DATA ITEM	VALUE RANGE	UNIT EQUIV MOD ACCURACY EXPLANATION
----- FOR DUI 801 -----		
RESET ATTRIBUTE: YES		
HORIZ	1	HORIZONTAL
VERTICAL	2	
ROTATING	3	
SLANT	4	
CIRCLR_UNK	5	CIRCULAR UNKNOWN
CIRCLR_LEFT_HAND	6	CIRCULAR LEFT HAND
CIRCLR_RGHT_HAND	7	CIRCULAR RIGHT HAND
ELLPTCAL_UNK	8	ELLIPTICAL UNKNOWN
ELLPTCAL_LEFT_HAND	9	ELLIPTICAL LEFT HAND
ELLPTCAL_RGHT_HAND	10	ELLIPTICAL RIGHT HAND
UNK	11	UNKNOWN

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION
435	PULSE DURATION	THE TIME DURATION OF THE RADIO FREQUENCY PULSE OF AN ELECTRONIC EMITTER.
	DATA STANDARD USAGE: IBS	STATUS:
	DUI NAME	EXPLANATION
804	PULSE WIDTH SWITCHING HIGH VALUE [PW_Swch_Hi]	THE TIME DURATION OF THE WIDEST MEASURED PULSE IN A PULSE WIDTH SWITCHING EMITTER.
805	PULSE WIDTH SWITCHING LOW VALUE [PW_Swch_Lo]	THE TIME DURATION OF THE NARROWEST MEASURED PULSE IN A PULSE WIDTH SWITCHING EMITTER.
806	PULSE WIDTH DURATION [PW_Dur]	THE TIME DURATION BETWEEN THE HALF POWER POINTS OF THE ENVELOPE OF THE RADIO FREQUENCY PULSE OF AN ELECTRONIC EMITTER.
807	AVERAGE PULSE WIDTH DURATION [Avg_PW_Dur]	PROVIDES THE AVERAGE OF THE TIME DURATIONS BETWEEN THE HALF POWER POINTS OF THE ENVELOPE OF TWO OR MORE RADIO FREQUENCY PULSES OF AN ELECTRONIC EMITTER.
808	ILLUMINATION TIME [Illum_Time]	INDICATES THE TIME REQUIRED FOR THE MAIN ANTENNA LOBE OF A SIGNAL TO PASS THROUGH THE MAIN LOBE OF THE RECEIVING ANTENNA. MEASUREMENT MADE AT THE HALF POWER POINTS (0.707 OF PEAK AMPLITUDE) OF THE BEAM ENVELOPE, WHICH REPRESENTS THE INTEGRATED PULSE-TO-PULSE RESPONSE OF THE EQUIPMENT TO THE SIGNAL.

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DFI NAME  
435 PULSE DURATION

DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE  
  
FIELD FLOAT

DATA ITEM	VALUE RANGE	UNIT EQUIV	MOD	ACCURACY	EXPLANATION
----- FOR DUIS 804-805 -----					
RESET ATTRIBUTE: YES					
0 EXCLUSIVE THROUGH .099999 SECONDS	0 EXCLUSIVE THROUGH 99999E-6		UNRANGED	REPORTED IN SECONDS. DEFAULT ACCURACY = 5E-8.	
----- FOR DUI 806 -----					
RESET ATTRIBUTE: YES					
0 EXCLUSIVE THROUGH .099999 SECONDS	0 EXCLUSIVE THROUGH 99999E-6		5E-8 THROUGH 1E-7	REPORTED IN SECONDS. DEFAULT ACCURACY = 1E-7.	
GREATER THAN	0 EXCLUSIVE THROUGH 99999E-6		5E-8 THROUGH 1E-7	IF "GREATER THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE FOR PULSE WIDTH DURATION IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).	

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APPENDIX B, PART I

DFI NAME  
435 PULSE DURATION

----- FOR DUI 807 -----

RESET ATTRIBUTE: YES

0 EXCLUSIVE THROUGH 0 EXCLUSIVE THROUGH  
.099999 SECONDS 99999E-6

5E-8  
THROUGH  
1E-7

REPORTED IN SECONDS.

GREATER THAN 0 EXLUSIVE THROUGH  
99999E-6

5E-8  
THROUGH  
1E-7

IF "GREATER THAN" VALUE  
QUALIFIER IS SET, THE  
ACTUAL VALUE FOR AVERAGE  
PULSE WIDTH DURATION IS  
SOMETHING GREATER THAN THE  
VALUE BEING REPORTED (FROM  
WITHIN THE GIVEN RANGE).

----- FOR DUI 808 -----

RESET ATTRIBUTE: YES

0 THROUGH 100 SECONDS 0 THROUGH 100

UNRANGED

REPORTED IN SECONDS.  
DEFAULT ACCURACY = 1E-3  
(MICROSECONDS)

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DFI NAME DEFINITION  
440 PULSE REPETITION FREQUENCY

DATA STANDARD USAGE: IBS STATUS:

DUI NAME EXPLANATION APPLICABILITY  
801 PRF THE RATE AT WHICH PULSES OR PULSE GROUPS ARE TRANSMITTED. ENTITY MESSAGE  
[PRF]

DATA ELEMENT DATA  
TYPE REPRESENTATION  
TYPE

FIELD FLOAT

DUI NAME EXPLANATION APPLICABILITY  
802 PRF GROUP INDICATOR THE RATE AT WHICH PULSES OR PULSE GROUPS ARE TRANSMITTED. ENTITY MESSAGE  
[PRF\_Grp\_Indic]

DATA ELEMENT DATA  
TYPE REPRESENTATION  
TYPE

FIELD ENUMERATED

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 801 -----

RESET ATTRIBUTE: YES

0 EXCLUSIVE THROUGH 536,870,908 PULSES PER SECOND (PPS)	0 EXCLUSIVE THROUGH 536870908	UNRANGED	REPORTED IN PPS.
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GREATER THAN	0 EXCLUSIVE THROUGH 536870908	UNRANGED	IF "GREATER THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE FOR PRF IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).
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DFI NAME  
440 PULSE REPETITION FREQUENCY

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EXPLANATION
EQUIV	MOD	ACCURACY			
----- FOR DUI 802 -----					
RESET ATTRIBUTE: YES					
AVG_PRF_ENTERED	0			AVERAGE PRF ENTERED. (INITIAL VALUE)	
GRP_OF_PRF_ENTERED	1			GROUP OF PRF ENTERED	

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DFI NAME  
454 ARC WIDTH DEFINITION  
THE ANGULAR MEASUREMENT FROM SIDE TO SIDE OF A TARGET, OBJECT, OR AREA.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME

EXPLANATION

APPLICABILITY

801 CORRIDOR ARC WIDTH, IBS  
[Corridor\_Arc\_Width]

DESCRIBES THE ARC WIDTH OF A CORRIDOR IN DEGREES, CENTERED ON THE CORRIDOR CENTER LINE WHICH EXTENDS FROM THE CORRIDOR ORIGIN LOCATION.

ENTITY MESSAGE

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
FIELD	FLOAT

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
0 EXCLUSIVE THROUGH 180 DEGREES	0 EXCLUSIVE THROUGH 180				UNRANGED

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**UNCLASSIFIED**MIL-STD-6018C  
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DFI NAME  
747 TRACK NUMBER, NATO LINK 1

DEFINITION  
AN ALPHA NUMERICALLY CODED REFERENCE NUMBER USED BY THE NATO AIR DEFENSE GROUND ENVIRONMENT (NADGE) SYSTEM TO IDENTIFY TRACKS. THE NUMBER CONSISTS OF FIVE CHARACTERS. TWO LETTERS FOLLOWED BY THREE DIGITS.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME

EXPLANATION

APPLICABILITY

801 NATO LINK 1 TRACK NUMBER, 1  
[NATO\_Link\_1\_Trk\_Num]

AN ALPHA NUMERICALLY CODED  
REFERENCE NUMBER USED BY THE NATO  
AIR DEFENSE GROUND ENVIRONMENT  
(NADGE) SYSTEM TO IDENTIFY  
TRACKS. THE NUMBER CONSISTS OF  
FIVE CHARACTERS. TWO LETTERS  
FOLLOWED BY THREE DIGITS.

DATA MANAGEMENT MESSAGE,  
ENTITY MESSAGE,  
TEXT MESSAGE,  
COLLABORATION MESSAGE,  
OPERATIONAL STATUS MESSAGE

DATA ELEMENT TYPE  
REPRESENTATION TYPE

FIELD PATTERN

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
-----------	-------------	------------	-----------	----------	-------------

----- FOR DUI 801 -----

RESET ATTRIBUTE: NO

2A3N 2A3N

VALUES ARE TWO ALPHABETIC  
CHARACTERS (A, E, G, H, J,  
K, L, OR M) AND THREE  
NUMERIC DIGITS (INTEGER  
VALUES 0 THROUGH 7). THE  
VALUE OF THE NUMERIC DIGITS  
IS EXPRESSED AS AN OCTAL  
REPRESENTATION RATHER THAN  
AS DECIMAL. ANY  
TRANSLATION OF THE NUMERIC  
PATTERN FROM CMF-B MUST  
INCLUDE CONVERSION OF THE

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DFI      NAME  
747      TRACK NUMBER, NATO LINK 1

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT	VALUE EQUIV	MOD	ACCURACY	EXPLANATION
						OCTAL BINARY VALUE TO A DECIMAL BINARY VALUE. IBS MAINTAINS ANY GIVEN NATO LINK 1 TRACK NUMBER FOR CROSS-REFERENCING PURPOSES THROUGH GATEWAYS AND ON OPERATOR DISPLAYS BUT DOES NOT ENFORCE THE VALUES OTHER THAN TO ENSURE THEY CONSIST OF TWO ALPHABETIC CHARACTERS AND THREE NUMERIC DIGITS.

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DFI	NAME	DEFINITION
753	OPERATIONAL STATUS	REPORTED WEAPON OR FACILITY OPERATIONAL STATUS.
	DATA STANDARD USAGE: IBS	STATUS:
	DUI NAME	EXPLANATION
	801 OPERATIONAL STATUS, IBS [Oper_Status]	SIGNIFIES CURRENT CONDITION OF ASSETS OR ELEMENTS ABILITY TO PARTICIPATE ON OR CONTRIBUTE TO THE BROADCAST/NETWORK.
	DATA ELEMENT TYPE	REPRESENTATION TYPE
	FIELD	ENUMERATED
DATA ITEM	VALUE RANGE	UNIT EQUIV VALUE MOD ACCURACY EXPLANATION
----- FOR DUI 801 -----		
RESET ATTRIBUTE: NO		
OPERATIONAL	1	(DEFAULT VALUE) NOMINAL SYSTEM PERFORMANCE AS DETERMINED AND REPORTED BY THE ASSET.
DEGRADED	2	LESS THAN NOMINAL SYSTEM PERFORMANCE AS DETERMINED AND REPORTED BY THE ASSET.
NON_OPERATIONAL	3	UNABLE TO SUCCESSFULLY PARTICIPATE ON OR CONTRIBUTE TO IBS.
COMMS_CHK	4	INDICATES THE OPERATIONAL STATUS MESSAGE IS BEING USED TO DETERMINE CONNECTIVITY STATUS WITHOUT COMMENT ON DATA CONTRIBUTION ABILITY.

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DFI	NAME	DEFINITION		
754	LOCALLY DEFINED AMPLIFYING DATA	LOCALLY DEFINED AMPLIFYING DATA CONCERNING A REPORTED OBJECT DATA OR TRACK, WITH DISCRETE MEANINGS ESTABLISHED BY THE OPERATIONAL COMMANDER.		
DATA STANDARD USAGE: IBS		STATUS:		
DUI NAME	EXPLANATION	APPLICABILITY		
801 BFT BREVITY CODE [BFT_Brev_Code]	A STATUS/CANNED MESSAGE, DEFINED FOR BLUE FORCE TRACKING USAGE ON A CASE BY CASE (MISSION) BASIS. OFTEN, THE DEFINITION OF THE BREVITY CODES MAY NOT BE KNOWN BY ANYONE OTHER THAN SPECIFIC USERS.	ENTITY MESSAGE		
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE			
FIELD	INTEGER			
DATA ITEM	VALUE RANGE	UNIT EQUIV MOD	VALUE ACCURACY	EXPLANATION
----- FOR DUI 801 -----				
RESET ATTRIBUTE: YES				
0 THROUGH 1,048,575	0 THROUGH 1048575			

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DFI	NAME	DEFINITION			
757	RANGE	THE DISTANCE BETWEEN TWO OBJECTS, UNITS, OR GEOGRAPHICAL LOCATIONS.			
	DATA STANDARD USAGE: IBS	STATUS:			
	DUI NAME	EXPLANATION			
	801 CORRIDOR ARC MINIMUM RANGE [Corridor_Arc_Min_Rng]	THE DISTANCE FROM THE REFERENCE POINT OF AN AZIMUTH CORRIDOR TO THE NEAR EDGE OF A BOUNDED AZIMUTH CORRIDOR WEDGE, MEASURED ALONG THE AZIMUTH CORRIDOR CENTER LINE.			
	802 CORRIDOR ARC MAXIMUM RANGE [Corridor_Arc_Max_Rng]	THE DISTANCE FROM THE REFERENCE POINT OF AN AZIMUTH CORRIDOR TO THE FAR EDGE OF A BOUNDED AZIMUTH CORRIDOR WEDGE, MEASURED ALONG THE AZIMUTH CORRIDOR CENTER LINE.			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY			
FIELD	FLOAT	ENTITY MESSAGE			
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
0 THROUGH 131,000,000 FEET	0 THROUGH 131000000 FEET	1	UNRANGED	DEFAULT UNIT = METERS. IF THE UNIT EQUIVALENT ATTRIBUTE IS SET TO 1, CORRIDOR ARC MINIMUM RANGE IS REPORTED IN FEET.	
0 THROUGH 40,000,000 METERS	0 THROUGH 40000000 METERS	2	UNRANGED	DEFAULT UNIT = METERS. IF THE UNIT EQUIVALENT ATTRIBUTE IS SET TO 2, CORRIDOR ARC MINIMUM RANGE IS REPORTED IN METERS.	

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APPENDIX B, PART IDFI      NAME  
757      RANGE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 802 -----						
RESET ATTRIBUTE: YES						
0 EXCLUSIVE THROUGH 131,000,000 FEET	0 EXCLUSIVE THROUGH 131000000 FEET	1	UNRANGED	DEFAULT UNIT = METERS. IF THE UNIT EQUIVALENT ATTRIBUTE IS SET TO 1, CORRIDOR ARC MAXIMUM RANGE IS REPORTED IN FEET.		
0 EXCLUSIVE THROUGH 40,000,000 METERS	0 EXCLUSIVE THROUGH 40000000 METERS	2	UNRANGED	DEFAULT UNIT = METERS. IF THE UNIT EQUIVALENT ATTRIBUTE IS SET TO 2, CORRIDOR ARC MAXIMUM RANGE IS REPORTED IN METERS.		

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DFI	NAME	DEFINITION						
769	TRACK NUMBER, LINK 16	A COMMON SET OF REFERENCE NUMBERS USED TO ASSOCIATE DIRECTIVES AND TACTICAL INFORMATION BY IDENTIFYING SYSTEM ENTITIES SUCH AS COMMUNICATING UNITS, TRACKS, TARGETS, AND SPECIAL POINTS.						
DATA STANDARD USAGE: IBS			STATUS:					
DUI NAME		EXPLANATION			APPLICABILITY			
801 LINK 16 TRACK NUMBER, SOURCE [Link_16_Trk_Num_Src]		THE TN OF THE UNIT (I.E., JU OR PU) THAT ORIGINATED THE MESSAGE.			DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, TEXT MESSAGE— COLLABORATION MESSAGE, OPERATIONAL STATUS MESSAGE			
802 LINK 16 TRACK NUMBER, REFERENCE [Link_16_Trk_Num_Ref]		TRACK NUMBER THAT THE ENTITY IS IDENTIFIED BY ON LINK 16.			DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONAL STATUS MESSAGE			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE							
FIELD	PATTERN							
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION			
----- FOR DUI 801 -----								
RESET ATTRIBUTE: NO								
5N	5N	THE VALUES ARE FIVE NUMERIC DIGITS (INTEGER VALUES 0-99999). THE VALUE OF THE NUMERIC DIGITS IS EXPRESSED AS AN OCTAL REPRESENTATION RATHER THAN AS DECIMAL. ANY TRANSLATION OF THE NUMERIC PATTERN FROM CMF-B MUST INCLUDE CONVERSION OF THE OCTAL BINARY VALUE TO A DECIMAL BINARY VALUE. IBS						

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DFI NAME  
769 TRACK NUMBER, LINK 16

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
					MAINTAINS ANY GIVEN LINK 16 TRACK NUMBER FOR CROSS-REFERENCING PURPOSES THROUGH GATEWAYS AND ON OPERATOR DISPLAYS BUT DOES NOT ENFORCE THE VALUES.

----- FOR DUI 802 -----

RESET ATTRIBUTE: NO

2X3N                    2X3N

THE VALUES ARE 2 ALPHANUMERIC CHARACTERS (A-H, J-N, P-Z, 0-7) AND THREE NUMERIC DIGITS (INTEGER VALUES 0-511). THE VALUE OF THE NUMERIC DIGITS IS EXPRESSED AS AN OCTAL REPRESENTATION RATHER THAN AS DECIMAL. ANY TRANSLATION OF THE NUMERIC PATTERN FROM CMF-B MUST INCLUDE CONVERSION OF THE OCTAL BINARY VALUE TO A DECIMAL BINARY VALUE. LINK 16 TRACK NUMBERS PROVIDE AN EFFECTIVE RANGE OF 0-2097151 AND ARE SENT ON LINK 16 AS: XX000-XX777 WHERE XX IS TWO ALPHA CHARACTERS IN THE RANGE A-H, J-N, P-Z OR 0-7 EXCEPT 00000 (0 DECIMAL), 00077 (63 DECIMAL), 00176 (126 DECIMAL), 00177 (127 DECIMAL), 07777 (4095 DECIMAL), AND 7777 (32767 DECIMAL) ARE ILLEGAL. IBS MAINTAINS ANY GIVEN LINK 16 TRACK NUMBER FOR CROSS-REFERENCING PURPOSES THROUGH GATEWAYS AND ON

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DFI      NAME  
769      TRACK NUMBER, LINK 16

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
								OPERATOR DISPLAYS BUT DOES NOT ENFORCE THE VALUES OTHER THAN TO ENSURE THEY CONSIST OF TWO ALPHANUMERIC AND THREE DIGITS.

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DFI	NAME	DEFINITION	
1103	ABSOLUTE VALUE		
	DATA STANDARD USAGE: IBS	STATUS:	
	DUI NAME	EXPLANATION	APPLICABILITY
801	ABSOLUTE VALUE OF COVARIANCE, DATA ELEMENT 23, IBS [Covar_Elmt_23]	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 23.	ENTITY MESSAGE
802	ABSOLUTE VALUE OF COVARIANCE, DATA ELEMENT 24, IBS [Covar_Elmt_24]	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 24.	ENTITY MESSAGE
803	ABSOLUTE VALUE OF COVARIANCE, DATA ELEMENT 25, IBS [Covar_Elmt_25]	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 25.	ENTITY MESSAGE
804	ABSOLUTE VALUE OF COVARIANCE, DATA ELEMENT 26, IBS [Covar_Elmt_26]	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 26.	ENTITY MESSAGE
805	ABSOLUTE VALUE OF COVARIANCE, DATA ELEMENT 34, IBS [Covar_Elmt_34]	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 34.	ENTITY MESSAGE
806	ABSOLUTE VALUE OF COVARIANCE, DATA ELEMENT 35, IBS [Covar_Elmt_35]	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 35.	ENTITY MESSAGE
807	ABSOLUTE VALUE OF COVARIANCE, DATA ELEMENT 36, IBS [COVAR_ELMET_36]	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 36.	ENTITY MESSAGE
808	ABSOLUTE VALUE OF COVARIANCE, DATA ELEMENT 45, IBS [COVAR_ELMET_45]	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 45.	ENTITY MESSAGE

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DFI NAME

1103 ABSOLUTE VALUE

809 ABSOLUTE VALUE OF COVARIANCE,  
DATA ELEMENT 46, IBS  
[Covar\_Elmt\_46]

ABSOLUTE VALUE OF COVARIANCE DATA  
ELEMENT 46.

ENTITY MESSAGE

810 ABSOLUTE VALUE OF COVARIANCE,  
DATA ELEMENT 56, IBS  
[Covar\_Elmt\_56]

ABSOLUTE VALUE OF COVARIANCE DATA  
ELEMENT 56.

ENTITY MESSAGE

DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE

FIELD INTEGER

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUIS 801-810 -----

RESET ATTRIBUTE: NO

0 THROUGH 1023	0 THROUGH 1023	MULT: 978E- 6	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT IN 1/1023 INCREMENTS. AFTER APPLICATION OF THE VALUE MULTIPLIER, THE VALUE OF THE ABSOLUTE VALUE WILL BE 0 THROUGH 1. THE VALUE MULTIPLIER IS THE DECIMAL REPRESENTATION OF 1/1023 INCREMENTS.
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APPENDIX B, PART I

DFI	NAME	DEFINITION			
1105	BETA	EXPRESSES MEASURED DRAG EFFECT.			
DATA STANDARD USAGE: IBS		STATUS:			
DUI NAME	EXPLANATION	APPLICABILITY			
801 BALLISTIC MISSILE BETA, IBS [Ballistic_Missl_Beta]	THIS FIELD IS ONLY REPORTED WHEN BOOST INDICATOR IS SET TO VALUE 0, NON BOOST. IT EXPRESSES MEASURED ATMOSPHERIC DRAG EFFECTS ON A BALLISTIC MISSILE WITH A CONSTANT REFERENCE AREA. BETA IS DEFINED AS THE MASS OF THE OBJECT DIVIDED BY THE PRODUCT OF ITS COEFFICIENT OF DRAG AND REFERENCE AREA.	ENTITY MESSAGE			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE				
FIELD	INTEGER				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
0 THROUGH 262141	0 THROUGH 262141	MULT: IMPLIED 12E-3	BETA DETERMINED BY MULTIPLYING A VALUE FROM THE RANGE BY THE VALUE MULTIPLIER. WHEN THE MULTIPLIER IS APPLIED, THE VALUE RANGE OF BALLISTIC MISSILE BETA WILL BE 0 THROUGH 3145.692 MASS POUNDS PER SQUARE FEET.		
"262141" WITH VALUE QUALIFIER ATTRIBUTE SET TO "GREATER_THAN"	CMF-B METHOD FOR "GREATER THAN" INTEGER VALUES IS TO PASS ONE MORE THAN	MULT: IMPLIED 12E-3	IF "GREATER THAN" VALUE QUALIFIER ATTRIBUTE IS SET, THE ACTUAL VALUE FOR BALLISTIC MISSILE BETA IS		

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DFI      NAME  
1105    BETA

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
	THE HIGHEST VALUE WITHIN THE VALUE RANGE.						SOMETHING GREATER THAN 3145.692 MASS POUNDS PER SQUARE FEET.

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DFI	NAME	DEFINITION
1106	COVARIANCE DATA ELEMENT	THE COVARIANCE DATA ELEMENTS ARE USED ALONG WITH ROOT VARIANCE DATA TO CONSTRUCT THE COVARIANCE MATRIX, WHICH DESCRIBES THE UNCERTAINTIES ASSOCIATED WITH A TRACK MESSAGE. THE COVARIANCE DATA ELEMENTS REPRESENT THE ELEMENTS OF THE CHOLESKY DECOMPOSITION OF THE PRECOMPENSATED CORRELATION MATRIX. NOTE: COVARIANCE DATA ELEMENTS 11 THROUGH 16 ARE NOT SENT. COVARIANCE DATA ELEMENT 11 IS ALWAYS EQUAL TO 1.0. THE RECIPIENT OF THE MESSAGE IS REQUIRED TO SOLVE FOR COVARIANCE DATA ELEMENTS 12 THROUGH 16 BY USING THE DEFINITION OF THE CORRELATION MATRIX AND THE SIGNS OF COVARIANCE DATA ELEMENTS 12 THROUGH 16 WHICH ARE PROVIDED IN THE MESSAGE.
DATA STANDARD USAGE: IBS		STATUS:
DUI	NAME	EXPLANATION
801	COVARIANCE DATA ELEMENT 22, IBS [Covar_Elmt_22]	REPRESENTS THE ELEMENT OCCUPYING ROW 2, COLUMN 2 OF THE COVARIANCE DATA MATRIX.
802	COVARIANCE DATA ELEMENT 33, IBS [Covar_Elmt_33]	REPRESENTS THE ELEMENT OCCUPYING ROW 3, COLUMN 3 OF THE COVARIANCE DATA MATRIX.
803	COVARIANCE DATA ELEMENT 44, IBS [Covar_Elmt_44]	REPRESENTS THE ELEMENT OCCUPYING ROW 4, COLUMN 4 OF THE COVARIANCE DATA MATRIX.
804	COVARIANCE DATA ELEMENT 55, IBS [Covar_Elmt_55]	REPRESENTS THE ELEMENT OCCUPYING ROW 5, COLUMN 5 OF THE COVARIANCE DATA MATRIX.
805	COVARIANCE DATA ELEMENT 66, IBS [COVAR_ELMT_66]	REPRESENTS THE ELEMENT OCCUPYING ROW 6, COLUMN 6 OF THE COVARIANCE DATA MATRIX.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	INTEGER	

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DFI NAME  
1106 COVARIANCE DATA ELEMENT

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUIS 801-805 -----					
RESET ATTRIBUTE: NO					
0 THROUGH 1023	0 THROUGH 1023	MULT:	978E-	6	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT IN 1/1023 INCREMENTS. AFTER APPLICATION OF THE VALUE MULTIPLIER, THE VALUE OF THE COVARIANCE DATA ELEMENT WILL BE 0 THROUGH 1. THE VALUE MULTIPLIER IS THE DECIMAL REPRESENTATION OF 1/1023 INCREMENTS.

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DFI	NAME	DEFINITION
1107	INDICATOR	
	DATA STANDARD USAGE: IBS	STATUS:
	DUI NAME	EXPLANATION
	003 BOOST INDICATOR [Boost_Indic]	SPECIFIES WHETHER A BALLISTIC MISSILE IS IN THE BOOST STAGE.
	801 MANEUVERING INDICATOR, IBS [Maneuver_Indic]	SPECIFIES WHETHER AN ENTITY IS CONDUCTING MANEUVER OPERATIONS POST BOOST.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	ENUMERATED	

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 003 -----					
RESET ATTRIBUTE: YES					
NON_BOOST	0				
BOOST	1				
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
POST_BOOST_	1				TRACK IS POST-BOOST AND A MANEUVER IS IN PROGRESS
MANEUVERING					
POST_BOOST_MANEUVER_	2				TRACK IS POST-BOOST AND A MANEUVER HAS COMPLETED
COMPLETED					

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DFI	NAME	DEFINITION
1108	POSITION, WGS-84	THE X, Y, Z POSITION IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).
DATA STANDARD USAGE:	IBS	STATUS:
DUI NAME		EXPLANATION
801 POSITION [Position]		THE POSITION IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	FLOAT	
DUI NAME		EXPLANATION
802 X Y Z RESOLUTION SWITCH [X_Y_Z_Resol_Swch]		THIS SWITCH INDICATES WHETHER THE X, Y, AND Z POSITION INFORMATION HAS BEEN OBTAINED FROM ONE OR MORE SOURCES OF THE SAME TYPE.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	ENUMERATED	
DUI NAME		EXPLANATION
803 REFERENCE POSITION [Ref_Position]		THE POSITION OF A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	COLLABORATION MESSAGE
FIELD	FLOAT	

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DFI NAME  
1108 POSITION, WGS-84

DATA ITEM	VALUE RANGE	UNIT EQUIV	MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: NO					
-41,943,030 THROUGH 41,943,030 FEET	-41,943,030 THROUGH 41,943,030		UNRANGED	REPORTED IN FEET.	
----- FOR DUI 802 -----					
RESET ATTRIBUTE: NO					
FINE_RESOL	0			FINE RESOLUTION (MORE THAN ONE SOURCE)	
COARSE_RESOL	1			COARSE RESOLUTION (ONE SOURCE)	
----- FOR DUI 803 -----					
RESET ATTRIBUTE: YES					
-214748.3646 THROUGH 214748.3647 KILOMETERS	-2147483646E-4 THROUGH 2147483647E-4	1	UNRANGED	IF THE UNIT EQUIVALENT VALUE ATTRIBUTE IS SET TO 1, REFERENCE POSITION IS REPORTED IN KILOMETERS. DEFAULT ACCURACY = 1E-4. (DEFAULT UNIT VALUE).	
-13344.6337 THROUGH 13344.6338 MILES	-133446337E-4 THROUGH 133446338E-4	2	UNRANGED	IF THE UNIT EQUIVALENT VALUE ATTRIBUTE IS SET TO 2, REFERENCE POSITION IS REPORTED IN MILES. DEFAULT ACCURACY = 6E-5.	

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DFI	NAME	DEFINITION
1109	ROOT VARIANCE	ROOT VARIANCE ELEMENTS ARE USED ALONG WITH THE COVARIANCE DATA ELEMENTS TO CONSTRUCT THE COVARIANCE MATRIX, WHICH DESCRIBES THE UNCERTAINTIES ASSOCIATED WITH A TRACK. ROOT VARIANCE ELEMENTS ARE ALSO USED ALONG WITH THE VELOCITY COVARIANCE DATA ELEMENTS TO CONSTRUCT THE VELOCITY COVARIANCE SUBMATRIX. THE ROOT VARIANCES ARE DEFINED AS THE SQUARE ROOTS OF THE DIAGONAL ELEMENTS OF THE COVARIANCE MATRIX. ALL ROOT VARIANCE ELEMENTS ARE EXPRESSED IN THE EARTH CENTERED FIXED (ECF) WGS-84 COORDINATE SYSTEM.
DATA STANDARD USAGE:	IBS	STATUS:
DUI NAME		EXPLANATION
801 SIGMA POSITION [Sigma_Position]		REPRESENTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR IN THE X, Y, OR Z AXIS POSITION STATE VECTOR EXPRESSED IN THE WGS-84 ECF COORDINATE SYSTEM.
802 SIGMA VELOCITY [Sigma_Vel]		REPRESENTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR IN THE X, Y, OR Z AXIS VELOCITY STATE VECTOR EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	INTEGER	ENTITY MESSAGE

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DFI NAME  
1109 ROOT VARIANCE

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: NO					
0 THROUGH 1022	0 THROUGH 1022				SIGMA POSITION VALUES IN THE DTD ARE ENCODED IN LOGARITHMIC INCREMENTS FROM 1 FOOT THROUGH 1,000,000 FEET (NONLINEAR). THE DTD VALUES FOR SIGMA POSITION ARE EQUAL TO THE TRUNCATION OF [ (ALPHA TIMES LN OF (ACTUAL SIGMA VALUE DIVIDED BY 1.0 FT)) PLUS 0.5] WHERE LN IS THE NATURAL LOGARITHM AND ALPHA IS A CONSTANT EQUAL TO 1022 DIVIDED BY LN OF 1,000,000 (THEREFORE ALPHA EQUALS 73.975).
----- FOR DUI 802 -----					
RESET ATTRIBUTE: NO					
0 THROUGH 1022	0 THROUGH 1022				SIGMA VELOCITY VALUES IN THE DTD ARE ENCODED IN LOGARITHMIC INCREMENTS FROM 1 FT PER SEC THROUGH 1,312,336 FT PER SEC. THE DTD VALUES FOR SIGMA VELOCITY ARE EQUAL TO THE TRUNCATION OF [ (ALPHA TIMES LN OF (ACTUAL SIGMA VALUE DIVIDED BY 1.0 FT PER SECOND)) PLUS 0.5] WHERE LN IS THE NATURAL LOGARITHM AND ALPHA IS A CONSTANT EQUAL TO 1022 DIVIDED BY LN OF 1,312,336 (THEREFORE ALPHA EQUALS 72.548).

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DFI	NAME	DEFINITION	
1110	SIGN		
	DATA STANDARD USAGE: IBS	STATUS:	
	DUI NAME	EXPLANATION	APPLICABILITY
801	SIGN OF COVARIANCE DATA ELEMENT 12, IBS [Sign_12]	SIGN OF COVARIANCE DATA ELEMENT 12.	ENTITY MESSAGE
802	SIGN OF COVARIANCE DATA ELEMENT 13, IBS [Sign_13]	SIGN OF COVARIANCE DATA ELEMENT 13.	ENTITY MESSAGE
803	SIGN OF COVARIANCE DATA ELEMENT 14, IBS [Sign_14]	SIGN OF COVARIANCE DATA ELEMENT 14.	ENTITY MESSAGE
804	SIGN OF COVARIANCE DATA ELEMENT 15, IBS [Sign_15]	SIGN OF COVARIANCE DATA ELEMENT 15.	ENTITY MESSAGE
805	SIGN OF COVARIANCE DATA ELEMENT 16, IBS [Sign_16]	SIGN OF COVARIANCE DATA ELEMENT 16.	ENTITY MESSAGE
806	SIGN OF COVARIANCE DATA ELEMENT 23, IBS [Sign_23]	SIGN OF COVARIANCE DATA ELEMENT 23.	ENTITY MESSAGE
807	SIGN OF COVARIANCE DATA ELEMENT 24, IBS [Sign_24]	SIGN OF COVARIANCE DATA ELEMENT 24.	ENTITY MESSAGE
808	SIGN OF COVARIANCE DATA ELEMENT 25, IBS [Sign_25]	SIGN OF COVARIANCE DATA ELEMENT 25.	ENTITY MESSAGE
809	SIGN OF COVARIANCE DATA ELEMENT 26, IBS [Sign_26]	SIGN OF COVARIANCE DATA ELEMENT 26.	ENTITY MESSAGE
810	SIGN OF COVARIANCE DATA ELEMENT 34, IBS [Sign_34]	SIGN OF COVARIANCE DATA ELEMENT 34.	ENTITY MESSAGE

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APPENDIX B, PART IDFI NAME  
1110 SIGN

811 SIGN OF COVARIANCE DATA ELEMENT 35, IBS [Sign_35]	SIGN OF COVARIANCE DATA ELEMENT 35. ENTITY MESSAGE
812 SIGN OF COVARIANCE DATA ELEMENT 36, IBS [Sign_36]	SIGN OF COVARIANCE DATA ELEMENT 36. ENTITY MESSAGE
813 SIGN OF COVARIANCE DATA ELEMENT 45, IBS [Sign_45]	SIGN OF COVARIANCE DATA ELEMENT 45. ENTITY MESSAGE
814 SIGN OF COVARIANCE DATA ELEMENT 46, IBS [Sign_46]	SIGN OF COVARIANCE DATA ELEMENT 46. ENTITY MESSAGE
815 SIGN OF COVARIANCE DATA ELEMENT 56, IBS [Sign_56]	SIGN OF COVARIANCE DATA ELEMENT 56. ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
FIELD	PACKED COMPONENT

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUIS 801-815 -----

RESET ATTRIBUTE: NO

POSITIVE	1	(DEFAULT VALUE)
NEGATIVE	2	

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DFI	NAME	DEFINITION
1113	VELOCITY, WGS-84	THE RATE OF CHANGE OF POSITION ALONG A DESIGNATED AXIS.
DATA STANDARD USAGE: IBS		STATUS:
DUI NAME	EXPLANATION	APPLICABILITY
801 VELOCITY IN WGS-84 [Velocity]	THE RATE OF CHANGE OF POSITION ALONG THE AXIS (WGS-84 REFERENCE FRAME).	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	INTEGER	
DUI NAME	EXPLANATION	APPLICABILITY
802 REFERENCE VELOCITY [Ref_Vel]	THE RATE OF CHANGE OF POSITION ALONG AN AXIS FOR A REFERENCE POINT OR PLATFORM IN EARTH- CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS- 84).	COLLABORATION MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	FLOAT	

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DFI NAME  
1113 VELOCITY, WGS-84

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
1 THROUGH 16,383	1 THROUGH 16383		OFF: -8192		REPORTED IN FEET PER SECOND. AFTER APPLICATION OF THE VALUE MULTIPLIER AND THE VALUE OFFSET, THE VALUE OF VELOCITY WILL BE -27,276.03 THROUGH 27,276.03 FEET PER SECOND.
MULT: 3.33					
----- FOR DUI 802 -----					
RESET ATTRIBUTE: YES					
-53,687.09115 THROUGH 53,687.09118 METERS PER SECOND	-5368709115E-5 THROUGH 5368709118E-5	1		UNRANGED	IF THE UNIT EQUIVALENT VALUE ATTRIBUTE IS SET TO 1, REFERENCE VELOCITY IS REPORTED IN METERS PER SECOND. DEFAULT ACCURACY = 2.5E-5. (DEFAULT UNIT VALUE).
-176,136.6086 THROUGH 176,136.6086 FEET PER SECOND	-1761366086E-4 THROUGH 1761366086E-4	2		UNRANGED	IF THE UNIT EQUIVALENT VALUE ATTRIBUTE IS SET TO 2, REFERENCE VELOCITY IS REPORTED IN FEET PER SECOND. DEFAULT ACCURACY = 8.2E-5.

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DFI	NAME	DEFINITION			
1203	FREQUENCY AGILITY				
	DATA STANDARD USAGE: IBS	STATUS:			
	DUI NAME	EXPLANATION			
	801 FREQUENCY AGILITY INDICATOR, IBS [Freq_Agil_Indic]	INDICATES THE REFERENCED Emitter IS EXHIBITING RADIO FREQUENCY AGILITY CHARACTERISTICS.			
	DATA ELEMENT TYPE	APPLICABILITY			
	REPRESENTATION TYPE	ENTITY MESSAGE			
	FIELD	PACKED COMPONENT			
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
FREQUENCY_AGILITY_ NOT_PRESENT	1	(DEFAULT VALUE)			
FREQUENCY_AGILITY_ PRESENT	2				

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DFI	NAME	DEFINITION	
1580	ANTENNA SCAN RATE		
DATA STANDARD USAGE:	IBS	STATUS:	
DUI NAME	EXPLANATION	APPLICABILITY	
801 SCAN RATE [Scan_Rate]	THE RATE (HZ) REQUIRED FOR A BEAM OF RADIO FREQUENCY ENERGY TO COMPLETE A GIVEN SCAN PATTERN.	ENTITY MESSAGE	
802 SCAN PERIOD [Scan_Period]	THE TIME (SEC) REQUIRED FOR A BEAM OF RADIO FREQUENCY ENERGY TO COMPLETE A GIVEN SCAN.	ENTITY MESSAGE	
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	FLOAT		
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD ACCURACY EXPLANATION
----- FOR DUI 801 -----			
RESET ATTRIBUTE: YES			
.001 THROUGH 1023 HERTZ	1E-3 THROUGH 1023	1E-3 THROUGH 1E0	REPORTED IN HERTZ. DEFAULT ACCURACY = 1E-1.
GREATER THAN	1E-3 THROUGH 1023	1E-3 THROUGH 1E0	IF THE "GREATER THAN" QUALIFIER IS SET, THE ACTUAL VALUE FOR SCAN RATE IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).
----- FOR DUI 802 -----			
RESET ATTRIBUTE: YES			
.001 THROUGH 255.75 SECONDS	1E-3 THROUGH 25575E-2	1E-3 THROUGH 25E-2	REPORTED IN SECONDS. DEFAULT ACCURACY = 1E-2.

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DFI NAME  
1580 ANTENNA SCAN RATE

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
GREATER THAN	1E-3 THROUGH 25575E-2					1E-3 THROUGH 25E-2	IF THE "GREATER THAN" QUALIFIER IS SET, THE ACTUAL VALUE FOR SCAN PERIOD IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).

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DFI NAME DEFINITION  
1604 SIMULATION INDICATOR AN INDICATION WHETHER THE TRACK OR UNIT IS REAL OR SIMULATED.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME

EXPLANATION

APPLICABILITY

801 SIMULATION INDICATOR, IBS  
[Simul\_Indic]

INDICATES WHETHER THE TRACK  
REFERENCED IN THE MESSAGE IS A  
REAL OR A SIMULATED TRACK.

CMF DOC (PACKAGE HEADER)

DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE

FIELD PACKED COMPONENT

DATA ITEM	VALUE RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
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----- FOR DUI 801 -----

RESET ATTRIBUTE: NO

REAL_TRACK_OR_UNIT	1	(INITIAL VALUE)
SIMULATED_TRACK_OR_	2	
UNIT		

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DFI NAME  
1606 INFORMATION MANAGEMENT ACTION DEFINITION  
NUMBER AN INDICATION OF THE TRACK MANAGEMENT ACTION TO BE PERFORMED.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME

EXPLANATION

APPLICABILITY

801 DROP ENTITY ACTION  
[Drop\_Entity\_Action]

INDICATES THE SOURCE PLATFORM WILL  
NO LONGER REPORT ON THE ENTITY.

ENTITY MESSAGE

DATA ELEMENT TYPE  
REPRESENTATION TYPE

FIELD ENUMERATED

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 801 -----

RESET ATTRIBUTE: NO

DROP	1
CANCEL	2

DROP ENTITY  
DROP ENTITY - AND CANCEL  
PREVIOUS INVALID REPORTS

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DFI	NAME	DEFINITION
1648	RADIO TYPE	SPECIFIES THE TYPE OF RADIO.
	DATA STANDARD USAGE: IBS	STATUS:
	DUI NAME	EXPLANATION
	801 RADIO TYPE, IBS [Radio_Typ]	SPECIFIES GENERAL RADIO CAPABILITIES BY IDENTIFYING THE RADIO NOMENCLATURE AND/OR NAME.
	DATA ELEMENT TYPE	REPRESENTATION TYPE
	FIELD	ENUMERATED
		UNIT VALUE
	DATA ITEM	VALUE RANGE EQUIV MOD ACCURACY EXPLANATION
	----- FOR DUI 801 -----	
	RESET ATTRIBUTE: YES	
	PRQ7_CSEL	0 AN/PRQ-7 COMBAT SURVIVOR EVADER LOCATOR (CSEL) RADIO.
	PRC90	1 AN/PRC-90 RADIO.
	PRC112	2 AN/PRC-112 FAMILY HOOK/DATABURST RADIO.
	PRC112B_B1	3 AN/PRC-112B/B1 RADIO.
	PRC112C	4 AN/PRC-112C RADIO.
	PRC112D	5 AN/PRC-112D RADIO.
	PRC148_MBITR	6 AN/PRC-148 MBITR RADIO.
	PRC148_JEM	7 AN/PRC-148 JEM RADIO.
	PRC149	8 AN/PRC-149 RADIO.
	PRC152	9 AN/PRC-152 RADIO.
	ACR_PLB	10 ACR PERSONNEL LOCATOR BEACON (PLB) RADIO.
	OTHR	11 OTHER

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DFI	NAME	DEFINITION
1665	EQUIPMENT STATUS	DESCRIBES THE OPERATIONAL STATUS OF SPECIAL EQUIPMENT.
	DATA STANDARD USAGE: IBS	STATUS:
	DUI NAME	EXPLANATION
	801 GPS POSITIONING SYSTEM NAVIGATION STATUS [GPS_Nav_Stat]	INDICATES THE TRACKING STATUS OF A GPS-BASED GUIDANCE/NAVIGATION MECHANISM OR SYSTEM POTENTIALLY USED BY THE SENSOR(S) PROVIDING THE ENTITY INFORMATION.
	802 MILLIMETER WAVE NAVIGATION STATUS [MMW_Nav_Stat]	INDICATES THE TRACKING STATUS OF A MMW-BASED GUIDANCE/NAVIGATION MECHANISM OR SYSTEM POTENTIALLY USED BY THE SENSOR(S) PROVIDING THE ENTITY INFORMATION.
	803 IMAGING INFRARED NAVIGATION STATUS [IIR_Nav_Stat]	INDICATES THE TRACKING STATUS OF AN IIR-BASED GUIDANCE/NAVIGATION MECHANISM OR SYSTEM POTENTIALLY USED BY THE SENSOR(S) PROVIDING THE ENTITY INFORMATION.
	804 ANTI-RADIATION HOMING NAVIGATION STATUS [ARH_Nav_Stat]	INDICATES THE TRACKING STATUS OF AN ARH-BASED GUIDANCE/NAVIGATION MECHANISM OR SYSTEM POTENTIALLY USED BY THE SENSOR(S) PROVIDING THE ENTITY INFORMATION.
	805 LASER NAVIGATION STATUS [LASER_Nav_Stat]	INDICATES THE TRACKING STATUS OF A LASER-BASED GUIDANCE/NAVIGATION MECHANISM OR SYSTEM POTENTIALLY USED BY THE SENSOR(S) PROVIDING THE ENTITY INFORMATION.
	806 INERTIAL NAVIGATION SYSTEM NAVIGATION STATUS [INS_Nav_Stat]	INDICATES THE TRACKING STATUS OF AN INS-BASED GUIDANCE/NAVIGATION MECHANISM OR SYSTEM POTENTIALLY USED BY THE SENSOR(S) PROVIDING THE ENTITY INFORMATION.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	

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DFI NAME  
1665 EQUIPMENT STATUS

FIELD PACKED COMPONENT

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUIS 801 THROUGH 806 -----

RESET ATTRIBUTE: YES

NOT_TRACKING	1
TRACKING	2

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DFI	NAME	DEFINITION
1740	ACTION/INFORMATION INDICATOR	
	DATA STANDARD USAGE: IBS	STATUS:
	DUI NAME	EXPLANATION
	801 CO-LOCATED THREAT [Colocated_Threat]	INDICATES WHETHER A WEAPON HAS DETECTED OTHER THREAT(S) IN THE VICINITY OF ITS CURRENT TARGET.
	DATA ELEMENT TYPE	APPLICABILITY
	REPRESENTATION TYPE	ENTITY MESSAGE
	FIELD	ENUMERATED
DATA ITEM	VALUE RANGE	UNIT EQUIV MOD ACCURACY EXPLANATION
----- FOR DUI 801 -----		
RESET ATTRIBUTE: YES		
NOT_DETECTED	0	
DETECTED	1	

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DFI	NAME	DEFINITION	
1806	AXIS ORIENTATION		
DATA STANDARD USAGE:	IBS	STATUS:	
DUI NAME		EXPLANATION	APPLICABILITY
801	AXIS ORIENTATION, IBS [Axis_Orient]	THE AXIS ORIENTATION IS THE OFFSET FROM TRUE NORTH EXPRESSED IN DEGREES AND IS USED TO ORIENT THE AREA MAJOR AXIS OF A CIRCLE, ELLIPSE, SQUARE, OR RECTANGLE.	ENTITY MESSAGE
802	AREA ORIENTATION [Area_Orient]	THE ANGLE OR ROLL IN DEGREES, BETWEEN THE AREA SEMI-MINOR AXIS AND THE PLANE DEFINED BY THE LOCAL VERTICAL AND AREA SEMI-MAJOR AXIS, OR WHEN REPORTED WITHOUT MAJOR AND MINOR AXIS, IS THE ANGLE BETWEEN AN AXIS PERPENDICULAR TO A TWO-DIMENSIONAL TRUE NORTH AXIS AND THE PLANE DEFINED BY THE LOCAL VERTICAL AND A TWO-DIMENSIONAL TRUE NORTH AXIS.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	FLOAT		

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DFI NAME  
1806 AXIS ORIENTATION

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
0 THROUGH 180 DEGREES EXCLUSIVE	0 THROUGH 180 EXCLUSIVE			UNRANGED	
----- FOR DUI 802 -----					
RESET ATTRIBUTE: YES					
0 THROUGH 180 DEGREES EXCLUSIVE	0 THROUGH 180 EXCLUSIVE			UNRANGED	

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APPENDIX B, PART I

DFI NAME  
1821 WARTIME RESERVE MODE INDICATOR

DEFINITION  
INDICATES THAT AN Emitter IS OPERATING IN ITS NORMAL OPERATING MODE  
OR IN ITS WARTIME RESERVE MODE.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME	EXPLANATION	APPLICABILITY
801 WARTIME RESERVE MODE, IBS [War_Rsv_Mode]	INDICATES THAT AN Emitter IS OPERATING IN ITS NORMAL OPERATING MODE OR IN ITS WARTIME RESERVE MODE.	ENTITY MESSAGE

DATA ELEMENT TYPE

DATA REPRESENTATION TYPE

FIELD ENUMERATED

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
NOT_WAR_RESV	1				NOT WARTIME RESERVE
POSSBL_WAR_RESV	2				POSSIBLE WARTIME RESERVE
WAR_RESV	3				WARTIME RESERVE

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DFI	NAME	DEFINITION	
1849	MODULATION CODE	INDICATES THE TYPE OF SIGNAL MODULATION.	
DATA STANDARD	USAGE:	STATUS:	
801	ELINT Emitter Modulation [ELINT_Emitter_Modulat]	DESCRIBES THE PRIMARY MODULATION IN USE BY THE REFERENCED ELINT Emitter.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	STRING		
DUI NAME		EXPLANATION	APPLICABILITY
802	ELINT PULSE MODULATION [ELINT_Pulse_Modulat]	PULSED Emitter Modulation Code.	ENTITY MESSAGE, COLLABORATION MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	INTEGER		
DUI NAME		EXPLANATION	APPLICABILITY
803	COMMUNICATIONS EXTERNAL MODULATION [Comms_External_Modulat]	THE MODULATION CHARACTERISTICS (OR LACK THEREOF) OF AN RF CARRIER OR PULSED RF SIGNALS IN ACCORDANCE WITH USSID CR1553 DEFINED CODES.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	ENUMERATED		

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APPENDIX B, PART I

DFI NAME  
1849 MODULATION CODE

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
AA	AA				THE VALUE FOR Emitter
AB	AB				MODULATION IS A STRING OF
AC	AC				ONE TO TWO CHARACTERS AS
AD	AD				SHOWN IN THE "DATA ITEM".
AE	AE				*SEE ANNEX A*
AG	AG				*SEE ANNEX A*
AL	AL				*SEE ANNEX A*
AM	AM				*SEE ANNEX A*
AN	AN				*SEE ANNEX A*
AO	AO				*SEE ANNEX A*
AP	AP				*SEE ANNEX A*
AQ	AQ				*SEE ANNEX A*
AR	AR				*SEE ANNEX A*
AS	AS				*SEE ANNEX A*
AT	AT				*SEE ANNEX A*
AU	AU				*SEE ANNEX A*
AV	AV				*SEE ANNEX A*
AW	AW				*SEE ANNEX A*
AX	AX				*SEE ANNEX A*
AY	AY				*SEE ANNEX A*
AZ	AZ				*SEE ANNEX A*
BA	BA				*SEE ANNEX A*
BB	BB				*SEE ANNEX A*
BC	BC				*SEE ANNEX A*
BD	BD				*SEE ANNEX A*
BE	BE				*SEE ANNEX A*
BG	BG				*SEE ANNEX A*
BL	BL				*SEE ANNEX A*
BM	BM				*SEE ANNEX A*
BN	BN				*SEE ANNEX A*
BO	BO				*SEE ANNEX A*

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APPENDIX B, PART IDFI NAME  
1849 MODULATION CODE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
BP	BP							*SEE ANNEX A*
BQ	BQ							*SEE ANNEX A*
BR	BR							*SEE ANNEX A*
BS	BS							*SEE ANNEX A*
BT	BT							*SEE ANNEX A*
BU	BU							*SEE ANNEX A*
BV	BV							*SEE ANNEX A*
BW	BW							*SEE ANNEX A*
BX	BX							*SEE ANNEX A*
BY	BY							*SEE ANNEX A*
BZ	BZ							*SEE ANNEX A*
CA	CA							*SEE ANNEX A*
CB	CB							*SEE ANNEX A*
CC	CC							*SEE ANNEX A*
CD	CD							*SEE ANNEX A*
CE	CE							*SEE ANNEX A*
CF	CF							COMPOSITE MODULATION ON PULSE (CMOP)
CG	CG							*SEE ANNEX A*
CL	CL							*SEE ANNEX A*
CM	CM							*SEE ANNEX A*
CN	CN							*SEE ANNEX A*
CO	CO							*SEE ANNEX A*
CP	CP							*SEE ANNEX A*
CQ	CQ							*SEE ANNEX A*
CR	CR							*SEE ANNEX A*
CS	CS							*SEE ANNEX A*
CT	CT							*SEE ANNEX A*
CU	CU							*SEE ANNEX A*
CV	CV							*SEE ANNEX A*
CW	CW							*SEE ANNEX A*
CX	CX							*SEE ANNEX A*
CY	CY							*SEE ANNEX A*
CZ	CZ							*SEE ANNEX A*
DA	DA							*SEE ANNEX A*
DB	DB							*SEE ANNEX A*
DC	DC							*SEE ANNEX A*
DD	DD							*SEE ANNEX A*
DE	DE							*SEE ANNEX A*
DG	DG							*SEE ANNEX A*

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APPENDIX B, PART I

DFI NAME  
1849 MODULATION CODE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
DL	DL							*SEE ANNEX A*
DM	DM							*SEE ANNEX A*
DN	DN							*SEE ANNEX A*
DO	DO							*SEE ANNEX A*
DP	DP							*SEE ANNEX A*
DQ	DQ							*SEE ANNEX A*
DR	DR							*SEE ANNEX A*
DS	DS							*SEE ANNEX A*
DT	DT							*SEE ANNEX A*
DU	DU							*SEE ANNEX A*
DV	DV							*SEE ANNEX A*
DW	DW							*SEE ANNEX A*
DX	DX							*SEE ANNEX A*
DY	DY							*SEE ANNEX A*
DZ	DZ							*SEE ANNEX A*
EA	EA							*SEE ANNEX A*
EB	EB							*SEE ANNEX A*
EC	EC							*SEE ANNEX A*
ED	ED							*SEE ANNEX A*
EE	EE							*SEE ANNEX A*
EG	EG							*SEE ANNEX A*
EL	EL							*SEE ANNEX A*
EM	EM							*SEE ANNEX A*
EN	EN							*SEE ANNEX A*
EO	EO							*SEE ANNEX A*
EP	EP							*SEE ANNEX A*
EQ	EQ							*SEE ANNEX A*
ER	ER							*SEE ANNEX A*
ES	ES							*SEE ANNEX A*
ET	ET							*SEE ANNEX A*
EU	EU							*SEE ANNEX A*
EV	EV							*SEE ANNEX A*
EW	EW							*SEE ANNEX A*
EX	EX							*SEE ANNEX A*
EY	EY							*SEE ANNEX A*
EZ	EZ							*SEE ANNEX A*
FA	FA							*SEE ANNEX A*
FB	FB							*SEE ANNEX A*
FC	FC							*SEE ANNEX A*
FD	FD							*SEE ANNEX A*

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APPENDIX B, PART IDFI NAME  
1849 MODULATION CODE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
FE	FE							*SEE ANNEX A*
FG	FG							*SEE ANNEX A*
FK	FK							FREQUENCY SHIFT KEY MOD
FL	FL							*SEE ANNEX A*
FM	FM							*SEE ANNEX A*
FN	FN							*SEE ANNEX A*
FO	FO							*SEE ANNEX A*
FP	FP							*SEE ANNEX A*
FQ	FQ							*SEE ANNEX A*
FR	FR							*SEE ANNEX A*
FS	FS							*SEE ANNEX A*
FT	FT							*SEE ANNEX A*
FU	FU							*SEE ANNEX A*
FV	FV							*SEE ANNEX A*
FW	FW							*SEE ANNEX A*
FX	FX							*SEE ANNEX A*
FY	FY							*SEE ANNEX A*
FZ	FZ							*SEE ANNEX A*
GA	GA							*SEE ANNEX A*
GB	GB							*SEE ANNEX A*
GC	GC							*SEE ANNEX A*
GD	GD							*SEE ANNEX A*
GE	GE							*SEE ANNEX A*
GG	GG							*SEE ANNEX A*
GL	GL							*SEE ANNEX A*
GM	GM							*SEE ANNEX A*
GN	GN							*SEE ANNEX A*
GO	GO							*SEE ANNEX A*
GP	GP							*SEE ANNEX A*
GQ	GQ							*SEE ANNEX A*
GR	GR							*SEE ANNEX A*
GS	GS							*SEE ANNEX A*
GT	GT							*SEE ANNEX A*
GU	GU							*SEE ANNEX A*
GV	GV							*SEE ANNEX A*
GW	GW							*SEE ANNEX A*
GX	GX							*SEE ANNEX A*
GY	GY							*SEE ANNEX A*
GZ	GZ							*SEE ANNEX A*
HA	HA							*SEE ANNEX A*

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APPENDIX B, PART IDFI NAME  
1849 MODULATION CODE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
HB	HB							*SEE ANNEX A*
HC	HC							*SEE ANNEX A*
HD	HD							*SEE ANNEX A*
HE	HE							*SEE ANNEX A*
HG	HG							*SEE ANNEX A*
HL	HL							*SEE ANNEX A*
HM	HM							*SEE ANNEX A*
HN	HN							*SEE ANNEX A*
HO	HO							*SEE ANNEX A*
HP	HP							*SEE ANNEX A*
HQ	HQ							*SEE ANNEX A*
HR	HR							*SEE ANNEX A*
HS	HS							*SEE ANNEX A*
HT	HT							*SEE ANNEX A*
HU	HU							*SEE ANNEX A*
HV	HV							*SEE ANNEX A*
HW	HW							*SEE ANNEX A*
HX	HX							*SEE ANNEX A*
HY	HY							*SEE ANNEX A*
HZ	HZ							*SEE ANNEX A*
IA	IA							*SEE ANNEX A*
IB	IB							*SEE ANNEX A*
IC	IC							*SEE ANNEX A*
ID	ID							*SEE ANNEX A*
IE	IE							*SEE ANNEX A*
IG	IG							*SEE ANNEX A*
IL	IL							*SEE ANNEX A*
IM	IM							*SEE ANNEX A*
IN	IN							*SEE ANNEX A*
IO	IO							*SEE ANNEX A*
IP	IP							*SEE ANNEX A*
IQ	IQ							*SEE ANNEX A*
IR	IR							*SEE ANNEX A*
IS	IS							*SEE ANNEX A*
IT	IT							*SEE ANNEX A*
IU	IU							*SEE ANNEX A*
IV	IV							*SEE ANNEX A*
IW	IW							*SEE ANNEX A*
IX	IX							*SEE ANNEX A*
IY	IY							*SEE ANNEX A*

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DFI NAME  
1849 MODULATION CODE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
IZ	IZ							*SEE ANNEX A*
JA	JA							*SEE ANNEX A*
JB	JB							*SEE ANNEX A*
JC	JC							*SEE ANNEX A*
JD	JD							*SEE ANNEX A*
JE	JE							*SEE ANNEX A*
JG	JG							*SEE ANNEX A*
JL	JL							*SEE ANNEX A*
JM	JM							*SEE ANNEX A*
JN	JN							*SEE ANNEX A*
JO	JO							*SEE ANNEX A*
JP	JP							*SEE ANNEX A*
JQ	JQ							*SEE ANNEX A*
JR	JR							*SEE ANNEX A*
JS	JS							*SEE ANNEX A*
JT	JT							*SEE ANNEX A*
JU	JU							*SEE ANNEX A*
JV	JV							*SEE ANNEX A*
JW	JW							*SEE ANNEX A*
JX	JX							*SEE ANNEX A*
JY	JY							*SEE ANNEX A*
JZ	JZ							*SEE ANNEX A*
KA	KA							*SEE ANNEX A*
KB	KB							*SEE ANNEX A*
KC	KC							*SEE ANNEX A*
KD	KD							*SEE ANNEX A*
KE	KE							*SEE ANNEX A*
KG	KG							*SEE ANNEX A*
KL	KL							*SEE ANNEX A*
KM	KM							*SEE ANNEX A*
KN	KN							*SEE ANNEX A*
KO	KO							*SEE ANNEX A*
KP	KP							*SEE ANNEX A*
KQ	KQ							*SEE ANNEX A*
KR	KR							*SEE ANNEX A*
KS	KS							*SEE ANNEX A*
KT	KT							*SEE ANNEX A*
KU	KU							*SEE ANNEX A*
KV	KV							*SEE ANNEX A*
KW	KW							*SEE ANNEX A*

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DFI NAME  
1849 MODULATION CODE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
KX	KX							*SEE ANNEX A*
KY	KY							*SEE ANNEX A*
KZ	KZ							*SEE ANNEX A*
LA	LA							*SEE ANNEX A*
LB	LB							*SEE ANNEX A*
LC	LC							*SEE ANNEX A*
LD	LD							*SEE ANNEX A*
LE	LE							*SEE ANNEX A*
LF	LF							LINEAR FREQUENCY MODULATION ON PULSE (LFMOP)
LG	LG							*SEE ANNEX A*
LL	LL							*SEE ANNEX A*
LM	LM							*SEE ANNEX A*
LN	LN							*SEE ANNEX A*
LO	LO							*SEE ANNEX A*
LP	LP							*SEE ANNEX A*
LQ	LQ							*SEE ANNEX A*
LR	LR							*SEE ANNEX A*
LS	LS							*SEE ANNEX A*
LT	LT							*SEE ANNEX A*
LU	LU							*SEE ANNEX A*
LV	LV							*SEE ANNEX A*
LW	LW							*SEE ANNEX A*
LX	LX							*SEE ANNEX A*
LY	LY							*SEE ANNEX A*
LZ	LZ							*SEE ANNEX A*
MA	MA							*SEE ANNEX A*
MB	MB							*SEE ANNEX A*
MC	MC							*SEE ANNEX A*
MD	MD							*SEE ANNEX A*
ME	ME							*SEE ANNEX A*
MG	MG							*SEE ANNEX A*
ML	ML							*SEE ANNEX A*
MM	MM							*SEE ANNEX A*
MN	MN							*SEE ANNEX A*
MO	MO							*SEE ANNEX A*
MP	MP							*SEE ANNEX A*
MQ	MQ							*SEE ANNEX A*
MR	MR							*SEE ANNEX A*
MS	MS							*SEE ANNEX A*

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APPENDIX B, PART I

DFI NAME  
1849 MODULATION CODE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
MT	MT							*SEE ANNEX A*
MU	MU							*SEE ANNEX A*
MV	MV							*SEE ANNEX A*
MW	MW							*SEE ANNEX A*
MX	MX							*SEE ANNEX A*
MY	MY							*SEE ANNEX A*
MZ	MZ							*SEE ANNEX A*
NA	NA							*SEE ANNEX A*
NB	NB							*SEE ANNEX A*
NC	NC							*SEE ANNEX A*
ND	ND							*SEE ANNEX A*
NE	NE							*SEE ANNEX A*
NG	NG							*SEE ANNEX A*
NL	NL							*SEE ANNEX A*
NM	NM							*SEE ANNEX A*
NN	NN							*SEE ANNEX A*
NO	NO							*SEE ANNEX A*
NP	NP							*SEE ANNEX A*
NQ	NQ							*SEE ANNEX A*
NR	NR							*SEE ANNEX A*
NS	NS							*SEE ANNEX A*
NT	NT							*SEE ANNEX A*
NU	NU							*SEE ANNEX A*
NV	NV							*SEE ANNEX A*
NW	NW							*SEE ANNEX A*
NX	NX							*SEE ANNEX A*
NY	NY							*SEE ANNEX A*
NZ	NZ							*SEE ANNEX A*
OA	OA							*SEE ANNEX A*
OB	OB							*SEE ANNEX A*
OC	OC							*SEE ANNEX A*
OD	OD							*SEE ANNEX A*
OE	OE							*SEE ANNEX A*
OG	OG							*SEE ANNEX A*
OK	OK							ON-OFF-KEY (OOK) Emitter Mod
OL	OL							*SEE ANNEX A*
OM	OM							*SEE ANNEX A*
ON	ON							*SEE ANNEX A*
OO	OO							*SEE ANNEX A*
OP	OP							*SEE ANNEX A*

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APPENDIX B, PART I

DFI NAME  
1849 MODULATION CODE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
OQ	OQ							*SEE ANNEX A*
OR	OR							*SEE ANNEX A*
OS	OS							*SEE ANNEX A*
OT	OT							*SEE ANNEX A*
OU	OU							*SEE ANNEX A*
OV	OV							*SEE ANNEX A*
OW	OW							*SEE ANNEX A*
OX	OX							*SEE ANNEX A*
OY	OY							*SEE ANNEX A*
OZ	OZ							*SEE ANNEX A*
PA	PA							*SEE ANNEX A*
PB	PB							*SEE ANNEX A*
PC	PC							*SEE ANNEX A*
PD	PD							*SEE ANNEX A*
PE	PE							*SEE ANNEX A*
PG	PG							*SEE ANNEX A*
PL	PL							*SEE ANNEX A*
PM	PM							*SEE ANNEX A*
PN	PN							*SEE ANNEX A*
PO	PO							*SEE ANNEX A*
PP	PP							*SEE ANNEX A*
PQ	PQ							*SEE ANNEX A*
PR	PR							*SEE ANNEX A*
PS	PS							*SEE ANNEX A*
PT	PT							*SEE ANNEX A*
PU	PU							*SEE ANNEX A*
PV	PV							*SEE ANNEX A*
PW	PW							*SEE ANNEX A*
PX	PX							*SEE ANNEX A*
PY	PY							*SEE ANNEX A*
PZ	PZ							*SEE ANNEX A*
QA	QA							*SEE ANNEX A*
QB	QB							*SEE ANNEX A*
QC	QC							*SEE ANNEX A*
QD	QD							*SEE ANNEX A*
QE	QE							*SEE ANNEX A*
QG	QG							*SEE ANNEX A*
QL	QL							*SEE ANNEX A*
QM	QM							*SEE ANNEX A*
QN	QN							*SEE ANNEX A*

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DFI NAME  
1849 MODULATION CODE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
QO	QO							*SEE ANNEX A*
QP	QP							*SEE ANNEX A*
QQ	QQ							*SEE ANNEX A*
QR	QR							*SEE ANNEX A*
QS	QS							*SEE ANNEX A*
QT	QT							*SEE ANNEX A*
QU	QU							*SEE ANNEX A*
QV	QV							*SEE ANNEX A*
QW	QW							*SEE ANNEX A*
QX	QX							*SEE ANNEX A*
QY	QY							*SEE ANNEX A*
QZ	QZ							*SEE ANNEX A*
RA	RA							*SEE ANNEX A*
RB	RB							*SEE ANNEX A*
RC	RC							*SEE ANNEX A*
RD	RD							*SEE ANNEX A*
RE	RE							*SEE ANNEX A*
RG	RG							*SEE ANNEX A*
RL	RL							*SEE ANNEX A*
RM	RM							*SEE ANNEX A*
RN	RN							*SEE ANNEX A*
RO	RO							*SEE ANNEX A*
RP	RP							*SEE ANNEX A*
RQ	RQ							*SEE ANNEX A*
RR	RR							*SEE ANNEX A*
RS	RS							*SEE ANNEX A*
RT	RT							*SEE ANNEX A*
RU	RU							*SEE ANNEX A*
RV	RV							*SEE ANNEX A*
RW	RW							*SEE ANNEX A*
RX	RX							*SEE ANNEX A*
RY	RY							*SEE ANNEX A*
RZ	RZ							*SEE ANNEX A*
SA	SA							*SEE ANNEX A*
SB	SB							*SEE ANNEX A*
SC	SC							*SEE ANNEX A*
SD	SD							*SEE ANNEX A*
SE	SE							*SEE ANNEX A*
SG	SG							*SEE ANNEX A*
SL	SL							*SEE ANNEX A*

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APPENDIX B, PART I

DFI NAME  
1849 MODULATION CODE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SM	SM							*SEE ANNEX A*
SN	SN							*SEE ANNEX A*
SO	SO							*SEE ANNEX A*
SP	SP							*SEE ANNEX A*
SQ	SQ							*SEE ANNEX A*
SR	SR							*SEE ANNEX A*
SS	SS							*SEE ANNEX A*
ST	ST							*SEE ANNEX A*
SU	SU							*SEE ANNEX A*
SV	SV							*SEE ANNEX A*
SW	SW							*SEE ANNEX A*
SX	SX							*SEE ANNEX A*
SY	SY							*SEE ANNEX A*
SZ	SZ							*SEE ANNEX A*
TA	TA							*SEE ANNEX A*
TB	TB							*SEE ANNEX A*
TC	TC							*SEE ANNEX A*
TD	TD							*SEE ANNEX A*
TE	TE							*SEE ANNEX A*
TG	TG							*SEE ANNEX A*
TL	TL							*SEE ANNEX A*
TM	TM							*SEE ANNEX A*
TN	TN							*SEE ANNEX A*
TO	TO							*SEE ANNEX A*
TP	TP							*SEE ANNEX A*
TQ	TQ							*SEE ANNEX A*
TR	TR							*SEE ANNEX A*
TS	TS							*SEE ANNEX A*
TT	TT							*SEE ANNEX A*
TU	TU							*SEE ANNEX A*
TV	TV							*SEE ANNEX A*
TW	TW							*SEE ANNEX A*
TX	TX							*SEE ANNEX A*
TY	TY							*SEE ANNEX A*
TZ	TZ							*SEE ANNEX A*
UA	UA							*SEE ANNEX A*
UB	UB							*SEE ANNEX A*
UC	UC							*SEE ANNEX A*
UD	UD							*SEE ANNEX A*
UE	UE							*SEE ANNEX A*

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APPENDIX B, PART IDFI NAME  
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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
UG	UG							*SEE ANNEX A*
UI	UI							UNIDENTIFIED
UL	UL							*SEE ANNEX A*
UM	UM							*SEE ANNEX A*
UN	UN							*SEE ANNEX A*
UO	UO							*SEE ANNEX A*
UP	UP							*SEE ANNEX A*
UQ	UQ							*SEE ANNEX A*
UR	UR							*SEE ANNEX A*
US	US							*SEE ANNEX A*
UT	UT							*SEE ANNEX A*
UU	UU							*SEE ANNEX A*
UV	UV							*SEE ANNEX A*
UW	UW							*SEE ANNEX A*
UX	UX							*SEE ANNEX A*
UY	UY							*SEE ANNEX A*
UZ	UZ							*SEE ANNEX A*
VA	VA							*SEE ANNEX A*
VB	VB							*SEE ANNEX A*
VC	VC							*SEE ANNEX A*
VD	VD							*SEE ANNEX A*
VE	VE							*SEE ANNEX A*
VG	VG							*SEE ANNEX A*
VL	VL							*SEE ANNEX A*
VM	VM							*SEE ANNEX A*
VN	VN							*SEE ANNEX A*
VO	VO							*SEE ANNEX A*
VP	VP							*SEE ANNEX A*
VQ	VQ							*SEE ANNEX A*
VR	VR							*SEE ANNEX A*
VS	VS							*SEE ANNEX A*
VT	VT							*SEE ANNEX A*
VU	VU							*SEE ANNEX A*
VV	VV							*SEE ANNEX A*
VW	VW							*SEE ANNEX A*
VX	VX							*SEE ANNEX A*
VY	VY							*SEE ANNEX A*
VZ	VZ							*SEE ANNEX A*
WA	WA							*SEE ANNEX A*
WB	WB							*SEE ANNEX A*

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DFI NAME  
1849 MODULATION CODE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
WC	WC							*SEE ANNEX A*
WD	WD							*SEE ANNEX A*
WE	WE							*SEE ANNEX A*
WG	WG							*SEE ANNEX A*
WL	WL							*SEE ANNEX A*
WM	WM							*SEE ANNEX A*
WN	WN							*SEE ANNEX A*
WO	WO							*SEE ANNEX A*
WP	WP							*SEE ANNEX A*
WQ	WQ							*SEE ANNEX A*
WR	WR							*SEE ANNEX A*
WS	WS							*SEE ANNEX A*
WT	WT							*SEE ANNEX A*
WU	WU							*SEE ANNEX A*
WV	WV							*SEE ANNEX A*
WW	WW							*SEE ANNEX A*
WX	WX							*SEE ANNEX A*
WY	WY							*SEE ANNEX A*
WZ	WZ							*SEE ANNEX A*
ZA	ZA							*SEE ANNEX A*
ZB	ZB							*SEE ANNEX A*
ZC	ZC							*SEE ANNEX A*
ZD	ZD							*SEE ANNEX A*
ZE	ZE							*SEE ANNEX A*
ZG	ZG							*SEE ANNEX A*
ZL	ZL							*SEE ANNEX A*
ZM	ZM							*SEE ANNEX A*
ZN	ZN							*SEE ANNEX A*
ZO	ZO							*SEE ANNEX A*
ZP	ZP							*SEE ANNEX A*
ZQ	ZQ							*SEE ANNEX A*
ZR	ZR							*SEE ANNEX A*
ZS	ZS							*SEE ANNEX A*
ZT	ZT							*SEE ANNEX A*
ZU	ZU							*SEE ANNEX A*
ZV	ZV							*SEE ANNEX A*
ZW	ZW							*SEE ANNEX A*
ZX	ZX							*SEE ANNEX A*
ZY	ZY							*SEE ANNEX A*
ZZ	ZZ							*SEE ANNEX A*

**UNCLASSIFIED**

B1-162

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
1849 MODULATION CODE

----- FOR DFI 802 -----

RESET ATTRIBUTE: YES

1	1	CONTINUOUS WAVE (CW)
2	2	PULSE CONSTANT, STABLE
3	3	PULSE CONSTANT, UNSTABLE
4	4	PHASE SHIFT KEY (PSK)
5	5	JITTER, DISCRETE
6	6	JITTER, RANDOM
7	7	PHASE SHIFT
8 THROUGH 65	8 THROUGH 65	UNDEFINED
66 THROUGH 96	66 THROUGH 96	2 THRU 32 POSITION STAGGER
97 THROUGH 127	97 THROUGH 127	UNDEFINED
128	128	COMPLEX, WITH NO PULSE INTERVAL (PI) LESS THAN 50 USEC
129	129	COMPLEX, WITH AT LEAST ONE PI LESS THAN 50 USEC
130	130	UNDEFINED
131 THROUGH 139	131 THROUGH 139	STAIRCASE, 3 PIS PER STEP THAT MATCH THE FIRST PI TO WITHIN 4 USEC. 2 TO 10 UNIQUE STEPS (FOR BITS 131 TO 139 RESPECTIVELY)
140 THROUGH 146	140 THROUGH 146	STAIRCASE, 4 PIS PER STEP THAT MATCH THE FIRST PI TO WITHIN 4 USEC. 2 TO 8 UNIQUE STEPS (FOR BITS 140 TO 146 RESPECTIVELY)
147 THROUGH 151	147 THROUGH 151	STAIRCASE, 5 PIS PER STEP THAT MATCH THE FIRST PI TO WITHIN 4 USEC. 2 TO 6 UNIQUE STEPS (FOR BITS 147 TO 151 RESPECTIVELY)
152 THROUGH 155	152 THROUGH 155	STAIRCASE, 6 PIS PER STEP THAT MATCH THE FIRST PI TO WITHIN 4 USEC. 2 TO 5 UNIQUE STEPS (FOR BITS 152 TO 155 RESPECTIVELY)

**UNCLASSIFIED**

B1-163

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
1849 MODULATION CODE

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
156 THROUGH 158	156 THROUGH 158				STAIRCASE, 7 PIS PER STEP THAT MATCH THE FIRST PI TO WITHIN 4 USEC. 2 TO 4 UNIQUE STEPS (FOR BITS 156 TO 158 RESPECTIVELY)
159 THROUGH 161	159 THROUGH 161				STAIRCASE, 8 PIS PER STEP THAT MATCH THE FIRST PI TO WITHIN 4 USEC. 2 TO 4 UNIQUE STEPS (FOR BITS 159 TO 161 RESPECTIVELY)
162 THROUGH 163	162 THROUGH 163				STAIRCASE, 9 PIS PER STEP THAT MATCH THE FIRST PI TO WITHIN 4 USEC. 2 TO 3 UNIQUE STEP(FOR BITS 162 TO 163 RESPECTIVELY)
164 THROUGH 165	164 THROUGH 165				STAIRCASE, 10 PIS PER STEP THAT MATCH THE FIRST PI TO WITHIN 4 USEC. 2 TO 3 UNIQUE STEPS(FOR BITS 164 TO 165 RESPECTIVELY)
166 THROUGH 171	166 THROUGH 171				STAIRCASE, 11 TO 16 PIS PER STEP. ONLY 2 UNIQUE STEPS ALLOWED.
172 THROUGH 191	172 THROUGH 191				UNDEFINED
192	192				PULSE GROUP TRIPLET, STABLE WITHIN 2 USEC
193	193				PULSE GROUP TRIPLET, UNSTABLE. MIN AND MAX FOR THE 2 PULSE GROUPS MAY BE REPORTED.
194	194				PULSE GROUP QUADRUPLET, STABLE WITHIN 2 USEC.
195	195				PULSE GROUP QUADRUPLET, UNSTABLE. MIN AND MAX FOR THE 3 PULSE GROUPS MAY BE REPORTED.
196	196				PULSE GROUP QUINTUPLE, STABLE WITHIN 2 USEC.

**UNCLASSIFIED**

B1-164

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
1849 MODULATION CODE

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
197	197				PULSE GROUP QUINTUPLE, UNSTABLE. MIN AND MAX FOR THE 4 PULSE GROUPS MAY BE REPORTED.
198	198				PULSE GROUP SEXTUPLET, STABLE WITHIN 2 USEC.
199	199				PULSE GROUP SEXTUPLET, UNSTABLE. MIN AND MAX FOR THE 5 PULSE GROUPS MAY BE REPORTED.
200	200				PULSE GROUP DOUBLET, UNSTABLE
201	201				PULSE GROUP, CONSTANT FRAME, CONSTANT DOUBLET. EACH WITHIN 4 USEC OF THE FIRST FRAME, AND EACH DOUBLET WITHIN 2 USEC OF THE FIRST.
202 THROUGH 207	202 THROUGH 207				PULSE GROUP, CONSTANT FRAME, 2 TO 7 POSITION STAGGER ON DOUBLETS (BITS 202 TO 207 RESPECTIVELY)
208 THROUGH 214	208 THROUGH 214				PULSE GROUP, 2 POSITION STAGGER ON FRAME, CONSTANT THROUGH 7 POSITION STAGGER ON DOUBLETS (BITS 208 TO 214 RESPECTIVELY)
215 THROUGH 221	215 THROUGH 221				PULSE GROUP, 3 POSITION STAGGER ON FRAME, CONSTANT THROUGH 7 POSITION STAGGER ON DOUBLETS (BITS 215 TO 221 RESPECTIVELY)
222 THROUGH 228	222 THROUGH 228				PULSE GROUP, 4 POSITION STAGGER ON FRAME, CONSTANT THROUGH 7 POSITION STAGGER ON DOUBLETS (BITS 222 TO 228 RESPECTIVELY)
229 THROUGH 235	229 THROUGH 235				PULSE GROUP, 5 POSITION STAGGER ON FRAME, CONSTANT THROUGH 7 POSITION STAGGER ON DOUBLETS (BITS 229 TO 235 RESPECTIVELY)

**UNCLASSIFIED**

B1-165

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
1849 MODULATION CODE

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
236 THROUGH 242	236 THROUGH 242				PULSE GROUP, 6 POSITION STAGGER ON FRAME, CONSTANT THROUGH 7 POSITION STAGGER ON DOUBLETS (BITS 236 TO 242 RESPECTIVELY)
243 THROUGH 249	243 THROUGH 249				PULSE GROUP, 7 POSITION STAGGER ON FRAME, CONSTANT THROUGH 7 DOUBLETS (BITS 243 TO 249 RESPECTIVELY)
250 THROUGH 255	250 THROUGH 255				PULSE GROUP, 8 POSITION STAGGER ON FRAME, CONSTANT THROUGH 6 POSITION STAGGER ON DOUBLETS (BITS 250 TO 255 RESPECTIVELY)
<hr/> <p>----- FOR DUI 803 -----</p>					
RESET ATTRIBUTE: YES					
UNMODULAT	1				UNMODULATED
AM	2				AMPLITUDE MODULATED (NON-PULSED)
CW	3				CONTINUOUS WAVE (CW)
PM	4				PHASE MODULATED (NON-PULSED)
FM	5				FREQUENCY MODULATION (FM)
FDM	6				FREQUENCY DOMAIN MULTIPLEXING (FDM)
FSK	7				FREQUENCY SHIFT KEYED (FSK)
DFSK	8				DOUBLE-FREQUENCY SHIFT KEYED (DFSK)
MFSK	9				M-ARY FREQUENCY SHIFT KEYED (MFSK)
MSK	10				MINIMUM SHIFT KEYED (MSK)
PCM	11				PULSE CODE MODULATION (PCM)
QAM	12				QUADRATURE AMPLITUDE MODULATION (QAM)
PSK	13				PHASE SHIFT KEYED (PSK)
BPSK	14				BI-PHASE SHIFT KEYED (BPSK)
QPSK	15				QUADRATURE PHASE SHIFT KEYED (QPSK)

**UNCLASSIFIED**

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
1849 MODULATION CODE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
PPM	16							PULSE POSITION MODULATED (PPM)
DM	17							DELTA MODULATED (DM)
LFM	18							LINEAR FREQUENCY MODULATED (LFM)
DSSS	19							DIRECT SEQUENCE SPREAD SPECTRUM MODULATION (DSSS)
UNK	20							UNKNOWN

**UNCLASSIFIED**

B1-167

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	
1862	CORRELATION INDICATOR		
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	EXPLANATION	APPLICABILITY
		A CODE FOR A NATIONAL SYSTEM. FOR FURTHER U.S. IMPLEMENTATION GUIDANCE, SEE JIEO CIRCULAR 9152, ITEM 293.	DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, REMOTE AMPLIFICATION MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONAL STATUS MESSAGE
FIELD	PATTERN		
DUI NAME		EXPLANATION	APPLICABILITY
		INDICATES WHETHER THE REPORTED ENTITY LOCATION WAS DERIVED USING REPORTED LOCATIONS FROM SENSORS ON MORE THAN ONE PLATFORM. ALL SOURCE DATA CONTRIBUTING TO THE LOCATION MAY NOT BE AVAILABLE AND SOURCES CONTRIBUTING TO THE LOCATION MAY NOT STILL BE REPORTING.	ENTITY MESSAGE, TEXT MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	ENUMERATED		

**UNCLASSIFIED**

B1-168

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
1862 CORRELATION INDICATOR

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: NO					
1X1XS	1X1XS				THE VALUES ARE ONE ALPHANUMERIC CHARACTER (A-Z OR 0-9), AND ONE ALPHANUMERIC CHARACTER (A-Z OR 0-9) OR A SPACE CHARACTER.
----- FOR DUI 802 -----					
RESET ATTRIBUTE: YES					
SINGLE_PLATFORM	1				NON-COOPERATIVE/UNILATERAL LOCATION (INITIAL VALUE)
FRAGMENT	2				INTERIM COOPERATIVE LOCATION ATTEMPT
COOPERATIVE	3				COOPERATIVE DATA

**UNCLASSIFIED**

B1-169

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	
1903	PULSE REPETITION INTERVAL		
	DATA STANDARD USAGE: IBS	STATUS:	
	DUI NAME	EXPLANATION	APPLICABILITY
	801 PRI STABILITY [PRI_Stab]	THE STABILITY OF THE PULSE REPETITION INTERVAL (PRI) IN TERMS OF DEVIATION FROM THE CENTER PRI.	ENTITY MESSAGE
	DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
	FIELD	FLOAT	
	DUI NAME	EXPLANATION	APPLICABILITY
	802 PRI TYPE [PRI_Typ]	THE TYPE OF PULSE REPETITION INTERVAL (PRI) BEING MEASURED.	ENTITY MESSAGE
	DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
	FIELD	ENUMERATED	
	DUI NAME	EXPLANATION	APPLICABILITY
	803 PRI STAGGER LEGS [PRI_Stag_Legs]	NUMBER OF STAGGER LEVELS (POSITIONS) IN A PULSE SEQUENCE/CYCLE OF THE REPORTED EMITTER.	ENTITY MESSAGE
	DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
	FIELD	INTEGER	

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
1903 PULSE REPETITION INTERVAL

DUI NAME	EXPLANATION	APPLICABILITY
806 PRI [PRI]	THE MEASURED TIME INTERVAL BETWEEN TWO TRANSMITTED PULSES OR PULSE GROUPS.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	FLOAT	
DUI NAME	EXPLANATION	APPLICABILITY
807 PRI GROUP INDICATOR [PRI_Grp_Indic]	INDICATES WHETHER THE PRI VALUE REPRESNTS AN AVERAGE OR GROUP MEASUREMENT.	ENTITY MESSAGE
808 PRI PROFILE TECHNIQUE [PRI_Profile_Technique]	METHOD WHICH WAS APPLIED TO DETERMINE THE PRI IDENTIFICATION TECHNIQUE.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	ENUMERATED	
DUI NAME	EXPLANATION	APPLICABILITY
809 PRI PROFILE LABEL [PRI_Profile_Lbl]	IDENTIFICATION OF THE PRI PATTERN THAT DETERMINES THE SPECIFIC EMITTER MODE.	ENTITY MESSAGE

**UNCLASSIFIED**

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
1903 PULSE REPETITION INTERVAL

DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE

FIELD STRING

DUI NAME	EXPLANATION	APPLICABILITY
810 NUMBER OF PRI POSITIONS [Num_Of_PRI_Positions]	THE NUMBER OF UNIQUE PRI VALUES IN A PRI SEQUENCE.	ENTITY MESSAGE

DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE

FIELD INTEGER

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 801 -----

RESET ATTRIBUTE: YES

0 THROUGH .000100 SECONDS EXCLUSIVE	0 THROUGH 100E-6 EXCLUSIVE	UNRANGED
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----- FOR DUI 802 -----

RESET ATTRIBUTE: YES

SIMPLE	1	
STAG	2	STAGGER
PHASE_SHIFT	3	
JITTER	4	
NO_AGIL_PRSNT	5	NO AGILITY PRESENT
CW	6	CONTINUOUS WAVE

**UNCLASSIFIED**

B1-172

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
1903 PULSE REPETITION INTERVAL

----- FOR DUI 803 -----

RESET ATTRIBUTE: YES

2 THROUGH 999                    2 THROUGH 999  
"999" WITH VALUE                GREATER THAN 999  
QUALIFIER ATTRIBUTE  
SET TO  
"GREATER\_THAN"

IF THE "GREATER THAN" VALUE  
QUALIFIER ATTRIBUTE IS  
SET, THE ACTUAL VALUE FOR  
PRI STAGGER LEGS IS  
SOMETHING GREATER THAN 999.

----- FOR DUI 806 -----

RESET ATTRIBUTE: YES

0 EXCLUSIVE THROUGH            0 EXCLUSIVE THROUGH  
.999999999 SECONDS            99999999E-9  
  
GREATER THAN                    0 EXCLUSIVE THROUGH  
                                  99999999E-9

1E-10                            REPORTED IN SECONDS.  
THROUGH                        DEFAULT ACCURACY = 1E-9.  
4E-9  
  
1E-10                            IF "GREATER THAN" VALUE  
THROUGH                        QUALIFIER IS SET, THE  
4E-9                            ACTUAL VALUE FOR PRI IS  
                                  SOMETHING GREATER THAN THE  
                                  VALUE BEING REPORTED (FROM  
                                  WITHIN THE GIVEN RANGE).

----- FOR DUI 807 -----

RESET ATTRIBUTE: YES

AVG\_PRI\_ENTERED              0  
GRP\_OF\_PRI\_ENTERED            1

AVERAGE PRI ENTERED  
(INITIAL VALUE)  
GROUP OF PRI ENTERED

----- FOR DUI 808 -----

RESET ATTRIBUTE: YES

MSTIC                          1  
  
ADEPT                          2

MULTI-INTELLIGENCE SHIP  
TRACKING INTELLIGENCE  
CORRELATOR  
  
ALGORITHM DEVELOPMENT OF  
ENHANCED PROCESSING  
TECHNIQUES

**UNCLASSIFIED**

B1-173

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
1903 PULSE REPETITION INTERVAL

----- FOR DUI 809 -----

RESET ATTRIBUTE: YES

1 TO 8 CHARACTERS        1 TO 8 CHARACTERS

----- FOR DUI 810 -----

RESET ATTRIBUTE: YES

1 THROUGH 999            1 THROUGH 999  
"999" WITH VALUE        GREATER THAN 999  
QUALIFIER ATTRIBUTE  
SET TO  
"GREATER\_THAN"

IF "GREATER THAN" ATTRIBUTE  
IS SET, THE ACTUAL VALUE  
FOR NUMBER OF PRI POSITIONS  
IS SOMETHING GREATER THAN  
999.

**UNCLASSIFIED**

B1-174

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
1906 TRACKING MODIFIER DEFINITION  
SUPPLIES TRACKING DATA AS TO THE TRACKING METHODOLOGY.

DATA STANDARD USAGE: IBS STATUS:

DUI NAME	EXPLANATION	APPLICABILITY
801 EXTRAPOLATION INDICATOR [Extrap_Indic]	IDENTIFIES WHETHER THE INFORMATION CONTAINED IN THIS MESSAGE IS A RESULT OF DIRECT OBSERVATION OR A PROJECTION/ESTIMATE.	ENTITY MESSAGE

DATA  
ELEMENT  
TYPE DATA  
REPRESENTATION  
TYPE

FIELD ENUMERATED

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 801 -----

RESET ATTRIBUTE: YES

NON_EXTRAPOLATED	1	RESULT OF DIRECT OBSERVATION. (INITIAL VALUE)
EXTRAPOLATED	2	RESULT OF PROJECTION/ESTIMATE.

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B1-175

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	
1953	SENSOR TYPE		
	DATA STANDARD USAGE:	IBS	STATUS:
	DUI NAME	EXPLANATION	APPLICABILITY
801	SENSOR 1 IDENTIFIER [Sensr_1_ID]	OPERATIONALLY ASSIGNED VALUE USED TO INDICATE THE SENSOR USED TO PROVIDE A PRIMARY REFERENCE FOR REPORTING COLLABORATIVE GEO-OBSERVABLE DATA. PROVIDES A COOPERATIVE COLLECTION PROCESSOR THE OPPORTUNITY TO APPLY KNOWN CHARACTERISTICS OF THE IDENTIFIED SENSOR TO IMPROVE COLLABORATIVE RESULTS. SENSORS CAN BE ON A COMMON PLATFORM OR ON DIFFERENT PLATFORMS.	COLLABORATION MESSAGE
802	SENSOR 2 IDENTIFIER [Sensr_2_ID]	OPERATIONALLY ASSIGNED VALUE USED TO INDICATE THE SENSOR USED TO PROVIDE A SECONDARY REFERENCE FOR REPORTING COLLABORATIVE GEO-OBSERVABLE DATA. PROVIDES A COOPERATIVE COLLECTION PROCESSOR THE OPPORTUNITY TO APPLY KNOWN CHARACTERISTICS OF THE IDENTIFIED SENSOR TO IMPROVE COLLABORATIVE RESULTS. SENSORS CAN BE ON A COMMON PLATFORM OR ON DIFFERENT PLATFORMS.	COLLABORATION MESSAGE
DATA	DATA		
ELEMENT	REPRESENTATION		
TYPE	TYPE		
FIELD	INTEGER		
DUI NAME	EXPLANATION	APPLICABILITY	
803	RF SENSOR TYPE [RF_Sensr_Typ]	IDENTIFIES A RADIO FREQUENCY TECHNOLOGY OR PROCESS USED TO DETECT OR IDENTIFY THE REPORTED ENTITY INFORMATION.	ENTITY MESSAGE

**UNCLASSIFIED**

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI      NAME  
1953    SENSOR TYPE

804	IR SENSOR TYPE [IR_Sensr_Typ]	IDENTIFIES AN INFRARED TECHNOLOGY OR PROCESS USED TO DETECT OR IDENTIFY THE REPORTED ENTITY INFORMATION.	ENTITY MESSAGE
805	VISIBL E LIGHT SENSOR TYPE [Visible_Light_Sensr_Typ]	IDENTIFIES A VISIBLE LIGHT TECHNOLOGY OR PROCESS USED TO DETECT OR IDENTIFY THE REPORTED ENTITY INFORMATION.	ENTITY MESSAGE
806	OPTICAL SENSOR TYPE [Optical_Sensr_Typ]	IDENTIFIES AN OPTICAL TECHNOLOGY OR PROCESS USED TO DETECT OR IDENTIFY THE REPORTED ENTITY INFORMATION.	ENTITY MESSAGE
807	MULTIPLE SPECTRUM SENSOR TYPE [Mult_Spectrum_Sensr_Typ]	IDENTIFIES A SIMULTANEOUS MULTIPLE SPECTRUM TECHNOLOGY OR PROCESS USED TO DETECT OR IDENTIFY THE REPORTED ENTITY INFORMATION.	ENTITY MESSAGE
808	HUMAN SENSOR TYPE [Human_Sensr_Typ]	IDENTIFIES A HUMAN METHOD OR PROCESS USED TO DETECT OR IDENTIFY THE REPORTED ENTITY INFORMATION.	ENTITY MESSAGE
809	UNDISCLOSED SENSOR TYPE [Undisclosed_Sensr_Typ]	IDENTIFIES ONE OR MORE ASPECTS OF AN UNDISCLOSED CLASS OF SENSOR OR SENSORS WHICH WAS USED TO DETECT OR IDENTIFY THE REPORTED ENTITY INFORMATION.	ENTITY MESSAGE

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
FIELD	ENUMERATED

**UNCLASSIFIED**

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
1953 SENSOR TYPE

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUIS 801 AND 802 -----					
RESET ATTRIBUTE: NO					
1 THROUGH 256	1 THROUGH 256				IMPLIED
----- FOR DUI 803 -----					
RESET ATTRIBUTE: YES					
UI	0				RF SENSOR - UNIDENTIFIED
RDR	1				RADAR
SAR_RDR	2				SYNTHETIC APERTURE RADAR
MTI_RDR	3				MOVING TARGET INDICATOR RADAR
POLARIMETRIC	4				POLARIMETRIC IMAGERY (PI) SENSOR
----- FOR DUI 804 -----					
RESET ATTRIBUTE: YES					
UI	0				IR SENSOR - UNIDENTIFIED
NIR	1				NEAR-INFRARED (NIR) SENSOR
SWIR	2				SHORT-WAVELENGTH INFRARED (SWIR) SENSOR
MIR	3				MID-WAVELENGTH INFRARED (MWIR) SENSOR
LWIR	4				LONG-WAVELENGTH INFRARED (LWIR) SENSOR
THERMAL	5				THERMAL INFRARED SENSOR

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APPENDIX B, PART I

DFI NAME  
1953 SENSOR TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
FIR	6							FAR-INFRARED (FIR) SENSOR
MOTION	7							MOTION IMAGERY (MI) SENSOR
OPIR	8							OVERHEAD PERSISTENT INFRARED (OPIR)
POLARIMETRIC	9							POLARIMETRIC IMAGERY (PI) SENSOR
LIDAR	10							LASER IMAGING DETECTION AND RANGING (LIDAR) SENSOR

----- FOR DUI 805 -----

RESET ATTRIBUTE: YES

UI	0	VISIBLE LIGHT SENSOR - UNIDENTIFIED
PAN	1	PANCHROMATIC SENSOR
MOTION	2	MOTION IMAGERY (MI) SENSOR
LIDAR	3	LASER IMAGING DETECTION AND RANGING (LIDAR) SENSOR

----- FOR DUI 806 -----

RESET ATTRIBUTE: YES

UI	0	OPTICAL SENSOR - UNIDENTIFIED
POLARIMETRIC	1	POLARIMETRIC IMAGERY (PI) SENSOR
LIDAR	2	LASER IMAGING DETECTION AND RANGING (LIDAR) SENSOR

----- FOR DUI 807 -----

RESET ATTRIBUTE: YES

UI	0	MULTIPLE SPECTRUM SENSOR - UNIDENTIFIED
MSI	1	MULTISPECTRAL IMAGERY (MSI) SENSOR
HSI	2	HYPERSPECTRAL IMAGERY (HSI) SENSOR

**UNCLASSIFIED**

B1-179

**UNCLASSIFIED**

MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
1953 SENSOR TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
USI	3							ULTRASPECTRAL IMAGERY (USI) SENSOR
----- FOR DUI 808 -----								
RESET ATTRIBUTE: YES								
UI	0							HUMAN SOURCE - UNIDENTIFIED
----- FOR DUI 809 -----								
RESET ATTRIBUTE: YES								
UI	0							UNDISCLOSED SENSOR(S) - UNIDENTIFIED
SINGLE_SENSR	1							SINGLE UNDISCLOSED SENSOR
MULT_SENSR	2							MULTIPLE UNDISCLOSED SENSORS

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B1-180

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME DEFINITION  
4003 CODED NUMBER THE ALPHANUMERIC CHARACTER GROUP THAT DENOTES A CODED NUMBER.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME

EXPLANATION

APPLICABILITY

801 SHIP CONTROL NUMBER  
[SCONUM]

AN ALPHANUMERIC IDENTIFIER ASSIGNED  
TO A CONTACT BY THE OFFICE OF  
NAVAL INTELLIGENCE (ONI) AND  
MAINTAINED IN THE SEAPORT  
DATABASE.

DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE

FIELD PATTERN

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 801 -----

RESET ATTRIBUTE: YES

1A5N 1A5N

THE VALUES ARE ONE ALPHABETIC  
CHARACTER (A-Z) AND FIVE  
NUMERIC DIGITS (INTEGER  
VALUE 0-99999).

**UNCLASSIFIED**

B1-181

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
4004 MILITARY IDENTIFICATION

DEFINITION  
A SHORT SERIES OF ALPHABETIC OR NUMERIC CHARACTERS ASSIGNED TO UNIQUELY IDENTIFY THE MILITARY UNIT WHICH WILL FUNCTION AS A LINKAGE TO THE LONG ACTUAL MILITARY UNIT IDENTIFICATION.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME

EXPLANATION

APPLICABILITY

012 URN  
[VMF\_URN]

A REFERENCE NUMBER USED BY UNITS IN A VMF INTERFACE TO UNIQUELY IDENTIFY FRIENDLY MILITARY UNITS, BROADCAST NETWORKS, AND MULTICAST GROUPS. UNIT REFERENCE NUMBER (URN) WILL BE ASSIGNED IN ACCORDANCE WITH INTERFACE OPERATING PROCEDURES.

DATA MANAGEMENT MESSAGE,  
ENTITY MESSAGE,  
TEXT MESSAGE,  
COLLABORATION MESSAGE,  
OPERATIONAL STATUS MESSAGE

DATA ELEMENT TYPE  
REPRESENTATION TYPE

FIELD INTEGER

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 012 -----

RESET ATTRIBUTE: NO

0 THROUGH 16,777,215      0 THROUGH 16777215

THE NUMBERS ARE ASSIGNED TO FRIENDLY MILITARY UNITS, BROADCAST NETWORKS, AND MULTICAST GROUPS AS FOLLOWS:

U.S. ARMY BLOCK: 0 THROUGH 1999999  
U.S. MARINE CORPS BLOCK: 2000000 THROUGH 2999999  
U.S. AIR FORCE BLOCK: 3000000 THROUGH 3999999  
U.S. NAVY BLOCK: 4000000 THROUGH 4999999

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APPENDIX B, PART I

DFI NAME  
4004 MILITARY IDENTIFICATION

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
								U.S. CINC/JTF BLOCK: 5000000 THROUGH 5999999
								U.S. COAST GUARD BLOCK: 6000000 THROUGH 6499999
								UNDEFINED: 65000000 THROUGH 16777213
								RESERVED: 16777214 (INTELLIGENCE REPORT)
								RESERVED: 16777215 (RESERVED FOR MIL-STD- 2045-47001 USE)

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION			
4019	DAY	A 24-HOUR PERIOD RESERVED FOR A CERTAIN ACTIVITY.			
DATA STANDARD USAGE: IBS		STATUS:			
DUI NAME		EXPLANATION			
801 JULIAN DAY [Julian_Day]		THE REPORTED DAY OF THE CURRENT OR INDICATED YEAR BASED ON GREENWICH MEAN TIME (GMT).			
		CMF HEADER, CMF DOC (PACKAGE HEADER), DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, REMOTE AMPLIFICATION MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONS NOTIFICATION MESSAGE, OPERATIONAL STATUS MESSAGE, BLOB TRANSFER MESSAGE			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE				
FIELD	INTEGER				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
1 THROUGH 366		1 THROUGH 366			

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	
4029	QUANTITY	INDICATES THE NUMERICAL VALUE OF A SPECIFIC TYPE.	
	DATA STANDARD USAGE:	STATUS:	
DUI	NAME	EXPLANATION	APPLICABILITY
801	QUANTITY OF EQUIPMENT/WEAPONS CAPTURED [Quantity_Captured]	THE TOTAL NUMBER OF EQUIPMENT/WEAPONS BEING REPORTED CAPTURED.	ENTITY MESSAGE
802	QUANTITY OPERATIONAL, IBS [Quantity_Operational]	THE QUANTITY OF ITEMS OPERATIONAL.	ENTITY MESSAGE
803	QUANTITY DAMAGED [Quantity_Damaged]	THE NUMBER OF ITEMS BEING REPORTED AS DAMAGED.	ENTITY MESSAGE
804	QUANTITY DESTROYED [Quantity_Destroyed]	THE NUMBER OF ITEMS BEING REPORTED AS DESTROYED.	ENTITY MESSAGE
805	NUMBER OF CYLINDERS [Num_Cylinders]	THE TOTAL NUMBER OF ENGINE CYLINDERS OF A VEHICLE.	ENTITY MESSAGE
806	NUMBER OF BLADES [Num_Blades]	THE TOTAL NUMBER OF BLADES ON THE PRIMARY PROPULSION DEVICE/SYSTEM OF THE REPORTED ENTITY.	ENTITY MESSAGE
807	ANTENNA QUANTITY [Antenna_Quantity]	THE NUMBER OF ANTENNAS AT A LOCATION.	ENTITY MESSAGE
808	TOTAL NUMBER OF ALGORITHM VALUES [TOTAL_NUM_ALG_VALUES]	TOTAL NUMBER OF ALGORITHM VALUES USED TO REPRESENT THE SEI SIGNATURE OF THE ENTITY. INDICATES HOW MANY TIMES THE "ALGORITHM VALUES" FIELD WILL BE REPEATED.	ENTITY MESSAGE
809	NUMBER OF UNINJURED AMBULATORY PERSONNEL [NUM_UNINJUR_AMBULAT_PERS]	THE NUMBER OF REPORTED PERSONNEL WHO HAVE NOT BEEN INJURED AND ARE ABLE TO WALK.	ENTITY MESSAGE
810	NUMBER OF INJURED AMBULATORY PERSONNEL [NUM_INJUR_AMBULAT_PERS]	THE NUMBER OF REPORTED PERSONNEL WHO MAY BE INJURED BUT ARE ABLE TO WALK.	ENTITY MESSAGE

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APPENDIX B, PART IDFI NAME  
4029 QUANTITY811 NUMBER OF NON-AMBULATORY PERSONNEL  
[Num\_Non\_Ambulat\_Pers] THE NUMBER OF REPORTED PERSONNEL WHO MAY BE INJURED AND ARE NOT ABLE TO WALK.DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE  
  
FIELD INTEGER

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI'S 801 AND 802 -----					
RESET ATTRIBUTE: YES					
1 THROUGH 16,383	1 THROUGH 16383				
----- FOR DUI'S 803 AND 804 -----					
RESET ATTRIBUTE: YES					
1 THROUGH 9999	1 THROUGH 9999				
----- FOR DUI 805 -----					
RESET ATTRIBUTE: YES					
1 THROUGH 24	1 THROUGH 24				PATH 5 EXCLUDED
----- FOR DUI 806 -----					
RESET ATTRIBUTE: YES					
1 THROUGH 9	1 THROUGH 9				PATH 5 EXCLUDED

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
4029 QUANTITY

----- FOR DUI 807 -----

RESET ATTRIBUTE: YES

1 THROUGH 9                  1 THROUGH 9

----- FOR DUI 808 -----

RESET ATTRIBUTE: YES

1 THROUGH 9999                  1 THROUGH 9999

----- FOR DUIS 809-811 -----

RESET ATTRIBUTE: YES

0 THROUGH 126                  0 THROUGH 126  
126 WITH VALUE                  CMF-B METHOD FOR  
QUALIFIER ATTRIBUTE                  "GREATER THAN" IS TO  
SET TO "GREATER THAN"                  PASS ONE MORE THAN  
                                        THE HIGHEST VALUE  
                                        WITHIN THE VALUE  
                                        RANGE

IF "GREATER THAN" VALUE  
QUALIFIER IS SET, THE  
ACTUAL VALUE IS SOMETHING  
GREATER THAN 126.

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APPENDIX B, PART I

DFI NAME DEFINITION  
4031 RADIUS THE DISTANCE FROM THE CENTER OF A CIRCLE TO ANY POINT ON ITS CIRCUMFERENCE.

DATA STANDARD USAGE: IBS STATUS:

DUI NAME	EXPLANATION	APPLICABILITY
801 RADIUS, IBS [Radius]	RADIUS OF THE CIRCLE USED IN DEFINING THE PROBABLE LOCATION OF THE ENTITY.	ENTITY MESSAGE

DATA ELEMENT TYPE  
TYPE  
FIELD FLOAT

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
0 EXCLUSIVE THROUGH 999 NAUTICAL MILES (NM)	0 EXCLUSIVE THROUGH 999	1	,	UNRANGED GREATER THAN	DEFAULT UNIT = NM. IF THE UNIT EQUIVALENT VALUE ATTRIBUTE IS SET TO 1, RADIUS IS REPORTED IN NAUTICAL MILES.
0 EXCLUSIVE THROUGH 20,000 METERS	0 EXCLUSIVE THROUGH 20000	2	,	UNRANGED GREATER THAN	DEFAULT UNIT = NM. IF THE UNIT EQUIVALENT VALUE ATTRIBUTE IS SET TO 2, RADIUS IS REPORTED IN METERS.

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
4032 LENGTH DEFINITION  
THE LINEAR MEASUREMENT FROM END TO END OF A TARGET, OBJECT, OR  
AREA.

DATA STANDARD USAGE: IBS		STATUS:			
DUI NAME		EXPLANATION	APPLICABILITY		
801 ENTITY LENGTH [Entity_Len]		THE LENGTH OF THE ENTITY.	ENTITY MESSAGE		
802 LENGTH TO BOW [Len_To_Bow]		LENGTH FROM REFERENCE POINT TO BOW OF SHIP.	ENTITY		
803 LENGTH TO STERN [Len_To_Stern]		LENGTH FROM REFERENCE POINT TO STERN OF SHIP.	ENTITY		
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE				
FIELD	FLOAT				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
0 EXCLUSIVE THROUGH 33,000 FEET	0 EXCLUSIVE THROUGH 33000 FEET	1	0 THROUGH 2000 FEET	IF THE UNIT EQUIVALENT ATTRIBUTE IS SET TO 1, LENGTH IS REPORTED IN FEET. DEFAULT ACCURACY = 1 FOOT	

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APPENDIX B, PART IDFI NAME  
4032 LENGTH

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
0 EXCLUSIVE THROUGH - 10,000 METERS	0 EXCLUSIVE THROUGH 10000 METERS			2		0	IF THE UNIT EQUIVALENT ATTRIBUTE IS SET TO 2, LENGTH IS REPORTED IN METERS.
						THROUGH 3000 METERS ACCURACY	DEFAULT ACCURACY=1 METER.
GREATER_THAN (FEET)	0 THROUGH 33000 FEET		1				IF "GREATER THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).
LESS_THAN (FEET)	0 THROUGH 33000 FEET		1				IF "LESS THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE IS SOMETHING LESS THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).
GREATER_THAN (METERS)	0 THROUGH 10000 METERS		2				IF "GREATER THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).
LESS_THAN (METERS)	0 THROUGH 10000 METERS		2				IF "LESS THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE IS SOMETHING LESS THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).

----- FOR DUIS 802 AND 803 -----

RESET ATTRIBUTE: YES

0 EXCLUSIVE THROUGH 511 METERS	0 EXCLUSIVE THROUGH 511 METERS	2	UNRANGED
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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION
4033	WIDTH	THE LINEAR MEASUREMENT FROM SIDE TO SIDE OF A TARGET, OBJECT, OR AREA.
DATA STANDARD USAGE: IBS		STATUS:
DUI NAME	EXPLANATION	APPLICABILITY
801 ENTITY WIDTH [Entity_Width]	WIDTH OF THE ENTITY.	ENTITY MESSAGE
802 WIDTH TO PORTSIDE [Width_To_Port]	WIDTH FROM REFERENCE POINT TO PORT SIDE OF SHIP.	ENTITY
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	FLOAT	
DUI NAME	EXPLANATION	APPLICABILITY
803 WIDTH TO STARBOARD [Width_To_Starboard]	WIDTH FROM REFERENCE POINT TO STARBOARD SIDE OF SHIP.	ENTITY
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	INTEGER	
DATA ITEM	VALUE RANGE	UNIT EQUIV MOD ACCURACY EXPLANATION

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART IDFI NAME  
4033 WIDTH

----- FOR DUI 801 -----

RESET ATTRIBUTE: YES

0 THROUGH 33,000 FEET	0 THROUGH 33000 FEET	1	0 THROUGH 2000 FEET	IF THE UNIT EQUIVALENT ATTRIBUTE IS SET TO 1, WIDTH IS REPORTED IN FEET. DEFAULT ACCURACY = 1 FOOT
0 THROUGH 10,000 METERS	0 THROUGH 10000 METERS	2	0 THROUGH 3000 METERS	IF THE UNIT EQUIVALENT ATTRIBUTE IS SET TO 2, WIDTH IS REPORTED IN METERS. DEFAULT ACCURACY=1 METER.
GREATER_THAN (FEET)	0 THROUGH 33000 FEET	1		IF "GREATER THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).
LESS_THAN (FEET)	0 THROUGH 33000 FEET	1		IF "LESS THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE IS SOMETHING LESS THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).
GREATER_THAN (METERS)	0 THROUGH 10000 METERS	2		IF "GREATER THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).
LESS_THAN (METERS)	0 THROUGH 10000 METERS	2		IF "LESS THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE IS SOMETHING LESS THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).

----- FOR DUIS 802 AND 803 -----

RESET ATTRIBUTE: YES

0 EXCLUSIVE THROUGH 63 METERS	0 EXCLUSIVE THROUGH 63 METERS	2	UNRANGED
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APPENDIX B, PART I

DFI	NAME	DEFINITION	
4037	TIME INTERVAL	THE TIME INTERVAL BETWEEN SUCCEEDING SPECIFIED EVENTS OR A FREQUENCY OF REPORTING SITUATION UPDATES.	
DATA STANDARD USAGE: IBS		STATUS:	
DUI NAME		EXPLANATION	APPLICABILITY
801 INTERVAL [Intvl]		THE DIFFERENCE BETWEEN TWO TIMES.	COLLABORATION MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	FLOAT		
DUI NAME		EXPLANATION	APPLICABILITY
803 REPLICATION INTERVAL [Replication_Intvl]		IDENTIFIES THE WAIT PERIOD BY A TACTICAL DATA PROCESSOR BETWEEN TRANSMISSION OF THE ORIGINAL MESSAGE AND THE FIRST RETRANSMITTED MESSAGE COPY AS WELL AS THE PERIOD BETWEEN ADDITIONAL COPIES OF DUPLICATE MESSAGES.	CMF HEADER
804 STATUS INTERVAL [Status_Intvl]		INDICATES THE MAXIMUM PERIODIC RATE AT WHICH IBS CONSUMERS SHOULD EXPECT TO RECEIVE A STATUS REPORT ON AN ASSET FOR WHICH STATUS IS BEING PROVIDED.	OPERATIONAL STATUS MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	INTEGER		

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APPENDIX B, PART I

DFI NAME  
4037 TIME INTERVAL

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: NO					
1E-31 THROUGH 131,071E31 SECONDS	1E-31 THROUGH 131071E31		UNRANGED	REPORTED IN SECONDS.	
----- FOR DUI 803 -----					
RESET ATTRIBUTE: NO					
0 THROUGH 120 SECONDS	0 THROUGH 120			REPORTED IN SECONDS	
----- FOR DUI 804 -----					
RESET ATTRIBUTE: NO					
1 THROUGH 1440 MINUTES	1 THROUGH 1440			REPORTED IN MINUTES	

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APPENDIX B, PART I

DFI	NAME	DEFINITION	
4046	SERIAL NUMBER	A SEQUENTIAL NUMBERING OF ITEMS.	
	DATA STANDARD USAGE: IBS	STATUS:	
	DUI NAME	EXPLANATION	APPLICABILITY
	004 ENTITY ID SERIAL NUMBER [Entity_ID_Serial_Num]	THE SERIAL NUMBER USED FOR IDENTIFICATION PURPOSES OF AN ENTITY. ESTABLISHED BY THE SYSTEM THAT PROMULGATES AN ENTITY ONTO A COMMUNICATIONS NET TO IDENTIFY THAT ENTITY. USED IN CONJUNCTION WITH THE URN WHICH IDENTIFIES THE PROMULGATING SYSTEM. THIS FIELD IS A SEQUENTIAL NUMBER THAT UNIQUELY IDENTIFIES EACH ENTITY OR UPDATE FOR THAT SYSTEM.	DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONAL STATUS MESSAGE
	801 TDDS SEQUENTIAL CONTACT NUMBER [TDDS_SCN]	A UNIQUE NUMBER REPRESENTING THE CONTACT AS REPORTED BY THE TDDS SOURCE.	DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONAL STATUS MESSAGE
	802 MAJOR PARSER API VERSION [MAJOR_PARSER_API_VERSION]	IDENTIFIES THE MAJOR LEVEL OF PARSER LIBRARY INTERFACE DEFINITION USED TO CREATE THE ENCLOSING DATA PACKET. COMPARED WITH THE PARSER LIBRARY INTERFACE MAJOR VERSION IN USE BY THE RECEIVING SOFTWARE TO DETERMINE BACKWARD COMPATIBILITY. A DIFFERENCE INDICATES INCOMPATIBILITY.	CMF HEADER, CMF DOC (PACKAGE HEADER)

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DFI      NAME  
4046    SERIAL NUMBER

803 MINOR PARSER API VERSION  
[MINOR\_PARSER\_API\_VERSION]

IDENTIFIES THE MINOR LEVEL OF  
PARSER LIBRARY INTERFACE  
DEFINITION USED TO CREATE THE  
ENCLOSING DATA PACKET. COMPARED  
WITH THE PARSER LIBRARY INTERFACE  
MINOR VERSION IN USE BY THE  
RECEIVING SOFTWARE TO DETERMINE  
BACKWARD COMPATIBILITY. A  
DIFFERENCE IN VERSION INDICATES  
DIFFERENCES IN PROCESSING  
DESIGNED TO BE FULLY BACKWARD  
COMPATIBLE (ASSUMING THERE IS NOT  
ALSO A MAJOR LEVEL VERSION  
DIFFERENCE).

CMF HEADER,  
CMF DOC (PACKAGE HEADER)

804 MAJOR DTD VERSION  
[Major\_DTD\_Version]

IDENTIFIES THE MAJOR LEVEL OF THE  
DOCUMENT TYPE DEFINITION (DTD)  
FILE USED TO CREATE THE ENCLOSING  
DATA PACKET. COMPARED WITH THE  
DTD FILE MAJOR VERSION IN USE BY  
THE RECEIVING SOFTWARE TO  
DETERMINE BACKWARD COMPATIBILITY.  
ANY DIFFERENCE INDICATES  
INCOMPATIBILITY.

CMF HEADER,  
CMF DOC (PACKAGE HEADER)

805 MINOR DTD VERSION  
[MINOR\_DTD\_VERSION]

IDENTIFIES THE MINOR LEVEL OF DTD  
FILE USED TO CREATE THE ENCLOSING  
DATA PACKET. COMPARED WITH THE  
DTD FILE MINOR VERSION IN USE BY  
THE RECEIVING SOFTWARE TO  
DETERMINE BACKWARD COMPATIBILITY.  
A DIFFERENCE IN VERSION INDICATES  
DIFFERENCES IN DEFINED FIELDS  
DESIGNED TO BE FULLY BACKWARD  
COMPATIBLE (ASSUMING THERE IS NOT  
ALSO A DTD MAJOR LEVEL VERSION  
DIFFERENCE).

CMF HEADER,  
CMF DOC (PACKAGE HEADER)

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DFI NAME  
4046 SERIAL NUMBER

806 MESSAGE NUMBER  
[MSG\_NUM]

A ONE-UP NUMBER ASSIGNED BY THE CMF  
ORIGINATOR WHICH UNIQUELY  
IDENTIFIES A REPORTED MESSAGE  
WITHIN THE RESPECTIVE MESSAGE  
TYPE

DATA MANAGEMENT MESSAGE,  
REMOTE AMPLIFICATION MESSAGE,  
TEXT MESSAGE,  
COLLABORATION MESSAGE,  
OPERATIONS NOTIFICATION  
MESSAGE,  
OPERATIONAL STATUS MESSAGE,  
BLOB TRANSFER MESSAGE

807 ENTITY NUMBER  
[Entity\_Num]

NUMBER ASSIGNED BY SOURCE OR  
TRANSMITTING STATION WHICH  
EQUATES TO THE ENTITY DESCRIBED  
IN A MESSAGE.

DATA MANAGEMENT MESSAGE,  
ENTITY MESSAGE,  
TEXT MESSAGE,  
COLLABORATION MESSAGE,  
OPERATIONAL STATUS MESSAGE

808 MESSAGE NUMBER, TIBS  
[TIBS\_Msg\_Num]

NUMBER ISSUED BY TIBS TRANSMITTING  
STATION WHICH EQUATES TO ENTITY  
DESCRIBED IN THIS MESSAGE.

DATA MANAGEMENT MESSAGE,  
ENTITY MESSAGE,  
TEXT MESSAGE,  
COLLABORATION MESSAGE,  
OPERATIONAL STATUS MESSAGE

DATA ELEMENT TYPE DATA  
REPRESENTATION TYPE

FIELD INTEGER

DUI NAME

EXPLANATION

APPLICABILITY

809 MESSAGE NUMBER, TRIXS  
[TRIXS\_Msg\_Num]

NUMBER ASSIGNED TO THE TRIKS  
MESSAGE BY THE TRIKS TRANSMITTING  
STATIONS, WHICH EQUATES TO THE  
ENTITY DESCRIBED IN THE CMF  
MESSAGE.

DATA MANAGEMENT MESSAGE,  
ENTITY MESSAGE,  
TEXT MESSAGE,  
COLLABORATION MESSAGE,  
OPERATIONAL STATUS MESSAGE

DATA ELEMENT TYPE DATA  
REPRESENTATION TYPE

FIELD PATTERN

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DFI NAME  
4046 SERIAL NUMBER

DUI NAME	EXPLANATION	APPLICABILITY
810 SOI NUMBER, TRIXS [TRIXS_SOI_Num]	THE SEQUENTIAL NUMBER OF THE TARGET SIGNAL IDENTIFIER WITHIN THE TRIXS MESSAGE.	DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONAL STATUS MESSAGE
811 TDDS REPORT NUMBER [TDDS_Rpt_Num]	UNIQUELY IDENTIFIES THE TDDS REPORT IN WHICH THIS CONTACT WAS BROADCAST ON THE TDDS NETWORK.	DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, TEXT MESSAGE, OPERATIONAL STATUS MESSAGE
815 SOURCE FILE IDENTIFICATION [Src_File_ID]	THE NUMBER ENTERED IN THIS FIELD IDENTIFIES THE FILE OR SIGNAL ID ASSIGNED BY THE ORIGINATOR OF THIS MESSAGE. ITS PRIMARY PURPOSE IS FOR "QUERY" REFERENCE AND POST-MISSION DATA REDUCTION/ANALYSIS.	ENTITY MESSAGE, COLLABORATION MESSAGE
816 RADIO MESSAGE NUMBER [Radio_Msg_Num]	A ONE-UP NUMBER ASSIGNED AND USED BY THE TRANSMITTING STATION WHICH EQUATES TO THE CURRENT RADIO MESSAGE.	ENTITY MESSAGE
818 PACKAGE NUMBER [Pkg_Num]	NUMBER ASSIGNED AND USED BY THE TRANSMITTING STATION WHICH EQUATES TO THE CURRENT PACKAGE.	CMF DOC
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	INTEGER	

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DFI NAME  
4046 SERIAL NUMBER

DUI NAME	EXPLANATION	APPLICABILITY
819 TDDS TRACK NUMBER [TDDS_Trk_Num]	A UNIQUE ALPHANUMERIC FIELD REPRESENTING THE CONTACT AS REPORTED BY THE TDDS SOURCE.	DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONAL STATUS MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	PATTERN	
DUI NAME	EXPLANATION	APPLICABILITY
820 BINO TRACK NUMBER [BINO_Trk_Num]	A NUMERIC FIELD REPRESENTING THE CONTACT AS ASSIGNED BY BINOCULAR (NRTD).	DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONAL STATUS MESSAGE
821 TEXT PACKET NUMBER [Txt_Pkt_Num]	INDICATES THE REPORTED TEXT PACKET NUMBER WITHIN A SEQUENCE OF RELATED TEXT PACKETS.	ENTITY MESSAGE
822 TEXT TOTAL PACKETS [Txt_Total_Pkts]	INDICATES THE TOTAL NUMBER OF TEXT PACKETS COMPRISING A SEQUENCE OF RELATED TEXT PACKETS.	ENTITY MESSAGE
823 UHF BASE STATION ID [UHF_Base_Station_ID]	UNIQUELY IDENTIFIES THE RADIO'S ASSOCIATED UHF BASE STATION.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	INTEGER	

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DFI NAME  
4046 SERIAL NUMBER

DUI NAME	EXPLANATION	APPLICABILITY
825 EQUIPMENT SERIAL NUMBER [Equip_Serial_Num]	THE SERIAL NUMBER ASSIGNED BY THE EQUIPMENT MANUFACTURER.	COLLABORATION MESSAGE, ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	STRING	
DUI NAME	EXPLANATION	APPLICABILITY
826 PULSE GROUP ID NUMBER [Pulse_Grp_ID_Num]	IDENTIFIES A PULSE GROUP WITHIN A SET OF PULSES.	ENTITY MESSAGE
827 PULSE ID NUMBER [Pulse_ID_Num]	IDENTIFIES A SINGLE PULSE WITHIN A PULSE GROUP.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	INTEGER	
DUI NAME	EXPLANATION	APPLICABILITY
828 MMSI NUMBER [MMSI_Num]	THE MARITIME MOBILE SERVICE IDENTITY (MMSI) NUMBER IS A NUMBER ASSIGNED TO A SHIP STATION, GROUP SHIP STATION, COAST STATION, OR GROUP COAST STATION ELECTRONIC IDENTITY BY THE INTERNATIONAL TELECOMMUNICATION UNION (ITU).	ENTITY MESSAGE

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APPENDIX B, PART IDFI NAME  
4046 SERIAL NUMBER

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	PATTERN	
DUI NAME	EXPLANATION	APPLICABILITY
829 IMO NUMBER [IMO_Num]	THE INTERNATIONAL MARITIME ORGANIZATION (IMO) NUMBER IS A UNIQUE SHIP NUMBER ASSIGNED BY INTERNATIONAL MARITIME ORGANIZATION (RELATED TO SHIPS CONSTRUCTION).	ENTITY MESSAGE
830 SIGNAL OBSERVATION NUMBER [Signal_Observ_Num]	ONE-UP NUMBER ASSIGNED BY A SPECIFIC PRODUCER TO EACH UNIQUE COLLECTION PER RADIO DAY. (ROLL-OVER OCCURS FROM THE MAXIMUM VALUE BACK TO THE MINIMUM VALUE).	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	INTEGER	
DUI NAME	EXPLANATION	APPLICABILITY
831 HULL NUMBER [Hull_Num]	THE NUMBER ASSIGNED TO THE HULL OF A VESSEL.	ENTITY MESSAGE
832 TAIL NUMBER [Tail_Num]	THE NUMBER ASSIGNED TO THE TAIL OR FUSELAGE OF AN AIRCRAFT.	ENTITY MESSAGE
833 MEDIA REFERENCE ID [Media_Ref_ID]	THE ASSIGNED REFERENCE IDENTIFIER THAT CORRESPONDS WITH THE SENSOR PRODUCT URL.	ENTITY MESSAGE

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DFI NAME  
4046 SERIAL NUMBER

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	STRING	
DUI NAME	EXPLANATION	APPLICABILITY
834 USMTF MESSAGE NUMBER [USMTF_Msg_Num]	NUMBER ASSIGNED TO THE MESSAGE BY THE USMTF TRANSMITTING STATION, WHICH EQUATES TO THE ENTITY DESCRIBED IN THE CMF MESSAGE.	DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONAL STATUS MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	PATTERN	
DUI NAME	EXPLANATION	APPLICABILITY
835 USMTF TRACK NUMBER [USMTF_Trk_Num]	NUMBER ASSIGNED TO THE USMTF ENTITY BY THE USMTF SOURCE OR TRANSMITTING STATION WHICH EQUATES TO THE ENTITY DESCRIBED IN THE CMF MESSAGE.	DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONAL STATUS MESSAGE
836 ENTITY UPDATE NUMBER [Entity_Upd_Num]	IDENTIFIES SEQUENTIAL REPORTS OF AN ENTITY (I.E., ONE CONTACT). COMBINED WITH A FULL GLOBAL TRACK NUMBER (AKA GTN) ALLOWS UNIQUE IDENTIFICATION OF AN INDIVIDUAL CONTACT UPDATE OR HISTORY POINT ON AN ENTITY.	ENTITY MESSAGE

**UNCLASSIFIED**

B1-202

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
4046 SERIAL NUMBER

837 BLOB PACKET NUMBER  
[BLOB\_Pkt\_Num] INDICATES THE REPORTED BLOB PACKET  
NUMBER WITHIN A SEQUENCE OF  
RELATED BLOB PACKETS. BLOB TRANSFER MESSAGE

838 BLOB TOTAL PACKETS  
[BLOB\_Total\_pkts] INDICATES THE TOTAL NUMBER OF BLOB  
PACKETS COMPRISING A SEQUENCE OF  
RELATED BLOB PACKETS. BLOB TRANSFER MESSAGE

DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE

FIELD INTEGER

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 004 -----

RESET ATTRIBUTE: NO

1 THROUGH 1 THROUGH 4294967295  
4,294,967,295

----- FOR DUI 801 -----

RESET ATTRIBUTE: NO

0 THROUGH 4,194,303 0 THROUGH 4194303

----- FOR DUIS 802-805 -----

RESET ATTRIBUTE: NO

0 THROUGH 127 0 THROUGH 127

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART IDFI NAME  
4046 SERIAL NUMBER

----- FOR DUIS 806, 807 AND 818 -----

RESET ATTRIBUTE: NO

1 THROUGH 268,435,455 1 THROUGH 268435455

----- FOR DUI 808 -----

RESET ATTRIBUTE: NO

1 THROUGH 1023 1 THROUGH 1023

----- FOR DUIS 809 AND 834 -----

RESET ATTRIBUTE: NO

5X 5X

THE VALUES ARE 5 ALPHANUMERIC  
CHARACTERS (A-Z, 0-9).

----- FOR DUI 810 -----

RESET ATTRIBUTE: NO

1 THROUGH 99 1 THROUGH 99

----- FOR DUI 811 -----

RESET ATTRIBUTE: YES

0 THROUGH 4,194,303 0 THROUGH 4194303

----- FOR DUI 815 -----

RESET ATTRIBUTE: YES

0 THROUGH 0 THROUGH 2147483647  
2,147,483,647**UNCLASSIFIED**

B1-204

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
4046 SERIAL NUMBER

----- FOR DUI 816 -----

RESET ATTRIBUTE: YES

0 THROUGH 4,194,303      0 THROUGH 4194303

----- FOR DUI 819 -----

RESET ATTRIBUTE: YES

5X1XS                        5X1XS

THE VALUES ARE FIVE  
ALPHANUMERIC CHARACTERS (A-  
Z, 0-9) AND ONE  
ALPHANUMERIC CHARACTER (A-  
Z, 0-9) OR A SPACE  
CHARACTER.

----- FOR DUI 820 -----

RESET ATTRIBUTE: YES

0 THROUGH 999,999      0 THROUGH 999999

----- FOR DUI 821 -----

RESET ATTRIBUTE: NO

1 THROUGH 3                1 THROUGH 3

----- FOR DUI 822 -----

RESET ATTRIBUTE: NO

2 THROUGH 3                2 THROUGH 3

**UNCLASSIFIED**

B1-205

**UNCLASSIFIED**

B1-206

DFI NAME  
4046 SERIAL NUMBER

----- FOR DUI 823 -----

RESET ATTRIBUTE: YES

0 THROUGH 31                  0 THROUGH 31

----- FOR DUI 825 -----

RESET ATTRIBUTE: YES

1 TO 20 CHARACTERS        1 TO 20 CHARACTERS

----- FOR DUIS 826 AND 827 -----

RESET ATTRIBUTE: YES

1 THROUGH 999                  1 THROUGH 999

----- FOR DUI 828 -----

RESET ATTRIBUTE: YES

9N                              9N

THE VALUES ARE NINE NUMERIC  
DIGITS (INTEGER VALUES 0-  
9).

----- FOR DUI 829 -----

RESET ATTRIBUTE: YES

1 THROUGH 999,999,999    1 THROUGH 999999999

----- FOR DUI 830 -----

RESET ATTRIBUTE: NO

1 THROUGH 9999                  1 THROUGH 9999

----- FOR DUI 831 -----

RESET ATTRIBUTE: YES

1 TO 8 CHARACTERS        1 TO 8 CHARACTERS

**UNCLASSIFIED**  
MIL-STD-6018C  
APPENDIX B, PART I

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
4046 SERIAL NUMBER

----- FOR DUI 832 -----

RESET ATTRIBUTE: YES

1 TO 6 CHARACTERS        1 TO 6 CHARACTERS

----- FOR DUI 833 -----

RESET ATTRIBUTE: YES

1 TO 5 CHARACTERS        1 TO 5 CHARACTERS

----- FOR DUI 835 -----

RESET ATTRIBUTE: YES

1 THROUGH 999,999        1 THROUGH 999999

----- FOR DUI 836 -----

RESET ATTRIBUTE: YES

1 THROUGH 2,097,151        1 THROUGH 2097151

----- FOR DUI 837 -----

RESET ATTRIBUTE: NO

1 THROUGH 127        1 THROUGH 127

----- FOR DUI 838 -----

RESET ATTRIBUTE: NO

2 THROUGH 127        2 THROUGH 127

**UNCLASSIFIED**

B1-207

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION
4047	INFORMATION UPDATE INDICATOR	INDICATES THE DATA IN THIS MESSAGE ARE UPDATES.
DATA STANDARD USAGE: IBS		STATUS:
DUI NAME		EXPLANATION
801 TDDS TRACK UPDATE NUMBER [TDDS_Trk_Upd_Num]		SEQUENTIAL NUMBER TO ENABLE THE RECEIVING SYSTEM TO DETERMINE WHICH UPDATE CONTAINS THE LATEST INFORMATION.
		DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONAL STATUS MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	INTEGER	
DATA ITEM	VALUE RANGE	UNIT EQUIV VALUE MOD ACCURACY EXPLANATION
----- FOR DUI 801 -----		
RESET ATTRIBUTE: YES		
1 THROUGH 99	1 THROUGH 99	

**UNCLASSIFIED**

B1-208

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION
4051	RELIABILITY EVALUATION	THE GENERAL APPRAISAL OF THE SOURCE IN GRADED TERMS TO INDICATE THE EXTENT TO WHICH IT HAS BEEN PROVEN IT CAN BE COUNTED ON OR TRUSTED TO DO AS EXPECTED.
DATA STANDARD USAGE: IBS		STATUS:
DUI NAME	EXPLANATION	APPLICABILITY
801 NIIRS QUALITY [NIIRS_Qual]	INDICATES THE RATING OF THE IMAGERY PRODUCT USING THE NATIONAL IMAGERY INTERPRETABILITY RATING SCALE (NIIRS), AS DEFINED BY THE NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY (NGA).	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	FLOAT	
DUI NAME	EXPLANATION	APPLICABILITY
802 HUMINT RELIABILITY [HUMINT_Relab]	PROVIDES AN ASSESSMENT OF THE RELIABILITY OF THE HUMINT SOURCE, INCLUDING AN EVALUATION OF AUTHENTICITY, TRUSTWORTHINESS, AND/OR COMPETENCY, AS DEFINED BY DEPARTMENT OF THE ARMY HEADQUARTERS MANUAL FM 2-22.3, HUMAN INTELLIGENCE COLLECTOR OPERATIONS.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	ENUMERATED	

**UNCLASSIFIED**

B1-209

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
4051 RELIABILITY EVALUATION

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
0 THROUGH 10 EXCLUSIVE	0 THROUGH 10 EXCLUSIVE				UNRANGED
----- FOR DUI 802 -----					
RESET ATTRIBUTE: YES					
CANT_JUDGE	0				INFORMATION SOURCE RELIABILITY CANNOT BE JUDGED - NO BASIS EXISTS FOR EVALUATING THE RELIABILITY OF THE SOURCE.
RELIAB	1				INFORMATION SOURCE IS RELIABLE - NO DOUBT OF AUTHENTICITY, TRUSTWORTHINESS, OR COMPETENCY; HAS HISTORY OF COMPLETE RELIABILITY.
USUAL_RELIA	2				INFORMATION SOURCE IS USUALLY RELIABLE - MINOR DOUBT ABOUT AUTHENTICITY, TRUSTWORTHINESS, OR COMPETENCY; HAS HISTORY OF VALID INFORMATION MOST OF THE TIME.
FAIR_RELIA	3				INFORMATION SOURCE IS FAIRLY RELIABLE - SOME DOUBT OF AUTHENTICITY, TRUSTWORTHINESS, OR COMPETENCY, BUT HAS PROVIDED VALID INFORMATION IN THE PAST.

**UNCLASSIFIED**

B1-210

**UNCLASSIFIED**

MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
4051 RELIABILITY EVALUATION

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
USUAL_UNRELIAB	4							INFORMATION SOURCE IS NOT USUALLY RELIABLE - SIGNIFICANT DOUBT ABOUT AUTHENTICITY, TRUSTWORTHINESS, OR COMPETENCY BUT HAS PROVIDED VALID INFORMATION IN THE PAST.
UNRELIAB	5							INFORMATION SOURCE IS UNRELIABLE - LACKING IN AUTHENTICITY, TRUSTWORTHINESS, OR COMPETENCY; HISTORY OF INVALID INFORMATION.

**UNCLASSIFIED**

B1-211

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
4070 EQUIPMENT MODEL

DEFINITION  
THE MODEL NUMBER DESIGNATION OF SPECIFIC EQUIPMENT WHOSE STATUS IS BEING REPORTED.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME	EXPLANATION	APPLICABILITY
801 EQUIPMENT TYPE [Equip_Typ]	THE NAME OR NOMENCLATURE ASSIGNED BY THE MANUFACTURER OR DEVELOPING ORGANIZATION.	COLLABORATION MESSAGE, ENTITY MESSAGE

DATA ELEMENT TYPE

DATA REPRESENTATION TYPE

FIELD STRING

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
1 TO 15 CHARACTERS	1 TO 15 CHARACTERS				

**UNCLASSIFIED**

B1-212

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART IDFI NAME  
4083 SECURITY CLASSIFICATIONDEFINITION  
A CATEGORY ASSIGNED TO CLASSIFIED MESSAGE INFORMATION OR MATERIAL TO SHOW THE DEGREE OF DAMAGE TO THE INTERESTS OF NATIONAL DEFENSE OR NORTH ATLANTIC TREATY ORGANIZATION (NATO) WHICH COULD RESULT FROM ITS UNAUTHORIZED DISCLOSURE AND TO SHOW THE STANDARD OF PROTECTION REQUIRED TO GUARD AGAINST UNAUTHORIZED DISCLOSURE.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME

EXPLANATION

APPLICABILITY

807 SECURITY TABLE INDEX  
[Security\_Tbl\_Indx]

PROVIDES A CROSS-REFERENCE INTO THE CMF HEADER SECURITY CLASSIFICATION TABLE WHICH INDICATES THE CONTROLLED ACCESS PROGRAM COORDINATION OFFICE (CAPCO) REQUIRED INFORMATION SECURITY MARKING VALUES FOR IBS DATA. THE SECURITY CLASSIFICATION TABLE DEFINES THE INDIVIDUAL SECURITY FIELD ENTRIES FOR EACH TYPE OF DATA THAT MAY BE PRODUCED ONTO THE IBS NETWORK/BROADCAST PER A GIVEN DATA OWNER/AUTHORITY. THE SECURITY CLASSIFICATION TABLE IS BUILT AND DISTRIBUTED BY THE GLOBAL IBS SUPPORT CENTER (GIBSSC).

DATA ELEMENT TYPE  
FIELDDATA REPRESENTATION TYPE  
INTEGER

DATA ITEM VALUE RANGE UNIT EQUIV VALUE MOD ACCURACY EXPLANATION

----- FOR DUI 807 -----

RESET ATTRIBUTE: NO

1 THROUGH 4,095      1 TO 4095

**UNCLASSIFIED**

B1-213

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	
4085	NUMBER	AN IDENTIFIER OF AN ENTITY, COMMONLY CONSIDERED TO BE, OR REFERRED TO AS, A "NUMBER".	
DATA STANDARD USAGE: IBS		STATUS:	
DUI NAME		EXPLANATION	APPLICABILITY
801	EXTERNAL CONNECTION ID [Extern_Connect_ID]	INDICATES A NUMBER IDENTIFYING A LOGICAL CONNECTION OR REMOTE PHYSICAL PATH OVER A LOCAL PHYSICAL CONNECTION SUCH AS A RF CHANNEL NUMBER OR WEB CLIENT IDENTIFIER.	CMF HEADER
802	EXTERNAL CONNECTION NUMBER [Extern_Connect_Num]	INDICATES A NUMBER IDENTIFYING A LOCAL PHYSICAL CONNECTION SUCH AS A PORT, ASSIGNMENT, OR OTHER PRIMARY CONNECTION NUMBER.	CMF HEADER
803	PATH NUMBER [Path_Num]	INDICATES AN OPERATIONALLY ASSIGNED NUMBER THAT IDENTIFIES A COMMUNICATION PATH OR MEDIUM AND IS USED BY CMF FOR PATH-SPECIFIC DATA PACKAGE INTERPRETATION.	CMF HEADER
804	UIC IDENTIFIER [UIC_ID]	THE IDENTIFICATION OF A PARTICULAR URGENT INTERIM CAPABILITY (UIC). THIS NUMBER IS UNIQUELY ASSIGNED TO A PARTICULAR UIC AT ANY GIVEN TIME.	ENTITY MESSAGE, BLOB TRANSFER MESSAGE
805	LOCAL CAPABILITY IDENTIFIER [Local_Capab_ID]	THE IDENTIFICATION OF A PARTICULAR LOCAL SCOPE ELEMENTS CAPABILITY. THIS NUMBER IS UNIQUELY ASSIGNED TO A PARTICULAR LOCAL SCOPE ELEMENTS CAPABILITY AT ANY GIVEN TIME.	CMF HEADER
806	BLOB TYPE IDENTIFIER [BLOB_Typ_ID]	THE IDENTIFICATION OF A PARTICULAR BLOB TRANSFER IMPLEMENTATION. THIS NUMBER IS UNIQUELY ASSIGNED TO AN APPROVED BLOB TRANSFER IMPLEMENTATION.	BLOB TRANSFER MESSAGE

**UNCLASSIFIED**

B1-214

**UNCLASSIFIED**

MIL-STD-6018C  
APPENDIX B, PART I

DFI      NAME  
4085    NUMBER

DATA               DATA  
ELEMENT           REPRESENTATION  
TYPE              TYPE  
  
FIELD             INTEGER

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
-----------	-------------	------------	-----------	----------	-------------

----- FOR DUIS 801 THROUGH 803 -----

RESET ATTRIBUTE: NO

UNLIMITED               UNLIMITED

----- FOR DUIS 804 THROUGH 806 -----

RESET ATTRIBUTE: NO

1 THROUGH 127               1 THROUGH 127

**UNCLASSIFIED**

B1-215

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART I

DFI	NAME	DEFINITION		
4093	DATA TYPE DESIGNATOR	INDICATES SELECTION FROM AN ITEMIZED LIST.		
	DATA STANDARD USAGE: IBS	STATUS:		
	DUI NAME	EXPLANATION	APPLICABILITY	
	801 HIGH INTEREST INDICATOR [Hi_Interest_Indic]	INDICATES THIS MESSAGE CONTAINS INFORMATION OF HIGH INTEREST.	ENTITY MESSAGE, TEXT MESSAGE	
	802 DECEPTION INDICATOR [Decept_Indic]	INDICATES WHETHER ENTITY BEING REPORTED IS TAKING PART IN DECEPTION ACTIVITY.	ENTITY MESSAGE, TEXT MESSAGE	
	DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
	FIELD	PACKED COMPONENT		
	DUI NAME	EXPLANATION	APPLICABILITY	
	807 TDSS CHANGE FLAG [TDSS_Chg_Flag]	A FLAG WHICH INDICATES WHETHER THE REPORT IS AN INITIAL REPORT OR A CHANGE REPORT.	DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONAL STATUS MESSAGE	
	DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
	FIELD	ENUMERATED		
	DUI NAME	EXPLANATION	APPLICABILITY	
	809 PR/CSAR SCHEDULED MESSAGE INDICATOR [PR_CSAR_Sched_Msg_Indic]	INDICATES WHETHER MESSAGE WAS TRANSMITTED ON SCHEDULED/UNSCHEDULED (IMMEDIATE) BASIS.	ENTITY MESSAGE	

**UNCLASSIFIED**

B1-216

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
4093 DATA TYPE DESIGNATOR

810 ZEROIZED INDICATOR [Zeroized_Indic]	INDICATES WHETHER THE REFERENCED RADIO IS OPERATING WITH A NON-ZEROIZED (NORMAL) OR ZEROIZED ENCRYPTION KEY.	ENTITY MESSAGE
811 ENCRYPTION INDICATOR [Encryp_Indic]	INDICATES WHETHER THE RADIO IS OPERATING WITH THE CURRENT OR PREVIOUS ENCRYPTION KEY.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	PACKED COMPONENT	
DUI NAME	EXPLANATION	APPLICABILITY
812 ADVISORY INDICATOR [Advisory_Indic]	INDICATES WHETHER THE MESSAGE WAS REPORTED, DUE TO DEEMED IMPORTANCE, PRIOR TO MEETING NORMAL REPORTING CRITERIA (I.E., VERIFICATION OF INTENT, IDENTITY, ETC.).	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	ENUMERATED	
DUI NAME	EXPLANATION	APPLICABILITY
813 QUERY ENEMY NEARBY INDICATOR [Qry_Enemy_Near_Indic]	INDICATES IF THE ENEMY IS NEARBY.	ENTITY MESSAGE
814 QUERY ARE YOU HURT INDICATOR [Qry_Hurt_Indic]	INDICATES IF THE PERSONNEL IS HURT.	ENTITY MESSAGE

**UNCLASSIFIED**

B1-217

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
4093 DATA TYPE DESIGNATOR

815	QUERY WILL YOU MOVE INDICATOR [Qry_Move_Indic]	INDICATES IF THE PERSONNEL WILL MOVE.	ENTITY MESSAGE
816	REMOTE MANAGEMENT INDICATOR [Remote_Mgt_Indic]	INDICATES IF A DATA MANAGEMENT MESSAGE IS AN ACTION BEING TAKEN BY A REMOTE IBS UNIT UPON AN ENTITY FOR WHICH A DIFFERENT IBS UNIT HAS REPORTING RESPONSIBILITY (I.E. A REMOTE ACTION RATHER THAN A LOCAL ACTION).	DATA MANAGEMENT MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	PACKED COMPONENT		
DUI NAME		EXPLANATION	APPLICABILITY
817	RADAR MODE CHANGE INDICATOR [Radar_Mode_Chg_Indic]	ONE-UP CHARACTER INDICATOR FOR EACH UNIQUE RADAR MODE (PRI/PW DUR) OBSERVED FOR A SPECIFIC Emitter DURING COLLECTION IN A RADIO DAY. (ROLLOVER OCCURS FROM THE MAXIMUM VALUE OF Z BACK TO THE MINIMUM VALUE OF A).	ENTITY
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	PATTERN		
DUI NAME		EXPLANATION	APPLICABILITY
818	UIC UNIT [UIC_Unit]	THE PRE-DEFINED UNIT OF MEASURE FOR AN URGENT INTERIM CAPABILITY (UIC) FIELD	ENTITY MESSAGE, BLOB TRANSFER MESSAGE
819	LOCAL CAPABILITY UNIT [local_Capab_Unit]	THE CMF PRE-DEFINED UNIT OF MEASURE FOR A LOCAL SCOPE ELEMENTS CAPABILITY FIELD.	CMF HEADER

**UNCLASSIFIED**

B1-218

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
4093 DATA TYPE DESIGNATOR

DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE

FIELD ENUMERATED

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
-----------	-------------	------------	-----------	----------	-------------

----- FOR DUI 801 -----

RESET ATTRIBUTE: YES

NOT_HIGH_INTEREST	1	(INITIAL VALUE)
HIGH_INTEREST	2	

----- FOR DUI 802 -----

RESET ATTRIBUTE: YES

NO_DETERMINED_DECEPTION_OPERATION	1	(INITIAL VALUE)
DECEPTION_OPERATION	2	

----- FOR DUI 807 -----

RESET ATTRIBUTE: YES

INITIAL	0	(INITIAL VALUE)
CHG	1	CHANGE

----- FOR DUI 809 -----

RESET ATTRIBUTE: YES

IMMEDIATE	1	IMMEDIATE MESSAGE.
SCHEDULED	2	NORMALLY SCHEDULED MESSAGE.

**UNCLASSIFIED**

B1-219

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
4093 DATA TYPE DESIGNATOR

----- FOR DUI 810 -----

RESET ATTRIBUTE: YES

NON\_ZEROIZED\_KEY 1  
ZEROIZED\_KEY 2

(INITIAL VALUE)

----- FOR DUI 811 -----

RESET ATTRIBUTE: YES

CURRENT\_KEY 1  
PREVIOUS\_KEY 2

(INITIAL VALUE)

----- FOR DUI 812 -----

RESET ATTRIBUTE: YES

NON\_ADVISORY 0  
ADVISORY 1

(INITIAL VALUE)

----- FOR DUIS 813 - 815 -----

RESET ATTRIBUTE: YES

NO 1  
YES 2

(INITIAL VALUE)

----- FOR DUI 816 -----

RESET ATTRIBUTE: YES

ORIGIN\_MGT 1  
REMOTE\_MGT 2

ORIGINATING UNIT MANAGEMENT  
ACTION (INITIAL VALUE)  
REMOTE UNIT MANAGEMENT ACTION

----- FOR DUI 817 -----

RESET ATTRIBUTE: NO

1A 1A

THE VALUE IS ONE ALPHA  
CHARACTER (A-Z).

**UNCLASSIFIED**

B1-220

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
4093 DATA TYPE DESIGNATOR

----- FOR DUIS 818 AND 819 -----

RESET ATTRIBUTE: NO

BPS	1	BITS PER SECOND
DECIBELS	2	
DEGREES	3	
DM	4	DATA MILES
DMPH	5	DATA MILES PER HOUR
FEET	6	
FEET_PER_SEC	7	FEET PER SECOND
HERTZ	8	
HOPS_PER_SEC	9	HOPS PER SECOND
KILOMETERS	10	
KPH	11	KILOMETERS PER HOUR
KTS	12	KNOTS
METERS	13	
METERS_PER_SEC	14	METERS PER SECOND
MILES	15	
MINUTES	16	
MPH	17	MILES PER HOUR
PPS	18	PULSES PER SECOND
SECONDS	19	
SQUARE_FEET	20	
VOLTS	21	
WATTS_PER_STERADIAN_	22	
MICRON		
NM	23	NAUTICAL MILES
DBSM	24	DECIBELS PER SQUARE METER

**UNCLASSIFIED**

B1-221

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION				
4098	YEAR	A PERIOD OF EITHER 365 OR 366 DAYS AS DEFINED BY THE GREGORIAN CALENDAR.				
DATA STANDARD USAGE: IBS			STATUS:			
DUI NAME		EXPLANATION			APPLICABILITY	
801 YEAR, IBS [Yr]		YEAR CALCULATED STARTING AT 1900.			CMF HEADER, CMF DOC, ENTITY MESSAGE, OPERATIONS NOTIFICATION MESSAGE, BLOB TRANSFER MESSAGE	
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE					
FIELD	INTEGER					
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION	
----- FOR DUI 801 -----						
RESET ATTRIBUTE: NO						
0 THROUGH 8099	0 THROUGH 8099	OFF:	1900	AFTER APPLICATION OF THE VALUE OFFSET, THE VALUE OF YEAR WILL BE 1900 THROUGH 9999.		

**UNCLASSIFIED**

B1-222

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
4100 CALL SIGN DEFINITION  
ANY COMBINATION OF CHARACTERS OR WORDS WHICH IDENTIFIES ONE OR MORE COMMUNICATIONS FACILITIES, COMMANDS, AUTHORITIES, ACTIVITIES OR UNITS.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME

EXPLANATION

APPLICABILITY

801 INTERNATIONAL CALL SIGN  
[Internat\_Call\_Sign]

INTERNATIONAL CALL SIGN ASSIGNED TO AN ENTITY.

802 COMMUNICATIONS CALL SIGN  
[Comms\_Call\_Sign]

A COMBINATION OF CHARACTERS OR PRONOUNCEABLE WORDS WHICH IDENTIFIES A COMMUNICATIONS FACILITY, A COMMAND, AN AUTHORITY, AN ACTIVITY, OR UNIT.

DATA ELEMENT TYPE

DATA REPRESENTATION TYPE

FIELD

STRING

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
-----------	-------------	------------	-----------	----------	-------------

----- FOR DUI 801 -----

RESET ATTRIBUTE: YES

1 TO 7 CHARACTERS 1 TO 7 CHARACTERS

----- FOR DUI 802 -----

RESET ATTRIBUTE: YES

1 TO 20 CHARACTERS 1 TO 20 CHARACTERS

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	
4104	RADIO FREQUENCY		
DATA STANDARD USAGE:	IBS	STATUS:	
DUI NAME		EXPLANATION	APPLICABILITY
801	RADIO FREQUENCY STABILITY [Freq_Stab]	THE STABILITY OF THE RADIO FREQUENCY (RF) SIGNAL IN TERMS OF DEVIATION FROM THE CENTER FREQUENCY.	ENTITY MESSAGE
802	INTERMEDIATE FREQUENCY [Intermed_Freq]	INTERMEDIATE FREQUENCY OF THE COLLECTION EQUIPMENT.	COLLABORATION MESSAGE
803	SIGNAL BANDWIDTH [Signal_Bandwidth]	WIDTH OF THE FREQUENCY RANGE OF THE REPORTED SIGNAL.	ENTITY MESSAGE
804	COLLECTION BANDWIDTH [Collect_Bandwidth]	WIDTH OF FREQUENCY RANGE IN WHICH THE COLLECTION WAS PERFORMED.	COLLABORATION MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	FLOAT		
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD ACCURACY EXPLANATION

**UNCLASSIFIED**

B1-224

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
4104 RADIO FREQUENCY

----- FOR DUI 801 -----

RESET ATTRIBUTE: YES

0 THROUGH 32 MHZ            0 THROUGH 32E6  
GREATER\_THAN                0 THROUGH 32E6

UNRANGED    REPORTED IN HERTZ  
IF "GREATER THAN" VALUE  
QUALIFIER IS SET, THE ACTUAL  
VALUE FOR FREQUENCY  
STABILITY IS SOMETHING  
GREATER THAN THE VALUE BEING  
REPORTED (FROM WITHIN THE  
GIVEN RANGE).

LESS\_THAN                0 THROUGH 32E6

IF "LESS THAN" VALUE QUALIFIER  
IS SET, THE ACTUAL VALUE FOR  
FREQUENCY STABILITY IS  
SOMETHING LESS THAN THE  
VALUE BEING REPORTED (FROM  
WITHIN THE GIVEN RANGE).

----- FOR DUIS 802 AND 804 -----

RESET ATTRIBUTE: NO

0 THROUGH                0 THROUGH 999E9  
999,000,000,000 HERTZ

UNRANGED    REPORTED IN HERTZ

----- FOR DUI 803 -----

RESET ATTRIBUTE: YES

0 THROUGH                0 THROUGH 999E9  
999,000,000,000  
HERTZ

UNRANGED    REPORTED IN HERTZ

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DFI	NAME	DEFINITION				
4113	HEIGHT	THE HEIGHT OF AN OBJECT MEASURED RADIALLY OUTWARD FROM THE EARTH'S SURFACE AS A DISTANCE MEASURED ABOVE OR BELOW A STATED REFERENCE POINT.				
	DATA STANDARD USAGE:	IBS				
	DATA ITEM	STATUS:				
	DUI NAME	EXPLANATION				
	801 ENTITY HEIGHT [Entity_Height]	HEIGHT OF THE ENTITY.				
	DATA ELEMENT TYPE	APPLICABILITY				
	REPRESENTATION TYPE	ENTITY MESSAGE				
	FIELD	FLOAT				
	DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
	----- FOR DUI 801 -----					
	RESET ATTRIBUTE: YES					
	0 EXCLUSIVE THROUGH 2000 FEET	0 EXCLUSIVE THROUGH 2000 FEET	1	0 THROUGH 2000 FEET	IF THE UNIT EQUIVALENT ATTRIBUTE IS SET TO 1, HEIGHT IS REPORTED IN FEET. DEFAULT ACCURACY = 1 FOOT.	
	0 EXCLUSIVE THROUGH 606 METERS	0 EXCLUSIVE THROUGH 606 METERS	2	0 THROUGH 606 METERS	IF THE UNIT EQUIVALENT ATTRIBUTE IS SET TO 2, HEIGHT IS REPORTED IN METERS. DEFAULT ACCURACY = 1 METER.	
	GREATER_THAN (FEET)	0 THROUGH 2000 FEET	1		IF "GREATER THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).	
	GREATER_THAN (METERS)	0 THROUGH 606 METERS	2		IF "GREATER THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE IS SOMETHING	

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DFI      NAME  
4113    HEIGHT

DATA ITEM (CONTINUED)    VALUE RANGE

UNIT	VALUE	EXPLANATION
EQUIV	MOD	ACCURACY
		GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).

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DFI NAME DEFINITION  
4118 COLOR THE COMMON NAMES OF THE SPECTRAL COLORS.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME	EXPLANATION	APPLICABILITY
801 EXTERIOR COLOR [Exter_Color]	THE COLOR OF THE EXTERIOR OF AN ENTITY.	ENTITY

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
-------------------	--------------------------

FIELD ENUMERATED

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
-----------	-------------	------------	-----------	----------	-------------

----- FOR DUI 801 -----

RESET ATTRIBUTE: YES

WHT	1	WHITE
BLK	2	BLACK
GREY	3	GREY/GRAY
BRWN	4	BROWN
BLU	5	BLUE
YELW	6	YELLOW
RED	7	RED
GRN	8	GREEN
VIOLET	9	VIOLET
ORNG	10	ORANGE
CAMO_JNGL_GRN	11	CAMOUFLAGE JUNGLE GREEN
CAMO_DSRT_BRN	12	CAMOUFLAGE DESERT BROWN
CAMO_ARCTC_WHT	13	CAMOUFLAGE ARCTIC WHITE
CAMO_SKY_BLU	14	CAMOUFLAGE SKY BLUE
OTHR	15	OTHER

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DFI	NAME	DEFINITION
4119	LOCATION ACCURACY	THE ACCURACY OF THE LOCATION BEING REPORTED.
	DATA STANDARD USAGE: IBS	STATUS:
	DUI NAME	EXPLANATION
	801 POSITION FIXING METHOD [Position_Fix_Method]	DEVICE OR METHOD USED TO FIX THE POSITION OF AN ENTITY.
	802 POSITION FIX QUALITY [Position_Fix_Qual]	DENOTES QUALITY OF ENTITY POSITION INFORMATION.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	ENUMERATED	ENTITY MESSAGE
DATA ITEM	VALUE RANGE	UNIT EQUIV VALUE MOD ACCURACY EXPLANATION
----- FOR DUI 801 -----		
RESET ATTRIBUTE: YES		
GPS	1	GLOBAL POSITIONING SYSTEM
GPS_2_DIMENSNL	2	GPS 2-DIMENSIONAL
GPS_3_DIMENSNL	3	GPS 3-DIMENSIONAL
GPS_NOT_USED	4	
GLONASS	5	GLOBAL NAVIGATION SATELLITE SYSTEM
COMBINED_GPS_GLONASS	6	
LORAN	7	LONG RANGE AID TO NAVIGATION
CHAYKA	8	CHAYKA ELECTRONIC POSITIONING DEVICE
INTEGRATED_NAV	9	INTEGRATED NAVIGATION SYSTEM
SURVEYED	10	
IMAGE_CSD_MONO	11	IMAGERY - COVARIANCE SUPPORT DATA (CSD), MONO
IMAGE_CSD_STEREO	12	IMAGERY - COVARIANCE SUPPORT DATA (CSD), STEREO
CARTOMETRIC	13	MAP/CHART PLOTTING (SCALE BASED)

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DFI NAME  
4119 LOCATION ACCURACY

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE EQUIV	MOD	ACCURACY	EXPLANATION
ELLIPSOID	14						ELLIPSOID ELINT OR SIGINT BASED
GEODETIC	15						GEODETIC DATUM REFERENCE BASED
IMAGE	16						IMAGERY
IMAGE_DPPDB_SRC	17						IMAGERY MEASURED DIRECTLY ON HIGH RESOLUTION DIGITAL POINT POSITIONING DATA BASE (DPPDB) SOURCE
IMAGE_DPPDB_REF	18						IMAGERY CONTROLLED TO HIGH RESOLUTION DIGITAL POINT POSITIONING DATA BASE (DPPDB) REFERENCE
IMAGE_PPDB_SRC	19						IMAGERY MEASURED DIRECTLY ON HIGH RESOLUTION FILM BASED POINT POSITIONING DATA BASE (PPDB) SOURCE
IMAGE_PPDB_REF	20						IMAGERY CONTROLLED TO HIGH RESOLUTION FILM BASED POINT POSITIONING DATA BASE (PPDB) REFERENCE
IMAGE_INDEX	21						IMAGERY - IMAGE DATA EXPLOITATION
IMAGE_LIGHT_TBL	22						IMAGERY - LIGHT TABLE
IMAGE_MARK_85_PPDB_SRC	23						IMAGERY MEASURED DIRECTLY ON MARK 85 FILM BASED POINT POSITIONING DATA BASE (PPDB) SOURCE
IMAGE_MARK_85_PPDB_REF	24						IMAGERY CONTROLLED TO MARK 85 FILM BASED POINT POSITIONING DATA BASE (PPDB) REFERENCE
IMAGE_ESD	25						IMAGERY WITH EXPLOITATION SUPPORT DATA
IMAGE_ESD_MULT	26						DERIVED FROM EXPLOITATION SUPPORT DATA OF MULTIPLE IMAGES
IMAGE_OTHR_MCG_REF	27						IMAGERY CONTROLLED TO OTHER MC&G REFERENCE
COMPUTER_MAP	28						COMPUTER MAP ENTRY
CONVENTIONAL_MAP	29						

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DFI NAME  
4119 LOCATION ACCURACY

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
IMAGE_NIMA PTS	30							IMAGERY - NIMA POINTS PROGRAM
OFFICIAL_STD	31							OFFICIAL STANDARD (PROVIDED BY DIA, NGA, STATE DEPT, ETC.)
IMAGE_GPS_DOPS	32							IMAGERY - GLOBAL POSITIONING SYSTEM, DIFFERENTIAL (DOPS)
GPS_MIL_16M	33							GPS MILITARY MODE, 16-METER ACCURACY
GPS_STD_100M	34							GPS STANDARD MODE, 100-METER ACCURACY
RPG	35							REFERENCE POINT GRAPHIC (RPG) HAS BEEN PRODUCED
IMAGE_RPC_MONO	36							IMAGERY, RAPID POSITIONING CAPABILITY (RPC), MONO
IMAGE_RPC_STEREO	37							IMAGERY, RAPID POSITIONING CAPABILITY (RPC), STEREO
INCONCLUSIVE	38							INCONCLUSIVE ANALYSIS
SELF_SEEKER_GUIDED	39							
ISOL_PERS_SLF_RPT	40							ISOLATED PERSONNEL SELF-REPORT
ACFT_VISUAL	41							AIRCRAFT VISUAL
GND_VISUAL	42							GROUND VISUAL
SRFC_VISUAL	43							SURFACE VISUAL
GALILEO	44							GALILEO EUROPEAN GLOBAL NAVIGATION SATELLITE SYSTEM

----- FOR DUI 802 -----

RESET ATTRIBUTE: YES

GOOD	0
BAD	1
UNK	2

UNKNOWN

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DFI NAME  
4127 NATION OF ORIGIN DEFINITION  
THE COUNTRY OF THE WORLD FROM WHICH A UNIT, EQUIPMENT, FACILITY, OR INDIVIDUAL ORIGINATED.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME

EXPLANATION

APPLICABILITY

801 NATIONALITY/ALLIANCE  
[Nat\_Alliance]DESCRIBES THE REAL OR VIRTUAL  
(EXERCISE) NATIONALITY OR  
ALLIANCE OF THE REFERENCED TRACK,  
UNIT, OR ENTITY.

ENTITY MESSAGE

802 NATIONALITY, IBS  
[Nationality]THE REAL OR VIRTUAL (EXERCISE)  
COUNTRY AFFILIATED WITH THE  
REPORTED ENTITY.

ENTITY MESSAGE

DATA ELEMENT TYPE DATA REPRESENTATION TYPE

FIELD STRING

DATA ITEM VALUE RANGE UNIT EQUIV VALUE MOD ACCURACY EXPLANATION

----- FOR DUI 801 -----

RESET ATTRIBUTE: YES

THE VALUE FOR  
NATIONALITY/ALLIANCE IS  
A STRING OF ONE TO THREE  
CHARACTERS AS SHOWN IN THE  
"DATA ITEM".**UNCLASSIFIED**

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
A01	A01					ANSAR AL-ISLAM
A02	A02					BLACK SEA ECONOMIC COOPERATION ORGANIZATION (BSEC)
A03	A03					AL AQSA MARTYRS BRIGADE
A04	A04					COMMONWEALTH OF INDEPENDENT STATES
A05	A05					JAISH-E-MOHAMMED
A06	A06					EASTERN PACIFIC
A07	A07					ARCTIC
A08	A08					AL-QA'IDA IN THE LANDS OF THE ISLAMIC MAGHREB
A09	A09					ASIAN-PACIFIC ECONOMIC COOPERATION (APEC)
A11	A11					LIBYAN ISLAMIC MOVEMENT FOR CHANGE
A12	A12					AL-QA'IDA AND SUNNI AFFILIATES
A14	A14					CHECHENS
A15	A15					HARAKAT-UL-MUJAHIDIN
A17	A17					ISLAMIC JIHAD UNION
A18	A18					INTERNATIONAL
A19	A19					CARIBBEAN COMMUNITY (CARICOM)
A20	A20					COMMON MARKET FOR EASTERN AND SOUTHERN AFRICA (COMESA)
A21	A21					PALESTINE ISLAMIC JIHAD
A22	A22					EAST AFRICAN COMMUNITY
A23	A23					MUJAHIDIN
A24	A24					CENTRAL ASIA
A25	A25					JEMMAH ISLAMIYAH
A26	A26					SOUTH ASIA ASSOCIATION FOR REGIONAL COOPERATION (SAARC)
A27	A27					GROUP OF TWENTY (G-20)
A28	A28					ECONOMIC COMMUNITY OF WEST AFRICAN STATES (ECOWAS)
A29	A29					REVOLUTIONARY PEOPLE'S LIBERATION PARTY/FRONT (DHKP/C)
A30	A30					KHALISTANI EXTREMISM

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
A31	A31					ANTI-COALITION MILITIAS AFGHANISTAN
A32	A32					KOREAN PENINSULA ENERGY DEVELOPMENT ORGANIZATION (KEDO)
A33	A33					LA FRANCOPHONIE
A34	A34					HIZBALLAH (LEBANESE)
A35	A35					LASHKAR-E-TAYYIBA
A36	A36					MERCOSUR (SOUTHERN CONE COMMON MARKET)
A37	A37					ABU SAYYAF GROUP
A38	A38					HAMAS
A39	A39					ORGANIZATION FOR ANIMAL HEALTH (OIE)
A40	A40					SHANGHAI COOPERATION ORGANIZATION (SCO)
A41	A41					UNION OF SOUTH AMERICAN NATIONS (UNASUR)
A42	A42					AL-QA'IDA IN IRAQ
A43	A43					AL-QA'IDA SENIOR LEADERSHIP
A44	A44					BOLIVARIAN ALLIANCE FOR THE AMERICAS (ALBA)
A45	A45					MAGHREB UNION
A46	A46					WORLD TRADE ORGANIZATION
A47	A47					UNIDENTIFIED, BELIEVED NOT 5- EYES
A48	A48					LASHKAR-E-JHANGVI
A49	A49					SUB-SAHARA AFRICA
A50	A50					ARAB, NOT FURTHER IDENTIFIED
A51	A51					ANTI-COALITION MILITIA
A52	A52					ARAB LEAGUE
A53	A53					SOUTH ASIA
A55	A55					AFRICAN UNION
A56	A56					AL QAEDA, NOT FURTHER IDENTIFIED
A57	A57					ASSOCIATION OF SOUTHEAST ASIAN NATIONS

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
A59	A59					UNITED ARAB COMMAND
A60	A60					AFRICAN INTERSTATE JOINT ACTY
A61	A61					JOINT BALTIK (ESTONIA, LATVIA AND/OR LITHUANIA)
A62	A62					CARIBBEAN (EXCLUDING ANTIQUA AND BARBUDA)
A63	A63					SOUTH AMERICA
A64	A64					BRITISH COMMONWEALTH
A65	A65					ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT
A66	A66					EASTERN CARIBBEAN COUNTRIES
A67	A67					ORGANIZATION OF EASTERN CARIBBEAN STATES
A68	A68					COUNCIL OF EUROPE
A69	A69					NATIONAL LIBERATION ARMY OF COLOMBIA
A70	A70					EUROPEAN UNION
A71	A71					WESTERN EUROPEAN UNION
A72	A72					WEST EUROPEAN COUNTRIES
A73	A73					PALESTINIAN ACTIVITIES
A74	A74					FAR EAST COUNTRIES
A75	A75					FALKLAND ISLAND DEPENDENCIES
A76	A76					REVOLUTIONARY ARMED FORCES OF COLOMBIA (FARC)
A77	A77					GULF COOPERATION COUNCIL
A78	A78					WORLDWIDE
A79	A79					CENTRAL AMERICA
A80	A80					HEZB-E ISLAMI GULBUDDIN
A81	A81					WESTERN HEMISPHERE
A82	A82					ISLAMIC CONFERENCE
A83	A83					ISLAMIC MOVEMENT OF UZBEKISTAN
A84	A84					INTERNATIONAL CRIMINAL POLICE ORGANIZATION (INTERPOL)
A85	A85					INTERNATIONAL RED CROSS
A86	A86					RIO GROUP
A87	A87					UNITED NATIONS
A88	A88					OPEC
A89	A89					ORGANIZATION OF AMERICAN STATES
A90	A90					GROUP OF SEVEN (G7)
A91	A91					KURDS

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
A92	A92					LATIN AMERICA
A93	A93					LESS DEVELOPED COUNTRIES
A94	A94					MULTINATIONAL COALITION FORCES
A95	A95					MAGREB PERMANENT CONSULTATIVE COMMITTEE
A96	A96					MIDDLE EASTERN/NORTHERN AFRICAN COUNTRIES
A97	A97					NATO
A98	A98					NON-ALIGNED NATIONS
ABW	ABW					ARUBA
AFG	AFG					AFGHANISTAN
AGO	AGO					ANGOLA
AIA	AIA					ANGUILLA
ALB	ALB					ALBANIA
AND	AND					ANDORRA
ARE	ARE					UNITED ARAB EMIRATES
ARG	ARG					ARGENTINA
ARM	ARM					ARMENIA
ASM	ASM					AMERICAN SAMOA
ATA	ATA					ANTARCTICA
ATF	ATF					FRENCH SOUTHERN AND ANTARCTIC LANDS
ATG	ATG					ANTIGUA AND BARBUDA
AUS	AUS					AUSTRALIA
AUT	AUT					AUSTRIA
AX1	AX1					UNKNOWN
AX2	AX2					GUANTANAMO BAY NAVAL BASE
AX3	AX3					*SEE ANNEX A* (AKA "ENTITY 6" PER GENC STANDARD)
AZE	AZE					AZERBAIJAN
B01	B01					NORDIC COUNTRIES
B02	B02					INTERNATIONAL ILLICIT NARCOTICS TRADE
B03	B03					AFRICAN-CARIBBEAN-PACIFIC NATIONS (ACP)
B04	B04					SOUTH PACIFIC ISLAND NATIONS OR TERRITORIES
B05	B05					ALIEN SMUGGLING
B06	B06					EASTERN EUROPEAN COUNTRIES
B07	B07					SOUTHERN AFRICAN DEVELOPMENT COORDINATION COUNCIL

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE EQUIV	MOD	ACCURACY	EXPLANATION
B08	B08						ORGANIZATION FOR SECURITY AND COOPERATION IN EUROPE (OSCE)
B09	B09						SUNNI EXTREMIST
B10	B10						SOUTHEAST ASIA
B12	B12						TALIBAN
B13	B13						TERRORIST ORGANIZATION
B15	B15						YELLOW NATIONALITY/ALLIANCE (EXERCISE)
B16	B16						BLACK NATIONALITY/ALLIANCE (EXERCISE)
B17	B17						BLUE NATIONALITY/ALLIANCE (EXERCISE)
B18	B18						BROWN NATIONALITY/ALLIANCE (EXERCISE)
B19	B19						GREEN NATIONALITY/ALLIANCE (EXERCISE)
B20	B20						ORANGE NATIONALITY/ALLIANCE (EXERCISE)
B21	B21						PURPLE NATIONALITY/ALLIANCE (EXERCISE)
B22	B22						RED NATIONALITY/ALLIANCE (EXERCISE)
B23	B23						WHITE NATIONALITY/ALLIANCE (EXERCISE)
B26	B26						AL NUSRAH FRONT
B27	B27						AL SHABAB
B28	B28						AL-MULATHAMUN
B29	B29						AL-QA'IDA IN THE ARABIAN PENINSULA
B31	B31						ANSAR AL-SHARI'A-LIBYA
B32	B32						ANSAR AL-SHARI'A-TUNISIA
B33	B33						ANSARU
B34	B34						BOKO HARAM
B35	B35						BRICS (BRAZIL, RUSSIA, INDIA, CHINA, SOUTH AFRICA)
B36	B36						HAQQANI NETWORK
B37	B37						INTERNATIONAL EXTREMIST FACILITATION
B38	B38						JEMAAH ANSHARUT TAUHID
B39	B39						OTHER AFGHAN/PAKISTAN GROUPS

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
B41	B41					OTHER EAST AFRICA GROUPS
B42	B42					OTHER IRAQ GROUPS
B43	B43					OTHER LEVANT GROUPS
B44	B44					OTHER NORTH AFRICA GROUPS
B45	B45					OTHER PALESTINE GROUPS
B46	B46					OTHER PHILIPPINE EXTREMIST GROUPS
B47	B47					OTHER SOUTH EAST ASIA GROUPS
B48	B48					OTHER SYRIAN EXTREMIST GROUPS
B49	B49					OTHER YEMEN GROUPS
B51	B51					SIKH EXTREMISTS
B52	B52					TERRORIST SUPPORT ENTITIES LISTED AS IICT PRI 1
B53	B53					ISLAMIC STATE OF IRAQ AND THE LEVANT (ISIL)
BDI	BDI					BURUNDI
BEL	BEL					BELGIUM
BEN	BEN					BENIN
BES	BES					BONAIRE, SINT EUSTATIUS AND SABA
BFA	BFA					BURKINA FASO
BGD	BGD					BANGLADESH
BGR	BGR					BULGARIA
BHR	BHR					BAHRAIN
BHS	BHS					BAHAMAS, THE
BIH	BIH					BOSNIA AND HERZEGOVINA
BLM	BLM					SAINT BARTHELEMY
BLR	BLR					BELARUS
BLZ	BLZ					BELIZE
BMU	BMU					BERMUDA
BOL	BOL					BOLIVIA
BRA	BRA					BRAZIL
BRB	BRB					BARBADOS
BRN	BRN					BRUNEI
BTN	BTN					BHUTAN
BVT	BVT					BOUVENT ISLAND
BWA	BWA					BOTSWANA
CAF	CAF					CENTRAL AFRICAN REPUBLIC
CAN	CAN					CANADA

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
CCK	CCK							COCOS (KEELING) ISLANDS
CHE	CHE							SWITZERLAND
CHL	CHL							CHILE
CHN	CHN							CHINA
CIV	CIV							COTE D'IVOIRE
CMR	CMR							CAMEROON
COD	COD							CONGO (KINSHASA)
COG	COG							CONGO (BRAZZAVILLE)
COK	COK							COOK ISLANDS
COL	COL							COLOMBIA
COM	COM							COMOROS
CPT	CPT							CLIPPERTON ISLAND
CPV	CPV							CABO VERDE
CRI	CRI							COSTA RICA
CUB	CUB							CUBA
CUW	CUW							CURACAO
CXR	CXR							CHRISTMAS ISLAND
CYM	CYM							CAYMAN ISLANDS
CYP	CYP							CYPRUS
CZE	CZE							CZECHIA
DEU	DEU							GERMANY
DGA	DGA							DIEGO GARCIA
DJI	DJI							DJIBOUTI
DMA	DMA							DOMINICA
DNK	DNK							DENMARK
DOM	DOM							DOMINICAN REPUBLIC
DZA	DZA							ALGERIA
ECU	ECU							ECUADOR
EGY	EGY							EGYPT
ERI	ERI							ERITREA
ESH	ESH							WESTERN SAHARA
ESP	ESP							SPAIN
EST	EST							ESTONIA
ETH	ETH							ETHIOPIA
FIN	FIN							FINLAND
FJI	FJI							FIJI
FLK	FLK							FALKLAND ISLANDS (ISLAS MALVINAS)
FRA	FRA							FRANCE
FRO	FRO							FAROE ISLANDS
FSM	FSM							MICRONESIA, FEDERATED STATES OF

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
GAB	GAB							GABON
GBR	GBR							UNITED KINGDOM
GEO	GEO							GEORGIA
GGY	GGY							GUERNSEY
GHA	GHA							GHANA
GIB	GIB							GIBRALTAR
GIN	GIN							GUINEA
GLP	GLP							GUADELOUPE
GMB	GMB							GAMBIA, THE
GNB	GNB							GUINEA-BISSAU
GNQ	GNQ							EQUATORIAL GUINEA
GRC	GRC							GREECE
GRD	GRD							GRENADA
GRL	GRL							GREENLAND
GTM	GTM							GUATEMALA
GUF	GUF							FRENCH GUIANA
GUM	GUM							GUAM
GUY	GUY							GUYANA
HKG	HKG							HONG KONG
HMD	HMD							HEARD ISLAND AND MCDONALD ISLANDS
HND	HND							HONDURAS
HRV	HRV							CROATIA
HTI	HTI							HAITI
HUN	HUN							HUNGARY
IDN	IDN							INDONESIA
IMN	IMN							ISLE OF MAN
IND	IND							INDIA
IOT	IOT							BRITISH INDIAN OCEAN TERRITORY
IRL	IRL							IRELAND
IRN	IRN							IRAN
IRQ	IRQ							IRAQ
ISL	ISL							ICELAND
ISR	ISR							ISRAEL
ITA	ITA							ITALY
JAM	JAM							JAMAICA
JEY	JEY							JERSEY
JOR	JOR							JORDAN
JPN	JPN							JAPAN
KAZ	KAZ							KAZAKHSTAN
KEN	KEN							KENYA

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
KGZ	KGZ							KYRGYZSTAN
KHM	KHM							CAMBODIA
KIR	KIR							KIRIBATI
KNA	KNA							SAINT KITTS AND NEVIS
KOR	KOR							KOREA, SOUTH
KWT	KWT							KUWAIT
LAO	LAO							LAOS
LBN	LBN							LEBANON
LBR	LBR							LIBERIA
LBY	LBY							LIBYA
LCA	LCA							SAINT LUCIA
LIE	LIE							LIECHTENSTEIN
LKA	LKA							SRI LANKA
LSO	LSO							LESOTHO
LTU	LTU							LITHUANIA
LUX	LUX							LUXEMBOURG
LVA	LVA							LATVIA
MAC	MAC							MACAU
MAF	MAF							SAINT MARTIN
MAR	MAR							MOROCCO
MCO	MCO							MONACO
MDA	MDA							MOLDOVA
MDG	MDG							MADAGASCAR
MDV	MDV							MALDIVES
MEX	MEX							MEXICO
MHL	MHL							MARSHALL ISLANDS
MKD	MKD							NORTH MACEDONIA
MLI	MLI							MALI
MLT	MLT							MALTA
MMR	MMR							BURMA
MNE	MNE							MONTENEGRO
MNG	MNG							MONGOLIA
MNP	MNP							NORTHERN MARIANA ISLANDS
MOZ	MOZ							MOZAMBIQUE
MRT	MRT							MAURITANIA
MSR	MSR							MONTSERRAT
MTQ	MTQ							MARTINIQUE
MUS	MUS							MAURITIUS
MWI	MWI							MALAWI

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APPENDIX B, PART IDFI NAME  
4127 NATION OF ORIGIN

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
MYS	MYS							MALAYSIA
MYT	MYT							MAYOTTE
NAM	NAM							NAMIBIA
NCL	NCL							NEW CALEDONIA
NER	NER							NIGER
NFK	NFK							NORFOLK ISLAND
NGA	NGA							NIGERIA
NIC	NIC							NICARAGUA
NIU	NIU							NIUE
NLD	NLD							NETHERLANDS
NOR	NOR							NORWAY
NPL	NPL							NEPAL
NRU	NRU							NAURU
NZL	NZL							NEW ZEALAND
OMN	OMN							OMAN
PAK	PAK							PAKISTAN
PAN	PAN							PANAMA
PCN	PCN							PITCAIRN ISLANDS
PER	PER							PERU
PHL	PHL							PHILIPPINES
PLW	PLW							PALAU
PNG	PNG							PAPUA NEW GUINEA
POL	POL							POLAND
PRI	PRI							PUERTO RICO
PRK	PRK							KOREA, NORTH
PRT	PRT							PORTUGAL
PRY	PRY							PARAGUAY
PYF	PYF							FRENCH POLYNESIA
QAT	QAT							QATAR
REU	REU							REUNION
ROU	ROU							ROMANIA
RUS	RUS							RUSSIA
RWA	RWA							RWANDA
SAU	SAU							SAUDI ARABIA
SDN	SDN							SUDAN
SEN	SEN							SENEGAL
SGP	SGP							SINGAPORE
SGS	SGS							SOUTH GEORGIA AND SOUTH SANDWICH ISLANDS

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APPENDIX B, PART IDFI NAME  
4127 NATION OF ORIGIN

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SHN	SHN							SAINT HELENA, ASCENSION AND TRISTAN DA CUNHA
SLB	SLB							SOLOMON ISLANDS
SLE	SLE							SIERRA LEONE
SLV	SLV							EL SALVADOR
SMR	SMR							SAN MARINO
SOM	SOM							SOMALIA
SPM	SPM							SAINT PIERRE AND MIQUELON
SRB	SRB							SERBIA
SSD	SSD							SOUTH SUDAN
STP	STP							SAO TOME AND PRINCIPE
SUR	SUR							SURINAME
SVK	SVK							SLOVAKIA
SVN	SVN							SLOVENIA
SWE	SWE							SWEDEN
SWZ	SWZ							ESWATINI
SXM	SXM							SINT MAARTEN
SYC	SYC							SEYCHELLES
SYR	SYR							SYRIA
TCA	TCA							TURKS AND CAICOS ISLANDS
TCD	TCD							CHAD
TGO	TGO							TOGO
THA	THA							THAILAND
TJK	TJK							TAJIKISTAN
TKL	TKL							TOKELAU
TKM	TKM							TURKMENISTAN
TLS	TLS							TIMOR-LESTE
TON	TON							TONGA
TTO	TTO							TRINIDAD AND TOBAGO
TUN	TUN							TUNISIA
TUR	TUR							TURKEY
TUV	TUV							TUVALU
TWN	TWN							TAIWAN
TZA	TZA							TANZANIA
UGA	UGA							UGANDA
UKR	UKR							UKRAINE
URY	URY							URUGUAY
USA	USA							UNITED STATES
UZB	UZZ							UZBEKISTAN

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
VAT	VAT					VATICAN CITY
VCT	VCT					SAINT VINCENT AND THE GRENADINES
VEN	VEN					VENEZUELA
VGB	VGB					VIRGIN ISLANDS, BRITISH
VIR	VIR					VIRGIN ISLANDS, U.S.
VNM	VNM					VIETNAM
VUT	VUT					VANUATU
WLF	WLF					WALLIS AND FUTUNA
WSM	WSM					SAMOA
XAC	XAC					ASHMORE AND CARTIER ISLANDS
XAZ	XAZ					*SEE ANNEX A* (AKA "ENTITY 1" PER GENC STANDARD)
XBI	XBI					BASSAS DA INDIA
XBK	XBK					BAKER ISLAND
XCR	XCR					*SEE ANNEX A* (AKA "ENTITY 2" PER GENC STANDARD)
XCS	XCS					CORAL SEA ISLANDS
XCY	XCY					*SEE ANNEX A* (AKA "ENTITY 3" PER GENC STANDARD)
XEU	XEU					EUROPA ISLAND
XGL	XGL					GLORIOSO ISLANDS
XGZ	XGZ					GAZA STRIP
XHO	XHO					HOWLAND ISLAND
XJA	XJA					JOHNSTON ATOLL
XJM	XJM					JAN MAYEN
XJN	XJN					JUAN DE NOVA ISLAND
XJV	XJV					JARVIS ISLAND
XKM	XKM					*SEE ANNEX A* (AKA "ENTITY 4" PER GENC STANDARD)
XKN	XKN					*SEE ANNEX A* (AKA "ENTITY 5" PER GENC STANDARD)
XKR	XKR					KINGMAN REEF
XKS	XKS					KOSOVO
XMW	XMW					MIDWAY ISLANDS
XNV	XNV					NAVASSA ISLAND
XPL	XPL					PALMYRA ATOLL
XPR	XPR					PARACEL ISLANDS

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APPENDIX B, PART I

DFI NAME  
4127 NATION OF ORIGIN

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
XQZ	XQZ							AKROTIRI
XSP	XSP							SPRATLY ISLANDS
XSV	XSV							SVALBARD
XTR	XTR							TROMELIN ISLAND
XWB	XWB							WEST BANK
XWK	XWK							WAKE ISLAND
XXD	XXD							DHEKELIA
YEM	YEM							YEMEN
ZAF	ZAF							SOUTH AFRICA
ZMB	ZMB							ZAMBIA
ZWE	ZWE							ZIMBABWE

----- FOR DUI 802 -----

RESET ATTRIBUTE: YES

A24	A24	THE VALUE FOR NATIONALITY IS A STRING OF ONE TO THREE CHARACTERS AS SHOWN IN THE "DATA ITEM".
A47	A47	CENTRAL ASIA UNIDENTIFIED, BELIEVED NOT 5-EYES
A49	A49	SUB-SAHARA AFRICA
A50	A50	ARAB, NOT FURTHER IDENTIFIED
A53	A53	SOUTH ASIA
A62	A62	CARIBBEAN (EXCLUDING ANTIQUA AND BARBUDA)
A63	A63	SOUTH AMERICA
A66	A66	EASTERN CARIBBEAN COUNTRIES
A72	A72	WEST EUROPEAN COUNTRIES
A74	A74	FAR EAST COUNTRIES
A75	A75	FALKLAND ISLAND DEPENDENCIES
A79	A79	CENTRAL AMERICA
A81	A81	WESTERN HEMISPHERE
A92	A92	LATIN AMERICA
A96	A96	MIDDLE EASTERN/NORTHERN AFRICAN COUNTRIES
ABW	ABW	ARUBA

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4127 NATION OF ORIGIN

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
AFG	AFG							AFGHANISTAN
AGO	AGO							ANGOLA
AIA	AIA							ANGUILLA
ALB	ALB							ALBANIA
AND	AND							ANDORRA
ARE	ARE							UNITED ARAB EMIRATES
ARG	ARG							ARGENTINA
ARM	ARM							ARMENIA
ASM	ASM							AMERICAN SAMOA
ATA	ATA							ANTARCTICA
ATF	ATF							FRENCH SOUTHERN AND ANTARCTIC LANDS
ATG	ATG							ANTIGUA AND BARBUDA
AUS	AUS							AUSTRALIA
AUT	AUT							AUSTRIA
AX1	AX1							UNKNOWN
AX2	AX2							GUANTANAMO BAY NAVAL BASE
AX3	AX3							*SEE ANNEX A* (AKA "ENTITY 6" PER GENC STANDARD)
AZE	AZE							AZERBAIJAN
B01	B01							NORDIC COUNTRIES
B04	B04							SOUTH PACIFIC ISLAND NATIONS OR TERRITORIES
B06	B06							EASTERN EUROPEAN COUNTRIES
B10	B10							SOUTHEAST ASIA
B15	B15							YELLOW NATION (EXERCISE)
B16	B16							BLACK NATION (EXERCISE)
B17	B17							BLUE NATION (EXERCISE)
B18	B18							BROWN NATION (EXERCISE)
B19	B19							GREEN NATION (EXERCISE)
B20	B20							ORANGE NATION (EXERCISE)
B21	B21							PURPLE NATION (EXERCISE)
B22	B22							RED NATION (EXERCISE)
B23	B23							WHITE NATION (EXERCISE)
BDI	BDI							BURUNDI
BEL	BEL							BELGIUM
BEN	BEN							BENIN
BES	BES							BONAIRE, SINT EUSTATIUS AND SABA

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4127 NATION OF ORIGIN

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
BFA	BFA							BURKINA FASO
BGD	BGD							BANGLADESH
BGR	BGR							BULGARIA
BHR	BHR							BAHRAIN
BHS	BHS							BAHAMAS, THE
BIH	BIH							BOSNIA AND HERZEGOVINA
BLM	BLM							SAINT BARTHELEMY
BLR	BLR							BELARUS
BLZ	BLZ							BELIZE
BMU	BMU							BERMUDA
BOL	BOL							BOLIVIA
BRA	BRA							BRAZIL
BRB	BRB							BARBADOS
BRN	BRN							BRUNEI
BTN	BTN							BHUTAN
BVT	BVT							BOUVET ISLAND
BWA	BWA							BOTSWANA
CAF	CAF							CENTRAL AFRICAN REPUBLIC
CAN	CAN							CANADA
CCK	CCK							COCOS (KEELING) ISLANDS
CHE	CHE							SWITZERLAND
CHL	CHL							CHILE
CHN	CHN							CHINA
CIV	CIV							COTE D'IVOIRE
CMR	CMR							CAMEROON
COD	COD							CONGO (KINSHASA)
COG	COG							CONGO (BRAZZAVILLE)
COK	COK							COOK ISLANDS
COL	COL							COLOMBIA
COM	COM							COMOROS
CPT	CPT							CLIPPERTON ISLAND
CPV	CPV							CABO VERDE
CRI	CRI							COSTA RICA
CUB	CUB							CUBA
CUW	CUW							CURACAO
CXR	CXR							CHRISTMAS ISLAND
CYM	CYM							CAYMAN ISLANDS
CYP	CYP							CYPRUS
CZE	CZE							CZECHIA
DEU	DEU							GERMANY

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4127 NATION OF ORIGIN

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
DGA	DGA							DIEGO GARCIA
DJI	DJI							DJIBOUTI
DMA	DMA							DOMINICA
DNK	DNK							DENMARK
DOM	DOM							DOMINICAN REPUBLIC
DZA	DZA							ALGERIA
ECU	ECU							ECUADOR
EGY	EGY							EGYPT
ERI	ERI							ERITREA
ESH	ESH							WESTERN SAHARA
ESP	ESP							SPAIN
EST	EST							ESTONIA
ETH	ETH							ETHIOPIA
FIN	FIN							FINLAND
FJI	FJI							FIJI
FLK	FLK							FALKLAND ISLANDS (ISLAS MALVINAS)
FRA	FRA							FRANCE
FRO	FRO							FAROE ISLANDS
FSM	FSM							MICRONESIA, FEDERATED STATES OF
GAB	GAB							GABON
GBR	GBR							UNITED KINGDOM
GEO	GEO							GEORGIA
GGY	GGY							GUERNSEY
GHA	GHA							GHANA
GIB	GIB							GIBRALTAR
GIN	GIN							GUINEA
GLP	GLP							GAUDELOUPE
GMB	GMB							GAMBIA, THE
GNB	GNB							GUINEA-BISSAU
GNQ	GNQ							EQUATORIAL GUINEA
GRC	GRC							GREECE
GRD	GRD							GRENADA
GRL	GRL							GREENLAND
GTM	GTM							GUATEMALA
GUF	GUF							FRENCH GUIANA
GUM	GUM							GUAM
GUY	GUY							GUYANA
HKG	HKG							HONG KONG
HMD	HMD							HEARD ISLAND AND MCDONALD ISLANDS

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
HND	HND							HONDURAS
HRV	HRV							CROATIA
HTI	HTI							HAITI
HUN	HUN							HUNGARY
IDN	IDN							INDONESIA
IMN	IMN							ISLE OF MAN
IND	IND							INDIA
IOT	IOT							BRITISH INDIAN OCEAN TERRITORY
IRL	IRL							IRELAND
IRN	IRN							IRAN
IRQ	IRQ							IRAQ
ISL	ISL							ICELAND
ISR	ISR							ISRAEL
ITA	ITA							ITALY
JAM	JAM							JAMAICA
JEY	JEY							JERSEY
JOR	JOR							JORDAN
JPN	JPN							JAPAN
KAZ	KAZ							KAZAKHSTAN
KEN	KEN							KENYA
KGZ	KGZ							KYRGYZSTAN
KHM	KHM							CAMBODIA
KIR	KIR							KIRIBATI
KNA	KNA							SAINT KITTS AND NEVIS
KOR	KOR							KOREA, SOUTH
KWT	KWT							KUWAIT
LAO	LAO							LAOS
LBN	LBN							LEBANON
LBR	LBR							LIBERIA
LBY	LBY							LIBYA
LCA	LCA							SAINT LUCIA
LIE	LIE							LIECHTENSTEIN
LKA	LKA							SRI LANKA
LSO	LSO							LESOTHO
LTU	LTU							LITHUANIA
LUX	LUX							LUXEMBOURG
LVA	LVA							LATVIA
MAC	MAC							MACAU
MAF	MAF							SAINT MARTIN
MAR	MAR							MOROCCO

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
MCO	MCO							MONACO
MDA	MDA							MOLDOVA
MDG	MDG							MADAGASCAR
MDV	MDV							MALDIVES
MEX	MEX							MEXICO
MHL	MHL							MARSHALL ISLANDS
MKD	MKD							NORTH MACEDONIA
MLI	MLI							MALI
MLT	MLT							MALTA
MMR	MMR							BURMA
MNE	MNE							MONTENEGRO
MNG	MNG							MONGOLIA
MNP	MNP							NORTHERN MARIANA ISLANDS
MOZ	MOZ							MOZAMBIQUE
MRT	MRT							MAURITANIA
MSR	MSR							MONTSERRAT
MTQ	MTQ							MARTINIQUE
MUS	MUS							MAURITIUS
MWI	MWI							MALAWI
MYS	MYS							MALAYSIA
MYT	MYT							MAYOTTE
NAM	NAM							NAMIBIA
NCL	NCL							NEW CALEDONIA
NER	NER							NIGER
NFK	NFK							NORFOLK ISLAND
NGA	NGA							NIGERIA
NIC	NIC							NICARAGUA
NIU	NIU							NIUE
NLD	NLD							NETHERLANDS
NOR	NOR							NORWAY
NPL	NPL							NEPAL
NRU	NRU							NAURU
NZL	NZL							NEW ZEALAND
OMN	OMN							OMAN
PAK	PAK							PAKISTAN
PAN	PAN							PANAMA
PCN	PCN							PITCAIRN ISLANDS
PER	PER							PERU
PHL	PHL							PHILIPPINES
PLW	PLW							PALAU

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4127 NATION OF ORIGIN

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE EQUIV	MOD	ACCURACY	EXPLANATION
PNG	PNG						PAPUA NEW GUINEA
POL	POL						POLAND
PRI	PRI						PUERTO RICO
PRK	PRK						KOREA, NORTH
PRT	PRT						PORTUGAL
PRY	PRY						PARAGUAY
PYF	PYF						FRENCH POLYNESIA
QAT	QAT						QATAR
REU	REU						REUNION
ROU	ROU						ROMANIA
RUS	RUS						RUSSIA
RWA	RWA						RWANDA
SAU	SAU						SAUDI ARABIA
SDN	SDN						SUDAN
SEN	SEN						SENEGAL
SGP	SGP						SINGAPORE
SGS	SGS						SOUTH GEORGIA AND SOUTH SANDWICH ISLANDS
SHN	SHN						SAINT HELENA, ASCENSION AND TRISTAN DA CUNHA
SLB	SLB						SOLOMON ISLANDS
SLE	SLE						SIERRA LEONE
SLV	SLV						EL SALVADOR
SMR	SMR						SAN MARINO
SOM	SOM						SOMALIA
SPM	SPM						SAINT PIERRE AND MIQUELON
SRB	SRB						SERBIA
SSD	SSD						SOUTH SUDAN
STP	STP						SAO TOME AND PRINCIPE
SUR	SUR						SURINAME
SVK	SVK						SLOVAKIA
SVN	SVN						SLOVENIA
SWE	SWE						SWEDEN
SWZ	SWZ						ESWATINI
SXM	SXM						SINT MAARTEN
SYC	SYC						SEYCHELLES
SYR	SYR						SYRIA
TCA	TCA						TURKS AND CAICOS ISLANDS
TCD	TCD						CHAD
TGO	TGO						TOGO

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4127 NATION OF ORIGIN

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
THA	THA							THAILAND
TJK	TJK							TAJIKISTAN
TKL	TKL							TOKELAU
TKM	TKM							TURKMENISTAN
TLS	TLS							TIMOR-LESTE
TON	TON							TONGA
TTO	TTO							TRINIDAD AND TOBAGO
TUN	TUN							TUNISIA
TUR	TUR							TURKEY
TUV	TUV							TUVALU
TWN	TWN							TAIWAN
TZA	TZA							TANZANIA
UGA	UGA							UGANDA
UKR	UKR							UKRAINE
URY	URY							URUGUAY
USA	USA							UNITED STATES
UZB	UZB							UZBEKISTAN
VAT	VAT							VATICAN CITY
VCT	VCT							SAINT VINCENT AND THE GRENADINES
VEN	VEN							VENEZUELA
VGB	VGB							VIRGIN ISLANDS, BRITISH
VIR	VIR							VIRGIN ISLANDS, U.S.
VNM	VNM							VIETNAM
VUT	VUT							VANUATU
WLF	WLF							WALLIS AND FUTUNA
WSM	WSM							SAMOA
XAC	XAC							ASHMORE AND CARTIER ISLANDS
XAZ	XAZ							*SEE ANNEX A* (AKA "ENTITY 1" PER GENC STANDARD)
XBI	XBI							BASSAS DA INDIA
XBK	XBK							BAKER ISLAND
XCR	XCR							*SEE ANNEX A* (AKA "ENTITY 2" PER GENC STANDARD)
XCS	XCS							CORAL SEA ISLANDS
XCY	XCY							*SEE ANNEX A* (AKA "ENTITY 3" PER GENC STANDARD)
XEU	XEU							EUROPA ISLAND
XGL	XGL							GLORIOSO ISLANDS
XGZ	XGZ							GAZA STRIP

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APPENDIX B, PART I

DFI NAME  
4127 NATION OF ORIGIN

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
XHO	XHO							HOWLAND ISLAND
XJM	XJM							JAN MAYEN
XJN	XJN							JUAN DE NOVA ISLAND
XJV	XJV							JARVIS ISLAND
XKM	XKM							*SEE ANNEX A* (AKA "ENTITY 4" PER GENC STANDARD)
XKN	XKN							*SEE ANNEX A* (AKA "ENTITY 5" PER GENC STANDARD)
XKR	XKR							KINGMAN REEF
XKS	XKS							KOSOVO
XMW	XMW							MIDWAY ISLANDS
XNV	XNV							NAVASSA ISLAND
XPL	XPL							PALMYRA ATOLL
XPR	XPR							PARACEL ISLANDS
XQZ	XQZ							AKROTIRI
XSP	XSP							SPRATLY ISLANDS
XSV	XSV							SVALBARD
XTR	XTR							TROMELIN ISLAND
XWB	XWB							WEST BANK
XWK	XWK							WAKE ISLAND
XXD	XXD							DHEKELIA
YEM	YEM							YEMEN
ZAF	ZAF							SOUTH AFRICA
ZMB	ZMB							ZAMBIA
ZWE	ZWE							ZIMBABWE

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APPENDIX B, PART I

DFI	NAME	DEFINITION			
4129	PRIORITY DESIGNATOR	AN INDICATION OF RELATIVE IMPORTANCE.			
DATA STANDARD USAGE: IBS		STATUS:			
DUI NAME		EXPLANATION			
801 DATA PACKAGE PRIORITY [Data_Pkg_Priority]		IDENTIFIES THE PRIORITY OF A DATA PACKAGE BASED UPON DATA CONTENT, AGE, TYPE, SIZE OR OTHER REPORTING CRITERIA.			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	CMF HEADER			
FIELD	ENUMERATED				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: NO					
CATEGORY_ONE	1				DELIVERY TIMELINESS IN FIVE SECONDS OR LESS
CATEGORY_TWO	2				DELIVERY TIMELINESS IN TEN SECONDS OR LESS
CATEGORY_THREE	3				DELIVERY TIMELINESS IN FIVE MINUTES OR LESS
CATEGORY_FOUR	4				DELIVERY TIMELINESS IN ONE HOUR OR LESS

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APPENDIX B, PART I

DFI	NAME	DEFINITION			
4130	ELEVATION	THE VERTICAL DISTANCE OF A POINT, OR LEVEL, ON, OR AFFIXED TO, THE SURFACE OF THE EARTH MEASURED FROM MEAN SEA LEVEL (MSL).			
DATA STANDARD USAGE: IBS			STATUS:		
DUI NAME		EXPLANATION		APPLICABILITY	
801 ELEVATION [Elevation]		THE VERTICAL DISTANCE OF A POINT, OR LEVEL, ON, OR AFFIXED TO, THE SURFACE OF THE EARTH MEASURED FROM MEAN SEA LEVEL.		ENTITY MESSAGE, COLLABORATION MESSAGE	
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE				
FIELD	FLOAT				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
-1320 THROUGH 65,535 FEET	-1320 THROUGH 65535	1	UNRANGED	DEFAULT UNIT = FEET. IF THE UNIT EQUIVALENT VALUE ATTRIBUTE IS SET TO 1, ELEVATION IS REPORTED IN FEET.	
-402 THROUGH 19975 METERS	-402 THROUGH 19975	2	UNRANGED	DEFAULT UNIT = FEET. IF THE UNIT EQUIVALENT VALUE ATTRIBUTE IS SET TO 2, ELEVATION IS REPORTED IN METERS.	

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DFI NAME DEFINITION  
4144 RATE THE QUANTITY, AMOUNT, OR DEGREE OF SOMETHING MEASURED PER UNIT OF SOMETHING ELSE.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME

EXPLANATION

APPLICABILITY

801 RATE OF TURN  
[Rate\_of\_Turn]

THE RATE AT WHICH A VESSEL IS TURNING.

ENTITY MESSAGE

DATA ELEMENT TYPE  
REPRESENTATION TYPE

FIELD FLOAT

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
0 EXCLUSIVE THROUGH 720 DEGREES PER MINUTE	0 EXCLUSIVE THROUGH 720	UNRANGED			REPORTED IN DEGREES PER MINUTE

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APPENDIX B, PART I

DFI NAME  
4148 OCCUPATIONAL SPECIALTY CODE DEFINITION  
THE OCCUPATIONAL SPECIALTY IS A CODE USED TO DESCRIBE A GROUP OF RELATED DUTIES AND RESPONSIBILITIES.

DATA STANDARD USAGE: IBS STATUS:

DUI NAME	EXPLANATION	APPLICABILITY
801 LANGUAGE IDENTIFIER, IBS [Language_ID]	A CODE WHICH IDENTIFIES THE LANGUAGE(S) IN WHICH AN INDIVIDUAL IS PROFICIENT.	ENTITY MESSAGE

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
FIELD	STRING

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
AA	AA				THE VALUE FOR LANGUAGE IDENTIFIER IS A STRING OF ONE TO THREE CHARACTERS AS SHOWN IN THE "DATA ITEM".
AB	AB				AFRIKAANS
AC	AC				ALBANIAN
AD	AD				AMHARIC
AE	AE				ARABIC-MODERN STANDARD
AF	AF				ARABIC-EGYPTIAN
AG	AG				ACHINESE (ALSO ATJEHNESE)
AH	AH				ADIGEY
AJ	AJ				ACHOLI
AK	AK				ARABIC-CLASSICAL
AL	AL				ARABIC-JORDANIAN
AM	AM				ARABIC-LIBYAN
AN	AN				ARABIC-MAGHREBI
AP	AP				ARABIC-SAUDI
					ARABIC-SYRIAN

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DFI NAME  
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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
AQ	AQ							ARABIC-LEBANESE
AR	AR							ARMENIAN
AS	AS							ASSAMESE
AT	AT							ARAMIC
AU	AU							ARABIC-YEMENI
AV	AV							ARABIC-SUDANESE (INCLUDES SUDANESE)
AW	AW							AVAR
AX	AX							AZERBAIJANI (ALSO AZERI)
AY	AY							AYMARA
AZ	AZ							ARABIC
BA	BA							MANDINGO-BAMBARA (ALSO BAMBARA)
BB	BB							BAHNAR
BC	BC							AKPOSSO
BD	BD							BALINESE
BE	BE							BEJA (ALSO BEDAWIYE)
BF	BF							BATAK
BG	BG							BASSA-KRU (ALSO KRU)
BH	BH							BAULE (INCLUDES ANY-BAULE)
BJ	BJ							BAMILIKE
BK	BK							BAKWERI
BL	BL							BELORUSSIAN (ALSO RUSSIAN-WHITE)
BM	BM							BEMBA
BN	BN							BENGALI
BP	BP							BASHKIR
BQ	BQ							BASQUE
BR	BR							BERBER (BERBER-TAMAZIGT, BERBER-TASHELHIT, & BERBER-ZENATIYA)
BS	BS							ARABIC-MOROCCAN
BT	BT							BALUCHI
BU	BU							BULGARIAN
BV	BV							BIHARI
BW	BW							ARABIC-TUNISIAN
BX	BX							BRETON
BY	BY							BURMESE
BZ	BZ							BANTU
CA	CA							CAMBODIAN
CB	CB							CATALAN

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DFI NAME  
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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
CC	CC					CHINESE-CANTONESE (INCLUDES YUEH)
CD	CD					SOUTH MIN (INCLUDES CHINESE-AMOY AND CHINESE-SWATOW)
CE	CE					BURGINES-MAKASSARESE
CF	CF					CHINESE-FUKIENESE (INCLUDES NORTH-MIN)
CG	CG					BICOL (ALSO VICOL AND BIKOL)
CH	CH					CHINESE-HAKKA
CJ	CJ					GUAMANIAN (INCLUDES CHAMORRO)
CK	CK					CHECHEN
CM	CM					CHINESE-MANDARIAN (INCLUDES CHINESE-KUO-YU AND HSIANG)
CN	CN					CHINESE-ANHWEI
CQ	CQ					CHINESE-FUCHOW (INCLUDES NORTH-MIN)
CR	CR					AMASHI
CS	CS					CHINESE-WU (INCLUDES SHAGHAI)
CT	CT					CHINESE-TOISHAN (INCLUDES-TAISHAN AND TOYSAN)
CU	CU					BINI
CV	CV					CHUKCHI (ALSO CHUKOT AND LUORAVETLAN)
CW	CW					T'UNG (INCLUDES CHINESE-CHUANG AND CHUANG)
CX	CX					CZECH
CY	CY					CHOKWE (INCLUDES COKWE AND KIOKO)
CZ	CZ					CHINESE
DA	DA					DANISH
DB	DB					DYERMA-SONGHAI (INCLUDES SONGHAI)
DC	DC					KARACHI-BALKHAR
DD	DD					MPONGWE
DE	DE					SUDANESE
DF	DF					SYRIAC
DG	DG					ARABIC-IRAQI
DJ	DJ					DINKA
DL	DL					DUALA
DU	DU					DUTCH

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DFI NAME  
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DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
DW	DW				DUTCH-CREOLE
DZ	DZ				NORTH AMERICAN
EC	EC				BASSE
EF	EF				EFIK (ALSO FI)
EK	EK				ESKIMO
EL	EL				ESPERANTO
EN	EN				ENGLISH
ES	ES				ESTONIAN
EW	EW				EWE
EX	EX				EWONDO (INCLUDES YUANDE)
EZ	EZ				SOUTH AMERICAN
FA	FA				FANG (ALSO BULU OR FANG-BULU)
FB	FB				AKAN
FD	FD				FAROESE
FE	FE				FRISIAN
FG	FG				FIJIAN
FJ	FJ				FINNISH
FL	FL				FLEMISH
FM	FM				FORMOSAN
FQ	FQ				FON
FR	FR				FRENCH
FV	FV				FULANI
FZ	FZ				WEST EUROPEAN
GA	GA				GALLA (INCLUDES OROMO)
GB	GB				GA
GE	GE				GREEK (NEW TESTAMENT)
GF	GF				IRISH
GG	GG				GEORGIAN
GL	GL				Gaelic
GM	GM				GERMAN
GN	GN				SCOTCH-GAELIC
GQ	GQ				GONDI
GR	GR				GREEK (MODERN)
GS	GS				GERMAN-SWISS
GT	GT				GERMAN-BAVARIAN
GU	GU				GUARANI
GW	GW				GUJARATI
GX	GX				FANA (INCLUDES FANAGALO)
GZ	GZ				SUB-SAHARAN AFRICAN
HA	HA				HAWAIIAN

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DFI NAME  
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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
HC	HC					HAITIAN-CREOLE (FRENCH-CREOLE AND MARTINIQUE-CREOLE)
HE	HE					HEBREW (MODERN)
HF	HF					LLA-TONGA
HJ	HJ					HINDI
HN	HN					HINDUSTANI
HR	HR					HERERO
HS	HS					HAUSA
HV	HV					HUNGARIAN
HZ	HZ					NORTH AFRICAN, MIDDLE EAST, AND SOUTH WEST ASIAN
JA	JA					JAPANESE
JB	JB					IBO (INCLUDES IGBO)
JC	JC					ICELANDIC
JD	JD					IBAN
JE	JE					IBANAG
JG	JG					KAMBATTA
JH	JH					KANURI (INCLUDES KANEMBU)
JJ	JJ					IJAW
JK	JK					ITALIAN-SARDINIAN (INCLUDES SARDINIAN)
JL	JL					LLOCANO
JM	JM					ITALIAN-NEAPOLITAN
JN	JN					INDONESIAN
JR	JR					JARAI
JS	JS					ITALIAN-SICILIAN
JT	JT					ITALIAN
JV	JV					JAVANESE
JZ	JZ					CONTINENTAL EURASIAN
KA	KA					KANARESE (ALSO CANARESE, INCLUDES KANNADA)
KB	KB					KASHMIRI
KC	KC					KAREN
KD	KD					KHERWARI
KE	KE					KAZAKH
KF	KF					KIRUNDI
KG	KG					KIKONGO (INCLUDES KONGO)
KH	KH					KACHIN (INCLUDES CHING-P'O, JINGPAW, SHANTOW, AND SINGHPO)

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
KJ	KJ					KIKUYU
KK	KK					KIMBUNDU (INCLUDES NDONGO)
KL	KL					KINYARWANDS
KM	KM					KIRGHIZ
KN	KN					KITUBA (ALSO MONOKITUBA AND MUNUKUTUBA)
KP	KP					KOREAN
KQ	KQ					KONKANIS
KR	KR					KASHUBIAN (ALSO KASHUBE AND KASZUB)
KS	KS					KISSI
KT	KT					KABRE (INCLUDES KOTOKOLI AND TEM)
KU	KU					KURDISH
KV	KV					KPELLE (INCLUDES GERZE AND GUERZE)
KW	KW					KRIO
KX	KX					KURUKH
KY	KY					KABYLE
KZ	KZ					SOUTH ASIAN
LA	LA					SPANISH-AMERICAN
LB	LB					LISU
LC	LC					LAO (ALSO LAOTIAN)
LD	LD					LADINO
LE	LE					LATVIAN (INCLUDES LETTISH)
LF	LF					LOLO (INCLUDES AKHA, I, NESU, NOSU, AND YI)
LG	LG					LOMONGO
LJ	LJ					LINGALA (INCLUDES NAGALA)
LK	LK					LUBA KASAI (ALSO TSHILUBA)
LL	LL					LAMBA
LM	LM					LUNDA
LN	LN					LAHNDA
LP	LP					LAPP
LQ	LQ					LUBA KATANGA
LR	LR					LANDSMAL
LS	LS					LUGANDA (INCLUDES GANDA)
LT	LT					LITHUANIAN
LU	LU					LUO
LV	LV					LOMA

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DFI NAME  
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DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
LZ	LZ				PACIFIC ISLANDS
MA	MA				MACEDONIAN
MB	MB				MANADINGO-DIOULA (INCLUDES MANDINGO, DIOULA, AND MANDIO)
MC	MC				MIA-YAO (INCLUDES MEO)
MD	MD				MADURESE
ME	ME				MAORI
MF	MF				MAYA
MG	MG				MALAGASY
MH	MH				MORO
MJ	MJ				MAKUA
ML	ML				MALAY
MM	MM				MARSHALESE
MN	MN				MALAYALAM
MP	MP				MALTESE
MQ	MQ				MANDINGO-MALINKE (ALSO MALINKE)
MR	MR				MARATHI
MS	MS				MASAI
MT	MT				MENDE
MU	MU				MINANGKABAU
MV	MV				MONGOLIAN (INCLUDES KHALKHA-MONGOL)
MW	MW				MORDVIN
MX	MX				MUONG
MY	MY				MOSI (INCLUDES MOLE AND MORE)
MZ	MZ				GERMANIC
NB	NB				NIUA
ND	ND				NDEBELE (INCLUDES SINDEBELE)
NE	NE				NEPALESE
NR	NR				NORWEGIAN
NV	NV				NUBIAN
NX	NX				NYORO
NY	NY				NYANJA
NZ	NZ				ROMANCE
PA	PA				PAPIAMENTO
PC	PC				PONAPEAN
PD	PD				PALAUAN
PF	PF				PERSIAN (INCLUDES FARSI)
PG	PG				PERSIAN-AFGHAN

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DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
PH	PH				PAHARI
PJ	PJ				PUNJABI
PL	PL				POLISH
PM	PM				PIDGIN ENGLISH
PN	PN				PANGASINAN
PP	PP				PAPUAN
PQ	PQ				PORTUGUESE-BRAZILIAN
PR	PR				PROVENCAL
PT	PT				PORTUGUESE-EUROPEAN
PU	PU				PUSHTU (ALSO PASHTO)
PV	PV				PUSHTU-AFGHAN
PW	PW				PUSHTU-PERSHAWARI
PY	PY				PORTUGUESE-BRAZILIAN
PZ	PZ				SLAVIC
QA	QA				ORIYA
QB	QB				SPANISH
QC	QC				SPANISH-CARIBBEAN
QE	QE				ARABIC (EASTERN)
QR	QR				KUSAIE
QS	QS				OSSETIC
QT	QT				OTETELA
QU	QU				QUECHUA
QV	QV				PAMPANGA
QW	QW				ARABIC (WESTERN)
QZ	QZ				INDIC
RA	RA				RAJASTHANI
RB	RB				SANTALI
RC	RC				RHAETO-ROMANCE (INCLUDES ROMANSH)
RD	RD				SIDAMO
RF	RF				SENA
RH	RH				RHADE (INCLUDES E DE)
RM	RM				ROMANY
RN	RN				RUNDI
RO	RO				ROMANIAN (INCLUDES MOLDAVIAN)
RT	RT				RUTHENIAN
RU	RU				RUSSIAN
RY	RY				RYUKYUAN (INCLUDES OKINAWAN)
RZ	RZ				INDO-EUROPEAN
SA	SA				SAMOAN

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DFI NAME  
4148 OCCUPATIONAL SPECIALTY CODE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SB	SB							SANGO
SC	SC							SERBO-CROATIAN (INCLUDES CROATIAN AND SERBIAN)
SD	SD							SINDHI
SE	SE							SARA
SF	SF							SHAN
SG	SG							SHLUH
SH	SH							SHONA
SJ	SJ							SINGHALESE (INCLUDES MALDIVIAN)
SK	SK							SVOLAK
SL	SL							SLOVENIAN
SM	SM							SOMALI
SN	SN							SONINKE
SP	SP							SOTHO (INCLUDES SESUFO)
SQ	SQ							SEDANG (INCLUDES SEDAN)
SR	SR							SPANISH-CASTILIAN
SS	SS							SPANISH-CREOLE
ST	ST							SUKUMA (INCLUDES NYAMWEIZI)
SU	SU							SUSU
SV	SV							SERER
SW	SW							SWAHILI
SX	SX							SWATI
SY	SY							SWEDISH
SZ	SZ							SEMITIC
TA	TA							TAGALOG
TB	TB							TADJIK
TC	TC							TAMIL
TD	TD							TAHITIAN
TE	TE							TELUGU
TF	TF							TEMNE
TG	TG							TAKI-TAKI
TH	TH							THAI (INCLUDES SIAMESE)
TJ	TJ							TIBETAN
TK	TK							TAPACHULA
TL	TL							TIGRINYA
TM	TM							TATAR
TN	TN							TIGRE
TP	TP							TSONGA
TO	TO							TRUKESSE
TR	TR							TSWA

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
TS	TS					TSWANA (INCLUDES CHUANA)
TT	TT					TAMACHEK (INCLUDES TUAREG)
TU	TU					TURKISH
TV	TV					TULU
TY	TY					TUNGUSU
TZ	TZ					AFRO-ASIAN
UA	UA					TUPI
UB	UB					TURKOMAN (INCLUDES TURKMEN)
UC	UC					TONGO (INCLUDES TUMBUKA AND ZAMBIAN)
UJ	UJ					UIGHUR
UK	UK					UKRANIAN
UM	UM					UMBUNDU (ALSO MBUNDU)
UR	UR					URBU
UX	UX					UZBEK
UZ	UZ					SINO-TIBETAN
VA	VA					VAI
VC	VC					VIETNAMESE-CENTRAL
VN	VN					VIETNAMESE-HANOI (ALSO ANAMESE)
VQ	VQ					VOLAPUK
VS	VS					VIETNAMESE-SAIGON
VY	VY					VISAYAN (AKA BISAYAN) (VISAYAN-CEBUANO/-HILIGAYNON/-SAMARAN)
VZ	VZ					LANGUAGE FAMILY
WA	WA					WALAMO
WB	WB					WENDISH (INCLUDES LUSATIAN AND SORBIAN)
WE	WE					WELSH
WH	WH					XHOSA
WP	WP					WARSAW PACT (RC ONLY)
WO	WO					WOLOF
WS	WS					WECOS
WZ	WZ					BALTIC
XA	XA					ZENAGA
XE	XE					ZERBA
XU	XU					ZULU
XZ	XZ					ARTIFICIAL
YA	YA					YAKUT
YB	YB					YAO (MALAWI AND MOZAMBIQUE)

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
YC		YC						YAO (CHINA)
YG		YG						GREEK (ANCIENT)
YH		YH						HEBREW (ANCIENT)
YJ		YJ						YIDDISH
YL		YL						LATIN
YP		YP						YAPPESE
YQ		YQ						YORUBA

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DFI	NAME	DEFINITION	
4150	NAME	AN IDENTIFIER OF AN ENTITY, COMMONLY CONSIDERED TO BE OR REFERRED TO AS A NAME.	
DATA STANDARD USAGE: IBS		STATUS:	
DUI	NAME	EXPLANATION	APPLICABILITY
801	ARBITRARY UNIT IDENTIFIER [Arbitrary_Unit_ID]	THE ARBITRARY NAME OR DESIGNATION IDENTIFYING A UNIT AS ASSIGNED BY THE CONTROLLING AUTHORITY (DIA, NSA, ETC.).	ENTITY MESSAGE
802	UNIT IDENTITY/UNIT DESIGNATOR [Unit_Designator]	THE NAME, DESIGNATION OR IDENTIFICATION OF A UNIT, AGENCY, FACILITY OR ORGANIZATION AS ASSIGNED BY THE OWNER.	ENTITY MESSAGE
803	OPERATION NAME [Oper_Name]	THE ASSIGNED NAME OF THE OPERATION THAT THE REPORTED ACTIVITY SUPPORTS.	ENTITY MESSAGE
804	MISSION NAME [Mission_Name]	THE ASSIGNED NAME OF THE MISSION THAT THE REPORTED ACTIVITY SUPPORTS.	ENTITY MESSAGE
805	PARENT ORGANIZATION [Parent_Org]	THE DESIGNATION ASSIGNED TO THE PARENT ORGANIZATION OF THE REPORTED ENTITY.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	STRING		
DUI	NAME	EXPLANATION	APPLICABILITY
806	ORGANIZATION IDENTIFICATION [Org_ID]	THE NUMERICAL DESIGNATION ASSIGNED TO AN ORGANIZATION BY AN APPROPRIATE AUTHORITY.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	PATTERN		

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4150 NAME

DUI NAME	EXPLANATION	APPLICABILITY
807 LOCATION NAME [Loc_Name]	THE TEXTUAL NAME OF THE ASSOCIATED LOCATION BEING REPORTED.	ENTITY MESSAGE
808 ENTITY NAME [Entity_Name]	THE FREE-TEXT NAME OF THE ENTITY BEING REPORTED.	ENTITY MESSAGE
810 MANUFACTURER NAME [Manufact_Name]	ACTUAL NAME OF COMPANY/BUILDER OF REPORTED EQUIPMENT.	ENTITY MESSAGE
811 ENTITY HOME LOCATION NAME [Entity_Home_Loc_Name]	PROVIDES THE NAME OF THE HOME LOCATION OF THE ENTITY PLATFORM. FOR MARITIME PLATFORMS, USE THE PORT NAME USUALLY FOUND BELOW THE SHIP NAME ON THE STERN OF THE VESSEL. FOR AIRCRAFT, USE THE HOME BASE IF KNOWN. FOR LAND BASED PLATFORMS, USE HOME GARRISON IF KNOWN.	ENTITY MESSAGE
812 SUBORDINATE OPERATION NAME [SUBORD_OPER_NAME]	THE NAME OF A SUBORDINATE OPERATION ON-GOING/SIMULTANEOUSLY WITHIN THE OVERALL OPERATION.	ENTITY MESSAGE
813 UIC NAME [UIC_Name]	THE NAME OF A PARTICULAR URGENT INTERIM CAPABILITY (UIC). THIS NAME IS FOR INFORMATIONAL AND/OR DISPLAY PURPOSES ONLY. AN URGENT INTERIM CAPABILITY (UIC) USAGE SHOULD BE IDENTIFIED BY THE UIC IDentifier FIELD.	ENTITY MESSAGE, BLOB TRANSFER MESSAGE
814 UIC FIELD NAME [UIC_Field_Name]	THE NAME OF A PARTICULAR URGENT INTERIM CAPABILITY (UIC) FIELD.	ENTITY MESSAGE, BLOB TRANSFER MESSAGE
815 UIC UNIT NAME [UIC_Unit_Name]	A UNIT OF MEASURE FOR AN URGENT INTERIM CAPABILITY (UIC) FIELD NOT CURRENTLY IMPLEMENTED BY CMF BUT AS DEFINED BY AN APPLICABLE UIC ICR.	ENTITY MESSAGE, BLOB TRANSFER MESSAGE

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DFI NAME  
4150 NAME

816 LOCAL CAPABILITY NAME [LOCAL\_CAPAB\_NAME] THE NAME OF A PARTICULAR LOCAL SCOPE ELEMENTS CAPABILITY. THIS NAME IS FOR INFORMATIONAL AND/OR DISPLAY PURPOSES ONLY. A LOCAL SCOPE ELEMENTS CAPABILITY SHALL BE UNIQUELY IDENTIFIED BY THE LOCAL CAPABILITY IDENTIFIER.

CMF HEADER

817 LOCAL CAPABILITY FIELD NAME [Local\_Capab\_Field\_Name] THE NAME OF A LOCAL SCOPE ELEMENTS CAPABILITY FIELD.

CMF HEADER

818 LOCAL CAPABILITY UNIT NAME [Local\_Capab\_Unit\_Name] A UNIT OF MEASURE FOR A LOCAL SCOPE ELEMENTS CAPABILITY FIELD NOT CURRENTLY IMPLEMENTED BY CMF BUT DEFINED BY THE APPLICATION THAT PRODUCES THE LOCAL SCOPE ELEMENTS CAPABILITY DATA.

CMF HEADER

DATA ELEMENT TYPE DATA REPRESENTATION TYPE

FIELD STRING

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 801 -----

RESET ATTRIBUTE: YES

1 TO 24 CHARACTERS 1 TO 24 CHARACTERS

----- FOR DUIS 802, 807, AND 808 -----

RESET ATTRIBUTE: YES

1 TO 38 CHARACTERS 1 TO 38 CHARACTERS

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4150 NAME

----- FOR DUIS 803-805 -----

RESET ATTRIBUTE: YES

1 TO 32 CHARACTERS      1 TO 32 CHARACTERS

----- FOR DUI 806 -----

RESET ATTRIBUTE: YES

4X1H8A      4X1H8A

THE VALUES ARE FOUR ALPHA-  
NUMERIC CHARACTERS (0-9,  
A-Z), ONE HYPHEN (-)  
CHARACTER, AND EIGHT ALPHA-  
BETIC CHARACTERS (A-Z).

----- FOR DUI 810 -----

RESET ATTRIBUTE: YES

1 TO 26 CHARACTERS      1 TO 26 CHARACTERS

----- FOR DUI 811 -----

RESET ATTRIBUTE: YES

1 TO 25 CHARACTERS      1 TO 25 CHARACTERS

----- FOR DUI 812 -----

RESET ATTRIBUTE: YES

1 TO 23 CHARACTERS      1 TO 23 CHARACTERS

PATH 5 EXCLUDED

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DFI NAME  
4150 NAME

----- FOR DUIS 813, 815, 816, AND 818 -----

RESET ATTRIBUTE: NO

1 TO 16 CHARACTERS      1 TO 16 CHARACTERS

----- FOR DUI 814 -----

RESET ATTRIBUTE: NO

1 TO 12 CHARACTERS      1 TO 12 CHARACTERS

----- FOR DUI 817 -----

RESET ATTRIBUTE: NO

1 TO 40 CHARACTERS      1 TO 40 CHARACTERS

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DFI NAME  
4175 WEATHER DESCRIPTION DEFINITION  
DESCRIBES THE WEATHER CONDITIONS IN A GIVEN AREA.

DATA STANDARD USAGE: IBS STATUS:

DUI NAME	EXPLANATION	APPLICABILITY
801 ENVIRONMENTAL CONDITION [Envir_Condition]	EXPRESSES A NATURAL OR MAN-MADE ENVIRONMENTAL CONDITION.	ENTITY MESSAGE

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
-------------------	--------------------------

FIELD	ENUMERATED
-------	------------

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
-----------	-------------	------------	-----------	----------	-------------

----- FOR DUI 801 -----

RESET ATTRIBUTE: YES

NO_CLOUDS	1	NO CLOUDS
CLOUDY_LO	2	CLOUD COVER 0 - 25%
CLOUDY_MED_LO	3	CLOUD COVER 26 - 50%
CLOUDY_MED_HI	4	CLOUD COVER 51 - 75%
CLOUDY_HI	5	CLOUD COVER 76 - 100%
FUNL_CLOUDS	6	FUNNEL CLOUDS
WIDESPRD_DUST	7	WIDESPREAD DUST
DUSTSTORM	8	DUSTSTORM
SAND	9	SAND
SAND_SWIRL	10	WELL DEVELOPED DUST/SAND SWIRLS
SANDSTORM	11	SANDSTORM
HAZE	12	HAZE
FOG	13	FOG
GND_FOG	14	GROUND FOG
MIST	15	MIST
LT_RAIN	16	LIGHT RAIN
RAIN	17	RAIN
THUNDERSTORM	18	THUNDERSTORMS
FLOODING	19	FLOODING
FREEZ_RAIN	20	FREEZING RAIN

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DFI NAME  
4175 WEATHER DESCRIPTION

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SNOW	21							SNOW
SNOW_GRAIN	22							SNOW GRAINS
SNOW_PELLETS	23							SMALL HAIL/SNOW PELLETS
SNOWSTORM	24							SNOWSTORM
ICE_CRYSTALS	25							SNOW DIAMOND DUST (ICE CRYSTALS)
ICE_FOG	26							ICE FOG
ICE_PELLETS	27							ICE PELLETS
HAIL	28							HAIL
SEA0	29							WMO SEA STATE 0 - CALM (GLASSY)
SEA1	30							WMO SEA STATE 1 - CALM (RIPPLED)
SEA2	31							WMO SEA STATE 2 - SMOOTH (WAVELETS)
SEA3	32							WMO SEA STATE 3 - SLIGHT
SEA4	33							WMO SEA STATE 4 - MODERATE
SEA5	34							WMO SEA STATE 5 - ROUGH
SEA6	35							WMO SEA STATE 6 - VERY ROUGH
SEA7	36							WMO SEA STATE 7 - HIGH
SEA8	37							WMO SEA STATE 8 - VERY HIGH
SEA9	38							WMO SEA STATE 9 - PHENOMENAL
SMOKE	39							SMOKE
FIRE	40							FIRE
VOLC_ASH	41							VOLCANIC ASH
SQUALLS	42							GUSTS ASSOCIATED WITH STORMS
WIND_LO	43							WINDS LOW
WIND_MED_LO	44							WINDS LOW TO MODERATE
WIND_MED_HI	45							WINDS MODERATE TO HIGH
WIND_HI	46							WINDS HIGH

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DFI NAME DEFINITION  
4192 GEOGRAPHIC DEFINITION DESCRIBES GEOGRAPHICAL POSITIONING REFERENCE DATA.

DATA STANDARD USAGE: IBS STATUS:

DUI NAME	EXPLANATION	APPLICABILITY
801 ORIGINATOR DATUM [Orig_Datum]	SOURCE'S DATA GEOGRAPHIC REFERENCE MODEL USED BY THE ORIGINATOR PRIOR TO CONVERSION TO WGS-84.	ENTITY MESSAGE

DATA ELEMENT TYPE  
FIELD INTEGER

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
0	0				UNSPECIFIED
1	1				WGS = WGS 1972
2	2				WGD = WGS 1984
3	3				ARF-M = ARC 1950 MEAN VALUE
4	4				ARS = ARC 1950
5	5				CAP = CAPE
6	6				CGE = CARTHAGE
7	7				EUR-F = EUROPEAN 1950-EGYPT
8	8				LIB = LIBERIA 1964
9	9				MAS = MASSAWA
10	10				MER = MERCHICH
11	11				MIN-B = MINNA-NEGERIA
12	12				OEG = OLD EGYPTIAN 1907
13	13				SCK = SCHWARZECK
14	14				FAH = OMAN
15	15				IND-A = INDIAN 1954-THAILAND
16	16				IND-M = INDIAN-INDIA, NEPAL
17	17				KEA = KERTAU 1948
18	18				NAH-C = NAHRWAN-SAUDIA ARABIA
19	19				QAT = QATAR NATIONAL

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4192 GEOGRAPHIC DEFINITION

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
20	20					TIL = TIMBALIA 1948
21	21					TOY-M = EUROPEAN 1950-IRAN
22	22					EUR-H = EUROPEAN 1950-IRAN
23	23					AUA = AUSTRALIAN GEODETIC 1966
24	24					AUG = AUSTRALIAN GEODETIC 1984
25	25					EUR-A = EUROPEAN 1950-W.EUROPE
26	26					EUR-E = EUROPEAN 1950-CYPRUS
27	27					EUR-J = EUROPEAN 1950-SICILY
28	28					EUS = EUROPEAN 1979
29	29					HJO = HJORSEY 1955
30	30					IRL = IRELAND 1965
31	31					OGB-M = ORDNANCE SURVEY GREAT BRITAIN 1936 MEAN
32	32					NAR = NORTH AMERICAN 1983
33	33					NAS-C = NORTH AMERICAN 1927-CONUS
34	34					NAS-D = NORTH AMERICAN 1927-ALASKA
35	35					NAS-E = NORTH AMERICAN 1927-CANADA MEAN VALUE
36	36					NAS-N = NORTH AMERICAN 1927-CENTRAL AMERICA
37	37					BOO = BOGOTA OBSERVATORY
38	38					CAI = CAMPO INCHAUSPE 1969
39	39					CHU = CHUA ASTRO
40	40					COA = CORREGO ALEGRE
41	41					SAN-M = SOUTH AMERICAN 1969
42	42					ZAN = ZANDERJ
43	43					GAA = GAN 1970
44	44					QUO = QORNOQ
45	45					CHI = CHATHAM ISLAND ASTRO 1971
46	46					GEO = GEODETIC DATUM 1949
47	47					LUZ-A = LUZON-PHILIPPINES
48	48					OHA-M = OLD HAWAIIAN-MEAN VALUE
49	49					PIT = PITCAIM ASTRO 1967
50	50					USER DEFINED SLOT 1
51	51					USER DEFINED SLOT 2
52	52					USER DEFINED SLOT 3
53	53					BBOHM = BESSEL-BOHM (SWEDEN)

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DFI	NAME	DEFINITION
4193	AREA	DESIGNATES ANY PARTICULAR EXTENT OF SPACE OR SURFACE, SUCH AS A GEOGRAPHICAL REGION DEFINED BY A CLOSED PLANE FIGURE.
DATA STANDARD USAGE:	IBS	STATUS:
DUI NAME		EXPLANATION
801 ENTITY COVERAGE SIZE [Entity_Coverage_Sz]		AN ESTIMATE OF THE SIZE OF AN AREA OF AN ENTITY BASED UPON THE LARGEST DIMENSION.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	ENUMERATED	
DUI NAME		EXPLANATION
805 RAPID WORLDWIDE AREA COLLECTION IDENTIFIER [RWAC_Area_ID]		UNIQUE REFERENCE IDENTIFIER ASSIGNED TO A RAPID WORLDWIDE AREA COLLECTION (RWAC) GEOGRAPHIC AREA, AS DEFINED IN THE NATIONAL SYSTEM FOR GEOSPATIAL INTELLIGENCE (NSG) DIRECTIVE 2-1, EXPLOITATION AND REPORTING STRUCTURE (EARS-2): ELECTRONIC REPORTING.
806 GEOGRAPHIC AREA IDENTIFIER [Geographic_Area_ID]		UNIQUE REFERENCE WHICH IDENTIFIES A BROAD AREA SEARCH (BAS) GEOGRAPHIC AREA, A DIRECTED SEARCH AREA (DSA) GEOGRAPHIC AREA, OR A LINES OF COMMUNICATION (LOC) GEOGRAPHIC AREA, AS DEFINED IN THE NATIONAL SYSTEM FOR GEOSPATIAL INTELLIGENCE (NSG) DIRECTIVE 2-1, EXPLOITATION AND REPORTING STRUCTURE (EARS-2): ELECTRONIC REPORTING.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	

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APPENDIX B, PART IDFI NAME  
4193 AREA

FIELD STRING

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
SMALL	1				AN ENTITY WHOSE LARGEST DIMENSION IS LESS THAN 60 METERS.
MEDIUM	2				AN ENTITY WHOSE LARGEST DIMENSION IS GREATER THAN OR EQUAL TO 60 METERS BUT LESS THAN 200 METERS.
LARGE	3				AN ENTITY WHOSE LARGEST DIMENSION IS GREATER THAN OR EQUAL TO 200 METERS.
----- FOR DUI 805 -----					
RESET ATTRIBUTE: YES					
1 TO 10 CHARACTERS	1 TO 10 CHARACTERS				VALUES ARE FOUR NUMERIC CHARACTERS, TWO ALPHABETIC CHARACTERS, AND FOUR NUMERIC CHARACTERS. THE FIRST FOUR CHARACTERS PROVIDE THE WORLD AERONAUTICAL CHART (WAC) VALUE. THE FIFTH CHARACTER (ALWAYS "Z") IDENTIFIES THE VALUE AS A RWAC SEARCH AREA IDENTIFIER. THE REMAINING CHARACTERS PROVIDE THE RWAC CHART HORIZONTAL AND VERTICAL CELL NUMBER AND CELL RANGE.

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DFI      NAME  
4193    AREA

----- FOR DUI 806 -----

RESET ATTRIBUTE: YES

1 TO 10 CHARACTERS      1 TO 10 CHARACTERS

SUPPORTS REPORTING OF BAS, DSA,  
AND LOC VALUES AS ONE  
ALPHABETIC CHARACTER  
("B", "C", "D", "L", OR  
"S") AND FIVE ALPHANUMERIC  
CHARACTERS (0-9, A-Z). THE  
LEADING CHARACTER  
IDENTIFIES THE VALUE AS A  
BAS ("B", "C", OR "S"), DSA  
("D"), OR LOC ("L") SEARCH  
AREA IDENTIFIER.

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APPENDIX B, PART I

DFI	NAME	DEFINITION			
4225	SIGNALS				
DATA STANDARD USAGE: IBS		STATUS:			
DUI NAME		EXPLANATION			
801 RADAR CROSS SECTION, IBS [Rdr_Cross_Section]		THE MEASURE OF THE RATIO OF BACKSCATTER POWER PER STERADIAN (UNIT SOLID ANGLE) IN THE DIRECTION OF THE RADAR, FROM THE TARGET, TO THE POWER DENSITY THAT IS INTERCEPTED BY THE TARGET.			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY			
FIELD	FLOAT				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 801 -----					
RESET ATTRIBUTE: YES					
MINUS 50 DBSM THROUGH -50 THROUGH 50 POSITIVE 50 DBSM		UNRANGED	MEASURED IN DECIBELS PER SQUARE METERS (DBSM). DEFAULT ACCURACY = 1E-1 DBSM.		

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DFI NAME  
8001 ENVIRONMENT ID DEFINITION  
DESCRIBES THE SYMBOLIC CLASS/IDENTITY OF THE TRACK OR UNIT ENTITY  
DESCRIBED IN THIS MESSAGE.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME

EXPLANATION

APPLICABILITY

001 ENVIRONMENT ID  
[Envir\_Id]DESCRIBES THE SYMBOLIC CLASS/  
IDENTITY OF THE TRACK OR UNIT  
ENTITY DESCRIBED IN THIS MESSAGE.

ENTITY MESSAGE

DATA ELEMENT TYPE  
ELEMENT REPRESENTATION  
TYPE TYPE

FIELD ENUMERATED

DATA ITEM VALUE RANGE UNIT EQUIV VALUE ACCURACY EXPLANATION

----- FOR DUI 001 -----

RESET ATTRIBUTE: NO

ENVIRONMENT IDS CONSIST OF 3-  
CHARACTER ASCII FOR CMF-X  
AND A NUMERIC VALUE FOR  
EACH VALUE TO BE USED ON  
CMF-B. WITH THE EXCEPTION  
OF THE FIRST VALUE (SLF,  
GENERAL REFERENCE, SELF),  
ALL VALUES ARE TWO PART AS  
FOLLOWS:

CHARACTERS 1-2

GR = GENERAL REFERENCE

AR = AIR

AP = AIRPORT/BASE

SR = SURFACE

SB = SUBSURFACE

LN = LAND

EM = EMITTER

SS = SURFACE-TO-SURFACE

AS = AIR-TO-SURFACE

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APPENDIX B, PART IDFI NAME  
8001 ENVIRONMENT ID

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
SLF	1				SA = SURFACE-TO-AIR-MISSILE
GRU	2				RD = RADAR
GRP	3				SP = SPACE
GRA	4				CHARACTER 3
GRF	5				U = UNKNOWN
GRN	6				P = PENDING
GRS	7				A = ASSUMED FRIEND
GRH	8				F = FRIEND
ARU	9				N = NEUTRAL
ARP	10				S = SUSPECT
ARA	11				H = HOSTILE
ARF	12				GENERAL REFERENCE, SELF
ARN	13				GENERAL REFERENCE, UNKNOWN
ARS	14				GENERAL REFERENCE, PENDING
ARH	15				GENERAL REFERENCE, ASSUMED
APU	16				FRIEND
APP	17				GENERAL REFERENCE, FRIEND
APA	18				GENERAL REFERENCE, NEUTRAL
APF	19				GENERAL REFERENCE, SUSPECT
APN	20				GENERAL REFERENCE, HOSTILE
APS	21				AIR, UNKNOWN
APH	22				AIR, PENDING
SRU	23				AIR, ASSUMED FRIEND
SRP	24				AIR, FRIEND
SRA	25				AIR, NEUTRAL
SRF	26				AIR, SUSPECT
SRN	27				AIR, HOSTILE
SRS	28				AIRPORT/BASE, UNKNOWN
					AIRPORT/BASE, PENDING
					AIRPORT/BASE, ASSUMED FRIEND
					AIRPORT/BASE, FRIEND
					AIRPORT/BASE, NEUTRAL
					AIRPORT/BASE, SUSPECT
					AIRPORT/BASE, HOSTILE
					SURFACE, UNKNOWN
					SURFACE, PENDING
					SURFACE, ASSUMED FRIEND
					SURFACE, FRIEND
					SURFACE, NEUTRAL
					SURFACE, SUSPECT

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APPENDIX B, PART IDFI NAME  
8001 ENVIRONMENT ID

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SRH	29							SURFACE, HOSTILE
SBU	30							SUBSURFACE, UNKNOWN
SBP	31							SUBSURFACE, PENDING
SBA	32							SUBSURFACE, ASSUMED FRIEND
SBF	33							SUBSURFACE, FRIEND
SBN	34							SUBSURFACE, NEUTRAL
SBS	35							SUBSURFACE, SUSPECT
SBH	36							SUBSURFACE, HOSTILE
LNU	37							LAND, UNKNOWN
LNP	38							LAND, PENDING
LNA	39							LAND, ASSUMED FRIEND
LNF	40							LAND, FRIEND
LNN	41							LAND, NEUTRAL
LNS	42							LAND, SUSPECT
LNH	43							LAND, HOSTILE
EMU	44							EMITTER, UNKNOWN
EMP	45							EMITTER, PENDING
EMA	46							EMITTER, ASSUMED FRIEND
EMF	47							EMITTER, FRIEND
EMN	48							EMITTER, NEUTRAL
EMS	49							EMITTER, SUSPECT
EMH	50							EMITTER, HOSTILE
SSU	51							SURFACE-TO-SURFACE MISSILE, UNKNOWN
SSP	52							SURFACE-TO-SURFACE MISSILE, PENDING
SSA	53							SURFACE-TO-SURFACE MISSILE, ASSUMED FRIEND
SSF	54							SURFACE-TO-SURFACE MISSILE, FRIEND
SSN	55							SURFACE-TO-SURFACE MISSILE, NEUTRAL
SSS	56							SURFACE-TO-SURFACE MISSILE, SUSPECT
SSH	57							SURFACE-TO-SURFACE MISSILE, HOSTILE
SAU	58							SURFACE-TO-AIR MISSILE, UNKNOWN
SAP	59							SURFACE-TO-AIR MISSILE, PENDING
SAA	60							SURFACE-TO-AIR MISSILE, ASSUMED FRIEND

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APPENDIX B, PART IDFI NAME  
8001 ENVIRONMENT ID

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SAF	61							SURFACE-TO-AIR MISSILE, FRIEND
SAN	62							SURFACE-TO-AIR MISSILE, NEUTRAL
SAS	63							SURFACE-TO-AIR MISSILE, SUSPECT
SAH	64							SURFACE-TO-AIR MISSILE, HOSTILE
RDU	65							RADAR, UNKNOWN
RDP	66							RADAR, PENDING
RDA	67							RADAR, ASSUMED FRIEND
RDF	68							RADAR, FRIEND
RDN	69							RADAR, NEUTRAL
RDS	70							RADAR, SUSPECT
RDH	71							RADAR, HOSTILE
SPU	72							SPACE, UNKNOWN
SPP	73							SPACE, PENDING
SPA	74							SPACE, ASSUMED FRIEND
SPF	75							SPACE, FRIEND
SPN	76							SPACE, NEUTRAL
SPS	77							SPACE, SUSPECT
SPH	78							SPACE, HOSTILE
ASU	79							AIR-TO-SURFACE MISSILE, UNKNOWN
ASP	80							AIR-TO-SURFACE MISSILE, PENDING
ASA	81							AIR-TO-SURFACE MISSILE, ASSUMED FRIEND
ASF	82							AIR-TO-SURFACE MISSILE, FRIEND
ASN	83							AIR-TO-SURFACE MISSILE, NEUTRAL
ASS	84							AIR-TO-SURFACE MISSILE, SUSPECT
ASH	85							AIR-TO-SURFACE MISSILE, HOSTILE

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DFI	NAME	DEFINITION
8003	IBS RELATED MESSAGE TYPE	IDENTIFIES TYPES OF MESSAGES RELATED TO THE IBS BROADCAST.
	DATA STANDARD USAGE: IBS	STATUS:
	DUI NAME	EXPLANATION
	001 TIBS LABEL [TIBS_Label]	INDICATES TYPE OF TIBS MESSAGE.
		DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONAL STATUS MESSAGE
	002 SOURCE MESSAGE TYPE [Source_Msg_Typ]	INDICATES THE MESSAGE FORMAT AS INPUT BY THE SOURCE INTO IBS.
	006 DATA FORMAT [Data_Format]	IDENTIFIES THE TYPE OF DATA FORMAT REPORTED OR ARCHIVED.
	007 CSEL HAND HELD RADIO MESSAGE TYPE [CSEL_HHR_Msg_Typ]	INDICATES THE SPECIFIC MESSAGE TYPE ORIGINALLY TRANSMITTED BY A CSEL HAND HELD RADIO.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	ENTITY MESSAGE
FIELD	ENUMERATED	CMF HEADER
DATA ITEM	VALUE RANGE	UNIT EQUIV MOD ACCURACY EXPLANATION
----- FOR DUI 001 -----		
RESET ATTRIBUTE: NO		
ADV	1	TIBS ADVISORY MESSAGE
SUR	2	TIBS SURVEILLANCE MESSAGE
PRM	3	TIBS PARAMETRIC MESSAGE
QRY	4	TIBS QUERY MESSAGE

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DFI NAME  
8003 IBS RELATED MESSAGE TYPE

----- FOR DUI 002 -----

RESET ATTRIBUTE: NO

SUR	1	TIBS SURVEILLANCE
ADV	2	TIBS ADVISORY
PRM	3	TIBS PARAMETRIC
COMPOSITE	4	TDIMF COMPOSITE
SDS_SENOREP	5	TDDS SOURCE DATA SPECIFICATION (SDS) SENOREP (THIS VALUE IS CURRENTLY NOT USED)
	6	
IR_SENOREP	7	TDDS INFRARED (IR) SENOREP
RIT_SENOREP	8	TDDS RAPID INFORMATION TRANSMISSION (RIT) SENOREP
CSAR_SENOREP	9	TDDS COMBAT SEARCH AND RESCUE (CSAR) SENOREP
ESP_SENOREP	10	TDDS EXTERNAL SIGNAL PARAMETERS (ESP) SENOREP
COBRA_SENOREP	11	TDDS COLLECTION OF BROADCAST FROM REMOTE ASSETS (COBRA) SENOREP (THIS VALUE IS CURRENTLY NOT USED)
	12	
RMKS_SENOREP	13	TDDS REMARKS SENOREP
TDDS_TACELINT	14	(THIS VALUE IS CURRENTLY NOT USED)
	15	
VLTF_SPACEEVENT	16	TDDS SPACE EVENT VLTF
VLTF_SEI	17	TDDS SPECIFIC Emitter IDENTIFICATION (SEI) VLTF
TRIXS_TACELINT	18	
TRIXS_TACREP	19	
BINO	20	NRTD BINOCULAR
USSID_CR1500	21	
CMF	22	IBS COMMON MESSAGE FORMAT (CMF) (INITIAL VALUE)
AIS_SENOREP	23	TDDS AUTOMATIC IDENTIFICATION SYSTEM (AIS) SENOREP

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DFI NAME  
8003 IBS RELATED MESSAGE TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	EQUIV	MOD	ACCURACY	EXPLANATION
JBFSASSENSOREP	24						TDDS JOINT BLUE FORCES SITUATIONAL AWARENESS (JBFSASSENSOREP)
UGSSENSOREP	25						TDDS UNATTENDED GROUND SENSOR (UGS) SENSOREP
WEAPONSENSOREP	26						TDDS TARGET BOMB HIT INDICATOR MESSAGE
<hr/> <p>----- FOR DUI 006 -----</p>							
RESET ATTRIBUTE: NO							
CMFX	1						IBS COMMON MESSAGE FORMAT - FULL XML REPRESENTATION
CMFB	2						IBS COMMON MESSAGE FORMAT - BINARY REPRESENTATION
TDIMF	3						TACTICAL DATA INTERCOMPUTER MESSAGE FORMAT
TIBS_70B	4						TIBS 70-BIT
LINK_11	5						
LINK_16	6						JOINT RANGE EXTENSION (LINK 16)
JRE	7						
N_SERIES	8						U.S. MESSAGE TEXT FORMAT (USMTF)
USMTF	9						
OILSTOCK	10						
TAB_37	11						
TDDSBDS	12						TDDS BROADCAST DATA SPECIFICATION (BDS)
TDDSSDS	13						TDDS SOURCE DATA SPECIFICATION (SDS)
TOPSOBP	14						TACTICAL ONBOARD PROCESSOR/ON- BOARD PROCESSOR
USSID_CR1500	15						
VMF	16						VARIABLE MESSAGE FORMAT (VMF)
RADIANTETHER	17						
USSIDSG5302	18						

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DFI NAME  
8003 IBS RELATED MESSAGE TYPE

----- FOR DUI 007 -----

RESET ATTRIBUTE: YES

CSEL_BLK_1_FREE_FORM_ TXT	1	CSEL BLOCK 1 FREE FORM TEXT
CSEL_BLK_1_CGI_MSG	2	CSEL BLOCK 1 CGI MESSAGE
CSEL_BLK_1_SURVIVOR_ EVADER_CALL_SIGN	3	CSEL BLOCK 1 SURVIVOR EVADER CALL SIGN
CSEL_BLK_1_ AUTHENTICATION_MSG	4	CSEL BLOCK 1 AUTHENTICATION MESSAGE
CSEL_BLK_1_ACK_MSG	5	CSEL BLOCK 1 ACKNOWLEDGEMENT MESSAGE
CSEL_BLK_2_FREE_FORM_ TXT	6	CSEL BLOCK 2 FREE FORM TEXT
CSEL_BLK_2_CGI_MSG	7	CSEL BLOCK 2 CGI MESSAGE
CSEL_BLK_2_SURVIVOR_ EVADER_CALL_SIGN	8	CSEL BLOCK 2 SURVIVOR EVADER CALL SIGN
CSEL_BLK_2_ AUTHENTICATION_MSG	9	CSEL BLOCK 2 AUTHENTICATION MESSAGE
CSEL_BLK_2_ACK_MSG	10	CSEL BLOCK 2 ACKNOWLEDGEMENT MESSAGE

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DFI NAME  
8005 CHIP RATE DEFINITION  
INDICATES THE CHIP RATE OF A DIRECT SEQUENCE SPREAD SPECTRUM TRANSMISSION.

DATA STANDARD USAGE: IBS		STATUS:
DUI NAME		EXPLANATION
001 CHIP RATE [Chip_Rate]		CHIP RATE OF A DIRECT SEQUENCE SPREAD SPECTRUM TRANSMISSION.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	FLOAT	
DUI NAME		EXPLANATION
002 NUMBER OF CHIP BITS [Num_Chip_Bits]		NUMBER OF CHIP BITS IN A CHIP SEQUENCE.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	ENTITY
FIELD	INTEGER	

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 001 -----

RESET ATTRIBUTE: YES

0 EXCLUSIVE THROUGH 999 GHZ	0 EXCLUSIVE THROUGH 999E9	UNRANGED	REPORTED IN HERTZ
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----- FOR DUI 002 -----

RESET ATTRIBUTE: NO

1 THROUGH 203	1 THROUGH 203
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DFI	NAME	DEFINITION				
8006	PRODUCER/COLLECTION DESIGNATOR					
	DATA STANDARD USAGE: IBS	STATUS:				
	DUI NAME	EXPLANATION				
	001 PRODUCER DESIGNATOR DIGRAPH [Producer_Digraph]	A DIGRAPH SPECIFICALLY ASSIGNED BY NSA TO IDENTIFY THE PRODUCER UNIT ORIGINATING THE REPORT.				
	DATA ELEMENT TYPE	APPLICABILITY				
	DATA REPRESENTATION TYPE	DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, REMOTE AMPLIFICATION MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONAL STATUS MESSAGE				
	FIELD	PATTERN				
	DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
	----- FOR DUI 001 -----					
	RESET ATTRIBUTE: NO					
	2X	2X	THE VALUES ARE TWO ALPHANUMERIC CHARACTERS (A-Z OR 0-9).			

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DFI	NAME	DEFINITION
8008	STATION IDENTIFICATION	IDENTIFIES PRODUCER, TRANSMITTER, OR INTENDED DESTINATION OF TIBS MESSAGES.
	DATA STANDARD USAGE:      TIBS	STATUS:
	DUI NAME	EXPLANATION
	001 NODE [Node]	IDENTIFIES THE ORIGINATING STATION OR NODE OF THE PRODUCER OF THE REFERENCE MESSAGE.
		CMF DOC (PACKAGE HEADER), MESSAGE GROUP, DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, REMOTE AMPLIFICATION MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONS NOTIFICATION MESSAGE, OPERATIONAL STATUS MESSAGE, BLOB TRANSFER MESSAGE
	002 STATION ADDRESS, TIBS [TIBS_Station_Addr]	IDENTIFIES THE STATION OR ORIGINATING NODE OF THE PRODUCER OF THE TIBS TRACK.
		DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, REMOTE AMPLIFICATION MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONS NOTIFICATION MESSAGE, OPERATIONAL STATUS MESSAGE, BLOB TRANSFER MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	INTEGER	

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DFI NAME  
8008 STATION IDENTIFICATION

DUI NAME	EXPLANATION	APPLICABILITY
003 SUBNET ADDRESS, TIBS [TIBS_Subnet]	IDENTIFIES THE SUBNET OF THE TIBS PRODUCER OF THE REFERENCE MESSAGE.	DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, REMOTE AMPLIFICATION MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONS NOTIFICATION MESSAGE, OPERATIONAL STATUS MESSAGE, BLOB TRANSFER MESSAGE
004 SUBNET ADDRESS [Subnet]	IDENTIFIES THE IBS SUB-NETWORK ON WHICH THE ENTITY OR MESSAGE WAS ORIGINATED, OR THE SUB-NETWORK BEING REFERENCED.	CMF DOC (PACKAGE HEADER), MESSAGE GROUP, DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, REMOTE AMPLIFICATION MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONS NOTIFICATION MESSAGE, OPERATIONAL STATUS MESSAGE, BLOB TRANSFER MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	PATTERN	
DUI NAME	EXPLANATION	APPLICABILITY
005 DESTINATION GROUP [Dest_Grp]	MESSAGE IS INTENDED FOR ONLY NODES ASSIGNED TO A DESIGNATED GROUP.	DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, REMOTE AMPLIFICATION MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONS NOTIFICATION MESSAGE, OPERATIONAL STATUS MESSAGE, BLOB TRANSFER MESSAGE

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DFI NAME  
8008 STATION IDENTIFICATION

DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE

FIELD INTEGER

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 001 -----

RESET ATTRIBUTE: NO

1 THROUGH 16,383        1 THROUGH 16383

----- FOR DUI 002 -----

RESET ATTRIBUTE: NO

1 THROUGH 63        1 THROUGH 63

----- FOR DUI 003 -----

RESET ATTRIBUTE: NO

1AD(0-0)        1AD(0-0)

THE VALUE IS EITHER ONE  
ALPHABETIC CHARACTER (A-Z)  
OR ONE CHARACTER DIGIT  
(ZERO) .

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DFI NAME  
8008 STATION IDENTIFICATION

----- FOR DUI 004 -----

RESET ATTRIBUTE: NO

2 [1D(0-0)1S] [1A1AS]      2 [1D(0-0)1S] [1A1AS]

VALUES ARE EITHER ONE CHARACTER DIGIT (ZERO) WITH ONE SPACE CHARACTER, OR ONE ALPHABETIC CHARACTER (A-Z) WITH EITHER ONE ALPHABETIC CHARACTER (A-Z) OR A SPACE CHARACTER.

ONE ALPHABETIC CHARACTER (WITH A SPACE) OR TWO ALPHABETIC CHARACTERS IDENTIFY A SPECIFIC, OPERATIONALLY DEFINED, AND ASSIGNED SUB-NETWORK WITHIN THE IBS GLOBAL NETWORK. ZERO (WITH A SPACE) INDICATES THAT ALL IBS SUB-NETWORKS (I.E. THE ENTIRE IBS NETWORK) ARE BEING IDENTIFIED. (NOTE: ZERO IS ONLY LEGAL WHEN SUBNET IS BEING USED AS PART OF A DESTINATION ADDRESS.) DEFAULT VALUE=0.

----- FOR DUI 005 -----

RESET ATTRIBUTE: NO

0 THROUGH 15

0 THROUGH 15

(INITIAL VALUE = 0)  
DEFAULT TO "ALL" GROUPS

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DFI	NAME	DEFINITION
8013	RF/PRI AGILITY INDICATOR	DESCRIBES THE AGILITY CHARACTERISTICS DISPLAYED BY A GIVEN PULSED EMITTER IN TERMS OF OCCURRENCE.
DATA STANDARD USAGE: IBS		STATUS:
DUI NAME	EXPLANATION	APPLICABILITY
001 FREQUENCY AGILITY CHARACTERISTICS [Freq_Agil_Char]	DESCRIBES THE AGILITY CHARACTERISTICS DISPLAYED BY A GIVEN PULSED EMITTER IN TERMS OF OCCURRENCE.	ENTITY MESSAGE
002 PRI AGILITY CHARACTERISTICS [PRI_Agil_Char]	INDICATES THE PRESENCE OF AGILITY ON THE REFERENCED EMITTER.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	ENUMERATED	
DATA ITEM	VALUE RANGE	UNIT EQUIV VALUE MOD ACCURACY EXPLANATION
----- FOR DUI 001 -----		
RESET ATTRIBUTE: YES		
NO_CHG_IN_RF	0	NO CHANGE IN RF
CHG_IN_RF	1	CHANGE IN RF
CHG_IN_RF_OR_PRI	2	CHANGE IN RF OR PRI
----- FOR DUI 002 -----		
RESET ATTRIBUTE: YES		
NO_CHG_IN_PRI	0	NO CHANGE IN PRI
CHG_IN_PRI	1	CHANGE IN PRI
CHG_IN_RF_OR_PRI	2	CHANGE IN RF OR PRI

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DFI	NAME	DEFINITION
8018	ENTITY ACTIVITY/STATUS	
	DATA STANDARD USAGE: IBS	STATUS:
	DUI NAME	EXPLANATION
	001 ENTITY ACTIVITY [Entity_Actv]	DESCRIBES THE OPERATIONAL ACTIVITY OF AN ENTITY.
	003 ENTITY STATUS [Entity_Stat]	DESCRIBES THE OPERATIONAL STATUS OF AN ENTITY.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	STRING	
DATA ITEM	VALUE RANGE	UNIT EQUIV VALUE MOD ACCURACY EXPLANATION
----- FOR DUI 001 -----		
RESET ATTRIBUTE: YES		
AA	AA	THE VALUE FOR ENTITY ACTIVITY IS A STRING OF ONE TO SIX CHARACTERS AS SHOWN IN THE "DATA ITEM".
AAM	AAM	ANTI-ACFT ACTY
AAW	AAW	AIR-TO-AIR MISSILE ACTY
ABN	ABN	ANTI-AIR WARFARE ACTY
ABORT	ABORT	AIRBORNE ACTY
ABURN	ABURN	ABORTING MISSION
ACINT	ACINT	AFTERBURNER ACTY
ACOUST	ACOUST	ACOUSTIC INTELLIGENCE ACTY
ACP	ACP	ACOUSTIC ACTY
ACTY	ACTY	AIR COMMAND POST MSN
AD	AD	ACTIVITY, NFI
ADJ	ADJ	AIR DEFENSE ACTY
		ADJUSTING AIM

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DFI NAME  
8018 ENTITY ACTIVITY/STATUS

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
ADV	ADV							ADVANCING
AECM	AECM							AIR ELECTRONIC ATTACK MSN
AESM	AESM							AIR ELECTRONIC SUPPORT MSN
AEW	AEW							AIRBORNE EARLY WARNING ACTY
AI	AI							AIR INTERDICTION
AINT	AINT							AIR INTERCEPT ACTY
AINT1	AINT1							AIR INTERCEPT, CLIMBING
AINT2	AINT2							AIR INTERCEPT, MANEUVERING
AINT3	AINT3							AIR INTERCEPT, TRANSITIONING
AINT4	AINT4							AIR INTERCEPT, ATTACKING
AINT5	AINT5							AIR INTERCEPT, RECOVERING
AJ	AJ							ANTI-JAMMING OPN
ALOG	ALOG							AIR LOGISTICS MSN
AMED	AMED							AIR MEDEVAC MSN
AMIN	AMIN							AIR MINE LAYING
AMOP	AMOP							AMPHIBIOUS OPN
AMOP1	AMOP1							AMPHIBIOUS OPN, PLANNING
AMOP2	AMOP2							AMPHIBIOUS OPN, EMBARKING
AMOP3	AMOP3							AMPHIBIOUS OPN, REHEARSING
AMOP4	AMOP4							AMPHIBIOUS OPN, MOVING
AMOP5	AMOP5							AMPHIBIOUS OPN, ASSAULTING
AMSW	AMSW							AIR MINE SWEEPING
AMWAR	AMWAR							SONIC DECEPTION (AIR) ACTY, AMPHIBIOUS WARFARE
APT	APT							AIRPORT ACTY
AQ	AQ							ACQUISITION OPN
ARCE	ARCE							AIR RECON MSN
ARLFT	ARLFT							AIRLIFTING
ARM	ARM							ARMING
ARP	ARP							AIRBORNE COMM/DATALINK RELAYING
ASAT	ASAT							ANTI-SATELLITE OPN
ASGD	ASGD							ASSIGNED TO DESTROY MSN
ASHP	ASHP							AIR ANTI-SHIP MSN

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DFI NAME  
8018 ENTITY ACTIVITY/STATUS

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
ASIMS		ASIMS						SONIC DECPNT UNDRWTR ACTY, ACOUSTC SIM OF SUR/SUBSUR FORCES
ASLT	ASLT							AIR ASSAULT MSN
ASP	ASP							AIR SUPPORT OPN
ASPC	ASPC							AIR SPECIAL MSN
ASPW	ASPW							ANTI-SPACE WARFARE ACTY
ASSEM	ASSEM							ASSEMBLING FORCES
ASTK	ASTK							AIR STRIKE ACTY
ASUW	ASUW							ANTI-SURFACE SHIP WARFARE ACTY
ASW	ASW							ANTI-SUBMARINE WARFARE ACTY
ATC	ATC							AIR TRAFFIC CONTROL OPN
ATK	ATK							ATTACK OPN, CONVENTIONAL
ATKR	ATKR							AIR REFUELING OPN
AUTO	AUTO							AUTOMATIC OR AUTONOMOUS OPN
AUX	AUX							AUXILIARY OPN
AWACS	AWACS							AIRBORNE EARLY WARNING AND CONTROL ACTY
AWX	AWX							ALL WEATHER OPN
AXA	AXA							AIR-TO-AIR ACTY
BAIL	BAIL							BAILING OUT
BARJAM	BARJAM							BARRAGE (RADIATION) JAMMING
BDA	BDA							BOMB DAMAGE ASSESSMENT ACTY
BIOL	BIOL							BIOLOGICAL OPN
BLKTJM	BLKTJM							BLANKET (MECHANICAL) JAMMING
BLSTC	BLSTC							BALLISTIC PHASE ACTY
BMD	BMD							BALLISTIC MISSILE DEFENSE ACTY
BNOUT	BNOUT							BURNOUT ACTY
BOMBG	BOMBG							BOMBING
BOTMG	BOTMG							BOTTOMING
BRK	BRK							BREAKING ENGAGEMENT
BRKNG	BRKNG							DISENGAGING
BRSTJM	BRSTJM							BURST (MECHANICAL) JAMMING
BURN	BURN							BURN PHASE ACTY
BW	BW							BIOLOGICAL WARFARE ACTY
BYPAS	BYPAS							BYPASSING
C2	C2							COMMAND AND CONTROL OPN
C2I	C2I							COMMAND, CONTROL, AND INTELLIGENCE OPN
C3	C3							COMMAND, CONTROL, AND COMM FUNC OPN

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8018 ENTITY ACTIVITY/STATUS

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
C3CM		C3CM				COMMAND, CONTROL, AND COMM COUNTERMEASURES OPN
C3I		C3I				COMMAND, CONTROL, COMM AND INTELLIGENCE OPN
CAMO		CAMO				CAMOUFLAGE OPN
CAP		CAP				COMBAT AIR PATROL ACTY
CAS		CAS				CLOSE AIR SUPPORT ACTY
CATCC		CATCC				CARRIER AIR TRAFFIC CONTROL CENTER OPN
CAW		CAW				COUNTER-AIR WARFARE ACTY
CBR		CBR				CHEMICAL, BIOLOGICAL, AND RADIOLOGICAL OPN
CCD		CCD				CAMOUFLAGE, CONCEALMENT, DECEPTION OPN
CD		CD				COVER AND DECEPTION OPN
CEWI		CEWI				COMBAT ELECTRONICS WARFARE INTELLIGENCE ACTY
CHAFF		CHAFF				DISPENSING CHAFF
CHK		CHK				CHECKING
CLEAR		CLEAR				CLEARING
CLOD		CLOD				CROSSING LINE OF DEPARTURE
CLOSE		CLOSE				CLOSING
CM		CM				COUNTERMEASURES ACTY
CMD		CMD				COMMAND ACTY
COBRA		COBRA				COLLECTION OF BROADCAST FROM REMOTE ASSETS REPORTING
COD		COD				CARRIER ONBOARD DELIVERY
COMJAM		COMJAM				COMMUNICATIONS JAMMING
COMM0		COMM0				COMMUNICATIONS ACTY
COMM'R		COMM'R				COMMUNICATIONS RELAY ACTY
COMMS		COMMS				COMMUNICATIONS ACTY
COMSEC		COMSEC				COMMUNICATIONS SECURITY ACTY
CONBR		CONBR				MANIPULATIVE COMMS DECPTN ACTY, CTRL'D BREACHES OF SECURITY
CONCT		CONCT				CONCENTRATING
CONFOR		CONFOR				SONIC DECEPTION (AIR) ACTY, CONCEALMENT OF FORCES
CONT		CONT				CONTINUING MISSION

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DFI NAME  
8018 ENTITY ACTIVITY/STATUS

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
CONTCT	CONTCT				FRIENDLY TROOPS IN CONTACT WITH ENEMY FORCE
COORD	COORD				COORDINATION ACTY
CORDR	CORDR				CORRIDOR (MECHANICAL) JAMMING
CPX	CPX				COMMAND POST EXERCISE ACTY
CRNRJM	CRNRJM				CORNER REFLECTORS (RADIATION) JAMMING
CRP	CRP				CONTROL AND REPORTING POST ACTY
CRYPIN	CRYPIN				IMITATIVE COMMS DECEPTION ACTY, CRYPTOGRAPHIC INTRUSION
CTL	CTL				CONTROLLING
CVR	CVR				COVERING
CW	CW				CHEMICAL WARFARE ACTY
CXR	CXR				CARRIER OPN
DAC	DAC				DOWNED AIRCRAFT ACTY
DACOM	DACOM				DATA COMMUNICATIONS ACTY
DAS	DAS				DIRECT AIR SUPPORT ACTY
DASC	DASC				DIRECT AIR SUPPORT CENTER ACTY
DATA	DATA				DATA TRANSMISSION ACTY
DCPT	DCPT				DECEPTION OPN
DCPTJM	DCPTJM				IMITATIVE COMMS DECEPTION ACTY, DECEPTIVE JAMMING
DDL	DDL				DIRECT DOWN LINK ACTY
DECIM	DECIM				DECEPTIVE ELECTRONIC ATTACK
DEF	DEF				EMITTER ACTY
DEFND	DEFND				DEFENSIVE ACTY
DELAY	DELAY				DEFENDING
DEMO	DEMO				DELAYING
DETEC	DETEC				DEMOLITION ACTY
DF	DF				DETECTING
DIPNG	DIPNG				DIRECTION FINDING
DIPL	DIPL				DIPPING
DIR	DIR				DIPLOMATIC MSN
DIS	DIS				DIRECTION/DIRECTIONAL ACTY
					DISPERISING

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8018 ENTITY ACTIVITY/STATUS

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
DISARM	DISARM				DISARMING WEAPON
DISP	DISP				DISPATCHING
DITCH	DITCH				DITCHING
DIVE	DIVE				DIVING
DIVRSN	DIVRSN				DIVERSION OPN
DL	DL				DATA LINK OPN
DN	DN				DATA NETWORK OPN
DPLY	DPLY				DEPLOYING
DPT	DPT				DEPARTING
DRGUW	DRGUW				DREDGING OR UNDERWATER OPN
DS	DS				DIRECT SUPPORT ACTY
DSTY	DSTY				DESTROYING
DUM	DUM				DUMMY ACTY
E3	E3				ELECTROMAGNETIC ENVIRONMENTAL EFFECTS ACTY
EA	EA				ELECTRONIC ATTACK OPN
EAC	EAC				ELECTRONIC ATTACK COMMUNICATIONS ACTY
EAD	EAD				ELECTRONIC ATTACK DECOY OPN
EAR	EAR				ELECTRONICALLY AGILE RADAR ACTY
EAU	EAU				ELECTRONIC ATTACK MULTIPURPOSE ACTY
ELCOV	ELCOV				MANIPULATIVE COMMS DECEPTION ACTY, ELECTRONIC COVER
ELSEC	ELSEC				ELECTRONIC SECURITY OPN
EMB	EMB				EMBARKING
EMCON	EMCON				EMISSION CONTROL OPN
EMER	EMER				EMERGENCY OPN
EMI	EMI				ELECTROMAGNETIC INTERFERENCE OPN
EMP	EMP				ELECTROMAGNETIC PULSE ACTY
EMSEC	EMSEC				EMANATIONS SECURITY OPN
ENG	ENG				ENGAGING
ENRT	ENRT				ENROUTE OPN
ENV	ENV				ENVELOPMENT OPN
EO	EO				ELECTRO-OPTICS ACTY
EOCM	EOCM				ELECTRO-OPTICS COUNTERMEASURES OPN
EOIMAG	EOIMAG				ELECTRO-OPTICAL IMAGERY ACTY
EP	EP				ELECTRONIC PROTECT ACTY

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DFI NAME  
8018 ENTITY ACTIVITY/STATUS

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
ESCRT	ESCRT				ESCORTING
ES	ES				ELECTRONIC SUPPORT MEASURES OPN
EVAC	EVAC				EVACUATING
EVAD	EVAD				EVADING
EW	EW				ELECTRONIC WARFARE ACTY
EXCH	EXCH				EXCHANGE OPN
EXER	EXER				EXERCISE ACTY
EXPLSN	EXPLSN				EXPLOSION ACTY
FAC	FAC				FORWARD AIR CONTROLLER ACTY
FBA	FBA				FTR BOMBER ATTACK OPN
FC	FC				FIRE CONTROL OPN
FCI	FCI				FOREIGN COUNTER-INTELLIGENCE OPN
FIRE	FIRE				FIRING/WEAPONS DISCHARGING
FISHIN	FISHIN				FISHING
FISHP	FISHP				FISHERY PROTECTION ACTY
FISINT	FISINT				FOREIGN INSTRUMENTATION SIGNALS INTELLIGENCE OPN
FLEE	FLEE				FLEEING
FLKTP	FLKTP				FLAK TRAP OPN
FLR	FLR				FORWARD LOOKING RADAR (SENSOR) OPN
FLSACT	FLSACT				MANIPULATIVE NON-COMMS DECEPTION ACTY, FALSE ACTIVITY
FLSPKS	FLSPKS				MANIPULATIVE COMMS DECEPTION ACTY, FALSE PEAKS
FLSTGT	FLSTGT				IMITATIVE NON-COMMS DECEPTN ACTY, FALSE TGT GENERATION/SPOOF
FLSTRF	FLSTRF				MANIPULATIVE COMMS DECEPTION ACTY, FALSE TRAFFIC LEVELS
FLUSH	FLUSH				FLUSH OPN
FOFA	FOFA				FOLLOW-ON FORCES ATTACK OPN
FORT	FORT				FORTIFYING
FSPT	FSPT				FIRE SUPPORT
FTX	FTX				FIELD TRAINING EXERCISE ACTY
GAS	GAS				REFUELING OPN
GATTK	GATTK				GROUND ATTACK TACTICS ACTY
GCA	GCA				GROUND CONTROLLED APPROACH OPN

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8018 ENTITY ACTIVITY/STATUS

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
GCI	GCI				GROUND CONTROL INTERCEPT OPN
GEOREF	GEOREF				WORLD GEOGRAPHIC REFERENCE SYSTEM ACTY
GRD	GRD				GUARD OPN
GRU	GRU				GRIDLOCK REFERENCE UNIT LINK ACTY
GSE	GSE				GROUND SUPPORT EXERCISE ACTY
GUER	GUER				GUERILLA ACTY
GULL	GULL				IMITATIVE NON-COMMS DECEPTION ACTY, GULL
HARAS	HARAS				HARASSMENT ACTY
HF	HF				HIGH FREQUENCY TRANSMISSION ACTY
HIGH	HIGH				HIGH ALTITUDE ACTY (>25,000 FT)
HIJAK	HIJAK				HIJACKING
HOLD	HOLD				HOLDING
HST	HST				HIGH SPEED OPN
HUMINT	HUMINT				HUMAN INTELLIGENCE OPN
HVI	HVI				HIGH VALUE INDIVIDUAL ACTY
ILLOP	ILLOP				ILLEGAL TRADING/TRAFFICKING
IMPCT	IMPCT				IMPACT ACTY
INFIL	INFIL				INFILTRATING
INSUR	INSUR				INSURGENT ACTY
INTCL	INTCL				INTELLIGENCE COLLECTION
INTCP	INTCP				INTERCEPT OPN
INTEL	INTEL				INTELLIGENCE OPN
INTER	INTER				INTERDICTION ACTY
INTL	INTL				INTERNATIONAL OPN
INTRD	INTRD				INTRUDING
INTVG	INTVG				INTERVENING
INVGN	INVGN				IMITATIVE NON-COMMS DECEPTION ACTY, INVERSE GAIN MODULATION
IR	IR				INFRARED ACTY
IRC	IRC				INTERNATIONAL RED CROSS ACTY
IRCM	IRCM				INFRARED COUNTERMEASURES OPN
IRIMAG	IRIMAG				INFRARED IMAGERY ACTY
IRINT	IRINT				INFRARED INTELLIGENCE OPN
IRST	IRST				INFRARED SEARCH AND TRACK OPN

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DFI NAME  
8018 ENTITY ACTIVITY/STATUS

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
IW	IW				INDICATIONS AND WARNING ACTY
JAM	JAM				JAMMING OPN
JAMAI	JAMAI				JAMMING OPN, AIR INTERDICTION OR FIRE CONTROL RADAR
JAMCOM	JAMCOM				JAMMING OPN, COMMUNICATIONS
JAMR	JAMR				JAMMING OPN, RADAR
JATO	JATO				JET ASSISTED TAKE-OFF ACTY
JBFSAs	JBFSAs				JOINT BLUE FORCE SITUATIONAL AWARENESS REPORTING
LASINT	LASINT				LASER INTELLIGENCE OPN
LCC	LCC				LANDING CRAFT CONTROL ACTY
LCKJAM	LCKJAM				SWEEP LOCK-ON (RADIATION) JAMMING
LIC	LIC				LOW INTENSITY CONFLICT ACTY
LNCH	LNCH				LAUNCH (WEAPONS RELEASE) ACTY
LND	LND				LAND ACTY, NFI
LNDNG	LNDNG				LANDING
LO	LO				LOW OBSERVABLE ACTY
LOAD	LOAD				LOW ALTITUDE AIR DEFENSE ACTY
LOCAP	LOCAP				LOW COMBAT AIR PATROL ACTY
LODNG	LODNG				LOADING
LOG	LOG				LOGISTICS SUPPORT OPN
LOITER	LOITER				LOITERING
LOROP	LOROP				LONG RANGE OBLIQUE PHOTOGRAPHY OPN
LOW	LOW				LOW ALTITUDE ACTY (<2,000 FT)
LPI	LPI				LOW PROBABILITY OF INTERCEPT OPN
LR	LR				LONG RANGE OPN (>75 NMI)
LRR	LRR				LONG RANGE RECON ACTY
LSCRN	LSCRN				LAND ACTY, SCREENING
LTA	LTA				LIGHTER THAN AIR ACTY
LUA	LUA				LAUNCH UNDER ATTACK OPN
LVA	LVA				LANDING VEHICLE ASSAULT OPN
LZTP	LZTP				LANDING ZONE TRAP OPN
MAGNET	MAGNET				MAGNETIC ACTY
MAO	MAO				MAJOR ATTACK OPN
MARSH	MARSH				MARSHALLING
MASINT	MASINT				MEASUREMENT AND SIGNATURE INTELLIGENCE OPN

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
MASK	MASK							MASKING OPN
MCG	MCG							MAPPING, CHARTING AND GEODESY OPN
MCM	MCM							MINE COUNTERMEASURES OPN
MEAC	MEAC							MEACONING OPN
MED	MED							MANIPULATIVE ELECTRONIC DECEPTION ACTY
MEDEV	MEDEV							MEDEVAC ACTY
MEDINT	MEDINT							MEDICAL INTELLIGENCE OPN
MEDIUM	MEDIUM							MEDIUM HEIGHT/ALTITUDE ACTY (2000-25000 FT)
MEN	MEN							TROOPS ACTY
MERINT	MERINT							MERCHANT INTELLIGENCE OPN
MFLST	MFLST							MULTIPLE FALSE TARGETS (RADIATION) JAMMING
MGT	MGT							MANAGEMENT OPN
MHQ	MHQ							MARITIME HEADQUARTERS ACTY
MIJI	MIJI							MEA CONING, INTRUSION, JAMMING, INTERFERENCE OPN
MILOPS	MILOPS							MILITARY OPERATIONS ACTY
MOB	MOB							MOBILIZATION OPN
MORT	MORT							MORTAR ACTY
MOVE	MOVE							MOVING
MR	MR							MEDIUM RANGE OPN (15-75 NMI)
MRKNG	MRKNG							MARKING
MSGITR	MSGITR							IMITATIVE COMMS DECEPTION ACTY, PLANNED MESSAGE INTRUSION
MW	MW							MINE WARFARE ACTY
MWAA	MWAA							MISSILE WARNING-ATTACK ASSESSMENT OPN
MWET	MWET							MAN IN WATER ACTY
NAV	NAV							NAVIGATION OPN
NBC	NBC							NUCLEAR, BIOLOGICAL, CHEMICAL WARFARE ACTY
NEUT	NEUT							NEUTRALIZING
NOACTY	NOACTY							NO OBSERVABLE ACTY
NOCMBT	NOCMBT							NON-COMBAT OPN
NOISJM	NOISJM							COMMUNICATIONS NOISE (RADIATION) JAMMING

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DATA ITEM (CONTINUED)	VALUE RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
NORMAL	NORMAL						NORMAL ACTY
NSA	NSA						NAVAL SUPPORT ACTY
NTM	NTM						NATIONAL TECHNICAL MEANS ACTY
NUC	NUC						NUCLEAR (CAPABILITY/POWERED) ACTY
NUCINT	NUCINT						NUCLEAR INTELLIGENCE OPN
NUIS	NUIS						IMITATIVE COMMS DECEPTION ACTY, NUISANCE INTRUSION
NW	NW						NUCLEAR WARFARE ACTY
OA	OA						OCEAN ACOUSTICS OPN
OCUPY	OCUPY						OCCUPYING
OFF	OFF						OFFENSIVE OPN
OFFSHR	OFFSHR						OFFSHORE FACILITY ACTY
OHD	OHD						OVER-THE-HORIZON DETECTION OPN
OM	OM						OPNS AND MAINTENANCE ACTY
OPN	OPN						UNKNOWN THREAT OPN
OPS	OPS						OPNS, NFI
OPTINT	OPTINT						OPTICAL INTELLIGENCE OPN
OS	OS						OPNS AND SUPPORT MSN
OT	OT						OPERATIONAL TEST ACTY
OTH	OTH						OVER-THE-HORIZON OPN
OTHT	OTHT						OVER-THE-HORIZON TARGETING OPN
PADD	PADD						MANIPULATIVE COMMS DECEPTION ACTY, PADDING
PARA	PARA						AIRBORNE PARACHUTE ASSAULT MSN
PAT	PAT						PATROLLING
PHOINT	PHOINT						PHOTOGRAPHIC INTELLIGENCE OPN
PICKT	PICKT						PICKETING
PILL	PILL						SONIC DECEPTION UNDERWATER ACTY, PILL DEPLOYMENT
PLEASR	PLEASR						PLEASURE CRAFT ACTY
PLT	PLT						PLATFORM ACTY, NFI
PNT	PNT						POINT OPN
POC	POC						POINT OF CONTACT OPN
POL	POL						FUELING OPN (PETROLEUM/OIL/LUBRICANT)
POLIC	POLIC						POLICING
POWAL	POWAL						POW (ALLIED) ACTY
POWUS	POWUS						POW (US) ACTY
PSAD	PSAD						PASSIVE SEARCH AND DETECTION OPN

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8018 ENTITY ACTIVITY/STATUS

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
PSYOP	PSYOP				PSYCHOLOGICAL OPN
QPQ	QPQ				QUID PRO QUO ACTY
QRC	QRC				QUICK REACTION
QSR	QSR				CAPABILITY OPN
RADIL	RADIL				QUICK STRIKE RECON OPN
RADINT	RADINT				REGIONAL OPS CNTL CNTR AWACS
RC	RC				DIGITAL INTERFACE ACTY
RDFDB	RDFDB				RADAR INTELLIGENCE ACTY
RDR	RDR				RADIO CONTROLLED OPN
RECCE	RECCE				RADIO DIRECTION FINDING
RECI	RECI				DATABASE ACTY
RECON	RECON				RADAR ACTY
RECOV	RECOV				RECON MSN/OPN
REFUG	REFUG				RADAR Emitter CLASSIFICATION/
REND	REND				IDENTIFICATION, MSN/OPN
REP	REP				RECON OPN
RESCAP	RESCAP				PERSONNEL RECOVERY ACTY
RF	RF				REFUGEE ACTY
RGPOF	RGPOF				RENDEZVOUS ACTY
RINT	RINT				REPAIRING
RIVRN	RIVRN				RESCUE COMBAT AIR PATROL ACTY
ROUT	ROUT				RADIO FREQUENCY TRANSMISSION
RPTJAM	RPTJAM				ACTY
RQSAS	RQSAS				IMITATIVE NON-COMMS DECEPTION
RQSFS	RQSFS				ACTY, RANGE GATE PULL-OFF
RQSRE	RQSRE				RADIATION INTELLIGENCE OPN
RQSRS	RQSRS				SONIC DECEPTION (AIR) ACTY,
RQSCM	RQSCM				RIVERINE WARFARE
					MANIPULATIVE COMMS DECEPTION
					ACTY, ROUTING
					REPEATER (RADIATION) JAMMING
					REQUESTING AIR SUPPORT
					REQUESTING FIRE SUPPORT
					REQUESTING REINFORCEMENTS
					REQUESTING RE-SUPPLY
					REQUESTING CHANGES TO
					COORDINATION MEASURES

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DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
RR	RR				RADIO RELAY OPN
RTB	RTB				RETURN TO BASE OPN
RVRCR	RVRCR				CROSSING RIVER
RW	RW				RADIOLOGICAL WARFARE ACTY
SAACU	SAACU				SURFACE ACTY, ATTACK AIR CONTROL UNIT
SAIL	SAIL				SAILING
SAJ	SAJ				SURFACE ACTY, ACOUSTIC JAMMING
SAO	SAO				SURFACE ACTY, AIR OPNS
SAR	SAR				SEARCH AND RESCUE MSN
SARTP	SARTP				SEARCH AND RESCUE TRAP/DECEPTION OPN
SAS	SAS				SURFACE MSN, ANTI-AIR SUPPORT
SASGD	SASGD				SURFACE ACTY, WEAPON ASSIGNED
SASW	SASW				SURFACE ACTY, ANTI-SUBMARINE WARFARE
SATCOM	SATCOM				SATELLITE COMMUNICATIONS ACTY
SATIL	SATIL				SURFACE ACTY, ATTACKING
SATK	SATK				SURFACE ACTY, SEARCH ATTACK UNIT
SAW	SAW				SURFACE ACTY, ANTI-AIR WARFARE
SBRK	SBRK				SURFACE ACTY, ENGAGEMENT BROKEN
SCANR	SCANR				IMITATIVE NON-COMMS DECEPTION ACTY, SCAN RATE MODULATION
SCBL	SCBL				SCRAMBLING
SCH	SCH				SEARCH OPN
SCHAF	SCHAF				SELF-PROTECTION CHAFF (MECHANICAL) JAMMING
SCMND	SCMND				SURFACE ACTY, COMMAND VESSEL
SCREN	SCREN				SURFACE ACTY, SCREENING
SCVY	SCVY				SURFACE ACTY, CONVOYING
SDCY	SDCY				SURFACE ACTY, DECOY
SDED	SDED				SURFACE ACTY, DEAD IN WATER
SDEP	SDEP				SURFACE ACTY, DEPARTING
SEA	SEA				SURFACE ACTY, ELECTRONIC ATTACK
SEAD	SEAD				SUPPRESSION OF ENEMY AIR DEFENSE OPN
SEC	SEC				SECURING
SEIACO	SEIACO				SEISMIC ACOUSTIC ACTY
SEIMAG	SEIMAG				SEISMIC MAGNETIC ACTY

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DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
SEISMIC	SEISMIC				SEISMIC ACTY
SENRT	SENRT				SURFACE ACTY, ENROUTE/TRANSITING
SEP	SEP				SURFACE ACTY, ELECTRONIC PROTECT
SEW	SEW				SURFACE ACTY, ELECTRONIC WARFARE
SFCNG	SFCNG				SURFACING
SFISH	SFISH				SURFACE ACTY, FISHING
SGF	SGF				SURFACE ACTY, GUN FIRING
SGFS	SGFS				SURFACE ACTY, NAVAL GUN FIRING SUPPORT
SHAD	SHAD				SURFACE ACTY, SHADOW/TATTLETALE
SHADI	SHADI				SHADOWING
SHAR	SHAR				SURFACE ACTY, HARASSING
SHORAD	SHORAD				SHORT RANGE AIR DEFENSE OPN
SHORAN	SHORAN				SHORT RANGE NAVIGATION OPN
SICE	SICE				SURFACE ACTY, ICE BREAKING
SIGINT	SIGINT				SIGNALS INTELLIGENCE OPN
SIGSEC	SIGSEC				SIGNAL SECURITY OPN
SIMFOR	SIMFOR				SONIC DECEPTION (AIR) ACTY, SIMULATION OF FORCE
SIMTM	SIMTM				SONIC DECEPTION (AIR) ACTY, SIMULATED TACTICAL MOVEMENTS
SINK	SINK				SURFACE ACTY, SINKING
SINT	SINT				SURFACE ACTY, INTRUDER
SINTEL	SINTEL				SURFACE ACTY, INTELLIGENCE COLLECTION
SITREP	SITREP				SITUATION REPORT ACTY
SLFPRT	SLFPRT				SELF-PROTECTION (RADIATION) JAMMING
SMEN	SMEN				SURFACE ACTY, TROOP OPN
SMF	SMF				SURFACE ACTY, MISSILE FIRING
SMG	SMG				SURFACE ACTY, MISSILE GUIDANCE
SMH	SMH				SURFACE ACTY, MINE HUNTING
SMLAY	SMLAY				SURFACE ACTY, MINELAYING
SMW	SMW				SURFACE ACTY, MINE WARFARE
SNC	SNC				SURFACE MSN, NON-COMBATANT
SNOOP	SNOOP				INVESTIGATING OPN

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SNORK	SNORK							SNORKELING
SOCN	SOCN							SURFACE ACTY, OCEANOGRAPHIC
SOFAR	SOFAR							SOUND FIXING AND RANGING OPN
SONAR	SONAR							SOUND NAVIGATION AND RANGING
SOS	SOS							OPN
SPAT	SPAT							VESSEL IN DISTRESS ACTY
SPC	SPC							SURFACE ACTY, PATROL
SPIKE	SPIKE							(SEARCH/TRACK/RECON)
SPOPS	SPOPS							SPACE ACTY
SPT	SPT							IR ACTIVITY INDICATING
SPTJAM	SPTJAM							PROBABLE MISSILE LAUNCH
SPTNG	SPTNG							SPECIAL OPERATIONS ACTY
SPW	SPW							SUPPORT ACTY
SPWAR	SPWAR							SPOT (RADIATION) JAMMING
SR	SR							SPOTTING
SRD	SRD							SURFACE ACTY, AMPHIB WARFARE
SREF	SREF							SPECIAL WARFARE ACTY
SREL	SREL							SHORT RANGE OPN (<15 NMI)
SREND	SREND							SURFACE ACTY, REPAIRING DAMAGE
								SURFACE ACTY, REPLENISHING
								SURFACE ACTY, RELIEVING
								SURFACE ACTY,
								RENDEZVOUSING/ARRIVING
SRF	SRF							SURFACE FRIENDLY ACTY
SRH	SRH							SURFACE HOSTILE ACTY
SRNR	SRNR							SURFACE ACTY, REST AND
								RECREATION
SRU	SRU							SURFACE UNKNOWN ACTY
SRUN	SRUN							SURFACE ACTY, EVASIVE TACTICS
SSF	SSF							SUB-SURFACE FRIENDLY ACTY
SSH	SSH							SUB-SURFACE HOSTILE ACTY
SSM	SSM							SURFACE-TO-SURFACE MISSILE ACTY
SSP	SSP							SURFACE ACTY, SPECIAL WARFARE

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SSSB	SSSB							SHIP SHORE SHIP BUFFER ACTY
SSTN	SSTN							SURFACE ACTY, ON STATION
SSU	SSU							SUB-SURFACE UNKNOWN ACTY
SSUN	SSUN							SUB-SURFACE NUCLEAR ACTY
SSW	SSW							SURFACE ACTY, ANTI-SURFACE WARFARE
STK	STK							STRIKE POINT ACTY
STN	STN							ON-STATION OPN
STOL	STOL							SHORT TAKE-OFF AND LANDING ACTY
STOVL	STOVL							SHORT TAKE-OFF AND VERTICAL LANDING ACTY
STOWER	STOWER							SURFACE ACTY, TOWING
STP	STP							STOPPING
STRAT	STRAT							STRATEGIC OPN
STW	STW							SURFACE ACTY, STRIKE WARFARE
SUACU	SUACU							SURFACE ACTY, ANTI-SUBMARINE AIR CONTROL UNIT
SUN	SUN							SURFACE ACTY, OBSERVING/MONITORING
SUR	SUR							SURVEILLANCE OPN
SURCP	SURCP							SURFACE COMBAT AIR PATROL ACTY
SURVY	SURVY							SURVEYING
SUW	SUW							SURFACE ACTY, ANTI- SUBMARINE WARFARE
SVC	SVC							SERVICE OPN
SWATK	SWATK							SPECIAL WEAPONS ATTACK ACTY
SWEEP	SWEEP							SURFACE ACTY, MINE SWEEPING/CLEARING
SWPJAM	SWPJAM							SWEEP (RADIATION) JAMMING
SWSA	SWSA							ANTI-SUBMARINE WARFARE SEARCH
TA	TA							ATTACK ACTY
TAC	TAC							TRAFFIC ANALYSIS OPN
TACAN	TACAN							TACTICAL OPN
TACINT	TACINT							TACTICAL AIR NAVIGATION OPN
TACJAM	TACJAM							TACTICAL INTELLIGENCE OPN
								TACTICAL ELECTRONIC WARFARE
								JAMMING

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DATA ITEM (CONTINUED)	VALUE RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
TELINT	TELINT						TELEMETRY INTELLIGENCE OPN
TELL	TELL						TELLING ACTY (CONVEYANCE OF SURVEILLANCE/TACTICAL DATA)
TEREC	TEREC						TACTICAL ELECTRONIC RECON ACTY
TERM	TERM						PREMATURE TERMINATION/ ELIMINATION/DESTRUCTION ACTY
TERROR	TERROR						TERRORISM ACTY
TEST	TEST						WEAPON TESTING
TF	TF						TERRAIN FOLLOWING OPN
TG	TG						TRACKING GUIDANCE ACTY
TGT	TGT						TARGETING OPN
TGTDIL	TGTDIL						TARGET DILUTION (MECHANICAL) JAMMING
TI	TI						TARGET ILLUMINATION OPN
TK	TK						TRACKING OPN
TNG	TNG						TRAINING OPN
TORP	TORP						TORPEDO OPN, NFI
TORPS	TORPS						TORPEDO OPN, SURFACE (ATTACK/LIVE)
TORPU	TORPU						TORPEDO OPN, SUB-SURFACE (ATTACK/LIVE)
TOWLRG	TOWLRG						TOWING - LENGTH OF TOW EXCEEDS 200M OR BREADTH EXCEEDS 25M
TOWING	TOWING						TOWING
TPATR	TPATR						TORPEDO OPN (ATTACK/LIVE)
TPX	TPX						TORPEDO OPN (EXERCISE)
TRANS	TRANS						TRANSPORTATION ACTY
TRNJAM	TRNJAM						TRANSPOUNDER (RADIATION) JAMMING
TRNST	TRNST						TRANSITING
TRNSTO	TRNSTO						TRANSITING OUTSIDE NORMAL TRAFFIC SCHEMES
TROOP	TROOP						TROOP LIFT ACTY

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DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
TRP	TRP				TRAP ACTY
TRS	TRS				TACTICAL RECON/SURVEILLANCE OPN
TT	TT				TARGET TRACK(ING) OPN
TWAA	TWAA				THREAT WARNING/ATTACK
TX	TX				ASSESSMENT ACTY
UACU	UACU				TRANSMITTING
UAVGS	UAVGS				SUB-SURFACE ACTY, AIR CONTROL
UCREN	UCREN				UNIT
UCV	UCV				UAV GROUND SUPPORT ACTY
UCVY	UCVY				SUB-SURFACE ACTY, SCREENING
UDEDS	UDEDS				SUB-SURFACE ACTY, COMMAND
UDEDU	UDEDU				VESSEL
UDEP	UDEP				SUB-SURFACE ACTY,
UENRT	UENRT				CONVOYING/ESCORTING
UESM	UESM				SUB-SURFACE ACTY, DEAD IN WATER
UEW	UEW				(SURFACED)
UGT	UGT				SUB-SURFACE ACTY, DEAD IN WATER
UI	UI				(SUBMERGED)
UMATK	UMATK				SUB-SURFACE ACTY, DEPARTING/DEPARTURE
UMEN	UMEN				SUB-SURFACE ACTY, ENROUTE/TRANSITING
UMLAY	UMLAY				SUB-SURFACE ACTY, ELECTRONIC
UMO	UMO				SUPPORT
UMSIM	UMSIM				SUB-SURFACE ACTY, ELECTRONIC
					WARFARE
					UNDERGROUND TEST OPN
					UNIDENTIFIED ACTY (EVALUATED)
					SUB-SURFACE ACTY, MISSILE OPN
					(ATTACK/LIVE)
					SUB-SURFACE ACTY, TROOP OPN
					SUB-SURFACE ACTY, MINE LAYING
					SUB-SURFACE ACTY, MISSILE OPN
					SUB-SURFACE ACTY, MISSILE OPN
					(EXERCISE)

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DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
UMW	UMW				SUB-SURFACE ACTY, MINE WARFARE
UNK	UNK				UNKNOWN ACTY (OBSERVED BUT NOT EVALUATED)
UNLDG	UNLDG				UNLOADING
UNREP	UNREP				SURFACE ACTY, UNDERWAY REPLENISHMENT
UNSW	UNSW				UNDERSEA WARFARE ACTY
UPAT	UPAT				SUB-SURFACE ACTY, PATROL (SEARCH/RECON/SCOUTING)
URD	URD				SUB-SURFACE ACTY, REPAIRING DAMAGE
UREL	UREL				SUB-SURFACE ACTY, RELIEVING
UREND	UREND				SUB-SURFACE ACTY, ARRIVING/RENDEZVOUSING
UREP	UREP				SUB-SURFACE ACTY, REPLENISHING/REPLENISHMENT
URUN	URUN				SUB-SURFACE ACTY, EVASIVE TACTICS
USHAD	USHAD				SUB-SURFACE ACTY, SHADOW/TATTLETALE
USIM	USIM				MANIPULATIVE COMMS DECEPTION ACTY, UNIT SIMULATION
USINK	USINK				SUB-SURFACE ACTY, SINKING
USP	USP				SUB-SURFACE ACTY, SPECIAL WARFARE
USTN	USTN				SUB-SURFACE ACTY, ON STATION
UTGT	UTGT				SUB-SURFACE ACTY, TARGETING
UTOWR	UTOWR				SUB-SURFACE ACTY, TOWING
UTW	UTW				SUB-SURFACE ACTY, STRIKE WARFARE
UUN	UUN				SUB-SURFACE ACTY, OBSERVING/MONITORING
UUW	UUW				SUB-SURFACE ACTY, ANTI-SUBMARINE WARFARE
UW	UW				UNCONVENTIONAL WARFARE ACTY

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DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
VIS	VIS				VISUAL CONTACT OPN
VISINT	VISINT				VISUAL INTELLIGENCE OPN
VSTOL	VSTOL				VERTICAL SHORT TAKE-OFF AND LANDING ACTY
VTOL	VTOL				VERTICAL TAKE-OFF AND LANDING ACTY
WARM	WARM				WARTIME RESERVE MODE OPN
WDRAW	WDRAW				RETREATING/WITHDRAWING
WEPGON	WEPGON				RELEASING WEAPONS
WEPL	WEPL				WEAPONS LOADING
WEPU	WEPU				WEAPONS UNLOADING
WHNS	WHNS				WARTIME HOST NATION SUPPORT ACTY
WNG	WNG				WARNING OPN
WRI	WRI				WEAPON RELEASE IMMINENT OPN
XM	XM				EXECUTIVE/VIP ACTY
XRAY	XRAY				XRAY ACTY
----- FOR DUI 003 -----					
RESET ATTRIBUTE: YES					
THE VALUE FOR ENTITY STATUS IS A STRING OF ONE TO FIVE CHARACTERS AS SHOWN IN THE "DATA ITEM".					
ABAD	ABAD				ACTIVITY UNSUCCESSFUL
ABN	ABN				AIRBORNE
ABNDN	ABNDN				ABANDONED
ABRTD	ABRTD				ABORTED MISSION
AGRND	AGRND				AGROUND
ALRT	ALRT				WEAPON SYSTEM ON ALERT
ANCHOR	ANCHOR				AT ANCHOR
AOK	AOK				ACTIVITY SUCCESSFUL
APCAP	APCAP				APPEARS CAPABLE/COMPLETE BUT OPERATIONAL STATUS UNKNOWN
ARM	ARM				ARMED
ARMWEP	ARMWEP				WEAPON ARMED
BINGO	BINGO				LOW FUEL
BLSTC	BLSTC				BALLISTIC PHASE
BRK	BRK				ENGAGEMENT BROKEN

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
CAMO	CAMO							CAMOUFLAGED
CDMHI	CDMHI							COLLATERAL DAMAGE (SEVERE)
CDMLO	CDMLO							COLLATERAL DAMAGE (LIGHT)
CDMMO	CDMMO							COLLATERAL DAMAGE (MODERATE)
CDMNO	CDMNO							COLLATERAL DAMAGE (NONE APPARENT)
CLDY	CLDY							COMPLETELY OBSCURED BY CLOUDS
CNOR	CNOR							COMMAND NOT OPERATIONALLY READY
CNSTR	CNSTR							UNDER CONSTRUCTION
CNVRT	CNVRT							UNDER CONVERSION
CONDFT	CONDFT							CONSTRAINED BY DRAUGHT
CRATR	CRATR							CRATERED (ROAD, RUNWAY, ETC.)
CUT	CUT							SEVERED OR CUT ACROSS (ROAD, RAILWAY, RUNWAY, ETC.)
DAC	DAC							DOWNED AIRCRAFT
DAM	DAM							DAMAGED
DASNT	DASNT							IN A DIRECT ASCENT
DEACT	DEACT							DEACTIVATED/DISMANTLED
DEFCON	DEFCON							DEFENSE READINESS CONDITION POSTURE
DENG	DENG							DIRECTED TO ENGAGE
DEST	DEST							DESTROYED
DGR	DGR							IN DANGER
DISP	DISP							LOCATED AT DISPERSAL SITE
DIW	DIW							DEAD IN WATER
DMG	DMG							DAMAGED (UNDETERMINED SEVERITY)
DMGHI	DMGHI							DAMAGED (SEVERE)
DMGLO	DMGLO							DAMAGED (LIGHT)
DMGNO	DMGNO							NO APPARENT DAMAGE
DPLY	DPLY							IN DEPLOYMENT/DEPLOYED
DPT	DPT							IN DEPARTURE/DEPARTED
ECFIR	ECFIR							IN EMERGENCY, CAPABLE OF LAUNCHING WEAPONS
EMB	EMB							IN EMBARKMENT POSTURE/EMBARKED
EMCON	EMCON							UNDER EMISSION CONTROL
EMER	EMER							EMERGENCY
EMI	EMI							UNDER ELECTROMAGNETIC INTERFERENCE
EMSEC	EMSEC							EMANATIONS SECURE

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APPENDIX B, PART IDFI NAME  
8018 ENTITY ACTIVITY/STATUS

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
EMV	EMV				ELECTROMAGNETICALLY VULNERABLE
ENDOBS	ENDOBS				OBSERVATION ENDED
ENG	ENG				ENGAGED
ENRT	ENRT				ENROUTE
ENTRAT	ENTRAT				ENTERED OR REENTERED ATMOSPHERE
ENV	ENV				ENVELOPED
EVAC	EVAC				EVACUATED
EVTBA	EVTBA				BATTLESPACE AWARENESS EVENT DETECTED
EVTSA	EVTSA				SPACE SITUATIONAL AWARENESS EVENT DETECTED
EXPLD	EXPLD				EXPLODED
FDEST	FDEST				FUNCTIONALLY DESTROYED
FDMHI	FDMHI				FUNCTIONAL DAMAGE (SEVERE)
FDMLO	FDMLO				FUNCTIONAL DAMAGE (LIGHT)
FDMMO	FDMMO				FUNCTIONAL DAMAGE (MODERATE)
FDMNEG	FDMNEG				FUNCTIONAL DAMAGE NEGATED
FDMNO	FDMNO				FUNCTIONAL DAMAGE (NONE APPARENT)
FDMUND	FDMUND				FUNCTIONAL DAMAGE (UNDETERMINED)
FDRES	FDRES				FUNCTIONAL DAMAGE (MAY BE RESTORED)
FIRED	FIRED				FIRED, WEAPONS DISCHARGED
FISHIN	FISHIN				ENGAGED IN FISHING
FLED	FLED				FLED
FLUSH	FLUSH				BEING FLUSHED OUT/FLUSHED FROM A LOCATION
GCA	GCA				UNDER GROUND CONTROLLED APPROACH
GNR	GNR				GONE/RELOCATING
HIT	HIT				SUSTAINED BATTLE DAMAGE
HRT	HRT				HURT (CONTINUES TO FUNCTION)
HUP	HUP				HEADS UP POSTURE
IAW	IAW				INDICATIONS & WARNING POSTURE - ENEMY ACTION IMMINENT
KIA	KIA				KILLED IN ACTION
KIL	KIL				KILLED (NOT FUNCTIONING)
KNLOC	KNLOC				LOCATION COMPROMISED
LOCKON	LOCKON				LOCKED ON TO A TARGET
LTLOW	LTLOW				LIGHT SOURCE EMANATING FAINTLY
LTOFF	LTOFF				LIGHT SOURCE NOT EMANATING
LTON	LTON				LIGHT SOURCE EMANATING

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APPENDIX B, PART IDFI NAME  
8018 ENTITY ACTIVITY/STATUS

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
MARSH	MARSH				BEING MARSHALLED/MARSHALLED
MOB	MOB				BEING MOBILIZED/MOBILIZED
MOORED	MOORED				MOORED
MSD	MSD				TARGET ENGAGEMENT MISSED
MWET	MWET				MAN IN WATER
NOGO	NOGO				NON-OPERATIONAL, MALFUNCTIONING
NOIMG	NOIMG				IMAGERY NOT AVAILABLE
NOP	NOP				NON-OPERATIONAL OR UNABLE TO PERFORM MISSION
NOPGAS	NOPGAS				UNABLE TO PERFORM MISSION - (FUEL DEPLETED)
NOPGUN	NOPGUN				UNABLE TO PERFORM MISSION - (ORDNANCE DEPLETED)
NOPHIT	NOPHIT				UNABLE TO PERFORM MISSION - (BATTLE DAMAGED)
NOPWX	NOPWX				UNABLE TO PERFORM MISSION - (IMPEDED BY WEATHER)
NORML	NORML				NORMAL
NOTMNV	NOTMNV				RESTRICTED MANEUVERABILITY
NOTUC	NOTUC				NOT UNDER COMMAND
NTU	NTU				IDENTIFIED AS A NEW THREAT
NUDET	NUDET				NUCLEAR LEVELS OR DETONATION DETECTED
OBE	OBE				PREVIOUS POSTURE OVERCOME/OVERTAKEN BY EVENTS (OBE)
OBJ	OBJ				IDENTIFIED AS OBJECTIVE OR OBJECT OF MISSION
OBS	OBS				UNDER OBSERVATION/OBSERVED
OBSTR	OBSTR				INTERDICTED/OBSTRUCTED (ROAD, RAILWAY, RUNWAY, ETC.)
OCC	OCC				OCCUPIED
OCCUNK	OCCUNK				OCCUPANCY UNKNOWN
OFF	OFF				OFFENSE OR OFFENSIVE POSTURE
OOA	OOA				OUT OF AREA
OPALRT	OPALRT				OPERATIONS ALERT - WEAPON SYSTEM ON ALERT
OPCON	OPCON				UNDER OPERATIONAL CONTROL
OPEVAL	OPEVAL				UNDER OPERATIONAL EVALUATION
OPSCBL	OPSCBL				FIGHTERS HAVE SCRAMBLED
OPSOK	OPSOK				OPERATIONS OK - ABLE TO PERFORM

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DFI NAME  
8018 ENTITY ACTIVITY/STATUS

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
OR	OR							OPERATIONALLY READY
ORIG	ORIG							AT POINT OF ORIGIN
PCA	PCA							AT POINT OF CLOSEST APPROACH
POC	POC							AT POINT OF CONTACT
POD	POD							AT POINT OF DEBARKATION
POE	POE							AT POINT OF EMBARKATION
POL	POL							FUELED (PETROLEUM/OIL/LUBRICANT)
PORT	PORT							IN-PORT
RC	RC							UNDER RADIO CONTROL
RDY	RDY							READY
REDCON	REDCON							IN A READINESS CONDITION
REMOV	REMOV							REMOVED
REND	REND							RENDEZVOUSED
ROS	ROS							REDUCED OPERATING POSTURE
RTB	RTB							RETURNED TO BASE
SAILIN	SAILIN							UNDERWAY USING SAIL
SCBL	SCBL							SCRAMBLED
SCH	SCH							BEING SEARCHED/SEARCHED
SCHP	SCHP							SEARCH/SURVEILLANCE POSTURE
SNOOP	SNOOP							BEING INVESTIGATED/INVESTIGATED
SRFCD	SRFCD							SURFACED
STKCF	STKCF							CONFIRMED FOR STRIKE
STKNM	STKNM							NOMINATED FOR STRIKE
STN	STN							ON-STATION
STNRY	STNRY							STATIONARY
STP	STP							STOPPED
SUR	SUR							UNDER SURVEILLANCE
TAC	TAC							IN TACTICAL POSTURE
TF	TF							IN TERRAIN FOLLOWING MODE
TGT	TGT							TARGETED
TI	TI							ILLUMINATED AS TARGET
TK	TK							BEING TRACKED
TOW	TOW							UNDER TOW
TRAJ	TRAJ							TRAJECTORY, MID-FLIGHT

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APPENDIX B, PART I

DFI NAME  
8018 ENTITY ACTIVITY/STATUS

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
TRP	TRP						TRAPPED
TT	TT						BEING TRACKED AS TARGET
UGT	UGT						UNDER A GROUND TEST
UNCORR	UNCORR						UNCORRELATED WITH OTHER ACTIVITY/ENTITIES
UNOCC	UNOCC						UNOCCUPIED
UPD	UPD						UPDATED
UWENG	UWENG						UNDERWAY USING ENGINE
VIS	VIS						UNDER VISUAL CONTACT
WARM	WARM						IN WARTIME RESERVE MODE
WEPGON	WEPGON						WEAPON RELEASED
WEPLD	WEPLD						WEAPONS BEING LOADED/LOADED
WEPU	WEPU						WEAPONS BEING UNLOADED/UNLOADED
WIA	WIA						WOUNDED IN ACTION
WNG	WNG						WARNED
WRI	WRI						WEAPON RELEASE IMMINENT

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APPENDIX B, PART I

DFI	NAME	DEFINITION
8019	ENTITY TYPE	GENERAL OR SPECIFIC TYPE OF ENTITY.
DATA STANDARD USAGE: IBS		STATUS:
DUI NAME	EXPLANATION	APPLICABILITY
001 ENTITY TYPE, IBS [Entity_Typ]	INDICATES GENERAL OR SPECIFIC TYPE OF ENTITY.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	STRING	
DATA ITEM	VALUE RANGE	UNIT EQUIV VALUE MOD ACCURACY EXPLANATION
----- FOR DUI 001 -----		
RESET ATTRIBUTE: YES		
THE VALUE FOR ENTITY TYPE IS A STRING OF ONE TO FIVE CHARACTERS AS SHOWN IN THE "DATA ITEM".		
100MM	100MM	100 MILLIMETER WPN TYPE
1050E	1050E	1050E BOMBER/ATTACK ACFT
130MM	130MM	130 MILLIMETER WPN TYPE
1900	1900	BEECH 1900 TRANSPORT/AIRLINER ACFT
204B	204B	BELL 204 HELICOPTER
205B	205B	BELL 205 HELICOPTER
206B	206B	BELL 206 HELICOPTER
214B	214B	BELL 214 HELICOPTER
23MM	23MM	23 MILLIMETER WPN TYPE
2NDXP	2NDXP	SECONDARY EXPLOSION
30MM	30MM	30 MILLIMETER WPN TYPE
37MM	37MM	37 MILLIMETER WPN TYPE
40MM	40MM	40 MILLIMETER WPN TYPE
57MM	57MM	57 MILLIMETER WPN TYPE
60MM	60MM	60 MILLIMETER WPN TYPE

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APPENDIX B, PART IDFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
7TON	7TON							7-TON TRUCK
839PT	839PT							839 PILLAN-TAMIZ TRAINER ACFT
85MM	85MM							85 MILLIMETER WPN TYPE
A1	A1							A-1 BOMBER/ATTACK ACFT
A10	A10							A-10 THUNDERBOLT II TACTICAL FTR/BOMBER, CAS
A109	A109							A109 AGUSTA HELICOPTER
A109H	A109H							A-109 HIRUNDO HELICOPTER
A1150	A1150							1150 ATLANTIQUE ACFT
A129	A129							A129 MONGOOSE HELICOPTER
A2C2S	A2C2S							ARMY AIRBORNE COMMAND AND CONTROL SYSTEM (A2C2S)
A300	A300							A-300 AIRBUS TRANSPORT/AIRLINER ACFT
A310	A310							A-310 AIRBUS TANKER/TRANSPORT/AIRLINER ACFT
A319	A319							A-319 AIRBUS TRANSPORT/AIRLINER ACFT
A320	A320							A-320 AIRBUS TRANSPORT/AIRLINER ACFT
A321	A321							A-321 AIRBUS TRANSPORT/AIRLINER ACFT
A330	A330							A-330 AIRBUS TRANSPORT/AIRLINER ACFT
A340	A340							A-340 AIRBUS TRANSPORT/AIRLINER ACFT
A37	A37							A-37 DRAGONFLY JET ATTACK ACFT
A4	A4							A-4 SKYHAWK CARRIER-BASED ATTACK/SUPPORT/RECON ACFT
A40	A40							A-40 ALBATROSS MULTI-ROLE AMPHIBIOUS ACFT
A400M	A400M							A-400M AIRBUS TRANSPORT/AIRLINER ACFT
A4M	A4M							A-4M SKYHAWK CARRIER-BASED SUPPORT/RECON ACFT
A50	A50							A-50 MAINSTAY AWACS ACFT
A50U	A50U							A-50U MAINSTAY AWACS ACFT
A532	A532							AS-532 COUGAR HELICOPTER
A5FAN	A5FAN							A-5 FANTAN BOMBER/ATTACK ACFT

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APPENDIX B, PART IDFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
A6	A6							A-6 INTRUDER CARRIER-BASED ACFT, ASUW
A6E	A6E							A-6E INTRUDER CARRIER-BASED ACFT, ASUW
A6F	A6F							A-6F INTRUDER CARRIER-BASED ACFT, ASUW
A7	A7							A-7 CORSAIR II CARRIER-BASED LIGHT ATTACK ACFT (NUC)
A7C	A7C							A-7C CORSAIR II CARRIER-BASED LIGHT ATTACK ACFT (NUC)
A7D	A7D							A-7D CORSAIR II CARRIER-BASED LIGHT ATTACK ACFT (NUC)
A7E	A7E							A-7E CORSAIR II CARRIER-BASED LIGHT ATTACK ACFT (NUC)
AA1	AA1							AA-1 ALKALI AAM
AA10	AA10							AA-10 ALAMO SR/MR AAM ON M29, S27
AA11	AA11							AA-11 ARCHER SR AAM ON M29, S27
AA12	AA12							AA-12 ADDER AAM
AA2	AA2							AA-2 ATOLL AAM ON M21, M23, S20, S22
AA22	AA22							AA-2-2 ADVANCED ATOLL AAM ON M21
AA3	AA3							AA-3 ANAB AAM ON Y28P, S15, S21
AA5	AA5							AA-5 ASH AAM ON M25, TU28
AA6	AA6							AA-6 ACRID AAM ON M25
AA7	AA7							AA-7 APEX LR AAM ON M21, M23, M25
AA8	AA8							AA-8 APHID AAM ON M21, M23, M25, S15, S21, Y36, Y38A
AA9	AA9							AA-9 AMOS LR AAM ON M29, M31
AAA	AAA							ANTI-ACFT ARTILLERY/SITE
AAD	AAD							ADVANCED AIR DEFENSE (AAD) ATBM
AAGM	AAGM							AIR-TO-AIR GUIDED MISSILE, GEN TYPE
AAM	AAM							AIR-TO-AIR MISSILE, GEN TYPE
AAM1	AAM1							AAM-1 MITSUBISHI MISSILE
AARGM	AARGM							ADVANCED ANTI-RADIATION GUIDED MISSILE (ASM)
AASM	AASM							ADVANCED ASM

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APPENDIX B, PART I

DFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
AAX9	AAX9							AA-X-9 AAM
AAXP	AAXP							AA-XP-1/2 AAM
AB212	AB212							AB-212 AUGUSTA BELL HELICOPTER
ABABL	ABABL							ABABIL MISSILE
ABDAL	ABDAL							ABDALI CRBM
ABL	ABL							AL-1 AIRBORNE LASER ACFT
ABM	ABM							ANTI-BALLISTIC MISSILE
ABM1	ABM1							ABM-1 GALOSH ABM/BMD SYS (NUC)
ABM1B	ABM1B							ABM-1B GALOSH ABM SYS (NUC)
ABM2	ABM2							ABM-2 GAZELLE ABM/BMD SYS (NUC)
ABM3	ABM3							ABM-X-3 ABM/BMD DEVELOPMENT SYS
ABNCP	ABNCP							AIRBORNE COMMAND POST
ABO	ABO							AIR BREATHING OBJECT
AC130	AC130							AC-130 SPECTRE GUNSHIP/BOMBER ACFT
AC47	AC47							AC-47 BOMBER/ATTACK ACFT
ACC	ACC							AIR CONTROL CENTER
ACDWN	ACDWN							*SEE ANNEX A*
ACFT	ACFT							ACFT (AIRCRAFT)
ACM	ACM							ATTITUDE CONTROL MODULE
ACV	ACV							AIR CUSHION VEHICLE
ADA	ADA							AIR DEFENSE ARTILLERY
ADACC	ADACC							AIR DEFENSE COMMAND CENTER
ADATS	ADATS							AIR DEFENSE ANTI-TANK SYSTEM (ADATS)
ADC	ADC							AIR DIRECTION CENTER
ADCC	ADCC							AIR DEFENSE COMMAND CENTER
ADCP	ADCP							AIR DEFENSE COMMAND PLATFORM
ADD	ADD							AIR DEFENSE DISTRICT
ADIZ	ADIZ							AIR DEFENSE IDENTIFICATION ZONE
ADOC	ADOC							AIR DEFENSE TACTICAL OPNS CENTER
AEGIS	AEGIS							AIRBORNE EARLY WARNING GND INTERFACE SEGMENT
AEM	AEM							MATERIAL SUPPORT SHIP
AEW	AEW							AIRBORNE EARLY WARNING ACFT
AFAJR	AFAJR							AL-FAJR AL-JADID SSM
AFB	AFB							AIR FORCE BASE
AFCNT	AFCNT							ALLIED FORCES CENTRAL EUROPE
AFLNT	AFLNT							AIR FORCES ATLANTIC

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APPENDIX B, PART I

DFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
AFP	AFP							ASSAULT FIRE PLATOON (HAWK)
AFV	AFV							ARMORED FIGHTING VEHICLE
AG109	AG109							AGM-109 TOMAHAWK AGM
AG114	AG114							AGM-114 HELLCLOUD
AG123	AG123							AGM-123A SKIPPER II
AG65A	AG65A							AGM-65A MAVERICK TASM
AG65B	AG65B							AGM-65B MAVERICK TASM
AG65D	AG65D							AGM-65D MAVERICK TASM
AG65E	AG65E							AGM-65E MAVERICK TASM
AGI	AGI							AGI INTELLIGENCE COLLECTOR SHIP
AGM	AGM							AIR-TO-GND MISSILE
AGM62	AGM62							AGM-62A WALLEYE MISSILE
AGM65	AGM65							AGM-65 MAVERICK TASM
AGM84	AGM84							AGM-84 HARPOON TASM, ASUW
AGM86	AGM86							AGM-86 ALCM
AGM88	AGM88							AGM-88 HARM ASM
AGM95	AGM95							AGM-95 AGILE MISSILE
AGNI	AGNI							AGNI SSM (INDIA)
AGNI1	AGNI1							AGNI-1 SRBM
AGNI2	AGNI2							AGNI-2 MRBM
AGNI3	AGNI3							AGNI-3 IRBM
AGNI4	AGNI4							AGNI-4 IRBM
AGNI5	AGNI5							AGNI-5 IRBM
AGNI6	AGNI6							AGNI-6 ICBM
AGP	AGP							PATROL CRAFT TENDER
AH	AH							ATTACK HELICOPTER
AH1	AH1							AH-1 ATTACK HELICOPTER
AH1J	AH1J							AH-1J SEA COBRA ATTACK HELICOPTER
AH1S	AH1S							AH-1S SEA COBRA/TOW HELICOPTER
AH1T	AH1T							AH-1T SEA COBRA/TOW HELICOPTER
AH64	AH64							AH-64 APACHE HELICOPTER
AH64A	AH64A							AH-64A APACHE HELICOPTER
AI	AI							AIRBORNE INTERCEPT RADAR
AIAMD	AIAMD							ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD) COMPONENT
AIM	AIM							AIR INTERCEPT MISSILE
AIM54	AIM54							AIM-54 PHOENIX LR AIR INTERCEPT MISSILE
AIM7	AIM7							AIM-7 SPARROW III AIR INTERCEPT MISSILE

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APPENDIX B, PART IDFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
AIM9	AIM9							AIM-9 SIDEWINDER AIR INTERCEPT MISSILE
AIR	AIR							AIR BASE
AIRCC	AIRCC							AIRBORNE COMMAND CENTER
AIRF	AIRF							AIR FORCES
AJ37	AJ37							AJ-37 VIGGEN BOMBER/ATTACK ACFT
AKASH	AKASH							AKASH SAM
ALARM	ALARM							UK, ARM, ASM
ALBAS	ALBAS							ALBATROS/ASPIDE SAM
ALBM	ALBM							AIR-LAUNCHED BALLISTIC MISSILE
ALBMI	ALBMI							INTERMEDIATE RANGE ALBM
ALBMM	ALBMM							MEDIUM RANGE ALBM
ALBMS	ALBMS							SHORT RANGE ALBM
ALCM	ALCM							AIR LAUNCHED CRUISE MISSILE
ALCRN	ALCRN							ALACRAN SSM (SRBM)
ALERT	ALERT							*SEE ANNEX A*
ALFTH	ALFTH							AL FATAH SRBM
ALIZE	ALIZE							ALIZE FTR ACFT
ALMAS	ALMAS							AIR LAUNCHED MISSILE, ANTI-SATELLITE
ALPHA	ALPHA							ALPHA JET FTR ACFT
AM120	AM120							AIM-120 AMRAAM AAM
AM39	AM39							AM-39 EXOCET AGM
AMFLT	AMFLT							ANTI-RADIATION MISSILE, IN FLIGHT
AMMO	AMMO							AMMUNITION
AMPH	AMPH							AMPHIB UNIT
AMPHH	AMPHH							AMPHIB ASSAULT MULTI-PURPOSE HELICOPTER SHIP
AMX	AMX							AMX ITALIAN FTR ACFT
AN10	AN10							AN-10 CAT TURBOPROP TRANSPORT ACFT
AN12	AN12							AN-12 (AN-12BP) CUB TURBOPROP TRANSPORT ACFT
AN124	AN124							AN-124 CONDOR HEAVY LIFT JET TRANSPORT ACFT
AN12A	AN12A							AN-12 CUB-A RECON (ELINT) ACFT
AN12B	AN12B							AN-12 CUB-B RECON (ELINT) ACFT
AN12C	AN12C							AN-12 CUB-C EA ACFT
AN12D	AN12D							AN-12 CUB-D EA ACFT

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APPENDIX B, PART IDFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
AN14	AN14							AN-14 CLINE/CLOD TURBOPROP TRANSPORT ACFT
AN140	AN140							AN-140 TRANSPORT/AIRLINER ACFT
AN148	AN148							AN-148 TRANSPORT/AIRLINER ACFT
AN158	AN158							AN-158 TRANSPORT/AIRLINER ACFT
AN178	AN178							AN-178 TRANSPORT ACFT
AN2	AN2							AN-2 COLT PROP TRANSPORT ACFT
AN22	AN22							AN-22 COCK TURBOPROP HEAVY TRANSPORT ACFT
AN225	AN225							AN-225 MRIYA (COSSACK) TRANSPORT ACFT
AN24	AN24							AN-24 COKE TURBOPROP TRANSPORT ACFT
AN26	AN26							AN-26 CURL FREIGHT/TROOP TURBOPROP TRANSPORT ACFT
AN28	AN28							AN-28 CASH TURBOPROP TRANSPORT ACFT
AN30	AN30							AN-30 CLANK TURBOPROP TRANSPORT ACFT
AN32	AN32							AN-32 CLINE TURBOPROP TRANSPORT ACFT
AN40	AN40							AN-40 VERY LARGE TURBOPROP TRANSPORT ACFT
AN70	AN70							AN-70 TRANSPORT ACFT
AN72	AN72							AN-72 COALER STOL JET TRANSPORT ACFT
AN74	AN74							AN-74 COALER STOL JET TRANSPORT ACFT
AN76	AN76							ANTONOV AN-76 MARITIME PATROL ACFT A.K.A. AN-72P
AN8	AN8							AN-8 CAMP TURBOPROP TRANSPORT ACFT
ANAB	ANAB							AA3 AAM
ANGRA	ANGRA							ANGARA SPACE LAUNCH VEHICLE
ANT	ANT							ANTENNA
ANTIP	ANTIP							ANTI-POLLUTION VESSEL
ANTRS	ANTRS							ANTARES SPACE LAUNCH VEHICLE
ANZA	ANZA							ANZA SAM
ANZA2	ANZA2							ANZA II SAM
AOE	AOE							REPLENISHMENT SUPPORT SHIP
AOR	AOR							FLEET TANKER

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8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
AP012	AP012							UAV, NRIST S-100
AP2A3	AP2A3							UAV, MQ-1C GRAY EAGLE
AP2A4	AP2A4							UAV, MQ-9A REAPER
AP2A6	AP2A6							UAV, MQ-9B REAPER
APAAE	APAAE							UAV, UNMANNED COMBAT AERIAL VEHICLE, LIJIAN (SHARP SWORD)
APB	APB							AMPHIB SURFACE, GEN TYPE
APBA3	APBA3							UAV, LETHAL, KARRAR
APBAA	APBAA							UAV, LETHAL, ABABIL-2
APBAD	APBAD							UAV, LETHAL, HARPY
APBAF	APBAF							UAV, LETHAL, TOUFAN
APBAZ	APBAZ							UAV, LETHAL, KAS-04
APBTP	APBTP							UAV, SWEEP WING RQ-1A PREDATOR
APBYP	APBYP							UAV, SWEEP WING RQ-1B PREDATOR
APC	APC							ARMORED PERSONNEL CARRIER
APCBB	APCBB							UAV, MINI, ORLAN-10
APCH	APCH							APACHE ASM
APCPP	APCPP							UAV, IAI/AAI CORP RQ-2A PIONEER
APF2P	APF2P							UAV, FOX AT2
APFA2	APFA2							UAV, TARGET, KARRAR
APFAV	APFAV							UAV, TARGET, BQM-74C CHUKAR-II
APFZP	APFZP							UAV, FOX AT1
APHAE	APHAE							UAV, EW, FOX TX
APIMP	APIMP							UAV, MIRACH 100
APIVP	APIVP							UAV, MIRACH 150
APKA4	APKA4							UAV, MINI, AB-01
APKAB	APKAB							UAV, RECON, FALCO
APKAF	APKAF							UAV, TACTICAL, ABABIL-2
APKAK	APKAK							UAV, TACTICAL, ABABIL-3
APKAL	APKAL							UAV, RECON, AEROSTAR
APKAT	APKAT							UAV, RECON, ASN-206
APKB1	APKB1							UAV, RECON, HERMES-180
APKBJ	APKBJ							UAV, TACTICAL, HERMES-450
APKBK	APKBK							UAV, RECON, HERON-1
APKBR	APKBR							UAV, RECON, RQ-5 HUNTER
APKBY	APKBY							UAV, RECON, KZO (AKA BREVEL)
APKCF	APKCF							UAV, RECON, MIRACH 26
APKCJ	APKCJ							UAV, RECON, MOHAJER 2
APKCK	APKCK							UAV, RECON, MOHAJER 4

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DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
APKDC	APKDC				UAV, RECON, DENEL DYNAMICS SEEKER-II
APKDH	APKDH				UAV, RECON, SHMEL-1
APKDX	APKDX				UAV, RECON, ASN-207
APKDY	APKDY				UAV, RECON, BZK-007 (AKA WZ-24)
APOAI	APOAI				UAV, TACTICAL, FORPOST
APOAR	APOAR				UAV, TACTICAL, YILONG I
APOC2	APOC2				UAV, TACTICAL, RQ-170 SENTINEL
APOC3	APOC3				UAV, TACTICAL, KARRAR
APOC4	APOC4				UAV, TACTICAL, SHAHED-129
APOD2	APOD2				UAV, TACTICAL, IRN-02
APODT	APODT				UAV, TACTICAL, KAS-04
APODU	APODU				UAV, TACTICAL, SADEGH (AKA QOM-01) *SEE ANNEX A*
APOED	APOED				UAV, TACTICAL, MOHAJER-4AB
APOEG	APOEG				UAV, TACTICAL, INVERTED V-03
APOEP	APOEP				UAV, MQ-1B PREDATOR
APOGP	APOGP				*SEE ANNEX A*
APQA7	APQA7				AIRPORT, GEN TYPE
APT	APT				UAV, STRATEGIC, XIANGLONG
APTA6	APTA6				UAV, STRATEGIC, BZK-005
APTA7	APTA7				UAV, STRATEGIC, HERON TP
APTAA	APTAA				UAV, STRATEGIC, HERMES 900
APTAG	APTAG				UAV, STRATEGIC, FOTROS
APTAK	APTAK				*SEE ANNEX A*
APTAL	APTAL				*SEE ANNEX A*
APTAU	APTAU				UAV, STRATEGIC, RQ-4A GLOBAL HAWK
APTBA	APTBA				UAV, STRATEGIC, RQ-4B GLOBAL HAWK
APTBB	APTBB				UAV, STRATEGIC, MQ-4C TRITON
APTBC	APTBC				UAV, LARK
APTIP	APTIP				UAV, NFI
APUZZ	APUZZ				AUTO-PILOTED VEHICLE
APV	APV				UAV, MULTI-ROLE, ABABIL SERIES
APVAA	APVAA				ACQUISITION RADAR
AQ	AQ				AQM-34 AAM
AQM34	AQM34				AQM-91 AAM
AQM91	AQM91				

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
ARAN4	ARAN4							ARIANE-4 SPACE LAUNCH VEHICLE
ARAN5	ARAN5							ARIANE-5 SPACE LAUNCH VEHICLE
ARAVA	ARAVA							ARAVA TRANSPORT/AIRLINER ACFT
ARM	ARM							ANTI-RADIATION MISSILE
ARMAT	ARMAT							MEDIUM RANGE, ANTI-RADAR ASM
ARMY	ARMY							ARMY FORCES
AROW2	AROW2							ARROW-2 ATBM
AROW3	AROW3							ARROW-3 ATBM
ARP	ARP							AIRBORNE RELAY PLATFORM ACFT
ARROW	ARROW							ARROW WEAPON SYSTEM
ARS	ARS							SALVAGE SHIP, GENERAL
ARTY	ARTY							ARTILLERY, GEN TYPE
AS	AS							AIR-TO-SURFACE WPN
AS1	AS1							AS-1 KENNEL ASM
AS10	AS10							AS-10 KAREN ARM/TASM
AS11	AS11							AS-11 KILTER ASM
AS12	AS12							AS-12 KEGLER ASM
AS13	AS13							AS-13 KINGBOLT ASM
AS14	AS14							AS-14 KEDGE ASM
AS15	AS15							AS-15 KENT LR ALCM (NUC)
AS16B	AS16B							AS-16B KICKBACK, ARM, ASM
AS17A	AS17A							AS-17A KRYPTON, ARM, ASM
AS18	AS18							AS-18 KAZOO ASM
AS2	AS2							AS-2 KIPPER ASUW ASM (NUC)
AS202	AS202							AS-202 BRAVO TRAINER ACFT
AS3	AS3							AS-3 KANGAROO STRATEGIC ATTACK ALCM (NUC)
AS30	AS30							AS-30 AGM
AS34	AS34							AS-34 KORMORAN ASM
AS342	AS342							AS-34 KORMORAN II ASM
AS350	AS350							AS-350 ECUREUIL HELICOPTER
AS355	AS355							AS-355 ECUREUIL HELICOPTER
AS37	AS37							AS-37 MARTEL AGM
AS4	AS4							AS-4 KITCHEN ASUW ALCM/ARM (NUC)
AS5	AS5							AS-5 KELT TACTICAL ASUW ASM/ARM (NUC)
AS532	AS532							AS-532 COUGAR HORIZON RECCE HELICOPTER

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
AS550	AS550							AS-550 FENNEC HELICOPTER
AS555	AS555							AS-555 FENNEC HELICOPTER
AS565	AS565							AS-565 PANTHER HELICOPTER
AS6	AS6							AS-6 KINGFISH ASUW ALCM/ARM (NUC)
AS7	AS7							AS-7 KERRY TASM
AS8	AS8							AS-8 TASM ON HIND
AS9	AS9							AS-9 KYLE ARM
ASAT	ASAT							ANTI-SATELLITE WPN
ASB	ASB							ATTACK SUBMARINE, GEN TYPE (CONVENTIONAL)
ASBN	ASBN							ATTACK SUBMARINE, GEN TYPE (NUC)
ASCFT	ASCFT							ASTOR SURVEILLANCE ACFT
ASF LT	ASF LT							ANTI-SHIP MISSILE, IN FLIGHT
ASHRA	ASHRA							ASHURA MRBM
ASIT	ASIT							ADAPTABLE SURFACE INTERFACE TERMINAL
ASLAM	ASLAM							ADVANCED STRATEGIC AIR-LAUNCHED MISSILE (AAM)
ASM	ASM							AIR-TO-SURFACE MISSILE, GEN TYPE
ASMP	ASMP							ASMP FRENCH ASM
ASMSL	ASMSL							WEAPONS, STRATEGIC, AIR LAUNCHED, NOT FURTHER IDENTIFIED
ASOC	ASOC							AIR SUPPORT OPERATIONS CENTER (ASOC)
ASPA	ASPA							AIR SUPPORT AIRBASE
ASPC	ASPC							SPECIAL MSN ACFT, GEN TYPE
ASPD	ASPD							ASPIDE SAM
ASPID	ASPID							ASPIDE AAM
ASR	ASR							AIR SURVEILLANCE RADAR
ASRAM	ASRAM							AIM-132 ASRAAM AAM
ASROC	ASROC							ANTI-SUBMARINE ROCKET
ASRT	ASRT							AIR SUPPORT RADAR TEAM
ASSEM	ASSEM							ASSEMBLY AREA (LAND)
AST15	AST15							ASTER 15 SAM

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
AST30	AST30							ASTER 30 B1 (MISSILE ASTER 30 BLOCK 1)
ASTER	ASTER							ASTER ABM
ASTK	ASTK							STRIKE ACFT, GEN TYPE
ASTOR	ASTOR							ANTI-SUBMARINE TORPEDO
ASTR3	ASTR3							ASTER 30 B1NT (MISSILE ASTER 30 BLOCK 1 NEW TECHNOLOGY)
ASW	ASW							ANTI-SUBMARINE WARFARE, ANTI-SUB WARFARE ACFT
ASWH	ASWH							ASW HELICOPTER ACFT
ASWOC	ASWOC							ASW OPSN CENTER
AT1	AT1							AT-1 SNAPPER (PUR-61 SHMEL) ATM
AT10	AT10							AT-10 STABBER ATM
AT11	AT11							AT-11 SNIPER ATM
AT12	AT12							AT-12 ATM
AT13	AT13							AT-13 ATM
AT14	AT14							AT-14 ATM
AT2	AT2							AT-2 SWATTER (PUR-62) ATGM
AT3	AT3							AT-3 SAGGER (PUR-64) ATGM
AT4	AT4							AT-4 SPIGOT MAN/VEHICLE MOUNTED ATGM
AT42M	AT42M							ATR-42 MP SURVEYOR ACFT
AT5	AT5							AT-5 SPANDREL ATGM ON BRDM-2
AT6	AT6							AT-6 SPIRAL ATM ON MI24E, BRDM
AT6B	AT6B							AT-6B HAWKER BEECHCRAFT ACFT
AT7	AT7							AT-7 SAXHORN ATM
AT8	AT8							AT-8 ATM
AT802	AT802							AT-802 AIR TRACTOR FTR/BOMBER ACFT
ATAC	ATAC							ATAC SONOBUOY TYPE
ATC	ATC							AIR TRAFFIC CONTROLLER
ATGM	ATGM							ANTI-TANK GUIDED MISSILE
ATGW	ATGW							ANTI-TANK GUIDED WPN
ATK	ATK							ANTI-TANK WPN, GEN TYPE
ATKAC	ATKAC							ATTACK ACFT
ATKR	ATKR							AIRBORNE TANKER ACFT, GEN TYPE
ATL2	ATL2							ATL-2 ATLANTIQUE 2 MARITIME PATROL ACFT
ATLS2	ATLS2							ATLAS 2 SPACE LAUNCH VEHICLE

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
ATLS5	ATLS5							ATLAS 5 SPACE LAUNCH VEHICLE
ATM	ATM							ANTI-TANK MISSILE
ATMSL	ATMSL							WEAPONS, TACTICAL, AIR LAUNCHED, NOT FURTHER IDENTIFIED
ATR42	ATR42							ATR-42 TRANSPORT/AIRLINER ACFT
ATR72	ATR72							ATR-72 MARITIME PATROL ACFT
AU23	AU23							AU-23 ACFT
AU24	AU24							AU-24 ACFT
AUX	AUX							AUXILIARY SHIP
AUXA	AUXA							AUXILIARY LANDING FIELD
AV8	AV8							AV-8 HARRIER FIGHTER/BOMBER ACFT (STOL)
AW12	AW12							AW1-2 FAN TRAINER ACFT
AW520	AW520							AW-520 CORMORANT SAR HELICOPTER
AW660	AW660							AW.660 ARGOSY TRANSPORT/AIRLINER ACFT
AWACS	AWACS							AIRBORNE EARLY WARNING AND CONTROL SYS
B1	B1							B-1 BOMBER/ATTACK ACFT
B1150	B1150							1150 ATLANTIQUE GERMAN ASW ACFT
B2	B2							B-2 BOMBER
B200	B200							B-200 (BOEING 737 VARIANT)
B21	B21							B-21 RAIDER BOMBER ACFT
B212	B212							BELL 212 HELICOPTER
B3LA	B3LA							B3LA (SAAB) TRAINER ACFT
B43	B43							B-43 AIR DELIVERABLE ORDNANCE
B52	B52							B-52 STRATOFORTRESS STRATEGIC BOMBER ACFT
B55	B55							B-55 BARON TRAINER ACFT
B57	B57							B-57 AIR DELIVERABLE ORDNANCE
B6	B6							CHINESE B-6 BOMBER A.K.A. HONGZHAIJI-6 (H-6)
B61	B61							B-61 AIR DELIVERABLE ORDNANCE
B7	B7							CHINESE B-7 BOMBER A.K.A. FLYING LEOPARD

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
B707	B707							BOEING 707 ACFT
B720	B720							BOEING 720 TRANSPORT/AIRLINER ACFT
B727	B727							BOEING 727 ACFT
B737	B737							BOEING 737 ACFT
B747	B747							BOEING 747 ACFT
B757	B757							BOEING 757 TRANSPORT/AIRLINER ACFT
B767	B767							BOEING 767 TRANSPORT/AIRLINER ACFT
B777	B777							BOEING 777 TRANSPORT/AIRLINER ACFT
BA111	BA111							BAC111 ONE-ELEVEN TRANSPORT/AIRLINER ACFT
BA125	BA125							BAE-125-600 TRANSPORT/AIRLINER ACFT
BA145	BA145							BAC-145 JET PROVOST TRAINER ACFT
BA146	BA146							BAE-146 TRANSPORT/AIRLINER ACFT
BA167	BA167							BAC-167 STRIKEMASTER BOMBER/ATTACK/TRAINER ACFT
BAG	BAG							BATTALION ARTILLERY GROUP
BARAK	BARAK							BARAK I SAM
BARGE	BARGE							BARGE, NFI
BARRA	BARRA							BARRA SONOBUOY TYPE
BATH	BATH							BATHYTHERMOGRAPH SONOBUOY TYPE
BB	BB							BATTLESHIP
BDE	BDE							BRIGADE
BE12	BE12							BE-12 MAIL PATROL/ASW AMPHIBIAN ACFT
BE42	BE42							BE-42 MERMAID MULTI-ROLE AMPHIBIOUS ACFT
BEAR	BEAR							TU-95 OR TU-122 BEAR BOMBER ACFT
BECN	BECN							BEACON
BFALL	BFALL							BOOSTER FALL AREA
BG	BG							BATTLE GROUP
BG109	BG109							BGM-109 TOMAHAWK CRUISE MISSILE SYS

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
BGM34	BGM34							BGM-34 AAM
BGM9	BGM9							BGM-109 TOMAHAWK LAND ATTACK MISSILE
BHEAE	BHEAE							RPH, RECON, CAMCOPTER S-100
BIOL	BIOL							BIOLOGICAL WPN
BKFR	BKFR							BACKFIRE BOMBER ACFT
BKSPW	BKSPW							BLACK SPARROW ALBM
BLDG	BLDG							BUILDING/STRUCTURE
BLU27	BLU27							BLU-27 AIR DELIVERABLE ORDNANCE
BLU95	BLU95							BLU-95/13 AIR DELIVERABLE ORDNANCE
BLWHD	BLWHD							BULK BIOLOGICAL WARHEAD
BM	BM							TRUCK-MOUNTED ROCKET LAUNCHER
BM21	BM21							BM-21 TRUCK-MOUNTED ROCKET ARTILLERY
BM25	BM25							BM25 MRBM
BMD	BMD							BMD AMPHIB COMBAT VEHICLE
BMFLT	BMFLT							BALLISTIC MISSILE, IN FLIGHT
BMP	BMP							BMP ARMORED INFANTRY COMBAT VEHICLE
BMR	BMR							BOMBER ACFT
BMRA	BMRA							BOMBER AIRBASE
BMRFI	BMRFI							BOMBER/FTR/INTCP AIRBASE
BN	BN							BATTALION
BN2T	BN2T							BN-2T MARITIME DEFENDER ACFT
BNKR	BNKR							BUNKER
BO105	BO105							BO-105 (MBB) HELICOPTER
BPIPE	BPIPE							BLOWPIPE SAM
BPK	BPK							BPK LARGE ANTI-SUBMARINE SHIP
BQM34	BQM34							FIREBEE - REMOTELY CONTROLLED TARGET DRONE
BR115	BR115							1150 ATLANTIQUE GERMAN PEACEKEEPER ACFT
BRDG	BRDG							BRIDGE, GEN TYPE
BRDM	BRDM							BRDM WHEELED AMPHIB ARMORED RECON VEHICLE
BRDM2	BRDM2							BRDM2 SA9 LAUNCH VEHICLE
BSB	BSB							BALLISTIC MISSILE SUBMARINE, GEN TYPE (CONVENTIONAL)

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
BSBN	BSBN							BALLISTIC MISSILE SUBMARINE, GEN TYPE (NUC)
BSTNK	BSTNK							BOOSTER TANK
BSU49	BSU49							BSU-49 AIR DELIVERABLE ORDNANCE
BSU50	BSU50							BSU-50 AIR DELIVERABLE ORDNANCE
BSWHD	BSWHD							BIOLOGICAL SUBMUNITION WARHEAD
BTR	BTR							BTR ARMORED PERSONNEL CARRIER
BTR50	BTR50							BTR-50 AMPHIB TRACKED APC
BTR60	BTR60							BTR-60 WHEELED APC
BTR80	BTR80							BTR-80 ARMORED PERSONNEL CARRIER
BTRY	BTRY							BATTERY
BUCNR	BUCNR							BUCCANEER BOMBER/ATTACK ACFT
BUOY	BUOY							BUOY, NFI
BUSPW	BUSPW							BLUE SPARROW ALBM
BV373	BV373							BAVAR 373 SAM
C1	C1							C-1 TRANSPORT/AIRLINER ACFT
C101	C101							C-101 AVIOJET TRAINER ACFT
C118	C118							C-118 TRANSPORT/AIRLINER ACFT
C119	C119							C-119 TRANSPORT/AIRLINER ACFT
C12	C12							C-12 HURON TRANSPORT/AIRLINER ACFT
C121	C121							C-121 TRANSPORT/AIRLINER ACFT
C123	C123							C-123 PROVIDER ASSAULT TRANSPORT ACFT
C124	C124							C-124 TRANSPORT/AIRLINER ACFT
C130	C130							C-130 HERCULES TROOP/CARGO TRANSPORT ACFT
C130H	C130H							C-130H SENIOR SCOUT ACFT
C131	C131							C-131 SAMARITAN TRANSPORT ACFT
C133	C133							C-133 TRANSPORT/AIRLINER ACFT
C135	C135							C-135 STRATOLIFTER TRANSPORT ACFT
C140	C140							C-140 JETSTAR TRANSPORT ACFT
C141	C141							C-141 STARLIFTER HEAVY JET TRANSPORT ACFT
C160	C160							C-160 TRANSPORTALL TRANSPORT/AIRLINER ACFT
C17	C17							C-17 GLOBEMASTER ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
C20	C20							C-20 GULFSTREAM 3/4 TRANSPORT/AIRLINER ACFT
C207	C207							C-207 AZOR TRANSPORT/AIRLINER ACFT
C21	C21							C-21 LEARJET 35 TRANSPORT/AIRLINER ACFT
C212	C212							C-212 AVIOCAR TRANSPORT/AIRLINER ACFT
C22	C22							C-22 VENTURA TRANSPORT/AIRLINER ACFT
C23	C23							C-23 SHERPA TRANSPORT/AIRLINER ACFT
C235	C235							C-235 CASA TRANSPORT/AIRLINER ACFT
C26	C26							C-26 METRO 3 TRANSPORT/AIRLINER ACFT
C27J	C27J							C-27J SPARTAN TRANSPORT ACFT
C295	C295							C295 MARITIME PATROL ACFT
C2A	C2A							C-2A GREYHOUND TRANSPORT ACFT
C3NET	C3NET							COMMAND, CONTROL, AND COMM(S) NETWORK
C4	C4							C-4 TRIDENT-I BALLISTIC MISSILE
C46	C46							C-46 COMMANDO TRANSPORT/AIRLINER ACFT
C54	C54							C-54 TRANSPORT/AIRLINER ACFT
C5	C5							C-5 GALAXY TRANSPORT ACFT
C601	C601							C-601 PRC ASM
C611	C611							C-611 PRC ASM
C7	C7							C-7 CARIBOU U.S. COMM/TRANSPORT ACFT
C801	C801							C-801 PRC ASM
C802	C802							C-802 PRC ASM
C9	C9							C-9 SKYTRAIN TRANSPORT ACFT
C97	C97							C-97 TRANSPORT/AIRLINER ACFT
C9B	C9B							C-9B SKYTRAIN II JET TRANSPORT ACFT
C9N	C9N							C-9 NIGHTINGALE TRANSPORT/AIRLINER ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
CAA	CAA							COMBINED ARMS ARMY
CAMBS	CAMBS							CAMBS SONOBUOY TYPE
CAOC	CAOC							COMBINED AIR OPERATIONS CENTER
CARAV	CARAV							CARAVEL TRANSPORT/AIRLINER
CARRV	CARRV							ACFT
CAS1	CAS1							COMBINED ATTITUDE CONTROL
CASS	CASS							MODULE AND RE-ENTRY VEHICLE
CAVE	CAVE							CAS-1 KRAKEN ASM
CBLON	CBLON							COMMAND ACTIVATED SONOBUOY
CBU87	CBU87							SYSTEM (CASS) TYPE
CBU89	CBU89							CAVE
CC109	CC109							CALIBRATION BALLOON
CC115	CC115							CBU-87 AIR DELIVERABLE ORDNANCE
CC130	CC130							CBU-89 AIR DELIVERABLE ORDNANCE
CC138	CC138							CC-109 TRANSPORT/AIRLINER ACFT
CC150	CC150							CC-115 BUFFALO
CCC	CCC							TRANSPORT/AIRLINER ACFT
CCRD	CCRD							CC-130 HERCULES
CF188	CF188							TRANSPORT/AIRLINER ACFT
CG	CG							CC-138 TWIN OTTER
CGN	CGN							TRANSPORT/AIRLINER ACFT
CGR	CGR							CC-150 POLARIS
CGRN	CGRN							TRANSPORT/AIRLINER ACFT
CH113	CH113							CF-188 CANADIAN F-18 FTR
CH118	CH118							GUIDED MISSILE CRUISER
CH124	CH124							GUIDED MISSILE CRUISER (NUC)
CH135	CH135							CRUISER, GEN TYPE
CH136	CH136							CRUISER (NUC), GEN TYPE
CH146	CH146							CH-113 LABRADOR HELICOPTER
CH147	CH147							CH-118 IROQUOIS HELICOPTER
CH2U	CH2U							CH-124 SEA KING HELICOPTER
CH3	CH3							CH-135 IROQUOIS HELICOPTER
								CH-136 KIOWA HELICOPTER
								CH-146 GRIFFON HELICOPTER
								CH-147 CHINOOK HELICOPTER
								CH-2U HELICOPTER
								CH-3 HELICOPTER

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
CH34	CH34							CH-34 WESTLAND SUPER PUMA HELICOPTER
CH46	CH46							CH-46 SEA KNIGHT USN HELICOPTER
CH47	CH47							CH-47 CHINOOK HELICOPTER
CH53	CH53							CH-53A SEA STALLION TROOP/CARGO HELICOPTER
CH53E	CH53E							CH-53E SUPER STALLION MINE CM HELICOPTER
CH53K	CH53K							CH-53K KING STALLION HELICOPTER
CH54	CH54							CH-54 LARKE (SKY CRANE) TRANSPORT HELICOPTER
CHAFF	CHAFF							CHAFF
CHA11	CHA11							CH-AS-11 MSL
CHA12	CHA12							CH-AS-12 MSL
CHA13	CHA13							CH-AS-13 MSL
CHCS1	CHCS1							CH-CS-01 ASAT
CHCS2	CHCS2							CH-CS-02 ASAT
CHEM	CHEM							CHEMICAL WPN
CHG	CHG							GUIDED MISSILE AVIATION (HELICOPTER) CRUISER
CHGN	CHGN							GUIDED MISSILE AVIATION CRUISER (NUC)
CHING	CHING							CHING FENG (GREEN BEE) SSM SRBM
CHU	CHU							CHU SAM SAM-4
CINC	CINC							COMMANDER-IN-CHIEF
CIV	CIV							CIVILIAN(S)
CIVAC	CIVAC							CIVILIAN AIRLINER ACFT
CIVIF	CIVIF							CIVILIAN INSTALLATION/FACILITY
CIVLT	CIVLT							LIGHT CIVILIAN ACFT
CIWS	CIWS							CLOSE-IN WPN SYS
CJM	CJM							C-JM TRANSPORT/AIRLINER ACFT
CL	CL							LIGHT CRUISER
CL215	CL215							CL-215 AMPHIBIAN GENERAL PURPOSE ACFT
CL415	CL415							CL-415 AMPHIBIAN GENERAL PURPOSE ACFT
CL600	CL600							CL-600 CHALLENGER TRANSPORT/AIRLINER ACFT
CL601	CL601							CL-601 CHALLENGER TRANSPORT/AIRLINER ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
CM170	CM170							CM-170 MAGISTER TRAINER ACFT
CMAU	CMAU							CM AU/MAGISTER TRAINER ACFT
CMDO	CMDO							COMMANDO FTR ACFT
CMFLT	CMFLT							CRUISE MISSILE, IN FLIGHT
CMPNY	CMPNY							COMPANY
CMSAT	CMSAT							COMM(S) SATELLITE
CMWHD	CMWHD							BULK CHEMICAL WARHEAD
CN235	CN235							CASA/AIRTECH CN-235 TURBOPROP
CNO	CNO							CHIEF OF NAVAL OPNS
CNVY	CNVY							CONVOY, GEN TYPE
COB	COB							CO-LOCATED OPERATING BASE
COC	COC							COMMAND OPNS CENTER
COCOM	COCOM							COMBATANT COMMANDER
COIC	COIC							COMBAT OPNS INTELLIGENCE CENTER
COMBF	COMBF							COMBINED FORCES
COMM	COMM							COMMUNICATIONS SITE
COP	COP							COMMAND OBSERVATION POST
CORPS	CORPS							CORPS
CP	CP							COMMAND POST
CP140	CP140							CP-140 AURORA ACFT
CP14A	CP14A							CP-140A AURORA/ARCTURUS ACFT
CRBM	CRBM							CLOSE-RANGE BALLISTIC MISSILE (CRBM)
CRC	CRC							CONTROL/COMMAND REPORTING CENTER
CRGOV	CRGOV							CARGO VESSEL
CRP	CRP							CONTROL AND REPORTING POST
CRTAL	CRTAL							CROTALE SAM
CS10A	CS10A							CSS-10 MOD 1 ICBM
CS10B	CS10B							CSS-10 MOD 2 ICBM
CS11A	CS11A							CSS-11 MOD 1 SRBM
CS11B	CS11B							CSS-11 MOD 2 SRBM/MRBM
CS11C	CS11C							CSS-11 MOD 3 MSL
CS11X	CS11X							CSS-11 MOD 1/2 SRBM
CS14A	CS14A							CSS-14 MOD 1 CRBM
CS14B	CS14B							CSS-14 MOD 2 CRBM
CS14X	CS14X							CSS-14 MOD 1/2 CRBM
CS18A	CS18A							CSS-18 MOD 1 MSL

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CS18B	CS18B							CSS-18 MOD 2 MSL
CS18C	CS18C							CSS-18 MOD 3 MSL
CS406	CS406							COMBAT SCOUT 406 HELICOPTER
CS550	CS550							CESSNA 550 CITATION II
CS560	CS560							EXECUTIVE ACFT
CSA1	CSA1							CESSNA 560 CITATION V EXECUTIVE
CSA2	CSA2							ACFT
CSA4	CSA4							CSA-1/HQ-2 HONG QI SAM
CSA5	CSA5							CSA-2/HQ-61A MISSILE SYSTEM
CSAN2	CSAN2							CSA-4/HQ-7/FM-90 SAM
CSB	CSB							CSA-5 SAM
CSBN	CSBN							CSA-N-2 (RF-61/SD-1) HONG QI
CSC13	CSC13							SAM
CSL2	CSL2							CRUISE MISSILE SUBMARINE, GEN
CSL3	CSL3							TYPE
CSL4	CSL4							CRUISE MISSILE SUBMARINE, NUC,
CSL5	CSL5							GEN TYPE
CSL6	CSL6							CH-SSC-13 MSL
CSL7	CSL7							CSL-2 CHINESE SPACE LAUNCH
CSL8	CSL8							VEHICLE
CSL9	CSL9							CSL-3 CHINESE SPACE LAUNCH
CSL10	CSL10							VEHICLE
CSN14	CSN14							CSL-4 CHINESE SPACE LAUNCH
CSN18	CSN18							VEHICLE
CSS15	CSS15							CSL-5 CHINESE SPACE LAUNCH
								VEHICLE
								CSL-6 CHINESE SPACE LAUNCH
								VEHICLE
								CSL-7 CHINESE SPACE LAUNCH
								VEHICLE
								CSL-8 CHINESE SPACE LAUNCH
								VEHICLE
								CSL-9 CHINESE SPACE LAUNCH
								VEHICLE
								CSL-10 CHINESE SPACE LAUNCH
								VEHICLE
								CSS-N-14 SLBM
								CSS-N-18 MEDIUM RANGE SHLB
								CSS-15 CRBM

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
CSS16	CSS16							CSS-16 CRBM
CSS17	CSS17							CSS-17 SRBM
CSS18	CSS18							CSS-18 IRBM
CSS19	CSS19							CSS-19 MRBM
CSS2	CSS2							CSS-2 IRBM
CSS20	CSS20							CSS-20 ICBM
CSS21	CSS21							CSS-21 MSL
CSS3	CSS3							CSS-3 ICBM
CSS4	CSS4							CSS-4 ICBM
CSS4A	CSS4A							CSS-4 MOD 1 ICBM
CSS4B	CSS4B							CSS-4 MOD 2 ICBM
CSS4C	CSS4C							CSS-4 MOD 3 ICBM
CSS4X	CSS4X							CSS-4 MOD 2/3 ICBM
CSS5	CSS5							CSS-5 MRBM
CSS5A	CSS5A							CSS-5 MOD 1 MRBM
CSS5B	CSS5B							CSS-5 MOD 2 MRBM
CSS5C	CSS5C							CSS-5 MOD 3 MRBM
CSS5D	CSS5D							CSS-5 MOD 4 MRBM
CSS5E	CSS5E							CSS-5 MOD 5 MRBM
CSS5F	CSS5F							CSS-5 MOD 6 MRBM
CSS5X	CSS5X							CSS-5 MOD 3/4/5 MRBM
CSS5Y	CSS5Y							CSS-5 MOD 2/6 MRBM
CSS6	CSS6							CSS-6 SRBM
CSS6A	CSS6A							CSS-6 MOD 1 SRBM
CSS6B	CSS6B							CSS-6 MOD 2 SRBM
CSS6C	CSS6C							CSS-6 MOD 3 SRBM
CSS7A	CSS7A							CSS-7 MOD 1 SRBM
CSS7B	CSS7B							CSS-7 MOD 2 SRBM
CSS7C	CSS7C							CSS-7 MOD 3 SRBM
CSS7X	CSS7X							CSS-7 MOD 2/3 SRBM
CSS8	CSS8							CSS-8 CRBM
CSS9A	CSS9A							CSS-9 MOD 1 CRBM
CSS9B	CSS9B							CSS-9 MOD 2 CRBM
CSS9C	CSS9C							CSS-9 MOD 3 SRBM
CSS9X	CSS9X							CSS-9 MOD 1/2/3 SRBM
CSS9Y	CSS9Y							CSS-9 MOD 1/2 CRBM
CSSC2	CSSC2							CSSC-2 SILKWORM MSL
CSSC3	CSSC3							CSSC-3 SEERSUCKER MSL
CSSC4	CSSC4							CSSC-4 SCATBACK MSL
CSSC5	CSSC5							CSSC-5 SAPLESS MSL
CSSC6	CSSC6							CSSC-6 SAWHORSE MSL

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
CSSC7	CSSC7							CSSC-7 SADSACK MSL
CSSC8	CSSC8							CSSC-8 SACCADE MSL
CSSN3	CSSN3							CSSN-3 SSM
CSSX	CSSX							CHINESE SSM
CSSX3	CSSX3							CHINESE CSS-NX-3 (JL-1) SLBM
CSTGD	CSTGD							COAST GUARD
CSV	CSV							COMBAT SUPPORT VEHICLE
CSWHD	CSWHD							CHEMICAL SUBMUNITION WARHEAD
CT114	CT114							CT-114 TUTOR TRAINER ACFT
CT133	CT133							CT-133 SILVERSTAR TRAINER ACFT
CT142	CT142							CT-142 DASH 8 TRAINER ACFT
CT155	CT155							CT-155 HAWK TRAINER ACFT
CT156	CT156							CT-156 HARVARD TRAINER ACFT
CULTR	CULTR							HISTORICAL/CULTURAL LOCATION
CV	CV							ACFT CARRIER
CV140	CV140							CV-140 TRANSPORT/AIRLINER ACFT
CV54	CV54							CV-54 TRANSPORT/AIRLINER ACFT
CV580	CV580							CONVAIR 580 TRANSPORT/AIRLINER ACFT
CVA	CVA							ATTACK ACFT CARRIER, GEN TYPE
CVAN	CVAN							ACFT CARRIER (NUC), GEN TYPE
CVBG	CVBG							ACFT CARRIER BATTLE GROUP
CVG	CVG							GUIDED MISSILE ACFT CARRIER
CVGN	CVGN							GUIDED MISSILE ACFT CARRIER, NUC POWERED
CVH	CVH							ACFT CARRIER, VTOL/STOL
CVHG	CVHG							GUIDED MISSILE ACFT CARRIER, VTOL/STOL
CVHN	CVHN							ACFT CARRIER, VTOL/STOL, NUC POWERED
CVL	CVL							CIVIL, CIVILIAN, OR LIGHT ACFT CARRIER
CVLN	CVLN							LIGHT ACFT CARRIER, NUC POWERED
CVN	CVN							ACFT CARRIER, NUC POWERED
CVS	CVS							ANTI-SUBMARINE ACFT CARRIER
CVY	CVY							CONVOY, OR CONVOY VEHICLE
CXR	CXR							CARRIER, GEN TYPE

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DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
CZ	CZ				COMBAT ZONE
D228M	D228M				DO-228 LM ( POLLUTION CONTROL ) SURVEILLANCE ACFT
D228T	D228T				DO-228 LT TRANSPORT ACFT
D27	D27				DORNIER-27 ACFT
D5	D5				TRIDENT II (D-5) BALLISTIC MISSILE
DAC	DAC				DOWNED AIRCRAFT
DAG	DAG				DIVISION ARTILLERY GROUP
DARS	DARS				DEPLOYABLE MERGED ACC, RPC, SFP
DASC	DASC				DIRECT AIR SUPPORT CENTER
DBU81	DBU81				DBU-81B AIR DELIVERABLE ORDNANCE
DC10	DC10				DC-10 COMMERCIAL PASSENGER ACFT
DC130	DC130				DC-130 HERCULES DRONE CONTROL ACFT
DC8	DC8				DC-8 (DOUGLAS) TRANSPORT/AIRLINER ACFT
DC9	DC9				DC-9 (DOUGLAS) TRANSPORT/AIRLINER ACFT
DCAOC	DCAOC				DEPLOYABLE COMBINED AIR OPERATIONS CENTER
DCOYA	DCOYA				AIR DECOY, GENERAL
DCOYL	DCOYL				DECOY (LAND)
DCOYS	DCOYS				DECOY (SURFACE)
DCOYU	DCOYU				UNDERWATER DECOY, GENERAL
DCS	DCS				DEFENSE COMM(S) SYS
DCYSP	DCYSP				DECOY (SPACE)
DD	DD				DESTROYER
DDAAW	DDAAW				DESTROYER, ANTI-AIR WARFARE
DDC	DDC				DATA DISTRIBUTION SYS
DDG	DDG				GUIDED MISSILE DESTROYER
DDGN	DDGN				GUIDED MISSILE DESTROYER, NUC POWERED
DDH	DDH				AVIATION DESTROYER
DDHG	DDHG				GUIDED MISSILE AVIATION DESTROYER
DDHN	DDHN				AVIATION DESTROYER, NUC POWERED
DDM	DDM				MISSILE DESTROYER
DDN	DDN				DESTROYER (NUC), GEN TYPE
DDR	DDR				DESTROYER, RADAR PICKET

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DE	DE							DESTROYER ESCORT, GEN TYPE
DEBRI	DEBRI							DEBRIS, GEN TYPE
DECBN	DECBN							DECOY BALLOON
DECON	DECON							DECONTAMINATION SITE
DET	DET							DETACHMENT
DEW	DEW							DIRECTED ENERGY WPN
DF21C	DF21C							DF-21C (CSS-5 MOD 2(C)) SSM
DGZ	DGZ							DESIGNATED GND ZERO
DHAN	DHAN							DHANUSH SHORT RANGE SHLBW
DHC2	DHC2							DHC-2 BEAVER TRANSPORT/AIRLINER
DHC5	DHC5							ACFT
DHC6	DHC6							DHC-5 BUFFALO TRANSPORT/AIRLINER ACFT
DHC7	DHC7							DHC-6 TWIN OTTER TRANSPORT/AIRLINER ACFT
DHC8	DHC8							DHC-7 DASH TRANSPORT/AIRLINER ACFT
DHOW	DHOW							DHC-8 CARIBOU TRANSPORT/AIRLINER ACFT
DICAS	DICAS							DHOW VESSEL
DIFAR	DIFAR							DICASS SONOBUOY TYPE
DISH	DISH							DIFAR SONOBUOY TYPE
DIV	DIV							SATELLITE DISH
DL	DL							DIVISION
DLTA2	DLTA2							DATA LINK EMITTER
DLTA3	DLTA3							DELTA II SPACE LAUNCH VEHICLE
DLTA4	DLTA4							DELTA III SPACE LAUNCH VEHICLE
DME	DME							DELTA IV SPACE LAUNCH VEHICLE
DMZ	DMZ							DISTANCE MEASURING EQUIPMENT
DP	DP							DEMILITARIZED ZONE
DPRES	DPRES							DUAL PURPOSE WPN
DPT	DPT							LAND DEPRESSION
DRAGN	DRAGN							DEPOT
DRONE	DRONE							DRAGON ANTI-TANK WEAPON
DRTA	DRTA							UNMANNED DRONE VEHICLE, GEN
DTOC	DTOC							TYPE
DUMAA	DUMAA							DIRT AIRFIELD
								DIVISION TACTICAL OPNS CENTER
								DUMMY ARTILLERY

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
DUMAC	DUMAC							DUMMY ACFT
DUMCE	DUMCE							DUMMY COMM ELECTRONICS
DUMSA	DUMSA							DUMMY MISSILE (SAM) SITE
DUMSS	DUMSS							DUMMY SSM SITE
DUMTG	DUMTG							DUMMY CREATED TO LOOK LIKE A TGT - SOLELY FOR DECEPTION
DZ	DZ							DROP ZONE
E2	E2							E-2 HAWKEYE CARRIER-BASED AIRBORNE EW/AI CONTROL ACFT
E3	E3							E-3 SENTRY AWACS
E3A	E3A							E-3A SENTRY AWACS RADAR C3 ACFT
E3B	E3B							E-3B/C SENTRY AWACS
E3D	E3D							E-3D SENTRY AWACS (UK)
E3F	E3F							E-3F SENTRY AWACS (FRENCH)
E3G	E3G							E-3G SENTRY AWACS
E4	E4							E-4 COMMAND/CONTROL/COMM ACFT
E4B	E4B							E-4B AIRBORNE COMMAND POST ACFT
E6A	E6A							E-6A TACAMO ACFT
E8C	E8C							E-8C JSTARS ACFT
EA6	EA6							EA-6 PROWLER ACFT
EA6B	EA6B							EA-6B PROWLER CARRIER-BASED EA ACFT
EAC	EAC							ECHELON ABOVE CORPS
EACE	EACE							EA COMM(S) EMITTER
EAD	EAD							ECHELON ABOVE DIVISION
EADE	EADE							EA DECOY EMITTER
EADS	EADS							EA DECOY SITE
EAE	EAE							EA EMITTER
EAME	EAME							EA MULTIPURPOSE EMITTER
EAMS	EAMS							EA MULTIPURPOSE SITE
EAR	EAR							ELECTRONICALLY AGILE RADAR
EARE	EARE							EA RADAR EMITTER
EAS	EAS							EA SITE
EC130	EC130							EC-130 HERCULES TURBOPROP TRANSPORT ACFT
EC13E	EC13E							EC-130E ACFT
EC13H	EC13H							EC-130H COMPASS CALL JAMMING SYS ACFT

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EC13J	EC13J							EC-130J COMMANDO SOLO ACFT
EC27J	EC27J							EC-27J ELECTRONIC RECON ACFT
EC725	EC725							EC-725 COUGAR RESCO HELICOPTER
ECS	ECS							ENGAGEMENT CONTROL STATION (PATRIOT)
EF4	EF4							EF-4 WILD WEASEL ELECTRONIC/RECON ACFT
EFA	EFA							EURO FIGHTER ACFT
EGSS1	EGSS1							EG-SS-1 CRBM
EH101	EH101							EH-101 MERLIN HELICOPTER
EH60	EH60							EH-60 BLACKHAWK HELICOPTER
EH60B	EH60B							EH-60B BLACKHAWK HELICOPTER, QUICK FIX VARIANT
ELS	ELS							EMITTER LOCATION, GEN TYPE
EM110	EM110							EMB-110 BANDEIRANTE TRANSPORT/AIRLINER ACFT
EM111	EM111							EMB-111 TURBOPROP MARITIME SURVEILLANCE ACFT
EM120	EM120							EMB-120 BRASILIA ADV TRANSPORT ACFT
EM121	EM121							EMB-121 TRANSPORT ACFT
EM145	EM145							EMB-145 AMAZON TRANSPORT ACFT
EM170	EM170							EMB-170 TRANSPORT/AIRLINER ACFT
EM175	EM175							EMB-175 TRANSPORT/AIRLINER ACFT
EM190	EM190							EMB-190 TRANSPORT/AIRLINER ACFT
EM312	EM312							EMB-312 TOUCAN TRAINER ACFT
EM500	EM500							EMB-500 PHENOM 100 TRANSPORT/ AIRLINER ACFT
EMT	EMT							EMITTER, GEN TYPE
EN280	EN280							ENSTROM 280 HELICOPTER
EO	EO							ELECTRO-OPTICS EMITTER
EOC	EOC							EMERGENCY OPS CENTER
EP3	EP3							EP-3 ORION LR EA, MARITIME
EPSLN	EPSLN							EPSILON SPACE LAUNCH VEHICLE
EQUIP	EQUIP							EQUIPMENT, GEN TYPE
ERAPS	ERAPS							EXPENDABLE RELIABLE ACOUSTIC PATH SONOBUOY (ERAPS) TYPE
ERINT	ERINT							ERINT SSM

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
ERPHO	ERPHO							EARTH RESOURCES PHOTOGRAPHIC SATELLITE
ERTGT	ERTGT							ERINT TARGET
ETEN	ETEN							SUPER ETENDARD FTR/BOMBER ACFT
ETENP	ETENP							ETENDARD IV P PATROL ACFT
EW	EW							EARLY WARNING RADAR
EWAC	EWAC							ELECTRONIC WARFARE ACFT
EWC	EWC							ELECTRONIC WARFARE CENTER
EWS	EWS							ELECTRONIC WARFARE SATELLITE
EWST	EWST							EARLY WARNING SITE
EXP	EXP							EXPLOSIVE WPN
EXPSV	EXPSV							EXPLOSIVE, NFI
F1	F1							F-1 FTR ACFT
F100	F100							F-100 SUPER SABRE TACTICAL FTR/BOMBER/CAS(NUC) ACFT
F104	F104							F-104 STAR FIGHTER AIR INTCP/FTR(NUC) ACFT
F111	F111							F-111 TACTICAL FTR ACFT
F117	F117							F-117 FTR ACFT
F12	F12							F-12 FTR ACFT
F14	F14							F-14 TOMCAT FTR/AI/CAS ACFT
F14A	F14A							F-14A TOMCAT CARRIER-BASED FTR ACFT
F14B	F14B							F-14B TOMCAT CARRIER-BASED FTR ACFT
F14D	F14D							F-14D TOMCAT CARRIER-BASED FTR ACFT
F15	F15							F-15 EAGLE TACTICAL FTR ACFT
F15E	F15E							F-15E STRIKE EAGLE FTR/BOMBER ACFT
F16	F16							F-16 FIGHTING FALCON AIR COMBAT FTR ACFT
F18	F18							F-18 HORNET - FTR ACFT
F2	F2							F-2 TORNADO FTR ACFT
F20	F20							F-20 TIGERSHARK F-5G FTR, EXPORT VERSION ACFT
F22	F22							F-22 RAPTOR ACFT
F27	F27							F27 FRIENDSHIP TRANSPORT/AIRLINER ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
F28	F28							F28 FELLOWSHIP TRANSPORT/AIRLINER ACFT
F3	F3							F-3 TORNADO
F33	F33							F-33 BONANZA TRAINER ACFT
F35A	F35A							F-35A JOINT STRIKE FIGHTER
F35B	F35B							F-35B JOINT STRIKE FIGHTER
F35C	F35C							F-35C JOINT STRIKE FIGHTER
F35XD	F35XD							F-35XD DRAKEN - FTR ACFT
F4	F4							F-4 PHANTOM II FTR/BOMBER ACFT
F5	F5							F-5A/B/G FREEDOM FTR - TACTICAL FTR/BOMBER AAW/CAS, ACFT
F5E	F5E							F-5E TIGER II - INTL TACTICAL FTR/BOMBER AAW/CAS ACFT
F5F	F5F							F-5F TIGER II - INTL TACTICAL FTR/BOMBER AAW/CAS ACFT
F5FR	F5FR							F-5 FRESCO FTR ACFT
F6	F6							F-6 FARMER - PEOPLES LIBERATION ARMY AIR FORCE FTR ACFT
F7	F7							F-7 PEOPLES LIBERATION ARMY AIR FORCE FTR ACFT
F8	F8							F-8 FINBACK PEOPLES LIBERATION ARMY AIR FORCE FTR ACFT
F82	F82							F-8 JIAN JI-8-2 FTR ACFT
F8F	F8F							F-8 FISHBED (F-7) FTR ACFT
F9	F9							F-9 FANTAN - FTR ACFT
FA18	FA18							F/A-18 HORNET FTR ACFT
FA2	FA2							FA2 SEA HARRIER FTR/BOMBER ACFT
FAAD	FAAD							FORWARD AREA AIR DEFENSE
FAC	FAC							FORWARD AIR CONTROLLER
FACP	FACP							FORWARD AIR CONTROL PARTY
FALC2	FALC2							FALCON 200/FALCON 20 TRANSPORT/AIRLINER ACFT
FALC5	FALC5							FALCON 50 ACFT
FALC9	FALC9							FALCON 900 TRANSPORT/AIRLINER ACFT
FALCG	FALCG							FALCON GUARDIAN RECON ACFT
FASSN	FASSN							FLEET ATTACK NUC POWERED SUBMARINE
FATEH	FATEH							FATEH 110 SRBM
FATHA	FATHA							FATEH 110 MOD 1 CRBM

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FATHB	FATHB							FATEH 110 MOD 2 SRBM
FATHC	FATHC							FATEH 110 MOD 3 CRBM
FATHD	FATHD							FATEH 110 MOD 4 CRBM
FB111	FB111							FB-111 TACTICAL FTR/MEDIUM BOMBER ACFT
FB6A	FB6A							FB-6A SAM
FB6C	FB6C							FB-6C SAM
FBC1	FBC1							CHINESE B-7 BOMBER A.K.A. FLYING LEOPARD
FBM	FBM							FTR-BOMBER ACFT
FC	FC							FIRE CONTROL SITE
FCC	FCC							FLEET COMMAND CENTER
FCSC	FCSC							FLEET COMMAND SUPPORT CENTER
FCZ	FCZ							FORWARD COMBAT ZONE
FDC	FDC							FIRE DIRECTION CENTER
FEBA	FEBA							FORWARD EDGE OF THE BATTLE AREA
FEL	FEL							FREE ELECTRON LASER
FF	FF							FRIGATE
FFA	FFA							FREE FIRE AREA
FFG	FFG							GUIDED MISSILE FRIGATE
FFGH	FFGH							GUIDED MISSILE AVIATION FRIGATE
FFGN	FFGN							GUIDED MISSILE FRIGATE, NUC POWERED
FFH	FFH							AVIATION FRIGATE
FFHN	FFHN							AVIATION FRIGATE, NUC POWERED
FFL	FFL							CORVETTE
FFLG	FFLG							GUIDED MISSILE CORVETTE
FFR	FFR							RADAR PICKET FRIGATE
FFSG	FFSG							FLEET FRIGATE
FFT	FFT							TRAINING FRIGATE
FFX	FFX							ASW FRIGATE
FGA	FGA							FTR(S), GND ATTACK ACFT
FH227	FH227							FH-227 FRIENDSHIP TRANSPORT/AIRLINER ACFT
FHE	FHE							FORWARD HEADQUARTERS ELEMENT
FIC	FIC							FLEET INTELLIGENCE CENTER
FK100	FK100							FOKKER 100 TRANSPORT/AIRLINER ACFT

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APPENDIX B, PART IDFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
FK1K	FK1K							FK-1000 SAM
FK50	FK50							FOKKER 50 TRANSPORT/AIRLINER ACFT
FK60	FK60							FOKKER 60 TRANSPORT/AIRLINER ACFT
FK70	FK70							FOKKER 70 TRANSPORT/AIRLINER ACFT
FL2	FL2							FL-2 SILKWORM SSM
FL7	FL7							FL-7 SSM
FLAMR	FLAMR							FLAMETHROWER
FLCN1	FLCN1							FALCON 1 SPACE LAUNCH VEHICLE
FLCN9	FLCN9							FALCON 9 SPACE LAUNCH VEHICLE
FLCNH	FLCNH							FALCON HEAVY SPACE LAUNCH VEHICLE
FLIR	FLIR							FORWARD LOOKING INFRARED SENSOR
FLOT	FLOT							FORWARD LINE OF TROOPS
FLR	FLR							FORWARD LOOKING RADAR (SENSOR)
FLT	FLT							FLEET, GEN TYPE
FM3K	FM3K							FM-3000 SAM
FM80	FM80							FM-80 SAM
FMF	FMF							FLEET MARINE FORCE
FOB	FOB							FORWARD OPERATIONAL BASE
FOP	FOP							FORWARD OBSERVATION POST
FORT	FORT							FORTIFICATION
FP	FP							FIRE POSITION
FPA	FPA							FOCAL PLANE ARRAY
FPB	FPB							FAST PATROL BOAT
FPM	FPM							FAST PATROL BOAT, GEN TYPE
FROG	FROG							FROG SSM UNGUIDED SRBM (AKA LUNA)
FROG7	FROG7							FROG-7 SSM UNGUIDED SRBM
FRG7A	FRG7A							FROG-7A (LUNA-M) SSM UNGUIDED SRBM
FRG7B	FRG7B							FROG-7B (LUNA-Z) SSM UNGUIDED SRBM
FRSTK	FRSTK							FIRESTREAK AAM
FSCC	FSCC							FIRE SUPPORT COORDINATION CENTER
FSD	FSD							FIELD SUPPORT DIVISION

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APPENDIX B, PART I

DFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
FSE	FSE							FIRE SUPPORT ELEMENT
FSH	FSH							FISHING VESSEL, GEN TYPE
FSHNT	FSHNT							FISHING NET
FSK	FSK							FREQUENCY SHIFT KEY EMITTER
FTR	FTR							FIGHTER (FTR) ACFT
FTRI	FTRI							FTR/INTCP, GEN TYPE
FXWHD	FXWHD							FUEL-AIR EXPLOSIVE WARHEAD
G222	G222							G222 SAMA/TRANSPORT/AIRLINER ACFT
G2A	G2A							G2-A GALEB/SEAGULL TRAINER ACFT
G4	G4							SUPER GALEB, ACFT
G550	G550							G-550 CONFORMAL AIRBORNE EARLY WARNING (CAEW) ACFT
G91T	G91T							G91T FIAT JET 1 TRAINER ACFT
GAB	GAB							GABRIEL ASM
GAB1	GAB1							GABRIEL I ASM
GAB2	GAB2							GABRIEL II SKORPIOEN ASM
GACC	GACC							GND ATTACK CONTROL CENTER
GAD	GAD							GUARDS ARTILLERY DIVISION (RUSSIAN)
GAS	GAS							REFUELING SITE
GAZ51	GAZ51							GAZ-51 MEDIUM TRUCK
GAZ63	GAZ63							GAZ-63 BM-4 VEHICLE
GAZ66	GAZ66							GAZ-66 STANDARD LIGHT TRUCK, FC CENTER FOR SCUD
GAZ69	GAZ69							GAZ-69 LIGHT TRUCK
GBAD	GBAD							GROUND BASED AIR DEFENSE SITE
GBL	GBL							GND-BASED LASER
GBU10	GBU10							GBU-10 AIR DELIVERABLE ORDNANCE
GBU12	GBU12							GBU-12 AIR DELIVERABLE ORDNANCE
GBU15	GBU15							GBU-15 (V)-4B AIR DELIVERABLE ORDNANCE
GBU22	GBU22							GBU-22B AIR DELIVERABLE ORDNANCE
GCE	GCE							GND COMBAT ELEMENT

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APPENDIX B, PART IDFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
GCI	GCI							GND CONTROL INTERCEPT SITE
GCIF	GCIF							GCI, FIXED SITE
GCIFA	GCIFA							GCI, FIXED AUTOMATIC SITE
GCIFM	GCIFM							GCI, FIXED MANUAL SITE
GCIM	GCIM							GCI, MOBILE SITE
GCIMA	GCIMA							GCI, MOBILE AUTOMATIC SITE
GCIMM	GCIMM							GCI, MOBILE MANUAL SITE
GEP	GEP							GND ENTRY POINT
GEYE	GEYE							GLOBAL EYE AEW ACFT
GF	GF							GND FORCES
GHAUR	GHAUR							GHAURI MRBM
GLBHK	GLBHK							UAV, STRATEGIC, RQ-4 GLOBAL HAWK [MIDB:APTBA OR APTBB]
GLCC	GLCC							GND LAUNCH CONTROL CENTER
GLCM	GLCM							GND LAUNCHED CRUISE MISSILE
GLIDE	GLIDE							GLIDER ACFT
GMRD	GMRD							GUARDS MOTORIZED RIFLE DIVISION (RUSSIAN)
GNDCC	GNDCC							GND COMMAND CENTER
GNR8R	GNR8R							GENERATOR
GP	GP							GUARD POST
GPF	GPF							GEN PURPOSE FORCES
GPS	GPS							GLOBAL POSITIONING SYS
GR1	GR1							GR-1 TORNADO BOMBER/ATTACK ACFT
GR4	GR4							GR4 TORNADO
GR850	GR850							GROB G-850 PROTOTYPE TRANSPORT/AIRLINER ACFT
GRDAN	GRDAN							MQ-9 GUARDIAN UAV
GRHR	GRHR							BRITISH HARRIER ACFT
GRHT1	GRHT1							GRIFFIN HT1 RAF TRAINING HELO (BELL 412EP)
GROM	GROM							GROM SRBM
GRP	GRP							GROUP
GRU1	GRU1							GEN STAFF INTELLIGENCE (RUSSIAN)
GSE	GSE							GND SUPPORT EQUIPMENT
GSF	GSF							GND SUPPORT FTR ACFT
GSLV	GSLV							GSLV (GEOSYNCHRONOUS SATELLITE LAUNCH VEHICLE)

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
GSMSL	GSMSL	GSMSL						WEAPONS, STRATEGIC, GROUND LAUNCHED, NOT FURTHER IDENTIFIED
GTD	GTD							GUARDS TANK DIVISION (RUSSIAN)
GTMSL	GTMSL							WEAPONS, TACTICAL, GROUND LAUNCHED, NOT FURTHER IDENTIFIED
GULF1	GULF1							GULFSTREAM I TRANSPORT/AIRLINER ACFT
GULF2	GULF2							GULFSTREAM II TRANSPORT/AIRLINER ACFT
GUN	GUN							GUN >30 CALIBER
GUNF	GUNF							FIXED-WING GUNSHIP ACFT
GUNH	GUNH							HELICOPTER GUNSHIP ACFT
GW	GW							GUIDED WPN
H1	H1							H-1 HUEY HELICOPTER
H2	H2							H-2 SEA SPRITE HELICOPTER RESCUE, TRANSPORT, ASW
H20	H20							H-20 BOMBER ACFT
H2000	H2000							HAWK-2000 FTR ACFT
H2A	H2A							H-2A SPACE LAUNCH VEHICLE
H2B	H2B							H-2B SPACE LAUNCH VEHICLE
H3	H3							H-3 SEA KING HELICOPTER RESCUE, TRANSPORT, ASW
H3000	H3000							HUGHES 3000 HELICOPTER
H34	H34							H-34 SKY KING HELICOPTER
H46	H46							H-46 SEA KNIGHT HELICOPTER PERSONNEL/CARGO TRANSPORT
H52	H52							H-52 SKY KING HELICOPTER
H53	H53							H-53 SEA STALLION PERSONNEL/CARGO TRANSPORT HELICOPTER
H60	H60							H-60 BLACKHAWK HELICOPTER
HA220	HA220							HA-220 SUPER SAETA BOMBER/ATTACK ACFT
HAB	HAB							HIGH ALTITUDE BOMBING/BURST
HAC	HAC							HAC TIGER EUROCOPTER (TANK BUSTER)
HADES	HADES							FRENCH SSM, MR, NUCLEAR CAPABLE
HALE	HALE							HIGH ALTITUDE LONG ENDURANCE ACFT

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APPENDIX B, PART IDFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	EQUIV	MOD	ACCURACY	EXPLANATION
HAP	HAP						HAP TIGER EUROCOPTER (AIR-TO-AIR)
HARM	HARM						HIGH-SPEED ANTI-RADIATION MISSILE
HAS1	HAS1						HAS-1 WASP GEN PURPOSE HELICOPTER
HAS3	HAS3						HAS-3 WESSEX GEN PURPOSE HELICOPTER
HATF1	HATF1						HATF-1 SRBM
HATF2	HATF2						HATF-2 SRBM
HATF3	HATF3						HATF-3/GHAZNAVI SRBM
HAWK	HAWK						HAWK SAM SITE
HC130	HC130						HC-130 HERCULES AIR RESCUE/TANKER ACFT
HC97	HC97						HC-97 TRANSPORT/AIRLINER ACFT
HCF	HCF						HIGH COMMAND OF FORCES
HEAT	HEAT						HIGH EXPLOSIVE ANTI-TANK (WPN)
HEL	HEL						HELICOPTER
HELMW	HELMW						HELICOPTER, MINE WARFARE
HELO	HELO						HELICOPTER, GEN
HELS	HELS						HIGH ENERGY LASER SYS
HERON	HERON						UAV, HERON [MIDB:APKBK OR APTAA]
HEXP	HEXP						HIGH EXPLOSIVE
HF	HF						HEIGHT FINDER (RADAR)
HF24	HF24						HF-24 MARUT (WIND SPIRIT) - FTR ACFT
HFDF	HFDF						HIGH FREQUENCY DIRECTION FINDING
HGV	HGV						HYPersonic GLIDE VEHICLE, GEN TYPE
HH1	HH1						HH-1 IROQUOIS HELICOPTER
HH2	HH2						HH-2 SEA SPRITE HELICOPTER
HH3	HH3						HH-3 SKY KING (JOLLY GREEN) HELICOPTER
HH43	HH43						HH-43 HELICOPTER
HH52	HH52						HH-52 (SIKORSKY) HELICOPTER
HH53	HH53						HH-53 (SIKORSKY) HELICOPTER
HH60	HH60						HH-60 NIGHTHAWK HELICOPTER

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8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
HH65	HH65							HH-65A DOLPHIN HELICOPTER
HHC	HHC							HEADQUARTERS/HEADQUARTERS COMPANY
HI	HI							HIGH INTEREST TARGET, GEN TYPE
HIMAD	HIMAD							HIGH TO MEDIUM ALTITUDE AIR DEFENSE BN/BGD
HINO	HINO							HINO TRACTOR/TRAILER CAB
HJT16	HJT16							HJT-16 KIRAN TRAINER ACFT
HK100	HK100							HAWK-100 FTR ACFT
HK200	HK200							HAWK-200 FTR ACFT
HK50	HK50							HAWK-50 FTR ACFT
HK60	HK60							HAWK-60 FTR ACFT
HLA	HLA							ATTACK HELICOPTER
HLTOP	HLTOP							HILLTOP
HLZ	HLZ							HELICOPTER LANDING ZONE
HMMWV	HMMWV							HIGH MOBILITY MULTI-PURPOSE WHEELED VEH (HUMVEE)
HN5	HN5							HN-5 SAM
HOKUM	HOKUM							HOKUM HELICOPTER
HOSP	HOSP							HOSPITAL
HOSPS	HOSPS							HOSPITAL SHIP
HOT	HOT							HOT ATM
HOWZR	HOWZR							HOWITZER
HPA	HPA							HI-PERFORMANCE AIRBASE
HPAD	HPAD							HELICOPTER PAD
HQ	HQ							HEADQUARTER
HQ10	HQ10							HQ-10 SAM
HQ15	HQ15							HQ-15 SAM
HQ16	HQ16							HQ-16 SAM
HQ17	HQ17							HQ-17 SAM
HQ18	HQ18							HQ-18 SAM
HQ22	HQ22							HQ-22 SAM
HQ6	HQ6							HQ-6 SAM
HQ61	HQ61							HQ-61 SAM
HQ9	HQ9							HQ-9 (HONG-QI 9) SAM
HRMES	HRMES							UAV, HERMES [MIDB:APKBI OR APKBJ OR APTAG]

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8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
HRR	HRR							HIGH RESOLUTION RADAR
HRSL	HRSL							HIGH RESOLUTION SCANNING LASER
HS122	HS122							AL HUSSEIN (12.2 METER) SSM
HS748	HS748							HS.748 COASTGUARDER ACFT
HS801	HS801							HS.801 NIMROD RECON/AEW ACFT
HSC	HSC							HIGH SPEED CRAFT
HSL	HSL							HELICOPTER SQUADRON, LIGHT (ASW)
HSMOD	HSMOD							AL HUSSEIN (MOD) SSM
HSSN	HSSN							AL HUSSEIN SSM (IRAQ)
HST	HST							HIGH SPEED TARGET
HSV	HSV							HYPersonic VELOCITY MISSILE
HTVEH	HTVEH							HEAVY TRACKED VEHICLE
HU16	HU16							HU-16 ACFT
HU25	HU25							HU-25 FALCON GUARDIAN, COAST GUARD
HUNTR	HUNTR							HUNTER BOMBER/ATTACK ACFT
HVI	HVI							HIGH VALUE INDIVIDUAL (HVI)
HVILC	HVILC							LOCATION - HIGH VALUE INDIVIDUAL (HVI)
HVM	HVM							HYPER VELOCITY MISSILE
HVU	HVU							HIGH VALUE UNIT
HWVEH	HWVEH							HEAVY WHEELED VEHICLE
HWY	HWY							HIGHWAY
HY2	HY2							HY-2 SEERSUCKER SSM
HY3	HY3							HY-3 SSM
IA124	IA124							IAI 1124 TRANSPORT ACFT
IA125	IA125							IAI 1125 ASTRA TRANSPORT ACFT
IA58	IA58							IA-58 PUCARA BOMBER/ATTACK ACFT
IAR91	IAR91							IAR-91 ORAO FTR ACFT
IAR93	IAR93							IAR-93 ORAO BOMBER/ATTACK ACFT
IAR99	IAR99							IAR-99 SOIM BOMBER/ATTACK ACFT
IBCS	IBCS							INTEGRATED AIR & MSL DEFENSE BATTLE CMND SYS EOC GATEWAY
ICBM	ICBM							INTERCONTINENTAL BALLISTIC MISSILE
ICC	ICC							INFORMATION COORDINATION CENTER
ICEBG	ICEBG							ICEBERG
ICHGV	ICHGV							INTERCONTINENTAL HYPERSONIC GLIDE VEHICLE

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APPENDIX B, PART IDFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
ICM1	ICM1							*SEE ANNEX A*
ICM2	ICM2							*SEE ANNEX A*
ICTGT	ICTGT							ICBM TARGET VEHICLE
IDF	IDF							CHING KUO IDF (INDIGENOUS DEFENSIVE FIGHTER)
IED	IED							IMPROVISED EXPLOSIVE DEVICE
IEDTX	IEDTX							IED TRANSMITTER
IEDXP	IEDXP							EXPLODED IED
IFF	IFF							IDENTIFICATION FRIEND OR FOE
IHAWK	IHAWK							IMPROVED HAWK SAM
IHWK	IHWK							IMPROVED HAWK MISSILE SITE
IIR	IIR							IMAGING INFRARED SEEKER
IL112	IL112							IL-112 TRANSPORT ACFT
IL12	IL12							IL-12 COACH TRANSPORT ACFT
IL14	IL14							IL-14 CRATE PROP TRANSPORT ACFT
IL18	IL18							IL-18 COOT BOMBER/TRANSPORT ACFT
IL2	IL2							IL-2 CAB PROP TRANSPORT ACFT
IL20	IL20							IL-20 COOT-A EA/ELINT (RECON) ACFT
IL22	IL22							IL-22 COOT-B C2 ACFT
IL28	IL28							IL-28 BEAGLE/IL-28U MASCOT (JET TRAINER) ACFT
IL38	IL38							IL-38 MAY MARITIME PATROL/ASW ACFT
IL38T	IL38T							IL-38 TRANSPORT/AIRLINER ACFT
IL62	IL62							IL-62 CLASSIC JET TRANSPORT ACFT
IL76	IL76							IL-76 MAINSTAY AEW ACFT
IL76A	IL76A							IL-76 CANDID-A TRANSPORT ACFT
IL76B	IL76B							IL-76 CANDID-B TRANSPORT/TANKER/EA ACFT
IL76M	IL76M							IL-76 MD ACFT
IL78	IL78							IL-78 MIDAS TRANSPORT ACFT
IL80	IL80							IL-80 MAXDOME COMMAND/CONTROL/COMM ACFT
IL86	IL86							IL-86 CAMBER JET TRANSPORT ACFT
IL87	IL87							IL-87 MAXDOME COMMAND/CONTROL/COMM ACFT
IMPNT	IMPNT							IMPACT POINT OR LOCATION

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APPENDIX B, PART IDFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
INDIG	INDIG							INDIGO SAM
INERT	INERT							INERTIAL GUIDANCE/NAVIGATION SYS
INF	INF							INFANTRY
INMR	INMR							INMARSAT SATELLITE COMMUNICATIONS
INS	INS							INERTIAL NAVIGATION SYS
INS3	INS3							IN-SS-N-3 SLBM
INSUR	INSUR							INSURGENTS
INTCP	INTCP							INTERCEPTOR ACFT
INTCS	INTCS							INTELLIGENCE COLLECTOR SHIP
IPCIV	IPCIV							ISOLATED PERSONNEL, CIVILIAN
IPCTR	IPCTR							ISOLATED PERSONNEL, GOV'T CONTRACTOR
IPGOV	IPGOV							ISOLATED PERSONNEL, GOV'T CIVILIAN
IPMIL	IPMIL							ISOLATED PERSONNEL, MILITARY
IPMUL	IPMUL							ISOLATED PERSONNEL, MULTIPLE CATEGORIES
IPRSN	IPRSN							ISOLATED PERSONNEL, NOT FURTHER IDENTIFIED
IR700	IR700							IRAN 700 SSM
IRBM	IRBM							INTERMEDIATE-RANGE BALLISTIC MISSILE
IRC	IRC							INTERNATIONAL RED CROSS PERSONNEL
IRHGV	IRHGV							INTERMEDIATE RANGE HYPERSONIC GLIDE VEHICLE
IRM1	IRM1							*SEE ANNEX A*
IRM2	IRM2							*SEE ANNEX A*
IRS6X	IRS6X							IR-SS-6 MOD 1/2/3 CRBM
IRSS7	IRSS7							IR-SS-7 SRBM
IRSS8	IRSS8							IR-SS-8 MSL
IRSS9	IRSS9							IR-SS-9 MSL
ISECT	ISECT							INTERSECTION
ISF	ISF							INTERNAL SECURITY FORCES
ISKRE	ISKRE							ISKANDER-E MSL
ISLDR	ISLDR							BN-2B ISLANDER
ISS	ISS							TRANSPORT/AIRLINER ACFT
								INTERNATIONAL SPACE STATION

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8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
J10	J10							J-10 FIREBIRD FTR ACFT
J11	J11							J-11 FLANKER FTR ACFT
J15	J15							J-15 FLANKER FTR ACFT
J16	J16							J-16 FLANKER FTR ACFT
J18	J18							J-18 RED EAGLE FTR ACFT
J1H	J1H							J-1 HAWK BOMBER/ATTACK ACFT
J1J	J1J							J-1 JASTREB BOMBER/ATTACK ACFT
J20	J20							J-20 FTR ACFT
J22	J22							J-22 ORAO
J32	J32							J-32 LANSEN ACFT
J35	J35							J-35 DRAKEN - FTR ACFT
J7	J7							J-7 FISHCAN FTR ACFT
J8	J8							J-8 FINBACK FTR ACFT
J9	J9							J-9 FTR ACFT
JA37	JA37							JA-37 VIGGEN - FTR ACFT
JADGE	JADGE							JAPAN AIR DEFENSE GROUND ENVIRONMENT (JADGE)
JAGR	JAGR							JAGUAR FTR ACFT
JAS39	JAS39							JAS-39 GRIPPEN FTR ACFT
JAVLN	JAVLN							JAVELIN SAM
JBLON	JBLON							JLENS AEROSTAT (BALLOON)
JCC	JCC							JOINT COMMAND CENTER
JEEP	JEEP							ALL-TERRAIN MOTOR VEHICLE
JER1	JER1							JERICHO 1 SRBM
JER2	JER2							JERICHO 2 IRBM
JF17	JF17							JF-17 THUNDER FTR ACFT
JH7	JH7							JH-7 FOUNDER FTR ACFT
JIAN	JIAN							JIAN JI-5M BOMBER/ATTACK ACFT
JJ	JJ							UNITED NATIONS FORCES
JL10	JL10							JL-10 FALCON
JL15	JL15							JL-15 FALCON 03 TRAINER ACFT
JL9	JL9							JL-9 TRAINER ACFT
JLENS	JLENS							JLENS GROUND STATION
JST31	JST31							JETSTREAM 31 TRANSPORT/AIRLINER ACFT
JSTRM	JSTRM							JETSTREAM TRANSPORT/AIRLINER ACFT
JTAGS	JTAGS							JOINT TACTICAL GROUND STATION
JTF	JTF							JOINT TASK FORCE

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
JX	JX							JAMMER
K8	K8							K-8 (NAMC) TRAINER ACFT
KA15	KA15							KA-15 HEN HELICOPTER
KA18	KA18							KA-18 HOG HELICOPTER
KA20	KA20							KA-20 HARP HELICOPTER
KA25	KA25							KA-25 HORMONE HELICOPTER, GEN TYPE
KA25A	KA25A							KA-25 HORMONE-A ASW VERSION HELICOPTER
KA25B	KA25B							KA-25 HORMONE-B OTH TARGETING HELICOPTER
KA25C	KA25C							KA-25 HORMONE-C UTILITY AND SAR HELICOPTER
KA26	KA26							KA-26 HOODLUM HELICOPTER
KA27	KA27							KA-27 HELIX HELICOPTER, GEN TYPE
KA27A	KA27A							KA-27 HELIX-A ASW HELICOPTER
KA28	KA28							KA-28A HELIX HELICOPTER EXPORT VARIANT
KA29	KA29							KA-29 HELIX-B OTH TARGETING/ GUIDANCE HELICOPTER
KA32	KA32							KA-32 HELIX-C SAR/ASSAULT/ REPLENISHMENT HELICOPTER
KA50	KA50							KA-50 HOKUM COMBAT HELICOPTER, AIR-AIR/AIR-GND
KC10	KC10							KC-10 EXTENDER ACFT
KC10A	KC10A							KC-10A EXTENDER US TANKER/CARGO ACFT
KC130	KC130							KC-130F/R/T HERCULES US TANKER/TRANSPORT ACFT
KC135	KC135							KC-135 STRATOTANKER TANKER/TRANSPORT ACFT
KC13J	KC13J							KC-130J HERCULES US TANKER/TRANSPORT ACFT
KC97	KC97							KC-97L STRATOFREIGHTER TANKER/TRANSPORT ACFT
KEW	KEW							KINETIC ENERGY WPN
KFIR	KFIR							KFIR C2 FTR ACFT
KFR2	KFR2							KFIR 2000 FTR ACFT
KFRC7	KFRC7							KFIR C7 FTR ACFT
KGB	KGB							COMMITTEE FOR STATE SECURITY

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
KH41	KH41							KH-41 MOSKIT MISSILE
KJ200	KJ200							KJ-200 MOTH AEW ACFT
KJ2K	KJ2K							KJ-2000 MAINRING AEW ACFT
KJ500	KJ500							KJ-500 AEW ACFT
KJ600	KJ600							KJ-600 AEW ACFT
KNGAR	KNGAR							KING AIR TRANSPORT/AIRLINER ACFT
KNS10	KNS10							KN-SS-10 MSL
KNS11	KNS11							KN-SS-11 MSL
KNSN3	KNSN3							KN-SS-N-3 MSL
KNSS8	KNSS8							KN-SS-8 ICBM
KNSS9	KNSS9							KN-SS-9 CRBM
KQ200	KQ200							KQ-200 MARITIME PATROL ACFT
KSLV1	KSLV1							KSLV-1 SPACE LAUNCH VEHICLE
KSSS3	KSSS3							KS-SS-3 MSL
L100	L100							L-100 HERCULES TRANSPORT/AIRLINER ACFT
L1011	L1011							L-1011 TRI STAR COMMERCIAL AIRLINER ACFT
L101T	L101T							L-1011 TANKER ACFT (UK)
L16TD	L16TD							LINK 16 THEATER DEFINED VALUE
L29	L29							AERO L-29 DELFIN TRAINER ACFT
L39	L39							AERO L-39 ALBATROS ARMED TRAINER ACFT
L39C	L39C							AERO L39C ALBATROS TRAINER ACFT
L39MS	L39MS							AERO L39MS ALBATROS MODIFIED ACFT VERSION
L39Y	L39Y							AERO L39Y ALBATROS TARGET TOWING, AAA TRAINING ACFT
L39ZA	L39ZA							AERO L39ZA ALBATROS GND ATTACK/RECON ACFT
L39ZO	L39ZO							AERO L39ZO ALBATROS WPN TRAINING ACFT
L410	L410							L410 TURBOJET TURBOPROP TRANSPORT ACFT
L450	L450							L-450 TRAINER ACFT
L59	L59							L-59 ALBATROS (L-39 EXPORT MODEL)
L70	L70							L-70 MILTRAINER/VINKA TRAINER ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
LA6DC	LA6DC							RPV GND CTRL STN, UAV GCS
LAKE	LAKE							LAKE
LANCE	LANCE							XMG-52 LANCE LR SSGM (MOBILE NUC AT CORPS)
LAOC	LAOC							AIR OPERATIONS COORDINATION CENTER (LAND)
LAU10	LAU10							LAU-10 ROCKET LAUNCHER
LAU61	LAU61							LAU-61 ROCKET LAUNCHER
LAU68	LAU68							LAU-68 ROCKET LAUNCHER
LAU69	LAU69							LAU-69 ROCKET LAUNCHER
LAV	LAV							LIGHT ARMORED VEHICLE
LAWEN	LAWEN							LAW ENFORCEMENT VESSEL
LBRTY	LBRTY							LIBERTY SPACE LAUNCH VEHICLE
LC	LC							LANDING CRAFT
LCC	LCC							AMPHIBIOUS COMMAND SHIP
LCF	LCF							LAUNCH CONTROL FACILITY
LCP	LCP							LAUNCH(ING) CONTROL POST
LCS	LCS							LITTORAL COMBAT SHIP
LCU	LCU							LANDING CRAFT, UTILITY
LDSD	LDSD							LOOK-DOWN SHOOT-DOWN (RADAR)
LEVEE	LEVEE							DAM/LEVEE
LF	LF							LAUNCH FACILITY
LGB	LGB							LASER GUIDED BOMB
LGM25	LGM25							LGM-25C TITAN II LAUNCH VEHICLE
LGM30	LGM30							LGM-30 MINUTEMAN III LAUNCH VEHICLE
LGS	LGS							LASER GUIDANCE SYS
LGW	LGW							LASER GUIDED WPN
LHA	LHA							AMPHIB ASSAULT SHIP
LHD	LHD							AMPHIB ASSAULT SHIP, MULTI-PURPOSE
LIGHT	LIGHT							LIGHT SOURCE EMITTER
LJ23	LJ23							LEARJET 23 TRANSPORT/AIRLINER ACFT
LJ24	LJ24							LEARJET 24 TRANSPORT/AIRLINER ACFT
LJ25	LJ25							LEARJET 25 TRANSPORT/AIRLINER ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
LJ35	LJ35							LEARJET 35/36
LJ55	LJ55							TRANSPORT/AIRLINER ACFT
LJ60	LJ60							LEARJET 55 TRANSPORT/AIRLINER ACFT
LKA	LKA							LEARJET 60 TRANSPORT/AIRLINER ACFT
LL	LL							AMPHIBIOUS CARGO SHIP
LM11	LM11							AMPHIBIOUS ASSAULT, GENERAL
LM2FG	LM2FG							LM-11 SPACE LAUNCH VEHICLE
LM3C	LM3C							LM-2F/G SPACE LAUNCH VEHICLE
LM4A	LM4A							LM-3C SPACE LAUNCH VEHICLE
LM4B	LM4B							LM-4A SPACE LAUNCH VEHICLE
LM4C	LM4C							LM-4B SPACE LAUNCH VEHICLE
LM5	LM5							LM-4C SPACE LAUNCH VEHICLE
LM6	LM6							LM-5 SPACE LAUNCH VEHICLE
LM7	LM7							LM-6 SPACE LAUNCH VEHICLE
LMINE	LMINE							LM-7 SPACE LAUNCH VEHICLE
LNPT	LNPT							LAND MINE
LOFAR	LOFAR							LAUNCH POINT OR LOCATION
LORA	LORA							LOFAR SONOBUOY TYPE
LORAN	LORAN							LORA SRBM
LOX	LOX							LONG RANGE ELECTRONIC
LP	LP							NAVIGATION SYS
LPA	LPA							LIQUID OXYGEN SITE
LPAR	LPAR							LIQUID PROPANE
LPD	LPD							ATTACK/AMPHIB PERSONNEL
LPH	LPH							TRANSPORT
LPIR	LPIR							LARGE PHASED ARRAY
LPLAT	LPLAT							AMPHIB TRANSPORT DOCK
LPR	LPR							AMPHIB ASSAULT SHIP, HELICOPTER
LPSS	LPSS							LOW PROBABILITY OF INTERCEPT
LR35	LR35							RADAR
LRA	LRA							LANDING PLATFORM
LRAA	LRAA							AMPHIB TRANSPORT (SMALL)
LRAF	LRAF							AMPHIB TRANSPORT SUBMARINE
								LR-35A SWISS C-21A VARIANT
								LONG RANGE AVIATION (RUSSIAN)
								LONG RANGE AIR ARMY (RUSSIAN)
								LONG RANGE AIR FORCE (RUSSIAN)

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
LRCM	LRCM							LONG RANGE CRUISE MISSILE
LREP	LREP							LIGHTWEIGHT REPLICA (LREP) DECOY
LRF	LRF							LASER RANGE FINDER
LRINF	LRINF							LONG RANGE INTERMEDIATE NUC FORCE
LRRKT	LRRKT							LONG RANGE ROCKET (>94 DM)
LRRP	LRRP							LONG RANGE RECON PATROL
LSD	LSD							LANDING SHIP DOCK
LSL	LSL							LANDING SHIP, LOGISTICS
LSM	LSM							AMPHIB LANDING SHIP (MEDIUM)
LST	LST							TANK LANDING SHIP
LSV	LSV							LANDING SHIP, VEHICLE
LTA	LTA							LIGHTER THAN AIR ACFT (E.G. ZEPPELIN)
LTD	LTD							LASER TARGET DESIGNATOR
LTV	LTV							AMPHIB ASSAULT VEHICLE
LTVEH	LTVEH							LIGHT TRACKED VEHICLE
LUNA	LUNA							LUNA SSM UNGUIDED SRBM (AKA FROG)
LVT	LVT							ASSAULT LANDING VEHICLE, TRACKED
LWVEH	LWVEH							LIGHT WHEELED VEHICLE
LXAHI	LXAHI							WESTLAND LYNX ARMY HELO MARK 1
LXAS3	LXAS3							WESTLAND LYNX HAS3 ANTI- SUBMARINE HELICOPTER
LXMA8	LXMA8							WESTLAND SUPER LYNX 100 HMA8 MARITIME ATTACK HELO
LZ	LZ							LANDING ZONE
M1	M1							M-1 ABRAMS TANK
M102	M102							M-102 HOWITZER
M109	M109							M-109 HOWITZER, SELF-PROPELLED
M110	M110							M-110 HOWITZER, SELF-PROPELLED
M113	M113							M-113 ARMORED PERSONNEL CARRIER
M114	M114							M-114 HOWITZER, TOWED
M115	M115							M-115 HOWITZER, TOWED
M12	M12							M-12 MAIL AMPHIB SURVEILLANCE/ ASW ACFT
M134A	M134A							MGM-134A MIDGETMAN SMALL ICBM

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
M15	M15							MIG-15 MIDGET INTERMEDIATE FTR TRAINER ACFT
M17	M17							MIG-17 FRESCO FTR ACFT
M19	M19							MIG-19 FARMER FTR ACFT
M2	M2							M-2 BRADLEY FIGHTING VEHICLE
M21	M21							MIG-21 FISHBED ACFT, GEN TYPE
M21H	M21H							MIG-21 FISHBED-H TACTICAL RECON-EA/PHOTO ACFT
M21J	M21J							MIG-21 FISHBED-J MULTI-ROLE FTR ACFT
M21K	M21K							MIG-21 FISHBED-K FTR/EA ACFT
M21L	M21L							MIG-21 FISHBED-L FTR/GND ATTACK ACFT
M21N	M21N							MIG-21 FISHBED-N FTR ACFT
M21U	M21U							MIG-21U MONGOL-A/B FTR TRAINER ACFT
M23	M23							MIG-23 FLOGGER FTR ACFT, GEN TYPE
M23B	M23B							MIG-23 FLOGGER-B AIR COMBAT FTR ACFT W/EA
M23C	M23C							MIG-23 FLOGGER-C AIR COMBAT FTR /TRAINER ACFT
M23E	M23E							MIG-23 FLOGGER-E EXPORT VERSION FTR ACFT
M23F	M23F							MIG-23 FLOGGER-F EXPORT VERSION FTR ACFT
M23G	M23G							MIG-23 FLOGGER-G LIGHT AIR COMBAT FTR ACFT
M23H	M23H							MIG-23 FLOGGER-H GND ATTACK ACFT
M25	M25							MIG-25 FOXBAT FTR/RECON ACFT
M25A	M25A							MIG-25 FOXBAT-A FTR INTCP ACFT
M25B	M25B							MIG-25 FOXBAT-B RECON ACFT
M25C	M25C							MIG-25 FOXBAT-C TRAINER ACFT
M25D	M25D							MIG-25 FOXBAT-D RECON ACFT
M25E	M25E							MIG-25 FOXBAT-E MODIFIED FOXBAT-A ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
M27	M27							MIG-27 FLOGGER GND ATTACK ACFT
M27D	M27D							MIG-27 FLOGGER-D GND ATTACK ACFT
M27J	M27J							MIG-27 FLOGGER-J MODIFIED GND ATTACK ACFT
M29	M29							MIG-29 FULCRUM-A AIR COMBAT/ATTACK ACFT
M3	M3							M-3 BRADLEY FIGHTING VEHICLE
M31	M31							MIG-31 FOXHOUND FTR INTCP ACFT
M35	M35							MIG-35 FULCRUM FTR ACFT
M45	M45							M-45 SLBM
M48A	M48A							M48A3 TANK W/90MM GUN
M51	M51							M-51 SLBM
M543	M543							MAZ-543 SCUD-B LAUNCH VEHICLE
M5937	M5937							MAZ-5937 SS-21 LAUNCH VEHICLE
M60	M60							M-60 TANK W/105MM GUN
M600	M600							M600 ROCKET
M7310	M7310							MAZ-7310 SCALEBOARD LAUNCH VEHICLE
M7910	M7910							MAZ-7910 SA10 LAUNCH VEHICLE
M911	M911							M-9/11 SSM
MAB	MAB							MARINE AMPHIB BRIGADE
MACCS	MACCS							MARINE AIR COMMAND AND CONTROL SYS
MAF	MAF							MARINE AMPHIB FORCE
MAG	MAG							MARINE ACFT GROUP
MAGTF	MAGTF							MARINE AIR-GND TASK FORCE
MAOC	MAOC							AIR OPERATIONS COORDINATION CENTER (MARITIME)
MAP	MAP							MULTIPLE AIM POINT
MARF	MARF							MARINE FORCES
MARTN	MARTN							MARTIN PESCADOR ARGENTINIAN MISSILE
MARV	MARV							MANEUVERABLE REENTRY VEHICLE
MAS1	MAS1							MAS-1 CARCARA MISSILE
MASRC	MASRC							MASURCA SAM
MAT	MAT							MEDIUM ASSAULT TRANSPORT
MAU	MAU							MARINE AMPHIB UNIT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
MAW	MAW							MARINE ACFT WING
MB150	MB150							MB/EE 150 MOBILE TBM
MB223	MB223							MBB223 FLAMINGO TRAINER ACFT
MB300	MB300							MB/EE 300 MOBILE TBM
MB326	MB326							M.B.326 (AERMACCHI) BOMBER/ATTACK ACFT
MB339	MB339							M.B.339 (AERMACCHI) BOMBER/ATTACK/TRAINER ACFT
MBAL	MBAL							BALLISTIC MISSILE
MBT	MBT							MAIN BATTLE TANK, GEN
MC12W	MC12W							USAF MC-12 ISR ACFT (KING AIR 350)
MC130	MC130							MC-130H/J COMBAT TALON DEEP PENETRATION ACFT
MC27J	MC27J							MC-27J ACFT
MCA	MCA							MISSILE CONTROL UNIT ACFT
MCARS	MCARS							MERGED CAOC, ACC, RPC, SFP
MCC	MCC							MOBILE COMMAND CENTER
MCE	MCE							CRC/MODULAR CONTROL EQUIPMENT
MCMV	MCMV							MINE COUNTERMEASURES MARITIME VESSEL
MCP	MCP							MOBILE COMMAND POST
MCS	MCS							MISSILE CONTROL UNIT (SHIP)
MCSS	MCSS							MINE COUNTERMEASURE SUPPORT SHIP
MCU	MCU							MISSILE CONTROL UNIT, UNDERWATER
MD11	MD11							MD-11 TRANSPORT/AIRLINER ACFT
MD500	MD500							MD-500 DEFENDER HELICOPTER
MD80	MD80							MD-80 TRANSPORT/AIRLINER ACFT
MD90	MD90							MD-90 TRANSPORT/AIRLINER ACFT
MDUMP	MDUMP							MUNITIONS DUMP
MDZ	MDZ							MILITARY DEFENSE ZONE
MED	MED							MEDICAL SERVICE
MEDTR	MEDTR							MEDICAL TRANSPORT
MER	MER							MERCHANT VESSEL, GEN TYPE
MERL2	MERL2							MERLIN 2 TRANSPORT/AIRLINER ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
MERL3	MERL3							MERLIN 3 TRANSPORT/AIRLINER ACFT
MERL4	MERL4							MERLIN 4 TRANSPORT/AIRLINER ACFT
METR3	METR3							METRO 3 TRANSPORT/AIRLINER ACFT
MFAR	MFAR							MULTI-FUNC ARRAY RADAR
MGARS	MGARS							MERGED ACC, RPC, SFP
MGS	MGS							MSN GND STATION
MGUID	MGUID							GUIDED MISSILE
MH53E	MH53E							MH-53E DRAGON HELICOPTER
MH68A	MH68A							MH-68A STINGRAY HELO
MHQ	MHQ							MARITIME HEADQUARTERS SITE/ACTY
MHS	MHS							MINEHUNTER/SWEEPER, GENERAL
MI1	MI1							MI-1 HARE HELICOPTER
MI10	MI10							MI-10 HARKE HELICOPTER
MI12	MI12							MI-12 HOMER HELICOPTER
MI14	MI14							MI-14 HAZE (V-14) HELICOPTER
MI14A	MI14A							MI-14 HAZE-A ASW HELICOPTER
MI14B	MI14B							MI-14 HAZE-B MINE COUNTER-MEASURES HELICOPTER
MI17	MI17							MI-17 HIP-H MI-8/MI-14 HELICOPTER VARIANT
MI2	MI2							MI-2 HOPLITE UTILITY HELICOPTER
MI22	MI22							MI-22 HOOK MI-6C HELICOPTER EXPORT VARIANT
MI24	MI24							MI-24 HIND (A-10) ARMED ASSAULT HELICOPTER
MI24A	MI24A							MI-24 HIND-A ARMED ASSAULT TRANSPORT HELICOPTER
MI24B	MI24B							MI-24 HIND-B ARMED ASSAULT TRANSPORT HELICOPTER
MI24C	MI24C							MI-24 HIND-C ARMED ASSAULT TRANSPORT HELICOPTER
MI24D	MI24D							MI-24 HIND-D ARMED ASSAULT TRANSPORT HELICOPTER
MI24E	MI24E							MI-24 HIND-E ARMED ASSAULT TRANSPORT HELICOPTER

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
MI25	MI25							MI-25 HIND HELICOPTER
MI26	MI26							MI-26 HALO HEAVY LIFT HELICOPTER/TROOP TRANSPORT
MI28	MI28							MI-28 HAVOC ATTACK HELICOPTER, AIR-AIR/AIR-GND COMBAT
MI29	MI29							MI-29 HOOP ATTACK HELICOPTER
MI35	MI35							MI-35 HIND-V MI-24 HELICOPTER EXPORT
MI38	MI38							MI-38 HELICOPTER
MI4	MI4							MI-4 HOUND HELICOPTER
MI6	MI6							MI-6 HOOK FREIGHT/TROOP TRANSPORT HELICOPTER
MI8	MI8							MI-8 HIP TRANSPORT/AIR COMM(S) / EA HELICOPTER
MI8C	MI8C							MI-8 HIP-C ASSAULT TRANSPORT HELICOPTER
MI8D	MI8D							MI-8 HIP-D EW/AIRBORNE COMM(S) HELICOPTER
MI8E	MI8E							MI-8 HIP-E TACTICAL SUPPORT/ ANTI-TANK HELICOPTER
MI8F	MI8F							MI-8 HIP-F EXPORT VERSION OF HIP-E HELICOPTER
MI8H	MI8H							MI-8 HIP-H HELICOPTER
MI8J	MI8J							MI-8 HIP-J EA HELICOPTER
MI8K	MI8K							MI-8 HIP-K EA COMM-JAM HELICOPTER
MI9	MI9							MI-9 HIP AIRBORNE COMM(S) HELO (MI-8 HIP-G EXPORT VARIANT)
MICA	MICA							MICA AMRAAM/ASRAAM
MIG15	MIG15							MIG-15 FAGOT FTR ACFT
MIG17	MIG17							MIG-17 TRAINER ACFT
MIL	MIL							MILITARY INSTALLATION/FACILITY
MILAN	MILAN							MILAN ATM
MIM23	MIM23							MIM-23 HAWK MR MOBILE SAM
MINEW	MINEW							MINE WARFARE
MINTR	MINTR							MINOTAUR SPACE LAUNCH VEHICLE
MIRG1	MIRG1							MIRAGE F-1 FTR ACFT
MIRG3	MIRG3							MIRAGE 3 FTR ACFT
MIRG4	MIRG4							MIRAGE 4 FTR ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
MIRG5	MIRG5							MIRAGE 5 FTR ACFT
MIRG6	MIRG6							MIRAGE 50 FTR ACFT
MIRG7	MIRG7							MIRAGE 2000 FTR ACFT
MIRV	MIRV							MULTIPLE INDEPENDENTLY TARGETABLE REENTRY VEHICLE
MK01	MK01							MK-01 HOWITZER
MK117	MK117							MK-117 TOMAHAWK FIRE CONTROL SYS
MK198	MK198							MK-198 HOWITZER
MK2	MK2							MK-2 PENGUIN MISSILE
MK20	MK20							MK-20 ROCKEYE II MISSILE
MK2A	MK2A							MK-2A SEA KING AEW HELICOPTER
MK3	MK3							MK.3 ACFT
MK33	MK33							MK-33 AIR DELIVERABLE ORDNANCE
MK4	MK4							MK-4 AIR DELIVERABLE ORDNANCE
MK45	MK45							MK-45 AIR DELIVERABLE ORDNANCE
MK53	MK53							MK-53 LIGHTNING FTR ACFT
MK7	MK7							MK-7 AEGIS WPN SYS
MK76	MK76							MK-76 FIRE CONTROL SYS
MK77	MK77							MK-77 AIR DELIVERABLE ORDNANCE
MK7S	MK7S							MK-7 SEA KING AEW HELICOPTER
MK80	MK80							MK-80 BIGEYE AAM
MK81S	MK81S							MK-81SE AIR DELIVERABLE ORDNANCE
MK82	MK82							MK-82 AIR DELIVERABLE ORDNANCE
MK82S	MK82S							MK-82SE AIR DELIVERABLE ORDNANCE
MK83	MK83							MK-83 AIR DELIVERABLE ORDNANCE
MK84	MK84							MK-84 AIR DELIVERABLE ORDNANCE
MK86	MK86							MK-86 GUN FIRE CONTROL SYS
MK9	MK9							MK-9 HUNTER - FTR ACFT
MK91	MK91							MK-91 RADAR
MK92	MK92							MK-92 FIRE CONTROL SYS
MK95	MK95							MK-95 RADAR
MK99	MK99							MK-99 LAMPS HELICOPTER
MKI	MKI							MK-I SEASPRITE LAMPS HELICOPTER
MKIIII	MKIIII							MK-III LAMPS HELICOPTER
ML	ML							MINELAYER, GENERAL
MLBM	MLBM							MODERN LARGE BALLISTIC MISSILE
MLNCH	MLNCH							MISSILE LAUNCHER
MLRS	MLRS							MULTIPLE LAUNCH ROCKET SYS

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
MLS	MLS							MICROWAVE LANDING SYS
MM	MM							MINE WARFARE VESSEL
MM104	MM104							MIM-104 PATRIOT SAM
MM38	MM38							MM-38 EXOCET MISSILE
MM40	MM40							MM-40 EXOCET MISSILE
MMAN2	MMAN2							MINUTEMAN 2 SSM
MMAN3	MMAN3							MINUTEMAN 3 ICBM
MMINE	MMINE							MARITIME MINE
MMULT	MMULT							MULTI-WARHEAD MISSILE
MNSLV	MNSLV							MANNED SPACE LAUNCH VEHICLE
MOB	MOB							MAIN OPERATING BASE
MORT	MORT							MORTAR SITE
MOSS	MOSS							TU-126 MOSS SUAWACS ACFT
MOVER	MOVER							INFRARED EVENT REFLECTING MOVEMENT
MPA	MPA							MARITIME PATROL ACFT
MPC	MPC							MESSAGE PROCESSING CENTER
MPQ64	MPQ64							AN/MPQ-64 SENTINEL RADAR
MQ25	MQ25							UAV, MQ-25 STINGRAY
MRA4	MRA4							NIMROD MRA4 RECON/AEW ACFT
MRB	MRB							MOTORIZED RIFLE BATTALION
MRBM	MRBM							MEDIUM RANGE BALLISTIC MISSILE
MRC	MRC							MOTORIZED RIFLE COMPANY
MRCA	MRCA							MULTIPLE ROLE COMBAT ACFT
MRD	MRD							MOTORIZED RIFLE DIVISION
MRH90	MRH90							MRH-90 RAAF MEDICAL TRANSPORT/UTILITY HELO (NH90 VARIANT)
MRHGV	MRHGV							MEDIUM RANGE HYPERSONIC GLIDE VEHICLE
MRL	MRL							MULTIPLE ROCKET LAUNCHER (SYS)
MRR	MRR							MOTORIZED RIFLE REGIMENT
MRRKT	MRRKT							MEDIUM RANGE ROCKET (<=94 DM)
MRTGT	MRTGT							MRBM TARGET VEHICLE
MRV	MRV							MULTIPLE/MANEUVERABLE REENTRY VEHICLE
MSB	MSB							MINESWEEPER, BOAT
MSC	MSC							MINESWEEPER, COASTAL
MSD	MSD							MINESWEEPER, DRONE
MSF	MSF							MINESWEEPER, FLEET
MSH	MSH							MINE HUNTER

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DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
MSI	MSI				MINE WARFARE/MINE SWEEPING CRAFT, INSHORE
MSL	MSL				MISSILE, GEN TYPE
MSO	MSO				MINE SWEEPER, OCEAN
MSP	MSP				MINE SWEEPER, PATROL
MSR	MSR				MINE SWEEPER, RIVER
MSTRL	MSTRL				MISTRAL SAM
MSW	MSW				MINE SWEEPER, GEN TYPE
MTEOR	MTEOR				METEOR
MTI	MTI				MOVING TARGET INDICATOR (RADAR)
MTN	MTN				MOUNTAIN
MTVEH	MTVEH				MEDIUM TRACKED VEHICLE
MTZ	MTZ				MOTORIZED INFANTRY
MU2S	MU2S				MU-2S MITSUBISHI CARGO/MED ACFT
MUSU	MUSU				MUSUDAN IRBM
MV22	MV22				MV-22 OSPREY ACFT
MWET	MWET				MAN IN WATER
MWR	MWR				MILLIMETER WAVE RADAR
MX	MX				PEACEKEEPER ICBM MISSILE SYS
N1000	N1000				NP-1000 MISSILE
NAOC	NAOC				NATIONAL AIRBORNE OPERATIONS CENTER
NAS	NAS				NAVIGATIONAL AID SITE
NASMC	NASMC				NORWEGIAN ADVANCED SAM SYSTEM
NASML	NASML				COMBINED TACTICAL OPSNS CTR
NASR	NASR				NORWEGIAN ADVANCED SAM SYSTEM LAUNCHER
NAVY	NAVY				NASR CRBM
NAZAT	NAZAT				NAVY FORCES
NCC	NCC				NAZEAT ROCKET
NCS	NCS				NAVAL COMMAND CENTER
NDG	NDG				NET CONTROL STATION
NET	NET				NO DONG MOD 1/2 MRBM
NFH90	NFH90				NETWORK COMM(S)
NHK1	NHK1				NFH-90 NAVAL HELICOPTER
NHK2	NHK2				NHK-I, S KOREA SSM, SR
NHKA	NHKA				NHK-II CRBM
					NHK-A, FOLLOW-ON OF S KOREAN NHK, SR, SSM

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
NIKE	NIKE							NIKE HERCULES SAM
NIMR	NIMR							NIMROD R RECON/AEW ACFT
NK135	NK135							NKC-135 ACFT
NK16	NK16							NK-16 SAM
NK7	NK7							NK-7 SAM
NKA	NKA							NORTH KOREAN ARMY
NKAF	NKAF							NORTH KOREAN AIR FORCE
NKEBB	NKEBB							NIKE BLACK BRANT SOUNDING ROCKET
NKN	NKN							NORTH KOREAN NAVY
NODEB	NODEB							DEBRIS ASSOCIATED WITH NON-ORBITAL OBJECT
NOTGT	NOTGT							NON-TARGET, NO-STRIKE ENTITY
NSHEP	NSHEP							NEW SHEPARD MANNED SPACE LAUNCH VEHICLE
NSOBJ	NSOBJ							NON-SPACE OBJECT, NFI
NSP	NSP							SEA SUPPORT VESSEL, GEN TYPE
NTWPN	NTWPN							NETWORK ENABLED WEAPON
NW	NW							NUC WPN
NWFZ	NWFZ							NUC WPN FREE ZONE
NWG	NWG							NUC WPN, GEN
O1	O1							O-1 BIRD DOG ACFT
O2	O2							O-2 (CESSNA) ACFT
OA37	OA37							OA-37 DRAGONFLY ACFT
OH58	OH58							OH-58C/D KIOWA US ARMY SCOUT HELICOPTER
OH6	OH6							OH-6 (HUGHES) HELICOPTER
OIL	OIL							OILER/TANKER VESSEL, GEN TYPE
OMG	OMG							OPERATIONAL MANEUVER GROUP
OPCMD	OPCMD							OPERATIONAL COMMAND
ORS	ORS							OCEAN RESEARCH SHIP
OSAP	OSAP							OCEAN SURVEILLANCE AIR PATROL
OTHB	OTHB							OVER-THE-HORIZON BACKSCATTER RADAR
OTHR	OTHR							OVER-THE-HORIZON RADAR
OTMT	OTMT							OTOMAT ASM
OTMT1	OTMT1							OTOMAT MK I SSM
OTMT2	OTMT2							OTOMAT MK II SSM

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
OTMT3	OTMT3							OTOMAT MK III SSM
OUT	OUT							OUTSTATION
OV1	OV1							OV-1 MOHAWK RECON ACFT
OV10	OV10							OV-10A/D BRONCO LIGHT OBSERVATION/CAS ACFT
OV2A	OV2A							OV-2A SKYMASTER RECON ACFT
P3	P3							P-3 ORION LR ASW PATROL ACFT
P55	P55							P.55 (PARTENAVIA) TRAINER ACFT
P8A	P8A							P-8A POSEIDON MULTI-MISSION AIRCRAFT (MMA)
P8I	P8I							P-8I NEPTUNE MARITIME PATROL ACFT
PA	PA							PRECISION APPROACH RADAR
PA200	PA200							PA-200 (ITALIAN TORNADO)
PAD	PAD							PROJECT AIR DEFENSE (PAD) ATBM
PAMS	PAMS							PORTABLE ANTI-AIRCRAFT MISSILE SYSTEM (PAMS)
PAR	PAR							PHASED ARRAY RADAR
PASSV	PASSV							PASSENGER VESSEL
PAT	PAT							PATROL ACFT
PATRI	PATRI							MIM-104 PATRIOT SAM
PATS	PATS							PATROL SHIP
PAWS	PAWS							PHASED ARRAY WARNING SYS
PB	PB							PARTICLE BEAM WPN SYS
PBA	PBA							PATROL BOAT, AIR CUSHION
PBD	PBD							PATROL BOAT, DRONE
PBH	PBH							PATROL BOAT, HYDROFOIL
PBM	PBM							PATROL BOAT, MULTI-MSN
PBV	PBV							POST BOOST VEHICLE (PBV)
PC	PC							SUBMARINE CHASER/ESCORT CRAFT, GENERAL
PC12	PC12							PC-12 TRANSPORT ACFT
PC21	PC21							PC-21 TRAINER ACFT
PC24	PC24							PC-24 TRANSPORT ACFT
PC6	PC6							PC-6 TRAINER ACFT
PC7	PC7							PC-7 TRAINER ACFT
PC9	PC9							PC-9 TRAINER ACFT
PC96	PC96							PC-96 TRANSPORT ACFT
PCE	PCE							PATROL, COASTAL, ESCORT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
PCF	PCF							PATROL SUBCHASER, FAST
PCFA	PCFA							PATROL CRAFT, FAST, AIR CUSHION
PCFH	PCFH							PATROL CRAFT, FAST, HYDROFOIL
PCFS	PCFS							PATROL CRAFT, FIRE SUPPORT
PCH	PCH							PATROL CRAFT, HYDROFOIL
PCS	PCS							SUBMARINE CHASER
PCSH	PCSH							SUBMARINE CHASER, HYDROFOIL
PCT	PCT							PATROL CRAFT, TRAINING
PD808	PD808							PD-808 TRANSPORT/AIRLINER ACFT
PDMS	PDMS							POINT DEFENSE MISSILE SYS
PEGXL	PEGXL							PEGASUS SPACE LAUNCH VEHICLE
PENG	PENG							AGM-119 PENGUIN AGM/SSM
PERSN	PERSN							PERSONNEL
PEW	PEW							PLATOON EARLY WARNING (SYS)
PFIRE	PFIRE							FIRE, POL (PETROLEUM, OIL, LUBRICANT)
PGF	PGF							PATROL SHIP (COMBATANT)
PGG	PGG							GUIDED MISSILE PATROL COMBATANT
PGGH	PGGH							GUIDED MISSILE PATROL COMBATANT, HYDROFOIL
PGH	PGH							PATROL GUNBOAT (COMBATANT), HYDROFOIL
PGM	PGM							PRECISION GUIDED MISSILE OR MUNITION
PGR	PGR							RECON PATROL COMBATANT
PHAL	PHAL							PHALANX CIWS FOR AD W/20MM GUN
PHM	PHM							PATROL COMBATANT/MISSILE, HYDROFOIL
PL2A	PL2A							PL-2A AAM
PL5B	PL5B							PL-5B AAM
PL7	PL7							PL-7 AAM
PL9	PL9							PL-9 AAM
PLTN	PLTN							PLATOON
PLTOF	PLTOF							PLATFORM, OFFSHORE
PNAID	PNAID							PENETRATION AID. USED TO AID IN PENETRATING ENEMY DEFENSES

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
PNTZR	PNTZR							PANTZYL/SA-22 GREYHOUND SAM
POL	POL							FUEL (PETROLEUM/OIL/LUBRICANT)
POLAG	POLAG							SITE
POLUG	POLUG							FUEL (PETROLEUM/OIL/LUBRICANT)
PORT	PORT							SITE (ABOVE GROUND)
PPAC3	PPAC3							FUEL (PETROLEUM/OIL/LUBRICANT)
PPI	PPI							SITE (UNDER GROUND)
PR9	PR9							PORT FACILITIES LOCATION
PRAHR	PRAHR							PATRIOT PAC-3 SAM
PRDTR	PRDTR							PLAN POSITION INDICATOR
PRIT	PRIT							CANBERRA PR MK9
PRIT1	PRIT1							PRAHAR CRBM
PRIT2	PRIT2							UAV, PREDATOR [MIDB:APBTP OR
PRITX	PRITX							APBYP OR APOGP]
PRLOC	PRLOC							PRITHVI SSM (INDIA)
PRTB	PRTB							PRITHVI-1 CRBM
PSB	PSB							PRITHVI-2 SRBM
PSLV	PSLV							PRITHVI-1/2 SRBM
PT	PT							LOCATION - PERSONNEL RECOVERY
PT76	PT76							MOBILE ROCKET TECHNICAL BASE
PTG	PTG							PATROL BOAT, HARBOR
PTGH	PTGH							PSLV (POLAR SATELLITE LAUNCH
PTH	PTH							VEHICLE)
PTL	PTL							TORPEDO BOAT
PTNDR	PTNDR							PT-76 LIGHT TANK
PTT	PTT							MISSILE ATTACK BOAT
PVO	PVO							MISSILE ATTACK BOAT, HYDROFOIL
PVSL	PVSL							TORPEDO BOAT, HYDROFOIL
PWR	PWR							SMALL TORPEDO BOAT
PYTH3	PYTH3							PORT TENDER
PYTH4	PYTH4							TORPEDO BOAT, TRAINING
PZL28	PZL28							AIR DEFENSE (RUSSIAN)
								PILOT VESSEL
								POWER FACILITY
								PYTHON 3 AAM
								PYTHON 4 AAM
								PZL-28 BRYSA MARITIME PATROL
								ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
Q5	Q5							Q-5 FANTAN FTR ACFT
QAHR1	QAHR1							QAHIR-1 SRBM
QIAM1	QIAM1							QIAM-1 SRBM
R2000	R2000							RAPIER 2000/JERNAS SAM
R530	R530							R.530 AAM
R550	R550							R.550 MAGIC AAM
RA	RA							RESTRICTED AREA
RAD	RAD							RADIATION/RADIO ACTY/SITE
RADAR	RADAR							RADAR (RDR) ACTY/SITE
RADDF	RADDF							RADIO DIRECTION FINDER
RAF	RAF							ROYAL AIR FORCE
RAFAL	RAFAL							RAFALE FTR/BOMBER/ATTACK ACFT
RAG	RAG							REGIMENTAL ARTILLERY GROUP
RAIL	RAIL							RAILWAY, GEN TYPE
RAILF	RAILF							RAIL FACILITY
RB04E	RB04E							RB-04E MISSILE
RB15M	RB15M							RBS-15M ASM
RB5	RB5							RB-05 AGM/SSM
RB70	RB70							RBS-70 SAM
RB8	RB8							RB-08 AGM/SSM
RBOC	RBOC							RAPID BLOOM OFF-BOARD CHAFF WPN
RBS15	RBS15							RBS-15 SAM
RBS23	RBS23							RBS-23 BAMSE SAM
RBS70	RBS70							RBS-70 SWEDISH SAM
RBS90	RBS90							RBS-90 SAM
RC130	RC130							RC-130 HERCULES ACFT
RC135	RC135							RC-135 RIVET JOINT/COBRA BALL/ COMBAT SENT ACFT
RCA	RCA							ROYAL CANADIAN ARMY
RCAF	RCAF							ROYAL CANADIAN AIR FORCE
RCC	RCC							REGIONAL CONTROL CENTER
RCZ	RCZ							REAR COMBAT ZONE

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
RDF	RDF							RAPID DEPLOYMENT FORCE
RDR	RDR							RADAR, GEN TYPE
REAPR	REAPR							UAV, MQ-9 REAPER [MIDB:AP2A4 OR AP2A6]
RECON	RECON							RECON ACFT, GEN TYPE
REGT	REGT							REGIMENT
RELIG	RELIG							RELIGIOUS BUILDING
REWS	REWS							RADIO ELECTRONIC WARFARE SERVICE
RF104	RF104							RF-104 STARFIGHTER ACFT
RF111	RF111							RF-111 ACFT
RF14	RF14							RF-14 TOMCAT ACFT
RF35X	RF35X							RF-35XD DRAKEN ACFT
RF4	RF4							RF-4 PHANTOM II PHOTO RECON ACFT
RF5	RF5							RF-5 (NORTHROP) INTERNATIONAL FTR ACFT
RGGLC	RGGLC							LOCATION - REFUGEE
RFPW	RFPW							RADIO FREQUENCY PULSE WPN
RGM84	RGM84							RGM-84 HARPOON CRUISE SSM, ASUW (SUB BASED)
RGMT	RGMT							REGIMENT
RGT	RGT							REGIMENT
RH3	RH3							RH-3 SEA KING HELICOPTER
RH53	RH53							RH-53 SEA STALLION MINE CM HELICOPTER
RIDGE	RIDGE							RIDGE
RIM66	RIM66							RIM-66 STANDARD MR SAM/SSM, SHIPBORNE
RIM67	RIM67							RIM-67 STANDARD EXTENDED RANGE SAM/SSM, SHIPBORNE
RIM7	RIM7							RIM-7 SEA SPARROW (SHIP- LAUNCHED) SAM
RIVER	RIVER							RIVER
RJ1H	RJ1H							RJ-1 HAWK ACFT
RJ1J	RJ1J							RJ-1 JASTREB ACFT
RKR	RKR							GUIDED MISSILE CRUISER (RUSSIAN)
RL	RL							ROCKET LAUNCHER
RLND2	RLND2							ROLAND II SAM

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
RM116	RM116							RIM-116 RAM SAM
RMSEN	RMSEN							REMOTE SENSOR
RNP	RNP							RADIO NAVIGATION POINT
RNZ	RNZ							RENDEZVOUS ZONE
ROAD	ROAD							ROAD
ROCC	ROCC							REGIONAL OPNS CONTROL CENTER
ROCKT	ROCKT							BATTLEFIELD ROCKET
ROHIN	ROHIN							ROHINI, SOUNDING ROCKET
ROKA	ROKA							REPUBLIC OF KOREA ARMY
ROKAF	ROKAF							REPUBLIC OF KOREA AIR FORCE
ROKN	ROKN							REPUBLIC OF KOREA NAVY
ROLND	ROLND							ROLAND SR SAM SYS (ADA)
RORO	RORO							ROLL ON/ROLL OFF (SHIP)
RP	RP							REFERENCE POINT
RP3	RP3							RP-3 ORION ACFT
RPC	RPC							RECOGNIZED AIR PICTURE (RAP) PRODUCTION CENTER
RPIR	RPIR							RAPIER SAM
RPV	RPV							UAV, NFI [MIDB:APUZZ]
RR	RR							RADIO RELAY SITE
RRIFL	RRIFL							RECOILLESS RIFLE
RSA24	RSA24							RS-AS-24 MSL
RSV	RSV							RESERVE SITE/UNIT
RT33	RT33							RECON AT-33 ACFT (LOCKHEED T-33 VARIANT)
RU21	RU21							RU-21 UTE ACFT
RUNWY	RUNWY							RUNWAY
RV	RV							RE-ENTRY VEHICLE
RV1D	RV1D							RV-1D MOHAWK US ARMY ACFT
RVCEQ	RVCEQ							RIVER CROSSING EQUIPMENT
RT1	RT1							*SEE ANNEX A*
RWR	RWR							RADAR WARNING RECEIVER
RZ	RZ							RECOVERY ZONE
S2	S2							S-2 TRACKER CARRIER-BASED ACFT
S2G	S2G							S-2G TRACKER CARRIER-BASED ASW ACFT
S300	S300							SCHWEIZER 300 HELICOPTER

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
S341	S341							SA-341 GAZELLE CANON
S3B	S3B							S-3B VIKING ASW ACFT
S530	S530							S.530 SUPER 530 AAM
S97	S97							S-97 RAIDER SCOUT/ATTACK HELICOPTER
SA1	SA1							SA-1 GUILD SAM
SA10	SA10							SA-10 GRUMBLE MR SAM
SA11	SA11							SA-11 GADFLY MOBILE SAM
SA12A	SA12A							SA-12A GLADIATOR MOBILE SAM
SA12B	SA12B							SA-12B GIANT MOBILE SAM
SA13	SA13							SA-13 GOPHER MOBILE SR SAM
SA14	SA14							SA-14 GREMLIN SHOULDER LAUNCH SAM
SA15	SA15							SA-15 GAUNTLET SAM
SA16	SA16							SA-16 GIMLET SAM
SA17	SA17							SA-17 GRIZZLY SAM
SA18	SA18							SA-18 GROUSE SAM
SA19	SA19							SA-19 GRISOM SAM
SA2	SA2							SA-2 GUIDELINE LAND-MOBILE SAM
SA20	SA20							SA-20 GARGOYLE SAM
SA21	SA21							SA-21 GROWLER SAM
SA23	SA23							SA-23 GLADIATOR/GIANT SAM
SA24	SA24							SA-24 GRINCH SAM
SA25	SA25							SA-25 SAM
SA26	SA26							SA-26 SAM
SA27	SA27							SA-27 SAM
SA28	SA28							SA-28 SAM
SA3	SA3							SA-3 GOA MOBILE SAM
SA315	SA315							SA-315 LAMA HELICOPTER
SA319	SA319							SA-319 ALOUETTE III HELICOPTER
SA321	SA321							SA-321 SUPER FRELON HELICOPTER
SA330	SA330							SA-330 PUMA HELICOPTER
SA332	SA332							SA-332 SUPER PUMA HELICOPTER
SA341	SA341							SA-341 GAZELLE HELO
SA342	SA342							SA-342 GAZELLE HELICOPTER
SA350	SA350							SA-350 ASTAR HELICOPTER
SA360	SA360							SA-360 DAUPHIN HELICOPTER

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SA361	SA361							SA-361 DAUPHIN HELICOPTER
SA365	SA365							SA-365 DAUPHIN II HELICOPTER
SA4	SA4							SA-4 GANEF MOBILE SAM
SA5	SA5							SA-5 GAMMON LR HIGH-ALTITUDE SAM
SA6	SA6							SA-6 GAINFUL MOBILE SAM
SA7	SA7							SA-7 GRAIL SHOULDER-LAUNCHED SAM
SA8	SA8							SA-8 GECKO MOBILE SR SAM
SA9	SA9							SA-9 GASKIN MOBILE (BRDM-2) SR SAM
SAAB2	SAAB2							SAAB 2000 TRANSPORT/AIRLINER ACFT
SAAB3	SAAB3							SAAB 340 TRANSPORT/AIRLINER ACFT
SABRE	SABRE							SABRELINER TRANSPORT ACFT
SACU	SACU							SURFACE AIR CONTROL UNIT
SAF	SAF							STRATEGIC AIR FORCE
SAFIR	SAFIR							IR-SL-01 (SAFIR) SPACE LAUNCH VEHICLE
SAFLT	SAFLT							SURFACE-TO-AIR MISSILE, IN FLIGHT
SAG	SAG							SURFACE ACTION GROUP
SAH	SAH							SURFACE-TO-AIR MISSILE SITE, HOSTILE
SAKR	SAKR							SAKR SAM
SAM	SAM							SURFACE-TO-AIR MISSILE, GEN TYPE
SAMOC	SAMOC							SAM OPERATIONS CENTER
SAMP	SAMP							MLT SAMP/T MEDIUM-RANGE GROUND-TO-AIR MISSILE LAUNCH MODULE
SAMS	SAMS							SURFACE-TO-AIR-MISSILE SITE, GEN TYPE
SAMUD	SAMUD							AL SAMOUD MISSILE
SAN1	SAN1							SA-N-1 GOA NAVAL SAM, AAW
SAN10	SAN10							SA-N-10 NAVAL SAM
SAN11	SAN11							SA-N-11 GRISOM NAVAL SAM
SAN12	SAN12							SA-N-12 GRIZZLY NAVAL SAM
SAN17	SAN17							SA-N-17 GRIZZLY SAM

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SAN2	SAN2							SA-N-2 GUIDELINE NAVAL SAM, AAW
SAN3	SAN3							SA-N-3 GOBLET NAVAL SAM, AAW/ASUW (NUC)
SAN4	SAN4							SA-N-4 GECKO NAVAL SAM, AAW/CIWS
SAN5	SAN5							SA-N-5 GRAIL NAVAL SHOULDER- FIRED SAM, AAW
SAN6	SAN6							SA-N-6 GRUMBLE NAVAL SAM, AAW/ANTI-CRUISE
SAN7	SAN7							SA-N-7 GADFLY NAVAL SAM, AAW/ASUW
SAN8	SAN8							SA-N-8 GREMLIN NAVAL SAM (PDMS)
SAN9	SAN9							SA-N-9 GAUNTLET SR SAM/ANTI- CRUISE
SAPCH	SAPCH							SUPER APACHE, FRENCH CRUISE MISSILE, ANTI- INFRASTRUCTURE
SARAC	SARAC							SEARCH AND RESCUE ACFT
SARMT	SARMT							SARMAT ICBM
SARTY	SARTY							SPOTTER, ARTILLERY
SASM	SASM							SUPersonic AIR-TO-SURFACE MISSILE
SAT	SAT							SATELLITE, GENERAL
SATK	SATK							SURFACE ACTY, SEARCH ATTACK UNIT
SAVA	SAVA							SAVA SAM
SBL	SBL							SPACE BASED LASER
SBM	SBM							STRATEGIC BALLISTIC MISSILE
SBR	SBR							SPACE BASED RADAR
SBTGT	SBTGT							SINGLE BODY TARGET (UNITARY MISSILE)
SBWHD	SBWHD							HIGH EXPLOSIVE SUBMUNITION WARHEAD
SCAD	SCAD							SUBSONIC CRUISE ARMED DECOY
SCALP	SCALP							SCALP-EG AGM/SSM
SCAT	SCAT							SEA CAT SAM
SCC	SCC							SYS COORDINATE CENTER, LINK
SCDB1	SCDB1							SCUD B MOD 1 SSM
SCDB2	SCDB2							SCUD B MOD 2 SSM

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SCUD	SCUD							SCUD SSM
SCUD2	SCUD2							SCUD 2 MRBM
SCUDA	SCUDA							SCUD A SR SSM
SCUDB	SCUDB							SCUD B SRBM
SCUDC	SCUDC							SCUD C SRBM
SCUDD	SCUDD							SCUD D SRBM
SDART	SDART							SEA DART SAM
SDEB	SDEB							SPACE DEBRIS
SEACC	SEACC							SEABORNE COMMAND CENTER
SEAG	SEAG							SEA EAGLE ASM
SEAKG	SEAKG							SEA KING HELICOPTER
SEALX	SEALX							SEA LYNX HELICOPTER
SESS	SESS							SPACE EVENT SUPPORT SHIP
SF	SF							SPECIAL FORCES
SF260	SF260							SF-260 WARRIOR (SIAI-MARCHETTI) BOMBER/ATTACK/TRAINER ACFT
SF5	SF5							SF-5 FREEDOM FTR TACTICAL FTR/BOMBER ACFT AAW/CAS
SFG	SFG							SPECIAL FORCES GROUP
SFLSH	SFLSH							SKY FLASH AAM
SFOB	SFOB							SPECIAL FORCES OPERATIONAL BASE
SFP	SFP							SENSOR FUSION POST
SGRKA	SGRKA							SAGARIKA SHORT RANGE SLBM
SH08	SH08							SH-08 ABM
SH11	SH11							SH-11 ABM
SH2	SH2							SH-2D/F (LAMPS I) SEASPRITE HELICOPTER
SH3	SH3							SH-3D/G/H SKY (SEA) KING HELICOPTER
SH37	SH37							SH-37 VIGGEN TRAINER ACFT
SH5	SH5							SH-5 HARBIN MARITIME PATROL/ASW/BMR/SAR ACFT
SH60	SH60							SH-60B/F SEA HAWK (LAMPS III) HELICOPTER
SH70L	SH70L							SIKORSKY SH-70L HELICOPTER
SHAB1	SHAB1							SHAHAB 1 SRBM
SHAB2	SHAB2							SHAHAB 2 SRBM

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SHAB3	SHAB3							SHAHAB 3 MRBM
SHAB4	SHAB4							SHAHAB 4 MRBM
SHABT	SHABT							SHAHAB THAQEB SAM
SHAFR	SHAFR							SHAFRIR AAM
SHARA	SHARA							SHAURYA SRBM
SHB3A	SHB3A							SHAHAB 3 MOD 1 MRBM
SHB3B	SHB3B							SHAHAB 3 MOD 2 MRBM
SHB3C	SHB3C							SHAHAB 3 MOD 3 MRBM
SHB3D	SHB3D							SHAHAB 3 MOD 4 MRBM
SHB3X	SHB3X							SHAHAB 3 MOD 3/4 MRBM
SHC	SHC							SUPREME HIGH COMMAND
SHEN2	SHEN2							SHAHEEN 2 MRBM
SHEN3	SHEN3							SHAHEEN 3 MRBM
SHIP	SHIP							SHIP, GENERAL
SHLBM	SHLBM							SHIP-LAUNCHED BALLISTIC MISSILE
SHN1A	SHN1A							SHAHEEN 1 MOD 1 SRBM
SHN1B	SHN1B							SHAHEEN 1 MOD 2 SRBM
SHN1C	SHN1C							SHAHEEN 1 MOD 3 SRBM
SHUTL	SHUTL							SPACE SHUTTLE
SHVIT	SHVIT							SHAVIT SPACE LAUNCH VEHICLE
SK37	SK37							SK-37 VIGGEN TRAINER ACFT
SK60	SK60							SK-60 (SAAB) BOMBER/ATTACK/TRAINER ACFT
SKOOL	SKOOL							SCHOOL
SKR	SKR							ABBR ESCORT SHIP
SKUA	SKUA							SEA SKUA ASM
SKY12	SKY12							SKY DRAGON 12 SAM
SKY50	SKY50							SKY DRAGON 50 SAM
SKYGD	SKYGD							SKYGUARD ASPIDE SAM
SKYV	SKYV							SKYVAN TRANSPORT/AIRLINER ACFT
SL11	SL11							SL-11 SPACE LAUNCH VEHICLE
SL12	SL12							SL-12 SPACE LAUNCH VEHICLE
SL13	SL13							SL-13 SPACE LAUNCH VEHICLE
SL14	SL14							SL-14 SPACE LAUNCH VEHICLE
SL16	SL16							SL-16 SPACE LAUNCH VEHICLE
SL18	SL18							SL-18 SPACE LAUNCH VEHICLE
SL19	SL19							SL-19 SPACE LAUNCH VEHICLE
SL20	SL20							SL-20 SPACE LAUNCH VEHICLE
SL21	SL21							SL-21 SPACE LAUNCH VEHICLE
SL22	SL22							SL-22 SPACE LAUNCH VEHICLE
SL23	SL23							SL-23 SPACE LAUNCH VEHICLE

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SL24	SL24					SL-24 SPACE LAUNCH VEHICLE
SL25	SL25					SL-25 SPACE LAUNCH VEHICLE
SL26	SL26					SL-26 SPACE LAUNCH VEHICLE
SL3	SL3					SL-3 SPACE LAUNCH VEHICLE
SL4	SL4					SL-4 SPACE LAUNCH VEHICLE
SL6	SL6					SL-6 SPACE LAUNCH VEHICLE
SL8	SL8					SL-8 SPACE LAUNCH VEHICLE
SLAMC	SLAMC					SLAMRAAM INTEGRATED FIRE CONTROL SYSTEM
SLAMS	SLAMS					SLAMRAAM SENSOR/RADAR
SLAMU	SLAMU					SLAMRAAM FIRE UNIT
SLAR	SLAR					SIDE LOOKING AIRBORNE RADAR
SLBM	SLBM					SUBMARINE-LAUNCHED BALLISTIC MISSILE
SLBMI	SLBMI					INTERMEDIATE RANGE SLBM
SLBMM	SLBMM					MEDIUM RANGE SLBM
SLBMS	SLBMS					SHORT RANGE SLBM
SLCM	SLCM					SEA-LAUNCHED CRUISE MISSILE
SLOBJ	SLOBJ					SPACE LAUNCH OBJECT
SLOC	SLOC					SEA LINES OF COMM(S)
SLSPW	SLSPW					SILVER SPARROW ALBM
SLV	SLV					SPACE LAUNCH VEHICLE
SLV1	SLV1					*SEE ANNEX A*
SLV2	SLV2					*SEE ANNEX A*
SLV3	SLV3					*SEE ANNEX A*
SM1	SM1					SM-1 STANDARD I MR MISSILE
SM1ER	SM1ER					SM-1 STANDARD EXTENDED RANGE MISSILE
SM2	SM2					SM-2 STANDARD IIMR MISSILE
SM24A	SM24A					SM-2 BLOCK IVA MR MISSILE
SM2B3	SM2B3					SM-2 BLOCK III MR MISSILE
SM2B4	SM2B4					SM-2 BLOCK IV MR MISSILE
SM2BA	SM2BA					SM-2 BLOCK IIIA MR MISSILE
SM2BB	SM2BB					SM-2 BLOCK IIIB MR MISSILE
SM2ER	SM2ER					SM-2 STANDARD EXTENDED RANGE MISSILE
SM3	SM3					SM-3 SAM
SM39	SM39					SM-39 MISSILE
SM6B1	SM6B1					SM-6 BLOCK I SAM

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SM6D1	SM6D1							SM-6 DUAL I SAM
SM6D2	SM6D2							SM-6 DUAL II SAM
SMF	SMF							SURFACE-TO-SURFACE MISSILE SITE, FRIEND
SMH	SMH							SURFACE-TO-SURFACE MISSILE SITE, HOSTILE
SMISB	SMISB							SEMI-SUBMERSIBLE VESSEL
SMOKR	SMOKR							SMOKE GENERATOR
SMRGH	SMRGH							SIMORGH SPACE LAUNCH VEHICLE
SMU	SMU							SURFACE-TO-SURFACE MISSILE SITE, UNKNOWN
SN23B	SN23B							SS-N-23 MOD 2 SLBM
SN23S	SN23S							SS-N-23 SINEVA SLBM
SN27B	SN27B							SS-N-27B SLCM/ASCM
SN61A	SN61A							SSN-6 MOD 1A SSM
SN61B	SN61B							SSN-6 MOD 1B SSM
SN61C	SN61C							SSN-6 MOD 1C SSM
SNO	SNO							SPECIAL NAVAL OPNS
SOB	SOB							SPACE ORDER OF BATTLE
SOC	SOC							SECTOR/SPACE OPNS CENTER/COMPLEX
SOD	SOD							SPECIAL OPNS DETACHMENT
SOF	SOF							SPECIAL OPNS FORCE(S)
SOI	SOI							SIGNAL OF INTEREST
SONO	SONO							SONOBUOY
SOW	SOW							STAND-OFF WPN
SOYZ2	SOYZ2							SOYUZ 2 SPACE LAUNCH VEHICLE
SP70	SP70							SP-70 HOWITZER
SPADA	SPADA							SPADA SAM
SPATY	SPATY							SELF-PROPELLED ARTILLERY
SPC	SPC							SPACE SITE
SPCMV	SPCMV							TRANSPORT, SPACE
SPF	SPF							SPECIAL PURPOSE FORCE(S)
SPIKE	SPIKE							IR ACTIVITY INDICATING PROBABLE MISSILE LAUNCH
SPOBJ	SPOBJ							SPACE OBJECT, NFI
SPPTL	SPPTL							PATROL, SPACE
SPSPT	SPSPT							SPACE SUPPORT ELEMENT
SPT	SPT							SUPPORT SITE

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SPWEP	SPWEP							SPECIAL WEAPON
SQD	SQD							SQUAD
SQDN	SQDN							SQUADRON
SQOC	SQOC							SQUADRON OPERATIONS CENTER
SR71	SR71							SR-71 BLACKBIRD US RECON ACFT
SRAM	SRAM							SHORT-RANGE ATTACK MISSILE
SRBM	SRBM							SHORT-RANGE BALLISTIC MISSILE
SRF	SRF							STRATEGIC ROCKET FORCE(S)
SRKT	SRKT							SOUNDING ROCKET
SRM1	SRM1							*SEE ANNEX A*
SRM2	SRM2							*SEE ANNEX A*
SRM3	SRM3							*SEE ANNEX A*
SRT	SRT							STRATEGIC RELOCATABLE TARGET
SRTGT	SRTGT							SRBM TARGET VEHICLE
SRVSL	SRVSL							SEARCH AND RESCUE (SAR) VESSEL
SS	SS							SUBMARINE, GENERAL, NON-NUCLEAR
SS10	SS10							SS-10 SCRAG SSM
SS11	SS11							SS-11 SEGO 'LIGHT' ICBM W/MOD-1/2/3 VERS, MRV
SS11C	SS11C							SS-11 MOD 3 MISSILE
SS13	SS13							SS-13 SAVAGE MOD-2 ICBM
SS14	SS14							SS-14 SCAMP/SCAPEGOAT MR IRBM
SS16	SS16							SS-16 (RS-14) SINNER ICBM (NUC)
SS17	SS17							SS-17 (RS-16) SPANKER 'LIGHT' ICBM, 4-MIRV
SS18	SS18							SS-18 (RS-20) SATAN 'HEAVY' ICBM, 10+MIRV
SS18D	SS18D							SS-18 MOD 4 ICBM
SS18E	SS18E							SS-18 MOD 5 ICBM
SS18F	SS18F							SS-18 MOD 6 ICBM
SS19C	SS19C							SS-19 MOD 3 STILETTO ICBM
SS19H	SS19H							SS-19 HYPERSONIC GLIDE VEHICLE
SS1B	SS1B							SS-1B SCUD-A SRBM
SS1C	SS1C							SS-1C SCUD-B SRBM
SS1D	SS1D							SS-1D (SCUD-C) SRBM
SS1E	SS1E							SS-1E SCUD-D MRBM
SS2	SS2							SS-2 SIBLING SRBM
SS20	SS20							SS-20 SABER MOBILE THEATER IRBM, 3-MIRV
SS21	SS21							SS-21 SCARAB SR TBM

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SS211	SS211						SS-21 MOD 1 SRBM
SS21C	SS21C						SS-21 MOD 3 CRBM
SS21X	SS21X						SS-21 MOD 2/3 CRBM
SS21Y	SS21Y						SS-21 MOD 2 CRBM
SS22	SS22						SS-22 MR TBM
SS23	SS23						SS-23 SPIDER MOBILE SR TBM
SS24	SS24						SS-24 SCALPEL FIXED/MOBILE ICBM, MIRV
SS25	SS25						SS-25 SICKLE ICBM
SS25E	SS25E						SS-25 EMERGENCY ROCKET COMMS SYSTEM (ERCS)
SS25R	SS25R						SS-25 RE-ENTRY VEHICLE TEST PLATFORM
SS26	SS26						SS-26 SRBM
SS27A	SS27A						SS-27 MOD 1 ICBM
SS27B	SS27B						SS-27 MOD 2 ICBM
SS27X	SS27X						SS-27 MOD 1/2 ICBM
SS28	SS28						SS-28 MOD 1/2/3 ICBM
SS28A	SS28A						SS-28 MOD 1 ICBM
SS28B	SS28B						SS-28 MOD 2 IRBM
SS28C	SS28C						SS-28 MOD 3 IRBM
SS3	SS3						SS-3 SHYSTER MRBM
SS4	SS4						SS-4 SANDAL SEMI-MOBILE MRBM
SS5	SS5						SS-5 SKEAN MRBM
SS6	SS6						SS-6 SAPWOOD ICBM
SS7	SS7						SS-7 SADDLER ICBM
SS8	SS8						SS-8 SASIN ICBM
SS9	SS9						SS-9 SCARP ICBM
SSA	SSA						AUXILIARY SUBMARINE
SSAC	SSAC						AUXILIARY SUBMARINE, COMM(S)
SSAG	SSAG						AUXILIARY SUBMARINE, NON- NUCLEAR
SSAN	SSAN						AUXILIARY SUBMARINE, NUC POWERED
SSB	SSB						BALLISTIC MISSILE SUBMARINE
SSBM	SSBM						SURFACE TO SURFACE BALLISTIC MISSILE
SSBN	SSBN						BALLISTIC MISSILE SUBMARINE, NUC POWERED
SSC	SSC						COASTAL SUBMARINE, NON-NUCLEAR

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SSC1	SSC1							SSC-1 SEPAL TACTICAL ANTI-MISSILE MISSILE
SSC2A	SSC2A							SSC-2A SALISH TACTICAL SSM
SSC2B	SSC2B							SSC-2B SAMLET COASTAL SSM
SSCAN	SSCAN							SEA SCAN RECON ACFT
SSCN	SSCN							NUC CRUISE MISSILE SUBMARINE
SSG	SSG							GUIDED (CRUISE) MISSILE SUBMARINE, NON-NUCLEAR
SSGM	SSGM							SURFACE-TO-SURFACE GUIDED MISSILE
SSGN	SSGN							GUIDED (CRUISE) MISSILE SUBMARINE, NUC POWERED
SSJ	SSJ							SELF-SCREENING JAMMER
SSK	SSK							PATROL SUBMARINE, NON-NUCLEAR
SSLP	SSLP							TRANSPORT SUBMARINE
SSLUG	SSLUG							SEA SLUG SAM
SSM	SSM							SURFACE-TO-SURFACE MISSILE SITE, GEN TYPE
SSMFL	SSMFL							SURFACE-TO-SURFACE MISSILE, IN FLIGHT
SSN	SSN							ATTACK SUBMARINE, NUC
SSN12	SSN12							SS-N-12 SANDBOX, NAVY SLCM
SSN13	SSN13							SS-NX-13 SLBM
SSN14	SSN14							SS-N-14 SILEX SSM
SSN15	SSN15							SS-N-15 STARFISH NAVY SOW, SUBMARINE-LAUNCHED
SSN16	SSN16							SS-N-16 STALLION, NAVY SOW, ASW
SSN18	SSN18							SS-N-18 STINGRAY SLBM
SSN19	SSN19							SS-N-19 SHIPWRECK SLCM
SSN2	SSN2							SS-N-2 STYX, ANTI-SHIP SSM
SSN20	SSN20							SS-N-20 STURGEON SLBM
SSN21	SSN21							SS-N-21 SAMPSON SLCM
SSN22	SSN22							SS-N-22 SUNBURN SLCM
SSN23	SSN23							SS-N-23 SKIFF SLBM
SSN25	SSN25							SS-N-25 SWITCHBLADE ASM
SSN26	SSN26							SS-N-26 ONIKS/YAKHONT ASM
SSN27	SSN27							SS-N-27 ALFA/KLUB SLBM
SSN29	SSN29							SS-N-29 MEDVEDKA ASM
SSN2C	SSN2C							SS-N-2C STYX ANTI-SHIP SSM
SSN30	SSN30							SS-NX-30 BULAVA
SSN32	SSN32							SS-N-32 SLBM

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SSN3A	SSN3A							SS-N-3A SHADDOCK ANTI-SHIP SSM
SSN3B	SSN3B							SS-N-3B SEPAL SSM
SSN3C	SSN3C							SS-N-3C SHADDOCK TACTICAL SSM
SSN5	SSN5							SS-N-5 SARK SLBM
SSN6	SSN6							SS-N-6 SERB SLBM
SSN62	SSN62							SS-N-6 MOD-2 SLBM
SSN6A	SSN6A							SS-N-6 MOD-1A SLBM
SSN6B	SSN6B							SS-N-6 MOD-1B SLBM
SSN6C	SSN6C							SS-N-6 MOD-1C SLBM
SSN7	SSN7							SS-N-7 SIREN SLCM
SSN8	SSN8							SS-N-8 SAWFLY VARIANT SLBM
SSN9	SSN9							SS-N-9 SIREN VARIANT SSM
SSNX	SSNX							SS-NX SLBM
SSPA	SSPA							SOLID STATE PHASED ARRAY
SSQ	SSQ							AUXILIARY SUBMARINE, COMM(S)
SSQN	SSQN							AUXILIARY SUBMARINE, COMM(S) (NUC)
SSR	SSR							RADAR PICKET SUBMARINE
SSSB	SSSB							SHIP SHORE SHIP BUFFER
SST	SST							TARGET/TRAINING SUBMARINE
SSUB	SSUB							SURFACED SUBMARINE
SSW	SSW							SUBMARINE, MIDGET
STAR1	STAR1							ISRAELI ANTI-RADAR MISSILE
STARB	STARB							STARBURST SAM
STARCK	STARCK							STARSTREAK SAM
STATC	STATC							STATIC IR EVENT
STKIP	STKIP							STRIKE INITIAL POINT
STNGR	STNGR							FIM-92 STINGER (SHOULDER-FIRED) MSL, LOW-ALTITUDE ADA
STOR	STOR							STORAGE SITE
STORM	STORM							STORM MISSILE
STREM	STREM							STREAM
STRLA	STRLA							STRELA SPACE LAUNCH VEHICLE
STRYI	STRYI							STRYPI-IX MISSILE
STUN1	STUN1							STUNNER 1 INTERCEPTOR MISSILE
STUN2	STUN2							STUNNER 2 INTERCEPTOR MISSILE
SU11	SU11							SU-11 FISHPOT FTR ACFT
SU11C	SU11C							SU-11 MAIDEN/FISHPOT-C TRAINER ACFT
SU15	SU15							SU-15 FLAGON FTR ACFT
SU15C	SU15C							SU-15 FLAGON-C TRAINER ACFT

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SU15E	SU15E							SU-15 FLAGON-E FTR INTCP ACFT
SU15F	SU15F							SU-15 FLAGON-F FTR INTCP ACFT
SU17	SU17							SU-17 FITTER-B ATTACK/STRIKE/SUPPORT ACFT
SU17C	SU17C							SU-17 FITTER-C ATTACK ACFT
SU17D	SU17D							SU-17 FITTER-D ATTACK ACFT
SU17E	SU17E							SU-17 FITTER-E TRAINER ACFT, FITTER-D VARIANT
SU17G	SU17G							SU-17 FITTER-G TRAINER ACFT, FITTER-H VARIANT
SU17H	SU17H							SU-17 FITTER-H ATTACK/RECON ACFT
SU17K	SU17K							SU-17 FITTER-K ATTACK/RECON ACFT
SU19	SU19							SU-19 FENCER FTR/BOMBER ACFT
SU20	SU20							SU-20 FITTER-C/D ATTACK ACFT
SU21	SU21							SU-21 FLAGON ACFT
SU22	SU22							SU-22 FITTER ACFT, SU-17 EXPORT VERSION
SU22F	SU22F							SU-22 FITTER-F EXPORT SU-17 FITTER-D ACFT
SU22G	SU22G							SU-22 FITTER-G EXPORT SU-17 FITTER-G ACFT
SU22J	SU22J							SU-22 FITTER-J EXPORT SU-17 FITTER-H ACFT
SU24	SU24							SU-24 FENCER GND ATTACK/INTERDICTION ACFT
SU24A	SU24A							SU-24 FENCER-A GND ATTACK/INTERDICTION ACFT
SU24B	SU24B							SU-24 FENCER-B GND ATTACK/INTERDICTION ACFT
SU24C	SU24C							SU-24 FENCER-C GND ATTACK/INTERDICTION ACFT
SU25	SU25							SU-25 FROGFOOT ATTACK ACFT
SU27	SU27							SU-27 FLANKER COUNTER-AIR/GND ATTACK ACFT
SU30	SU30							SU-30 MKI FLANKER FTR ACFT
SU32	SU32							SU-32 FLANKER FTR ACFT
SU33	SU33							SU-33 FLANKER-D FTR ACFT
SU34	SU34							SU-34 FULLBACK-A FTR ACFT
SU35	SU35							SU-35 FLANKER-E FTR ACFT

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SU37	SU37							SU-37 FLANKER-E VAR 2 FTR ACFT
SU39	SU39							SU-39 FROGFOOT-C FTR ACFT
SU57	SU57							SU-57 FTR ACFT
SU7	SU7							SU-7 FITTER GND ATTACK ACFT
SU7A	SU7A							SU-7 FITTER-A GND ATTACK FTR ACFT
SU7U	SU7U							SU-7U MOUJIK GND ATTACK FTR TRAINER ACFT
SU9	SU9							SU-9 FISHPOT GND ATTACK FTR ACFT
SUB	SUB							SUBMARINE, GEN TYPE
SUBCV	SUBCV							SUBMERSIBLE, CIVILIAN
SUM	SUM							SURFACE-TO-UNDERWATER MISSILE
SUPAC	SUPAC							SUPPORT ACFT
SUPS	SUPS							SUPPORT SHIP
SUR	SUR							SURVEILLANCE SITE
SURV	SURV							SURVEILLANCE ACFT, GENERAL
SURVY	SURVY							SURVEY VESSEL
SUU23	SUU23							SUU-23 AIR DELIVERABLE ORDNANCE
SUU25	SUU25							SUU-25 AIR DELIVERABLE ORDNANCE
SVOD	SVOD							ACFT NAVIGATION/LANDING SYS
SWAMP	SWAMP							MARSH/SWAMP
SWOLF	SWOLF							SEA WOLF SAM
T1	T1							T-1 JAYHAWK TRAINER ACFT
T2	T2							T-2 BUCKEYE TRAINER ACFT
T28	T28							T-28 TROJAN TRAINER ACFT
T29	T29							T-29 (CONVAIR) TRAINER ACFT
T2M	T2M							T-2 (MITSUBISHI) TRAINER ACFT
T33	T33							T-33A T-BIRD JET TRAINER ACFT
T34	T34							T-34 MENTOR TRAINER ACFT
T37	T37							T-37 TWEET TRAINER ACFT
T38	T38							T-38 TALON ADVANCED TRAINER ACFT
T39	T39							T-39D SABRELINER TRAINER ACFT
T4	T4							T-4 TRAINER ACFT
T41	T41							T-41 MESCALERO TRAINER ACFT
T42	T42							T-42 COCHISE TRAINER ACFT
T43	T43							T-43 (BOEING) TRAINER ACFT
T44	T44							T-44 KING AIR COMMERCIAL TRAINER ACFT

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T45	T45							T-45 GOSHAWK JET FLIGHT TRAINER ACFT
T46A	T46A							T-46A TRAINER ACFT
T47	T47							T-47 CITATION TRAINER ACFT
T50	T50							T-50 FTR ACFT
T54	T54							T-54 TANK
T55	T55							T-55 TANK
T62	T62							T-62 TANK
T64	T64							T-64 TANK
T72	T72							T-72 TANK
T80	T80							T-80 TANK
TA	TA							TANK ARMY
TA28	TA28							TA-28 BOMBER/ATTACK ACFT
TA4	TA4							TA-4 SKYHAWK TRAINER ACFT
TA7	TA7							TA-7 CORSAIR II TRAINER ACFT
TAA	TAA							TACTICAL AIR ARMY
TAB	TAB							TARGET ACQUISITION BATTERY
TACAR	TACAR							TACTICAL ACFT
TACC	TACC							TACTICAL AIR CONTROL CENTER
TAD	TAD							THEATER AIR DEFENSE
TADC	TADC							TACTICAL AIR DIRECTION CENTER
TAF	TAF							TACTICAL AIR FORCE(S)
TAKR	TAKR							ABBR TACTICAL ACFT CARRYING CRUISER
TALCM	TALCM							TACTICAL AIR-LAUNCHED CRUISE MISSILE
TANK	TANK							TANK
TAOC	TAOC							TACTICAL AIR OPNS CENTER
TAR	TAR							TACTICAL AIR RECON ACFT
TARUS	TARUS							TAURUS MISSILE
TASM	TASM							TACTICAL AIR-TO-SURFACE MISSILE
TB	TB							TANK BATTALION
TB30	TB30							TB-30 EPSILON TRAINER ACFT
TB700	TB700							TBM 700 TRANSPORT ACFT
TBM	TBM							THEATER BALLISTIC MISSILE
TC	TC							TANK COMPANY
TD	TD							TANK DIVISION
TD1MR	TD1MR							TAEPO DONG 1 MRBM
TD1IR	TD1IR							TAEPO DONG 1 IRBM
TD1SL	TD1SL							TAEPO DONG 1 SPACE LAUNCH VEHICLE

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
TD2IC	TD2IC							TAEPO DONG 2 ICBM
TD2SL	TD2SL							TAEPO DONG 2 SPACE LAUNCH VEHICLE
TDONG	TDONG							TAEPO DONG
TDS	TDS							TACTICAL DATA SYSTEM
TEJAS	TEJAS							TEJAS FTR ACFT
TEL	TEL							TRANSPORTER ERECTOR LAUNCHER
TELAR	TELAR							TRANSPORTER ERECTOR LAUNCHER AND RADAR
TENK1	TENK1							TIEN KUNG I/SKY BOW I SAM SYSTEM
TENK2	TENK2							TIEN KUNG II/SKY BOW II SAM SYSTEM
TENK3	TENK3							TIEN KUNG 3 ATBM
TERBB	TERBB							TERRIER BLACK BRANT SSM
TERFF	TERFF							TERRITORIAL FORCES
TF35	TF35							TF-35XD TRAINER ACFT
TFR	TFR							TERRAIN FOLLOWING RADAR
TG	TG							TRACKING GUIDANCE RADAR
TGIF	TGIF							TRANSPORTABLE GND INTERCEPT FACILITY
TGRCT	TGRCT							TIGERCAT SAM
TGT	TGT							POINT TARGET
TH57	TH57							TH-57 SEA RANGER HELICOPTER
THAAD	THAAD							TERMINAL HIGH ALTITUDE AREA DEFENSE (THAAD) SYSTEM
THLNC	THLNC							THAAD LAUNCHER
THMSL	THMSL							THAAD INTERCEPTOR MISSILE
THRDR	THRDR							THAAD RADAR
THSSI	THSSI							THAAD SENSOR SYSTEM INTERFACE (SSI)
THTOC	THTOC							THAAD TACTICAL OPERATIONS CENTER (TOC)
TILTR	TILTR							MILITARY TILTROTOR AIRCRAFT, GEN TYPE
TITAN	TITAN							TITAN I/II/III/IVB US LAUNCH VEHICLE
TITTR	TITTR							TARGET ILLUMINATION/TARGET TRACKING RADAR
TJ	TJ							COMMERCIAL HOVERCRAFT, GENERAL

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART IDFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
TJ1	TJ1							TJ-1 HAWK/JASTREB TRAINER ACFT
TJS	TJS							TACTICAL JAMMING SYS
TLAM	TLAM							TACTICAL (SEA-LAUNCHED) LAND-ATTACK MISSILE
TM	TM							TACTICAL MISSILE
TMHWK	TMHWK							TOMAHAWK AIR/LAND/SHIP/SUB-LAUNCH CRUISE SSM (NUC)
TMR	TMR							TRUNKED MOBILE RADIO
TNF	TNF							TACTICAL NUC FORCE
TNKMV	TNKMV							TANK TRANSPORTER
TNKVL	TNKVL							TANKER VESSEL
TNL	TNL							TUNNEL ENTRANCE/PORTAL
TNLVT	TNLVT							TUNNEL AIR VENT
TNMA1	TNMA1							TIEN MA 1 (SKY HORSE) SSM (SRBM)
TNR	TNR							TRAINER ACFT
TNW	TNW							TACTICAL NUC WARFARE
TOC	TOC							TACTICAL OPNS CENTER
TOKSA	TOKSA							TOKSA CRBM
TOW	TOW							TUBE-LAUNCH, OPTICALLY TRACKED, WIRE GUIDED MISSILE (MAN-PORT)
TOWN	TOWN							TOWN
TOWRD	TOWRD							TOWER - DISTILLATION
TOWRS	TOWRS							TOWER - STEEL
TPOSN	TPOSN							TACTICAL POSITION
TPS	TPS							TROOPS
TPSB	TPSB							USCG TRANSPORTABLE PORT SECURITY BOAT
TR	TR							TANK REGIMENT
TR1	TR1							TR-1 US RECON ACFT
TRA	TRA							TEMPORARY RESTRICTED AREA
TRAIN	TRAIN							TRAIN
TRAK	TRAK							TRACKED VEHICLE
TRANH	TRANH							TRANSPORT HELO ACFT
TRANS	TRANS							TRANSPORT ACFT, GEN TYPE
TRAP	TRAP							TRAP OR ENSNAREMENT DEVICE
TRDNT	TRDNT							TRIDENT SSM SITE/PLATFORM
TRDT	TRDT							TRIDENT SLBM
TRIDT	TRIDT							TRIDENT CANADIAN TRANSPORT/AIRLINER ACFT

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART IDFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
TRIGT	TRIGT							TRIGAT ATM
TRNDO	TRNDO							TORNADO ECR ACFT
TROOP	TROOP							TROOP
TRPSH	TRPSH							TROOP SHIP
TRSHL	TRSHL							TRISHUL SAM
TRSLV	TRSLV							TAURUS SPACE LAUNCH VEHICLE
TRV	TRV							TANK RECOVERY VEHICLE
TS11	TS11							TS.11 SPARK TRAINER ACFT
TST	TST							TIME-SENSITIVE TARGET
TTB	TTB							TANKER TRANSPORT BOMBER ACFT
TTH90	TTH90							TTH-90 TRANSPORT HELICOPTER
TTR	TTR							TARGET TRACKING RADAR
TU104	TU104							TU-104 CAMEL JET TRANSPORT ACFT
TU110	TU110							TU-110 COOKER JET TRANSPORT ACFT
TU114	TU114							TU-114 CLEAT TRANSPORT ACFT
TU122	TU122							TU-122 BEAR BOMBER ACFT
TU124	TU124							TU-124 COOKPOT JET TRANSPORT ACFT
TU126	TU126							TU-126 MOSS SUAWACS ACFT
TU128	TU128							TU-128 FIDDLER JET FTR ACFT
TU134	TU134							TU-134 CRUSTY JET TRANSPORT ACFT
TU142	TU142							TU-142 BEAR BOMBER ACFT
TU144	TU144							TU-144 CLEAT OR CHARGER TRANSPORT ACFT
TU154	TU154							TU-154 CARELESS JET TRANSPORT ACFT
TU16	TU16							TU-16 BADGER, GEN ACFT TYPE
TU160	TU160							TU-160 BLACKJACK LR BOMBER ACFT
TU16A	TU16A							TU-16 BADGER-A STRATEGIC BOMBER ACFT
TU16B	TU16B							TU-16 BADGER-B BOMBER/ASUW ACFT
TU16C	TU16C							TU-16 BADGER-C ASUW ACFT W/AS-2 KIPPER
TU16D	TU16D							TU-16 BADGER-D MARITIME/ELECTRONIC RECON ACFT
TU16E	TU16E							TU-16 BADGER-E PHOTO RECON ACFT
TU16F	TU16F							TU-16 BADGER-F RECON ACFT
TU16G	TU16G							TU-16 BADGER-G BOMBER/ASUW ACFT

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APPENDIX B, PART IDFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
TU16H		TU16H						TU-16 BADGER-H EA, STANDOFF/ ESCORT ACFT
TU16J		TU16J						TU-16 BADGER-J EA, ESCORT JAMMING ACFT
TU16K		TU16K						TU-16 BADGER-K ELECTRONIC RECON ACFT
TU16M		TU16M						TU-16 BADGER-G MODIFIED ASUW ACFT
TU20		TU20						TU-20 BEAR BOMBER ACFT
TU204		TU204						TU-204 TRANSPORT/AIRLINER ACFT
TU214		TU214						TU-214 AEW ACFT
TU22		TU22						TU-22 BLINDER, GEN ACFT TYPE
TU22A		TU22A						TU-22 BLINDER-A BOMBER ACFT
TU22B		TU22B						TU-22 BLINDER-B SURFACE STRIKE ACFT
TU22C		TU22C						TU-22 BLINDER-C MARITIME RECON, EA/RECON/PHOTO ACFT
TU22D		TU22D						TU-22 BLINDER-D TRAINER ACFT
TU22M		TU22M						TU-22M BACKFIRE BOMBER ACFT
TU26		TU26						TU-26 BACKFIRE, GEN ACFT TYPE
TU26A		TU26A						TU-26 BACKFIRE-A STRIKE/ATTACK/ ASUW/RECON ACFT
TU26B		TU26B						TU-26 BACKFIRE-B STRIKE/ATTACK/ ASUW/RECON ACFT
TU26C		TU26C						TU-26 BACKFIRE-C STRIKE/ATTACK/ ASUW/RECON ACFT
TU28		TU28						TU-28P FIDDLER FTR/INTCP ACFT
TU334		TU334						TU-334 TRANSPORT/AIRLINER ACFT
TU44		TU44						TU-44 TRANSPORT/AIRLINER ACFT
TU95		TU95						TU-95 BEAR, GEN ACFT TYPE
TU95A		TU95A						TU-95 BEAR-A LR STRATEGIC BOMBER ACFT
TU95B		TU95B						TU-95 BEAR-B BOMBER/SURFACE STRIKE ACFT
TU95C		TU95C						TU-95 BEAR-C BOMBER/SURFACE STRIKE ACFT
TU95D		TU95D						TU-95 BEAR-D MARITIME RECON/TARGET GUIDANCE ACFT
TU95E		TU95E						TU-95 BEAR-E RECON BOMBER ACFT
TU95F		TU95F						TU-95 BEAR-F ASW ACFT

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART IDFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
TU95G		TU95G						TU-95 BEAR-G BOMBER/SURFACE STRIKE ACFT
TU95H		TU95H						TU-95 BEAR-H STRIKE ACFT W/LR ALCM
TUG		TUG						TUG, GENERAL
TUSS1		TUSS1						TU-SS-1 CRBM
U10		U10						U-10 COURIER ACFT
U17		U17						U-17 ACFT
U2		U2						U-2 US RECON ACFT
U21		U21						U-21 UTE ACFT
U2R		U2R						U-2R US RECON ACFT
U2S		U2S						U-2S US RECON ACFT
U3		U3						U-3 ACFT
U4		U4						U-4 AERO COMMANDER ACFT
U4320		U4320						URAL-4320 GENERAL PURPOSE TRUCK
U6		U6						U-6 BEAVER TRANSPORT/AIRLINER ACFT
U8		U8						U-8 SEMINOLE ACFT
U9		U9						U-9 ACFT
UAV		UAV						UAV, NFI [MIDB:APUZZ]
UAVCS		UAVCS						UAV CONTROL STATION
UC12		UC12						UC-12 HURON COMMERCIAL ACFT
UCALW		UCALW						UNGUIDED CONVENTIONAL AIR-LAUNCHED WPN
UFIRE		UFIRE						FIRE, NFI (NOT FURTHER IDENTIFIED)
UFO		UFO						UNIDENTIFIED FLYING OBJECT
UGM		UGM						UNDERWATER GUIDED MISSILE
UGM27		UGM27						UGM-27A/B/C POLARIS SLBM (NUC)
UGM84		UGM84						UGM-84 HARPOON SUB-BASED CRUISE ASUW
UGM96		UGM96						UGM-96A TRIDENT I SLBM, SUB-BASED (NUC)
UGV		UGV						UNMANNED GROUND VEHICLE
UH		UH						UTILITY HELICOPTER
UH1		UH1						UH-1 IROQUOIS TRANSPORT, ATTACK SUPPORT HELICOPTER
UH12		UH12						UH-12 (HILLER) HELICOPTER
UH2		UH2						UH-2 SEA SPRITE HELICOPTER

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APPENDIX B, PART IDFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
UH46	UH46							UH-46D SEA KNIGHT (BOEING) USN HELICOPTER
UH60	UH60							UH-60 BLACK HAWK HELICOPTER
UH60A	UH60A							UH-60A BLACK HAWK HELICOPTER
UI	UI							UNIDENTIFIED
UNK	UNK							UNKNOWN
UR375	UR375							URAL-375 RELOAD VEHICLE FOR SA4
URG	URG							UNDERWAY REPLENISHMENT GROUP
US1	US1							US-1 STOL SAR AMPHIBIAN ACFT
US3	US3							US-3 VIKING CARRIER-BASED ACFT
US3A	US3A							US-3A VIKING CARRIER-BASED ASW ACFT
USA	USA							UNITED STATES ARMY
USAF	USAF							UNITED STATES AIR FORCE
USCG	USCG							UNITED STATES COAST GUARD
USEMB	USEMB							UNITED STATES EMBASSY
USGBI	USGBI							U.S. GROUND BASED INTERCEPTOR (GBI) ABM
USLVH	USLVH							U.S. SPACE LAUNCH VEHICLE, HEAVY
USLVM	USLVM							U.S. SPACE LAUNCH VEHICLE, MEDIUM
USLVS	USLVS							U.S. SPACE LAUNCH VEHICLE, SMALL
USM	USM							UNDERWATER-TO-SURFACE MISSILE
USMC	USMC							UNITED STATES MARINE CORPS
USMLV	USMLV							U.S. MANNED SPACE LAUNCH VEHICLE
USN	USN							UNITED STATES NAVY
USS	USS							UNITED STATES SHIP
UVFLT	UVFLT							UNMANNED VEHICLE, IN FLIGHT
UWOA	UWOA							UNCONVENTIONAL WARFARE OPNS AREA
UXWHD	UXWHD							UNITARY (SINGLE CHARGE) HIGH EXPLOSIVE WARHEAD
UZ469	UZ469							UAZ-469 LIGHT VEHICLE
V22	V22							V-22/VC-22 OSPREY ACFT
V280	V280							V-280 VALOR TILTROTOR ACFT
VALLY	VALLY							VALLEY

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APPENDIX B, PART IDFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
VAW	VAW							CARRIER AEW ACFT (OR SQUADRON)
VC10	VC10							BAE VC-10 TANKER (UK VERSION KC-10) ACFT
VC11	VC11							VC-11 GULFSTREAM TRANSPORT/AIRLINER ACFT
VC137	VC137							VC-137 (BOEING) TRANSPORT/AIRLINER ACFT
VC25	VC25							VC-25 TRANSPORT/AIRLINER ACFT
VC47	VC47							VC-47 TRANSPORT/AIRLINER ACFT
VC6	VC6							VC-6 KING AIR TRANSPORT/AIRLINER ACFT
VC9	VC9							VC-9 SKYTRAIN II TRANSPORT/AIRLINER ACFT
VECTR	VECTR							VECTOR (CONDOR II VARIANT) LR EGYPTIAN SSM (MRBM)
VEGA	VEGA							VEGA SPACE LAUNCH VEHICLE
VEH	VEH							VEHICLE
VEHC	VEHC							COMBAT VEHICLE
VESSL	VESSL							VESSEL, GENERAL
VF	VF							FTR ACFT
VGK	VGK							SUPREME HIGH COMMAND
VH1	VH1							VH-1N EXECUTIVE MSN ACFT
VH3	VH3							VH-3D EXECUTIVE MSN ACFT
VIN	VIN							VEHICLE IDENTIFICATION (NUMBER)
VIP	VIP							VERY IMPORTANT PERSON
VISC	VISC							VISCOUNT TRANSPORT/AIRLINER ACFT
VLAD	VLAD							VLAD (NATO) SONOBUOY TYPE
VLAGE	VLAGE							VILLAGE
VLS	VLS							VERTICAL LAUNCH (WPN) SYS
VLSLV	VLSLV							VLS SPACE LAUNCH VEHICLE
VLVEH	VLVEH							VERY LIGHT WHEELED VEHICLE
VOLNA	VOLNA							VOLNA SPACE LAUNCH VEHICLE
VOR	VOR							VHF OMNIDIRECTIONAL RADIO RANGING AIR NAV AID
VP	VP							ASW PATROL ACFT (OR SQUADRON)
VPARK	VPARK							VEHICLE PARK
VS	VS							CARRIER ASW ACFT (OR SQUADRON)

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APPENDIX B, PART IDFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
VSLSM	VSLSM							VESSEL, GENERAL (SMALL)
VSTOL	VSTOL							VERTICAL SHORT TAKE-OFF AND LANDING ACFT
VTOL	VTOL							VERTICAL TAKE-OFF AND LANDING ACFT
VULCN	VULCN							XM-163/167 VULCAN ADA GUN, 20MM
W3	W3							W-3 SOKOL HELO
WAA	WAA							WIDE APERTURE ARRAY
WAAS	WAAS							WIDE AREA ACTIVE SURVEILLANCE RADAR
WAKE	WAKE							WAKE FROM A MARITIME VESSEL
WALLY	WALLY							WALLEYE GUIDED, AIR-SURFACE GLIDE BOMB
WAO	WAO							OILER, COAST GUARD
WARHD	WARHD							WARHEAD, GEN TYPE
WAS	WAS							WIDE APERTURE SONAR
WAYPT	WAYPT							WAYPOINT
WC130	WC130							WC-130 HERCULES ACFT
WC13J	WC13J							WC-130J HERCULES ACFT
WCON	WCON							WEATHER CONTROL RADAR
WFF	WFF							FRIGATE, COAST GUARD
WFFL	WFFL							CORVETTE, COAST GUARD
WFIRE	WFIRE							FIRE, WOOD-BURNING
WG13	WG13							WG-13 LYNX HELICOPTER
WG34	WG34							WG-34 (WESTLAND) HELICOPTER
WHEC	WHEC							USCG HIGH ENDURANCE CUTTER
WHEEL	WHEEL							WHEELED VEHICLE
WIG	WIG							WING-IN-GND CRAFT
WING	WING							AIR WING
WMEC	WMEC							USCG MEDIUM ENDURANCE CUTTER
WOC	WOC							WING OPERATIONS CENTER
WPBH	WPBH							PATROL BOAT, HYDROFOIL, COAST GUARD
WPBR	WPBR							RIVER/ROADSTEAD PATROL BOAT, COAST GUARD
WPC	WPC							PATROL CRAFT, COAST GUARD
WPCF	WPCF							PATROL CRAFT, FAST, COAST GUARD
WPCSH	WPCSH							SUBMARINE CHASER, HYDROFOIL, COAST GUARD
WPG	WPG							PATROL COMBATANT, COAST GUARD
WPGF	WPGF							PATROL SHIP, COAST GUARD

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART IDFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
WPN	WPN							WPN (WEAPON)
WPT	WPT							TORPEDO BOAT, COAST GUARD
WRM	WRM							WAR RESERVE MATERIAL
WS1	WS1							WS-1 SSM
WSE	WSE							WPN SUPPORT EQUIPMENT
XC2	XC2							XC-2 TRANSPORT/AIRLINER ACFT
XCVR	XCVR							TRANSCIEVER
XFMR	XFMR							TRANSFORMER
XK1	XK1							XK-1 TANK
XM1	XM1							XM-1 MAIN BATTLE TANK
XM163	XM163							XM-163 VULCAN AIR DEFENSE SYS
XM167	XM167							XM-167 VULCAN AIR DEFENSE SYS
XM198	XM198							XM-198 HOWITZER, MEDIUM TOWED, 155MM
XMTR	XMTR							XMTR (TRANSMITTER)
XPRTR	XPRTR							TRANSPORTER, GENERAL
Y11	Y11							YAK-11 MOOSE PROP TRAINER ACFT
Y11T	Y11T							Y-11 TRANSPORT/AIRLINER ACFT
Y12	Y12							YAK-12 CREEK PROP TRANSPORT ACFT
Y12T	Y12T							Y-12 TRANSPORT/AIRLINER ACFT
Y130	Y130							YAK-130 TRAINER ACFT
Y18	Y18							YAK-18 MAX PILOT TRAINER ACFT
Y20	Y20							Y-20 TRANSPORT ACFT
Y27	Y27							YAK-27RU MANDRAKE JET RECON ACFT
Y28	Y28							YAK-28 BREWER TACTICAL SUPPORT - RECON/EA BOMBER ACFT
Y28D	Y28D							YAK-28 BREWER-D RECON ACFT
Y28E	Y28E							YAK-28 BREWER-E EA ACFT
Y28FT	Y28FT							YAK-28 BREWER FTR ACFT
Y28P	Y28P							YAK-28P FIREBAR FTR INTCP ACFT
Y28U	Y28U							YAK-28U MAESTRO TRAINING VERSION OF Y28P FIREBAR ACFT
Y36	Y36							YAK-36 FORGER V/STOL FTR ACFT
Y38	Y38							YAK-38 FORGER V/STOL FTR ACFT
Y38A	Y38A							YAK-38 FORGER-A RECON/SEA STRIKE/FLEET DEFENSE ACFT
Y38B	Y38B							YAK-38 FORGER-B TRAINER ACFT

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APPENDIX B, PART IDFI NAME  
8019 ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	EQUIV	MOD	ACCURACY	EXPLANATION
Y40	Y40						YAK-40 CODLING JET TRANSPORT ACFT
Y42	Y42						YAK-42 CLOBBER JET TRANSPORT ACFT
Y5	Y5						Y-5 BIPLANE TRANSPORT/AIRLINER ACFT
Y50	Y50						YAK-50 AEROBATIC TRAINER ACFT
Y52	Y52						YAK-52 PILOT TRAINER ACFT - Y50 VARIANT
Y53	Y53						YAK-53 PILOT TRAINER ACFT - Y50/Y52 VARIANT
Y7	Y7						Y-7 TRANSPORT/AIRLINER ACFT
Y8	Y8						Y-8 TRANSPORT ACFT
Y9	Y9						Y-9 TRANSPORT ACFT
YAC	YAC						YACHT
YAG	YAG						MISC SERVICE CRAFT
YAM	YAM						MISSILE SUPPORT CRAFT
YAMM	YAMM						MISSILE SUPPORT BARGE
YC	YC						OPEN BARGE
YD	YD						FLOATING CRANE
YDT	YDT						DIVING TENDER
YES2A	YES2A						YE-SS-2 MOD 1 MSL
YES2B	YES2B						YE-SS-2 MOD 2 MSL
YF	YF						COVERED LIGHTER
YH	YH						AMBULANCE CRAFT
YM	YM						DREDGE
YON	YON						FUEL BARGE
YP	YP						YARD PATROL CRAFT
YR	YR						FLOATING WORKSHOP BARGE
YS11	YS11						YS-11 TRANSPORT/AIRLINER ACFT
YTR	YTR						FIRE BOAT
YW	YW						WATER LIGHTER
YXR	YXR						HULK OR RELIC
YXT	YXT						TRAINING CRAFT
Z10	Z10						Z-10 ATTACK HELICOPTER
Z11	Z11						Z-11 HELICOPTER
Z15	Z15						Z-15 HELICOPTER
Z19	Z19						Z-19 RECON/ATTACK HELICOPTER

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APPENDIX B, PART I

DFI      NAME  
8019    ENTITY TYPE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
Z131	Z131							ZIL-131 GENERAL PURPOSE TRUCK
Z135	Z135							HEAVY HAULING VEHICLE
Z151	Z151							ZIL-151 VEHICLE
Z157	Z157							ZIL-157 TRANSPORT VEHICLE
Z167	Z167							SA8 LAUNCH VEHICLE
Z20	Z20							Z-20 HELICOPTER
Z572	Z572							ZIL57-2 AAA VEHICLE, GEN TYPE
Z574	Z574							ZIL57-4 AAA VEHICLE, GEN TYPE
Z8	Z8							Z-8 HELICOPTER
Z9	Z9							Z-9 (HARBIN) PRC DOLPHIN HELICOPTER
ZBACO	ZBACO							AGNI PLUS ZBACO MISSILE
ZELZL	ZELZL							ZELZAL ROCKET
ZPU	ZPU							ANTI-ACFT MACHINE GUN
ZS23	ZS23							ZSU-23 AAA VEHICLE, GEN TYPE
ZS234	ZS234							ZSU-23-4 AAA VEHICLE
ZSX	ZSX							ZSU SELF-PROPELLED ANTI-ACFT GUN
ZU	ZU							TOWED ANTI-ACFT GUN

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APPENDIX B, PART I

DFI NAME DEFINITION  
8020 PITCH THE ANGLE OF THE LONGITUDINAL AXIS OF AN OBJECT WITH RESPECT TO THE LOCAL HORIZONTAL.

DATA STANDARD USAGE: IBS STATUS:

DUI NAME	EXPLANATION	APPLICABILITY
001 PITCH [Pitch]	THE ANGLE OF THE LONGITUDINAL AXIS OF AN OBJECT WITH RESPECT TO THE LOCAL HORIZONTAL.	ENTITY MESSAGE

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
FIELD	FLOAT

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: YES					
-180 THROUGH 180 DEGREES	-180 THROUGH 180		UNRANGED	REPORTED IN DEGREES. POSITIVE VALUES ARE AWAY FROM EARTH.	

**UNCLASSIFIED**

B1-406

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION			
8021	AIR DEFENSE DISTRICT	IDENTIFIES AN AIR DEFENSE DISTRICT.			
DATA STANDARD USAGE: IBS		STATUS:			
DUI NAME	EXPLANATION	APPLICABILITY			
001 AIR DEFENSE DISTRICT [Air_Defense_District]	ALPHANUMERIC INDICATING THE AIR DEFENSE DISTRICT.	ENTITY MESSAGE			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE				
FIELD	PATTERN				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: YES					
3[1A1A1AS][1D1D1D][1A 1D1D]	3[1A1A1AS][1D1D1D][1 A1D1D]	THE VALUES ARE ONE ALPHABETIC CHARACTER (A-Z) PLUS ONE ALPHABETIC CHARACTER PLUS ONE ALPHABETIC CHARACTER OR SPACE CHARACTER, OR ONE CHARACTER DIGIT (INTEGER VALUE 0-999) PLUS ONE CHARACTER DIGIT PLUS ONE CHARACTER DIGIT, OR ONE ALPHABETIC CHARACTER (A-Z) PLUS ONE CHARACTER DIGIT (INTEGER VALUE 0-99) PLUS ONE CHARACTER DIGIT.			

**UNCLASSIFIED**

B1-407

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION
8022	POWER RATIO	DESCRIBES THE RATIO OF TWO AMPLITUDES.
DATA STANDARD USAGE: IBS		STATUS:
DUI NAME		EXPLANATION
002 SIGNAL TO NOISE RATIO [Signal_To_Noise_Ratio]		THE VALUE OF THE SIGNAL COMPARED TO THE VALUE OF THE NOISE IN A PARTICULAR APPLICATION.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	ENTITY MESSAGE
FIELD	FLOAT	
DATA ITEM	VALUE RANGE	UNIT EQUIV MOD ACCURACY EXPLANATION
----- FOR DUI 002 -----		
RESET ATTRIBUTE: YES		
0 THROUGH 999 DECIBELS	0 THROUGH 999	UNRANGED REPORTED IN DECIBELS

**UNCLASSIFIED**

B1-408

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION
8027	COMMUNICATIONS CHANNELS	SPECIFIES CHARACTERISTICS OF COMMUNICATIONS CHANNELS.
	DATA STANDARD USAGE: IBS	STATUS:
	DUI NAME	EXPLANATION
001	VG CHANNEL SPACING [VG_Chnl_Spacing]	DESCRIBES THE SEPARATION BETWEEN THE START OF ONE VOICE GRADE CHANNEL (VGC) TO THE START OF THE NEXT VGC ON A COMMUNICATIONS CIRCUIT.
002	SUBCARRIER TONE SPACING [Subcarrier_Tone_Spacing]	DESCRIBES THE SEPARATION BETWEEN THE START OF ONE AUDIO TONE TO THE START OF THE NEXT AUDIO TONE USED AS SUBCARRIERS FOR TELEMETRY CIRCUITS.
003	NUMBER OF VG CHANNELS [Num_VG_Chnls]	DESCRIBES THE NUMBER OF VOICE GRADE CHANNELS (VGC) WITHIN A COMMUNICATIONS CIRCUIT.
004	NUMBER OF SUBCARRIER TONES [Num_Subcarrier_Tones]	DESCRIBES THE NUMBER OF SUBCARRIER TONES WITHIN A COMMUNICATIONS CIRCUIT.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	INTEGER	
	DUI NAME	EXPLANATION
005	PILOT TONE [Pilot_Tone]	DESCRIBES THE FREQUENCY OF THE PILOT TONE(S) USED BY RECEIVERS TO DETERMINE IF SUFFICIENT POWER EXISTS FOR PROCESSING THE DATA CONTAINED IN THE BASEBAND.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8027 COMMUNICATIONS CHANNELS

FIELD FLOAT

DUI NAME	EXPLANATION	APPLICABILITY
006 NUMBER OF PILOT TONES [Num_Pilot_Tones]	DESCRIBES THE NUMBER OF PILOT TONES PRESENT IN A COMMUNICATIONS CIRCUIT.	ENTITY MESSAGE

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
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FIELD INTEGER

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 001 -----

RESET ATTRIBUTE: YES

1 THROUGH 10,000        1 THROUGH 10000

REPORTED IN HERTZ.

----- FOR DUI 002 -----

RESET ATTRIBUTE: YES

1 THROUGH 480 HERTZ        1 THROUGH 480

REPORTED IN HERTZ.

----- FOR DUI 003 -----

RESET ATTRIBUTE: YES

1 THROUGH 999        1 THROUGH 999

----- FOR DUI 004 -----

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B1-410

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MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8027 COMMUNICATIONS CHANNELS

RESET ATTRIBUTE: YES

1 THROUGH 99                  1 THROUGH 99

----- FOR DUI 005 -----

RESET ATTRIBUTE: YES

0 EXCLUSIVE THROUGH        0 EXCLUSIVE THROUGH                  UNRANGED      REPORTED IN HERTZ  
9999 KHZ                    9999E3

----- FOR DUI 006 -----

RESET ATTRIBUTE: YES

1 THROUGH 127                1 THROUGH 127

**UNCLASSIFIED**

B1-411

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION			
8028	RADIO IDENTIFICATION	RADIO IDENTIFICATION NUMBER.			
DATA STANDARD USAGE: IBS		STATUS:			
DUI NAME	EXPLANATION	APPLICABILITY			
001 RADIO ID [Radio_ID]	IDENTIFIES THE RADIO TRANSCEIVER BY SERIAL NUMBER.	ENTITY MESSAGE			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE				
FIELD	STRING				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: YES					
1 TO 24 CHARACTERS	1 TO 24 CHARACTERS				

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B1-412

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8030 DATA RATE DEFINITION  
SPECIFIES THE DATA RATE USED BY COMMUNICATIONS CHANNELS.

DATA STANDARD USAGE: IBS STATUS:

DUI NAME	EXPLANATION	APPLICABILITY
002 PULSE RATE, COMINT [Pulse_Rate]	THE COMINT PULSE REPETITION FREQUENCY AT WHICH PULSES, OR A GROUP OF PULSES, ARE TRANSMITTED BY AN ELECTRONIC Emitter, EXPRESSED IN PULSES PER SECOND.	ENTITY MESSAGE

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
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FIELD	INTEGER
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DUI NAME	EXPLANATION	APPLICABILITY
005 BIT RATE [Bit_Rate]	THE NUMBER OF BITS PER SECOND USED BY A COMMUNICATIONS CHANNEL FOR DATA TRANSFER.	ENTITY MESSAGE

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
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FIELD	FLOAT
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DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 002 -----

RESET ATTRIBUTE: YES

1 THROUGH 256	1 THROUGH 256	MULT: 1E3	IN 1 PULSE PER SECOND INCREMENTS. AFTER APPLICATION OF THE VALUE MULTIPLIER, THE VALUE OF PULSE RATE WILL BE 1,000 THROUGH 256,000 PULSES PER SECOND (PPS).
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**UNCLASSIFIED**

B1-413

**UNCLASSIFIED**

MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8030 DATA RATE

----- FOR DUI 005 -----

RESET ATTRIBUTE: YES

0 EXCLUSIVE THROUGH 0 EXCLUSIVE THROUGH  
10,000,000,000,000 1E13 EXCLUSIVE  
EXCLUSIVE BPS

UNRANGED REPORTED IN BITS PER SECOND  
(BPS)  
DEFAULT ACCURACY = 1E3 BPS

**UNCLASSIFIED**

B1-414

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8032 PLACE/PLATFORM IDENTIFICATION  
NUMBER (PIN)

DEFINITION  
NUMBER WHICH IDENTIFIES THE INSTALLATION (SITE/PLACE) AND  
ASSOCIATED EQUIPMENT.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME

EXPLANATION

APPLICABILITY

001 PIN CONFIRMED EQUIPMENT ID  
[PIN\_Confirm\_Equip\_ID]

THE PRIMARY IDENTIFICATION NUMBER  
FOR THE ESTABLISHED ENTITY.

ENTITY MESSAGE

002 PIN UNCONFIRMED EQUIPMENT ID  
[PIN\_Unconfirm\_Equip\_ID]

THE PRIMARY IDENTIFICATION NUMBER  
FOR THE ENTITY BEING DEVELOPED  
AND THE SITE HAS BEEN  
ESTABLISHED.

ENTITY MESSAGE

003 PIN UNCONFIRMED SITE  
[PIN\_Unconfirm\_Site]

THE PRIMARY IDENTIFICATION NUMBER  
FOR THE ENTITY BEING DEVELOPED  
AND THE SITE HAS NOT BEEN  
ESTABLISHED.

ENTITY MESSAGE

DATA ELEMENT TYPE  
REPRESENTATION TYPE

FIELD PATTERN

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUIS 001 AND 002 -----

RESET ATTRIBUTE: YES

5D3N 5D3N

THE VALUES ARE FIVE CHARACTER  
DIGITS (INTEGER VALUE 0-  
99999) FOLLOWED BY THREE  
NUMERIC DIGITS (INTEGER  
VALUE 0-999).

----- FOR DUI 003 -----

RESET ATTRIBUTE: YES

**UNCLASSIFIED**

B1-415

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI      NAME  
8032    PLACE/PLATFORM IDENTIFICATION  
          NUMBER (PIN)

1A4D3N

1A4D3N

THE VALUES ARE ONE ALPHABETIC CHARACTER (A-Z), FOUR CHARACTER DIGITS (INTEGER VALUE 0-9999), AND THREE NUMERIC DIGITS (INTEGER VALUE 0-999).

**UNCLASSIFIED**

B1-416

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	
8033	BASIC ENCYCLOPEDIA (BE) NUMBER	A COMPILATION OF INSTALLATIONS AND PHYSICAL AREAS OF POTENTIAL SIGNIFICANCE AS OBJECTS FOR ATTACK.	
	DATA STANDARD USAGE: IBS	STATUS:	
	DUI NAME	EXPLANATION	APPLICABILITY
001	BE NUMBER, STANDARD [BE_Num_Std]	A UNIQUE 10 CHARACTER REFERENCE NUMBER CONSISTING OF TWO PARTS; THE WORLD AERONAUTICAL CHART (WAC) NUMBER AND A UNIQUE INSTALLATION NUMBER.	ENTITY MESSAGE
002	BE NUMBER, SPECIFIC USE [BE_Num_Specific_Use]	VARIATION OF STANDARD BE NUMBER UTILIZED TO DENOTE SPECIFIC TYPE OF INSTALLATION SUCH AS AN AIRFIELD OR ELECTRONIC SITE.	ENTITY MESSAGE
003	BE SUFFIX [BE_Sfx]	A UNIQUELY ASSIGNED NUMBER THAT IDENTIFIES FACILITIES WITHIN AN INSTALLATION TO BE UNIQUELY IDENTIFIED AS BELONGING TO A PARENT INSTALLATION.	ENTITY MESSAGE
004	BE NUMBER, FIELD INITIATED [BE_Num_Field_Initiated]	A PRODUCER GENERATED NUMBER CONSISTING OF THE WORLD AERONAUTICAL CHART (WAC) NUMBER (4 CHARACTERS), TWO ALPHA CHARACTERS REPRESENTING THE EXPLOITATION ELEMENT, AND A 4 DIGIT ORIGINATOR ASSIGNED INSTALLATION IDENTIFICATION NUMBER.	ENTITY MESSAGE
006	BE ORIGINATOR SUFFIX [BE_Orig_Sfx]	a combination of a two-letter code of the originating intelligence producing agency and a three-digit, consecutively sequenced number for each new facility identified by the originating agency at that installation. (aka o-suffix)	ENTITY MESSAGE

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B1-417

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8033 BASIC ENCYCLOPEDIA (BE) NUMBER

DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE  
  
FIELD PATTERN

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 001 AND 002 -----

RESET ATTRIBUTE: YES

4N1XHS1X4N                  4N1XHS1X4N

THE VALUES ARE FOUR NUMERIC DIGITS (0-9999), ONE ALPHANUMERIC CHARACTER (A-Z, 0-9) OR A HYPHEN (-) OR A SPACE CHARACTER, ONE ALPHANUMERIC CHARACTER (A-Z, 0-9), AND FOUR NUMERIC DIGITS (0-9999).

----- FOR DUI 003 -----

RESET ATTRIBUTE: YES

2N                  2N

THE VALUES ARE TWO NUMERIC CHARACTERS (0-9).

----- FOR DUI 004 -----

RESET ATTRIBUTE: YES

4N2A4N                  4N2A4N

THE VALUES ARE FOUR NUMERIC DIGITS (INTEGER VALUE 0-9999), TWO ALPHABETIC CHARACTERS (A-Z), AND FOUR NUMERIC DIGITS (INTEGER VALUE 0-9999).

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B1-418

**UNCLASSIFIED**

MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8033 BASIC ENCYCLOPEDIA (BE) NUMBER

----- FOR DUI 006 -----

RESET ATTRIBUTE: YES

5XHS

5XHS

THE VALUES ARE FIVE  
ALPHANUMERIC CHARACTERS (A-  
Z OR 0-9), HYPHEN (-), OR  
SPACE CHARACTERS.

**UNCLASSIFIED**

B1-419

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8035 MIDB EQUIPMENT CODE

DEFINITION  
THE EQUIPMENT IDENTIFICATION ASSIGNED BY THE NATIONAL LEVEL  
REPOSITORY FOR GENERAL MILITARY INTELLIGENCE, ALSO KNOWN AS THE  
MILITARY INTELLIGENCE DATABASE (MIDB).

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME	EXPLANATION	APPLICABILITY
001 MIDB EQUIPMENT CODE [MIDB_Equip_Code]	THE EQUIPMENT IDENTIFICATION ASSIGNED BY THE NATIONAL LEVEL REPOSITORY FOR GENERAL MILITARY INTELLIGENCE, ALSO KNOWN AS THE MODERNIZED INTEGRATED DATABASE (MIDB).	ENTITY MESSAGE

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
FIELD	PATTERN

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: YES	5XS	5XS			THE VALUES ARE FIVE ALPHANUMERIC CHARACTERS (A- Z, 0-9) OR SPACE CHARACTERS.

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B1-420

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	
8036	EMITTER/TRANSMISSION DESCRIPTION		
	DATA STANDARD USAGE: IBS	STATUS:	
	DUI NAME	EXPLANATION	APPLICABILITY
001	ELINT NOTATION [ELNOT]	IDENTIFIER OF AN ENTITY AS RECORDED IN THE COMBINED EMITTER DATABASE (CED) .	ENTITY MESSAGE
002	ARBITRARY ELINT NOTATION [AEN]	TEMPORARY IDENTIFIER FOR ENTITIES NOT LISTED IN THE CED OR MIDB EQUIPMENT CODES.	ENTITY MESSAGE
003	COMMUNICATIONS EMITTER NOTATION [CENOT]	IDENTIFIER OF AN ENTITY AS RECORDED IN THE CED.	ENTITY MESSAGE
	DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
	FIELD	PATTERN	
	DUI NAME	EXPLANATION	APPLICABILITY
004	TRANSMISSION DESCRIPTION [Xmit_Desc]	INDICATES GENERAL OR SPECIFIC TYPE OF EMITTER AND/OR TRANSMISSION.	ENTITY MESSAGE
005	FIS NOTATION [FISNOT]	THE FOREIGN INSTRUMENTATION SIGNALS (FIS) NOTATION AS RECORDED IN THE VINTAGE HARVEST SIGNALS DATA BASE.	ENTITY MESSAGE

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B1-421

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8036 Emitter/Transmission Description

DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE

FIELD STRING

DUI NAME	EXPLANATION	APPLICABILITY
006 ADEPT TAG [ADEPT_Tag]	IDENTIFIES A PARTICULAR BEHAVIOR OBSERVED ON AN INTERCEPT WHEN USING THE ALGORITHM DEVELOPMENT OF ENHANCED PROCESSING TECHNIQUES.	ENTITY MESSAGE

DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE

FIELD PATTERN

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
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----- FOR DUI 001 -----

RESET ATTRIBUTE: YES

1A3N1X 1A3N1X

THE VALUES ARE ONE ALPHABETIC  
CHARACTER (A-Z), THREE  
NUMERIC DIGITS (0-9), AND  
ONE ALPHANUMERIC CHARACTER  
(A-Z, 0-9).

----- FOR DUI 002 -----

RESET ATTRIBUTE: YES

3N2A 3N2A

THE VALUES ARE THREE NUMERIC  
DIGITS (INTEGER VALUES 0-  
9), AND TWO ALPHABETIC  
CHARACTERS (A-Z).

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B1-422

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8036 Emitter/transmission description

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 003 -----					
RESET ATTRIBUTE: YES					
2A3N	2A3N				THE VALUES ARE TWO ALPHABETIC CHARACTERS (A-Z) AND THREE NUMERIC DIGITS (INTEGER VALUES 0-9).
----- FOR DUI 004 -----					
RESET ATTRIBUTE: YES					
1B1	1B1				
AI	AI				*SEE ANNEX A*
AJ	AJ				AIRBORNE INTERCEPT RADAR
AL	AL				ANTI-JAM EMITTER
AM	AM				ALTIMETER EMITTER
AMC	AMC				AMPLITUDE MOD EMITTER
AMG	AMG				AUTOMATIC MORSE CALLS
AMNC	AMNC				AUTOMATIC MORSE - GENERAL
AMOP	AMOP				AUTOMATIC MORSE - ENCRYPTED
AMPL	AMPL				AMPLITUDE MOD ON PULSE
					AUTOMATIC MORSE - PLAIN LANGUAGE
AMV	AMV				AMPLITUDE MODULATED VOICE
AQ	AQ				ACQUISITION RADAR
ASR	ASR				AIR SURVEILLANCE RADAR
ATDS	ATDS				AIRBORNE TACTICAL DATA SYS
AUTO	AUTO				AUTO ALARM
BECN	BECN				BEACON
BEEF	BEEF				BEEFSTEAK
BITU	BITU				BITUMEN
BS	BS				BATTLEFIELD SURVEILLANCE EMITTER
C2	C2				COMMAND AND CONTROL EMITTER
CAMP	CAMP				CAMPFIRE

**UNCLASSIFIED**

B1-423

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8036 Emitter/Transmission Description

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
CB	CB					COUNTER-BATTERY RADAR
CDMA	CDMA					CODE DIVISION MULTIPLE ACCESS
CONJ	CONJ					CONJUROR
CTL	CTL					CONTROL FUNC
DATA	DATA					DATA TRANSMISSION EMITTER
DCS	DCS					DEFENSE COMM(S) SYS EMITTER
DDL	DDL					DIRECT DOWN LINK EMITTER
DECM	DECM					DECEPTIVE EA EMITTER
DERI	DERI					DERISION
DL	DL					DATA LINK EMITTER
DME	DME					DISTANCE MEASURING EQUIPMENT
DN	DN					DATA NETWORK EMITTER
DOE	DOE					DOESKIN
DORI	DORI					DORIMAR
DSSS	DSSS					DIRECT SEQUENCE SPREAD SPECTRUM EMITTER (AKA CDMA)
E3	E3					ELECTROMAGNETIC ENVIRONMENTAL EFFECTS EMITTER
EA	EA					EA SITE/EMITTER
EACE	EACE					EA COMM(S) EMITTER
EADE	EADE					EA DECOY EMITTER
EAR	EAR					ELECTRONICALLY AGILE RADAR
EARE	EARE					EA RADAR EMITTER
EAU	EAU					EA MULTIPURPOSE EMITTER
EMI	EMI					ELECTROMAGNETIC INTERFERENCE OPN/STATUS
EMP	EMP					ELECTROMAGNETIC PULSE ACTY
EMT	EMT					EMITTER, GEN TYPE
EO	EO					ELECTRO-OPTICS EMITTER
EP	EP					EP EMITTER
ERFL	ERFL					EARFUL
ES	ES					ELECTRONIC (WARFARE) SUPPORT MEASURES MSN/OPN
EW	EW					EARLY WARNING RADAR
FAX	FAX					FACSIMILE
FD	FD					FREQUENCY DIVISION MULTIPLEX (FM/FDM)
FDM	FDM					FREQUENCY DIVISION MULTIPLEX
FEL	FEL					FREE ELECTRON LASER
FH	FH					FREQUENCY HOP SPREAD SPECTRUM
FING	FING					FINGERTIP

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B1-424

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8036 Emitter/Transmission Description

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
FLIR	FLIR					FORWARD LOOKING INFRARED SENSOR
FLR	FLR					FORWARD LOOKING RADAR (SENSOR)
FM	FM					FREQUENCY MOD EMITTER
FSK	FSK					FREQUENCY SHIFT KEY EMITTER
FUTI	FUTI					FUTILITY
GBL	GBL					GND-BASED LASER
GEN	GEN					GENSON
GPS	GPS					GLOBAL POSITIONING SYS
HBEN	HBEN					HELLBENDER
HEMP	HEMP					HIGH ALTITUDE ELECTROMAGNETIC PULSE
HF	HF					HEIGHT FINDER (RADAR)
HOJ	HOJ					HOME-ON-JAM
HR	HR					HIGH RESOLUTION EMITTER
HRR	HRR					HIGH RESOLUTION RADAR
HRSL	HRSL					HIGH RESOLUTION SCANNING LASER
IFF	IFF					IDENTIFICATION FRIEND OR FOE
IIR	IIR					IMAGING INFRARED SEEKER
ILS	ILS					INSTRUMENT LANDING SYS
IMOP	IMOP					INTENTIONAL MOD-ON-PULSE
INMR	INMR					INMARSAT SATELLITE COMMUNICATIONS
INS	INS					INERTIAL NAVIGATION SYS
IR	IR					INFRARED (IMAGERY/GUIDANCE) EMITTER
JAMA	JAMA					JAMMING, AI OR FIRE CONTROL RADAR
JAMC	JAMC					JAMMING, COMM(S)
JAMR	JAMR					JAMMING, RADAR
JX	JX					JAM OR JAMMER
KG14	KG14					KG-14 ENCIPHERED DATA (CREW)
KG22	KG22					KG-22 ENCIPHERED DATA (NTDS LINK 11)
KG40	KG40					KG-40 ENCIPHERED DATA (NTDS LINK 14)
KLEP	KLEP					KLEPSON
KRAB	KRAB					*SEE ANNEX A*
KW37	KW37					KW-37 ENCIPHERED DATA (JASON)
LDSD	LDSD					LOOK-DOWN SHOOT-DOWN (RADAR)
LGS	LGS					LASER GUIDANCE SYS

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B1-425

**UNCLASSIFIED**

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APPENDIX B, PART I

DFI NAME  
8036 Emitter/Transmission Description

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
LPAR	LPAR							LARGE PHASED ARRAY
LPI	LPI							LOW PROBABILITY OF INTERCEPT
LPIR	LPIR							MSN/OPN
LRF	LRF							LOW PROBABILITY OF INTERCEPT
MAD	MAD							RADAR
MARA	MARA							LASER RANGE FINDER
MARU	MARU							MAGNETIC ANOMALY DETECTION
MASE	MASE							MARABOU
MED	MED							MARULA
MFAR	MFAR							MASEFIELD
MIJI	MIJI							MANIPULATIVE ELECTRONIC
MK76	MK76							DECEPTION EMITTER
MK86	MK86							MULTI-FUNC ARRAY RADAR
MK91	MK91							MEACONING, INTRUSION, JAMMING,
MK92	MK92							INTERFERENCE EMITTER
MK95	MK95							MK-76 FIRE CONTROL SYS
MLS	MLS							MK-86 GUN FIRE CONTROL SYS
MM	MM							MK-91 RADAR
MM3C	MM3C							MK-92 FIRE CONTROL SYS
MM3G	MM3G							MK-95 RADAR
MM3L	MM3L							MICROWAVE LANDING SYS
MM3M	MM3M							MANUAL MORSE - GENERAL
MM4C	MM4C							MANUAL MORSE - 3 ELEMENT CUT
MM4G	MM4G							NUMBER
MM4L	MM4L							MANUAL MORSE - 3 ELEMENT FIGURE
MM4M	MM4M							GROUPS
MM5C	MM5C							MANUAL MORSE - 3 ELEMENT LETTER
								GROUPS
								MANUAL MORSE - 3 ELEMENT MIXED
								GROUPS
								MANUAL MORSE - 4 ELEMENT CUT
								NUMBER GROUPS
								MANUAL MORSE - 4 ELEMENT FIGURE
								GROUPS
								MANUAL MORSE - 4 ELEMENT LETTER
								GROUPS
								MANUAL MORSE - 4 ELEMENT MIXED
								GROUPS
								MANUAL MORSE - 5 ELEMENT CUT
								NUMBERS

**UNCLASSIFIED**

B1-426

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8036 Emitter/Transmission Description

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
MM5G	MM5G					MANUAL MORSE - 5 ELEMENT FIGURE GROUPS
MM5L	MM5L					MANUAL MORSE - 5 ELEMENT LETTER GROUPS
MM5M	MM5M					MANUAL MORSE - 5 ELEMENT MIXED GROUPS
MMCH	MMCH					MANUAL MORSE - CHATTER
MMCL	MMCL					MANUAL MORSE - CALLING
MMCN	MMCN					MANUAL MORSE - VARIABLE LENGTH CUT NUMBER GROUPS
MMPL	MMPL					MANUAL MORSE - PLAIN LANGUAGE
MMVF	MMVF					MANUAL MORSE - VARIABLE LENGTH FIGURE NUMBER GROUPS
MMVG	MMVG					MANUAL MORSE - VARIABLE LENGTH GROUPS
MMVM	MMVM					MANUAL MORSE - VARIABLE LENGTH MIXED GROUPS
MMW	MMW					MILLIMETER WAVE
MOP	MOP					MOD-ON-PULSE
MTI	MTI					MOVING TARGET INDICATOR (RADAR)
MULT	MULT					MULTITONE
MUMP	MUMP					MUMPISH (STEPPED TONE)
MUX	MUX					MULTIPLEX (CDMA/FDMA/TDMA)
MW	MW					MILLIMETER WAVE
MWR	MWR					MILLIMETER WAVE RADAR
NAV	NAV					NAVIGATION EMITTER
NCS	NCS					NET CONTROL STATION
NECR	NECR					NECROSIS
NET	NET					NETWORK COMM(S)
OOK	OOK					ON-OFF KEYING/KEYED (MOD)
OTHB	OTHB					OVER-THE-HORIZON BACKSCATTER RADAR
OTHR	OTHR					OVER-THE-HORIZON RADAR
OTHT	OTHT					OVER-THE-HORIZON TARGETING MSN/OPN
OVER	OVER					OVERSHOE
PAR	PAR					PHASED ARRAY RADAR
PAWS	PAWS					PHASED ARRAY WARNING SYS
PCM	PCM					PULSE CODE MOD
PDM	PDM					PULSE DURATION MOD

**UNCLASSIFIED**

B1-427

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8036 Emitter/transmission description

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE EQUIV	MOD	ACCURACY	EXPLANATION
PF1	PF1						*SEE ANNEX A*
PF2	PF2						*SEE ANNEX A*
PF3	PF3						*SEE ANNEX A*
PF4	PF4						*SEE ANNEX A*
PF5	PF5						*SEE ANNEX A*
PF6	PF6						*SEE ANNEX A*
PF7	PF7						*SEE ANNEX A*
PF8	PF8						*SEE ANNEX A*
PF9	PF9						*SEE ANNEX A*
PF10	PF10						*SEE ANNEX A*
PF11	PF11						*SEE ANNEX A*
PF12	PF12						*SEE ANNEX A*
PF13	PF13						*SEE ANNEX A*
PF14	PF14						*SEE ANNEX A*
PF15	PF15						*SEE ANNEX A*
PF16	PF16						*SEE ANNEX A*
PF17	PF17						*SEE ANNEX A*
PF18	PF18						*SEE ANNEX A*
PF19	PF19						*SEE ANNEX A*
PF20	PF20						*SEE ANNEX A*
PF21	PF21						*SEE ANNEX A*
PF22	PF22						*SEE ANNEX A*
PF23	PF23						DATA STREAM
PF24	PF24						DATA
PF25	PF25						*SEE ANNEX A*
PF26	PF26						*SEE ANNEX A*
PF27	PF27						*SEE ANNEX A*
PF28	PF28						*SEE ANNEX A*
PF29	PF29						*SEE ANNEX A*
PF30	PF30						*SEE ANNEX A*
PF31	PF31						*SEE ANNEX A*
PF32	PF32						*SEE ANNEX A*
PF33	PF33						*SEE ANNEX A*
PF34	PF34						*SEE ANNEX A*
PF35	PF35						DATA SIGNAL
PF36	PF36						*SEE ANNEX A*
PF37 THROUGH PF99	PF37 THROUGH PF99						DATA SIGNAL
PKDR	PKDR						PARK DRIVE SYSTEM
PPI	PPI						PLAN POSITION INDICATOR
PPM	PPM						PULSE POSITION MOD

**UNCLASSIFIED**

B1-428

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8036 Emitter/transmission description

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	MOD	VALUE	ACCURACY	EXPLANATION
PRIN	PRIN						1T1 SINGLE CHANNEL UNENCIPHERED PRINTER
R102	R102						R102 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R103	R103						R103 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R104	R104						R104 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R105	R105						R105 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R106	R106						R106 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R107	R107						R107 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R108	R108						R108 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R109	R109						R109 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R110	R110						R110 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R111	R111						R111 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R112	R112						R112 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R113	R113						R113 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R114	R114						R114 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R116	R116						R116 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R118	R118						R118 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R121	R121						R121 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R122	R122						R122 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R123	R123						R123 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R125	R125						R125 FAMILY OF RADIO EQUIPMENT (SEE MEPED)

**UNCLASSIFIED**

B1-429

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8036 Emitter/transmission description

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	MOD	VALUE	ACCURACY	EXPLANATION
R126	R126						R126 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R128	R128						R128 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R129	R129						R129 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R130	R130						R130 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R131	R131						R131 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R133	R133						R133 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R135	R135						R135 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R136	R136						R136 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R137	R137						R137 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R138	R138						R138 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R140	R140						R140 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R142	R142						R142 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R143	R143						R143 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R145	R145						R145 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R146	R146						R146 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R147	R147						R147 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R148	R148						R148 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R150	R150						R150 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R152	R152						R152 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R157	R157						R157 FAMILY OF RADIO EQUIPMENT (SEE MEPED)

**UNCLASSIFIED**

B1-430

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8036 Emitter/transmission description

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
R158	R158					R158 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R159	R159					R159 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R161	R161					R161 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R350	R350					R350 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R352	R352					R352 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R393	R393					R393 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R400	R400					R400 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R401	R401					R401 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R403	R403					R403 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R404	R404					R404 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R405	R405					R405 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R406	R406					R406 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R407	R407					R407 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R408	R408					R408 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R409	R409					R409 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R410	R410					R410 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R411	R411					R411 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R412	R412					R412 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R413	R413					R413 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R414	R414					R414 FAMILY OF RADIO EQUIPMENT (SEE MEPED)

**UNCLASSIFIED**

B1-431

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8036 Emitter/transmission description

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
R415	R415					R415 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R416	R416					R416 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R420	R420					R420 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R600	R600					R600 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R601	R601					R601 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R602	R602					R602 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R603	R603					R603 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R604	R604					R604 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R605	R605					R605 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R606	R606					R606 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R607	R607					R607 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R609	R609					R609 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R611	R611					R611 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R612	R612					R612 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R613	R613					R613 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R615	R615					R615 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R619	R619					R619 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R623	R623					R623 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R630	R630					R630 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R632	R632					R632 FAMILY OF RADIO EQUIPMENT (SEE MEPED)

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8036 Emitter/transmission description

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	MOD	VALUE	ACCURACY	EXPLANATION
R634	R634						R634 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R635	R635						R635 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R636	R636						R636 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R637	R637						R637 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R641	R641						R641 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R642	R642						R642 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R643	R643						R643 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R644	R644						R644 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R645	R645						R645 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R646	R646						R646 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R647	R647						R647 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R648	R648						R648 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R650	R650						R650 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R651	R651						R651 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R652	R652						R652 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R653	R653						R653 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R654	R654						R654 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R657	R657						R657 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R660	R660						R660 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R662	R662						R662 FAMILY OF RADIO EQUIPMENT (SEE MEPED)

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8036 Emitter/transmission description

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
R664	R664					R664 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R665	R665					R665 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R666	R666					R666 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R667	R667					R667 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R800	R800					R800 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R801	R801					R801 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R802	R802					R802 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R803	R803					R803 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R804	R804					R804 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R805	R805					R805 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R806	R806					R806 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R807	R807					R807 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R809	R809					R809 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R811	R811					R811 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R812	R812					R812 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R813	R813					R813 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R814	R814					R814 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R815	R815					R815 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R817	R817					R817 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R820	R820					R820 FAMILY OF RADIO EQUIPMENT (SEE MEPED)

**UNCLASSIFIED**

B1-434

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8036 Emitter/transmission description

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE EQUIV	MOD	ACCURACY	EXPLANATION
R821	R821						R821 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R822	R822						R822 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R823	R823						R823 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R824	R824						R824 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R825	R825						R825 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R829	R829						R829 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R830	R830						R830 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R831	R831						R831 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R832	R832						R832 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R834	R834						R834 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R835	R835						R835 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R836	R836						R836 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R837	R837						R837 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R842	R842						R842 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R845	R845						R845 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R847	R847						R847 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R848	R848						R848 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R850	R850						R850 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R851	R851						R851 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R852	R852						R852 FAMILY OF RADIO EQUIPMENT (SEE MEPED)

**UNCLASSIFIED**

B1-435

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART I

DFI NAME  
8036 Emitter/Transmission Description

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
R855	R855					R855 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R860	R860					R860 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R862	R862					R862 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R864	R864					R864 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R934	R934					R934 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R950	R950					R950 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R960	R960					R960 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
R975	R975					R975 FAMILY OF RADIO EQUIPMENT (SEE MEPED)
RATT	RATT					RADIO TELEPRINTER/ TELETYPEWRITER
RDR	RDR					RADAR, GEN TYPE
RFI	RFI					RADIO FREQUENCY INTERFERENCE
RFP	RFP					RADIO FREQUENCY PULSE
RT	RT					RADIO TELEPHONE
SBL	SBL					SPACE BASED LASER
SBR	SBR					SPACE BASED RADAR
SHAD	SHAD					SHADOOF
SKEE	SKEE					SKEETER
SLAR	SLAR					SIDE LOOKING AIRBORNE RADAR
SLOC	SLOC					SEA LINES OF COMM(S)
SOI	SOI					SIGNAL OF INTEREST
SONO	SONO					SONOBUOY
SSB	SSB					SINGLE SIDE-BAND Emitter
SSIS	SSIS					SPREAD SPECTRUM INTERCEPT
SSJ	SSJ					SELF-SCREENING JAMMER
SSPA	SSPA					SOLID STATE PHASED ARRAY
SSV	SSV					SINGLE SIDEBAND VOICE
STDL	STDL					STRUDEL
STDY	STDY					STEADY CARRIER
STRV	STRV					STARVELING
TCAN	TCAN					TACAN
TDMA	TDMA					TIME DIVISION MULTIPLE ACCESS EMITTER

**UNCLASSIFIED**

B1-436

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8036 Emitter/Transmission Description

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
TFR	TFR							TERRAIN FOLLOWING RADAR
TG	TG							TRACKING GUIDANCE RADAR
THRO	THRO							THROSTLE
TI	TI							TARGET ILLUMINATION FUNC
TJS	TJS							TACTICAL JAMMING SYS
TMR	TMR							TRUNKED MOBILE RADIO
TTR	TTR							TARGET TRACKING RADAR
TTY	TTY							TELETYPEWRITER
UI	UI							UNIDENTIFIED
UINM	UINM							UNIDENTIFIED NON-MORSE SIGNAL
UMOP	UMOP							UNINTENTIONAL MOD ON PULSE
UNK	UNK							UNKNOWN
UV	UV							ULTRAVIOLET COMM(S)
UWB	UWB							ULTRA-WIDE BAND EMITTER
VOCM	VOCM							VOICE COMM (COMMUNICATION)
VALM	VALM							VALLUM
VLMR	VLMR							VILAMORE
VOIC	VOIC							VOICE
VOR	VOR							VHF OMNIDIRECTIONAL RADIO RANGING AIR NAV AID
WAA	WAA							WIDE APERTURE ARRAY
WAAS	WAAS							WIDE AREA ACTIVE SURVEILLANCE RADAR
WARM	WARM							WARTIME RESERVE MODE, OPN/STATUS
WAS	WAS							WIDE APERTURE SONAR
WB	WB							WIDE BAND EMITTER
WCON	WCON							WEATHER CONTROL RADAR
WDBN	WDBN							WOOD BINE SYSTEM
WIND	WIND							WINDPIPE
WTR	WTR							WAR TIME RESERVE, OPN/STATUS
XCVR	XCVR							TRANSCEIVER
XMTR	XMTR							XMTR (TRANSMITTER)
XYLN	XYLN							XYLENE

----- FOR DUI 005 -----

RESET ATTRIBUTE: YES

5 TO 10 CHARACTERS      5 TO 10 CHARACTERS

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8036 Emitter/transmission description

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	
EQUIV	MOD	ACCURACY	EXPLANATION		

----- FOR DUI 006 -----

RESET ATTRIBUTE: YES

5X                    5X

THE VALUES ARE FIVE  
ALPHANUMERIC CHARACTERS  
(A-Z, a-z, OR 0-9).

**UNCLASSIFIED**

B1-438

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	
8039	TIME GROUP	A SET OF RELATED TIME VALUES.	
	DATA STANDARD USAGE: IBS	STATUS:	
	DUI NAME	EXPLANATION	APPLICABILITY
001	DELTA TIME [Delta_Time]	IDENTIFIES AN INCREMENT OF TIME SUCH AS A TIME OFFSET FROM A SET TIME OR TIME DIFFERENCE BETWEEN TWO OTHER TIME VALUES.	ENTITY MESSAGE, COLLABORATION MESSAGE
002	TIME RESOLUTION [Time_Resol]	DEFINES THE VALUE OF THE LEAST SIGNIFICANT BIT (LSB) IN SECONDS FOR A REPORTED SERIES OF DELTA TIME FIELDS	COLLABORATION MESSAGE
003	TIME PRECISION [Time_Precision]	DEFINES THE PRECISION OF THE DELTA TIME FIELDS IN THE ASSOCIATED TIME SET. THE PRECISION IN THE TIME PRECISION FIELD CAN BE NO SMALLER THAN THE TIME RESOLUTION FIELD AND NO GREATER THAN THE LARGEST DELTA TIME REPRESENTABLE BY THE UPPER RANGE OF THE DELTA TIME FIELD (I.E. $2^{29}$ ) GIVEN THE TIME RESOLUTION SETTING.	COLLABORATION MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	FLOAT		
	DUI NAME	EXPLANATION	APPLICABILITY
004	TOTAL NUMBER DELTA TIME SETS [Total_Num_Delta_Time_Sets]	ON FIRST REPORT, INDICATES THE TOTAL NUMBER OF DELTA TIME SETS (PAIRS OF VALUES) BEING REPORTED. ON SUBSEQUENT REPORTS OF THE SAME EVENT, THIS VALUE MUST EQUAL ZERO.	COLLABORATION MESSAGE

**UNCLASSIFIED**

B1-439

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8039 TIME GROUP

DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE  
  
FIELD INTEGER

DATA ITEM	VALUE	RANGE	UNIT	VALUE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
-----------	-------	-------	------	-------	------	-------	-------	-----	----------	-------------

----- FOR DUI 001 -----

RESET ATTRIBUTE: YES

-536,870,910 THROUGH -536870910 THROUGH  
536,870,910 SECONDS 536870910

REPORTED IN SECONDS. ACCURACY  
OF THE DELTA TIME IS  
DEFINED BY THE DELTA TIME  
RESOLUTION FIELD.

----- FOR DUIS 002 AND 003 -----

RESET ATTRIBUTE: NO

1 FSEC THROUGH 15 1E-31 THROUGH 15E31  
PETASECONDS

UNRANGED REPORTED IN SECONDS.

----- FOR DUI 004 -----

RESET ATTRIBUTE: NO

0 THROUGH 1023 0 THROUGH 1023

A ZERO IN THIS FIELD INDICATES  
A REPORT CONTINUATION OF  
ONE EVENT ACROSS REPORTING  
OPPORTUNITIES.

**UNCLASSIFIED**

B1-440

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION
8047	ENTITY CONTENT	DESCRIBES THINGS ON-BOARD OR CO-LOCATED WITH THE REFERENCED ENTITY.
DATA STANDARD USAGE: IBS		STATUS:
DUI NAME		EXPLANATION
001 ENTITY CONTENT [Entity_Content]		A DESCRIPTION OF THINGS ON-BOARD OR CO-LOCATED WITH THE REFERENCED ENTITY.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	STRING	
DATA ITEM	VALUE RANGE	UNIT EQUIV VALUE MOD ACCURACY EXPLANATION
----- FOR DUI 001 -----		
RESET ATTRIBUTE: YES		
THE VALUE FOR ENTITY CONTENT IS A STRING OF ONE TO FIVE CHARACTERS AS SHOWN IN THE "DATA ITEM".		
100MM	100MM	100 MILLIMETER WPN TYPE
1050E	1050E	1050E BOMBER/ATTACK ACFT
130MM	130MM	130 MILLIMETER WPN TYPE
1900	1900	BEECH 1900 TRANSPORT/AIRLINER ACFT
204B	204B	BELL 204 HELICOPTER
205B	205B	BELL 205 HELICOPTER
206B	206B	BELL 206 HELICOPTER
214B	214B	BELL 214 HELICOPTER
23MM	23MM	23 MILLIMETER WPN TYPE
30MM	30MM	30 MILLIMETER WPN TYPE
37MM	37MM	37 MILLIMETER WPN TYPE
40MM	40MM	40 MILLIMETER WPN TYPE
57MM	57MM	57 MILLIMETER WPN TYPE
60MM	60MM	60 MILLIMETER WPN TYPE
7TON	7TON	7-TON TRUCK

**UNCLASSIFIED**

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART IDFI NAME  
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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
839PT		839PT						839 PILLAN-TAMIZ TRAINER ACFT
85MM		85MM						85 MILLIMETER WPN TYPE
A1		A1						A-1 BOMBER/ATTACK ACFT
A10		A10						A-10 THUNDERBOLT II TACTICAL FTR/BOMBER, CAS
A109		A109						A109 AGUSTA HELICOPTER
A109H		A109H						A-109 HIRUNDO HELICOPTER
A1150		A1150						1150 ATLANTIQUE ACFT
A129		A129						A129 MONGOOSE HELICOPTER
A2C2S		A2C2S						ARMY AIRBORNE COMMAND AND CONTROL SYSTEM (A2C2S)
A300		A300						A-300 AIRBUS TRANSPORT/AIRLINER ACFT
A310		A310						A-310 AIRBUS TANKER/TRANSPORT/AIRLINER ACFT
A319		A319						A-319 AIRBUS TRANSPORT/AIRLINER ACFT
A320		A320						A-320 AIRBUS TRANSPORT/AIRLINER ACFT
A321		A321						A-321 AIRBUS TRANSPORT/AIRLINER ACFT
A330		A330						A-330 AIRBUS TRANSPORT/AIRLINER ACFT
A340		A340						A-340 AIRBUS TRANSPORT/AIRLINER ACFT
A37		A37						A-37 DRAGONFLY JET ATTACK ACFT
A4		A4						A-4 SKYHAWK CARRIER-BASED ATTACK/SUPPORT/RECON ACFT
A40		A40						A-40 ALBATROSS MULTI-ROLE AMPHIBIOUS ACFT
A400M		A400M						A-400M AIRBUS TRANSPORT/AIRLINER ACFT
A4M		A4M						A-4M SKYHAWK CARRIER-BASED SUPPORT/RECON ACFT
A50		A50						A-50 MAINSTAY AWACS ACFT
A50U		A50U						A-50U MAINSTAY AWACS ACFT
A532		A532						AS-532 COUGAR HELICOPTER
A5FAN		A5FAN						A-5 FANTAN BOMBER/ATTACK ACFT
A6		A6						A-6 INTRUDER CARRIER-BASED ACFT, ASUW
A6E		A6E						A-6E INTRUDER CARRIER-BASED ACFT, ASUW

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE EQUIV	MOD	ACCURACY	EXPLANATION
A6F	A6F						A-6F INTRUDER CARRIER-BASED ACFT, ASUW
A7	A7						A-7 CORSAIR II CARRIER-BASED LIGHT ATTACK ACFT (NUC)
A7C	A7C						A-7C CORSAIR II CARRIER-BASED LIGHT ATTACK ACFT (NUC)
A7D	A7D						A-7D CORSAIR II CARRIER-BASED LIGHT ATTACK ACFT (NUC)
A7E	A7E						A-7E CORSAIR II CARRIER-BASED LIGHT ATTACK ACFT (NUC)
AA1	AA1						AA-1 ALKALI AAM
AA10	AA10						AA-10 ALAMO SR/MR AAM ON M29, S27
AA11	AA11						AA-11 ARCHER SR AAM ON M29, S27
AA12	AA12						AA-12 ADDER AAM
AA2	AA2						AA-2 ATOLL AAM ON M21, M23, S20, S22
AA22	AA22						AA-2-2 ADVANCED ATOLL AAM ON M21
AA3	AA3						AA-3 ANAB AAM ON Y28P, S15, S21
AA5	AA5						AA-5 ASH AAM ON M25, TU28
AA6	AA6						AA-6 ACRID AAM ON M25
AA7	AA7						AA-7 APEX LR AAM ON M21, M23, M25
AA8	AA8						AA-8 APHID AAM ON M21, M23, M25, S15, S21, Y36, Y38A
AA9	AA9						AA-9 AMOS LR AAM ON M29, M31
AAA	AAA						ANTI-ACFT ARTILLERY/SITE
AAD	AAD						ADVANCED AIR DEFENSE (AAD) ATBM
AAGM	AAGM						AIR-TO-AIR GUIDED MISSILE, GEN TYPE
AAM	AAM						AIR-TO-AIR MISSILE, GEN TYPE
AAM1	AAM1						AAM-1 MITSUBISHI MISSILE
AARGM	AARGM						ADVANCED ANTI-RADIATION GUIDED MISSILE (ASM)
AASM	AASM						ADVANCED ASM
AAX9	AAX9						AA-X-9 AAM
AAXP	AAXP						AA-XP-1/2 AAM
AB212	AB212						AB-212 AUGUSTA BELL HELICOPTER
ABABL	ABABL						ABABIL MISSILE

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
ABDAL	ABDAL							ABDALI CRBM
ABL	ABL							AL-1 AIRBORNE LASER ACFT
ABM	ABM							ANTI-BALLISTIC MISSILE
ABM1	ABM1							ABM-1 GALOSH ABM/BMD SYS (NUC)
ABM1B	ABM1B							ABM-1B GALOSH ABM SYS (NUC)
ABM2	ABM2							ABM-2 GAZELLE ABM/BMD SYS (NUC)
ABM3	ABM3							ABM-X-3 ABM/BMD DEVELOPMENT SYS
ABNCP	ABNCP							AIRBORNE COMMAND POST
ABO	ABO							AIR BREATHING OBJECT
AC130	AC130							AC-130 SPECTRE GUNSHIP/BOMBER
AC47	AC47							ACFT
ACC	ACC							AIR CONTROL CENTER
ACFT	ACFT							ACFT (AIRCRAFT)
ACM	ACM							ATTITUDE CONTROL MODULE
ACV	ACV							AIR CUSHION VEHICLE
ADA	ADA							AIR DEFENSE ARTILLERY
ADACC	ADACC							AIR DEFENSE COMMAND CENTER
ADATS	ADATS							AIR DEFENSE ANTI-TANK SYSTEM (ADATS)
ADC	ADC							AIR DIRECTION CENTER
ADCC	ADCC							AIR DEFENSE COMMAND CENTER
ADCP	ADCP							AIR DEFENSE COMMAND PLATFORM
ADD	ADD							AIR DEFENSE DISTRICT
ADOC	ADOC							AIR DEFENSE TACTICAL OPNS CENTER
AEGIS	AEGIS							AIRBORNE EARLY WARNING GND INTERFACE SEGMENT
AEM	AEM							MATERIAL SUPPORT SHIP
AFAJR	AFAJR							AL-FAJR AL-JADID SSM
AFV	AFV							ARMORED FIGHTING VEHICLE
AG109	AG109							AGM-109 TOMAHAWK AGM
AG114	AG114							AGM-114 HELLFIRE
AG123	AG123							AGM-123A SKIPPER II
AG65A	AG65A							AGM-65A MAVERICK TASM
AG65B	AG65B							AGM-65B MAVERICK TASM
AG65D	AG65D							AGM-65D MAVERICK TASM
AG65E	AG65E							AGM-65E MAVERICK TASM
AGI	AGI							AGI INTELLIGENCE COLLECTOR SHIP
AGM	AGM							AIR-TO-GND MISSILE

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
AGM62	AGM62							AGM-62A WALLEYE MISSILE
AGM65	AGM65							AGM-65 MAVERICK TASM
AGM84	AGM84							AGM-84 HARPOON TASM, ASUW
AGM86	AGM86							AGM-86 ALCM
AGM88	AGM88							AGM-88 HARM ASM
AGM95	AGM95							AGM-95 AGILE MISSILE
AGNI	AGNI							AGNI SSM (INDIA)
AGNI1	AGNI1							AGNI-1 SRBM
AGNI2	AGNI2							AGNI-2 MRBM
AGNI3	AGNI3							AGNI-3 IRBM
AGNI4	AGNI4							AGNI-4 IRBM
AGNI5	AGNI5							AGNI-5 IRBM
AGNI6	AGNI6							AGNI-6 ICBM
AGP	AGP							PATROL CRAFT TENDER
AGR	AGR							AGRICULTURAL PRODUCTS
AH	AH							ATTACK HELICOPTER
AH1	AH1							AH-1 ATTACK HELICOPTER
AH1J	AH1J							AH-1J SEA COBRA ATTACK HELICOPTER
AH1S	AH1S							AH-1S SEA COBRA/TOW HELICOPTER
AH1T	AH1T							AH-1T SEA COBRA/TOW HELICOPTER
AH64	AH64							AH-64 APACHE HELICOPTER
AH64A	AH64A							AH-64A APACHE HELICOPTER
AI	AI							AIRBORNE INTERCEPT RADAR
AIAMD	AIAMD							ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD) COMPONENT
AIM	AIM							AIR INTERCEPT MISSILE
AIM54	AIM54							AIM-54 PHOENIX LR AIR INTERCEPT MISSILE
AIM7	AIM7							AIM-7 SPARROW III AIR INTERCEPT MISSILE
AIM9	AIM9							AIM-9 SIDEWINDER AIR INTERCEPT MISSILE
AIRCC	AIRCC							AIRBORNE COMMAND CENTER
AIRF	AIRF							AIR FORCES
AJ37	AJ37							AJ-37 VIGGEN BOMBER/ATTACK ACFT
AKASH	AKASH							AKASH SAM
ALARM	ALARM							UK, ARM, ASM
ALBAS	ALBAS							ALBATROS/ASPIDE SAM
ALBM	ALBM							AIR-LAUNCHED BALLISTIC MISSILE
ALBMI	ALBMI							INTERMEDIATE RANGE ALBM
ALBMM	ALBMM							MEDIUM RANGE ALBM

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
ALBMS	ALBMS							SHORT RANGE ALBM
ALCM	ALCM							AIR LAUNCHED CRUISE MISSILE
ALCRN	ALCRN							ALACRAN SSM (SRBM)
ALFTH	ALFTH							AL FATAH SRBM
ALHIJ	ALHIJ							AL HIJARAH, IRAQ SSM, POSSIBLE CHEMICAL WARHEAD
ALIZE	ALIZE							ALIZE FTR ACFT
ALMAS	ALMAS							AIR LAUNCHED MISSILE, ANTI-SATELLITE
ALPHA	ALPHA							ALPHA JET FTR ACFT
AM120	AM120							AIM-120 AMRAAM AAM
AM39	AM39							AM-39 EXOCET AGM
AMMO	AMMO							AMMUNITION
AMPH	AMPH							AMPHIB UNIT
AMPHH	AMPHH							AMPHIB ASSAULT MULTI-PURPOSE HELICOPTER SHIP
AMX	AMX							AMX ITALIAN FTR ACFT
AN10	AN10							AN-10 CAT TURBOPROP TRANSPORT ACFT
AN12	AN12							AN-12 (AN-12BP) CUB TURBOPROP TRANSPORT ACFT
AN124	AN124							AN-124 CONDOR HEAVY LIFT JET TRANSPORT ACFT
AN12A	AN12A							AN-12 CUB-A RECON (ELINT) ACFT
AN12B	AN12B							AN-12 CUB-B RECON (ELINT) ACFT
AN12C	AN12C							AN-12 CUB-C EA ACFT
AN12D	AN12D							AN-12 CUB-D EA ACFT
AN14	AN14							AN-14 CLINE/CLOD TURBOPROP TRANSPORT ACFT
AN140	AN140							AN-140 TRANSPORT/AIRLINER ACFT
AN148	AN148							AN-148 TRANSPORT/AIRLINER ACFT
AN158	AN158							AN-158 TRANSPORT/AIRLINER ACFT
AN178	AN178							AN-178 TRANSPORT ACFT
AN2	AN2							AN-2 COLT PROP TRANSPORT ACFT
AN22	AN22							AN-22 COCK TURBOPROP HEAVY TRANSPORT ACFT
AN225	AN225							AN-225 MRIYA (COSSACK) TRANSPORT ACFT
AN24	AN24							AN-24 COKE TURBOPROP TRANSPORT ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE EQUIV	MOD	ACCURACY	EXPLANATION
AN26		AN26					AN-26 CURL FREIGHT/TROOP TURBOPROP TRANSPORT ACFT
AN28		AN28					AN-28 CASH TURBOPROP TRANSPORT ACFT
AN30		AN30					AN-30 CLANK TURBOPROP TRANSPORT ACFT
AN32		AN32					AN-32 CLINE TURBOPROP TRANSPORT ACFT
AN40		AN40					AN-40 VERY LARGE TURBOPROP TRANSPORT ACFT
AN70		AN70					AN-70 TRANSPORT ACFT
AN72		AN72					AN-72 COALER STOL JET TRANSPORT ACFT
AN74		AN74					AN-74 COALER STOL JET TRANSPORT ACFT
AN76		AN76					ANTONOV AN-76 MARITIME PATROL ACFT A.K.A. AN-72P
AN8		AN8					AN-8 CAMP TURBOPROP TRANSPORT ACFT
ANAB		ANAB					AA3 AAM
ANT		ANT					ANTENNA
ANTIP		ANTIP					ANTI-POLLUTION VESSEL
ANZA		ANZA					ANZA SAM
ANZA2		ANZA2					ANZA II SAM
AOE		AOE					REPLENISHMENT SUPPORT SHIP
AOR		AOR					FLEET TANKER
AP012		AP012					UAV, NRIST S-100
AP2A3		AP2A3					UAV, MQ-1C GRAY EAGLE
AP2A4		AP2A4					UAV, MQ-9A REAPER
AP2A6		AP2A6					UAV, MQ-9B REAPER
APAAE		APAAE					UAV, UNMANNED COMBAT AERIAL VEHICLE, LIJIAN (SHARP SWORD)
APB		APB					AMPHIB SURFACE, GEN TYPE
APBA3		APBA3					UAV, LETHAL, KARRAR
APBAA		APBAA					UAV, LETHAL, ABABIL-2
APBAD		APBAD					UAV, LETHAL, HARPY
APBAF		APBAF					UAV, LETHAL, TOUFAN
APBAZ		APBAZ					UAV, LETHAL, KAS-04

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
APBTP	APBTP							UAV, SWEPT WING RQ-1A PREDATOR
APBYP	APBYP							UAV, SWEPT WING RQ-1B PREDATOR
APC	APC							ARMORED PERSONNEL CARRIER
APCBB	APCBB							UAV, MINI, ORLAN-10
APCH	APCH							APACHE ASM
APCPP	APCPP							UAV, IAI/AAI CORP RQ-2A PIONEER
APF2P	APF2P							UAV, FOX AT2
APFA2	APFA2							UAV, TARGET, KARRAR
APFAV	APFAV							UAV, TARGET, BQM-74C CHUKAR-II
APFZP	APFZP							UAV, FOX AT1
APHAE	APHAE							UAV, EW, FOX TX
APIMP	APIMP							UAV, MIRACH 100
APIVP	APIVP							UAV, MIRACH 150
APKA4	APKA4							UAV, MINI, AB-01
APKAB	APKAB							UAV, RECON, FALCO
APKAF	APKAF							UAV, TACTICAL, ABABIL-2
APKAK	APKAK							UAV, TACTICAL, ABABIL-3
APKAL	APKAL							UAV, RECON, AEROSTAR
APKAT	APKAT							UAV, RECON, ASN-206
APKB1	APKB1							UAV, RECON, HERMES-180
APKBJ	APKBJ							UAV, TACTICAL, HERMES-450
APKBK	APKBK							UAV, RECON, HERON-1
APKBR	APKBR							UAV, RECON, RQ-5 HUNTER
APKBY	APKBY							UAV, RECON, KZO (AKA BREVEL)
APKCF	APKCF							UAV, RECON, MIRACH 26
APKCJ	APKCJ							UAV, RECON, MOHAJER 2
APKCK	APKCK							UAV, RECON, MOHAJER 4
APKDC	APKDC							UAV, RECON, DENEL DYNAMICS SEEKER-II
APKDH	APKDH							UAV, RECON, SHMEL-1
APKDX	APKDX							UAV, RECON, ASN-207
APKDY	APKDY							UAV, RECON, BZK-007 (AKA WZ-24)
APOAI	APOAI							UAV, TACTICAL, FORPOST
APOAR	APOAR							UAV, TACTICAL, YILONG I
APOC2	APOC2							UAV, TACTICAL, RQ-170 SENTINEL
APOC3	APOC3							UAV, TACTICAL, KARRAR
APOC4	APOC4							UAV, TACTICAL, SHAHED-129
APOD2	APOD2							UAV, TACTICAL, IRN-02
APODT	APODT							UAV, TACTICAL, KAS-04

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
APODU		APODU						UAV, TACTICAL, SADEGH (AKA QOM-01)
APOED		APOED						*SEE ANNEX A*
APOEG		APOEG						UAV, TACTICAL, MOHAJER-4AB
APOEP		APOEP						UAV, TACTICAL, INVERTED V-03
APOGP		APOGP						UAV, MQ-1B PREDATOR
APQA7		APQA7						*SEE ANNEX A*
APT		APT						AIRPORT, GEN TYPE
APTA6		APTA6						UAV, STRATEGIC, XIANGLONG
APTA7		APTA7						UAV, STRATEGIC, BZK-005
APTAA		APTAA						UAV, STRATEGIC, HERON TP
APTAG		APTAG						UAV, STRATEGIC, HERMES 900
APTAK		APTAK						UAV, STRATEGIC, FOTROS
APTAL		APTAL						*SEE ANNEX A*
APTAU		APTAU						*SEE ANNEX A*
APTBA		APTBA						UAV, STRATEGIC, RQ-4A GLOBAL HAWK
APTBB		APTBB						UAV, STRATEGIC, RQ-4B GLOBAL HAWK
APTBC		APTBC						UAV, STRATEGIC, MQ-4C TRITON
APTIP		APTIP						UAV, LARK
APUZZ		APUZZ						UAV, NFI [APUZZ]
APV		APV						AUTO-PILOTED VEHICLE
APVAA		APVAA						UAV, MULTI-ROLE, ABABIL SERIES
AQ		AQ						ACQUISITION RADAR
AQM34		AQM34						AQM-34 AAM
AQM91		AQM91						AQM-91 AAM
ARAVA		ARAVA						ARAVA TRANSPORT/AIRLINER ACFT
ARM		ARM						ANTI-RADIATION MISSILE
ARMAT		ARMAT						MEDIUM RANGE, ANTI-RADAR ASM
ARMY		ARMY						ARMY FORCES
AROW2		AROW2						ARROW-2 ATBM
AROW3		AROW3						ARROW-3 ATBM
ARROW		ARROW						ARROW WEAPON SYSTEM
ARS		ARS						SALVAGE SHIP, GENERAL
ARTY		ARTY						ARTILLERY, GEN TYPE
AS		AS						AIR-TO-SURFACE WPN
AS1		AS1						AS-1 KENNEL ASM
AS10		AS10						AS-10 KAREN ARM/TASM
AS11		AS11						AS-11 KILTER ASM

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
AS12	AS12							AS-12 KEGLER ASM
AS13	AS13							AS-13 KINGBOLT ASM
AS14	AS14							AS-14 KEDGE ASM
AS15	AS15							AS-15 KENT LR ALCM (NUC)
AS16B	AS16B							AS-16B KICKBACK, ARM, ASM
AS17A	AS17A							AS-17A KRYPTON, ARM, ASM
AS18	AS18							AS-18 KAZOO ASM
AS2	AS2							AS-2 KIPPER ASUW ASM (NUC)
AS202	AS202							AS-202 BRAVO TRAINER ACFT
AS3	AS3							AS-3 KANGAROO STRATEGIC ATTACK ALCM (NUC)
AS30	AS30							AS-30 AGM
AS34	AS34							AS-34 KORMORAN ASM
AS342	AS342							AS-34 KORMORAN II ASM
AS350	AS350							AS-350 ECUREUIL HELICOPTER
AS355	AS355							AS-355 ECUREUIL HELICOPTER
AS37	AS37							AS-37 MARTEL AGM
AS4	AS4							AS-4 KITCHEN ASUW ALCM/ARM (NUC)
AS5	AS5							AS-5 KELT TACTICAL ASUW ASM/ARM (NUC)
AS532	AS532							AS-532 COUGAR HORIZON RECCE HELICOPTER
AS550	AS550							AS-550 FENNEC HELICOPTER
AS555	AS555							AS-555 FENNEC HELICOPTER
AS565	AS565							AS-565 PANTHER HELICOPTER
AS6	AS6							AS-6 KINGFISH ASUW ALCM/ARM (NUC)
AS7	AS7							AS-7 KERRY TASMS
AS8	AS8							AS-8 TASMS ON HIND
AS9	AS9							AS-9 KYLE ARM
ASAT	ASAT							ANTI-SATELLITE WPN
ASB	ASB							ATTACK SUBMARINE, GEN TYPE (CONVENTIONAL)
ASBN	ASBN							ATTACK SUBMARINE, GEN TYPE (NUC)
ASCFT	ASCFT							ASTOR SURVEILLANCE ACFT
ASHRA	ASHRA							ASHURA MRBM

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
ASIT	ASIT							ADAPTABLE SURFACE INTERFACE TERMINAL
ASLAM	ASLAM							ADVANCED STRATEGIC AIR-LAUNCHED MISSILE (AAM)
ASM	ASM							AIR-TO-SURFACE MISSILE, GEN TYPE
ASMP	ASMP							ASMP FRENCH ASM
ASMSL	ASMSL							WEAPONS, STRATEGIC, AIR LAUNCHED, NOT FURTHER IDENTIFIED
ASOC	ASOC							AIR SUPPORT OPERATIONS CENTER (ASOC)
ASPA	ASPA							AIR SUPPORT AIRBASE
ASPC	ASPC							SPECIAL MSN ACFT, GEN TYPE
ASPD	ASPD							ASPIDE SAM
ASPID	ASPID							ASPIDE AAM
ASR	ASR							AIR SURVEILLANCE RADAR
ASRAM	ASRAM							AIM-132 ASRAAM AAM
ASROC	ASROC							ANTI-SUBMARINE ROCKET
ASRT	ASRT							AIR SUPPORT RADAR TEAM
AST15	AST15							ASTER 15 SAM
AST30	AST30							ASTER 30 B1 (MISSILE ASTER 30 BLOCK 1)
ASTER	ASTER							ASTER ABM
ASTK	ASTK							STRIKE ACFT, GEN TYPE
ASTOR	ASTOR							ANTI-SUBMARINE TORPEDO
ASTR3	ASTR3							ASTER 30 B1NT (MISSILE ASTER 30 BLOCK 1 NEW TECHNOLOGY)
ASW	ASW							ANTI-SUBMARINE WARFARE, ANTI-SUB WARFARE ACFT
ASWH	ASWH							ASW HELICOPTER ACFT
AT1	AT1							AT-1 SNAPPER (PUR-61 SHMEL) ATM
AT10	AT10							AT-10 STABBER ATM
AT11	AT11							AT-11 SNIPER ATM
AT12	AT12							AT-12 ATM
AT13	AT13							AT-13 ATM
AT14	AT14							AT-14 ATM
AT2	AT2							AT-2 SWATTER (PUR-62) ATGM
AT3	AT3							AT-3 SAGGER (PUR-64) ATGM

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
AT4	AT4							AT-4 SPIGOT MAN/VEHICLE MOUNTED ATGM
AT42M	AT42M							ATR-42 MP SURVEYOR ACFT
AT5	AT5							AT-5 SPANDREL ATGM ON BRDM-2
AT6	AT6							AT-6 SPIRAL ATM ON MI24E, BRDM
AT6B	AT6B							AT-6B HAWKER BEECHCRAFT ACFT
AT7	AT7							AT-7 SAXHORN ATM
AT8	AT8							AT-8 ATM
AT802	AT802							AT-802 AIR TRACTOR FTR/BOMBER ACFT
ATAC	ATAC							ATAC SONOBUOY TYPE
ATC	ATC							AIR TRAFFIC CONTROLLER
ATGM	ATGM							ANTI-TANK GUIDED MISSILE
ATGW	ATGW							ANTI-TANK GUIDED WPN
ATK	ATK							ANTI-TANK WPN, GEN TYPE
ATKAC	ATKAC							ATTACK ACFT
ATKR	ATKR							AIRBORNE TANKER ACFT, GEN TYPE
ATL2	ATL2							ATL-2 ATLANTIQUE 2 MARITIME PATROL ACFT
ATM	ATM							ANTI-TANK MISSILE
ATMSL	ATMSL							WEAPONS, TACTICAL, AIR LAUNCHED, NOT FURTHER IDENTIFIED
ATR42	ATR42							ATR-42 TRANSPORT/AIRLINER ACFT
ATR72	ATR72							ATR-72 MARITIME PATROL ACFT
AU23	AU23							AU-23 ACFT
AU24	AU24							AU-24 ACFT
AUX	AUX							AUXILIARY SHIP
AV8	AV8							AV-8 HARRIER FIGHTER/BOMBER ACFT (STOL)
AW12	AW12							AW1-2 FAN TRAINER ACFT
AW520	AW520							AW-520 CORMORANT SAR HELICOPTER
AW660	AW660							AW.660 ARGOSY
AWACS	AWACS							TRANSPORT/AIRLINER ACFT
B1	B1							AIRBORNE EARLY WARNING AND CONTROL SYS
B1150	B1150							B-1 BOMBER/ATTACK ACFT
B2	B2							1150 ATLANTIQUE GERMAN ASW ACFT
								B-2 BOMBER

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
B200	B200					B-200 (BOEING 737 VARIANT)
B21	B21					B-21 RAIDER BOMBER ACFT
B212	B212					BELL 212 HELICOPTER
B3LA	B3LA					B3LA (SAAB) TRAINER ACFT
B43	B43					B-43 AIR DELIVERABLE ORDNANCE
B52	B52					B-52 STRATOFORTRESS STRATEGIC BOMBER ACFT
B55	B55					B-55 BARON TRAINER ACFT
B57	B57					B-57 AIR DELIVERABLE ORDNANCE
B6	B6					CHINESE B-6 BOMBER A.K.A. HONGZHAIJI-6 (H-6)
B61	B61					B-61 AIR DELIVERABLE ORDNANCE
B7	B7					CHINESE B-7 BOMBER A.K.A. FLYING LEOPARD
B707	B707					BOEING 707 ACFT
B720	B720					BOEING 720 TRANSPORT/AIRLINER ACFT
B727	B727					BOEING 727 ACFT
B737	B737					BOEING 737 ACFT
B747	B747					BOEING 747 ACFT
B757	B757					BOEING 757 TRANSPORT/AIRLINER ACFT
B767	B767					BOEING 767 TRANSPORT/AIRLINER ACFT
B777	B777					BOEING 777 TRANSPORT/AIRLINER ACFT
BA111	BA111					BAC111 ONE-ELEVEN TRANSPORT/AIRLINER ACFT
BA125	BA125					BAE-125-600 TRANSPORT/AIRLINER ACFT
BA145	BA145					BAC-145 JET PROVOST TRAINER ACFT
BA146	BA146					BAE-146 TRANSPORT/AIRLINER ACFT
BA167	BA167					BAC-167 STRIKEMASTER BOMBER/ATTACK/TRAINER ACFT
BAG	BAG					BATTALION ARTILLERY GROUP
BARAK	BARAK					BARAK I SAM

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
BARGE		BARGE						BARGE, NFI
BARRA		BARRA						BARRA SONOBUOY TYPE
BATH		BATH						BATHYTHERMOGRAPH SONOBUOY TYPE
BB		BB						BATTLESHIP
BDE		BDE						BRIGADE
BE12		BE12						BE-12 MAIL PATROL/ASW AMPHIBIAN ACFT
BE42		BE42						BE-42 MERMAID MULTI-ROLE AMPHIBIOUS ACFT
BEAR		BEAR						TU-95 OR TU-122 BEAR BOMBER ACFT
BECN		BECN						BEACON
BFALL		BFALL						BOOSTER FALL AREA
BG		BG						BATTLE GROUP
BG109		BG109						BGM-109 TOMAHAWK CRUISE MISSILE SYS
BGM34		BGM34						BGM-34 AAM
BGM9		BGM9						BGM-109 TOMAHAWK LAND ATTACK MISSILE
BHEAE		BHEAE						RPH, RECON, CAMCOPTER S-100
BIOL		BIOL						BIOLOGICAL WPN
BKFR		BKFR						BACKFIRE BOMBER ACFT
BKSPW		BKSPW						BLACK SPARROW ALBM
BLDG		BLDG						BUILDING/STRUCTURE
BLU27		BLU27						BLU-27 AIR DELIVERABLE ORDNANCE
BLU95		BLU95						BLU-95/13 AIR DELIVERABLE ORDNANCE
BLWHD		BLWHD						BULK BIOLOGICAL WARHEAD
BM		BM						TRUCK-MOUNTED ROCKET LAUNCHER
BM21		BM21						BM-21 TRUCK-MOUNTED ROCKET ARTILLERY
BM25		BM25						BM25 MRBM
BMD		BMD						BMD AMPHIB COMBAT VEHICLE
BMP		BMP						BMP ARMORED INFANTRY COMBAT VEHICLE
BMR		BMR						BOMBER ACFT
BN		BN						BATTALION
BN2T		BN2T						BN-2T MARITIME DEFENDER ACFT
BNKR		BNKR						BUNKER
BO105		BO105						BO-105 (MBB) HELICOPTER

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
BPIPE	BPIPE							BLOWPIPE SAM
BPK	BPK							BPK LARGE ANTI-SUBMARINE SHIP
BQM34	BQM34							FIREBEE - REMOTELY CONTROLLED TARGET DRONE
BR115	BR115							1150 ATLANTIQUE GERMAN PEACEKEEPER ACFT
BRDG	BRDG							BRIDGE, GEN TYPE
BRDM	BRDM							BRDM WHEELED AMPHIB ARMORED RECON VEHICLE
BRDM2	BRDM2							BRDM2 SA9 LAUNCH VEHICLE
BSB	BSB							BALLISTIC MISSILE SUBMARINE, GEN TYPE (CONVENTIONAL)
BSBN	BSBN							BALLISTIC MISSILE SUBMARINE, GEN TYPE (NUC)
BSTNK	BSTNK							BOOSTER TANK
BSU49	BSU49							BSU-49 AIR DELIVERABLE ORDNANCE
BSU50	BSU50							BSU-50 AIR DELIVERABLE ORDNANCE
BSWHD	BSWHD							BIOLOGICAL SUBMUNITION WARHEAD
BTR	BTR							BTR ARMORED PERSONNEL CARRIER
BTR50	BTR50							BTR-50 AMPHIB TRACKED APC
BTR60	BTR60							BTR-60 WHEELED APC
BTR80	BTR80							BTR-80 ARMORED PERSONNEL CARRIER
BTRY	BTRY							BATTERY
BUCNR	BUCNR							BUCCANEER BOMBER/ATTACK ACFT
BUOY	BUOY							BUOY, NFI
BUSPW	BUSPW							BLUE SPARROW ALBM
BV373	BV373							BAVAR 373 SAM
C1	C1							C-1 TRANSPORT/AIRLINER ACFT
C101	C101							C-101 AVIOJET TRAINER ACFT
C118	C118							C-118 TRANSPORT/AIRLINER ACFT
C119	C119							C-119 TRANSPORT/AIRLINER ACFT
C12	C12							C-12 HURON TRANSPORT/AIRLINER ACFT
C121	C121							C-121 TRANSPORT/AIRLINER ACFT
C123	C123							C-123 PROVIDER ASSAULT TRANSPORT ACFT
C124	C124							C-124 TRANSPORT/AIRLINER ACFT

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8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE EQUIV	MOD	ACCURACY	EXPLANATION
C130	C130						C-130 HERCULES TROOP/CARGO TRANSPORT ACFT
C130H	C130H						C-130H SENIOR SCOUT ACFT
C131	C131						C-131 SAMARITAN TRANSPORT ACFT
C133	C133						C-133 TRANSPORT/AIRLINER ACFT
C135	C135						C-135 STRATOLIFTER TRANSPORT ACFT
C140	C140						C-140 JETSTAR TRANSPORT ACFT
C141	C141						C-141 STARLIFTER HEAVY JET TRANSPORT ACFT
C160	C160						C-160 TRANSPORTALL TRANSPORT/AIRLINER ACFT
C17	C17						C-17 GLOBEMASTER ACFT
C20	C20						C-20 GULFSTREAM 3/4 TRANSPORT/AIRLINER ACFT
C207	C207						C-207 AZOR TRANSPORT/AIRLINER ACFT
C21	C21						C-21 LEARJET 35 TRANSPORT/AIRLINER ACFT
C212	C212						C-212 AVIOCAR TRANSPORT/AIRLINER ACFT
C22	C22						C-22 VENTURA TRANSPORT/AIRLINER ACFT
C23	C23						C-23 SHERPA TRANSPORT/AIRLINER ACFT
C235	C235						C-235 CASA TRANSPORT/AIRLINER ACFT
C26	C26						C-26 METRO 3 TRANSPORT/AIRLINER ACFT
C27J	C27J						C-27J SPARTAN TRANSPORT ACFT
C295	C295						C295 MARITIME PATROL ACT
C2A	C2A						C-2A GREYHOUND TRANSPORT ACFT
C3NET	C3NET						COMMAND, CONTROL, AND COMM(S) NETWORK
C4	C4						C-4 TRIDENT-I BALLISTIC MISSILE
C46	C46						C-46 COMMANDO TRANSPORT/AIRLINER ACFT
C54	C54						C-54 TRANSPORT/AIRLINER ACFT
C5	C5						C-5 GALAXY TRANSPORT ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
C601	C601							C-601 PRC ASM
C611	C611							C-611 PRC ASM
C7	C7							C-7 CARIBOU U.S. COMM/TRANSPORT ACFT
C9	C9							C-9 SKYTRAIN TRANSPORT ACFT
C97	C97							C-97 TRANSPORT/AIRLINER ACFT
C9B	C9B							C-9B SKYTRAIN II JET TRANSPORT ACFT
C9N	C9N							C-9 NIGHTINGALE TRANSPORT/AIRLINER ACFT
CAA	CAA							COMBINED ARMS ARMY
CAMBS	CAMBS							CAMBS SONOBUOY TYPE
CAOC	CAOC							COMBINED AIR OPERATIONS CENTER
CARAV	CARAV							CARAVEL TRANSPORT/AIRLINER ACFT
CARGO	CARGO							GENERAL CARGO
CARRV	CARRV							COMBINED ATTITUDE CONTROL MODULE AND RE-ENTRY VEHICLE
CAS1	CAS1							CAS-1 KRAKEN ASM
CASH	CASH							CASH
CASS	CASS							COMMAND ACTIVATED SONOBUOY SYSTEM (CASS) TYPE
CATCC	CATCC							CARRIER AIR TRAFFIC CONTROL CENTER
CAVE	CAVE							CAVE
CBLON	CBLON							CALIBRATION BALLOON
CBU87	CBU87							CBU-87 AIR DELIVERABLE ORDNANCE
CBU89	CBU89							CBU-89 AIR DELIVERABLE ORDNANCE
CC109	CC109							CC-109 TRANSPORT/AIRLINER ACFT
CC115	CC115							CC-115 BUFFALO TRANSPORT/AIRLINER ACFT
CC130	CC130							CC-130 HERCULES TRANSPORT/AIRLINER ACFT
CC138	CC138							CC-138 TWIN OTTER TRANSPORT/AIRLINER ACFT
CC150	CC150							CC-150 POLARIS TRANSPORT/AIRLINER ACFT
CCC	CCC							COMMAND CONTROL CENTER
CCRD	CCRD							CONCORDE, COMMERCIAL AIRLINER ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
CF188	CF188							CF-188 CANADIAN F-18 FTR
CG	CG							GUIDED MISSILE CRUISER
CGN	CGN							GUIDED MISSILE CRUISER (NUC)
CGR	CGR							CRUISER, GEN TYPE
CGRN	CGRN							CRUISER (NUC), GEN TYPE
CH113	CH113							CH-113 LABRADOR HELICOPTER
CH118	CH118							CH-118 IROQUOIS HELICOPTER
CH124	CH124							CH-124 SEA KING HELICOPTER
CH135	CH135							CH-135 IROQUOIS HELICOPTER
CH136	CH136							CH-136 KIOWA HELICOPTER
CH146	CH146							CH-146 GRIFFON HELICOPTER
CH147	CH147							CH-147 CHINOOK HELICOPTER
CH2U	CH2U							CH-2U HELICOPTER
CH3	CH3							CH-3 HELICOPTER
CH34	CH34							CH-34 WESTLAND SUPER PUMA HELICOPTER
CH46	CH46							CH-46 SEA KNIGHT USN HELICOPTER
CH47	CH47							CH-47 CHINOOK HELICOPTER
CH53	CH53							CH-53A SEA STALLION TROOP/CARGO HELICOPTER
CH53E	CH53E							CH-53E SUPER STALLION MINE CM HELICOPTER
CH53K	CH53K							CH-53K KING STALLION HELICOPTER
CH54	CH54							CH-54 LARKE (SKY CRANE) TRANSPORT HELICOPTER
CHA11	CHA11							CH-AS-11 MSL
CHA12	CHA12							CH-AS-12 MSL
CHA13	CHA13							CH-AS-13 MSL
CHAFF	CHAFF							CHAFF
CHCS1	CHCS1							CH-CS-01 ASAT
CHCS2	CHCS2							CH-CS-02 ASAT
CHE	CHE							CHEMICALS
CHEM	CHEM							CHEMICAL WPNS
CHG	CHG							GUIDED MISSILE AVIATION (HELICOPTER) CRUISER
CHGN	CHGN							GUIDED MISSILE AVIATION CRUISER (NUC)
CHING	CHING							CHING FENG (GREEN BEE) SSM SRBM
CHU	CHU							CHU SAM SAM-4
CINC	CINC							COMMANDER-IN-CHIEF

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
CIV	CIV							CIVILIAN(S)
CIVAC	CIVAC							CIVILIAN AIRLINER ACFT
CIVIF	CIVIF							CIVILIAN INSTALLATION/FACILITY
CIVLT	CIVLT							LIGHT CIVILIAN ACFT
CIWS	CIWS							CLOSE-IN WPN SYS
CJM	CJM							C-JM TRANSPORT/AIRLINER ACFT
CL	CL							LIGHT CRUISER
CL215	CL215							CL-215 AMPHIBIAN GENERAL
CL415	CL415							PURPOSE ACFT
CL600	CL600							CL-415 AMPHIBIAN GENERAL
CL601	CL601							PURPOSE ACFT
CM170	CM170							CL-600 CHALLENGER
CMAU	CMAU							TRANSPORT/AIRLINER ACFT
CMDO	CMDO							CL-601 CHALLENGER
CMPNY	CMPNY							TRANSPORT/AIRLINER ACFT
CMSAT	CMSAT							CM-170 MAGISTER TRAINER ACFT
CMWHD	CMWHD							CM AU/MAGISTER TRAINER ACFT
CN235	CN235							COMMANDO FTR ACFT
CNO	CNO							COMPANY
CNVY	CNVY							COMM(S) SATELLITE
COAL	COAL							BULK CHEMICAL WARHEAD
COB	COB							CASA/AIRTECH CN-235 TURBOPROP
COC	COC							CHIEF OF NAVAL OPNS
COCOM	COCOM							CONVOY, GEN TYPE
COIC	COIC							COAL
COMBF	COMBF							CO-LOCATED OPERATING BASE
CONST	CONST							COMMAND OPNS CENTER
COP	COP							COMBATANT COMMANDER
CORPS	CORPS							COMBAT OPNS INTELLIGENCE CENTER
CP	CP							COMBINED FORCES
CP140	CP140							CONSTRUCTION MATERIALS
CP14A	CP14A							COMMAND OBSERVATION POST
CRBM	CRBM							CORPS
								COMMAND POST
								CP-140 AURORA ACFT
								CP-140A AURORA/ARCTURUS ACFT
								CLOSE-RANGE BALLISTIC MISSILE
								(CRBM)

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
CRC	CRC							CONTROL/COMMAND REPORTING CENTER
CRGOV	CRGOV							CARGO VESSEL
CRTAL	CRTAL							CROTALE SAM
CS10A	CS10A							CSS-10 MOD 1 ICBM
CS10B	CS10B							CSS-10 MOD 2 ICBM
CS11A	CS11A							CSS-11 MOD 1 SRBM
CS11B	CS11B							CSS-11 MOD 2 SRBM/MRBM
CS11C	CS11C							CSS-11 MOD 3 MSL
CS11X	CS11X							CSS-11 MOD 1/2 SRBM
CS14A	CS14A							CSS-14 MOD 1 CRBM
CS14B	CS14B							CSS-14 MOD 2 CRBM
CS14X	CS14X							CSS-14 MOD 1/2 CRBM
CS18A	CS18A							CSS-18 MOD 1 MSL
CS18B	CS18B							CSS-18 MOD 2 MSL
CS18C	CS18C							CSS-18 MOD 3 MSL
CS406	CS406							COMBAT SCOUT 406 HELICOPTER
CS550	CS550							CESSNA 550 CITATION II EXECUTIVE ACFT
CS560	CS560							CESSNA 560 CITATION V EXECUTIVE ACFT
CSA1	CSA1							CSA-1/HQ-2 HONG QI SAM
CSA2	CSA2							CSA-2/HQ-61A MISSILE SYSTEM
CSA4	CSA4							CSA-4/HQ-7/FM-90 SAM
CSA5	CSA5							CSA-5 SAM
CSAN2	CSAN2							CSA-N-2 (RF-61/SD-1) HONG QI SAM
CSB	CSB							CRUISE MISSILE SUBMARINE, GEN TYPE
CSBN	CSBN							CRUISE MISSILE SUBMARINE, NUC, GEN TYPE
CSC13	CSC13							CH-SSC-13 MSL
CSN14	CSN14							CSS-N-14 SLBM
CSN18	CSN18							CSS-N-18 MEDIUM RANGE SHLB
CSS15	CSS15							CSS-15 CRBM
CSS16	CSS16							CSS-16 CRBM

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
CSS17	CSS17							CSS-17 SRBM
CSS18	CSS18							CSS-18 IRBM
CSS19	CSS19							CSS-19 MRBM
CSS2	CSS2							CSS-2 IRBM
CSS20	CSS20							CSS-20 ICBM
CSS21	CSS21							CSS-21 MSL
CSS3	CSS3							CSS-3 ICBM
CSS4	CSS4							CSS-4 ICBM
CSS4A	CSS4A							CSS-4 MOD 1 ICBM
CSS4B	CSS4B							CSS-4 MOD 2 ICBM
CSS4C	CSS4C							CSS-4 MOD 3 ICBM
CSS4X	CSS4X							CSS-4 MOD 2/3 ICBM
CSS5	CSS5							CSS-5 MRBM
CSS5A	CSS5A							CSS-5 MOD 1 MRBM
CSS5B	CSS5B							CSS-5 MOD 2 MRBM
CSS5C	CSS5C							CSS-5 MOD 3 MRBM
CSS5D	CSS5D							CSS-5 MOD 4 MRBM
CSS5E	CSS5E							CSS-5 MOD 5 MRBM
CSS5F	CSS5F							CSS-5 MOD 6 MRBM
CSS5X	CSS5X							CSS-5 MOD 3/4/5 MRBM
CSS5Y	CSS5Y							CSS-5 MOD 2/6 MRBM
CSS6	CSS6							CSS-6 SRBM
CSS6A	CSS6A							CSS-6 MOD 1 SRBM
CSS6B	CSS6B							CSS-6 MOD 2 SRBM
CSS6C	CSS6C							CSS-6 MOD 3 SRBM
CSS7A	CSS7A							CSS-7 MOD 1 SRBM
CSS7B	CSS7B							CSS-7 MOD 2 SRBM
CSS7C	CSS7C							CSS-7 MOD 3 SRBM
CSS7X	CSS7X							CSS-7 MOD 2/3 SRBM
CSS8	CSS8							CSS-8 CRBM
CSS9A	CSS9A							CSS-9 MOD 1 CRBM
CSS9B	CSS9B							CSS-9 MOD 2 CRBM
CSS9C	CSS9C							CSS-9 MOD 3 SRBM
CSS9X	CSS9X							CSS-9 MOD 1/2/3 SRBM
CSS9Y	CSS9Y							CSS-9 MOD 1/2 CRBM
CSSC2	CSSC2							CSSC-2 SILKWORM MSL
CSSC3	CSSC3							CSSC-3 SEERSUCKER MSL
CSSC4	CSSC4							CSSC-4 SCATBACK MSL
CSSC5	CSSC5							CSSC-5 SAPLESS MSL

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
CSSC6	CSSC6							CSSC-6 SAWHORSE MSL
CSSC7	CSSC7							CSSC-7 SADSACK MSL
CSSC8	CSSC8							CSSC-8 SACCADe MSL
CSSN3	CSSN3							CSSN-3 SSM
CSSX	CSSX							CHINESE SSM
CSSX3	CSSX3							CHINESE CSS-NX-3 (JL-1) SLBM
CSTGD	CSTGD							COAST GUARD
CSV	CSV							COMBAT SUPPORT VEHICLE
CSWHD	CSWHD							CHEMICAL SUBMUNITION WARHEAD
CT114	CT114							CT-114 TUTOR TRAINER ACFT
CT133	CT133							CT-133 SILVERSTAR TRAINER ACFT
CT142	CT142							CT-142 DASH 8 TRAINER ACFT
CT155	CT155							CT-155 HAWK TRAINER ACFT
CT156	CT156							CT-156 HARVARD TRAINER ACFT
CULTR	CULTR							HISTORICAL/CULTURAL LOCATION
CTNR	CTNR							CARGO CONTAINERS
CV	CV							ACFT CARRIER
CV140	CV140							CV-140 TRANSPORT/AIRLINER ACFT
CV54	CV54							CV-54 TRANSPORT/AIRLINER ACFT
CV580	CV580							CONVAIR 580 TRANSPORT/AIRLINER ACFT
CVA	CVA							ATTACK ACFT CARRIER, GEN TYPE
CVAN	CVAN							ACFT CARRIER (NUC), GEN TYPE
CVBG	CVBG							ACFT CARRIER BATTLE GROUP
CVG	CVG							GUIDED MISSILE ACFT CARRIER
CVGN	CVGN							GUIDED MISSILE ACFT CARRIER, NUC POWERED
CVH	CVH							ACFT CARRIER, VTOL/STOL
CVHG	CVHG							GUIDED MISSILE ACFT CARRIER, VTOL/STOL
CVHN	CVHN							ACFT CARRIER, VTOL/STOL, NUC POWERED
CVL	CVL							CIVIL, CIVILIAN, OR LIGHT ACFT CARRIER
CVLN	CVLN							LIGHT ACFT CARRIER, NUC POWERED
CVN	CVN							ACFT CARRIER, NUC POWERED
CVS	CVS							ANTI-SUBMARINE ACFT CARRIER
CVY	CVY							CONVOY, OR CONVOY VEHICLE
CWC	CWC							COMPOSITE WARFARE COMMANDER
CXR	CXR							CARRIER, GEN TYPE

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APPENDIX B, PART IDFI NAME  
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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
D228M		D228M						DO-228 LM ( POLLUTION CONTROL) SURVEILLANCE ACFT
D228T		D228T						DO-228 LT TRANSPORT ACFT
D27		D27						DORNIER-27 ACFT
D5		D5						TRIDENT II (D-5) BALLISTIC MISSILE
DARS		DARS						DEPLOYABLE MERGED ACC, RPC, SFP
DASC		DASC						DIRECT AIR SUPPORT CENTER
DBU81		DBU81						DBU-81B AIR DELIVERABLE ORDNANCE
DC10		DC10						DC-10 COMMERCIAL PASSENGER ACFT
DC130		DC130						DC-130 HERCULES DRONE CONTROL ACFT
DC8		DC8						DC-8 (DOUGLAS) TRANSPORT/AIRLINER ACFT
DC9		DC9						DC-9 (DOUGLAS) TRANSPORT/AIRLINER ACFT
DCAOC		DCAOC						DEPLOYABLE COMBINED AIR OPERATIONS CENTER
DCOYA		DCOYA						AIR DECOY, GENERAL
DCOYL		DCOYL						DECOY (LAND)
DCOYS		DCOYS						DECOY (SURFACE)
DCOYU		DCOYU						UNDERWATER DECOY, GENERAL
DCS		DCS						DEFENSE COMM(S) SYS
DCYSP		DCYSP						DECOY (SPACE)
DD		DD						DESTROYER
DDAAW		DDAAW						DESTROYER, ANTI-AIR WARFARE
DDC		DDC						DATA DISTRIBUTION SYS
DDG		DDG						GUIDED MISSILE DESTROYER
DDGN		DDGN						GUIDED MISSILE DESTROYER, NUC POWERED
DDH		DDH						AVIATION DESTROYER
DDHG		DDHG						GUIDED MISSILE AVIATION DESTROYER
DDHN		DDHN						AVIATION DESTROYER, NUC POWERED
DDM		DDM						MISSILE DESTROYER
DDN		DDN						DESTROYER (NUC), GEN TYPE
DDR		DDR						DESTROYER, RADAR PICKET
DE		DE						DESTROYER ESCORT, GEN TYPE

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
DEBRI	DEBRI							DEBRIS, GEN TYPE
DECBN	DECBN							DECOY BALLOON
DECON	DECON							DECONTAMINATION SITE
DET	DET							DETACHMENT
DEW	DEW							DIRECTED ENERGY WPN
DF21C	DF21C							DF-21C (CSS-5 MOD 2(C)) SSM
DHAN	DHAN							DHANUSH SHORT RANGE SHLBMB
DHC2	DHC2							DHC-2 BEAVER TRANSPORT/AIRLINER
								ACFT
DHC5	DHC5							DHC-5 BUFFALO
								TRANSPORT/AIRLINER ACFT
DHC6	DHC6							DHC-6 TWIN OTTER
								TRANSPORT/AIRLINER ACFT
DHC7	DHC7							DHC-7 DASH TRANSPORT/AIRLINER
								ACFT
DHC8	DHC8							DHC-8 CARIBOU
								TRANSPORT/AIRLINER ACFT
DHOW	DHOW							DHOW VESSEL
DICAS	DICAS							DICASS SONOBUOY TYPE
DIFAR	DIFAR							DIFAR SONOBUOY TYPE
DISH	DISH							SATELLITE DISH
DIV	DIV							DIVISION
DL	DL							DATA LINK EMITTER
DME	DME							DISTANCE MEASURING EQUIPMENT
DP	DP							DUAL PURPOSE WPN
DPRES	DPRES							LAND DEPRESSION
DPT	DPT							DEPOT
DRAGN	DRAGN							DRAGON ANTI-TANK WEAPON
DRONE	DRONE							UNMANNED DRONE VEHICLE, GEN
								TYPE
DRUGS	DRUGS							DRUGS
DTOC	DTOC							DIVISION TACTICAL OPNS CENTER
DUMAA	DUMAA							DUMMY ARTILLERY
DUMAC	DUMAC							DUMMY ACFT
DUMCE	DUMCE							DUMMY COMM ELECTRONICS
DUMSA	DUMSA							DUMMY MISSILE (SAM) SITE
DUMSS	DUMSS							DUMMY SSM SITE
DUMTG	DUMTG							DUMMY CREATED TO LOOK LIKE A
								TGT - SOLELY FOR DECEPTION
E2	E2							E-2 HAWKEYE CARRIER-BASED
								AIRBORNE EW/AI CONTROL ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
E3	E3							E-3 SENTRY AWACS
E3A	E3A							E-3A SENTRY AWACS RADAR C3 ACFT
E3B	E3B							E-3B/C SENTRY AWACS
E3D	E3D							E-3D SENTRY AWACS (UK)
E3F	E3F							E-3F SENTRY AWACS (FRENCH)
E3G	E3G							E-3G SENTRY AWACS
E4	E4							E-4 COMMAND/CONTROL/COMM ACFT
E4B	E4B							E-4B AIRBORNE COMMAND POST ACFT
E6A	E6A							E-6A TACAMO ACFT
E8C	E8C							E-8C JSTARS ACFT
EA6	EA6							EA-6 PROWLER ACFT
EA6B	EA6B							EA-6B PROWLER CARRIER-BASED EA ACFT
EACE	EACE							EA COMM(S) Emitter
EADE	EADE							EA DECOY Emitter
EADS	EADS							EA DECOY SITE
EAE	EAE							EA Emitter
EAME	EAME							EA MULTIPURPOSE Emitter
EAMS	EAMS							EA MULTIPURPOSE SITE
EAR	EAR							ELECTRONICALLY AGILE RADAR
EARE	EARE							EA RADAR Emitter
EAS	EAS							EA SITE
EC130	EC130							EC-130 HERCULES TURBOPROP TRANSPORT ACFT
EC13E	EC13E							EC-130E ACFT
EC13H	EC13H							EC-130H COMPASS CALL JAMMING SYS ACFT
EC13J	EC13J							EC-130J COMMANDO SOLO ACFT
EC27J	EC27J							EC-27J ELECTRONIC RECON ACFT
EC725	EC725							EC-725 COUGAR RESCO HELICOPTER
ECS	ECS							ENGAGEMENT CONTROL STATION (PATRIOT)
EF4	EF4							EF-4 WILD WEASEL ELECTRONIC/RECON ACFT
EFA	EFA							EURO FIGHTER ACFT
EGSS1	EGSS1							EG-SS-1 CRBM
EH101	EH101							EH-101 MERLIN HELICOPTER
EH60	EH60							EH-60 BLACKHAWK HELICOPTER
EH60B	EH60B							EH-60B BLACKHAWK HELICOPTER, QUICK FIX VARIANT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
ELS	ELS							EMITTER LOCATION, GEN TYPE
EM110	EM110							EMB-110 BANDEIRANTE TRANSPORT/AIRLINER ACFT
EM111	EM111							EMB-111 TURBOPROP MARITIME SURVEILLANCE ACFT
EM120	EM120							EMB-120 BRASILIA ADV TRANSPORT ACFT
EM121	EM121							EMB-121 TRANSPORT ACFT
EM145	EM145							EMB-145 AMAZON TRANSPORT ACFT
EM170	EM170							EMB-170 TRANSPORT/AIRLINER ACFT
EM175	EM175							EMB-175 TRANSPORT/AIRLINER ACFT
EM190	EM190							EMB-190 TRANSPORT/AIRLINER ACFT
EM312	EM312							EMB-312 TOUCAN TRAINER ACFT
EM500	EM500							EMB-500 PHENOM 100 TRANSPORT/ AIRLINER ACFT
EMT	EMT							EMITTER, GEN TYPE
EN280	EN280							ENSTROM 280 HELICOPTER
EO	EO							ELECTRO-OPTICS EMITTER
EOC	EOC							EMERGENCY OPS CENTER
EP3	EP3							EP-3 ORION LR EA, MARITIME
EQUIP	EQUIP							EQUIPMENT, GEN TYPE
ERAPS	ERAPS							EXPENDABLE RELIABLE ACOUSTIC PATH SONOBUOY (ERAPS) TYPE
ERINT	ERINT							ERINT SSM
ERPHO	ERPHO							EARTH RESOURCES PHOTOGRAPHIC SATELLITE
ETEN	ETEN							SUPER ETENDARD FTR/BOMBER ACFT
ETENP	ETENP							ETENDARD IV P PATROL ACFT
EW	EW							EARLY WARNING RADAR
EWAC	EWAC							ELECTRONIC WARFARE ACFT
EWC	EWC							ELECTRONIC WARFARE CENTER
EWS	EWS							ELECTRONIC WARFARE SATELLITE
EXP	EXP							EXPLOSIVE WPN
EXPSV	EXPSV							EXPLOSIVE, NFI
F1	F1							F-1 FTR ACFT
F100	F100							F-100 SUPER SABRE TACTICAL FTR/BOMBER/CAS(NUC) ACFT
F104	F104							F-104 STAR FIGHTER AIR INTCP/FTR(NUC) ACFT
F111	F111							F-111 TACTICAL FTR ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
F117	F117							F-117 FTR ACFT
F12	F12							F-12 FTR ACFT
F14	F14							F-14 TOMCAT FTR/AI/CAS ACFT
F14A	F14A							F-14A TOMCAT CARRIER-BASED FTR ACFT
F14B	F14B							F-14B TOMCAT CARRIER-BASED FTR ACFT
F14D	F14D							F-14D TOMCAT CARRIER-BASED FTR ACFT
F15	F15							F-15 EAGLE TACTICAL FTR ACFT
F15E	F15E							F-15E STRIKE EAGLE FTR/BOMBER ACFT
F16	F16							F-16 FIGHTING FALCON AIR COMBAT FTR ACFT
F18	F18							F-18 HORNET - FTR ACFT
F2	F2							F-2 TORNADO FTR ACFT
F20	F20							F-20 TIGERSHARK F-5G FTR, EXPORT VERSION ACFT
F22	F22							F-22 RAPTOR ACFT
F27	F27							F27 FRIENDSHIP TRANSPORT/AIRLINER ACFT
F28	F28							F28 FELLOWSHIP TRANSPORT/AIRLINER ACFT
F3	F3							F-3 TORNADO
F33	F33							F-33 BONANZA TRAINER ACFT
F35A	F35A							F-35A JOINT STRIKE FIGHTER
F35B	F35B							F-35B JOINT STRIKE FIGHTER
F35C	F35C							F-35C JOINT STRIKE FIGHTER
F35XD	F35XD							F-35XD DRAKEN - FTR ACFT
F4	F4							F-4 PHANTOM II FTR/BOMBER ACFT
F5	F5							F-5A/B/G FREEDOM FTR - TACTICAL FTR/BOMBER AAW/CAS, ACFT
F5E	F5E							F-5E TIGER II - INTL TACTICAL FTR/BOMBER AAW/CAS ACFT
F5F	F5F							F-5F TIGER II - INTL TACTICAL FTR/BOMBER AAW/CAS ACFT
F5FR	F5FR							F-5 FRESCO FTR ACFT
F6	F6							F-6 FARMER - PEOPLES LIBERATION ARMY AIR FORCE FTR ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
F7	F7							F-7 PEOPLES LIBERATION ARMY AIR FORCE FTR ACFT
F8	F8							F-8 FINBACK PEOPLES LIBERATION ARMY AIR FORCE FTR ACFT
F82	F82							F-8 JIAN JI-8-2 FTR ACFT
F8F	F8F							F-8 FISHBED (F-7) FTR ACFT
F9	F9							F-9 FANTAN - FTR ACFT
FA18	FA18							F/A-18 HORNET FTR ACFT
FA2	FA2							FA2 SEA HARRIER FTR/BOMBER ACFT
FAC	FAC							FORWARD AIR CONTROLLER
FACP	FACP							FORWARD AIR CONTROL PARTY
FALC2	FALC2							FALCON 200/FALCON 20 TRANSPORT/AIRLINER ACFT
FALC5	FALC5							FALCON 50 ACFT
FALC9	FALC9							FALCON 900 TRANSPORT/AIRLINER ACFT
FALCG	FALCG							FALCON GUARDIAN RECON ACFT
FASSN	FASSN							FLEET ATTACK NUC POWERED SUBMARINE
FATEH	FATEH							FATEH 110 SRBM
FATHA	FATHA							FATEH 110 MOD 1 CRBM
FATHB	FATHB							FATEH 110 MOD 2 SRBM
FATHC	FATHC							FATEH 110 MOD 3 CRBM
FATHD	FATHD							FATEH 110 MOD 4 CRBM
FB111	FB111							FB-111 TACTICAL FTR/MEDIUM BOMBER ACFT
FB6A	FB6A							FB-6A SAM
FB6C	FB6C							FB-6C SAM
FBC1	FBC1							CHINESE B-7 BOMBER A.K.A. FLYING LEOPARD
FBM	FBM							FTR-BOMBER ACFT
FCC	FCC							FLEET COMMAND CENTER
FCSC	FCSC							FLEET COMMAND SUPPORT CENTER
FDC	FDC							FIRE DIRECTION CENTER
FEL	FEL							FREE ELECTRON LASER
FF	FF							FRIGATE
FFG	FFG							GUIDED MISSILE FRIGATE
FFGH	FFGH							GUIDED MISSILE AVIATION FRIGATE
FFGN	FFGN							GUIDED MISSILE FRIGATE, NUC POWERED

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
FFH	FFH							AVIATION FRIGATE
FFHN	FFHN							AVIATION FRIGATE, NUC POWERED
FFL	FFL							CORVETTE
FFLG	FFLG							GUIDED MISSILE CORVETTE
FFR	FFR							RADAR PICKET FRIGATE
FFSG	FFSG							FLEET FRIGATE
FFT	FFT							TRAINING FRIGATE
FFX	FFX							ASW FRIGATE
FGA	FGA							FTR(S), GND ATTACK ACFT
FH227	FH227							FH-227 FRIENDSHIP
								TRANSPORT/AIRLINER ACFT
FHE	FHE							FORWARD HEADQUARTERS ELEMENT
FIC	FIC							FLEET INTELLIGENCE CENTER
FK100	FK100							FOKKER 100 TRANSPORT/AIRLINER
								ACFT
FK1K	FK1K							FK-1000 SAM
FK50	FK50							FOKKER 50 TRANSPORT/AIRLINER
								ACFT
FK60	FK60							FOKKER 60 TRANSPORT/AIRLINER
								ACFT
FK70	FK70							FOKKER 70 TRANSPORT/AIRLINER
								ACFT
FL2	FL2							FL-2 SILKWORM SSM
FL7	FL7							FL-7 SSM
FLAMR	FLAMR							FLAMETHROWER
FLIR	FLIR							FORWARD LOOKING INFRARED SENSOR
FLOT	FLOT							FORWARD LINE OF TROOPS
FLR	FLR							FORWARD LOOKING RADAR (SENSOR)
FLT	FLT							FLEET, GEN TYPE
FM3K	FM3K							FM-3000 SAM
FM80	FM80							FM-80 SAM
FMF	FMF							FLEET MARINE FORCE
FOP	FOP							FORESTRY PRODUCTS
FP	FP							FIRE POSITION
FPA	FPA							FOCAL PLANE ARRAY
FPB	FPB							FAST PATROL BOAT
FPM	FPM							FAST PATROL BOAT, GEN TYPE
FPU	FPU							FORWARD PARTICIPATING UNIT, TADIL

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	EQUIV	MOD	ACCURACY	EXPLANATION
FROG	FROG						FROG SSM UNGUIDED SRBM (AKA LUNA)
FROG7	FROG7						FROG-7 SSM UNGUIDED SRBM
FRG7A	FRG7A						FROG-7A (LUNA-M) SSM UNGUIDED SRBM
FRG7B	FRG7B						FROG-7B (LUNA-Z) SSM UNGUIDED SRBM
FRSTK	FRSTK						FIRESTREAK AAM
FRU	FRU						FORWARDING REPORTING UNIT, TADIL
FSCC	FSCC						FIRE SUPPORT COORDINATION CENTER
FSD	FSD						FIELD SUPPORT DIVISION
FSE	FSE						FIRE SUPPORT ELEMENT
FSH	FSH						FISHING VESSEL, GEN TYPE
FSHNT	FSHNT						FISHING NET
FSK	FSK						FREQUENCY SHIFT KEY EMITTER
FTR	FTR						FIGHTER (FTR) ACFT
FTRI	FTRI						FTR/INTCP, GEN TYPE
FXWHD	FXWHD						FUEL-AIR EXPLOSIVE WARHEAD
G222	G222						G222 SAMA/TRANSPORT/AIRLINER ACFT
G2A	G2A						G2-A GALEB/SEAGULL TRAINER ACFT
G4	G4						SUPER GALEB, ACFT
G550	G550						G-550 CONFORMAL AIRBORNE EARLY WARNING (CAEW) ACFT
G91T	G91T						G91T FIAT JET 1 TRAINER ACFT
GAB	GAB						GABRIEL ASM
GAB1	GAB1						GABRIEL I ASM
GAB2	GAB2						GABRIEL II SKORPIOEN ASM
GACC	GACC						GND ATTACK CONTROL CENTER
GAD	GAD						GUARDS ARTILLERY DIVISION (RUSSIAN)
GAZ51	GAZ51						GAZ-51 MEDIUM TRUCK
GAZ63	GAZ63						GAZ-63 BM-4 VEHICLE
GAZ66	GAZ66						GAZ-66 STANDARD LIGHT TRUCK, FC CENTER FOR SCUD
GAZ69	GAZ69						GAZ-69 LIGHT TRUCK
GBAD	GBAD						GROUND BASED AIR DEFENSE SITE
GBL	GBL						GND-BASED LASER

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
GBU10	GBU10							GBU-10 AIR DELIVERABLE ORDNANCE
GBU12	GBU12							GBU-12 AIR DELIVERABLE ORDNANCE
GBU15	GBU15							GBU-15(V)-4B AIR DELIVERABLE ORDNANCE
GBU22	GBU22							GBU-22B AIR DELIVERABLE ORDNANCE
GCE	GCE							GND COMBAT ELEMENT
GCI	GCI							GND CONTROL INTERCEPT SITE
GCIF	GCIF							GCI, FIXED SITE
GCIFA	GCIFA							GCI, FIXED AUTOMATIC SITE
GCIFM	GCIFM							GCI, FIXED MANUAL SITE
GCIM	GCIM							GCI, MOBILE SITE
GCIMA	GCIMA							GCI, MOBILE AUTOMATIC SITE
GCIMM	GCIMM							GCI, MOBILE MANUAL SITE
GEYE	GEYE							GLOBAL EYE AEW ACFT
GHAUR	GHAUR							GHAURI MRBM
GLBHK	GLBHK							UAV, STRATEGIC, RQ-4 GLOBAL HAWK [MIDB:APTBA OR APTBB]
GLCC	GLCC							GND LAUNCH CONTROL CENTER
GLCM	GLCM							GND LAUNCHED CRUISE MISSILE
GLIDE	GLIDE							GLIDER ACFT
GMRD	GMRD							GUARDS MOTORIZED RIFLE DIVISION (RUSSIAN)
GNDCC	GNDCC							GND COMMAND CENTER
GNR8R	GNR8R							GENERATOR
GP	GP							GUARD POST
GPF	GPF							GEN PURPOSE FORCES
GPS	GPS							GLOBAL POSITIONING SYS
GR1	GR1							GR-1 TORNADO BOMBER/ATTACK ACFT
GR4	GR4							GR4 TORNADO
GR850	GR850							GROB G-850 PROTOTYPE TRANSPORT/AIRLINER ACFT
GRDAN	GRDAN							MQ-9 GUARDIAN UAV
GRHR	GRHR							BRITISH HARRIER ACFT
GRHT1	GRHT1							GRIFFIN HT1 RAF TRAINING HELO (BELL 412EP)

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
GROM	GROM							GROM SRBM
GRP	GRP							GROUP
GRU1	GRU1							GEN STAFF INTELLIGENCE (RUSSIAN)
GSE	GSE							GND SUPPORT EQUIPMENT
GSF	GSF							GND SUPPORT FTR ACFT
GSMSL	GSMSL							WEAPONS, STRATEGIC, GROUND LAUNCHED, NOT FURTHER IDENTIFIED
GTD	GTD							GUARDS TANK DIVISION (RUSSIAN)
GTMSL	GTMSL							WEAPONS, TACTICAL, GROUND LAUNCHED, NOT FURTHER IDENTIFIED
GULF1	GULF1							GULFSTREAM I TRANSPORT/AIRLINER ACFT
GULF2	GULF2							GULFSTREAM II TRANSPORT/ AIRLINER ACFT
GUN	GUN							GUN >30 CALIBER
GUNF	GUNF							FIXED-WING GUNSHIP ACFT
GUNH	GUNH							HELICOPTER GUNSHIP ACFT
GW	GW							GUIDED WPN
H1	H1							H-1 HUEY HELICOPTER
H2	H2							H-2 SEA SPRITE HELICOPTER RESCUE, TRANSPORT, ASW
H20	H20							H-20 BOMBER ACFT
H2000	H2000							HAWK-2000 FTR ACFT
H3	H3							H-3 SEA KING HELICOPTER RESCUE, TRANSPORT, ASW
H3000	H3000							HUGHES 3000 HELICOPTER
H34	H34							H-34 SKY KING HELICOPTER
H46	H46							H-46 SEA KNIGHT HELICOPTER PERSONNEL/CARGO TRANSPORT
H52	H52							H-52 SKY KING HELICOPTER
H53	H53							H-53 SEA STALLION PERSONNEL/CARGO TRANSPORT HELICOPTER
H60	H60							H-60 BLACKHAWK HELICOPTER

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
HA220		HA220						HA-220 SUPER SAETA BOMBER/ATTACK ACFT
HAB		HAB						HIGH ALTITUDE BOMBING/BURST
HAC		HAC						HAC TIGER EUROCOPTER (TANK BUSTER)
HADES		HADES						FRENCH SSM, MR, NUCLEAR CAPABLE
HALE		HALE						HIGH ALTITUDE LONG ENDURANCE ACFT
HAP		HAP						HAP TIGER EUROCOPTER (AIR-TO- AIR)
HARM		HARM						HIGH-SPEED ANTI-RADIATION MISSILE
HAS1		HAS1						HAS-1 WASP GEN PURPOSE HELICOPTER
HAS3		HAS3						HAS-3 WESSEX GEN PURPOSE HELICOPTER
HATF1		HATF1						HATF-1 SRBM
HATF2		HATF2						HATF-2 SRBM
HATF3		HATF3						HATF-3/GHAZNAVI SRBM
HAWK		HAWK						HAWK SAM SITE
HAZDA		HAZDA						HAZARDOUS CARGO/POLLUTANTS-IMO HAZARD OR POLLUTANT CAT A
HAZDB		HAZDB						HAZARDOUS CARGO/POLLUTANTS-IMO HAZARD OR POLLUTANT CAT B
HAZDC		HAZDC						HAZARDOUS CARGO/POLLUTANTS-IMO HAZARD OR POLLUTANT CAT C
HAZDD		HAZDD						HAZARDOUS CARGO/POLLUTANTS-IMO HAZARD OR POLLUTANT CAT D
HC130		HC130						HC-130 HERCULES AIR RESCUE/TANKER ACFT
HC97		HC97						HC-97 TRANSPORT/AIRLINER ACFT
HCF		HCF						HIGH COMMAND OF FORCES

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
HEAT	HEAT							HIGH EXPLOSIVE ANTI-TANK (WPN)
HEL	HEL							HELICOPTER
HELMW	HELMW							HELICOPTER, MINE WARFARE
HELO	HELO							HELICOPTER, GEN
HELS	HELS							HIGH ENERGY LASER SYS
HERON	HERON							UAV, HERON [MIDB:APKBK OR APTAA]
HF	HF							HEIGHT FINDER (RADAR)
HF24	HF24							HF-24 MARUT (WIND SPIRIT) - FTR ACFT
HGV	HGV							HYPersonic GLIDE VEHICLE, GEN TYPE
HH1	HH1							HH-1 IROQUOIS HELICOPTER
HH2	HH2							HH-2 SEA SPRITE HELICOPTER
HH3	HH3							HH-3 SKY KING (JOLLY GREEN) HELICOPTER
HH43	HH43							HH-43 HELICOPTER
HH52	HH52							HH-52 (SIKORSKY) HELICOPTER
HH53	HH53							HH-53 (SIKORSKY) HELICOPTER
HH60	HH60							HH-60 NIGHTHAWK HELICOPTER
HH65	HH65							HH-65A DOLPHIN HELICOPTER
HHC	HHC							HEADQUARTERS/HEADQUARTERS COMPANY
HI	HI							HIGH INTEREST TARGET, GEN TYPE
HIMAD	HIMAD							HIGH TO MEDIUM ALTITUDE AIR DEFENSE BN/BGD
HINO	HINO							HINO TRACTOR/TRAILER CAB
HJT16	HJT16							HJT-16 KIRAN TRAINER ACFT
HK100	HK100							HAWK-100 FTR ACFT
HK200	HK200							HAWK-200 FTR ACFT
HK50	HK50							HAWK-50 FTR ACFT
HK60	HK60							HAWK-60 FTR ACFT
HLA	HLA							ATTACK HELICOPTER
HLTOP	HLTOP							HILLTOP
HMMWV	HMMWV							HIGH MOBILITY MULTI-PURPOSE WHEELED VEH (HUMVEE)
HN5	HN5							HN-5 SAM
HOKUM	HOKUM							HOKUM HELICOPTER
HOSP	HOSP							HOSPITAL

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APPENDIX B, PART IDFI NAME  
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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
HOSPS	HOSPS							HOSPITAL SHIP
HOT	HOT							HOT ATM
HOWZR	HOWZR							HOWITZER
HPAD	HPAD							HELICOPTER PAD
HQ	HQ							HEADQUARTER
HQ10	HQ10							HQ-10 SAM
HQ15	HQ15							HQ-15 SAM
HQ16	HQ16							HQ-16 SAM
HQ17	HQ17							HQ-17 SAM
HQ18	HQ18							HQ-18 SAM
HQ22	HQ22							HQ-22 SAM
HQ6	HQ6							HQ-6 SAM
HQ61	HQ61							HQ-61 SAM
HQ9	HQ9							HQ-9 (HONG-QI 9) SAM
HRMES	HRMES							UAV, HERMES [MIDB:APKBI OR APKBJ OR APTAG]
HRR	HRR							HIGH RESOLUTION RADAR
HRSL	HRSL							HIGH RESOLUTION SCANNING LASER
HS122	HS122							AL HUSSEIN (12.2 METER) SSM
HS748	HS748							HS.748 COASTGUARDER ACFT
HS801	HS801							HS.801 NIMROD RECON/AEW ACFT
HSC	HSC							HIGH SPEED CRAFT
HSL	HSL							HELICOPTER SQUADRON, LIGHT (ASW)
HSMOD	HSMOD							AL HUSSEIN (MOD) SSM
HSSN	HSSN							AL HUSSEIN SSM (IRAQ)
HST	HST							HIGH SPEED TARGET
HSV	HSV							HYPersonic VELOCITY MISSILE
HTVEH	HTVEH							HEAVY TRACKED VEHICLE
HU16	HU16							HU-16 ACFT
HU25	HU25							HU-25 FALCON GUARDIAN, COAST GUARD
HUNTR	HUNTR							HUNTER BOMBER/ATTACK ACFT
HVI	HVI							HIGH VALUE INDIVIDUAL (HVI)
HVILC	HVILC							LOCATION - HIGH VALUE INDIVIDUAL (HVI)
HVM	HVM							HYPER VELOCITY MISSILE
HVU	HVU							HIGH VALUE UNIT
HWVEH	HWVEH							HEAVY WHEELED VEHICLE
HY2	HY2							HY-2 SEERSUCKER SSM

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APPENDIX B, PART IDFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
HY3	HY3							HY-3 SSM
IA124	IA124							IAI 1124 TRANSPORT ACFT
IA125	IA125							IAI 1125 ASTRA TRANSPORT ACFT
IA58	IA58							IA-58 PUCARA BOMBER/ATTACK ACFT
IAR91	IAR91							IAR-91 ORAO FTR ACFT
IAR93	IAR93							IAR-93 ORAO BOMBER/ATTACK ACFT
IAR99	IAR99							IAR-99 SOIM BOMBER/ATTACK ACFT
IBCS	IBCS							INTEGRATED AIR & MSL DEFENSE
								BATTLE CMND SYS EOC GATEWAY
ICBM	ICBM							INTERCONTINENTAL BALLISTIC
								MISSILE
ICC	ICC							INFORMATION COORDINATION
								CENTER
ICEBG	ICEBG							ICEBERG
ICHGV	ICHGV							INTERCONTINENTAL HYPERSONIC
								GLIDE VEHICLE
ICM1	ICM1							*SEE ANNEX A*
ICM2	ICM2							*SEE ANNEX A*
ICTGT	ICTGT							ICBM TARGET VEHICLE
IDF	IDF							CHING KUO IDF (INDIGENOUS
								DEFENSIVE FIGHTER)
IED	IED							IMPROVISED EXPLOSIVE DEVICE
IEDTX	IEDTX							IED TRANSMITTER
IEDXP	IEDXP							EXPLODED IED
IFF	IFF							IDENTIFICATION FRIEND OR FOE
IHAWK	IHAWK							IMPROVED HAWK SAM
IIR	IIR							IMAGING INFRARED SEEKER
IL112	IL112							IL-112 TRANSPORT ACFT
IL12	IL12							IL-12 COACH TRANSPORT ACFT
IL14	IL14							IL-14 CRATE PROP TRANSPORT ACFT
IL18	IL18							IL-18 COOT BOMBER/ TRANSPORT
								ACFT
IL2	IL2							IL-2 CAB PROP TRANSPORT ACFT
IL20	IL20							IL-20 COOT-A EA/ELINT (RECON)
								ACFT
IL22	IL22							IL-22 COOT-B C2 ACFT
IL28	IL28							IL-28 BEAGLE/IL-28U MASCOT (JET
								TRAINER) ACFT
IL38	IL38							IL-38 MAY MARITIME PATROL/ASW
								ACFT

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APPENDIX B, PART IDFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
IL38T		IL38T						IL-38 TRANSPORT/AIRLINER ACFT
IL62		IL62						IL-62 CLASSIC JET TRANSPORT ACFT
IL76		IL76						IL-76 MAINSTAY AEW ACFT
IL76A		IL76A						IL-76 CANDID-A TRANSPORT ACFT
IL76B		IL76B						IL-76 CANDID-B TRANSPORT/TANKER/EA ACFT
IL76M		IL76M						IL-76 MD ACFT
IL78		IL78						IL-78 MIDAS TRANSPORT ACFT
IL80		IL80						IL-80 MAXDOME COMMAND/CONTROL/ COMM ACFT
IL86		IL86						IL-86 CAMBER JET TRANSPORT ACFT
IL87		IL87						IL-87 MAXDOME COMMAND/CONTROL/ COMM ACFT
IMPNT		IMPNT						IMPACT POINT OR LOCATION
INDIG		INDIG						INDIGO SAM
INERT		INERT						INERTIAL GUIDANCE/NAVIGATION SYS
INF		INF						INFANTRY
INMR		INMR						INMARSAT SATELLITE COMMUNICATIONS
INS		INS						INERTIAL NAVIGATION SYS
INS3		INS3						IN-SS-N-3 SLBM
INTCP		INTCP						INTERCEPTOR ACFT
INTCS		INTCS						INTELLIGENCE COLLECTOR SHIP
IPCIV		IPCIV						ISOLATED PERSONNEL, CIVILIAN
IPCTR		IPCTR						ISOLATED PERSONNEL, GOV'T CONTRACTOR
IPGOV		IPGOV						ISOLATED PERSONNEL, GOV'T CIVILIAN
IPMIL		IPMIL						ISOLATED PERSONNEL, MILITARY
IPMUL		IPMUL						ISOLATED PERSONNEL, MULTIPLE CATEGORIES
IPRSN		IPRSN						ISOLATED PERSONNEL, NOT FURTHER IDENTIFIED
IR700		IR700						IRAN 700 SSM
IRBM		IRBM						INTERMEDIATE-RANGE BALLISTIC MISSILE
IRC		IRC						INTERNATIONAL RED CROSS PERSONNEL

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APPENDIX B, PART IDFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
IRHGV	IRHGV							INTERMEDIATE RANGE HYPERSONIC GLIDE VEHICLE
IRM1	IRM1							*SEE ANNEX A*
IRM2	IRM2							*SEE ANNEX A*
IRS6X	IRS6X							IR-SS-6 MOD 1/2/3 CRBM
IRSS7	IRSS7							IR-SS-7 SRBM
IRSS8	IRSS8							IR-SS-8 MSL
IRSS9	IRSS9							IR-SS-9 MSL
ISELECT	ISELECT							INTERSECTION
ISKRE	ISKRE							ISKANDER-E MSL
ISLDR	ISLDR							BN-2B ISLANDER TRANSPORT/ AIRLINER ACFT
ISS	ISS							INTERNATIONAL SPACE STATION
ITASS	ITASS							INTERIM TOWED ARRAY SONAR SYS
J10	J10							J-10 FIREBIRD FTR ACFT
J11	J11							J-11 FLANKER FTR ACFT
J15	J15							J-15 FLANKER FTR ACFT
J16	J16							J-16 FLANKER FTR ACFT
J18	J18							J-18 RED EAGLE FTR ACFT
J1H	J1H							J-1 HAWK BOMBER/ATTACK ACFT
J1J	J1J							J-1 JASTREB BOMBER/ATTACK ACFT
J20	J20							J-20 FTR ACFT
J22	J22							J-22 ORAO
J32	J32							J-32 LANSEN ACFT
J35	J35							J-35 DRAKEN - FTR ACFT
J7	J7							J-7 FISHCAN FTR ACFT
J8	J8							J-8 FINBACK FTR ACFT
J9	J9							J-9 FTR ACFT
JA37	JA37							JA-37 VIGGEN - FTR ACFT
JADGE	JADGE							JAPAN AIR DEFENSE GROUND ENVIRONMENT (JADGE)
JAGR	JAGR							JAGUAR FTR ACFT
JAS39	JAS39							JAS-39 GRIPPEN FTR ACFT
JAVLN	JAVLN							JAVELIN SAM
JBLON	JBLON							JLENS AEROSTAT (BALLOON)
JCC	JCC							JOINT COMMAND CENTER
JEEP	JEEP							ALL-TERRAIN MOTOR VEHICLE
JER1	JER1							JERICHO 1 SRBM
JER2	JER2							JERICHO 2 IRBM

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8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
JF17	JF17					JF-17 THUNDER FTR ACFT
JH7	JH7					JH-7 FOUNDER FTR ACFT
JIAN	JIAN					JIAN JI-5M BOMBER/ATTACK ACFT
JJ	JJ					UNITED NATIONS FORCES
JL10	JL10					JL-10 FALCON
JL15	JL15					JL-15 FALCON 03 TRAINER ACFT
JL9	JL9					JL-9 TRAINER ACFT
JLENS	JLENS					JLENS GROUND STATION
JST31	JST31					JETSTREAM 31 TRANSPORT/AIRLINER ACFT
JSTRM	JSTRM					JETSTREAM TRANSPORT/AIRLINER ACFT
JTAGS	JTAGS					JOINT TACTICAL GROUND STATION
JTF	JTF					JOINT TASK FORCE
JX	JX					JAMMER
K8	K8					K-8 (NAMC) TRAINER ACFT
KA15	KA15					KA-15 HEN HELICOPTER
KA18	KA18					KA-18 HOG HELICOPTER
KA20	KA20					KA-20 HARP HELICOPTER
KA25	KA25					KA-25 HORMONE HELICOPTER, GEN TYPE
KA25A	KA25A					KA-25 HORMONE-A ASW VERSION HELICOPTER
KA25B	KA25B					KA-25 HORMONE-B OTH TARGETING HELICOPTER
KA25C	KA25C					KA-25 HORMONE-C UTILITY AND SAR HELICOPTER
KA26	KA26					KA-26 HOODLUM HELICOPTER
KA27	KA27					KA-27 HELIX HELICOPTER, GEN TYPE
KA27A	KA27A					KA-27 HELIX-A ASW HELICOPTER
KA28	KA28					KA-28A HELIX HELICOPTER EXPORT VARIANT
KA29	KA29					KA-29 HELIX-B OTH TARGETING/ GUIDANCE HELICOPTER
KA32	KA32					KA-32 HELIX-C SAR/ASSAULT/ REPLENISHMENT HELICOPTER
KA50	KA50					KA-50 HOKUM COMBAT HELICOPTER, AIR-AIR/AIR-GND

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8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
KC10	KC10							KC-10 EXTENDER ACFT
KC10A	KC10A							KC-10A EXTENDER US TANKER/CARGO ACFT
KC130	KC130							KC-130F/R/T HERCULES US TANKER/TRANSPORT ACFT
KC135	KC135							KC-135 STRATOTANKER TANKER/TRANSPORT ACFT
KC13J	KC13J							KC-130J HERCULES US TANKER/TRANSPORT ACFT
KC97	KC97							KC-97L STRATOFREIGHTER TANKER/TRANSPORT ACFT
KEW	KEW							KINETIC ENERGY WPN
KFIR	KFIR							KFIR C2 FTR ACFT
KFR2	KFR2							KFIR 2000 FTR ACFT
KFRC7	KFRC7							KFIR C7 FTR ACFT
KGB	KGB							COMMITTEE FOR STATE SECURITY
KH41	KH41							KH-41 MOSKIT MISSILE
KJ200	KJ200							KJ-200 MOTH AEW ACFT
KJ2K	KJ2K							KJ-2000 MAINRING AEW ACFT
KJ500	KJ500							KJ-500 AEW ACFT
KJ600	KJ600							KJ-600 AEW ACFT
KNGAR	KNGAR							KING AIR TRANSPORT/AIRLINER ACFT
KNS10	KNS10							KN-SS-10 MSL
KNS11	KNS11							KN-SS-11 MSL
KNSN3	KNSN3							KN-SS-N-3 MSL
KNSS8	KNSS8							KN-SS-8 ICBM
KNSS9	KNSS9							KN-SS-9 CRBM
KQ200	KQ200							KQ-200 MARITIME PATROL ACFT
KSSS3	KSSS3							KS-SS-3 MSL
L100	L100							L-100 HERCULES TRANSPORT/AIRLINER ACFT
L1011	L1011							L-1011 TRI STAR COMMERCIAL AIRLINER ACFT
L101T	L101T							L-1011 TANKER ACFT (UK)
L29	L29							AERO L-29 DELFIN TRAINER ACFT
L39	L39							AERO L-39 ALBATROS ARMED TRAINER ACFT
L39C	L39C							AERO L39C ALBATROS TRAINER ACFT

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APPENDIX B, PART IDFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	EQUIV	MOD	ACCURACY	EXPLANATION
L39MS		L39MS					AERO L39MS ALBATROS MODIFIED ACFT VERSION
L39Y		L39Y					AERO L39Y ALBATROS TARGET TOWING, AAA TRAINING ACFT
L39ZA		L39ZA					AERO L39ZA ALBATROS GND ATTACK/RECON ACFT
L39ZO		L39ZO					AERO L39ZO ALBATROS WPN TRAINING ACFT
L410		L410					L410 TURBOJET TURBOPROP TRANSPORT ACFT
L450		L450					L-450 TRAINER ACFT
L59		L59					L-59 ALBATROS (L-39 EXPORT MODEL)
L70		L70					L-70 MILTRAINER/VINKA TRAINER ACFT
LA6DC		LA6DC					RPV GRD CTRL STN, UAV GCS
LAKE		LAKE					LAKE
LANCE		LANCE					XMMGM-52 LANCE LR SSGM (MOBILE NUC AT CORPS)
LAOC		LAOC					AIR OPERATIONS COORDINATION CENTER (LAND)
LAU10		LAU10					LAU-10 ROCKET LAUNCHER
LAU61		LAU61					LAU-61 ROCKET LAUNCHER
LAU68		LAU68					LAU-68 ROCKET LAUNCHER
LAU69		LAU69					LAU-69 ROCKET LAUNCHER
LAV		LAV					LIGHT ARMORED VEHICLE
LAWEN		LAWEN					LAW ENFORCEMENT VESSEL
LC		LC					LANDING CRAFT
LCC		LCC					AMPHIBIOUS COMMAND SHIP
LCF		LCF					LAUNCH CONTROL FACILITY
LCP		LCP					LAUNCH(ING) CONTROL POST
LCS		LCS					LITTORAL COMBAT SHIP
LCU		LCU					LANDING CRAFT, UTILITY
LDSD		LDSD					LOOK-DOWN SHOOT-DOWN (RADAR)
LEVEE		LEVEE					DAM/LEVEE
LF		LF					LAUNCH FACILITY
LGB		LGB					LASER GUIDED BOMB
LGM25		LGM25					LGM-25C TITAN II LAUNCH VEHICLE
LGM30		LGM30					LGM-30 MINUTEMAN III LAUNCH VEHICLE

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APPENDIX B, PART IDFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
LGS	LGS							LASER GUIDANCE SYS
LGW	LGW							LASER GUIDED WPN
LHA	LHA							AMPHIB ASSAULT SHIP
LHD	LHD							AMPHIB ASSAULT SHIP, MULTI-PURPOSE
LIGHT	LIGHT							LIGHT SOURCE EMITTER
LJ23	LJ23							LEARJET 23 TRANSPORT/AIRLINER ACFT
LJ24	LJ24							LEARJET 24 TRANSPORT/AIRLINER ACFT
LJ25	LJ25							LEARJET 25 TRANSPORT/AIRLINER ACFT
LJ35	LJ35							LEARJET 35/36 TRANSPORT/AIRLINER ACFT
LJ55	LJ55							LEARJET 55 TRANSPORT/AIRLINER ACFT
LJ60	LJ60							LEARJET 60 TRANSPORT/AIRLINER ACFT
LKA	LKA							AMPHIBIOUS CARGO SHIP
LL	LL							AMPHIBIOUS ASSAULT, GENERAL
LMINE	LMINE							LAND MINE
LNPT	LNPT							LAUNCH POINT OR LOCATION
LOFAR	LOFAR							LOFAR SONOBUOY TYPE
LORA	LORA							LORA SRBM
LORAN	LORAN							LONG RANGE ELECTRONIC NAVIGATION SYS
LP	LP							LIQUID PROPANE
LPA	LPA							ATTACK/AMPHIB PERSONNEL TRANSPORT
LPAR	LPAR							LARGE PHASED ARRAY
LPD	LPD							AMPHIB TRANSPORT DOCK
LPH	LPH							AMPHIB ASSAULT SHIP, HELICOPTER
LPIR	LPIR							LOW PROBABILITY OF INTERCEPT RADAR
LPLAT	LPLAT							LANDING PLATFORM
LPR	LPR							AMPHIB TRANSPORT (SMALL)
LPSS	LPSS							AMPHIB TRANSPORT SUBMARINE
LR35	LR35							LR-35A SWISS C-21A VARIANT
LRA	LRA							LONG RANGE AVIATION (RUSSIAN)
LRAA	LRAA							LONG RANGE AIR ARMY (RUSSIAN)
LRAF	LRAF							LONG RANGE AIR FORCE (RUSSIAN)

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APPENDIX B, PART IDFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
LRCM	LRCM							LONG RANGE CRUISE MISSILE
LREP	LREP							LIGHTWEIGHT REPLICA (LREP) DECOY
LRF	LRF							LASER RANGE FINDER
LRINF	LRINF							LONG RANGE INTERMEDIATE NUC FORCE
LRRKT	LRRKT							LONG RANGE ROCKET (>94 DM)
LRRP	LRRP							LONG RANGE RECON PATROL
LSD	LSD							LANDING SHIP DOCK
LSL	LSL							LANDING SHIP, LOGISTICS
LSM	LSM							AMPHIB LANDING SHIP (MEDIUM)
LST	LST							TANK LANDING SHIP
LSV	LSV							LANDING SHIP, VEHICLE
LTA	LTA							LIGHTER THAN AIR ACFT (E.G. ZEPPELIN)
LTD	LTD							LASER TARGET DESIGNATOR
LTV	LTV							AMPHIB ASSAULT VEHICLE
LTVEH	LTVEH							LIGHT TRACKED VEHICLE
LUNA	LUNA							LUNA SSM UNGUIDED SRBM (AKA FROG)
LVT	LVT							ASSAULT LANDING VEHICLE, TRACKED
LWVEH	LWVEH							LIGHT WHEELED VEHICLE
LXAHI	LXAHI							WESTLAND LYNX ARMY HELO MARK 1
LXAS3	LXAS3							WESTLAND LYNX HAS3 ANTI- SUBMARINE HELICOPTER
LXMA8	LXMA8							WESTLAND SUPER LYNX 100 HMA8 MARITIME ATTACK HELO
M1	M1							M-1 ABRAMS TANK
M102	M102							M-102 HOWITZER
M109	M109							M-109 HOWITZER, SELF-PROPELLED
M110	M110							M-110 HOWITZER, SELF-PROPELLED
M113	M113							M-113 ARMORED PERSONNEL CARRIER
M114	M114							M-114 HOWITZER, TOWED
M115	M115							M-115 HOWITZER, TOWED
M12	M12							M-12 MAIL AMPHIB SURVEILLANCE/ASW ACFT
M134A	M134A							MGM-134A MIDGETMAN SMALL ICBM
M15	M15							MIG-15 MIDGET INTERMEDIATE FTR TRAINER ACFT

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APPENDIX B, PART IDFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
M17	M17							MIG-17 FRESCO FTR ACFT
M19	M19							MIG-19 FARMER FTR ACFT
M2	M2							M-2 BRADLEY FIGHTING VEHICLE
M21	M21							MIG-21 FISHBED ACFT, GEN TYPE
M21H	M21H							MIG-21 FISHBED-H TACTICAL RECON-EA/PHOTO ACFT
M21J	M21J							MIG-21 FISHBED-J MULTI-ROLE FTR ACFT
M21K	M21K							MIG-21 FISHBED-K FTR/EA ACFT
M21L	M21L							MIG-21 FISHBED-L FTR/GND ATTACK ACFT
M21N	M21N							MIG-21 FISHBED-N FTR ACFT
M21U	M21U							MIG-21U MONGOL-A/B FTR TRAINER ACFT
M23	M23							MIG-23 FLOGGER FTR ACFT, GEN TYPE
M23B	M23B							MIG-23 FLOGGER-B AIR COMBAT FTR ACFT W/EA
M23C	M23C							MIG-23 FLOGGER-C AIR COMBAT FTR/TRAINER ACFT
M23E	M23E							MIG-23 FLOGGER-E EXPORT VERSION FTR ACFT
M23F	M23F							MIG-23 FLOGGER-F EXPORT VERSION FTR ACFT
M23G	M23G							MIG-23 FLOGGER-G LIGHT AIR COMBAT FTR ACFT
M23H	M23H							MIG-23 FLOGGER-H GND ATTACK ACFT
M25	M25							MIG-25 FOXBAT FTR/RECON ACFT
M25A	M25A							MIG-25 FOXBAT-A FTR INTCP ACFT
M25B	M25B							MIG-25 FOXBAT-B RECON ACFT
M25C	M25C							MIG-25 FOXBAT-C TRAINER ACFT
M25D	M25D							MIG-25 FOXBAT-D RECON ACFT
M25E	M25E							MIG-25 FOXBAT-E MODIFIED FOXBAT-A ACFT
M27	M27							MIG-27 FLOGGER GND ATTACK ACFT
M27D	M27D							MIG-27 FLOGGER-D GND ATTACK ACFT
M27J	M27J							MIG-27 FLOGGER-J MODIFIED GND ATTACK ACFT

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APPENDIX B, PART I

DFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
M29		M29						MIG-29 FULCRUM-A AIR COMBAT/ATTACK ACFT
M3		M3						M-3 BRADLEY FIGHTING VEHICLE
M31		M31						MIG-31 FOXHOUND FTR INTCP ACFT
M35		M35						MIG-35 FULCRUM FTR ACFT
M45		M45						M-45 SLBM
M48A		M48A						M48A3 TANK W/90MM GUN
M51		M51						M-51 SLBM
M543		M543						MAZ-543 SCUD-B LAUNCH VEHICLE
M5937		M5937						MAZ-5937 SS-21 LAUNCH VEHICLE
M60		M60						M-60 TANK W/105MM GUN
M600		M600						M600 ROCKET
M7310		M7310						MAZ-7310 SCALEBOARD LAUNCH VEHICLE
M7910		M7910						MAZ-7910 SA10 LAUNCH VEHICLE
M911		M911						M-9/11 SSM
MAB		MAB						MARINE AMPHIB BRIGADE
MAC		MAC						MILITARY ASSOCIATED CARGO
MACCS		MACCS						MARINE AIR COMMAND AND CONTROL SYS
MAD		MAD						MAGNETIC ANOMALY DETECTOR
MAF		MAF						MARINE AMPHIB FORCE
MAG		MAG						MARINE ACFT GROUP
MAGTF		MAGTF						MARINE AIR-GND TASK FORCE
MAOC		MAOC						AIR OPERATIONS COORDINATION CENTER (MARITIME)
MAP		MAP						MULTIPLE AIM POINT
MARF		MARF						MARINE FORCES
MARTN		MARTN						MARTIN PESCADOR ARGENTINIAN MISSILE
MARV		MARV						MANEUVERABLE REENTRY VEHICLE
MAS1		MAS1						MAS-1 CARCARA MISSILE
MASRC		MASRC						MASURCA SAM
MAT		MAT						MEDIUM ASSAULT TRANSPORT
MAU		MAU						MARINE AMPHIB UNIT
MAW		MAW						MARINE ACFT WING
MB150		MB150						MB/EE 150 MOBILE TBM
MB223		MB223						MBB223 FLAMINGO TRAINER ACFT
MB300		MB300						MB/EE 300 MOBILE TBM

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
MB326	MB326					M.B.326 (AERMACCHI) BOMBER/ATTACK ACFT
MB339	MB339					M.B.339 (AERMACCHI) BOMBER/ATTACK/TRAINER ACFT
MBAL	MBAL					BALLISTIC MISSILE
MBT	MBT					MAIN BATTLE TANK, GEN
MC12W	MC12W					USAF MC-12 ISR ACFT (KING AIR 350)
MC130	MC130					MC-130H/J COMBAT TALON DEEP PENETRATION ACFT
MC27J	MC27J					MC-27J ACFT
MCA	MCA					MISSILE CONTROL UNIT ACFT
MCARS	MCARS					MERGED CAOC, ACC, RPC, SFP
MCC	MCC					MOBILE COMMAND CENTER
MCE	MCE					CRC/MODULAR CONTROL EQUIPMENT
MCH	MCH					INDUSTRIAL MACHINERY, MATERIAL, OR EQUIPMENT
MCMV	MCMV					MINE COUNTERMEASURES MARITIME VESSEL
MCP	MCP					MOBILE COMMAND POST
MCS	MCS					MISSILE CONTROL UNIT (SHIP)
MCSS	MCSS					MINE COUNTERMEASURE SUPPORT SHIP
MCU	MCU					MISSILE CONTROL UNIT, UNDERWATER
MD11	MD11					MD-11 TRANSPORT/AIRLINER ACFT
MD500	MD500					MD-500 DEFENDER HELICOPTER
MD80	MD80					MD-80 TRANSPORT/AIRLINER ACFT
MD90	MD90					MD-90 TRANSPORT/AIRLINER ACFT
MDUMP	MDUMP					MUNITIONS DUMP
MED	MED					MEDICAL SERVICE
MEDTR	MEDTR					MEDICAL TRANSPORT
MEDS	MEDS					MEDICAL SUPPLIES
MER	MER					MERCHANT VESSEL, GEN TYPE
MERL2	MERL2					MERLIN 2 TRANSPORT/AIRLINER ACFT
MERL3	MERL3					MERLIN 3 TRANSPORT/AIRLINER ACFT
MERL4	MERL4					MERLIN 4 TRANSPORT/AIRLINER ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
METR3	METR3							METRO 3 TRANSPORT/AIRLINER ACFT
MFAR	MFAR							MULTI-FUNC ARRAY RADAR
MGARS	MGARS							MERGED ACC, RPC, SFP
MGS	MGS							MSN GND STATION
MGUID	MGUID							GUIDED MISSILE
MH53E	MH53E							MH-53E DRAGON HELICOPTER
MH68A	MH68A							MH-68A STINGRAY HELO
MHQ	MHQ							MARITIME HEADQUARTERS SITE/ACTY
MHS	MHS							MINEHUNTER/SWEEPER, GENERAL
MI1	MI1							MI-1 HARE HELICOPTER
MI10	MI10							MI-10 HARKE HELICOPTER
MI12	MI12							MI-12 HOMER HELICOPTER
MI14	MI14							MI-14 HAZE (V-14) HELICOPTER
MI14A	MI14A							MI-14 HAZE-A ASW HELICOPTER
MI14B	MI14B							MI-14 HAZE-B MINE COUNTER-MEASURES HELICOPTER
MI17	MI17							MI-17 HIP-H MI-8/MI-14 HELICOPTER VARIANT
MI2	MI2							MI-2 HOPLITE UTILITY HELICOPTER
MI22	MI22							MI-22 HOOK MI-6C HELICOPTER EXPORT VARIANT
MI24	MI24							MI-24 HIND (A-10) ARMED ASSAULT HELICOPTER
MI24A	MI24A							MI-24 HIND-A ARMED ASSAULT TRANSPORT HELICOPTER
MI24B	MI24B							MI-24 HIND-B ARMED ASSAULT TRANSPORT HELICOPTER
MI24C	MI24C							MI-24 HIND-C ARMED ASSAULT TRANSPORT HELICOPTER
MI24D	MI24D							MI-24 HIND-D ARMED ASSAULT TRANSPORT HELICOPTER
MI24E	MI24E							MI-24 HIND-E ARMED ASSAULT TRANSPORT HELICOPTER
MI25	MI25							MI-25 HIND HELICOPTER
MI26	MI26							MI-26 HALO HEAVY LIFT HELICOPTER/TROOP TRANSPORT
MI28	MI28							MI-28 HAVOC ATTACK HELICOPTER, AIR-AIR/AIR-GND COMBAT
MI29	MI29							MI-29 HOOP ATTACK HELICOPTER

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
MI35	MI35							MI-35 HIND-V MI-24 HELICOPTER EXPORT
MI38	MI38							MI-38 HELICOPTER
MI4	MI4							MI-4 HOUND HELICOPTER
MI6	MI6							MI-6 HOOK FREIGHT/TROOP TRANSPORT HELICOPTER
MI8	MI8							MI-8 HIP TRANSPORT/AIR COMM(S)/EA HELICOPTER
MI8C	MI8C							MI-8 HIP-C ASSAULT TRANSPORT HELICOPTER
MI8D	MI8D							MI-8 HIP-D EW/AIRBORNE COMM(S) HELICOPTER
MI8E	MI8E							MI-8 HIP-E TACTICAL SUPPORT/ ANTI-TANK HELICOPTER
MI8F	MI8F							MI-8 HIP-F EXPORT VERSION OF HIP-E HELICOPTER
MI8H	MI8H							MI-8 HIP-H HELICOPTER
MI8J	MI8J							MI-8 HIP-J EA HELICOPTER
MI8K	MI8K							MI-8 HIP-K EA COMM-JAM HELICOPTER
MI9	MI9							MI-9 HIP AIRBORNE COMM(S) HELO (MI-8 HIP-G EXPORT VARIANT)
MICA	MICA							MICA AMRAAM/ASRAAM
MIG15	MIG15							MIG-15 FAGOT FTR ACFT
MIG17	MIG17							MIG-17 TRAINER ACFT
MILAN	MILAN							MILAN ATM
MIM23	MIM23							MIM-23 HAWK MR MOBILE SAM
MIRG1	MIRG1							MIRAGE F-1 FTR ACFT
MIRG3	MIRG3							MIRAGE 3 FTR ACFT
MIRG4	MIRG4							MIRAGE 4 FTR ACFT
MIRG5	MIRG5							MIRAGE 5 FTR ACFT
MIRG6	MIRG6							MIRAGE 50 FTR ACFT
MIRG7	MIRG7							MIRAGE 2000 FTR ACFT
MIRV	MIRV							MULTIPLE INDEPENDENTLY TARGETABLE REENTRY VEHICLE
MK01	MK01							MK-01 HOWITZER
MK117	MK117							MK-117 TOMAHAWK FIRE CONTROL SYS
MK198	MK198							MK-198 HOWITZER
MK2	MK2							MK-2 PENGUIN MISSILE

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
MK20	MK20					MK-20 ROCKEYE II MISSILE
MK2A	MK2A					MK-2A SEA KING AEW HELICOPTER
MK3	MK3					MK.3 ACFT
MK33	MK33					MK-33 AIR DELIVERABLE ORDNANCE
MK4	MK4					MK-4 AIR DELIVERABLE ORDNANCE
MK45	MK45					MK-45 AIR DELIVERABLE ORDNANCE
MK53	MK53					MK-53 LIGHTNING FTR ACFT
MK7	MK7					MK-7 AEGIS WPN SYS
MK76	MK76					MK-76 FIRE CONTROL SYS
MK77	MK77					MK-77 AIR DELIVERABLE ORDNANCE
MK7S	MK7S					MK-7 SEA KING AEW HELICOPTER
MK80	MK80					MK-80 BIGEYE AAM
MK81S	MK81S					MK-81SE AIR DELIVERABLE ORDNANCE
MK82	MK82					MK-82 AIR DELIVERABLE ORDNANCE
MK82S	MK82S					MK-82SE AIR DELIVERABLE ORDNANCE
MK83	MK83					MK-83 AIR DELIVERABLE ORDNANCE
MK84	MK84					MK-84 AIR DELIVERABLE ORDNANCE
MK86	MK86					MK-86 GUN FIRE CONTROL SYS
MK9	MK9					MK-9 HUNTER - FTR ACFT
MK91	MK91					MK-91 RADAR
MK92	MK92					MK-92 FIRE CONTROL SYS
MK95	MK95					MK-95 RADAR
MK99	MK99					MK-99 LAMPS HELICOPTER
MKI	MKI					MKI SEASPRITE LAMPS HELICOPTER
MKIII	MKIII					MK-III LAMPS HELICOPTER
ML	ML					MINELAYER, GENERAL
MLBM	MLBM					MODERN LARGE BALLISTIC MISSILE
MLNCH	MLNCH					MISSILE LAUNCHER
MLRS	MLRS					MULTIPLE LAUNCH ROCKET SYS
MLS	MLS					MICROWAVE LANDING SYS
MM	MM					MINE WARFARE VESSEL
MM104	MM104					MIM-104 PATRIOT SAM
MM38	MM38					MM-38 EXOCET MISSILE
MM40	MM40					MM-40 EXOCET MISSILE
MMAN2	MMAN2					MINUTEMAN 2 SSM
MMAN3	MMAN3					MINUTEMAN 3 ICBM
MMINE	MMINE					MARITIME MINE
MMULT	MMULT					MULTI-WARHEAD MISSILE

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DFI NAME  
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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
MNMT	MNMT							MINERALS/METAL
MOB	MOB							MAIN OPERATING BASE
MORT	MORT							MORTAR SITE
MOSS	MOSS							TU-126 MOSS SUAWACS ACFT
MPA	MPA							MARITIME PATROL ACFT
MPC	MPC							MESSAGE PROCESSING CENTER
MPQ64	MPQ64							AN/MPQ-64 SENTINEL RADAR
MQ25	MQ25							UAV, MQ-25 STINGRAY
MRA4	MRA4							NIMROD MRA4 RECON/AEW ACFT
MRB	MRB							MOTORIZED RIFLE BATTALION
MRBM	MRBM							MEDIUM RANGE BALLISTIC MISSILE
MRC	MRC							MOTORIZED RIFLE COMPANY
MRCA	MRCA							MULTIPLE ROLE COMBAT ACFT
MRD	MRD							MOTORIZED RIFLE DIVISION
MRH90	MRH90							MRH-90 RAAF MEDICAL TRANSPORT/ UTILITY HELO (NH90 VARIANT)
MRHGV	MRHGV							MEDIUM RANGE HYPERSONIC GLIDE VEHICLE
MRL	MRL							MULTIPLE ROCKET LAUNCHER (SYS)
MRR	MRR							MOTORIZED RIFLE REGIMENT
MRRKLT	MRRKLT							MEDIUM RANGE ROCKET (<=94 DM)
MRTGT	MRTGT							MRBM TARGET VEHICLE
MRV	MRV							MULTIPLE/MANEUVERABLE REENTRY VEHICLE
MSB	MSB							MINESWEEPER, BOAT
MSC	MSC							MINESWEEPER, COASTAL
MSD	MSD							MINESWEEPER, DRONE
MSF	MSF							MINESWEEPER, FLEET
MSH	MSH							MINE HUNTER
MSI	MSI							MINE WARFARE/MINE SWEEPING CRAFT, INSHORE
MSL	MSL							MISSILE, GEN TYPE
MSO	MSO							MINE SWEEPER, OCEAN
MSP	MSP							MINE SWEEPER, PATROL
MSR	MSR							MINE SWEEPER, RIVER
MSTRL	MSTRL							MISTRAL SAM
MSW	MSW							MINE SWEEPER, GEN TYPE
MTEOR	MTEOR							METEOR
MTI	MTI							MOVING TARGET INDICATOR (RADAR)
MTN	MTN							MOUNTAIN

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
MTVEH	MTVEH							MEDIUM TRACKED VEHICLE
MTZ	MTZ							MOTORIZED INFANTRY
MU2S	MU2S							MU-2S MITSUBISHI CARGO/MED ACFT
MUSU	MUSU							MUSUDAN IRBM
MV22	MV22							MV-22 OSPREY ACFT
MWET	MWET							MAN IN WATER
MWR	MWR							MILLIMETER WAVE RADAR
MX	MX							PEACEKEEPER ICBM MISSILE SYS
N1000	N1000							NP-1000 MISSILE
NAOC	NAOC							NATIONAL AIRBORNE OPERATIONS CENTER
NAS	NAS							NAVIGATIONAL AID SITE
NASMC	NASMC							NORWEGIAN ADVANCED SAM SYSTEM
NASML	NASML							COMBINED TACTICAL OPSNS CTR
NASR	NASR							NORWEGIAN ADVANCED SAM SYSTEM LAUNCHER
NAVY	NAVY							NASR CRBM
NAZAT	NAZAT							NAVY FORCES
NCC	NCC							NAZEAT ROCKET
NCS	NCS							NAVAL COMMAND CENTER
NDG	NDG							NET CONTROL STATION
NET	NET							NO DONG MOD 1/2 MRBM
NFH90	NFH90							NETWORK COMM(S)
NHK1	NHK1							NFH-90 NAVAL HELICOPTER
NHK2	NHK2							NHK-I, S KOREA SSM, SR
NHKA	NHKA							NHK-II CRBM
NIKE	NIKE							NHK-A, FOLLOW-ON OF S KOREAN NHK, SR, SSM
NIMR	NIMR							NIKE HERCULES SAM
NK135	NK135							NIMROD R RECON/AEW ACFT
NK16	NK16							NKC-135 ACFT
NK7	NK7							NK-16 SAM
NKA	NKA							NK-7 SAM
NKAF	NKAF							NORTH KOREAN ARMY
NKEBB	NKEBB							NORTH KOREAN AIR FORCE
NKN	NKN							NIKE BLACK BRANT SOUNDING ROCKET
NOC	NOC							NORTH KOREAN NAVY
NODEB	NODEB							NO CARGO
								DEBRIS ASSOCIATED WITH NON-ORBITAL OBJECT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
NOTGT	NOTGT							NON-TARGET, NO-STRIKE ENTITY
NSOBJ	NSOBJ							NON-SPACE OBJECT, NFI
NSP	NSP							SEA SUPPORT VESSEL, GEN TYPE
NTWPN	NTWPN							NETWORK ENABLED WEAPON
NW	NW							NUC WPN
NWG	NWG							NUC WPN, GEN
O1	O1							O-1 BIRD DOG ACFT
O2	O2							O-2 (CESSNA) ACFT
OA37	OA37							OA-37 DRAGONFLY ACFT
OH58	OH58							OH-58C/D KIOWA US ARMY SCOUT HELICOPTER
OH6	OH6							OH-6 (HUGHES) HELICOPTER
OIL	OIL							OILER/TANKER VESSEL, GEN TYPE
OMG	OMG							OPERATIONAL MANEUVER GROUP
OPCMD	OPCMD							OPERATIONAL COMMAND
ORS	ORS							OCEAN RESEARCH SHIP
OSAP	OSAP							OCEAN SURVEILLANCE AIR PATROL
OTHB	OTHB							OVER-THE-HORIZON BACKSCATTER RADAR
OTHR	OTHR							OVER-THE-HORIZON RADAR
OTMT	OTMT							OTOMAT ASM
OTMT1	OTMT1							OTOMAT MK I SSM
OTMT2	OTMT2							OTOMAT MK II SSM
OTMT3	OTMT3							OTOMAT MK III SSM
OUT	OUT							OUTSTATION
OV1	OV1							OV-1 MOHAWK RECON ACFT
OV10	OV10							OV-10A/D BRONCO LIGHT OBSERVATION/CAS ACFT
OV2A	OV2A							OV-2A SKYMASTER RECON ACFT
P3	P3							P-3 ORION LR ASW PATROL ACFT
P55	P55							P.55 (PARTENAVIA) TRAINER ACFT
P8A	P8A							P-8A POSEIDON MULTI-MISSION AIRCRAFT (MMA)
P8I	P8I							P-8I NEPTUNE MARITIME PATROL ACFT
PA	PA							PRECISION APPROACH RADAR
PA200	PA200							PA-200 (ITALIAN TORNADO)
PAD	PAD							PROJECT AIR DEFENSE (PAD) ATBM
PAMS	PAMS							PORTABLE ANTI-AIRCRAFT MISSILE SYSTEM (PAMS)
PAR	PAR							PHASED ARRAY RADAR

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DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
PASSV	PASSV				PASSENGER VESSEL
PATRI	PATRI				MIM-104 PATRIOT SAM
PAWS	PAWS				PHASED ARRAY WARNING SYS
PAX	PAX				PASSENGER
PB	PB				PARTICLE BEAM WPN SYS
PBA	PBA				PATROL BOAT, AIR CUSHION
PBD	PBD				PATROL BOAT, DRONE
PBH	PBH				PATROL BOAT, HYDROFOIL
PBM	PBM				PATROL BOAT, MULTI-MSN
PBV	PBV				POST BOOST VEHICLE (PBV)
PC	PC				SUBMARINE CHASER/ESCORT CRAFT, GENERAL
PC12	PC12				PC-12 TRANSPORT ACFT
PC21	PC21				PC-21 TRAINER ACFT
PC24	PC24				PC-24 TRANSPORT ACFT
PC6	PC6				PC-6 TRAINER ACFT
PC7	PC7				PC-7 TRAINER ACFT
PC9	PC9				PC-9 TRAINER ACFT
PC96	PC96				PC-96 TRANSPORT ACFT
PCE	PCE				PATROL, COASTAL, ESCORT
PCF	PCF				PATROL SUBCHASER, FAST
PCFA	PCFA				PATROL CRAFT, FAST, AIR CUSHION
PCFH	PCFH				PATROL CRAFT, FAST, HYDROFOIL
PCFS	PCFS				PATROL CRAFT, FIRE SUPPORT
PCH	PCH				PATROL CRAFT, HYDROFOIL
PCS	PCS				SUBMARINE CHASER
PCSH	PCSH				SUBMARINE CHASER, HYDROFOIL
PCT	PCT				PATROL CRAFT, TRAINING
PD808	PD808				PD-808 TRANSPORT/AIRLINER ACFT
PDMS	PDMS				POINT DEFENSE MISSILE SYS
PEGXL	PEGXL				PEGASUS SPACE LAUNCH VEHICLE
PENG	PENG				AGM-119 PENGUIN AGM/SSM
PERSN	PERSN				PERSONNEL
PEW	PEW				PLATOON EARLY WARNING (SYS)
PGF	PGF				PATROL SHIP (COMBATANT)
PGG	PGG				GUIDED MISSILE PATROL COMBATANT
PGGH	PGGH				GUIDED MISSILE PATROL COMBATANT, HYDROFOIL

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
PGH	PGH							PATROL GUNBOAT (COMBATANT), HYDROFOIL
PGM	PGM							PRECISION GUIDED MISSILE OR MUNITION
PGR	PGR							RECON PATROL COMBATANT
PHAL	PHAL							PHALANX CIWS FOR AD W/20MM GUN
PHM	PHM							PATROL COMBATANT/MISSILE, HYDROFOIL
PL2A	PL2A							PL-2A AAM
PL5B	PL5B							PL-5B AAM
PL7	PL7							PL-7 AAM
PL9	PL9							PL-9 AAM
PLTN	PLTN							PLATOON
PLTOF	PLTOF							PLATFORM, OFFSHORE
PMM	PMM							PRECIOUS METALS/MINERALS
PNAID	PNAID							PENETRATION AID. USED TO AID IN PENETRATING ENEMY DEFENSES
PNTZR	PNTZR							PANTZYL/SA-22 GREYHOUND SAM
POL	POL							FUEL (PETROLEUM/OIL/LUBRICANT) SITE
POLAG	POLAG							FUEL (PETROLEUM/OIL/LUBRICANT) SITE (ABOVE GROUND)
POLUG	POLUG							FUEL (PETROLEUM/OIL/LUBRICANT) SITE (UNDER GROUND)
PORT	PORT							PORT FACILITIES LOCATION
PPAC3	PPAC3							PATRIOT PAC-3 SAM
PPI	PPI							PLAN POSITION INDICATOR
PR9	PR9							CANBERRA PR MK9
PRAHR	PRAHR							PRAHAR CRBM
PRDTR	PRDTR							UAV, PREDATOR [MIDB:APBTP OR APBYP OR APOGP]
PRIT	PRIT							PRITHVI SSM (INDIA)
PRIT1	PRIT1							PRITHVI-1 CRBM
PRIT2	PRIT2							PRITHVI-2 SRBM
PRITX	PRITX							PRITHVI-1/2 SRBM
PRLOC	PRLOC							LOCATION - PERSONNEL RECOVERY
PRTB	PRTB							MOBILE ROCKET TECHNICAL BASE
PSB	PSB							PATROL BOAT, HARBOR
PT	PT							TORPEDO BOAT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
PT76	PT76							PT-76 LIGHT TANK
PTG	PTG							MISSILE ATTACK BOAT
PTGH	PTGH							MISSILE ATTACK BOAT, HYDROFOIL
PTH	PTH							TORPEDO BOAT, HYDROFOIL
PTL	PTL							SMALL TORPEDO BOAT
PTNDR	PTNDR							PORT TENDER
PTT	PTT							TORPEDO BOAT, TRAINING
PVSL	PVSL							PILOT VESSEL
PWR	PWR							POWER FACILITY
PYTH3	PYTH3							PYTHON 3 AAM
PYTH4	PYTH4							PYTHON 4 AAM
PZL28	PZL28							PZL-28 BRYSA MARITIME PATROL ACFT
Q5	Q5							Q-5 FANTAN FTR ACFT
QAHR1	QAHR1							QAHIR-1 SRBM
QIAM1	QIAM1							QIAM-1 SRBM
R2000	R2000							RAPIER 2000/JERNAS SAM
R530	R530							R.530 AAM
R550	R550							R.550 MAGIC AAM
RAD	RAD							RADIATION/RADIO ACTY/SITE
RADAR	RADAR							RADAR (RDR) ACTY/SITE
RADDF	RADDF							RADIO DIRECTION FINDER
RAFAL	RAFAL							RAFALE FTR/BOMBER/ATTACK ACFT
RAG	RAG							REGIMENTAL ARTILLERY GROUP
RAIL	RAIL							RAILWAY, GEN TYPE
RAILF	RAILF							RAIL FACILITY
RB04E	RB04E							RB-04E MISSILE
RB15M	RB15M							RBS-15 ASM
RB5	RB5							RB-05 AGM/SSM
RB70	RB70							RBS-70 SAM
RB8	RB8							RB-08 AGM/SSM
RBOC	RBOC							RAPID BLOOM OFF-BOARD CHAFF WPN
RBS15	RBS15							RBS-15 SAM
RBS23	RBS23							RBS-23 BAMSE SAM
RBS70	RBS70							RBS-70 SWEDISH SAM
RBS90	RBS90							RBS-90 SAM
RC130	RC130							RC-130 HERCULES ACFT
RC135	RC135							RC-135 RIVET JOINT/COBRA BALL/ COMBAT SENT ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
RCC	RCC							REGIONAL CONTROL CENTER
RDF	RDF							RAPID DEPLOYMENT FORCE
RDR	RDR							RADAR, GEN TYPE
REAPR	REAPR							UAV, MQ-9 REAPER [MIDB:AP2A4 OR AP2A6]
REGT	REGT							REGIMENT
RELIG	RELIG							RELIGIOUS BUILDING
REWS	REWS							RADIO ELECTRONIC WARFARE SERVICE
RF104	RF104							RF-104 STARFIGHTER ACFT
RF111	RF111							RF-111 ACFT
RF14	RF14							RF-14 TOMCAT ACFT
RF35X	RF35X							RF-35XD DRAKEN ACFT
RF4	RF4							RF-4 PHANTOM II PHOTO RECON ACFT
RF5	RF5							RF-5 (NORTHROP) INTERNATIONAL FTR ACFT
RGGLC	RGGLC							LOCATION - REFUGEE
RFPW	RFPW							RADIO FREQUENCY PULSE WPN
RGM84	RGM84							RGM-84 HARPOON CRUISE SSM, ASUW (SUB BASED)
RGMT	RGMT							REGIMENT
RGT	RGT							REGIMENT
RH3	RH3							RH-3 SEA KING HELICOPTER
RH53	RH53							RH-53 SEA STALLION MINE CM HELICOPTER
RIDGE	RIDGE							RIDGE
RIM66	RIM66							RIM-66 STANDARD MR SAM/SSM, SHIPBORNE
RIM67	RIM67							RIM-67 STANDARD EXTENDED RANGE SAM/SSM, SHIPBORNE
RIM7	RIM7							RIM-7 SEA SPARROW (SHIP- LAUNCHED) SAM
RIVER	RIVER							RIVER
RJ1H	RJ1H							RJ-1 HAWK ACFT
RJ1J	RJ1J							RJ-1 JASTREB ACFT
RKR	RKR							GUIDED MISSILE CRUISER (RUSSIAN)
RL	RL							ROCKET LAUNCHER
RLND2	RLND2							ROLAND II SAM

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APPENDIX B, PART IDFI NAME  
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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
RM116	RM116							RIM-116 RAM SAM
RMSEN	RMSEN							REMOTE SENSOR
RNP	RNP							RADIO NAVIGATION POINT
ROAD	ROAD							ROAD
ROCC	ROCC							REGIONAL OPNS CONTROL CENTER
ROCKT	ROCKT							BATTLEFIELD ROCKET
ROHIN	ROHIN							ROHINI, SOUNDING ROCKET
ROKA	ROKA							REPUBLIC OF KOREA ARMY
ROKAF	ROKAF							REPUBLIC OF KOREA AIR FORCE
ROKN	ROKN							REPUBLIC OF KOREA NAVY
ROLND	ROLND							ROLAND SR SAM SYS (ADA)
RORO	RORO							ROLL ON/ROLL OFF (SHIP)
RP	RP							REFERENCE POINT
RP3	RP3							RP-3 ORION ACFT
RPC	RPC							RECOGNIZED AIR PICTURE (RAP) PRODUCTION CENTER
RPIR	RPIR							RAPIER SAM
RPV	RPV							UAV, NFI [MIDB:APUZZ]
RR	RR							RADIO RELAY SITE
RRIFL	RRIFL							RECOILLESS RIFLE
RSA24	RSA24							RS-AS-24 MSL
RSV	RSV							RESERVE SITE/UNIT
RT33	RT33							RECON AT-33 ACFT (LOCKHEED T-33 VARIANT)
RU21	RU21							RU-21 UTE ACFT
RUNWY	RUNWY							RUNWAY
RV	RV							RE-ENTRY VEHICLE
RV1D	RV1D							RV-1D MOHAWK US ARMY ACFT
RVCEQ	RVCEQ							RIVER CROSSING EQUIPMENT
RVT1	RVT1							*SEE ANNEX A*
RWR	RWR							RADAR WARNING RECEIVER
S2	S2							S-2 TRACKER CARRIER-BASED ACFT
S2G	S2G							S-2G TRACKER CARRIER-BASED ASW ACFT
S300	S300							SCHWEIZER 300 HELICOPTER
S341	S341							SA-341 GAZELLE CANON

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
S3B	S3B							S-3B VIKING ASW ACFT
S530	S530							S.530 SUPER 530 AAM
S97	S97							S-97 RAIDER SCOUT/ATTACK HELICOPTER
SA1	SA1							SA-1 GUILD SAM
SA10	SA10							SA-10 GRUMBLE MR SAM
SA11	SA11							SA-11 GADFLY MOBILE SAM
SA12A	SA12A							SA-12A GLADIATOR MOBILE SAM
SA12B	SA12B							SA-12B GIANT MOBILE SAM
SA13	SA13							SA-13 GOPHER MOBILE SR SAM
SA14	SA14							SA-14 GREMLIN SHOULDER LAUNCH SAM
SA15	SA15							SA-15 GAUNTLET SAM
SA16	SA16							SA-16 GIMLET SAM
SA17	SA17							SA-17 GRIZZLY SAM
SA18	SA18							SA-18 GROUSE SAM
SA19	SA19							SA-19 GRISOM SAM
SA2	SA2							SA-2 GUIDELINE LAND-MOBILE SAM
SA20	SA20							SA-20 GARGOYLE SAM
SA21	SA21							SA-21 GROWLER SAM
SA23	SA23							SA-23 GLADIATOR/GIANT SAM
SA24	SA24							SA-24 GRINCH SAM
SA25	SA25							SA-25 SAM
SA26	SA26							SA-26 SAM
SA27	SA27							SA-27 SAM
SA28	SA28							SA-28 SAM
SA3	SA3							SA-3 GOA MOBILE SAM
SA315	SA315							SA-315 LAMA HELICOPTER
SA319	SA319							SA-319 ALOUETTE III HELICOPTER
SA321	SA321							SA-321 SUPER FRELON HELICOPTER
SA330	SA330							SA-330 PUMA HELICOPTER
SA332	SA332							SA-332 SUPER PUMA HELICOPTER
SA341	SA341							SA-341 GAZELLE HELO
SA342	SA342							SA-342 GAZELLE HELICOPTER
SA350	SA350							SA-350 ASTAR HELICOPTER
SA360	SA360							SA-360 DAUPHIN HELICOPTER
SA361	SA361							SA-361 DAUPHIN HELICOPTER

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SA365	SA365							SA-365 DAUPHIN II HELICOPTER
SA4	SA4							SA-4 GANEF MOBILE SAM
SA5	SA5							SA-5 GAMMON LR HIGH-ALTITUDE SAM
SA6	SA6							SA-6 GAINFUL MOBILE SAM
SA7	SA7							SA-7 GRAIL SHOULDER-LAUNCHED SAM
SA8	SA8							SA-8 GECKO MOBILE SR SAM
SA9	SA9							SA-9 GASKIN MOBILE (BRDM-2) SR SAM
SAAB2	SAAB2							SAAB 2000 TRANSPORT/AIRLINER ACFT
SAAB3	SAAB3							SAAB 340 TRANSPORT/AIRLINER ACFT
SABRE	SABRE							SABRELINER TRANSPORT ACFT
SACU	SACU							SURFACE AIR CONTROL UNIT
SAG	SAG							SURFACE ACTION GROUP
SAKR	SAKR							SAKR SAM
SAM	SAM							SURFACE-TO-AIR MISSILE, GEN TYPE
SAMOC	SAMOC							SAM OPERATIONS CENTER
SAMP'T	SAMP'T							MLT SAMP/T MEDIUM-RANGE GROUND-TO-AIR MISSILE LAUNCH MODULE
SAMS	SAMS							SURFACE-TO-AIR-MISSILE SITE, GEN TYPE
SAMUD	SAMUD							AL SAMOUD MISSILE
SAN1	SAN1							SA-N-1 GOA NAVAL SAM, AAW
SAN10	SAN10							SA-N-10 NAVAL SAM
SAN11	SAN11							SA-N-11 GRISOM NAVAL SAM
SAN12	SAN12							SA-N-12 GRIZZLY NAVAL SAM
SAN17	SAN17							SA-N-17 GRIZZLY SAM
SAN2	SAN2							SA-N-2 GUIDELINE NAVAL SAM, AAW
SAN3	SAN3							SA-N-3 GOLET NAVAL SAM, AAW/ASW (NUC)
SAN4	SAN4							SA-N-4 GECKO NAVAL SAM, AAW/CIWS
SAN5	SAN5							SA-N-5 GRAIL NAVAL SHOULDER-FIRED SAM, AAW

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8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
SAN6	SAN6					SA-N-6 GRUMBLE NAVAL SAM, AAW/ANTI-CRUISE
SAN7	SAN7					SA-N-7 GADFLY NAVAL SAM, AAW/ASUW
SAN8	SAN8					SA-N-8 GREMLIN NAVAL SAM (PDMS)
SAN9	SAN9					SA-N-9 GAUNTLET SR SAM/ANTI-CRUISE
SAPCH	SAPCH					SUPER APACHE, FRENCH CRUISE MISSILE, ANTI-INFRASTRUCTURE
SARAC	SARAC					SEARCH AND RESCUE ACFT
SARMT	SARMT					SARMAT ICBM
SARTY	SARTY					SPOTTER, ARTILLERY
SASM	SASM					SUPersonic AIR-TO-SURFACE MISSILE
SAT	SAT					SATELLITE, GENERAL
SAVA	SAVA					SAVA SAM
SBL	SBL					SPACE BASED LASER
SBM	SBM					STRATEGIC BALLISTIC MISSILE
SBR	SBR					SPACE BASED RADAR
SBTGT	SBTGT					SINGLE BODY TARGET (UNITARY MISSILE)
SBWHD	SBWHD					HIGH EXPLOSIVE SUBMUNITION WARHEAD
SCAD	SCAD					SUBSONIC CRUISE ARMED DECOY
SCALP	SCALP					SCALP-EG AGM/SSM
SCAT	SCAT					SEA CAT SAM
SCC	SCC					SYS COORDINATE CENTER, LINK
SCDB1	SCDB1					SCUD B MOD 1 SSM
SCDB2	SCDB2					SCUD B MOD 2 SSM
SCUD	SCUD					SCUD SSM
SCUD2	SCUD2					SCUD 2 MRBM
SCUDA	SCUDA					SCUD A SR SSM
SCUDB	SCUDB					SCUD B SRBM
SCUDC	SCUDC					SCUD C SRBM
SCUDD	SCUDD					SCUD D SRBM
SDART	SDART					SEA DART SAM
SDEB	SDEB					SPACE DEBRIS
SEACC	SEACC					SEABORNE COMMAND CENTER

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SEAG	SEAG							SEA EAGLE ASM
SEAKG	SEAKG							SEA KING HELICOPTER
SEALX	SEALX							SEA LYNX HELICOPTER
SESS	SESS							SPACE EVENT SUPPORT SHIP
SF	SF							SPECIAL FORCES
SF260	SF260							SF-260 WARRIOR (SIAI-MARCHETTI) BOMBER/ATTACK/TRAINER ACFT
SF5	SF5							SF-5 FREEDOM FTR TACTICAL FTR/BOMBER ACFT AAW/CAS
SFG	SFG							SPECIAL FORCES GROUP
SFLSH	SFLSH							SKY FLASH AAM
SFOB	SFOB							SPECIAL FORCES OPERATIONAL BASE
SFP	SFP							SENSOR FUSION POST
SGRKA	SGRKA							SAGARIKA SHORT RANGE SLBM
SH08	SH08							SH-08 ABM
SH11	SH11							SH-11 ABM
SH2	SH2							SH-2D/F (LAMPS I) SEASPRITE HELICOPTER
SH3	SH3							SH-3D/G/H SKY (SEA) KING HELICOPTER
SH37	SH37							SH-37 VIGGEN TRAINER ACFT
SH5	SH5							SH-5 HARBIN MARITIME PATROL/ASW/BMR/SAR ACFT
SH60	SH60							SH-60B/F SEA HAWK (LAMPS III) HELICOPTER
SH70L	SH70L							SIKORSKY SH-70L HELICOPTER
SHAB1	SHAB1							SHAHAB 1 SRBM
SHAB2	SHAB2							SHAHAB 2 SRBM
SHAB3	SHAB3							SHAHAB 3 MRBM
SHAB4	SHAB4							SHAHAB 4 MRBM
SHABT	SHABT							SHAHAB THAQEB SAM
SHAFR	SHAFR							SHAFRIR AAM
SHARA	SHARA							SHAURYA SRBM
SHB3A	SHB3A							SHAHAB 3 MOD 1 MRBM
SHB3B	SHB3B							SHAHAB 3 MOD 2 MRBM
SHB3C	SHB3C							SHAHAB 3 MOD 3 MRBM
SHB3D	SHB3D							SHAHAB 3 MOD 4 MRBM
SHB3X	SHB3X							SHAHAB 3 MOD 3/4 MRBM
SHC	SHC							SUPREME HIGH COMMAND
SHEN2	SHEN2							SHAHEEN 2 MRBM
SHEN3	SHEN3							SHAHEEN 3 MRBM

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SHLBM	SHLBM							SHIP-LAUNCHED BALLISTIC MISSILE
SHN1A	SHN1A							SHAHEEN 1 MOD 1 SRBM
SHN1B	SHN1B							SHAHEEN 1 MOD 2 SRBM
SHN1C	SHN1C							SHAHEEN 1 MOD 3 SRBM
SHUTL	SHUTL							SPACE SHUTTLE
SHVIT	SHVIT							SHAVIT SPACE LAUNCH VEHICLE
SK37	SK37							SK-37 VIGGEN TRAINER ACFT
SK60	SK60							SK-60 (SAAB) BOMBER/ATTACK/TRAINER ACFT
SKOOL	SKOOL							SCHOOL
SKR	SKR							ABBR ESCORT SHIP
SKUA	SKUA							SEA SKUA ASM
SKY12	SKY12							SKY DRAGON 12 SAM
SKY50	SKY50							SKY DRAGON 50 SAM
SKYGD	SKYGD							SKYGUARD ASPIDE SAM
SKYV	SKYV							SKYVAN TRANSPORT/AIRLINER ACFT
SL11	SL11							SL-11 SPACE LAUNCH VEHICLE
SL12	SL12							SL-12 SPACE LAUNCH VEHICLE
SL13	SL13							SL-13 SPACE LAUNCH VEHICLE
SL14	SL14							SL-14 SPACE LAUNCH VEHICLE
SL16	SL16							SL-16 SPACE LAUNCH VEHICLE
SL18	SL18							SL-18 SPACE LAUNCH VEHICLE
SL19	SL19							SL-19 SPACE LAUNCH VEHICLE
SL20	SL20							SL-20 SPACE LAUNCH VEHICLE
SL21	SL21							SL-21 SPACE LAUNCH VEHICLE
SL22	SL22							SL-22 SPACE LAUNCH VEHICLE
SL23	SL23							SL-23 SPACE LAUNCH VEHICLE
SL24	SL24							SL-24 SPACE LAUNCH VEHICLE
SL25	SL25							SL-25 SPACE LAUNCH VEHICLE
SL26	SL26							SL-26 SPACE LAUNCH VEHICLE
SL3	SL3							SL-3 SPACE LAUNCH VEHICLE
SL4	SL4							SL-4 SPACE LAUNCH VEHICLE
SL6	SL6							SL-6 SPACE LAUNCH VEHICLE
SL8	SL8							SL-8 SPACE LAUNCH VEHICLE
SLAMC	SLAMC							SLAMRAAM INTEGRATED FIRE CONTROL SYSTEM
SLAMS	SLAMS							SLAMRAAM SENSOR/RADAR
SLAMU	SLAMU							SLAMRAAM FIRE UNIT
SLAR	SLAR							SIDE LOOKING AIRBORNE RADAR
SLBM	SLBM							SUBMARINE-LAUNCHED BALLISTIC MISSILE

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SLBMI	SLBMI							INTERMEDIATE RANGE SLBM
SLBMM	SLBMM							MEDIUM RANGE SLBM
SLBMS	SLBMS							SHORT RANGE SLBM
SLCM	SLCM							SEA-LAUNCHED CRUISE MISSILE
SLOBJ	SLOBJ							SPACE LAUNCH OBJECT
SLOC	SLOC							SEA LINES OF COMM(S)
SLSPW	SLSPW							SILVER SPARROW ALBM
SLV1	SLV1							*SEE ANNEX A*
SLV2	SLV2							*SEE ANNEX A*
SLV3	SLV3							*SEE ANNEX A*
SM1	SM1							SM-1 STANDARD I MR MISSILE
SM1ER	SM1ER							SM-1 STANDARD EXTENDED RANGE MISSILE
SM2	SM2							SM-2 STANDARD IIMR MISSILE
SM24A	SM24A							SM-2 BLOCK IVA MR MISSILE
SM2B3	SM2B3							SM-2 BLOCK III MR MISSILE
SM2B4	SM2B4							SM-2 BLOCK IV MR MISSILE
SM2BA	SM2BA							SM-2 BLOCK IIIIA MR MISSILE
SM2BB	SM2BB							SM-2 BLOCK IIIB MR MISSILE
SM2ER	SM2ER							SM-2 STANDARD EXTENDED RANGE MISSILE
SM3	SM3							SM-3 SAM
SM39	SM39							SM-39 MISSILE
SM6B1	SM6B1							SM-6 BLOCK I SAM
SM6D1	SM6D1							SM-6 DUAL I SAM
SM6D2	SM6D2							SM-6 DUAL II SAM
SMISB	SMISB							SEMI-SUBMERSIBLE VESSEL
SMOKR	SMOKR							SMOKE GENERATOR
SN23B	SN23B							SS-N-23 MOD 2 SLBM
SN23S	SN23S							SS-N-23 SINEVA SLBM
SN27B	SN27B							SS-N-27B SLCM/ASCM
SN61A	SN61A							SSN-6 MOD 1A SSM
SN61B	SN61B							SSN-6 MOD 1B SSM
SN61C	SN61C							SSN-6 MOD 1C SSM
SNO	SNO							SPECIAL NAVAL OPNS
SOC	SOC							SECTOR/SPACE OPS CENTER/COMPLEX
SOD	SOD							SPECIAL OPNS DETACHMENT
SOF	SOF							SPECIAL OPNS FORCE(S)
SOI	SOI							SIGNAL OF INTEREST

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SONO	SONO							SONOBUOY
SOW	SOW							STAND-OFF WPN
SP70	SP70							SP-70 HOWITZER
SPADA	SPADA							SPADA SAM
SPATY	SPATY							SELF-PROPELLED ARTILLERY
SPC	SPC							SPACE SITE
SPCMV	SPCMV							TRANSPORT, SPACE
SPF	SPF							SPECIAL PURPOSE FORCE(S)
SPOBJ	SPOBJ							SPACE OBJECT, NFI
SPPTL	SPPTL							PATROL, SPACE
SPSPT	SPSPT							SPACE SUPPORT ELEMENT
SPT	SPT							SUPPORT SITE
SPWEP	SPWEP							SPECIAL WEAPON
SQD	SQD							SQUAD
SQDN	SQDN							SQUADRON
SQOC	SQOC							SQUADRON OPERATIONS CENTER
SR71	SR71							SR-71 BLACKBIRD US RECON ACFT
SRAM	SRAM							SHORT-RANGE ATTACK MISSILE
SRBM	SRBM							SHORT-RANGE BALLISTIC MISSILE
SRF	SRF							STRATEGIC ROCKET FORCE(S)
SRKT	SRKT							SOUNDING ROCKET
SRM1	SRM1							*SEE ANNEX A*
SRM2	SRM2							*SEE ANNEX A*
SRM3	SRM3							*SEE ANNEX A*
SRT	SRT							STRATEGIC RELOCATABLE TARGET
SRTGT	SRTGT							SRBM TARGET VEHICLE
SRVSL	SRVSL							SEARCH AND RESCUE (SAR) VESSEL
SS	SS							SUBMARINE, GENERAL, NON-NUCLEAR
SS10	SS10							SS-10 SCRAG SSM
SS11	SS11							SS-11 SEGO 'LIGHT' ICBM W/MOD-1/2/3 VERS, MRV
SS11C	SS11C							SS-11 MOD 3 MISSILE
SS13	SS13							SS-13 SAVAGE MOD-2 ICBM
SS14	SS14							SS-14 SCAMP/SCAPEGOAT MR IRBM
SS16	SS16							SS-16 (RS-14) SINNER ICBM (NUC)
SS17	SS17							SS-17 (RS-16) SPANKER 'LIGHT' ICBM, 4-MIRV

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SS18	SS18							SS-18 (RS-20) SATAN 'HEAVY' ICBM, 10+MIRV
SS18D	SS18D							SS-18 MOD 4 ICBM
SS18E	SS18E							SS-18 MOD 5 ICBM
SS18F	SS18F							SS-18 MOD 6 ICBM
SS19C	SS19C							SS-19 MOD 3 STILETTO ICBM
SS19H	SS19H							SS-19 HYPERSONIC GLIDE VEHICLE
SS1B	SS1B							SS-1B SCUD-A SRBM
SS1C	SS1C							SS-1C SCUD-B SRBM
SS1D	SS1D							SS-1D (SCUD-C) SRBM
SS1E	SS1E							SS-1E SCUD-D MRBM
SS2	SS2							SS-2 SIBLING SRBM
SS20	SS20							SS-20 SABER MOBILE THEATER IRBM, 3-MIRV
SS21	SS21							SS-21 SCARAB SR TBM
SS211	SS211							SS-21 MOD 1 SRBM
SS21C	SS21C							SS-21 MOD 3 CRBM
SS21X	SS21X							SS-21 MOD 2/3 CRBM
SS21Y	SS21Y							SS-21 MOD 2 CRBM
SS22	SS22							SS-22 MR TBM
SS23	SS23							SS-23 SPIDER MOBILE SR TBM
SS24	SS24							SS-24 SCALPEL FIXED/MOBILE ICBM, MIRV
SS25	SS25							SS-25 SICKLE ICBM
SS25E	SS25E							SS-25 EMERGENCY ROCKET COMMS SYSTEM (ERCS)
SS25R	SS25R							SS-25 RE-ENTRY VEHICLE TEST PLATFORM
SS26	SS26							SS-26 SRBM
SS27A	SS27A							SS-27 MOD 1 ICBM
SS27B	SS27B							SS-27 MOD 2 ICBM
SS27X	SS27X							SS-27 MOD 1/2 ICBM
SS28	SS28							SS-28 MOD 1/2/3 ICBM
SS28A	SS28A							SS-28 MOD 1 ICBM
SS28B	SS28B							SS-28 MOD 2 IRBM
SS28C	SS28C							SS-28 MOD 3 IRBM
SS3	SS3							SS-3 SHYSTER MRBM
SS4	SS4							SS-4 SANDAL SEMI-MOBILE MRBM

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SS5	SS5							SS-5 SKEAN MRBM
SS6	SS6							SS-6 SAPWOOD ICBM
SS7	SS7							SS-7 SADDLER ICBM
SS8	SS8							SS-8 SASIN ICBM
SS9	SS9							SS-9 SCARP ICBM
SSA	SSA							AUXILIARY SUBMARINE
SSAC	SSAC							AUXILIARY SUBMARINE, COMM(S)
SSAG	SSAG							AUXILIARY SUBMARINE, NON-NUCLEAR
SSAN	SSAN							AUXILIARY SUBMARINE, NUC POWERED
SSB	SSB							BALLISTIC MISSILE SUBMARINE
SSBM	SSBM							SURFACE TO SURFACE BALLISTIC MISSILE
SSBN	SSBN							BALLISTIC MISSILE SUBMARINE, NUC POWERED
SSC	SSC							COASTAL SUBMARINE, NON-NUCLEAR
SSC1	SSC1							SSC-1 SEPAL TACTICAL ANTI-MISSILE MISSILE
SSC2A	SSC2A							SSC-2A SALISH TACTICAL SSM
SSC2B	SSC2B							SSC-2B SAMLET COASTAL SSM
SSCAN	SSCAN							SEA SCAN RECON ACFT
SSCN	SSCN							NUC CRUISE MISSILE SUBMARINE
SSG	SSG							GUIDED (CRUISE) MISSILE SUBMARINE, NON-NUCLEAR
SSGM	SSGM							SURFACE-TO-SURFACE GUIDED MISSILE
SSGN	SSGN							GUIDED (CRUISE) MISSILE SUBMARINE, NUC POWERED
SSJ	SSJ							SELF-SCREENING JAMMER
SSK	SSK							PATROL SUBMARINE, NON-NUCLEAR
SSLP	SSLP							TRANSPORT SUBMARINE
SSLUG	SSLUG							SEA SLUG SAM
SSN	SSN							ATTACK SUBMARINE, NUC
SSN12	SSN12							SS-N-12 SANDBOX, NAVY SLCM
SSN13	SSN13							SS-NX-13 SLBM
SSN14	SSN14							SS-N-14 SILEX SSM
SSN15	SSN15							SS-N-15 STARFISH NAVY SOW, SUBMARINE-LAUNCHED
SSN16	SSN16							SS-N-16 STALLION, NAVY SOW, ASW

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8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SSN18	SSN18							SS-N-18 STINGRAY SLBM
SSN19	SSN19							SS-N-19 SHIPWRECK SLCM
SSN2	SSN2							SS-N-2 STYX, ANTI-SHIP SSM
SSN20	SSN20							SS-N-20 STURGEON SLBM
SSN21	SSN21							SS-N-21 SAMPSON SLCM
SSN22	SSN22							SS-N-22 SUNBURN SLCM
SSN23	SSN23							SS-N-23 SKIFF SLBM
SSN25	SSN25							SS-N-25 SWITCHBLADE ASM
SSN26	SSN26							SS-N-26 ONIKS/YAKHONT ASM
SSN27	SSN27							SS-N-27 ALFA/KLUB SLBM
SSN29	SSN29							SS-N-29 MEDVEDKA ASM
SSN2C	SSN2C							SS-N-2C STYX ANTI-SHIP SSM
SSN30	SSN30							SS-NX-30 BULAVA
SSN32	SSN32							SS-N-32 SLBM
SSN3A	SSN3A							SS-N-3A SHADDOCK ANTI-SHIP SSM
SSN3B	SSN3B							SS-N-3B SEPAL SSM
SSN3C	SSN3C							SS-N-3C SHADDOCK TACTICAL SSM
SSN5	SSN5							SS-N-5 SARK SLBM
SSN6	SSN6							SS-N-6 SERB SLBM
SSN62	SSN62							SS-N-6 MOD-2 SLBM
SSN6A	SSN6A							SS-N-6 MOD-1A SLBM
SSN6B	SSN6B							SS-N-6 MOD-1B SLBM
SSN6C	SSN6C							SS-N-6 MOD-1C SLBM
SSN7	SSN7							SS-N-7 SIREN SLCM
SSN8	SSN8							SS-N-8 SAWFLY VARIANT SLBM
SSN9	SSN9							SS-N-9 SIREN VARIANT SSM
SSNX	SSNX							SS-NX SLBM
SSPA	SSPA							SOLID STATE PHASED ARRAY
SSQ	SSQ							AUXILIARY SUBMARINE, COMM(S)
SSQN	SSQN							AUXILIARY SUBMARINE, COMM(S) (NUC)
SSR	SSR							RADAR PICKET SUBMARINE
SSSB	SSSB							SHIP SHORE SHIP BUFFER
SST	SST							TARGET/TRAINING SUBMARINE
SSW	SSW							SUBMARINE, MIDGET
STAR1	STAR1							ISRAELI ANTI-RADAR MISSILE
STAR2	STAR2							STARBURST SAM
STAR3	STAR3							STARSTREAK SAM
STKIP	STKIP							STRIKE INITIAL POINT

**UNCLASSIFIED**

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART IDFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
STNGR	STNGR							FIM-92 STINGER (SHOULDER-FIRED) MSL, LOW-ALTITUDE ADA
STORM	STORM							STORM MISSILE
STREM	STREM							STREAM
STRYI	STRYI							STRYPI-IX MISSILE
STUN1	STUN1							STUNNER 1 INTERCEPTOR MISSILE
STUN2	STUN2							STUNNER 2 INTERCEPTOR MISSILE
SU11	SU11							SU-11 FISHPOT FTR ACFT
SU11C	SU11C							SU-11 MAIDEN/FISHPOT-C TRAINER ACFT
SU15	SU15							SU-15 FLAGON FTR ACFT
SU15C	SU15C							SU-15 FLAGON-C TRAINER ACFT
SU15E	SU15E							SU-15 FLAGON-E FTR INTCP ACFT
SU15F	SU15F							SU-15 FLAGON-F FTR INTCP ACFT
SU17	SU17							SU-17 FITTER-B ATTACK/ STRIKE/SUPPORT ACFT
SU17C	SU17C							SU-17 FITTER-C ATTACK ACFT
SU17D	SU17D							SU-17 FITTER-D ATTACK ACFT
SU17E	SU17E							SU-17 FITTER-E TRAINER ACFT, FITTER-D VARIANT
SU17G	SU17G							SU-17 FITTER-G TRAINER ACFT, FITTER-H VARIANT
SU17H	SU17H							SU-17 FITTER-H ATTACK/RECON ACFT
SU17K	SU17K							SU-17 FITTER-K ATTACK/RECON ACFT
SU19	SU19							SU-19 FENCER FTR/BOMBER ACFT
SU20	SU20							SU-20 FITTER-C/D ATTACK ACFT
SU21	SU21							SU-21 FLAGON ACFT
SU22	SU22							SU-22 FITTER ACFT, SU-17 EXPORT VERSION
SU22F	SU22F							SU-22 FITTER-F EXPORT SU-17 FITTER-D ACFT
SU22G	SU22G							SU-22 FITTER-G EXPORT SU-17 FITTER-G ACFT
SU22J	SU22J							SU-22 FITTER-J EXPORT SU-17 FITTER-H ACFT

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APPENDIX B, PART IDFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
SU24	SU24							SU-24 FENCER GND ATTACK/ INTERDICTION ACFT
SU24A	SU24A							SU-24 FENCER-A GND ATTACK/INTERDICTION ACFT
SU24B	SU24B							SU-24 FENCER-B GND ATTACK/INTERDICTION ACFT
SU24C	SU24C							SU-24 FENCER-C GND ATTACK/INTERDICTION ACFT
SU25	SU25							SU-25 FROGFOOT ATTACK ACFT
SU27	SU27							SU-27 FLANKER COUNTER-AIR/GND ATTACK ACFT
SU30	SU30							SU-30 MKI FLANKER FTR ACFT
SU32	SU32							SU-32 FLANKER FTR ACFT
SU33	SU33							SU-33 FLANKER-D FTR ACFT
SU34	SU34							SU-34 FULLBACK-A FTR ACFT
SU35	SU35							SU-35 FLANKER-E FTR ACFT
SU37	SU37							SU-37 FLANKER-E VAR 2 FTR ACFT
SU39	SU39							SU-39 FROGFOOT-C FTR ACFT
SU57	SU57							SU-57 FTR ACFT
SU7	SU7							SU-7 FITTER GND ATTACK ACFT
SU7A	SU7A							SU-7 FITTER-A GND ATTACK FTR ACFT
SU7U	SU7U							SU-7U MOUJIK GND ATTACK FTR TRAINER ACFT
SU9	SU9							SU-9 FISHPOT GND ATTACK FTR ACFT
SUB	SUB							SUBMARINE, GEN TYPE
SUBCV	SUBCV							SUBMERSIBLE, CIVILIAN
SUM	SUM							SURFACE-TO-UNDERWATER MISSILE
SUPAC	SUPAC							SUPPORT ACFT
SUPS	SUPS							SUPPORT SHIP
SURV	SURV							SURVEILLANCE ACFT, GENERAL
SURVY	SURVY							SURVEY VESSEL
SUU23	SUU23							SUU-23 AIR DELIVERABLE ORDNANCE
SUU25	SUU25							SUU-25 AIR DELIVERABLE ORDNANCE
SVOD	SVOD							ACFT NAVIGATION/LANDING SYS
SWAMP	SWAMP							MARSH/SWAMP
SWOLF	SWOLF							SEA WOLF SAM
T1	T1							T-1 JAYHAWK TRAINER ACFT

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APPENDIX B, PART IDFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
T2	T2							T-2 BUCKEYE TRAINER ACFT
T28	T28							T-28 TROJAN TRAINER ACFT
T29	T29							T-29 (CONVAIR) TRAINER ACFT
T2M	T2M							T-2 (MITSUBISHI) TRAINER ACFT
T33	T33							T-33A T-BIRD JET TRAINER ACFT
T34	T34							T-34 MENTOR TRAINER ACFT
T37	T37							T-37 TWEET TRAINER ACFT
T38	T38							T-38 TALON ADVANCED TRAINER ACFT
T39	T39							T-39D SABRELINER TRAINER ACFT
T4	T4							T-4 TRAINER ACFT
T41	T41							T-41 MESCALERO TRAINER ACFT
T42	T42							T-42 COCHISE TRAINER ACFT
T43	T43							T-43 (BOEING) TRAINER ACFT
T44	T44							T-44 KING AIR COMMERCIAL TRAINER ACFT
T45	T45							T-45 GOSHAWK JET FLIGHT TRAINER ACFT
T46A	T46A							T-46A TRAINER ACFT
T47	T47							T-47 CITATION TRAINER ACFT
T50	T50							T-50 FTR ACFT
T54	T54							T-54 TANK
T55	T55							T-55 TANK
T62	T62							T-62 TANK
T64	T64							T-64 TANK
T72	T72							T-72 TANK
T80	T80							T-80 TANK
TA	TA							TANK ARMY
TA28	TA28							TA-28 BOMBER/ATTACK ACFT
TA4	TA4							TA-4 SKYHAWK TRAINER ACFT
TA7	TA7							TA-7 CORSAIR II TRAINER ACFT
TAB	TAB							TARGET ACQUISITION BATTERY
TACAR	TACAR							TACTICAL ACFT
TACC	TACC							TACTICAL AIR CONTROL CENTER
TADC	TADC							TACTICAL AIR DIRECTION CENTER
TAKR	TAKR							ABBR TACTICAL ACFT CARRYING CRUISER
TALCM	TALCM							TACTICAL AIR-LAUNCHED CRUISE MISSILE
TANK	TANK							TANK

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APPENDIX B, PART IDFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
TAOC	TAOC							TACTICAL AIR OPNS CENTER
TAR	TAR							TACTICAL AIR RECON ACFT
TARUS	TARUS							TAURUS MISSILE
TASM	TASM							TACTICAL AIR-TO-SURFACE MISSILE
TASS	TASS							TOWED ARRAY SONAR SYS
TB	TB							TANK BATTALION
TB30	TB30							TB-30 EPSILON TRAINER ACFT
TB700	TB700							TBM 700 TRANSPORT ACFT
TBM	TBM							THEATER BALLISTIC MISSILE
TC	TC							TANK COMPANY
TD	TD							TANK DIVISION
TD1MR	TD1MR							TAEPO DONG 1 MRBM
TD1IR	TD1IR							TAEPO DONG 1 IRBM
TD2IC	TD2IC							TAEPO DONG 2 ICBM
TD2SL	TD2SL							TAEPO DONG 2 SPACE LAUNCH
TDONG	TDONG							VEHICLE
TDS	TDS							TAEPO DONG
TEJAS	TEJAS							TACTICAL DATA SYSTEM
TEL	TEL							TEJAS FTR ACFT
TELAR	TELAR							TRANSPORTER ERECTOR LAUNCHER
TENK1	TENK1							TRANSPORTER ERECTOR LAUNCHER
TENK2	TENK2							AND RADAR
TENK3	TENK3							TIEN KUNG I/SKY BOW I SAM
TERBB	TERBB							SYSTEM
TERFF	TERFF							TIEN KUNG II/SKY BOW II SAM
TEX	TEX							SYSTEM
TF35	TF35							TIEN KUNG 3 ATBM
TFR	TFR							TERRIER BLACK BRANT SSM
TG	TG							TERRITORIAL FORCES
TGIF	TGIF							TEXTILES AND TEXTILE APPARELS
TGRCT	TGRCT							TF-35XD TRAINER ACFT
TGT	TGT							TERRAIN FOLLOWING RADAR
TH57	TH57							TRACKING GUIDANCE RADAR
								TRANSPORTABLE GND INTERCEPT
								FACILITY
								TIGERCAT SAM
								POINT TARGET
								TH-57 SEA RANGER HELICOPTER

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APPENDIX B, PART IDFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
THAAD	THAAD							TERMINAL HIGH ALTITUDE AREA DEFENSE (THAAD) SYSTEM
THLNC	THLNC							THAAD LAUNCHER
THMSL	THMSL							THAAD INTERCEPTOR MISSILE
THRDR	THRDR							THAAD RADAR
THSSI	THSSI							THAAD SENSOR SYSTEM INTERFACE (SSI)
THTOC	THTOC							THAAD TACTICAL OPERATIONS CENTER (TOC)
TILTR	TILTR							MILITARY TILTROTOR AIRCRAFT, GEN TYPE
TITAN	TITAN							TITAN I/II/III/IVB US LAUNCH VEHICLE
TITTR	TITTR							TARGET ILLUMINATION/TARGET TRACKING RADAR
TJ	TJ							COMMERCIAL HOVERCRAFT, GENERAL
TJ1	TJ1							TJ-1 HAWK/JASTREB TRAINER ACFT
TJS	TJS							TACTICAL JAMMING SYS
TLAM	TLAM							TACTICAL (SEA-LAUNCHED) LAND-ATTACK MISSILE
TM	TM							TACTICAL MISSILE
TMHWK	TMHWK							TOMAHAWK AIR/LAND/SHIP/SUB-LAUNCH CRUISE SSM (NUC)
TMR	TMR							TRUNKED MOBILE RADIO
TNKMV	TNKMV							TANK TRANSPORTER
TNKVL	TNKVL							TANKER VESSEL
TNL	TNL							TUNNEL ENTRANCE/PORTAL
TNLVT	TNLVT							TUNNEL AIR VENT
TNMA1	TNMA1							TIEN MA 1 (SKY HORSE) SSM (SRBM)
TNR	TNR							TRAINER ACFT
TOC	TOC							TACTICAL OPNS CENTER
TOKSA	TOKSA							TOKSA CRBM
TOW	TOW							TUBE-LAUNCH, OPTICALLY TRACKED, WIRE GUIDED MISSILE (MAN-PORT)
TOWN	TOWN							TOWN
TOWRD	TOWRD							TOWER - DISTILLATION
TOWRS	TOWRS							TOWER - STEEL

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APPENDIX B, PART IDFI NAME  
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DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
TPS	TPS				TROOPS
TPSB	TPSB				USCG TRANSPORTABLE PORT SECURITY BOAT
TR	TR				TANK REGIMENT
TR1	TR1				TR-1 US RECON ACFT
TRAIN	TRAIN				TRAIN
TRAK	TRAK				TRACKED VEHICLE
TRANH	TRANH				TRANSPORT HELO ACFT
TRANS	TRANS				TRANSPORT ACFT, GEN TYPE
TRAP	TRAP				TRAP OR ENSNAREMENT DEVICE
TRDNT	TRDNT				TRIDENT SSM SITE/PLATFORM
TRDT	TRDT				TRIDENT SLBM
TRIDT	TRIDT				TRIDENT CANADIAN TRANSPORT/AIRLINER ACFT
TRIGT	TRIGT				TRIGAT ATM
TRNDO	TRNDO				TORNADO ECR ACFT
TROOP	TROOP				TROOP
TRPSH	TRPSH				TROOP SHIP
TRSHL	TRSHL				TRISHUL SAM
TRV	TRV				TANK RECOVERY VEHICLE
TS11	TS11				TS.11 SPARK TRAINER ACFT
TST	TST				TIME-SENSITIVE TARGET
TTB	TTB				TANKER TRANSPORT BOMBER ACFT
TTH90	TTH90				TTH-90 TRANSPORT HELICOPTER
TTR	TTR				TARGET TRACKING RADAR
TU104	TU104				TU-104 CAMEL JET TRANSPORT ACFT
TU110	TU110				TU-110 COOKER JET TRANSPORT ACFT
TU114	TU114				TU-114 CLEAT TRANSPORT ACFT
TU122	TU122				TU-122 BEAR BOMBER ACFT
TU124	TU124				TU-124 COOKPOT JET TRANSPORT ACFT
TU126	TU126				TU-126 MOSS SUAWACS ACFT
TU128	TU128				TU-128 FIDDLER JET FTR ACFT
TU134	TU134				TU-134 CRUSTY JET TRANSPORT ACFT
TU142	TU142				TU-142 BEAR BOMBER ACFT

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APPENDIX B, PART IDFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
TU144		TU144						TU-144 CLEAT OR CHARGER TRANSPORT ACFT
TU154		TU154						TU-154 CARELESS JET TRANSPORT ACFT
TU16		TU16						TU-16 BADGER, GEN ACFT TYPE
TU160		TU160						TU-160 BLACKJACK LR BOMBER ACFT
TU16A		TU16A						TU-16 BADGER-A STRATEGIC BOMBER ACFT
TU16B		TU16B						TU-16 BADGER-B BOMBER/ASUW ACFT
TU16C		TU16C						TU-16 BADGER-C ASUW ACFT W/AS-2 KIPPER
TU16D		TU16D						TU-16 BADGER-D MARITIME/ ELECTRONIC RECON ACFT
TU16E		TU16E						TU-16 BADGER-E PHOTO RECON ACFT
TU16F		TU16F						TU-16 BADGER-F RECON ACFT
TU16G		TU16G						TU-16 BADGER-G BOMBER/ASUW ACFT
TU16H		TU16H						TU-16 BADGER-H EA, STANDOFF/ESCORT ACFT
TU16J		TU16J						TU-16 BADGER-J EA, ESCORT JAMMING ACFT
TU16K		TU16K						TU-16 BADGER-K ELECTRONIC RECON ACFT
TU16M		TU16M						TU-16 BADGER-G MODIFIED ASUW ACFT
TU20		TU20						TU-20 BEAR BOMBER ACFT
TU204		TU204						TU-204 TRANSPORT/AIRLINER ACFT
TU214		TU214						TU-214 AEW ACFT
TU22		TU22						TU-22 BLINDER, GEN ACFT TYPE
TU22A		TU22A						TU-22 BLINDER-A BOMBER ACFT
TU22B		TU22B						TU-22 BLINDER-B SURFACE STRIKE ACFT
TU22C		TU22C						TU-22 BLINDER-C MARITIME RECON, EA/RECON/PHOTO ACFT
TU22D		TU22D						TU-22 BLINDER-D TRAINER ACFT
TU22M		TU22M						TU-22M BACKFIRE BOMBER ACFT
TU26		TU26						TU-26 BACKFIRE, GEN ACFT TYPE
TU26A		TU26A						TU-26 BACKFIRE-A STRIKE/ ATTACK/ASUW/RECON ACFT
TU26B		TU26B						TU-26 BACKFIRE-B STRIKE/ ATTACK/ASUW/RECON ACFT

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APPENDIX B, PART IDFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
TU26C	TU26C							TU-26 BACKFIRE-C STRIKE/ ATTACK/ASUW/RECON ACFT
TU28	TU28							TU-28P FIDDLER FTR/INTCP ACFT
TU334	TU334							TU-334 TRANSPORT/AIRLINER ACFT
TU44	TU44							TU-44 TRANSPORT/AIRLINER ACFT
TU95	TU95							TU-95 BEAR, GEN ACFT TYPE
TU95A	TU95A							TU-95 BEAR-A LR STRATEGIC BOMBER ACFT
TU95B	TU95B							TU-95 BEAR-B BOMBER/SURFACE STRIKE ACFT
TU95C	TU95C							TU-95 BEAR-C BOMBER/SURFACE STRIKE ACFT
TU95D	TU95D							TU-95 BEAR-D MARITIME RECON/TARGET GUIDANCE ACFT
TU95E	TU95E							TU-95 BEAR-E RECON BOMBER ACFT
TU95F	TU95F							TU-95 BEAR-F ASW ACFT
TU95G	TU95G							TU-95 BEAR-G BOMBER/SURFACE STRIKE ACFT
TU95H	TU95H							TU-95 BEAR-H STRIKE ACFT W/LR ALCM
TUG	TUG							TUG, GENERAL
TUSS1	TUSS1							TU-SS-1 CRBM
U10	U10							U-10 COURIER ACFT
U17	U17							U-17 ACFT
U2	U2							U-2 US RECON ACFT
U21	U21							U-21 UTE ACFT
U2R	U2R							U-2R US RECON ACFT
U2S	U2S							U-2S US RECON ACFT
U3	U3							U-3 ACFT
U4	U4							U-4 AERO COMMANDER ACFT
U4320	U4320							URAL-4320 GENERAL PURPOSE TRUCK
U6	U6							U-6 BEAVER TRANSPORT/AIRLINER ACFT
U8	U8							U-8 SEMINOLE ACFT
U9	U9							U-9 ACFT
UAV	UAV							UAV, NFI [MIDB:APUZZ]
UAVCS	UAVCS							UAV CONTROL STATION
UC12	UC12							UC-12 HURON COMMERCIAL ACFT
UCALW	UCALW							UNGUIDED CONVENTIONAL AIR- LAUNCHED WPN
UFO	UFO							UNIDENTIFIED FLYING OBJECT

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APPENDIX B, PART IDFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	EQUIV	MOD	ACCURACY	EXPLANATION
UGM	UGM						UNDERWATER GUIDED MISSILE
UGM27	UGM27						UGM-27A/B/C POLARIS SLBM (NUC)
UGM84	UGM84						UGM-84 HARPOON SUB-BASED CRUISE ASUW
UGM96	UGM96						UGM-96A TRIDENT I SLBM, SUB-BASED (NUC)
UGV	UGV						UNMANNED GROUND VEHICLE
UH	UH						UTILITY HELICOPTER
UH1	UH1						UH-1 IROQUOIS TRANSPORT, ATTACK SUPPORT HELICOPTER
UH12	UH12						UH-12 (HILLER) HELICOPTER
UH2	UH2						UH-2 SEA SPRITE HELICOPTER
UH46	UH46						UH-46D SEA KNIGHT (BOEING) USN HELICOPTER
UH60	UH60						UH-60 BLACK HAWK HELICOPTER
UH60A	UH60A						UH-60A BLACK HAWK HELICOPTER
UI	UI						UNIDENTIFIED
UNK	UNK						UNKNOWN
UR375	UR375						URAL-375 RELOAD VEHICLE FOR SA4
URG	URG						UNDERWAY REPLENISHMENT GROUP
US1	US1						US-1 STOL SAR AMPHIBIAN ACFT
US3	US3						US-3 VIKING CARRIER-BASED ACFT
US3A	US3A						US-3A VIKING CARRIER-BASED ASW ACFT
USCG	USCG						UNITED STATES COAST GUARD
USEMB	USEMB						UNITED STATES EMBASSY
USGBI	USGBI						U.S. GROUND BASED INTERCEPTOR (GBI) ABM
USM	USM						UNDERWATER-TO-SURFACE MISSILE
USS	USS						UNITED STATES SHIP
UWOA	UWOA						UNCONVENTIONAL WARFARE OPNS AREA
UXWHD	UXWHD						UNITARY (SINGLE CHARGE) HIGH EXPLOSIVE WARHEAD
UZ469	UZ469						UAZ-469 LIGHT VEHICLE
V22	V22						V-22/VC-22 OSPREY ACFT
V280	V280						V-280 VALOR TILTROTOR ACFT
VALLY	VALLY						VALLEY
VAW	VAW						CARRIER AEW ACFT (OR SQUADRON)
VC10	VC10						BAE VC-10 TANKER (UK VERSION KC-10) ACFT

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DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
VC11	VC11							VC-11 GULFSTREAM TRANSPORT/AIRLINER ACFT
VC137	VC137							VC-137 (BOEING) TRANSPORT/AIRLINER ACFT
VC25	VC25							VC-25 TRANSPORT/AIRLINER ACFT
VC47	VC47							VC-47 TRANSPORT/AIRLINER ACFT
VC6	VC6							VC-6 KING AIR TRANSPORT/AIRLINER ACFT
VC9	VC9							VC-9 SKYTRAIN II TRANSPORT/AIRLINER ACFT
VECTR	VECTR							VECTOR (CONDOR II VARIANT) LR EGYPTIAN SSM (MRBM)
VEH	VEH							VEHICLE
VEHC	VEHC							COMBAT VEHICLE
VESSL	VESSL							VESSEL, GENERAL
VF	VF							FTR ACFT
VGK	VGK							SUPREME HIGH COMMAND
VH1	VH1							VH-1N EXECUTIVE MSN ACFT
VH3	VH3							VH-3D EXECUTIVE MSN ACFT
VIN	VIN							VEHICLE IDENTIFICATION (NUMBER)
VIP	VIP							VERY IMPORTANT PERSON
VISC	VISC							VISCOUNT TRANSPORT/AIRLINER ACFT
VLAD	VLAD							VLAD (NATO) SONOBUOY TYPE
VLAGE	VLAGE							VILLAGE
VLS	VLS							VERTICAL LAUNCH (WPN) SYS
VLVEH	VLVEH							VERY LIGHT WHEELED VEHICLE
VOR	VOR							VHF OMNIDIRECTIONAL RADIO RANGING AIR NAV AID
VP	VP							ASW PATROL ACFT (OR SQUADRON)
VPARK	VPARK							VEHICLE PARK
VS	VS							CARRIER ASW ACFT (OR SQUADRON)
VSLSM	VSLSM							VESSEL, GENERAL (SMALL)
VSTOL	VSTOL							VERTICAL SHORT TAKE-OFF AND LANDING ACFT
VTOL	VTOL							VERTICAL TAKE-OFF AND LANDING ACFT
VULCN	VULCN							XM-163/167 VULCAN ADA GUN, 20MM
W3	W3							W-3 SOKOL HELO
WAA	WAA							WIDE APERTURE ARRAY

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8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
WAAS	WAAS							WIDE AREA ACTIVE SURVEILLANCE RADAR
WALLY	WALLY							WALLEYE GUIDED, AIR-SURFACE GLIDE BOMB
WAO	WAO							OILER, COAST GUARD
WARHD	WARHD							WARHEAD, GEN TYPE
WAS	WAS							WIDE APERTURE SONAR
WAYPT	WAYPT							WAYPOINT
WC130	WC130							WC-130 HERCULES ACFT
WC13J	WC13J							WC-130J HERCULES ACFT
WCON	WCON							WEATHER CONTROL RADAR
WFF	WFF							FRIGATE, COAST GUARD
WFFL	WFFL							CORVETTE, COAST GUARD
WG13	WG13							WG-13 LYNX HELICOPTER
WG34	WG34							WG-34 (WESTLAND) HELICOPTER
WHEC	WHEC							USCG HIGH ENDURANCE CUTTER
WHEEL	WHEEL							WHEELED VEHICLE
WIG	WIG							WING-IN-GND CRAFT
WING	WING							AIR WING
WMEC	WMEC							USCG MEDIUM ENDURANCE CUTTER
WOC	WOC							WING OPERATIONS CENTER
WPBH	WPBH							PATROL BOAT, HYDROFOIL, COAST GUARD
WPBR	WPBR							RIVER/ROADSTEAD PATROL BOAT, COAST GUARD
WPC	WPC							PATROL CRAFT, COAST GUARD
WPCF	WPCF							PATROL CRAFT, FAST, COAST GUARD
WPCSH	WPCSH							SUBMARINE CHASER, HYDROFOIL, COAST GUARD
WPG	WPG							PATROL COMBATANT, COAST GUARD
WPGF	WPGF							PATROL SHIP, COAST GUARD
WPN	WPN							WPN (WEAPON)
WPT	WPT							TORPEDO BOAT, COAST GUARD
WRM	WRM							WAR RESERVE MATERIAL
WS1	WS1							WS-1 SSM
WSE	WSE							WPN SUPPORT EQUIPMENT
XC2	XC2							XC-2 TRANSPORT/AIRLINER ACFT
XCVR	XCVR							TRANSCEIVER
XFMR	XFMR							TRANSFORMER
XK1	XK1							XK-1 TANK
XM1	XM1							XM-1 MAIN BATTLE TANK

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART IDFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
XM163		XM163						XM-163 VULCAN AIR DEFENSE SYS
XM167		XM167						XM-167 VULCAN AIR DEFENSE SYS
XM198		XM198						XM-198 HOWITZER, MEDIUM TOWED, 155MM
XMTR		XMTR						XMTR (TRANSMITTER)
XPRTR		XPRTR						TRANSPORTER, GENERAL
Y11		Y11						YAK-11 MOOSE PROP TRAINER ACFT
Y11T		Y11T						Y-11 TRANSPORT/AIRLINER ACFT
Y12		Y12						YAK-12 CREEK PROP TRANSPORT ACFT
Y12T		Y12T						Y-12 TRANSPORT/AIRLINER ACFT
Y130		Y130						YAK-130 TRAINER ACFT
Y18		Y18						YAK-18 MAX PILOT TRAINER ACFT
Y20		Y20						Y-20 TRANSPORT ACFT
Y27		Y27						YAK-27RU MANDRAKE JET RECON ACFT
Y28		Y28						YAK-28 BREWER TACTICAL SUPPORT - RECON/EA BOMBER ACFT
Y28D		Y28D						YAK-28 BREWER-D RECON ACFT
Y28E		Y28E						YAK-28 BREWER-E EA ACFT
Y28FT		Y28FT						YAK-28 BREWER FTR ACFT
Y28P		Y28P						YAK-28P FIREBAR FTR INTCP ACFT
Y28U		Y28U						YAK-28U MAESTRO TRAINING VERSION OF Y28P FIREBAR ACFT
Y36		Y36						YAK-36 FORGER V/STOL FTR ACFT
Y38		Y38						YAK-38 FORGER V/STOL FTR ACFT
Y38A		Y38A						YAK-38 FORGER-A RECON/SEA STRIKE/FLEET DEFENSE ACFT
Y38B		Y38B						YAK-38 FORGER-B TRAINER ACFT
Y40		Y40						YAK-40 CODLING JET TRANSPORT ACFT
Y42		Y42						YAK-42 CLOBBER JET TRANSPORT ACFT
Y5		Y5						Y-5 BIPLANE TRANSPORT/AIRLINER ACFT
Y50		Y50						YAK-50 AEROBATIC TRAINER ACFT
Y52		Y52						YAK-52 PILOT TRAINER ACFT - Y50 VARIANT

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART IDFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
Y53	Y53							YAK-53 PILOT TRAINER ACFT - Y50/Y52 VARIANT
Y7	Y7							Y-7 TRANSPORT/AIRLINER ACFT
Y8	Y8							Y-8 TRANSPORT ACFT
Y9	Y9							Y-9 TRANSPORT ACFT
YAC	YAC							YACHT
YAG	YAG							MISC SERVICE CRAFT
YAM	YAM							MISSILE SUPPORT CRAFT
YAMM	YAMM							MISSILE SUPPORT BARGE
YC	YC							OPEN BARGE
YD	YD							FLOATING CRANE
YDT	YDT							DIVING TENDER
YES2A	YES2A							YE-SS-2 MOD 1 MSL
YES2B	YES2B							YE-SS-2 MOD 2 MSL
YF	YF							COVERED LIGHTER
YH	YH							AMBULANCE CRAFT
YM	YM							DREDGE
YON	YON							FUEL BARGE
YP	YP							YARD PATROL CRAFT
YR	YR							FLOATING WORKSHOP BARGE
YS11	YS11							YS-11 TRANSPORT/AIRLINER ACFT
YTR	YTR							FIRE BOAT
YW	YW							WATER LIGHTER
YXR	YXR							HULK OR RELIC
YXT	YXT							TRAINING CRAFT
Z10	Z10							Z-10 ATTACK HELICOPTER
Z11	Z11							Z-11 HELICOPTER
Z15	Z15							Z-15 HELICOPTER
Z19	Z19							Z-19 RECON/ATTACK HELICOPTER
Z131	Z131							ZIL-131 GENERAL PURPOSE TRUCK
Z135	Z135							HEAVY HAULING VEHICLE
Z151	Z151							ZIL-151 VEHICLE
Z157	Z157							ZIL-157 TRANSPORT VEHICLE
Z167	Z167							SA8 LAUNCH VEHICLE
Z20	Z20							Z-20 HELICOPTER
Z572	Z572							ZIL57-2 AAA VEHICLE, GEN TYPE
Z574	Z574							ZIL57-4 AAA VEHICLE, GEN TYPE
Z8	Z8							Z-8 HELICOPTER
Z9	Z9							Z-9 (HARBIN) PRC DOLPHIN HELICOPTER
ZBACO	ZBACO							AGNI PLUS ZBACO MISSILE

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8047 ENTITY CONTENT

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
ZELZL		ZELZL						ZELZAL ROCKET
ZPU		ZPU						ANTI-ACFT MACHINE GUN
ZS23		ZS23						ZSU-23 AAA VEHICLE, GEN TYPE
ZS234		ZS234						ZSU-23-4 AAA VEHICLE
ZSX		ZSX						ZSU SELF-PROPELLED ANTI-ACFT GUN
ZU		ZU						TOWED ANTI-ACFT GUN

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	
8052	FREE-TEXT		
		DATA STANDARD USAGE:	STATUS:
	DUI NAME	EXPLANATION	APPLICABILITY
001	FREE-TEXT [Free_Txt]	PROVIDES FOR REPORTING OF BETWEEN 1 TO 40 7-BIT ASCII CHARACTERS.	TEXT MESSAGE
002	SUPPORT-TEXT [Support_Txt]	PROVIDES FOR REPORTING OF BETWEEN 1 TO 40 7-BIT ASCII CHARACTERS OF ANCILLARY INFORMATION ON OR FROM AN ENTITY EXPRESSED IN NATURAL LANGUAGE.	ENTITY MESSAGE
003	PR/CSAR TEXT [PR_CSAR_Txt]	PROVIDES CRITICAL INFORMATION FROM THE SUBJECT (SURVIVOR) OF A PERSONNEL RECOVERY/COMBAT SEARCH AND RESCUE EVENT, INCLUDING KEY INFORMATION FOR RESCUERS THAT WILL AID IN THE SURVIVOR'S RESCUE. MAY CONTAIN A REQUEST TO BE RESCUED, THE SURVIVOR'S CONDITION, ABILITY TO MOVE, ETC.	ENTITY MESSAGE
004	OPERATIONS NOTIFICATION [Ops_Notify]	PROVIDES STATUS, CHANGE, ALERT OR ANNOUNCEMENT INFORMATION FROM THE GIBSSC TO THE IBS COMMUNITY REGARDING OPERATION OF THE IBS NETWORK.	OPERATIONS NOTIFICATION MESSAGE
005	MESSAGE REFERENCE [Msg_Ref]	PROVIDES INFORMATION TO IDENTIFY A RELATED MESSAGE (NON-URL-BASED).	OPERATIONS NOTIFICATION MESSAGE, OPERATIONAL STATUS MESSAGE

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MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8052 FREE-TEXT

006 BLOB PACKET  
[BLOB\_Pkt]

PROVIDES FOR REPORTING OF BETWEEN 1 BLOB TRANSFER MESSAGE  
TO 2048 7-BIT ASCII CHARACTERS OF  
A BINARY LARGE DATA OBJECT.

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
FIELD	STRING

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: NO					
1 TO 40 CHARACTERS	1 TO 40 CHARACTERS				
----- FOR DUI 002 -----					
RESET ATTRIBUTE: YES					
1 TO 40 CHARACTERS	1 TO 40 CHARACTERS				
----- FOR DUI 003 -----					
RESET ATTRIBUTE: YES					
1 TO 60 CHARACTERS	1 TO 60 CHARACTERS				
----- FOR DUIS 004 AND 005 -----					
RESET ATTRIBUTE: NO					
1 TO 80 CHARACTERS	1 TO 80 CHARACTERS				

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APPENDIX B, PART I

DFI      NAME  
8052    FREE-TEXT

----- FOR DUI 006 -----

RESET ATTRIBUTE: NO

1 TO 2048 CHARACTERS    1 TO 2048 CHARACTERS

PROVIDES A STRING OF 7-BIT  
CHARACTERS MAKING UP A  
LARGE OBJECT OF BINARY DATA  
(BLOB). THE BINARY DATA  
MAY BE DEFINED EXTERNALLY  
TO CMF AND MAY NOT BE  
DECIPHERABLE TO ALL CMF  
CONSUMERS.

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	STATUS:
8055	SEQUENCE NUMBER		
DUI NAME		EXPLANATION	APPLICABILITY
001	SEQUENCE NUMBER [Seq_Num]	PROVIDES A CAPABILITY TO IDENTIFY AND MAINTAIN ORDER OF ASSOCIATED FIELDS. INSTANCES OF AN ASSOCIATED FIELD ARE TRANSMITTED WITH A ONE-UP COUNT OF THIS FIELD WITH A ROLLOVER FROM THE MAXIMUM VALUE BACK TO THE MINIMUM VALUE.	COLLABORATION MESSAGE
002	PRODUCER MESSAGE SEQUENCE NUMBER [Producer_Msg_Seq_Num]	A ONE-UP NUMBER ASSIGNED BY THE PRODUCER TO EACH CMF MESSAGE AS IT IS REPORTED TO INDICATE THE SEQUENCE IN WHICH THE MESSAGES WERE GENERATED. ANALYSTS MAY UTILIZE PRODUCER MESSAGE SEQUENCE NUMBER VALUES TO DETERMINE IF ALL MESSAGE(S) WITHIN A SEQUENCE OF MESSAGES FROM A SPECIFIC PRODUCER WERE RECEIVED.	DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, REMOTE AMPLIFICATION MESSAGE, TEXT MESSAGE, COLLABORATION MESSAGE, OPERATIONS NOTIFICATION MESSAGE, OPERATIONAL STATUS MESSAGE, BLOB TRANSFER MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	INTEGER		
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD ACCURACY EXPLANATION
----- FOR DUI 001 -----			
RESET ATTRIBUTE: NO			
0 THROUGH 3	0 THROUGH 3		
----- FOR DUI 002 -----			
RESET ATTRIBUTE: YES			
1 THROUGH 16,383	1 THROUGH 16383		

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## UNCLASSIFIED

MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION			
8057	CLIMB RATE	RATE OF CHANGE OF VERTICAL POSITION.			
DATA STANDARD USAGE: IBS		STATUS:			
DUI NAME		EXPLANATION			
001 CLIMB RATE [Climb_Rate]		RATE OF CHANGE OF VERTICAL POSITION.			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY			
FIELD	FLOAT	ENTITY MESSAGE			
DATA ITEM	VALUE RANGE	UNIT EQUIV VALUE MOD ACCURACY EXPLANATION			
----- FOR DUI 001 -----					
RESET ATTRIBUTE: YES					
-40,920.0 THROUGH 40,920 DATA MILES PER HOUR (DMPH)	-40920 THROUGH 40920 0	1E-1 - 10E0	DEFAULT UNIT = DMPH IF UNIT EQUIVALENT ATTRIBUTE IS SET TO 0, CLIMB RATE IS REPORTED IN DMPH. DEFAULT ACCURACY (DMPH) = 2.		
-20,460.0 THROUGH 20,460 MILES PER HOUR (MPH)	-20460 THROUGH 20460 1	1E-1 - 10E0	DEFAULT UNIT = DMPH IF UNIT EQUIVALENT ATTRIBUTE IS SET TO 1, CLIMB RATE IS REPORTED IN MPH. DEFAULT ACCURACY (MPH) = 1.		
-20,460.0 THROUGH 20,460 KNOTS (KTS)	-20460 THROUGH 20460 2	1E-1 - 50E0	DEFAULT UNIT = DMPH IF UNIT EQUIVALENT ATTRIBUTE IS SET TO 2, CLIMB RATE IS REPORTED IN KTS. DEFAULT ACCURACY (KTS) = 1.		
-20,460.0 THROUGH 20,460 KILOMETERS PER HOUR (KPH)	-20460 THROUGH 20460 3	1E-1 - 10E0	DEFAULT UNIT = DMPH IF UNIT EQUIVALENT ATTRIBUTE IS SET TO 3, CLIMB RATE IS REPORTED IN KPH. DEFAULT ACCURACY (KPH) = 1.		

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME DEFINITION  
8058 SEMI-MAJOR ELEVATION THE SEMI-MAJOR ELEVATION AXIS IS THE ELEVATION OF THE ELLIPSOID  
SEMI-MAJOR AXIS, IN DEGREES, MEASURED FROM LOCAL HORIZONTAL.

DATA STANDARD USAGE: IBS STATUS:

DUI NAME	EXPLANATION	APPLICABILITY
001 SEMI-MAJOR ELEVATION [Semi_Maj_Elev]	THE SEMI-MAJOR ELEVATION AXIS IS THE ELEVATION OF THE SEMI-MAJOR AXIS, IN DEGREES, MEASURED FROM LOCAL HORIZONTAL.	ENTITY MESSAGE

DATA ELEMENT TYPE DATA REPRESENTATION TYPE

FIELD FLOAT

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: YES					
0 THROUGH 180 DEGREES EXCLUSIVE	0 THROUGH 180 EXCLUSIVE		UNRANGED	REPORTED IN DEGREES.	

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	
8067	PERSONAL IDENTIFICATION CHARACTERISTICS	THOSE CHARACTERISTICS WHICH DISTINGUISH A SPECIFIC INDIVIDUAL.	
DATA STANDARD USAGE: IBS		STATUS:	
DUI NAME		EXPLANATION	APPLICABILITY
001 EYE COLOR [Eye_Color]		THE EYE COLOR OF THE SPECIFIC INDIVIDUAL.	ENTITY MESSAGE
002 HAIR COLOR [Hair_Color]		THE HAIR COLOR OF A SPECIFIC INDIVIDUAL.	ENTITY MESSAGE
003 HAIR LENGTH [Hair_Length]		THE HAIR LENGTH OF A SPECIFIC INDIVIDUAL.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	ENUMERATED		
DUI NAME		EXPLANATION	APPLICABILITY
004 HEIGHT [Height]		THE HEIGHT OF A SPECIFIC INDIVIDUAL REPRESENTED IN TOTAL INCHES. MEASURED FROM THE BOTTOM OF THE FOOT.	ENTITY MESSAGE
005 WEIGHT [Weight]		THE WEIGHT OF A SPECIFIC INDIVIDUAL.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	INTEGER		
DUI NAME		EXPLANATION	APPLICABILITY
006 PHYSIQUE [Physique]		THE GENERAL/PHYSICAL STATURE OF A SPECIFIC INDIVIDUAL.	ENTITY MESSAGE

**UNCLASSIFIED**

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APPENDIX B, PART I

DFI NAME  
8067 PERSONAL IDENTIFICATION  
CHARACTERISTICS

DUI NAME	EXPLANATION	APPLICABILITY			
007 RACE [Race]	THE RACE OF A SPECIFIC INDIVIDUAL.	ENTITY MESSAGE			
008 GENDER [Gender]	INDICATES GENDER OF THE PERSONNEL CONCERNED.	ENTITY MESSAGE			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE				
FIELD	ENUMERATED				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: YES					
LGHT	1				LIGHT
DARK	2				
BRWN	3				BROWN
BLU	4				BLUE
GREY	5				
GRN	6				GREEN
HAZL	7				HAZEL
BLK	8				BLACK
BLU_GRN	9				BLUE GREEN
PINK	10				
OTHR	11				OTHER

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APPENDIX B, PART I

DFI NAME  
8067 PERSONAL IDENTIFICATION  
CHARACTERISTICS

----- FOR DUI 002 -----

RESET ATTRIBUTE: YES

BLND	1
BRUNET	2
RED	3
BLK	4
GREY	5
BRWN	6
WHT	7
STRWBRY	8
BALD	9
OTHR	10

BLONDE
BRUNETTE
BLACK
BROWN
WHITE
STRAWBERRY
OTHER

----- FOR DUI 003 -----

RESET ATTRIBUTE: YES

BALD	1
SOME	2
LONG	3
MEDIUM	4
SHORT	5
SHLDR_LEN	6
VERY_LONG	7

SHOULDER LENGTH

----- FOR DUI 004 -----

RESET ATTRIBUTE: YES

30 THROUGH 84 INCHES      30 THROUGH 84

REPORTED IN INCHES.

----- FOR DUI 005 -----

RESET ATTRIBUTE: YES

50 THROUGH 500 LBS      50 THROUGH 500

REPORTED IN LBS.

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APPENDIX B, PART I

DFI NAME  
8067 PERSONAL IDENTIFICATION  
CHARACTERISTICS

----- FOR DUI 006 -----

RESET ATTRIBUTE: YES

PETITE	1	
SMALL	2	
MEDIUM	3	
LRG	4	LARGE
MUSCULAR	5	
ATHLTC	6	ATHLETIC
THIN	7	

----- FOR DUI 007 -----

RESET ATTRIBUTE: YES

ASIAN	1	
PAC_ISLANDER	2	PACIFIC ISLANDER
HISPNC	3	HISPANIC
CAUCSN	4	CAUCASIAN
BLK	5	BLACK
AMER_INDIAN	6	AMERICAN INDIAN
AK_NATIVE	7	ALASKAN NATIVE
OTHR	8	OTHER

----- FOR DUI 008 -----

RESET ATTRIBUTE: YES

MALE	1	
FEMALE	2	
UNK	3	

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B1-531

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	
8070	DIRECTION	INDICATES A DIRECTION.	
	DATA STANDARD USAGE: IBS	STATUS:	
	DUI NAME	EXPLANATION	APPLICABILITY
001	TRUE HEADING, DEGREES [True_Hdg_Degrees]	INDICATES THE ANGLE OF THE LONGITUDINAL AXIS OF AN OBJECT IN DEGREES WITH RESPECT TO TRUE NORTH.	ENTITY MESSAGE
	DATA ELEMENT TYPE		
	FIELD	FLOAT	
	DUI NAME	EXPLANATION	APPLICABILITY
002	HEADING, CARDINAL [Hdg_Cardinal]	INDICATES THE ANGLE OF THE LONGITUDINAL AXIS OF AN OBJECT IN TERMS OF POINTS ON A COMPASS.	ENTITY MESSAGE
	DATA ELEMENT TYPE		
	FIELD	ENUMERATED	
	DUI NAME	EXPLANATION	APPLICABILITY
003	MAGNETIC HEADING, DEGREES [Magnetic_Hdg_Degrees]	INDICATES THE ANGLE OF THE LONGITUDINAL AXIS OF AN OBJECT IN DEGREES WITH RESPECT TO MAGNETIC NORTH.	ENTITY MESSAGE
	DATA ELEMENT TYPE		
004	COURSE, DEGREES [Crs_Degrees]	INDICATES THE ACTUAL DIRECTION OF TRAVEL OF AN OBJECT IN DEGREES WITH RESPECT TO TRUE NORTH.	ENTITY MESSAGE

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART IDFI NAME  
8070 DIRECTIONDATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE

FIELD FLOAT

DUI NAME EXPLANATION APPLICABILITY  
005 COURSE, CARDINAL  
[Crs\_Cardinal] INDICATES THE ACTUAL DIRECTION OF TRAVEL OF AN OBJECT IN TERMS OF POINTS ON A COMPASS. ENTITY MESSAGEDATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE

FIELD ENUMERATED

DUI NAME EXPLANATION APPLICABILITY  
006 MAGNETIC COURSE, DEGREES  
[Magnetic\_Crs\_Degrees] INDICATES THE ACTUAL DIRECTION OF TRAVEL OF AN OBJECT IN DEGREES WITH RESPECT TO MAGNETIC NORTH. ENTITY MESSAGEDATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE

FIELD FLOAT

DATA ITEM VALUE RANGE UNIT EQUIV VALUE MOD ACCURACY EXPLANATION

----- FOR DUIS 001, 003, 004, AND 006 -----

RESET ATTRIBUTE: YES

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APPENDIX B, PART IDFI NAME  
8070 DIRECTION

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT	VALUE	EXPLANATION
EQUIV	MOD	ACCURACY	UNRANGED	
0 THROUGH, BUT NOT INCLUDING, 360 DEGREES	0 THROUGH 360 EXCLUSIVE			

----- FOR DUIS 002 AND 005 -----

RESET ATTRIBUTE: YES

NORTH	0		
NE	1		NORTHEAST
EAST	2		
SE	3		SOUTHEAST
SOUTH	4		
SW	5		SOUTHWEST
WEST	6		
NW	7		NORTHWEST

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	
8071	ENTITY RELATIONSHIP		
ELEMENT	TYPE	DATA REPRESENTATION TYPE	STATUS:
FIELD	ENUMERATED	EXPLANATION	APPLICABILITY
001	ENTITY CHAIN TYPE [Entity_Chain_Typ]	INDICATES THE FUNCTION AS A MEANS TO CORRELATE OR PAIR ASSOCIATED MESSAGE DATA FOR THREAT RESOLUTION AND TRACK/ENTITY CORRELATION.	DATA MANAGEMENT MESSAGE
003	UNPAIR LOGIC [Unpair_Logic]	EXPLAINS THE CONDITION CAUSING ENTITIES TO BE UNPAIRED.	DATA MANAGEMENT MESSAGE
004	PAIR LOGIC [Pair_Logic]	EXPLAINS THE RELATIONSHIP BETWEEN PAIRED ENTITIES.	DATA MANAGEMENT MESSAGE
005	ENTITY RELATIONSHIP INDICATOR [Entity_Relatshp_Indic]	INDICATES WHETHER THE FIRST ENTITY IDENTIFIED IS THE SUBJECT OR THE OBJECT OF THE RELATIONSHIP.	DATA MANAGEMENT MESSAGE

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APPENDIX B, PART I

DFI NAME  
8071 ENTITY RELATIONSHIP

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
<p>----- FOR DUI 001 -----</p>					
<p>RESET ATTRIBUTE: NO</p>					
CORREL	0				CORRELATE
UNCORREL	1				UNCORRELATE
PAIR	2				
UNPAIR	3				
<p>----- FOR DUI 003 -----</p>					
<p>RESET ATTRIBUTE: YES</p>					
<p>THE VALUE FOR UNPAIR LOGIC IS A STRING OF ONE TO THREE CHARACTERS AS SHOWN IN THE "DATA ITEM".</p>					
BRK	BRK				ENGAGEMENT ACTY BROKEN
HRT	HRT				HURT STATUS (CONTINUES TO FUNC)
KIL	KIL				KILL STATUS (NOT FUNCTIONING)
MSD	MSD				MISSED (ENGAGEMENT STATUS)
POF	POF				PAIR OFF
SOF	SOF				SPECIAL INFORMATION SYSTEM (SIS) PAIR-OFF
STP	STP				STOP(PED) OPN/STATUS/PAIRING
UNC	UNC				UNCORRELATE
<p>----- FOR DUI 004 -----</p>					
<p>RESET ATTRIBUTE: NO</p>					
<p>THE VALUE FOR PAIR LOGIC IS A STRING OF ONE TO THREE CHARACTERS AS SHOWN IN THE "DATA ITEM".</p>					
C2	C2				COMMAND AND CONTROL OPN
C3	C3				COMMAND, CONTROL, AND COMM FUNC ACTY
CAP	CAP				COMBAT AIR PATROL ACTY/MSN/OPN
CAS	CAS				CLOSE AIR SUPPORT ACTY/MSN/OPN

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART IDFI NAME  
8071 ENTITY RELATIONSHIP

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
CHK	CHK							CHECK (ASSIGNED, WEAPON ASSIGNED, INVESTIGATING)
CMD	CMD							COMMAND ACTY
COR	COR							CORRELATION PAIRING
CTL	CTL							CONTROL ACTY/MSN/OPN
ENG	ENG							ENGAGING/FIRING
GEN	GEN							GEN ACTY
HIT	HIT							STRIKE (PAIRING)
HUP	HUP							HEADS UP
LOC	LOC							LINE(S) OF COMM ACTY
LOG	LOG							LOGISTIC(S) (SUPPORT) MSN/OPN
LOK	LOK							TRACKING/LOCK-ON
MSL	MSL							MISSILE EVENT
NET	NET							NETWORK COMM(S)
OUT	OUT							OUTSTATION
QRY	QRY							QUERY PAIRING
RDY	RDY							READY STATUS
REC	REC							RADIO ELECTRONIC COMBAT, MSN/OPN
RNZ	RNZ							RENDEZVOUS ACTY
RTB	RTB							RETURN TO BASE OPN/STATUS
SIS	SIS							SPECIAL INFORMATION SYSTEM (SIS) PAIR
STK	STK							STRIKE PAIRING
TBM	TBM							THEATER BALLISTIC MISSILE EVENT
								IMPORTANT: THIS DATA ITEM IS BEING TRANSITIONED OUT OF USE AND WILL BE REPLACED BY THE "MSL" VALUE. FOLLOWING FULL CONSUMER IMPLEMENTATION OF THE "MSL" VALUE, THE "TBM" VALUE WILL BE REMOVED.
TGT	TGT							TARGETING OPN/STATUS
TKR	TKR							TANKER (PAIRING)
WPN	WPN							WPN (WEAPON)

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DFI NAME  
8071 ENTITY RELATIONSHIP

----- FOR DUI 005 -----

RESET ATTRIBUTE: NO

SUBJ 0  
OBJ 1

SUBJECT  
OBJECT

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DFI	NAME	DEFINITION			
8072	ACTION INDICATORS				
	DATA STANDARD USAGE: IBS	STATUS:			
	DUI NAME	EXPLANATION			
	004 FLASH [Flash]	PROVIDES A MEANS TO REQUEST ADDITIONAL LOCATION/LINE OF BEARING DATA.			
	DATA ELEMENT TYPE	REPRESENTATION TYPE			
	FIELD	ENUMERATED			
	DATA ITEM	VALUE RANGE	UNIT	VALUE	EXPLANATION
			EQUIV	MOD	ACCURACY
----- FOR DUI 004 -----					
RESET ATTRIBUTE: YES					
	NO_FLASH	0			(INITIAL VALUE)
	FLASH	1			

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DFI	NAME	DEFINITION
8073	COLLECTION	DESCRIBES SENSOR COLLECTION ACTIVITIES.
DATA STANDARD USAGE: IBS		STATUS:
DUI NAME		EXPLANATION
002 COLLECTION MISSION ID [Collect_Mission_ID]		UNIQUELY IDENTIFIES THE COLLECTION MISSION.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	STRING	
DUI NAME		EXPLANATION
003 COLLECTION EVENT ID [Collect_Event_ID]		UNIQUELY IDENTIFIES THE SPECIFIC COLLECTION EVENT.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	INTEGER	
DATA ITEM	VALUE RANGE	UNIT EQUIV VALUE MOD ACCURACY EXPLANATION
----- FOR DUI 002 -----		
RESET ATTRIBUTE: NO		
1 TO 9 CHARACTERS	1 TO 9 CHARACTERS	
----- FOR DUI 003 -----		
RESET ATTRIBUTE: NO		
1 THROUGH 9999	1 THROUGH 9999	

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DFI	NAME	DEFINITION
8075	INTENSITY	
DATA STANDARD USAGE: IBS		STATUS:
DUI NAME		EXPLANATION
001 IR MAXIMUM INTENSITY [IR_Max_Intensity]		THE MAXIMUM INTENSITY OF A DETECTED BURN AS RECORDED BY THE IR SENSOR. THE MEASUREMENT IS DEPENDENT UPON WEATHER, ATMOSPHERIC CONDITIONS, AND SENSOR COLLECTION ANGLE.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	FLOAT	
DATA ITEM	VALUE RANGE	UNIT EQUIV MOD ACCURACY EXPLANATION
----- FOR DUI 001 -----		
RESET ATTRIBUTE: YES		
1 THROUGH 600,000,000 WATTS/STERADIAN MICRON	1 THROUGH 600000000	UNRANGED REPORTED IN WATTS PER STERADIAN MICRON.

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DFI NAME  
8077 PHYSICAL ADDRESS DEFINITION  
THE PHYSICAL LOCATION OF A FACILITY, RESIDENCE, OR ENTITY BEING REPORTED.

DATA STANDARD USAGE: IBS

STATUS:

DUI NAME

EXPLANATION

APPLICABILITY

001 STREET ADDRESS  
[Street\_Addr]THE SPECIFIC PHYSICAL STREET  
LOCATION (REPRESENTED BY NUMBER,  
HIGHWAY, STREET, AVENUE, ETC.) OF  
A FACILITY, RESIDENCE OR ENTITY  
BEING REPORTED.

ENTITY MESSAGE

002 CITY  
[City]THE SPECIFIC CITY OF A FACILITY,  
RESIDENCE OR ENTITY BEING  
REPORTED.

ENTITY MESSAGE

003 STATE OR PROVINCE  
[State\_Or\_Province]THE SPECIFIC STATE OR GEOPOLITICAL  
PROVINCE OF A FACILITY, RESIDENCE  
OR ENTITY BEING REPORTED.

ENTITY MESSAGE

004 INTERNATIONAL POSTAL ZIP CODE  
[Internat\_Postal\_Zip\_Code]THE SPECIFIC POSTAL ZIP CODE OF A  
FACILITY, RESIDENCE, OR ENTITY  
BEING REPORTED.

ENTITY MESSAGE

DATA ELEMENT TYPE  
REPRESENTATION TYPE

FIELD STRING

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
-----------	-------------	------------	-----------	----------	-------------

----- FOR DUI 001 -----

RESET ATTRIBUTE: YES

1 TO 25 CHARACTERS 1 TO 25 CHARACTERS

----- FOR DUI 002 -----

RESET ATTRIBUTE: YES

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DFI NAME  
8077 PHYSICAL ADDRESS

1 TO 38 CHARACTERS      1 TO 38 CHARACTERS

----- FOR DUI 003 -----

RESET ATTRIBUTE: YES

1 TO 18 CHARACTERS      1 TO 18 CHARACTERS

----- FOR DUI 004 -----

RESET ATTRIBUTE: YES

1 TO 14 CHARACTERS      1 TO 14 CHARACTERS

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DFI NAME DEFINITION  
8078 SIGNIFICANT DATE SPECIFIC CALENDAR DATE WHICH SIGNIFIES AN EVENT.

DATA STANDARD USAGE: IBS STATUS:

DUI NAME	EXPLANATION	APPLICABILITY
001 DATE OF BIRTH [Date_of_Birth]	THE DATE OF BIRTH OF THE REPORTED ENTITY IN THE FORMAT OF DDMMYYYY.	ENTITY MESSAGE

DATA ELEMENT TYPE	DATA REPRESENTATION TYPE
FIELD	PATTERN

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: YES					
2N(1-31)2N(1-12)4N	2N(1-31)2N(1-12)4N				

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DFI	NAME	DEFINITION
8081	FLIGHT PATH ANGLE	
DATA STANDARD USAGE: IBS		STATUS:
DUI NAME		EXPLANATION
001 FLIGHT PATH ANGLE [Flight_Path_Angle]		THE ANGLE OF THE VELOCITY VECTOR OF AN OBJECT WITH RESPECT TO THE LOCAL VERTICAL.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	FLOAT	ENTITY MESSAGE
DATA ITEM	VALUE RANGE	UNIT EQUIV MOD ACCURACY EXPLANATION
----- FOR DUI 001 -----		
RESET ATTRIBUTE: YES		
0 THROUGH 180 DEGREES		0 THROUGH 180 UNRANGED REPORTED IN DEGREES. 0 DEGREES = AWAY FROM EARTH

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DFI	NAME	DEFINITION			
8083	RADIO MODE				
	DATA STANDARD USAGE: IBS	STATUS:			
	DUI NAME	EXPLANATION			
	001 RADIO MODE [Radio_Mode]	DESCRIBES THE OPERATIONAL MODE OF A ENTITY MESSAGE RADIO.			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE				
FIELD	ENUMERATED				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: YES					
BEACON	1				BEACON MODE
VOICE	2				VOICE MODE
LOS_BURST	3				LINE-OF-SIGHT (LOS) DATABURST MODE
LPE_BURST	4				LOW PROBABILITY OF EXPLOITATION (LPE) DATABURST MODE
UHF_BURST	5				UHF SATCOM DATABURST MODE

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DFI	NAME	DEFINITION			
8084	MEASUREMENT TYPE				
DATA STANDARD USAGE: IBS		STATUS:			
DUI NAME		EXPLANATION			
001 COLLABORATION MEASUREMENT TYPE [Collab_Meas_Typ]		PROVIDES AN IDENTIFICATION OF THE KIND OF MEASUREMENT DATA COMPRISING A REPORTED MEASUREMENT SET.			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE				
FIELD	ENUMERATED				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: NO					
GEO_OBSERV	1	GEO-OBSERVABLE			
LOB_ONLY	2	LINE-OF-BEARING ONLY (DEFAULT VALUE)			

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DFI	NAME	DEFINITION	
8086	TIME ERROR		
DATA STANDARD USAGE: IBS		STATUS:	
DUI NAME		EXPLANATION	
001 TIME ERROR [Time_Err]		AMOUNT OF ERROR MEASURED AND/OR ESTIMATED IN A TIME-RELATED MEASUREMENT.	
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY	
FIELD	FLOAT	COLLABORATION MESSAGE	
DATA ITEM	VALUE RANGE	UNIT EQUIV MOD ACCURACY EXPLANATION	
----- FOR DUI 001 -----			
RESET ATTRIBUTE: NO			
0 THROUGH .000065533 SECONDS	0 THROUGH 65533E-9	UNRANGED	REPORTED IN SECONDS
GREATER THAN	0 THROUGH 65533E-9	UNRANGED	IF THE "GREATER THAN" QUALIFIER IS SET, THE ACTUAL VALUE FOR TIME ERROR IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).

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DFI	NAME	DEFINITION	
8087	ERROR MEASUREMENT		
DATA STANDARD USAGE: IBS		STATUS:	
DUI NAME		EXPLANATION	
001 ERROR SUM 3D [Err_Sum_3D]		THE VALUE RESULTING FROM AN ALGORITHM WHICH SUMS THE THREE DIMENSIONAL POSITIONAL VARIANCES CONTAINED IN THE COVARIANCE MATRIX PLUS THE SUM OF THE VELOCITY VARIANCES IN THE COVARIANCE MATRIX TIMES A SQUARED FACTOR. VALUE PROVIDES A REPRESENTATION OF THE POSITIONAL AND VELOCITY ERRORS FOR THE REPORTED ENTITY, SUCH AS A BALLISTIC MISSILE TRACK.	
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY	
FIELD	FLOAT	ENTITY MESSAGE	
DATA ITEM	VALUE RANGE	UNIT EQUIV MOD ACCURACY EXPLANATION	
----- FOR DUI 001 -----			
RESET ATTRIBUTE: NO			
0 THROUGH 21,663,320,000 SQUARE FEET	0 THROUGH 2.166332E10	UNRANGED	REPORTED IN SQUARE FEET
GREATER THAN	0 THROUGH 2.166332E10	UNRANGED	IF THE "GREATER THAN" QUALIFIER IS SET, THE ACTUAL VALUE FOR ERROR SUM 3D IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE GIVEN RANGE).

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DFI	NAME	DEFINITION		
8088	DATA PACKAGE LENGTH			
	DATA STANDARD USAGE: IBS	STATUS:		
DUI	NAME	EXPLANATION	APPLICABILITY	
001	DATA PACKAGE LENGTH [Data_Pkg_Len]	INDICATES THE NUMBER OF BYTES WITHIN A DATA PACKAGE NOT INCLUDING ANY HEADER.	CMF HEADER	
002	ARCHIVE RECORD LENGTH [Archive_Record_Len]	INDICATES THE NUMBER OF BYTES WITHIN THE DATA PACKAGE PORTION OF AN ARCHIVE RECORD INCLUDING ANY DATA HEADER, BUT NOT INCLUDING THE ARCHIVE RECORD HEADER.	CMF HEADER	
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE			
FIELD	INTEGER			
DATA ITEM	VALUE RANGE	UNIT	VALUE	
		EQUIV	MOD	ACCURACY
----- FOR DUIS 001 AND 002 -----				
RESET ATTRIBUTE: NO				
UNLIMITED	UNLIMITED			EXPLANATION

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APPENDIX B, PART I

DFI	NAME	DEFINITION			
8089	TRANSMIT/RECEIVE INDICATOR				
	DATA STANDARD USAGE: IBS	STATUS:			
	DUI NAME	EXPLANATION	APPLICABILITY		
001	FILE TRANSMIT/RECEIVE INDICATOR [File_Xmit_Rcv_Indic]	IDENTIFIES THE DIRECTION OF DATA AS PROCESSED PRIOR TO INCLUSION INTO AN ARCHIVE FILE (I.E. INPUT, OUTPUT OR SOME OF BOTH).	CMF HEADER		
002	RECORD TRANSMIT/RECEIVE INDICATOR [Record_Xmit_Rcv_Indic]	IDENTIFIES THE DIRECTION OF DATA AS PROCESSED PRIOR TO INCLUSION INTO AN ARCHIVE RECORD (I.E. INPUT OR OUTPUT).	CMF HEADER		
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE				
FIELD	ENUMERATED				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: NO					
XMIT_DATA	0				
RCV_DATA	1				
XMIT_AND_RCV_DATA	2				
----- FOR DUI 002 -----					
RESET ATTRIBUTE: NO					
XMIT_DATA	1				
RCV_DATA	2				

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DFI	NAME	DEFINITION	
8090	EXTERNAL CONNECTION		
	DATA STANDARD USAGE: IBS	STATUS:	
	DUI NAME	EXPLANATION	APPLICABILITY
001	EXTERNAL CONNECTION TYPE [Extern_Connect_Typ]	IDENTIFIES THE TYPE OF A LOCAL PHYSICAL CONNECTION.	CMF HEADER
	DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
	FIELD	ENUMERATED	
	DUI NAME	EXPLANATION	APPLICABILITY
002	EXTERNAL CONNECTION LABEL [Extern_Connect_Lbl]	A NAME, DESCRIPTION, OR OTHER TEXTUAL IDENTIFIER ASSOCIATED WITH A LOCAL EXTERNAL CONNECTION.	CMF HEADER
	DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
	FIELD	STRING	
	DATA ITEM	VALUE RANGE	UNIT EQUIV VALUE MOD ACCURACY EXPLANATION
----- FOR DUI 001 -----			
RESET ATTRIBUTE: NO			
LAN	1		
SERIAL	2		
----- FOR DUI 002 -----			
RESET ATTRIBUTE: NO			
UNLIMITED	UNLIMITED		

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DFI	NAME	DEFINITION	STATUS:
8091	DATA PACKAGE HEADER TYPE		
	DATA STANDARD USAGE: IBS		
	DUI NAME	EXPLANATION	APPLICABILITY
001	DATA PACKAGE HEADER TYPE [Data_Pkg_Hdr_Typ]	IDENTIFIES THE FORM OF HEADER RECEIVED WITH A DATA PACKAGE.	CMF HEADER
	DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
	FIELD	ENUMERATED	
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD ACCURACY EXPLANATION
----- FOR DUI 001 -----			
RESET ATTRIBUTE: NO			
CMF_X	1		IBS COMMON MESSAGE FORMAT - FULL XML REPRESENTATION
CMF_B	2		IBS COMMON MESSAGE FORMAT - BINARY REPRESENTATION
CTTH3	3		COMMANDER'S TACTICAL TERMINAL - HYBRID 3 CHANNEL
CTTHR	4		COMMANDER'S TACTICAL TERMINAL - HYBRID RECEIVER
JTT	5		JOINT TACTICAL TERMINAL
TIU	6		TIBS INTERFACE UNIT
ENTR	7		EMBEDDED NATIONAL TACTICAL RECEIVER
MATT	8		MULTI-MISSION ADVANCED TACTICAL TERMINAL
TRS	9		TACTICAL RECEIVE SEGMENT
BI	10		BROADCAST INTELLIGENCE

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DFI	NAME	DEFINITION			
8092	DATA PACKAGE CHECKSUM				
	DATA STANDARD USAGE: IBS	STATUS:			
DUI NAME	EXPLANATION	APPLICABILITY			
001 DATA PACKAGE CHECKSUM [Data_Pkg_Chksm]	PROVIDES A 16 BIT VALUE CALCULATED BY SUMMING THE INDIVIDUAL BYTES OF THE DATA PACKAGE, NOT INCLUDING ANY HEADER, AND IGNORING OVERFLOW WHICH ANY RECEIVER OF THE PACKAGE MAY RE- CALCULATE AND COMPARE TO VERIFY PACKAGE INTEGRITY.	CMF HEADER			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE				
FIELD	INTEGER				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: NO					
0 THROUGH 65,535	0 THROUGH 65535				

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DFI	NAME	DEFINITION	
8093	MIXED RECORDS INDICATOR		
	DATA STANDARD USAGE: IBS	STATUS:	
	DUI NAME	EXPLANATION	APPLICABILITY
	001 MIXED RECORDS INDICATOR [Mixed_Records_Indic]	IDENTIFIES THAT THE ARCHIVE FILE CONTAINS RECORDS OF MORE THAN ONE DATA FORMAT TYPE.	CMF HEADER
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	ENUMERATED		
DATA ITEM	VALUE RANGE	UNIT EQUIV MOD ACCURACY	EXPLANATION
----- FOR DUI 001 -----			
RESET ATTRIBUTE: NO			
MIXED_RECORDS	1		

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DFI NAME DEFINITION  
8094 SET TYPE

DATA STANDARD USAGE: IBS		STATUS:
DUI NAME	EXPLANATION	APPLICABILITY
001 FINAL SET TYPE [Final_Set_Typ]	IDENTIFIES THE NUMBER OF VALID ENTRIES IN THE LAST SET OF ENTRIES FOR A SERIES OF SETS.	COLLABORATION MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	ENUMERATED	

DATA ITEM VALUE RANGE UNIT EQUIV VALUE MOD ACCURACY EXPLANATION

----- FOR DUI 001 -----

RESET ATTRIBUTE: NO

SINGLE_ENTRY_SET	1
DOUBLE_ENTRY_SET	2

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DFI	NAME	DEFINITION				
8095	EMITTER FUNCTION CODE					
	DATA STANDARD USAGE: IBS	STATUS:				
	DUI NAME	EXPLANATION				
	001 EMITTER FUNCTION [Emtr_Func]	DESCRIBES THE EMITTER'S FUNCTION.				
	DATA ELEMENT TYPE	APPLICABILITY				
	REPRESENTATION TYPE	ENTITY MESSAGE				
	FIELD	STRING				
	DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----						
RESET ATTRIBUTE: YES						
AA	AA					THE VALUE FOR EMITTER FUNCTION IS A STRING OF ONE TO TWO CHARACTERS AS SHOWN IN THE "DATA ITEM". WITHIN THE EXPLANATION, "{CED}" INDICATES THE DEFINITION SOURCE IS THE NSA COMBINED EMITTER DATABASE (CED).
AB	AB					ANTI-AIRCRAFT FIRE CONTROL {CED}
AC	AC					AIRBORNE SEARCH & BOMBING {CED}
AG	AG					AIR SEARCH
AI	AI					AIRBORNE GUN LAYING
AJ	AJ					AIRBORNE INTERCEPT {CED}
AL	AL					ANTI-JAM
AM	AM					ALTIMETER {CED}
						AIRBORNE RECONNAISSANCE AND MAPPING {CED}

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DFI NAME  
8095 Emitter Function Code

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
AT	AT				AIR TRAFFIC CONTROL (ATC) {CED}
AV	AV				AVIAN CONTROL {CED}
BC	BC				BROADCAST
BM	BM				BOMBING
BN	BN				BEACON/TRANSPOUNDER {CED}
BO	BO				BOMBING THROUGH OVERCAST
BS	BS				BATTLEFIELD SURVEILLANCE {CED}
BT	BT				BALLOON TRACKER
C2	C2				COMMAND AND CONTROL
C3	C3				COMMAND, CONTROL, AND COMMUNICATIONS
CA	CA				CONTROLLED APPROACH {CED}
CI	CI				CONTROLLED INTERCEPT {CED}
CL	CL				CONTROL
CM	CM				COMMUNICATIONS
CR	CR				COMMUNICATIONS RECEIVER
CS	CS				COASTAL SURVEILLANCE {CED}
CT	CT				COMMUNICATIONS TRANSCEIVER
DC	DC				DECOY/MIMIC {CED}
DF	DF				DIRECTION FINDING
DL	DL				DATA LINK
DN	DN				DATA NETWORK
DR	DR				DRONE CONTROL
DT	DT				DATA TRANSMISSION {CED}
E3	E3				ELECTROMAGNETIC ENVIRONMENTAL EFFECTS Emitter
EA	EA				ELECTRONIC ATTACK
EM	EM				ELECTROMAGNETIC SENSOR
EO	EO				ELECTRO-OPTICS
ES	ES				EARTH SURVEILLANCE {CED}
EW	EW				EARLY WARNING {CED}
FC	FC				FIRE CONTROL {CED}
FD	FD				FIRING DEVICE
FS	FS				FREQUENCY STANDARD
GB	GB				GUN LAYING BEACON {CED}
GL	GL				GUN LAYING
GM	GM				GROUND MAPPING {CED}

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DFI NAME  
8095 Emitter Function Code

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
GT	GT				GROUND TRAFFIC CONTROL {CED}
GU	GU				GUIDANCE
GX	GX				GROUND CONTROLLED APPROACH SURVEILLANCE
HF	HF				HEIGHT FINDER {CED}
HR	HR				HIGH RESOLUTION
HS	HS				HARBOR SURVEILLANCE {CED}
ID	ID				INTRUSION DETECTOR SYSTEM
IF	IF				IDENTIFICATION, FRIEND OR FOE INTERROGATOR {CED}
IL	IL				INSTRUMENT LANDING SYSTEM {CED}
IR	IR				INFRARED
IS	IS				IONOSPHERIC SOUNDING {CED}
IT	IT				IDENTIFICATION, FRIEND OR FOE TRANSPONDER {CED}
IW	IW				INDICATIONS AND WARNING
JB	JB				JAMMING, BARRAGE {CED}
JC	JC				JAMMING, CLICK {CED}
JD	JD				JAMMING, DECEPTIVE {CED}
JF	JF				JAMMING, FREQUENCY SWEEP {CED}
JG	JG				JAMMING, GENERAL {CED}
JM	JM				JAMMING, NAVIGATION {CED}
JN	JN				JAMMING, NOISE {CED}
JO	JO				JAMMING, SATCOM {CED}
JP	JP				JAMMING, PULSED {CED}
JR	JR				JAMMING, REPEATER {CED}
JS	JS				JAMMING, SPOT NOISE {CED}
JT	JT				JAMMING, TRANSPONDER {CED}
MA	MA				MISSILE ACQUISITION {CED}
MC	MC				CONTROL, MISSILE {CED}
MD	MD				MISSILE DOWNLINK {CED}
ME	ME				METEOROLOGICAL {CED}
MF	MF				MULTI-FUNCTION (TWO OR MORE OF EW, TA, TT, MG, TI) {CED}
MG	MG				MISSILE GUIDANCE {CED}
MH	MH				MISSILE HOMING {CED}
MR	MR				MICROWAVE RELAY

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DFI NAME  
8095 Emitter Function Code

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
MT	MT				MISSILE TRACKING {CED}
NA	NA				NAVIGATION, GENERAL {CED}
ND	ND				NAVIGATION, DISTANCE MEASURING EQUIPMENT {CED}
NT	NT				NAVIGATION, TERRAIN FOLLOWING {CED}
NW	NW				NAVIGATION, WEATHER AVOIDANCE {CED}
OA	OA				OCEAN ACOUSTICS
PA	PA				PRECISION APPROACH
PD	PD				PASSIVE DETECTION
PE	PE				PRECISION ELEV RADAR
PF	PF				PROXIMITY FUSE {CED}
PI	PI				PROJECTILE INTERCEPT
PL	PL				PERSONNEL DETECTOR
PR	PR				PASSIVE RANGING
PW	PW				PROXIMITY WARNING
RA	RA				RADAR DATA
RC	RC				RADIO CONTROL
RD	RD				RADAR DECOY
RI	RI				INSTRUMENTATION {CED}
RO	RO				RANGE-ONLY {CED}
RR	RR				RADIO RELAY
RS	RS				RADIOSONDE {CED}
RT	RT				RADIO-TELEPHONE
SA	SA				SATELLITE TRACKER
SB	SB				SONOBUOY {CED}
SC	SC				SATELLITE COMMUNICATIONS
SE	SE				SURFACE SEARCH/EARLY WARNING
SH	SH				SEARCH/HEIGHT FINDER
SM	SM				SEISMIC SENSOR
SP	SP				SPACE {CED}
SR	SR				SEARCH
SS	SS				SURFACE SEARCH {CED}
ST	ST				SHELL TRACKING {CED}
SU	SU				SURVEILLANCE (RADAR)
SV	SV				SENSOR RELAY
SX	SX				SURVEILLANCE IDENTIFICATION FEATURE (SIF) TRANSPONDER
TA	TA				TARGET ACQUISITION {CED}

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DFI NAME  
8095 Emitter Function Code

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
TD		TD						3-D RADAR
TF		TF						TAIL FIRE CONTROL
TG		TG						TRACKING GUIDANCE
TI		TI						TARGET ILLUMINATION {CED}
TJ		TJ						TACTICAL JAMMING (SYSTEM)
TR		TR						TRANSMITTER/RECEIVER COMMUNICATIONS
TS		TS						TROPO-SCATTER
TT		TT						TARGET TRACKING {CED}
TV		TV						TELEVISION {CED}
TY		TY						TELETYPE
UI		UI						UNIDENTIFIED
UN		UN						UNKNOWN {CED}
VA		VA						VIDEO DATA
VC		VC						VOICE COMM
VD		VD						VEHICLE DETECTOR
VR		VR						VIDEO REMOTING {CED}
XP		XP						EXPERIMENTAL OR TRAINER {CED}

**UNCLASSIFIED**

B1-561

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION		
8096	JITTER RANGE			
DATA STANDARD USAGE: IBS		STATUS:		
DUI NAME		EXPLANATION		
001 JITTER RANGE [Jitter_Rng]		JITTER MEASUREMENT REFLECTED BY A RANDOM VARIATION OF A RANGE VALUE CENTERED AT THE PULSE REPETITION INTERVAL (PRI).		
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY		
FIELD	INTEGER	ENTITY MESSAGE		
DATA ITEM	VALUE RANGE	UNIT EQUIV VALUE	ACCURACY	EXPLANATION
----- FOR DUI 001 -----				
RESET ATTRIBUTE: YES				
1 THROUGH 8,388,607	1 THROUGH 8388607	MULT: IMPLIED 4E-9	REPORTED IN SECONDS. AFTER APPLICATION OF THE VALUE MULTIPLIER, THE VALUE OF JITTER RANGE WILL BE 4 THROUGH 33,554,428 NANOSECONDS.	

**UNCLASSIFIED**

B1-562

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	
8097	FREQUENCY HOP TRANSMISSION CHARACTERISTICS		
	DATA STANDARD USAGE: IBS	STATUS:	
	DUI NAME	EXPLANATION	APPLICABILITY
	001 HOP DWELL [Hop_Dwell]	THE PERIOD OF TIME A FREQUENCY HOP TRANSMISSION DWELLS ON AN INDIVIDUAL RADIO FREQUENCY.	ENTITY MESSAGE
	DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
	FIELD	INTEGER	
	DUI NAME	EXPLANATION	APPLICABILITY
	002 HOP RATE [Hop_Rate]	INDICATES THE HOP RATE OF A FREQUENCY HOP TRANSMISSION.	ENTITY MESSAGE
	003 HOP SPACING ELEMENT [Hop_Spacing]	INDICATES THE SPACING BETWEEN HOPS OF A FREQUENCY HOP TRANSMISSION.	ENTITY MESSAGE
	DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
	FIELD	FLOAT	
	DUI NAME	EXPLANATION	APPLICABILITY
	004 HOP SPREADER TYPE [Hop_Spread_Typ]	A DESCRIPTION OF THE CHARACTERISTIC PARAMETERS OF FREQUENCY HOPPING/DIRECT SEQUENCE SPREAD SPECTRUM TYPE COMMUNICATIONS SYSTEMS.	ENTITY MESSAGE
	DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	

**UNCLASSIFIED**

B1-563

**UNCLASSIFIED**

MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8097 FREQUENCY HOP TRANSMISSION  
CHARACTERISTICS

FIELD ENUMERATED

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: YES					
1 THROUGH 16,383	1 THROUGH 16383		MULT: IMPLIED 5E-8	REPORTED IN SECONDS. AFTER APPLICATION OF THE VALUE MULTIPLIER, THE VALUE OF HOP DWELL WILL BE 0.05 THROUGH 819.15 MICROSECONDS.	
----- FOR DUI 002 -----					
RESET ATTRIBUTE: YES					
1 THROUGH 999 GHOPS PER SECOND	1 THROUGH 999E9		UNRANGED	REPORTED IN HOPS PER SECOND.	
----- FOR DUI 003 -----					
RESET ATTRIBUTE: YES					
0 THROUGH 999 GHZ	0 THROUGH 999E9		UNRANGED	REPORTED IN HERTZ.	
----- FOR DUI 004 -----					
RESET ATTRIBUTE: YES					
FREQ_HOPR SPREADER HYBRID	1 2 3			FREQUENCY HOPPER	

**UNCLASSIFIED**

B1-564

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8098 JAMMING INDICATOR DEFINITION  
INDICATES THE PRESENCE OR ABSENCE OF JAMMING ON THE REFERENCED  
EMITTER.

DATA STANDARD USAGE: IBS STATUS:  
  
DUI NAME EXPLANATION APPLICABILITY  
001 JAMMING INDICATOR [Jam\_Indic] INDICATES WHETHER JAMMING IS ENTITY MESSAGE  
PRESENT OR ABSENT.

DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE

FIELD PACKED COMPONENT

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: YES					
NO_JAMMING_PRESENT	1	(DEFAULT VALUE)			
JAMMING_PRESENT	2				

**UNCLASSIFIED**

B1-565

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION
8099	PULSE WIDTH SWITCHING INDICATOR	
DATA STANDARD USAGE: IBS		STATUS:
DUI NAME		EXPLANATION
001 PULSE WIDTH SWITCHING INDICATOR [PW_Swch_Indic]		INDICATES THE REFERENCED Emitter IS EXHIBITING PULSE WIDTH SWITCHING CHARACTERISTICS.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	ENUMERATED	
DATA ITEM	VALUE RANGE	UNIT EQUIV MOD ACCURACY EXPLANATION
----- FOR DUI 001 -----		
RESET ATTRIBUTE: YES		
PW_SWCH_PRSNT	1	PULSE WIDTH SWITCHING PRESENT
PW_SWCH_NOT_PRSNT	2	PULSE WIDTH SWITCHING NOT PRESENT

**UNCLASSIFIED**

B1-566

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION		
8100	ALGORITHM			
	DATA STANDARD USAGE: IBS	STATUS:		
	DUI NAME	EXPLANATION	APPLICABILITY	
001	ALGORITHM FLOAT VALUE [Alg_Float_Value]	THE ALGORITHM FLOAT VALUE.	ENTITY MESSAGE	
	DATA ELEMENT TYPE	REPRESENTATION TYPE		
	FIELD	FLOAT		
	DUI NAME	EXPLANATION	APPLICABILITY	
002	ALGORITHM TEXT VALUE [Alg_Txt_Value]	THE ALGORITHM TEXT VALUE.	ENTITY MESSAGE	
	DATA ELEMENT TYPE	REPRESENTATION TYPE		
003	ALGORITHM NAME [Alg_Name]	DESIGNATES THE ALGORITHM USED TO PRODUCE RELATED ALGORITHM VALUE SET.	ENTITY MESSAGE	
	FIELD	STRING		
	DATA ITEM	VALUE RANGE	UNIT EQUIV MOD ACCURACY EXPLANATION	
----- FOR DUI 001 -----				
RESET ATTRIBUTE: NO				
-999,000,000,000 THROUGH 999,000,000,000		-999E9 THROUGH 999E9	UNRANGED	UNIT IS DEPENDENT UPON ALGORITHM UTILIZED.

**UNCLASSIFIED**

B1-567

**UNCLASSIFIED**

MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8100 ALGORITHM

----- FOR DUI 002 -----

RESET ATTRIBUTE: NO

1 TO 25 CHARACTERS      1 TO 25 CHARACTERS

----- FOR DUI 003 -----

RESET ATTRIBUTE: NO

1 TO 9 CHARACTERS      1 TO 9 CHARACTERS

**UNCLASSIFIED**

B1-568

**UNCLASSIFIED**

MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION
8101	BEAM CHARACTERISTICS	
	DATA STANDARD USAGE: IBS	STATUS:
	DUI NAME	EXPLANATION
001	BEAM WIDTH [Beam_Width]	INDICATES THE 3 DB BEAM WIDTH OF THE MAIN LOBE OF THE Emitter.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	FLOAT	ENTITY MESSAGE

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: YES					
0 THROUGH 360 DEGREES EXCLUSIVE	0 THROUGH 360 EXCLUSIVE		1E-1 THROUGH 10		REPORTED IN DEGREES. DEFAULT ACCURACY = 1E-1

**UNCLASSIFIED**

B1-569

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	
8102	VESSEL CHARACTERISTICS		
	DATA STANDARD USAGE:	IBS	STATUS:
	DUI NAME	EXPLANATION	APPLICABILITY
001	VESSEL CLASS [Vessel_Class]	CLASS OF THE VESSEL.	ENTITY MESSAGE
	DATA ELEMENT TYPE	REPRESENTATION TYPE	
	FIELD	STRING	
	DUI NAME	EXPLANATION	APPLICABILITY
002	VESSEL DRAFT [Vessel_Draft]	DEPTH OF VESSEL'S HULL UNDER THE WATERLINE. OFTEN DETERMINED FROM PAINTED SCALE MARKINGS ON HULL.	ENTITY MESSAGE
	DATA ELEMENT TYPE	REPRESENTATION TYPE	
	FIELD	INTEGER	
	DUI NAME	EXPLANATION	APPLICABILITY
003	UPRIGHT STRUCTURE NAME [Upright_Structure_Name]	NAME OF AN UPRIGHT STRUCTURE ABOARD A VESSEL.	ENTITY MESSAGE
	DATA ELEMENT TYPE	REPRESENTATION TYPE	
004	VESSEL GROUP TYPE [Vessel_Grp_Typ]	IDENTIFIES THE VESSEL SUPERSTRUCTURE ABOVE THE HULL.	ENTITY MESSAGE
	FIELD		
005	VESSEL RAISE CODE [Vessel_Raise_Code]	DEFINES THE HULL PROFILE FROM BOW TO STERN AS HIGHER THAN OR EQUAL TO THE VESSEL'S MAIN DECK (SUPERSTRUCTURE EXCLUDED).	ENTITY MESSAGE
	DUI NAME	EXPLANATION	APPLICABILITY

**UNCLASSIFIED**

B1-570

**UNCLASSIFIED**

MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8102 VESSEL CHARACTERISTICS

DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE

FIELD ENUMERATED

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
-----------	-------------	------------	-----------	----------	-------------

----- FOR DUI 001 -----

RESET ATTRIBUTE: YES

1 TO 25 CHARACTERS 1 TO 25 CHARACTERS

----- FOR DUI 002 -----

RESET ATTRIBUTE: YES

1 THROUGH 100 FEET 1 THROUGH 100

REPORTED IN FEET.

----- FOR DUI 003 -----

RESET ATTRIBUTE: YES

CRANE	1
FUNNELS	2
GANTRY	3
KINGPOST	4
MAST	5

**UNCLASSIFIED**

B1-571

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8102 VESSEL CHARACTERISTICS

----- FOR DUI 004 -----

RESET ATTRIBUTE: YES

GRP_1_LARGE	1	LARGE SUPERSTRUCTURE EXCEEDING 1/3 OF THE OVERALL LENGTH OF THE VESSEL.
GRP_2_BLOCK	2	COMPOSITE (BLOCK) SUPERSTRUCTURE, FUNNELS LOCATED AMID SHIP.
GRP_3_STACK_AFT	3	STACK AFT. FUNNEL LOCATED ON AFT THIRD OF THE VESSEL.

----- FOR DUI 005 -----

RESET ATTRIBUTE: YES

FLUSH_DECK	1	RAISE CODE 1
RAISED_1	2	RAISE CODE 2
RAISED_2	3	RAISE CODE 1-2
RAISED_1_2	4	RAISE CODE 1-3
RAISED_1_3	5	RAISE CODE 1-2-3
RAISED_1_2_3	6	RAISE CODE 1-23
RAISED_1_23	7	RAISE CODE 1-LONG 2-3
RAISED_1_LONG_2_3	8	RAISE CODE 12-3
RAISED_12_3	9	RAISE CODE 2-3
RAISED_2_3	10	RAISE CODE 3
RAISED_3	11	

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B1-572

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION			
8103	RESOURCE LOCATOR				
DATA STANDARD USAGE: IBS		STATUS:			
DUI NAME		EXPLANATION			
001 UNIFORM RESOURCE LOCATOR (URL) [URL]		THE SOURCE FILE NAME AND/OR INTERNET PROTOCOL (IP) ADDRESS AND/OR PATH THAT CONTAINS COMPLETE OR RELATIVE PATH TO A RESOURCE.			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY			
FIELD	STRING				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: YES					
1 TO 128 CHARACTERS	1 TO 128 CHARACTERS				

**UNCLASSIFIED**

B1-573

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION
8104	SENSOR STRING	THE ELEMENTS THAT DESCRIBE A STRING OF SENSORS.
	DATA STANDARD USAGE: IBS	STATUS:
	DUI NAME	EXPLANATION
001	SENSOR MONITOR [Sensr_Monitor]	IDENTIFIES THE SENSOR MONITORING SERVICE, AGENCY, OR ORGANIZATION.
002	SENSOR EMPLACER/IMPLANTER [Sensr_Emplacer_Implanter]	IDENTIFIES THE SERVICE, AGENCY, OR ORGANIZATION WHICH PERFORMED THE SENSOR EMPLACEMENT OR IMPLANTATION.
003	SENSOR STATUS [Sensr_Stat]	IDENTIFIES THE STATUS OF THE SENSOR STRING.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	ENUMERATED	
	DUI NAME	EXPLANATION
004	SENSOR STRING NUMBER [Sensr_String_Num]	PROVIDES AN IDENTIFICATION FOR A STRING OF ONE OR MORE SENSORS.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
FIELD	INTEGER	

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APPENDIX B, PART I

DFI NAME  
8104 SENSOR STRING

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUIS 001 AND 002 -----					
RESET ATTRIBUTE: NO					
OTHR	0				
UNK	1				
ARMY	2				
AIR_FORCE	3				
MARINES	4				
NAVY	5				
----- FOR DUI 003 -----					
RESET ATTRIBUTE: NO					
UNK	0				
ACTIVE	1				
AWAITING_ACTIVATION	2				
DEACTIVATED	3				
SIMULATED	4				
----- FOR DUI 004 -----					
RESET ATTRIBUTE: NO					
1 THROUGH 999	1 THROUGH 999				

**UNCLASSIFIED**

B1-575

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME DEFINITION  
8105 SOUND PRESSURE THE CHARACTERIZATION OF THE SOUND PRESSURE AS RELATED TO THE TARGET.

DATA STANDARD USAGE: IBS STATUS:

DUI NAME	EXPLANATION	APPLICABILITY
001 MAXIMUM SOUND PRESSURE [Max_Sound_Pressure]	THE MAXIMUM SOUND PRESSURE AT ANY POINT IN THE DETECTION RADIUS OF A SENSOR.	ENTITY MESSAGE

DATA ELEMENT TYPE  
FIELD FLOAT

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: YES					
0 THROUGH 999 DECIBELS	0 THROUGH 999			IMPLIED	MEASURED IN DECIBELS

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B1-576

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME DEFINITION  
8106 PLACEMENT PLACEMENT OF AN OBJECT OR OBJECTS WITH RESPECT TO AN ENTITY.

DATA STANDARD USAGE: IBS STATUS:

DUI NAME EXPLANATION APPLICABILITY

001 PLACEMENT ALONG LENGTH [Placement\_Along\_Len] PLACEMENT OF AN OBJECT OR OBJECTS ALONG THE LENGTH OF AN ENTITY. ENTITY MESSAGE

002 PLACEMENT ALONG HEIGHT [Placement\_Along\_Height] PLACEMENT OF AN OBJECT OR OBJECTS ALONG THE HEIGHT OF AN ENTITY. ENTITY MESSAGE

003 PLACEMENT ALONG WIDTH [Placement\_Along\_Width] PLACEMENT OF AN OBJECT OR OBJECTS ALONG THE WIDTH OF AN ENTITY. ENTITY MESSAGE

DATA ELEMENT TYPE DATA REPRESENTATION TYPE

FIELD ENUMERATED

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: YES					
FORWARD	1				
CENTER	2				
AFT	3				
----- FOR DUI 002 -----					
RESET ATTRIBUTE: YES					
LOWER	1				
CENTER	2				
UPPER	3				
----- FOR DUI 003 -----					
RESET ATTRIBUTE: YES					

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APPENDIX B, PART I

DFI      NAME  
8106    PLACEMENT

LEFT	1
CENTER	2
RIGHT	3

**UNCLASSIFIED**

B1-578

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	
8107	EMITTER PULSE		
	DATA STANDARD USAGE: IBS	STATUS:	
	DUI NAME	EXPLANATION	APPLICABILITY
001	TOTAL NUMBER OF PULSES [Total_Num_Pulses]	THE TOTAL NUMBER OF PULSES COLLECTED FROM AN Emitter DURING A COLLECTION OPPORTUNITY (REGARDLESS OF GROUPING).	ENTITY MESSAGE
002	TOTAL NUMBER OF PULSE GROUPS [Total_Num_Pulse_Grps]	NUMBER OF OBSERVED PULSE GROUPS DURING A COLLECTION OPPORTUNITY.	ENTITY MESSAGE
003	NUMBER OF PULSES IN GROUP [Num_Pulses_In_Grp]	THE NUMBER OF PULSES WITHIN A SPECIFIC PULSE GROUP.	ENTITY MESSAGE
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE		
FIELD	INTEGER		
DATA ITEM	VALUE RANGE	UNIT EQUIV MOD ACCURACY	EXPLANATION
----- FOR DUIS 001 AND 002 -----			
RESET ATTRIBUTE: YES			
1 THROUGH 9,999,999	1 THROUGH 9999999		
----- FOR DUI 003 -----			
RESET ATTRIBUTE: YES			
1 THROUGH 999,999	1 THROUGH 999999		

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION				
8108	VERSION					
	DATA STANDARD USAGE: IBS	STATUS:				
	DUI NAME	EXPLANATION				
	001 VERSION [Version]	DESIGNATES THE VERSION OF SOFTWARE, DOCUMENT, ALGORITHM, ETC.				
	DATA ELEMENT TYPE	APPLICABILITY				
	REPRESENTATION TYPE	ENTITY MESSAGE, COLLABORATION MESSAGE				
	FIELD	STRING				
	DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
	----- FOR DUI 001 -----					
	RESET ATTRIBUTE: NO					
	1 TO 9 CHARACTERS	1 TO 9 CHARACTERS				

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APPENDIX B, PART IDFI      NAME  
8109    BITMAP

## DEFINITION

DATA STANDARD USAGE:    IBS

## STATUS:

DUI NAME

## EXPLANATION

## APPLICABILITY

001 SEVEN BIT MAP  
[Seven\_Bit\_Map]SERIES OF SEVEN BITS USEFUL FOR  
VARIETY OF BIT-BASED DATA TO BE  
READ FROM LEFT-TO-RIGHT. HANDLED  
AS AN INTEGER BY READING 7-BITS  
AS A DECIMAL VALUE.

ENTITY MESSAGE

DATA            DATA  
ELEMENT        REPRESENTATION  
TYPE            TYPE

FIELD          INTEGER

DATA ITEM        VALUE RANGE        UNIT    VALUE  
    EQUIV   MOD    ACCURACY   EXPLANATION

----- FOR DUI 001 -----

RESET ATTRIBUTE: NO

1 THROUGH 127        1 THROUGH 127

LEFT-MOST BIT (MSB) REPRESENTS  
THE FIRST BIT OF DATA.  
RIGHT-MOST BIT (LSB)  
REPRESENTS SEVENTH BIT OF  
DATA.  
EXAMPLE: SEVEN BITS SET AS  
"1010101" IN BINARY WOULD BE  
REPORTED AS "85" IN  
DECIMAL. ONE BIT SET TO "1"  
WOULD BE PADDED TO  
"1000000" IN BINARY AND  
REPORTED AS "64" IN  
DECIMAL.**UNCLASSIFIED**

B1-581

UNCLASSIFIED

**MIL-STD-6018C  
APPENDIX B, PART I**

DFI 8110	NAME COUNT	DEFINITION			
DATA STANDARD USAGE: IBS		STATUS:			
DUI NAME		EXPLANATION			
001 REPLICATION COUNT [Replication_Cnt]		IDENTIFIES THE NUMBER OF REPEATED TRANSMISSIONS, IN ADDITION TO THE ORIGINAL TRANSMISSION, TO BE INITIATED BY THE TACTICAL DATA PROCESSOR (OR RELAY OR FORWARDER) OVER A GIVEN PATH OR PATH SEGMENT.			
CMF HEADER					
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE				
FIELD	INTEGER				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: NO					
1 THROUGH 5	1 THROUGH 5				

DFI NO 8110 PAGE 1 OF 1

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI	NAME	DEFINITION	
8111	DATA ELEMENT TYPE		
	DATA STANDARD USAGE: IBS	STATUS:	
	DUI NAME	EXPLANATION	APPLICABILITY
001	UIC STRING [UIC_String]	THE VALUE OF AN URGENT INTERIM CAPABILITY (UIC) FIELD WHEN THAT FIELD IS OF TYPE STRING.	ENTITY MESSAGE, BLOB TRANSFER MESSAGE
	DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
	FIELD	STRING	
	DUI NAME	EXPLANATION	APPLICABILITY
002	UIC INTEGER [UIC_Integer]	THE VALUE OF AN URGENT INTERIM CAPABILITY (UIC) FIELD WHEN THAT FIELD IS OF TYPE INTEGER.	ENTITY MESSAGE, BLOB TRANSFER MESSAGE
	DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
	FIELD	INTEGER	
	DUI NAME	EXPLANATION	APPLICABILITY
003	UIC FLOAT [UIC_Float]	THE VALUE OF AN URGENT INTERIM CAPABILITY (UIC) FIELD WHEN THAT FIELD IS OF TYPE FLOAT.	ENTITY MESSAGE, BLOB TRANSFER MESSAGE
	DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	
	FIELD	FLOAT	

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APPENDIX B, PART I

DFI NAME  
8111 DATA ELEMENT TYPE

DATA  
ELEMENT  
TYPE

DATA  
REPRESENTATION  
TYPE

DUI NAME

EXPLANATION

APPLICABILITY

004 LOCAL CAPABILITY STRING  
[Local\_Capab\_String]

THE VALUE OF A LOCAL SCOPE ELEMENTS  
CAPABILITY FIELD WHEN THAT FIELD  
IS OF TYPE STRING.

CMF HEADER

DATA  
ELEMENT  
TYPE

DATA  
REPRESENTATION  
TYPE

FIELD STRING

DUI NAME

EXPLANATION

APPLICABILITY

005 LOCAL CAPABILITY INTEGER  
[Local\_Capab\_Integer]

THE VALUE OF A LOCAL SCOPE ELEMENTS  
CAPABILITY FIELD WHEN THAT FIELD  
IS OF TYPE INTEGER.

CMF HEADER

DATA  
ELEMENT  
TYPE

DATA  
REPRESENTATION  
TYPE

FIELD INTEGER

DUI NAME

EXPLANATION

APPLICABILITY

006 LOCAL CAPABILITY FLOAT  
[Local\_Capab\_Float]

THE VALUE OF A LOCAL SCOPE ELEMENTS  
CAPABILITY FIELD WHEN THAT FIELD  
IS OF TYPE FLOAT.

CMF HEADER

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B1-584

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8111 DATA ELEMENT TYPE

DATA DATA  
ELEMENT REPRESENTATION  
TYPE TYPE

FIELD FLOAT

DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
-----------	-------------	------------	-----------	----------	-------------

----- FOR DUI 001 -----

RESET ATTRIBUTE: YES

1 TO 40 CHARACTERS 1 TO 40 CHARACTERS

----- FOR DUI 002 -----

RESET ATTRIBUTE: YES

NO LIMIT NO LIMIT DEFINED BY THE UIC ICR.

----- FOR DUI 003 -----

RESET ATTRIBUTE: YES

NO LIMIT NO LIMIT DEFINED BY THE UIC ICR.  
NO LIMIT,  
LESS  
THAN,  
GREATER  
THAN

GREATER\_THAN NO LIMIT  
NO LIMIT,  
LESS  
THAN,  
GREATER  
THAN  
IF "GREATER THAN" VALUE  
QUALIFIER IS SET, THE  
ACTUAL VALUE IS SOMETHING  
GREATER THAN THE VALUE  
BEING REPORTED (FROM WITHIN  
THE RANGE AS DEFINED BY THE  
UIC ICR).

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART I

DFI NAME  
8111 DATA ELEMENT TYPE

DATA ITEM (CONTINUED)	VALUE RANGE	UNIT EQUIV	MOD	ACCURACY	EXPLANATION
LESS_THAN	NO LIMIT			NO LIMIT, LESS THAN, GREATER THAN	IF "LESS THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE IS SOMETHING LESS THAN THE VALUE BEING REPORTED (FROM WITHIN THE RANGE AS DEFINED BY THE UIC ICR).
----- FOR DUI 004 -----					
RESET ATTRIBUTE: YES					
NO LIMIT	NO LIMIT				LIMIT DEFINED BY THE APPLICATION WHICH PRODUCES THE LOCAL SCOPE ELEMENTS CAPABILITY DATA.
----- FOR DUI 005 -----					
RESET ATTRIBUTE: YES					
NO LIMIT	NO LIMIT				LIMIT DEFINED BY THE APPLICATION WHICH PRODUCES THE LOCAL SCOPE ELEMENTS CAPABILITY DATA.
----- FOR DUI 006 -----					
RESET ATTRIBUTE: YES					
NO LIMIT	NO LIMIT			IMPLIED	LIMIT DEFINED BY THE APPLICATION WHICH PRODUCES THE LOCAL SCOPE ELEMENTS CAPABILITY DATA.
GREATER_THAN	NO LIMIT			IMPLIED	IF THE "GREATER THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE IS SOMETHING GREATER THAN THE VALUE BEING REPORTED (FROM WITHIN THE RANGE AS DEFINED BY THE LOCAL SCOPE ELEMENTS CAPABILITY APPLICATION).

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DFI NAME  
8111 DATA ELEMENT TYPE

DATA ITEM (CONTINUED) VALUE RANGE  
LESS\_THAN NO LIMIT

UNIT	VALUE		
EQUIV	MOD	ACCURACY	EXPLANATION
		IMPLIED	IF THE "LESS THAN" VALUE QUALIFIER IS SET, THE ACTUAL VALUE IS SOMETHING LESS THAN THE VALUE BEING REPORTED (FROM WITHIN THE RANGE AS DEFINED BY THE LOCAL SCOPE ELEMENTS CAPABILITY APPLICATION).

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DFI	NAME	DEFINITION				
8112	EXTERNAL SENSOR CODE					
	DATA STANDARD USAGE: IBS	STATUS:				
	DUI NAME	EXPLANATION				
	001 EXTERNAL SENSOR CODE [External_Sensr_Code]	CODED DATA FROM A SENSOR EXTERNAL TO IBS.				
	DATA ELEMENT TYPE	REPRESENTATION				
	TYPE	TYPE				
	FIELD	STRING				
	DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
	----- FOR DUI 001 -----					
	RESET ATTRIBUTE: YES					
	1 TO 40 CHARACTERS	1 TO 40 CHARACTERS				

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DFI	NAME	DEFINITION
8113	CANNED MESSAGE	A MESSAGE CONTAINING PRE-FORMATTED (CANNED) VALUES.
DATA STANDARD USAGE: IBS		STATUS:
DUI NAME		EXPLANATION
001 PR/CSAR CANNED MESSAGE [PR_CSAR_Canned_Msg]		A PRE-FORMATTED (CANNED) SURVIVOR MESSAGE THAT CORRESPONDS TO A VALUE GENERATED FROM A PR/CSAR RADIO.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	ENUMERATED	
DATA ITEM	VALUE RANGE	UNIT EQUIV MOD ACCURACY EXPLANATION
----- FOR DUI 001 -----		
RESET ATTRIBUTE: YES		
NO_MESSAGE	1	NO MESSAGE
NO	2	
YES	3	YES
STAND_BY	4	STAND BY
REPEAT_MESSAGE	5	REPEAT MESSAGE
INJURED_AND_CANT_MOVE --_NO_KNOWN_ HOSTILES	6	INJURED AND CAN'T MOVE - NO KNOWN HOSTILES
INJURED_AND_CANT_MOVE -- HOSTILES_NEARBY	7	INJURED AND CAN'T MOVE - HOSTILES NEARBY
UNINJURED_AND_CANT_MOVE -- HOSTILES_NEARBY	8	UNINJURED AND CAN'T MOVE - HOSTILES NEARBY
UNINJURED_AND_NO_KNOWN_HOSTILES	9	UNINJURED AND NO KNOWN HOSTILES
INJURED -- LIMITED_MOBILITY	10	INJURED - LIMITED MOBILITY
LIFE -- THREATENING_INJURY -- PICKUP_ASAP	11	LIFE-THREATENING INJURY - PICKUP ASAP

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8113 CANNED MESSAGE

DATA ITEM (CONTINUED)	VALUE	RANGE	UNIT	VALUE	EQUIV	MOD	ACCURACY	EXPLANATION
ABORT_RESCUE	12							ABORT RESCUE
PICKUP_AREA_SECURE	13							PICKUP AREA SECURE
LOW_BATTERY_MONITORING_BY_SPIN_SCHEDULE	14							LOW BATTERY MONITORING BY SPIN SCHEDULE
DO_NOT_ATTEMPT_DAY_TIME_PICKUP	15							DO NOT ATTEMPT DAY TIME PICKUP
I_AM_WELL_CONCEALED	16							I AM WELL CONCEALED
CONCEALMENT_IS_DIFFICULT_-_PICKUP_ASAP	17							CONCEALMENT IS DIFFICULT - PICKUP ASAP
NEAREST_THREAT_IS_NORTH_OF_MY_POSITION	18							NEAREST THREAT IS NORTH OF MY POSITION
NEAREST_THREAT_IS_SOUTH_OF_MY_POSITION	19							NEAREST THREAT IS SOUTH OF MY POSITION
NEAREST_THREAT_IS_EAST_OF_MY_POSITION	20							NEAREST THREAT IS EAST OF MY POSITION
NEAREST_THREAT_IS_WEST_OF_MY_POSITION	21							NEAREST THREAT IS WEST OF MY POSITION
WHAT_IS_ETA_FOR_PICKUP?	22							WHAT IS ETA FOR PICKUP?
MOVING_TO_HIGHER_GROUND_-_SIGNAL_WEAK	23							MOVING TO HIGHER GROUND - SIGNAL WEAK
IN_WATER_-_NO_FLOTATION	24							IN WATER - NO FLOTATION
IN_WATER_-_WITH_FLOTATION	25							IN WATER - WITH FLOTATION
IN_LIFE_RAFT	26							IN LIFE RAFT
IN_WATER_-_VESSEL_SIGHTED	27							IN WATER - VESSEL SIGHTED
IN_HEAVY_SEAS	28							IN HEAVY SEAS
LAND_IN_SIGHT	29							LAND IN SIGHT
WITH_CREW	30							WITH CREW
SIGHTED_OTHER_PARACHUTES	31							SIGHTED OTHER PARACHUTES
MISSION_SPECIFIC_MESSAGE	32							MISSION SPECIFIC MESSAGE

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DFI	NAME	DEFINITION
8114	SUBJECT	A DESCRIPTION OF THE TOPIC OR ITEM OF INTEREST BEING CONVEYED IN A MESSAGE OR COMMUNICATION.
DATA STANDARD USAGE: IBS		STATUS:
DUI NAME		EXPLANATION
001 NOTIFICATION SUBJECT [Notif_Subj]		INDICATES THE TOPIC OR TITLE OF AN OPERATIONS NOTIFICATION MESSAGE.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	STRING	
DATA ITEM	VALUE RANGE	UNIT EQUIV MOD ACCURACY EXPLANATION
----- FOR DUI 001 -----		
RESET ATTRIBUTE: NO		
1 TO 28 CHARACTERS	1 TO 28 CHARACTERS	

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DFI	NAME	DEFINITION			
8115	NOTIFICATION TYPE				
	DATA STANDARD USAGE: IBS	STATUS:			
	DUI NAME	EXPLANATION			
	001 NOTIFICATION TYPE [Notif_Typ]	INDICATES THE CATEGORY OF ADMINISTRATIVE INFORMATION OR ACTION PROVIDED IN AN OPERATIONS NOTIFICATION MESSAGE.			
	DATA ELEMENT TYPE	APPLICABILITY			
	REPRESENTATION TYPE	OPERATIONS NOTIFICATION MESSAGE			
	FIELD	ENUMERATED			
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: NO					
SYSTEM_STATUS	1				
SYSTEM_CHANGE	2				
ALERT	3				
ANNOUNCEMENT	4				

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DFI	NAME	DEFINITION			
8116	ORGANIZATION IDENTIFIER				
DATA STANDARD USAGE: IBS		STATUS:			
DUI NAME		EXPLANATION			
001 PR/CSAR GROUP IDENTIFIER [PR_CSAR_Grp_ID]		REPRESENTS A SUBORDINATE ELEMENT OF THE ORGANIZATION RESPONSIBLE FOR THE PR/CSAR ASSET (RADIO).			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY			
FIELD	PATTERN				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: YES					
6Y	6Y	THE VALUES ARE SIX PRINTABLE 7-BIT ASCII CHARACTERS.			

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DFI	NAME	DEFINITION
8118	WEAPON PROFILE	CURRENT OPERATING PROFILE OF WEAPON.
	DATA STANDARD USAGE: IBS	STATUS:
	DUI NAME	EXPLANATION
	001 WEAPON STATE [Weapon_State]	IDENTIFIES THE CURRENT MISSION PHASE OR POSTURE OF AN ARMAMENT.
	002 WEAPON ATTACK STRATEGY [Weapon_Attk_Strategy]	INDICATES THE METHOD, REASON, OR IMPETUS BY WHICH THE WEAPON IS ATTACKING ITS TARGET.
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY
FIELD	ENUMERATED	ENTITY MESSAGE
DATA ITEM	VALUE RANGE	UNIT EQUIV MOD ACCURACY EXPLANATION
----- FOR DUI 001 -----		
RESET ATTRIBUTE: YES		
OTHER_STATE_BHI	1	OTHER STATE - BOMB HIT INDICATION
SEARCH_BHI	2	SEARCH - BOMB HIT INDICATION
TGT_ACQUIRED_BHI	3	TARGET ACQUIRED - BOMB HIT INDICATION
ABORT_BHI	4	ABORT - BOMB HIT INDICATION
DIVERT_BHI	5	DIVERT - BOMB HIT INDICATION
FLEX_SHOT_BHI	6	FLEX SHOT - BOMB HIT INDICATION
----- FOR DUI 002 -----		
RESET ATTRIBUTE: YES		
SELF_PROTECT	1	
TGT_OF_OPPORTUN	2	TARGET OF OPPORTUNITY
PRE_BRIEFED	3	
POINT_TO_POINT	4	

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DFI	NAME	DEFINITION			
8119	EVENT IDENTIFIER				
DATA STANDARD USAGE: IBS		STATUS:			
DUI NAME		EXPLANATION			
001 TES EVENT IDENTIFIER [TES_Event_ID]		A REFERENCE NUMBER ASSIGNED BY A TES PRODUCER TO IDENTIFY ENTITIES ASSOCIATED WITH A SPECIFIC TES EVENT. THE TES EVENT IDENTIFIER IS USED TO COORDINATE THE EXCHANGE OF AMPLIFYING THREAT INFORMATION ON A SPECIFIC EVENT.			
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE	APPLICABILITY			
FIELD	INTEGER	DATA MANAGEMENT MESSAGE, ENTITY MESSAGE, TEXT MESSAGE,— COLLABORATION MESSAGE, OPERATIONAL STATUS MESSAGE			
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: NO					
1 THROUGH 99,999	1 THROUGH 99999				TES PRODUCERS ARE ASSIGNED A BLOCK OF NUMBERS BY USSTRATCOM.

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DFI	NAME	DEFINITION			
8120	KEYING MATERIAL INFORMATION				
	DATA STANDARD USAGE: IBS	STATUS:			
	DUI NAME	EXPLANATION	APPLICABILITY		
001	SHORT TITLE ITEM NUMBER [Short_Title_Item_Num]	UNIQUELY IDENTIFIES THE COMSEC KEYING MATERIAL THAT WAS UTILIZED TO DECRYPT THE DATA PASSED BY A DEVICE.	ENTITY MESSAGE		
002	SHORT TITLE EDITION [Short_Title_Edition]	AN EDITION OF COMSEC KEYING MATERIAL IN A SERIES OF PRINTINGS OF THE SAME SHORT TITLE.	ENTITY MESSAGE		
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE				
FIELD	STRING				
DUI NAME	EXPLANATION	APPLICABILITY			
003	SHORT TITLE SEGMENT [Short_Title_Sgmt]	AN INCREMENT WITHIN A SPECIFIED EDITION OF THE KEYING MATERIAL SHORT TITLE.	ENTITY MESSAGE		
DATA ELEMENT TYPE	DATA REPRESENTATION TYPE				
FIELD	INTEGER				
DATA ITEM	VALUE RANGE	UNIT EQUIV	VALUE MOD	ACCURACY	EXPLANATION
----- FOR DUI 001 -----					
RESET ATTRIBUTE: YES					
1 TO 25 CHARACTERS	1 TO 25 CHARACTERS				

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DFI NAME  
8120 KEYING MATERIAL INFORMATION

----- FOR DUI 002 -----

RESET ATTRIBUTE: YES

1 TO 6 CHARACTERS

1 TO 6 CHARACTERS

VALUES ARE ONE TO SIX  
ALPHABETIC CHARACTERS "A"  
TO "ZZZZZZ", OR ONE TO SIX  
NUMERIC DIGITS "1" THROUGH  
"999999".

----- FOR DUI 003 -----

RESET ATTRIBUTE: YES

0 THROUGH 366

0 THROUGH 366

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**MIL-STD-6018C  
29 January 2021  
Superseding  
MIL-STD-6018B  
15 December 2017**

# **DEPARTMENT OF DEFENSE INTERFACE STANDARD**

## **INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) STANDARD**

### **APPENDIX B – DATA ELEMENT DICTIONARY (PART II – NON-FIELD ELEMENTS)**



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DATA ELEMENT DICTIONARY  
(NON-FIELD ELEMENTS)

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## B2.1 SCOPE

B2.1.1 This document defines the unclassified "non-field" data elements used in CMF. (Unclassified "Field" data elements are defined in Appendix B, Part I.) Where possible, all information associated with "non-field" elements shall be unclassified. If any portion of a "non-field" element contains classified or CUI (e.g., FOUO), that portion shall be contained in Appendix B, Annex A, Part II. "Non-Field" elements defined in this appendix that contain classified or CUI portions are indicated as such with the marking of "\*SEE ANNEX A\*" in the appropriate item.

B2.1.2 The "non-field" data elements are uniquely specified by the Non-Field Identifier (NFI). The NFI represents one of four types of non-field CMF elements as defined in the Data Specification (Appendix D). A NFI entry both defines a physical grouping element and declares the physical set of its identified sub-elements (i.e., other NFIs and/or DUIS) as well as provides a NFI number which is useful for documentation ordering, and numerical reference purposes.

## B2.2 APPLICABLE DOCUMENTS

The documents listed in section 2 of this standard are applicable to this appendix.

## B2.3 DEFINITIONS

The definitions in section 3 of this standard apply to this appendix.

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### B2.4 GENERAL REQUIREMENTS

#### B2.4.1 RULES AND CONVENTIONS

This section describes the structure and use of NFIs.

##### B2.4.1.1 GENERAL

a. Every special character used in the formatting of a NFI shall have a predetermined meaning.

b. Use readily understood terms.

c. Acronyms may be used as part of a name, unless the meaning is likely to be unclear within the context of the particular element. They must be spelled out in the definition or explanation and/or be listed in Section 3. Additionally, they shall follow the naming guidelines for Document Type Definition (DTD) abbreviations as provided in Appendix C.

d. NFI names shall be as short as practicable

##### B2.4.1.2 NFI

All NFIs shall have an assigned NFI Number composed of a digraph, which represents one of the four types of non-field elements, and a one-up number represented as three digits. The NFI Number shall be unique to the given NFI Name and Definition as may be shared across the family of Tactical Data Links (TDLs). The digits of NFIs shall start at 001 for each digraph type. All NFIs must have at least one associated sub-element NFI and/or DUI. The NFI digraphs shall be as follows:

GP = Group data element type

CP = Composite data element type

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RP = Repetitive data element type

PC = Packed data element type

## B2.4.1.2.1 NFI NAME

- a. Each NFI name shall be unique.
- b. NFI names shall normally be fully spelled-out except for acronyms, but shall otherwise follow the CMF element naming and abbreviation rules as defined in Appendix C.
- c. Each NFI Name shall identify a grouping of elements which together minimize unrelated or functional coupling and conversely, are based upon properties which provide the maximum cohesion between the elements, based upon known physics and general concepts. Such grouping maximizes both reuse of elements and future backward-compatibility by avoiding "stove-piped" structures built solely upon current individual system/program reporting functions (and thus minimizes developer issues and costs). The resulting groupings shall be utilized in the determination of all NFI names. Examples of such physics and general concepts include physical attributes such as observable traits, environmental surroundings, or emissions; and/or non-physical attributes such as purpose, intent, or meaning.
- d. All NFI names shall be unclassified.

## B2.4.1.2.2 NFI DEFINITION

- a. A NFI definition shall be provided only when necessary for amplification or to provide detail to express the meaning and/or intent of the NFI element, the sub-elements, and/or the structure.
- b. The NFI definition shall attempt to use definitions from previously accepted standards.

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c. The NFI definition shall be based on a review of all appropriate definition sources.

d. If the NFI level represents a grouping of elements which is specifically externally based or controlled by other than IBS (i.e., other source authority numbering/serializing elements, external descriptive dictionaries, target databases, etc.), the NFI definition shall provide adequate source reference title and location information to fully obtain, understand, and maintain details of the element grouping purpose and structure.

e. Where possible, NFI definitions shall be unclassified. If the NFI definition is classified or contains CUI, it shall contain the words “\*SEE ANNEX A\*” and an entry which contains the classified or CUI definition shall exist in the annex for the respective NFI.

### B2.4.1.3 DATA ELEMENT TYPE

Indicates, in agreement with the first two characters of the NFI number, one of the four types of “non-field” elements used in the XML hierarchy of nested elements. (“Field” types are defined in Part I). The Data Element Types shall, by definition, be unclassified.

(1) GROUP. Group elements in CMF identify organizational nestings (i.e., groupings) of other elements, where sub-elements may or may not be required to always be reported when the group set is reported. Group elements, due to their individual child tags, consume the most bandwidth in CMF-B, but provide the most flexibility for adding new elements (i.e., at the end of the group).

(2) COMPOSITE. Composite elements provide a way in CMF-B, using a single tag, to send a number of element values, all of which are known to always contain data whenever the composite set is reported.

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Composite elements are useful for CMF-B to conserve bandwidth for well known, unchanging structures.

(3) REPETITIVE. Repetitive elements provide a way to define one or more elements, all of which at the first level of children are known to always contain data whenever the repetitive set is reported, and to repeat them multiple times, using a single tag and a repetition indicator. Repetitive elements are useful for CMF-B to conserve bandwidth for well known, unchanging structures which are repetitive.

(4) PACKED. Packed elements provide a way to represent two-state data values such as fields that are on/off, true/false, enabled/disabled, etc. This packaging type provides for efficient transmission of multiple two-state data elements within shared bytes, using a single tag, and without introducing non-inherent dependencies between them. Packed elements are useful for CMF-B to conserve bandwidth for two-state elements sharing a common or related concept, theme, purpose, and/or usage at the parent packed element level.

### B2.4.2 DESCRIPTION

Figure B2-1 shows the format of the NFI information that can be displayed on individual NFIs. In order to explain the information in the NFI listings, the paragraphs following Figure B2-1 are keyed to the numbers in the figure, i.e., the parenthetical numbers to the left of the text correspond to the bold parenthetical numbers in Figure B2-1. In the figure, all information shall be in capital letters (with the exception of the DTD NFI name); parentheses and dashes shall be exactly as printed in the listing. Zs indicate zero suppression, 9s indicate numeric characters, and Xs indicate alphanumeric characters.

(1) Classification. The highest classification of the information contained in this appendix shall be printed at the top and bottom of each page. In accordance with security marking guidance,

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the page classification shall include any applicable control markings. Each paragraph may have its classification printed to the left in parentheses, as applicable. US markings are one to two characters in length to be followed by the appropriate shortened control markings. The classification at the top of the page is followed immediately by the document title and applicable section.

(2) NFI Number. The NFI number shall be printed at both the top and bottom of each page. The NFI number consists of a digraph (2 letters) and 3 numbers (XX999) without leading zero suppression on the numbers (see B2.4.1.2 for other NFI number details). The NFI numbers shall, by definition, be unclassified.

(3) NFI Name. The NFI name shall be printed at the top of each page. The NFI name is limited to a maximum of 30 alphanumeric characters for the first line and a maximum of 28 for the second line. All NFI names shall be unclassified.

(4) NFI Definition. The NFI definition consists of a maximum of 62 alphanumeric characters for the first line and 60 for the second through tenth lines (a maximum of 10 lines). Where possible, NFI definitions shall be unclassified. If the NFI definition is classified or contains CUI, it shall contain the words "\*SEE ANNEX A\*" and an entry which contains the classified or CUI definition shall exist in the annex for the respective NFI.

(5) DTD NFI Name. Represents the DTD name of the NFI exactly as to be listed in the DTD and shall be enclosed in square brackets. The DTD NFI Name shall also reflect the basic meaning/content of the NFI Name, but shall be significantly shortened to follow the CMF element naming and abbreviation rules as defined in Appendix C. All DTD NFI names shall be unclassified.

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(6) Data Standard Usage. This information indicates the name of those standards using this NFI. It consists of 9 alphanumeric characters followed by a space with a maximum of three 9 character groups per line and a maximum of 3 lines. For IBS, the standard shall be listed as "IBS". The Data Standard Usage for IBS shall, by definition, be unclassified.

(7) Status. This item identifies the current status of the NFI. It consists of a maximum of 3 lines of alphanumeric characters with a maximum of 20 characters per line. Where possible, the Status shall be unclassified. If the Status is classified or contains CUI, it shall contain the words "\*SEE ANNEX A\*" and an entry which contains the classified or CUI Status shall exist in the annex for the respective NFI.

(8) Data Element Type. Indicates one of four types of "non-field" elements. These shall be represented as "GROUP", "COMPOSITE", "REPETITIVE", or "PACKED". The Data Element Types shall, by definition, be unclassified.

(9) Reset Attribute. Indicates whether the element has a "reset" attribute, indicated by "YES" or "NO". If "YES", the element has the capability to be reset to a No Data or Initial Value state. The Reset Attribute values shall, by definition, be unclassified.

(10) Minimum Iterations. Present only if element type is "Repetitive". Lists the minimum number of times the group of sub-elements under the element may be repeated in the message. If the Minimum Iterations is present, the listed integer value must be greater than or equal to 1, and if not present for the "Repetitive" NFI element, it is assumed to be 1. In most instances, the Minimum Iterations shall be unclassified. If the Minimum Iterations is classified or contains CUI, it shall contain the words "\*SEE ANNEX A\*" as the value and an entry which contains the classified or CUI Minimum Iterations value shall exist in the annex for the respective NFI.

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(11) Maximum Iterations. Present only if element type is "Repetitive". Lists the maximum number of times the group of sub-elements under the element may be repeated in the message. If the Maximum Iterations is present, the listed integer value must be greater than or equal to the Minimum Iterations declaration and must be greater than or equal to 1. If it is not present for the "Repetitive" NFI element, it is assumed to be unlimited. In most instances, the Maximum Iterations shall be unclassified. If the Maximum Iterations is classified or contains CUI, it shall contain the words "\*SEE ANNEX A\*" as the value and an entry which contains the classified or CUI Maximum Iterations value shall exist in the annex for the respective NFI.

(12) Path *n* Excluded. Indicates exclusion of the NFI element (and its subordinate structure) from being reported over a specified IBS communication path, where "*n*" is the operationally assigned path number. Multiple values of "*n*", separated by commas, may be included in the NFI declaration in order to indicate more than one exclusion path. Communication paths are further addressed in Section 4. In most instances, the Path Exclusions shall be unclassified. If a Path Exclusion is classified or contains CUI, it shall contain the words "\*SEE ANNEX A\*" as the value and an entry which contains the classified or CUI Path Exclusion value shall exist in the annex for the respective NFI.

(13) Child Elements. This item begins a section which lists all the child elements contained within the NFI, as to be designated by the IBS CMF DTD. The child elements are listed as one or more repetitions of items 14 through 17 until all children of the respective NFI have been identified.

(14) NFI/DFI/DUI. Lists the Data Field Identifier (DFI) and Data Unit Identifier (DUI) of the child element (separated by a "/" character) if the child is a field element, or lists the NFI if it is

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a non-field element. The NFI and DFI/DUI numbers shall, by definition, be unclassified.

(15) Name. Lists DUI or NFI the name of the child element. All DUI and NFI names shall be unclassified.

(16) Definition/Explanation. If a non-field element, lists the definition of the NFI as shown in this appendix. If a field element, lists the explanation of the DUI as shown in Appendix B, Part I. Where possible, NFI and DUI definitions/explanations shall be unclassified. If the NFI or DUI definition is classified or contains CUI, it shall contain the words "\*SEE ANNEX A\*" and an entry which contains the classified or CUI definition/explanation shall exist in the annex for the respective NFI or DUI.

(17) Change Bars. Change bars appear to the right of a line that has changed from a previous edition. Change bars shall, by definition, be unclassified.

(18) Page numbering within the NFI. The NFI page numbering shall, by definition, be unclassified.

(19) Relevance Attribute. If present within a NFI listing, indicates the operational relevance of the respective NFI (see section D.3.4.3.8.2 for usage, effect on child elements, and valid values). Where the relevance attribute is not present in the listing for a NFI, the respective NFI shall be deemed fully operationally relevant. The Relevance Attribute values shall, by definition, be unclassified.

(20) Physical page numbering within the document. The physical page numbering shall, by definition, be unclassified.

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART IICLASSIFICATION (1)  
MIL-STD-6018A  
APPENDIX B, PART IINFI NO XX999 PAGE ZZ9 OF Z99  
(2) (18)

(2)	(3)	DEFINITION (4)
NFI	NAME	
XX999	XXXXX....XXX	XXXXX.....XXXX
	XX....XXX	XXX.....XXXX
	[XXX_XXXX] (5)	
RELEVANCE ATTRIBUTE: X...X (19)		
DATA STANDARD USAGE: XXXXXXXXXXXX XXXXXXXXXXXX (6)		STATUS: XXXX.....XXXXX (7) XXXX.....XXXXX
DATA ELEMENT TYPE: XXXXX (8)		
RESET ATTRIBUTE: XXX (9)		
MINIMUM ITERATIONS: X (10)		
MAXIMUM ITERATIONS: XXXXX (11)		
PATH n EXCLUDED (12)		
CHILD ELEMENTS: (13)		
NFI/DFI/DUI NAME (15)		(16) DEFINITION/EXPLANATION
(14)		
XXXX/XXX	XXXX....XXX	XXXXX.....XXXX
	XX....XXX	XXX.....XXXX (17)
XXXXX	XXXX....XXX	XXXXX.....XXXX
	XX....XXX	XXX.....XXXX

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CLASSIFICATION (1)**UNCLASSIFIED**

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Figure B2-1 NFI Format (Sheet 1 of 2)

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(2)	(3)
NFI	NAME
XX999	XXXX....XXX
	XX....XXX

CHILD ELEMENTS (CONTINUED): (13)

NFI/DFI/DUI (14)	NAME (15)	(16) DEFINITION/EXPLANATION
XXXX/XXX	XXXX....XXX XX....XXX	XXXXXX.....XXXX XXX.....XXXX
XXXXX	XXXX....XXX XX....XXX	XXXXXX.....XXXX XXX.....XXXX

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CLASSIFICATION (1)

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Figure B2-1 NFI Format (Sheet 2 of 2)

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APPENDIX B, PART II

B2.5 DETAILED REQUIREMENTS

B2.5.1 INDEX OF NFIs

To assist in using this standard, two listings immediately follow this page. The first list, Table B2-1, is ordered alphabetically by NFI name, and the second list, Table B2-2, is ordered alpha-numerically by NFI number.

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APPENDIX B, PART II

TABLE B2-1. ALPHABETIC LIST OF "NON-FIELD" ELEMENTS

SHEET 1

NFI NAME	DATA ELEMENT TYPE	NFI No.
ACOUSTIC ELEMENTS	GROUP	GP094
ACTUAL DAY TIME	COMPOSITE	CP078
ACTUAL POLAR LOCATION	COMPOSITE	CP076
ADDRESS	COMPOSITE	CP004
AIMPOINT	GROUP	GP120
ALGORITHM ELEMENTS	GROUP	GP083
ALGORITHM FLOAT VALUE SET	REPETITIVE	RP018
ALGORITHM ID	GROUP	GP084
ALGORITHM TEXT VALUE SET	REPETITIVE	RP019
ALGORITHM VALUES	GROUP	GP087
ALTERNATE DESTINATION ADDRESS	COMPOSITE	CP098
ALTERNATE ORIGINATOR ADDRESS	GROUP	GP049
AMPLIFICATION EVALUATION GENERAL CONFIDENCE	COMPOSITE	CP059
AMPLIFICATION EVALUATION PERCENT CONFIDENCE	COMPOSITE	CP058
AMPLIFICATION ID DECLARED ELEMENTS	GROUP	GP098
AMPLIFICATION IDENTIFICATION	GROUP	GP069
AMPLIFICATION TEXT	COMPOSITE	CP147
ANTENNA PLACEMENT	COMPOSITE	CP142
ARCHIVE FILE ELEMENTS	GROUP	GP071
ARCHIVE RECORD ELEMENTS	GROUP	GP073
ARRIVAL ELEMENTS	GROUP	GP035
AZIMUTH CORRIDOR	GROUP	GP103
BFT ELEMENTS	GROUP	GP056
BLOB INFORMATION TIME	COMPOSITE	CP173
BLOB REFERENCE LOCATION	COMPOSITE	CP172
BLOB TRANSFER MESSAGE	GROUP	GP128
BORESITE AIM LOCATION	COMPOSITE	CP107
CHIP SEQUENCE	REPETITIVE	RP020
CHIP SEQUENCE ELEMENTS	COMPOSITE	CP148
CMF DOC	GROUP	GP001
CMF HEADER	GROUP	GP074
COLLABORATION MEASUREMENT SET	GROUP	GP060
COLLABORATION MESSAGE	GROUP	GP059
COLLECTION ELEMENTS	GROUP	GP100
COLLECTION SYSTEM CHARACTERISTICS	GROUP	GP082
COLLECTION TERMINATION TIME	COMPOSITE	CP132
COMBINED SENSOR GENERAL CONFIDENCE	COMPOSITE	CP158

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APPENDIX B, PART II

TABLE B2-1. ALPHABETIC LIST OF "NON-FIELD" ELEMENTS

SHEET 2

NFI NAME	DATA ELEMENT TYPE	NFI No.
COMBINED SENSOR PERCENT CONFIDENCE	COMPOSITE	CP159
COUNTRY	COMPOSITE	CP082
DATA FORMAT ELEMENTS	GROUP	GP077
DATA MANAGEMENT MESSAGE	GROUP	GP002
DATA PACKAGE DESCRIPTION ELEMENTS	GROUP	GP076
DATA PACKAGE REPLICATION ELEMENTS	GROUP	GP101
DELTA TIME SET	COMPOSITE	CP057
DEPARTURE ELEMENTS	GROUP	GP034
DESTINATION ADDRESS	GROUP	GP008
DESTINATION ELEMENTS	GROUP	GP036
DISUSED	COMPOSITE	CP153
DWELL DESCRIPTION DATA	GROUP	GP067
EFFECTIVE TIME	COMPOSITE	CP151
ENTITY ALTERNATE ID ELEMENTS	GROUP	GP012
ENTITY AMPLIFICATION ELEMENTS	GROUP	GP025
ENTITY CHAIN GENERAL CONFIDENCE	COMPOSITE	CP163
ENTITY CHAIN PERCENT CONFIDENCE	COMPOSITE	CP164
ENTITY CHAINING	GROUP	GP030
ENTITY ELLIPTICAL AREA	COMPOSITE	CP080
ENTITY ENVIRONMENTAL CONDITION ELEMENTS	GROUP	GP118
ENTITY ID ELEMENTS	GROUP	GP010
ENTITY IR DESCRIPTION ELEMENTS	GROUP	GP051
ENTITY LOCATION	COMPOSITE	CP017
ENTITY MESSAGE	GROUP	GP003
ENTITY MESSAGE DESCRIPTION ELEMENTS	GROUP	GP127
ENTITY PHYSICAL ADDRESS ELEMENTS	GROUP	GP038
ENTITY PHYSICAL CHARACTERISTICS ELEMENTS	GROUP	GP091
ENTITY POLAR ATTITUDE ELEMENTS	GROUP	GP014
ENTITY POLAR LOCATION ELEMENTS	GROUP	GP013
ENTITY PRIMARY COLOR	COMPOSITE	CP139
ENTITY PULSE DESCRIPTION ELEMENTS	GROUP	GP022
ENTITY RECTANGULAR ACCURACY ELEMENTS	GROUP	GP017
ENTITY RECTANGULAR AREA	COMPOSITE	CP155
ENTITY RECTANGULAR ATTITUDE ELEMENTS	GROUP	GP016
ENTITY RECTANGULAR LOCATION ELEMENTS	COMPOSITE	CP084
ENTITY RF DESCRIPTION ELEMENTS	GROUP	GP019
ENTITY SCAN DESCRIPTION ELEMENTS	GROUP	GP024
ENTITY SECONDARY COLOR	COMPOSITE	CP140
ENTITY TYPE GENERAL CONFIDENCE	COMPOSITE	CP165
ENTITY TYPE PERCENT CONFIDENCE	COMPOSITE	CP166
ENTITY UNIQUE EQUIPMENT ID	GROUP	GP121
ENTITY WEAPON ELEMENTS	GROUP	GP119
ERROR 3D	GROUP	GP050

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APPENDIX B, PART II

TABLE B2-1. ALPHABETIC LIST OF "NON-FIELD" ELEMENTS

SHEET 3

NFI NAME	DATA ELEMENT TYPE	NFI No.
ERROR CIRCLE 2D	COMPOSITE	CP093
ERROR ELLIPSE 2D	COMPOSITE	CP019
ERROR RECTANGLE 2D	COMPOSITE	CP020
ESTIMATED DAY TIME	COMPOSITE	CP079
ESTIMATED POLAR LOCATION	COMPOSITE	CP077
EXPIRE TIME	COMPOSITE	CP152
EXTERNAL CONNECTION DESCRIPTION ELEMENTS	GROUP	GP079
FREQUENCY CAPABILITY INDICATORS	PACKED	PC003
FREQUENCY RANGE	COMPOSITE	CP050
FULL COVARIANCE MATRIX	COMPOSITE	CP032
FULL MATRIX ELEMENTS	COMPOSITE	CP041
GPS ELEMENTS	COMPOSITE	CP061
GPS TIME OF FIX ELEMENTS	COMPOSITE	CP062
HEADER VERSION ELEMENTS	COMPOSITE	CP124
HUMAN SENSOR ELEMENTS	GROUP	GP116
IFF MODE 3C ALTITUDE	COMPOSITE	CP023
IFF MODES	GROUP	GP011
INDIVIDUAL ID ELEMENTS	GROUP	GP037
INDIVIDUAL PULSE CHARACTERISTICS	GROUP	GP090
INTEREST INDICATORS	PACKED	PC005
IR SENSOR ELEMENTS	GROUP	GP112
ISOLATED PERSONNEL PHYSICAL STATUS	GROUP	GP123
JULIAN DAY OF INTERCEPT	COMPOSITE	CP008
KEYING MATERIAL INFORMATION	GROUP	GP129
LANGUAGE ID LIST	REPETITIVE	RP013
LINK 11/11B IDENTIFIER	COMPOSITE	CP011
LINK 16 IDENTIFIER	COMPOSITE	CP012
LOCAL CAPABILITY FIELD	COMPOSITE	CP162
LOCAL CAPABILITY VALUE	GROUP	GP126
LOCAL SCOPE CAPABILITY	GROUP	GP125
LOCAL SCOPE ELEMENTS	GROUP	GP124
LOCATION	COMPOSITE	CP018
MANAGEMENT ACTION INDICATORS	GROUP	GP029
MANAGEMENT MODE INDICATORS	PACKED	PC008
MARITIME CHARACTERISTICS	GROUP	GP092
MEASURED ALTITUDE	COMPOSITE	CP022
MEASUREMENT BASE TIME	COMPOSITE	CP104
MESSAGE DESCRIPTION ELEMENTS	GROUP	GP007
MESSAGE FILTER ELEMENTS	GROUP	GP122
MESSAGE GROUP	GROUP	GP040
MISSION EFFECT ELEMENTS	GROUP	GP039

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TABLE B2-1. ALPHABETIC LIST OF "NON-FIELD" ELEMENTS

SHEET 4

NFI NAME	DATA ELEMENT TYPE	NFI No.
MODE INDICATORS	PACKED	PC001
MULTIPLE FREQUENCIES	REPETITIVE	RP001
MULTIPLE FREQUENCY RANGES	REPETITIVE	RP002
MULTIPLE PRF RANGES	REPETITIVE	RP006
MULTIPLE PRFS	REPETITIVE	RP005
MULTIPLE PRI RANGES	REPETITIVE	RP008
MULTIPLE PRIS	REPETITIVE	RP007
MULTIPLE SPECTRUM SENSOR ELEMENTS	GROUP	GP115
NATIONALITY/ALLIANCE GENERAL CONFIDENCE	COMPOSITE	CP167
NATIONALITY/ALLIANCE PERCENT CONFIDENCE	COMPOSITE	CP168
ONBOARD REFERENCE POINT	GROUP	GP097
OPERATIONAL STATUS MESSAGE	GROUP	GP108
OPERATIONS NOTIFICATION MESSAGE	GROUP	GP106
OPTICAL SENSOR ELEMENTS	GROUP	GP114
ORIGINATOR ADDRESS	COMPOSITE	CP005
PACKAGE DESCRIPTION DATA	COMPOSITE	CP001
PARTIAL COVARIANCE MATRIX	COMPOSITE	CP042
PLACE OF BIRTH	COMPOSITE	CP081
PLATFORM EVALUATION GENERAL CONFIDENCE	COMPOSITE	CP010
PLATFORM EVALUATION PERCENT CONFIDENCE	COMPOSITE	CP009
POLAR INTERMEDIATE LOCATION	COMPOSITE	CP048
POLAR SINGLE LOCATION	COMPOSITE	CP094
POLAR START LOCATION	COMPOSITE	CP047
POLAR STOP LOCATION	COMPOSITE	CP049
POSITION SUBMATRIX	COMPOSITE	CP043
PR/CSAR ELEMENTS	GROUP	GP057
PR/CSAR INDICATORS	PACKED	PC004
PR/CSAR QUERY RESPONSE	PACKED	PC006
PRF RANGE	COMPOSITE	CP054
PRI OF GROUP	COMPOSITE	CP138
PRI PROFILE	GROUP	GP095
PRI RANGE	COMPOSITE	CP055
PROCESSOR ID	GROUP	GP086
PULSE GROUP CHARACTERISTICS	GROUP	GP088
PULSE WIDTH DURATION OF GROUP	COMPOSITE	CP137
RADAR CHARACTERISTICS	GROUP	GP081
RADIO ELEMENTS	GROUP	GP055
RADIO INDICATORS	PACKED	PC007
REFERENCE ENTITY ID	COMPOSITE	CP064
REFERENCE INFORMATION	GROUP	GP107

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TABLE B2-1. ALPHABETIC LIST OF "NON-FIELD" ELEMENTS

SHEET 5

NFI NAME	DATA ELEMENT TYPE	NFI No.
REFERENCE POLAR PLATFORM ELEMENTS	GROUP	GP018
REFERENCE X POSITION	COMPOSITE	CP111
REFERENCE X VELOCITY	COMPOSITE	CP115
REFERENCE X Y Z POSITION	COMPOSITE	CP110
REFERENCE X Y Z VELOCITY	COMPOSITE	CP114
REFERENCE Y POSITION	COMPOSITE	CP112
REFERENCE Y VELOCITY	COMPOSITE	CP116
REFERENCE Z POSITION	COMPOSITE	CP113
REFERENCE Z VELOCITY	COMPOSITE	CP117
REMOTE ADDRESS	COMPOSITE	CP065
REMOTE AMPLIFICATION MESSAGE	GROUP	GP004
RF SENSOR ELEMENTS	GROUP	GP111
RF TUNER ID	GROUP	GP085
SAMPLE INTERVAL	COMPOSITE	CP075
SECURITY CLASSIFICATION ELEMENTS	GROUP	GP075
SENSOR 1 RECTANGULAR REFERENCE	GROUP	GP061
SENSOR 2 RECTANGULAR REFERENCE	GROUP	GP062
SENSOR DESCRIPTION ELEMENTS	GROUP	GP110
SENSOR ELEMENTS	GROUP	GP093
SENSOR GENERAL CONFIDENCE	COMPOSITE	CP156
SENSOR NAVIGATION STATUS	PACKED	PC009
SENSOR PERCENT CONFIDENCE	COMPOSITE	CP157
SENSOR PRODUCT FILE	GROUP	GP102
SENSOR SEARCH AREA IDENTIFIER	GROUP	GP109
SENSOR STRING ELEMENTS	COMPOSITE	CP144
SENSOR STRING ID ELEMENTS	COMPOSITE	CP146
SIGMA X POSITION	COMPOSITE	CP034
SIGMA X VELOCITY	COMPOSITE	CP038
SIGMA X Y Z POSITION	COMPOSITE	CP033
SIGMA X Y Z VELOCITY	COMPOSITE	CP037
SIGMA Y POSITION	COMPOSITE	CP035
SIGMA Y VELOCITY	COMPOSITE	CP039
SIGMA Z POSITION	COMPOSITE	CP036
SIGMA Z VELOCITY	COMPOSITE	CP040
SIGNAL FILE LOCATION	COMPOSITE	CP133
SIGNAL LOSS TIME	COMPOSITE	CP131
SIGNAL REFERENCE ID	COMPOSITE	CP129
SIGNAL REFERENCE ID TEMPORARY	COMPOSITE	CP130
SIGNS OF FULL MATRIX ELEMENTS	PACKED	PC002
SIGNS OF SUBMATRIX ELEMENTS	COMPOSITE	CP045
SOFTWARE VERSION	COMPOSITE	CP145
SUBMATRIX ELEMENTS	COMPOSITE	CP044

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TABLE B2-1. ALPHABETIC LIST OF "NON-FIELD" ELEMENTS

SHEET 6

NFI NAME	DATA ELEMENT TYPE	NFI No.
TDDS ADDRESS	COMPOSITE	CP096
TDDS CORRELATION INDEX	COMPOSITE	CP013
TDDS IDENTIFIER	GROUP	GP047
TDOA BIAS ERROR	COMPOSITE	CP118
TDOA ELEMENTS	GROUP	GP066
TDOA MEASUREMENT ERRORS	GROUP	GP063
TDOA RANDOM ERROR	COMPOSITE	CP119
TDOA RATE OF CHANGE BIAS ERROR	COMPOSITE	CP120
TDOA RATE OF CHANGE ELEMENTS	GROUP	GP064
TDOA RATE OF CHANGE MEASUREMENT ERRORS	GROUP	GP065
TDOA RATE OF CHANGE RANDOM ERROR	COMPOSITE	CP121
TDOA RATE OF CHANGE SET	REPETITIVE	RP016
TDOA SET	REPETITIVE	RP015
TEXT MESSAGE	GROUP	GP005
TIBS ADDRESS	COMPOSITE	CP095
TIBS TRACK NUMBER	COMPOSITE	CP016
TIME OF ENTRY	COMPOSITE	CP169
TIME OF ENTRY DELTA	COMPOSITE	CP170
TIME OF ENTRY ORIGINATOR ADDRESS	COMPOSITE	CP171
TIME OF FILE ARCHIVE START	COMPOSITE	CP126
TIME OF FILE ARCHIVE STOP	COMPOSITE	CP127
TIME OF INTERCEPT	COMPOSITE	CP007
TIME OF LAST DUPLICATE START	COMPOSITE	CP006
TIME OF RECORD ARCHIVE	COMPOSITE	CP128
TIME OF STATUS	COMPOSITE	CP154
TIME OF TRANSMISSION	COMPOSITE	CP002
TIME TO FUZE	COMPOSITE	CP160
TRANSMITTER ADDRESS	COMPOSITE	CP003
TRIXS ADDRESS	COMPOSITE	CP097
TRIXS REPORT NUMBER	COMPOSITE	CP083
UIC FIELD	COMPOSITE	CP150
UIC VALUE	GROUP	GP105
UNIDISCLOSED SENSOR ELEMENTS	GROUP	GP117
URGENT INTERIM CAPABILITY (UIC) ELEMENTS	GROUP	GP104
USMTF TRACK IDENTIFIER	COMPOSITE	CP149
VELOCITY SUBMATRIX	COMPOSITE	CP046
VESSEL UPRIGHT SEQUENCE	REPETITIVE	RP021
VESSEL WATERLINE COLOR	COMPOSITE	CP141
VISIBLE LIGHT SENSOR ELEMENTS	GROUP	GP113
VMF ENTITY ID SERIAL NUMBER	COMPOSITE	CP108
WEAPON SELF ASSESSMENT	COMPOSITE	CP161

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TABLE B2-1. ALPHABETIC LIST OF "NON-FIELD" ELEMENTS

SHEET 7

NFI NAME	DATA ELEMENT TYPE	NFI No.
X POSITION	COMPOSITE	CP025
X VELOCITY	COMPOSITE	CP029
X Y Z POSITION	COMPOSITE	CP024
X Y Z VELOCITY	COMPOSITE	CP028
Y POSITION	COMPOSITE	CP026
Y VELOCITY	COMPOSITE	CP030
Z POSITION	COMPOSITE	CP027
Z VELOCITY	COMPOSITE	CP031

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TABLE B2-2. ALPHANUMERIC LIST OF "NON-FIELD" ELEMENTS

SHEET 1

NFI NAME	DATA ELEMENT TYPE	NFI No.
PACKAGE DESCRIPTION DATA	COMPOSITE	CP001
TIME OF TRANSMISSION	COMPOSITE	CP002
TRANSMITTER ADDRESS	COMPOSITE	CP003
ADDRESS	COMPOSITE	CP004
ORIGINATOR ADDRESS	COMPOSITE	CP005
TIME OF LAST DUPLICATE START	COMPOSITE	CP006
TIME OF INTERCEPT	COMPOSITE	CP007
JULIAN DAY OF INTERCEPT	COMPOSITE	CP008
PLATFORM EVALUATION PERCENT CONFIDENCE	COMPOSITE	CP009
PLATFORM EVALUATION GENERAL CONFIDENCE	COMPOSITE	CP010
LINK 11/11B IDENTIFIER	COMPOSITE	CP011
LINK 16 IDENTIFIER	COMPOSITE	CP012
TDDS CORRELATION INDEX	COMPOSITE	CP013
TIBS TRACK NUMBER	COMPOSITE	CP016
ENTITY LOCATION	COMPOSITE	CP017
LOCATION	COMPOSITE	CP018
ERROR ELLIPSE 2D	COMPOSITE	CP019
ERROR RECTANGLE 2D	COMPOSITE	CP020
MEASURED ALTITUDE	COMPOSITE	CP022
IFF MODE 3C ALTITUDE	COMPOSITE	CP023
X Y Z POSITION	COMPOSITE	CP024
X POSITION	COMPOSITE	CP025
Y POSITION	COMPOSITE	CP026
Z POSITION	COMPOSITE	CP027
X Y Z VELOCITY	COMPOSITE	CP028
X VELOCITY	COMPOSITE	CP029
Y VELOCITY	COMPOSITE	CP030
Z VELOCITY	COMPOSITE	CP031
FULL COVARIANCE MATRIX	COMPOSITE	CP032
SIGMA X Y Z POSITION	COMPOSITE	CP033
SIGMA X POSITION	COMPOSITE	CP034
SIGMA Y POSITION	COMPOSITE	CP035
SIGMA Z POSITION	COMPOSITE	CP036
SIGMA X Y Z VELOCITY	COMPOSITE	CP037
SIGMA X VELOCITY	COMPOSITE	CP038
SIGMA Y VELOCITY	COMPOSITE	CP039
SIGMA Z VELOCITY	COMPOSITE	CP040
FULL MATRIX ELEMENTS	COMPOSITE	CP041
PARTIAL COVARIANCE MATRIX	COMPOSITE	CP042

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TABLE B2-2. ALPHANUMERIC LIST OF "NON-FIELD" ELEMENTS

SHEET 2

NFI NAME	DATA ELEMENT TYPE	NFI No.
POSITION SUBMATRIX	COMPOSITE	CP043
SUBMATRIX ELEMENTS	COMPOSITE	CP044
SIGNS OF SUBMATRIX ELEMENTS	COMPOSITE	CP045
VELOCITY SUBMATRIX	COMPOSITE	CP046
POLAR START LOCATION	COMPOSITE	CP047
POLAR INTERMEDIATE LOCATION	COMPOSITE	CP048
POLAR STOP LOCATION	COMPOSITE	CP049
FREQUENCY RANGE	COMPOSITE	CP050
PRF RANGE	COMPOSITE	CP054
PRI RANGE	COMPOSITE	CP055
DELTA TIME SET	COMPOSITE	CP057
AMPLIFICATION EVALUATION PERCENT CONFIDENCE	COMPOSITE	CP058
AMPLIFICATION EVALUATION GENERAL CONFIDENCE	COMPOSITE	CP059
GPS ELEMENTS	COMPOSITE	CP061
GPS TIME OF FIX ELEMENTS	COMPOSITE	CP062
REFERENCE ENTITY ID	COMPOSITE	CP064
REMOTE ADDRESS	COMPOSITE	CP065
SAMPLE INTERVAL	COMPOSITE	CP075
ACTUAL POLAR LOCATION	COMPOSITE	CP076
ESTIMATED POLAR LOCATION	COMPOSITE	CP077
ACTUAL DAY TIME	COMPOSITE	CP078
ESTIMATED DAY TIME	COMPOSITE	CP079
ENTITY ELLIPTICAL AREA	COMPOSITE	CP080
PLACE OF BIRTH	COMPOSITE	CP081
COUNTRY	COMPOSITE	CP082
TRIXS REPORT NUMBER	COMPOSITE	CP083
ENTITY RECTANGULAR LOCATION ELEMENTS	COMPOSITE	CP084
ERROR CIRCLE 2D	COMPOSITE	CP093
POLAR SINGLE LOCATION	COMPOSITE	CP094
TIBS ADDRESS	COMPOSITE	CP095
TDDS ADDRESS	COMPOSITE	CP096
TRIXS ADDRESS	COMPOSITE	CP097
ALTERNATE DESTINATION ADDRESS	COMPOSITE	CP098
MEASUREMENT BASE TIME	COMPOSITE	CP104
BORESITE AIM LOCATION	COMPOSITE	CP107
VMF ENTITY ID SERIAL NUMBER	COMPOSITE	CP108
REFERENCE X Y Z POSITION	COMPOSITE	CP110

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TABLE B2-2. ALPHANUMERIC LIST OF "NON-FIELD" ELEMENTS

SHEET 3

NFI NAME	DATA ELEMENT TYPE	NFI No.
REFERENCE X POSITION	COMPOSITE	CP111
REFERENCE Y POSITION	COMPOSITE	CP112
REFERENCE Z POSITION	COMPOSITE	CP113
REFERENCE X Y Z VELOCITY	COMPOSITE	CP114
REFERENCE X VELOCITY	COMPOSITE	CP115
REFERENCE Y VELOCITY	COMPOSITE	CP116
REFERENCE Z VELOCITY	COMPOSITE	CP117
TDOA BIAS ERROR	COMPOSITE	CP118
TDOA RANDOM ERROR	COMPOSITE	CP119
TDOA RATE OF CHANGE BIAS ERROR	COMPOSITE	CP120
TDOA RATE OF CHANGE RANDOM ERROR	COMPOSITE	CP121
HEADER VERSION ELEMENTS	COMPOSITE	CP124
TIME OF FILE ARCHIVE START	COMPOSITE	CP126
TIME OF FILE ARCHIVE STOP	COMPOSITE	CP127
TIME OF RECORD ARCHIVE	COMPOSITE	CP128
SIGNAL REFERENCE ID	COMPOSITE	CP129
SIGNAL REFERENCE ID TEMPORARY	COMPOSITE	CP130
SIGNAL LOSS TIME	COMPOSITE	CP131
COLLECTION TERMINATION TIME	COMPOSITE	CP132
SIGNAL FILE LOCATION	COMPOSITE	CP133
PULSE WIDTH DURATION OF GROUP	COMPOSITE	CP137
PRI OF GROUP	COMPOSITE	CP138
ENTITY PRIMARY COLOR	COMPOSITE	CP139
ENTITY SECONDARY COLOR	COMPOSITE	CP140
VESSEL WATERLINE COLOR	COMPOSITE	CP141
ANTENNA PLACEMENT	COMPOSITE	CP142
SENSOR STRING ELEMENTS	COMPOSITE	CP144
SOFTWARE VERSION	COMPOSITE	CP145
SENSOR STRING ID ELEMENTS	COMPOSITE	CP146
AMPLIFICATION TEXT	COMPOSITE	CP147
CHIP SEQUENCE ELEMENTS	COMPOSITE	CP148
USMTF TRACK IDENTIFIER	COMPOSITE	CP149
UIC FIELD	COMPOSITE	CP150
EFFECTIVE TIME	COMPOSITE	CP151
EXPIRE TIME	COMPOSITE	CP152
DISUSED	COMPOSITE	CP153
TIME OF STATUS	COMPOSITE	CP154
ENTITY RECTANGULAR AREA	COMPOSITE	CP155
SENSOR GENERAL CONFIDENCE	COMPOSITE	CP156
SENSOR PERCENTAGE CONFIDENCE	COMPOSITE	CP157

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TABLE B2-2. ALPHANUMERIC LIST OF "NON-FIELD" ELEMENTS

SHEET 4

NFI NAME	DATA ELEMENT TYPE	NFI No.
COMBINED SENSOR GENERAL CONFIDENCE	COMPOSITE	CP158
COMBINED SENSOR PERCENT CONFIDENCE	COMPOSITE	CP159
TIME TO FUZE	COMPOSITE	CP160
WEAPON SELF ASSESSMENT	COMPOSITE	CP161
LOCAL CAPABILITY FIELD	COMPOSITE	CP162
ENTITY CHAIN GENERAL CONFIDENCE	COMPOSITE	CP163
ENTITY CHAIN PERCENT CONFIDENCE	COMPOSITE	CP164
ENTITY TYPE GENERAL CONFIDENCE	COMPOSITE	CP165
ENTITY TYPE PERCENT CONFIDENCE	COMPOSITE	CP166
NATIONALITY/ALLIANCE GENERAL CONFIDENCE	COMPOSITE	CP167
NATIONALITY/ALLIANCE PERCENT CONFIDENCE	COMPOSITE	CP168
TIME OF ENTRY	COMPOSITE	CP169
TIME OF ENTRY DELTA	COMPOSITE	CP170
TIME OF ENTRY ORIGINATOR ADDRESS	COMPOSITE	CP171
BLOB REFERENCE LOCATION	COMPOSITE	CP172
BLOB INFORMATION TIME	COMPOSITE	CP173
CMF DOC	GROUP	GP001
DATA MANAGEMENT MESSAGE	GROUP	GP002
ENTITY MESSAGE	GROUP	GP003
REMOTE AMPLIFICATION MESSAGE	GROUP	GP004
TEXT MESSAGE	GROUP	GP005
MESSAGE DESCRIPTION ELEMENTS	GROUP	GP007
DESTINATION ADDRESS	GROUP	GP008
ENTITY ID ELEMENTS	GROUP	GP010
IFF MODES	GROUP	GP011
ENTITY ALTERNATE ID ELEMENTS	GROUP	GP012
ENTITY POLAR LOCATION ELEMENTS	GROUP	GP013
ENTITY POLAR ATTITUDE ELEMENTS	GROUP	GP014
ENTITY RECTANGULAR ATTITUDE ELEMENTS	GROUP	GP016
ENTITY RECTANGULAR ACCURACY ELEMENTS	GROUP	GP017
REFERENCE POLAR PLATFORM ELEMENTS	GROUP	GP018
ENTITY RF DESCRIPTION ELEMENTS	GROUP	GP019
ENTITY PULSE DESCRIPTION ELEMENTS	GROUP	GP022
ENTITY SCAN DESCRIPTION ELEMENTS	GROUP	GP024
ENTITY AMPLIFICATION ELEMENTS	GROUP	GP025
MANAGEMENT ACTION INDICATORS	GROUP	GP029
ENTITY CHAINING	GROUP	GP030
DEPARTURE ELEMENTS	GROUP	GP034
ARRIVAL ELEMENTS	GROUP	GP035
DESTINATION ELEMENTS	GROUP	GP036
INDIVIDUAL ID ELEMENTS	GROUP	GP037

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TABLE B2-2. ALPHANUMERIC LIST OF "NON-FIELD" ELEMENTS

SHEET 5

NFI NAME	DATA ELEMENT TYPE	NFI No.
ENTITY PHYSICAL ADDRESS ELEMENTS	GROUP	GP038
MISSION EFFECT ELEMENTS	GROUP	GP039
MESSAGE GROUP	GROUP	GP040
TDDS IDENTIFIER	GROUP	GP047
ALTERNATE ORIGINATOR ADDRESS	GROUP	GP049
ERROR 3D	GROUP	GP050
ENTITY IR DESCRIPTION ELEMENTS	GROUP	GP051
RADIO ELEMENTS	GROUP	GP055
BFT ELEMENTS	GROUP	GP056
PR/CSAR ELEMENTS	GROUP	GP057
COLLABORATION MESSAGE	GROUP	GP059
COLLABORATION MEASUREMENT SET	GROUP	GP060
SENSOR 1 RECTANGULAR REFERENCE	GROUP	GP061
SENSOR 2 RECTANGULAR REFERENCE	GROUP	GP062
TDOA MEASUREMENT ERRORS	GROUP	GP063
TDOA RATE OF CHANGE ELEMENTS	GROUP	GP064
TDOA RATE OF CHANGE MEASUREMENT ERRORS	GROUP	GP065
TDOA ELEMENTS	GROUP	GP066
DWELL DESCRIPTION DATA	GROUP	GP067
AMPLIFICATION IDENTIFICATION	GROUP	GP069
ARCHIVE FILE ELEMENTS	GROUP	GP071
ARCHIVE RECORD ELEMENTS	GROUP	GP073
CMF HEADER	GROUP	GP074
SECURITY CLASSIFICATION ELEMENTS	GROUP	GP075
DATA PACKAGE DESCRIPTION ELEMENTS	GROUP	GP076
DATA FORMAT ELEMENTS	GROUP	GP077
EXTERNAL CONNECTION DESCRIPTION ELEMENTS	GROUP	GP079
RADAR CHARACTERISTICS	GROUP	GP081
COLLECTION SYSTEM CHARACTERISTICS	GROUP	GP082
ALGORITHM ELEMENTS	GROUP	GP083
ALGORITHM ID	GROUP	GP084
RF TUNER ID	GROUP	GP085
PROCESSOR ID	GROUP	GP086
ALGORITHM VALUES	GROUP	GP087
PULSE GROUP CHARACTERISTICS	GROUP	GP088
INDIVIDUAL PULSE CHARACTERISTICS	GROUP	GP090
ENTITY PHYSICAL CHARACTERISTICS ELEMENTS	GROUP	GP091
MARITIME CHARACTERISTICS	GROUP	GP092
SENSOR ELEMENTS	GROUP	GP093
ACOUSTIC ELEMENTS	GROUP	GP094
PRI PROFILE	GROUP	GP095
ONBOARD REFERENCE POINT	GROUP	GP097
AMPLIFICATION ID DECLARED ELEMENTS	GROUP	GP098

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TABLE B2-2. ALPHANUMERIC LIST OF "NON-FIELD" ELEMENTS

SHEET 6

NFI NAME	DATA ELEMENT TYPE	NFI No.
COLLECTION ELEMENTS	GROUP	GP100
DATA PACKAGE REPLICATION ELEMENTS	GROUP	GP101
SENSOR PRODUCT FILE	GROUP	GP102
AZIMUTH CORRIDOR	GROUP	GP103
URGENT INTERIM CAPABILITY (UIC) ELEMENTS	GROUP	GP104
UIC VALUE	GROUP	GP105
OPERATIONS NOTIFICATION MESSAGE	GROUP	GP106
REFERENCE INFORMATION	GROUP	GP107
OPERATIONAL STATUS MESSAGE	GROUP	GP108
SENSOR SEARCH AREA IDENTIFIER	GROUP	GP109
SENSOR DESCRIPTION ELEMENTS	GROUP	GP110
RF SENSOR ELEMENTS	GROUP	GP111
IR SENSOR ELEMENTS	GROUP	GP112
VISIBLE LIGHT SENSOR ELEMENTS	GROUP	GP113
OPTICAL SENSOR ELEMENTS	GROUP	GP114
MULTIPLE SPECTRUM SENSOR ELEMENTS	GROUP	GP115
HUMAN SENSOR ELEMENTS	GROUP	GP116
UNDISCLOSED SENSOR ELEMENTS	GROUP	GP117
ENTITY ENVIRONMENTAL CONDITION ELEMENTS	GROUP	GP118
ENTITY WEAPON ELEMENTS	GROUP	GP119
AIMPOINT	GROUP	GP120
ENTITY UNIQUE EQUIPMENT ID	GROUP	GP121
MESSAGE FILTER ELEMENTS	GROUP	GP122
ISOLATED PERSONNEL PHYSICAL STATUS	GROUP	GP123
LOCAL SCOPE ELEMENTS	GROUP	GP124
LOCAL SCOPE CAPABILITY	GROUP	GP125
LOCAL CAPABILITY VALUE	GROUP	GP126
ENTITY MESSAGE DESCRIPTION ELEMENTS	GROUP	GP127
BLOB TRANSFER MESSAGE	GROUP	GP128
KEYING MATERIAL INFORMATION	GROUP	GP129
MODE INDICATORS	PACKED	PC001
SIGNS OF FULL MATRIX ELEMENTS	PACKED	PC002
FREQUENCY CAPABILITY INDICATORS	PACKED	PC003
PR/CSAR INDICATORS	PACKED	PC004
INTEREST INDICATORS	PACKED	PC005
PR/CSAR QUERY RESPONSE	PACKED	PC006
RADIO INDICATORS	PACKED	PC007
MANAGEMENT MODE INDICATORS	PACKED	PC008
SENSOR NAVIGATION STATUS	PACKED	PC009
MULTIPLE FREQUENCIES	REPETITIVE	RP001
MULTIPLE FREQUENCY RANGES	REPETITIVE	RP002
MULTIPLE PRFS	REPETITIVE	RP005

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APPENDIX B, PART II

TABLE B2-2. ALPHANUMERIC LIST OF "NON-FIELD" ELEMENTS

SHEET 7

NFI NAME	DATA ELEMENT TYPE	NFI No.
MULTIPLE PRF RANGES	REPETITIVE	RP006
MULTIPLE PRIS	REPETITIVE	RP007
MULTIPLE PRI RANGES	REPETITIVE	RP008
LANGUAGE ID LIST	REPETITIVE	RP013
TDOA SET	REPETITIVE	RP015
TDOA RATE OF CHANGE SET	REPETITIVE	RP016
ALGORITHM FLOAT VALUE SET	REPETITIVE	RP018
ALGORITHM TEXT VALUE SET	REPETITIVE	RP019
CHIP SEQUENCE	REPETITIVE	RP020
VESSEL UPRIGHT SEQUENCE	REPETITIVE	RP021

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APPENDIX B, PART II**B2.5.2 MESSAGE ELEMENTS**

NFI	NAME	DEFINITION
CP001	PACKAGE DESCRIPTION DATA [Package_Description_Data]	IDENTIFIES A CMF "HEADER" GROUPING WHICH CONTAINS GENERAL INFORMATION DESCRIBING AN ENTIRE PACKAGE OR PACKET OF CMF DATA. REQUIRED FOR ALL CMF DATA PACKAGES.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4046/802	MAJOR PARSER API VERSION	IDENTIFIES THE MAJOR LEVEL OF PARSER LIBRARY INTERFACE DEFINITION USED TO CREATE THE ENCLOSING DATA PACKET. COMPARED WITH THE PARSER LIBRARY INTERFACE MAJOR VERSION IN USE BY THE RECEIVING SOFTWARE TO DETERMINE BACKWARD COMPATIBILITY. A DIFFERENCE INDICATES INCOMPATIBILITY.
4046/803	MINOR PARSER API VERSION	IDENTIFIES THE MINOR LEVEL OF PARSER LIBRARY INTERFACE DEFINITION USED TO CREATE THE ENCLOSING DATA PACKET. COMPARED WITH THE PARSER LIBRARY INTERFACE MINOR VERSION IN USE BY THE RECEIVING SOFTWARE TO DETERMINE BACKWARD COMPATIBILITY. A DIFFERENCE IN VERSION INDICATES DIFFERENCES IN PROCESSING DESIGNED TO BE FULLY BACKWARD COMPATIBLE (ASSUMING THERE IS NOT ALSO A MAJOR LEVEL VERSION DIFFERENCE).
4046/804	MAJOR DTD VERSION	IDENTIFIES THE MAJOR LEVEL OF THE DOCUMENT TYPE DEFINITION (DTD) FILE USED TO CREATE THE ENCLOSING DATA PACKET. COMPARED WITH THE DTD FILE MAJOR VERSION IN USE BY THE RECEIVING SOFTWARE TO DETERMINE BACKWARD COMPATIBILITY. ANY DIFFERENCE INDICATES INCOMPATIBILITY.
4046/805	MINOR DTD VERSION	IDENTIFIES THE MINOR LEVEL OF DTD FILE USED TO CREATE THE ENCLOSING DATA PACKET. COMPARED WITH THE DTD FILE MINOR VERSION IN USE BY THE RECEIVING SOFTWARE TO DETERMINE BACKWARD COMPATIBILITY. A DIFFERENCE IN VERSION INDICATES DIFFERENCES IN DEFINED FIELDS DESIGNED TO BE FULLY BACKWARD COMPATIBLE (ASSUMING THERE IS NOT ALSO A DTD MAJOR LEVEL VERSION DIFFERENCE).

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NFI      NAME  
CP001    PACKAGE DESCRIPTION DATA

## CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4046/818	PACKAGE NUMBER	NUMBER ASSIGNED AND USED BY THE TRANSMITTING STATION WHICH EQUATES TO THE CURRENT PACKAGE.
CP002	TIME OF TRANSMISSION	PROVIDES THE DATE AND TIME THE REPORT WAS ENTERED INTO THE TRANSMISSION MEDIUM FOR DISSEMINATION.
CP003	TRANSMITTER ADDRESS	IDENTIFIES WHICH IBS PARTICIPANT PLACED THE PACKAGE ON THE MEDIUM WHERE IT IS BEING RECEIVED.

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NFI	NAME	DEFINITION
CP002	TIME OF TRANSMISSION [Time_Of_Xmit]	PROVIDES THE DATE AND TIME THE REPORT WAS ENTERED INTO THE TRANSMISSION MEDIUM FOR DISSEMINATION.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
380/801	CLOCK TIME	PROVIDES A TIME OF DAY REPORTED IN SECONDS. TIME PROVIDED IS UTC TIME UNLESS IDENTIFIED OTHERWISE.
4019/801	JULIAN DAY	THE REPORTED DAY OF THE CURRENT OR INDICATED YEAR BASED ON GREENWICH MEAN TIME (GMT).
4098/801	YEAR, IBS	YEAR CALCULATED STARTING AT 1900.

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NFI	NAME	DEFINITION
CP003	TRANSMITTER ADDRESS [Xmit_addr]	IDENTIFIES WHICH IBS PARTICIPANT PLACED THE PACKAGE ON THE MEDIUM WHERE IT IS BEING RECEIVED.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP004	ADDRESS	WITHIN THE IBS CMF, THE COMBINATION OF THE SUBNET IDENTIFIER AND NODE NUMBER ARE USED TO PROVIDE THE ADDRESSING OF MESSAGES. THE COMBINATION CAN IDENTIFY UNIQUE DATA ORIGINATORS, TRANSMITTERS, OR INTENDED RECIPIENTS OF CMF DATA.

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NFI      NAME  
CP004    ADDRESS  
              [Addr]

DEFINITION  
WITHIN THE IBS CMF, THE COMBINATION OF THE SUBNET IDENTIFIER AND NODE NUMBER ARE USED TO PROVIDE THE ADDRESSING OF MESSAGES. THE COMBINATION CAN IDENTIFY UNIQUE DATA ORIGINATORS, TRANSMITTERS, OR INTENDED RECIPIENTS OF CMF DATA.

DATA STANDARD USAGE:     IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI    NAME

DEFINITION/EXPLANATION

8008/004    SUBNET ADDRESS

IDENTIFIES THE IBS SUB-NETWORK ON WHICH THE ENTITY OR MESSAGE WAS ORIGINATED, OR THE SUB-NETWORK BEING REFERENCED.

8008/001    NODE

IDENTIFIES THE ORIGINATING STATION OR NODE OF THE PRODUCER OF THE REFERENCE MESSAGE.

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NFI	NAME	DEFINITION
CP005	ORIGINATOR ADDRESS [Orig_Addr]	UNIQUELY IDENTIFIES THE IBS PARTICIPANT FROM WHICH THE CONTENTS OF THE PACKAGE WERE ORIGINALLY PROVIDED TO IBS.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP004	ADDRESS	WITHIN THE IBS CMF, THE COMBINATION OF THE SUBNET IDENTIFIER AND NODE NUMBER ARE USED TO PROVIDE THE ADDRESSING OF MESSAGES. THE COMBINATION CAN IDENTIFY UNIQUE DATA ORIGINATORS, TRANSMITTERS, OR INTENDED RECIPIENTS OF CMF DATA.

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NFI	NAME	DEFINITION
CP006	TIME OF LAST DUPLICATE START [Time_Of_Last_Duplic_Start]	TIME AT WHICH THE IBS SIMPLEX CHANNEL NET MANAGER LAST STARTED THE BROADCAST. USED BY THE IBS SIMPLEX CHANNEL RECEIVERS TO KNOW WHEN TO CLEAR THE DUPLICATE SCREENING TABLE.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
380/801	CLOCK TIME	PROVIDES A TIME OF DAY REPORTED IN SECONDS. TIME PROVIDED IS UTC TIME UNLESS IDENTIFIED OTHERWISE.
4019/801	JULIAN DAY	THE REPORTED DAY OF THE CURRENT OR INDICATED YEAR BASED ON GREENWICH MEAN TIME (GMT).

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APPENDIX B, PART II

NFI NAME  
CP007 TIME OF INTERCEPT  
[TOI] DEFINITION  
CONTAINS TIME OF OBSERVATION OF THE EVENT OR TIME FOR WHICH THE POSITION OR STATUS IS VALID.

DATA STANDARD USAGE: IBS STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
380/801	CLOCK TIME	PROVIDES A TIME OF DAY REPORTED IN SECONDS. TIME PROVIDED IS UTC TIME UNLESS IDENTIFIED OTHERWISE.

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NFI NAME  
CP008 JULIAN DAY OF INTERCEPT  
[Julian\_Day\_Of\_Intcp]

DATA STANDARD USAGE: IBS

DEFINITION  
IDENTIFIES THE DAY OF THE CURRENT OR INDICATED YEAR IN WHICH THE SPECIFIED INFORMATION WAS DETECTED OR IDENTIFIED.

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI NAME

4019/801 JULIAN DAY

STATUS:

DEFINITION/EXPLANATION

THE REPORTED DAY OF THE CURRENT OR INDICATED YEAR BASED ON GREENWICH MEAN TIME (GMT).

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NFI	NAME	DEFINITION
CP009	PLATFORM EVALUATION PERCENT CONFIDENCE [Plat_Eval_Pct_Conf]	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE ENVIRONMENT ID.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
431/801	EVALUATION PERCENT CONFIDENCE	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS RELATIVE TO THE DETERMINATION OF A VALUE IN ANOTHER IDENTIFIED FIELD.

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NFI	NAME	DEFINITION
CP010	PLATFORM EVALUATION GENERAL CONFIDENCE [Plat_Eval_Genrl_Conf]	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE ENVIRONMENT ID.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
431/802	EVALUATION GENERAL CONFIDENCE	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS RELATIVE TO THE DETERMINATION OF A VALUE IN ANOTHER IDENTIFIED FIELD.

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NFI NAME  
CP011 LINK 11/11B IDENTIFIER  
[Link\_11\_11B\_ID]

DEFINITION  
DENOTES THE ENTITY AS ALSO BEING PORTRAYED ON, OR FORWARDED FROM,  
LINK 11/11B LINKS BY THE REFERENCED PARTICIPATING UNIT/REPORTING  
UNIT WITH THE REFERENCED LINK 11/11B TRACK NUMBER.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI NAME

DEFINITION/EXPLANATION

269/801 LINK 11/11B TRACK NUMBER,  
REFERENCETRACK NUMBER THAT THE ENTITY IS IDENTIFIED BY ON LINK  
11 OR 11B.

269/802 LINK 11/11B PU/RU

IDENTIFIES THE UNIT WHICH ORIGINATED OR IS RESPONSIBLE  
FOR REPORTING THE TRACK ON LINK 11 OR LINK 11B. ON  
LINK 11, IT IS CALLED A PARTICIPATING UNIT (PU) AND  
ON LINK 11B IT IS CALLED A REPORTING UNIT (RU).**UNCLASSIFIED**

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NFI	NAME	DEFINITION
CP012	LINK 16 IDENTIFIER [Link_16_ID]	DENOTES THE ENTITY AS ALSO BEING PORTRAYED ON, OR FORWARDED FROM, A TADIL J LINK BY THE REFERENCED JOINT OR PARTICIPATING UNIT WITH THE REFERENCED LINK 16 TRACK NUMBER.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
769/802	LINK 16 TRACK NUMBER, REFERENCE	TRACK NUMBER THAT THE ENTITY IS IDENTIFIED BY ON LINK 16.
769/801	LINK 16 TRACK NUMBER, SOURCE	THE TN OF THE UNIT (I.E., JU OR PU) THAT ORIGINATED THE MESSAGE.

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NFI	NAME	DEFINITION
CP013	TDDS CORRELATION INDEX [TDDS_CI]	A DIGRAPH ASSIGNED BY DIA TO TDDS DATA PRODUCERS THAT ALLOWS TACTICAL DATA PROCESSOR SOFTWARE TO WEIGH SENSOR SYSTEM ATTRIBUTES FOR CORRELATION PURPOSES.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1862/801	CORRELATION INDEX	A CODE FOR A NATIONAL SYSTEM. FOR FURTHER U.S. IMPLEMENTATION GUIDANCE, SEE JIEO CIRCULAR 9152, ITEM 293.

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NFI	NAME	DEFINITION
CP016	TIBS TRACK NUMBER [TIBS_Trk_Num]	DENOTES THE ENTITY AS ALSO BEING PORTRAYED ON, OR FORWARDED FROM, AN IBS INTERACTIVE (TIBS) NETWORK BY THE REFERENCED ORIGINATING NODE (STATION AND SUBNET ADDRESS) WITH THE REFERENCED TIBS LABEL AND MESSAGE NUMBER.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8008/003	SUBNET ADDRESS, TIBS	IDENTIFIES THE SUBNET OF THE TIBS PRODUCER OF THE REFERENCE MESSAGE.
8008/002	STATION ADDRESS, TIBS	IDENTIFIES THE STATION OR ORIGINATING NODE OF THE PRODUCER OF THE TIBS TRACK.
8003/001	TIBS LABEL	INDICATES TYPE OF TIBS MESSAGE.
4046/808	MESSAGE NUMBER, TIBS	NUMBER ISSUED BY TIBS TRANSMITTING STATION WHICH EQUATES TO ENTITY DESCRIBED IN THIS MESSAGE.

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NFI	NAME	DEFINITION
CP017	ENTITY LOCATION [Entity_Loc]	DEPICTS THE POSITION OF THE ENTITY BEING REPORTED AT THE TIME (TIME OF INTERCEPT) THE ENTITY WAS OBSERVED.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP018	LOCATION	PROVIDES A POSITION EXPRESSED IN LATITUDE AND LONGITUDE.

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NFI      NAME  
CP018    LOCATION  
              [Loc]

DEFINITION  
PROVIDES A POSITION EXPRESSED IN LATITUDE AND LONGITUDE.

DATA STANDARD USAGE:     IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI    NAME

DEFINITION/EXPLANATION

281/801    LATITUDE, SECONDS

PROVIDES LATITUDE IN SECONDS.

282/801    LONGITUDE, SECONDS

PROVIDES LONGITUDE IN SECONDS.

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NFI	NAME	DEFINITION
CP019	ERROR ELLIPSE 2D [Err_Ellip_2D]	IDENTIFIES A CONDITION WHERE THE AREA SEMI-MAJOR AXIS AND AREA SEMI-MINOR AXIS ARE NOT EQUAL AND THE TWO-DIMENSIONAL (2D) AREA IS AN ELLIPSE. FOR THIS SHAPE, AN ASSOCIATED LOCATION IDENTIFIES THE CENTERPOINT OF A 3 SIGMA ELLIPSE AS DEFINED BY THE LENGTHS OF THE MAJOR AXIS AND MINOR AXIS, RESULTING FROM THE REPORTED SEMI-MAJOR AXIS AND SEMI-MINOR AXIS, AND WITH THE DEFINED AREA HAVING A 95% PROBABILITY OF CONTAINING THE TRUE LOCATION OF THE REFERENCED ENTITY.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
419/801	AREA SEMI-MAJOR AXIS	THIS FIELD CONTAINS HALF THE LENGTH OF THE LONGEST AXIS USED, IN CONJUNCTION WITH THE AREA SEMI-MINOR AXIS, AXIS ORIENTATION, LATITUDE AND LONGITUDE FIELDS, TO DESCRIBE THE AREA OF A CIRCLE, ELLIPSE, SQUARE OR RECTANGLE. THE LENGTH EXPRESSED IN THIS FIELD IS DOUBLED AND CENTERED ON THE POSITION DESCRIBED BY LATITUDE AND LONGITUDE.
419/802	AREA SEMI-MINOR AXIS	THIS FIELD CONTAINS HALF THE LENGTH OF THE SHORTEST AXIS USED, IN CONJUNCTION WITH AREA SEMI-MAJOR AXIS, AXIS ORIENTATION, LATITUDE AND LONGITUDE FIELDS, TO DESCRIBE THE AREA OF A CIRCLE, ELLIPSE, SQUARE OR RECTANGLE. THIS LENGTH IS DOUBLED AND CENTERED ON THE LATITUDE/LONGITUDE POSITION WITH AN ORIENTATION OF 90 DEGREES TO THE AREA SEMI-MAJOR AXIS.
1806/801	AXIS ORIENTATION, IBS	THE AXIS ORIENTATION IS THE OFFSET FROM TRUE NORTH EXPRESSED IN DEGREES AND IS USED TO ORIENT THE AREA MAJOR AXIS OF A CIRCLE, ELLIPSE, SQUARE, OR RECTANGLE.

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NFI	NAME	DEFINITION
CP020	ERROR RECTANGLE 2D [Err_Rectng_2D]	IDENTIFIES THAT IF THE AREA SEMI-MAJOR AXIS AND AREA SEMI-MINOR AXIS ARE EQUAL, THEN THE TWO-DIMENSIONAL AREA IS A SQUARE AREA OF ERROR. IF THEY ARE NOT EQUAL, THEN THE AREA IS A RECTANGULAR AREA OF ERROR. FOR THIS SHAPE, AN ASSOCIATED LOCATION IDENTIFIES THE CENTERPOINT OF A 3-SIGMA SQUARE OR RECTANGULAR AREA AS DEFINED BY THE LENGTHS OF THE MAJOR AXIS AND MINOR AXIS, RESULTING FROM THE REPORTED SEMI-MAJOR AXIS AND SEMI-MINOR AXIS, AND WITH THE DEFINED AREA HAVING A 95% PROBABILITY OF CONTAINING THE TRUE LOCATION OF THE REFERENCED ENTITY.
 DATA STANDARD USAGE: IBS		
 DATA ELEMENT TYPE: COMPOSITE		
 RESET ATTRIBUTE: YES		
 CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
419/801	AREA SEMI-MAJOR AXIS	THIS FIELD CONTAINS HALF THE LENGTH OF THE LONGEST AXIS USED, IN CONJUNCTION WITH THE AREA SEMI-MINOR AXIS, AXIS ORIENTATION, LATITUDE AND LONGITUDE FIELDS, TO DESCRIBE THE AREA OF A CIRCLE, ELLIPSE, SQUARE OR RECTANGLE. THE LENGTH EXPRESSED IN THIS FIELD IS DOUBLED AND CENTERED ON THE POSITION DESCRIBED BY LATITUDE AND LONGITUDE.
419/802	AREA SEMI-MINOR AXIS	THIS FIELD CONTAINS HALF THE LENGTH OF THE SHORTEST AXIS USED, IN CONJUNCTION WITH AREA SEMI-MAJOR AXIS, AXIS ORIENTATION, LATITUDE AND LONGITUDE FIELDS, TO DESCRIBE THE AREA OF A CIRCLE, ELLIPSE, SQUARE OR RECTANGLE. THIS LENGTH IS DOUBLED AND CENTERED ON THE LATITUDE/LONGITUDE POSITION WITH AN ORIENTATION OF 90 DEGREES TO THE AREA SEMI-MAJOR AXIS.
1806/801	AXIS ORIENTATION, IBS	THE AXIS ORIENTATION IS THE OFFSET FROM TRUE NORTH EXPRESSED IN DEGREES AND IS USED TO ORIENT THE AREA MAJOR AXIS OF A CIRCLE, ELLIPSE, SQUARE, OR RECTANGLE.

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP022 MEASURED ALTITUDE  
[Measured\_Altitude]

DEFINITION  
THE HEIGHT OF AN OBJECT AS MEASURED RADIALLY OUTWARD FROM THE EARTH  
AS A QUANTITY ABOVE/BELOW MEAN SEA LEVEL (MSL).

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
365/801	ALTITUDE	THE ALTITUDE (HEIGHT) OF AN OBJECT AS MEASURED RADIALLY OUTWARD FROM THE EARTH AS A QUANTITY ABOVE/BELOW MEAN SEA LEVEL (MSL).

**UNCLASSIFIED**

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**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP023	IFF MODE 3C ALTITUDE [IFF_3C_Alt]	THE ALTITUDE OF THE ENTITY AS REPORTED VIA ITS MODE 3C IFF TRANSPONDER.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
365/801	ALTITUDE	THE ALTITUDE (HEIGHT) OF AN OBJECT AS MEASURED RADIALLY OUTWARD FROM THE EARTH AS A QUANTITY ABOVE/BELOW MEAN SEA LEVEL (MSL).

**UNCLASSIFIED**

B2-47

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP024 X Y Z POSITION  
[X\_Y\_Z\_Position]

DATA STANDARD USAGE: IBS

DEFINITION  
THE X, Y, OR Z POSITION IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP025	X POSITION	THE X POSITION IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).
CP026	Y POSITION	THE Y POSITION IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).
CP027	Z POSITION	THE Z POSITION IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

**UNCLASSIFIED**

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**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP025 X POSITION [X\_Position] DEFINITION  
THE X POSITION IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).  
  
DATA STANDARD USAGE: IBS STATUS:  
  
DATA ELEMENT TYPE: COMPOSITE  
  
RESET ATTRIBUTE: NO  
  
CHILD ELEMENTS:  
  
NFI/DFI/DUI NAME DEFINITION/EXPLANATION  
1108/801 POSITION THE POSITION IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).  
  
NFI NO CP025 PAGE 1 OF 1

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MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP026 Y POSITION [Y\_Position] DEFINITION  
THE Y POSITION IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

DATA STANDARD USAGE: IBS STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1108/801	POSITION	THE POSITION IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

**UNCLASSIFIED**

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**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP027 Z POSITION THE Z POSITION IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).  
[Z\_Position]

DATA STANDARD USAGE: IBS STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1108/801	POSITION	THE POSITION IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

**UNCLASSIFIED**

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**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP028	X Y Z VELOCITY [X_Y_Z_Vel]	THE RATE OF CHANGE OF POSITION ALONG THE X, Y, AND Z AXES (WGS-84 REFERENCE FRAME).
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP029	X VELOCITY	THE RATE OF CHANGE OF POSITION ALONG THE X AXIS (WGS-84 REFERENCE FRAME).
CP030	Y VELOCITY	THE RATE OF CHANGE OF POSITION ALONG THE Y AXIS (WGS-84 REFERENCE FRAME).
CP031	Z VELOCITY	THE RATE OF CHANGE OF POSITION ALONG THE Z AXIS (WGS-84 REFERENCE FRAME).

**UNCLASSIFIED**

B2-52

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP029 X VELOCITY  
[X\_Vel]

DEFINITION  
THE RATE OF CHANGE OF POSITION ALONG THE X AXIS (WGS-84 REFERENCE FRAME).

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1113/801	VELOCITY IN WGS-84	THE RATE OF CHANGE OF POSITION ALONG THE AXIS (WGS-84 REFERENCE FRAME).

**UNCLASSIFIED**

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**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART II

NFI NAME  
CP030 Y VELOCITY  
[Y\_Vel]

DEFINITION  
THE RATE OF CHANGE OF POSITION ALONG THE Y AXIS (WGS-84 REFERENCE FRAME).

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1113/801	VELOCITY IN WGS-84	THE RATE OF CHANGE OF POSITION ALONG THE AXIS (WGS-84 REFERENCE FRAME).

**UNCLASSIFIED**

B2-54

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP031 Z VELOCITY  
[Z\_Vel]

DEFINITION  
THE RATE OF CHANGE OF POSITION ALONG THE Z AXIS (WGS-84 REFERENCE FRAME).

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1113/801	VELOCITY IN WGS-84	THE RATE OF CHANGE OF POSITION ALONG THE AXIS (WGS-84 REFERENCE FRAME).

**UNCLASSIFIED**

B2-55

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

**UNCLASSIFIED**

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NFI	NAME	DEFINITION
CP032	FULL COVARIANCE MATRIX [Full_Covar_Mtrx]	IDENTIFIES THE COMPLETE SET OF COMPONENTS NECESSARY TO RECONSTRUCT A SYMMETRIC 6X6 ELEMENT MATRIX REPRESENTING THE CALCULATED TRACKING ERRORS AND STATISTICAL ESTIMATES OF BIASES PRODUCED BY EMPLACEMENT ERRORS, ALIGNMENT ERRORS, AND SYSTEMATIC ERRORS. THIS MATRIX INDICATES THE ACCURACY OF REPORTED POSITION AND VELOCITY MEASUREMENTS OF AN ENTITY AND CAN BE UTILIZED TO PREDICT OR EXTRAPOLATE FUTURE POSITIONS.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP033	SIGMA X Y Z POSITION	REPRESENTS THE SQUARE ROOTS OF THE VARIANCES OF THE ERRORS IN THE X, Y, AND Z AXIS POSITION STATE VECTORS EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.
CP037	SIGMA X Y Z VELOCITY	REPRESENTS THE SQUARE ROOTS OF THE VARIANCES OF THE ERRORS IN THE X, Y, AND Z AXIS VELOCITY STATE VECTORS EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.
CP041	FULL MATRIX ELEMENTS	IDENTIFIES A GROUPING OF ELEMENTS WHICH COMPOSE THE FULL SET OF X, Y, Z POSITION AND VELOCITY VECTOR ELEMENTS (ROW/COLUMN VARIABLES) IN A COVARIANCE 6X6 MATRIX. EACH ROW/COLUMN ELEMENT WITHIN THE MATRIX DEFINES THE COVARIANCE RELATIONSHIP BETWEEN EACH OF THE DIFFERENT MEASURED VARIABLES. THIS COVARIANCE RELATIONSHIP IS THE LIKELIHOOD THAT, WHEN THE ROW VARIABLE CHANGES, THE COLUMN VARIABLES IT IS RELATED TO, CHANGES IN A PARTICULAR MANNER.
PC002	SIGNS OF FULL MATRIX ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE SIGN VALUES FOR EACH OF THE COVARIANCE DATA ELEMENTS IN A FULL COVARIANCE MATRIX.

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP033	SIGMA X Y Z POSITION [Sigma_X_Y_Z_Position]	REPRESENTS THE SQUARE ROOTS OF THE VARIANCES OF THE ERRORS IN THE X, Y, AND Z AXIS POSITION STATE VECTORS EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP034	SIGMA X POSITION	REPRESENTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR IN THE X AXIS POSITION STATE VECTOR EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.
CP035	SIGMA Y POSITION	REPRESENTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR IN THE Y AXIS POSITION STATE VECTORS EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.
CP036	SIGMA Z POSITION	REPRESENTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR IN THE Z AXIS POSITION STATE VECTOR EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.

**UNCLASSIFIED**

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**UNCLASSIFIED**

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APPENDIX B, PART II

NFI NAME  
CP034 SIGMA X POSITION  
[Sigma\_X\_Position]

DEFINITION  
REPRESENTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR IN THE X  
AXIS POSITION STATE VECTOR EXPRESSED IN THE ECF WGS-84 COORDINATE  
SYSTEM.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI NAME

DEFINITION/EXPLANATION

1109/801 SIGMA POSITION

REPRESENTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR  
IN THE X, Y, OR Z AXIS POSITION STATE VECTOR  
EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.

**UNCLASSIFIED**

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**UNCLASSIFIED**

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APPENDIX B, PART II

NFI NAME  
CP035 SIGMA Y POSITION  
[Sigma\_Y\_Position]

DEFINITION

REPRESENTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR IN THE Y AXIS POSITION STATE VECTORS EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI NAME

DEFINITION/EXPLANATION

1109/801 SIGMA POSITION

REPRESENTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR IN THE X, Y, OR Z AXIS POSITION STATE VECTOR EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.

**UNCLASSIFIED**

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**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP036 SIGMA Z POSITION  
[Sigma\_Z\_Position]

**DEFINITION**

REPRESENTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR IN THE Z AXIS POSITION STATE VECTOR EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI NAME

**DEFINITION/EXPLANATION**

1109/801 SIGMA POSITION

REPRESENTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR IN THE X, Y, OR Z AXIS POSITION STATE VECTOR EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.

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**UNCLASSIFIED**

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP037	SIGMA X Y Z VELOCITY [Sigma_X_Y_Z_Vel]	REPRESENTS THE SQUARE ROOTS OF THE VARIANCES OF THE ERRORS IN THE X, Y, AND Z AXIS VELOCITY STATE VECTORS EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP038	SIGMA X VELOCITY	REPRESENTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR IN THE X AXIS VELOCITY STATE VECTOR EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.
CP039	SIGMA Y VELOCITY	REPRESENTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR IN THE Y AXIS VELOCITY STATE VECTOR EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.
CP040	SIGMA Z VELOCITY	REPRESENTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR IN THE Z AXIS VELOCITY STATE VECTOR EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.

**UNCLASSIFIED**

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**UNCLASSIFIED**

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APPENDIX B, PART II

NFI NAME  
CP038 SIGMA X VELOCITY  
[Sigma\_X\_Vel]

**DEFINITION**

REPRESENTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR IN THE X  
AXIS VELOCITY STATE VECTOR EXPRESSED IN THE ECF WGS-84 COORDINATE  
SYSTEM.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI NAME

**DEFINITION/EXPLANATION**

1109/802 SIGMA VELOCITY

REPRESENTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR  
IN THE X, Y, OR Z AXIS VELOCITY STATE VECTOR  
EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.

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APPENDIX B, PART II

NFI NAME  
CP039 SIGMA Y VELOCITY  
[Sigma\_Y\_Vel]

DEFINITION

REPRESENTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR IN THE Y  
AXIS VELOCITY STATE VECTOR EXPRESSED IN THE ECF WGS-84 COORDINATE  
SYSTEM.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI NAME

DEFINITION/EXPLANATION

1109/802 SIGMA VELOCITY

REPRESENTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR  
IN THE X, Y, OR Z AXIS VELOCITY STATE VECTOR  
EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP040	SIGMA Z VELOCITY [Sigma_Z_Vel]	REPRESNTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR IN THE Z AXIS VELOCITY STATE VECTOR EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1109/802	SIGMA VELOCITY	REPRESNTS THE SQUARE ROOT OF THE VARIANCE OF THE ERROR IN THE X, Y, OR Z AXIS VELOCITY STATE VECTOR EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP041	FULL MATRIX ELEMENTS [Full_Mtrx_Elmts]	IDENTIFIES A GROUPING OF ELEMENTS WHICH COMPOSE THE FULL SET OF X, Y, Z POSITION AND VELOCITY VECTOR ELEMENTS (ROW/COLUMN VARIABLES) IN A COVARIANCE 6X6 MATRIX. EACH ROW/COLUMN ELEMENT WITHIN THE MATRIX DEFINES THE COVARIANCE RELATIONSHIP BETWEEN EACH OF THE DIFFERENT MEASURED VARIABLES. THIS COVARIANCE RELATIONSHIP IS THE LIKELIHOOD THAT, WHEN THE ROW VARIABLE CHANGES, THE COLUMN VARIABLES IT IS RELATED TO, CHANGES IN A PARTICULAR MANNER.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1106/801	COVARIANCE DATA ELEMENT 22, IBS	REPRESENTS THE ELEMENT OCCUPYING ROW 2, COLUMN 2 OF THE COVARIANCE DATA MATRIX.
1103/801	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 23, IBS	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 23.
1103/802	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 24, IBS	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 24
1103/803	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 25, IBS	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 25
1103/804	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 26, IBS	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 26
1106/802	COVARIANCE DATA ELEMENT 33, IBS	REPRESENTS THE ELEMENT OCCUPYING ROW 3, COLUMN 3 OF THE COVARIANCE DATA MATRIX.
1103/805	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 34, IBS	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 34
1103/806	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 35, IBS	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 35
1103/807	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 36, IBS	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 36

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APPENDIX B, PART II

NFI      NAME  
CP041    FULL MATRIX ELEMENTS

## CHILD ELEMENTS (CONTINUED):

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1106/803	COVARIANCE DATA ELEMENT 44, IBS	REPRESENTS THE ELEMENT OCCUPYING ROW 4, COLUMN 4 OF THE COVARIANCE DATA MATRIX.
1103/808	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 45, IBS	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 45
1103/809	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 46, IBS	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 46
1106/804	COVARIANCE DATA ELEMENT 55, IBS	REPRESENTS THE ELEMENT OCCUPYING ROW 5, COLUMN 5 OF THE COVARIANCE DATA MATRIX.
1103/810	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 56, IBS	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 56
1106/805	COVARIANCE DATA ELEMENT 66, IBS	REPRESENTS THE ELEMENT OCCUPYING ROW 6, COLUMN 6 OF THE COVARIANCE DATA MATRIX.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP042	PARTIAL COVARIANCE MATRIX [Partial_Covar_Mtrx]	IDENTIFIES A GROUPING OF ELEMENTS WHICH COMPOSE THE TWO 3X3 SUBMATRICES DESCRIBING THE COVARIANCE RELATIONSHIP BETWEEN JUST THE POSITION MEASUREMENTS AND THE VELOCITY MEASUREMENTS.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP043	POSITION SUBMATRIX	IDENTIFIES A GROUPING OF ELEMENTS WHICH COMPOSE THE 3X3 ELEMENT MATRIX REPRESENTING THE COVARIANCE RELATIONSHIP BETWEEN EACH MEASURED X, Y, Z CARTESIAN LOCATION VARIABLE.
CP046	VELOCITY SUBMATRIX	IDENTIFIES A GROUPING OF ELEMENTS WHICH COMPOSE A 3X3 ELEMENT MATRIX REPRESENTING THE COVARIANCE RELATIONSHIP BETWEEN EACH MEASURED X, Y, Z VELOCITIES WITH RESPECT TO THE X, Y, Z CARTESIAN LOCATION VARIABLES IN A POSITION SUBMATRIX.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP043	POSITION SUBMATRIX [Position_Submtx]	IDENTIFIES A GROUPING OF ELEMENTS WHICH COMPOSE THE 3X3 ELEMENT MATRIX REPRESENTING THE COVARIANCE RELATIONSHIP BETWEEN EACH MEASURED X, Y, Z CARTESIAN LOCATION VARIABLE.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP033	SIGMA X Y Z POSITION	REPRESNTS THE SQUARE ROOTS OF THE VARIANCES OF THE ERRORS IN THE X, Y, AND Z AXIS POSITION STATE VECTORS EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.
CP044	SUBMATRIX ELEMENTS	IDENTIFIES A GROUPING OF ELEMENTS WHICH COMPOSE A SET OF MEASURED COVARIANCE VARIABLES WHICH MAKE UP EITHER A POSITIONAL SUBMATRIX OR A VELOCITY SUBMATRIX.
CP045	SIGNS OF SUBMATRIX ELEMENTS	IDENTIFIES A GROUPING OF ELEMENTS WHICH COMPOSE THE SET OF SIGN VALUES FOR EACH OF THE THREE COVARIANCE DATA ELEMENTS IN A POSITION OR VELOCITY SUBMATRIX.

**UNCLASSIFIED**

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**UNCLASSIFIED**

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APPENDIX B, PART II

NFI NAME  
CP044 SUBMATRIX ELEMENTS  
[Submtrx\_Elmnts]

DEFINITION  
IDENTIFIES A GROUPING OF ELEMENTS WHICH COMPOSE A SET OF MEASURED COVARIANCE VARIABLES WHICH MAKE UP EITHER A POSITIONAL SUBMATRIX OR A VELOCITY SUBMATRIX.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1106/801	COVARIANCE DATA ELEMENT 22, IBS	REPRESENTS THE ELEMENT OCCUPYING ROW 2, COLUMN 2 OF THE COVARIANCE DATA MATRIX.
1103/801	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 23, IBS	ABSOLUTE VALUE OF COVARIANCE DATA ELEMENT 23.
1106/802	COVARIANCE DATA ELEMENT 33, IBS	REPRESENTS THE ELEMENT OCCUPYING ROW 3, COLUMN 3 OF THE COVARIANCE DATA MATRIX.

**UNCLASSIFIED**

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**UNCLASSIFIED**

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APPENDIX B, PART II

NFI NAME  
CP045 SIGNS OF SUBMATRIX ELEMENTS  
[Signs\_Of\_Submtrx\_Elmnts]

DEFINITION  
IDENTIFIES A GROUPING OF ELEMENTS WHICH COMPOSE THE SET OF SIGN VALUES FOR EACH OF THE THREE COVARIANCE DATA ELEMENTS IN A POSITION OR VELOCITY SUBMATRIX.

DATA STANDARD USAGE: IBS

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1110/801	SIGN OF COVARIANCE DATA ELEMENT 12, IBS	SIGN OF COVARIANCE DATA ELEMENT 12.
1110/802	SIGN OF COVARIANCE DATA ELEMENT 13, IBS	SIGN OF COVARIANCE DATA ELEMENT 13.
1110/806	SIGN OF COVARIANCE DATA ELEMENT 23, IBS	SIGN OF COVARIANCE DATA ELEMENT 23.

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MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP046	VELOCITY SUBMATRIX [Vel_Submtx]	IDENTIFIES A GROUPING OF ELEMENTS WHICH COMPOSE A 3X3 ELEMENT MATRIX REPRESENTING THE COVARIANCE RELATIONSHIP BETWEEN EACH MEASURED X, Y, Z VELOCITIES WITH RESPECT TO THE X, Y, Z CARTESIAN LOCATION VARIABLES IN A POSITION SUBMATRIX.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP037	SIGMA X Y Z VELOCITY	REPRESNTS THE SQUARE ROOTS OF THE VARIANCES OF THE ERRORS IN THE X, Y, AND Z AXIS VELOCITY STATE VECTORS EXPRESSED IN THE ECF WGS-84 COORDINATE SYSTEM.
CP044	SUBMATRIX ELEMENTS	IDENTIFIES A GROUPING OF ELEMENTS WHICH COMPOSE A SET OF MEASURED COVARIANCE VARIABLES WHICH MAKE UP EITHER A POSITIONAL SUBMATRIX OR A VELOCITY SUBMATRIX.
CP045	SIGNS OF SUBMATRIX ELEMENTS	IDENTIFIES A GROUPING OF ELEMENTS WHICH COMPOSE THE SET OF SIGN VALUES FOR EACH OF THE THREE COVARIANCE DATA ELEMENTS IN A POSITION OR VELOCITY SUBMATRIX.

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MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP047	POLAR START LOCATION [Polar_Start_Loc]	DEPICTS THE ACTUAL START POSITION OF THE REPORTED ENTITY.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP018	LOCATION	PROVIDES A POSITION EXPRESSED IN LATITUDE AND LONGITUDE.

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MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP048 POLAR INTERMEDIATE LOCATION  
[Polar\_Intermed\_Loc]

DEFINITION  
DEPICTS THE INTERMEDIATE POSITION(S) THE REPORTED ENTITY HAS OR  
WILL TRAVEL TO/THROUGH.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI NAME DEFINITION/EXPLANATION  
CP018 LOCATION PROVIDES A POSITION EXPRESSED IN LATITUDE AND  
LONGITUDE.

**UNCLASSIFIED**

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MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP049	POLAR STOP LOCATION [Polar_Stop_Loc]	DEPICTS THE STOP POSITION THE REPORTED ENTITY HAS OR WILL TRAVEL TO.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP018	LOCATION	PROVIDES A POSITION EXPRESSED IN LATITUDE AND LONGITUDE.

**UNCLASSIFIED**

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MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP050 FREQUENCY RANGE  
[Freq\_Rng] DEFINITION  
THE LOWER AND UPPER FREQUENCY LIMITS THE Emitter IS UTILIZING.

DATA STANDARD USAGE: IBS STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
417/801	FREQUENCY	MEASUREMENT BETWEEN REPETITIVE PATTERNS OF A WAVEFORM.
417/801	FREQUENCY	MEASUREMENT BETWEEN REPETITIVE PATTERNS OF A WAVEFORM.

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APPENDIX B, PART II

NFI NAME  
CP054 PRF RANGE  
[PRF\_Rng]

DEFINITION  
REPORTS A RANGE OF PULSE REPETITION FREQUENCIES (PRF), WITH THE FIRST PRF IN THE COMPOSITE BEING THE LOWEST AND THE SECOND BEING THE HIGHEST.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
440/801	PRF	THE RATE AT WHICH PULSES OR PULSE GROUPS ARE TRANSMITTED.
440/801	PRF	THE RATE AT WHICH PULSES OR PULSE GROUPS ARE TRANSMITTED.

**UNCLASSIFIED**

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MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP055 PRI RANGE  
[PRI\_Rng]

DEFINITION  
REPORTS A RANGE OF PULSE REPETITION INTERVALS (PRI), WITH THE FIRST  
PRI IN THE COMPOSITE BEING THE LOWEST AND THE SECOND BEING THE  
HIGHEST.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI NAME

DEFINITION/EXPLANATION

1903/806 PRI

THE MEASURED TIME INTERVAL BETWEEN TWO TRANSMITTED  
PULSES OR PULSE GROUPS.

1903/806 PRI

THE MEASURED TIME INTERVAL BETWEEN TWO TRANSMITTED  
PULSES OR PULSE GROUPS.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP057	DELTA TIME SET [Delta_Time_Set]	IDENTIFIES A PAIR OF TIME VALUES WITH AN ASSOCIATED SEQUENCING NUMBER WHICH MAY BE GROUPED TOGETHER WITH OTHER DELTA TIME SETS TO DESCRIBE A SEQUENCE OF INTERCEPTS (SUCH AS A SERIES OF PULSES) OR A GROUP OF TIME INCREMENTS (SUCH AS TIME DIFFERENCES).
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8055/001	SEQUENCE NUMBER	PROVIDES A CAPABILITY TO IDENTIFY AND MAINTAIN ORDER OF ASSOCIATED FIELDS. INSTANCES OF AN ASSOCIATED FIELD ARE TRANSMITTED WITH A ONE-UP COUNT OF THIS FIELD WITH A ROLLOVER FROM THE MAXIMUM VALUE BACK TO THE MINIMUM VALUE.
8039/001	DELTA TIME	IDENTIFIES AN INCREMENT OF TIME SUCH AS A TIME OFFSET FROM A SET TIME OR TIME DIFFERENCE BETWEEN TWO OTHER TIME VALUES.
8039/001	DELTA TIME	IDENTIFIES AN INCREMENT OF TIME SUCH AS A TIME OFFSET FROM A SET TIME OR TIME DIFFERENCE BETWEEN TWO OTHER TIME VALUES.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP058	AMPLIFICATION EVALUATION PERCENT CONFIDENCE [Ampn_Eval_Pct_Conf]	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE ELINT NOTATION, TRANSMISSION DESCRIPTION, ARBITRARY ELINT NOTATION, COMMUNICATIONS Emitter NOTATION, SHIP CONTROL NUMBER, MIDB EQUIPMENT CODE, IMO NUMBER, MMSI NUMBER, INTERNATIONAL CALL SIGN, OR COMMUNICATIONS CALL SIGN.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
431/801	EVALUATION PERCENT CONFIDENCE	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS RELATIVE TO THE DETERMINATION OF A VALUE IN ANOTHER IDENTIFIED FIELD.

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APPENDIX B, PART II

NFI NAME  
CP059 AMPLIFICATION EVALUATION  
GENERAL CONFIDENCE  
[Ampn\_Eval\_Genrl\_Conf]

DEFINITION  
PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE ELINT NOTATION, TRANSMISSION DESCRIPTION, ARBITRARY ELINT NOTATION, COMMUNICATIONS Emitter NOTATION, SHIP CONTROL NUMBER, MIDB EQUIPMENT CODE, IMO NUMBER, MMSI NUMBER, INTERNATIONAL CALL SIGN, OR COMMUNICATIONS CALL SIGN.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI NAME

DEFINITION/EXPLANATION

431/802 EVALUATION GENERAL CONFIDENCE

PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS RELATIVE TO THE DETERMINATION OF A VALUE IN ANOTHER IDENTIFIED FIELD.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP061	GPS ELEMENTS [GPS_Elmnts]	PROVIDES GPS TIME OF DAY AND THE SOURCE'S DATUM USED PRIOR TO CONVERSION TO THE REPORTED WGS-84.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP062	GPS TIME OF FIX ELEMENTS	PROVIDES A TIME OF DAY BASED ON GPS.
4192/801	ORIGINATOR DATUM	SOURCE'S DATA GEOGRAPHIC REFERENCE MODEL USED BY THE ORIGINATOR PRIOR TO CONVERSION TO WGS-84.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP062	GPS TIME OF FIX ELEMENTS [GPS_Time_Fix_Elmts]	PROVIDES A TIME OF DAY BASED ON GPS.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
380/801	CLOCK TIME	PROVIDES A TIME OF DAY REPORTED IN SECONDS. TIME PROVIDED IS UTC TIME UNLESS IDENTIFIED OTHERWISE.
4019/801	JULIAN DAY	THE REPORTED DAY OF THE CURRENT OR INDICATED YEAR BASED ON GREENWICH MEAN TIME (GMT).

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP064	REFERENCE ENTITY ID [Ref_Entity_ID]	IDENTIFIES A UNIQUE GLOBAL ENTITY IDENTIFIER (LIKELY SEPARATELY AND/OR PREVIOUSLY REPORTED) BEING REFERRED TO BY A REPORTED ACTION OR SET OF DATA.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP004	ADDRESS	WITHIN THE IBS CMF, THE COMBINATION OF THE SUBNET IDENTIFIER AND NODE NUMBER ARE USED TO PROVIDE THE ADDRESSING OF MESSAGES. THE COMBINATION CAN IDENTIFY UNIQUE DATA ORIGINATORS, TRANSMITTERS, OR INTENDED RECIPIENTS OF CMF DATA.
4046/807	ENTITY NUMBER	NUMBER ASSIGNED BY SOURCE OR TRANSMITTING STATION WHICH EQUATES TO THE ENTITY DESCRIBED IN A MESSAGE.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP065	REMOTE ADDRESS [Remote_Addr]	THE ADDRESS OF AN IBS PARTICIPANT OTHER THAN THE MESSAGE ORIGINATOR.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP004	ADDRESS	WITHIN THE IBS CMF, THE COMBINATION OF THE SUBNET IDENTIFIER AND NODE NUMBER ARE USED TO PROVIDE THE ADDRESSING OF MESSAGES. THE COMBINATION CAN IDENTIFY UNIQUE DATA ORIGINATORS, TRANSMITTERS, OR INTENDED RECIPIENTS OF CMF DATA.

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APPENDIX B, PART II

NFI NAME DEFINITION  
 CP075 SAMPLE INTERVAL DEFINES A TIME INTERVAL BETWEEN TWO OR MORE PARTICULAR MEASURED  
           [Sample\_Intvl] SAMPLES (E.G. WAVEFORM AMPLITUDE VALUES). THE RECIPROCAL OF THIS  
                           VALUE PROVIDES THE EFFECTIVE SAMPLING RATE.

DATA STANDARD USAGE: IBS STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4037/801	INTERVAL	THE DIFFERENCE BETWEEN TWO TIMES.

NFI NO CP075 PAGE 1 OF 1

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP076	ACTUAL POLAR LOCATION [Actual_Polar_Loc]	THE ACTUAL GEOGRAPHIC LOCATION FROM WHICH AN ENTITY DEPARTED, OR TO WHICH AN ENTITY WILL OR DID ARRIVE.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP018	LOCATION	PROVIDES A POSITION EXPRESSED IN LATITUDE AND LONGITUDE.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP077	ESTIMATED POLAR LOCATION [Estimated_Polar_Loc]	AN ESTIMATE OF THE GEOGRAPHIC LOCATION FROM WHICH AN ENTITY DEPARTED, OR TO WHICH AN ENTITY WILL OR DID ARRIVE.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP018	LOCATION	PROVIDES A POSITION EXPRESSED IN LATITUDE AND LONGITUDE.

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APPENDIX B, PART II

NFI NAME  
CP078 ACTUAL DAY TIME  
[Actual\_Day\_Time]

DATA STANDARD USAGE: IBS

DEFINITION  
THE ACTUAL DAY-TIME WHICH AN ENTITY DEPARTED, ARRIVED, OR WILL ARRIVE AT SPECIFIED LOCATION.

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
380/801	CLOCK TIME	PROVIDES A TIME OF DAY REPORTED IN SECONDS. TIME PROVIDED IS UTC TIME UNLESS IDENTIFIED OTHERWISE.
4019/801	JULIAN DAY	THE REPORTED DAY OF THE CURRENT OR INDICATED YEAR BASED ON GREENWICH MEAN TIME (GMT).

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APPENDIX B, PART II

NFI NAME  
CP079 ESTIMATED DAY TIME  
[Estimated\_Day\_Time]

DEFINITION  
THE ESTIMATED DAY-TIME WHICH AN ENTITY DEPARTED, ARRIVED, OR WILL ARRIVE AT SPECIFIED LOCATION.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
380/801	CLOCK TIME	PROVIDES A TIME OF DAY REPORTED IN SECONDS. TIME PROVIDED IS UTC TIME UNLESS IDENTIFIED OTHERWISE.
4019/801	JULIAN DAY	THE REPORTED DAY OF THE CURRENT OR INDICATED YEAR BASED ON GREENWICH MEAN TIME (GMT).

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP080	ENTITY ELLIPTICAL AREA [Entity_Ellip_Area]	USED TO DESCRIBE THE GEOGRAPHICAL ELLIPTICAL BOUNDARIES OF THE REPORTED ENTITY OR THE PHYSICAL, ACTIONABLE AREA OF THE OBJECTIVE.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
419/801	AREA SEMI-MAJOR AXIS	THIS FIELD CONTAINS HALF THE LENGTH OF THE LONGEST AXIS USED, IN CONJUNCTION WITH THE AREA SEMI-MINOR AXIS, AXIS ORIENTATION, LATITUDE AND LONGITUDE FIELDS, TO DESCRIBE THE AREA OF A CIRCLE, ELLIPSE, SQUARE OR RECTANGLE. THE LENGTH EXPRESSED IN THIS FIELD IS DOUBLED AND CENTERED ON THE POSITION DESCRIBED BY LATITUDE AND LONGITUDE.
419/802	AREA SEMI-MINOR AXIS	THIS FIELD CONTAINS HALF THE LENGTH OF THE SHORTEST AXIS USED, IN CONJUNCTION WITH AREA SEMI-MAJOR AXIS, AXIS ORIENTATION, LATITUDE AND LONGITUDE FIELDS, TO DESCRIBE THE AREA OF A CIRCLE, ELLIPSE, SQUARE OR RECTANGLE. THIS LENGTH IS DOUBLED AND CENTERED ON THE LATITUDE/LONGITUDE POSITION WITH AN ORIENTATION OF 90 DEGREES TO THE AREA SEMI-MAJOR AXIS.
1806/801	AXIS ORIENTATION, IBS	THE AXIS ORIENTATION IS THE OFFSET FROM TRUE NORTH EXPRESSED IN DEGREES AND IS USED TO ORIENT THE AREA MAJOR AXIS OF A CIRCLE, ELLIPSE, SQUARE, OR RECTANGLE.

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APPENDIX B, PART II

NFI NAME  
CP081 PLACE OF BIRTH  
[Place\_of\_Birth]

DEFINITION  
THE PLACE OR GEOGRAPHIC NAME OF THE LOCATION AT WHICH A SUBJECT PERSON WAS BORN.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4127/802	NATIONALITY, IBS	THE REAL OR VIRTUAL (EXERCISE) COUNTRY AFFILIATED WITH THE REPORTED ENTITY.
4150/807	LOCATION NAME	THE TEXTUAL NAME OF THE ASSOCIATED LOCATION BEING REPORTED.

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APPENDIX B, PART II

NFI      NAME  
CP082    COUNTRY  
            [Country]

DEFINITION  
THE INDEPENDENT FIRST-LEVEL GEOGRAPHIC-POLITICAL AREAS AND THEIR  
DEPENDENCIES, AREAS OF QUASIINDEPENDENCE, ARE AREAS WITH SPECIAL  
SOVEREIGNTY ASSOCIATIONS, UNRECOGNIZED, BUT SOVEREIGN POLITICAL  
REGIMES, AND ADMINISTRATIVE DIVISIONS WITHOUT SOVEREIGNTY, AND  
OUTLYING AREAS OF THE U.S., INCLUDING ISLANDS IN DISPUTE.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI    NAME

DEFINITION/EXPLANATION

4127/802    NATIONALITY, IBS

THE REAL OR VIRTUAL (EXERCISE) COUNTRY AFFILIATED WITH  
THE REPORTED ENTITY.**UNCLASSIFIED**

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP083	TRIXS REPORT NUMBER [TRIXS_Report_Num]	A UNIQUE SERIAL NUMBER ASSIGNED TO A SPECIFIC TRIXS MESSAGE.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8006/001	PRODUCER DESIGNATOR DIGRAPH	A DIGRAPH SPECIFICALLY ASSIGNED BY NSA TO IDENTIFY THE PRODUCER UNIT ORIGINATING THE REPORT.
4046/809	MESSAGE NUMBER, TRIXS	NUMBER ASSIGNED TO THE TRIXS MESSAGE BY THE TRIXS TRANSMITTING STATIONS, WHICH EQUATES TO THE ENTITY DESCRIBED IN THE CMF MESSAGE.
4046/810	SOI NUMBER, TRIXS	THE SEQUENTIAL NUMBER OF THE TARGET SIGNAL IDENTIFIER WITHIN THE TRIXS MESSAGE.

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APPENDIX B, PART II

NFI NAME  
CP084 ENTITY RECTANGULAR LOCATION  
ELEMENTS  
[Entity\_Rectng\_Loc\_Elmnts]

DATA STANDARD USAGE: IBS

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP024	X Y Z POSITION	THE X, Y, OR Z POSITION IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).
1108/802	X Y Z RESOLUTION SWITCH	THIS SWITCH INDICATES WHETHER THE X, Y, AND Z POSITION INFORMATION HAS BEEN OBTAINED FROM ONE OR MORE SOURCES OF THE SAME TYPE.

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APPENDIX B, PART II

NFI      NAME  
CP093    ERROR CIRCLE 2D  
              [Err\_Circ\_2D]

DEFINITION  
IDENTIFIES THAT THE TWO-DIMENSIONAL (2D) AREA IS A CIRCLE.  
FOR THIS SHAPE, AN ASSOCIATED LOCATION IDENTIFIES THE CENTERPOINT  
OF A 3-SIGMA CIRCLE AS DEFINED BY THE REPORTED RADIUS AND WITH  
THE DEFINED AREA HAVING A 95% PROBABILITY OF CONTAINING THE TRUE  
LOCATION OF THE REFERENCED ENTITY.

DATA STANDARD USAGE:    IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI    NAME

DEFINITION/EXPLANATION

4031/801    RADIUS, IBS

RADIUS OF THE CIRCLE USED IN DEFINING THE PROBABLE  
LOCATION OF THE ENTITY.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP094	POLAR SINGLE LOCATION [Polar_Single_Loc]	
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: COMPOSITE	
	RESET ATTRIBUTE: YES	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
CP018	LOCATION	PROVIDES A POSITION EXPRESSED IN LATITUDE AND LONGITUDE.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP095	TIBS ADDRESS [TIBS_Addr]	
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: COMPOSITE	
	RESET ATTRIBUTE: YES	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	8008/003 SUBNET ADDRESS, TIBS	IDENTIFIES THE SUBNET OF THE TIBS PRODUCER OF THE REFERENCE MESSAGE.
	8008/002 STATION ADDRESS, TIBS	IDENTIFIES THE STATION OR ORIGINATING NODE OF THE PRODUCER OF THE TIBS TRACK.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP096	TDDS ADDRESS [TDDS_Addr]	TDDS DATA PRODUCER DIGRAPH IDENTIFIER ELEMENT.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP013	TDDS CORRELATION INDEX	A DIGRAPH ASSIGNED BY DIA TO TDDS DATA PRODUCERS THAT ALLOWS TACTICAL DATA PROCESSOR SOFTWARE TO WEIGH SENSOR SYSTEM ATTRIBUTES FOR CORRELATION PURPOSES.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP097	TRIXS ADDRESS [TRIXS_Addr]	
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: COMPOSITE	
	RESET ATTRIBUTE: YES	
	CHILD ELEMENTS:	
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8006/001	PRODUCER DESIGNATOR DIGRAPH	A DIGRAPH SPECIFICALLY ASSIGNED BY NSA TO IDENTIFY THE PRODUCER UNIT ORIGINATING THE REPORT.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP098	ALTERNATE DESTINATION ADDRESS [Alternate_Dest_Addr]	
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: COMPOSITE	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
CP095	TIBS ADDRESS	

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP104	MEASUREMENT BASE TIME [Meas_Base_Time]	PROVIDES A REFERENCE TIME ASSOCIATED WITH EVENT MEASUREMENTS, OR SETS OF MEASUREMENTS.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
380/801	CLOCK TIME	PROVIDES A TIME OF DAY REPORTED IN SECONDS. TIME PROVIDED IS UTC TIME UNLESS IDENTIFIED OTHERWISE.

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MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP107	BORESITE AIM LOCATION [Boresite_Aim_Loc]	PROVIDES A MATHEMATICAL ESTIMATE OF THE LOCATION POINTED TO BY THE EFFECTIVE CENTER OF THE BORESITE OF THE SENSOR APERTURE.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP018	LOCATION	PROVIDES A POSITION EXPRESSED IN LATITUDE AND LONGITUDE.

**UNCLASSIFIED**

B2-102

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP108	VMF ENTITY ID SERIAL NUMBER [VMF_Entity_ID_Serial_Num]	A SINGLE, GLOBALLY UNDERSTOOD ENTITY ID REFERENCE NUMBERING SCHEME USED TO IDENTIFY ENTITIES, OBJECTS, OR EVENTS ON ANY VMF INTERFACE.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4004/012	URN	A REFERENCE NUMBER USED BY UNITS IN A VMF INTERFACE TO UNIQUELY IDENTIFY FRIENDLY MILITARY UNITS, BROADCAST NETWORKS, AND MULTICAST GROUPS. UNIT REFERENCE NUMBER (URN) WILL BE ASSIGNED IN ACCORDANCE WITH INTERFACE OPERATING PROCEDURES.
4046/004	ENTITY ID SERIAL NUMBER	THE SERIAL NUMBER USED FOR IDENTIFICATION PURPOSES OF AN ENTITY. ESTABLISHED BY THE SYSTEM THAT PROMULGATES AN ENTITY ONTO A COMMUNICATIONS NET TO IDENTIFY THAT ENTITY. USED IN CONJUNCTION WITH THE URN WHICH IDENTIFIES THE PROMULGATING SYSTEM. THIS FIELD IS A SEQUENTIAL NUMBER THAT UNIQUELY IDENTIFIES EACH ENTITY OR UPDATE FOR THAT SYSTEM.

**UNCLASSIFIED**

B2-103

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP110	REFERENCE X Y Z POSITION [Ref_X_Y_Z_Position]	THE X, Y, AND Z POSITION OF A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP111	REFERENCE X POSITION	THE X POSITION OF A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).
CP112	REFERENCE Y POSITION	THE Y POSITION OF A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).
CP113	REFERENCE Z POSITION	THE Z POSITION OF A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

**UNCLASSIFIED**

B2-104

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP111 REFERENCE X POSITION  
[Ref\_X\_Position]

## DEFINITION

THE X POSITION OF A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI NAME

## DEFINITION/EXPLANATION

1108/803 REFERENCE POSITION

THE POSITION OF A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

**UNCLASSIFIED**

B2-105

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP112 REFERENCE Y POSITION  
[Ref\_Y\_Position]

## DEFINITION

THE Y POSITION OF A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI NAME

## DEFINITION/EXPLANATION

1108/803 REFERENCE POSITION

THE POSITION OF A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

**UNCLASSIFIED**

B2-106

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP113 REFERENCE Z POSITION  
[Ref\_Z\_Position]

DATA STANDARD USAGE: IBS

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI NAME

1108/803 REFERENCE POSITION

DEFINITION

THE Z POSITION OF A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

STATUS:

DEFINITION/EXPLANATION

THE POSITION OF A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

**UNCLASSIFIED**

B2-107

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP114	REFERENCE X Y Z VELOCITY [Ref_X_Y_Z_Vel]	THE RATE OF CHANGE OF POSITION ALONG THE X, Y, AND/OR Z AXIS FOR A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84) .
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP115	REFERENCE X VELOCITY	THE RATE OF CHANGE OF POSITION ALONG THE X AXIS FOR A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84) .
CP116	REFERENCE Y VELOCITY	THE RATE OF CHANGE OF POSITION ALONG THE Y AXIS FOR A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84) .
CP117	REFERENCE Z VELOCITY	THE RATE OF CHANGE OF POSITION ALONG THE Z AXIS FOR A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84) .

**UNCLASSIFIED**

B2-108

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP115 REFERENCE X VELOCITY  
[Ref\_X\_Vel]

DEFINITION  
THE RATE OF CHANGE OF POSITION ALONG THE X AXIS FOR A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI NAME

DEFINITION/EXPLANATION

1113/802 REFERENCE VELOCITY

THE RATE OF CHANGE OF POSITION ALONG AN AXIS FOR A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

**UNCLASSIFIED**

B2-109

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP116 REFERENCE Y VELOCITY  
[Ref\_Y\_Vel]

**DEFINITION**

THE RATE OF CHANGE OF POSITION ALONG THE Y AXIS FOR A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI NAME

**DEFINITION/EXPLANATION**

1113/802 REFERENCE VELOCITY

THE RATE OF CHANGE OF POSITION ALONG AN AXIS FOR A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

**UNCLASSIFIED**

B2-110

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP117 REFERENCE Z VELOCITY  
[Ref\_Z\_Vel]

DEFINITION  
THE RATE OF CHANGE OF POSITION ALONG THE Z AXIS FOR A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI NAME

DEFINITION/EXPLANATION

1113/802 REFERENCE VELOCITY

THE RATE OF CHANGE OF POSITION ALONG AN AXIS FOR A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

**UNCLASSIFIED**

B2-111

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP118	TDOA BIAS ERROR [TDOA_Bias_Err]	INDICATES THE ORIGINATOR'S BEST ESTIMATE OF LONG-TERM UNCORRECTABLE TIME DIFFERENCE OF ARRIVAL (TDOA) ERROR DUE TO ERRORS IN CLOCK ACCURACY OR PLATFORM LOCATION.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8086/001	TIME ERROR	AMOUNT OF ERROR MEASURED AND/OR ESTIMATED IN A TIME-RELATED MEASUREMENT.

**UNCLASSIFIED**

B2-112

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP119	TDOA RANDOM ERROR [TDOA_Random_Err]	INDICATES ORIGINATOR'S BEST ESTIMATE OF TIME DIFFERENCE OF ARRIVAL (TDOA) ERROR DUE TO NOISE OR OTHER SHORT-TERM BIAS EFFECTS WHICH WILL CHANGE FROM ONE MEASUREMENT TO THE NEXT.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8086/001	TIME ERROR	AMOUNT OF ERROR MEASURED AND/OR ESTIMATED IN A TIME-RELATED MEASUREMENT.

**UNCLASSIFIED**

B2-113

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP120	TDOA RATE OF CHANGE BIAS ERROR [TDOA_Rate_Of_Chg_Bias_Err]	INDICATES ORIGINATOR'S BEST ESTIMATE OF LONG-TERM UNCORRECTABLE TIME DIFFERENCE OF ARRIVAL (TDOA) RATE OF CHANGE ERROR DUE TO ERRORS IN CLOCK ACCURACY OR PLATFORM LOCATION.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8086/001	TIME ERROR	AMOUNT OF ERROR MEASURED AND/OR ESTIMATED IN A TIME-RELATED MEASUREMENT.

**UNCLASSIFIED**

B2-114

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP121	TDOA RATE OF CHANGE RANDOM ERROR [TDOA_Rate_Of_Chg_Random_Err]	INDICATES ORIGINATOR'S BEST ESTIMATE OF TIME DIFFERENCE OF ARRIVAL (TDOA) RATE OF CHANGE ERROR DUE TO NOISE OR OTHER SHORT-TERM BIAS EFFECTS WHICH WILL CHANGE FROM ONE MEASUREMENT TO THE NEXT.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8086/001	TIME ERROR	AMOUNT OF ERROR MEASURED AND/OR ESTIMATED IN A TIME- RELATED MEASUREMENT.

**UNCLASSIFIED**

B2-115

**UNCLASSIFIED**MIL-STD-6018C  
APPENDIX B, PART II

NFI	NAME	DEFINITION
CP124	HEADER VERSION ELEMENTS [Hdr_Vers_Elmnts]	PROVIDES ELEMENTS THAT INDICATE THE VERSIONS OF THE DTD AND PARSER LIBRARY API USED TO CREATE THE REPORTED HEADER.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4046/802	MAJOR PARSER API VERSION	IDENTIFIES THE MAJOR LEVEL OF PARSER LIBRARY INTERFACE DEFINITION USED TO CREATE THE ENCLOSING DATA PACKET. COMPARED WITH THE PARSER LIBRARY INTERFACE MAJOR VERSION IN USE BY THE RECEIVING SOFTWARE TO DETERMINE BACKWARD COMPATIBILITY. A DIFFERENCE INDICATES INCOMPATIBILITY.
4046/803	MINOR PARSER API VERSION	IDENTIFIES THE MINOR LEVEL OF PARSER LIBRARY INTERFACE DEFINITION USED TO CREATE THE ENCLOSING DATA PACKET. COMPARED WITH THE PARSER LIBRARY INTERFACE MINOR VERSION IN USE BY THE RECEIVING SOFTWARE TO DETERMINE BACKWARD COMPATIBILITY. A DIFFERENCE IN VERSION INDICATES DIFFERENCES IN PROCESSING DESIGNED TO BE FULLY BACKWARD COMPATIBLE (ASSUMING THERE IS NOT ALSO A MAJOR LEVEL VERSION DIFFERENCE).
4046/804	MAJOR DTD VERSION	IDENTIFIES THE MAJOR LEVEL OF THE DOCUMENT TYPE DEFINITION (DTD) FILE USED TO CREATE THE ENCLOSING DATA PACKET. COMPARED WITH THE DTD FILE MAJOR VERSION IN USE BY THE RECEIVING SOFTWARE TO DETERMINE BACKWARD COMPATIBILITY. ANY DIFFERENCE INDICATES INCOMPATIBILITY.
4046/805	MINOR DTD VERSION	IDENTIFIES THE MINOR LEVEL OF DTD FILE USED TO CREATE THE ENCLOSING DATA PACKET. COMPARED WITH THE DTD FILE MINOR VERSION IN USE BY THE RECEIVING SOFTWARE TO DETERMINE BACKWARD COMPATIBILITY. A DIFFERENCE IN VERSION INDICATES DIFFERENCES IN DEFINED FIELDS DESIGNED TO BE FULLY BACKWARD COMPATIBLE (ASSUMING THERE IS NOT ALSO A DTD MAJOR LEVEL VERSION DIFFERENCE).

**UNCLASSIFIED**

B2-116

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP126	TIME OF FILE ARCHIVE START [TimeOfFileArchiveStart]	IDENTIFIES THE TIME WHEN AN ARCHIVE FILE WAS BEGUN.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
380/801	CLOCK TIME	PROVIDES A TIME OF DAY REPORTED IN SECONDS. TIME PROVIDED IS UTC TIME UNLESS IDENTIFIED OTHERWISE.
4019/801	JULIAN DAY	THE REPORTED DAY OF THE CURRENT OR INDICATED YEAR BASED ON GREENWICH MEAN TIME (GMT).
4098/801	YEAR, IBS	YEAR CALCULATED STARTING AT 1900.

**UNCLASSIFIED**

B2-117

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP127	TIME OF FILE ARCHIVE STOP [TimeOfFileArchiveStop]	IDENTIFIES THE TIME WHEN AN ARCHIVE FILE WAS COMPLETED.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
380/801	CLOCK TIME	PROVIDES A TIME OF DAY REPORTED IN SECONDS. TIME PROVIDED IS UTC TIME UNLESS IDENTIFIED OTHERWISE.
4019/801	JULIAN DAY	THE REPORTED DAY OF THE CURRENT OR INDICATED YEAR BASED ON GREENWICH MEAN TIME (GMT).
4098/801	YEAR, IBS	YEAR CALCULATED STARTING AT 1900.

**UNCLASSIFIED**

B2-118

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP128	TIME OF RECORD ARCHIVE [Time_Of_Record_Archive]	IDENTIFIES THE TIME WHEN A RECORD OF AN ARCHIVE FILE WAS STORED.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
380/801	CLOCK TIME	PROVIDES A TIME OF DAY REPORTED IN SECONDS. TIME PROVIDED IS UTC TIME UNLESS IDENTIFIED OTHERWISE.

**UNCLASSIFIED**

B2-119

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP129	SIGNAL REFERENCE ID [Signal_Ref_ID]	IDENTIFIES A SPECIFIC Emitter COLLECTION.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: COMPOSITE	
	RESET ATTRIBUTE: NO	
	PATH 5 EXCLUDED	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	4098/801 YEAR, IBS	YEAR CALCULATED STARTING AT 1900.
	CP008 JULIAN DAY OF INTERCEPT	IDENTIFIES THE DAY OF THE CURRENT OR INDICATED YEAR IN WHICH THE SPECIFIED INFORMATION WAS DETECTED OR IDENTIFIED.
	CP007 TIME OF INTERCEPT	CONTAINS TIME OF OBSERVATION OF THE EVENT OR TIME FOR WHICH THE POSITION OR STATUS IS VALID.
	8006/001 PRODUCER DESIGNATOR DIGRAPH	A DIGRAPH SPECIFICALLY ASSIGNED BY NSA TO IDENTIFY THE PRODUCER UNIT ORIGINATING THE REPORT.
	4046/830 SIGNAL OBSERVATION NUMBER	ONE-UP NUMBER ASSIGNED BY A SPECIFIC PRODUCER TO EACH UNIQUE COLLECTION PER RADIO DAY. (ROLLOVER OCCURS FROM THE MAXIMUM VALUE BACK TO THE MINIMUM VALUE).
	4093/817 RADAR MODE CHANGE INDICATOR	ONE-UP CHARACTER INDICATOR FOR EACH UNIQUE RADAR MODE (PRI/PWD) OBSERVED FOR A SPECIFIC Emitter DURING COLLECTION IN A RADIO DAY. (ROLLOVER OCCURS FROM THE MAXIMUM VALUE OF Z BACK TO THE MINIMUM VALUE OF A).

**UNCLASSIFIED**

B2-120

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP130	SIGNAL REFERENCE ID TEMPORARY [Signal_Ref_ID_Temporary]	IDENTIFIES A TEMPORARY SPECIFIC Emitter COLLECTION.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
PATH 5 EXCLUDED		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8006/001	PRODUCER DESIGNATOR DIGRAPH	A DIGRAPH SPECIFICALLY ASSIGNED BY NSA TO IDENTIFY THE PRODUCER UNIT ORIGINATING THE REPORT.
4046/830	SIGNAL OBSERVATION NUMBER	ONE-UP NUMBER ASSIGNED BY A SPECIFIC PRODUCER TO EACH UNIQUE COLLECTION PER RADIO DAY. (ROLLOVER OCCURS FROM THE MAXIMUM VALUE BACK TO THE MINIMUM VALUE).
4046/831	RADAR MODE CHANGE INDICATOR	ONE-UP CHARACTER INDICATOR FOR EACH UNIQUE RADAR MODE (PRI/PWD) OBSERVED FOR A SPECIFIC Emitter DURING COLLECTION IN A RADIO DAY. (ROLLOVER OCCURS FROM THE MAXIMUM VALUE OF Z BACK TO THE MINIMUM VALUE OF A).

**UNCLASSIFIED**

B2-121

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP131	SIGNAL LOSS TIME [Signal_Loss_Time]	TIME WHEN SIGNAL ENERGY WAS NO LONGER DETECTED.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
PATH 5 EXCLUDED		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
380/801	CLOCK TIME	PROVIDES A TIME OF DAY REPORTED IN SECONDS. TIME PROVIDED IS UTC TIME UNLESS IDENTIFIED OTHERWISE.

**UNCLASSIFIED**

B2-122

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP132	COLLECTION TERMINATION TIME [Collect_Term_Time]	TIME COLLECTION TERMINATED.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
380/801	CLOCK TIME	PROVIDES A TIME OF DAY REPORTED IN SECONDS. TIME PROVIDED IS UTC TIME UNLESS IDENTIFIED OTHERWISE.

**UNCLASSIFIED**

B2-123

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP133	SIGNAL FILE LOCATION [Signal_File_Loc]	PROVIDES THE PATH TO A DIGITIZED PULSE DESCRIPTOR WORD (PDW) FILE CONTAINING SPECIFIC Emitter IDENTIFICATION INFORMATION.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
PATH 5 EXCLUDED		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8103/001	UNIVERSAL RESOURCE LOCATOR (URL)	THE SOURCE FILE NAME AND/OR INTERNET PROTOCOL (IP) ADDRESS AND/OR PATH THAT CONTAINS COMPLETE OR RELATIVE PATH TO A RESOURCE.

**UNCLASSIFIED**

B2-124

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP137 PULSE WIDTH DURATION OF GROUP  
[PW\_Dur\_Of\_Grp]

## DEFINITION

PROVIDES THE AVERAGE OF THE TIME DURATIONS BETWEEN THE HALF POWER POINTS OF THE ENVELOPE OF A GROUP OF RADIO FREQUENCY PULSES OF AN ELECTRONIC Emitter.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI NAME

## DEFINITION/EXPLANATION

435/807 AVERAGE PULSE WIDTH DURATION

PROVIDES THE AVERAGE OF THE TIME DURATIONS BETWEEN THE HALF POWER POINTS OF THE ENVELOPE OF TWO OR MORE RADIO FREQUENCY PULSES OF AN ELECTRONIC Emitter.

**UNCLASSIFIED**

B2-125

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP138	PRI OF GROUP [PRI_OF_Grp]	THE MEASURED TIME INTERVAL BETWEEN TWO OR MORE PULSE GROUPS.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1903/806	PRI	THE MEASURED TIME INTERVAL BETWEEN TWO OR MORE TRANSMITTED PULSES OR PULSE GROUPS.

**UNCLASSIFIED**

B2-126

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP139 ENTITY PRIMARY COLOR  
[Entity\_Primary\_Color]

DATA STANDARD USAGE: IBS

DEFINITION  
THE PRIMARY COLOR OF THE REPORTED ENTITY. FOR SHIPS, HULL ABOVE THE WATERLINE. FOR AIRCRAFT, THE GENERAL COLOR OF THE FUSELAGE.

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4118/801	EXTERIOR COLOR	THE COLOR OF THE EXTERIOR OF AN ENTITY.

**UNCLASSIFIED**

B2-127

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP140 ENTITY SECONDARY COLOR  
[Entity\_Secondary\_Color]

DATA STANDARD USAGE: IBS

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4118/801	EXTERIOR COLOR	THE COLOR OF THE EXTERIOR OF AN ENTITY.

**UNCLASSIFIED**

B2-128

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP141 VESSEL WATERLINE COLOR DEFINITION  
[Vessel\_Waterline\_Color] THE COLOR OF THE VESSEL HULL AT AND BELOW THE WATERLINE.

DATA STANDARD USAGE: IBS STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4118/801	EXTERIOR COLOR	THE COLOR OF THE EXTERIOR OF AN ENTITY.

**UNCLASSIFIED**

B2-129

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP142 ANTENNA PLACEMENT  
[Antenna\_Placement]

DEFINITION  
PLACEMENT OF AN ANTENNA OR ANTENNA GROUP WITH RESPECT TO THE  
PLATFORM.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8106/001	PLACEMENT ALONG LENGTH	PLACEMENT OF AN OBJECT OR OBJECTS ALONG THE LENGTH OF AN ENTITY.
8106/002	PLACEMENT ALONG HEIGHT	PLACEMENT OF AN OBJECT OR OBJECTS ALONG THE HEIGHT OF AN ENTITY.
8106/003	PLACEMENT ALONG WIDTH	PLACEMENT OF AN OBJECT OR OBJECTS ALONG THE WIDTH OF AN ENTITY.
4029/807	ANTENNA QUANTITY	THE NUMBER OF ANTENNAS AT A LOCATION.

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MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP144	SENSOR STRING ELEMENTS [Sensr_String_Elmts]	IDENTIFIES THE SENSOR STRING ID AND STATUS OF A SPECIFIC GROUND SENSOR.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: COMPOSITE	
	RESET ATTRIBUTE: NO	
	PATH 5 EXCLUDED	
	CHILD ELEMENTS:	
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP146	SENSOR STRING ID ELEMENTS	IDENTIFIES THE MONITOR, EMPLACER/IMPLANTER, AND STRING NUMBER OF A SPECIFIC GROUND SENSOR STRING.
8104/003	SENSOR STATUS	IDENTIFIES THE STATUS OF THE SENSOR.

**UNCLASSIFIED**

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**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP145	SOFTWARE VERSION [Software_Version]	A SPECIFIC EDITION OR RELEASE OF A SOFTWARE PACKAGE.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8108/001	VERSION	DESIGNATES THE VERSION OF SOFTWARE, DOCUMENT, ALGORITHM, ETC.

**UNCLASSIFIED**

B2-132

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP146 SENSOR STRING ID ELEMENTS  
[Sensr\_String\_ID\_Elmts]

DEFINITION  
IDENTIFIES THE MONITOR, EMPLACER/IMPLANTER, AND STRING NUMBER OF A SPECIFIC GROUND SENSOR STRING.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8104/001	SENSOR MONITOR	IDENTIFIES THE SENSOR MONITORING SERVICE, AGENCY, OR ORGANIZATION.
8104/002	SENSOR EMPLACER/IMPLANTER	IDENTIFIES THE SERVICE, AGENCY, OR ORGANIZATION WHICH PERFORMED THE SENSOR EMPLACEMENT OR IMPLANTATION.
8104/004	SENSOR STRING NUMBER	PROVIDES AN IDENTIFICATION FOR A STRING OF ONE OR MORE SENSORS.

**UNCLASSIFIED**

B2-133

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP147	AMPLIFICATION TEXT [Ampn_Txt]	1 TO 40 7-BIT ASCII CHARACTERS OF AMPLIFYING TEXTUAL INFORMATION.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
PATH 5 EXCLUDED		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8052/002	SUPPORT-TEXT	PROVIDES FOR REPORTING OF BETWEEN 1 TO 40 7-BIT ASCII CHARACTERS OF ANCILLARY INFORMATION ON AN ENTITY EXPRESSED IN NATURAL LANGUAGE.

**UNCLASSIFIED**

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**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP148	CHIP SEQUENCE ELEMENTS [Chip_Seq_Elmts]	PROVIDES ELEMENTS NECESSARY TO REPORT A CHIP SEQUENCE.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: COMPOSITE	
	RESET ATTRIBUTE: NO	
	PATH 5 EXCLUDED	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	8005/002 NUMBER OF CHIP BITS	NUMBER OF CHIP BITS IN A CHIP SEQUENCE.
	RP020 CHIP SEQUENCE	IDENTIFIES A SERIES OF RF PHASE REVERSALS.

**UNCLASSIFIED**

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**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP149	USMTF TRACK IDENTIFIER [USMTF_Trk_ID]	A UNIQUE SERIAL NUMBER ASSIGNED TO A SPECIFIC USMTF REPORT CONTAINING TRACK DATA.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8006/001	PRODUCER DESIGNATOR DIGRAPH	A DIGRAPH SPECIFICALLY ASSIGNED BY NSA TO IDENTIFY THE PRODUCER UNIT ORIGINATING THE REPORT.
4046/834	USMTF MESSAGE NUMBER	NUMBER ASSIGNED TO THE MESSAGE BY THE USMTF TRANSMITTING STATION, WHICH EQUATES TO THE ENTITY DESCRIBED IN THE CMF MESSAGE.
4046/835	USMTF TRACK NUMBER	NUMBER ASSIGNED TO THE ENTITY BY THE USMTF SOURCE OR TRANSMITTING STATION WHICH EQUATES TO THE ENTITY DESCRIBED IN THE CMF MESSAGE.

**UNCLASSIFIED**

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**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP150 UIC FIELD  
[UIC\_Field]

DEFINITION  
A GROUPING COMPOSING A SINGLE INSTANCE OF AN URGENT INTERIM CAPABILITY (UIC) FIELD AND CONTAINING THE ASSOCIATED FIELD NAME AND FIELD VALUE.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4150/814	UIC FIELD NAME	THE NAME OF A PARTICULAR URGENT INTERIM CAPABILITY (UIC) FIELD.
GP105	UIC VALUE	CONTAINS THE VALUE AND/OR UNITS FOR AN URGENT INTERIM CAPABILITY (UIC) FIELD.

**UNCLASSIFIED**

B2-137

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP151 EFFECTIVE TIME  
[Effective\_Time]

DEFINITION  
IDENTIFIES THE SPECIFIC POINT IN TIME AT WHICH DIRECTED ACTION IS TO COMMENCE; INFORMATION BECOMES VALID; OR A STANDING ORDER GOES INTO EFFECT.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4098/801	YEAR, IBS	YEAR CALCULATED STARTING AT 1900.
4019/801	JULIAN DAY	THE REPORTED DAY OF THE CURRENT OR INDICATED YEAR BASED ON GREENWICH MEAN TIME (GMT).
380/801	CLOCK TIME	PROVIDES A TIME OF DAY REPORTED IN SECONDS. TIME PROVIDED IS UTC TIME UNLESS IDENTIFIED OTHERWISE.

**UNCLASSIFIED**

B2-138

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP152	EXPIRE TIME [Expire_Time]	IDENTIFIES THE SPECIFIC POINT IN TIME AT WHICH DIRECTED ACTION IS TO CEASE; INFORMATION CEASES TO BE VALID; OR A STANDING ORDER CEASES TO BE IN EFFECT.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4098/801	YEAR, IBS	YEAR CALCULATED STARTING AT 1900.
4019/801	JULIAN DAY	THE REPORTED DAY OF THE CURRENT OR INDICATED YEAR BASED ON GREENWICH MEAN TIME (GMT).
380/801	CLOCK TIME	PROVIDES A TIME OF DAY REPORTED IN SECONDS. TIME PROVIDED IS UTC TIME UNLESS IDENTIFIED OTHERWISE.

**UNCLASSIFIED**

B2-139

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP154 TIME OF STATUS  
[Time\_Of\_Status]

DEFINITION  
PROVIDES TIME AT WHICH REPORTED STATUS WAS INDICATED, MEASURED, OR  
OBSERVED BY THE ORIGINATING SOURCE.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
380/801	CLOCK TIME	PROVIDES A TIME OF DAY REPORTED IN SECONDS. TIME PROVIDED IS UTC TIME UNLESS IDENTIFIED OTHERWISE.
4019/801	JULIAN DAY	THE REPORTED DAY OF THE CURRENT OR INDICATED YEAR BASED ON GREENWICH MEAN TIME (GMT).

**UNCLASSIFIED**

B2-140

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP155 ENTITY RECTANGULAR AREA  
[Entity\_Rectng\_Area]

DEFINITION  
USED TO DESCRIBE THE GEOGRAPHICAL RECTANGULAR BOUNDARIES OF THE REPORTED ENTITY OR THE PHYSICAL, ACTIONABLE AREA OF THE OBJECTIVE.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
419/801 AREA SEMI-MAJOR AXIS	THIS FIELD CONTAINS HALF THE LENGTH OF THE LONGEST AXIS USED, IN CONJUNCTION WITH THE AREA SEMI-MINOR AXIS, AXIS ORIENTATION, LATITUDE AND LONGITUDE FIELDS, TO DESCRIBE THE AREA OF A CIRCLE, ELLIPSE, SQUARE OR RECTANGLE. THE LENGTH EXPRESSED IN THIS FIELD IS DOUBLED AND CENTERED ON THE POSITION DESCRIBED BY LATITUDE AND LONGITUDE.
419/802 AREA SEMI-MINOR AXIS	THIS FIELD CONTAINS HALF THE LENGTH OF THE SHORTEST AXIS USED, IN CONJUNCTION WITH AREA SEMI-MAJOR AXIS, AXIS ORIENTATION, LATITUDE AND LONGITUDE FIELDS, TO DESCRIBE THE AREA OF A CIRCLE, ELLIPSE, SQUARE OR RECTANGLE. THIS LENGTH IS DOUBLED AND CENTERED ON THE LATITUDE/LONGITUDE POSITION WITH AN ORIENTATION OF 90 DEGREES TO THE AREA SEMI-MAJOR AXIS.
1806/801 AXIS ORIENTATION, IBS	THE AXIS ORIENTATION IS THE OFFSET FROM TRUE NORTH EXPRESSED IN DEGREES AND IS USED TO ORIENT THE AREA MAJOR AXIS OF A CIRCLE, ELLIPSE, SQUARE, OR RECTANGLE.

**UNCLASSIFIED**

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MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP156	SENSOR GENERAL CONFIDENCE [Sensr_Genrl_Conf]	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SENSOR'S PERFORMANCE IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
431/802	EVALUATION GENERAL CONFIDENCE	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS RELATIVE TO THE DETERMINATION OF A VALUE IN ANOTHER IDENTIFIED FIELD.

**UNCLASSIFIED**

B2-142

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP157 SENSOR PERCENT CONFIDENCE  
[Sensr\_Pct\_Conf]

**DEFINITION**

PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SENSOR'S PERFORMANCE IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI NAME

**DEFINITION/EXPLANATION**

431/801 EVALUATION PERCENT CONFIDENCE

PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS RELATIVE TO THE DETERMINATION OF A VALUE IN ANOTHER IDENTIFIED FIELD.

**UNCLASSIFIED**

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**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP158 COMBINED SENSOR GENERAL  
CONFIDENCE  
[Combined\_Sensr\_Genrl\_Conf]

DEFINITION  
PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE OVERALL PERFORMANCE OF THE ENTIRE SET OF UTILIZED SENSORS IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI NAME

DEFINITION/EXPLANATION

431/802 EVALUATION GENERAL CONFIDENCE

PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS RELATIVE TO THE DETERMINATION OF A VALUE IN ANOTHER IDENTIFIED FIELD.

**UNCLASSIFIED**

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MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP159 COMBINED SENSOR PERCENT  
CONFIDENCE  
[Combined\_Sensr\_Pct\_Conf]

DEFINITION  
PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE OVERALL PERFORMANCE OF THE ENTIRE SET OF UTILIZED SENSORS IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI NAME

DEFINITION/EXPLANATION

431/801 EVALUATION PERCENT CONFIDENCE

PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS RELATIVE TO THE DETERMINATION OF A VALUE IN ANOTHER IDENTIFIED FIELD.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP160	TIME TO FUZE [Time_To_Fuze]	INDICATES THE TIME BETWEEN THE REPORTED TIME OF INTERCEPT AND THE PLANNED OR ESTIMATED DETONATION OR EXPLOSION (I.E., FUZING) OF THE ASSOCIATED OR REPORTED WEAPON.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8039/001	DELTA TIME	IDENTIFIES AN INCREMENT OF TIME SUCH AS A TIME OFFSET FROM A SET TIME OR TIME DIFFERENCE BETWEEN TWO OTHER TIME VALUES.

**UNCLASSIFIED**

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**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP161	WEAPON SELF ASSESSMENT [Weapon_Self_Assess]	INDICATES AN ACCUMULATED TOTAL PERCENT PROBABILITY OF MISSION SUCCESS BASED ON ALL FACTORS KNOWN BY THE WEAPON.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
431/801	EVALUATION PERCENT CONFIDENCE	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS RELATIVE TO THE DETERMINATION OF A VALUE IN ANOTHER IDENTIFIED FIELD.

**UNCLASSIFIED**

B2-147

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APPENDIX B, PART II

NFI NAME  
CP162 LOCAL CAPABILITY FIELD  
[Local\_Capab\_Field]

DEFINITION  
A GROUPING OF ELEMENTS, WHICH TOGETHER COMPOSE A SINGLE INSTANCE OF A LOCAL SCOPE ELEMENTS CAPABILITY FIELD. THE GROUPING CONTAINS THE ASSOCIATED FIELD NAME AND FIELD VALUE.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4150/817	LOCAL CAPABILITY FIELD NAME	THE NAME OF A LOCAL SCOPE ELEMENTS CAPABILITY FIELD.
GP126	LOCAL CAPABILITY VALUE	A GROUPING OF ELEMENTS WHICH PROVIDE EITHER A STRING, INTEGER, OR FLOAT VALUE, AND OPTIONALLY THE UNIT OF MEASURE FOR A LOCAL SCOPE ELEMENTS CAPABILITY FIELD.

**UNCLASSIFIED**

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APPENDIX B, PART II

NFI	NAME	DEFINITION
CP163	ENTITY CHAIN GENERAL CONFIDENCE [Entity_Chain_Genrl_Conf]	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SPECIFIED ENTITY CHAINING INFORMATION (THE PROVIDED CORRELATION OR PAIRING LOGIC).
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
431/802	EVALUATION GENERAL CONFIDENCE	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS RELATIVE TO THE DETERMINATION OF A VALUE IN ANOTHER IDENTIFIED FIELD.

**UNCLASSIFIED**

B2-149

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP164	ENTITY CHAIN PERCENT CONFIDENCE [Entity_Chain_Pct_Conf]	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SPECIFIED ENTITY CHAINING INFORMATION (THE PROVIDED CORRELATION OR PAIRING LOGIC).
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
431/801	EVALUATION PERCENT CONFIDENCE	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS RELATIVE TO THE DETERMINATION OF A VALUE IN ANOTHER IDENTIFIED FIELD.

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B2-150

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP165	ENTITY TYPE GENERAL CONFIDENCE [Entity_Typ_Genrl_Conf]	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SPECIFIED ENTITY TYPE VALUE.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
431/802	EVALUATION GENERAL CONFIDENCE	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS RELATIVE TO THE DETERMINATION OF A VALUE IN ANOTHER IDENTIFIED FIELD.

**UNCLASSIFIED**

B2-151

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP166	ENTITY TYPE PERCENT CONFIDENCE [Entity_Typ_Pct_Conf]	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SPECIFIED ENTITY TYPE VALUE.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
431/801	EVALUATION PERCENT CONFIDENCE	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS RELATIVE TO THE DETERMINATION OF A VALUE IN ANOTHER IDENTIFIED FIELD.

**UNCLASSIFIED**

B2-152

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP167 NATIONALITY/ALLIANCE GENERAL  
CONFIDENCE  
[Nat\_Alliance\_Genrl\_Conf]

DATA STANDARD USAGE: IBS

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
431/802	EVALUATION GENERAL CONFIDENCE	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS RELATIVE TO THE DETERMINATION OF A VALUE IN ANOTHER IDENTIFIED FIELD.

**UNCLASSIFIED**

B2-153

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP168 NATIONALITY/ALLIANCE PERCENT  
CONFIDENCE  
[Nat\_Alliance\_Pct\_Conf]

## DEFINITION

PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SPECIFIED ENTITY NATIONALITY OR ALLIANCE INFORMATION.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI NAME

## DEFINITION/EXPLANATION

431/801 EVALUATION PERCENT CONFIDENCE

PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS RELATIVE TO THE DETERMINATION OF A VALUE IN ANOTHER IDENTIFIED FIELD.

**UNCLASSIFIED**

B2-154

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP169 TIME OF ENTRY  
[TOE]

DEFINITION  
PROVIDES THE DAY AND TIME A MESSAGE ENTERS THE IBS ENTERPRISE.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4019/801	JULIAN DAY	THE REPORTED DAY OF THE CURRENT OR INDICATED YEAR BASED ON GREENWICH MEAN TIME (GMT).
380/801	CLOCK TIME	PROVIDES A TIME OF DAY REPORTED IN SECONDS. TIME PROVIDED IS UTC TIME UNLESS IDENTIFIED OTHERWISE.

**UNCLASSIFIED**

B2-155

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP170 TIME OF ENTRY DELTA  
[TOE\_DELTA]

DATA STANDARD USAGE: IBS

DEFINITION  
THE DELTA TIME IN SECONDS FROM THE TOI IN A SPECIFIC MESSAGE AND  
THE TIME THE MESSAGE ENTERED THE IBS ENTERPRISE.

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8039/001	DELTA TIME	IDENTIFIES AN INCREMENT OF TIME SUCH AS A TIME OFFSET FROM A SET TIME OR TIME DIFFERENCE BETWEEN TWO OTHER TIME VALUES.

**UNCLASSIFIED**

B2-156

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP171	TIME OF ENTRY ORIGINATOR ADDRESS [TOE_Orig_Addr]	PROVIDES THE CMF ADDRESS OF THE ORIGINATING IBS ENTERPRISE NODE WHERE THE TIME OF ENTRY ELEMENTS WERE GENERATED.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP004	ADDRESS	WITHIN THE IBS CMF, THE COMBINATION OF THE SUBNET IDENTIFIER AND NODE NUMBER ARE USED TO PROVIDE THE ADDRESSING OF MESSAGES. THE COMBINATION CAN IDENTIFY UNIQUE DATA ORIGINATORS, TRANSMITTERS, OR INTENDED RECIPIENTS OF CMF DATA.

**UNCLASSIFIED**

B2-157

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI	NAME	DEFINITION
CP172	BLOB REFERENCE LOCATION [BLOB_Ref_Loc]	PROVIDES A REFERENCE LOCATION ASSOCIATED WITH THE BLOB DATA BEING TRANSFERRED.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: COMPOSITE		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP018	LOCATION	PROVIDES A POSITION EXPRESSED IN LATITUDE AND LONGITUDE.

**UNCLASSIFIED**

B2-158

**UNCLASSIFIED**

MIL-STD-6018C

APPENDIX B, PART II

NFI NAME  
CP173 BLOB INFORMATION TIME  
[BLOB\_Info\_Time]

DEFINITION  
PROVIDES THE DATE AND TIME ASSOCIATED WITH THE BLOB DATA BEING TRANSFERRED. ALSO IDENTIFIES THE DATE AND TIME FOR WHICH THE BLOB REFERENCE LOCATION, IF REPORTED, IS VALID.

DATA STANDARD USAGE: IBS

DATA ELEMENT TYPE: COMPOSITE

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4098/801	YEAR, IBS	YEAR CALCULATED STARTING AT 1900.
4019/801	JULIAN DAY	THE REPORTED DAY OF THE CURRENT OR INDICATED YEAR BASED ON GREENWICH MEAN TIME (GMT).
380/801	CLOCK TIME	PROVIDES A TIME OF DAY REPORTED IN SECONDS. TIME PROVIDED IS UTC TIME UNLESS IDENTIFIED OTHERWISE.

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APPENDIX B, PART II

NFI	NAME	DEFINITION																		
GP001	CMF DOC [CMF_Doc]	IDENTIFIES A CMF "PACKET" GROUPING WHICH CONTAINS A LOGICALLY ORGANIZED SET OF CMF DATA AS DETERMINED BY THE TRANSMITTER AND/OR TRANSMISSION MEDIUM PROTOCOL. NORMALLY PROVIDES A SET OF DATA FOR ONE TRANSMISSION OPPORTUNITY INCLUDING A PACKAGE (I.E. PACKET) DESCRIPTION ALONG WITH ZERO OR MORE CMF MESSAGES OR MESSAGE GROUPS. THIS ELEMENT IS REQUIRED AT THE BEGINNING OF ALL CMF DATA PACKAGES. THIS ELEMENT IS THE INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) EQUIVALENT OF AN EXTENSIBLE MARKUP LANGUAGE (XML) ROOT ELEMENT AND IS IN FACT THE ROOT ELEMENT FOR THE XML REPRESENTATION OF CMF (I.E. CMF-X).																		
<b>DATA STANDARD USAGE:</b> IBS <b>STATUS:</b>																				
<b>DATA ELEMENT TYPE:</b> GROUP																				
<b>RESET ATTRIBUTE:</b> NO																				
<b>CHILD ELEMENTS:</b>																				
<table><thead><tr><th>NFI/DFI/DUI</th><th>NAME</th><th>DEFINITION/EXPLANATION</th></tr></thead><tbody><tr><td>CP001</td><td>PACKAGE DESCRIPTION DATA</td><td>IDENTIFIES A CMF "HEADER" GROUPING WHICH CONTAINS GENERAL INFORMATION DESCRIBING AN ENTIRE PACKAGE OR PACKET OF CMF DATA. REQUIRED FOR ALL CMF DATA PACKAGES.</td></tr><tr><td>CP006</td><td>TIME OF LAST DUPLICATE START</td><td>TIME AT WHICH THE IBS SIMPLEX CHANNEL NET MANAGER LAST STARTED THE BROADCAST. USED BY THE IBS SIMPLEX CHANNEL RECEIVERS TO KNOW WHEN TO CLEAR THE DUPLICATE SCREENING TABLE.</td></tr><tr><td>GP040</td><td>MESSAGE GROUP</td><td>IDENTIFIES A GROUP OF ELEMENTS WHICH ARE REPORTED TOGETHER BECAUSE OF A COMMON REPORTING TRAIT SUCH AS THE SAME ORIGINATOR OR REPORT TYPE (E.G. SIMULATION, EXERCISE, ETC.). PROVIDES INFORMATION ADEQUATE TO ALLOW DATA HAVING MULTIPLE TRAITS OF A SPECIFIC ATTRIBUTE (E.G. MORE THAN ONE ORIGINATOR) TO BE SENT IN ONE CMF PACKET (I.E. CMFDOD).</td></tr><tr><td>CP005</td><td>ORIGINATOR ADDRESS</td><td>UNIQUELY IDENTIFIES THE IBS PARTICIPANT FROM WHICH THE CONTENTS OF THE PACKAGE WERE ORIGINALLY PROVIDED TO IBS.</td></tr><tr><td>PC001</td><td>MODE INDICATORS</td><td>IDENTIFIES THE MESSAGE AS BEING GENERATED IN SUPPORT OF FRIENDLY TESTS OR EXERCISES.</td></tr></tbody></table>			NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION	CP001	PACKAGE DESCRIPTION DATA	IDENTIFIES A CMF "HEADER" GROUPING WHICH CONTAINS GENERAL INFORMATION DESCRIBING AN ENTIRE PACKAGE OR PACKET OF CMF DATA. REQUIRED FOR ALL CMF DATA PACKAGES.	CP006	TIME OF LAST DUPLICATE START	TIME AT WHICH THE IBS SIMPLEX CHANNEL NET MANAGER LAST STARTED THE BROADCAST. USED BY THE IBS SIMPLEX CHANNEL RECEIVERS TO KNOW WHEN TO CLEAR THE DUPLICATE SCREENING TABLE.	GP040	MESSAGE GROUP	IDENTIFIES A GROUP OF ELEMENTS WHICH ARE REPORTED TOGETHER BECAUSE OF A COMMON REPORTING TRAIT SUCH AS THE SAME ORIGINATOR OR REPORT TYPE (E.G. SIMULATION, EXERCISE, ETC.). PROVIDES INFORMATION ADEQUATE TO ALLOW DATA HAVING MULTIPLE TRAITS OF A SPECIFIC ATTRIBUTE (E.G. MORE THAN ONE ORIGINATOR) TO BE SENT IN ONE CMF PACKET (I.E. CMFDOD).	CP005	ORIGINATOR ADDRESS	UNIQUELY IDENTIFIES THE IBS PARTICIPANT FROM WHICH THE CONTENTS OF THE PACKAGE WERE ORIGINALLY PROVIDED TO IBS.	PC001	MODE INDICATORS	IDENTIFIES THE MESSAGE AS BEING GENERATED IN SUPPORT OF FRIENDLY TESTS OR EXERCISES.
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION																		
CP001	PACKAGE DESCRIPTION DATA	IDENTIFIES A CMF "HEADER" GROUPING WHICH CONTAINS GENERAL INFORMATION DESCRIBING AN ENTIRE PACKAGE OR PACKET OF CMF DATA. REQUIRED FOR ALL CMF DATA PACKAGES.																		
CP006	TIME OF LAST DUPLICATE START	TIME AT WHICH THE IBS SIMPLEX CHANNEL NET MANAGER LAST STARTED THE BROADCAST. USED BY THE IBS SIMPLEX CHANNEL RECEIVERS TO KNOW WHEN TO CLEAR THE DUPLICATE SCREENING TABLE.																		
GP040	MESSAGE GROUP	IDENTIFIES A GROUP OF ELEMENTS WHICH ARE REPORTED TOGETHER BECAUSE OF A COMMON REPORTING TRAIT SUCH AS THE SAME ORIGINATOR OR REPORT TYPE (E.G. SIMULATION, EXERCISE, ETC.). PROVIDES INFORMATION ADEQUATE TO ALLOW DATA HAVING MULTIPLE TRAITS OF A SPECIFIC ATTRIBUTE (E.G. MORE THAN ONE ORIGINATOR) TO BE SENT IN ONE CMF PACKET (I.E. CMFDOD).																		
CP005	ORIGINATOR ADDRESS	UNIQUELY IDENTIFIES THE IBS PARTICIPANT FROM WHICH THE CONTENTS OF THE PACKAGE WERE ORIGINALLY PROVIDED TO IBS.																		
PC001	MODE INDICATORS	IDENTIFIES THE MESSAGE AS BEING GENERATED IN SUPPORT OF FRIENDLY TESTS OR EXERCISES.																		

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GP001    CMF DOC

## CHILD ELEMENTS (CONTINUED):

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
GP002	DATA MANAGEMENT MESSAGE	IDENTIFIES A GROUP OF ELEMENTS WHICH INDICATE ONE OR MORE MANAGEMENT ACTIONS TO BE APPLIED OR ADHERED TO FOR ONE OR MORE INDICATED ENTITIES OR SETS OF DATA.
GP003	ENTITY MESSAGE	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE AN ENTITY (I.E. OBJECT, OBJECT GROUP, TARGET, SITE, ETC.) INCLUDING THE ENTITY'S CHARACTERISTICS, ACTIONS, AND/OR STATUS. CHARACTERISTICS MAY INCLUDE PHYSICAL ATTRIBUTES SUCH AS OBSERVABLE TRAITS, ENVIRONMENTAL SURROUNDINGS, OR EMISSIONS; AND/OR NON-PHYSICAL ATTRIBUTES SUCH AS PURPOSE, INTENT, OR MEANING.
GP004	REMOTE AMPLIFICATION MESSAGE	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE ENHANCED OR EXPANDED INFORMATION ON AN ENTITY ORIGINATED BY AND/OR BEING REPORTED BY ANOTHER IBS PARTICIPANT. THE ORIGINATING AND/OR CURRENTLY REPORTING SOURCE, IN ACCORDANCE WITH REPORTING PROTOCOLS, DETERMINES WHICH PORTIONS OF THE INFORMATION FROM THIS MESSAGE TO INCLUDE IN ANY SUBSEQUENT ENTITY REPORTS.
GP005	TEXT MESSAGE	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE THE INFORMATION DETAILS USED TO TRANSMIT AND INTERPRET FREE-TEXT (I.E. UNFORMATTED) OR OTHER TEXTUALLY CODED DATA.
GP059	COLLABORATION MESSAGE	IDENTIFIES A GROUP OF ELEMENTS SPECIFYING INFORMATION PROVIDED BY OR TO BE UTILIZED BY MORE THAN ONE REPORTING UNIT TO MUTUALLY DETERMINE INITIAL ENTITY IDENTIFICATION, RESOLVE AMBIGUITIES ON ENTITIES, OR IMPROVE ACCURACY OF ENTITY INFORMATION WITH THE INTENT OF REFINEMENT FOR EVENTUAL ENTITY MESSAGE REPORTING.
GP106	OPERATIONS NOTIFICATION MESSAGE	IDENTIFIES A GROUP OF ELEMENTS THAT PROVIDE ANNOUNCEMENTS, COORDINATION, DIRECTION, ETC. REGARDING IBS OPERATIONS.

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NFI      NAME  
GP001    CMF DOC

## CHILD ELEMENTS (CONTINUED):

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
GP108	OPERATIONAL STATUS MESSAGE	A MESSAGE REPORTED BY IBS PARTICIPANTS TO INDICATE THE CURRENT OPERATIONAL REPORTING POSTURE OF ASSETS OR ELEMENTS ON OR CONTRIBUTING TO THE BROADCAST OR NETWORK.
GP128	BLOB TRANSFER MESSAGE	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE THE CAPABILITY TO DISSEMINATE DATA VIA A BLOB.
GP104	URGENT INTERIM CAPABILITY (UIC) ELEMENTS	A GROUPING CONTAINING THOSE ELEMENTS WHICH MAKE UP A SET OF DATA FIELDS FOR AN URGENT INTERIM CAPABILITY (UIC).

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NFI	NAME	DEFINITION
GP002	DATA MANAGEMENT MESSAGE [Data_Mgt_Msg]	IDENTIFIES A GROUP OF ELEMENTS WHICH INDICATE ONE OR MORE MANAGEMENT ACTIONS TO BE APPLIED OR ADHERED TO FOR ONE OR MORE INDICATED ENTITIES OR SETS OF DATA.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	4046/806 MESSAGE NUMBER	A ONE-UP NUMBER ASSIGNED BY THE CMF ORIGINATOR WHICH UNIQUELY IDENTIFIES A REPORTED MESSAGE WITHIN THE RESPECTIVE MESSAGE TYPE.
GP049	ALTERNATE ORIGINATOR ADDRESS	
CP064	REFERENCE ENTITY ID	IDENTIFIES A UNIQUE GLOBAL ENTITY IDENTIFIER (LIKELY SEPARATELY AND/OR PREVIOUSLY REPORTED) BEING REFERRED TO BY A REPORTED ACTION OR SET OF DATA.
GP012	ENTITY ALTERNATE ID ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE ONE OR MORE SETS OF ALTERNATE IDENTIFYING NUMBERS BEING USED FOR UNIQUELY IDENTIFYING AND REPORTING A CMF ENTITY (OR MESSAGE) ON OTHER DATALINKS OR IN OTHER ENVIRONMENTS. THESE ALTERNATE IDENTIFIERS ARE NORMALLY DEVISED AND CONTROLLED BY OTHER AUTHORITIES OTHER THAN THE INTEGRATED BROADCAST SERVICE (IBS) AND ARE NORMALLY ASSIGNED EITHER VIA AN ORIGINATING SOURCE OUTSIDE OF IBS OR UPON FORWARDING OF AN IBS ORIGINATED ENTITY (OR MESSAGE).
GP029	MANAGEMENT ACTION INDICATORS	PROVIDES A RECOMMENDATION OR STATUS FOR A FRIENDLY ACTION PERTAINING TO A PARTICULAR ENTITY.
GP030	ENTITY CHAINING	INDICATES A RELATIONSHIP BETWEEN TWO OR MORE ENTITIES PORTRAYED ON THE NETWORK.
PC008	MANAGEMENT MODE INDICATORS	IDENTIFIES A GROUP OF ELEMENTS SPECIFYING THE CONTENT OR METHODS BY WHICH TO UTILIZE OR INTERPRET A DATA MANAGEMENT MESSAGE.

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NFI      NAME  
GP002    DATA MANAGEMENT MESSAGE

CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8055/002	PRODUCER MESSAGE SEQUENCE NUMBER	A ONE-UP NUMBER ASSIGNED BY THE PRODUCER TO EACH CMF MESSAGE AS IT IS REPORTED TO INDICATE THE SEQUENCE IN WHICH THE MESSAGES WERE GENERATED. ANALYSTS MAY UTILIZE PRODUCER MESSAGE SEQUENCE NUMBER VALUES TO DETERMINE IF ALL MESSAGE(S) WITHIN A SEQUENCE OF MESSAGES FROM A SPECIFIC PRODUCER WERE RECEIVED.
GP007	MESSAGE DESCRIPTION ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH CONTAIN GENERAL INFORMATION DESCRIBING THE ENTIRE ENCOMPASSING MESSAGE.
GP104	URGENT INTERIM CAPABILITY (UIC) ELEMENTS	A GROUPING CONTAINING THOSE ELEMENTS WHICH MAKE UP A SET OF DATA FIELDS FOR AN URGENT INTERIM CAPABILITY (UIC).

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NFI	NAME	DEFINITION
GP003	ENTITY MESSAGE [Entity_Msg]	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE AN ENTITY (I.E. OBJECT, OBJECT GROUP, TARGET, SITE, ETC.) INCLUDING THE ENTITY'S CHARACTERISTICS, ACTIONS, AND/OR STATUS. CHARACTERISTICS MAY INCLUDE PHYSICAL ATTRIBUTES SUCH AS OBSERVABLE TRAITS, ENVIRONMENTAL SURROUNDINGS, OR EMISSIONS; AND/OR NON-PHYSICAL ATTRIBUTES SUCH AS PURPOSE, INTENT, OR MEANING.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4046/807	ENTITY NUMBER	NUMBER ASSIGNED BY SOURCE OR TRANSMITTING STATION WHICH EQUATES TO THE ENTITY DESCRIBED IN A MESSAGE.
385/806	PROVIDER TYPE	THE TYPE OF PROVIDER THAT IS SUPPLYING THE LOCATION OF THE ENTITY.
8003/002	SOURCE MESSAGE TYPE	INDICATES THE MESSAGE FORMAT AS INPUT BY THE SOURCE INTO IBS.
4093/812	ADVISORY INDICATOR	INDICATES WHETHER THE MESSAGE WAS REPORTED, DUE TO DEEMED IMPORTANCE, PRIOR TO MEETING NORMAL REPORTING CRITERIA (I.E. VERIFICATION OF INTENT, IDENTITY, ETC.).
CP007	TIME OF INTERCEPT	CONTAINS TIME OF OBSERVATION OF THE EVENT OR TIME FOR WHICH THE POSITION OR STATUS IS VALID.
CP008	JULIAN DAY OF INTERCEPT	IDENTIFIES THE DAY OF THE CURRENT OR INDICATED YEAR IN WHICH THE SPECIFIED INFORMATION WAS DETECTED OR IDENTIFIED.
1906/801	EXTRAPOLATION INDICATOR	IDENTIFIES WHETHER THE INFORMATION CONTAINED IN THIS MESSAGE IS A RESULT OF DIRECT OBSERVATION OR A PROJECTION/ESTIMATE OUTSIDE OF THE OBSERVED RANGE BASED ON PRIOR OBSERVATION.
1606/801	DROP ENTITY ACTION	INDICATES THE SOURCE PLATFORM WILL NO LONGER REPORT ON THE ENTITY.

NFI      NAME  
GP003    ENTITY MESSAGE

## CHILD ELEMENTS (CONTINUED):

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
GP012	ENTITY ALTERNATE ID ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE ONE OR MORE SETS OF ALTERNATE IDENTIFYING NUMBERS BEING USED FOR UNIQUELY IDENTIFYING AND REPORTING A CMF ENTITY (OR MESSAGE) ON OTHER DATALINKS OR IN OTHER ENVIRONMENTS. THESE ALTERNATE IDENTIFIERS ARE NORMALLY DEVISED AND CONTROLLED BY OTHER AUTHORITIES OTHER THAN THE INTEGRATED BROADCAST SERVICE (IBS) AND ARE NORMALLY ASSIGNED EITHER VIA AN ORIGINATING SOURCE OUTSIDE OF IBS OR UPON FORWARDING OF AN IBS ORIGINATED ENTITY (OR MESSAGE).
PC005	INTEREST INDICATORS	HIGHLIGHTS THE MESSAGE FOR SPECIAL CONSIDERATION, PROCESSING, OR AS HIGH PRIORITY.
1862/802	COOPERATIVE LOCATION INDICATOR	INDICATES WHETHER THE REPORTED ENTITY LOCATION WAS DERIVED USING REPORTED LOCATIONS FROM SENSORS ON MORE THAN ONE PLATFORM. ALL SOURCE DATA CONTRIBUTING TO THE LOCATION MAY NOT BE AVAILABLE AND SOURCES CONTRIBUTING TO THE LOCATION MAY NOT STILL BE REPORTING.
GP010	ENTITY ID ELEMENTS	PROVIDES A GROUP OF ELEMENTS WHICH CONTAIN DETAILS DESCRIBING THE IDENTIFICATION, ACTIVITY, CONTENT, STATUS, SIZE, STRENGTH, OR DESIGNATION OF AN ENTITY.
GP018	REFERENCE POLAR PLATFORM ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE DETAILS DESCRIBING THE LOCATION AND/OR ATTITUDE (I.E. SPEED, HEADING, ORIENTATION, ETC.) OF A (PHYSICAL OR VIRTUAL) PLATFORM (OR LOCATION) USED, OR AVAILABLE TO BE USED, AS A REFERENCE POINT OF OTHER REPORTED DATA (E.G. A POINT OF ORIGIN FOR COMPUTED LINES OF BEARING TO AN ENTITY OR A SENSOR LOCATION AT WHICH A TIME MEASUREMENT WAS RECORDED).
GP013	ENTITY POLAR LOCATION ELEMENTS	
GP014	ENTITY POLAR ATTITUDE ELEMENTS	

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NFI      NAME  
GP003    ENTITY MESSAGE

## CHILD ELEMENTS (CONTINUED):

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP084	ENTITY RECTANGULAR LOCATION ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE THE POSITION OF AN ENTITY USING RECTANGULAR COORDINATES (I.E. X, Y, AND Z).
GP016	ENTITY RECTANGULAR ATTITUDE ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE DETAILS DESCRIBING AN ENTITY'S ATTITUDE (SUCH AS SPEED, DIRECTION, ETC.) USING A RECTANGULAR COORDINATE SYSTEM (I.E. X, Y, AND Z) OR OTHER MOVEMENT PARAMETERS (E.G. STAGE OF FLIGHT FOR A BALLISTIC MISSILE ENTITY).
GP017	ENTITY RECTANGULAR ACCURACY ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE COVARIANCE MATRIX DATA (EITHER FULL OR PARTIAL MATRICES) WHICH INDICATE THE ACCURACY OF THE POSITION AND VELOCITY MEASUREMENTS OF AN ENTITY AND CAN BE UTILIZED TO PREDICT OR EXTRAPOLATE FUTURE POSITIONS.
GP038	ENTITY PHYSICAL ADDRESS ELEMENTS	ELEMENTS USED TO DESCRIBE THE ADDRESS OF AN ENTITY AS DESCRIBED BY THE LOCAL GOVERNMENT.
GP019	ENTITY RF DESCRIPTION ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE DETAILS DESCRIBING RADIO FREQUENCY (RF) CHARACTERISTICS OF AN ENTITY'S EMITTER.
GP022	ENTITY PULSE DESCRIPTION ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE DETAILS DESCRIBING THE MEASURABLE CHARACTERISTICS OF A RADIO FREQUENCY PULSE OR GROUP OF PULSES TRANSMITTED BY AN EMITTER.
GP024	ENTITY SCAN DESCRIPTION ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE THE SCAN CHARACTERISTICS OF A BEAM OF ELECTROMAGNETIC ENERGY.
GP025	ENTITY AMPLIFICATION ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE FUNCTIONAL CLASSIFICATION OR IDENTIFICATION NOMENCLATURE WHICH CATEGORIZES AN ENTITY OR ENTITY'S EMITTER USING ONE OF VARIOUS DEPARTMENT OF DEFENSE OR OTHER CATALOGS, LISTS, AND/OR DATABASES.

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GP003    ENTITY MESSAGE

## CHILD ELEMENTS (CONTINUED):

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
GP051	ENTITY IR DESCRIPTION ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE DETAILS DESCRIBING INFRARED (IR) CONTACT REPORTS.
CP061	GPS ELEMENTS	PROVIDES GPS TIME OF DAY AND THE SOURCE'S DATUM USED PRIOR TO CONVERSION TO THE REPORTED WGS-84.
GP039	MISSION EFFECT ELEMENTS	DESCRIBES THE OPERATIONAL STATUS OF PERSONNEL/EQUIPMENT CONCLUDING A MISSION.
GP055	RADIO ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE DETAILS DESCRIBING A RADIO.
GP056	BFT ELEMENTS	IDENTIFIES A GROUP OF BLUE FORCE TRACKING ELEMENTS.
GP057	PR/CSAR ELEMENTS	IDENTIFIES A GROUP OF PERSONNEL RECOVERY/COMBAT SEARCH AND RESCUE (PR/CSAR) ELEMENTS.
GP093	SENSOR ELEMENTS	PROVIDES ELEMENTS WHICH IDENTIFY THE CHARACTERISTICS OF ONE OR MORE SENSORS FROM WHICH THE REPORTED ENTITY INFORMATION WAS OBTAINED.
GP094	ACOUSTIC ELEMENTS	DESCRIBES SOUND PROPAGATION THROUGH THE ATMOSPHERE.
GP104	URGENT INTERIM CAPABILITY (UIC) ELEMENTS	A GROUPING CONTAINING THOSE ELEMENTS WHICH MAKE UP A SET OF DATA FIELDS FOR AN URGENT INTERIM CAPABILITY (UIC).
4046/836	ENTITY UPDATE NUMBER	IDENTIFIES SEQUENTIAL REPORTS OF AN ENTITY (I.E., ONE CONTRACT). COMBINED WITH A FULL GLOBAL TRACK NUMBER (AKA GTN) ALLOWS UNIQUE IDENTIFICATION OF AN INDIVIDUAL CONTACT UPDATE OR HISTORY POINT ON AN ENTITY.
GP118	ENTITY ENVIRONMENTAL CONDITION ELEMENTS	PROVIDES ELEMENTS WHICH INDICATE NATURAL AND/OR MAN-MADE CONDITIONS AT THE REPORTED ENTITY LOCATION.
GP119	ENTITY WEAPON ELEMENTS	PROVIDES A GROUP OF ELEMENTS WHICH CHARACTERIZE ONE OR MORE ARMAMENTS AS PART OF, OR RELATED TO, THE REPORTED ENTITY.

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NFI      NAME  
GP003    ENTITY MESSAGE

CHILD ELEMENTS (CONTINUED):

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8055/002	PRODUCER MESSAGE SEQUENCE NUMBER	A ONE-UP NUMBER ASSIGNED BY THE PRODUCER TO EACH CMF MESSAGE AS IT IS REPORTED TO INDICATE THE SEQUENCE IN WHICH THE MESSAGES WERE GENERATED. ANALYSTS MAY UTILIZE PRODUCER MESSAGE SEQUENCE NUMBER VALUES TO DETERMINE IF ALL MESSAGE(S) WITHIN A SEQUENCE OF MESSAGES FROM A SPECIFIC PRODUCER WERE RECEIVED.
GP122	MESSAGE FILTER ELEMENTS	PROVIDES A GROUP OF ELEMENTS WHICH SIMPLIFIES FILTERING OF CMF MESSAGES.
GP127	ENTITY MESSAGE DESCRIPTION ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH CONTAIN GENERAL INFORMATION DESCRIBING THE ENTIRE ENCOMPASSING ENTITY MESSAGE.

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NFI	NAME	DEFINITION
GP004	REMOTE AMPLIFICATION MESSAGE [Remote_Ampn_Msg]	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE ENHANCED OR EXPANDED INFORMATION ON AN ENTITY ORIGINATED BY AND/OR BEING REPORTED BY ANOTHER IBS PARTICIPANT. THE ORIGINATING AND/OR CURRENTLY REPORTING SOURCE, IN ACCORDANCE WITH REPORTING PROTOCOLS, DETERMINES WHICH PORTIONS OF THE INFORMATION FROM THIS MESSAGE TO INCLUDE IN ANY SUBSEQUENT ENTITY REPORTS.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
CP065	REMOTE ADDRESS	THE ADDRESS OF AN IBS PARTICIPANT OTHER THAN THE MESSAGE ORIGINATOR.
4046/806	MESSAGE NUMBER	A ONE-UP NUMBER ASSIGNED BY THE CMF ORIGINATOR WHICH UNIQUELY IDENTIFIES A REPORTED MESSAGE WITHIN THE RESPECTIVE MESSAGE TYPE.
GP049	ALTERNATE ORIGINATOR ADDRESS	
GP003	ENTITY MESSAGE	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE AN ENTITY (I.E. OBJECT, OBJECT GROUP, TARGET, SITE, ETC.) INCLUDING THE ENTITY'S CHARACTERISTICS, ACTIONS, AND/OR STATUS. CHARACTERISTICS MAY INCLUDE PHYSICAL ATTRIBUTES SUCH AS OBSERVABLE TRAITS, ENVIRONMENTAL SURROUNDINGS, OR EMISSIONS; AND/OR NON-PHYSICAL ATTRIBUTES SUCH AS PURPOSE, INTENT, OR MEANING.
8055/002	PRODUCER MESSAGE SEQUENCE NUMBER	A ONE-UP NUMBER ASSIGNED BY THE PRODUCER TO EACH CMF MESSAGE AS IT IS REPORTED TO INDICATE THE SEQUENCE IN WHICH THE MESSAGES WERE GENERATED. ANALYSTS MAY UTILIZE PRODUCER MESSAGE SEQUENCE NUMBER VALUES TO DETERMINE IF ALL MESSAGE(S) WITHIN A SEQUENCE OF MESSAGES FROM A SPECIFIC PRODUCER WERE RECEIVED.
GP007	MESSAGE DESCRIPTION ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH CONTAIN GENERAL INFORMATION DESCRIBING THE ENTIRE ENCOMPASSING MESSAGE.
GP104	URGENT INTERIM CAPABILITY (UIC) ELEMENTS	A GROUPING CONTAINING THOSE ELEMENTS WHICH MAKE UP A SET OF DATA FIELDS FOR AN URGENT INTERIM CAPABILITY (UIC).

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NFI	NAME	DEFINITION
GP005	TEXT MESSAGE [Txt_Msg]	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE THE INFORMATION DETAILS USED TO TRANSMIT AND INTERPRET FREE-TEXT (I.E. UNFORMATTED) OR OTHER TEXTUALLY CODED DATA.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	GP007 MESSAGE DESCRIPTION ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH CONTAIN GENERAL INFORMATION DESCRIBING THE ENTIRE ENCOMPASSING MESSAGE.
	4046/806 MESSAGE NUMBER	A ONE-UP NUMBER ASSIGNED BY THE CMF ORIGINATOR WHICH UNIQUELY IDENTIFIES A REPORTED MESSAGE WITHIN THE RESPECTIVE MESSAGE TYPE.
	GP049 ALTERNATE ORIGINATOR ADDRESS	
	CP064 REFERENCE ENTITY ID	IDENTIFIES A UNIQUE GLOBAL ENTITY IDENTIFIER (LIKELY SEPARATELY AND/OR PREVIOUSLY REPORTED) BEING REFERRED TO BY A REPORTED ACTION OR SET OF DATA.
	GP012 ENTITY ALTERNATE ID ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE ONE OR MORE SETS OF ALTERNATE IDENTIFYING NUMBERS BEING USED FOR UNIQUELY IDENTIFYING AND REPORTING A CMF ENTITY (OR MESSAGE) ON OTHER DATALINKS OR IN OTHER ENVIRONMENTS. THESE ALTERNATE IDENTIFIERS ARE NORMALLY DEVISED AND CONTROLLED BY OTHER AUTHORITIES OTHER THAN THE INTEGRATED BROADCAST SERVICE (IBS) AND ARE NORMALLY ASSIGNED EITHER VIA AN ORIGINATING SOURCE OUTSIDE OF IBS OR UPON FORWARDING OF AN IBS ORIGINATED ENTITY (OR MESSAGE).
	PC005 INTEREST INDICATORS	HIGHLIGHTS THE MESSAGE FOR SPECIAL CONSIDERATION, PROCESSING, OR AS HIGH PRIORITY.
	1862/802 COOPERATIVE LOCATION INDICATOR	INDICATES WHETHER THE REPORTED ENTITY LOCATION WAS DERIVED USING REPORTED LOCATIONS FROM SENSORS ON MORE THAN ONE PLATFORM. ALL SOURCE DATA CONTRIBUTING TO

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NFI      NAME  
GP005    TEXT MESSAGE

## CHILD ELEMENTS (CONTINUED):

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1862/802	(CONTINUED)	THE LOCATION MAY NOT BE AVAILABLE AND SOURCES CONTRIBUTING TO THE LOCATION MAY NOT STILL BE REPORTING.
CP018	LOCATION	PROVIDES A POSITION EXPRESSED IN LATITUDE AND LONGITUDE.
8052/001	FREE-TEXT	PROVIDES FOR REPORTING OF BETWEEN 1 TO 40 7-BIT ASCII CHARACTERS.
8055/002	PRODUCER MESSAGE SEQUENCE NUMBER	A ONE-UP NUMBER ASSIGNED BY THE PRODUCER TO EACH CMF MESSAGE AS IT IS REPORTED TO INDICATE THE SEQUENCE IN WHICH THE MESSAGES WERE GENERATED. ANALYSTS MAY UTILIZE PRODUCER MESSAGE SEQUENCE NUMBER VALUES TO DETERMINE IF ALL MESSAGE(S) WITHIN A SEQUENCE OF MESSAGES FROM A SPECIFIC PRODUCER WERE RECEIVED.
GP104	URGENT INTERIM CAPABILITY (UIC) ELEMENTS	A GROUPING CONTAINING THOSE ELEMENTS WHICH MAKE UP A SET OF DATA FIELDS FOR AN URGENT INTERIM CAPABILITY (UIC).

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NFI	NAME	DEFINITION
GP007	MESSAGE DESCRIPTION ELEMENTS [Msg_Desc_Elmnts]	IDENTIFIES A GROUP OF ELEMENTS WHICH CONTAIN GENERAL INFORMATION DESCRIBING THE ENTIRE ENCOMPASSING MESSAGE.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
GP008	DESTINATION ADDRESS	
CP098	ALTERNATE DESTINATION ADDRESS	
CP169	TIME OF ENTRY	PROVIDES THE DAY AND TIME A MESSAGE ENTERS THE IBS ENTERPRISE.
CP171	TIME OF ENTRY ORIGINATOR ADDRESS	PROVIDES THE CMF ADDRESS OF THE ORIGINATING IBS ENTERPRISE NODE WHERE THE TIME OF ENTRY ELEMENTS WERE GENERATED.

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NFI	NAME	DEFINITION
GP008	DESTINATION ADDRESS [Dest_addr]	
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	8008/005 DESTINATION GROUP	MESSAGE IS INTENDED FOR ONLY NODES ASSIGNED TO A DESIGNATED GROUP.
	8008/004 SUBNET ADDRESS	IDENTIFIES THE IBS SUB-NETWORK ON WHICH THE ENTITY OR MESSAGE WAS ORIGINATED, OR THE SUB-NETWORK BEING REFERENCED.
	8008/001 NODE	IDENTIFIES THE ORIGINATING STATION OR NODE OF THE PRODUCER OF THE REFERENCE MESSAGE.

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NFI	NAME	DEFINITION
GP010	ENTITY ID ELEMENTS [Entity_ID_Elmts]	PROVIDES A GROUP OF ELEMENTS WHICH CONTAIN DETAILS DESCRIBING THE IDENTIFICATION, ACTIVITY, CONTENT, STATUS, SIZE, STRENGTH, OR DESIGNATION OF AN ENTITY.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	8001/001 ENVIRONMENT ID	DESCRIBES THE SYMBOLIC CLASS/IDENTITY OF THE TRACK OR UNIT ENTITY DESCRIBED IN THIS MESSAGE.
	385/805 ENTITY EXERCISE ROLE	IDENTIFIES WHETHER A FRIENDLY ENTITY PARTICIPATING IN AN EXERCISE IS OPERATING IN THE GUISE OF A SUSPECT (JOKER) OR A HOSTILE (FAKER).
	4150/808 ENTITY NAME	THE FREE-TEXT NAME OF THE ENTITY BEING REPORTED.
CP009	PLATFORM EVALUATION PERCENT CONFIDENCE	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE ENVIRONMENT ID.
CP010	PLATFORM EVALUATION GENERAL CONFIDENCE	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE ENVIRONMENT ID.
	1821/801 WARTIME RESERVE MODE, IBS	INDICATES THAT AN Emitter IS OPERATING IN ITS NORMAL OPERATING MODE OR IN ITS WARTIME RESERVE MODE.
	4127/801 NATIONALITY/ALLIANCE	DESCRIBES THE REAL OR VIRTUAL (EXERCISE) NATIONALITY OR ALLIANCE (OR AFFILIATION) OF THE REFERENCED TRACK, UNIT, OR ENTITY.
	8018/001 ENTITY ACTIVITY	DESCRIBES THE OPERATIONAL ACTIVITY OF AN ENTITY.
	8019/001 ENTITY TYPE, IBS	INDICATES GENERAL OR SPECIFIC TYPE OF ENTITY.

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NFI      NAME  
GP010    ENTITY ID ELEMENTS

## CHILD ELEMENTS (CONTINUED):

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8047/001	ENTITY CONTENT	A DESCRIPTION OF THINGS ON-BOARD OR CO-LOCATED WITH THE REFERENCED ENTITY.
8018/003	ENTITY STATUS	DESCRIBES THE OPERATIONAL STATUS OF AN ENTITY.
386/801	ENTITY SIZE	SIZE OF THE REFERENCED SURFACE, SUBSURFACE, AIR, LAND (GROUND), OR SPACE ENTITY.
386/802	ENTITY STRENGTH	ESTIMATED STRENGTH OF THE REFERENCED ENTITY.
CP080	ENTITY ELLIPTICAL AREA	USED TO DESCRIBE THE GEOGRAPHICAL ELLIPTICAL BOUNDARIES OF THE REPORTED ENTITY OR THE PHYSICAL, ACTIONABLE AREA OF THE OBJECTIVE.
CP155	ENTITY RECTANGULAR AREA	USED TO DESCRIBE THE GEOGRAPHICAL RECTANGULAR BOUNDARIES OF THE REPORTED ENTITY OR THE PHYSICAL, ACTIONABLE AREA OF THE OBJECTIVE.
4193/801	ENTITY COVERAGE SIZE	AN ESTIMATE OF THE SIZE OF AN AREA OF AN ENTITY BASED UPON THE LARGEST DIMENSION.
8032/001	PIN CONFIRMED EQUIPMENT ID	THE PRIMARY IDENTIFICATION NUMBER FOR THE ESTABLISHED ENTITY.
8032/002	PIN UNCONFIRMED EQUIPMENT ID	THE PRIMARY IDENTIFICATION NUMBER FOR THE ENTITY BEING DEVELOPED AND THE SITE HAS BEEN ESTABLISHED.
8032/003	PIN UNCONFIRMED SITE	THE PRIMARY IDENTIFICATION NUMBER FOR THE ENTITY BEING DEVELOPED AND THE SITE HAS NOT BEEN ESTABLISHED.
8021/001	AIR DEFENSE DISTRICT	ALPHANUMERIC INDICATING THE AIR DEFENSE DISTRICT.
8033/001	BE NUMBER, STANDARD	A UNIQUE 10 CHARACTER REFERENCE NUMBER CONSISTING OF TWO PARTS; THE WORLD AERONAUTICAL CHART (WAC) NUMBER AND A UNIQUE INSTALLATION NUMBER.
8033/002	BE NUMBER, SPECIFIC USE	VARIATION OF STANDARD BE NUMBER UTILIZED TO DENOTE SPECIFIC TYPE OF INSTALLATION SUCH AS AN AIRFIELD OR ELECTRONIC SITE.

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NFI      NAME  
GP010    ENTITY ID ELEMENTS

## CHILD ELEMENTS (CONTINUED):

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8033/004	BE NUMBER, FIELD INITIATED	A PRODUCER GENERATED NUMBER CONSISTING OF THE WORLD AERONAUTICAL CHART (WAC) NUMBER (4 CHARACTERS), TWO ALPHA CHARACTERS REPRESENTING THE EXPLOITATION ELEMENT, AND A 4 DIGIT ORIGINATOR ASSIGNED INSTALLATION IDENTIFICATION NUMBER.
8033/003	BE SUFFIX	A UNIQUELY ASSIGNED NUMBER THAT IDENTIFIES FACILITIES WITHIN AN INSTALLATION TO BE UNIQUELY IDENTIFIED AS BELONGING TO A PARENT INSTALLATION.
8033/006	BE ORIGINATOR SUFFIX	A COMBINATION OF A TWO-LETTER CODE OF THE ORIGINATING INTELLIGENCE PRODUCING AGENCY AND A THREE-DIGIT, CONSECUTIVELY SEQUENCED NUMBER FOR EACH NEW FACILITY IDENTIFIED BY THE ORIGINATING AGENCY AT THAT INSTALLATION. (AKA O-SUFFIX)
GP011	IFF MODES	IDENTIFIES THE IDENTIFICATION FRIEND OR FOE (IFF) MODES BEING REPORTED.
GP037	INDIVIDUAL ID ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE PHYSICAL AND/OR PERSONAL CHARACTERISTICS OF AN INDIVIDUAL.
4150/801	ARBITRARY UNIT IDENTIFIER	THE ARBITRARY NAME OR DESIGNATION IDENTIFYING A UNIT AS ASSIGNED BY THE CONTROLLING AUTHORITY (DIA, NSA, ETC.).
4150/802	UNIT IDENTITY/UNIT DESIGNATOR	THE NAME, DESIGNATION OR IDENTIFICATION OF A UNIT, AGENCY, FACILITY OR ORGANIZATION AS ASSIGNED BY THE OWNER.
4150/803	OPERATION NAME	THE ASSIGNED NAME OF THE OPERATION THAT THE REPORTED ACTIVITY SUPPORTS.
4150/804	MISSION NAME	THE ASSIGNED NAME OF THE MISSION THAT THE REPORTED ACTIVITY SUPPORTS.
4150/806	ORGANIZATION IDENTIFICATION	THE NUMERICAL DESIGNATION ASSIGNED TO AN ORGANIZATION BY AN APPROPRIATE AUTHORITY.

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NFI        NAME  
GP010     ENTITY ID ELEMENTS

## CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4150/805	PARENT ORGANIZATION	THE DESIGNATION ASSIGNED TO THE PARENT ORGANIZATION OF THE REPORTED ENTITY.
4150/812	SUBORDINATE OPERATION NAME	THE NAME OF A SUBORDINATE OPERATION ON-GOING/SIMULTANEOUSLY WITHIN THE OVERALL OPERATION.
4150/811	ENTITY HOME LOCATION NAME	PROVIDES THE NAME OF THE HOME LOCATION OF THE ENTITY PLATFORM. FOR MARITIME PLATFORMS, USE THE PORT NAME USUALLY FOUND BELOW THE SHIP NAME ON THE STERN OF THE VESSEL. FOR AIRCRAFT, USE THE HOME BASE IF KNOWN. FOR LAND BASED PLATFORMS, USE HOME GARRISON IF KNOWN.
8102/001	VESSEL CLASS	CLASS OF THE VESSEL.
4046/832	TAIL NUMBER	THE NUMBER ASSIGNED TO THE TAIL OR FUSELAGE OF AN AIRCRAFT.
4046/831	HULL NUMBER	THE NUMBER ASSIGNED TO THE HULL OF A VESSEL.
GP091	ENTITY PHYSICAL CHARACTERISTICS ELEMENTS	PROVIDES DESCRIPTIVE ELEMENTS OF ENTITIES.
GP121	ENTITY UNIQUE EQUIPMENT ID	PROVIDES A GROUP OF ELEMENTS WHICH IDENTIFIES A UNIQUELY ASSIGNED NOMENCLATURE/NUMBER FOR A SPECIFIC PIECE OF EQUIPMENT THAT IS PART OF THE REPORTED ENTITY.
CP168	NATIONALITY/ALLIANCE PERCENT CONFIDENCE	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SPECIFIED ENTITY NATIONALITY OR ALLIANCE INFORMATION.
CP167	NATIONALITY/ALLIANCE GENERAL CONFIDENCE	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SPECIFIED ENTITY NATIONALITY OR ALLIANCE INFORMATION.
CP166	ENTITY TYPE PERCENT CONFIDENCE	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SPECIFIED ENTITY TYPE VALUE.

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NFI      NAME  
GP010    ENTITY ID ELEMENTS

CHILD ELEMENTS (CONTINUED):

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP165	ENTITY TYPE GENERAL CONFIDENCE	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SPECIFIED ENTITY TYPE VALUE.

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NFI	NAME	DEFINITION
GP011	IFF MODES [IFF_Modes]	IDENTIFIES THE IDENTIFICATION FRIEND OR FOE (IFF) MODES BEING REPORTED.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
293/801	IFF MODE I CODE	PROVIDES MODE I BEACON REPLY INFORMATION ON AIRCRAFT.
293/802	SIF MODE I CODE	A SPECIAL TACTICAL CODE FOR SHIPBOARD OR AIRCRAFT. OFTEN DENOTES PLATFORM MISSION. ONE PART OF SELECTIVE IDENTIFICATION FEATURE (SIF).
294/801	IFF MODE II CODE	PROVIDES MODE II BEACON REPLY INFORMATION ON AIRCRAFT.
294/802	SIF MODE II CODE	A FIXED CODE DENOTING THE UNIT IDENTITY OF A SHIP OR SQUADRON IDENTITY OF AN AIRCRAFT. ONE PART OF SIF.
295/801	IFF MODE 3A CODE	PROVIDES MODE III BEACON REPLY INFORMATION ON AIRCRAFT.
295/802	SIF MODE 3A CODE	A CODE DENOTING ACTIVITY OR STATUS, CERTAIN EMERGENCY CONDITIONS, COMMERCIAL AIR TRAFFIC CONTROL SCHEMES, ETC. ONE PART OF SIF.
298/801	IFF MODE IV INDICATOR	A SECURE, ENCRYPTED IDENTIFICATION CODE.

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NFI	NAME	DEFINITION
GP012	ENTITY ALTERNATE ID ELEMENTS [Entity_Alternate_ID_Elmnts]	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE ONE OR MORE SETS OF ALTERNATE IDENTIFYING NUMBERS BEING USED FOR UNIQUELY IDENTIFYING AND REPORTING A CMF ENTITY (OR MESSAGE) ON OTHER DATALINKS OR IN OTHER ENVIRONMENTS. THESE ALTERNATE IDENTIFIERS ARE NORMALLY DEVISED AND CONTROLLED BY OTHER AUTHORITIES OTHER THAN THE INTEGRATED BROADCAST SERVICE (IBS) AND ARE NORMALLY ASSIGNED EITHER VIA AN ORIGINATING SOURCE OUTSIDE OF IBS OR UPON FORWARDING OF AN IBS ORIGINATED ENTITY (OR MESSAGE).
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
CP011	LINK 11/11B IDENTIFIER	DENOTES THE ENTITY AS ALSO BEING PORTRAYED ON, OR FORWARDED FROM, LINK 11/11B LINKS BY THE REFERENCED PARTICIPATING UNIT/REPORTING UNIT WITH THE REFERENCED LINK 11/11B TRACK NUMBER.
CP012	LINK 16 IDENTIFIER	DENOTES THE ENTITY AS ALSO BEING PORTRAYED ON, OR FORWARDED FROM, A LINK 16 LINK BY THE REFERENCED JOINT OR PARTICIPATING UNIT WITH THE REFERENCED LINK 16 TRACK NUMBER.
GP047	TDDS IDENTIFIER	TDDS PRODUCER IDENTIFIER, CONTACT IDENTIFIER, REPORT IDENTIFIER, AND TRACK IDENTIFIER ELEMENTS.
747/801	NATO LINK 1 TRACK NUMBER, 1	AN ALPHA NUMERICALLY CODED REFERENCE NUMBER USED BY THE NATO AIR DEFENSE GROUND ENVIRONMENT (NADGE) SYSTEM TO IDENTIFY TRACKS. THE NUMBER CONSISTS OF FIVE CHARACTERS. TWO LETTERS FOLLOWED BY THREE DIGITS.
CP016	TIBS TRACK NUMBER	DENOTES THE ENTITY AS ALSO BEING PORTRAYED ON, OR FORWARDED FROM, AN IBS INTERACTIVE (TIBS) NETWORK BY THE REFERENCED ORIGINATING NODE (STATION AND SUBNET ADDRESS) WITH THE REFERENCED TIBS LABEL AND MESSAGE NUMBER.
CP149	USMTF TRACK IDENTIFIER	A UNIQUE SERIAL NUMBER ASSIGNED TO A SPECIFIC USMTF REPORT CONTAINING TRACK DATA.

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NFI            NAME  
GP012        ENTITY ALTERNATE ID ELEMENTS

## CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP083	TRIXS REPORT NUMBER	A UNIQUE SERIAL NUMBER ASSIGNED TO A SPECIFIC TRIXS MESSAGE.
4046/820	BINO TRACK NUMBER	A NUMERIC FIELD REPRESENTING THE CONTACT AS ASSIGNED BY BINOCULAR (NRTD).
CP108	VMF ENTITY ID SERIAL NUMBER	A SINGLE, GLOBALLY UNDERSTOOD ENTITY ID REFERENCE NUMBERING SCHEME USED TO IDENTIFY ENTITIES, OBJECTS, OR EVENTS ON ANY VMF INTERFACE.
8119/001	TES EVENT IDENTIFIER	A REFERENCE NUMBER ASSIGNED BY A TES PRODUCER TO IDENTIFY ENTITIES ASSOCIATED WITH A SPECIFIC TES EVENT. THE TES EVENT IDENTIFIER IS USED TO COORDINATE THE EXCHANGE OF AMPLIFYING THREAT INFORMATION ON A SPECIFIC EVENT.

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NFI	NAME	DEFINITION
GP013	ENTITY POLAR LOCATION ELEMENTS [Entity_Polar_Loc_Elmnts]	
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP017	ENTITY LOCATION	DEPICTS THE POSITION OF THE ENTITY BEING REPORTED AT THE TIME (TIME OF INTERCEPT) THE ENTITY WAS OBSERVED.
4119/801	POSITION FIXING METHOD	DEVICE OR METHOD USED TO FIX THE POSITION OF AN ENTITY.
4119/802	POSITION FIX QUALITY	DENOTES QUALITY OF ENTITY POSITION INFORMATION.
CP093	ERROR CIRCLE 2D	IDENTIFIES THAT THE TWO-DIMENSIONAL (2D) AREA IS A CIRCLE. FOR THIS SHAPE, AN ASSOCIATED LOCATION IDENTIFIES THE CENTERPOINT OF A 3-SIGMA CIRCLE AS DEFINED BY THE REPORTED RADIUS AND WITH THE DEFINED AREA HAVING A 95% PROBABILITY OF CONTAINING THE TRUE LOCATION OF THE REFERENCED ENTITY.
CP020	ERROR RECTANGLE 2D	IDENTIFIES THAT IF THE AREA SEMI-MAJOR AXIS AND AREA SEMI-MINOR AXIS ARE EQUAL, THEN THE TWO-DIMENSIONAL AREA IS A SQUARE AREA OF ERROR. IF THEY ARE NOT EQUAL, THEN THE AREA IS A RECTANGULAR AREA OF ERROR. FOR THIS SHAPE, AN ASSOCIATED LOCATION IDENTIFIES THE CENTERPOINT OF A 3-SIGMA SQUARE OR RECTANGULAR AREA AS DEFINED BY THE LENGTHS OF THE MAJOR AXIS AND MINOR AXIS, RESULTING FROM THE REPORTED SEMI-MAJOR AXIS AND SEMI-MINOR AXIS, AND WITH THE DEFINED AREA HAVING A 95% PROBABILITY OF CONTAINING THE TRUE LOCATION OF THE REFERENCED ENTITY.
CP019	ERROR ELLIPSE 2D	A CONDITION WHERE THE AREA SEMI-MAJOR AXIS AND AREA SEMI-MINOR AXIS ARE NOT EQUAL AND THE TWO-DIMENSIONAL (2D) AREA IS AN ELLIPSE. FOR THIS SHAPE, AN ASSOCIATED LOCATION IDENTIFIES THE CENTERPOINT OF A 3 SIGMA ELLIPSE AS DEFINED BY THE LENGTHS OF THE MAJOR AXIS AND MINOR AXIS, RESULTING FROM THE REPORTED

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NFI      NAME  
GP013    ENTITY POLAR LOCATION ELEMENTS

## CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP019	(CONTINUED)	SEMI-MAJOR AXIS AND SEMI-MINOR AXIS, AND WITH THE DEFINED AREA HAVING A 95% PROBABILITY OF CONTAINING THE TRUE LOCATION OF THE REFERENCED ENTITY.
GP050	ERROR 3D	CONTAINS THE DATA ELEMENTS REQUIRED TO DESCRIBE A 3-DIMENSIONAL ERROR VOLUME.
GP034	DEPARTURE ELEMENTS	PROVIDES AN ESTIMATED OR ACTUAL DEPARTURE LOCATION AND TIME AS WELL AS A LOCATION NAME, IF AVAILABLE, OF A REPORTED ENTITY.
GP035	ARRIVAL ELEMENTS	PROVIDES AN ESTIMATED OR ACTUAL ARRIVAL LOCATION AND TIME AS WELL AS A LOCATION NAME, IF AVAILABLE, OF A REPORTED ENTITY.
GP036	DESTINATION ELEMENTS	PROVIDES AN ESTIMATED OR ACTUAL DESTINATION LOCATION AND TIME AS WELL AS A LOCATION NAME, IF AVAILABLE, OF A REPORTED ENTITY.
280/801	TRACK QUALITY, IBS	THE TRACK QUALITY IS STATED AS A NUMERICAL VALUE FROM 0 TO 15 WITH THE HIGHER VALUES INDICATING THE HIGHER TRACK QUALITIES. THE TQ IS BASED ON THE POSITIONAL ACCURACY OF A TRACK REPRESENTED BY AN AREA IN SQUARE DATA MILES WITHIN WHICH IT IS ASSESSED THAT THERE IS A 95% PROBABILITY THAT THE TRACK LIES.

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NFI	NAME	DEFINITION
GP014	ENTITY POLAR ATTITUDE ELEMENTS [Entity_Polar_Attud_Elmts]	
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: YES	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	367/801 SPEED, IBS	THE RATE OF TWO-DIMENSIONAL CHANGE OF POSITION (AKA GROUND SPEED).
	8070/001 TRUE HEADING, DEGREES	INDICATES THE ANGLE OF THE LONGITUDINAL AXIS OF AN OBJECT IN DEGREES WITH RESPECT TO TRUE NORTH.
	8070/003 MAGNETIC HEADING, DEGREES	INDICATES THE ANGLE OF THE LONGITUDINAL AXIS OF AN OBJECT IN DEGREES WITH RESPECT TO MAGNETIC NORTH.
	8070/002 HEADING, CARDINAL	INDICATES THE ANGLE OF THE LONGITUDINAL AXIS OF AN OBJECT IN TERMS OF POINTS ON A COMPASS.
	8070/004 COURSE, DEGREES	INDICATES THE ACTUAL DIRECTION OF TRAVEL OF AN OBJECT IN DEGREES WITH RESPECT TO TRUE NORTH.
	8070/005 COURSE, CARDINAL	INDICATES THE ACTUAL DIRECTION OF TRAVEL OF AN OBJECT IN TERMS OF POINTS ON A COMPASS.
	8070/006 MAGNETIC COURSE, DEGREES	INDICATES THE ACTUAL DIRECTION OF TRAVEL OF AN OBJECT IN DEGREES WITH RESPECT TO MAGNETIC NORTH.
	365/802 APPROXIMATE ALTITUDE	REPORTS ALTITUDE AS LOW, MEDIUM, OR HIGH.
	CP022 MEASURED ALTITUDE	THE HEIGHT OF AN OBJECT AS MEASURED RADIALLY OUTWARD FROM THE EARTH AS A QUANTITY ABOVE/BELOW MEAN SEA LEVEL (MSL).
	CP023 IFF MODE 3C ALTITUDE	THE ALTITUDE OF THE ENTITY AS REPORTED VIA ITS MODE 3C IFF TRANSPONDER.
	4130/801 ELEVATION	THE VERTICAL DISTANCE OF A POINT, OR LEVEL, ON, OR AFFIXED TO, THE SURFACE OF THE EARTH MEASURED FROM MEAN SEA LEVEL, IN FEET.

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NFI            NAME  
GP014        ENTITY POLAR ATTITUDE ELEMENTS

## CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
365/803	HEIGHT FROM SURFACE	THE DISTANCE OF AN ENTITY ABOVE OR BELOW THE SURFACE OF THE LAND OR WATER AT THE LOCATION OF THE ENTITY, WITH POSITIVE VALUES INDICATING OUTWARD FROM THE EARTH.
8057/001	CLIMB RATE	THE RATE OF CHANGE OF VERTICAL POSITION.
8020/001	PITCH	THE ANGLE OF THE LONGITUDINAL AXIS OF AN OBJECT WITH RESPECT TO THE LOCAL HORIZONTAL.
8081/001	FLIGHT PATH ANGLE	THE ANGLE OF THE VELOCITY VECTOR OF AN OBJECT WITH RESPECT TO THE LOCAL VERTICAL.
4144/801	RATE OF TURN	THE RATE AT WHICH A VESSEL IS TURNING.

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NFI	NAME	DEFINITION
GP016	ENTITY RECTANGULAR ATTITUDE ELEMENTS [Entity_Rectng_Attud_Elmnts]	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE DETAILS DESCRIBING AN ENTITY'S ATTITUDE (SUCH AS SPEED, DIRECTION, ETC.) USING A RECTANGULAR COORDINATE SYSTEM (I.E. X, Y, AND Z) OR OTHER MOVEMENT PARAMETERS (E.G. STAGE OF FLIGHT FOR A BALLISTIC MISSILE ENTITY).
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP028	X Y Z VELOCITY	THE RATE OF CHANGE OF POSITION ALONG THE X, Y, AND Z AXES (WGS-84 REFERENCE FRAME).
1107/003	BOOST INDICATOR	SPECIFIES WHETHER A BALLISTIC MISSILE IS IN THE BOOST STAGE.
1105/801	BALLISTIC MISSILE BETA, IBS	THIS FIELD IS ONLY INTERPRETED WHEN BOOST INDICATOR IS SET TO VALUE 0, NOT IN BOOST. EXPRESSES MEASURED ATMOSPHERIC DRAG EFFECTS ON A BALLISTIC MISSILE WITH A CONSTANT REFERENCE AREA. BETA IS DEFINED AS THE MASS OF THE OBJECT DIVIDED BY THE PRODUCT OF ITS COEFFICIENT OF DRAG AND REFERENCE AREA.
1107/801	MANEUVERING INDICATOR, IBS	SPECIFIES WHETHER AN ENTITY IS CONDUCTING MANEUVER OPERATIONS POST BOOST.

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NFI	NAME	DEFINITION
GP017	ENTITY RECTANGULAR ACCURACY ELEMENTS [Entity_Rectng_Accy_Elmts]	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE COVARIANCE MATRIX DATA (EITHER FULL OR PARTIAL MATRICES) WHICH INDICATE THE ACCURACY OF THE POSITION AND VELOCITY MEASUREMENTS OF AN ENTITY AND CAN BE UTILIZED TO PREDICT OR EXTRAPOLATE FUTURE POSITIONS.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP032	FULL COVARIANCE MATRIX	IDENTIFIES THE COMPLETE SET OF COMPONENTS NECESSARY TO RECONSTRUCT A SYMMETRIC 6X6 ELEMENT MATRIX REPRESENTING THE CALCULATED TRACKING ERRORS AND STATISTICAL ESTIMATES OF BIASES PRODUCED BY EMPLACEMENT ERRORS, ALIGNMENT ERRORS, AND SYSTEMATIC ERRORS. THIS MATRIX INDICATES THE ACCURACY OF REPORTED POSITION AND VELOCITY MEASUREMENTS OF AN ENTITY AND CAN BE UTILIZED TO PREDICT OR EXTRAPOLATE FUTURE POSITIONS.
CP042	PARTIAL COVARIANCE MATRIX	IDENTIFIES A GROUPING OF ELEMENTS WHICH COMPOSE THE TWO 3X3 SUBMATRICES DESCRIBING THE COVARIANCE RELATIONSHIP BETWEEN JUST THE POSITION MEASUREMENTS AND THE VELOCITY MEASUREMENTS.
8087/001	ERROR SUM 3D	THE VALUE RESULTING FROM AN ALGORITHM WHICH SUMS THE THREE DIMENSIONAL POSITIONAL VARIANCES CONTAINED IN THE COVARIANCE MATRIX PLUS THE SUM OF THE VELOCITY VARIANCES IN THE COVARIANCE MATRIX TIMES A SQUARED FACTOR. VALUE PROVIDES A REPRESENTATION OF THE POSITIONAL AND VELOCITY ERRORS FOR THE REPORTED ENTITY, SUCH AS A BALLISTIC MISSILE TRACK.

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NFI	NAME	DEFINITION
GP018	REFERENCE POLAR PLATFORM ELEMENTS [Ref_Polar_Platform_Elmts]	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE DETAILS DESCRIBING THE LOCATION AND/OR ATTITUDE (I.E. SPEED, HEADING, ORIENTATION, ETC.) OF A (PHYSICAL OR VIRTUAL) PLATFORM (OR LOCATION) USED, OR AVAILABLE TO BE USED, AS A REFERENCE POINT OF OTHER REPORTED DATA (E.G. A POINT OF ORIGIN FOR COMPUTED LINES OF BEARING TO AN ENTITY OR A SENSOR LOCATION AT WHICH A TIME MEASUREMENT WAS RECORDED).
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
CP094	POLAR SINGLE LOCATION	
372/801	ENTITY LINE OF BEARING	EXPRESSES THE ANGULAR DISPLACEMENT CLOCKWISE RELATIVE TO TRUE NORTH, FROM THE LATITUDE/LONGITUDE LOCATION TO AN OBJECT.
372/805	BEARING CONE ANGLE	INTERFEROMETER-BASED MEASUREMENT, REFERENCED FROM TRUE NORTH, DELINEATING THE SURFACE OF A CONE CENTERED ABOUT THE LONGITUDINAL AXIS OF THE REPORTED REFERENCE PLATFORM AS INDICATED BY PLATFORM HEADING. THE SURFACE OF THE CONE DESCRIBES THE SET OF POTENTIAL VECTORS THAT LEADS TO A LINE OF BEARING DETERMINATION AFTER CORRECTION FOR DEPRESSION ANGLE AND ADJUSTMENT FOR PITCH.
CP047	POLAR START LOCATION	DEPICTS THE ACTUAL START POSITION OF THE REPORTED ENTITY.
372/802	START CUT LOB	PROVIDES A CUT (AKA MEASURED LINE OF BEARING), EXPRESSED AS THE ANGLE FROM TRUE NORTH, TO THE REPORTED ENTITY FROM THE INITIAL REFERENCE LOCATION OF A SERIES OF MEASUREMENTS.
CP048	POLAR INTERMEDIATE LOCATION	DEPICTS THE INTERMEDIATE POSITION(S) THE REPORTED ENTITY HAS OR WILL TRAVEL TO/THROUGH.

NFI            NAME  
 GP018        REFERENCE POLAR PLATFORM  
                 ELEMENTS

## CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
372/803	INTERMEDIATE CUT LOB	PROVIDES A CUT (AKA MEASURED LINE OF BEARING), EXPRESSED AS THE ANGLE FROM TRUE NORTH, TO THE REPORTED ENTITY FROM AN INTERMEDIATE REFERENCE LOCATION WITHIN A SERIES OF MEASUREMENTS.
CP049	POLAR STOP LOCATION	DEPICTS THE STOP POSITION THE REPORTED ENTITY HAS OR WILL TRAVEL TO.
372/804	STOP CUT LOB	PROVIDES A CUT (AKA MEASURED LINE OF BEARING), EXPRESSED AS THE ANGLE FROM TRUE NORTH, TO THE REPORTED ENTITY FROM THE FINAL REFERENCE LOCATION OF A SERIES OF MEASUREMENTS.
4119/801	POSITION FIXING METHOD	DEVICE OR METHOD USED TO FIX THE POSITION OF AN ENTITY.
4119/802	POSITION FIX QUALITY	DENOTES QUALITY OF ENTITY POSITION INFORMATION.
8070/001	TRUE HEADING, DEGREES	INDICATES THE ANGLE OF THE LONGITUDINAL AXIS OF AN OBJECT IN DEGREES WITH RESPECT TO TRUE NORTH.
365/802	APPROXIMATE ALTITUDE	REPORTS ALTITUDE AS LOW, MEDIUM, OR HIGH.
CP022	MEASURED ALTITUDE	THE HEIGHT OF AN OBJECT AS MEASURED RADIALLY OUTWARD FROM THE EARTH AS A QUANTITY ABOVE/BELOW MEAN SEA LEVEL (MSL).
CP023	IFF MODE 3C ALTITUDE	THE ALTITUDE OF THE ENTITY AS REPORTED VIA ITS MODE 3C IFF TRANSPONDER.
4130/801	ELEVATION	THE VERTICAL DISTANCE OF A POINT, OR LEVEL, ON, OR AFFIXED TO, THE SURFACE OF THE EARTH MEASURED FROM MEAN SEA LEVEL.
365/803	HEIGHT FROM SURFACE	THE DISTANCE OF AN ENTITY ABOVE OR BELOW THE SURFACE OF THE LAND OR WATER AT THE LOCATION OF THE ENTITY, WITH POSITIVE VALUES INDICATING OUTWARD FROM THE EARTH.

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GP018      REFERENCE POLAR PLATFORM  
             ELEMENTS

## CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8020/001	PITCH	THE ANGLE OF THE LONGITUDINAL AXIS OF AN OBJECT WITH RESPECT TO THE LOCAL HORIZONTAL.
GP103	AZIMUTH CORRIDOR	IDENTIFIES AN UNBOUNDED AREA ASSOCIATED WITH AN ENTITY SUCH AS THE VECTOR OF A MISSILE WHICH MAY CONTAIN THE LIKELY IMPACT AREA OR THE FUTURE LOCATION OF AN ENTITY.

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NFI	NAME	DEFINITION
GP019	ENTITY RF DESCRIPTION ELEMENTS [Entity_RF_Desc_Elmts]	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE DETAILS DESCRIBING RADIO FREQUENCY (RF) CHARACTERISTICS OF AN ENTITY'S Emitter.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
417/801	FREQUENCY	MEASUREMENT BETWEEN REPETITIVE PATTERNS OF A WAVEFORM.
RP001	MULTIPLE FREQUENCIES	MULTIPLE FREQUENCY VALUES REPORTED IN ORDER OF OCCURRENCE.
CP050	FREQUENCY RANGE	THE LOWER AND UPPER FREQUENCY LIMITS THE Emitter IS UTILIZING.
RP002	MULTIPLE FREQUENCY RANGES	MULTIPLE FREQUENCY RANGE VALUES.
PC003	FREQUENCY CAPABILITY INDICATORS	
8013/001	FREQUENCY AGILITY CHARACTERISTICS	DESCRIBES THE AGILITY CHARACTERISTICS DISPLAYED BY A GIVEN PULSED Emitter IN TERMS OF OCCURRENCE.
4104/801	RADIO FREQUENCY STABILITY	THE STABILITY OF THE RADIO FREQUENCY (RF) SIGNAL IN TERMS OF DEVIATION FROM THE CENTER FREQUENCY.
8027/001	VG CHANNEL SPACING	DESCRIBES THE SEPARATION BETWEEN THE START OF ONE VOICE GRADE CHANNEL (VGC) TO THE START OF THE NEXT VGC ON A COMMUNICATIONS CIRCUIT.
8027/003	NUMBER OF VG CHANNELS	DESCRIBES THE NUMBER OF VOICE GRADE CHANNELS (VGC) WITHIN A COMMUNICATIONS CIRCUIT.
8027/002	SUBCARRIER TONE SPACING	DESCRIBES THE SEPARATION BETWEEN THE START OF ONE AUDIO TONE TO THE START OF THE NEXT AUDIO TONE USED AS SUBCARRIERS FOR TELEMETRY CIRCUITS.
8027/004	NUMBER OF SUBCARRIER TONES	DESCRIBES THE NUMBER OF SUBCARRIER TONES WITHIN A COMMUNICATIONS CIRCUIT.

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NFI      NAME  
GP019    ENTITY RF DESCRIPTION ELEMENTS

CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8027/005	PILOT TONE	DESCRIBES THE FREQUENCY OF THE PILOT TONE(S) USED BY RECEIVERS TO DETERMINE IF SUFFICIENT POWER EXISTS FOR PROCESSING THE DATA CONTAINED IN THE BASEBAND.
8027/006	NUMBER OF PILOT TONES	DESCRIBES THE NUMBER OF PILOT TONES PRESENT IN A COMMUNICATIONS CIRCUIT.
8030/005	BIT RATE	THE NUMBER OF BITS PER SECOND USED BY A COMMUNICATIONS CHANNEL FOR DATA TRANSFER.
1849/801	ELINT Emitter MODULATION	DESCRIBES THE PRIMARY MODULATION IN USE BY THE REFERENCED ELINT Emitter.
1849/803	COMMUNICATIONS EXTERNAL MODULATION	THE MODULATION CHARACTERISTICS (OR LACK THEREOF) OF AN RF CARRIER OR PULSED RF SIGNALS IN ACCORDANCE WITH USSID 371 DEFINED CODES.
8095/001	EMITTER FUNCTION	DESCRIBES THE Emitter's FUNCTION.
434/801	EMISSION POLARIZATION, IBS	DESCRIBES THE POLARIZATION OF AN ELECTRONIC WARFARE SUPPORT (ES) EMISSION.
4104/803	SIGNAL BANDWIDTH	WIDTH OF THE FREQUENCY RANGE OF THE REPORTED SIGNAL.

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NFI	NAME	DEFINITION
GP022	ENTITY PULSE DESCRIPTION ELEMENTS [Entity_Pulse_Desc_Elmnts]	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE DETAILS DESCRIBING THE MEASURABLE CHARACTERISTICS OF A RADIO FREQUENCY PULSE OR GROUP OF PULSES TRANSMITTED BY AN EMITTER.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
435/806	PULSE WIDTH DURATION	THE TIME DURATION BETWEEN THE HALF POWER POINTS OF THE ENVELOPE OF THE RADIO FREQUENCY PULSE OF AN ELECTRONIC EMITTER.
8099/001	PULSE WIDTH SWITCHING INDICATOR	INDICATES THE REFERENCED EMITTER IS EXHIBITING PULSE WIDTH SWITCHING CHARACTERISTICS.
435/804	PULSE WIDTH SWITCHING HIGH VALUE	THE TIME DURATION OF THE WIDEST MEASURED PULSE IN A PULSE WIDTH SWITCHING EMITTER.
435/805	PULSE WIDTH SWITCHING LOW VALUE	THE TIME DURATION OF THE NARROWEST MEASURED PULSE IN A PULSE WIDTH SWITCHING EMITTER.
8030/002	PULSE RATE, COMINT	THE COMINT PULSE REPETITION FREQUENCY AT WHICH PULSES, OR A GROUP OF PULSES, ARE TRANSMITTED BY AN ELECTRONIC EMITTER, EXPRESSED IN PULSES PER SECOND.
1903/806	PRI	THE MEASURED TIME INTERVAL BETWEEN TWO TRANSMITTED PULSES OR PULSE GROUPS.
1903/807	PRI GROUP INDICATOR	INDICATES WHETHER THE PRI VALUE REPRESENTS AN AVERAGE OR GROUP MEASUREMENT.
440/801	PRF	THE RATE AT WHICH PULSES OR PULSE GROUPS ARE TRANSMITTED.
440/802	PRF GROUP INDICATOR	INDICATES WHETHER THE PRF VALUE REPRESENTS AN AVERAGE OR GROUP MEASUREMENT.
RP007	MULTIPLE PRIS	MULTIPLE PRI VALUES REPORTED IN ORDER OF OCCURRENCE (ALSO KNOWN AS "FIRING ORDER").

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NFI      NAME  
GP022    ENTITY PULSE DESCRIPTION  
          ELEMENTS

CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
RP005	MULTIPLE PRFS	MULTIPLE PRF VALUES REPORTED IN ORDER OF OCCURRENCE (ALSO KNOWN AS "FIRING ORDER").
CP055	PRI RANGE	REPORTS A RANGE OF PULSE REPETITION INTERVALS (PRI), WITH THE FIRST PRI IN THE COMPOSITE BEING THE LOWEST AND THE SECOND BEING THE HIGHEST.
CP054	PRF RANGE	REPORTS A RANGE OF PULSE REPETITION FREQUENCIES (PRF), WITH THE FIRST PRF IN THE COMPOSITE BEING THE LOWEST AND THE SECOND BEING THE HIGHEST.
RP008	MULTIPLE PRI RANGES	
RP006	MULTIPLE PRF RANGES	
1903/802	PRI TYPE	THE TYPE OF PULSE REPETITION INTERVAL (PRI) BEING MEASURED.
1903/801	PRI STABILITY	THE STABILITY OF THE PULSE REPETITION INTERVAL (PRI) IN TERMS OF DEVIATION FROM THE CENTER PRI.
8013/002	PRI AGILITY CHARACTERISTICS	INDICATES THE PRESENCE OF AGILITY ON THE REFERENCED EMITTER.
1903/803	PRI STAGGER LEGS	NUMBER OF STAGGER LEVELS (POSITIONS) IN A PULSE SEQUENCE/CYCLE OF THE REPORTED EMITTER.
8096/001	JITTER RANGE	JITTER MEASUREMENT REFLECTED BY A RANDOM VARIATION OF A RANGE VALUE CENTERED AT THE PULSE REPETITION INTERVAL (PRI).
8097/002	HOP RATE	INDICATES THE HOP RATE OF A FREQUENCY HOP TRANSMISSION.
8097/003	HOP SPACING ELEMENT	INDICATES THE SPACING BETWEEN HOPS OF A FREQUENCY HOP TRANSMISSION.

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NFI            NAME  
GP022        ENTITY PULSE DESCRIPTION  
                ELEMENTS

## CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8097/001	HOP DWELL	THE PERIOD OF TIME A FREQUENCY HOP TRANSMISSION DWELLS ON AN INDIVIDUAL RADIO FREQUENCY.
8097/004	HOP SPREADER TYPE	A DESCRIPTION OF THE CHARACTERISTIC PARAMETERS OF FREQUENCY HOPPING/DIRECT SEQUENCE SPREAD SPECTRUM TYPE COMMUNICATIONS SYSTEMS.
8005/001	CHIP RATE	CHIP RATE OF A DIRECT SEQUENCE SPREAD SPECTRUM TRANSMISSION.
1849/802	ELINT PULSE MODULATION	PULSED Emitter MODULATION CODE.
1903/810	NUMBER OF PRI POSITIONS	THE NUMBER OF UNIQUE PRI VALUES IN A PRI SEQUENCE.
8107/001	TOTAL NUMBER OF PULSES	THE TOTAL NUMBER OF PULSES COLLECTED FROM AN Emitter DURING A COLLECTION OPPORTUNITY (REGARDLESS OF GROUPING).
8107/002	TOTAL NUMBER OF PULSE GROUPS	NUMBER OF OBSERVED PULSE GROUPS DURING A COLLECTION OPPORTUNITY.
GP088	PULSE GROUP CHARACTERISTICS	PROVIDES ELEMENTS DESCRIBING THE MEASURABLE CHARACTERISTICS OF A RADIO FREQUENCY PULSE IN A GROUP OF PULSES TRANSMITTED BY AN Emitter.
GP095	PRI PROFILE	ELEMENTS REQUIRED TO DETERMINE A PRI PROFILE.
380/802	MEASUREMENT REFERENCE PERIOD	THE BASIC PERIOD OF THE MEASUREMENT INSTRUMENT USED TO DETERMINE THE REPORTED TIME VALUES TO INCLUDE PRI/PGRI.
435/808	ILLUMINATION TIME	INDICATES THE TIME REQUIRED FOR THE MAIN ANTENNA LOBE OF A SIGNAL TO PASS THROUGH THE MAIN LOBE OF THE RECEIVING ANTENNA. MEASUREMENT MADE AT THE HALF POWER POINTS (0.707 OF PEAK AMPLITUDE) OF THE BEAM ENVELOPE, WHICH REPRESENTS THE INTEGRATED PULSE-TO-PULSE RESPONSE OF THE EQUIPMENT TO THE SIGNAL.

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NFI	NAME	DEFINITION
GP024	ENTITY SCAN DESCRIPTION	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE THE SCAN
	ELEMENTS	CHARACTERISTICS OF A BEAM OF ELECTROMAGNETIC ENERGY.
	[Entity_Scan_Desc_Elmnts]	
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: YES	
	CHILD ELEMENTS:	
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
433/801	SCAN TYPE, IBS	THE TYPE OF PATTERN OR SCAN THAT THE EMITTED ELECTROMAGNETIC ENERGY FOLLOWS AS A VOLUME IN SPACE IS SEARCHED.
1580/801	SCAN RATE	THE RATE (HZ) REQUIRED FOR A BEAM OF RADIO FREQUENCY ENERGY TO COMPLETE A GIVEN SCAN PATTERN.
1580/802	SCAN PERIOD	THE TIME (SEC) REQUIRED FOR A BEAM OF RADIO FREQUENCY ENERGY TO COMPLETE A GIVEN SCAN.

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NFI	NAME	DEFINITION
GP025	ENTITY AMPLIFICATION ELEMENTS [Entity_Ampn_Elmts]	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE FUNCTIONAL CLASSIFICATION OR IDENTIFICATION NOMENCLATURE WHICH CATEGORIZES AN ENTITY OR ENTITY'S EMITTER USING ONE OF VARIOUS DEPARTMENT OF DEFENSE OR OTHER CATALOGS, LISTS, AND/OR DATABASES.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	GP069 AMPLIFICATION IDENTIFICATION	IDENTIFIES AN ELEMENT WHICH PROVIDES A FUNCTIONAL CLASSIFICATION OR IDENTIFICATION NOMENCLATURE WHICH CATEGORIZES AN ENTITY OR ENTITY'S EMITTER USING ONE OF VARIOUS DEPARTMENT OF DEFENSE OR OTHER CATALOGS, LISTS, AND/OR DATABASES.
	4046/815 SOURCE FILE IDENTIFICATION	THE NUMBER ENTERED IN THIS FIELD IDENTIFIES THE FILE OR SIGNAL ID ASSIGNED BY THE ORIGINATOR OF THIS MESSAGE. ITS PRIMARY PURPOSE IS FOR "QUERY" REFERENCE AND POST-MISSION DATA REDUCTION/ANALYSIS.
	8052/002 SUPPORT-TEXT	PROVIDES FOR REPORTING OF BETWEEN 1 TO 40 7-BIT ASCII CHARACTERS OF ANCILLARY INFORMATION ON AN ENTITY EXPRESSED IN NATURAL LANGUAGE.
	GP102 SENSOR PRODUCT FILE	THE WEB LOCATION OF DERIVED SENSOR PRODUCTS TO INCLUDE ELECTRO-OPTIC, INFRARED, SEISMIC, ACOUSTIC, AND OTHER GEO-PHYSICAL DISCIPLINES.
	CP147 AMPLIFICATION TEXT	1 TO 40 7-BIT ASCII CHARACTERS OF AMPLIFYING TEXTUAL INFORMATION.
	GP098 AMPLIFICATION ID DECLARED ELEMENTS	AMPLIFICATION ELEMENTS DECLARED/PROFESSED BY THE REPORTED ENTITY ITSELF.
	GP081 RADAR CHARACTERISTICS	DESCRIBES CHARACTERISTICS OF A RADAR.
	GP083 ALGORITHM ELEMENTS	SET OF ELEMENTS RESULTING FROM THE APPLICATION OF A SPECIFIED ALGORITHM.

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NFI      NAME  
GP025    ENTITY AMPLIFICATION ELEMENTS

## CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP148	CHIP SEQUENCE ELEMENTS	PROVIDES ELEMENTS NECESSARY TO REPORT A CHIP SEQUENCE.
CP131	SIGNAL LOSS TIME	TIME WHEN SIGNAL ENERGY WAS NO LONGER DETECTED.
431/804	EOB ASSOCIATION CONFIDENCE	INDICATES THE DEGREE OF CONFIDENCE THE COLLECTION SYSTEM HAS REGARDING THE ASSOCIATION OF AN EMITTER TO A SPECIFIC SITE.
CP133	SIGNAL FILE LOCATION	PROVIDES THE PATH TO A DIGITIZED PULSE DESCRIPTOR WORD (PWD) FILE CONTAINING SPECIFIC EMITTER IDENTIFICATION INFORMATION.
385/804	REPORT VALIDATION INDICATOR	INDICATES IF ALL, OR AT LEAST THE MOST SIGNIFICANT PORTIONS, OF THE REPORTED INFORMATION REGARDING THE IDENTIFIED ENTITY HAS BEEN OBSERVED, ANALYZED, AND/OR VERIFIED AGAINST SIMILAR REPORTS AND/OR OTHER INTELLIGENCE BY MORE THAN ONE OBSERVER, ANALYST, OR SYSTEM.
CP129	SIGNAL REFERENCE ID	IDENTIFIES A SPECIFIC EMITTER COLLECTION.
CP130	SIGNAL REFERENCE ID TEMPORARY	IDENTIFIES A TEMPORARY SPECIFIC EMITTER COLLECTION.

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NFI	NAME	DEFINITION
GP029	MANAGEMENT ACTION INDICATORS [Mgt_Action_Indicators]	PROVIDES A RECOMMENDATION OR STATUS FOR A FRIENDLY ACTION PERTAINING TO A PARTICULAR ENTITY.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8072/004	FLASH	PROVIDES A MEANS TO REQUEST ADDITIONAL LOCATION/LINE OF BEARING DATA.

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NFI	NAME	DEFINITION
GP030	ENTITY CHAINING [Entity_Chain]	INDICATES A RELATIONSHIP BETWEEN TWO OR MORE ENTITIES PORTRAYED ON THE NETWORK.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	8071/001 ENTITY CHAIN TYPE	INDICATES THE FUNCTION AS A MEANS TO CORRELATE OR PAIR ASSOCIATED MESSAGE DATA FOR THREAT RESOLUTION AND TRACK/ENTITY CORRELATION.
CP064	REFERENCE ENTITY ID	IDENTIFIES A UNIQUE GLOBAL ENTITY IDENTIFIER (LIKELY SEPARATELY AND/OR PREVIOUSLY REPORTED) BEING REFERRED TO BY A REPORTED ACTION OR SET OF DATA.
GP012	ENTITY ALTERNATE ID ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE ONE OR MORE SETS OF ALTERNATE IDENTIFYING NUMBERS BEING USED FOR UNIQUELY IDENTIFYING AND REPORTING A CMF ENTITY (OR MESSAGE) ON OTHER DATALINKS OR IN OTHER ENVIRONMENTS. THESE ALTERNATE IDENTIFIERS ARE NORMALLY DEVISED AND CONTROLLED BY OTHER AUTHORITIES OTHER THAN THE INTEGRATED BROADCAST SERVICE (IBS) AND ARE NORMALLY ASSIGNED EITHER VIA AN ORIGINATING SOURCE OUTSIDE OF IBS OR UPON FORWARDING OF AN IBS ORIGINATED ENTITY (OR MESSAGE).
8071/005	ENTITY RELATIONSHIP INDICATOR	INDICATES WHETHER THE FIRST ENTITY IDENTIFIED IS THE SUBJECT OR THE OBJECT OF THE RELATIONSHIP.
8071/004	PAIR LOGIC	EXPLAINS THE RELATIONSHIP BETWEEN PAIRED ENTITIES.
8071/003	UNPAIR LOGIC	EXPLAINS THE CONDITION CAUSING ENTITIES TO BE UNPAIRED.
CP164	ENTITY CHAIN PERCENT CONFIDENCE	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SPECIFIED ENTITY CHAINING INFORMATION (THE PROVIDED CORRELATION OR PAIRING LOGIC).

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NFI      NAME  
GP030    ENTITY CHAINING

## CHILD ELEMENTS (CONTINUED):

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP163	ENTITY CHAIN GENERAL CONFIDENCE	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SPECIFIED ENTITY CHAINING INFORMATION (THE PROVIDED CORRELATION OR PAIRING LOGIC).

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NFI	NAME	DEFINITION
GP034	DEPARTURE ELEMENTS [Departure_Elmts]	PROVIDES AN ESTIMATED OR ACTUAL DEPARTURE LOCATION AND TIME AS WELL AS A LOCATION NAME, IF AVAILABLE, OF A REPORTED ENTITY.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP076	ACTUAL POLAR LOCATION	THE ACTUAL GEOGRAPHIC LOCATION FROM WHICH AN ENTITY DEPARTED, OR TO WHICH AN ENTITY WILL OR DID ARRIVE.
CP077	ESTIMATED POLAR LOCATION	AN ESTIMATE OF THE GEOGRAPHIC LOCATION FROM WHICH AN ENTITY DEPARTED, OR TO WHICH AN ENTITY WILL OR DID ARRIVE.
CP078	ACTUAL DAY TIME	THE ACTUAL DAY-TIME WHICH AN ENTITY DEPARTED, ARRIVED, OR WILL ARRIVE AT SPECIFIED LOCATION.
CP079	ESTIMATED DAY TIME	THE ESTIMATED DAY-TIME WHICH AN ENTITY DEPARTED, ARRIVED, OR WILL ARRIVE AT SPECIFIED LOCATION.
4150/807	LOCATION NAME	THE TEXTUAL NAME OF THE ASSOCIATED LOCATION BEING REPORTED.

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NFI	NAME	DEFINITION
GP035	ARRIVAL ELEMENTS [Arrival_Elmnts]	PROVIDES AN ESTIMATED OR ACTUAL ARRIVAL LOCATION AND TIME AS WELL AS A LOCATION NAME, IF AVAILABLE, OF A REPORTED ENTITY.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP076	ACTUAL POLAR LOCATION	THE ACTUAL GEOGRAPHIC LOCATION FROM WHICH AN ENTITY DEPARTED, OR TO WHICH AN ENTITY WILL OR DID ARRIVE.
CP077	ESTIMATED POLAR LOCATION	AN ESTIMATE OF THE GEOGRAPHIC LOCATION FROM WHICH AN ENTITY DEPARTED, OR TO WHICH AN ENTITY WILL OR DID ARRIVE.
CP078	ACTUAL DAY TIME	THE ACTUAL DAY-TIME WHICH AN ENTITY DEPARTED, ARRIVED, OR WILL ARRIVE AT SPECIFIED LOCATION.
CP079	ESTIMATED DAY TIME	THE ESTIMATED DAY-TIME WHICH AN ENTITY DEPARTED, ARRIVED, OR WILL ARRIVE AT SPECIFIED LOCATION.
4150/807	LOCATION NAME	THE TEXTUAL NAME OF THE ASSOCIATED LOCATION BEING REPORTED.

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NFI NAME  
GP036 DESTINATION ELEMENTS  
[Dest\_Elmnts]

DEFINITION  
PROVIDES AN ESTIMATED OR ACTUAL DESTINATION LOCATION AND TIME AS WELL AS A LOCATION NAME, IF AVAILABLE, OF A REPORTED ENTITY.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: GROUP

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP076	ACTUAL POLAR LOCATION	THE ACTUAL GEOGRAPHIC LOCATION FROM WHICH AN ENTITY DEPARTED, OR TO WHICH AN ENTITY WILL OR DID ARRIVE.
CP077	ESTIMATED POLAR LOCATION	AN ESTIMATE OF THE GEOGRAPHIC LOCATION FROM WHICH AN ENTITY DEPARTED, OR TO WHICH AN ENTITY WILL OR DID ARRIVE.
CP078	ACTUAL DAY TIME	THE ACTUAL DAY-TIME WHICH AN ENTITY DEPARTED, ARRIVED, OR WILL ARRIVE AT SPECIFIED LOCATION.
CP079	ESTIMATED DAY TIME	THE ESTIMATED DAY-TIME WHICH AN ENTITY DEPARTED, ARRIVED, OR WILL ARRIVE AT SPECIFIED LOCATION.
4150/807	LOCATION NAME	THE TEXTUAL NAME OF THE ASSOCIATED LOCATION BEING REPORTED.

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NFI	NAME	DEFINITION
GP037	INDIVIDUAL ID ELEMENTS [Indiv_ID_Elmnts]	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE PHYSICAL AND/OR PERSONAL CHARACTERISTICS OF AN INDIVIDUAL.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4150/808	ENTITY NAME	THE FREE-TEXT NAME OF THE ENTITY BEING REPORTED.
8067/007	RACE	THE RACE OF A SPECIFIC INDIVIDUAL.
8067/008	GENDER	INDICATES GENDER OF THE PERSONNEL CONCERNED.
8078/001	DATE OF BIRTH	THE DATE OF BIRTH OF THE REPORTED ENTITY IN THE FORMAT OF DDMMYYYY.
CP081	PLACE OF BIRTH	THE PLACE OR GEOGRAPHIC NAME OF THE LOCATION AT WHICH A SUBJECT PERSON WAS BORN.
8067/001	EYE COLOR	THE EYE COLOR OF THE SPECIFIC INDIVIDUAL.
8067/002	HAIR COLOR	THE HAIR COLOR OF A SPECIFIC INDIVIDUAL.
8067/003	HAIR LENGTH	THE HAIR LENGTH OF A SPECIFIC INDIVIDUAL.
8067/004	HEIGHT	THE HEIGHT OF A SPECIFIC INDIVIDUAL REPRESENTED IN TOTAL INCHES. MEASURED FROM THE BOTTOM OF THE FOOT.
8067/005	WEIGHT	THE WEIGHT OF A SPECIFIC INDIVIDUAL.
8067/006	PHYSIQUE	THE GENERAL/PHYSICAL STATURE OF A SPECIFIC INDIVIDUAL.
RP013	LANGUAGE ID LIST	

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NFI	NAME	DEFINITION
GP038	ENTITY PHYSICAL ADDRESS	ELEMENTS USED TO DESCRIBE THE ADDRESS OF AN ENTITY AS DESCRIBED BY
	ELEMENTS	THE LOCAL GOVERNMENT.
	[Entity_Physical_Addr_Elmnts]	
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: YES	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	4150/807 LOCATION NAME	THE TEXTUAL NAME OF THE ASSOCIATED LOCATION BEING REPORTED.
	8077/001 NAME	DEFINITION/EXPLANATION
	8077/002 STREET ADDRESS	THE SPECIFIC PHYSICAL STREET LOCATION (REPRESENTED BY NUMBER, HIGHWAY, STREET, AVENUE, ETC.) OF A FACILITY, RESIDENCE, OR ENTITY BEING REPORTED.
	8077/003 CITY	THE SPECIFIC CITY OF A FACILITY, RESIDENCE, OR ENTITY BEING REPORTED.
	CP082 STATE OR PROVINCE	THE SPECIFIC STATE OR GEOPOLITICAL PROVINCE OF A FACILITY, RESIDENCE, OR ENTITY BEING REPORTED.
	8077/004 COUNTRY	THE INDEPENDENT FIRST-LEVEL GEOGRAPHIC-POLITICAL AREAS AND THEIR DEPENDENCIES, AREAS OF QUASIINDEPENDENCE, AREAS WITH SPECIAL SOVEREIGNTY ASSOCIATIONS, UNRECOGNIZED, BUT SOVEREIGN POLITICAL REGIMES, AND ADMINISTRATIVE DIVISIONS WITHOUT SOVEREIGNTY, AND OUTLYING AREAS OF THE U.S., INCLUDING ISLANDS IN DISPUTE.

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APPENDIX B, PART II

NFI NAME  
GP039 MISSION EFFECT ELEMENTS  
[Mission\_Effect\_Elmnts]

DEFINITION  
DESCRIBES THE OPERATIONAL STATUS OF PERSONNEL/EQUIPMENT CONCLUDING  
A MISSION.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: GROUP

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4029/801	QUANTITY OF EQUIPMENT/WEAPONS CAPTURED	THE TOTAL NUMBER OF EQUIPMENT/WEAPONS BEING REPORTED CAPTURED.
4029/802	QUANTITY OPERATIONAL, IBS	THE QUANTITY OF ITEMS OPERATIONAL.
4029/803	QUANTITY DAMAGED	THE NUMBER OF ITEMS BEING REPORTED AS DAMAGED.
4029/804	QUANTITY DESTROYED	THE NUMBER OF ITEMS BEING REPORTED AS DESTROYED.

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NFI	NAME	DEFINITION
GP040	MESSAGE GROUP [Msg_Grp]	IDENTIFIES A GROUP OF ELEMENTS WHICH ARE REPORTED TOGETHER BECAUSE OF A COMMON REPORTING TRAIT SUCH AS THE SAME ORIGINATOR OR REPORT TYPE (E.G. SIMULATION, EXERCISE, ETC.). PROVIDES INFORMATION ADEQUATE TO ALLOW DATA HAVING MULTIPLE TRAITS OF A SPECIFIC ATTRIBUTE (E.G. MORE THAN ONE ORIGINATOR) TO BE SENT IN ONE CMF PACKET (I.E. CMF DOC).
 DATA STANDARD USAGE: IBS		
 DATA ELEMENT TYPE: GROUP		
 RESET ATTRIBUTE: NO		
 CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP005	ORIGINATOR ADDRESS	UNIQUELY IDENTIFIES THE IBS PARTICIPANT FROM WHICH THE CONTENTS OF THE PACKAGE WERE ORIGINALLY PROVIDED TO IBS.
PC001	MODE INDICATORS	IDENTIFIES THE MESSAGE AS BEING GENERATED IN SUPPORT OF FRIENDLY TESTS OR EXERCISES.
GP002	DATA MANAGEMENT MESSAGE	IDENTIFIES A GROUP OF ELEMENTS WHICH INDICATE ONE OR MORE MANAGEMENT ACTIONS TO BE APPLIED OR ADHERED TO FOR ONE OR MORE INDICATED ENTITIES OR SETS OF DATA.
GP003	ENTITY MESSAGE	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE AN ENTITY (I.E. OBJECT, OBJECT GROUP, TARGET, SITE, ETC.) INCLUDING THE ENTITY'S CHARACTERISTICS, ACTIONS, AND/OR STATUS. CHARACTERISTICS MAY INCLUDE PHYSICAL ATTRIBUTES SUCH AS OBSERVABLE TRAITS, ENVIRONMENTAL SURROUNDINGS, OR EMISSIONS; AND/OR NON-PHYSICAL ATTRIBUTES SUCH AS PURPOSE, INTENT, OR MEANING.
GP004	REMOTE AMPLIFICATION MESSAGE	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE ENHANCED OR EXPANDED INFORMATION ON AN ENTITY ORIGINATED BY AND/OR BEING REPORTED BY ANOTHER IBS PARTICIPANT. THE ORIGINATING AND/OR CURRENTLY REPORTING SOURCE, IN ACCORDANCE WITH REPORTING PROTOCOLS, DETERMINES WHICH PORTIONS OF THE INFORMATION FROM THIS MESSAGE TO INCLUDE IN ANY SUBSEQUENT ENTITY REPORTS.

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NFI      NAME  
GP040    MESSAGE GROUP

## CHILD ELEMENTS (CONTINUED):

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
GP005	TEXT MESSAGE	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE THE INFORMATION DETAILS USED TO TRANSMIT AND INTERPRET FREE-TEXT (I.E. UNFORMATTED) OR OTHER TEXTUALLY CODED DATA.
GP059	COLLABORATION MESSAGE	IDENTIFIES A GROUP OF ELEMENTS SPECIFYING INFORMATION PROVIDED BY OR TO BE UTILIZED BY MORE THAN ONE REPORTING UNIT TO MUTUALLY DETERMINE INITIAL ENTITY IDENTIFICATION, RESOLVE AMBIGUITIES ON ENTITIES, OR IMPROVE ACCURACY OF ENTITY INFORMATION WITH THE INTENT OF REFINEMENT FOR EVENTUAL ENTITY MESSAGE REPORTING.
GP106	OPERATIONS NOTIFICATION MESSAGE	IDENTIFIES A GROUP OF ELEMENTS THAT PROVIDE ANNOUNCEMENTS, COORDINATION, DIRECTION, ETC. REGARDING IBS OPERATIONS.
GP108	OPERATIONAL STATUS MESSAGE	A MESSAGE REPORTED BY IBS PARTICIPANTS TO INDICATE THE CURRENT OPERATIONAL REPORTING POSTURE OF ASSETS OR ELEMENTS ON OR CONTRIBUTING TO THE BROADCAST OR NETWORK.
GP128	BLOB TRANSFER MESSAGE	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE THE CAPABILITY TO DISSEMINATE DATA VIA A BLOB.

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NFI	NAME	DEFINITION
GP047	TDDS IDENTIFIER [TDDS_ID]	TDDS PRODUCER IDENTIFIER, CONTACT IDENTIFIER, REPORT IDENTIFIER, AND TRACK IDENTIFIER ELEMENTS.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP013	TDDS CORRELATION INDEX	A DIGRAPH ASSIGNED BY DIA TO TDDS DATA PRODUCERS THAT ALLOWS TACTICAL DATA PROCESSOR SOFTWARE TO WEIGH SENSOR SYSTEM ATTRIBUTES FOR CORRELATION PURPOSES.
4046/801	TDDS SEQUENTIAL CONTACT NUMBER	A UNIQUE NUMBER REPRESENTING THE CONTACT AS REPORTED BY THE TDDS SOURCE.
4046/819	TDDS TRACK NUMBER	A UNIQUE ALPHANUMERIC FIELD REPRESENTING THE CONTACT AS REPORTED BY THE TDDS SOURCE.
4046/811	TDDS REPORT NUMBER	UNIQUELY IDENTIFIES THE TDDS REPORT IN WHICH THIS CONTACT WAS BROADCAST ON THE TDDS NETWORK.
4047/801	TDDS TRACK UPDATE NUMBER	SEQUENTIAL NUMBER TO ENABLE THE RECEIVING SYSTEM TO DETERMINE WHICH UPDATE CONTAINS THE LATEST INFORMATION.
4093/807	TDDS CHANGE FLAG	A FLAG WHICH INDICATES WHETHER THE REPORT IS AN INITIAL REPORT OR A CHANGE REPORT.

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NFI	NAME	DEFINITION
GP049	ALTERNATE ORIGINATOR ADDRESS [Alternate_Orig_Addr]	
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
CP095	TIBS ADDRESS	
CP096	TDSS ADDRESS	TDSS DATA PRODUCER DIGRAPH IDENTIFIER ELEMENT.
CP097	TRIXS ADDRESS	

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NFI	NAME	DEFINITION
GP050	ERROR 3D [Err_3D]	CONTAINS THE DATA ELEMENTS REQUIRED TO DESCRIBE A 3-DIMENSIONAL ERROR VOLUME.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP093	ERROR CIRCLE 2D	IDENTIFIES THAT THE TWO-DIMENSIONAL (2D) AREA IS A CIRCLE. FOR THIS SHAPE, AN ASSOCIATED LOCATION IDENTIFIES THE CENTERPOINT OF A 3-SIGMA CIRCLE AS DEFINED BY THE REPORTED RADIUS AND WITH THE DEFINED AREA HAVING A 95% PROBABILITY OF CONTAINING THE TRUE LOCATION OF THE REFERENCED ENTITY.
CP020	ERROR RECTANGLE 2D	IDENTIFIES THAT IF THE AREA SEMI-MAJOR AXIS AND AREA SEMI-MINOR AXIS ARE EQUAL, THEN THE TWO-DIMENSIONAL AREA IS A SQUARE AREA OF ERROR. IF THEY ARE NOT EQUAL, THEN THE AREA IS A RECTANGULAR AREA OF ERROR. FOR THIS SHAPE, AN ASSOCIATED LOCATION IDENTIFIES THE CENTERPOINT OF A 3-SIGMA SQUARE OR RECTANGULAR AREA AS DEFINED BY THE LENGTHS OF THE MAJOR AXIS AND MINOR AXIS, RESULTING FROM THE REPORTED SEMI-MAJOR AXIS AND SEMI-MINOR AXIS, AND WITH THE DEFINED AREA HAVING A 95% PROBABILITY OF CONTAINING THE TRUE LOCATION OF THE REFERENCED ENTITY.
CP019	ERROR ELLIPSE 2D	A CONDITION WHERE THE AREA SEMI-MAJOR AXIS AND AREA SEMI-MINOR AXIS ARE NOT EQUAL AND THE TWO-DIMENSIONAL (2D) AREA IS AN ELLIPSE. FOR THIS SHAPE, AN ASSOCIATED LOCATION IDENTIFIES THE CENTERPOINT OF A 3 SIGMA ELLIPSE AS DEFINED BY THE LENGTHS OF THE MAJOR AXIS AND MINOR AXIS, RESULTING FROM THE REPORTED SEMI-MAJOR AXIS AND SEMI-MINOR AXIS, AND WITH THE DEFINED AREA HAVING A 95% PROBABILITY OF CONTAINING THE TRUE LOCATION OF THE REFERENCED ENTITY.
419/803	AREA SEMI-INTERMEDIATE AXIS	USED IN CONJUNCTION WITH AREA SEMI-MAJOR AXIS, AND AREA SEMI-MINOR AXIS TO DESCRIBE A CUBE, A THREE-DIMENSIONAL RECTANGLE, A CYLINDER OR A SPHEROID. FOR

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NFI      NAME  
GP050    ERROR 3D

## CHILD ELEMENTS (CONTINUED):

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
419/803	(CONTINUED)	THESE SHAPES, THE VOLUME IS DEFINED AS HAVING A 50% PROBABILITY OF CONTAINING THE TRUE LOCATION OF THE REFERENCED ENTITY.
1806/802	AREA ORIENTATION	THE ANGLE OR ROLL IN DEGREES, BETWEEN THE AREA SEMI-MINOR AXIS AND THE PLANE DEFINED BY THE LOCAL VERTICAL AND AREA SEMI-MAJOR AXIS, OR WHEN REPORTED WITHOUT MAJOR AND MINOR AXIS, IS THE ANGLE BETWEEN AN AXIS PERPENDICULAR TO A TWO-DIMENSIONAL TRUE NORTH AXIS AND THE PLANE DEFINED BY THE LOCAL VERTICAL AND A TWO-DIMENSIONAL TRUE NORTH AXIS.
8058/001	SEMI-MAJOR ELEVATION	THE SEMI-MAJOR ELEVATION AXIS IS THE ELEVATION OF THE SEMI-MAJOR AXIS, IN DEGREES, MEASURED FROM LOCAL HORIZONTAL.
351/801	GEOMETRIC AREA SWITCH	IDENTIFIES THE THREE DIMENSIONAL SHAPE OF THE ERROR VOLUME BY PROVIDING THE TWO DIMENSIONAL SHAPE FOR THE 3D PLANE. THE 3D PLANE IS THE PLANE ORTHOGONAL TO THE AREA SEMI-MAJOR AXIS AND AREA SEMI-MINOR AXIS. DEPENDING UPON WHETHER THE 2D PLANE IS REPORTED AS AN ERROR ELLIPSE 2D OR AS AN ERROR RECTANGLE 2D, THIS SWITCH REPORTS A COMPLETE ERROR VOLUME WHICH IS CUBICAL, 3D RECTANGULAR, CYLINDRICAL, 3D ELLIPSOIDAL, OR SPHERICAL.

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NFI	NAME	DEFINITION
GP051	ENTITY IR DESCRIPTION ELEMENTS [Entity_IR_Desc_Elmts]	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE DETAILS DESCRIBING INFRARED (IR) CONTACT REPORTS.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8075/001	IR MAXIMUM INTENSITY	THE MAXIMUM INTENSITY OF A DETECTED BURN AS RECORDED BY THE IR SENSOR. THE MEASUREMENT IS DEPENDENT UPON WEATHER, ATMOSPHERIC CONDITIONS, AND SENSOR COLLECTION ANGLE.

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NFI	NAME	DEFINITION
GP055	RADIO ELEMENTS [Radio_Elmts]	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE DETAILS DESCRIBING A RADIO.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1648/801	RADIO TYPE, IBS	SPECIFIES GENERAL RADIO CAPABILITIES BY IDENTIFYING THE RADIO NOMENCLATURE AND/OR NAME.
8028/001	RADIO ID	IDENTIFIES THE RADIO TRANSCEIVER BY SERIAL NUMBER.
8083/001	RADIO MODE	DESCRIBES THE OPERATIONAL MODE OF A RADIO.
4046/816	RADIO MESSAGE NUMBER	A ONE-UP NUMBER ASSIGNED AND USED BY THE TRANSMITTING STATION WHICH EQUATES TO THE CURRENT RADIO MESSAGE.
PC007	RADIO INDICATORS	IDENTIFIES THE SPECIFIC OPERATING CONDITIONS OF THE REPORTED TRANSMITTING RADIO.
4046/823	UHF BASE STATION ID	UNIQUELY IDENTIFIES THE RADIO'S ASSOCIATED UHF BASE STATION.
GP129	KEYING MATERIAL INFORMATION	PROVIDES DETAILS REGARDING COMMUNICATIONS SECURITY (COMSEC) KEYING MATERIALS.

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NFI	NAME	DEFINITION
GP056	BFT ELEMENTS [BFT_Elmnts]	IDENTIFIES A GROUP OF BLUE FORCE TRACKING ELEMENTS.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	754/801 BFT BREVITY CODE	A STATUS/CANNED MESSAGE, DEFINED ON A CASE BY CASE (MISSION) BASIS. OFTEN, THE DEFINITION OF THE BREVITY CODES MAY NOT BE KNOWN BY ANYONE OTHER THAN SPECIFIC USERS.
	8112/001 EXTERNAL SENSOR CODE	CODED DATA FROM A SENSOR EXTERNAL TO IBS.

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NFI	NAME	DEFINITION
GP057	PR/CSAR ELEMENTS [PR_CSAR_Elmnts]	IDENTIFIES A GROUP OF PERSONNEL RECOVERY/COMBAT SEARCH AND RESCUE (PR/CSAR) ELEMENTS.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	8116/001 PR/CSAR GROUP IDENTIFIER	REPRESENTS A SUBORDINATE ELEMENT OF THE ORGANIZATION RESPONSIBLE FOR THE PR/CSAR ASSET (RADIO).
	PC004 PR/CSAR INDICATORS	IDENTIFIES THE SPECIFIC OPERATING CONDITIONS OF THE PERSONNEL RECOVERY/COMBAT SEARCH AND RESCUE (PR/CSAR) TRANSMITTER.
	8113/001 PR/CSAR CANNED MESSAGE	A PRE-FORMATTED (CANNED) SURVIVOR MESSAGE THAT CORRESPONDS TO A VALUE GENERATED FROM A PR/CSAR RADIO.
	PC006 PR/CSAR QUERY RESPONSE	RESPONSES TO PRE-PROGRAMMED QUERIES.
	8052/003 PR/CSAR TEXT	PROVIDES CRITICAL INFORMATION FROM THE SUBJECT (SURVIVOR) OF A PERSONNEL RECOVERY/COMBAT SEARCH AND RESCUE EVENT, INCLUDING KEY INFORMATION FOR RESCUERS THAT WILL AID IN THE SURVIVOR'S RESCUE. MAY CONTAIN A REQUEST TO BE RESCUED, THE SURVIVOR'S CONDITION, ABILITY TO MOVE, ETC.
	4046/821 TEXT PACKET NUMBER	INDICATES THE REPORTED TEXT PACKET NUMBER WITHIN A SEQUENCE OF RELATED TEXT PACKETS.
	4046/822 TEXT TOTAL PACKETS	INDICATES THE TOTAL NUMBER OF TEXT PACKETS COMPRISING A SEQUENCE OF RELATED TEXT PACKETS.
	376/801 ISOLATED PERSONNEL RELATIONSHIP	EXPRESSES THE RELATIONSHIP OF REPORTED ISOLATED PERSONNEL OR EVACUEES TO FRIENDLY PERSONNEL PERFORMING A RESCUE.
	GP123 ISOLATED PERSONNEL PHYSICAL STATUS	PROVIDES A GROUP OF ELEMENTS WHICH DESCRIBE THE MOBILITY AND INJURY STATE OF ISOLATED PERSONNEL OR EVACUEES.

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NFI      NAME  
GP057    PR/CSAR ELEMENTS

CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
343/801	ISOLATED PERSONNEL AUTHENTICATION STATUS	INDICATES WHETHER REPORTED ISOLATED PERSONNEL HAVE AUTHENTICATED THEIR IDENTITY.
341/801	ISOLATED PERSONNEL COMMUNICATIONS CAPABILITY	IDENTIFIES THE TYPE OF COMMUNICATIONS OR SIGNALING EQUIPMENT AVAILABLE TO REPORTED ISOLATED PERSONNEL OR EVACUEES.
8003/007	CSEL HAND HELD RADIO MESSAGE TYPE	INDICATES THE SPECIFIC MESSAGE TYPE ORIGINALLY TRANSMITTED BY A CSEL HAND HELD RADIO.

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NFI	NAME	DEFINITION
GP059	COLLABORATION MESSAGE [Collab_Msg]	IDENTIFIES A GROUP OF ELEMENTS SPECIFYING INFORMATION PROVIDED BY OR TO BE UTILIZED BY MORE THAN ONE REPORTING UNIT TO MUTUALLY DETERMINE INITIAL ENTITY IDENTIFICATION, RESOLVE AMBIGUITIES ON ENTITIES, OR IMPROVE ACCURACY OF ENTITY INFORMATION WITH THE INTENT OF REFINEMENT FOR EVENTUAL ENTITY MESSAGE REPORTING.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	4046/806 MESSAGE NUMBER	A ONE-UP NUMBER ASSIGNED BY THE CMF ORIGINATOR WHICH UNIQUELY IDENTIFIES A REPORTED MESSAGE WITHIN THE RESPECTIVE MESSAGE TYPE.
GP049	ALTERNATE ORIGINATOR ADDRESS	
CP064	REFERENCE ENTITY ID	IDENTIFIES A UNIQUE GLOBAL ENTITY IDENTIFIER (LIKELY SEPARATELY AND/OR PREVIOUSLY REPORTED) BEING REFERRED TO BY A REPORTED ACTION OR SET OF DATA.
GP012	ENTITY ALTERNATE ID ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE ONE OR MORE SETS OF ALTERNATE IDENTIFYING NUMBERS BEING USED FOR UNIQUELY IDENTIFYING AND REPORTING A CMF ENTITY (OR MESSAGE) ON OTHER DATALINKS OR IN OTHER ENVIRONMENTS. THESE ALTERNATE IDENTIFIERS ARE NORMALLY DEVISED AND CONTROLLED BY OTHER AUTHORITIES OTHER THAN THE INTEGRATED BROADCAST SERVICE (IBS) AND ARE NORMALLY ASSIGNED EITHER VIA AN ORIGINATING SOURCE OUTSIDE OF IBS OR UPON FORWARDING OF AN IBS ORIGINATED ENTITY (OR MESSAGE).
4046/815	SOURCE FILE IDENTIFICATION	THE NUMBER ENTERED IN THIS FIELD IDENTIFIES THE FILE OR SIGNAL ID ASSIGNED BY THE ORIGINATOR OF THIS MESSAGE. ITS PRIMARY PURPOSE IS FOR "QUERY" REFERENCE AND POST-MISSION DATA REDUCTION ANALYSIS.
1849/802	ELINT PULSE MODULATION	PULSED EMITTER MODULATION CODE.
GP060	COLLABORATION MEASUREMENT SET	IDENTIFIES A GROUP OF ELEMENTS WHICH AS A COMBINED UNIT

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NFI      NAME  
GP059    COLLABORATION MESSAGE

CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
GP060	(CONTINUED)	UNIQUELY DISTINGUISH A SPECIFIC PORTION OF COLLABORATIVELY EXCHANGED INFORMATION.
GP100	COLLECTION ELEMENTS	DESCRIPTIVE ELEMENTS OF THE COLLECTION.
8055/002	PRODUCER MESSAGE SEQUENCE NUMBER	A ONE-UP NUMBER ASSIGNED BY THE PRODUCER TO EACH CMF MESSAGE AS IT IS REPORTED TO INDICATE THE SEQUENCE IN WHICH THE MESSAGES WERE GENERATED. ANALYSTS MAY UTILIZE PRODUCER MESSAGE SEQUENCE NUMBER VALUES TO DETERMINE IF ALL MESSAGE(S) WITHIN A SEQUENCE OF MESSAGES FROM A SPECIFIC PRODUCER WERE RECEIVED.
GP007	MESSAGE DESCRIPTION ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH CONTAIN GENERAL INFORMATION DESCRIBING THE ENTIRE ENCOMPASSING MESSAGE.
GP104	URGENT INTERIM CAPABILITY (UIC) ELEMENTS	A GROUPING CONTAINING THOSE ELEMENTS WHICH MAKE UP A SET OF DATA FIELDS FOR AN URGENT INTERIM CAPABILITY (UIC).

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NFI	NAME	DEFINITION
GP060	COLLABORATION MEASUREMENT SET [Collab_Meas_Set]	IDENTIFIES A GROUP OF ELEMENTS WHICH AS A COMBINED UNIT UNIQUELY DISTINGUISH A SPECIFIC PORTION OF COLLABORATIVELY EXCHANGED INFORMATION.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8084/001	COLLABORATION MEASUREMENT TYPE	PROVIDES AN IDENTIFICATION OF THE KIND OF MEASUREMENT DATA COMPRISING A REPORTED MEASUREMENT SET.
CP104	MEASUREMENT BASE TIME	PROVIDES A REFERENCE TIME ASSOCIATED WITH EVENT MEASUREMENTS, OR SETS OF MEASUREMENTS.
GP018	REFERENCE POLAR PLATFORM ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE DETAILS DESCRIBING THE LOCATION AND/OR ATTITUDE (I.E. SPEED, HEADING, ORIENTATION, ETC.) OF A (PHYSICAL OR VIRTUAL) PLATFORM (OR LOCATION) USED, OR AVAILABLE TO BE USED, AS A REFERENCE POINT OF OTHER REPORTED DATA (E.G. A POINT OF ORIGIN FOR COMPUTED LINES OF BEARING TO AN ENTITY OR A SENSOR LOCATION AT WHICH A TIME MEASUREMENT WAS RECORDED).
GP066	TDOA ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS NECESSARY TO DISTINGUISH AND REPORT ALL OR A PORTION OF A SPECIFIC SET OF TIME DIFFERENCE OF ARRIVAL (TDOA) MEASUREMENTS.
GP064	TDOA RATE OF CHANGE ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS NECESSARY TO DISTINGUISH AND REPORT ALL OR A PORTION OF A SPECIFIC SET OF TIME DIFFERENCE OF ARRIVAL (TDOA) RATE OF CHANGE MEASUREMENTS.

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NFI NAME  
GP061 SENSOR 1 RECTANGULAR REFERENCE  
[Sensr\_1\_Rectng\_Ref]

DATA STANDARD USAGE: IBS

DATA ELEMENT TYPE: GROUP

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP110	REFERENCE X Y Z POSITION	THE X, Y, AND Z POSITION OF A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM- 84 (WGS-84).
CP114	REFERENCE X Y Z VELOCITY	THE RATE OF CHANGE OF POSITION ALONG THE X, Y, AND/OR Z AXIS FOR A REFERENCE POINT OR PLATFORM IN EARTH- CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

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APPENDIX B, PART II

NFI NAME  
GP062 SENSOR 2 RECTANGULAR REFERENCE  
[Sensr\_2\_Rectng\_Ref]

DATA STANDARD USAGE: IBS

DATA ELEMENT TYPE: GROUP

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP110	REFERENCE X Y Z POSITION	THE X, Y, AND Z POSITION OF A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).
CP114	REFERENCE X Y Z VELOCITY	THE RATE OF CHANGE OF POSITION ALONG THE X, Y, AND/OR Z AXIS FOR A REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).

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NFI	NAME	DEFINITION
GP063	TDOA MEASUREMENT ERRORS [TDOA_Meas_Errs]	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE THE TYPE AND/OR AMOUNT OF KNOWN, MEASURABLE, OR ESTIMATED INACCURACIES IN REPORTED TIME DIFFERENCE OF ARRIVAL (TDOA) VALUES.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP118	TDOA BIAS ERROR	INDICATES THE ORIGINATOR'S BEST ESTIMATE OF LONG-TERM UNCORRECTABLE TIME DIFFERENCE OF ARRIVAL (TDOA) ERROR DUE TO ERRORS IN CLOCK ACCURACY OR PLATFORM LOCATION.
CP119	TDOA RANDOM ERROR	INDICATES ORIGINATOR'S BEST ESTIMATE OF TIME DIFFERENCE OF ARRIVAL (TDOA) ERROR DUE TO NOISE OR OTHER SHORT-TERM BIAS EFFECTS WHICH WILL CHANGE FROM ONE MEASUREMENT TO THE NEXT.

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NFI	NAME	DEFINITION
GP064	TDOA RATE OF CHANGE ELEMENTS [TDOA_Rate_Of_Chg_Elmnts]	IDENTIFIES A GROUP OF ELEMENTS NECESSARY TO DISTINGUISH AND REPORT ALL OR A PORTION OF A SPECIFIC SET OF TIME DIFFERENCE OF ARRIVAL (TDOA) RATE OF CHANGE MEASUREMENTS.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
GP067	DWELL DESCRIPTION DATA	IDENTIFIES A GROUP OF ELEMENTS WHICH UNIQUELY DISTINGUISH THE SENSOR COLLECTION TIME PERIOD(S) ASSOCIATED WITH SPECIFIED INFORMATION.
GP061	SENSOR 1 RECTANGULAR REFERENCE	THE X, Y, AND Z POSITION AND VELOCITY OF THE SENSOR 1 REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).
GP062	SENSOR 2 RECTANGULAR REFERENCE	THE X, Y, AND Z POSITION AND VELOCITY OF THE SENSOR 2 REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).
8039/002	TIME RESOLUTION	DEFINES THE VALUE OF THE LEAST SIGNIFICANT BIT (LSB) IN SECONDS FOR A REPORTED SERIES OF DELTA TIME FIELDS.
8039/003	TIME PRECISION	DEFINES THE PRECISION OF THE DELTA TIME FIELDS IN THE ASSOCIATED TIME SET. THE PRECISION IN THE TIME PRECISION FIELD CAN BE NO SMALLER THAN THE TIME RESOLUTION FIELD AND NO GREATER THAN THE LARGEST DELTA TIME REPRESENTABLE BY THE UPPER RANGE OF THE DELTA TIME FIELD (I.E. $2^{29}$ ) GIVEN THE TIME RESOLUTION SETTING.
8039/004	TOTAL NUMBER DELTA TIME SETS	ON FIRST REPORT, INDICATES THE TOTAL NUMBER OF DELTA TIME SETS (PAIRS OF VALUES) BEING REPORTED. ON SUBSEQUENT REPORTS OF THE SAME EVENT, THIS VALUE MUST EQUAL ZERO.

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NFI            NAME  
GP064        TDOA RATE OF CHANGE ELEMENTS

CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
RP016	TDOA RATE OF CHANGE SET	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE ONE OR TWO TIME DIFFERENCE OF ARRIVAL (TDOA) RATE OF CHANGE MEASUREMENTS. WHERE EACH TDOA RATE OF CHANGE IS THE CALCULATED DERIVATIVE (I.E. ACCELERATION DELTA OF TIME) FOR AN ASSOCIATED TDOA VALUE.
8094/001	FINAL SET TYPE	IDENTIFIES THE NUMBER OF VALID ENTRIES IN THE LAST SET OF ENTRIES FOR A SERIES OF SETS.
GP065	TDOA RATE OF CHANGE MEASUREMENT ERRORS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE THE TYPE AND/OR AMOUNT OF KNOWN, MEASURABLE, OR ESTIMATED INACCURACIES IN REPORTED TIME DIFFERENCE OF ARRIVAL (TDOA) RATE OF CHANGE VALUES.

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NFI	NAME	DEFINITION
GP065	TDOA RATE OF CHANGE MEASUREMENT ERRORS [TDOA_Rate_of_Chg_Meas_Errs]	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE THE TYPE AND/OR AMOUNT OF KNOWN, MEASURABLE, OR ESTIMATED INACCURACIES IN REPORTED TIME DIFFERENCE OF ARRIVAL (TDOA) RATE OF CHANGE VALUES.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP120	TDOA RATE OF CHANGE BIAS ERROR	INDICATES ORIGINATOR'S BEST ESTIMATE OF LONG-TERM UNCORRECTABLE TIME DIFFERENCE OF ARRIVAL (TDOA) RATE OF CHANGE ERROR DUE TO ERRORS IN CLOCK ACCURACY OR PLATFORM LOCATION.
CP121	TDOA RATE OF CHANGE RANDOM ERROR	INDICATES ORIGINATOR'S BEST ESTIMATE OF TIME DIFFERENCE OF ARRIVAL (TDOA) RATE OF CHANGE ERROR DUE TO NOISE OR OTHER SHORT-TERM BIAS EFFECTS WHICH WILL CHANGE FROM ONE MEASUREMENT TO THE NEXT.

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NFI	NAME	DEFINITION
GP066	TDOA ELEMENTS [TDOA_Elmts]	IDENTIFIES A GROUP OF ELEMENTS NECESSARY TO DISTINGUISH AND REPORT ALL OR A PORTION OF A SPECIFIC SET OF TIME DIFFERENCE OF ARRIVAL (TDOA) MEASUREMENTS.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
GP067	DWELL DESCRIPTION DATA	IDENTIFIES A GROUP OF ELEMENTS WHICH UNIQUELY DISTINGUISH THE SENSOR COLLECTION TIME PERIOD(S) ASSOCIATED WITH SPECIFIED INFORMATION.
GP061	SENSOR 1 RECTANGULAR REFERENCE	THE X, Y, AND Z POSITION AND VELOCITY OF THE SENSOR 1 REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).
GP062	SENSOR 2 RECTANGULAR REFERENCE	THE X, Y, AND Z POSITION AND VELOCITY OF THE SENSOR 2 REFERENCE POINT OR PLATFORM IN EARTH-CENTERED, EARTH-FIXED CARTESIAN COORDINATES AS DEFINED IN THE WORLD GEODETIC SYSTEM-84 (WGS-84).
8039/002	TIME RESOLUTION	DEFINES THE VALUE OF THE LEAST SIGNIFICANT BIT (LSB) IN SECONDS FOR A REPORTED SERIES OF DELTA TIME FIELDS.
8039/003	TIME PRECISION	DEFINES THE PRECISION OF THE DELTA TIME FIELDS IN THE ASSOCIATED TIME SET. THE PRECISION IN THE TIME PRECISION FIELD CAN BE NO SMALLER THAN THE TIME RESOLUTION FIELD AND NO GREATER THAN THE LARGEST DELTA TIME REPRESENTABLE BY THE UPPER RANGE OF THE DELTA TIME FIELD (I.E. $2^{29}$ ) GIVEN THE TIME RESOLUTION SETTING.
8039/004	TOTAL NUMBER DELTA TIME SETS	ON FIRST REPORT, INDICATES THE TOTAL NUMBER OF DELTA TIME SETS (PAIRS OF VALUES) BEING REPORTED. ON SUBSEQUENT REPORTS OF THE SAME EVENT, THIS VALUE MUST EQUAL ZERO.

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NFI        NAME  
GP066     TDOA ELEMENTS

## CHILD ELEMENTS (CONTINUED):

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
RP015	TDOA SET	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE ONE OR TWO TIME DIFFERENCE OF ARRIVAL (TDOA) MEASUREMENTS WHERE EACH TDOA IS THE CALCULATED DELTA TIME DIFFERENCE BETWEEN A PAIR OF PULSE TIME OF ARRIVAL (TOA) MEASUREMENTS, ONE EACH, BETWEEN THE IDENTIFIED REFERENCE (I.E. SENSOR 1) AND DIFFERENCE (I.E. SENSOR 2) PULSE TRAINS.
8094/001	FINAL SET TYPE	IDENTIFIES THE NUMBER OF VALID ENTRIES IN THE LAST SET OF ENTRIES FOR A SERIES OF SETS.
GP063	TDOA MEASUREMENT ERRORS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE THE TYPE AND/OR AMOUNT OF KNOWN, MEASURABLE, OR ESTIMATED INACCURACIES IN REPORTED TIME DIFFERENCE OF ARRIVAL (TDOA) VALUES.

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NFI	NAME	DEFINITION
GP067	DWELL DESCRIPTION DATA [Dwell_Desc_Data]	IDENTIFIES A GROUP OF ELEMENTS WHICH UNIQUELY DISTINGUISH THE SENSOR COLLECTION TIME PERIOD(S) ASSOCIATED WITH SPECIFIED INFORMATION.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP107	BORESITE AIM LOCATION	PROVIDES A MATHEMATICAL ESTIMATE OF THE LOCATION POINTED TO BY THE EFFECTIVE CENTER OF THE BORESITE OF THE SENSOR APERTURE.
1953/801	SENSOR 1 IDENTIFIER	OPERATIONALLY ASSIGNED VALUE USED TO INDICATE THE SENSOR USED TO PROVIDE A PRIMARY REFERENCE FOR REPORTING COLLABORATIVE GEO-OBSERVABLE DATA. PROVIDES A COOPERATIVE COLLECTION PROCESSOR THE OPPORTUNITY TO APPLY KNOWN CHARACTERISTICS OF THE IDENTIFIED SENSOR TO IMPROVE COLLABORATIVE RESULTS. SENSORS CAN BE ON A COMMON PLATFORM OR ON DIFFERENT PLATFORMS.
1953/802	SENSOR 2 IDENTIFIER	OPERATIONALLY ASSIGNED VALUE USED TO INDICATE THE SENSOR USED TO PROVIDE A SECONDARY REFERENCE FOR REPORTING COLLABORATIVE GEO-OBSERVABLE DATA. PROVIDES A COOPERATIVE COLLECTION PROCESSOR THE OPPORTUNITY TO APPLY KNOWN CHARACTERISTICS OF THE IDENTIFIED SENSOR TO IMPROVE COLLABORATIVE RESULTS. SENSORS CAN BE ON A COMMON PLATFORM OR ON DIFFERENT PLATFORMS.

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NFI	NAME	DEFINITION
GP069	AMPLIFICATION IDENTIFICATION [Ampn_ID]	IDENTIFIES AN ELEMENT WHICH PROVIDES A FUNCTIONAL CLASSIFICATION OR IDENTIFICATION NOMENCLATURE WHICH CATEGORIZES AN ENTITY OR ENTITY'S EMITTER USING ONE OF VARIOUS DEPARTMENT OF DEFENSE OR OTHER CATALOGS, LISTS, AND/OR DATABASES.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8036/001	ELINT NOTATION	IDENTIFIER OF AN ENTITY AS RECORDED IN THE COMBINED EMITTER DATABASE (CED).
8036/004	TRANSMISSION DESCRIPTION	INDICATES GENERAL OR SPECIFIC TYPE OF EMITTER AND/OR TRANSMISSION.
8036/002	ARBITRARY ELINT NOTATION	TEMPORARY IDENTIFIER FOR ENTITIES NOT LISTED IN THE CED OR MIDB EQUIPMENT CODES.
8036/003	COMMUNICATIONS EMITTER NOTATION	IDENTIFIER OF AN ENTITY AS RECORDED IN THE CED.
4003/801	SHIP CONTROL NUMBER	AN ALPHANUMERIC IDENTIFIER ASSIGNED TO A CONTACT BY THE OFFICE OF NAVY INTELLIGENCE (ONI). LISTED IN THE WORLDWIDE STANDARD REFERENCE (WWSTAR) AND DST-2050G-612 (SERIES).
8035/001	MIDB EQUIPMENT CODE	THE EQUIPMENT IDENTIFICATION ASSIGNED BY THE NATIONAL LEVEL REPOSITORY FOR GENERAL MILITARY INTELLIGENCE, ALSO KNOWN AS THE MILITARY INTELLIGENCE DATABASE (MIDB).
4046/829	IMO NUMBER	THE INTERNATIONAL MARITIME ORGANIZATION (IMO) NUMBER IS A UNIQUE SHIP NUMBER ASSIGNED BY INTERNATIONAL MARITIME ORGANIZATION (RELATED TO SHIPS CONSTRUCTION).
4046/828	MMSI NUMBER	THE MARITIME MOBILE SERVICE IDENTITY (MMSI) NUMBER IS A NUMBER ASSIGNED TO A SHIP STATION, GROUP SHIP STATION, COAST STATION, OR GROUP COAST STATION

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NFI      NAME  
GP069    AMPLIFICATION IDENTIFICATION

## CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4046/828	(CONTINUED)	ELECTRONIC IDENTITY BY THE INTERNATIONAL TELECOMMUNICATION UNION (ITU).
4100/801	INTERNATIONAL CALL SIGN	INTERNATIONAL CALL SIGN ASSIGNED TO AN ENTITY.
4100/802	COMMUNICATIONS CALL SIGN	A COMBINATION OF CHARACTERS OR PRONOUNCEABLE WORDS WHICH IDENTIFIES A COMMUNICATIONS FACILITY, A COMMAND, AN AUTHORITY, AN ACTIVITY, OR UNIT.
8036/006	ADEPT TAG	IDENTIFIES A PARTICULAR BEHAVIOR OBSERVED ON AN INTERCEPT WHEN USING THE ALGORITHM DEVELOPMENT OF ENHANCED PROCESSING TECHNIQUES.
8036/005	FIS NOTATION	THE FOREIGN INSTRUMENTATION SIGNALS (FIS) NOTATION AS RECORDED IN THE VINTAGE HARVEST SIGNALS DATA BASE.
CP058	AMPLIFICATION EVALUATION PERCENT CONFIDENCE	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE ELINT NOTATION, TRANSMISSION DESCRIPTION, ARBITRARY ELINT NOTATION, COMMUNICATIONS Emitter NOTATION, SHIP CONTROL NUMBER, MIDB EQUIPMENT CODE, IMO NUMBER, MMSI NUMBER, INTERNATIONAL CALL SIGN, OR COMMUNICATIONS CALL SIGN.
CP059	AMPLIFICATION EVALUATION GENERAL CONFIDENCE	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE ELINT NOTATION, TRANSMISSION DESCRIPTION, ARBITRARY ELINT NOTATION, COMMUNICATIONS Emitter NOTATION, SHIP CONTROL NUMBER, MIDB EQUIPMENT CODE, IMO NUMBER, MMSI NUMBER, INTERNATIONAL CALL SIGN, OR COMMUNICATIONS CALL SIGN.

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NFI	NAME	DEFINITION
GP071	ARCHIVE FILE ELEMENTS [Archive_File_Elmnts]	PROVIDES ELEMENTS THAT DESCRIBE AN ARCHIVE FILE.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
CP124	HEADER VERSION ELEMENTS	PROVIDES ELEMENTS THAT INDICATE THE VERSIONS OF THE DTD AND PARSER LIBRARY API USED TO CREATE THE REPORTED HEADER.
8089/001	FILE TRANSMIT/RECEIVE INDICATOR	IDENTIFIES THE DIRECTION OF DATA AS PROCESSED PRIOR TO INCLUSION INTO AN ARCHIVE FILE (I.E. INPUT, OUTPUT OR SOME OF BOTH).
8093/001	MIXED RECORDS INDICATOR	IDENTIFIES THAT THE ARCHIVE FILE CONTAINS RECORDS OF MORE THAN ONE DATA FORMAT TYPE.
GP077	DATA FORMAT ELEMENTS	PROVIDES ELEMENTS THAT DESCRIBE A DATA FORMAT.
8091/001	DATA PACKAGE HEADER TYPE	IDENTIFIES THE FORM OF HEADER RECEIVED WITH A DATA PACKAGE.
GP079	EXTERNAL CONNECTIONS DESCRIPTION ELEMENTS	PROVIDES ELEMENTS THAT DESCRIBE LOCAL EXTERNAL CONNECTIONS OVER WHICH DATA IS OR HAS BEEN RECEIVED OR TRANSMITTED.
CP126	TIME OF FILE ARCHIVE START	IDENTIFIES THE TIME WHEN AN ARCHIVE FILE WAS BEGUN.
CP127	TIME OF FILE ARCHIVE STOP	IDENTIFIES THE TIME WHEN AN ARCHIVE FILE WAS COMPLETED.
GP075	SECURITY CLASSIFICATION ELEMENTS	PROVIDES ELEMENTS THAT IDENTIFY THE SECURITY CLASSIFICATION INFORMATION FOR A DATA PACKAGE, ARCHIVE RECORD, OR ARCHIVE FILE.

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NFI	NAME	DEFINITION
GP073	ARCHIVE RECORD ELEMENTS [Archive_Record_Elmnts]	PROVIDES ELEMENTS THAT DESCRIBE ONE RECORD OF AN ARCHIVE FILE.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	8089/002Z RECORD TRANSMIT/RECEIVE INDICATOR	IDENTIFIES THE DIRECTION OF DATA AS PROCESSED PRIOR TO INCLUSION INTO AN ARCHIVE RECORD (I.E. INPUT OR OUTPUT).
	CP128 TIME OF RECORD ARCHIVE	IDENTIFIES THE TIME WHEN A RECORD OF AN ARCHIVE FILE WAS STORED.
	8091/001 DATA PACKAGE HEADER TYPE	IDENTIFIES THE FORM OF HEADER RECEIVED WITH A DATA PACKAGE.
	GP077 DATA FORMAT ELEMENTS	PROVIDES ELEMENTS THAT DESCRIBE A DATA FORMAT.
	GP079 EXTERNAL CONNECTION DESCRIPTION ELEMENTS	PROVIDES ELEMENTS THAT DESCRIBE LOCAL EXTERNAL CONNECTIONS OVER WHICH DATA IS OR HAS BEEN RECEIVED OR TRANSMITTED.
	8088/002 ARCHIVE RECORD LENGTH	INDICATES THE NUMBER OF BYTES WITHIN THE DATA PACKAGE PORTION OF AN ARCHIVE RECORD INCLUDING ANY DATA HEADER, BUT NOT INCLUDING THE ARCHIVE RECORD HEADER.
	GP075 SECURITY CLASSIFICATION ELEMENTS	PROVIDES ELEMENTS THAT IDENTIFY THE SECURITY CLASSIFICATION INFORMATION FOR A DATA PACKAGE, ARCHIVE RECORD, OR ARCHIVE FILE.

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NFI	NAME	DEFINITION
GP074	CMF HEADER [CMF_Hdr]	PROVIDES A GROUP OF ELEMENTS (EQUIVALENT TO AN XML DOCUMENT) WHICH PRECEDES A DATA PACKAGE, AN ARCHIVE FILE, OR A RECORD OF AN ARCHIVE FILE, AND DESCRIBES THE FORMAT AND/OR CONTENT OF THE SUBSEQUENT INFORMATION.
 DATA STANDARD USAGE: IBS		
 STATUS:		
 DATA ELEMENT TYPE: GROUP		
 RESET ATTRIBUTE: NO		
 CHILD ELEMENTS:		
 NFI/DFI/DUI NAME DEFINITION/EXPLANATION		
GP076	DATA PACKAGE DESCRIPTION ELEMENTS	PROVIDES ELEMENTS THAT DESCRIBE A DATA PACKAGE.
GP071	ARCHIVE FILE ELEMENTS	PROVIDES ELEMENTS THAT DESCRIBE AN ARCHIVE FILE.
GP073	ARCHIVE RECORD ELEMENTS	PROVIDES ELEMENTS THAT DESCRIBE ONE RECORD OF AN ARCHIVE FILE.
GP104	URGENT INTERIM CAPABILITY (UIC) ELEMENTS	A GROUPING CONTAINING THOSE ELEMENTS WHICH MAKE UP A SET OF DATA FIELDS FOR AN URGENT INTERIM CAPABILITY (UIC).

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NFI	NAME	DEFINITION
GP075	SECURITY CLASSIFICATION ELEMENTS [Security_Classif_Elmnts]	PROVIDES ELEMENTS THAT IDENTIFY THE SECURITY CLASSIFICATION INFORMATION FOR A DATA PACKAGE, ARCHIVE RECORD, OR ARCHIVE FILE.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4083/807	SECURITY TABLE INDEX	PROVIDES A CROSS-REFERENCE INTO THE SECURITY CLASSIFICATION TABLE WHICH INDICATES THE CONTROLLED ACCESS PROGRAM COORDINATION OFFICE (CAPCO) REQUIRED INFORMATION SECURITY MARKING VALUES FOR IBS DATA. THE SECURITY CLASSIFICATION TABLE DEFINES THE INDIVIDUAL SECURITY FIELD ENTRIES FOR EACH TYPE OF DATA THAT MAY BE PRODUCED ONTO THE IBS NETWORK/BROADCAST PER A GIVEN DATA OWNER/AUTHORITY. THE SECURITY CLASSIFICATION TABLE IS BUILT AND DISTRIBUTED BY THE GLOBAL IBS SUPPORT CENTER (GIBSSC).

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NFI	NAME	DEFINITION
GP076	DATA PACKAGE DESCRIPTION ELEMENTS [Data_Pkg_Desc_Elmts]	PROVIDES ELEMENTS THAT DESCRIBE A DATA PACKAGE.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	CP124 HEADER VERSION ELEMENTS	PROVIDES ELEMENTS THAT INDICATE THE VERSIONS OF THE DTD AND PARSER LIBRARY API USED TO CREATE THE REPORTED HEADER.
	8088/001 DATA PACKAGE LENGTH	INDICATES THE NUMBER OF BYTES WITHIN A DATA PACKAGE NOT INCLUDING ANY HEADER.
	4129/801 DATA PACKAGE PRIORITY	IDENTIFIES THE PRIORITY OF A DATA PACKAGE BASED UPON DATA CONTENT, AGE, TYPE, SIZE OR OTHER REPORTING CRITERIA.
	GP075 SECURITY CLASSIFICATION ELEMENTS	PROVIDES ELEMENTS THAT IDENTIFY THE SECURITY CLASSIFICATION INFORMATION FOR A DATA PACKAGE, ARCHIVE RECORD, OR ARCHIVE FILE.
	8092/001 DATA PACKAGE CHECKSUM	PROVIDES A 16-BIT VALUE CALCULATED BY SUMMING THE INDIVIDUAL BYTES OF THE DATA PACKAGE, NOT INCLUDING ANY HEADER, AND IGNORING OVERFLOW WHICH ANY RECEIVER OF THE PACKAGE MAY RE-CALCULATE AND COMPARE TO VERIFY PACKAGE INTEGRITY.
	GP101 DATA PACKAGE REPLICATION ELEMENTS	PROVIDES THE CHARACTERISTICS FOR REPEATING TRANSMISSIONS OF SELECTED MESSAGES.
	GP124 LOCAL SCOPE ELEMENTS	GROUPING OF ELEMENTS CONTAINING NON-CMF DATA, WHICH IS APPENDED TO A CMF DOCUMENT AND UTILIZED STRICTLY WITHIN THE SCOPE OF LOCAL SYSTEMS(S) FOR LOCAL PROCESSING METHODS AND SUPPORT, BUT WHICH IS NEVER DISSEMINATED ONTO THE IBS ENTERPRISE.

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NFI	NAME	DEFINITION
GP077	DATA FORMAT ELEMENTS [Data_Format_Elmnts]	PROVIDES ELEMENTS THAT DESCRIBE A DATA FORMAT.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8003/006	DATA FORMAT	IDENTIFIES THE TYPE OF DATA FORMAT REPORTED OR ARCHIVED.
4085/803	PATH NUMBER	INDICATES AN OPERATIONALLY ASSIGNED NUMBER THAT IDENTIFIES A COMMUNICATION PATH OR MEDIUM AND IS USED BY CMF FOR PATH-SPECIFIC DATA PACKAGE INTERPRETATION.

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NFI	NAME	DEFINITION
GP079	EXTERNAL CONNECTION DESCRIPTION ELEMENTS [Extern_Connect_Desc_Elmnts]	PROVIDES ELEMENTS THAT DESCRIBE LOCAL EXTERNAL CONNECTIONS OVER WHICH DATA IS OR HAS BEEN RECEIVED OR TRANSMITTED.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8090/002	EXTERNAL CONNECTION LABEL	A NAME, DESCRIPTION, OR OTHER TEXTUAL IDENTIFIER ASSOCIATED WITH A LOCAL EXTERNAL CONNECTION.
8090/001	EXTERNAL CONNECTION TYPE	IDENTIFIES THE TYPE OF A LOCAL PHYSICAL CONNECTION.
4085/802	EXTERNAL CONNECTION NUMBER	INDICATES A NUMBER IDENTIFYING A LOCAL PHYSICAL CONNECTION SUCH AS A PORT, ASSIGNMENT, OR OTHER PRIMARY CONNECTION NUMBER.
4085/801	EXTERNAL CONNECTION ID	INDICATES A NUMBER IDENTIFYING A LOGICAL CONNECTION OR REMOTE PHYSICAL PATH OVER A LOCAL PHYSICAL CONNECTION SUCH AS A RF CHANNEL NUMBER OR WEB CLIENT IDENTIFIER.

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NFI	NAME	DEFINITION
GP081	RADAR CHARACTERISTICS [Radar_Char]	DESCRIBES CHARACTERISTICS OF A RADAR.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
PATH 5 EXCLUDED		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4150/810	MANUFACTURER NAME	ACTUAL NAME OF COMPANY/BUILDER OF REPORTED EQUIPMENT.
8101/001	BEAM WIDTH	INDICATES THE 3 DB BEAM WIDTH OF THE MAIN LOBE OF THE Emitter.
4104/803	SIGNAL BANDWIDTH	WIDTH OF THE FREQUENCY RANGE OF THE REPORTED SIGNAL.

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NFI	NAME	DEFINITION
GP082	COLLECTION SYSTEM CHARACTERISTICS [Collect_Sys_Char]	DESCRIBES THE COLLECTION SYSTEM EQUIPMENT.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
GP085	RF TUNER ID	DESCRIBES RF TUNER EQUIPMENT.
GP086	PROCESSOR ID	DESCRIBES COLLECTION PROCESSOR EQUIPMENT.
4104/804	COLLECTION BANDWIDTH	WIDTH OF FREQUENCY RANGE IN WHICH THE COLLECTION WAS PERFORMED.
4104/802	INTERMEDIATE FREQUENCY	INTERMEDIATE FREQUENCY OF THE COLLECTION EQUIPMENT.
CP075	SAMPLE INTERVAL	DEFINES A TIME INTERVAL BETWEEN TWO OR MORE PARTICULAR MEASURED. SAMPLES (E.G. WAVEFORM AMPLITUDE VALUES). THE RECIPROCAL OF THIS VALUE PROVIDES THE EFFECTIVE SAMPLING RATE.
CP145	SOFTWARE VERSION	A SPECIFIC EDITION OR RELEASE OF A SOFTWARE PACKAGE.

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NFI	NAME	DEFINITION
GP083	ALGORITHM ELEMENTS [Alg_Elmnts]	SET OF ELEMENTS RESULTING FROM THE APPLICATION OF A SPECIFIED ALGORITHM.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	PATH 5 EXCLUDED	
	CHILD ELEMENTS:	
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
GP084	ALGORITHM ID	DESIGNS THE ALGORITHM NAME AND VERSION USED TO PRODUCE RELATED ALGORITHM VALUE SET.
4029/808	TOTAL NUMBER OF ALGORITHM VALUES	TOTAL NUMBER OF ALGORITHM VALUES USED TO REPRESENT THE SEI SIGNATURE OF THE ENTITY. INDICATES HOW MANY TIMES THE "ALGORITHM VALUES" FIELD WILL BE REPEATED.
GP087	ALGORITHM VALUES	TEXT AND/OR FLOAT ALGORITHM VALUES.

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NFI NAME  
GP084 ALGORITHM ID  
[Alg\_ID]

DEFINITION  
DESIGNATES THE ALGORITHM NAME AND VERSION USED TO PRODUCE THE RELATED ALGORITHM SET.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: GROUP

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8100/003	ALGORITHM NAME	DESIGNATES THE ALGORITHM USED TO PRODUCE RELATED ALGORITHM VALUE SET.
8108/001	VERSION	DESIGNATES THE VERSION OF SOFTWARE, DOCUMENT, ALGORITHM, ETC.

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NFI	NAME	DEFINITION
GP085	RF TUNER ID [RF_Tuner_ID]	DESCRIBES RF TUNER EQUIPMENT.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4046/825	EQUIPMENT SERIAL NUMBER	THE SERIAL NUMBER ASSIGNED BY THE EQUIPMENT MANUFACTURER.
4070/801	EQUIPMENT TYPE	THE NAME OR NOMENCLATURE ASSIGNED BY THE MANUFACTURER OR DEVELOPING ORGANIZATION.

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NFI	NAME	DEFINITION
GP086	PROCESSOR ID [Processor_ID]	DESCRIBES COLLECTION PROCESSOR EQUIPMENT.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	4046/825 EQUIPMENT SERIAL NUMBER	THE SERIAL NUMBER ASSIGNED BY THE EQUIPMENT MANUFACTURER.
	4070/801 EQUIPMENT TYPE	THE NAME OR NOMENCLATURE ASSIGNED BY THE MANUFACTURER OR DEVELOPING ORGANIZATION.

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NFI	NAME	DEFINITION
GP087	ALGORITHM VALUES	TEXT AND/OR FLOAT ALGORITHM VALUES.
	[Alg_Values]	
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
RP018	ALGORITHM FLOAT VALUE SET	FLOAT VALUE UTILIZED BY A COLLABORATIVE ALGORITHM.
RP019	ALGORITHM TEXT VALUE SET	TEXT VALUE UTILIZED BY A COLLABORATIVE ALGORITHM.

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APPENDIX B, PART II

NFI NAME  
GP088 PULSE GROUP CHARACTERISTICS  
[Pulse\_Grp\_Char]

DEFINITION  
PROVIDES ELEMENTS DESCRIBING THE MEASURABLE CHARACTERISTICS OF A  
RADIO FREQUENCY PULSE IN A GROUP OF PULSES TRANSMITTED BY AN  
EMITTER.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: GROUP

RESET ATTRIBUTE: YES

PATH 5 EXCLUDED

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4046/826	PULSE GROUP ID NUMBER	IDENTIFIES A PULSE GROUP WITHIN A SET OF PULSES.
CP137	PULSE WIDTH DURATION OF GROUP	PROVIDES THE AVERAGE OF THE TIME DURATIONS BETWEEN THE HALF POWER POINTS OF THE ENVELOPE OF A GROUP OF RADIO FREQUENCY PULSES OF AN ELECTRONIC EMITTER.
CP138	PRI OF GROUP	THE MEASURED TIME INTERVAL BETWEEN TWO OR MORE PULSE GROUPS.
8107/003	NUMBER OF PULSES IN GROUP	THE NUMBER OF PULSES WITHIN A SPECIFIC PULSE GROUP.
GP090	INDIVIDUAL PULSE CHARACTERISTICS	PROVIDES ELEMENTS DESCRIBING THE MEASURABLE CHARACTERISTICS OF A RADIO FREQUENCY PULSE TRANSMITTED BY AN EMITTER.

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APPENDIX B, PART II

NFI NAME  
GP090 INDIVIDUAL PULSE  
CHARACTERISTICS  
[Indiv\_Pulse\_Char]

DEFINITION  
PROVIDES ELEMENTS DESCRIBING THE MEASURABLE CHARACTERISTICS OF A  
RADIO FREQUENCY PULSE TRANSMITTED BY AN EMITTER.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: GROUP

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4046/827	PULSE ID NUMBER	IDENTIFIES A SINGLE PULSE WITHIN A PULSE GROUP.
435/806	PULSE WIDTH DURATION	THE TIME DURATION BETWEEN THE HALF POWER POINTS OF THE ENVELOPE OF THE RADIO FREQUENCY PULSE OF AN ELECTRONIC EMITTER.

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NFI	NAME	DEFINITION
GP091	ENTITY PHYSICAL CHARACTERISTICS ELEMENTS [Entity_Physical_Char_Elmnts]	PROVIDES DESCRIPTIVE ELEMENTS OF ENTITIES.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	4032/801 ENTITY LENGTH	LENGTH OF THE ENTITY.
	4033/801 ENTITY WIDTH	WIDTH OF THE ENTITY.
	4113/801 ENTITY HEIGHT	HEIGHT OF THE ENTITY.
CP139	ENTITY PRIMARY COLOR	THE PRIMARY COLOR OF THE REPORTED ENTITY. FOR SHIPS, HULL ABOVE THE WATERLINE. FOR AIRCRAFT, THE GENERAL COLOR OF THE FUSELAGE.
CP140	ENTITY SECONDARY COLOR	THE SECONDARY COLOR OF THE REPORTED ENTITY. FOR SHIPS, THE COLOR OF THE SUPERSTRUCTURE. FOR AIRCRAFT, THE UNDERSIDE, TAIL, OR WING COLOR.
CP142	ANTENNA PLACEMENT	PLACEMENT OF AN ANTENNA OR ANTENNA GROUP WITH RESPECT TO THE PLATFORM.
GP092	MARITIME CHARACTERISTICS	PROVIDES DESCRIPTIVE ELEMENTS OF MARITIME ENTITIES.
	4029/805 NUMBER OF CYLINDERS	THE TOTAL NUMBER OF ENGINE CYLINDERS OF A VEHICLE.
	4029/806 NUMBER OF BLADES	THE TOTAL NUMBER OF BLADES ON THE PRIMARY PROPULSION DEVICE/SYSTEM OF THE REPORTED ENTITY.
	4225/801 RADAR CROSS SECTION, IBS	THE MEASURE OF THE RATIO OF BACKSCATTER POWER PER STERADIAN (UNIT SOLID ANGLE) IN THE DIRECTION OF THE RADAR, FROM THE TARGET, TO THE POWER DENSITY THAT IS INTERCEPTED BY THE TARGET.

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NFI	NAME	DEFINITION
GP092	MARITIME CHARACTERISTICS [Maritime_Char]	PROVIDES DESCRIPTIVE ELEMENTS OF MARITIME ENTITIES.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8102/002	VESSEL DRAFT	DEPTH OF VESSEL'S HULL UNDER THE WATERLINE. OFTEN DETERMINED FROM PAINTED SCALE MARKINGS ON HULL.
8102/004	VESSEL GROUP TYPE	IDENTIFIES THE VESSEL SUPERSTRUCTURE ABOVE THE HULL.
CP141	VESSEL WATERLINE COLOR	THE COLOR OF THE VESSEL HULL AT AND BELOW THE WATERLINE.
RP021	VESSEL UPRIGHT SEQUENCE	SEQUENCE OF UPRIGHT STRUCTURES ABOARD A VESSEL STARTING AT THE BOW AND ENDING AT THE STERN.
8102/005	VESSEL RAISE CODE	DEFINES THE HULL PROFILE FROM BOW TO STERN AS HIGHER THAN OR EQUAL TO THE VESSEL'S MAIN DECK (SUPERSTRUCTURE EXCLUDED).
GP097	ONBOARD REFERENCE POINT	DESCRIBES THE PHYSICAL LOCATION OF A REFERENCE POINT ON AN ENTITY.

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NFI	NAME	DEFINITION
GP093	SENSOR ELEMENTS [Sensr_Elmts]	PROVIDES ELEMENTS WHICH IDENTIFY THE CHARACTERISTICS OF ONE OR MORE SENSORS FROM WHICH THE REPORTED ENTITY INFORMATION WAS OBTAINED.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP144	SENSOR STRING ELEMENTS	IDENTIFIES THE SENSOR STRING ID AND STATUS OF A SPECIFIC GROUND SENSOR.
GP109	SENSOR SEARCH AREA IDENTIFIER	A REFERENCE IDENTIFIER WHICH UNIQUELY INDICATES A GEOGRAPHIC SEARCH AREA ASSIGNED TO THE SENSOR(S) USED FOR DATA COLLECTION ON THE ENTITY.
GP110	SENSOR DESCRIPTION ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBES A SENSOR WHICH WAS USED TO COLLECT INFORMATION ABOUT THE ENTITY BEING REPORTED.
CP158	COMBINED SENSOR GENERAL CONFIDENCE	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE OVERALL PERFORMANCE OF THE ENTIRE SET OF UTILIZED SENSORS IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.
CP159	COMBINED SENSOR PERCENT CONFIDENCE	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE OVERALL PERFORMANCE OF THE ENTIRE SET OF UTILIZED SENSORS IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.
PC009	SENSOR NAVIGATION STATUS	INDICATES THE STATUS OF POTENTIAL GUIDANCE/NAVIGATION MECHANISMS OR SYSTEMS USED BY THE SENSOR(S) PROVIDING THE ENTITY INFORMATION.

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NFI	NAME	DEFINITION
GP094	ACOUSTIC ELEMENTS [Acoustic_Elmnts]	DESCRIBES SOUND PROPAGATION THROUGH THE ATMOSPHERE.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8022/002	SIGNAL TO NOISE RATIO	THE VALUE OF THE SIGNAL COMPARED TO THE VALUE OF THE NOISE IN A PARTICULAR APPLICATION.
8105/001	MAXIMUM SOUND PRESSURE	THE MAXIMUM SOUND PRESSURE AT ANY POINT IN THE DETECTION RADIUS OF A SENSOR.

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NFI NAME  
GP095 PRI PROFILE  
[PRI\_Profile]

DEFINITION  
ELEMENTS REQUIRED TO DETERMINE A PRI PROFILE.

DATA STANDARD USAGE: IBS STATUS:

DATA ELEMENT TYPE: GROUP

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1903/808	PRI PROFILE TECHNIQUE	METHOD WHICH WAS APPLIED TO DETERMINE THE PRI IDENTIFICATION TECHNIQUE.
1903/809	PRI PROFILE LABEL	IDENTIFICATION OF THE PRI PATTERN THAT DETERMINES THE SPECIFIC EMITTER MODE.

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NFI	NAME	DEFINITION
GP097	ONBOARD REFERENCE POINT [Onboard_Ref_Point]	DESCRIBES THE PHYSICAL LOCATION OF A REFERENCE POINT ON AN ENTITY.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4032/802	LENGTH TO BOW	LENGTH FROM REFERENCE POINT TO BOW OF SHIP.
4032/803	LENGTH TO STERN	LENGTH FROM REFERENCE POINT TO STERN OF SHIP.
4033/802	WIDTH TO PORTSIDE	WIDTH FROM REFERENCE POINT TO PORT SIDE OF SHIP.
4033/803	WIDTH TO STARBOARD	WIDTH FROM REFERENCE POINT TO STARBOARD SIDE OF SHIP.

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NFI	NAME	DEFINITION
GP098	AMPLIFICATION ID DECLARED ELEMENTS [Ampn_ID_Declared_Elmnts]	AMPLIFICATION ELEMENTS DECLARED/PROFESSED BY THE REPORTED ENTITY ITSELF.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4150/808	ENTITY NAME	THE FREE-TEXT NAME OF THE ENTITY BEING REPORTED.
4046/829	IMO NUMBER	THE INTERNATIONAL MARITIME ORGANIZATION (IMO) NUMBER IS A UNIQUE SHIP NUMBER ASSIGNED BY INTERNATIONAL MARITIME ORGANIZATION (RELATED TO SHIPS CONSTRUCTION).
4046/828	MMSI NUMBER	THE MARITIME MOBILE SERVICE IDENTITY (MMSI) NUMBER IS A NUMBER ASSIGNED TO A SHIP STATION, GROUP SHIP STATION, COAST STATION, OR GROUP COAST STATION ELECTRONIC IDENTITY BY THE INTERNATIONAL TELECOMMUNICATION UNION (ITU).
4100/801	INTERNATIONAL CALL SIGN	INTERNATIONAL CALL SIGN ASSIGNED TO AN ENTITY.

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NFI	NAME	DEFINITION
GP100	COLLECTION ELEMENTS [Collect_Elmnts]	DESCRIPTIVE ELEMENTS OF THE COLLECTION.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	PATH 5 EXCLUDED	
	CHILD ELEMENTS:	
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
GP082	COLLECTION SYSTEM CHARACTERISTICS	DESCRIBES THE COLLECTION SYSTEM EQUIPMENT.
CP132	COLLECTION TERMINATION TIME	TIME COLLECTION TERMINATED.
8073/002	COLLECTION MISSION ID	UNIQUELY IDENTIFIES THE COLLECTION MISSION.
8073/003	COLLECTION EVENT ID	UNIQUELY IDENTIFIES THE SPECIFIC COLLECTION EVENT.

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NFI	NAME	DEFINITION
GP101	DATA PACKAGE REPLICATION ELEMENTS [Data_Pkg_Replication_Elmnts]	PROVIDES THE CHARACTERISTICS FOR REPEATING TRANSMISSIONS OF SELECTED MESSAGES.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8110/001	REPLICATION COUNT	IDENTIFIES THE NUMBER OF REPEATED TRANSMISSIONS, IN ADDITION TO THE ORIGINAL TRANSMISSION, TO BE INITIATED BY THE TACTICAL DATA PROCESSOR (OR RELAY OR FORWARDER) OVER A GIVEN PATH OR PATH SEGMENT.
4037/803	REPLICATION INTERVAL	IDENTIFIES THE WAIT PERIOD BY A TACTICAL DATA PROCESSOR BETWEEN TRANSMISSION OF THE ORIGINAL MESSAGE AND THE FIRST RETRANSMITTED MESSAGE COPY AS WELL AS THE PERIOD BETWEEN ADDITIONAL COPIES OF DUPLICATE MESSAGES.

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NFI	NAME	DEFINITION
GP102	SENSOR PRODUCT FILE [Sensr_Product_File]	THE WEB LOCATION OF DERIVED SENSOR PRODUCTS TO INCLUDE ELECTRO-OPTIC, INFRARED, SEISMIC, ACOUSTIC, AND OTHER GEO-PHYSICAL DISCIPLINES.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8103/001	UNIFORM RESOURCE LOCATOR (URL)	THE SOURCE FILE NAME AND/OR INTERNET PROTOCOL (IP) ADDRESS AND/OR PATH THAT CONTAINS COMPLETE OR RELATIVE PATH TO A RESOURCE.
4046/833	MEDIA REFERENCE ID	THE ASSIGNED REFERENCE IDENTIFIER THAT CORRESPONDS WITH THE SENSOR PRODUCT URL.

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NFI	NAME	DEFINITION
GP103	AZIMUTH CORRIDOR [Azimuth_Corridor]	IDENTIFIES AN UNBOUNDED AREA ASSOCIATED WITH AN ENTITY SUCH AS THE VECTOR OF A MISSILE WHICH MAY CONTAIN THE LIKELY IMPACT AREA OR THE FUTURE LOCATION OF AN ENTITY.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP094	POLAR SINGLE LOCATION	
372/806	CORRIDOR CENTER LINE, IBS	ANGLE, MEASURED CLOCKWISE FROM TRUE NORTH, OF THE CENTER LINE OF AN AZIMUTH CORRIDOR. THE CENTER LINE EXTENDS FROM THE REFERENCED CORRIDOR ORIGIN LOCATION.
454/801	CORRIDOR ARC WIDTH, IBS	DESCRIBES THE WIDTH OF AN AZIMUTH CORRIDOR IN DEGREES, CENTERED ON THE CORRIDOR CENTER LINE WHICH EXTENDS FROM THE CORRIDOR ORIGIN LOCATION.
757/801	CORRIDOR ARC MINIMUM RANGE	THE DISTANCE FROM THE REFERENCE POINT OF AN AZIMUTH CORRIDOR TO THE NEAR EDGE OF A BOUNDED AZIMUTH CORRIDOR WEDGE, MEASURED ALONG THE AZIMUTH CORRIDOR CENTER LINE.
757/802	CORRIDOR ARC MAXIMUM RANGE	THE DISTANCE FROM THE REFERENCE POINT OF AN AZIMUTH CORRIDOR TO THE FAR EDGE OF A BOUNDED AZIMUTH CORRIDOR WEDGE, MEASURED ALONG THE AZIMUTH CORRIDOR CENTER LINE.

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NFI	NAME	DEFINITION
GP104	URGENT INTERIM CAPABILITY (UIC)	A GROUPING CONTAINING THOSE ELEMENTS WHICH MAKE UP A SET OF DATA
	ELEMENTS	FIELDS FOR AN URGENT INTERIM CAPABILITY (UIC).
	[UIC_Elmnts]	
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4085/804	UIC IDENTIFIER	THE IDENTIFICATION OF A PARTICULAR URGENT INTERIM CAPABILITY (UIC). THIS NUMBER IS UNIQUELY ASSIGNED TO A PARTICULAR UIC AT ANY GIVEN TIME.
4150/813	UIC NAME	THE NAME OF A PARTICULAR URGENT INTERIM CAPABILITY (UIC). THIS NAME IS FOR INFORMATIONAL AND/OR DISPLAY PURPOSES ONLY. AN URGENT INTERIM CAPABILITY (UIC) USAGE IS IDENTIFIED BY THE UIC IDENTIFIER FIELD.
CP150	UIC FIELD	A GROUPING COMPOSING A SINGLE INSTANCE OF AN URGENT INTERIM CAPABILITY (UIC) FIELD AND CONTAINING THE ASSOCIATED FIELD NAMES AND FIELD VALUES.

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NFI NAME  
GP105 UIC VALUE  
[UIC\_Value]

DEFINITION  
CONTAINS THE VALUE AND/OR UNITS FOR AN URGENT INTERIM CAPABILITY  
(UIC) FIELD.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: GROUP

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8111/001	UIC STRING	THE VALUE OF AN URGENT INTERIM CAPABILITY (UIC) FIELD WHEN THAT FIELD IS OF TYPE STRING.
8111/002	UIC INTEGER	THE VALUE OF AN URGENT INTERIM CAPABILITY (UIC) FIELD WHEN THAT FIELD IS OF TYPE INTEGER.
8111/003	UIC FLOAT	THE VALUE OF AN URGENT INTERIM CAPABILITY (UIC) FIELD WHEN THAT FIELD IS OF TYPE FLOAT.
4093/818	UIC UNIT	THE PRE-DEFINED UNIT OF MEASURE FOR AN URGENT INTERIM CAPABILITY (UIC) FIELD.
4150/815	UIC UNIT NAME	A UNIT OF MEASURE FOR AN URGENT INTERIM CAPABILITY (UIC) FIELD NOT CURRENTLY IMPLEMENTED BY CMF BUT AS DEFINED BY AN APPLICABLE UIC ICR.

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NFI	NAME	DEFINITION
GP106	OPERATIONS NOTIFICATION MESSAGE [Ops_Notify_Msg]	IDENTIFIES A GROUP OF ELEMENTS THAT PROVIDE ANNOUNCEMENTS, COORDINATION, DIRECTION, ETC. REGARDING IBS OPERATIONS.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	4046/806 MESSAGE NUMBER	A ONE-UP NUMBER ASSIGNED BY THE CMF ORIGINATOR WHICH UNIQUELY IDENTIFIES A REPORTED MESSAGE WITHIN THE RESPECTIVE MESSAGE TYPE.
GP007	MESSAGE DESCRIPTION ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH CONTAIN GENERAL INFORMATION DESCRIBING THE ENTIRE ENCOMPASSING MESSAGE.
	8114/001 NOTIFICATION SUBJECT	INDICATES THE TOPIC OR TITLE OF AN OPERATIONS NOTIFICATION MESSAGE.
	8115/001 NOTIFICATION TYPE	INDICATES THE CATEGORY OF ADMINISTRATIVE INFORMATION OR ACTION PROVIDED IN AN OPERATIONS NOTIFICATION MESSAGE.
	8052/004 OPERATIONS NOTIFICATION	PROVIDES STATUS, CHANGE, ALERT OR ANNOUNCEMENT INFORMATION FROM THE GIBSSC TO THE IBS COMMUNITY REGARDING OPERATION OF THE IBS NETWORK.
CP151	EFFECTIVE TIME	IDENTIFIES THE SPECIFIC POINT IN TIME AT WHICH DIRECTED ACTION IS TO COMMENCE; INFORMATION BECOMES VALID; OR A STANDING ORDER GOES INTO EFFECT.
CP152	EXPIRE TIME	IDENTIFIES THE SPECIFIC POINT IN TIME AT WHICH DIRECTED ACTION IS TO CEASE; INFORMATION CEASES TO BE VALID; OR A STANDING ORDER CEASES TO BE IN EFFECT.
GP107	REFERENCE INFORMATION	PROVIDES A BIBLIOGRAPHIC LOCATION OR OTHER INFORMATION IDENTIFYING RELATED MESSAGES OR INFORMATION.
	8055/002 PRODUCER MESSAGE SEQUENCE NUMBER	A ONE-UP NUMBER ASSIGNED BY THE PRODUCER TO EACH CMF MESSAGE AS IT IS REPORTED TO INDICATE THE SEQUENCE IN

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NFI      NAME  
GP106    OPERATIONS NOTIFICATION MESSAGE

## CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8055/002	(CONTINUED)	WHICH THE MESSAGES WERE GENERATED. ANALYSTS MAY UTILIZE PRODUCER MESSAGE SEQUENCE NUMBER VALUES TO DETERMINE IF ALL MESSAGE(S) WITHIN A SEQUENCE OF MESSAGES FROM A SPECIFIC PRODUCER WERE RECEIVED.
GP007	MESSAGE DESCRIPTION ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH CONTAIN GENERAL INFORMATION DESCRIBING THE ENTIRE ENCOMPASSING MESSAGE.
GP104	URGENT INTERIM CAPABILITY (UIC) ELEMENTS	A GROUPING CONTAINING THOSE ELEMENTS WHICH MAKE UP A SET OF DATA FIELDS FOR AN URGENT INTERIM CAPABILITY (UIC).

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NFI NAME  
GP107 REFERENCE INFORMATION  
[Ref\_Info]

DEFINITION  
PROVIDES A BIBLIOGRAPHIC LOCATION OR OTHER INFORMATION IDENTIFYING RELATED MESSAGES OR INFORMATION.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: GROUP

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8103/001	UNIVERSAL RESOURCE LOCATOR (URL)	THE SOURCE FILE NAME AND/OR INTERNET PROTOCOL (IP) ADDRESS AND/OR PATH THAT CONTAINS COMPLETE OR RELATIVE PATH TO A RESOURCE.
8052/005	MESSAGE REFERENCE	PROVIDES INFORMATION TO IDENTIFY A RELATED MESSAGE (NON-URL-BASED).

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NFI	NAME	DEFINITION
GP108	OPERATIONAL STATUS MESSAGE [Oper_Status_Msg]	A MESSAGE REPORTED BY IBS PARTICIPANTS TO INDICATE THE CURRENT OPERATIONAL REPORTING POSTURE OF ASSETS OR ELEMENTS ON OR CONTRIBUTING TO THE BROADCAST OR NETWORK.
DATA STANDARD USAGE:	IBS	STATUS:
DATA ELEMENT TYPE:	GROUP	
RESET ATTRIBUTE:	NO	
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4046/806	MESSAGE NUMBER	A ONE-UP NUMBER ASSIGNED BY THE CMF ORIGINATOR WHICH UNIQUELY IDENTIFIES A REPORTED MESSAGE WITHIN THE RESPECTIVE MESSAGE TYPE.
CP154	TIME OF STATUS	PROVIDES TIME AT WHICH REPORTED STATUS WAS INDICATED, MEASURED, OR OBSERVED BY THE ORIGINATING SOURCE.
270/801	OPERATIONAL ASSET LABEL	PROVIDES UNIQUE TITLE AS SORTING/ACCESS CRITERION WHICH MAY IDENTIFY THE SUBJECT ASSET OR ELEMENTS PARTICIPATING ON OR CONTRIBUTING TO THE BROADCAST-NETWORK OR WHICH MAY ACT AS A PSEUDO IDENTIFICATION FOR SUBJECT ASSETS WHICH MUST REMAIN ANONYMOUS.
270/802	OPERATIONAL ASSET ID	PROVIDES AN IDENTIFIER WHICH, WHEN REPORTED, IS USED IN CONJUNCTION WITH AN OPERATIONAL ASSET LABEL TO UNIQUELY IDENTIFY AN ASSET WITHIN A SET OF ASSETS IDENTIFIED OR PSEUDO-IDENTIFIED BY THE LABEL.
CP064	REFERENCE ENTITY ID	IDENTIFIES A UNIQUE GLOBAL ENTITY IDENTIFIER (LIKELY SEPARATELY AND/OR PREVIOUSLY REPORTED) BEING REFERRED TO BY A REPORTED ACTION OR SET OF DATA.
GP012	ENTITY ALTERNATE ID ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE ONE OR MORE SETS OF ALTERNATE IDENTIFYING NUMBERS BEING USED FOR UNIQUELY IDENTIFYING AND REPORTING A CMF ENTITY (OR MESSAGE) ON OTHER DATALINKS OR IN OTHER ENVIRONMENTS. THESE ALTERNATE IDENTIFIERS ARE NORMALLY DEVISED AND CONTROLLED BY OTHER AUTHORITIES OTHER THAN THE INTEGRATED BROADCAST SERVICE (IBS) AND ARE NORMALLY ASSIGNED EITHER VIA AN ORIGINATING

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NFI      NAME  
GP108    OPERATIONAL STATUS MESSAGE

## CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
GP012	(CONTINUED)	SOURCE OUTSIDE OF IBS OR UPON FORWARDING OF AN IBS ORIGINATED ENTITY (OR MESSAGE).
CP018	LOCATION	PROVIDES A POSITION EXPRESSED IN LATITUDE AND LONGITUDE.
753/801	OPERATIONAL STATUS, IBS	SIGNIFIES CURRENT CONDITION OF ASSETS OR ELEMENTS ABILITY TO PARTICIPATE ON OR CONTRIBUTE TO THE BROADCAST/NETWORK.
4037/804	STATUS INTERVAL	INDICATES THE MAXIMUM PERIODIC RATE AT WHICH IBS CONSUMERS SHOULD EXPECT TO RECEIVE A STATUS REPORT ON AN ASSET FOR WHICH STATUS IS BEING PROVIDED.
GP107	REFERENCE INFORMATION	PROVIDES A BIBLIOGRAPHIC LOCATION OR OTHER INFORMATION IDENTIFYING RELATED MESSAGES OR INFORMATION.
8055/002	PRODUCER MESSAGE SEQUENCE NUMBER	A ONE-UP NUMBER ASSIGNED BY THE PRODUCER TO EACH CMF MESSAGE AS IT IS REPORTED TO INDICATE THE SEQUENCE IN WHICH THE MESSAGES WERE GENERATED. ANALYSTS MAY UTILIZE PRODUCER MESSAGE SEQUENCE NUMBER VALUES TO DETERMINE IF ALL MESSAGE(S) WITHIN A SEQUENCE OF MESSAGES FROM A SPECIFIC PRODUCER WERE RECEIVED.
GP104	URGENT INTERIM CAPABILITY (UIC) ELEMENTS	A GROUPING CONTAINING THOSE ELEMENTS WHICH MAKE UP A SET OF DATA FIELDS FOR AN URGENT INTERIM CAPABILITY (UIC).

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NFI	NAME	DEFINITION
GP109	SENSOR SEARCH AREA IDENTIFIER [Sensr_Search_Area_ID]	A REFERENCE IDENTIFIER WHICH UNIQUELY INDICATES A GEOGRAPHIC SEARCH AREA ASSIGNED TO THE SENSOR(S) USED FOR DATA COLLECTION ON THE ENTITY.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4193/805	RAPID WORLDWIDE AREA COLLECTION IDENTIFIER	UNIQUE REFERENCE IDENTIFIER ASSIGNED TO A RAPID WORLDWIDE AREA COLLECTION (RWAC) GEOGRAPHIC AREA, AS DEFINED IN THE NATIONAL SYSTEM FOR GEOSPATIAL INTELLIGENCE (NSG) DIRECTIVE 2-1, EXPLOITATION AND REPORTING STRUCTURE (EARS-2): ELECTRONIC REPORTING.
4193/806	GEOGRAPHIC AREA IDENTIFIER	UNIQUE REFERENCE WHICH IDENTIFIES A BROAD AREA SEARCH (BAS) GEOGRAPHIC AREA, A DIRECTED SEARCH AREA (DSA) GEOGRAPHIC AREA, OR A LINES OF COMMUNICATION (LOC) GEOGRAPHIC AREA, AS DEFINED IN THE NATIONAL SYSTEM FOR GEOSPATIAL INTELLIGENCE (NSG) DIRECTIVE 2-1, EXPLOITATION AND REPORTING STRUCTURE (EARS-2): ELECTRONIC REPORTING.

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NFI	NAME	DEFINITION
GP110	SENSOR DESCRIPTION ELEMENTS [Sensr_Desc_Elmts]	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBES A SENSOR WHICH WAS USED TO COLLECT INFORMATION ABOUT THE ENTITY BEING REPORTED.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
GP111	RF SENSOR ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE A GENERAL AND/OR SPECIFIC FORM, VARIETY, OR KIND OF SENSOR UTILIZING ACQUISITION, DETECTION, OR IDENTIFICATION TECHNOLOGY OR PROCESSES BASED ON THE RADIO FREQUENCY REGION OF THE ELECTROMAGNETIC SPECTRUM.
GP112	IR SENSOR ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE A GENERAL AND/OR SPECIFIC FORM, VARIETY, OR KIND OF SENSOR UTILIZING ACQUISITION, DETECTION, OR IDENTIFICATION TECHNOLOGY OR PROCESSES BASED ON THE INFRARED REGION OF THE ELECTROMAGNETIC SPECTRUM.
GP113	VISIBLE LIGHT SENSOR ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE A GENERAL AND/OR SPECIFIC FORM, VARIETY, OR KIND OF SENSOR UTILIZING ACQUISITION, DETECTION, OR IDENTIFICATION TECHNOLOGY OR PROCESSES BASED ON THE VISIBLE LIGHT REGION OF THE ELECTROMAGNETIC SPECTRUM.
GP114	OPTICAL SENSOR ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE A GENERAL AND/OR SPECIFIC FORM, VARIETY, OR KIND OF SENSOR UTILIZING ACQUISITION, DETECTION, OR IDENTIFICATION TECHNOLOGY OR PROCESSES BASED ON THE OPTICAL REGION OF THE ELECTROMAGNETIC SPECTRUM.
GP115	MULTIPLE SPECTRUM SENSOR ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE A GENERAL OR SPECIFIC FORM, VARIETY, OR KIND OF SENSOR WHICH UTILIZE ACQUISITION, DETECTION, OR IDENTIFICATION TECHNOLOGY OR PROCESSES BASED SIMULTANEOUSLY ON MULTIPLE REGIONS OF THE ELECTROMAGNETIC SPECTRUM.

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NFI      NAME  
GP110    SENSOR DESCRIPTION ELEMENTS

## CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
GP116	HUMAN SENSOR ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE A GENERAL OR SPECIFIC FORM, VARIETY, OR KIND OF HUMAN-BASED ACQUISITION, DETECTION, OR IDENTIFICATION TECHNOLOGY OR PROCESS.
GP117	UNDISCLOSED SENSOR ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE ONE OR MORE SENSORS WHICH WERE UTILIZED IN THE ACQUISITION, DETECTION, OR IDENTIFICATION OF THE REPORTED ENTITY BUT WHICH THE FULL TECHNOLOGY OR PROCESS IS NOT DISCLOSED OR IS NOT AVAILABLE.

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NFI	NAME	DEFINITION
GP111	RF SENSOR ELEMENTS [RF_Sensr_Elmts]	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE A GENERAL AND/OR SPECIFIC FORM, VARIETY, OR KIND OF SENSOR UTILIZING ACQUISITION, DETECTION, OR IDENTIFICATION TECHNOLOGY OR PROCESSES BASED ON THE RADIO FREQUENCY REGION OF THE ELECTROMAGNETIC SPECTRUM.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1953/803	RF SENSOR TYPE	IDENTIFIES A RADIO FREQUENCY TECHNOLOGY OR PROCESS USED TO DETECT OR IDENTIFY THE REPORTED ENTITY INFORMATION.
CP156	SENSOR GENERAL CONFIDENCE	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SENSOR'S PERFORMANCE IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.
CP157	SENSOR PERCENT CONFIDENCE	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SENSOR'S PERFORMANCE IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.
4051/801	NIIRS QUALITY	INDICATES THE RATING OF THE IMAGERY PRODUCT USING THE NATIONAL IMAGERY INTERPRETABILITY RATING SCALE (NIIRS), AS DEFINED BY THE NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY (NGA).

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NFI	NAME	DEFINITION
GP112	IR SENSOR ELEMENTS [IR_Sensr_Elmnts]	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE A GENERAL AND/OR SPECIFIC FORM, VARIETY, OR KIND OF SENSOR UTILIZING ACQUISITION, DETECTION, OR IDENTIFICATION TECHNOLOGY OR PROCESSES BASED ON THE INFRARED REGION OF THE ELECTROMAGNETIC SPECTRUM.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: YES	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	1953/804 IR SENSOR TYPE	IDENTIFIES AN INFRARED TECHNOLOGY OR PROCESS USED TO DETECT OR IDENTIFY THE REPORTED ENTITY INFORMATION.
CP156	SENSOR GENERAL CONFIDENCE	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SENSOR'S PERFORMANCE IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.
CP157	SENSOR PERCENT CONFIDENCE	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SENSOR'S PERFORMANCE IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.
	4051/801 NIIRS QUALITY	INDICATES THE RATING OF THE IMAGERY PRODUCT USING THE NATIONAL IMAGERY INTERPRETABILITY RATING SCALE (NIIRS), AS DEFINED BY THE NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY (NGA).

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NFI	NAME	DEFINITION
GP113	VISIBLE LIGHT SENSOR ELEMENTS [Visible_Light_Sensr_Elmts]	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE A GENERAL AND/OR SPECIFIC FORM, VARIETY, OR KIND OF SENSOR UTILIZING ACQUISITION, DETECTION, OR IDENTIFICATION TECHNOLOGY OR PROCESSES BASED ON THE VISIBLE LIGHT REGION OF THE ELECTROMAGNETIC SPECTRUM.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1953/805	VISIBLE LIGHT SENSOR TYPE	IDENTIFIES A VISIBLE LIGHT TECHNOLOGY OR PROCESS USED TO DETECT OR IDENTIFY THE REPORTED ENTITY INFORMATION.
CP156	SENSOR GENERAL CONFIDENCE	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SENSOR'S PERFORMANCE IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.
CP157	SENSOR PERCENT CONFIDENCE	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SENSOR'S PERFORMANCE IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.
4051/801	NIIRS QUALITY	INDICATES THE RATING OF THE IMAGERY PRODUCT USING THE NATIONAL IMAGERY INTERPRETABILITY RATING SCALE (NIIRS), AS DEFINED BY THE NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY (NGA).

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NFI	NAME	DEFINITION
GP114	OPTICAL SENSOR ELEMENTS [Optical_Sensr_Elmnts]	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE A GENERAL AND/OR SPECIFIC FORM, VARIETY, OR KIND OF SENSOR UTILIZING ACQUISITION, DETECTION, OR IDENTIFICATION TECHNOLOGY OR PROCESSES BASED ON THE OPTICAL REGION OF THE ELECTROMAGNETIC SPECTRUM.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1953/806	OPTICAL SENSOR TYPE	IDENTIFIES AN OPTICAL TECHNOLOGY OR PROCESS USED TO DETECT OR IDENTIFY THE REPORTED ENTITY INFORMATION.
CP156	SENSOR GENERAL CONFIDENCE	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SENSOR'S PERFORMANCE IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.
CP157	SENSOR PERCENT CONFIDENCE	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SENSOR'S PERFORMANCE IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.
4051/801	NIIRS QUALITY	INDICATES THE RATING OF THE IMAGERY PRODUCT USING THE NATIONAL IMAGERY INTERPRETABILITY RATING SCALE (NIIRS), AS DEFINED BY THE NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY (NGA).

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NFI	NAME	DEFINITION
GP115	MULTIPLE SPECTRUM SENSOR ELEMENTS [Mult_Spectrum_Sensr_Elmnts]	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE A GENERAL OR SPECIFIC FORM, VARIETY, OR KIND OF SENSOR WHICH UTILIZE ACQUISITION, DETECTION, OR IDENTIFICATION TECHNOLOGY OR PROCESSES BASED SIMULTANEOUSLY ON MULTIPLE REGIONS OF THE ELECTROMAGNETIC SPECTRUM.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1953/807	MULTIPLE SPECTRUM SENSOR TYPE	IDENTIFIES A SIMULTANEOUS MULTIPLE SPECTRUM TECHNOLOGY OR PROCESS USED TO DETECT OR IDENTIFY THE REPORTED ENTITY INFORMATION.
CP156	SENSOR GENERAL CONFIDENCE	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SENSOR'S PERFORMANCE IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.
CP157	SENSOR PERCENT CONFIDENCE	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SENSOR'S PERFORMANCE IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.
4051/801	NIIRS QUALITY	INDICATES THE RATING OF THE IMAGERY PRODUCT USING THE NATIONAL IMAGERY INTERPRETABILITY RATING SCALE (NIIRS), AS DEFINED BY THE NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY (NGA).

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NFI	NAME	DEFINITION
GP116	HUMAN SENSOR ELEMENTS [Human_Sensr_Elmnts]	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE A GENERAL OR SPECIFIC FORM, VARIETY, OR KIND OF HUMAN-BASED ACQUISITION, DETECTION, OR IDENTIFICATION TECHNOLOGY OR PROCESS.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1953/808	HUMAN SENSOR TYPE	IDENTIFIES A HUMAN METHOD OR PROCESS USED TO DETECT OR IDENTIFY THE REPORTED ENTITY INFORMATION.
CP156	SENSOR GENERAL CONFIDENCE	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SENSOR'S PERFORMANCE IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.
CP157	SENSOR PERCENT CONFIDENCE	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SENSOR'S PERFORMANCE IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.
4051/802	HUMINT RELIABILITY	PROVIDES AN ASSESSMENT OF THE RELIABILITY OF THE HUMINT SOURCE, INCLUDING AN EVALUATION OF AUTHENTICITY, TRUSTWORTHINESS, AND/OR COMPETENCY, AS DEFINED BY DEPARTMENT OF THE ARMY HEADQUARTERS MANUAL FM 2-22.3, HUMAN INTELLIGENCE COLLECTOR OPERATIONS.

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NFI	NAME	DEFINITION
GP117	UNDISCLOSED SENSOR ELEMENTS [Undisclosed_Sensr_Elmnts]	IDENTIFIES A GROUP OF ELEMENTS WHICH DESCRIBE ONE OR MORE SENSORS WHICH WERE UTILIZED IN THE ACQUISITION, DETECTION, OR IDENTIFICATION OF THE REPORTED ENTITY BUT WHICH THE FULL TECHNOLOGY OR PROCESS IS NOT DISCLOSED OR IS NOT AVAILABLE.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1953/809	UNDISCLOSED SENSOR TYPE	IDENTIFIES ONE OR MORE ASPECTS OF AN UNDISCLOSED CLASS OF SENSOR OR SENSORS WHICH WAS USED TO DETECT OR IDENTIFY THE REPORTED ENTITY INFORMATION.
CP156	SENSOR GENERAL CONFIDENCE	PROVIDES A GENERAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SENSOR'S PERFORMANCE IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.
CP157	SENSOR PERCENT CONFIDENCE	PROVIDES A NUMERICAL INDICATION IN THE DEGREE OF CONFIDENCE AN OPERATOR/EVALUATOR HAS IN THE SENSOR'S PERFORMANCE IN ACCURATELY ACQUIRING OR RECOGNIZING DESIRED CHARACTERISTICS (E.G., SIGNAL, OBJECT, OR LOCATION) RELATED TO THE REPORTED ENTITY.

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NFI NAME  
GP118 ENTITY ENVIRONMENTAL CONDITION  
ELEMENTS  
[Entity\_Envir\_Condition\_Elmnts]

DATA STANDARD USAGE: IBS

DATA ELEMENT TYPE: GROUP

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4175/801	ENVIRONMENTAL CONDITION	EXPRESSES A NATURAL OR MAN-MADE ENVIRONMENTAL CONDITION.

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NFI	NAME	DEFINITION
GP119	ENTITY WEAPON ELEMENTS [Entity_Weapon_Elmts]	PROVIDES A GROUP OF ELEMENTS WHICH CHARACTERIZE ONE OR MORE ARMAMENTS AS PART OF, OR RELATED TO, THE REPORTED ENTITY.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8118/001	WEAPON STATE	IDENTIFIES THE CURRENT MISSION PHASE OR POSTURE OF AN ARMAMENT.
8118/002	WEAPON ATTACK STRATEGY	INDICATES THE METHOD, REASON, OR IMPETUS BY WHICH THE WEAPON IS ATTACKING ITS TARGET.
GP120	AIMPOINT	INDICATES THE POLAR GEO-LOCATION OR POINT IN SPACE AT WHICH A WEAPON IS DIRECTED, TARGETED, AND/OR INTENDED TO FUZE.
CP160	TIME TO FUZE	INDICATES THE TIME BETWEEN THE REPORTED TIME OF INTERCEPT AND THE PLANNED OR ESTIMATED DETONATION OR EXPLOSION (I.E., FUZING) OF THE ASSOCIATED OR REPORTED WEAPON.
CP161	WEAPON SELF ASSESSMENT	INDICATES AN ACCUMULATED TOTAL PERCENT PROBABILITY OF MISSION SUCCESS BASED ON ALL FACTORS KNOWN BY THE WEAPON.
1740/801	CO-LOCATED THREAT	INDICATES WHETHER A WEAPON HAS DETECTED OTHER THREAT(S) IN THE VICINITY OF ITS CURRENT TARGET.

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NFI	NAME	DEFINITION
GP120	AIMPOINT [Aimpoint]	INDICATES THE POLAR GEO-LOCATION OR POINT IN SPACE AT WHICH A WEAPON IS DIRECTED, IS TARGETED, AND/OR INTENDS TO FUZE.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP018	LOCATION	PROVIDES A POSITION EXPRESSED IN LATITUDE AND LONGITUDE.
CP022	MEASURED ALTITUDE	THE HEIGHT OF AN OBJECT AS MEASURED RADIALLY OUTWARD FROM THE EARTH AS A QUANTITY ABOVE/BELOW MEAN SEA LEVEL (MSL).

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NFI NAME  
GP121 ENTITY UNIQUE EQUIPMENT ID  
[Entity\_Unique\_Equip\_ID]

DEFINITION  
PROVIDES A GROUP OF ELEMENTS WHICH IDENTIFIES A UNIQUELY ASSIGNED NOMENCLATURE/NUMBER FOR A SPECIFIC PIECE OF EQUIPMENT THAT IS PART OF THE REPORTED ENTITY.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: GROUP

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4070/801	EQUIPMENT TYPE	THE NAME OR NOMENCLATURE ASSIGNED BY THE MANUFACTURER OR DEVELOPING ORGANIZATION.
4046/825	EQUIPMENT SERIAL NUMBER	THE SERIAL NUMBER ASSIGNED BY THE EQUIPMENT MANUFACTURER.

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NFI NAME  
GP122 MESSAGE FILTER ELEMENTS  
[Msg\_Filter\_Elmts]

DEFINITION  
PROVIDES A GROUP OF ELEMENTS WHICH SIMPLIFIES FILTERING OF CMF MESSAGES.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: GROUP

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
385/807	PROVIDER COMMUNITY	PROVIDES A RECOGNIZED COMMUNITY NAME ASSOCIATED WITH THE PRIMARY SOURCE THAT MADE THE REPORTED DATA AVAILABLE FOR AN IBS SYSTEM TO DISSEMINATE.
385/808	PROVIDER DATA CATEGORY	IDENTIFIES THE PRIMARY SENSOR/SOURCE DATA CATEGORY OF THE REPORTED MESSAGE.

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NFI NAME  
GP123 ISOLATED PERSONNEL PHYSICAL STATUS PROVIDES A GROUP OF ELEMENTS WHICH DESCRIBE THE MOBILITY AND INJURY STATE OF ISOLATED PERSONNEL OR EVACUEES.  
[Isol\_Pers\_Physical\_Stat]

DATA STANDARD USAGE: IBS STATUS:

DATA ELEMENT TYPE: GROUP

RESET ATTRIBUTE: NO

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4029/809	NUMBER OF UNINJURED AMBULATORY PERSONNEL	THE NUMBER OF REPORTED PERSONNEL WHO HAVE NOT BEEN INJURED AND ARE ABLE TO WALK.
4029/810	NUMBER OF INJURED AMBULATORY PERSONNEL	THE NUMBER OF REPORTED PERSONNEL WHO MAY BE INJURED BUT ARE ABLE TO WALK.
4029/811	NUMBER OF NON-AMBULATORY PERSONNEL	THE NUMBER OF REPORTED PERSONNEL WHO MAY BE INJURED AND ARE NOT ABLE TO WALK.

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NFI NAME GP124 LOCAL SCOPE ELEMENTS [Local_Scope_Elmts]	DEFINITION A GROUPING OF ELEMENTS CONTAINING NON-CMF DATA, WHICH IS APPENDED TO A CMF DOCUMENT AND UTILIZED STRICTLY WITHIN THE SCOPE OF LOCAL SYSTEMS(S) FOR LOCAL PROCESSING METHODS AND SUPPORT, BUT WHICH IS NEVER DISSEMINATED ONTO THE IBS ENTERPRISE.
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DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: GROUP

RESET ATTRIBUTE: NO

PATHS 4, 5 EXCLUDED

CHILD ELEMENTS:

NFI/DFI/DUI NAME GP125 LOCAL SCOPE CAPABILITY	DEFINITION/EXPLANATION A GROUPING OF ELEMENTS CONTAINING NON-CMF DATA, WHICH MAKE UP A SET OF DATA FIELDS FOR A PARTICULAR LOCAL SCOPE ELEMENTS CAPABILITY.
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NFI	NAME	DEFINITION
GP125	LOCAL SCOPE CAPABILITY [Local_Scope_Capab]	A GROUPING OF ELEMENTS CONTAINING NON-CMF DATA, WHICH MAKE UP A SET OF DATA FIELDS FOR A PARTICULAR LOCAL SCOPE ELEMENTS CAPABILITY.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4085/805	LOCAL CAPABILITY IDENTIFIER	THE IDENTIFICATION OF A PARTICULAR LOCAL SCOPE ELEMENTS CAPABILITY. THIS NUMBER IS UNIQUELY ASSIGNED TO A PARTICULAR LOCAL SCOPE ELEMENTS CAPABILITY AT ANY GIVEN TIME.
4150/816	LOCAL CAPABILITY NAME	THE NAME OF A PARTICULAR LOCAL SCOPE ELEMENTS CAPABILITY. THIS NAME IS FOR INFORMATIONAL AND/OR DISPLAY PURPOSES ONLY. A LOCAL SCOPE ELEMENTS CAPABILITY SHALL BE UNIQUELY IDENTIFIED BY THE LOCAL CAPABILITY IDENTIFIER FIELD.
CP162	LOCAL CAPABILITY FIELD	A GROUPING OF ELEMENTS, WHICH TOGETHER COMPOSE A SINGLE INSTANCE OF A LOCAL SCOPE ELEMENTS CAPABILITY FIELD. THE GROUPING CONTAINS THE ASSOCIATED FIELD NAME AND FIELD VALUE.

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NFI	NAME	DEFINITION
GP126	LOCAL CAPABILITY VALUE [Local_Capab_Value]	A GROUPING OF ELEMENTS WHICH PROVIDE EITHER A STRING, INTEGER, OR FLOAT VALUE, AND OPTIONALLY THE UNIT OF MEASURE FOR A LOCAL SCOPE ELEMENTS CAPABILITY FIELD.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: GROUP		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8111/004	LOCAL CAPABILITY STRING	THE VALUE OF A LOCAL SCOPE ELEMENTS CAPABILITY FIELD WHEN THAT FIELD IS OF TYPE STRING.
8111/005	LOCAL CAPABILITY INTEGER	THE VALUE OF A LOCAL SCOPE ELEMENTS CAPABILITY FIELD WHEN THAT FIELD IS OF TYPE INTEGER.
8111/006	LOCAL CAPABILITY FLOAT	THE VALUE OF A LOCAL SCOPE ELEMENTS CAPABILITY FIELD WHEN THAT FIELD IS OF TYPE FLOAT.
4093/819	LOCAL CAPABILITY UNIT	THE CMF PRE-DEFINED UNIT OF MEASURE FOR A LOCAL SCOPE ELEMENTS CAPABILITY FIELD.
4150/818	LOCAL CAPABILITY UNIT NAME	A UNIT OF MEASURE FOR A LOCAL SCOPE ELEMENTS CAPABILITY FIELD NOT CURRENTLY IMPLEMENTED BY CMF BUT DEFINED BY THE APPLICATION THAT PRODUCES THE LOCAL SCOPE ELEMENTS CAPABILITY DATA.

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NFI	NAME	DEFINITION
GP127	ENTITY MESSAGE DESCRIPTION ELEMENTS [Entity_Msg_Desc_Elmnts]	IDENTIFIES A GROUP OF ELEMENTS WHICH CONTAIN GENERAL INFORMATION DESCRIBING THE ENTIRE ENCOMPASSING ENTITY MESSAGE.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
GP008	DESTINATION ADDRESS	
CP170	TIME OF ENTRY DELTA	THE DELTA TIME IN SECONDS FROM THE TOI IN A SPECIFIC MESSAGE AND THE TIME THE MESSAGE ENTERED THE IBS ENTERPRISE.
CP171	TIME OF ENTRY ORIGINATOR ADDRESS	PROVIDES THE CMF ADDRESS OF THE ORIGINATING IBS ENTERPRISE NODE WHERE THE TIME OF ENTRY ELEMENTS WERE GENERATED.

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NFI	NAME	DEFINITION
GP128	BLOB TRANSFER MESSAGE [BLOB_Xfer_Msg]	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE THE CAPABILITY TO DISSEMINATE DATA VIA A BLOB.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: GROUP	
	RESET ATTRIBUTE: NO	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	4046/806 MESSAGE NUMBER	A ONE-UP NUMBER ASSIGNED BY THE CMF ORIGINATOR WHICH UNIQUELY IDENTIFIES A REPORTED MESSAGE WITHIN THE RESPECTIVE MESSAGE TYPE.
	8055/002 PRODUCER MESSAGE SEQUENCE NUMBER	A ONE-UP NUMBER ASSIGNED BY THE PRODUCER TO EACH CMF MESSAGE AS IT IS REPORTED TO INDICATE THE SEQUENCE IN WHICH THE MESSAGES WERE GENERATED. ANALYSTS MAY UTILIZE PRODUCER MESSAGE SEQUENCE NUMBER VALUES TO DETERMINE IF ALL MESSAGE(S) WITHIN A SEQUENCE OF MESSAGES FROM A SPECIFIC PRODUCER WERE RECEIVED.
GP007	MESSAGE DESCRIPTION ELEMENTS	IDENTIFIES A GROUP OF ELEMENTS WHICH CONTAIN GENERAL INFORMATION DESCRIBING THE ENTIRE ENCOMPASSING MESSAGE.
GP104	URGENT INTERIM CAPABILITY (UIC) ELEMENTS	A GROUPING CONTAINING THOSE ELEMENTS WHICH MAKE UP A SET OF DATA FIELDS FOR AN URGENT INTERIM CAPABILITY (UIC).
4085/006	BLOB TYPE IDENTIFIER	THE IDENTIFICATION OF A PARTICULAR BLOB TRANSFER IMPLEMENTATION. THIS NUMBER IS UNIQUELY ASSIGNED TO AN APPROVED BLOB TRANSFER IMPLEMENTATION.
CP173	BLOB INFORMATION TIME	PROVIDES THE DATE AND TIME ASSOCIATED WITH THE BLOB DATA BEING TRANSFERRED. ALSO IDENTIFIES THE DATE AND TIME FOR WHICH THE BLOB REFERENCE LOCATION, IF REPORTED, IS VALID.
CP172	BLOB REFERENCE LOCATION	PROVIDES A REFERENCE LOCATION ASSOCIATED WITH THE BLOB DATA BEING TRANSFERRED.

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NFI      NAME  
GP128    BLOB TRANSFER MESSAGE

CHILD ELEMENTS (CONTINUED) :

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4046/837	BLOB PACKET NUMBER	INDICATES THE REPORTED BLOB PACKET NUMBER WITHIN A SEQUENCE OF RELATED BLOB PACKETS.
4046/838	BLOB TOTAL PACKETS	INDICATES THE TOTAL NUMBER OF BLOB PACKETS COMPRISING A SEQUENCE OF RELATED BLOB PACKETS.
8052/006	BLOB PACKET	PROVIDES FOR REPORTING OF BETWEEN 1 TO 2048 7-BIT ASCII CHARACTERS OF A BINARY LARGE DATA OBJECT.

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NFI NAME  
GP129 KEYING MATERIAL INFORMATION  
[KEYMAT\_Info]

DEFINITION  
PROVIDES DETAILS REGARDING COMMUNICATIONS SECURITY (COMSEC) KEYING MATERIALS.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: GROUP

RESET ATTRIBUTE: YES

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8120/001	SHORT TITLE ITEM NUMBER	UNIQUELY IDENTIFIES THE COMSEC KEYING MATERIAL THAT WAS UTILIZED TO DECRYPT THE DATA PASSED BY A DEVICE.
8120/002	SHORT TITLE EDITION	IDENTIFIES AN EDITION OF COMSEC KEYING MATERIAL IN A SERIES OF PRINTINGS OF THE SAME SHORT TITLE.
8120/003	SHORT TITLE SEGMENT	IDENTIFIES AN INCREMENT WITHIN A SPECIFIED EDITION OF THE KEYING MATERIAL SHORT TITLE.

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NFI	NAME	DEFINITION
PC001	MODE INDICATORS [Mode_Indicators]	IDENTIFIES THE MESSAGE AS BEING GENERATED IN SUPPORT OF FRIENDLY TESTS OR EXERCISES.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: PACKED		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
385/801	TEST INDICATOR	INDICATES WHETHER OR NOT THE MESSAGE IS TEST MESSAGE (I.E. CANNED OR REPLAY DATA FOR TESTING NETWORK EQUIPMENT OR SYSTEMS).
385/803	EXERCISE INDICATOR, IBS	INDICATES WHETHER OR NOT THE MESSAGE IDENTIFIES EXERCISE DATA.
1604/801	SIMULATION INDICATOR, IBS	INDICATES WHETHER THE TRACK REFERENCED IN THE MESSAGE IS A REAL OR A SIMULATED TRACK.

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NFI	NAME	DEFINITION
PC002	SIGNS OF FULL MATRIX ELEMENTS [Signs_Of_Full_Mtrx_Elmts]	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE SIGN VALUES FOR EACH OF THE COVARIANCE DATA ELEMENTS IN A FULL COVARIANCE MATRIX.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: PACKED		
RESET ATTRIBUTE: NO		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1110/801	SIGN OF COVARIANCE DATA ELEMENT 12, IBS	SIGN OF COVARIANCE DATA ELEMENT 12.
1110/802	SIGN OF COVARIANCE DATA ELEMENT 13, IBS	SIGN OF COVARIANCE DATA ELEMENT 13.
1110/803	SIGN OF COVARIANCE DATA ELEMENT 14, IBS	SIGN OF COVARIANCE DATA ELEMENT 14.
1110/804	SIGN OF COVARIANCE DATA ELEMENT 15, IBS	SIGN OF COVARIANCE DATA ELEMENT 15.
1110/805	SIGN OF COVARIANCE DATA ELEMENT 16, IBS	SIGN OF COVARIANCE DATA ELEMENT 16.
1110/806	SIGN OF COVARIANCE DATA ELEMENT 23, IBS	SIGN OF COVARIANCE DATA ELEMENT 23.
1110/807	SIGN OF COVARIANCE DATA ELEMENT 24, IBS	SIGN OF COVARIANCE DATA ELEMENT 24.
1110/808	SIGN OF COVARIANCE DATA ELEMENT 25, IBS	SIGN OF COVARIANCE DATA ELEMENT 25.
1110/809	SIGN OF COVARIANCE DATA ELEMENT 26, IBS	SIGN OF COVARIANCE DATA ELEMENT 26.
1110/810	SIGN OF COVARIANCE DATA ELEMENT 34, IBS	SIGN OF COVARIANCE DATA ELEMENT 34.
1110/811	SIGN OF COVARIANCE DATA ELEMENT 35, IBS	SIGN OF COVARIANCE DATA ELEMENT 35.

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NFI      NAME  
PC002    SIGNS OF FULL MATRIX ELEMENTS

CHILD ELEMENTS (CONTINUED):

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1110/812	SIGN OF COVARIANCE DATA ELEMENT 36, IBS	SIGN OF COVARIANCE DATA ELEMENT 36.
1110/813	SIGN OF COVARIANCE DATA ELEMENT 45, IBS	SIGN OF COVARIANCE DATA ELEMENT 45.
1110/814	SIGN OF COVARIANCE DATA ELEMENT 46, IBS	SIGN OF COVARIANCE DATA ELEMENT 46.
1110/815	SIGN OF COVARIANCE DATA ELEMENT 56, IBS	SIGN OF COVARIANCE DATA ELEMENT 56.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
PC003	FREQUENCY CAPABILITY INDICATORS [Freq_Capab_Indicators]	
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: PACKED	
	RESET ATTRIBUTE: YES	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	1203/801 FREQUENCY AGILITY INDICATOR, IBS	INDICATES THE REFERENCED Emitter IS EXHIBITING RADIO FREQUENCY AGILITY CHARACTERISTICS.
	8098/001 JAMMING INDICATOR	INDICATES WHETHER JAMMING IS PRESENT OR ABSENT.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
PC004	PR/CSAR INDICATORS [PR_CSAR_Indic]	IDENTIFIES THE SPECIFIC OPERATING CONDITIONS OF THE PERSONNEL RECOVERY/COMBAT SEARCH AND RESCUE (PR/CSAR) TRANSMITTER.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: PACKED		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4093/809	PR/CSAR SCHEDULED MESSAGE INDICATOR	INDICATES WHETHER MESSAGE WAS TRANSMITTED ON SCHEDULED/UNSCHEDULED (IMMEDIATE) BASIS.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
PC005	INTEREST INDICATORS [Interest_Indicators]	HIGHLIGHTS THE MESSAGE FOR SPECIAL CONSIDERATION, PROCESSING, OR AS HIGH PRIORITY.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: PACKED		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
354/801	FORCE TELL INDICATOR, IBS	THIS INDICATOR CAUSES TRACK/POINT DATA TO BE FORCED THROUGH CONTROLLABLE RECEIVE FILTERS.
355/801	EMERGENCY INDICATOR, IBS	INDICATES THAT THE REFERENCED UNIT OR TRACK IS IN AN EMERGENCY STATUS.
424/801	THREAT WARNING	WHEN SET, INDICATES THAT THE WEAPON SYSTEM ASSOCIATED WITH THE REPORTED ENTITY REPRESENTS A LETHAL THREAT.
4093/801	HIGH INTEREST INDICATOR	INDICATES THIS MESSAGE CONTAINS INFORMATION OF HIGH INTEREST.
4093/802	DECEPTION INDICATOR	INDICATES WHETHER ENTITY BEING REPORTED IS TAKING PART IN DECEPTION ACTIVITY.

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APPENDIX B, PART III

NFI	NAME	DEFINITION
PC006	PR/CSAR QUERY RESPONSE [PR CSAR Qry Resp]	RESPONSES TO PRE-PROGRAMMED QUERIES

DATA STANDARD USAGE: IBS

**STATUS:**

DATA ELEMENT TYPE: PACKED

RESET ATTRIBUTE: YES

## CHILD ELEMENTS:

NFI/DFI/DUI NAME

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4093/813	QUERY ENEMY NEARBY INDICATOR	INDICATES IF THE ENEMY IS NEARBY.
4093/814	QUERY ARE YOU HURT INDICATOR	INDICATES IF THE PERSONNEL IS HURT.
4093/815	QUERY WILL YOU MOVE INDICATOR	INDICATES IF THE PERSONNEL WILL MOVE.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
PC007	RADIO INDICATORS [Radio_Indic]	IDENTIFIES THE SPECIFIC OPERATING CONDITIONS OF THE REPORTED TRANSMITTING RADIO.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: PACKED		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4093/810	ZEROIZED INDICATOR	INDICATES WHETHER THE REFERENCED COMBAT RADIO IS OPERATING ON A NON-ZEROIZED (NORMAL) OR ZEROIZED ENCRYPTION KEY.
4093/811	ENCRYPTION INDICATOR	INDICATES WHETHER THE RADIO IS OPERATING ON CURRENT OR PREVIOUS ENCRYPTION KEY.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
PC008	MANAGEMENT MODE INDICATORS [Mgt_Mode_Indicators]	IDENTIFIES A GROUP OF ELEMENTS SPECIFYING THE CONTENT OR METHODS BY WHICH TO UTILIZE OR INTERPRET A DATA MANAGEMENT MESSAGE.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: PACKED		
RESET ATTRIBUTE: YES		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4093/816	REMOTE MANAGEMENT INDICATOR	INDICATES IF A DATA MANAGEMENT MESSAGE IS AN ACTION BEING TAKEN BY A REMOTE IBS UNIT UPON AN ENTITY FOR WHICH A DIFFERENT IBS UNIT HAS REPORTING RESPONSIBILITY (I.E. A REMOTE ACTION RATHER THAN A LOCAL ACTION).

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APPENDIX B, PART II

NFI	NAME	DEFINITION
PC009	SENSOR NAVIGATION STATUS [Sensr_Nav_Status]	INDICATES THE STATUS OF POTENTIAL GUIDANCE/NAVIGATION MECHANISMS OR SYSTEMS USED BY THE SENSOR(S) PROVIDING THE ENTITY INFORMATION.
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: PACKED	
	RESET ATTRIBUTE: YES	
	CHILD ELEMENTS:	
	NFI/DFI/DUI NAME	DEFINITION/EXPLANATION
	1665/801 GPS POSITIONING SYSTEM NAVIGATION STATUS	INDICATES THE TRACKING STATUS OF A GPS-BASED GUIDANCE/NAVIGATION MECHANISM OR SYSTEM POTENTIALLY USED BY THE SENSOR(S) PROVIDING THE ENTITY INFORMATION.
	1665/802 MILLIMETER WAVE NAVIGATION STATUS	INDICATES THE TRACKING STATUS OF A MMW-BASED GUIDANCE/NAVIGATION MECHANISM OR SYSTEM POTENTIALLY USED BY THE SENSOR(S) PROVIDING THE ENTITY INFORMATION.
	1665/803 IMAGING INFRARED NAVIGATION STATUS	INDICATES THE TRACKING STATUS OF AN IIR-BASED GUIDANCE/NAVIGATION MECHANISM OR SYSTEM POTENTIALLY USED BY THE SENSOR(S) PROVIDING THE ENTITY INFORMATION.
	1665/804 ANTI-RADIATION HOMING NAVIGATION STATUS	INDICATES THE TRACKING STATUS OF AN ARH-BASED GUIDANCE/NAVIGATION MECHANISM OR SYSTEM POTENTIALLY USED BY THE SENSOR(S) PROVIDING THE ENTITY INFORMATION.
	1665/805 LASER NAVIGATION STATUS	INDICATES THE TRACKING STATUS OF A LASER-BASED GUIDANCE/NAVIGATION MECHANISM OR SYSTEM POTENTIALLY USED BY THE SENSOR(S) PROVIDING THE ENTITY INFORMATION.
	1665/806 INERTIAL NAVIGATION SYSTEM NAVIGATION STATUS	INDICATES THE TRACKING STATUS OF AN INS-BASED GUIDANCE/NAVIGATION MECHANISM OR SYSTEM POTENTIALLY USED BY THE SENSOR(S) PROVIDING THE ENTITY INFORMATION.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
RP001	MULTIPLE FREQUENCIES [Mult_Freq]	MULTIPLE FREQUENCY VALUES REPORTED IN ORDER OF OCCURRENCE.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: REPETITIVE		
RESET ATTRIBUTE: YES		
MINIMUM ITERATIONS: 1		
MAXIMUM ITERATIONS: 62		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
417/801	FREQUENCY	MEASUREMENT BETWEEN REPETITIVE PATTERNS OF A WAVEFORM.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
RP002	MULTIPLE FREQUENCY RANGES [Mult_Freq_Rngs]	MULTIPLE FREQUENCY RANGE VALUES.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: REPETITIVE		
RESET ATTRIBUTE: YES		
MINIMUM ITERATIONS: 1		
MAXIMUM ITERATIONS: 31		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP050	FREQUENCY RANGE	THE LOWER AND UPPER FREQUENCY LIMITS THE EMITTER IS UTILIZING.

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NFI      NAME  
RP005    MULTIPLE PRFS  
              [Mult\_PRFs]

DEFINITION  
MULTIPLE PRF VALUES REPORTED IN ORDER OF OCCURRENCE (ALSO KNOWN AS  
"FIRING ORDER").

DATA STANDARD USAGE:     IBS

STATUS:

DATA ELEMENT TYPE: REPETITIVE

RESET ATTRIBUTE: YES

MINIMUM ITERATIONS: 1

MAXIMUM ITERATIONS: 256

CHILD ELEMENTS:

NFI/DFI/DUI    NAME

DEFINITION/EXPLANATION

440/801    PRF

THE RATE AT WHICH PULSES OR PULSE GROUPS ARE  
TRANSMITTED.

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NFI	NAME	DEFINITION
RP006	MULTIPLE PRF RANGES [Mult_PRF_Rngs]	
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: REPETITIVE		
RESET ATTRIBUTE: YES		
MINIMUM ITERATIONS: 1		
MAXIMUM ITERATIONS: 31		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP054	PRF RANGE	REPORTS A RANGE OF PULSE REPETITION FREQUENCIES (PRF), WITH THE FIRST PRF IN THE COMPOSITE BEING THE LOWEST AND THE SECOND BEING THE HIGHEST.

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NFI	NAME	DEFINITION
RP007	MULTIPLE PRIS [Mult_PRIs]	MULTIPLE PRI VALUES REPORTED IN ORDER OF OCCURRENCE (ALSO KNOWN AS "FIRING ORDER").
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: REPETITIVE		
RESET ATTRIBUTE: YES		
MINIMUM ITERATIONS: 1		
MAXIMUM ITERATIONS: 256		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
1903/806	PRI	THE MEASURED TIME INTERVAL BETWEEN TWO TRANSMITTED PULSES OR PULSE GROUPS.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
RP008	MULTIPLE PRI RANGES [Mult_PRI_Rngs]	
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: REPETITIVE	
	RESET ATTRIBUTE: YES	
	MINIMUM ITERATIONS: 1	
	MAXIMUM ITERATIONS: 31	
	CHILD ELEMENTS:	
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP055	PRI RANGE	REPORTS A RANGE OF PULSE REPETITION INTERVALS (PRI), WITH THE FIRST PRI IN THE COMPOSITE BEING THE LOWEST AND THE SECOND BEING THE HIGHEST.

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NFI	NAME	DEFINITION
RP013	LANGUAGE ID LIST [Language_ID_List]	
	DATA STANDARD USAGE: IBS	STATUS:
	DATA ELEMENT TYPE: REPETITIVE	
	RESET ATTRIBUTE: YES	
	MINIMUM ITERATIONS: 1	
	MAXIMUM ITERATIONS: 10	
	CHILD ELEMENTS:	
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
4148/801	LANGUAGE IDENTIFIER, IBS	A CODE WHICH IDENTIFIES THE LANGUAGE(S) IN WHICH AN INDIVIDUAL IS PROFICIENT.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
RP015	TDOA SET [TDOA_Set]	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE ONE OR TWO TIME DIFFERENCE OF ARRIVAL (TDOA) MEASUREMENTS WHERE EACH TDOA IS THE CALCULATED DELTA TIME DIFFERENCE BETWEEN A PAIR OF PULSE TIME OF ARRIVAL (TOA) MEASUREMENTS, ONE EACH, BETWEEN THE IDENTIFIED REFERENCE (I.E. SENSOR 1) AND DIFFERENCE (I.E. SENSOR 2) PULSE TRAINS.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: REPETITIVE		
RESET ATTRIBUTE: NO		
MINIMUM ITERATIONS: 1		
MAXIMUM ITERATIONS: UNLIMITED		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP057	DELTA TIME SET	IDENTIFIES A PAIR OF TIME VALUES WITH AN ASSOCIATED SEQUENCING NUMBER WHICH MAY BE GROUPED TOGETHER WITH OTHER DELTA TIME SETS TO DESCRIBE A SEQUENCE OF INTERCEPTS (SUCH AS A SERIES OF PULSES) OR A GROUP OF TIME INCREMENTS (SUCH AS TIME DIFFERENCES).

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APPENDIX B, PART II

NFI	NAME	DEFINITION
RP016	TDOA RATE OF CHANGE SET [TDOA_Rate_Of_Chg_Set]	IDENTIFIES A GROUP OF ELEMENTS WHICH PROVIDE ONE OR TWO TIME DIFFERENCE OF ARRIVAL (TDOA) RATE OF CHANGE MEASUREMENTS WHERE EACH TDOA RATE OF CHANGE IS THE CALCULATED DERIVATIVE (I.E. ACCELERATION DELTA OF TIME) FOR AN ASSOCIATED TDOA VALUE.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: REPETITIVE		
RESET ATTRIBUTE: NO		
MINIMUM ITERATIONS: 1		
MAXIMUM ITERATIONS: UNLIMITED		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
CP057	DELTA TIME SET	IDENTIFIES A PAIR OF TIME VALUES WITH AN ASSOCIATED SEQUENCING NUMBER WHICH MAY BE GROUPED TOGETHER WITH OTHER DELTA TIME SETS TO DESCRIBE A SEQUENCE OF INTERCEPTS (SUCH AS A SERIES OF PULSES) OR A GROUP OF TIME INCREMENTS (SUCH AS TIME DIFFERENCES).

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NFI NAME  
RP018 ALGORITHM FLOAT VALUE SET  
[Alg\_Float\_Value\_Set] DEFINITION  
FLOAT VALUE UTILIZED BY A COLLABORATIVE ALGORITHM.

DATA STANDARD USAGE: IBS STATUS:

DATA ELEMENT TYPE: REPETITIVE

RESET ATTRIBUTE: NO

MINIMUM ITERATIONS: 1

MAXIMUM ITERATIONS: 9999

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8100/001	ALGORITHM FLOAT VALUE	THE ALGORITHM FLOAT VALUE.

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APPENDIX B, PART II

NFI	NAME	DEFINITION
RP019	ALGORITHM TEXT VALUE SET [Alg_Txt_Value_Set]	TEXT VALUE UTILIZED BY A COLLABORATIVE ALGORITHM.
DATA STANDARD USAGE: IBS		STATUS:
DATA ELEMENT TYPE: REPETITIVE		
RESET ATTRIBUTE: NO		
MINIMUM ITERATIONS: 1		
MAXIMUM ITERATIONS: 9999		
CHILD ELEMENTS:		
NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8100/002	ALGORITHM TEXT VALUE	THE ALGORITHM TEXT VALUE.

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APPENDIX B, PART II

NFI NAME  
RP020 CHIP SEQUENCE  
[Chip\_Seq]

DEFINITION  
IDENTIFIES A SERIES OF RF PHASE REVERSALS.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: REPETITIVE

RESET ATTRIBUTE: NO

MINIMUM ITERATIONS: 1

MAXIMUM ITERATIONS: 29

CHILD ELEMENTS:

NFI/DFI/DUI NAME

DEFINITION/EXPLANATION

8109/001 SEVEN BIT MAP

SERIES OF SEVEN BITS USEFUL FOR VARIETY OF BIT-BASED  
DATA TO BE READ FROM LEFT-TO-RIGHT. HANDLED AS AN  
INTEGER BY READING 7-BITS AS A DECIMAL VALUE.

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APPENDIX B, PART II

NFI NAME  
RP021 VESSEL UPRIGHT SEQUENCE  
[Vessel\_Upright\_Seq]

DEFINITION  
SEQUENCE OF UPRIGHT STRUCTURES ABOARD A VESSEL STARTING AT THE BOW  
AND ENDING AT THE STERN.

DATA STANDARD USAGE: IBS

STATUS:

DATA ELEMENT TYPE: REPETITIVE

RESET ATTRIBUTE: NO

MINIMUM ITERATIONS: 1

MAXIMUM ITERATIONS: 10

CHILD ELEMENTS:

NFI/DFI/DUI	NAME	DEFINITION/EXPLANATION
8102/003	UPRIGHT STRUCTURE NAME	NAME OF AN UPRIGHT STRUCTURE ABOARD A VESSEL.

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15 December 2017

# DEPARTMENT OF DEFENSE INTERFACE STANDARD

## INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) STANDARD

### APPENDIX C – ELEMENT NAME AND ENUMERATION ABBREVIATIONS



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APPENDIX C

## CMF ELEMENT NAME AND ENUMERATION ABBREVIATIONS

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APPENDIX C

C.1 CMF ABBREVIATION OVERVIEW

C.1.1 It is the intent that the XML compatible version of CMF, i.e., CMF-X, is as human readable as possible with limited need for manipulation or external reference materials. On the other hand, there must remain a balance of readability versus efficient data storage and transfer (i.e., abbreviated CMF-X tags save bandwidth). A slight emphasis must be put on flexibility since, in the long-term, lack of flexibility costs more bandwidth than most short-term savings.

C.1.2 In the interest of achieving an optimum balance for CMF, a pre-approved list of abbreviations and acronyms is provided for use in naming CMF elements and defining the textual portion of the values for enumerated elements. This appendix provides guidelines for both determining and utilizing acceptable abbreviations and acronyms, hereafter to be identified as abbreviations. This appendix also provides the list of abbreviations approved by CMF governing bodies.

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## APPENDIX C

C.2 CMF ABBREVIATION AND NAMING GUIDELINESTable C.2-1 CMF Abbreviation and Naming Guidelines

(Sheet 1 of 3)

GUIDELINE	REASONING
Data shall be organized by physical, preferably natural physics, rather than functional or other associations. This also determines naming and re-usability of an element.	Truly physical attributes and relationships seldom if ever change in comparison to situationally dependent functional or temporal associations.
Use generic descriptions where possible for physical objects.	Facilitates interoperability because when one generic description can describe multiple physical objects then once the basic template exists, other similar objects are interpretable with only minor exceptions for specific object or situation unique attributes.
Element names should normally be composed in a noun form preceded by one or more adjectives and/or preceding an adjective phrase.	Data is organized by physical properties and is thus named as physical entities even when those entities are as simple as an indicator or identifier.
Determining the need for an adjective and selecting accurate adjectives is critical to flexibility.	The presence of an adjective affects the generality of the element. Likewise, the selection of an accurate adjective both affects the breadth of the element and can limit misinterpretation of the element's definition.

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Table C.2-1 CMF Abbreviation and Naming Guidelines

(Sheet 2 of 3)

GUIDELINE	REASONING
Balance bandwidth versus readability of CMF-X with emphasis on readability.	CMF-X is an XML implementation intended to be human-readable with limited, if any, bandwidth concern. This is tempered slightly for CMF in general and is contrary to the guideline for CMF-B.
Abbreviations shall only be utilized in a specific element or enumeration name, if within the context of that name; they are readily interpreted by a typical person with minimal DoD experience.	Abbreviations shall be biased towards readability.  (Consequently, it is important to recognize that many element names may not use abbreviations even though they are available.)
One and only one abbreviation shall exist for any one word in the abbreviation list.	Abbreviations shall be biased towards readability. Obvious translation confusion and electronic searching difficulties would exist if a word could have more than one possible abbreviation.
One and only one word shall be associated with any one abbreviation with the exception that forms or variants of a word may share an abbreviation if they would be distinguishable in most contexts.	Abbreviations shall be biased towards readability.

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## APPENDIX C

Table C.2-1 CMF Abbreviation and Naming Guidelines

(Sheet 3 of 3)

GUIDELINE	REASONING
<p>Acronyms shall be approved for the abbreviation list only if they are both typical acronyms in the DoD community and are readily recognized by a typical person with minimal DoD experience. (Acronyms shall be fully capitalized.)</p> <p>Note: Acronyms listed in <a href="#">Table 3.1-1</a> should be used to the greatest extent possible and will also be listed in <a href="#">Table C.2-2</a>. There may be some cases where changes in terminology make an acronym obsolete. However, once assigned to a data element name, they cannot be easily changed. In this case, the acronym will remain in <a href="#">Table C.2-2</a> but removed from <a href="#">Table 3.1-1</a>.</p>	Abbreviations shall be biased towards readability. Acronyms are especially at risk of misinterpretation due to their typical lack of context but also have the highest space savings. If they are readily recognized, they may provide the least misinterpretation.

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C.2.1 APPROVED CMF ABBREVIATIONS

The following table provides a listing of the abbreviations approved for use in CMF element names and enumerated values. These values should also be used in CMF mnemonics definitions, but their use is less restrictive than for data element names and enumerated values. See [Section 4.3.3.6](#) for mnemonics definition guidelines.

Table C.2-2 Approved CMF Abbreviations Listing

(Sheet 1 of 8)

CMF Word	CMF Abbreviation
Accuracy	Accy
Acknowledge/ Acknowledgement	Ack
Activity	Actvy
Address	Addr
Advisory	Adv
Agility	Agil
Air Defense District	ADD
Aircraft	Acft
Alaskan	AK
Algorithm Development of Enhanced Processing Techniques	ADEPT
Altitude	Alt
Ambulatory	Ambulat
American, America	Amer
Amplification	Ampn
Anti-Radiation Homing	ARH
Approximate	Approx
Arbitrary ELINT Notation	AEN
Assessment	Assmt
Athletic	Athltc
Attack	Attk
Attitude	Attud
Authenticated	Authent
Average	Avg
Basic Encyclopedia	BE
Binary Large OBject	BLOB
Bits Per Second	BPS
Black	Blk
Blonde	Blnd
Blue	Blu
Blue Force Tracking	BFT

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Table C.2-2 Approved CMF Abbreviations Listing

(Sheet 2 of 8)

<b>CMF Word</b>	<b>CMF Abbreviation</b>
Brevity	Brev
Brown	Brwn
Brunette	Brunet
Capability	Capab
Category	Categ
Caucasian	Caucsn
Chaining	Chain
Change	Chg
Channel	Chnl
Channels	Chnls
Characteristics	Char
Collaboration	Collab
Collection	Collect
Collection of Broadcasts from Remote Assets	COBRA
Combat Identification	CID
Combat Search and Rescue	CSAR
Combat Survivor Evader Locator	CSEL
Common Interactive Broadcast	CIB
Communications	Comms
Communications Emitter Notation	CENOT
Confidence	Conf
Confidential	Confdtl
Confirmed	Confirm
Continuous Wave	CW
Cooperative	Coop
Coordinated, Coordinate	Coord
Correlation, Correlate	Corr
Correlation Index	CI
Count	Cnt
Course	Crs
Cov, Covariance	Covar
Coverage	Covrg
Crossings	Xings
CSEL Group Identification	CGI
Damage	Dmg
Deception	Decept
Description	Desc
Destination	Dest

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Table C.2-2 Approved CMF Abbreviations Listing

(Sheet 3 of 8)

<b>CMF Word</b>	<b>CMF Abbreviation</b>
Dimensional	Dimensnl
Direction, Directional	Direct
Duplicate	Duplic
Duration	Dur
Element	Elmt
Elements	Elmts
Elevation	Elev
ELINT Notation	ELNOT
Ellipse	Ellip
Elliptical	Ellptcal
Emergency	Emerg
Emitter	Emtr
Emitter Location Data	ELD
Encryption	Encryp
Engagement	Engage
Environment	Envir
Equipment	Equip
Error	Err
Evaluation	Eval
Exercise	Exer
External Signal Parametrics	ESP
Finder	Find
Foreign Instrumentation Signals (FIS) Notation	FISNOT
Format	Fmt
Frequency	Freq
Frequency Modulation Frequency Shift Keyed	FMFSK
Function	Func
General	Genrl
Geometric	Geom
Global Positioning System	GPS
Green	Grn
Ground	Gnd
Group	Grp
Guard	Grd
Hand Held Radio	HHR
Hazel	Hazl
Heading	Hdg
Height	Ht
Hertz	Hz

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Table C.2-2 Approved CMF Abbreviations Listing

(Sheet 4 of 8)

<b>CMF Word</b>	<b>CMF Abbreviation</b>
High	Hi
Hispanic	Hispanc
Hopper	Hopr
Horizontal	Horiz
Identification, Identifier, etc.	ID
Identification Friend or Foe	IFF
Improbable	Improb
Inactive	Inactv
Index	Indx
Indicator	Indic
Individual	Indiv
Inertial Navigation System	INS
Inferred	Infer
Information	Info
Infrared	IR
Injured/Injury	Injur
Intercept	Intcp
Intermediate	Intermed
International	Internat
Interval	Intvl
Isolated	Isol
Jamming	Jam
Joint	Jnt
Keying Material	KEYMAT
Label	Lbl
Large	Lrg
Latitude	Lat
Length	Len
Light	Lght
Line Of Bearing	LOB
Lines of Communication	LOC
Location	Loc
Longitude	Long
Low	Lo
Low Probability of Exploitation	LPE
Major	Maj
Management	Mgt
Maneuver, Maneuvering	Maneuver

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Table C.2-2 Approved CMF Abbreviations Listing

(Sheet 5 of 8)

<b>CMF Word</b>	<b>CMF Abbreviation</b>
Maritime Mobile Service Identity	MMSI
Matrix	Mtrx
Maximum	Max
Measure	Meas
Medium	Med
Message	Msg
Minor	Min
Missile	Missl
Mission	Msn
Modernized Integrated Database	MIDB
Modulation	Modulat
Multiple	Mult
Narrowband	NB
Nationality	Nat
Navigation	Nav
Near Real Time Order of Battle	NRTOB
Nomination, Nominated	Nomin
Northeast	NE
Northwest	NW
Network	Ntwk
Number	Num
Object	Obj
Observation	Observ
Operation, Operational	Oper
Operations	Ops
Order Of Battle	OB
Organization	Org
Orientation	Orient
Originator, Origin, Original	Orig
Other	Othr
Pacific	Pac
Package	Pkg
Packet	Pkt
Participating Unit	PU
Pending	Pend
Percent	Pct
Person/Personnel	Pers
Personnel Recovery	PR

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Table C.2-2 Approved CMF Abbreviations Listing

(Sheet 6 of 8)

<b>CMF Word</b>	<b>CMF Abbreviation</b>
Place Identification Number	PIN
Platform	Plat
Possible	Posbl
Power	Pwr
Present	Prsnt
Probable	Prbabl
Promoted	Promtd
Pulse Width	PW
Pulsed	Pulse
Quality	Qual
Query	Qry
RADAR	Rdr
Range	Rng
Ranges	Rngs
Real Time	RT
Reception	Rcptn
Rectangular, Rectangle	Rectng
Reference	Ref
Relationship	Relatshp
Reliability	Reliab
Report	Rpt
Reporting Responsibility	R2
Reporting Unit	RU
Request	Rqst
Reserve	Rsv
Resolution	Resol
Review	Rvw
Right	Rght
Scheduled	Sched
Segment	Sgmt
Self	Slf
Sensor	Sensr
Sequence	Seq
Sequential Contact Number	SCN
Ship Control Number	SCONUM
Shoulder	Shldr
Signal of Interest	SOI
Simulation	Simul
Size	Sz
Source	Src
Southeast	SE

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Table C.2-2 Approved CMF Abbreviations Listing

(Sheet 7 of 8)

<b>CMF Word</b>	<b>CMF Abbreviation</b>
Southwest	SW
Special	SPECL
Special Identification Feature	SIF
Speed	Spd
Spreader	Spread
Square	Sq
Stability	Stab
Stagger	Stag
Standard	Std
Status	Stat
Strawberry	Strwbry
Strength	Strgth
Subject	Subj
Submatrix	Submtrx
Suffix	Sfx
Surface	Srfc
Switch, Switching	Swch
System	Sys
Tactical Receive Segment	TRS
Target	Tgt
Text	Txt
Theater Event System	TES
Threat	Thrt
Three Dimensional	3D
Time Difference Of Arrival	TDOA
Time of Entry	TOE
Time of Intercept	TOI
Track	Trk
Track Quality	TQ
Tracking	Trkng
Trajectory	Traj
Transfer	Xfer
Transmission, Transmitter	Xmit
Two Dimensional	2D
Type	Typ
Ultra Wideband	UWB
Unattended Ground Sensor	UGS
Unclassified	Unclass
Unconfirmed	Unconfirm
Uncorrelate	Uncorrel

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Table C.2-2 Approved CMF Abbreviations Listing

(Sheet 8 of 8)

<b>CMF Word</b>	<b>CMF Abbreviation</b>
Uniform Resource Locator	URL
Uninjured	Uninjur
Unit Reference Number	URN
Unknown	Unk
Unspecified	Unspecfd
Update	Upd
Urgent Interim Capability	UIC
Velocity	Vel
Version	Vers
Vertical	Vert
Voice Grade	VG
Warning	Warn
Wartime	War
Waveform	Wvfrm
Weapon	Wpn
White	Wht
Wideband	WB
Working	Wrkng
Wrapped	Wrap
Year	Yr

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15 December 2017**

# **DEPARTMENT OF DEFENSE INTERFACE STANDARD**

## **INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) STANDARD**

### **APPENDIX D – DATA SPECIFICATION**



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APPENDIX D

## D.1 DATA SPECIFICATION

### D.1.1 GENERAL OVERVIEW

D.1.1.1 This appendix describes the Integrated Broadcast Service (IBS) Common Message Format (CMF). CMF is a highly extensible format to be used for the exchange of near-real-time tactical information over existing and new line-of-sight, satellite, and terrestrial networks. Narrowband networks with extremely limited bandwidth and wideband networks with significant bandwidth are both specifically supported.

D.1.1.2 This appendix provides an explanation of the structure, construction, data conventions, and maintenance procedures followed to utilize the CMF. This document assumes the reader is familiar with the commercial XML standard (see Section 2, item 2.4.1) including standard notations, structures, and usage for both DTD files and XML documents.

D.1.1.3 An additional document is available to aid software developers with incorporation of the IBS CMF Parser Library software (i.e., primarily the Presentation layer in an Open Systems Interconnection (OSI) model) into their application software. The document is entitled CMF Parser Library Developer's Guide (PLDG).

D.1.1.3.1 Definition of the protocols used to transfer data to radio or network equipment is not provided in this document. Radio and network interfacing information (i.e., primarily the Network, Transport, Datalink, and Physical layers in an OSI model) is found in separate documents applicable to the respective equipment and/or network.

D.1.1.3.2 **IMPORTANT:** A complete review, understanding, and adherence to the rules, formats, and protocols provided in the CMF documentation by all IBS network participants is critical to the

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## APPENDIX D

operation of the IBS networks. ANY question in interpretation or intent should be addressed to the IBS community and resolved PRIOR to any implementation.

**D.1.2 CMF CONCEPT**

D.1.2.1 CMF provides fully extensible data types and flexible data structures to meet current and future tactical information requirements. An implementation of the commercial standard Extensible Markup Language (XML) Document Type Definition (DTD) provides the basic data structure for CMF. By retaining DTD compatibility with the XML standard, commercially available tools can be used to create and maintain the DTD.

D.1.2.2 The DTD contains the implementation framework for the data elements and their tags, attributes, and structure to be found in an IBS data stream. Generic parsing software, which contains no hard coded data information, uses the DTD to identify and parse data elements from the data stream. The contents of the DTD shall be based upon, and shall be compliant with the data element names, ranges, and definitions found in this document, primarily the IBS DED ([Appendix B](#)), CMF Binary Tag Assignments ([Appendix E](#)), and the content models as denoted throughout [Section 5](#).

D.1.2.3 Normally IBS data elements are grouped into messages that describe one or more entities, define an identifiable function, or describe an object. The basic structure and representations of CMF do not directly identify messages, but messages may be defined within the data elements by the implementation of message identification elements in the DTD.

D.1.2.4 CMF provides two transmission representation types to support the narrowband and wideband mediums, respectively (see [Table D.1.2-1](#)). CMF-B is an IBS custom, binary derivation of the XML tag-

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based standard to be utilized primarily on low bandwidth networks (e.g., the IBS Interactive channel). Special attributes, rules, and parsing software exist for the CMF-B derivative of XML. CMF-X is a "well-formed" and "valid" implementation of the XML commercial standard to be utilized primarily on mid to high bandwidth networks due to its fully character-based implementation. The CMF-X, being a true XML implementation, supports the use of commercially available tools (e.g., web browsers) for CMF-X parsing, databasing, and display. When used with the *CMF Header*, a packet of CMF has two root elements (CMF\_Hdr and CMF\_Doc) which shall be separate but related documents. In order to use standard XML tools on the pairings of separate but related header and data documents, any (transport) header such as the *CMF Header* will need to be removed first.

D.1.2.5 CMF thus is a single format with a single set of data elements and attributes, but with two possible ways to represent the data. Since the two representations are 100% compatible, transferring data from one representation to the other does not affect data values, units, ranges, or accuracies. The more efficient CMF-B representation should be utilized for high throughput and bandwidth restricted mediums, with full compatibility after transfer to or from CMF-X which supports the use of standard commercial XML tools. The appropriate CMF schema and XML processing method shall be utilized according to the format type as identified in [Table D.1.2-1](#).

Table D.1.2-1 CMF to Network Matrix

TRANSMISSION MEDIUM	FORMAT TYPE	USES DTD OR SCHEMA	USES STANDARD XML PARSING
Limited or Low Bandwidth (e.g., CIB Channel)	CMF-B	DTD	No
Networks (e.g., SIPRNET)	CMF-B	DTD	No
Networks (e.g., SIPRNET)	CMF-X	DTD or XML Schema	Yes

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D.1.2.6 Note that CMF-B is not limited to only the narrowband, but may also be useful to maximize bandwidth usage on higher bandwidth mediums (e.g. IBS dedicated Enterprise paths). Likewise, CMF-X could be utilized as a broadcast representation given adequate broadcast bandwidth.

### D.1.3 DOCUMENT ORGANIZATION

D.1.3.1 This appendix is divided into two major sections.

Section D.2 describes the CMF data structures and construction rules.

Section D.3 describes the Document Type Definition (DTD) notation conventions and maintenance rules.

D.1.3.2 To aid in understanding this appendix, artifacts comprising a hypothetical scenario called "Package Delivery System" are provided. These artifacts include an example DTD (see section D.5.1) and examples of each of the two CMF representation types (i.e., CMF-B and CMF-X) using the DTD (see section D.6).

### D.2 COMMON MESSAGE FORMAT (CMF) DESIGN

D.2.1 The Common Message Format is a data structure that allows flexibility and extensibility in the creation and maintenance of IBS messages and data fields. It can be used for both simplex dissemination-only networks and for producer and consumer interactive networks.

D.2.2 CMF-X shall conform to standard XML rules and therefore shall be "well-formed." CMF-X shall be defined by a DTD, and validates against a DTD, and therefore shall be "a valid document." By definition, the XML standard, and therefore CMF-X, is totally character based and is thus a human readable data representation. CMF-X shall utilize XML standard tagging and attribute rules. In addition to standard XML rules, there are some limitations on CMF-X

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provided herein. Any such limitations are in order to maintain translation coherency with CMF-B and sustain only permissible IBS data values. Producers of CMF shall include the XML Prolog in any CMF data.

D.2.3 CMF-B is a binary representation derived from the XML tag-based standard. CMF-B is defined by the same DTD, but only conforms to a subset of the standard XML rules and cannot be validated against the DTD using XML standard tools. The CMF-B format is binary and is not readily human readable.

D.2.4 All elements of standard XML are identified by a unique element start tag and a similar end tag. XML elements can also have attributes which further describe the element and/or its content. Basic XML structure includes an element tag before every element. CMF-X follows this construct providing standard character named element tags. CMF-X also provides end tags after the element (and any nested elements) in accordance with standard XML structure.

D.2.5 In contrast, CMF-B provides the start tag for elements but rather than passing it as a string of characters, CMF-B provides the tag as a numeric positive integer value to conserve bandwidth. In CMF-B there are also numerous exceptions to providing a tag for every field. The avoidance of tags is also in order to save bandwidth. CMF-B never provides an end tag because it utilizes self-defining field terminators in combination with group lengths to perform the same function more efficiently.

**D.2.6 CMF DATA REPRESENTATIONS**

D.2.6.1 CMF data values shall be passed using six possible data representations: INTEGER, ENUMERATED, FLOAT, STRING, PATTERN, and PACKED COMPONENT. CMF numerical values shall not contain comma separators. Data values shall be represented in CMF-X and CMF-B as summarized in [Table D.2.6-1](#) and detailed in the following paragraphs.

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Table D.2.6-1 Data Representation Summary

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DATA TYPE	CMF-X	CMF-B
INTEGER	<p>Passed as a non-decimal number in the form of numerical ASCII digit characters only (i.e., each digit in range 0-9 and no negative numbers allowed).</p> <p>Optionally, a unit attribute may be present and an indicator may be present to indicate less than or greater than the lower or upper range, respectively.</p> <p>Refer to <a href="#">section D.2.6.2.4</a> for details.</p>	<p>Passed as a binary positive integer value (see <a href="#">section D.2.6.3.2</a>).</p>
ENUMERATED	<p>Passed as a character string representing enumerated string values as defined (see <a href="#">section D.2.6.2.8</a>).</p>	<p>Passed as a binary positive integer value representing the number assigned to the selected enumerated string (see <a href="#">section D.2.6.2.8</a>).</p>

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Table D.2.6-1 Data Representation Summary

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DATA TYPE	CMF-X	CMF-B
FLOAT	<p>Passed as an ASCII character string representation of a float value. The float value is expressed in a scientific notation form with optional unit indicator and accuracy value. Float values and accuracies may also indicate in an attribute that they represent a "less than" or "greater than" value. (see <a href="#">section D.2.6.2.9</a>)</p>	<p>Passed as a combination of CMF binary integers and special types of binary integers. The integers indicate the mantissa and exponent of a float value in scientific notation form along with an optional unit indicator and an optional accuracy value in scientific notation format. The value and accuracy may also be indicated to be a "less than" or "greater than" value. (see <a href="#">section D.2.6.3.4</a>)</p>
STRING	<p>Passed as a standard XML string of characters (see <a href="#">section D.2.6.2.10</a>).</p>	<p>Passed as a series of 7-bit ASCII characters which are self defining for length (see <a href="#">section D.2.6.3.5</a>).</p>
PATTERN	<p>Passed as the character representation of all components of the pattern (see <a href="#">section D.2.6.2.11</a>).</p>	<p>Passed as one or more series of 7-bit ASCII characters which are self defining for length and/or as one or more binary positive integer values (see <a href="#">section D.2.6.3.6</a>).</p>

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Table D.2.6-1 Data Representation Summary

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DATA TYPE	CMF-X	CMF-B
PACKED COMPONENT	Passed as the character representation of the current state of a two-state value (e.g., "On", "Off", "Enabled", "Disabled", etc.). (see <a href="#">section D.2.6.2.12</a> )	Passed with other PACKED COMPONENTs in one or more PACKED element bytes. PACKED COMPONENTs use two-bits each to indicate one of four possible states. The four possible states are the two value states plus the no-change/default and reset states (see <a href="#">sections D.2.6.3.7</a> and <a href="#">D.2.8.9</a> ) .

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## D.2.6.2 CMF-X DATA REPRESENTATIONS

D.2.6.2.1 CMF-X data representations have the following characteristics:

- Values are fully extensible
- The length of all values is determined using end tags
- Many values have a "Reset" attribute to indicate a "Reset to No Data or Initial Value" (see [sections D.2.7.1](#) and [D.2.7.2](#)). "Reset to No Data or Initial Value" tells the recipient that any values previously sent for the particular field should be reset to the initial value or to the "No Data" state meaning (i.e., just as though data was never sent for the respective value).
- All CMF-X FIELD type data elements being transmitted shall have values unless reset.

D.2.6.2.2 The data representations used by CMF-X are as follows:

- a. Positive INTEGER
- b. ENUMERATED
- c. FLOATing Point /Signed Integer
- d. STRING
- e. PATTERN
- f. PACKED COMPONENT

D.2.6.2.3 All data representations in CMF-X shall be passed as character strings.

## D.2.6.2.4 CMF-X POSITIVE INTEGER DATA REPRESENTATION

D.2.6.2.4.1 In CMF-X, the Positive INTEGER data representation shall be passed as numerical ASCII digit characters only (i.e., each digit in range 0-9 and no negative numbers allowed). Comma separators shall not be supported in the input or output values.

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D.2.6.2.4.2 An INTEGER element may also indicate something "less than" the defined lower range of the element or something "greater than" the defined upper range of the element by inclusion of a value qualifier attribute in the CMF-X. If a "less than" qualifier is defined, the defined lower range shall not be 0. Additionally, a unit indicator attribute may be defined and, if defined, shall be present in CMF-X (see [Table D.3.3.2-1](#) and [Table D.3.3.2-2](#)).

D.2.6.2.4.3 CMF-X may likewise contain "value offset" or "value multiplier" indicator attributes defined as constant values to which the reported INTEGER value shall be added or multiplied by, respectively, to obtain the actual reported value. In the case where both "value offset" and "value multiplier" attributes are provided, the precedence for transmit is "value multiplier" then "value offset" and the reverse is true for the receiver.

D.2.6.2.5 DISUSED

D.2.6.2.6 DISUSED

D.2.6.2.7 DISUSED

D.2.6.2.8 CMF-X ENUMERATED DATA REPRESENTATION

The ENUMERATED data representation provides a way to pass a value selected from an enumerated (i.e., finite individually numbered), pre-defined list of character strings. In CMF-X, the value for an ENUMERATED data representation shall be passed using the selected character string exactly as declared and enclosed in its character-based start and end tags.

D.2.6.2.9 CMF-X FLOATING POINT/SIGNED INTEGER DATA REPRESENTATION

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D.2.6.2.9.1 The basis of the FLOATing Point/Signed Integer data representation shall be either decimal notation or scientific notation. Scientific notation shall be expressed as follows: if "x" is the mantissa and "y" is the exponent, then the value is equal to  $\pm x * 10^{\pm y}$  which is more commonly expressed as " $\pm xE\pm y$ ". Note either of the leading signs may be left off if they are positive. In CMF-X, the FLOATing Point/Signed Integer data representation shall be passed in scientific notation in the form of:

"(s1m1Es2e1)"

where s1 is the sign of the mantissa for float value,  
m1 is the mantissa of the float value,  
E is the letter "E" or "e" indicating a power of ten,  
s2 is the sign of the exponent of the value, and  
e1 is the exponent of the value.

D.2.6.2.9.2 The transmitted form of a CMF-X float string is determined by the encoding parser. Both the scientific notation and decimal forms shall be accepted by the decoding parser. Comma separators shall not be supported in the input or output values and CMF floating point representations shall not support values for infinity (INF), negative infinity (-INF), or not-a-number (NAN). An example CMF-X float string is: "-10E-1" indicating a value of minus 1.0. Alternatively, the CMF-X float value may be represented with a decimal point such as 124.75 or even as 1.2475E2.

D.2.6.2.9.3 In addition to the value itself, the float representation in CMF-X may have units or accuracy assigned or selectable. The unit value, if declared in the DTD, shall be provided in the CMF-X stream as the selected unit character string in a unit attribute of the floating point element using standard XML attribute notation. Likewise, if the accuracy attribute is declared in the DTD and an accuracy value (other than one equal to the implied accuracy of the float's value) is provided by the host (see [section D.2.6.3.4.12](#)),

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it shall be provided as an accuracy attribute of the floating point element in the form:

"(s3m2Es4e2)"

where s3 is the sign of the mantissa for the value's accuracy,

m2 is the mantissa of the value's accuracy,

E is the letter "E" or "e" indicating a power of ten,

s4 is the sign of the exponent for the accuracy, and

e2 is the exponent of the accuracy.

D.2.6.2.9.4 Note here, the "s3" leading sign may be left off if it is positive or may always be left off since the accuracy is interpreted to always be a plus or minus value. Additionally, attributes are available for float elements to indicate that the float value and/or the accuracy provided is a reported value that is actually either a "less than" or "greater than" value (see [Table D.3.3.2-1](#)). In other words, the true value is known by the data originator to be something less than or greater than the value which was reported. If either the accuracy upper or the lower range attributes are declared (or both), the associated accuracy attribute value shall inclusively fall within the range defined by the accuracy attribute values. This applies to either assigned accuracy values or implied accuracy values.

#### D.2.6.2.10 CMF-X STRING DATA REPRESENTATION

In CMF-X, the value for the STRING data representations shall be passed as a standard XML string of characters enclosed in its character-based start and end tags. Character values for a string shall be limited to 7-bit ASCII (see [Table D.2.6.3.5-1](#)).

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**D.2.6.2.11 CMF-X PATTERN DATA REPRESENTATION**

D.2.6.2.11.1 The PATTERN representation provides the ability to mix numeric and alphabetic data in a single element to represent fields having predetermined and typically complex patterns. Such mixes of data are possible with the CMF string representation, but the PATTERN representation provides control over the contents of the value and, for CMF-B, additional bandwidth efficiency not otherwise available.

D.2.6.2.11.2 In CMF-X the PATTERN representation shall be passed as the character representation of all components of the pattern where all components meet the pattern specification.

D.2.6.2.11.3 The pattern is defined in the DTD in the form:

"charcount<fieldIDs>charcount<fieldIDs>.... charcount<fieldIDs>"

where each "charcount<fieldIDs>" is one component of the pattern, "charcount" identifies how many characters are to be provided for the pattern component, and "<fieldIDs>" defines the pattern for the component using a combination of special field IDs or standard field IDs (see [Table D.2.6.2.11-1](#)).

D.2.6.2.11.4 The number of "fieldIDs" can be greater than the "charcount" in that any combination of the provided "fieldIDs" is allowed as a value for the component, but the transmitted combination shall be no more and no less than "charcount" characters.

D.2.6.2.11.5 The only nesting within a component's "fieldIDs" is provided by the "[" and "]" Special Field ID (see [Table D.2.6.2.11-1](#)). If a component has one or more of these exclusivity "fieldIDs", then those so marked shall be exclusive -- meaning only one can provide the representation for any given data instance. The total of the

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"charcount" values within each of the exclusivity "fieldIDs" shall equal the "charcount" for the enclosing component. Also, between each of a component's exclusivity "fieldIDs", both the "charcount" of each nested type representation (i.e., character or integer) and the order of the different representations shall be the same. Note the nesting of the representation within an exclusivity "fieldID" follows the same rules as the enclosing PATTERN form given above (see exclusivity "Special Field ID" in [Table D.2.6.2.11-1](#)).

D.2.6.2.11.6 For CMF-X, all components shall be sent as a standard XML string of characters. The total number of characters sent shall be the sum of all the "charcount" values (except those within exclusivity enclosures).

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Table D.2.6.2.11-1 PATTERN Field IDs

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<u>Special Field IDs</u>	<u>Standard Field IDs</u>
N = Numeric digit (integer value 0-9)	? = Question mark character
A = Alphabetic character (A-Z or a-z only)	@ = At sign character
D = Digit character (character 0-9)	~ = Tilde character
X = Alphanumeric character (A-Z, a-z, or 0-9)	! = Exclamation character
Y = Any printable 7-bit ASCII character	# = Pound character
Z = Any 7-bit ASCII character (CMF codes only)	\$ = Dollar character
S = Space character	^ = Carat character
H = Hyphen character	= Vertical Bar character
U = Underscore character	{ = Left Brace character
P = Period character	} = Right Brace character
C = Comma character	* = Asterisk character
Q = Forward Quote (single quote) character	+ = Plus sign character
B = Backward Quote (single quote) character	/ = Forward slash character
M = Marks (double quote) character	\ = Backward slash character
E = Equals sign character	:
L = Left parenthesis character	= Colon character
R = Right parenthesis character	; = Semi-colon character
O = Originate (left) Bracket	
T = Terminate (right) Bracket	
F = Fewer than character	
G = Greater than character	
J = Join (Ampersand) character	
V = Variance (Percent) character	

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Table D.2.6.2.11-1 PATTERN Field IDs

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N(m-n) = Allowable range for digits of numeric integer where "m" defines the lower numeric value range and "n" identifies the upper numeric value range. Both range values are always positive. For example (32-74).

A(A-Z) (a-z) = Allowable range of alpha characters where "A" identifies the lowest allowable uppercase alpha character, "Z" identifies the highest allowable uppercase alpha character, "a" identifies the lowest allowable lowercase alpha character, and "z" identifies the highest allowable lowercase alpha character. Note lack of the entire uppercase or lowercase range disallows the characters of uppercase or lowercase, respectively. For example A(M-R) or A(m-r) or A(M-R)(m-r) are legal. The ranges may appear in either order and more than one of each type may occur to obtain discontinuous ranges. For example, A(m-r) (M-R) and A(M-R) (Y-Z) are also legal.

D(m-n) = Allowable range of character digits where "m" defines the lower character digit and "n" identifies the upper character digit. Both digits are always positive. For example (2-7).

X(A-Z) (a-z) (0-9) = Allowable range of alphanumeric characters where "A" identifies the lowest allowable uppercase alpha character, "Z" identifies the highest allowable uppercase alpha character, "a" identifies the lowest allowable lowercase alpha character, "z" identifies the highest allowable lowercase alpha character, "0" identifies the lowest allowable character digit, and "9" identifies the highest allowable character digit. Note lack of the entire uppercase or lowercase range disallows the characters of uppercase or lowercase, respectively. For example X(M-R) (4-7) or X(m-r) (3-7) or X(M-R) (m-r) (3-7) are legal. The ranges may appear in any order and more than one of each type may occur to obtain discontinuous ranges. For example, X(m-r) (M-R) (3-7), X(M-R) (Y-Z) (3-7), and X(3-7) (m-r) (M-R) are also legal.

[charcount<fieldIDs>charcount<fieldIDs>....charcount<fieldIDs>] = This set of IDs is exclusive with other IDs within the enclosing component.

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D.2.6.2.11.7 As a very simple example, the pattern "1A" represents an element whose value can contain a single letter in the uppercase range "A" through "Z" or the lowercase range "a" through "z". Similarly the pattern "2A(m-o)" would allow for two characters but both can only be in the lowercase range of "m" through "o". The pattern 1ASH1D1N shows that the first character can be an uppercase or lowercase A-Z, can be a space, or can be a hyphen. The second character must be a single character digit in the range 0-9, and the final character must be an integer in the range 0-9 which for CMF-X will be passed as a character.

D.2.6.2.11.8 For CMF-X, the DTD pattern "1DE2[2N(0-42)][2N(50-50)]" would define a field where:

- a. The first component group is character and contains either the character digits 0-9 or the equals sign character.
- b. The second component group, although defined as numeric (i.e., INTEGER), is character because this is the XML version of CMF and it contains a character value in the range zero to forty-two or contains the value fifty.
- c. Both component groups are sent as one single three-character string as the value for the PATTERN element.
- d. The number directly preceding the bracketed definitions (i.e., the charcount) provides the total number of characters that must be defined within each of the brackets. Thus in the example above, the exclusive patterns within the brackets each define 2 characters of data.

Example legal field representations would be:

942 or 550 or =00 or =09

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D.2.6.2.11.9 Given a DTD pattern of "5[3A(A-G) 2N(0-77) ][3A(H-M) 2N(78-99) ]" some of the valid representations would include:

ABC76 or HIM99 or AAA00 or MMM78 (note that HHH22 would be illegal).

D.2.6.2.11.10 Given a DTD pattern of "1D4[3A(a-z) 1N(1-5) ][3A1N(8-9) ]" some of the valid representations would include:

9abc4 or 1FFF8 or 9ZZZ9 or 5ABz9 (note that 1aaB4 would be illegal).

D.2.6.2.11.11 For a DTD pattern of "1X2[1A(a-z) 1X(L-M) (1-5)][1A1A]" some of the valid representations would include:

9aL or Rbb or mz5 or 1AA (note that RA5 would be illegal).

### **D.2.6.2.12 CMF-X PACKED COMPONENT DATA REPRESENTATION**

D.2.6.2.12.1 The PACKED COMPONENT representation provides a way to represent single binary bit valued data (i.e., boolean) such as fields that are on/off, true/false, enabled/disabled, etc. Each PACKED COMPONENT is declared with a character string representing one or both of the "set" and "not set" states.

D.2.6.2.12.2 In CMF-X, each PACKED COMPONENT shall be treated as a separate element and transmitted as the appropriate character string to represent the current value (i.e., the characters indicating the "set" value or the characters indicating the "not set" value) along with the named character tags for each PACKED COMPONENT (see [section D.2.8.9](#)). The character representations for each of the two states shall be provided in the DTD declaration via an attribute.

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## D.2.6.3 CMF-B DATA REPRESENTATIONS

D.2.6.3.1 CMF-B data representations have the following characteristics:

- a. Values are fully extensible
- b. All values are self defining for field length using a termination bit
- c. All values having a "Reset" attribute use the instance of all bits in a byte set to zero to indicate a "Reset to No Data or Initial Value" (see [sections D.2.7.1](#) and [D.2.7.2](#)). "Reset to No Data or Initial Value" tells the recipient that any values previously sent for the particular field should be reset to the initial value or to the "No Data" state meaning (i.e., just as though data was never sent for the respective field).
- d. Notwithstanding the actual CMF-B encoding scheme, all CMF-B FIELD type data elements being transmitted shall have values unless reset.

D.2.6.3.1.1 The data representations used by CMF-B are as follows:

- a. Positive INTEGER
- b. ENUMERATED
- c. FLOATing Point /Signed Integer
- d. STRING
- e. PATTERN
- f. PACKED COMPONENT

D.2.6.3.1.2 All data representations are byte oriented meaning all bits of each byte belong to one and only one data value (with the exception of the PACKED element type). The CMF documentation is based upon a big-endian orientation and all bytes shall be constructed as follows (prior to any transmission medium adjustment). All data

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representations use the seven least significant bits, bits 0-6, of each byte to represent data. Bit 7, the most significant bit (MSB) and leftmost in the big-endian orientation, is used as a termination flag. As long as bit seven of a byte is zero (with the exception of the reset value where all bits of the byte are zero), the field extends/continues to the next byte. Bits 0-6 in any extension bytes become the new least significant bits and the 0-6 bits from all bytes are concatenated together to form the full value for the field. When bit seven of a byte is set to one, that byte is the last byte of the field, and the following byte is part of the next element or value (exceptions are the FLOAT and PATTERN elements which require multiple values each in this byte extension manner to provide the complete element).

### D.2.6.3.2 CMF-B POSITIVE INTEGER DATA REPRESENTATION

D.2.6.3.2.1 For CMF-B, the Positive INTEGER data representation shall use the least significant seven bits, 0-6, of each byte as data (bit 7 is the termination bit). The first byte shall represent the most significant 7 bits of the integer, with each successive byte representing lesser significant 7 bits, until the last byte, which represents the least significant 7 bits of the integer. Leading zeros can be placed on the original values, but they shall not be preserved through CMF-B transmission. Comma separators shall not be supported in the input or output values.

D.2.6.3.2.2 CMF-B Example: The integer "255", (FFh) uses two bytes as follows in hexadecimal: "01-FF" or in binary (dash only for clarity): "0-0000001 1-1111111". Note the termination bit set in the last byte.

D.2.6.3.2.3 CMF-B Example 2: The integer value "11,212,230", (AB15C6h) uses four bytes in CMF-B as follows in hexadecimal: "05-2C-

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2B-C6" or in binary 0-0000101 0-0101100 0-0101011 1-1000110. Note the termination bit set in the last byte.

### D.2.6.3.2.4 CMF-B POSITIVE INTEGER LESS/GREATER INDICATION

If a value qualifier attribute is defined for an INTEGER element (see [Table D.3.3.2-1](#) and [D.3.3.2-2](#)), in CMF-B the element may also indicate something "less than" the defined lower range of the element or something "greater than" the defined upper range of the element by the actual transmission of a value which shall be one less than the lower range or one greater than the upper range, respectively.

### D.2.6.3.3 CMF-B ENUMERATED DATA REPRESENTATION

D.2.6.3.3.1 The ENUMERATED data representation provides a way to pass a value selected from an enumerated (i.e., finite individually numbered), pre-defined list of character strings. For enumerated data, both a character enumeration string and an equivalent integer number shall be declared in the DTD for each allowable value. In CMF-B only the equivalent integer values shall be passed.

D.2.6.3.3.2 CMF-B Example: The enumeration string "Japan" assigned an equivalent integer of "57", (39h) uses one byte as follows in hexadecimal: "B9" or in binary 1-0111001. Note the termination bit set in the byte.

### D.2.6.3.4 CMF-B FLOAT SIGNED INTEGER DATA REPRESENTATION

D.2.6.3.4.1 The FLOATing Point/Signed Integer data representation is scientific notation and shall be constructed as described in the following sections. The basic structure of scientific notation is as follows: if "x" is the mantissa and "y" is the exponent, then the value is equal to  $\pm x \times 10^{\pm y}$ . The mantissa part x is represented by a positive integer (see [section D.2.6.3.2](#)) and is followed by one or

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more extension bytes. Leading zeros can be placed on the original values, but they shall not be preserved through CMF-B transmission. Comma separators shall not be supported in the input or output values.

The mantissa bit pattern (same as a positive integer) is:

Tbbbbbbb where T is byte terminator bit (if T=0, more mantissa bytes follow) and b is bits of the mantissa value

D.2.6.3.4.2 The first extension byte has the normal CMF-B terminator bit in the MSB (i.e., bit 7), the sign bit for the mantissa in bit 6 (0 = positive, and 1 = negative), the sign bit for the exponent in bit 5 (0 = positive, and 1 = negative), and 5-bits of exponent in bits 0-4. If additional exponent range is required, or units other than the default are defined and are being provided, an accuracy other than the default is defined and is being provided, and/or the value and/or the accuracy is to indicate a "less than" or "greater than" value, then at least one additional extension byte follows the first extension byte.

1<sup>st</sup> Extension bit pattern is:

Ts1s2eeeeee where T is byte terminator bit (if T=0, 2nd Extension byte follows),  
s1 is sign of mantissa,  
s2 is sign of exponent, and  
e is bits of the exponent value

D.2.6.3.4.3 The second extension byte has the normal CMF-B terminator in the most significant bit (MSB) (i.e., bit 7), a bit indicating whether selectable units is being provided in bit 6 (bit=1 indicates "present", 0 or lack of this byte represents "not present"), a bit indicating whether a selectable accuracy value is being sent in bit 5 (bit=1 indicates "present", 0 or lack of this byte represents "not present"), and an additional 5-bits of exponent in bits 0-4. If

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this is the final byte of the exponent extension (MSB=1), then the additional 5-bits of exponent contain the least significant bit (LSB) bits of the exponent and are used in combination with the 5-bits in the first extension byte. Otherwise the exponent LSB bits are in a later extension byte and this byte has 5-bits of middle significance.

2<sup>nd</sup> Extension bit pattern is:

Tuaeeeeee where T is byte terminator bit (if T=0, 3rd Extension byte follows),  
u is selectable units indicator,  
a is selectable accuracy indicator, and  
e is additional bits of the exponent value

D.2.6.3.4.4 If the second extension byte is present and presence of selectable units is indicated by the selectable units indicator bit (bit 6=1), then the final extension byte will be followed by a positive integer containing the equivalent integer (see [section D.2.6.3.2](#)) for the units enumeration declared in the DTD.

D.2.6.3.4.5 Likewise, if the second extension byte is present and the presence of selectable accuracy is indicated by the selectable accuracy bit (bit 5=1), then the final extension byte (or final selectable unit byte, if present) will be followed by a positive integer containing the mantissa of the selectable accuracy. The final byte of any selectable accuracy mantissa integer is followed by another extension byte of the first type and if necessary, extension bytes of the fifth type to provide the selectable accuracy signs and exponent.

D.2.6.3.4.6 The third extension byte has the normal CMF-B terminator in the MSB (i.e., bit 7), a bit indicating whether the reported float value represents a true value which is actually something less in bit 6 (bit=1 indicates "less than", 0 here and in bit 5 or lack of this byte represents "actual float value reported"),

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a bit indicating whether the reported float value represents a true value which is actually something greater in bit 5 (bit=1 indicates "greater than", 0 here and in bit 6 or lack of this byte represents "actual float value reported"), and an additional 5-bits of exponent in bits 0-4. If this is the final byte of the exponent extension (MSB=1), then the additional 5-bits of exponent contain the LSB bits of the exponent and are used in combination with the 5-bits in the first and second extension bytes. Otherwise, the exponent LSB bits are in a later extension byte and this byte has 5-bits of middle significance.

3<sup>rd</sup> Extension bit pattern is:

Tlgeeeee where T is byte terminator bit (if T=0, 4th Extension byte follows),  
l is a "less than" indicator,  
g is a "greater than" indicator, and  
e is additional bits of the exponent value

D.2.6.3.4.7 Note that the "less than" (l) and "greater than" (g) bits in bits 6 and 5, respectively are mutually exclusive meaning they cannot both be set at the same time in the third extension byte.

D.2.6.3.4.8 The fourth extension byte has the normal CMF-B terminator in the MSB (i.e., bit 7), a bit indicating whether the reported accuracy value represents a true value which is actually something less in bit 6 (bit=1 indicates "less than", 0 here and in bit 5 or lack of this byte represents "actual accuracy value reported"), a bit indicating whether the reported accuracy value represents a true value which is actually something greater in bit 5 (bit=1 indicates "greater than", 0 here and in bit 6 or lack of this byte represents "actual accuracy value reported"), and an additional 5-bits of exponent in bits 0-4. If this is the final byte of the exponent extension (MSB=1), then the additional 5-bits of exponent contain the LSB bits of the exponent and are used in combination with

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the 5-bits in the first and second extension bytes. Otherwise, the exponent LSB bits are in a later extension byte and this byte has 5-bits of middle significance.

4<sup>th</sup> Extension bit pattern is:

Tlgeeeee where T is byte terminator bit (if T=0, 5th

Extension byte follows),

l is a "less than" indicator,

g is a "greater than" indicator, and

e is additional bits of the exponent value

D.2.6.3.4.9 Note that the "less than" (l) and "greater than" (g) bits in bits 6 and 5, respectively are mutually exclusive meaning they cannot both be set at the same time in the third extension byte.

D.2.6.3.4.10 If a fifth or greater extension byte is required for either the float value exponent or selectable accuracy exponent, bits 5 and 6 are undefined in those bytes, and must be set to zero.

5<sup>th</sup> Extension bit pattern is:

T00eeeeee where T is byte terminator bit (if T=0 more of

this byte follow),

00 are two undefined bits - both set equal to zero, and

e is bits of the exponent value

### D.2.6.3.4.11 UNITS

D.2.6.3.4.11.1 Each element may or may not have a defined default unit assigned in the DTD via one of the default unit keyword attributes (see [Table D.3.3.2-1](#)). If assigned, the binary data parser shall pass a data value, not matching a defined default value, without sending a unit indicator if the value is to be represented in the default units.

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D.2.6.3.4.11.2 Some floating point elements also may or may not have an available unit selector attribute. If the unit equivalents attribute for the element is provided in the DTD and a producer sends data in units other than the assigned default, the parser shall set the selectable units indicator and provide a unit's positive integer value immediately following the final extension byte (as detailed in [section D.2.6.3.4](#)).

### D.2.6.3.4.12 ACCURACY

D.2.6.3.4.12.1 Floating point types can inherently imply their measured accuracy in the mantissa given the producer provides the data in the same base unit as their accuracy and their accuracy is an exact power of ten (i.e., 100, 10, 1, 0.1, 0.01, 0.001, etc.). For example, data measured as 25.67 Hz plus or minus 0.001 Hz can be indicated by the host providing the data value to CMF as 25.670 which would be represented in the CMF-B floating point form as "25670E-3". CMF accuracy is a plus or minus error value with reference to the estimated/actual value rather than a precision or resolution. Only when an accuracy value has not been provided by the producer but an accuracy attribute is defined for the element, does CMF utilize the precision represented by the element value to assume the implied accuracy. Additionally, when the producer provides an accuracy which matches the assigned default value, the accuracy value shall not be encoded in CMF-B by the parser.

D.2.6.3.4.12.2 For many floating point elements, an accuracy selector is provided to indicate the correct producer's accuracy when the units are not the same or the producer's accuracy is not an exact power of ten (i.e., 25, 0.003, 3.9, etc.). If the accuracy selector is provided in the DTD, and the producer provides an accuracy other than the assigned default, then the selectable accuracy indicator shall be set by the parser and an accuracy value provided (as detailed

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in [section D.2.6.3.4](#)) immediately following the units byte or if the units is not present, immediately following the final extension byte.

D.2.6.3.4.12.3 CMF-B Example 1: Value "12.7" ( $127 \times 10^{-1}$ ) with units (value 1=Hertz) and accuracy of tenths ( $1 \times 10^{-1}$ ) uses six bytes as follows in binary (dashes only for clarity): "1-1111111 0-0-1-00000 1-1-1-00001 1-0000001 1-0000001 1-0-1-00001". Note the termination bits set in both bytes.

D.2.6.3.4.12.4 NOTE: The first byte is the value's mantissa. The second is an extension byte of type one including the value's signs and first portion of the exponent (MSB bits of all zeros). The third byte is an extension byte of type two including the units/accuracy indicators and the LSB bits of the value's exponent. The fourth byte is units indicator (1=Hz). The fifth byte is the mantissa of the accuracy and the sixth byte is a type one extension byte containing the accuracy signs and exponent.

D.2.6.3.4.12.4.1 CMF-B Example 2: Negative signed integer “-47”, (D1h) uses two bytes as follows in hexadecimal: “AF-C0”. Note the termination bits set in both bytes.

D.2.6.3.4.12.4.2 CMF-B Example 3: Value "12.7" (127\*10-1) uses two bytes as follows in hexadecimal: "FF-A1" or in binary (dashes only for clarity): "1-1111111 1-0-1-00001". Note the termination bits set in both bytes.

D.2.6.3.4.12.4.3 CMF-B Example 4: Value  $127 \times 10^{36}$  uses three bytes as follows in hexadecimal: "FF-01-84". Note the termination bits set in the first and last bytes.

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follows in hexadecimal: "FF-21-84". Note the termination bits set in the first and last bytes.

D.2.6.3.4.12.4.5 CMF-B Example 6: Value "127.95"  
( $12795 \times 10^{-2}$ ) uses three bytes as follows in hexadecimal: "63-FB-A2".  
Note the termination bits set in the second and last bytes.

D.2.6.3.4.12.4.6 CMF-B Example 7: Value "-127.95"  
( $-12795 \times 10^{-2}$ ) uses three bytes as follows in hexadecimal: "63-FB-E2".  
Note the termination bits set in the second and last bytes.

D.2.6.3.4.12.4.7 CMF-B Example 8: Value "-127.95"  
( $-12795 \times 10^{-2}$ ) with non-default unit value of 3 uses five bytes as follows in hexadecimal: "63-FB-60-C2-83" or in binary:  
"0-1100011 1-1111011 0-1-1-00000 1-1-0-00010 1-0000011".  
Note the termination bits set in the second, fourth, and last bytes. The first and second bytes contain mantissa value of 12795. The third byte contains negative signs for mantissa and exponent. The fourth byte contains unit present indicator and exponent value of 2. The final byte contains unit value of 3.

D.2.6.3.4.12.4.8 CMF-B Example 9: Value "127.95"  
( $12795 \times 10^{-2}$ ) with non-default unit value of 4 and non-default accuracy of  $>\pm 0.05$  uses nine bytes as follows in hexadecimal: "63-FB-20-60-00-A2-84-85-A2" or in binary:  
"0-1100011 1-1111011 0-0-1-00000 0-1-1-00000 0-0-0-00000 1-0-1-00010 1-0000100 1-0000101 1-0-1-00010".

D.2.6.3.4.12.4.9 Note the termination bits set in the second and sixth through last bytes. The first and second bytes contain element mantissa value of 12795. The third byte contains negative sign for element exponent. The fourth byte contains unit present and accuracy present indicators. The fifth byte is empty but must be present in order to provide the following type 4 extension byte. The sixth byte

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contains "greater than" indicator for accuracy and exponent value of 2. The seventh byte contains unit value of 4. The eighth byte contains accuracy mantissa of 5 and the ninth contains negative sign for accuracy exponent and accuracy exponent value of 2.

D.2.6.3.4.12.4.10 CMF-B Example 10: Value indicating ">127.95" ( $>12795 \times 10^{-2}$ ) with non-default unit value of 4 uses six bytes as follows in hexadecimal: "63-FB-20-40-A2-84" or in binary: "0-1100011 1-1111011 0-0-1-00000 0-1-0-00000 1-0-1-00010 1-0000100".

D.2.6.3.4.12.4.11 Note the termination bits set in the second, fourth, and last bytes. The first and second bytes contain mantissa value of 12795. The third byte contains negative sign for exponent. The fourth byte contains unit present indicator. The fifth byte contains "greater than" indicator and exponent value of 2. The final byte contains unit value of 4.

**D.2.6.3.5 CMF-B STRING DATA REPRESENTATION**

D.2.6.3.5.1 In CMF-B, the STRING data representation shall use the 7-bit American Standard Code for Information Interchange (ASCII) values 0-127 (0h-7Fh). See [Table D.2.6.3.5-1](#) ASCII Table (Termination Bit Clear) for character encoding. The STRING type shall not use the ASCII extended codes, values 127 – 255 (80h-FFh) because in CMF-B the MSB (i.e., bit 7 or 8<sup>th</sup> bit) is reserved for the termination indicator bit. The 7-bit ASCII code uses bits 0-6 of each byte to represent a character from the ASCII character set. Also note that the STRING type shall not use the non-printable 7-bit ASCII codes, values 0 – 31 (00h-1Fh) and value 127 (7Fh) except for the horizontal tab (HT) value 9 (09h), linefeed (LF) value 10 (0Ah), and carriage return (CR) value 13 (0Dh).

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D.2.6.3.5.2 As is the case for all CMF-B data representations bit 7, the most significant bit, shall be used as a termination flag. With the exception of the reset case, as long as bit seven of a byte in a string field is clear (0), the string field shall extend to the next byte (i.e., there is another character as part of the representation). When bit seven is set (1), the character in that byte shall be the last character of the field value and any following byte shall be part of the next element or value. [Table D.2.6.3.5-1](#) and [Table D.2.6.3.5-2](#) shows ASCII codes with the termination bit cleared or set, respectively.

Table D.2.6.3.5-1 ASCII Table (Termination Bit Clear)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	R S T	S O H	S T X	E T X	E O Z	E N K	A C L	B E Z	B S A	H T	L F	V T	F R	C S	S I	
1	D L E	D C I	D C Z	D C S	N A K	S Y N	E T B	C A X	E M B	S U E	E S C	F S	G S	R S	U S	
2	S P	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5	P	Q	R	S	T	U	V	W	X	W	Z	[	\	]	^	_
6	'	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7	p	q	r	s	t	u	v	w	x	y	z	{		}	~	D E L

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Table D.2.6.3.5-2 ASCII Table (Termination Bit Set)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
8	N U L	S O H	S T X	E T X	E O T	E N Q	A C K	B E L	B S A	H T	L F	V T	F F	C R	S O	S I
9	D L F	D C Z	D C B	D C A	D A K	N A Y	S T B	E A N	E M B	S U B	E S C	F S C	G S R	R S U	S S S	
A	S P	! "	#	\$	%	&	'	(	)	*	+	,	-	.	/	
B	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
C	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
D	P	Q	R	S	T	U	V	W	X	W	Z	[	\	]	^	-
E	'	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
F	p	q	r	s	t	u	v	w	x	y	z	{		}	~	D E L

**D.2.6.3.5.3 CMF-B Example 1:** The one word element value, "IBS", contains three bytes as follows in binary (the dash is only for clarity): "0-1001001 0-1000010 1-1010011". Note the termination bit set in the last byte.

**D.2.6.3.5.4 CMF-B Example 2:** The one word element value, "TEST", contains four bytes as follows in hexadecimal: "54-45-53-D4" (0-1010100 0-1000101 0-1010011 1-1010100). Note the termination bit set in the last byte.

**D.2.6.3.5.5 CMF-B Example 3:** The multiple word element value, "This is a test", contains 14 bytes as follows in hexadecimal: "54-68-69-73-20-69-73-20-61-20-74-65-73-F4" (0-1010100 0-1101000 0-1101001 0-1110011 0-0100000 0-1101001 0-1110011 0-0100000 0-1100001 0-0100000 0-1110100 0-1100101 0-1110100 0-1100101 0-1110011 1-1110100). Note the termination bit set in the last byte.

## D.2.6.3.6 CMF-B PATTERN DATA REPRESENTATION

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D.2.6.3.6.1 The PATTERN representation provides the ability to mix numeric and alphabetic data in a single element to represent values having predetermined and typically complex patterns. Such mixes of data are possible with the CMF string representation, but the PATTERN representation provides control over the contents of the value and, for CMF-B, additional bandwidth efficiency not otherwise available.

D.2.6.3.6.2 In CMF-B the PATTERN representation shall be passed as one or more series of 7-bit ASCII characters which are self defining for length and/or as one or more binary positive integer values. The determination of how many characters versus how many positive integers, and in what order, shall be determined from the pattern representation (see [section D.2.6.2.11](#) for pattern specification details).

D.2.6.3.6.3 For CMF-B, all components using one of the character type representations (with the exception of the "N" and "N(m-n)" fieldID types) shall be sent as a string of characters using the basic CMF STRING data representation. The length of each of these components shall be equal to the "charcount" value for the component. All components having a "fieldtype" of "N" (and the field limited "N(m-n)") shall be sent as integer values using the basic CMF positive INTEGER data representation.

D.2.6.3.6.4 For CMF-B, the pattern "1DE2[2N(0-42)][2N(50-50)]" would define a field where:

- a) the first component group is character and contains either the character digits 0-9 or the equals sign character, (component sent in CMF-B as one character byte)
- b) the second component group is INTEGER and contains a value in the range zero to forty-two or contains the

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value fifty. (component sent in CMF-B as one INTEGER byte).

D.2.6.3.6.4.1 Example legal field representations would be: 942 or 550 or =0 or =9

D.2.6.3.6.4.2 For 942 the CMF-B representation would contain two bytes as follows in hexadecimal: "B9-AA" or in binary: "1-0111001 1-0101010". Note the termination bit set in both bytes.

**D.2.6.3.7 CMF-B PACKED COMPONENT DATA REPRESENTATION**

D.2.6.3.7.1 The PACKED COMPONENT representation provides a way to represent single binary bit valued (i.e., Boolean) data such as fields that are on/off, true/false, enabled/disabled, etc. Each PACKED COMPONENT is declared with a character string representing each of the "set" and "not set" states.

D.2.6.3.7.2 For CMF-B, PACKED COMPONENTs shall use two bits each to indicate one of four possible states. The first PACKED COMPONENT uses bits 4-5, second uses 2-3, and third uses 0-1. The four possible states shall be the two-value (i.e., Boolean) definable states with bit settings of 01 and 10 (i.e., values 1 and 2) plus the reset and no-change states which shall be reserved for the bit settings of 00 and 11 (i.e., values 0 and 3), respectively (see [section D.2.8.9](#) for explanation of the entire byte structure). Note that the reserved bit setting for the reset condition shall not be a legal value unless the reset attribute is declared for the specific PACKED COMPONENT element.

D.2.6.3.7.3 In CMF-B, the PACKED COMPONENT data representation shall be sent within a PACKED element. In the PACKED element, up to 3 PACKED COMPONENTs shall be represented in each byte of a packed data field using bits 0-5. As in other CMF-B data representations, the MSB bit 7 shall be used as a terminator byte. As long as bit 7 of a byte

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in a PACKED element is clear (i.e., zero), the PACKED element shall extend to the next byte (i.e., there are up to 3 more two-bit data values as part of the representation for each additional byte). When bit 7 is set to one, any following byte shall be part of the next element or value (see [section D.2.8.9](#)).

### D.2.7 CMF CONSTRUCTS

#### D.2.7.1 VALUE INITIALIZATION AND MODIFICATION

D.2.7.1.1 Prior to any data being received for CMF, all element values shall be interpreted as though the producer has "No Data" (i.e., no comment) for the element unless there is an "Initial Value" attribute defined for the element, in which case the receiving host shall utilize the value of the "Initial Value".

D.2.7.1.2 Receptions of data that don't have a value for an element are to be assumed to mean "No Change" for that element value. In other words, retain the last data sent which could either be a value that was previously sent or the "No Data" or "Initial Value" for data that was never sent (or which has been reset previously - see [sections D.2.6.2.1](#) and [D.2.6.3.1](#)). Note that in a CMF-B Packed Component both bits of the value being set (bits=11) are reserved for indicating a "No Change" state or Defaulted (see [section D.2.8.9](#)).

D.2.7.1.3 CMF additionally permits the declaration of "Default Value" attributes (also definable by path - see [section 4.3.3.1](#) and [Table D.3.3.2-2](#)) that provide the most common sensor value which, when provided by the producer for required elements, is not actually transmitted. Removal of the most common value on transmit and subsequent re-insertion on receipt will result in a space savings to broadcasts. These values shall be handled only by parser software and the removal and insertion is transparent to application software. The values shall be passed to the application software as though they were

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actually transmitted. The removal and insertion operation only occurs when the values are for required elements in their parent content model, the parent element is being sent, and the value provided by the producer matches the defined default. In addition, the removal of default values shall only occur for data encoded for transmittal on a defined path and shall not occur for direct child elements of COMPOSITE or REPETITIVE elements.

D.2.7.1.4 Optional elements that are defined to allow values shall not be reported if the producer has no value to report. For CMF, the absence of an element value in the data stream means the originator had data matching the defined default for a required element, had no data, had no new data, or did not wish to provide data for the element. All but the first are referred to as a "No Change" condition. If the originator never sends an element value, the element value shall remain in either the Initial Value state, if one is defined, or in the No Data state. In contrast to many other military formats, for CMF there is no actual value for the No Data state (with the exception of the PACKED data type, see [section D.2.8.9](#)).

D.2.7.1.5 Once an originator has provided a value for an element, that data shall be retained as the value for the element unless a new value for the element is received or the originator indicates that the element value is to be reset to the No Data or Initial Value state (see [sections D.2.6.2.1](#) and [D.2.6.3.1](#)). Therefore, once a value for an element is received, the receipt of additional data packages that do not contain the element indicates that no change shall be made to the previous value and, when data is received for that element, that data shall replace the previously received data.

D.2.7.1.6 Data for which the content model requires elements to always be sent together, or for which there are individually repeatable elements, will normally also be replaced on the receipt of

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new data for the group or new repeatable elements. This is the process for all values unless a separate implementation rule is provided to do otherwise.

### D.2.7.2 RESET

D.2.7.2.1 When the originator has previously provided data for an element value and desires to return the element value to the No Data or Initial Value state, CMF provides a special reset indication. For both representations of CMF, an element's value usually can be reset if it has the reset attribute in its definition, but due to differences in the two representations, there are different ways to indicate a reset condition for CMF-X and CMF-B.

D.2.7.2.2 Receipt of a reset indication for an element shall indicate to a host that the value for the specified element is to revert to the "No Data" condition unless there is an "Initial Value" attribute defined for the element, in which case the host shall revert to the value of the "Initial Value".

D.2.7.2.3 The reset indicator for CMF-X shall be provided by reporting the reset attribute set to its positive or set (i.e., "Y" for yes) state. For CMF-B, resetting an element value shall be accomplished by sending only one byte for the element value with all bits set to zero including the termination bit. Since zeros in all eight bits is not a normal value for the first byte of any of the defined CMF-B data representations, the all-zero setting provides a unique value to indicate the reset condition. This unique byte is also called the "reset" byte. For all representations only one byte of the value shall be sent containing the reset. The other value bytes of the element, regardless of the defined data representation, shall not be sent. Likewise, some non-FIELD element types may also utilize the reset capability to indicate a reset of all children in their content model (see the element [section D.2.8](#)) and the PACKED element

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type has some special reset capability for the associated PACKED COMPONENTs (see [section D.2.8.9](#)).

D.2.7.2.4 Before processing each element value or associated sub-component values, consumers shall check for the reset indicator to determine the appropriate element handling.

### **D.2.7.3 CASE SENSITIVITY**

Systems shall maintain upper/lower case for CMF (both CMF-B and CMF-X). CMF is case-sensitive during any value checking or value comparison operations. CMF shall also utilize the same case-sensitivity as XML for element names, XML operators, and XML reserved words.

### **D.2.7.4 CMF-X AND DTD WHITESPACE HANDLING**

D.2.7.4.1 The XML standard provides limitations on whitespace usage and CMF shall adhere to those limitations. In addition, CMF may impose additional limitations which are described in element name, element value, XML operator, and XML reserved word definitions throughout this standard. For the DTD, whitespace is normally insignificant elsewhere (whitespace handling for specific elements is identified in [Table D.3.4.3.8-1](#)). Consequently, non-printable characters shall be ignored in a DTD. For CMF-X, whitespace is not significant during the parsing operation and node identification. It shall be significant for data verification checking when it can compose part of valid values.

D.2.7.4.2 For element attribute DTD declarations having values separated by “|” bars, values which consist of total whitespace between the bars shall be ignored. Thus a bar at the end of a line and another at the beginning of the next line provides the method for performing a line continuation within a declaration. This provides the

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capability for long attribute declarations in the DTD while maintaining reasonable readability within DTD text edit tools.

## D.2.7.5 PATH ASSIGNMENTS

D.2.7.5.1 The CMF provides a capability to identify multiple communication paths for data reporting. Each path is operationally pre-assigned a number that shall be passed by the application to the parser to affect the desired processing of data for the respective path. Path-based DTD settings can include path-specific default element values, default element accuracies, and exclusions of selected elements from specific paths. When the application does not provide a path (or provides path=0) to the parser for the processing of data, the resulting output from the parser shall not have the default values removed but will, with the possible exception of previously applied path exclusions, be a composite of the originally sent data (see [section D.2.7.1](#) and [Table D.3.3.2-2](#)). For this reason path 0 is also called the "composite path". The Document Object Model (DOM) interface from the parser to and from the application shall always be a composite set of data since defaulted data shall always be transparent to the application interface.

D.2.7.5.2 (Note that currently CMF-B can be created for both identified path and composite data, where CMF-X data cannot be created other than as composite path data such that default values are not removed for CMF-X.)

## D.2.7.6 PROCESSING INSTRUCTIONS

D.2.7.6.1 CMF provides the capability to process standard XML PIs (Processing Instructions). However, due to the subset capabilities of the CMF binary format, placement of PIs in CMF-X shall be limited to being a child of any element of type GROUP. CMF-B reserves tag value

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of 0 to indicate a PI so this value shall not be used by any other element in the DTD.

D.2.7.6.2 The PI formats for the two types of CMF representations shall take the following forms:

CMF-X stream format: "<?PI\_target PI\_Value?>"

CMF-B stream format: "binary\_tag\_zero PI\_target\_string PI\_value\_string"

D.2.7.6.3 An example of a PI in the two types of CMF representations would be:

CMF-X stream format: "<?TEST 123?>"

CMF-B stream format (in binary):

"1-0000000 0-1010100 0-1000101 0-1010011 1-1010100 0-0110001  
0-0110010 1-0110011"

Comment: This is the 0 tag, PI\_target="TEST", and PI\_value="123".

Notice that the termination bits are set in the 1<sup>st</sup>, 5<sup>th</sup>, and 8<sup>th</sup> bytes.

## **D.2.8 CMF ELEMENTS**

D.2.8.1 CMF is an XML-based hierarchy of nested elements. The root element shall, by definition, always be the first element in the data stream. All other elements shall be contained, or nested, within the root element. Each element in standard XML can contain data content or have other elements nested within it or both. This hierarchical nesting results in a tree structure of elements.

D.2.8.2 For CMF data, the standard XML element constructs shall be utilized to provide five types of packaging elements; FIELD elements, GROUP elements, COMPOSITE elements, REPETITIVE elements, and PACKED elements (see [Table D.2.8-1](#)). Consistent with XML, each of the five types of elements, defined for both CMF-X and CMF-B, shall have certain XML attributes. For CMF, these attributes shall be based upon keywords (see [Table D.3.3.2-1](#)), which are used by a generic CMF parser

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to efficiently encode, decode, validate, and verify the data elements. The keyword attributes may also be used, if desired, by specialized CMF-X application software to validate, verify, operate on, and/or display the elements.

D.2.8.3 Data is passed and element type attributes are assigned using the five element types in combination with the six previously detailed data representations: INTEGER, ENUMERATED, FLOAT, STRING, PATTERN, and PACKED COMPONENT. The details of the data representations are provided in [section D.2.6](#). The data representations are each identified as one of six possible "field types" within a specific element type.

D.2.8.4 As in standard XML, each element has a "content model" in the DTD, which identifies its allowable contents. Content can be either data or other nested "child" elements. Elements that contain data as content shall have "PCDATA" (standard XML terminology for data) in their content model and shall have a "field type" attribute that identifies the data representation of the data value. Note that CMF does NOT support a "mixed content model" which mixes both data and children elements within the content model of an element. Consistent with XML, elements that contain nested children elements shall list the names of other declared CMF elements in their declared DTD content model. [Table D.2.8-1](#) shows the five types of CMF elements along with their specific function, associated field types, and allowable children element types.

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Table D.2.8-1 Element Type Utilization

<b>ELEMENT TYPE</b>	<b>ELEMENT FUNCTION</b>	<b>FIELD TYPE</b>	<b>PERMITTED CHILDREN ELEMENT TYPES</b>
FIELD	Provides data value	INTEGER, ENUMERATED, FLOAT, STRING, PATTERN, PACKED COMPONENT	None (PCDATA only)
GROUP	Groups other elements, some of which are not always sent	N/A	GROUP, COMPOSITE, REPETITIVE, PACKED, FIELD (except PACKED COMPONENT)
COMPOSITE	Groups other elements which are always sent together	N/A	GROUP, COMPOSITE, REPETITIVE, PACKED, FIELD (except PACKED COMPONENT)
REPETITIVE	Groups other elements which are always sent together and repeats them	N/A	GROUP, COMPOSITE, REPETITIVE, PACKED, FIELD (except PACKED COMPONENT)
PACKED	Groups two-state PACKED COMPONENT elements	N/A	FIELD (PACKED COMPONENT only)

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## D.2.8.5 FIELD ELEMENTS

D.2.8.5.1 The function of Field elements in CMF is to provide actual IBS data content or values. Like other CMF elements, each Field element can have a number of attributes. Attributes for CMF elements use pre-defined keywords as the attribute names (see [Table D.3.3.2-1](#) and [D.3.3.2-2](#)). These attributes may be "REQUIRED" XML attributes meaning they must be sent prior to the element value. Most attributes are "FIXED" XML attributes and therefore are not sent in the data. (The numeric element tag is the exception in that it is ALWAYS sent in CMF-B in place of the XML character-based tags unless the type of element's parent eliminates the tags.) These keywords provide the ability to define, encode, and decode the more bandwidth-efficient binary CMF by providing information about the data elements to the generic CMF-B parser software. If desired, these keywords can also be used by specialized CMF-X applications since both "REQUIRED" and "FIXED" XML attributes are made available to the application level by commercial parsers. Other applicable attribute types are discussed in [section D.3.3.2](#).

D.2.8.5.2 Each Field element DTD declaration contains the following attributes:

- a) Element tag (not required if only a sub-component of a REPETITIVE, COMPOSITE, or PACKED)
- b) Element type set equal to "FIELD"
- c) Field type set equal to "INTEGER", "ENUMERATED", "FLOAT", "STRING", "PATTERN", or "PACKED\_COMPONENT"
- d) Various other optional or element type dependent attributes to identify element value defaults, range (min and/or max), unit selections, accuracy selections, lists of allowed values, etc.

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D.2.8.5.3 The Field DTD element declaration takes the form:

```
<!ELEMENT Field_Name (#PCDATA)>
<!ATTLIST Field_Name keyword_name keyword_declaration>
```

where the attribute list (i.e., ATTLIST) is repeated for each keyword applied to the Field element (or at least the contents are repeated -- both are acceptable XML forms).

An example DTD declaration for a Field element named "Aircraft\_Count" would be:

```
<!ELEMENT Aircraft_Count (#PCDATA)>
<!ATTLIST Aircraft_Count reset      (Y | N)  "N">
<!ATTLIST Aircraft_Count element_tag CDATA #FIXED "1">
<!ATTLIST Aircraft_Count element_type CDATA #FIXED "FIELD">
<!ATTLIST Aircraft_Count field_type   CDATA #FIXED "INTEGER">
<!ATTLIST Aircraft_Count lower_range  CDATA #FIXED "0">
<!ATTLIST Aircraft_Count upper_range  CDATA #FIXED "100">
```

D.2.8.5.4 The Field formats for the two types of CMF representations take the following forms:

CMF-X stream format:

"<element\_name\_tag>element\_value</element\_name\_tag>"

CMF-B stream format:

"element\_binary\_tag element\_value"

D.2.8.5.5 An example of a Field element in the two types of CMF representations would be:

CMF-X stream format:

"<Aircraft\_Count>12</Aircraft\_Count>"

CMF-B stream format (in binary):

"10000001 10001100"

Comment: This is the tag and value=12.

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D.2.8.5.6 A reset for the Field element in the two types of CMF representations shall take the forms:

CMF-X reset format: "<element\_name\_tag reset="Y"> </element\_name\_tag>"  
or "<element\_name\_tag reset="Y"/>"

CMF-B reset format: "element\_binary\_tag special\_reset\_value"

### **D.2.8.6 GROUP ELEMENTS**

D.2.8.6.1 Group elements in CMF identify organizational nestings (i.e., groupings) of other elements. For CMF, elements shall be identified as group elements by the presence of an element\_type attribute set equal to "GROUP" (see [Table D.3.3.2-1](#)). A length value shall be sent with Group elements in CMF-B to indicate the end of the group in lieu of the end tag used in CMF-X. The length value is calculated as the total number of bytes in the group after the length value. It shall be inserted as a CMF-B INTEGER value just after the Group tag. For Group elements, the use of the "GROUP" indication combined with the end tag for CMF-X or length value for CMF-B shall be used by the receiving parser to 1) verify receipt of grouping content, 2) identify the location of the end of data or the start of the next group, and 3) if new unrecognized elements are in the group, skip to the end of the group without requiring detailed processing of the unknown group components.

D.2.8.6.2 For CMF, the root element acts as the start of document indicator and is by definition the largest group element in that ALL other CMF elements are nested within the data document. Additional uses of group elements in CMF include providing associations of elements in order to group related or similar types of data (e.g., all location-related fields).

D.2.8.6.3 Each Group element DTD declaration contains the following:

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a. Attributes

- 1) Element tag (not required if only a sub-component of a REPETITIVE or COMPOSITE)
- 2) Element\_Type attribute set equal to "GROUP"

b. One or more other elements declared as sub-elements in the element's content model

D.2.8.6.4 The Group DTD element declaration takes the form:

```
<!ELEMENT Group_Element_Name (content_model_entries)>
<!ATTLIST Group_Element_Name keyword_name keyword_declar>
```

where the attribute list (i.e., ATTLIST) is repeated for each keyword applied to the Group element (or at least the contents are repeated -- both are acceptable XML forms).

D.2.8.6.5 An example DTD declaration for a Group element named "Cockpit\_Readings" would be:

```
<!ELEMENT Cockpit_Readings (Fuel_Reading, Airspeed_Reading*)>
<!ATTLIST Cockpit_Readings reset          (Y | N) "N">
<!ATTLIST Cockpit_Readings element_tag    CDATA #FIXED "1">
<!ATTLIST Cockpit_Readings element_type   CDATA #FIXED "GROUP">
```

D.2.8.6.6 The Group formats for the two types of CMF representations take the following forms:

CMF-X stream format: "<element\_name\_tag>nested  
\_elements</element\_name\_tag>"

CMF-B stream format: "element\_binary\_tag length\_value nested\_elements"

D.2.8.6.7 Note: The length value is required in CMF-B and is a calculated value required upon transmission.

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D.2.8.6.8 An example of a Group element in the two types of CMF representations would be:

(assuming the Fuel\_Reading element is an INTEGER having a tag value of 2 and default units of "Gal")

CMF-X stream format: "<Cockpit\_Readings><Fuel\_Reading  
unit='Gal'>3</Fuel\_Reading>  
</Cockpit\_Readings>"

CMF-B stream format (in binary): "10000001 10000010 10000010 10000011"

Comment: This is the cockpit readings tag, length=2, fuel tag, and fuel value=3.

D.2.8.6.9 A reset for all Group elements in the two types of CMF representations shall take the forms:

CMF-X reset format: "<element\_name\_tag  
reset='Y'>tags\_with\_reset=Y\_for\_required\_elements  
</element\_name\_tag>"

CMF-B reset format: "element\_binary\_tag special\_reset\_value"

D.2.8.6.10 To reset individual Group elements the forms are:

CMF-X reset format:

"<element\_name\_tag>nested\_components\_with\_values\_and\_or\_reset  
attributes </element\_name\_tag>"

CMF-B reset format:

"element\_binary\_tag length\_value  
nested\_components\_with\_values\_and\_or\_special\_reset\_values"

### D.2.8.7 COMPOSITE ELEMENTS

D.2.8.7.1 COMPOSITE elements provide a way in CMF-B, using a single tag, to send a number of element values, all of which are known to always contain data whenever the composite group is transmitted. COMPOSITE elements are useful for CMF-B to conserve bandwidth.

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COMPOSITE elements are identified by the presence of the "element\_type" keyword attribute (see [Table D.3.3.2-1](#)) set to the value "COMPOSITE".

D.2.8.7.2 In CMF-B, the COMPOSITE element results in only the tag for the COMPOSITE element being sent and then all nested element values immediately follow in the order defined in the DTD but without any individual nested element tags. In CMF-X, COMPOSITE elements generate the composite element start tag, each of the nested element values preceded and terminated by their respective tags, and finally the composite element end tag. It should be noted that for CMF-B the only tags excluded by the COMPOSITE element tag are the tags of the first level of nested elements. Any elements nested under the first level of nested elements would be tagged according to their type or their respective first level element type.

D.2.8.7.3 Each COMPOSITE element DTD declaration contains the following:

- Attributes
  - a) Element tag (not required if only a sub-component of a REPETITIVE or COMPOSITE)
  - b) Element type set equal to "COMPOSITE"
- One or more other elements declared as sub-elements in the element's content model. All children of a COMPOSITE element must be declared as required elements in the COMPOSITE element's content model.

D.2.8.7.4 The COMPOSITE DTD element declaration takes the form:

```
<!ELEMENT Composite_Element_Name (content_model_entries)>
<!ATTLIST Composite_Element_Name keyword_name
keyword_declaration>
```

where the attribute list (i.e., ATTLIST) is repeated for each keyword

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applied to the COMPOSITE element (or at least the contents are repeated -- both are acceptable XML forms).

An example DTD declaration for a COMPOSITE element named "Cockpit\_Readings" would be:

```
<!ELEMENT Cockpit_Readings (Fuel_Reading, Airspeed_Reading)>
<!ATTLIST Cockpit_Readings reset          (Y | N) "N">
<!ATTLIST Cockpit_Readings element_tag    CDATA #FIXED "1">
<!ATTLIST Cockpit_Readings element_type   CDATA #FIXED
"COMPOSITE">
```

D.2.8.7.5 The COMPOSITE formats for the two types of CMF representations take the following forms:

CMF-X stream format:

```
"<element_name_tag>composite_component_elements_with_tags</
element_name_tag>"
```

CMF-B stream format:

```
"element_binary_tag composite_component_element_values"
```

D.2.8.7.6 An example of a COMPOSITE element in the two types of CMF representations would be: (assuming the Fuel\_Reading element is an INTEGER having default units of "Gal" and Airspeed\_Reading is an INTEGER having a default units of "MPH")

CMF-X stream format:

```
"<Cockpit_Readings><Fuel_Reading unit='Gal'>3</Fuel_Reading>
<Airspeed_Reading unit='MPH'>110</Airspeed_Reading>
</Cockpit_Readings>"
```

CMF-B stream format (in binary):

```
"10000001 10000011 11101110"
```

Comment: This is the cockpit readings tag, fuel value=3, and airspeed value=110.

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D.2.8.7.7 To reset all COMPOSITE elements in the two types of CMF representations the forms are:

CMF-X reset format:

```
"<element_name_tag reset="Y">
tags_with_reset=Y_for_all_sub_elements</element_name_tag>"
```

CMF-B reset format: "element\_binary\_tag special\_reset\_value"

D.2.8.7.8 A reset of a composite element shall reset all children component values. Accordingly, a resettable composite element shall only contain children that are reset capable. Children of a composite shall not be reset individually, but rather the composite and its children shall be reset together. If the children of a composite are resettable, and the composite itself is not, then the children shall not be resettable in this context. The same children may however be resettable when used as children of a different element.

## **D.2.8.8 REPETITIVE ELEMENTS**

D.2.8.8.1 REPETITIVE elements provide a way to define one or more elements or groupings of elements and repeat them multiple times. REPETITIVE elements are useful for CMF-B to conserve bandwidth. REPETITIVE elements are identified by the presence of the "element\_type" keyword attribute (see [Table D.3.3.2-1](#)) and set to the value "REPETITIVE". REPETITIVE elements also have a "REQUIRED" attribute to provide the number of "element\_iterations" which shall be included in both CMF-B and CMF-X.

D.2.8.8.2 In CMF-B, the REPETITIVE element results in only the tag for the REPETITIVE element being sent, the value representing the number of iterations, and then all nested element values immediately follow in the order defined in the DTD but without any individual nested element tags for the first level of nesting only. The nested

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element values are repeated as a group, in order, for the number of iterations indicated.

D.2.8.8.3 In CMF-X, REPETITIVE elements generate the repetitive element start tag including the number of iterations attribute value. Next, CMF-X provides each of the nested element values preceded and terminated by their respective tags, in accordance with standard XML rules. The nested element tags and values are repeated, in order, for the number of iterations indicated.

D.2.8.8.4 For REPETITIVE elements, any follow-on report shall include all elements that are intended by the originator to be maintained by the recipient. Order is significant and shall be maintained. The consuming system shall treat all reporting of REPETITIVE elements as replacements for previously reported values of the element. A reset of the REPETITIVE element shall reset all instances of all nested elements and a reset of one nested element shall reset only that nested element.

D.2.8.8.5 Each REPETITIVE element DTD declaration contains the following:

- Attributes
  - a) Element tag (not required if only a sub-component of a REPETITIVE or COMPOSITE)
  - b) Element type set equal to "REPETITIVE"
  - c) Element iterations value indicating number of repetitions of component elements
- One or more other elements declared as sub-elements in the element's content model (required individually, but not as a group)

D.2.8.8.6 The REPETITIVE DTD element declaration takes the form:

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```
<!ELEMENT Repetitive_Element_Name ((content_model_entries)X)>
<!ATTLIST Repetitive_Element_Name keyword_name
keyword_declaration>
```

where X must be a "+" if the REPETITIVE element is not reset capable or alternatively, must be a "\*" if the REPETITIVE element is enabled for reset capability and where the attribute list (i.e., ATTLIST) is repeated for each keyword applied to the REPETITIVE element (or at least the contents are repeated -- both are acceptable XML forms).

D.2.8.8.7 An example DTD declaration for a REPETITIVE element named "Cockpit\_Readings" would be:

```
<!ELEMENT Cockpit_Readings ((Fuel_Reading, Airspeed_Reading)*)>
<!ATTLIST Cockpit_Readings reset (Y | N) "N">
<!ATTLIST Cockpit_Readings element_tag      CDATA #FIXED "7">
<!ATTLIST Cockpit_Readings element_type     CDATA #FIXED "REPETITIVE">
<!ATTLIST Cockpit_Readings element_iterations      CDATA #REQUIRED>
<!ATTLIST Cockpit_Readings min_element_iterations CDATA #FIXED "1">
<!ATTLIST Cockpit_Readings max_element_iterations CDATA #FIXED "5">
```

D.2.8.8.8 The REPETITIVE formats for the two types of CMF representations take the following forms:

CMF-X stream format:

```
"<element_name_tag element_iterations=element_iterations_value>
repetitive_component_elements_with_tags</element_name_tag>"
```

CMF-B stream format:

```
"element_binary_tag element_iterations_value
repetitive_component_element_values"
```

D.2.8.8.9 An example of a REPETITIVE element in the two types of CMF representations would be:

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(assuming the Fuel\_Reading element is an INTEGER having a default unit of "Gal" and Airspeed\_Reading is an INTEGER having a default unit of "MPH")

CMF-X stream format:

```
"<Cockpit_Readings element_iterations=2>
    <Fuel_Reading unit='Gal'>3</Fuel_Reading>
    <Airspeed_Reading unit='MPH'>110</Airspeed_Reading>
    <Fuel_Reading unit='Gal'>1</Fuel_Reading>
    <Airspeed_Reading unit='MPH'>85</Airspeed_Reading>
</Cockpit_Readings>"
```

CMF-B stream format (in binary):

```
"100000111 100000010 10000011 11101110 10000001 11010101"
```

Comment: This is the tag, element iterations=2, first fuel value=3, first airspeed value=110, second fuel value=1, and second airspeed value=85.

D.2.8.8.10 To reset all REPETITIVE iterations the forms are:

CMF-X reset format:

```
"<element_name_tag reset="Y"> </element_name_tag>" or
"<element_name_tag reset="Y"/>"
```

CMF-B reset format: "element\_binary\_tag special\_reset\_value"

D.2.8.8.11 To reset individual REPETITIVE iterations the forms are:

CMF-X reset format:

```
"<element_name_tag element_iterations=element_iterations_value>
    repetitive_components_with_values_and_or_reset_attributes
</element_name_tag>"
```

CMF-B reset format:

```
"element_binary_tag element_iterations_value
component_values_and_or_special_reset_values"
```

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D.2.8.8.12 For CMF-B, a reset of the element iterations value shall reset all component values.

## D.2.8.9 PACKED ELEMENTS

D.2.8.9.1 PACKED elements provide a way to represent two-state (i.e., Boolean) data values such as fields that are on/off, true/false, enabled/disabled, etc. This packaging type provides for efficient transmission of two-state (i.e., Boolean) data elements without introducing non-inherent dependencies between them. PACKED elements are useful for CMF-B to conserve bandwidth. PACKED elements are identified by the presence of the "element\_type" keyword attribute (see [Table D.3.3.2-1](#)) set to the value "PACKED" and may only have PACKED COMPONENTS as children in their content model.

D.2.8.9.2 In CMF-X, PACKED elements generate the PACKED element start tag, the character values for each of the nested elements preceded and terminated by their respective tags, and finally the PACKED element end tag.

D.2.8.9.3 In CMF-B, the PACKED element results in only the tag for the PACKED element being sent and then all nested element values are provided immediately following within a special extensible byte format containing multiple PACKED\_COMPONENT data representation elements (see [section D.2.6.3.7](#)).

D.2.8.9.4 The CMF-B representation of the PACKED COMPONENT is the only case in CMF where an individual element is not defined on byte boundaries. In CMF-B rather than individually passing the character values defined for the nested components, all of the sub-components are packed together into a special extensible byte format in the form "TFxxyyzz"

where the "T" is the termination bit indicating the final byte of

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the PACKED value,

the "F" indicates to examine the individual field components or to operate on them as a set (i.e., 0 is illegal for "F" except in normal reset value)

the "xx" is PACKED\_COMPONENT position 1 of byte n,  
the "yy" is PACKED\_COMPONENT position 2 of byte n,  
and "zz" is PACKED\_COMPONENT position 3 of byte n,  
where the maximum n is the number of components divided by 3.

D.2.8.9.5 The "T" works as the termination indicator as it does in all other data representations (0=more bytes to follow, 1=termination or last byte).

D.2.8.9.6 The "F" is the field use indicator and shall always be set to 1 if any fields are being sent and shall only be set to 0 when the reset byte value (reset of entire PACKED element) is sent.

D.2.8.9.7 Note that the components in the packed representation are identified as to which position represents them in the structure through the order in which they are defined in the PACKED element content model. The first component declared in the content model is the position 1 component of byte 1. Undefined component positions in the lower significant bits of the final packed byte must always be transmitted as set (i.e., the reserved bit value = 3 meaning "no change").

D.2.8.9.8 Trailing bytes (i.e., other than the first value byte) of a PACKED element which do not have new data to report or for which all three components within the byte are no-change, do not have to be reported. This is true only as long as the components are either optional or are required and have a defined default value which is the current value. Note that this also applies ONLY to bytes occurring after all bytes for which data is being sent.

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D.2.8.9.9 If an element is required and the value is 3 this means defaulted. If an element is optional and the value is 3 this means "No Change". For Path 0 required elements will never have default values set, but will either be the actual value or '00' for reset.

D.2.8.9.10 Each PACKED element DTD declaration contains the following:

- Attributes
  - a) Element tag (not required if only a sub-component of a REPETITIVE or COMPOSITE)
  - b) Element type set equal to "PACKED"
- One or more PACKED\_COMPONENT (only) elements declared as sub-elements in the element's content model

D.2.8.9.11 The PACKED DTD element declaration takes the form:

```
<!ELEMENT Packed_Element_Name (content_model_entries)>
<!ATTLIST Packed_Element_Name keyword_name keyword_declaration>
```

D.2.8.9.12 where the attribute list (i.e., ATTLIST) is repeated for each keyword applied to the PACKED element (or at least the contents is repeated -- both are acceptable XML forms).

D.2.8.9.13 An example DTD declaration for a PACKED element named "Cockpit\_Readings" would be:

```
<!ELEMENT Cockpit_Readings (Autopilot_Mode, Landing_Gear_Position?)>
<!ATTLIST Cockpit_Readings reset          (Y | N) "N">
<!ATTLIST Cockpit_Readings element_tag    CDATA #FIXED "5">
<!ATTLIST Cockpit_Readings element_type   CDATA #FIXED "PACKED">
```

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D.2.8.9.14 An example DTD declaration for a PACKED\_COMPONENT element named "Autopilot\_Mode" would be:

```
<!ELEMENT Autopilot_Mode (#PCDATA)>
<!ATTLIST Autopilot_Mode reset          (Y | N)  "N">
<!ATTLIST Autopilot_Mode element_type  CDATA #FIXED "PACKED_COMPONENT">
<!ATTLIST Autopilot_Mode defined_values CDATA #FIXED "On=1 | Off=2">
<!ATTLIST Autopilot_Mode default_value CDATA #FIXED "Off">
```

D.2.8.9.15 The PACKED formats for the two types of CMF representations would take the following forms:

CMF-X stream format:

```
"<element_name_tag>nested_packed_component_tags_and_elements
</element_name_tag>"
```

CMF-B stream format: "element\_binary\_tag packed\_element\_value"

D.2.8.9.16 An example of a PACKED element in the two types of CMF representations would be:

(assuming two PACKED\_COMPONENT elements of: Autopilot\_Mode having possible values of "On" or "Off" and Landing\_Gear\_Position having possible values of "Up" or "Down")

CMF-X stream format:

```
"<Cockpit_Readings>
  <Autopilot_Mode>Off</Autopilot_Mode >
  <Landing_Gear_Position>Up</Landing_Gear_Position>
</Cockpit_Readings>"
```

CMF-B stream format (in binary):

```
"10000101 11100111"
```

Comment: This is the cockpit readings tag and a byte with autopilot\_bits=10, landing\_gear\_bits=01, and one unused\_component\_bits = 11.

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D.2.8.9.17 To reset all defined nested packed component elements, the forms are:

CMF-X reset format:

```
"<element_name_tag reset="Y">
    empty_tags_with_reset=Y_for_required_sub_elements
</element_name_tag>"
```

CMF-B reset format: "element\_binary\_tag special\_reset\_value"

D.2.8.9.18 To reset individual defined nested packed component elements the forms are:

CMF-X reset format:

```
"<element_name_tag>
    nested_packed_components_with_values_or_reset_attributes
</element_name_tag>"
```

CMF-B reset format: "element\_binary\_tag packed\_element\_value"  
where there is an individual reset capability within the element value for each packed component

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**D.2.9 ERROR HANDLING GUIDELINES****D.2.9.1 CMF-B ERROR HANDLING**

CMF-B parsing shall process errors according to [Table D.2.9.1-1](#).

Table D.2.9.1-1 CMF-B Error Handling Table

Synchronization lost	<ul style="list-style-type: none"><li>• Bypass data to end of current GROUP</li><li>• Send error message to host indicating sync loss and data discarded</li></ul>
Unexpected non-parsable data at end of GROUP	<ul style="list-style-type: none"><li>• Bypass data to end of current GROUP</li><li>• Send error message to application software indicating sync loss and number of bytes</li></ul>
Unexpected parsable data received in GROUP	<ul style="list-style-type: none"><li>• Parse data</li><li>• Send data to application software with informational error</li></ul>
Data out of range (if Parser is verifying)	<ul style="list-style-type: none"><li>• Send data to application software with informational error</li></ul>
Match not found in "defined_values" for ENUMERATED (if Parser is verifying)	<ul style="list-style-type: none"><li>• Send actual "enumerated integer" value with an informational error message</li></ul>
Match not found in "defined_values" for mnemonic received for STRING (if Parser is verifying)	<ul style="list-style-type: none"><li>• Send invalid STRING value with an informational error message</li></ul>

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Element iterations out of range for REPETITIVE (if Parser is verifying)

- Parse data
- Send data to application software with informational error

#### D.2.9.2 CMF-X ERROR HANDLING

CMF-X parsing shall process errors according to [Table D.2.9.2-1](#).

Table D.2.9.2-1 CMF-X Error Handling Table

Synchronization lost	<ul style="list-style-type: none"><li>• Data out of range (if Parser is verifying)</li><li>• Send data to application software with informational error</li></ul>
Match not found in "defined_values" for ENUMERATED (if Parser is verifying)	<ul style="list-style-type: none"><li>• Send invalid STRING value with an informational error message</li></ul>
Match not found in "defined_values" for mnemonic received for STRING (if Parser is verifying)	<ul style="list-style-type: none"><li>• Send invalid STRING value with an informational error message</li></ul>
Element iterations out of range for REPETITIVE (if Parser is verifying)	<ul style="list-style-type: none"><li>• Parse data</li><li>• Send data to application software with informational error</li></ul>
Unexpected data for an undeclared Element	<ul style="list-style-type: none"><li>• Send data to application software with informational error</li></ul>
Unexpected data for a declared Element	<ul style="list-style-type: none"><li>• Parse data</li><li>• Send data to application software with informational error</li></ul>

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## D.3 DOCUMENT TYPE DEFINITION (DTD)

D.3.1 A Document Type Definition file defines the structure and characteristics of data used for CMF-B and CMF-X. CMF, both B and X, is defined via a single DTD to which all IBS participants shall adhere. It is possible to generate separate DTDs to handle special output limitations such as conversion of CMF data to different classification and/or coalition levels. It is also possible to embed DTD declarations within XML documents for purposes such as extending the format for system specific data requirements.

D.3.2 NOTE: DTD declarations internal to XML documents (i.e., packages) are not supported by the IBS CMF standard and shall be ignored when processing data for output to IBS communications networks.

### D.3.3 DTD CONVENTIONS

The following rules are used to create the DTD.

#### D.3.3.1 NAMING ELEMENTS AND ATTRIBUTES

CMF element names are indicated in mixed case (i.e., Title Case) alphanumeric characters with an underscore between each separate word. Attribute names (or keywords) are indicated in all lower case alphanumeric characters with an underscore between each separate word. XML standard DTD notation is indicated in all upper case alphanumeric characters with an underscore between each separate word where possible within the standard.

#### D.3.3.2 ELEMENT ATTRIBUTES

D.3.3.2.1 CMF elements attributes shall be defined as one of the following types:

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- a. "REQUIRED": Used where it is a requirement to always report an attribute value.
- b. "FIXED": Used where it is not necessary to send the attribute value, with the following exceptions:
  - (1) The numeric tag shall be sent in CMF-B in place of the standard character based tag unless the type of the element's parent eliminates the tag;
  - (2) The value multiplier and value offset attributes shall always be transmitted in instance of CMF-X data.
- c. "IMPLIED": Used to allow the attribute to optionally be sent in XML but does not allow for an inherent "declared default" in the declaration syntax. Note that the "IMPLIED" attribute is not to be confused with the CMF implied accuracy capability as described in section [D.2.6.3.4.12.1](#).
- d. "enumerated": XML "enumerated" syntax (not to be confused with the CMF ENUMERATED data representation type) is used to provide a selection of choices for an element. If an attribute defined using "enumerated" syntax is not sent, the attribute value shall be assumed to be equal to the inherent "declared default" for the attribute as provided by the "enumerated" syntax. Examples of CMF element attributes that use the "enumerated" syntax include the 'reset' and 'defined\_values' attributes.

D.3.3.2.2 There are pre-defined attribute names or CMF keywords that shall be used in the DTD to define CMF elements (see [Tables D.3.3.2-1](#) and [D.3.3.2-2](#)). These CMF keywords each have special meaning and provide encoding/decoding information to the specialized CMF-B parser software. Some are also used to provide values (e.g., units, accuracy, etc.) in CMF-X. Any one attribute shall be defined only once for any one element of applicable type (with the exception of the "path\_n" style attributes which are repeatable on each applicable element for each path number "n" - see [Table D.3.3.2-2](#)).

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D.3.3.2.3 CMF attributes provide for a number of capabilities including but not limited to:

- a. Element values may be restricted by range and/or adjusted by a constant.
- b. Default element units may be defined.
- c. Unit indication is selectable for some elements via selectable unit attributes.
- d. Accuracy indication is selectable for some elements by providing selectable accuracy attributes or accuracy range attributes.

D.3.3.2.4 The following tables detail the attributes defined and permitted for CMF elements:

Table D.3.3.2-1 CMF Keyword List

(Sheet 1 of 3)

KEYWORD	XML ATTRIBUTE TYPE*	APPLICABLE ELEMENT OR FIELD TYPES ( <sup>++</sup> - see definition)	VALUE SENT IN <b>CMF-B</b>	VALUE SENT IN <b>CMF-X</b>
accuracy	IMPLIED	FLOAT only	Optional	Optional
accuracy_lower_range	FIXED	FLOAT only	No	No
accuracy_lower_ranges	FIXED	FLOAT only	No	No
accuracy_qualifier	IMPLIED	FLOAT only	Optional	Optional
accuracy_upper_range	FIXED	FLOAT only	No	No
accuracy_upper_ranges	FIXED	FLOAT only	No	No
default_accuracies	FIXED	FLOAT only	No	No
default_accuracy	FIXED	FLOAT only	No	No
default_unit	FIXED	INTEGER or FLOAT	No	No
default_value	FIXED	Elements with values <sup>++</sup>	No	No

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Table D.3.3.2-1 CMF Keyword List

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<b>KEYWORD</b>	<b>XML ATTRIBUTE TYPE*</b>	<b>APPLICABLE ELEMENT OR FIELD TYPES</b> (++ - see definition)	<b>VALUE SENT IN CMF-B</b>	<b>VALUE SENT IN CMF-X</b>
defined_values	FIXED	Elements with values++	No	No
element_iterations	REQUIRED	REPETITIVE only	Yes	Yes
element_pattern	FIXED	PATTERN only	No	No
element_tag	FIXED	All elements	Yes	No
element_type	FIXED	All elements	No	No
field_type	FIXED	FIELD elements only	No	No
initial_value	FIXED	Elements with values <sup>++</sup>	No	No
max_element_iterations	FIXED	REPETITIVE only	No	No
min_element_iterations	FIXED	REPETITIVE only	No	No
path_exclusions	FIXED	All optional elements	No	No
path_n_default_accuracies	FIXED	FLOAT only	No	No
path_n_default_accuracy	FIXED	FLOAT only	No	No
path_n_default_unit	FIXED	FLOAT only	No	No
path_n_default_value	FIXED	Elements with values <sup>++</sup>	No	No
relevance	enumerated	All elements	No	Yes
reset	enumerate d	All elements	Optional	Optional
unit	IMPLIED	INTEGER or FLOAT	No	Yes
unit_equivalents	FIXED	FLOAT only	Optional	No
value_lower_range	FIXED	INTEGER or FLOAT	No	No
value_lower_range_exclusive	FIXED	FLOAT only	No	No
value_lower_ranges	FIXED	FLOAT only	No	No

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Table D.3.3.2-1 CMF Keyword List

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<b>KEYWORD</b>	<b>XML ATTRIBUTE TYPE*</b>	<b>APPLICABLE ELEMENT OR FIELD TYPES</b> ( <sup>++</sup> - see definition)	<b>VALUE SENT IN CMF-B</b>	<b>VALUE SENT IN CMF-X</b>
value_lower_ranges _exclusive	FIXED	FLOAT only	No	No
value_max_length	FIXED	STRING only	No	No
value_min_length	FIXED	STRING only	No	No
value_multiplier	FIXED	INTEGER only	No	Yes
value_offset	FIXED	INTEGER only	No	Yes
value_qualifier	IMPLIED	INTEGER or FLOAT	Optional	Optional
value_upper_range	FIXED	INTEGER or FLOAT	No	No
value_upper_range _exclusive	FIXED	FLOAT only	No	No
value_upper_ranges	FIXED	FLOAT only	No	No
value_upper_ranges _exclusive	FIXED	FLOAT only	No	No

\* Note: With the exception of the value\_multiplier and value\_offset, attributes declared in the DTD with the XML attribute type of FIXED shall NEVER be transmitted in instances of CMF-X data.

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Table D.3.3.2-2 CMF Keyword Definitions

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KEYWORD	DEFINITION
accuracy	The declaration of this attribute permits accuracy to be reported (other than just implied). Optionally reported as a value within separate upper and lower accuracy ranges to override the implied accuracy for a reported element value. Absence of one or more of the range limitations leaves any respective range unrestricted. Reported as character scientific notation for CMF-X and as FLOAT for CMF-B.
accuracy_lower_range	Provides the lower range or minimum value allowed for the "accuracy" attribute value.
accuracy_lower_ranges	Provides the lower ranges or minimum values for each of the selectable units of an element allowed for the "accuracy" attribute value.
accuracy_qualifier	Indicates that the true accuracy is actually something "less than" or "greater than" the accuracy reported in the FLOAT element accuracy. CMF-B identifies this qualification via special bits in an extension byte (see <a href="#">section D.2.6.3.4</a> ). Without this attribute the "greater than" and "less than" capabilities are not usable on a FLOAT element (FLOAT special bits=0). If this attribute is declared for an element and is set to one of the qualifiers by the producer, it shall always be presented to users in some manner, whenever the related value is presented. It shall also be included in all respective instances of CMF data.
accuracy_upper_range	Provides the upper range or maximum value allowed for the "accuracy" attribute value.

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Table D.3.3.2-2 CMF Keyword Definitions

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KEYWORD	DEFINITION
accuracy_upper_ranges	Provides the upper ranges or maximum values for each of the selectable units of an element allowed for the "accuracy" attribute value.
default_accuracies	Provides the same type information as the "default_accuracy" keyword, but provides multiple default accuracy values for when more than one possible unit is defined for the element.
default_accuracy	Provides an accuracy to be assumed on data receipt in lieu of that indicated inherently by the floating point value transmitted. The accuracy indicated by this attribute is overridden if the "accuracy" attribute value is reported with the element value.
default_unit	Provides the unit to be assumed on data receipt in the absence of a transmitted unit. For FLOAT elements, can be overridden by a "unit" attribute sent in CMF-X or a unit equivalent value in CMF-B.
default_value	Provides the most common value which, when provided by the producer for required elements, is not actually transmitted. <u>This attribute is not applicable to FLOAT or PATTERN elements. It shall be ignored for optional elements.</u> These values are passed to the host as though they were actually transmitted. See <u>section D.2.6.3</u> for default value explanation and usage.

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Table D.3.3.2-2 CMF Keyword Definitions

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KEYWORD	DEFINITION
defined_values	Provides an allowable set of values for an element. <u>Not applicable for FLOAT and PATTERN elements.</u> The values may be provided directly in the DTD as a character string representation or enumeration of values each separated by an option indicator (i.e., the " " character). The values may alternatively be provided by reference to the allowable list via the XML DTD entity reference capability. Each element may only reference one external file.
element_iterations	Provides the number of repetitions of all elements that are present within a "REPETITIVE" type group element. (See <a href="#">section D.2.8.8</a> )
element_pattern	Defines the allowable format of a PATTERN element using a set of field indicators. See <a href="#">sections D.2.6.2.11</a> and <a href="#">D.2.6.3.6</a> .
element_tag	Used by CMF-B in place of the standard XML character-based start tags. Provided to indicate the start (or presence) of some CMF-B elements (see <a href="#">section D.2</a> ). Each tag must be uniquely defined within the DTD. The special tag value of "0" is reserved by CMF-B to indicate a Processing Instruction and must not be used for element tags.

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Table D.3.3.2-2 CMF Keyword Definitions

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KEYWORD	DEFINITION
element_type	Used to indicate the type of the element being defined. The type must be one of the CMF-B element types. The possible values for this attribute are detailed by element in <a href="#">Table D.2.8-1</a> . They include the element types of "GROUP", "FIELD", "COMPOSITE", "REPETITIVE", or "PACKED".
field_type	Used to indicate the data representation type of the FIELD element being defined. The type can be one of the CMF-B data representation types, including "INTEGER", "ENUMERATED ", "FLOAT", "STRING", "PATTERN", or "PACKED COMPONENT".
initial_value	Provides a value to be assumed by a host system initially, when an element has never been transmitted, or when an element is reset. <u>This attribute is not applicable to FLOAT elements.</u> See <a href="#">section D.2.7.1</a> for initial value explanation and usage.
max_element_iterations	Provides the maximum number of repetitions of elements within a "REPETITIVE" type group element. If this keyword is not specified, the maximum number of repetitions is unlimited.
min_element_iterations	Provides the minimum number of repetitions of elements within a "REPETITIVE" type group element. If this keyword is not specified, the minimum number of repetitions is one.

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Table D.3.3.2-2 CMF Keyword Definitions

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KEYWORD	DEFINITION
path_exclusions	Identifies a list of paths to which the element is not to be reported on (see <a href="#">section 4.3.3.1</a> ). The paths are each defined as "n" where "n" is a path number operationally pre-assigned to a transmission medium or channel. The excluded paths are each separated by an option indicator (i.e., the " " character) in the DTD exclusion declaration. Required elements cannot be excluded and thus cannot have this attribute.
path_n_default_accuracies	Provides the same type information as the "path_n_default_accuracy" keyword, but provides multiple default accuracy values for the identified path for when more than one possible unit is defined for the element.
path_n_default_accuracy	Provides a default accuracy for "path n" where "n" is a path number operationally assigned to a transmission medium or channel. The presence of this attribute overrides any defined "default_accuracy" attribute for the path identified.
path_n_default_unit	Identifies the default unit for "path n" where "n" is a path number operationally pre-assigned to a transmission medium or channel. The presence of this attribute overrides any defined "default_unit" attribute for the path identified.

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Table D.3.3.2-2 CMF Keyword Definitions

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KEYWORD	DEFINITION
path_n_default_value	If present, identifies the default value for "path n" where "n" is a path number operationally pre-assigned to a transmission medium or channel. <u>This attribute is not applicable to FLOAT or PATTERN elements.</u> <u>It will be ignored for optional elements.</u> A default_value must be present for this field to exist. The presence of this attribute overrides the defined "default_value" attribute for the path.
relevance	Indicates the operational relevance of an element. In support of DTD element maintenance, this attribute may be declared for elements which, due to backward compatibility concerns, cannot easily be removed from the DTD. If this attribute is declared for an element and the attribute value is "DISUSED", the respective element is not operationally valid and, where possible, shall not be utilized and/or an indication shall be presented to the operator (see <a href="#">section D.3.4.3.8.2</a> ).
reset	Indicates whether the element is to be reset to the No Data or Initial Value state. Valid "reset" attribute values are "Y" for yes or "N" for no. The attribute is not required to be sent with the "N" value. If the reset condition is to be indicated, the character "Y" value is sent in CMF-X or the special zero value is sent in CMF-B. Presence of the reset condition normally inhibits the transmission of other non-required attributes.

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Table D.3.3.2-2 CMF Keyword Definitions

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KEYWORD	DEFINITION
unit	<p>The character representation of the unit selection is transmitted in CMF-X. The "unit" attribute is declared along with one or multiple possible character unit selections (using XML "IMPLIED" attribute syntax). If defined and available, the unit indication is always provided for the "composite path" (see <a href="#">section 4.3.3.1.1</a>) unless the element is reset.</p> <p>For INTEGER elements, only one unit selection may be defined. Only that unit selection is transmitted in CMF-X and no unit indication is transmitted in CMF-B.</p> <p>For FLOAT elements, unit is optionally reported on CMF-X as one of the defined set of unit selections in order to indicate the unit and/or override any default unit for a reported element value. On CMF-B the equivalent numerical enumerations of the character unit selections are provided in a "unit_equivalents" attribute. The enumeration value is sent in CMF-B and the special unit extension bit is set to one.</p> <p>Without the unit attribute defined for an element, unit indication and FLOAT selectable unit capability are not supported on the element (special unit bit=0).</p>

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Table D.3.3.2-2 CMF Keyword Definitions

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KEYWORD	DEFINITION
unit_equivalents	Provides the respective enumerations (i.e., numerical values) for each possible character unit selection defined for the "unit" attribute of a FLOAT element. Permits numerical indication of unit selection in CMF-B (see unit attribute definition).
value_lower_range	Identifies the minimum allowed value for INTEGER or FLOAT elements inclusive of the range value itself. If a lower range is not specified for an INTEGER or FLOAT element, the lower range is either zero or unrestricted, respectively.
value_lower_range_exclusive	Identifies the minimum allowed value for FLOAT elements exclusive of the range value itself (i.e., the reportable minimum is the lowest value which can be represented by the producer's accuracy capability yet higher than the exclusive value).
value_lower_ranges	Identifies the minimum allowed values for each of the selectable units for FLOAT elements inclusive of the range values themselves.
value_lower_ranges_exclusive	Identifies the minimum allowed values for each of the selectable units for FLOAT elements exclusive of the range values themselves (i.e., the reportable minimums are the lowest values which can be represented by the producer's accuracy capability yet higher than the exclusive values).

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Table D.3.3.2-2 CMF Keyword Definitions

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KEYWORD	DEFINITION
value_max_length	Identifies the maximum number of characters allowed in a STRING element value. If there is no value_max_length keyword specified for the element, the maximum length is unlimited.
value_min_length	Identifies the minimum number of characters required in a STRING representation element value. If value_min_length is not specified for an element, the minimum length is one.
value_multiplier	Provides a constant with which to multiply the transmitted value to determine the actual reported value. This constant multiplier allows for more efficient usage of bandwidth by reducing the transmitted size of integers or by allowing what would normally be reported as multiples of a fixed point value to be transmitted in the more space efficient INTEGER. Due to resulting limited extensibility, this attribute should be utilized sparingly. If this attribute is declared for an element, it shall be included in all respective instances of CMF-X data.  If the value_offset is used in conjunction with value_multiplier the precedence for transmit is value_multiplier then value_offset and the reverse is true for the receiver.  <u>transmitter</u> : CMF value = (real value / value_multiplier) - value_offset <u>receiver</u> : real value = (CMF value + value_offset) * value_multiplier

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Table D.3.3.2-2 CMF Keyword Definitions

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KEYWORD	DEFINITION
value_offset	<p>Provides a constant with which to add to the transmitted value to determine the actual reported value. This constant offset allows for more efficient usage of bandwidth by allowing what would normally be reported as a fixed point value to be transmitted in the more space efficient INTEGER or what is normally a negative integer to be scaled fully into the non-negative INTEGER range. Due to resulting limited extensibility, this attribute should be utilized sparingly. If this attribute is declared for an element, it shall be included in all respective instances of CMF-X data.</p> <p>If the value_offset is used in conjunction with value_multiplier the precedence for transmit is value_multiplier then value_offset and the reverse is true for the receiver.</p> <p><u>transmitter</u> : CMF value = (real value / value_multiplier) - value_offset</p> <p><u>receiver</u> : real value = (CMF value + value_offset) * value_multiplier</p>

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Table D.3.3.2-2 CMF Keyword Definitions

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KEYWORD	DEFINITION
value_qualifier	In CMF-X, indicates that the true value is actually something “less than” or “greater than” the element value reported in the INTEGER or FLOAT element value. For FLOAT elements, CMF-B identifies this qualification via special bits in an extension byte (see <a href="#">section D.2.6.3.4</a> ). For INTEGER elements, CMF-B identifies this qualification via respective decrement or increment of the lower and upper range values (see <a href="#">section D.2.6.3.2.4</a> ). Without this attribute the “greater than” and “less than” capabilities are not usable on an INTEGER or FLOAT element (FLOAT special bits=0). If this attribute is declared for an element and is set to one of the qualifiers by the producer, it shall always be presented to users in some manner, whenever the related value is presented. It shall also be included in all respective instances of CMF data
value_upper_range	Identifies the maximum allowed value for INTEGER or FLOAT elements inclusive of the range value itself. If an upper range is not specified for an element, the upper range is unrestricted.
value_upper_range_exclusive	Identifies the maximum allowed value for FLOAT elements exclusive of the range value itself (i.e., the reportable maximum is the highest value which can be represented by the producer’s accuracy capability yet less than the exclusive value).

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Table D.3.3.2-2 CMF Keyword Definitions

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KEYWORD	DEFINITION
value_upper_ranges	Identifies the maximum allowed values for each of the selectable units for FLOAT elements inclusive of the range values themselves.
value_upper_ranges_exclusive	Identifies the maximum allowed values for each of the selectable units for FLOAT elements exclusive of the range values themselves (i.e., the reportable maximums are the highest values which can be represented by the producer's accuracy capability yet less than the exclusive values).

**D.3.3.3 CMF DATA VALIDATION AND VERIFICATION**

D.3.3.3.1 As mentioned previously, XML prescribes two terms for the checking of data; "well-formed" and "valid". All XML data shall be "well-formed" in that it shall follow the standard XML syntax for identifying elements and providing values. Being "well-formed" does not guarantee that XML data adheres to any specific content model structure or that the data is limited to any definite elements or data attributes, but only ensures proper syntax and nesting.

Authentication of the content model structure as well as application of element and attribute limitations is called "validation" by the XML standard. Validation of the data is done against the structure, elements and attributes as declared in a DTD, therefore use of a DTD is required for data validation. XML also provides a defined syntax and structure that shall be applied to a DTD, as DTDs shall always be both "well-formed" and "valid".

D.3.3.3.2 The XML standard allows for an XML parser to check that XML data is "well-formed" without also checking if it is "valid". XML parsers which also check data validity are called "validating

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parsers". The CMF Parser Library may selectively operate as a "validating parser" on CMF-X data, but since it is not physically possible to parse CMF-B data without a DTD, CMF-B data shall ALWAYS be validated.

D.3.3.3.3 CMF is consistent in the use of "well-formed" and "valid" as defined by the XML standard. CMF also extends the criterion of DTD validation to ensure that the syntax and structure of a CMF DTD meets the enhanced syntax and structure required by the CMF implementation to include the CMF-defined keyword attributes.

D.3.3.3.4 CMF-X being a subset implementation follows the XML standard for "well-formed" and "valid". CMF-B being a binary derivative clearly does not follow the exact rules, but follows corollary and equivalent rules for "well-formed" as identified in sections D.2.6 through D.2.8 and utilizes the same DTD as CMF-X for data validation.

D.3.3.3.5 Additionally, CMF provides for "verification" of the CMF-defined keyword attributes and rules against CMF data as an additional data-checking criterion. "Verification" is the checking of CMF data against the DTD-defined ranges, units, accuracies, resets, etc. Verification of data can only occur if the data is also validated. CMF verification shall be applied to both CMF-X and CMF-B.

D.3.3.3.6 Element values shall be verified against **ALL** applicable attribute definitions in the DTD including any external files (i.e., range, defined values, etc.) on creation or prior to any initial transmission onto the IBS infrastructure (i.e., at any point where CMF data is created or modified for subsequent forward passage). In support of rapid fielding of future enhancements, verification shall not be performed upon receipt.

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D.3.3.3.7 The CMF Parser Library (CMFPL) provides functionality that automatically verifies CMF data according to the defined DTD elements and attributes on transmission into CMF. The Parser Library allows the application to enable or disable verification on CMF data receipt. Disabling of verification on receipt is recommended because receipt verification limits flexibility with respect to future backward compatible modifications. Additional considerations include performance or memory limitations. Disabling of verification relieves any need to have the files externally referenced by the DTD loaded into memory (see defined\_values attribute in [Table D.3.3.2-1](#)). Additionally, the verification of values within externally referenced files may be separately enabled or disabled. Verification of externally referenced file values shall be disabled for the receipt of data.

#### **D.3.4 DTD MAINTENANCE**

The following rules are to be observed when modifying the DTD.

##### **D.3.4.1 VERSION TRACKING**

There are four version numbers that shall be included in all CMF data packages (i.e., documents): the major parser API version, minor parser API version, major DTD version, and minor DTD version. These version numbers are defined as a required part of the CMF package element and are the first values in the package in this order.

###### **D.3.4.1.1 PARSER INTERFACE VERSION CHANGES**

Parser API version numbers are based on the CMF Data Specification and portions of the implemented CMF Parser Library API.

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### D.3.4.1.1.1 MAJOR PARSER INTERFACE VERSION CHANGES

The major parser interface version indicates changes to the CMF Parser API which are not backward compatible with the previous API. A major parser interface version change requires all producers and consumers to update their parser software library prior to processing the latest CMF data.

### D.3.4.1.1.2 MINOR PARSER INTERFACE VERSION CHANGES

The minor parser interface version indicates changes, in the CMF Parser API which are backward compatible with the previous API.

### D.3.4.1.2 DTD VERSION CHANGES

As a primary tenet of the CMF design, data format changes are to be done via the DTD rather than in parser software. Therefore, DTD version changes are expected to be common as producer and user data requirements evolve. Conceivable changes would include, but not be limited to, such requirements as additional data elements to support new technologies; new sensor capabilities requiring extended range, element rearrangement to support enhanced grouping transmission efficiency, or removal of unused data.

### D.3.4.1.2.1 MAJOR DTD VERSION CHANGES

The major DTD version identifies changes that are not backward compatible with the previous DTD. A major DTD version change requires all producers and consumers to update their DTD prior to processing the latest CMF data. Major changes include modification of existing elements or addition of elements depending on the extent or placement of the modification or addition.

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D.3.4.1.2.2 MINOR DTD VERSION CHANGES

D.3.4.1.2.2.1 A minor DTD version identifies changes that are backward compatible and processing can continue without a DTD update, though possibly, without full use of all DTD elements or capabilities. Minor changes include adding new elements, or some changes to element ranges and/or other attributes. For example, an element added as a sub-element to the end of an existing group element is a minor change because the group length would indicate the new element's presence. Therefore, the parser can ignore the unknown element and still easily find the next known element tag.

D.3.4.1.2.2.2 Additionally, changes to ranges and/or other attributes could potentially be considered and indicated as minor changes if, operationally, it is deemed that not all producers and/or consumers must immediately support the range change. Identification of minor changes requires careful consideration for the exact change and its operational impacts, but has the potential, where feasible, to greatly simplify the implementation, coordination, and fielding of a required DTD change.

D.3.4.1.3 VERSION MISMATCH CHECKING

D.3.4.1.3.1 The current parser interface version numbers are available to a CMF application from the parser library itself. The major and minor DTD version numbers are provided within the DTD and are also made available to the CMF application level. The parser library software will support the check of the parser and DTD versions used to create each received CMF-B or CMF-X data package with the versions in use by the receiving unit and mismatches will be reported, if supported by the application level. All CMF applications, where physically possible, shall at a minimum support the reporting of all version numbers and mismatches. It is recommended that all CMF applications inhibit continued CMF operation if major level version

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mismatches occur. The parser library will support automatic inhibit on major level version mismatch, if enabled by the CMF application.

D.3.4.1.3.2 Due to configuration management processes, unanticipated major level mismatches are to be unlikely and rare. Nevertheless, continued operation is dependent upon whether the mismatch is at a major or minor version level combined with an operational decision weighing downtime versus a potentially critical data misinterpretation error. An override of a major version mismatch will have the results, including probable failures, as indicated for major changes in [Table D.3.4.2.3-1](#) through [Table D.3.4.2.8-1](#).

**D.3.4.2 DTD ADDITIONS, DELETIONS, AND MODIFICATIONS**

D.3.4.2.1 An inevitable part of any message format is the need for maintenance. Maintenance encompasses the ability to make changes which include additions, deletions, and/or modifications. The following sections and tables provide some estimates of the impacts involved with various changes to a DTD. The scenarios included are not assumed to be all-inclusive nor are they definitive regarding the actual severity of any particular maintenance action. All actual modifications must be thoroughly considered prior to release and implementation.

D.3.4.2.2 The severity estimates provided herein were intended only to address the anticipated impacts regarding CMF DTD and Parser versions and do not make any attempt to determine the severity of actions with regard to host displays or to the application level. Any operations that are clearly invalid per the defined CMF capabilities are also not included in the following tables. In addition, it should be noted that any element or attribute addition, deletion, or modification will very likely cause a corresponding change in an element's content model. Due to this fact, some of the modifications may actually be either more or less severe depending upon whether the parser in use is a validating or non-validating parser.

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### D.3.4.2.3 ADDING ELEMENTS

The rules specified in [Table D.3.4.2.3-1](#) shall be followed when adding elements to DTDs.

Table D.3.4.2.3-1 Adding Elements to DTDs

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ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
New Element	Any	Optional element at end of a Group	Minor DTD	Full backward compatibility Information message for extra non-parsed bytes No sync loss	Full backward compatibility Information message for extra values received	<b>Old DTD receives / new DTD xmits:</b> A CMF-B Parser with an older DTD will simply bypass the new data in the Group based on the "length" provided at the beginning of the Group generating an information message indicating non-parsed bytes for the application software. The receiving processor would not lose synchronization with the rest of the CMF-B data stream. CMF-X Parser would send an information message to the application indicating unparsed data (i.e., data not placed into DOM tree). <b>New DTD receives / old DTD xmits:</b> A CMF-B or -X Parser with a new DTD will not require the data because it is optional and notice no incompatibility with a transmission using an older DTD

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Table D.3.4.2.3-1 Adding Elements to DTDs

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ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
New Element	Any	Required element at end of Group	Major DTD (see note)	1-way full backward compatibility Error message on missing fields (new DTD) or Information message on extra non-parsed bytes (old DTD) No sync loss	1-way full backward compatibility Error message on missing fields (new DTD) or Information message on extra fields (old DTD)	<p><b>Old DTD receives / new DTD xmits:</b> A CMF-B or CMF-X Parser with an older DTD will simply bypass the new unrecognized data from a transmitter with a new DTD and generate an information message for the application indicating unparsed data.</p> <p><b>New DTD receives / old DTD xmits:</b> A CMF-B or CMF-X Parser with a new DTD will expect the required fields and send an error message to the application indicating missing data.</p> <p><b>Note:</b> Easily a Minor DTD Version change if all transmitting units receive the new DTD and only the receive-units may have an older version. Receive units can simply ignore the extra data.</p>

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Table D.3.4.2.3-1 Adding Elements to DTDs

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ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Existing Element with added tag in new position	Any	Optional element at end of a Group	Minor DTD	Full backward compatibility Information message for extra non-parsed bytes No sync loss	Full backward compatibility Information message for extra values received	<p><b>Old DTD receives / new DTD xmits:</b> A CMF-B receiving processor with an older DTD will simply bypass the new data in the Group based on the "length" provided at the beginning of the Group. An information message indicating "unexpected non-parsed bytes were received" will be sent to the application software. Sync will not be lost.</p> <p>The CMF-X receiving Parser can interpret the data, but would send an informational error to the application software indicating "unexpected non-parsed fields were received".</p> <p><b>New DTD receives / old DTD xmits:</b> A CMF-B and CMF-X receiving Parsers with a new DTD would not require the data because it is optional and notice no incompatibility with a transmission using an older DTD.</p> <p><b>Note:</b> Easily a Minor DTD Version change. Receive units can simply ignore the extra data.</p>

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Table D.3.4.2.3-1 Adding Elements to DTDs

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ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Existing Element with added element tag in new position	Any	Required element at end of a Group	Major DTD (see note)	1-way partial backward compatibility Error message on missing fields (new DTD) or Information message on extra non-parsed bytes (old DTD) No sync loss	1-way partial backward compatibility Error message on missing fields (new DTD) or Information message on extra fields (old DTD) - fields can be parsed	<p><b>Old DTD receives / new DTD xmits:</b> CMF-B Parser with an older DTD will simply bypass the new unrecognized bytes or fields from a transmitter with a new DTD and generate an information message for the application code indicating "unexpected non-parsed bytes were received". CMF-X Parser with an older DTD can parse the newly added fields for the group from a transmitter with a new DTD, but would generate an information message for the application code indicating "unexpected elements were received".</p> <p><b>New DTD receives / old DTD xmits:</b> CMF-B or CMF-X Parser with "new" DTD will expect the required fields and would send an error to the application code when not received.</p> <p><b>Note:</b> Easily a Minor DTD Version change if all transmitting units receive the new DTD and only the receive-units may have an older version. Receive units can simply ignore the extra data.</p>

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Table D.3.4.2.3-1 Adding Elements to DTDs

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ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Existing Element with existing element tag in new position	Any	Optional element at end of a Group	Minor DTD	Full backward compatibility Information message for extra non-parsed bytes No sync loss	Full backward compatibility Information message for extra non-parsed bytes	<p><b>Old DTD receives / new DTD xmits:</b> CMF-B elements that are not expected by the older DTD will simply be bypassed and an information message indicating "unexpected non-parsed bytes were received" will be sent to the application software.</p> <p>CMF-X Parser with an older DTD can parse the newly added fields for the group from a transmitter with a new DTD, but would generate an information message for the application code indicating "unexpected non-parsed fields were received".</p> <p><b>New DTD receives / old DTD xmits:</b> Since they are optional, the fields will not be required by the CMF-B or CMF-X Parser using the new DTD.</p> <p><b>Note:</b> Easily a Minor DTD Version change. Receive units can simply ignore the extra data.</p>

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Table D.3.4.2.3-1 Adding Elements to DTDs

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ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Existing Element with existing element tag in new position	Any	Required element at end of a Group	Major DTD (see note)	1-way partial backward compatibility Error message on missing fields (new DTD) or Information message on extra non-parsed bytes (old DTD) No sync loss	1-way partial backward compatibility Error message on missing fields (new DTD) or Information message on extra non-parsed bytes (old DTD)	<p><b>Old DTD receives / new DTD xmits:</b> CMF-B elements that are not expected by the older DTD will simply be bypassed and an information message indicating "unexpected non-parsed bytes were received" will be sent to the application software. No synchronization errors.</p> <p><b>New DTD receives / old DTD xmits:</b> CMF-B or CMF-X Parser with "new" DTD will expect the required fields and will send an error to the application code when required fields are not received. No synchronization errors.</p> <p><b>Note:</b> Easily a Minor DTD Version change if all transmitting units receive the new DTD and only the receive-units may have an older version. Receive units can simply ignore the extra data.</p>

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Table D.3.4.2.3-1 Adding Elements to DTDs

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<b>ADD ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
New Element	Any	Optional element at start or middle of a Group	Major DTD	NOT backward compatible Data will be lost Sync loss	NOT backward compatible (will not validate) Error messages	<b>Old DTD receives / new DTD xmits:</b> CMF-B elements that are not expected by the older DTD corrupt the remaining portion of the entire group. Error will be discovered, but could allow corrupt data to enter system, and may result in large data loss for the Element. When the CMF-B Parser discovers a synchronization error, an error message will be sent to the application software indicating "unexpected bytes received - synchronization error - DATA LOST". The amount of data lost will depend on the location of the error in the data stream. <b>New DTD receives / old DTD xmits:</b> No error.

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Table D.3.4.2.3-1 Adding Elements to DTDs

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ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
New Element	Any	Required element at start or middle of a Group	Major DTD	NOT backward compatible Data will be lost Sync loss	NOT backward compatible (will not validate undefined field) Error messages	<p><b>Old DTD receives / new DTD xmits:</b> CMF-B elements that are not expected by the older DTD will corrupt the remaining portion of the entire group. Error will be discovered, but could allow corrupt data to enter system, and may result in large data loss for the Element. When the CMF-B Parser discovers a synchronization error an error message will be sent to the application software indicating "unexpected bytes received - synchronization error - DATA LOST". The amount of data lost will depend on the location of the error. CMF-X will not lose synchronization but will give an error message to the application indicating "unexpected fields received".</p> <p><b>New DTD receives / old DTD xmits:</b> CMF-B or CMF-X Parser with "new" DTD will expect the required fields and will send an error to the application code when required fields are not received. No synchronization errors.</p>

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Table D.3.4.2.3-1 Adding Elements to DTDs

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<b>ADD ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Existing Element with added element tag in new position	Any	Optional element at start or middle of a Group	Major DTD	NOT backward compatible Data will be lost Sync loss	Mostly backward compatible (will not validate field not properly listed in content model) Error messages	<b>Old DTD receives / new DTD xmits:</b> CMF-B elements that are not expected by the older DTD will corrupt the remaining portion of the entire group. The error will be discovered, but could allow corrupt data to enter system, and may result in large data loss for the Element. When the CMF-B Parser discovers a synchronization error an error message will be sent to the application software indicating "unexpected bytes received - synchronization error - DATA LOST". The amount of data lost will depend on the location of the error in the data stream. <b>New DTD receives / old DTD xmits:</b> No error.

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<b>ADD ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Existing Element with added element tag in new position	Any	Required element at start or middle of a Group	Major DTD	NOT backward compatible Data will be lost Sync loss	Mostly backward compatible (will not validate field not properly listed in content model) Error messages	<p><b>Old DTD receives / new DTD xmits:</b> CMF-B elements that are not expected by the older DTD will corrupt the remaining portion of the entire group. The error will be discovered, but could allow corrupt data to enter system, and may result in large data loss for the Element. When the CMF-B Parser discovers a synchronization error an error message will be sent to the application software indicating "unexpected bytes received - synchronization error - DATA LOST". The amount of data lost will depend on the location of the error. CMF-X will not lose synchronization but will give a warning message to the application indicating "unexpected fields received".</p> <p><b>New DTD receives / old DTD xmits:</b> CMF-B or CMF-X Parser with "new" DTD will expect the required fields and will send an error to the application when required fields are not received. No synchronization errors.</p>

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Table D.3.4.2.3-1 Adding Elements to DTDs

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ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Existing Element with existing element tag	Any	Optional element at start or middle of a Group	Minor DTD	Full backward compatibility Information message on extra non-parsed bytes (old DTD) No sync loss	Mostly backward compatible (old DTD) Error messages	<p><b>Old DTD receives / new DTD xmits:</b> CMF-B Parser will recognize the element and can parse properly to bypass the element. Elements not expected by the older DTD can be ignored and an information message indicating "unexpected non-parsed bytes were received" will be sent. CMF-X Parser with an older DTD can parse newly added fields for group from a transmitter with a new DTD, but will generate an error message for the application code indicating "unexpected fields were received".</p> <p><b>New DTD receives / old DTD xmits:</b> Since they're optional, the fields will not be required by the CMF-B or CMF-X Parser using the new DTD.</p> <p><b>Note:</b> Possibly a Minor DTD Version. Receive units can simply ignore the extra data.</p>

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Table D.3.4.2.3-1 Adding Elements to DTDs

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ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Existing Element with existing element tag	Any	Required element at start or middle of a Group	Major DTD (see note)	1-way partial backward compatibility Information message on extra non-parsed bytes (old DTD) and error message on missing data (new DTD); No sync loss	1-way partial backward compatibility (field will not validate properly if not listed in content model) (old DTD) and error message on missing data (new DTD)	<p><b>Old DTD receives / new DTD xmits:</b> CMF-B elements that are not expected by the older DTD can be ignored and an information message indicating "unexpected non-parsed bytes were received" will be sent to the application software.</p> <p>CMF-X Parser with an older DTD can parse the newly added fields for the group from a transmitter with a new DTD, but would generate an error message for the application code indicating "unexpected fields were received".</p> <p><b>New DTD receives / old DTD xmits:</b> CMF-B or CMF-X Parser with "new" DTD will expect the required fields and will send an error to the application code when required fields are not received. No synchronization errors. <b>Note:</b> Easily a Minor DTD Version change if all transmitting units receive the new DTD and only the receive-units may have an older version. Receive units can simply ignore the extra data.</p>

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Table D.3.4.2.3-1 Adding Elements to DTDs

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ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Any Element	Any	To any position in a COMPOSITE or REPETITIVE	Major DTD	NOT backward compatible Data will be lost Sync loss	Mostly backward compatible Error messages	<b>Old DTD receives / new DTD xmits or</b> <b>New DTD receives / old DTD xmits:</b> COMPOSITE and REPETITIVE packaging structures do not provide a "length" value, therefore no mechanism exists to allow the CMF-B Parser to bypass even trailing data. Newly inserted fields would be unrecognizable by the parser and cause an error condition. Also missing data that was required by a newer DTD would also cause unrecognizable errors. These errors may go undetected and could be severe. There is highly probable introduction of corrupt data into the system, and synchronization errors for the CMF-B Parser. The full impact to the CMF-X Parser would be dependent upon whether the element was previously defined in the old DTD, but regardless this addition would not validate due to an erroneous content model. The CMF-X Parser would be dependent upon whether the element was previously defined in the old DTD, but regardless this addition would not validate due to an erroneous content model.

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ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
New or existing Element	PACKED COMPO-NENT	Required element at the start or middle of a PACKED Element	Major DTD	NOT backward compatible Undetectable corrupt data Sync loss during PACKED COMPONENT only	NOT backward compatible Errors detected	<b>Old DTD receives / new DTD xmits or</b> <b>New DTD receives / old DTD xmits:</b> CMF-B data received by a Parser using a different DTD than the transmit unit would be interpreting the contents of one field although they were the contents of another and would not realize it, thus causing significant errors to be introduced. With receipt using an old DTD, CMF-X will not lose synchronization but will give an information message to the application indicating "unexpected fields received". With receipt using a new DTD, CMF-X will expect the new data and will thus report an error.

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Table D.3.4.2.3-1 Adding Elements to DTDs

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ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
New or existing Element	PACKED COMPO-NENT	Required element to the end of a PACKED Element	Major DTD	Backward compatible Error detected No sync loss	1-way Partial Backward compatible Error detected	<p><b>Old DTD receives / new DTD xmits or New DTD receives / old DTD xmits:</b></p> <p>Error will be detected by Parser when receiving additional fields that are not expected, but other data will not be affected. An information message will be sent to application software indicating extraneous non-parsed data. No synchronization loss.</p> <p><b>CAUTION:</b> Assume a PACKED_COMPONENT is present at the end of a PACKED structure in the initial DTD, then the field is deleted from the end of a PACKED structure in an updated DTD. This can be accomplished with backward compatibility, with only a Minor DTD version change. However, a new PACKED_COMPONENT cannot be added to the same PACKED structure and remain backward compatible with both previous versions of the DTD. Unless the operational nature of the deleted field and the added field uniquely provided otherwise, the change will require more than a Minor DTD version adjustment</p> <p>(continued)</p>

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Table D.3.4.2.3-1 Adding Elements to DTDs

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ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
						(continued) because Parsers with the first and third DTDs mentioned above will be receiving the PACKED_COMPONENT and identifying it as two completely different fields. Careful consideration to the severity of such a change must be made at the time of DTD modification.
New or existing Element	PACKED COMPONENT	Optional element at the start or middle of a PACKED Element	Major DTD	NOT backward compatible Undetectable corrupt data Sync loss during PACKED COMPONENT only	NOT backward compatible Errors detected	Old DTD receives / new DTD xmits or New DTD receives / old DTD xmits: CMF-B data received by a Parser using a different DTD than the transmit unit would be interpreting the contents of one field although they were the contents of another and would not realize it, thus causing significant errors to be introduced. With receipt using an old DTD, CMF-X will not lose synchronization but will give an information message to the application indicating "unexpected fields received". With receipt using a new DTD, CMF-X will expect the new data and will thus report an error.

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Table D.3.4.2.3-1 Adding Elements to DTDs

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<b>ADD ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
New or existing Element	PACKED COMPONENT	Optional element to the end of a PACKED Element	Minor DTD	Backward compatible Error detected No sync loss	Backward compatible Error detected	<p><b>Old DTD receives / new DTD xmits or New DTD receives / old DTD xmits:</b></p> <p>Error will be detected by Parser when receiving additional fields that are not expected, but other data will not be affected. An information message will be sent to application software indicating extraneous non-parsed data. No synchronization loss.</p> <p><b>CAUTION:</b></p> <p>Assume a PACKED_COMPONENT is present at the end of a PACKED structure in the initial DTD, then the field is deleted from the end of a PACKED structure in an updated DTD. This can be accomplished with backward compatibility, with only a Minor DTD version change. However, a new PACKED_COMPONENT cannot be added to the same PACKED structure and remain backward compatible with both previous versions of the DTD. Unless the operational nature of the deleted field and the added field uniquely provided otherwise, the change will require more than a Minor DTD version adjustment</p> <p>(continued)</p>

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## APPENDIX D

Table D.3.4.2.3-1 Adding Elements to DTDs

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ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
						(continued) because Parsers with the first and third DTDs mentioned above will be receiving the PACKED_COMPONENT and identifying it as two completely different fields. Careful consideration to the severity of such a change must be made at the time of DTD modification.

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## APPENDIX D

### D.3.4.2.4 REMOVING ELEMENTS

The rules specified in [Table D.3.4.2.4-1](#) shall be followed when removing elements from DTDs.

Table D.3.4.2.4-1 Removing Elements From DTDs

(Sheet 1 of 9)

REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Existing Optional Element	Any	From end of a Group	Minor DTD	Full backward compatibility Information message for extra non-parsed bytes; No sync loss	Full backward compatibility Information message for extra values received	<b>Old DTD receives / new DTD xmits:</b> A CMF-B or CMF-X Parser with an older DTD would not require the data because it is optional and notice no incompatibility with a transmission using a newer DTD.  <b>New DTD receives / old DTD xmits:</b> A CMF-B Parser with a newer DTD would simply skip past the extra data in the Group based on the "length" provided at the beginning of the Group generating an error message indicating discarded non-parsed bytes for the application software. The receiving processor would not lose synchronization with the rest of the CMF-B data stream.  CMF-X Parser would send an error message to the application indicating unparsed data. <b>Note:</b> Easily a Minor DTD Version change. Receive units can simply discard the extra data.

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Table D.3.4.2.4-1 Removing Elements From DTDs

(Sheet 2 of 9)

REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Existing Optional Element	Any	From the start or middle of a Group	Major DTD (see note)	1-way partial backward compatibility  <b>xmit-new/ rcv-old :</b> Backward compatible Information message for extra values received  <b>xmit-old/ rcv-new :</b> NOT backward compatible; Sync loss; Data lost Error message for loss of sync	Backward compatible Information message for extra values received	<b>Old DTD receives / new DTD xmits:</b> No error. <b>New DTD receives / old DTD xmits:</b> NOT compatible. CMF-B elements that are not expected by the newer DTD corrupt the remaining portion of the entire group. An error will be discovered, but could allow corrupt data to enter the system, and may result in large data loss for the element. When the CMF-B Parser discovers a synchronization error an error message will be sent to the application software indicating "unexpected bytes received - synchronization error - DATA LOST". The amount of data lost will depend upon the location of the error in the data stream. CMF-X will not lose synchronization but would give a warning message to the application indicating "unexpected fields received". (continued)

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## APPENDIX D

Table D.3.4.2.4-1 Removing Elements From DTDs

(Sheet 3 of 9)

REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
						(continued) <b>Note:</b> Easily a Minor DTD change if all transmitters receive new DTDs and receive-only units have the older DTD. Also, could carefully migrate the change if new DTDs removed the elements from the Group, but elements remain defined in the old DTDs.
Existing Required Element	Any	From the end of a Group	Major DTD	Partial backward compatibility Expected errors will be detected No sync loss  The level of compatibility will be dependent upon the receive systems handling of errors for the element in question.	Partial backward compatibility Expected errors will be detected in data  The level of compatibility will be dependent upon the receive systems handling of errors for the element in question.	<b>Old DTD receives / new DTD xmits:</b> A CMF-B or CMF-X Parser with an older DTD will not receive expected data and will send an error message to the application software. <b>New DTD receives / old DTD xmits:</b> A CMF-B Parser with an newer DTD would simply skip past the old previously required data in the Group based on the "length" provided at the beginning of the Group generating an error message indicating "unexpected non-parsed bytes were received and discarded" for the application software. The receiving processor would not lose synchronization with the rest of the CMF-B data stream. CMF-X Parser would send an information message to the application indicating "unexpected fields received".

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## APPENDIX D

Table D.3.4.2.4-1 Removing Elements From DTDs

(Sheet 4 of 9)

REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Existing Required Element	Any	From the start or middle of a Group	Major DTD (see note)	1-way partial backward compatibility  <b>xmit-new/ rcv-old :</b> Partial backward compatibility Errors will be detected No sync loss.  <b>xmit-old/ rcv-new :</b> SEVERE sync loss possible	1-way partial backward compatibility Errors will be detected in data	<b>Old DTD receives / new DTD xmits:</b> CMF-B or CMF-X Parser with an older DTD will expect the required fields and will send an error message to the application code when required fields are not received. No synchronization errors.  <b>New DTD receives / old DTD xmits:</b> NOT compatible. CMF-B elements that are not expected by the newer DTD corrupt the remaining portion of the entire group. An error will be discovered, but could allow corrupt data to enter the system, and may result in large data loss for the element. When the CMF-B Parser discovers a synchronization error an error message will be sent to the application software indicating "unexpected bytes received - synchronization error - DATA LOST". The amount of data lost will depend upon the location of the error in the data stream. (continued)

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## APPENDIX D

Table D.3.4.2.4-1 Removing Elements From DTDs

(Sheet 5 of 9)

REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
						(continued) CMF-X will not lose synchronization but would give a warning message to the application indicating "unexpected fields received". <b>Note:</b> Easily a Minor DTD Version change if all transmitters receive the new DTD and receive-only units use the old DTD (provided the specific data is not critical for the older DTDs). Also, the change can be migrated if new DTDs remove the elements from the Group but leave the elements defined in the DTD. This requires careful planning.

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## APPENDIX D

Table D.3.4.2.4-1 Removing Elements From DTDs

(Sheet 6 of 9)

REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Existing Element	Any	From any position in a COMPOSITE or REPETITIVE	Major DTD	NOT backward compatible Sync loss Errors Data will be lost Possible introduction of corrupt data	Backward compatible Information message for extra data (old DTD) or error message for missing data (new DTD)	<p><b>Old DTD receives / new DTD xmits:</b> COMPOSITE and REPETITIVE do not provide a "length" value, and expect all defined elements to be present. The missing fields would not be detected by the CMF-B parser and would be severe. Possible introduction of corrupt data into the system, and synchronization errors for the CMF-B Parser.</p> <p>The CMF-X Parser would identify the missing fields and would generate an error message.</p> <p><b>New DTD receives / old DTD xmits:</b> COMPOSITE and REPETITIVE do not provide a "length" value, therefore no mechanism exists to allow the CMF-B Parser to bypass even trailing data. What would appear as inserted fields would be unrecognizable by the parser and cause an error condition. These errors may go undetected and could be severe.</p> <p>(continued)</p>

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## APPENDIX D

Table D.3.4.2.4-1 Removing Elements From DTDs

(Sheet 7 of 9)

REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
						(continued) There is highly probable introduction of corrupt data into the system, and synchronization errors for the CMF-B Parser. The impact to the CMF-X Parser would be dependent upon whether the element was still defined in the new DTD.
Existing Required Element	PACKED COMPO-NENT	From the start or middle of a PACKED	Major DTD	NOT backward compatible Undetectable corrupt data	Backward compatible Errors detected	<b>Old DTD receives / new DTD xmits</b> or <b>New DTD receives / old DTD xmits:</b> CMF-B data received by a Parser using a different DTD than the transmit unit would misinterpret the affected data fields and may not realize it thus introducing errors.

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## APPENDIX D

Table D.3.4.2.4-1 Removing Elements From DTDs

(Sheet 8 of 9)

REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Existing Required Element	PACKED COMPO-NENT	From end of a PACKED	Minor DTD	Backward compatible Error detected The level of compatibility will be dependent upon the receive systems handling of errors for the element in question.	Backward compatible Error detected The level of compatibility will be dependent upon the receive systems handling of errors for the element in question.	<b>New DTD receives / old DTD xmits:</b> An error would be detected by a Parser when receiving additional fields that were not expected, but other data would not be affected. An information message will be sent to application software indicating extraneous non-parsed data. No synchronization loss. <b>Old DTD receives / new DTD xmits:</b> CMF-B or CMF-X Parser with an older DTD will expect the required fields and will send an error message to the application code when required fields are not received. No synchronization errors. <b>CAUTION:</b> See note in section concerning "Add" for a packed component.
Existing Optional Element	PACKED COMPO-NENT	From the start or middle of a PACKED	Major DTD	NOT backward compatible Undetectable corrupt data	Backward compatible Errors detected	<b>Old DTD receives / new DTD xmits or</b> <b>New DTD receives / old DTD xmits:</b> CMF-B data received by a Parser using a different DTD than the transmit unit would misinterpret the affected data fields and may not realize it thus introducing errors.

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Table D.3.4.2.4-1 Removing Elements From DTDs

(Sheet 9 of 9)

REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Existing Optional Element	PACKED COMPO-NENT	From end of a PACKED	Minor DTD	Backward compatible Error detected The level of compatibility will be dependent upon the receive systems handling of errors for the element in question.	Backward compatible Error detected The level of compatibility will be dependent upon the receive systems handling of errors for the element in question.	<b>New DTD receives / old DTD xmits:</b> An error would be detected by a Parser when receiving additional fields that were not expected, but other data would not be affected. An information message will be sent to application software indicating extraneous non-parsed data. No synchronization loss. <b>Old DTD receives / new DTD xmits:</b> CMF-B or CMF-X Parser with an older DTD will expect the required fields and will send an error message to the application code when required fields are not received. No synchronization errors. <b>CAUTION:</b> See note in section concerning "Add" for a packed component.

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APPENDIX D

## D.3.4.2.5 MODIFYING ELEMENTS

The rules specified in [Table D.3.4.2.5-1](#) shall be followed when modifying elements of DTDs.

Table D.3.4.2.5-1 Modifying Elements of DTDs

(Sheet 1 of 1)

MODIFY ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Existing Optional Element	Any Element	to a Required in a Group	Minor DTD (see note)	Backward compatible Error message on missing data No sync loss	Backward compatible Error message on missing data	<b>Old DTD receives / new DTD xmits:</b> No error. <b>New DTD receives / old DTD xmits :</b> A CMF-B or CMF-X Parser with a new DTD would not receive expected data and send an error message to the application software. <b>Note:</b> Easily a Minor DTD Version change if all transmitting units receive the new DTD and only the receive-units may have an older version. Receive units can simply ignore the extra data.
Existing Required Element	Any Element	to an Optional in a Group	Minor DTD	Backward compatible Error message on missing data No sync loss	Backward compatible Error message on missing data	<b>Old DTD receives / new DTD xmits:</b> A CMF-B or CMF-X Parser with an older DTD would not on occasion receive expected data and send an error message to the application software. <b>New DTD receives / old DTD xmits:</b> No error.

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APPENDIX D

## D.3.4.2.6 ADDING ATTRIBUTES

The rules specified in [Table D.3.4.2.6-1](#) shall be followed when adding attributes to DTDs.

Table D.3.4.2.6-1 Adding Attributes to DTDs

(Sheet 1 of 21)

ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	element_tag	to any Element	Minor DTD	Full backward compatibility	This attribute is not applicable to CMF-X.	Adding a new element_tag to an element that did not previously have a tag assigned to it is fully backward compatible. An example would be a field that currently only exists in a COMPOSITE grouping and does not have a tag. The example field might be deemed necessary in another group where it will require a tag. However, the additional use of the element in another part of the packaging structure may or may not be compatible. See <a href="#">section 4.2.2.1</a> about adding elements to packaging structures.
Attribute	element_type	to an Element	Invalid DTD	N/A	N/A	All Elements <b>must</b> have been assigned an "element_type" upon creation of the Element.

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## APPENDIX D

Table D.3.4.2.6-1 Adding Attributes to DTDs

(Sheet 2 of 21)

<b>ADD ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	path_exclusions	to any Element	Minor DTD (but carefully consider any exclusion)	Full backward compatibility (see caveat in comment)	Full backward compatibility (see caveat in comment)	A path_exclusion attribute disallows transmission of an element by an IBS participant onto the "path(s)" listed. If the addition affects an element that is "required" in a content model, this invalidates the DTD unless the required element is changed to optional or removed from such instances. Element changes are addressed in <a href="#">section 4.2.2.3</a> .
Attribute	element_iterations	to a REPETITIVE Element	N/A (see comment)	N/A	N/A	The element_iterations attribute is REQUIRED for the REPETITIVE element. It must already be present otherwise the REPETITIVE element would be invalid in the DTD.
Attribute	min_element_iterations	to a REPETITIVE Element	Minor DTD	Full backward compatibility Information message	Full backward compatibility Information message	A REPETITIVE element reported using an old DTD with fewer repetitions than the newly assigned minimum will cause the generation of an information message on receipt by a new DTD.

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## APPENDIX D

Table D.3.4.2.6-1 Adding Attributes to DTDs

(Sheet 3 of 21)

<b>ADD ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	max_element_iterations	to a REPETITIVE Element	Minor DTD	Full backward compatibility Information message Extra bytes	Full backward compatibility Information message Extra bytes	A REPETITIVE element reported using an old DTD with more repetitions than the newly assigned maximum will cause the generation of an information message on receipt by a new DTD.
Attribute	value_min_length	to a STRING Element	Minor DTD	Full backward compatibility Information message	Full backward compatibility Information message	A STRING element reported using an old DTD with fewer characters than the newly assigned minimum will cause the generation of an information message on receipt by a new DTD.
Attribute	value_max_length	to a STRING Element	Minor DTD	Full backward compatibility Information message Extra bytes	Full backward compatibility Information message Extra bytes	A STRING element reported using an old DTD with more characters than the newly assigned maximum will cause the generation of an information message on receipt by a new DTD.

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## APPENDIX D

Table D.3.4.2.6-1 Adding Attributes to DTDs

(Sheet 4 of 21)

<b>ADD ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	defined_values	to an INTEGER Element	Major DTD (see note)	NOT backward compatible Probable corrupt data No sync loss	NOT backward compatible Probable corrupt data	A new "defined_value" attribute on an INTEGER element will likely limit the acceptable range to less than was previously available. With addition of the "defined_values" attribute, a new DTD will then allow fewer values, but the old DTD will still be capable of sending the previous range. Unless the new defined values are effectively the same as all values in any previously defined ranges, the new limited data will be incompatible and will likely cause unnoticed corrupt data entry into the system, data loss, and/or out-of-range errors. <b>Note:</b> This may be a Minor DTD change with careful planning and thought.
Attribute	defined_values	to a PACKED_COMPONENT Element	N/A (see comment)	N/A	N/A	This attribute must already be defined for a PACKED_COMPONENT element.

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## APPENDIX D

Table D.3.4.2.6-1 Adding Attributes to DTDs

(Sheet 5 of 21)

<b>ADD ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	defined_values	to a STRING Element	Major DTD (see note)	1-way backward compatible Error message on non-defined data values (new DTD) No sync loss	1-way backward compatible Error message on non-defined data values (new DTD)	<b>Old DTD receives / new DTD xmits:</b> No error. <b>New DTD receives / Old DTD xmits:</b> Formerly valid data will be invalid if not in "defined_values". Error message will be sent to application software "receipt of value not valid in defined_values". No synchronization loss and only the current STRING would be affected. <b>Note:</b> Easily a Minor DTD change if all transmitting units receive the new DTD and only the receive-units may have an older version.

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## APPENDIX D

Table D.3.4.2.6-1 Adding Attributes to DTDs

(Sheet 6 of 21)

<b>ADD ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	default_value	To any Element with a value	Major DTD (see comment)	NOT backward compatible Highly probable data corruption (see comment) No sync loss	NOT backward compatible Highly probable data corruption (see comment)	Default values are usually added to an element to allow transmitters to save CMF-B bandwidth by NOT SENDING the element in most cases (i.e., defaulting to the value specified in the DTD). Receiving hosts would, likewise, default to their DTD-specified value. Therefore, if two DTDs do not match for a default_value, then the data is very unlikely to be interpreted correctly by the receiving system when the element is not sent. This error is totally undetectable by the receiving system and would introduce incorrect data into the system. The Parser would be completely capable of continuing to the following data elements without interruption. This is a non-backward compatible change in most cases and will probably require a Major_DTD_Version increment. No loss of synchronization will occur. (Continued)

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Table D.3.4.2.6-1 Adding Attributes to DTDs

(Sheet 7 of 21)

ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
						(Continued) <b>Note:</b> Careful planning and assumptions about an element requiring a default_value change may allow the change with a Minor DTD impact, but extreme caution must be used.
Attribute	path_n_default_value	to any Element with a value	Major DTD (see comment)	NOT backward compatible Highly probable data corruption (see comment) No sync loss	NOT backward compatible Highly probable data corruption (see comment)	The same guidelines apply as for the default_value attribute except additional consideration must be given if changing one path's default and not another's. Changing only one path's default would possibly limit the incompatibility to the one path.
Attribute	value_qualifier	to an INTEGER Element	Major DTD (see note)	NOT backward compatible Error for value Data corruption Possibly insignificant No sync loss	NOT backward compatible Error for value Data corruption Possibly insignificant	A value_qualifier may be added to an INTEGER causing the greater_than or less_than information to be usable on an INTEGER element. If the newly assigned value qualifier indicator is received by a CMF-B or CMF-X Parser using an older DTD, the data will not be in range and an error will be identified to the host with a corresponding loss of the data. NOTE: A Minor DTD change can be indicated if the severity in the resulting interpretations is deemed acceptable.

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## APPENDIX D

Table D.3.4.2.6-1 Adding Attributes to DTDs

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<b>ADD ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	value_qualifier	to a FLOAT Element	Major DTD (see note)	NOT backward compatible Undetected error for value Data corruption Possibly insignificant No sync loss	NOT backward compatible Undetected error for value Data corruption Possibly insignificant	A value_qualifier may be added to a FLOAT causing the greater_than or less_than information to be usable on a FLOAT element. If the newly assigned value qualifier is received by a CMF-B Parser using an older DTD, the data will NOT be identified as a greater than value or less than value and will be passed to the application software as though it were an actual value (e.g., if a range is 1-100 and a value qualifier is sent as ">1", the value would be passed simply as "1" and no indication of the "greater than" concept could be identified). An error will not be detected and corrupt but similar data will be introduced. The opposite will happen if the value qualifier is received by a new DTD. With the new DTD what was an actual value will be interpreted as a greater than value. (Continued)

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## APPENDIX D

Table D.3.4.2.6-1 Adding Attributes to DTDs

(Sheet 9 of 21)

<b>ADD ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
						(Continued) NOTE: A Minor DTD change can be indicated if the severity in the resulting interpretations is deemed acceptable.
Attribute	accuracy_qualifier	to a FLOAT Element	Major DTD (see note)	NOT backward compatible Undetected error for value Data corruption Possibly insignificant No sync loss	NOT backward compatible Undetected error for value Data corruption Possibly insignificant	An accuracy_qualifier may be added to a FLOAT causing the greater_than or less_than information to be usable on a FLOAT element. If the newly assigned accuracy qualifier is received by a CMF-B Parser using an older DTD, the data will NOT be identified as a greater than value or less than value and will be passed to the application software as though it were an actual value (e.g., if an accuracy and accuracy qualifier is sent as ">1", the value would be passed simply as "1" and no indication of the "greater than" concept could be identified). An error will not be detected and corrupt but similar data will be introduced. The opposite will happen if the accuracy qualifier is received by a new DTD. With the new DTD what was an actual value will be interpreted as a greater than value. (continued)

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Table D.3.4.2.6-1 Adding Attributes to DTDs

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ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
						(continued) <b>Note:</b> A Minor DTD change can be indicated if the severity in the resulting interpretations is deemed acceptable.
Attribute	value_lower_range	to an INTEGER or FLOAT Element (FLOAT not already having a value_lower_range_exclusive attribute)	Major DTD (see note)	1-way backward compatible Error message on out-of-range data values (new DTD) No sync loss	1-way backward compatible Error message on out-of-range data values (new DTD)	If two DTDs do not match for a value_lower_range, then the data is very likely to fail attribute checks by the receiving system. With addition of the value_lower_range attribute, a new DTD will then always create and accept the element only within the range, but the old DTD will still create and accept an unrestricted value. The only incompatibility is the receipt of out-of-range values with a new DTD, which would result in a loss of data. Assuming with the release of the new DTD that only the new ranges are valid, then the loss will be acceptable. No synchronization errors would be introduced. Note: Easily ensured to be a Minor DTD Version change if all transmitters receive the new DTD and only receive-only units use the old DTD.

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Table D.3.4.2.6-1 Adding Attributes to DTDs

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ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	value_lower_range_exclusive	to a FLOAT Element not already having a value_lower_range attribute	Major DTD (see note)	1-way backward compatible Error message on out-of-range data values (new DTD) No sync loss	1-way backward compatible Error message on out-of-range data values (new DTD)	The same guidelines apply as for the value_lower_range attribute. <b>Note:</b> Easily ensured to be a Minor DTD Version change if all transmitters receive the new DTD and only receive-only units use the old DTD.
Attribute	value_upper_range	to an INTEGER or FLOAT Element (FLOAT not already having an value_upper_range_exclusive attribute)	Major DTD (see note)	1-way backward compatible Error message on out-of-range data values (new DTD) No sync loss	1-way backward compatible Error message on out-of-range data values (new DTD)	The same guidelines apply as for the value_lower_range attribute. <b>Note:</b> Easily ensured to be a Minor DTD Version change if all transmitters receive the new DTD and only receive-only units use the old DTD.
Attribute	value_upper_range_exclusive	to a FLOAT Element not already having a value_upper_range attribute	Major DTD (see note)	1-way backward compatible Error message on out-of-range data values (new DTD) No sync loss	1-way backward compatible Error message on out-of-range data values (new DTD)	The same guidelines apply as for the value_lower_range attribute. <b>Note:</b> The addition is easily ensured to be a Minor DTD Version change if all transmitters receive the new DTD and only receive-only units use the old DTD.

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## APPENDIX D

Table D.3.4.2.6-1 Adding Attributes to DTDs

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ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	default_unit	to a FLOAT or INTEGER Element without any path_n_default_unit attributes	Minor DTD	Full backward compatibility No sync loss	Full backward compatibility	If there is currently not a default_unit on an element then the element is currently unitless or the units are provided inherently (i.e., just understood) or by some other standard or rule. Therefore, the addition of a unit will have no affect on the DTD or parser compatibility but may have affect on applications or displays based upon any previous understanding of a unit for the element. <b>Note:</b> If there are currently selectable units on a FLOAT element, the value of the added default_unit attribute must be one of those in the selections. Otherwise, the severity is Major DTD.
Attribute	default_unit	to a FLOAT or INTEGER Element with one or more path_n_default_unit attributes	Minor DTD	Full backward compatibility No sync loss	Full backward compatibility	The same guidelines apply as for the default_unit attribute. <b>Note:</b> Although there are already defaults in place, they do not conflict with the added default_unit attribute because they are specific to particular paths and will remain so after the new attribute is added.

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Table D.3.4.2.6-1 Adding Attributes to DTDs

(Sheet 13 of 21)

ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	path_n_default_unit	to a FLOAT or INTEGER Element without a default_unit attribute	Minor DTD	Full backward compatibility No sync loss	Full backward compatibility	The same guidelines apply as for the default_unit attribute.

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Table D.3.4.2.6-1 Adding Attributes to DTDs

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<b>ADD ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	path_n_default_unit	to a FLOAT or INTEGER Element with a default_unit attribute	Major DTD	NOT backward compatible Undetected error Data corrupt No sync loss	NOT backward compatible Undetected error Data corrupt	<p>Default units are usually added to an element to allow transmitters to save CMF-B bandwidth by NOT SENDING the unit indication in most cases (i.e., defaulting to the unit specified in the DTD). Receiving hosts would, likewise, default to their DTD-specified path unit. Therefore, if two DTDs do not match for a default path unit, then the data is very unlikely to be interpreted correctly by the receiving system when the unit is not sent. This error is totally undetectable by the receiving system and would introduce incorrect data into the system. The Parser would be completely capable of continuing to the following data elements without interruption. This is a non-backward compatible change in most cases and will probably require a "Major_DTD_Version" increment. No synchronization errors would be introduced.</p> <p>(Continued)</p>

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## APPENDIX D

Table D.3.4.2.6-1 Adding Attributes to DTDs

(Sheet 15 of 21)

ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
						(Continued) <b>Note:</b> Careful planning and assumptions about an element requiring a default unit change may allow the change with a Minor DTD impact, but extreme caution must be used.
Attribute	value_multiplier or value_offset	to an INTEGER Element	Major DTD	NOT backward compatible Undetected error Data Corrupt No sync loss	NOT backward compatible Undetected error Data Corrupt	Adding a value_multiplier or value_offset will cause the data received by a Parser using an older DTD to be interpreted incorrectly (i.e., without the multiplication or addition) and the error will NOT be detectable by the Parser. This will not affect the reading of the additional values in the data stream.
Attribute	Unit	to a FLOAT Element	Major DTD	NOT backward compatible Detected error Data corrupt Error message No sync loss	NOT backward compatible Detected error Data corrupt Error message	When the CMF-B "unit" data is received while using an older DTD, the special extension bit in the FLOAT extension byte would be set so the error would be detected, the extraneous data could be ignored, an error generated, and the Parser could continue processing without synchronization loss. However, the FLOAT data value would likely be corrupted.

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## APPENDIX D

Table D.3.4.2.6-1 Adding Attributes to DTDs

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<b>ADD ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	unit_equivalents	to a FLOAT Element	Minor DTD	Full backward compatibility See unit attribute	Full backward compatibility See unit attribute	Adding the attribute would be completely backward compatible, but the use of the dependent unit field may not. (See unit attribute information/rules.)
Attribute	default_accuracy or default_accuracies	to a FLOAT Element without any path_n_default_accuracy attributes or path_n_default_accuracies	Minor DTD	Full backward compatibility No sync loss	Full backward compatibility	If there is currently not a default accuracy(s) on an element then the element is currently inherent accuracy. Therefore, the addition of an accuracy attribute will have no affect on the DTD or parser compatibility.
Attribute	default_accuracy or default_accuracies	to a FLOAT Element with one or more path_n_default_accuracy attributes or path_n_default_accuracies	Minor DTD	Full backward compatibility No sync loss	Full backward compatibility	The same guidelines apply as for the default_accuracy attribute.  Note: Although there are already defaults in place, they do not conflict with the added default_accuracy(s) attribute because they are specific to particular paths and will remain so after the new attribute is added.
Attribute	path_n_default_accuracy or path_n_default_accuracies	to a FLOAT Element without a default_accuracy or default_accuracies attribute	Minor DTD	Full backward compatibility No sync loss	Full backward compatibility	The same guidelines apply as for the default_accuracy(s) attribute.

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Table D.3.4.2.6-1 Adding Attributes to DTDs

(Sheet 17 of 21)

<b>ADD ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	path_n_default_accuracy or path_n_default_accuracies	to a FLOAT Element with a default_accuracy or default_accuracies attribute	Major DTD	NOT backward compatible Undetected error Data corrupt No sync loss	NOT backward compatible Undetected error Data corrupt	Default accuracy is usually added to an element to allow transmitters to save CMF-B bandwidth by NOT SENDING the accuracy indication in most cases (i.e., defaulting to the accuracy specified in the DTD). Receiving hosts would, likewise, default to their DTD-specified path accuracy. Therefore, if two DTDs do not match for a default path unit, then the data is very unlikely to be interpreted correctly by the receiving system when the accuracy is not sent. This error is totally undetectable by the receiving system and would introduce incorrect data into the system. This is a non-backward compatible change in most cases and will probably require a "Major_DTD_Version" increment. No synchronization errors would be introduced. (Continued)

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Table D.3.4.2.6-1 Adding Attributes to DTDs

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ADD ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
						(Continued) <b>Note:</b> Careful planning and assumptions about an element requiring a default accuracy change may allow the change with a Minor DTD impact, but extreme caution must be used.
Attribute	accuracy	to a FLOAT Element	Major DTD	NOT backward compatible Detected error Data corrupt Error message No sync loss	NOT backward compatible Detected error Data corrupt Error message	When the CMF-B "accuracy" data is received while using an older DTD, the special extension bit in the FLOAT extension byte would be set so the error would be detected, the extraneous data could be ignored, an error generated, and the Parser could continue processing without synchronization loss. However, the FLOAT data value would likely be corrupted.

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Table D.3.4.2.6-1 Adding Attributes to DTDs

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<b>ADD ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	accuracy_lower_range or accuracy_lower_ranges	to a FLOAT Element	Major DTD (see note)	1-way backward compatible Error message on out-of-range data values (new DTD) No sync loss	1-way backward compatible Error message on out-of-range data values (new DTD)	If two DTDs do not match for accuracy_lower_range(s), then the data is very likely to fail attribute checks by the receiving system. With addition of the accuracy_lower_range(s) attribute, a new DTD will then always create and accept the element only within the range, but the old DTD will still create and accept an unrestricted value. The only incompatibility is the receipt of out-of-range values with a new DTD, which would result in a loss of data. Assuming with the release of the new DTD that only the new ranges are valid, then the loss will be acceptable. No synchronization errors would be introduced. <b>Note:</b> Easily ensured to be a Minor DTD Version change if all transmitters receive the new DTD and only receive-only units use the old DTD.

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Table D.3.4.2.6-1 Adding Attributes to DTDs

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<b>ADD ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	accuracy_upper_range or accuracy_upper_ranges	to a FLOAT Element	Major DTD (see note)	1-way backward compatible Error message on out-of-range data values (new DTD) No sync loss	1-way backward compatible Error message on out-of-range data values (new DTD)	If two DTDs do not match for an accuracy_upper_range(s), then the data is very likely to fail attribute checks by the receiving system. With addition of the accuracy_upper_range(s) attribute, a new DTD will then always create and accept the element only within the range, but the old DTD will still create and accept an unrestricted value. The only incompatibility is the receipt of out-of-range values with a new DTD, which would result in a loss of data. Assuming with the release of the new DTD that only the new ranges are valid, then the loss will be acceptable. No synchronization errors would be introduced. <b>Note:</b> Easily ensured to be a Minor DTD Version change if all transmitters receive the new DTD and only receive-only units use the old DTD.

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Table D.3.4.2.6-1 Adding Attributes to DTDs

(Sheet 21 of 21)

<b>ADD ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	reset	to any Element	Major DTD (see comment)	NOT backward compatible Data corrupt Possible data loss Error message on undefined attribute received No sync loss	NOT backward compatible Data corrupt Possible data loss Error message on undefined attribute received	When a newly added reset is received by an old DTD, the Parser would not be able to accept it because it would not be allowed with the old DTD, yet the old DTD could use the reset to bypass the element. The result will very likely not be what was desired by the transmitter. The previous contents of the value will not be reset on the receiving side. This change is by definition NOT backward compatible, but the data loss may be acceptable depending upon the intent of the modification.
Attribute	relevance	to any Element	Minor DTD	Full backward compatibility	Full backward compatibility	Adding the attribute with setting of "DISUSED" is backward compatible.

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APPENDIX D

## D.3.4.2.7 REMOVING ATTRIBUTES

The rules specified in [Table D.3.4.2.7-1](#) shall be followed when removing attributes from DTDs.

Table D.3.4.2.7-1 Removing Attributes from DTDs

(Sheet 1 of 17)

REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	element_tag	from an Element which is optional	Minor DTD (see note)	1-way backward compatibility	Full backward compatibility	<p>If the element is optional and not required then a CMF-B receiving unit with an old DTD will not notice that it is missing from the data stream. If a CMF-B receiving unit with a new DTD receives the element from an old DTD transmitter, the receiving host will consider the data to be extraneous and may lose sync.</p> <p><b>Note:</b> Easily ensured to be a Minor DTD Version change if all transmitters receive the new DTD and only receive-only units use the old DTD.</p>

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Table D.3.4.2.7-1 Removing Attributes from DTDs

(Sheet 2 of 17)

<b>REMOVE ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	element_tag	from an Element which is required	Major DTD (See note)	NOT backward compatible (see comment)	Full backward Compatibility	<p>If the element is required in the old DTD, then a CMF-B receiving unit with an old DTD will be missing required data from the data stream and will generate an error. If a CMF-B receiving unit with a new DTD receives the element from an old DTD transmitter, the receiving host will consider the data to be extraneous and may lose sync.</p> <p><b>Note:</b> Possibly can be a Minor DTD version change if all transmitters receive the new DTD and only receive-only units use the old DTD. In addition, the data must be in reality not necessary for processing despite the error on the old DTD.</p>
Attribute	element_type	from any Element	Invalid DTD	N/A	N/A	All Elements must always have an element_type. Deleting the element_type would make the type unknown and the DTD invalid.

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Table D.3.4.2.7-1 Removing Attributes from DTDs

(Sheet 3 of 17)

<b>REMOVE ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	path_exclusions	from any Element	Minor DTD	Full backward compatibility	Full backward compatibility	A "path_exclusion" disallows transmission of a field by a network participant on the designated path. Since its presence was causing one or more paths to not get the data, the only result will be that those paths will now get the data.
Attribute	element_iterations	from a REPETITIVE Element	Invalid DTD	N/A	N/A	The element_iterations attribute is REQUIRED for the REPETITIVE packaging structure. It may not be added or deleted from any REPETITIVE without making the REPETITIVE packaging structure construct invalid in the DTD.
Attribute	min_element_iterations or max_element_iterations	from a REPETITIVE Element	Minor DTD	Full backward compatibility Information message	Full backward compatibility Information message	Could cause an information message when the REPETITIVE is received with fewer or greater repetitions than permitted in the old DTD, but should not cause loss of data or sync since the actual number provided is still available in the number_of_iterations attribute.
Attribute	element_pattern	from a PATTERN Element	Invalid DTD	N/A	N/A	The "element_pattern" may not be deleted from a PATTERN element without invalidating the entire element reference in the DTD.

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## APPENDIX D

Table D.3.4.2.7-1 Removing Attributes from DTDs

(Sheet 4 of 17)

<b>REMOVE ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	value_min_length or value_max_length	from a STRING Element	Minor DTD	Full backward compatibility for non-validating Parsers & information message for validating Parsers No sync loss	Full backward compatibility for non-validating Parsers & information message for validating Parsers No sync loss	May cause an information message when what appears to be a STRING with an invalid length is received with an old DTD.
Attribute	defined_values	from a FLOAT Element	Minor DTD	Full backward compatibility for non-validating Parsers & information message for validating Parsers No sync loss	Full backward compatibility for non-validating Parsers & information message for validating Parsers No sync loss	May cause an information message when what appears to be a FLOAT with invalid values is received with an old DTD.

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Table D.3.4.2.7-1 Removing Attributes from DTDs

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REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	defined_values	from an INTEGER Element	Major DTD (see note)	NOT backward compatible Probable corrupt data No sync loss	NOT backward compatible Probable corrupt data	A "defined_value" in an INTEGER ELEMENT limits the allowable values. By deleting the "defined_values" attribute the new DTD would then allow more values, but the old DTD would still assume the previous limitations. Unless the old values covered all values provided by any declared ranges in the new DTD, the new range of data will be incompatible and may cause unnoticed corrupt data entry into the system, data loss, and out-of-range errors. NOTE: This may be a Minor DTD change with careful planning and thought.

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## APPENDIX D

Table D.3.4.2.7-1 Removing Attributes from DTDs

(Sheet 6 of 17)

REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	defined_values	from a STRING Element	Minor DTD	Full backward compatibility Information message on non-defined data No sync loss	Full backward compatibility Information message on non-defined data	<b>Old DTD receives / new DTD xmits:</b> If non-validating....no error If validating...new valid data may be invalid to the older DTD if not in defined_values. Error message should be sent to application software "receipt of value not allowed by defined_values". No synchronization loss and only the current STRING would be affected. <b>New DTD receives / old DTD xmits:</b> No error.

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Table D.3.4.2.7-1 Removing Attributes from DTDs

(Sheet 7 of 17)

<b>REMOVE ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	default_value	from any Element with a value	Major DTD (see note)	NOT backward compatible Probable data corruption (see comments) No sync loss	NOT backward compatible Probable data corruption (see comments)	Default values are usually added to a data representation definition in the DTD to allow systems to save CMF-B bandwidth by NOT SENDING the field in most cases (defaulting to the value specified in the DTD). The receiving hosts would, likewise, default to their DTD-specified value. Therefore, if two DTDs do not match for a default_value, then the data will not be interpreted correctly by the receiving system when the field was not sent. This error will be totally non-detectable by the receiving system and will introduce incorrect data into the system, but the Parser will be completely capable of continuing to the following data fields without interruption. This will be a non-backward compatible change to a DTD. No synchronization errors would be introduced. (Continued)

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Table D.3.4.2.7-1 Removing Attributes from DTDs

(Sheet 8 of 17)

REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
						(Continued) <b>Note:</b> Careful planning and assumptions about various fields that need a default_value change could allow this change to occur with Minor DTD impact, but extreme caution should be used.
Attribute	path_n_default_value	from any Element with a value	Major DTD (see note)	NOT backward compatible Probable data corruption (see comments) No sync loss	NOT backward compatible Probable data corruption (see comments)	Same notes apply as for deletion of non-path-specific "default_value".  However, consideration may be given to changing one "path" and not another "path". One network could be affected with no impact to another network and this might affect the severity of the version adjustment for the DTD.

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Table D.3.4.2.7-1 Removing Attributes from DTDs

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<b>REMOVE ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	value_qualifier	from an INTEGER Element	Major DTD (see note)	NOT backward compatible Information message Data Loss (see comments) No sync loss	NOT backward compatible Information message Data Loss (see comments)	A valueQualifier may be deleted from an INTEGER causing the greater_than or less_than indicator to be discarded by a system using a DTD without the valueQualifier. <b>Note:</b> Severity of the change is very dependent upon the criticality of the misinterpretation.
Attribute	value_qualifier	from a FLOAT Element	Major DTD (see note)	NOT backward compatible Information message Probable data corruption (see comments) No sync loss	NOT backward compatible Information message Probable data corruption (see comments)	A valueQualifier may be deleted from a FLOAT causing the greater_than or less_than information to be discarded by a system using a DTD without the valueQualifier. <b>Note:</b> Severity of the change is very dependent upon the criticality of the misinterpretation.

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Table D.3.4.2.7-1 Removing Attributes from DTDs

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REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	accuracy_qualifier	from a FLOAT Element	Major DTD (see note)	NOT backward compatible Information message Probable data corruption (see comments) No sync loss	NOT backward compatible Information message Probable data corruption (see comments)	An accuracy_qualifier may be deleted from a FLOAT causing the greater_than or less_than information to be discarded by a system using a DTD without the accuracy_qualifier. <b>Note:</b> Severity of the change is very dependent upon the criticality of the misinterpretation.
Attribute	value_lower_range	from a FLOAT or INTEGER Element	Minor DTD	1-way backward compatibility Information message only on out of range data No sync loss	1-way backward compatibility Information message only on out of range data	If, for some reason, a value lower range is deleted, the data received by the CMF-B or CMF-X Parser utilizing an old DTD would be invalid when out of range. In the other direction, the new DTD may transmit a value which is out of range for the old DTD. <b>Note:</b> Severity may be Major if the new data needing transmitted is critical.

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Table D.3.4.2.7-1 Removing Attributes from DTDs

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REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	value_lower_range_exclusive	from a FLOAT Element	Minor DTD	1-way backward compatibility Information message only on out of range data No sync loss	1-way backward compatibility Information message only on out of range data	If, for some reason, a value lower range is deleted, the data received by the CMF-B or CMF-X Parser utilizing an old DTD would be invalid when out of range. In the other direction, the new DTD may transmit a value that is out of range for the old DTD. <b>Note:</b> Severity may be Major if the new data needing transmitted is critical.
Attribute	value_upper_range	from a FLOAT or INTEGER Element	Minor DTD	1-way backward compatibility Information message only on out of range data No sync loss	1-way backward compatibility Information message only on out of range data	If, for some reason, a value upper range is deleted, the data received by the CMF-B or CMF-X Parser utilizing an old DTD would be invalid when out of range. In the other direction, the new DTD may transmit a value that is out of range for the old DTD. <b>Note:</b> Severity may be Major if the new data needing transmitted is critical.

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Table D.3.4.2.7-1 Removing Attributes from DTDs

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REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	value_upper_range_exclusive	from a FLOAT Element	Minor DTD	1-way backward compatibility Information message only on out of range data No sync loss	1-way backward compatibility Information message only on out of range data	If, for some reason, a value upper range exclusive is deleted, the data received by the CMF-B or CMF-X Parser utilizing an old DTD would be invalid when out of range. In the other direction, the new DTD may transmit a value that is out of range for the old DTD. <b>Note:</b> Severity may be Major if the new data needing transmitted is critical.
Attribute	default_unit	from any Element with a value	Major DTD (see note)	NOT backward compatible Undetected data interpretation error No sync loss	NOT backward compatible Undetected data interpretation error	Old DTD will assume previous default_unit is still in effect. <b>Note:</b> Depending upon the unit and the circumstances the misinterpretation may be considered minor.
Attribute	path_n_default_unit	from an INTEGER Element	Major DTD (see note)	same as default_unit	same as default_unit	See comments for default_unit <b>Note:</b> Additionally, consider that a change to one path may not affect other paths and this may affect "Major/Minor DTD" severity.

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Table D.3.4.2.7-1 Removing Attributes from DTDs

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REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	value_multiplier or value_offset	from an INTEGER Element	Major DTD (see note)	NOT backward compatible Undetected data interpretation error No sync loss	NOT backward compatible Undetected data interpretation error	For INTEGER data types, deleting a value_multiplier or value_offset will cause the data received by a Parser using an older DTD to be calculated incorrectly and the error will NOT be detectable by the Parser. However, this sort of change will not affect the processing of additional values in the data stream. No error handling is possible as the "error" will not be detected. <b>Note:</b> There is a small chance that the severity may be minor depending upon the value and use on the specific element.

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Table D.3.4.2.7-1 Removing Attributes from DTDs

(Sheet 14 of 17)

REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	unit and unit_equivalents	from a FLOAT Element	Major DTD (see note)	1-way partial backward compatible	1-way partial backward compatible	<p>The unit and unit_equivalents attributes may be deleted from an element and only lose backward compatibility for the specified FLOAT. The Parser could continue, but data received by a system using the new DTD from a system using an older DTD would potentially be corrupt and probably discarded causing loss of data.</p> <p><b>Note:</b> This change may be Minor if all producers are given the DTD at a given time and the receive units still utilize the old DTD.</p>
Attribute	default_accuracy	from a FLOAT	Major DTD (see note)	NOT backward compatible Undetected data interpretation error No sync loss	NOT backward compatible Undetected data interpretation error	<p>New DTD will assume "decimal default" and possibly introduce incorrect data into older DTD's system.</p> <p><b>Note:</b> Possible use of a "selectable_accuracy" for the field may affect "Major/Minor DTD" severity. Also, importance of accuracy value to the specific element may affect severity.</p>

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REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	path_n_default_accuracy	from a FLOAT Element	Major DTD (see note)	See default_accuracy (see comments)	See default_accuracy (see comments)	See comments for default_accuracy <b>Note:</b> Additionally, consider that a change to one path might not affect other paths and may affect "Major/Minor DTD" severity.
Attribute	default_accuracies	from a FLOAT Element	Major DTD (see note)	See default_accuracy (see comments)	See default_accuracy (see comments)	See comments for default_accuracy <b>Note:</b> Consider carefully and determine severity on case-by-case basis.
Attribute	path_n_default_accuracies	from a FLOAT Element	Major DTD (see note)	See default_accuracy (see comments)	See default_accuracy (see comments)	See comments for default_accuracy <b>Note:</b> Additionally, consider that a change to one path might not affect other paths and may affect "Major/Minor DTD" severity.

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Table D.3.4.2.7-1 Removing Attributes from DTDs

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REMOVE ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	accuracy	from a FLOAT Element	Major DTD (see note)	NOT backward compatible Detected data interpretation error No sync loss	NOT backward compatible Detected data interpretation error	Newer DTD could not accept new accuracy information and would assume "decimal accuracy". Accuracy presence would be detected thus no loss of sync. Older DTD would assume "default_accuracy" and could be incorrect. <b>Note:</b> Severity depends heavily upon importance of accuracy for the specific element.
Attribute	accuracy_lower_range or accuracy_lower_ranges	from a FLOAT Element	Minor DTD (see note)	Partial backward compatibility Undetected data interpretation error No sync loss	Partial backward compatibility Undetected data interpretation error	Mismatched DTD would notice errors when values were out-of-range but majority of data would probably be error-free. <b>Note:</b> Severity depends heavily upon importance of accuracy for the specific element.
Attribute	accuracy_upper_range or accuracy_upper_ranges	from a FLOAT Element	Minor DTD (see note)	See accuracy_lower_range	See accuracy_lower_range	See comments for accuracy_lower_range

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Table D.3.4.2.7-1 Removing Attributes from DTDs

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<b>REMOVE ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	reset	from any Element	Major DTD (see note)	May cause error message if RESET is not allowed by receiving DTD	May cause error message if RESET is not allowed by receiving DTD	Complicated and probably needs to be determined on case-by-case basis. Generally would not affect Parsing of data, but RESET may not be valid for certain fields and receiving units (application code) may be impaired without the proper data to use for translation. Be especially cautious during Migration Period.
Attribute	relevance	from any Element	Minor DTD	Full backward compatibility	Full backward compatibility	Removing the attribute set to "DISUSED" from an element would be backward compatible, in that the data stream would function (no sync loss and other elements would not be corrupted). However, depending upon their implementation, consumers with an earlier DTD (where relevance=DISUSED for the element) may ignore/mismark the data and/or populate CMF-X with "DISUSED" when data is forwarded/repeated.

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## APPENDIX D

### D.3.4.2.8 MODIFYING ATTRIBUTES

The rules specified in [Table D.3.4.2.8-1](#) shall be followed when modifying attributes in DTDs.

Table D.3.4.2.8-1 Modifying Attributes of DTDs

(Sheet 1 of 27)

MODIFY ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	element_tag	of any Element	Major DTD	NOT backward compatible	Full backward compatibility	Changing an element_tag assignment for any field is NOT backward compatible for CMF-B. A change of this nature would usually require incrementing the "Major_DTD_Version" for CMF.
Attribute	element_type	of any Element	Major DTD	NOT backward compatible Data corruption Error message Sync loss	NOT backward compatible Data corruption	Changing the element_type for a field is NOT backward compatible. A CMF-B Parser will introduce corrupt data into and lose synchronization with the CMF-B data stream. CMF-X will read the character data but the Parser and application software will attempt to incorrectly utilize the data.

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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MODIFY ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	path_exclusions	of any Element	Minor DTD	Partial backward compatibility (see comment)	Partial backward compatibility (see comment)	A path_exclusion disallows transmission of an element onto the designated path. If the modification affects an element that is "required" in a packaging structure this corrupts the DTD unless the required field is changed to optional or removed from the Group. Field changes of this nature are addressed in separate sections of this document.
Attribute	element_iterations	of a REPETITIVE Element	N/A	N/A	N/A	#REQUIRED...no value to modify

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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MODIFY ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	min_element_iterations or max_element_iterations	of a REPETITIVE Element	Major DTD (for Migration Period only)	Backward compatible in that data outside min/max boundary can easily be discarded w/out sync loss for CMF-B	Backward compatible in that data outside min/max boundary can easily be discarded	In a REPETITIVE packaging structure, the number of min/max_element_iterations may change and remain partially backward compatible with a previous DTD. The CMF-B Parser should detect that the element_iterations value is out of range if receiving CMF-B data from a system using a DTD and be able to parse the following fields without losing synchronization with the CMF-B data stream. However, conflicting DTDs will potentially cause the received CMF-B REPETITIVE data to be discarded or flagged with an informational error. (Continued)

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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MODIFY ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
						(Continued) FOR MIGRATION PERIOD - To remain backwards compatible with legacy networks today, some REPETITIVE elements in CMF have specific max_element iteration values in order to feed the data correctly to the legacy network via a non-databasing processor without loss of data. (i.e., Coordinated Collection information is especially TIBS-centric in its use of REPETITIVE max values.)

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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MODIFY ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	element_pattern	of a PATTERN Element  ===== Major DTD if ASCII/ numeric order of sub- components change (i.e., 2A2N to 2N2A);  ===== (continued )	Major DTD if number of pattern sub- components change;  ===== Major DTD if ASCII/ numeric order of sub- components change (i.e., 2A2N to 2N2A);  ===== (continued )	# of sub-components changes: NOT backward compatible Data discarded Possible corruption of next field Sync loss  ===== <b>order of subcomponent changes:</b> NOT backward compatible corrupt data for pattern No sync loss  =====  (continued)	# of, order of, & internal size of sub-components changes : NOT backward compatible some will cause range errors others might be undetected but could introducer corrupt data into the system  =====  (continued)	For PATTERN data types, full backward compatibility is lost when an element_pattern is changed. However, this incompatibility can be minimal if the ASCII/Numeric ordering is unaffected. For instance, an element has an element_pattern of "2A3N". If the pattern is enhanced to 2AS3N(1-444) and use of the previous DTD version was attempted, the data might be invalid on occasion and be discarded, but the Parser could continue to parser the following data elements without interruption.  (Continued)

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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MODIFY ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
			(Continued) ===== Major DTD size changes to ASCII or numeric sub-components ===== Minor DTD internal sub-component changes that DO NOT affect printable sizes	(Continued) ===== individual subcomponent size changes: Backward compatible Possible out-of-range data errors reported No sync loss ===== individual subcomponent range changes NOT affecting size: Backward compatible Possible out-of-range data errors reported No sync loss	(Continued) ===== individual subcomponent range changes NOT affecting size: Backward compatible Information message for range violation	(Continued) A change of this nature would probably only require incrementing the "Minor_DTD_Version" for CMF. That same element might also change to an element_pattern of "8A2N" and would obviously receive invalid data when using an older DTD. Changing the respective length of an individual ASCII portion or individual Numeric portion would make the individual field invalid to a Parser using a different DTD and vice versa. However, because the ASCII/numeric ordering was intact, the Parser could still (Continued)

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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MODIFY ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
						<p>(Continued)</p> <p>continue to the following fields without interruption because it could completely parse the ASCII portion and completely parse the numeric portion. A receive-only system without range checking would potentially not notice a difference. A change of this nature would most likely require incrementing the "Minor_DTD_Version" for CMF. Similarly, if the ordering or ASCII vs. numeric values were to change, as in "3N2A", the field would also have invalid data.</p> <p>(The ASCII portion would be read as a numeric and vice versa).</p> <p>However, the data might possibly appear to be valid to a Parser and be passed on to the application software, in which case bad data would be introduced to the system.</p> <p>(Continued)</p>

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

(Sheet 8 of 27)

MODIFY ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
						<p>(Continued)</p> <p>Regardless of the error, the Parser could still continue with additional data fields without interruption because it knows to read a total of two fields. A change of this nature would possibly require incrementing the "Major_DTD_Version" for CMF because undetected error-prone data is potential.</p> <p>However, if a PATTERN field's element_pattern were to change in the number of ASCII or numeric groupings, the field would be totally inaccurate and either discarded by the parser, by the host, or possibly go undetected and introduce incorrect data into the system.</p> <p>(Continued)</p>

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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MODIFY ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
						(Continued) In addition, the Parser would lose synchronization with the CMF data and could either discard the entire rest of the current Group (including all fields and any other packaging structures contained in the Group) and might misinterpret some of the additional data introducing further incorrect data into the system. For instance, the above example contained an element_pattern that contained two basic pattern subcomponents ("2A3N" contained group-1 (2A) and group-2 (3N)). The field could be replaced with any combination of two pattern groups in this example and provide inaccurate data. (Continued)

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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MODIFY ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
						(Continued) Although, the data might be wrong or discarded, the earlier errors allowed the Parser to continue to the next field. However, if the number of pattern groups were to change either to less groups (1) or more groups (3+), the field could be SEVERELY incompatible with a previous version of the DTD. The Parser would be expecting two groupings (A or N) in our example would totally lose synchronization with the data if other than two groupings were present. If the use of an earlier DTD should be attempted, the data for the current incorrect PATTERN type field might be discarded or might be passed along with a totally incorrect value. (Continued)

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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MODIFY ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
						(Continued) However, in either case, ALL additional fields following the incorrect PATTERN in the same Group (including all additional packaging structures and individual fields in that Group) would be discarded or subject to severe error. Furthermore, if the PATTERN were inside a non-generic group, such as a COMPOSITE or REPETITIVE, all information for the remainder of the data fields up until the ending of a "generic group" (a group that has a "length") would be subject to being discarded or to severe error. A change of this nature would almost always require incrementing the (continued)

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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MODIFY ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
						"Major_DTD_Version" for CMF because undetected error-prone data is highly probable. The only condition where a change of this nature might be acceptable is when the PATTERN value in question is the very last element in a group and will not destroy synchronization of additional elements.
Attribute	value_min_length	of a STRING Element	Minor DTD	Fully compatible for non-validating Parsers & possible minor error for validating No sync loss	Fully compatible for non-validating Parsers & possible minor error for validating	The value_min_length for a STRING data representation can change and will potentially invalidate a string when received by a non-compatible DTD version (if validating), but the Parser will not lose synchronization with the CMF-B data in any way. For a non-validating receive unit, the change would be entirely unnoticeable.

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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<b>MODIFY ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	value_max_length	of a STRING Element	Minor DTD	Fully compatible for non-validating Parsers & possible minor error for validating No sync loss	Fully compatible for non-validating Parsers & possible minor error for validating	The value_max_length for a STRING data representation can change and will potentially invalidate a string when received by a non-compatible DTD version, but the Parser will not lose synchronization with the CMF-B data in any way
Attribute	defined_values	of an INTEGER Element	Major DTD if fields are values are "changed" within list;  Minor DTD if values are "added" to or "deleted" from list	Corrupt data potential Error on non-defined values; No sync loss	Backward compatible Possible error on non-defined data	By changing the previously assigned defined_values, the new DTD and old DTD are entirely incompatible for the field in question and will introduce corrupt data into the system. Removal of a defined_value can cause an info error and data to be invalidated by Parsers when the received defined_value is not in the list, but no corrupt data should be introduced. In either instance, only the individual field will be affected. No sync loss.

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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<b>MODIFY ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	defined_values	of a PACKED_COMPONENT Element	Major DTD if fields are values are "changed" within list; Minor DTD if placeholder is assigned a value	Corrupt data potential Error on non-defined values No sync loss	Backward compatible Possible error on non-defined data	By changing the previously assigned defined_values, the new DTD and old DTD are entirely incompatible for the field in question and will introduce corrupt data into the system. On occasion a PACKED_COMPONENT may have one of its fields as a placeholder only with no value assigned. This placeholder may be assigned a value and only cause an informational error by a receiving Parser without the defined_value. In either instance, only the individual field will be affected. No sync loss.
Attribute	defined_values	of a STRING Element	Minor DTD	Field may not be fully backward compatible Information message on non-defined data No sync loss	Backward compatible Possible error on non-defined data	Removal of a defined_value can cause an informational error to the application software identifying invalid data when the received data is not in the defined_value list. Only the individual field will be affected. No sync loss.

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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MODIFY ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	defined_values	of a PATTERN Element	Minor DTD	Field may not be fully backward compatible Information message on non-defined data	Backward compatible Possible error on non-defined data	Modification of a defined_value can cause an informational error to the application software identifying invalid data when the received data is not in the defined_value list. Only the individual field will be affected. No sync loss.

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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<b>MODIFY ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	default_value	of any Element with a value	Major or Minor DTD (see comment)	Backward compatible but may cause problems (see comment) No sync loss	Backward compatible but may cause problems (see comment)	Default values are usually added to a data representation definition in the DTD to allow systems to save CMF-B bandwidth by NOT SENDING the field in most cases (defaulting to the value specified in the DTD). The receiving hosts would, likewise, "default" to their DTD-specified value. Therefore, if two DTDs do not match for a default_value, then the data could not be interpreted correctly by the receiving system when the field was not sent. This error would be totally non-detectable by the receiving system and would introduce incorrect data into the system, but the Parser would be completely capable of continuing to the following data fields without interruption. (Continued)

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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MODIFY ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
						<p>(Continued)</p> <p>This would be a non-backward compatible change to a DTD in most cases and would probably require a "Major_DTD_Version" increment. No synchronization errors would be introduced.</p> <p><b>Note:</b></p> <p>Careful planning and assumptions about various fields that need a default_value change could allow this change to occur with Minor DTD impact, but extreme caution</p>
Attribute	path_n_default_value	of any Element with a value	Major or Minor DTD (see comment)	Backward compatible but may cause problems (see comment) No sync loss	Backward compatible but may cause problems (see comment)	<p>Same notes apply as for addition, deletion or modification of non-path-specific "default_value".</p> <p>However, consideration should be given to changing one "path" and not another "path". One network could be affected with no impact to another network and this might help determine the severity of the version adjustment for the DTD.</p>

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<b>MODIFY ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	value_qualifier	of an INTEGER or FLOAT Element	Possibly only Minor DTD - nature of field may require Major (consider carefully )	Information message for single field Possible invalid data No sync loss	Information message for single field Possible invalid data	A modification to "value_qualifier" would be to add or delete the "GREATER_THAN" or the "LESS_THAN" value and would affect the CMF-B and CMF-X fields the same as the addition or deletion of the entire attribute as previously defined.
Attribute	accuracy_qualifier	of an FLOAT Element	Possibly only Minor DTD - nature of field may require Major (consider carefully )	Information message for single field Possible invalid data No sync loss	Information message for single field Possible invalid data	A modification to "accuracy_qualifier" would be to add or delete the "GREATER_THAN" or the "LESS_THAN" value and would affect the CMF-B and CMF-X fields the same as the addition or deletion of the entire attribute as previously defined.

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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<b>MODIFY ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	value_lower_range	Substituting previous value_lower_range_exclusive of a FLOAT Element	Minor DTD	Backward compatible Information message only on out of range data No sync loss	Backward compatible Information message only on out of range data	Adding value_lower_range to a FLOAT to replace a previously existing "value_lower_range_exclusive" will result in a CMF-B or CMF-X Parser detecting an error when using either the older or new DTD depending upon the nature of the change when the data received is out of range.
Attribute	value_lower_range	of a FLOAT or INTEGER Element	Minor DTD	Backward compatible Information message only on out of range data No sync loss	Backward compatible Information message only on out of range data;	If a value_lower_range is modified, the data received by the CMF-B or CMF-X Parser utilizing a "different" DTD from the transmitter's DTD would be invalid when out of range. This could be either the new or the old DTD depending on how the lower_range change was made.

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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<b>MODIFY ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	value_lower_range_exclusive	Substituting previous value_lower_range of a FLOAT Element	Minor DTD	Backward compatible Information message only on out of range data No sync loss	Backward compatible Information message only on out of range data	Adding value_lower_range_exclusive to a FLOAT with a previously existing "value_lower_range" will result in a CMF-B or CMF-X Parser detecting an error when using either the older or new DTD depending upon the nature of the change when the data received is out of range.
Attribute	value_lower_range_exclusive	of a FLOAT Element	Minor DTD	Backward compatible Information message only on out of range data No sync loss	Backward compatible Information message only on out of range data	If a value_lower_range_exclusive is modified, the data received by the CMF-B or CMF-X Parser utilizing a "different" DTD from the transmitter's DTD would be invalid when out of range. This can be a new or old DTD depending on how the value_lower_range change was made.

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<b>MODIFY ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	value_upper_range	Substituting previous value_upper_range_exclusive" of a FLOAT Element	Minor DTD	Backward compatible Information message only on out of range data No sync loss	Backward compatible Information message only on out of range data	Adding value_upper_range to a FLOAT to replace a previously existing "value_upper_range_exclusive" will result in a CMF-B or CMF-X Parser detecting an error when using either the older or new DTD depending upon the nature of the change when the data received is out of range.
Attribute	value_upper_range	of a FLOAT or INTEGER Element	Minor DTD	Backward compatible Information message only on out of range data No sync loss	Backward compatible Information message only on out of range data	If a value_upper_range is modified, the data received by the CMF-B or CMF-X Parser utilizing a "different" DTD from the transmitter's DTD would be invalid when out of range. This could be either the new or the old DTD depending on how the value_upper_range change was made.

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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<b>MODIFY ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	value_upper_range_exclusive	substituting previous value_upper_range of a FLOAT Element	Minor DTD	Backward compatible Information message only on out of range data No sync loss	Backward compatible Information message only on out of range data	Adding value_upper_range_exclusive to a FLOAT with a previously existing "value_upper_range" will result in a CMF-B or CMF-X Parser detecting an error when using either the older or new DTD depending upon the nature of the change when the data received is out of range.
Attribute	value_upper_range_exclusive	of a FLOAT Element	Minor DTD	Backward compatible Information message only out of range data No sync loss	Backward compatible Information message only on out of range data	If a value_upper_range_exclusive is modified, the data received by the CMF-B or CMF-X Parser utilizing a "different" DTD from the transmitter's DTD would be invalid when out of range. This could be either the new or the old DTD depending on how the value_upper_range_exclusive change was made.

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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<b>MODIFY ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	default_unit	of a FLOAT Element	Major DTD	NOT backward compatible Error non-detectable No sync loss	NOT backward compatible Error non-detectable	Mismatched DTD will not recognize any discrepancy and each will assume their default_unit is correct. If this is acceptable, a "Minor DTD" change could be assigned. However, high likelihood of incorrect data being introduced into the system without careful planning and consideration. <b>Note:</b> Possible use of a "selectable_unit" for the field may affect "Major/Minor DTD" severity.
Attribute	default_unit	of an INTEGER Element	Major DTD	NOT backward compatible Error non-detectable; No sync loss	NOT backward compatible Error non-detectable	Mismatched DTD will not recognize any discrepancy and each will assume their default_unit is correct. If this is acceptable, a "Minor DTD" change could be assigned. However, high likelihood of incorrect data being introduced into the system without careful planning and consideration.

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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MODIFY ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	path_n_default_unit	of an INTEGER Element	same as default_unit	same as default_unit	same as default_unit	See comments for default_unit. <b>Note :</b> Additionally consider that a change to one path might not affect other paths and may affect "Major/Minor DTD" severity.
Attribute	value_multiplier or value_offset	of an INTEGER Element	Major DTD	NOT backward compatible Non-detectable error will always be introduced for integer when received with different DTD	NOT backward compatible Non-detectable error will always be introduced for integer when received with different DTD	For INTEGER data types, modifying a value_multiplier or value_offset will cause the data received by a Parser using an older DTD to be incorrect and the error will NOT be detectable by the Parser in any way. However, this sort of change will not affect the reading of the additional values in the data stream. No error handling is possible, as the "error" will not be detected.
Attribute	unit_equivalents	of a FLOAT Element	Major DTD	NOT backward compatible Undetected errors introduced No sync loss	NOT backward compatible Undetected errors introduced	Assignments of unit_equivalents may be added or deleted, but the change would not be backward compatible for the field and could cause data to be discarded by the receiving unit if the new value is received.

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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MODIFY ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	default_accuracy	of a FLOAT Element	Major DTD	NOT backward compatible Error non-detectable; No sync loss	NOT backward compatible Error non-detectable	Mismatched DTD will not recognize any discrepancy and each will assume their default_unit is correct. If this is acceptable, a "Minor DTD" change could be assigned. However, high likelihood of incorrect data being introduced into the system without careful planning and consideration. <b>Note :</b> Possible use of a "selectable_accuracy" for the field may affect "Major/Minor DTD" severity.
Attribute	path_n_default_accuracy	of a FLOAT Element	See default_accuracy (see comment)	See default_accuracy (see comment)	See default_accuracy (see comment)	See comments for default_accuracy <b>Note :</b> Additionally, consider that a change to one path might not affect other paths and may affect "Major/Minor DTD" severity.

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Table D.3.4.2.8-1 Modifying Attributes of DTDs

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MODIFY ACTION TARGET	ELEMENT TYPE	INTENDED STRUCTURE RESULT	MINIMUM CHANGE SEVERITY	CMF-B BACKWARD COMPATIBILITY	CMF-X BACKWARD COMPATIBILITY	COMMENT
Attribute	default_accuracies	of a FLOAT Element	See default_accuracy (see comment)	See default_accuracy (see comment)	See default_accuracy (see comment)	<p>Same rules apply here as for default_accuracy, except that default_accuracies will be provided for more than one "unit". This allows for adjustment of a particular unit's default_accuracy without impacting another unit's default_accuracy. Thus, the data received for the FLOAT could be completely correct if utilizing the unchanged "unit's" accuracies, but not if using the modified "unit's" accuracies.</p> <p><b>Note:</b> Consider carefully and determine severity on case-by-case basis. Additionally, consider that a change to one path might not affect other paths and may affect "Major/Minor DTD" severity.</p>
Attribute	path_n_default_accuracies	of a FLOAT Element	See default_accuracies (see comment)	See default_accuracies (see comment)	See default_accuracies (see comment)	<p>See default_accuracies</p> <p><b>Note:</b> Additionally, consider that a change to one path might not affect other paths and may affect "Major/Minor DTD" severity.</p>

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<b>MODIFY ACTION TARGET</b>	<b>ELEMENT TYPE</b>	<b>INTENDED STRUCTURE RESULT</b>	<b>MINIMUM CHANGE SEVERITY</b>	<b>CMF-B BACKWARD COMPATIBILITY</b>	<b>CMF-X BACKWARD COMPATIBILITY</b>	<b>COMMENT</b>
Attribute	lower_accuracy_range	of a FLOAT Element	Minor DTD	Backward compatible Information message on out-of-range data Accuracy data discarded No sync loss	Backward compatible Information message on out-of-range data Accuracy data discarded	Mismatched DTD would notice errors when values were out-of-range but majority of data would probably be error-free.
Attribute	lower_accuracy_ranges	of a FLOAT Element	See lower_accuracy_range	See lower_accuracy_range	See lower_accuracy_range	See lower_accuracy_range.
Attribute	upper_accuracy_range	of a FLOAT Element	Minor DTD	Backward compatible Information message on out-of-range data Accuracy data discarded No sync loss	Backward compatible Information message on out-of-range data Accuracy data discarded	Mismatched DTD would notice errors when values were out-of-range but majority of data would probably be error-free.
Attribute	upper_accuracy_ranges	of a FLOAT Element	See upper_accuracy_range	See upper_accuracy_range	See upper_accuracy_range	See upper_accuracy_range.
Attribute	relevance	of any Element	n/a	n/a	n/a	The only available setting for "relevance" is "DISUSED", thus it cannot be modified to another setting. When/if a new setting is introduced to CMF, the impact must be re-assessed.

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**D.3.4.3 MISCELLANEOUS MAINTENANCE GUIDELINES**

D.3.4.3.1 The smallest numeric tags must be assigned to the most critical elements in order to minimize required bandwidth to send the most critical data.

D.3.4.3.2 When the Parser encounters unexpected data, the data may or may not be parseable. The Parser returns the unexpected data in either their unparsed or parsed state along with the associated message identifying the data as unexpected.

D.3.4.3.3 A "Minor" DTD change should be backward compatible with all previous "Minor" changes of the same "Major" version of the DTD, but not with "Major" versions before that.

D.3.4.3.4 Often the decision to deem a DTD change "Minor" or "Major" will be contingent not on a specific data representation or packaging structure rule, but on operational necessity and concerns. For instance, changing an element in a non-backward compatible way when it is used commonly by many CMF users would probably require a "Major\_DTD\_Version" increment because it is desirable that ALL users utilize the field correctly. However, if a field were deemed to be only used by a small portion of the users, the same non-backwards compatible change might be intentionally deemed a "Minor\_DTD\_Version" increment (if, and only if, it did not impair the Parser's synchronization with the rest of the data in any way). The small group of CMF users requiring the piece of information would need to be informed of the change and receive a new DTD in order to utilize the supporting element(s). However, in this example the majority of the users would not need to immediately change DTDs if they did not care about the element in question.

D.3.4.3.5 Most changes that would not cause loss of data and would never be noticed by a non-verifying system are deemed "Minor". Many such changes will be "highly necessary" for all producers to

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begin implementing and therefore each will need a new DTD, but the change may only be a range change, adding a new mnemonic, or another change that will not impair a receive-only unit which does not verify received data. The "Minor\_DTD\_Version" marking would allow the receive-only systems to gradually change to the new DTD. Yet, producers and verifying systems needing the data immediately can utilize the data change with a new DTD.

D.3.4.3.6 The CMF parser allows the addition of new attributes to the standard, but shall provide a warning when an attribute that it does not recognize is encountered in a DTD. Additionally, the new attribute shall receive no further processing.

D.3.4.3.7 Tabs should be utilized as insignificant whitespace rather than spaces, where possible, in DTD definitions to minimize DTD object size in memory.

## D.3.4.3.8 ADDITIONAL DTD CRITERION AND ATTRIBUTE LIMITATIONS

D.3.4.3.8.1 The following sections identify additional methods, criteria, and limitations to consider when determining and supporting backward-compatibility with prior DTD versions.

D.3.4.3.8.2 There are times when an element is no longer to be utilized operationally, but the element is either required in a content model of the currently released DTD or is optional and cannot be removed due to some other concern. In these cases, the "relevance" attribute shall be defined for the element in order to provide an obvious and clear indication of the current relevance of the element to CMF applications, and potentially any human observers of any CMF-X data.

D.3.4.3.8.2.1 If the "relevance" attribute value indicates that the element is not operationally valid, then the respective element and any child elements (which are also transmitted because they are

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required, or effectively required) shall not be utilized in production, translations, displays, or other processing. If the element, its child elements, or other data resulting from use of those elements are to be presented in a human readable form, then some notice regarding the presence of non-operational data such as the "relevance" attribute itself or other indication shall be provided.

D.3.4.3.8.2.2 The "relevance" attribute is defined using the XML enumerated attribute type with an allowable value of "DISUSED" to indicate that the element is NOT operationally valid and the same value is declared as the XML enumerated default (for an example DTD declaration and instance usage of the "relevance" attribute, see the sample DTD file listing in D.5.2.1-1 and the sample CMF-X/B listing in D.6.1-1, respectively). NOTE: Currently the only valid value for this attribute is "DISUSED" and this shall be the only declared value in respective DTD attribute declarations. However, in order to support forward-compatibility of potential new maintenance approaches, the value of the attribute shall always be utilized rather than any reliance on only the presence of the attribute.

D.3.4.3.8.2.3 If the "relevance" attribute is defined for an element, it shall always be transmitted in any respective CMF-X data. The element and any required child element values shall be set to whichever of the defined element values is deemed least consequential to operational element usage (consult the Global IBS Support Center (GIBSSC) for assistance).

D.3.4.3.8.2.4 The CMF Parser Library (CMFPL-10 and later), or any system implementing an equivalent, shall support the following actions in relation to a declared "relevance" attribute:

- a) A warning indicating the presence of non-operational data shall be sent to the application if an element is received with a "relevance" attribute having a value of "DISUSED".
- b) The "relevance" attribute shall be included within the DOM and in all encoded CMF-X data using the declared XML default value

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for the attribute, whenever the "relevance" attribute for an element is declared in the DTD, but is not already present and valid in the respective data.

D.3.4.3.8.3 The rules specified in [Table D.3.4.3.8-1](#) shall be followed when declaring and validating attributes and structure of DTDs.

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Table D.3.4.3.8-1 DTD Criterion and Attribute Limitations

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<b>CRITERION / LIMITATION</b>	
<b>GLOBAL CHECKS</b>	
	All tags must be uniquely numbered.
	No element tag shall use the value "0" as it is reserved for use by Processing Instructions.
	Each tag must be declared by only one element.
	The root element must be an element type of GROUP.
	The root element must have an element tag defined.
	All elements must have an element type attribute.
	All element types must be one of the five: GROUP, FIELD, COMPOSITE, REPETITIVE, or PACKED.
	The content model for element types other than FIELD cannot contain #PCDATA.
	The content model for all element types other than FIELD must contain at least one child element.
	All child elements of a GROUP element must have a tag.
	All attributes must be assigned only to applicable elements per <a href="#">Table D.3.3.2-1</a> and <a href="#">Table D.3.3.2-2</a> .
	All reset attributes must be declared with the values Y N or N Y.
	The declared default for all reset attributes must be 'N'.
	All attributes must be declared with the appropriate XML attribute type per <a href="#">Table D.3.3.2-1</a> .
	Element attributes must match the correct syntax according to the defined element and <u>field type</u> .

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Table D.3.4.3.8-1 DTD Criterion and Attribute Limitations

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	<b>CRITERION / LIMITATION</b>
<b>GLOBAL CHECKS</b>	
	For unit lists, white space in labels or values is illegal and is not significant elsewhere. This includes upper/lower ranges, upper/lower ranges exclusives, (path_n) default accuracies, and upper/lower accuracy ranges.
	Unit list selections must be separated by "or" bars.
	Unit list labels and values must be separated by equal signs.
	Unit list labels must be one of the defined unit equivalents labels.
	Unit list values must be declared in integer or float form.
	For enumerated lists, white space in labels or values is illegal and is not significant elsewhere. This includes defined values for field types of ENUMERATED or PACKED COMPONENT and unit_equivalents for field_types of FLOAT.
	Enumerated list labels and values must be unique.
	Enumerated list selections must be separated by "or" bars.
	Enumerated list labels and values must be separated by equal signs.
	Enumerated list values must be declared in integer form.
	For value lists, white space within values when the field type is float or integer is illegal and is not significant elsewhere.

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Table D.3.4.3.8-1 DTD Criterion and Attribute Limitations

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	<b>CRITERION / LIMITATION</b>
<b>GLOBAL CHECKS</b>	
	For value lists, non-trailing white space within values when the field type is <u>STRING</u> is significant and trailing white space is significant up to the value min length.
	For value lists, <u>STRING</u> values must contain at least as many characters as defined by the value min length.
	For value lists, <u>the</u> form of the declared values must match the field type (e.g., FLOAT, INTEGER, STRING).
	For value lists, <u>the</u> values must be separated by "or" bars.
	If an element is resettable, all children of the element must be resettable.
	Non-PACKED elements cannot have PACKED_COMPONENTS.
	All initial values must match the field type, the defined values, and must be within defined ranges.
	All children of a PACKED element must have a field type of PACKED_COMPONENT.
	All element_tag attributes must have an associated tag reference.
	Elements having defined 'path_exclusions' cannot have any 'path_n' attributes for the excluded paths ( <i>Warning message only</i> ).
	Required elements cannot have any defined 'path_exclusions'.
	The form must be integer for all element_tag values.
	Undeclared Element tags will result in a warning message from the parser.

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Table D.3.4.3.8-1 DTD Criterion and Attribute Limitations

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	<b>CRITERION / LIMITATION</b>
<b>GLOBAL CHECKS</b>	
	The Package_Description_Data, DTD version, and Parser version elements, if utilized, must be declared with the exact and non-abbreviated spelling and must always be the first elements declared after the CMF_Doc element.
	An element's content model cannot reference itself.
	The content model of group or packed elements which are enabled for reset capability must not contain any individual non-grouped optional elements (i.e., optional elements which are not grouped by parenthesis) or any groupings of elements (i.e., grouped by parenthesis) which result in an element being de facto required even though all elements are individually optional or mutually exclusive. An example of a required grouping consisting of all optional elements would be three optional elements A, B, and C existing in a content model grouping such as (A   B   C). In this case, although each of the individual elements is optional, at least one is required, thus this example content model definition is not resettable. The presence of "+" and the " " indicators without enclosing "?" or "*" indicators tend to result in de facto required elements.

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Table D.3.4.3.8-1 DTD Criterion and Attribute Limitations

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	<b>CRITERION / LIMITATION</b>
<b>GLOBAL CHECKS</b>	All element content models of GROUP or PACKED elements which are both enabled for reset and contain any individual non-grouped required elements or any groupings of elements which result in an element being required even if all elements are individually optional or mutually exclusive must have the entire content model made optional (i.e., a "?" added to the entire content model). An example of a required grouping consisting of all optional elements would be three optional elements A, B, and C existing in a content model grouping such as (A   B   C).
	The content model of GROUP or PACKED elements which are enabled for reset capability must not contain any individual repeatable elements or groupings of elements using the "+" which result in an element being required even if all elements are individually optional or mutually exclusive. An example of de facto required element content models consisting of some optional elements would be an individual element A using the "+" such as (A+) or a grouping with elements A, B, and C defined as ((A, B)+, C). In this case, although some of the element repetitions are optional, at least one is required, thus this example content model is not resettable.

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Table D.3.4.3.8-1 DTD Criterion and Attribute Limitations

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	<b>CRITERION / LIMITATION</b>
<b>GLOBAL CHECKS</b>	
	<p>All element content models of GROUP or PACKED elements, which are both enabled for reset and contain any individual repeatable elements or groupings of elements using the "+" (which result in an element being required even if all elements are individually optional or mutually exclusive), must have the entire content model made optional (i.e., a "?" added to the entire content model). An example of de facto required element content models consisting of some optional elements would be an individual element A using the "+" such as (A+) or a grouping with elements A, B, and C defined as ((A, B)+, C).</p>
	<p>Default_values and path_n_default_values may be defined for optional elements but are only utilized for removal and insertion on required elements. For example, if an element belongs to a GROUP and is optional and that same element belongs to another GROUP and is required, it is permissible to have a default, but only the "required" instance will utilize the default.</p>
	<p>Elements that are path excluded must be optional for all content models where they appear in the DTD (i.e., if an element is a child element in two places; one optional and one required, and it is necessary to eliminate the element from the optional usage on some paths via path-exclusion, two separate elements must be defined).</p>

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Table D.3.4.3.8-1 DTD Criterion and Attribute Limitations

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	<b>CRITERION / LIMITATION</b>
<b>GLOBAL CHECKS</b>	
	The declaration of path_n_default_accuracy or path_n_default_accuracies does not require the declaration of a main default accuracy. This enables the non-path data to utilize an implied accuracy.
	External file entries must be unique.
	Each external file reference must have a unique file path.
	External file entries must not have duplicate names with differing numeric values (e.g., RED=1 RED=2).
	External file entries must not have duplicate numeric values for differing enumerated names (e.g., RED=1 BLUE=1).
	External file entries in which the entire entry is a duplicate of another entry such that both names and numeric values match (e.g., RED=1 RED=1) will result in a warning message from the parser.
	External files can be referenced by only one element.
	Only String Elements can reference external files.
<b>FIELDS</b>	
<u>global checks for</u> <u>element type</u> <u>FIELD</u>	
	All element types of "FIELD" must also have a "field type" attribute.
	FIELD elements must have a field type of one of the 6 types: INTEGER, FLOAT, PATTERN, ENUMERATED, STRING, or PACKED COMPONENT.
	All declared default values must be consistent with their field type.

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Table D.3.4.3.8-1 DTD Criterion and Attribute Limitations

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<b>FIELDS</b>	<b>CRITERION / LIMITATION</b>
	If a path_n_default_value is declared, a default value must also be declared.
	If a path_n_default_unit is declared, a default unit must also be declared.
	The content model for FIELD elements must contain and only contain (#PCDATA).
<u>field type -</u>	
<u>INTEGER:</u>	All declared defined values must be numerically within any declared ranges.
	All declared (path_n_)default_value must be one of the defined values (if defined values are declared) and/or must be within any declared ranges.
	Any declared value_lower_range must be less than or equal to any declared value_upper_range.
	If a default_unit or unit is declared, then both must be declared and the values must match (note only one value can be defined).
	The values for value_multiplier attributes must be declared in the form of an integer, decimal number, or scientific notation number.
	The values for value_offset attributes must be declared in the form of an integer, decimal number, or scientific notation number.
	The enumerations for a value_qualifier must only be declared as "greater_than" and/or "less_than".
	If an element's value_qualifier attribute defines the "LESS_THAN" condition, then value_lower_range must be declared and must be greater than or equal to 1.

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Table D.3.4.3.8-1 DTD Criterion and Attribute Limitations

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<b>FIELDS</b>	<b>CRITERION / LIMITATION</b>
	If an element's value_qualifier attribute defines the "GREATER_THAN" condition, then value_upper_range must be declared.
field type -	
<u>FLOAT:</u>	A declared value lower range must be less than or equal to any declared value upper range.
	A declared value lower range exclusive must be less than any declared value upper range
	A declared value lower range must be less than any declared value upper range exclusive
	A declared value lower range exclusive must be less than any declared value upper range exclusive
	An element may not have both a value lower range exclusive and a value lower range declared.
	An element may not have both a value upper range exclusive and a value upper range declared.
	An element may not have both a value upper range and value lower ranges declared.
	An element may not have both a value lower range and value upper ranges declared.
	If a (path_n_)default_unit is declared, then unit_equivalents and unit must both be declared and the declared (path_n_)default_unit value must be one of the selections in the unit_equivalents.
	If a unit_equivalents is declared, a unit attribute must also be declared, and the unit label entries must match the unit_equivalent label entries.

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Table D.3.4.3.8-1 DTD Criterion and Attribute Limitations

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<b>FIELDS</b>	<b>CRITERION / LIMITATION</b>
	If a unit is declared, a unit_equivalents attribute must also be declared.
	All unit_equivalents values must be unique.
	All unit_equivalents names (i.e., labels) must be unique.
	If a path_n_default_unit is declared, a default_unit must also be declared.
	If more than one selection is declared for unit_equivalents, only the plural value lower or upper_ranges may be declared (i.e., not the singular value lower or upper_range).
	If more than one selection is declared for unit_equivalents, only the plural value lower or upper_range_exclusives may be declared (i.e., not the singular value lower or upper_range_exclusive).
	If more than one selection is declared for unit_equivalents, only the plural default_accuracies may be declared (i.e., not the singular default_accuracy).
	If more than one selection is declared for unit_equivalents, only the plural path_n_default_accuracies may be declared (i.e., not the singular path_n_default_accuracy).
	If more than one selection is declared for unit_equivalents, only the plural lower or upper_accuracy_ranges may be declared (i.e., not the singular lower or upper_accuracy_range).
	If default_accuracy is declared, the value must be within, or equal to any declared lower and upper_accuracy_range.

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Table D.3.4.3.8-1 DTD Criterion and Attribute Limitations

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<b>FIELDS</b>	<b>CRITERION / LIMITATION</b>
	If default_accuracies is declared, the values must be within, or equal to any declared lower_ and upper_accuracy_ranges according to the respective unit.
	If only one selection is declared for unit_equivalents, only the singular value lower or upper_range may be declared (i.e., not the plural value lower or upper_ranges).
	If only one selection is declared for unit_equivalents, only the singular value lower or upper_range_exclusive may be declared (i.e., not the plural value lower or upper_ranges_exclusive).
	If only one selection is declared for unit_equivalents, only the singular default_accuracy may be declared (i.e., not the plural default_accuracies).
	If only one selection is declared for unit_equivalents, only the singular path_n_default_accuracy may be declared (i.e., not the plural path_n_default_accuracies).
	If only one selection is declared for unit_equivalents, only the singular lower or upper_accuracy_range may be declared (i.e., not the plural lower or upper_accuracy_ranges).
	If any of the accuracy ranges are declared, the accuracy attribute must be declared.
	Both lower_accuracy_range and lower_accuracy_ranges cannot be declared at the same time for the same element.

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Table D.3.4.3.8-1 DTD Criterion and Attribute Limitations

(Sheet 12 of 16)

<b>FIELDS</b>	<b>CRITERION / LIMITATION</b>
	Both upper_accuracy_range and upper_accuracy_ranges cannot be declared at the same time for the same element.
	Any declared lower_accuracy_range must be less than or equal to any declared upper_accuracy_range.
	Any declared lower_accuracy_ranges value for a particular unit must be less than or equal to any declared upper_accuracy_ranges value for the same unit.
	Accuracy attribute values cannot be negative.
	Any unit value declared within value lower or upper ranges, accuracy ranges, and "(path_n_)default_accuracies" must also be declared in the "unit" attribute.
	The enumerations for a value_qualifier must only be declared as "GREATER_THAN" and/or "LESS_THAN".
	The enumerations for an accuracy_qualifier must only be declared as "GREATER_THAN" and/or "LESS_THAN".
	If accuracy upper and/or lower range attributes are declared, and a default accuracy attribute value is not defined, producers shall provide an implied accuracy that when derived from the mantissa falls within lower and upper range values inclusively.
<u>field type -</u> <u>ENUMERATED:</u>	
	All enumerations must have one or more defined_values declared.

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Table D.3.4.3.8-1 DTD Criterion and Attribute Limitations

(Sheet 13 of 16)

	<b>CRITERION / LIMITATION</b>
<b>FIELDS</b>	
	All declared (path_n_) default_values must be one of the declared defined values.
	Defined_values entries must be unique.
	Defined_values entries must not have duplicate names with differing numeric values (e.g., RED=1 RED=2).
	Defined_values entries must not have duplicate numeric values for differing enumerated names (e.g., RED=1 BLUE=1).
	Defined_values entries in which the entire entry is a duplicate of another entry such that both names and numeric values match (e.g., RED=1 RED=1) will result in a warning message from the parser.
<u>field type -</u>	
<u>STRING:</u>	
	If value_min_length or value_max_length are declared, their values must be greater than zero.
	If value_min_length and value_max_length are both declared, the value_min_length value must be less than or equal to the value_max_length value.
	Declaration of values for the value_min_length or value_max_length must be in the form of an integer.
	If a (path_n_) default_value is declared, the declared value must be one of any declared defined_values and/or within any declared value min or max lengths.
	If 'defined_values' is declared, each declared value must satisfy any declared value min or max lengths.
	Can Only reference one external file.
<u>field type -</u>	
<u>PACKED COMPONENT:</u>	

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Table D.3.4.3.8-1 DTD Criterion and Attribute Limitations

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	<b>CRITERION / LIMITATION</b>
<b>FIELDS</b>	
	Any declared value for a (path_n_)default_value must be one of the declared defined_values.
	A 'defined_values' attribute must be declared with either 1 or 2 enumerated values and those numerical values must be equal to '1' and/or '2'.
<u>field type -</u>	
<u>PATTERN</u>	
	An element_pattern attribute must be declared.
	Any declared patterns must follow the form of character count, field ID, char count, field ID, etc.
	Any declared patterns must be declared with proper Field ID syntax.
	For each declared pattern, the simplest form of each component within exclusives must match. The set of components and their forms (except subcomponent ranges) within exclusive Field ID groups must match exactly (i.e., cannot have [1A1A] and [2A], but could have [1D1A] with [1A1A] since simplest form for both would be 1Z1Z).
	The values for any declared (path_n_)default_value must match the defined element_pattern.
	If any subcomponent ranges with a pattern overlap (e.g., one ranged 1-20 and the other ranged 15-30) a "warning" message will be output by the parser.
<b>PACKED</b>	
<u>global checks for</u>	
<u>element type</u>	
<u>PACKED</u>	

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Table D.3.4.3.8-1 DTD Criterion and Attribute Limitations

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	<b>CRITERION / LIMITATION</b>
	All elements declared as children in the content model must have a field type of PACKED_COMPONENT.
	All elements declared as children in the content model must be non-repeatable and cannot be mutually exclusive (i.e., no "+" or "*" or " ").
<b>COMPOSITE</b>	
<u>global checks for element type</u>	
<u>COMPOSITE</u>	
	All elements declared as children in the content model must be required (i.e., no '*' or '?').
	All elements declared as children in the content model must be non_repetitive (i.e., no "+" or "*").
<b>REPETITIVE</b>	
<u>global checks for element type</u>	
<u>REPETITIVE</u>	
	An "element_iterations" attribute must be declared for all elements.
	All elements, or groupings of elements declared as children in the content model must be required and non-repeatable (i.e., no '*' or '?' or ' ' or '+').
	If the element is enabled for reset capability, then the entire content model must end with the '*' indicator or if not enabled for reset capability it must end with the '+' indicator.
	If min_element_iterations and max_element_iterations are both declared, the min_element_iterations value must be less than or equal to the max_element_iterations value.

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Table D.3.4.3.8-1 DTD Criterion and Attribute Limitations

(Sheet 16 of 16)

	<b>CRITERION / LIMITATION</b>
	Declaration of values for the min_element_iterations or max_element_iterations must be in the form of an integer.
	The declared value for min_element_iterations must be greater than or equal to one.
	The declared value for max_element_iterations must be greater than or equal to one.
	If multiple children are declared, all child elements in the content model must be enclosed by parenthesis.
<b>GROUP</b>	
<u>global checks for</u> <u>element type</u>	
<b>GROUP</b>	
	All children within the content model of a GROUP element must have tags defined.

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## D.4 SPECIAL CMF PRODUCTION RULES

This section defines special rules to which CMF data shall conform. These rules are not normally enforced by standard COTS parsers.

1. "unit" Attribute - If an element has this attribute defined in the DTD then this attribute shall be required in the XML data unless the element is being reset. (See [sections D.2.6.2.4](#) and [D.2.6.2.9](#))
2. "element\_type" Attribute equal to "REPETITIVE" - Element shall send (in the data) its "element\_iterations" attribute, and its value shall be an integer equal to the number of times the children in the element's content model are repeated as children of the element. (See [section D.2.8.8](#))  
When using the CMF XML schema to produce CMF-X data, the reported element\_iterations value shall always be within the range as specified by the minOccurs and maxOccurs attributes (i.e., not the min\_element\_iterations and max\_element\_iterations values).
3. "value\_qualifier" Attribute - For an Integer element the value assigned shall be equal to the lowest allowable value when the "value\_qualifier" is set to "LESS\_THAN" and equal to the highest allowable value when the "value\_qualifier" is set to "GREATER\_THAN". (See [section D.2.6.2.4](#))
4. "reset" Attribute - Reset attributes shall be properly nested. If the reset attribute is set to "Y" for a parent element (GROUP, COMPOSITE, or REPETITIVE), then all required children of that element shall also have a reset attribute set to "Y" and any optional children shall not be reported. (See [sections D.2.6.2](#), [D.2.7.1](#), [D.2.7.2](#), [D.2.8.5](#) – [D.2.8.9](#), [Table D.3.3.2-1](#), [Table D.3.3.2-2](#) and [D.3.4.3.8-1](#).)

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5. “element\_type” Attribute equal to “FIELD” – If “reset” attribute is set to ‘N’, element shall have a text node child. If “reset” attribute is set to ‘Y’, element shall NOT have a text node child.
6. “field\_type” Attribute equal to “FLOAT” – Element shall send (in the data) their “unit” attribute (if applicable).
7. “element\_type” Attribute equal to “GROUP” – Processing instructions shall only be children of elements with an “element\_type” of “GROUP”.
8. Schema Names – In order to maximize robust backward compatibility and to support interoperability between CMF Application Programming Interface (CAPI) and XML Application Programming Interface (XAPI) consumers, CMF schema names follow a generic naming convention. The CMF DTD schema shall always be named “CMF.dtd”. The CMF XML schema (i.e. xsd) shall always be named “CMF.xsd”. These two schemas shall be used for all consumers of CMF data. CAPI or XAPI producers of CMF data shall use the CMF DTD schema (i.e. CMF.dtd) or, if they want to produce CMF-X using an XML Schema (non-CAPI systems), there is a separate schema available for ONLY that purpose called “CMF\_w\_Mnemonics.xsd”. All producers of CMF data shall use either the “CMF.dtd” or “CMF\_w\_Mnemonics.xsd” schemas in order to properly validate and verify all CMF data produced (including mnemonics).
9. “DOCTYPE” – In order to be interoperable between DTD enabled and schema enabled processors, all CMF packets and CMF headers shall include a “DOCTYPE” node.

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10. Version Elements - Every CMF\_Doc and CMF\_Hdr includes the following elements: "Major\_Parser\_API\_Version", "Minor\_Parser\_API\_Version", "Major\_DTD\_Version", and "Minor\_DTD\_Version". These elements shall be set to the correct values to ensure interoperability and, for any received data, shall be checked/processed per the versioning rules explained in section D.3.4.1 (Version Tracking).
11. Namespace Attribute - For CMF-X, every CMF\_Doc and CMF\_Hdr shall include the namespace attribute "xmlns" in order to ensure interoperability. The namespace attribute shall be set to the full URI  
(xmlns="http://ibs.majorsfield.af.smil.mil/cmf").
12. "field\_type" Attribute equal to "FLOAT" - Elements shall not represent values indicating infinity (INF), negative infinity (-INF), or not-a-number (NAN).
13. Attributes which limit other Attributes - All range, value, or other limitation checking shall be enforced for all attributes which indicate limits for other attributes. For example, values of the "Accuracy" attribute shall be within the limits indicated by any declared accuracy range attributes such as "accuracy\_lower\_range" and "accuracy\_upper\_range". This includes enforcing limits for attributes indicating multiple limitations for values with declared variations such as values with multiple units limited by "value\_lower\_ranges".
14. Unless an element is being reported with the reset attribute set to "Y", an element's tag(s) shall never be present without a value also being reported (i.e., empty tags are not permitted other than in a reset condition).

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15. For all CMF-X data created (including conversions from CMF-B), if the "relevance" attribute is defined for the element, the attribute shall always be included with the element in the CMF-X data.

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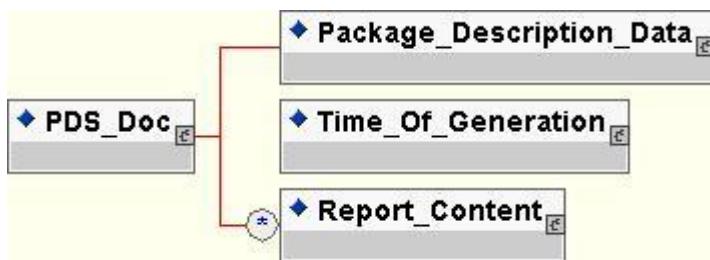
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## D.5 DTD VIEWS

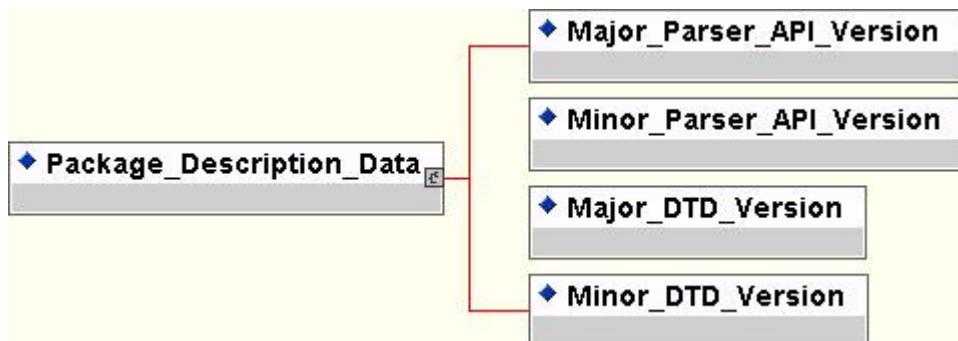
### D.5.1 EXAMPLE DTD GRAPHICAL VIEW

The following example DTD views represent a graphical depiction of a hypothetical but representative example of the defined capabilities of CMF. [Section D.5.1.1](#) (shown below) is a graphical breakout of an example DTD (described in [section D.5.2](#)). Working examples of both CMF-X and CMF-B which are based upon the example DTD are provided in [section D.6.1](#).

#### D.5.1.1 PACKAGE\_DELIVERY\_SYSTEM\_DOC ROOT ELEMENT



##### D.5.1.1.1 Package\_Description\_Data Element

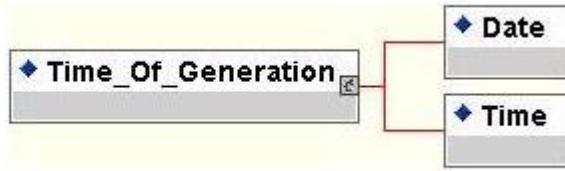


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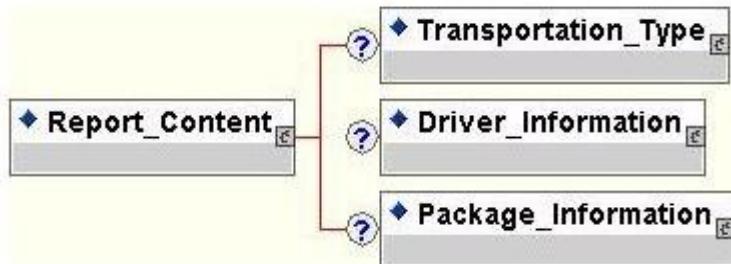
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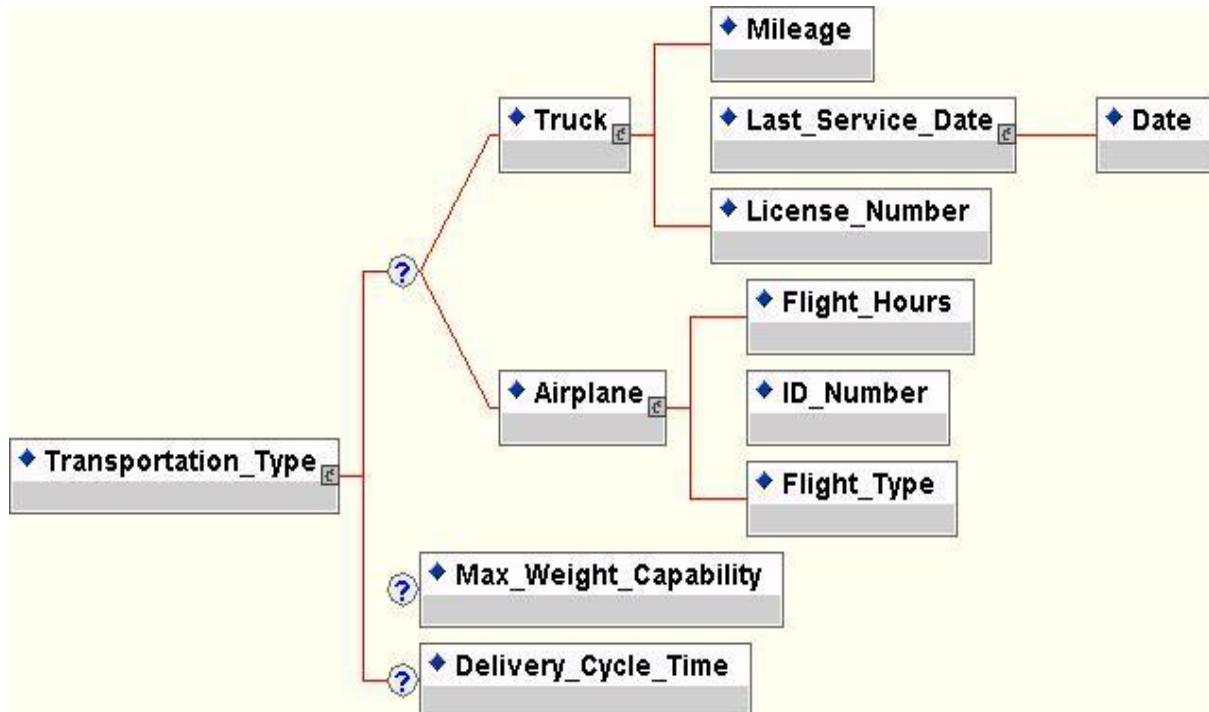
D.5.1.1.2 Time\_Of\_Generation Element



D.5.1.1.3 Report\_Content Message



D.5.1.1.3.1 Transportation\_Type\_Element

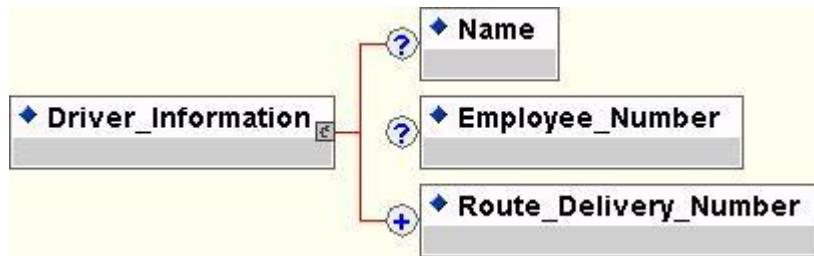


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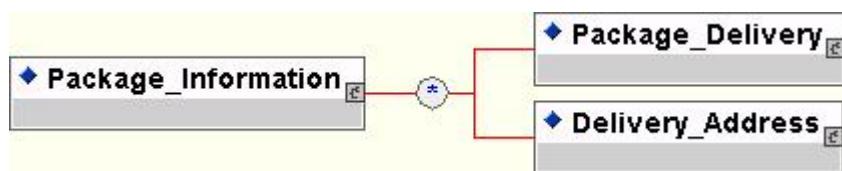
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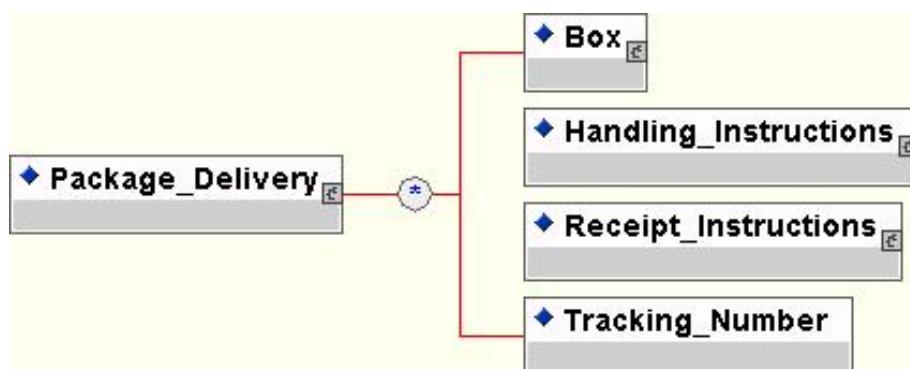
D.5.1.1.3.2 Driver\_Information\_Element



D.5.1.1.3.3 Package\_Information\_Element



D.5.1.1.3.3.1 Package\_Delivery Element



D.5.1.1.3.3.2 Box Element

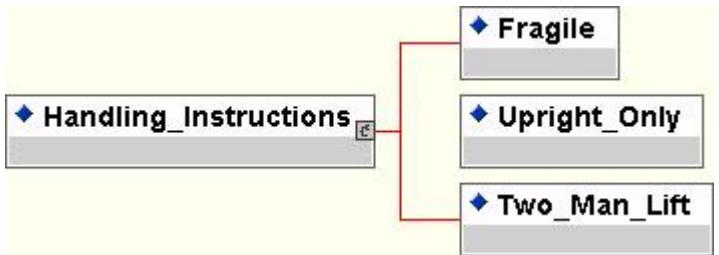


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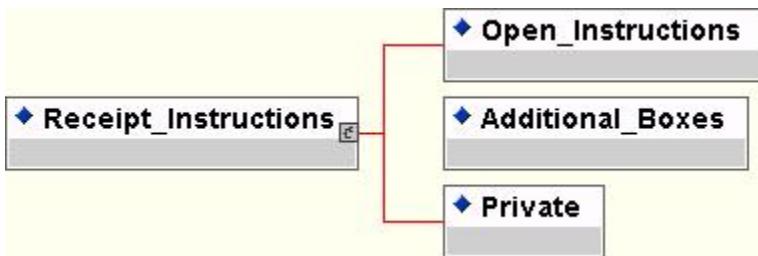
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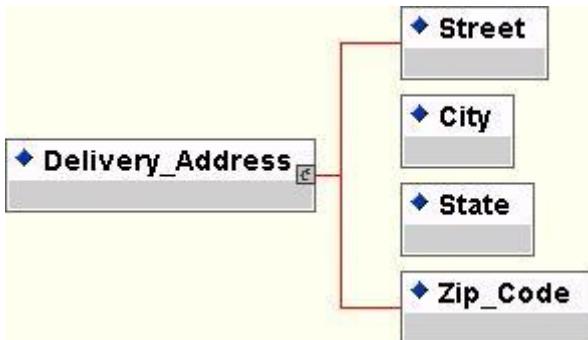
D.5.1.1.3.3.3 Handling\_Instructions Element



D.5.1.1.3.3.4 Receipt\_Instructions\_Element



D.5.1.1.3.3.5 Delivery\_Address



D.5.2 EXAMPLE DTD TEXT VIEW

D.5.2.1 PACKAGE DELIVERY SYSTEM DTD FILE

The following example DTD file provides a hypothetical but representative example of the defined capabilities of CMF. The example DTD, with a file name of "Package\_Delivery\_System.dtd", would be located in the same directory as the example XML data. Working examples of both CMF-X and CMF-B, based upon this example DTD, are provided in [Section D.6.1](#).

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Table D.5.2.1-1 Package Delivery System DTD File Listing

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```
<?xml encoding='UTF-8' ?>
<?CMF_Application DTD_Version='1.1'?>

<!ENTITY % state_abbreviation_file SYSTEM "PDS_Mnemonics/State_Abbreviation_File.txt">

<!ENTITY PACKAGE_DELIVERY_SYSTEM_TAG "1">
<!ENTITY PACKAGE_DESCRIPTION_DATA_TAG "100">
<!ENTITY TIME_OF_GENERATION_TAG "2">
<!ENTITY REPORT_CONTENT_TAG "3">
<!ENTITY TRANSPORTATION_TYPE_TAG "4">
<!ENTITY TRUCK_TAG "5">
<!ENTITY AIRPLANE_TAG "6">
<!ENTITY MAX_WEIGHT_CAPABILITY_TAG "7">
<!ENTITY DELIVERY_CYCLE_TIME_TAG "8">
<!ENTITY DRIVER_INFORMATION_TAG "9">
<!ENTITY NAME_TAG "10">
<!ENTITY EMPLOYEE_NUMBER_TAG "11">
<!ENTITY ROUTE_DELIVERY_NUMBER_TAG "12">
<!ENTITY PACKAGE_INFORMATION_TAG "13">
<!ENTITY PACKAGE_DELIVERY_TAG "14">
<!ENTITY BOX_TAG "15">
<!ENTITY DIMENSIONS_TAG "16">
<!ENTITY HANDLING_INSTRUCTIONS_TAG "17">
<!ENTITY RECEIPT_INSTRUCTIONS_TAG "18">
<!ENTITY DELIVERY_ADDRESS_TAG "19">
<!ENTITY LAST_SERVICE_DATE_TAG "22">

<!-- ***** -->
<!ELEMENT PDS_Doc (Package_Description_Data, Time_Of_Generation, Report_Content*)>
<!ATTLIST PDS_Doc element_tag CDATA #FIXED '&PACKAGE_DELIVERY_SYSTEM_TAG;'>
<!-->
<!-->
<!-->
```

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Table D.5.2.1-1 Package Delivery System DTD File Listing

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```
<!-- ***** -->
<!ELEMENT Package_Description_Data (Major_Parser_API_Version,
Minor_Parser_API_Version, Major_DTD_Version, Minor_DTD_Version)>
<!ATTLIST Package_Description_Data element_tag CDATA #FIXED
'&PACKAGE_DESCRIPTION_DATA_TAG;'>
                                element_type CDATA #FIXED 'COMPOSITE'>
<!-- ***** -->
<!ELEMENT Major_Parser_API_Version (#PCDATA)>
<!ATTLIST Major_Parser_API_Version element_type CDATA #FIXED 'FIELD'
field_type CDATA #FIXED 'INTEGER'
value_lower_range CDATA #FIXED '0'
value_upper_range CDATA #FIXED '127'>
<!-- ***** -->
<!ELEMENT Minor_Parser_API_Version (#PCDATA)>
<!ATTLIST Minor_Parser_API_Version element_type CDATA #FIXED 'FIELD'
field_type CDATA #FIXED 'INTEGER'
value_lower_range CDATA #FIXED '0'
value_upper_range CDATA #FIXED '127'>

<!-- ***** -->
<!ELEMENT Major_DTD_Version (#PCDATA)>
<!ATTLIST Major_DTD_Version element_type CDATA #FIXED 'FIELD'
field_type CDATA #FIXED 'INTEGER'
value_lower_range CDATA #FIXED '0'
value_upper_range CDATA #FIXED '127'>
<!-- ***** -->
<!ELEMENT Minor_DTD_Version (#PCDATA)>
<!ATTLIST Minor_DTD_Version element_type CDATA #FIXED 'FIELD'
field_type CDATA #FIXED 'INTEGER'
value_lower_range CDATA #FIXED '0'
value_upper_range CDATA #FIXED '127'>
```

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Table D.5.2.1-1 Package Delivery System DTD File Listing

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```
<!-- ***** -->
<!ELEMENT Time_Of_Generation (Date , Time)>
<!ATTLIST Time_Of_Generation element_tag CDATA #FIXED '&TIME_OF_GENERATION_TAG;' 
element_type CDATA #FIXED 'COMPOSITE'>

<!-- ***** -->
<!ELEMENT Date (#PCDATA)>
<!ATTLIST Date element_type CDATA #FIXED 'FIELD'
field_type CDATA #FIXED 'PATTERN'
element_pattern CDATA #FIXED '2N(1-12)1H2N(1-31)1H2N(0-99)'>

<!-- ***** -->
<!ELEMENT Time (#PCDATA)>
<!ATTLIST Time element_type CDATA #FIXED 'FIELD'
field_type CDATA #FIXED 'PATTERN'
element_pattern CDATA #FIXED '2N(0-23)1:2N(0-59)1:2N(0-59)'>

<!-- ***** -->
<!ELEMENT Report_Content (Transportation_Type?, Driver_Information?,
Package_Information?)>
<!ATTLIST Report_Content element_tag CDATA #FIXED '&REPORT_CONTENT_TAG;' 
element_type CDATA #FIXED 'GROUP'>

<!-- ***** -->
<!ELEMENT Transportation_Type ((Truck|Airplane)?, Max_Weight_Capability?,
Delivery_Cycle_Time?)>
<!ATTLIST Transportation_Type element_tag CDATA #FIXED '&TRANSPORTATION_TYPE_TAG;' 
element_type CDATA #FIXED 'GROUP'>

<!-- ***** -->
<!ELEMENT Truck (Mileage, Last_Service_Date, License_Number)>
<!ATTLIST Truck element_tag CDATA #FIXED '&TRUCK_TAG;' 
element_type CDATA #FIXED 'COMPOSITE'
path_exclusions CDATA #FIXED '2|3'>
```

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Table D.5.2.1-1 Package Delivery System DTD File Listing

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```
<!-- ***** -->
<!ELEMENT Mileage (#PCDATA)>
<!ATTLIST Mileage reset          (Y|N)  'N'
           element_type    CDATA #FIXED 'FIELD'
           field_type      CDATA #FIXED 'INTEGER'
           value_lower_range CDATA #FIXED '10'
           value_upper_range CDATA #FIXED '1000000'
           value_qualifier   (LESS_THAN|GREATER_THAN) #IMPLIED>

<!-- ***** -->
<!ELEMENT Last_Service_Date (Date)>
<!ATTLIST Last_Service_Date element_tag    CDATA #FIXED '&LAST_SERVICE_DATE_TAG;'
           element_type   CDATA #FIXED 'COMPOSITE'>

<!-- ***** -->
<!ELEMENT License_Number (#PCDATA)>
<!ATTLIST License_Number relevance     (DISUSED) 'DISUSED'
           element_type    CDATA #FIXED 'FIELD'
           field_type      CDATA #FIXED 'PATTERN'
           element_pattern CDATA #FIXED '7X(A-Z)(0-9)'>

<!-- ***** -->
<!ELEMENT Airplane (Flight_Hours, ID_Number, Flight_Type)>
<!ATTLIST Airplane element_tag    CDATA #FIXED '&AIRPLANE_TAG;'
           element_type   CDATA #FIXED 'COMPOSITE'>

<!-- ***** -->
<!ELEMENT Flight_Hours (#PCDATA)>
<!ATTLIST Flight_Hours reset          (Y|N)  'N'
           element_type    CDATA #FIXED 'FIELD'
           field_type      CDATA #FIXED 'FLOAT'
           value_lower_range_exclusive CDATA #FIXED '0'
           value_upper_range    CDATA #FIXED '99999'
           accuracy        CDATA #IMPLIED>
```

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## APPENDIX D

Table D.5.2.1-1 Package Delivery System DTD File Listing

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```
<!-- ***** -->
<!ELEMENT Flight_Type (#PCDATA)>
<!ATTLIST Flight_Type reset          (Y|N) 'N'
               element_type    CDATA #FIXED 'FIELD'
               field_type      CDATA #FIXED 'ENUMERATED'
               defined_values  CDATA #FIXED
'NON_STOP=0|ONE_STOP=1|MULTI_STOP=2'>

<!-- ***** -->
<!ELEMENT ID_Number (#PCDATA)>
<!ATTLIST ID_Number reset          (Y|N) 'N'
               element_type    CDATA #FIXED 'FIELD'
               field_type      CDATA #FIXED 'INTEGER'
               value_lower_range CDATA #FIXED '1'
               value_upper_range CDATA #FIXED '99999'>

<!-- ***** -->
<!ELEMENT Max_Weight_Capability (#PCDATA)>
<!ATTLIST Max_Weight_Capability reset          (Y|N) 'N'
               element_tag     CDATA #FIXED
'&MAX_WEIGHT_CAPABILITY_TAG;'>
               element_type    CDATA #FIXED 'FIELD'
               field_type      CDATA #FIXED 'FLOAT'
               unit           (LBS|KG) #IMPLIED
               unit_equivalents CDATA #FIXED 'LBS=1|KG=2'
               default_unit   CDATA #FIXED 'LBS'
               path_1_default_unit CDATA #FIXED 'LBS'
               path_2_default_unit CDATA #FIXED 'KG'
               value_lower_ranges_exclusive CDATA #FIXED 'LBS=0|KG=0'
               value_upper_ranges   CDATA #FIXED 'LBS=1E5|KG=5E4'
               accuracy        CDATA #IMPLIED
               accuracy_lower_ranges CDATA #FIXED 'LBS=1E-1|KG=1E-1'
               accuracy_upper_ranges CDATA #FIXED 'LBS=100|KG=50'
               accuracy_qualifier (GREATER_THAN|LESS_THAN) #IMPLIED
               default_accuracies CDATA #FIXED 'LBS=2|KG=1'
               path_1_default_accuracies CDATA #FIXED 'LBS=2|KG=1'
               path_2_default_accuracies CDATA #FIXED 'LBS=2|KG=1'>
```

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Table D.5.2.1-1 Package Delivery System DTD File Listing

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```
<!-- ***** -->
<!ELEMENT Delivery_Cycle_Time (#PCDATA)>
<!ATTLIST Delivery_Cycle_Time reset          (Y|N) 'N'
                           element_tag      CDATA #FIXED
'&DELIVERY_CYCLE_TIME_TAG;''
                           element_type     CDATA #FIXED 'FIELD'
                           field_type      CDATA #FIXED 'INTEGER'
                           value_lower_range CDATA #FIXED '0'
                           value_upper_range CDATA #FIXED '24'
                           unit           (HOURS) #IMPLIED
                           default_unit    CDATA #FIXED 'HOURS'>

<!-- ***** -->
<!ELEMENT Driver_Information (Name?, Employee_Number?, Route_Delivery_Number+)>
<!ATTLIST Driver_Information element_tag  CDATA #FIXED '&DRIVER_INFORMATION_TAG;''
                           element_type CDATA #FIXED 'GROUP'>

<!-- ***** -->
<!ELEMENT Name (#PCDATA)>
<!ATTLIST Name  reset          (Y|N) 'N'
                           element_tag      CDATA #FIXED '&NAME_TAG;''
                           element_type     CDATA #FIXED 'FIELD'
                           field_type      CDATA #FIXED 'STRING'
                           value_min_length CDATA #FIXED '1'
                           value_max_length CDATA #FIXED '50'>

<!-- ***** -->
<!ELEMENT Employee_Number (#PCDATA)>
<!ATTLIST Employee_Number reset          (Y|N) 'N'
                           element_tag      CDATA #FIXED '&EMPLOYEE_NUMBER_TAG;''
                           element_type     CDATA #FIXED 'FIELD'
                           field_type      CDATA #FIXED 'INTEGER'
                           value_lower_range CDATA #FIXED '0'
                           value_upper_range CDATA #FIXED '9999'>
```

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Table D.5.2.1-1 Package Delivery System DTD File Listing

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```
<!-- ***** -->
<!ELEMENT Route_Delivery_Number (#PCDATA)>
<!ATTLIST Route_Delivery_Number reset          (Y|N) 'N'
                                         element_tag    CDATA #FIXED
'&ROUTE_DELIVERY_NUMBER_TAG;' 
                                         element_type   CDATA #FIXED 'FIELD'
                                         field_type     CDATA #FIXED 'PATTERN'
                                         element_pattern CDATA #FIXED '2A(A-Z)5N(0-99999)'>

<!-- ***** -->
<!ELEMENT Package_Information ((Package_Delivery, Delivery_Address)*)>
<!ATTLIST Package_Information reset          (Y|N) 'N'
                                         element_tag    CDATA #FIXED
'&PACKAGE_INFORMATION_TAG;' 
                                         element_type   CDATA #FIXED 'REPETITIVE'
                                         element_iterations CDATA #REQUIRED
                                         min_element_iterations CDATA #FIXED '1'
                                         max_element_iterations CDATA #FIXED '100' >

<!-- ***** -->
<!ELEMENT Package_Delivery ((Box, Handling_Instructions, Receipt_Instructions,
Tracking_Number)*)>
<!ATTLIST Package_Delivery reset          (Y|N) 'N'
                                         element_tag    CDATA #FIXED
'&PACKAGE_DELIVERY_TAG;' 
                                         element_type   CDATA #FIXED 'REPETITIVE'
                                         element_iterations CDATA #REQUIRED
                                         min_element_iterations CDATA #FIXED '1'
                                         max_element_iterations CDATA #FIXED '999' >

<!-- ***** -->
<!ELEMENT Box (Dimensions, Weight)>
<!ATTLIST Box reset          (Y|N) 'N'
                                         element_tag    CDATA #FIXED '&BOX_TAG;'
                                         element_type   CDATA #FIXED 'COMPOSITE'>

<!-- ***** -->
<!ELEMENT Dimensions (Width, Depth, Height)>
<!ATTLIST Dimensions reset          (Y|N) 'N'
                                         element_tag    CDATA #FIXED '&DIMENSIONS_TAG;'
                                         element_type   CDATA #FIXED 'COMPOSITE'>
```

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Table D.5.2.1-1 Package Delivery System DTD File Listing

(Sheet 8 of 12)

```
<!-- ***** -->
<!ELEMENT Width (#PCDATA)>
<!ATTLIST Width reset          (Y|N) 'N'
               element_type    CDATA #FIXED 'FIELD'
               field_type       CDATA #FIXED 'FLOAT'
               unit            (INCHES|CM) #IMPLIED
               unit_equivalents CDATA #FIXED 'INCHE=1|CM=2'
               default_unit     CDATA #FIXED 'INCHE'
               path_1_default_unit CDATA #FIXED 'INCHE'
               path_2_default_unit CDATA #FIXED 'CM'
               value_lower_ranges_exclusive CDATA #FIXED 'INCHE=0|CM=0'
               value_upper_ranges      CDATA #FIXED 'INCHE=2000|CM=4000'
               value_qualifier        (GREATER_THAN|LESS_THAN) #IMPLIED
               accuracy           CDATA #IMPLIED
               accuracy_lower_ranges CDATA #FIXED 'INCHE=1E0|CM=1E0'
               accuracy_upper_ranges CDATA #FIXED 'INCHE=10E0|CM=10E0'
               path_1_default_accuracies CDATA #FIXED 'INCHE=1|CM=2'
               path_2_default_accuracies CDATA #FIXED 'INCHE=1|CM=1'>

<!-- ***** -->
<!ELEMENT Depth (#PCDATA)>
<!ATTLIST Depth reset          (Y|N) 'N'
               element_type    CDATA #FIXED 'FIELD'
               field_type       CDATA #FIXED 'FLOAT'
               unit            (INCHES|CM) #IMPLIED
               unit_equivalents CDATA #FIXED 'INCHE=1|CM=2'
               default_unit     CDATA #FIXED 'INCHE'
               path_1_default_unit CDATA #FIXED 'INCHE'
               path_2_default_unit CDATA #FIXED 'CM'
               value_lower_ranges_exclusive CDATA #FIXED 'INCHE=0|CM=0'
               value_upper_ranges      CDATA #FIXED 'INCHE=2000|CM=4000'
               value_qualifier        (GREATER_THAN|LESS_THAN) #IMPLIED
               accuracy           CDATA #IMPLIED
               accuracy_lower_ranges CDATA #FIXED 'INCHE=1E0|CM=1E0'
               accuracy_upper_ranges CDATA #FIXED 'INCHE=10E0|CM=10E0'
               path_1_default_accuracies CDATA #FIXED 'INCHE=1|CM=2'
               path_2_default_accuracies CDATA #FIXED 'INCHE=1|CM=1'>
```

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Table D.5.2.1-1 Package Delivery System DTD File Listing

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```
<!-- ***** -->
<!ELEMENT Height (#PCDATA)>
<!ATTLIST Height reset          (Y|N) 'N'
               element_type    CDATA #FIXED 'FIELD'
               field_type       CDATA #FIXED 'FLOAT'
               unit            (INCHES|CM) #IMPLIED
               unit_equivalents CDATA #FIXED 'INCHES=1|CM=2'
               default_unit     CDATA #FIXED 'INCHES'
               path_1_default_unit CDATA #FIXED 'INCHES'
               path_2_default_unit CDATA #FIXED 'CM'
               value_lower_ranges_exclusive CDATA #FIXED 'INCHES=0|CM=0'
               value_upper_ranges      CDATA #FIXED 'INCHES=4000|CM=8000'
               value_qualifier        (GREATER_THAN|LESS_THAN) #IMPLIED
               accuracy             CDATA #IMPLIED
               accuracy_lower_ranges CDATA #FIXED 'INCHES=1E0|CM=1E0'
               accuracy_upper_ranges CDATA #FIXED 'INCHES=10E0|CM=10E0'
               path_1_default_accuracies CDATA #FIXED 'INCHES=1|CM=2'
               path_2_default_accuracies CDATA #FIXED 'INCHES=1|CM=1'>

<!-- ***** -->
<!ELEMENT Weight (#PCDATA)>
<!ATTLIST Weight reset          (Y|N) 'N'
               element_type    CDATA #FIXED 'FIELD'
               field_type       CDATA #FIXED 'FLOAT'
               unit            (LBS|KG) #IMPLIED
               unit_equivalents CDATA #FIXED 'LBS=1|KG=2'
               default_unit     CDATA #FIXED 'LBS'
               path_1_default_unit CDATA #FIXED 'LBS'
               path_2_default_unit CDATA #FIXED 'KG'
               value_lower_ranges_exclusive CDATA #FIXED 'LBS=0|KG=0'
               value_upper_ranges      CDATA #FIXED 'LBS=2000|KG=4000'
               value_qualifier        (GREATER_THAN|LESS_THAN) #IMPLIED
               accuracy             CDATA #IMPLIED
               accuracy_lower_ranges CDATA #FIXED 'LBS=1E0|KG=1E0'
               accuracy_upper_ranges CDATA #FIXED 'LBS=10E0|KG=10E0'
               path_1_default_accuracies CDATA #FIXED 'LBS=1|KG=2'
               path_2_default_accuracies CDATA #FIXED 'LBS=1|KG=1'>
```

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Table D.5.2.1-1 Package Delivery System DTD File Listing

(Sheet 10 of 12)

```
<!-- ***** -->
<!ELEMENT Handling_Instructions  (Fragile, Upright_Only, Two_Man_Lift)>
<!ATTLIST Handling_Instructions  reset          (Y|N)  'N'
                                         element_tag    CDATA #FIXED
'&HANDLING_INSTRUCTIONS_TAG;' 
                                         element_type   CDATA #FIXED 'PACKED'>

<!-- ***** -->
<!ELEMENT Fragile   (#PCDATA)>
<!ATTLIST Fragile  reset          (Y|N)  'N'
                                         element_type   CDATA #FIXED 'FIELD'
                                         field_type     CDATA #FIXED 'PACKED_COMPONENT'
                                         defined_values CDATA #FIXED 'YES=1|NO=2'
                                         default_value  CDATA #FIXED 'NO'>

<!-- ***** -->
<!ELEMENT Upright_Only  (#PCDATA)>
<!ATTLIST Upright_Only  reset          (Y|N)  'N'
                                         element_type   CDATA #FIXED 'FIELD'
                                         field_type     CDATA #FIXED 'PACKED_COMPONENT'
                                         defined_values CDATA #FIXED 'YES=1|NO=2'
                                         default_value  CDATA #FIXED 'NO'>

<!-- ***** -->
<!ELEMENT Two_Man_Lift  (#PCDATA)>
<!ATTLIST Two_Man_Lift  reset          (Y|N)  'N'
                                         element_type   CDATA #FIXED 'FIELD'
                                         field_type     CDATA #FIXED 'PACKED_COMPONENT'
                                         defined_values CDATA #FIXED 'YES=1|NO=2'
                                         default_value  CDATA #FIXED 'NO'>
```

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Table D.5.2.1-1 Package Delivery System DTD File Listing

(Sheet 11 of 12)

```
<!-- ***** -->
<!ELEMENT Receipt_Instructions  (Open_Instructions, Additional_Boxes, Private)>
<!ATTLIST Receipt_Instructions  reset          (Y|N)  'N'
                                         element_tag    CDATA #FIXED
'&RECEIPT_INSTRUCTIONS_TAG;' 
                                         element_type   CDATA #FIXED 'PACKED'>
<!-- ***** -->
<!ELEMENT Open_Instructions (#PCDATA)>
<!ATTLIST Open_Instructions  reset          (Y|N)  'N'
                                         element_type   CDATA #FIXED 'FIELD'
                                         field_type     CDATA #FIXED 'PACKED_COMPONENT'
                                         defined_values CDATA #FIXED
'OPEN_IMMEDIATELY=1|NORMAL_OPEN=2'
                                         default_value  CDATA #FIXED 'NORMAL_OPEN'>
<!-- ***** -->
<!ELEMENT Additional_Boxes (#PCDATA)>
<!ATTLIST Additional_Boxes  reset          (Y|N)  'N'
                                         element_type   CDATA #FIXED 'FIELD'
                                         field_type     CDATA #FIXED 'PACKED_COMPONENT'
                                         defined_values CDATA #FIXED 'YES=1|NO=2'
                                         default_value  CDATA #FIXED 'NO'>
<!-- ***** -->
<!ELEMENT Private   (#PCDATA)>
<!ATTLIST Private   reset          (Y|N)  'N'
                                         element_type   CDATA #FIXED 'FIELD'
                                         field_type     CDATA #FIXED 'PACKED_COMPONENT'
                                         defined_values CDATA #FIXED 'YES=1|NO=2'
                                         default_value  CDATA #FIXED 'NO'>
<!-- ***** -->
<!ELEMENT Tracking_Number (#PCDATA)>
<!ATTLIST Tracking_Number  reset          (Y|N)  'N'
                                         element_type   CDATA #FIXED 'FIELD'
                                         field_type     CDATA #FIXED 'PATTERN'
                                         element_pattern CDATA #FIXED '5[3A(A-G)(a-g)2N(0-76)][3A(H-
Z)(h-z)2N(77-99)]'>
```

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Table D.5.2.1-1 Package Delivery System DTD File Listing

(Sheet 12 of 12)

```
<!-- ***** -->
<!ELEMENT Delivery_Address (Street , City , State , Zip_Code)>
<!ATTLIST Delivery_Address reset          (Y|N) 'N'
               element_tag    CDATA #FIXED '&DELIVERY_ADDRESS_TAG;'
               element_type   CDATA #FIXED 'COMPOSITE'>

<!-- ***** -->
<!ELEMENT Street  (#PCDATA)>
<!ATTLIST Street  reset          (Y|N) 'N'
               element_type  CDATA #FIXED 'FIELD'
               field_type    CDATA #FIXED 'STRING'
               value_min_length CDATA #FIXED '1'
               value_max_length CDATA #FIXED '50'>

<!-- ***** -->
<!ELEMENT City   (#PCDATA)>
<!ATTLIST City   reset          (Y|N) 'N'
               element_type  CDATA #FIXED 'FIELD'
               field_type    CDATA #FIXED 'STRING'
               value_min_length CDATA #FIXED '1'
               value_max_length CDATA #FIXED '50'>

<!-- ***** -->
<!ELEMENT State  (#PCDATA)>
<!ATTLIST State  reset          (Y|N) 'N'
               element_type  CDATA #FIXED 'FIELD'
               field_type    CDATA #FIXED 'STRING'
               value_min_length CDATA #FIXED '2'
               value_max_length CDATA #FIXED '2'
               defined_values CDATA #FIXED '%state_abbreviation_file;'>

<!-- ***** -->
<!ELEMENT Zip_Code (#PCDATA)>
<!ATTLIST Zip_Code  reset          (Y|N) 'N'
               element_type  CDATA #FIXED 'FIELD'
               field_type    CDATA #FIXED 'PATTERN'
               element_pattern CDATA #FIXED '5N'>
```

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**D.5.2.2 PACKAGE DELIVERY SYSTEM EXTERNAL MNEMONICS FILE**

The example Package\_Delivery\_System XML data utilizes one external file named "state\_abbreviation\_file.txt" in a directory named "PDS\_Mnemonics" which must be a direct sub-directory of the directory containing the DTD. [Table D.5.2.2-1](#) lists example contents of the example external file.

Table D.5.2.2-1 PDS External Mnemonics File Listing

AB   AL   AR   TX
-------------------

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APPENDIX D

## D.6 CMF DATA EXAMPLES

The following examples provide a representative example of the defined capabilities using the DTD provided in [section D.5](#).

### D.6.1 COMBINED CMF-X AND CMF-B EXAMPLE

D.6.1.1 The example in [Table D.6.1-1](#) has the CMF-X representation on the left side of the page and the CMF-B representation on the right. This was provided in this manner for several reasons. This format makes reading and understanding both formats much easier and more comprehensible. Also, since the CMF-B is actually enclosed within XML comment markers, the example can be processed by an actual XML parser to check the CMF-X portion for being "well-formed" and "valid". If the example and the DTD listings from Section D.5.2 are extracted and placed into text-based files by themselves, the XML can also be displayed using an XML capable browser.

D.6.1.2 The comments interspersed in italics within the CMF-X side are actually the DTD content models for the respective elements. These are present to provide a direct reference to the elements' required, optional, and repeatable sub-elements. Likewise, next to portions of the binary representations within the CMF-B some of the actual characters or decimal value equivalents have been provided within parenthesis. Obviously actual CMF-X and CMF-B would not actually be provided together in this format nor would the added comment material be present.

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Table D.6.1-1 Combined CMF-X and CMF-B Example Listing

(Sheet 1 of 12)

```
<?xml version="1.0"?>
<!DOCTYPE PDS_Doc SYSTEM "CMF.dtd">
```

<!-- <b>CMF-X (on left)</b>	<b>CMF-B equivalent (on right)</b> -->
<PDS_Doc xmlns="http://ibs.majorsfield.af.smil.mil/cmf">	<!-- 1-0000001(1) 0-0000001 1-1010001(209) (209 bytes) -->
<!-- (Package_Description_Data, Time_Of_Generation, Report_Content*) -->	
<?PDS_PI update?>	<!-- 1-0000000(0) 0-1010000(P) 0-1000100(D) 0-1010011(S) --> <!-- 0-1011111( ) 0-1010000(P) 1-1001001(I) --> <!-- 0-1110101(u) 0-1110000(p) 0-1100100(d) --> <!-- 0-1100001(a) 0-1110100(t) 1-1100101(e) -->
<Package_Description_Data>	<!-- 1-1100100(100) -->
<Major_Parser_API_Version>2</Major_Parser_API_Version>	<!-- 1-00000010(2) -->
<Minor_Parser_API_Version>0</Minor_Parser_API_Version>	<!-- 1-00000000(0) -->
<Major_DTD_Version>1</Major_DTD_Version>	<!-- 1-00000001(1) -->
<Minor_DTD_Version>1</Minor_DTD_Version>	<!-- 1-00000001(1) -->
</Package_Description_Data>	

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Table D.6.1-1 Combined CMF-X and CMF-B Example Listing

(Sheet 2 of 12)

<Time_Of_Generation>	<!-- 1-0000010(2) -->			
<Date>02-26-01</Date>	<!--	1-0000010(2)	1-0101101(-)	1-0011010(26) -->
<Time>08:10:20</Time>	<!--	1-0101101(-)	1-0000001(1)	-->
	<!--	1-0001000(8)	1-0111010(:)	1-0001010(10) -->
	<!--	1-0111010(:)	1-0010100(20)	-->
</Time_Of_Generation>				
<Report_Content>	<!-- 1-0000011(3) -->	0-0000001	1-0101000(168)	(168 bytes) -->
<!-- (Transportation_Type? , Driver_Information? , Package_Information?) -->				
<Transportation_Type>	<!-- 1-0000100(4) -->	1-0011001(25)	(25 bytes)	-->
<!-- ( (Truck   Airplane)? , Max_Weight_Capability? , Delivery_Cycle_Time? ) -->				
<Truck>	<!-- 1-0000101(5) -->			
<Mileage>1000</Mileage>	<!--	0-0000111	1-1101000(1000)	-->
<Last_Service_Date>	<!--	1-0001100(12)	1-0101101(-)	1-0001010(10) -->
<Date>12-10-00</Date>	<!--	1-0101101(-)	1-0000000(0)	-->
</Last_Service_Date>				
<License_Number relevance=DISUSED>BR54900</License_Number>	<!--			
0-1000010(B) 0-1010010(R) 0-0110101(5) -->	<!--	0-0110100(4)	0-0111001(9)	0-0110000(0) -->
	<!--	1-0110000(0)	-->	
</Truck>				

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Table D.6.1-1 Combined CMF-X and CMF-B Example Listing  
 (Sheet 3 of 12)

<**Max\_Weight\_Capability** unit="LBS" accuracy="100" accuracy\_qualifier="LESS\_THAN">1E4</**Max\_Weight\_Capability**

```
<!-- 1-0000111(7) -->
```

<!-- 1-0000001 0-0000000 0-0100000 -->

<!-- 0-0000000 1-1000100 1-1100100 -->

```
<!--          1-0000000 (1E4, acc=100, LT)          -->
```

```
<Delivery_Cycle_Time unit="HOURS">22</Delivery_Cycle_Time>          <!-- 1-0001000(8) -->
```

<-- 1-0010110(22) -->

1-5515115(12)

</Transportation\_Type>

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## APPENDIX D

Table D.6.1-1 Combined CMF-X and CMF-B Example Listing

(Sheet 4 of 12)

<Driver_Information>	<!-- 1-0001001(9) 1-0011000(24) (24 bytes) -->
<!-- (Name? , Employee_Number? , Route_Delivery_Number+) -->	
<Name>JOHN DOE</Name>	<!-- 1-0001010(10) -->
	<!-- 0-1001010(J) 0-1001111(O) 0-1001000(H) -->
	<!-- 0-1001110(N) 0-0100000(SPC) 0-1000100(D) -->
	<!-- 0-1001111(O) 1-1000101(E) -->
<Employee_Number>1364</Employee_Number>	<!-- 1-0001011(11) -->
	<!-- 0-0001010 1-1010100(1364) -->
<Route_Delivery_Number>AA53000</Route_Delivery_Number>	<!-- 1-0001100(12) -->
	<!-- 0-1000001(A) 1-1000001(A) 0-0000011 -->
	<!-- 0-0011110 1-0001000(53000) -->
<Route_Delivery_Number>AA54000</Route_Delivery_Number>	<!-- 1-0001100(12) -->
	<!-- 0-1000001(A) 1-1000001(A) 0-0000011 -->
	<!-- 0-0100101 1-1110000(54000) -->
</Driver_Information>	

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## APPENDIX D

Table D.6.1-1 Combined CMF-X and CMF-B Example Listing

(Sheet 5 of 12)

<Package_Information element_iterations="2">	<!--	1-0001101(13)	1-0000010(2)	-->
<Package_Delivery element_iterations="2">	<!--		1-0000010(2)	-->
<Box>				
<Dimensions>				
<Width unit="INCHES" accuracy="1">5E0</Width>	<!--	1-0000101	1-0000000(5E0)	-->
<Depth unit="INCHES" accuracy="1">6E1</Depth>	<!--	1-0000110	1-0000001(6E1)	-->
<Height unit="INCHES" accuracy="1">7E1</Height>	<!--	1-0000111	1-0000001(7E1)	-->
</Dimensions>				
<Weight unit="LBS" accuracy="1">10E2</Weight>	<!--	1-0001010	1-0000010(10E2)	-->
</Box>				
<Handling_Instructions>	<!--	1-1		-->
<Fragile>NO</Fragile>	<!--	11(Default)		-->
<Upright_Only>YES</Upright_Only>	<!--	01(1)		-->
<Two_Man_Lift>NO</Two_Man_Lift>	<!--	11(Default)		-->
</Handling_Instructions>				

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Table D.6.1-1 Combined CMF-X and CMF-B Example Listing

(Sheet 6 of 12)

<Receipt_Instructions>	<!--	1-1		-->	
<Open_Instructions>OPEN_IMMEDIATELY</Open_Instructions>	<!--	01(1)		-->	
<Additional_Boxes>NO</Additional_Boxes>	<!--	11(Default)		-->	
<Private>NO</Private>	<!--	11(Default)		-->	
</Receipt_Instructions>					
<Tracking_Number>ABC22</Tracking_Number>	<!--	0-1000001(A)	0-1000010(B)	1-1000011(C)	-->
	<!--	1-0010110(22)			-->
<Box>					
<Dimensions>					
<Width unit="CM" accuracy="1">5E0</Width>	<!--	1-0000101	0-0000000	1-1100000	-->
	<!--	1-0000010	1-0000001	1-0000000	-->
	<!--	(5E0, unit=2, acc=1E0)			-->
<Depth unit="INCHES" accuracy="2E0">6E1</Depth>	<!--	1-0000110	0-0000000	1-0100001	-->
	<!--	1-0000010	1-0000000 (6E1, acc=2E0)		-->
<Height unit="CM" accuracy="2E0">7E1</Height>	<!--	1-0000111	0-0000000	1-1100001	-->
	<!--	1-0000010	1-00000010	1-0000000	-->
	<!--	(7E1, unit=2, acc=2E0)			-->
</Dimensions>					
<Weight unit="LBS" accuracy="1" valueQualifier="GREATER_THAN">10E2</Weight>	<!--	1-0001010	0-0000000	0-0000000	-->
	<!--	1-0100010 (10E2, GT)			-->
</Box>					

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## APPENDIX D

Table D.6.1-1 Combined CMF-X and CMF-B Example Listing

(Sheet 7 of 12)

```
<Handling_Instructions>                                <!--      1-1      -->
  <Fragile>YES</Fragile>                            <!--      01(1)    -->
  <Upright_Only>NO</Upright_Only>                  <!--      11(Default)  -->
  <Two_Man_Lift>NO</Two_Man_Lift>                  <!--      11(Default)  -->
</Handling_Instructions>

<Receipt_Instructions>                                <!--      1-1      -->
  <Open_Instructions>OPEN_IMMEDIATELY</Open_Instructions> <!--      01(1)    -->
  <Additional_Boxes>NO</Additional_Boxes>          <!--      11(Default)  -->
  <Private>NO</Private>                            <!--      11(Default)  -->
</Receipt_Instructions>

<Tracking_Number>jkl78</Tracking_Number>           <!--      0-1101010(j)  0-1101011(k)  1-1101100(l)  -->
                                                       <!--      1-1001110(78)  -->
</Package_Delivery>
```

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Table D.6.1-1 Combined CMF-X and CMF-B Example Listing

(Sheet 8 of 12)

```
<Delivery_Address>
  <Street>123 PINE</Street>           <!--      0-0110001(1)  0-0110010(2)  0-0110011(3)  -->
  <!--      0-0100000(SPC) 0-1010000(P) 0-1001001(I)  -->
  <!--      0-1001110(N)   1-1000101(E)   -->
  <City>GREENVILLE</City>            <!--      0-1000111(G)   0-1010010(R)  0-1000101(E)  -->
  <!--      0-1000101(E)   0-1001110(N)  0-1010110(V)  -->
  <!--      0-1001001(I)   0-1001100(L)  0-1001100(L)  -->
  <!--      1-1000101(E)   -->
  <State>TX</State>                <!--      0-1010100(T)   1-1011000(X)   -->
  <Zip_Code>75402</Zip_Code>        <!--      0-0000100     0-1001101   1-0001010(75402) -->
</Delivery_Address>

<Package_Delivery element_iterations="1">    <!--      1-0000001(1)   -->

```

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## APPENDIX D

Table D.6.1-1 Combined CMF-X and CMF-B Example Listing

(Sheet 9 of 12)

&lt;Box&gt;

&lt;Dimensions&gt;

&lt;Width unit="INCHES" accuracy="1" valueQualifier="LESS\_THAN"&gt;5E0&lt;/Width&gt;

<!--	1-0000101	0-0000000	0-0000000	-->
<!--	1-1000000 (5E0, LT)			-->

&lt;Depth unit="CM" accuracy="1" valueQualifier="LESS\_THAN"&gt;6E1&lt;/Depth&gt;

<!--	1-0000110	0-0000000	0-1100000	-->
<!--	1-1000001	1-0000010	1-0000001	-->
<!--	1-0000000 (6E1, unit=2, acc=1E0, LT)			-->

&lt;Height unit="INCHES" accuracy="1"&gt;200E1&lt;/Height&gt;

<!--	0-0000001	1-1001000	1-0000001	-->
------	-----------	-----------	-----------	-----

&lt;/Dimensions&gt;

&lt;Weight unit="KG" accuracy="2" valueQualifier="LESS\_THAN"&gt;250E0&lt;/Weight&gt;

<!--	0-0000001	1-1111010	0-0000000	-->
<!--	0-1000000	1-1000000	1-0000010	-->
<!--	(250E0, unit=2, LT)			-->

&lt;/Box&gt;

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## APPENDIX D

Table D.6.1-1 Combined CMF-X and CMF-B Example Listing

(Sheet 10 of 12)

```
<Handling_Instructions reset="Y">                                <!--          0-0000000(Reset)          -->
  <Fragile reset="Y" />
  <Upright_Only reset="Y" />
  <Two_Man_Lift reset="Y" />
</Handling_Instructions>

<Receipt_Instructions>                                         <!--          1-1          -->
  <Open_Instructions>OPEN_IMMEDIATELY</Open_Instructions>      <!--          01(1)          -->
  <Additional_Boxes>NO</Additional_Boxes>                   <!--          11(Default)          -->
  <Private>YES</Private>                                     <!--          01(1)          -->
</Receipt_Instructions>

<Tracking_Number>ADG76</Tracking_Number>                     <!--          0-1000001(A)          0-1000100(D)          1-1000111(G)          -->
                                                               <!--          1-1001100(76)          -->

</Package_Delivery>
```

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## APPENDIX D

Table D.6.1-1 Combined CMF-X and CMF-B Example Listing

(Sheet 11 of 12)

```
<Delivery_Address>
  <Street>456 MAPLE</Street>          <!--      0-0110100(4)  0-0110101(5)  0-0110110(6)  -->
                                              <!--  0-0100000(SPC) 0-1001101(M)  0-1000001(A)  -->
                                              <!--  0-1010000(P)   0-1001100(L)  1-1000101(E)  -->
  <City>HAMBURG</City>                <!--  0-1001000(H)   0-1000001(A)  0-1001101(M)  -->
                                              <!--  0-1000010(B)   0-1010101(U)  0-1010010(R)  -->
                                              <!--  1-1000111(G)                                -->
  <State>AR</State>                  <!--  0-1000001(A)   1-1010010(R)                                -->
  <Zip_Code>71234</Zip_Code>        <!--  0-0000010       0-0101100   1-1000010(71234) -->
</Delivery_Address>

</Package_Information>

</Report_Content>
```

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## APPENDIX D

Table D.6.1-1 Combined CMF-X and CMF-B Example Listing

(Sheet 12 of 12)

<Report_Content>	<!-- 1-0000011(3) 1-0000111(7)	(7 bytes)	-->
<Transportation_Type>	<!-- 1-0000100(4) 1-0000101(5)	(5 bytes)	-->
<Airplane>	<!-- 1-0000110(6)		-->
<Flight_Hours accuracy="1">20</Flight_Hours>	<!-- 1-0010100	1-0000000 (20E0)	-->
<ID_Number>120</ID_Number>	<!-- 1-111000(120)		-->
<Flight_Type>NON_STOP</Flight_Type>	<!-- 1-0000000(0)		-->
</Airplane>			
</Transportation_Type>			
</Report_Content>			
</PDS_Doc>			

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**INCH-POUND**

**MIL-STD-6018C  
29 January 2021  
Superseding  
MIL-STD-6018B  
15 December 2017**

# **DEPARTMENT OF DEFENSE INTERFACE STANDARD**

## **INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) STANDARD**

### **APPENDIX E – CMF BINARY TAG ASSIGNMENTS**



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CMF BINARY TAG ASSIGNMENTS

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APPENDIX E

## E.1 CMF BINARY TAGS

Binary tags are used by CMF-B in place of the standard XML character-based start tags. They are provided to indicate the start (or presence) of some CMF-B elements.

### E.1.1 CMF BINARY TAG ASSIGNMENT

E.1.1.1 Each tag must be uniquely defined within the DTD. Per the CMF-B design, only 127 one-byte binary tags are possible, but 16,256 two-byte tags are possible without even considering use of even larger tags. As over 5 times more CMF elements exist than the number of one-byte tags which can be assigned, the use of one-byte versus two-byte tags for selected elements can be a perceptible level of impact for consideration in optimization of CMF message structures.

E.1.1.2 NOTE: The special tag value of "0" is reserved by CMF-B to indicate a Processing Instruction and must not be used for element tags.

E.1.1.3 The primary criterion for assignment of CMF tags is to ensure delivery of the most critical CMF messages. All interactive CMF producers have an available/allotted bandwidth which determines their ability to report their highest priority/most critical data and therefore it is the individual producer's bandwidth which becomes the limiting factor regarding a specific critical message report, rather than the total IBS bandwidth.

E.1.1.4 The criteria for saving "total bandwidth" is prioritization and filtering and is different from the above criteria related to the structuring of messages for an individual producer's reporting. Thus, the most frequently used elements within the most critical messages need to use the one-byte tags.

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E.1.1.5 CMF tags can be determined by operational personnel (ex-operators) via analysis of actual collections of IBS war day message traffic containing significant war-only emitter and enemy identification activities (aka "War Day One" scenario where personnel recovery efforts may be underway; and enemy radars and surface to air missile (SAM) sites, etc. all become very active). It is this type of "survival" traffic (also typically collected by the highly mobile, forward platforms having very limited assigned/available bandwidth), which is the most critical data for IBS. Specific examples of this data include personnel recovery/combat search and rescue (PR/CSAR) and theater ballistic missile (TBM) messages. Thus beyond basic top-level CMF structure, the CMF one-byte assignments shall be utilized for the most frequently utilized elements of these "survival" messages.

### **E.1.2 CMF ELEMENT TAG TABLES**

E.1.2.1 [Table E.1.2-1](#) and [Table E.1.2-2](#) contain the currently defined one byte and two byte Tags, respectively. These tables aid in the tracking of used and available Element Tag numbers. Element Tags are defined for operational implementation in the DTD. These tables must be accurately maintained throughout the life of the DTD and must match those provided to the operational community in the DTD. Any Element Tag deletions or additions to the tables must also be reflected in the body of the DTD file. [Table E.1.2-3](#) contains an alphabetic list of all Element Tags.

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TABLE E.1.2-1 NUMERIC LIST OF ONE BYTE ELEMENT TAGS

(Sheet 1 of 5)

<u>TAG</u>	<u>TAG NAME</u>
0	<i>Reserved for processing instructions</i>
1	CMF_DOC
2	PACKAGE_DESCRIPTION_DATA
3	GPS_ELEMENTS
4	DATA_MANAGEMENT_MSG
5	MANAGEMENT_ACTION_INDICATORS
6	FLASH
7	ENTITY_CHAINING
8	ENTITY_CHAIN_TYPE
9	REFERENCE_ENTITY_ID
10	ENTITY_RELATIONSHIP_INDICATOR
11	PAIR_LOGIC
12	PR_CSAR_QUERY_RESPONSE
13	UIC_ELEMENTS
14	UIC_IDENTIFIER
15	ENTITY_MSG
16	ENTITY_NUMBER
17	MIDB_EQUIPMENT_CODE
18	SOURCE_MESSAGE_TYPE
19	AZIMUTH_CORRIDOR
20	TIME_OF_INTERCEPT
21	JULIAN_DAY_OF_INTERCEPT
22	DROP_ENTITY_ACTION
23	INTEREST_INDICATORS
24	EXTRAPOLATION_INDICATOR
25	ENTITY_ID_ELEMENTS
26	ENVIRONMENT_ID
27	LOCATION
28	PLATFORM_EVALUATION_PERCENT_CONFIDENCE
29	PLATFORM_EVALUATION_GENERAL_CONFIDENCE

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## APPENDIX E

TABLE E.1.2-1 NUMERIC LIST OF ONE BYTE ELEMENT TAGS

(Sheet 2 of 5)

<u>TAG</u>	<u>TAG NAME</u>
30	NATIONALITY_ALLIANCE
31	ENTITY_ACTIVITY
32	MANAGEMENT_MODE_INDICATORS
33	ENTITY_TYPE
34	PR_CSAR_ELEMENTS
35	ENTITY_STATUS
36	ENTITY_SIZE
37	CORRIDOR_CENTER_LINE
38	CORRIDOR_ARC_WIDTH
39	X_Y_Z_VELOCITY
40	PROVIDER_TYPE
41	<i>Not Assigned (DISUSED IMP-B2)</i>
42	POSITION_FIX_QUALITY
43	BE_NUMBER_STANDARD
44	BE_NUMBER_SPECIFIC_USE
45	BE_NUMBER_FIELD_INITIATED
46	BE_SUFFIX
47	WARTIME_RESERVE_MODE
48	ENTITY_ALTERNATE_ID_ELEMENTS
49	TDDS_CORRELATION_INDEX
50	AMPLIFICATION_IDENTIFICATION
51	TDDS_CHANGE_FLAG
52	TDDS_SEQUENTIAL_CONTACT_NUMBER
53	TIBS_TRACK_NUMBER
54	ENTITY_POLAR_LOCATION_ELEMENTS
55	ENTITY_LOCATION
56	ERROR_ELLIPSE_2D
57	ERROR_RECTANGLE_2D
58	ENTITY_LINE_OF_BEARING
59	UIC_NAME

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## APPENDIX E

TABLE E.1.2-1 NUMERIC LIST OF ONE BYTE ELEMENT TAGS

(Sheet 3 of 5)

<u>TAG</u>	<u>TAG NAME</u>
60	ENTITY_POLAR_ATTITUDE_ELEMENTS
61	SPEED
62	HEADING_CARDINAL
63	TRUE_HEADING_DEGREES
64	PR_CSAR_INDICATORS
65	MEASURED_ALTITUDE
66	CLIMB_RATE
67	ENTITY_RECTANGULAR_LOCATION_ELEMENTS
68	ENTITY_RECTANGULAR_ATTITUDE_ELEMENTS
69	ENTITY_SCAN_DESCRIPTION_ELEMENTS
70	BOOST_INDICATOR
71	MODE_INDICATORS
72	ENTITY_RECTANGULAR_ACCURACY_ELEMENTS
73	FULL_COVARIANCE_MATRIX
74	PARTIAL_COVARIANCE_MATRIX
75	ENTITY_RF_DESCRIPTION_ELEMENTS
76	FREQUENCY
77	MULTIPLE_FREQUENCIES
78	MULTIPLE_FREQUENCY_RANGES
79	FREQUENCY_RANGE
80	FREQUENCY_STABILITY
81	PRI_GROUP_INDICATOR
82	ELINT_EMITTER_MODULATION
83	EMITTER_FUNCTION
84	ENTITY_PULSE_DESCRIPTION_ELEMENTS
85	PULSE_WIDTH_DURATION
86	PULSE_RATE
87	PRF
88	PRI
89	PRI_TYPE

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## APPENDIX E

TABLE E.1.2-1 NUMERIC LIST OF ONE BYTE ELEMENT TAGS

(Sheet 4 of 5)

<u>TAG</u>	<u>TAG NAME</u>
90	PRI_STABILITY
91	PRI_STAGGER_LEGS
92	SCAN_TYPE
93	SCAN_RATE
94	ENTITY_AMPLIFICATION_ELEMENTS
95	ELINT_NOTATION
96	CENOT
97	REFERENCE_POLAR_PLATFORM_ELEMENTS
98	RADIO_TYPE
99	PR_CSAR_GROUP_IDENTIFIER
100	PR_CSAR_CANNED_MESSAGE
101	UIC_FIELD
102	UIC_STRING
103	UIC_INTEGER
104	UIC_FLOAT
105	UIC_UNIT
106	UIC_UNIT_NAME
107	POLAR_SINGLE_LOCATION
108	RADIO_ID
109	RADIO_MESSAGE_NUMBER
110	RADIO_ELEMENTS
111	ENTITY_UPDATE_NUMBER
112	PRODUCER_MESSAGE_SEQUENCE_NUMBER
113	MESSAGE_FILTER_ELEMENTS
114	TIME_OF_ENTRY_DELTA
115	ENTITY_MESSAGE_DESCRIPTION_ELEMENTS
116	<i>Not Assigned</i>
117	ORIGINATOR_ADDRESS
118	RADIO_MODE
119	ERROR_CIRCLE_2D

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## APPENDIX E

TABLE E.1.2-1 NUMERIC LIST OF ONE BYTE ELEMENT TAGS

(Sheet 5 of 5)

<u>TAG</u>	<u>TAG NAME</u>
120	TDDS_ID
121	TIBS_ADDRESS
122	TDDS_ADDRESS
123	ALTERNATE_ORIGINATOR_ADDRESS
124	RADIO_INDICATORS
125	UHF_BASE_STATION_ID
126	MAGNETIC_HEADING_DEGREES
127	POSITION_FIXING_METHOD

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## APPENDIX E

TABLE E.1.2-2 NUMERIC LIST OF TWO BYTE ELEMENT TAGS

(Sheet 1 of 12)

<u>TAG</u>	<u>TAG NAME</u>
128	ARBITRARY_UNIT_IDENTIFIER
129	AMPLIFICATION_ID_DECLARED_ELEMENTS
130	AMPLIFICATION_TEXT
131	BINO_TRACK_NUMBER
132	ELINT_PULSE_MODULATION
133	VG_CHANNEL_SPACING
134	CHIP_RATE
135	COLLABORATION_MESSAGE
136	OPERATIONS_NOTIFICATION_MSG
137	NOTIFICATION SUBJECT
138	DESTINATION_ADDRESS
139	DESTINATION_GROUP
140	EMISSION_POLARIZATION
141	AMPLIFICATION_EVALUATION_GENERAL_CONFIDENCE
142	AMPLIFICATION_EVALUATION_PERCENT_CONFIDENCE
143	NOTIFICATION_TYPE
144	ENTITY_CONTENT
145	OPERATIONS_NOTIFICATION
146	COMMUNICATIONS_EXTERNAL_MODULATION
147	ERROR_3D
148	NUMBER_OF_PILOT_TONES
149	FREE_TEXT
150	EFFECTIVE_TIME
151	FREQUENCY_AGILITY_CHARACTERISTICS
152	FREQUENCY_CAPABILITY_INDICATORS
153	MESSAGE_DESCRIPTION_ELEMENTS
154	EXPIRE_TIME
155	REFERENCE_INFORMATION
156	MESSAGE_REFERENCE
157	OPERATIONAL_STATUS_MSG

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## APPENDIX E

TABLE E.1.2-2 NUMERIC LIST OF TWO BYTE ELEMENT TAGS

(Sheet 2 of 12)

<u>TAG</u>	<u>TAG NAME</u>
158	HOP_DWELL
159	HOP_RATE
160	HOP_SPACING
161	HOP_SPREADER_TYPE
162	IFF_MODE_3A_CODE
163	IFF_MODE_3C_ALTITUDE
164	IFF_MODE_I_CODE
165	IFF_MODE_II_CODE
166	IFF_MODE_IV_INDICATOR
167	IFF_MODES
168	OPERATIONAL_ASSET_LABEL
169	OPERATIONAL_STATUS
170	UNPAIR_LOGIC
171	JITTER_RANGE
172	TRANSMISSION_DESCRIPTION
173	STOP_CUT_LOB
174	PR_CSAR_TEXT
175	MULTIPLE_PRF_RANGES
176	MULTIPLE_PRFS
177	MULTIPLE_PRI_RANGES
178	MULTIPLE_PRIS
179	NATO_LINK_1_TRACK_NUMBER
180	NODE
181	NUMBER_OF_VG_CHANNELS
182	STATUS_INTERVAL
183	BIT_RATE
184	PILOT_TONE
185	PITCH
186	COOPERATIVE_LOCATION_INDICATOR
187	PRF_GROUP_INDICATOR

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## APPENDIX E

TABLE E.1.2-2 NUMERIC LIST OF TWO BYTE ELEMENT TAGS

(Sheet 3 of 12)

<u>TAG</u>	<u>TAG NAME</u>
188	PRF_RANGE
189	PRI_AGILITY_CHARACTERISTICS
190	PRI_RANGE
191	ADVISORY_INDICATOR
192	ENTITY_STRENGTH
193	TDDS_TRACK_UPDATE_NUMBER
194	PULSE_WIDTH_SWITCHING_HIGH_VALUE
195	PULSE_WIDTH_SWITCHING_INDICATOR
196	PULSE_WIDTH_SWITCHING_LOW_VALUE
197	ELEVATION
198	SCAN_PERIOD
199	SCONUM
200	SIF_MODE_3A_CODE
201	SIF_MODE_I_CODE
202	SIF_MODE_II_CODE
203	SOURCE_FILE_IDENTIFICATION
204	<i>Not Assigned (DISUSED IMP-A4)</i>
205	<i>Not Assigned (DISUSED IMP-A4)</i>
206	SUBNET
207	LINK_11_11B_IDENTIFIER
208	LINK_16_IDENTIFIER
209	ANTENNA_PLACEMENT
210	AVERAGE_PULSE_WIDTH_DURATION
211	BEAM_WIDTH
212	TEXT_MSG
213	TIME_OF_LAST_DUPLICATE_START
214	SUPPORT_TEXT
215	ENTITY_EXERCISE_ROLE
216	PIN_CONFIRMED_EQUIPMENT
217	PIN_UNCONFIRMED_EQUIPMENT_ID

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## APPENDIX E

TABLE E.1.2-2 NUMERIC LIST OF TWO BYTE ELEMENT TAGS

(Sheet 4 of 12)

<u>TAG</u>	<u>TAG NAME</u>
218	PIN_UNCONFIRMED_SITE
219	COURSE_CARDINAL
220	COURSE_DEGREES
221	DEPARTURE_ELEMENTS
222	DESTINATION_ELEMENTS
223	ARRIVAL_ELEMENTS
224	ESTIMATED_POLAR_LOCATION
225	ACTUAL_POLAR_LOCATION
226	ACTUAL_DAY_TIME
227	ESTIMATED_DAY_TIME
228	ENTITY_PHYSICAL_ADDRESS_ELEMENTS
229	CITY
230	STATE_OR_PROVINCE
231	STREET_ADDRESS
232	COUNTRY
233	INTERNATIONAL_POSTAL_ZIP_CODE
234	SUBCARRIER_TONE_SPACING
235	NUMBER_OF_SUBCARRIER_TONES
236	AIR_DEFENSE_DISTRICT
237	USMTF_TRACK_IDENTIFIER
238	CHIP_SEQUENCE_ELEMENTS
239	COLLECTION_BANDWIDTH
240	MISSION_EFFECT_ELEMENTS
241	COLLECTION_ELEMENTS
242	COLLECTION_EVENT
243	COLLECTION_MISSION
244	COLLECTION_SYSTEM_CHARACTERISTICS
245	COLLECTION_TERMINATION_TIME
246	ENTITY_HEIGHT
247	ENTITY_HOME_LOCATION_NAME

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## APPENDIX E

TABLE E.1.2-2 NUMERIC LIST OF TWO BYTE ELEMENT TAGS

(Sheet 5 of 12)

<u>TAG</u>	<u>TAG NAME</u>
248	ENTITY_LENGTH
249	BE_ORIGINATOR_SUFFIX
250	ENTITY_PHYSICAL_CHARACTERISTICS_ELEMENTS
251	URL
252	ENTITY_PRIMARY_COLOR
253	TDDS_TRACK_NUMBER
254	ENTITY_SECONDARY_COLOR
255	ENTITY_WIDTH
256	EOB_ASSOCIATION_CONFIDENCE
257	DATE_OF_BIRTH
258	ENTITY_NAME
259	EYE_COLOR
260	GENDER
261	HAIR_COLOR
262	HAIR_LENGTH
263	HEIGHT
264	INDIVIDUAL_ID_ELEMENTS
265	LANGUAGE_ID
266	LANGUAGE_ID_LIST
267	LOCATION_NAME
268	MESSAGE_NUMBER
269	MISSION_NAME
270	EQUIPMENT_SERIAL_NUMBER
271	EQUIPMENT_TYPE
272	OPERATION_NAME
273	ORGANIZATION_ID
274	PARENT_ORGANIZATION
275	PHYSIQUE
276	RACE
277	ENTITY_ELLIPTICAL_AREA

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TABLE E.1.2-2 NUMERIC LIST OF TWO BYTE ELEMENT TAGS

(Sheet 6 of 12)

<u>TAG</u>	<u>TAG NAME</u>
278	ENTITY_COVERAGE_SIZE
279	TRIXS_REPORT_NUMBER
280	UNIT_DESIGNATOR
281	WEIGHT
282	PLACE_OF_BIRTH
283	TRIXS_ADDRESS
284	HULL_NUMBER
285	QUANTITY_DESTROYED
286	QUANTITY_DAMAGED
287	QUANTITY_OPERATIONAL
288	QUANTITY_CAPTURED
289	SEMI_INTERMEDIATE
290	AREA_ORIENTATION
291	SEMI_MAJOR_ELEVATION
292	GEOMETRIC_AREA_SWITCH
293	BALLISTIC_MISSILE_BETA
294	ENTITY_IR_DESCRIPTION_ELEMENTS
295	TDDS_REPORT_NUMBER
296	IR_MAXIMUM_INTENSITY
297	APPROXIMATE_ALTITUDE
298	POLAR_START_LOCATION
299	POLAR_INTERMEDIATE_LOCATION
300	POLAR_STOP_LOCATION
301	BFT_BREVITY_CODE
302	START_CUT_LOB
303	REMOTE_AMPLIFICATION_MSG
304	MEASUREMENT_BASE_TIME
305	ERROR_SUM_3D
306	COLLABORATION_MEASUREMENT_SET
307	ILLUMINATION_TIME

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TABLE E.1.2-2 NUMERIC LIST OF TWO BYTE ELEMENT TAGS

(Sheet 7 of 12)

<u>TAG</u>	<u>TAG NAME</u>
308	COLLABORATION_MEASUREMENT_TYPE
309	TDOA_ELEMENTS
310	TDOA_MEASUREMENT_ERRORS
311	TDOA_RATE_OF_CHANGE_ELEMENTS
312	TDOA_RATE_OF_CHANGE_MEASUREMENT_ERRORS
313	DWELL_DESCRIPTION_DATA
314	SENSOR_1_RECTANGULAR_REFERENCE
315	SENSOR_2_RECTANGULAR_REFERENCE
316	REFERENCE_X_Y_Z_POSITION
317	REFERENCE_X_Y_Z_VELOCITY
318	TOTAL_NUMBER_OF_DELTA_TIME_SETS
319	TIME_RESOLUTION
320	TIME_PRECISION
321	TDOA_SET
322	TDOA_BIAS_ERROR
323	TDOA_RANDOM_ERROR
324	TDOA_RATE_OF_CHANGE_SET
325	TDOA_RATE_OF_CHANGE_BIAS_ERROR
326	TDOA_RATE_OF_CHANGE_RANDOM_ERROR
327	OPERATIONAL_ASSET_ID
328	TIME_OF_STATUS
329	BORESITE_AIM_LOCATION
330	EXTERNAL_SENSOR_CODE
331	ENTITY_RECTANGULAR_AREA
332	SENSOR_1_IDENTIFIER
333	ENTITY_ENVIRONMENTAL_CONDITION_ELEMENTS
334	ENVIRONMENTAL_CONDITION
335	SENSOR_SEARCH_AREA_IDENTIFIER
336	BEARING_CONE_ANGLE
337	REMOTE_ADDRESS

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TABLE E.1.2-2 NUMERIC LIST OF TWO BYTE ELEMENT TAGS

(Sheet 8 of 12)

<u>TAG</u>	<u>TAG NAME</u>
338	MESSAGE_GROUP
339	ALTERNATE_DESTINATION_ADDRESS
340	INTERMEDIATE_CUT_LOB
341	BFT_ELEMENTS
342	<i>Not Assigned</i> (DISUSED IMP-3)
343	TEXT_PACKET_NUMBER
344	TEXT_TOTAL_PACKETS
345	FLIGHT_PATH_ANGLE
346	VMF_ENTITY_ID_SERIAL_NUMBER
347	FINAL_SET_TYPE
348	<i>Not Assigned</i> (DISUSED IMP-3)
349	<i>Not Assigned</i> (DISUSED IMP-3)
350	IMO_NUMBER
351	INDIVIDUAL_PULSE_CHARACTERISTICS
352	INTERMEDIATE_FREQUENCY
353	INTERNATIONAL_CALL_SIGN
354	LENGTH_TO_BOW
355	LENGTH_TO_STERN
356	MANUFACTURER_NAME
357	MARITIME_CHARACTERISTICS
358	MAXIMUM_SOUND_PRESSURE
359	MEASUREMENT_REFERENCE_PERIOD
360	MEDIA_REFERENCE_ID
361	<i>Not Assigned</i> (DISUSED IMP-3)
362	MMSI_NUMBER
363	NUMBER_OF_BLADES
364	SENSOR_DESCRIPTION_ELEMENTS
365	NUMBER_OF_CYLINDERS
366	NUMBER_OF_PRI_POSITIONS
367	NUMBER_OF_PULSES_IN_GROUP

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## APPENDIX E

TABLE E.1.2-2 NUMERIC LIST OF TWO BYTE ELEMENT TAGS

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<u>TAG</u>	<u>TAG NAME</u>
368	ONBOARD_REFERENCE_POINT
369	AEN
370	PRI_OF_GROUP
371	PRI_PROFILE_LABEL
372	PRI_PROFILE
373	PRI_PROFILE_TECHNIQUE
374	PROCESSOR_ID
375	PULSE_GROUP_CHARACTERISTICS
376	PULSE_GROUP_ID_NUMBER
377	PULSE_ID_NUMBER
378	PULSE_WIDTH_DURATION_OF_GROUP
379	RADAR_CHARACTERISTICS
380	RADAR_CROSS_SECTION
381	RATE_OF_TURN
382	RF_TUNER_ID
383	ACOUSTIC_ELEMENTS
384	SENSOR_ELEMENTS
385	TOTAL_NUMBER_OF_PULSES
386	SENSOR_PRODUCT_FILE
387	SENSOR_STRING_ELEMENTS
388	SENSOR_STRING_ID_ELEMENTS
389	SEVEN_BIT_MAP
390	SIGNAL_BANDWIDTH
391	SIGNAL_FILE_LOCATION
392	SIGNAL_LOSS_TIME
393	SIGNAL_REFERENCE_ID
394	SIGNAL_REFERENCE_ID_TEMPORARY
395	SIGNAL_TO_NOISE_RATIO
396	SOFTWARE_VERSION
397	SUBORDINATE_OPERATION_NAME

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## APPENDIX E

TABLE E.1.2-2 NUMERIC LIST OF TWO BYTE ELEMENT TAGS

(Sheet 10 of 12)

<u>TAG</u>	<u>TAG NAME</u>
398	TAIL_NUMBER
399	TOTAL_NUMBER_OF_ALGORITHM_VALUES
400	REPORT_VALIDATION_INDICATOR
401	VERSION
402	VESSEL_CLASS
403	VESSEL_DRAFT
404	VESSEL_GROUP_TYPE
405	VESSEL_UPRIGHT_SEQUENCE
406	VESSEL_RAISE_CODE
407	VESSEL_WATERLINE_COLOR
408	WIDTH_TO_PORTSIDE
409	WIDTH_TO_STARBOARD
410	ALGORITHM_ELEMENTS
411	ALGORITHM_FLOAT_VALUE_SET
412	ALGORITHM_ID
413	ALGORITHM_NAME
414	ALGORITHM_TEXT_VALUE_SET
415	ALGORITHM_VALUES
416	TOTAL_NUMBER_OF_PULSE_GROUPS
417	SAMPLE_INTERVAL
418	SENSOR_2_IDENTIFIER
419	RF_SENSOR_ELEMENTS
420	IR_SENSOR_ELEMENTS
421	VISIBLE_LIGHT_SENSOR_ELEMENTS
422	OPTICAL_SENSOR_ELEMENTS
423	MULTIPLE_SPECTRUM_SENSOR_ELEMENTS
424	HUMAN_SENSOR_ELEMENTS
425	UNDISCLOSED_SENSOR_ELEMENTS
426	RF_SENSOR_TYPE
427	IR_SENSOR_TYPE

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## APPENDIX E

TABLE E.1.2-2 NUMERIC LIST OF TWO BYTE ELEMENT TAGS

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<u>TAG</u>	<u>TAG NAME</u>
428	VISIBLE_LIGHT_SENSOR_TYPE
429	OPTICAL_SENSOR_TYPE
430	MULTIPLE_SPECTRUM_SENSOR_TYPE
431	HUMAN_SENSOR_TYPE
432	UNDISCLOSED_SENSOR_TYPE
433	SENSOR_GENERAL_CONFIDENCE
434	SENSOR_PERCENT_CONFIDENCE
435	COMBINED_SENSOR_GENERAL_CONFIDENCE
436	COMBINED_SENSOR_PERCENT_CONFIDENCE
437	NIIRS_QUALITY
438	HUMINT_RELIABILITY
439	ENTITY_WEAPON_ELEMENTS
440	WEAPON_STATE
441	AIMPOINT
442	TIME_TO_FUZE
443	NAVIGATION_STATUS
444	WEAPON_ATTACK_STRATEGY
445	WEAPON_SELF_ASSESSMENT
446	CO-LOCATED_THREAT
447	ENTITY_UNIQUE_EQUIPMENT_ID
448	TES_EVENT_IDENTIFIER
449	CORRIDOR_ARC_MAXIMUM_RANGE
450	CORRIDOR_ARC_MINIMUM_RANGE
451	PROVIDER_COMMUNITY
452	PROVIDER_DATA_CATEGORY
453	GEOGRAPHIC_AREA_IDENTIFIER
454	COMMUNICATIONS_CALL_SIGN
455	RAPID_WORLDWIDE_AREA_COLLECTION_IDENTIFIER
456	ISOLATED_PERSONNEL_RELATIONSHIP
457	ISOLATED_PERSONNEL_PHYSICAL_STATUS
458	NUMBER_OF_UNINJURED_AMBULATORY_PERSONNEL

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TABLE E.1.2-2 NUMERIC LIST OF TWO BYTE ELEMENT TAGS

(Sheet 12 of 12)

<u>TAG</u>	<u>TAG NAME</u>
459	NUMBER_OF_INJURED_AMBULATORY_PERSONNEL
460	NUMBER_OF_NON_AMBULATORY_PERSONNEL
461	ISOLATED_PERSONNEL_AUTHENTICATION_STATUS
462	ISOLATED_PERSONNEL_COMMUNICATIONS_CAPABILITY
463	ENTITY_CHAIN_GENERAL_CONFIDENCE
464	ENTITY_CHAIN_PERCENT_CONFIDENCE
465	ENTITY_TYPE_GENERAL_CONFIDENCE
466	ENTITY_TYPE_PERCENT_CONFIDENCE
467	NATIONALITY_ALLIANCE_GENERAL_CONFIDENCE
468	NATIONALITY_ALLIANCE_PERCENT_CONFIDENCE
469	TIME_OF_ENTRY
470	TIME_OF_ENTRY_ORIGINATOR_ADDRESS
471	<i>Not Assigned</i>
472	ADEPT_TAG
473	FIS_NOTATION
474	CSEL_HAND_HELD_RADIO_MESSAGE_TYPE
475	BLOB_TRANSFER_MESSAGE
476	BLOB_TYPE_IDENTIFIER
477	BLOB_PACKET
478	BLOB_PACKET_NUMBER
479	BLOB_TOTAL_PACKETS
480	BLOB_REFERENCE_LOCATION
481	BLOB_INFORMATION_TIME
482	HEIGHT_FROM_SURFACE
483	MAGNETIC_COURSE_DEGREES
484	MANEUVERING_INDICATOR
485	KEYING_MATERIAL_INFORMATION
486	SHORT_TITLE_ITEM_NUMBER
487	SHORT_TITLE_EDITION
488	SHORT_TITLE_SEGMENT
489	TRACK_QUALITY

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## APPENDIX E

TABLE E.1.2-3 ALPHABETIC LIST OF ALL ELEMENT TAGS

(Sheet 1 of 17)

<u>TAG NAME</u>	<u>TAG</u>
ACOUSTIC_ELEMENTS	383
ACTUAL_DAY_TIME	226
ACTUAL_POLAR_LOCATION	225
ADEPT_TAG	472
ADVISORY_INDICATOR	191
AEN	369
AIMPOINT	441
AIR_DEFENSE_DISTRICT	236
ALGORITHM_ELEMENTS	410
ALGORITHM_FLOAT_VALUE_SET	411
ALGORITHM_ID	412
ALGORITHM_NAME	413
ALGORITHM_TEXT_VALUE_SET	414
ALGORITHM_VALUES	415
ALTERNATE_DESTINATION_ADDRESS	339
ALTERNATE_ORIGINATOR_ADDRESS	123
AMPLIFICATION_EVALUATION_GENERAL_CONFIDENCE	141
AMPLIFICATION_EVALUATION_PERCENT_CONFIDENCE	142
AMPLIFICATION_ID_DECLARED_ELEMENTS	129
AMPLIFICATION_IDENTIFICATION	50
AMPLIFICATION_TEXT	130
ANTENNA_PLACEMENT	209
APPROXIMATE_ALTITUDE	297
ARBITRARY_UNIT_IDENTIFIER	128
AREA_ORIENTATION	290
ARRIVAL_ELEMENTS	223
AVERAGE_PULSE_WIDTH_DURATION	210
AZIMUTH_CORRIDOR	19
BALLISTIC_MISSILE_BETA	293
BEAM_WIDTH	211
BE_NUMBER_FIELD_INITIATED	45

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TABLE E.1.2-3 ALPHABETIC LIST OF ALL ELEMENT TAGS

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<u>TAG NAME</u>	<u>TAG</u>
BE_NUMBER_SPECIFIC_USE	44
BE_NUMBER_STANDARD	43
BE_ORIGINATOR_SUFFIX	249
BE_SUFFIX	46
BEARING_CONE_ANGLE	336
BFT_BREVITY_CODE	301
BFT_ELEMENTS	341
BINO_TRACK_NUMBER	131
BIT_RATE	183
BLOB_INFORMATION_TIME	481
BLOB_PACKET	477
BLOB_PACKET_NUMBER	478
BLOB_REFERENCE_LOCATION	480
BLOB_TOTAL_PACKETS	479
BLOB_TRANSFER_MESSAGE	475
BLOB_TYPE_IDENTIFIER	476
BOOST_INDICATOR	70
BORESITE_AIM_LOCATION	329
CENOT	96
CHIP_RATE	134
CHIP_SEQUENCE_ELEMENTS	238
CITY	229
CLIMB_RATE	66
CMF_DOC	1
CO-LOCATED_THREAT	446
COLLABORATION_MEASUREMENT_SET	306
COLLABORATION_MEASUREMENT_TYPE	308
COLLABORATION_MESSAGE	135
COLLECTION_BANDWIDTH	239
COLLECTION_ELEMENTS	241

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## APPENDIX E

TABLE E.1.2-3 ALPHABETIC LIST OF ALL ELEMENT TAGS

(Sheet 3 of 17)

<u>TAG NAME</u>	<u>TAG</u>
COLLECTION_EVENT	242
COLLECTION_MISSION	243
COLLECTION_SYSTEM_CHARACTERISTICS	244
COLLECTION_TERMINATION_TIME	245
COMMUNICATIONS_CALL_SIGN	454
COMMUNICATIONS_EXTERNAL_MODULATION	146
COMBINED_SENSOR_GENERAL_CONFIDENCE	435
COMBINED_SENSOR_PERCENT_CONFIDENCE	436
COOPERATIVE_LOCATION_INDICATOR	186
CORRIDOR_ARC_MAXIMUM_RANGE	449
CORRIDOR_ARC_MINIMUM_RANGE	450
CORRIDOR_ARC_WIDTH	38
CORRIDOR_ARC_CENTER_LINE	37
COUNTRY	232
COURSE_CARDINAL	219
COURSE_DEGREES	220
CSEL_HAND_HELD_RADIO_MESSAGE_TYPE	474
DATA_MANAGEMENT_MSG	4
DATE_OF_BIRTH	257
DEPARTURE_ELEMENTS	221
DESTINATION_ADDRESS	138
DESTINATION_ELEMENTS	222
DESTINATION_GROUP	139
DROP_ENTITY_ACTION	22
DWELL_DESCRIPTION_DATA	313
EFFECTIVE_TIME	150
ELEVATION	197
ELINT_EMITTER_MODULATION	82
ELINT_NOTATION	95
ELINT_PULSE_MODULATION	132
EMISSION_POLARIZATION	140

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## APPENDIX E

TABLE E.1.2-3 ALPHABETIC LIST OF ALL ELEMENT TAGS

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<u>TAG NAME</u>	<u>TAG</u>
EMITTER_FUNCTION	83
ENTITY_ACTIVITY	31
ENTITY_ALTERNATE_ID_ELEMENTS	48
ENTITY_AMPLIFICATION_ELEMENTS	94
ENTITY_CHAIN_GENERAL_CONFIDENCE	463
ENTITY_CHAIN_PERCENT_CONFIDENCE	464
ENTITY_CHAIN_TYPE	8
ENTITY_CHAINING	7
ENTITY_CONTENT	144
ENTITY_COVERAGE_SIZE	278
ENTITY_ELLIPTICAL_AREA	277
ENTITY_ENVIRONMENTAL_CONDITION_ELEMENTS	333
ENTITY_EXERCISE_ROLE	215
ENTITY_HEIGHT	246
ENTITY_HOME_LOCATION_NAME	247
ENTITY_ID_ELEMENTS	25
ENTITY_IR_DESCRIPTION_ELEMENTS	294
ENTITY_LENGTH	248
ENTITY_LINE_OF_BEARING	58
ENTITY_LOCATION	55
ENTITY_MSG	15
ENTITY_MESSAGE_DESCRIPTION_ELEMENTS	115
ENTITY_NAME	258
ENTITY_NUMBER	16
ENTITY_PHYSICAL_ADDRESS_ELEMENTS	228
ENTITY_PHYSICAL_CHARACTERISTICS_ELEMENTS	250
ENTITY_POLAR_ATTITUDE_ELEMENTS	60
ENTITY_POLAR_LOCATION_ELEMENTS	54
ENTITY_PRIMARY_COLOR	252
ENTITY_PULSE_DESCRIPTION_ELEMENTS	84

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TABLE E.1.2-3 ALPHABETIC LIST OF ALL ELEMENT TAGS

(Sheet 5 of 17)

<u>TAG NAME</u>	<u>TAG</u>
ENTITY_RECTANGULAR_ACCURACY_ELEMENTS	72
ENTITY_RECTANGULAR_AREA	331
ENTITY_RECTANGULAR_ATTITUDE_ELEMENTS	68
ENTITY_RECTANGULAR_LOCATION_ELEMENTS	67
ENTITY_RELATIONSHIP_INDICATOR	10
ENTITY_RF_DESCRIPTION_ELEMENTS	75
ENTITY_SCAN_DESCRIPTION_ELEMENTS	69
ENTITY_SECONDARY_COLOR	254
ENTITY_SIZE	36
ENTITY_STATUS	35
ENTITY_STRENGTH	192
ENTITY_TYPE	33
ENTITY_TYPE_GENERAL_CONFIDENCE	465
ENTITY_TYPE_PERCENT_CONFIDENCE	466
ENTITY_UNIQUE_EQUIPMENT_ID	447
ENTITY_UPDATE_NUMBER	111
ENTITY_WEAPON_ELEMENTS	439
ENTITY_WIDTH	255
ENVIRONMENT_ID	26
ENVIRONMENTAL_CONDITION	334
EOB_ASSOCIATION_CONFIDENCE	256
EQUIPMENT_SERIAL_NUMBER	270
EQUIPMENT_TYPE	271
ERROR_3D	147
ERROR_CIRCLE_2D	119
ERROR_ELLIPSE_2D	56
ERROR_RECTANGLE_2D	57
ERROR_SUM_3D	305
ESTIMATED_DAY_TIME	227
ESTIMATED_POLAR_LOCATION	224

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TABLE E.1.2-3 ALPHABETIC LIST OF ALL ELEMENT TAGS

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<u>TAG NAME</u>	<u>TAG</u>
EXPIRE_TIME	154
EXTERNAL_SENSOR_CODE	330
EXTRAPOLATION_INDICATOR	24
EYE_COLOR	259
FIS_NOTATION	473
FINAL_SET_TYPE	347
FLASH	6
FLIGHT_PATH_ANGLE	345
FREE_TEXT	149
FREQUENCY_AGILITY_CHARACTERISTICS	151
FREQUENCY_CAPABILITY_INDICATORS	152
FREQUENCY_RANGE	79
FREQUENCY_STABILITY	80
FREQUENCY	76
FULL_COVARIANCE_MATRIX	73
GENDER	260
GEOGRAPHIC_AREA_IDENTIFIER	453
GEOMETRIC_AREA_SWITCH	292
GPS_ELEMENTS	3
HAIR_COLOR	261
HAIR_LENGTH	262
HEADING_CARDINAL	62
HEIGHT	263
HEIGHT_FROM_SURFACE	482
HOP_DWELL	158
HOP_RATE	159
HOP_SPACING	160
HOP_SPREADER_TYPE	161
HULL_NUMBER	284
HUMAN_SENSOR_ELEMENTS	424
HUMAN_SENSOR_TYPE	431

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TABLE E.1.2-3 ALPHABETIC LIST OF ALL ELEMENT TAGS

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<u>TAG NAME</u>	<u>TAG</u>
HUMINT_RELIABILITY	438
IFF_MODE_3A_CODE	162
IFF_MODE_3C_ALTITUDE	163
IFF_MODE_I_CODE	164
IFF_MODE_II_CODE	165
IFF_MODE_IV_INDICATOR	166
IFF_MODES	167
ILLUMINATION_TIME	307
IMO_NUMBER	350
INDIVIDUAL_ID_ELEMENTS	264
INDIVIDUAL_PULSE_CHARACTERISTICS	351
INTEREST_INDICATORS	23
INTERMEDIATE_CUT_LOB	340
INTERMEDIATE_FREQUENCY	352
INTERNATIONAL_POSTAL_ZIP_CODE	233
IR_MAXIMUM_INTENSITY	296
IR_SENSOR_ELEMENTS	420
IR_SENSOR_TYPE	427
ISOLATED_PERSONNEL_AUTHENTICATION_STATUS	461
ISOLATED_PERSONNEL_COMMUNICATIONS_CAPABILITY	462
ISOLATED_PERSONNEL_PHYSICAL_STATUS	457
ISOLATED_PERSONNEL_RELATIONSHIP	456
JITTER_RANGE	171
JULIAN_DAY_OF_INTERCEPT	21
KEYING_MATERIAL_INFORMATION	485
LANGUAGE_ID_LIST	266
LANGUAGE_ID	265
LENGTH_TO_BOW	354
LENGTH_TO_STERN	355

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TABLE E.1.2-3 ALPHABETIC LIST OF ALL ELEMENT TAGS

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<u>TAG NAME</u>	<u>TAG</u>
LINK_11_11B_IDENTIFIER	207
LINK_16_IDENTIFIER	208
LOCATION_NAME	267
LOCATION	27
MAGNETIC_COURSE_DEGREES	483
MAGNETIC_HEADING_DEGREES	126
MANAGEMENT_ACTION_INDICATORS	5
MANAGEMENT_MODE_INDICATORS	32
MANEUVERING_INDICATOR	484
MANUFACTURER_NAME	356
MARITIME_CHARACTERISTICS	357
MAXIMUM_SOUND_PRESSURE	358
MEASURED_ALTITUDE	65
MEASUREMENT_BASE_TIME	304
MEASUREMENT_REFERENCE_PERIOD	359
MEDIA_REFERENCE_ID	360
MESSAGE_DESCRIPTION_ELEMENTS	153
MESSAGE_FILTER_ELEMENTS	113
MESSAGE_GROUP	338
MESSAGE_NUMBER	268
MESSAGE_REFERENCE	156
MIDB_EQUIPMENT_CODE	17
MISSION_EFFECT_ELEMENTS	240
MISSION_NAME	269
MMSI_NUMBER	362
MODE_INDICATORS	71
MULTIPLE_FREQUENCIES	77
MULTIPLE_FREQUENCY_RANGES	78
MULTIPLE_PRF_RANGES	175
MULTIPLE_PRFS	176

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## APPENDIX E

TABLE E.1.2-3 ALPHABETIC LIST OF ALL ELEMENT TAGS

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<u>TAG NAME</u>	<u>TAG</u>
MULTIPLE_PRI_RANGES	177
MULTIPLE_PRIS	178
MULTIPLE_SPECTRUM_SENSOR_ELEMENTS	423
MULTIPLE_SPECTRUM_SENSOR_TYPE	430
NATIONALITY_ALLIANCE	30
NATIONALITY_ALLIANCE_GENERAL_CONFIDENCE	467
NATIONALITY_ALLIANCE_PERCENT_CONFIDENCE	468
NATO_LINK_1_TRACK_NUMBER	179
NAVIGATION_STATUS	443
NIIRS_QUALITY	437
NODE	180
NOTIFICATION SUBJECT	137
NOTIFICATION_TYPE	143
NUMBER_OF_BLADES	363
NUMBER_OF_CYLINDERS	365
NUMBER_OF_PILOT_TONES	148
NUMBER_OF_PRI_POSITIONS	366
NUMBER_OF_PULSES_IN_GROUP	367
NUMBER_OF_SUBCARRIER_TONES	235
NUMBER_OF_VG_CHANNELS	181
NUMBER_OF_INJURED_AMBULATORY_PERSONNEL	459
NUMBER_OF_NON_AMBULATORY_PERSONNEL	460
NUMBER_OF_UNINJURED_AMBULATORY_PERSONNEL	458
ONBOARD_REFERENCE_POINT	368
OPERATION_NAME	272
OPERATIONAL_ASSET_ID	327
OPERATIONAL_ASSET_LABEL	168
OPERATIONAL_STATUS	169
OPERATIONAL_STATUS_MSG	157
OPERATIONS_NOTIFICATION	145
OPERATIONS_NOTIFICATION_MSG	136

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## APPENDIX E

TABLE E.1.2-3 ALPHABETIC LIST OF ALL ELEMENT TAGS

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<u>TAG NAME</u>	<u>TAG</u>
OPTICAL_SENSOR_ELEMENTS	422
OPTICAL_SENSOR_TYPE	429
ORGANIZATION_ID	273
ORIGINATOR_ADDRESS	117
PACKAGE_DESCRIPTION_DATA	2
PAIR_LOGIC	11
PARENT_ORGANIZATION	274
PARTIAL_COVARIANCE_MATRIX	74
PHYSIQUE	275
PILOT_TONE	184
PIN_CONFIRMED_EQUIPMENT	216
PIN_UNCONFIRMED_EQUIPMENT_ID	217
PIN_UNCONFIRMED_SITE	218
PITCH	185
PLACE_OF_BIRTH	282
PLATFORM_EVALUATION_GENERAL_CONFIDENCE	29
PLATFORM_EVALUATION_PERCENT_CONFIDENCE	28
POLAR_INTERMEDIATE_LOCATION	299
POLAR_SINGLE_LOCATION	107
POLAR_START_LOCATION	298
POLAR_STOP_LOCATION	300
POSITION_FIX_QUALITY	42
POSITION_FIXING_METHOD	127
PR_CSAR_CANNED_MESSAGE	100
PR_CSAR_ELEMENTS	34

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## APPENDIX E

TABLE E.1.2-3 ALPHABETIC LIST OF ALL ELEMENT TAGS

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<u>TAG NAME</u>	<u>TAG</u>
PR_CSAR_GROUP_IDENTIFIER	99
PR_CSAR_INDICATORS	64
PR_CSAR_QUERY_RESPONSE	12
PR_CSAR_TEXT	174
PRF_GROUP_INDICATOR	187
PRF_RANGE	188
PRF	87
PRI_AGILITY_CHARACTERISTICS	189
PRI_GROUP_INDICATOR	81
PRI_OF_GROUP	370
PRI_PROFILE_LABEL	371
PRI_PROFILE	372
PRI_PROFILE_TECHNIQUE	373
PRI_RANGE	190
PRI_STABILITY	90
PRI_STAGGER_LEGS	91
PRI	88
PRI_TYPE	89
PROCESSOR_ID	374
PRODUCER_MESSAGE_SEQUENCE_NUMBER	112
PROVIDER_COMMUNITY	451
PROVIDER_DATA_CATEGORY	452
PROVIDER_TYPE	40
PULSE_GROUP_CHARACTERISTICS	375

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TABLE E.1.2-3 ALPHABETIC LIST OF ALL ELEMENT TAGS

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<u>TAG NAME</u>	<u>TAG</u>
PULSE_GROUP_ID_NUMBER	376
PULSE_ID_NUMBER	377
PULSE_RATE	86
PULSE_WIDTH_DURATION	85
PULSE_WIDTH_DURATION_OF_GROUP	378
PULSE_WIDTH_SWITCHING_HIGH_VALUE	194
PULSE_WIDTH_SWITCHING_INDICATOR	195
PULSE_WIDTH_SWITCHING_LOW_VALUE	196
QUANTITY_CAPTURED	288
QUANTITY_DAMAGED	286
QUANTITY_DESTROYED	285
QUANTITY_OPERATIONAL	287
RACE	276
RADAR_CHARACTERISTICS	379
RADAR_CROSS_SECTION	380
RADIO_ELEMENTS	110
RADIO_ID	108
RADIO_INDICATORS	124
RADIO_MESSAGE_NUMBER	109
RADIO_MODE	118
RADIO_TYPE	98
RAPID_WORLDWIDE_AREA_COLLECTION_IDENTIFIER	455
RATE_OF_TURN	381
REFERENCE_ENTITY_ID	9
REFERENCE_INFORMATION	155
REFERENCE_POLAR_PLATFORM_ELEMENTS	97
REFERENCE_X_Y_Z_POSITION	316
REFERENCE_X_Y_Z_VELOCITY	317
REMOTE_ADDRESS	337

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TABLE E.1.2-3 ALPHABETIC LIST OF ALL ELEMENT TAGS

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<u>TAG NAME</u>	<u>TAG</u>
REMOTE_AMPLIFICATION_MSG	303
REPORT_VALIDATION_INDICATOR	400
RF_SENSOR_ELEMENTS	419
RF_SENSOR_TYPE	426
RF_TUNER_ID	382
SAMPLE_INTERVAL	417
SCAN_PERIOD	198
SCAN_RATE	93
SCAN_TYPE	92
SCONUM	199
SEMI_INTERMEDIATE	289
SEMI_MAJOR_ELEVATION	291
SENSOR_1_IDENTIFIER	332
SENSOR_1_RECTANGULAR_REFERENCE	314
SENSOR_2_IDENTIFIER	418
SENSOR_2_RECTANGULAR_REFERENCE	315
SENSOR_DESCRIPTION_ELEMENTS	364
SENSOR_ELEMENTS	384
SENSOR_GENERAL_CONFIDENCE	433
SENSOR_PERCENT_CONFIDENCE	434
SENSOR_PRODUCT_FILE	386
SENSOR_SEARCH_AREA_IDENTIFIER	335
SENSOR_STRING_ELEMENTS	387
SENSOR_STRING_ID_ELEMENTS	388
SEVEN_BIT_MAP	389
SHORT_TITLE_EDITION	487
SHORT_TITLE_ITEM_NUMBER	486
SHORT_TITLE_SEGMENT	488
SIF_MODE_3A_CODE	200
SIF_MODE_I_CODE	201

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TABLE E.1.2-3 ALPHABETIC LIST OF ALL ELEMENT TAGS

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<u>TAG NAME</u>	<u>TAG</u>
SIF_MODE_II_CODE	202
SIGNAL_BANDWIDTH	390
SIGNAL_FILE_LOCATION	391
SIGNAL_LOSS_TIME	392
SIGNAL_REFERENCE_ID	393
SIGNAL_REFERENCE_ID_TEMPORARY	394
SIGNAL_TO_NOISE_RATIO	395
SOFTWARE_VERSION	396
SOURCE_FILE_IDENTIFICATION	203
SOURCE_MESSAGE_TYPE	18
SPEED	61
START_CUT_LOB	302
STATE_OR_PROVINCE	230
STATUS_INTERVAL	182
STOP_CUT_LOB	173
STREET_ADDRESS	231
SUBORDINATE_OPERATION_NAME	397
SUBCARRIER_TONE_SPACING	234
SUBNET	206
SUPPORT_TEXT	214
TAIL_NUMBER	398
TDDS_ADDRESS	122
TDDS_CHANGE_FLAG	51
TDDS_CORRELATION_INDEX	49
TDDS_ID	120
TDDS_REPORT_NUMBER	295
TDDS_SEQUENTIAL_CONTACT_NUMBER	52
TDDS_TRACK_NUMBER	253

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TABLE E.1.2-3 ALPHABETIC LIST OF ALL ELEMENT TAGS

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<u>TAG NAME</u>	<u>TAG</u>
TDDS_TRACK_UPDATE_NUMBER	193
TDOA_BIAS_ERROR	322
TDOA_ELEMENTS	309
TDOA_MEASUREMENT_ERRORS	310
TDOA_RANDOM_ERROR	323
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TES_EVENT_IDENTIFIER	448
TEXT_MSG	212
TEXT_PACKET_NUMBER	343
TEXT_TOTAL_PACKETS	344
TIBS_ADDRESS	121
TIBS_TRACK_NUMBER	53
TIME_OF_ENTRY	469
TIME_OF_ENTRY_DELTA	114
TIME_OF_ENTRY_ORIGINATOR_ADDRESS	470
TIME_OF_INTERCEPT	20
TIME_OF_LAST_DUPLICATE_START	213
TIME_OF_STATUS	328
TIME_PRECISION	320
TIME_RESOLUTION	319
TIME_TO_FUZE	442
TOTAL_NUMBER_OF_ALGORITHM_VALUES	399
TOTAL_NUMBER_OF_DELTA_TIME_SETS	318
TOTAL_NUMBER_OF_PULSE_GROUPS	416
TOTAL_NUMBER_OF_PULSES	385

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TABLE E.1.2-3 ALPHABETIC LIST OF ALL ELEMENT TAGS

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<u>TAG NAME</u>	<u>TAG</u>
TRACK_QUALITY	489
TRANSMISSION_DESCRIPTION	172
TRIXS_ADDRESS	283
TRIXS_REPORT_NUMBER	279
TRUE_HEADING_DEGREES	63
UHF_BASE_STATION_ID	125
UIC_ELEMENTS	13
UIC_FIELD	101
UIC_FLOAT	104
UIC_IDENTIFIER	14
UIC_INTEGER	103
UIC_NAME	59
UIC_STRING	102
UIC_UNIT	105
UIC_UNIT_NAME	106
UNDISCLOSED_SENSOR_ELEMENTS	425
UNDISCLOSED_SENSOR_TYPE	432
UNIT_DESIGNATOR	280
UNPAIR_LOGIC	170
URL	251
USMTF_TRACK_IDENTIFIER	237
VERSION	401
VESSEL_CLASS	402
VESSEL_DRAFT	403
VESSEL_GROUP_TYPE	404
VESSEL_RAISE_CODE	406
VESSEL_UPRIGHT_SEQUENCE	405
VESSEL_WATERLINE_COLOR	407

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TABLE E.1.2-3 ALPHABETIC LIST OF ALL ELEMENT TAGS

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<u>TAG NAME</u>	<u>TAG</u>
VG_CHANNEL_SPACING	133
VISIBLE_LIGHT_SENSOR_ELEMENTS	421
VISIBLE_LIGHT_SENSOR_TYPE	428
VMF_ENTITY_ID_SERIAL_NUMBER	346
WARTIME_RESERVE_MODE	47
WEAPON_ATTACK_STRATEGY	444
WEAPON_SELF_ASSESSMENT	445
WEAPON_STATE	440
WEIGHT	281
WIDTH_TO_PORTSIDE	408
WIDTH_TO_STARBOARD	409
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**E.2 CMF HEADER TAG TABLES**

E.2.1 [Table E.2.3-1](#) contains a numeric list of the currently defined CMF Header Tags. The table aids in the tracking of used and available CMF Header numbers. CMF Header Tags are also defined for operational implementation in the DTD. These tables must be accurately maintained throughout the life of the current DTD and must match those provided to the operational community in the DTD. Any CMF Header Tag deletions or additions to the tables must also be reflected in the body of the DTD file. [Table E.2.3-2](#) contains an alphabetic list of all CMF Header Tags. Note that, with the exception of the *CMF Header [CMF\_Hdr]* root element tag, all CMF Header Tags are two byte tags.

E.2.2 NOTE: The tag value 2676321710 provides a unique, easily identified four byte tag for the *CMF Header [CMF\_Hdr]* root element.

E.2.3 The CMF Header Tag is equivalent textually to the string "~~~(R)" in a hex editor {where the "(R)" portion is the "Registration" symbol, which is a circle containing within it an upper case R}. The CMF Header Tag binary representation is 0111 1110 0111 1110 0111 1110 1010 1110 for CMF-B.

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TABLE E.2.3-1 NUMERIC LIST OF CMF HEADER TAGS

(Sheet 1 of 2)

<u>TAG</u>	<u>TAG NAME</u>
16001	SECURITY_TABLE_INDEX
16002	ARCHIVE_FILE_ELEMENTS
16003	<i>Not Assigned</i>
16004	ARCHIVE_RECORD_ELEMENTS
16005	ARCHIVE_RECORD_LENGTH
16007	DATA_FORMAT_ELEMENTS
16008	DATA_FORMAT
16009	DATA_PACKAGE_CHECKSUM
16010	SECURITY_CLASSIFICATION_ELEMENTS
16011	DATA_PACKAGE_DESCRIPTION_ELEMENTS
16012	DATA_PACKAGE_HEADER_TYPE
16013	DATA_PACKAGE_LENGTH
16014	DATA_PACKAGE_PRIORITY
16015	LOCAL_SCOPE_ELEMENTS
16016	LOCAL_SCOPE_CAPABILITY
16017	LOCAL_CAPABILITY_FIELD
16018	LOCAL_CAPABILITY_VALUE
16019	EXTERNAL_CONNECTION_DESCRIPTION_ELEMENTS
16020	EXTERNAL_CONNECTION_ID
16021	EXTERNAL_CONNECTION_LABEL
16022	EXTERNAL_CONNECTION_NUMBER
16023	EXTERNAL_CONNECTION_TYPE
16024	FILE_TRANSMIT_RECEIVE_INDICATOR
16025	HEADER_VERSION_ELEMENTS
16026	PATH_NUMBER
16027	RECORD_TRANSMIT_RECEIVE_INDICATOR
16028	LOCAL_CAPABILITY_IDENTIFIER
16029	LOCAL_CAPABILITY_NAME
16030	LOCAL_CAPABILITY_FIELD_NAME
16031	LOCAL_CAPABILITY_STRING

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TABLE E.2.3-1 NUMERIC LIST OF CMF HEADER TAGS

(Sheet 2 of 2)

<u>TAG</u>	<u>TAG NAME</u>
16032	TIME_OF_FILE_ARCHIVE_START
16033	TIME_OF_FILE_ARCHIVE_STOP
16034	TIME_OF_RECORD_ARCHIVE
16035	MIXED_RECORDS_INDICATOR
16036	DATA_PACKAGE_REPLICATION_ELEMENTS
16037	REPLICATION_COUNT
16038	REPLICATION_INTERVAL
16039	LOCAL_CAPABILITY_INTEGER
16040	LOCAL_CAPABILITY_FLOAT
16041	LOCAL_CAPABILITY_UNIT
16042	LOCAL_CAPABILITY_UNIT_NAME
266321710	COMMON_MESSAGE_FORMAT_HEADER

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TABLE E.2.3-2 ALPHABETIC LIST CMF HEADER TAGS

(Sheet 1 of 2)

<u>TAG NAME</u>	<u>TAG</u>
ARCHIVE_FILE_ELEMENTS	16002
ARCHIVE_RECORD_ELEMENTS	16004
ARCHIVE_RECORD_LENGTH	16005
COMMON_MESSAGE_FORMAT_HEADER	266321710
DATA_FORMAT	16008
DATA_FORMAT_ELEMENTS	16007
DATA_PACKAGE_CHECKSUM	16009
DATA_PACKAGE_DESCRIPTION_ELEMENTS	16011
DATA_PACKAGE_HEADER_TYPE	16012
DATA_PACKAGE_LENGTH	16013
DATA_PACKAGE_PRIORITY	16014
DATA_PACKAGE_REPLICATION_ELEMENTS	16036
EXTERNAL_CONNECTION_DESCRIPTION_ELEMENTS	16019
EXTERNAL_CONNECTION_ID	16020
EXTERNAL_CONNECTION_LABEL	16021
EXTERNAL_CONNECTION_NUMBER	16022
EXTERNAL_CONNECTION_TYPE	16023
FILE_TRANSMIT_RECEIVE_INDICATOR	16024
HEADER_VERSION_ELEMENTS	16025
LOCAL_CAPABILITY_FIELD	16017
LOCAL_CAPABILITY_FIELD_NAME	16030
LOCAL_CAPABILITY_FLOAT	16040
LOCAL_CAPABILITY_IDENTIFIER	16028
LOCAL_CAPABILITY_INTEGER	16039
LOCAL_CAPABILITY_NAME	16029
LOCAL_CAPABILITY_STRING	16031
LOCAL_CAPABILITY_UNIT	16041
LOCAL_CAPABILITY_UNIT_NAME	16042
LOCAL_CAPABILITY_VALUE	16018
LOCAL_SCOPE_CAPABILITY	16016
LOCAL_SCOPE_ELEMENTS	16015

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TABLE E.2.3-2 ALPHABETIC LIST CMF HEADER TAGS

(Sheet 2 of 2)

<u>TAG NAME</u>	<u>TAG</u>
MIXED_RECORDS_INDICATOR	16035
PATH_NUMBER	16026
RECORD_TRANSMIT_RECEIVE_INDICATOR	16027
REPLICATION_COUNT	16037
REPLICATION_INTERVAL	16038
SECURITY_CLASSIFICATION_ELEMENTS	16010
SECURITY_TABLE_INDEX	16001
TIME_OF_FILE_ARCHIVE_START	16032
TIME_OF_FILE_ARCHIVE_STOP	16033
TIME_OF_RECORD_ARCHIVE	16034

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**MIL-STD-6018C  
29 January 2021  
Superseding  
MIL-STD-6018B  
15 December 2017**

# **DEPARTMENT OF DEFENSE INTERFACE STANDARD**

## **INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) STANDARD**

### **APPENDIX F – CMF HEADER**



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## F.1 CMF HEADER

F.1.1 The *CMF Header* [CMF\_Hdr] provides a group of elements (as an XML document, or the binary equivalent) that precedes a data package, an archive file, or a record of an archive file, and describes the format and/or content of the subsequent information. The *CMF Header* offers support to a class of applications or implementations where the use of a header facilitates data handling (e.g. obtaining sync with a stream of CMF data and determining the length (size) of the CMF\_Doc that follows it to determine if the whole doc has yet been received) without having to read the entire document (package) prior to determining a disposition means. Each *CMF Header* shall contain at least the minimum elements required by the "CMF HEADER PACKAGE STRUCTURE" and as otherwise required by producer rules.

### F.1.1.1 CMF HEADER ELEMENTS

#### F.1.1.1.1 *Data Package Description Elements*

[Data\_Pkg\_Desc\_Elmnts] provides elements that describe a data package. If the *Data Package Description Elements* are used, the associated data package shall follow immediately. When the *CMF Header* is sent with this structure, it is used as a header on a packet of CMF data (i.e., an associated CMF\_Doc shall immediately follow it.).

F.1.1.1.2 *Archive File Elements* [Archive\_File\_Elmnts] provides elements that describe an archive file. One *CMF Header* with this structure shall be utilized at the beginning of each separate CMF archive file.

F.1.1.1.3 *Archive Record Elements* [Archive\_Record\_Elmnts] provides elements that describe one record of an archive file. A *CMF Header* with this structure shall be utilized as the header to each record within a CMF archive file. Each record shall then contain the *Archive Record Elements* header, any of the applicable data headers,

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and the data package itself. When archiving CMF data, each record will consist of an *Archive Record Elements* header followed by a data header (as indicated in [F.1.1.1.1](#)) which is subsequently followed by a CMF\_Doc (see [Figures F.1.3.1-2](#) and [F.1.3.1-3](#)).

F.1.1.1.4 The three elements within the top-level content model of the *CMF Header* are mutually exclusive. One, and only one, is invoked for a given instance.

### F.1.1.2 CMF HEADER PACKAGE STRUCTURE

*CMF\_Hdr ((Data\_Pkg\_Desc\_Elmnts | Archive\_File\_Elmnts | Archive\_Record\_Elmnts), UIC\_Elmnts\*)*

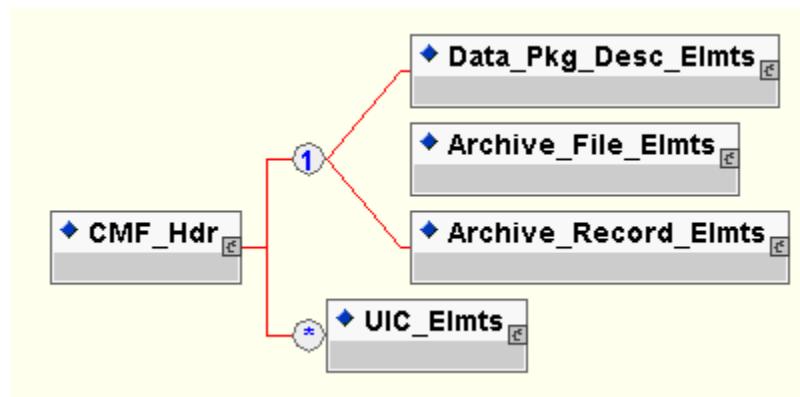


FIGURE F.1.1.2-1 CMF\_Hdr Graphical Message Map

### F.1.2 DATA PACKAGING

#### F.1.2.1 DATA PACKAGE DESCRIPTION ELEMENTS

The *Data Package Description Elements* structure contains information about its associated CMF\_Doc including description data and other information to facilitate proper data exchange between CMF processors over the IBS Enterprise. The group also provides an optional local scope elements capability, where non-CMF data sets can be appended to a CMF package for use strictly within the scope of a

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local system. The *Data Package Description Elements* has children including: *Header Version Elements*, a *Data Package Length*, the *Data Package Priority*, *Security Classification Elements* for the data, a *Data Package Checksum*, *Data Package Replication Elements*, and *Local Scope Elements*. Each *Data Package Description Elements* shall contain at least the minimum elements required by the "Data Package Description Elements Package Structure" and as otherwise required by producer rules.

**F.1.2.2 DATA PACKAGE DESCRIPTION ELEMENTS PACKAGE STRUCTURE**

*Data\_Pkg\_Desc\_Elmnts* (*Hdr\_Vers\_Elmnts* , *Data\_Pkg\_Len* ,  
*Data\_Pkg\_Priority?* , *Security\_Classif\_Elmnts?* , *Data\_Pkg\_Chksm?* ,  
*Data\_Pkg\_Replication\_Elmnts?* , *Local\_Scope\_Elmnts?*)

*Hdr\_Vers\_Elmnts* (*Major\_Parser\_API\_Version* , *Minor\_Parser\_API\_Version* ,  
*Major\_DTD\_Version* , *Minor\_DTD\_Version*)

*Security\_Classif\_Elmnts* (*Security\_Tbl\_Idx*)

*Data\_Pkg\_Replication\_Elmnts* (*Replication\_Cnt* , *Replication\_Intvl*)

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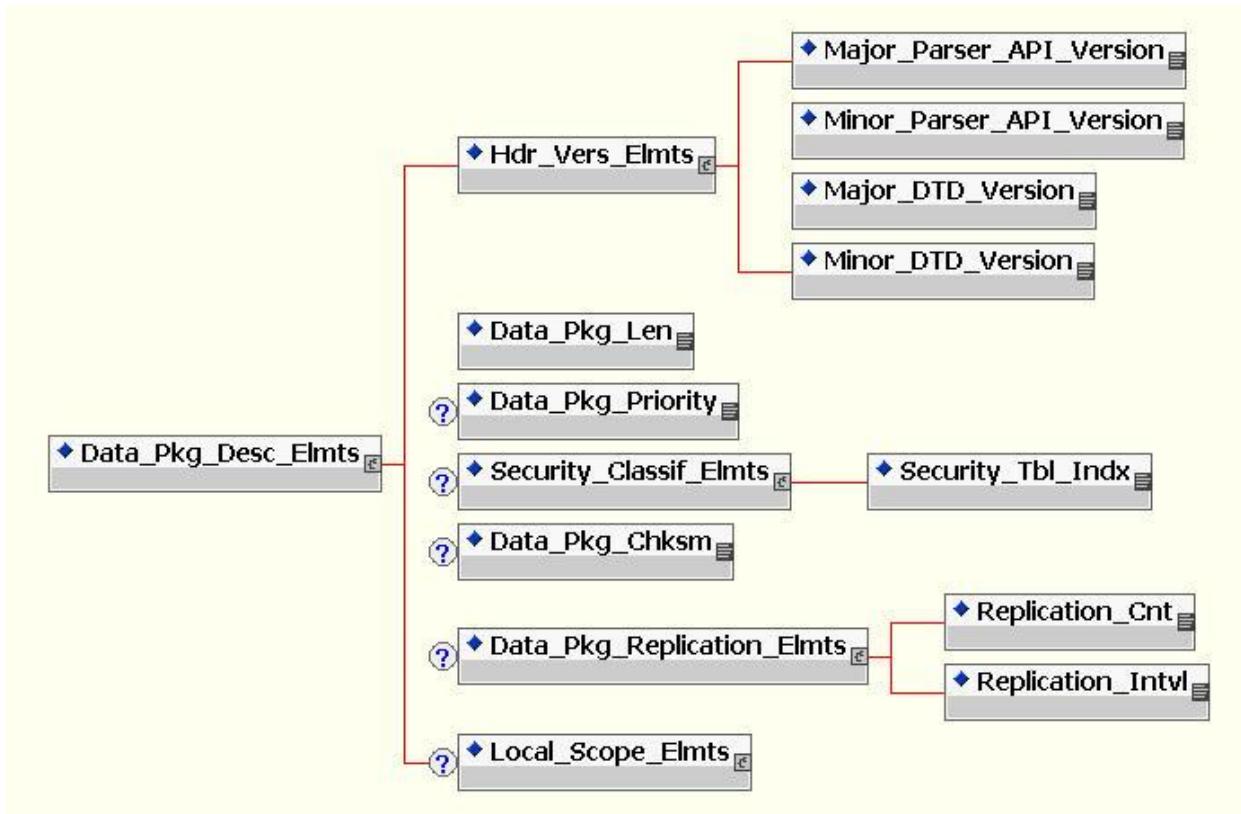


FIGURE F.1.2.2-1 Data\_Pkg\_Desc\_Elmnts Graphical Message Map

**F.1.2.2.1 HEADER VERSION ELEMENTS**

*Header Version Elements [Hdr\_Vers\_Elmnts]* provides elements that indicate the versions of the DTD and Parser Library API used to create the reported header. The *Header Version Elements* structure contains child elements identifying the *Major Parser API Version*, *Minor Parser API Version*, *Major DTD Version*, and *Minor DTD Version*. The *Header Version Elements* [Hdr\_Vers\_Elmnts] is required for all CMF-X and CMF-B *Data Package Description Elements* and *Archive File Elements* header documents in order to identify the decoding compatibility of a data header or an archive file header and any records within the archive file.

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### F.1.2.2.2 DATA PACKAGE LENGTH

*Data Package Length* [Data\_Pkg\_Len] indicates the number of bytes within a data package (not including the header itself). NOTE: ANY manipulation of a data packet (including any decode/reencode), invalidates the length and a new length shall be computed prior to further transfer.

### F.1.2.2.3 DATA PACKAGE PRIORITY

*Data Package Priority* [Data\_Pkg\_Priority] identifies the priority of a data package based upon data content, age, type, size or other reporting criteria. The intrinsic conflict between data delivery timeliness requirements (i.e. timeliness categories per the ORD) and bandwidth capacity creates the need for transmission data prioritization. The *Data Package Priority* element identifies the level of priority assigned to a data package in terms of the required category of timeliness to be achieved. Although the *Data Package Priority* [Data\_Pkg\_Priority] element is optional, this element shall be implemented in certain IBS systems in accordance with priority algorithms (for prioritization guidelines refer to the Global IBS Support Center (GIBSSC)). The *Data Package Priority* shall be passed from the CMF\_Hdr into the CIB Header prior to transmission. When receiving data from the over the air (OTA) broadcast, the *Data Package Priority* shall be passed from the CIB Header to the CMF\_Hdr for non-CIB network use (note this is similar to the process for transfer of the *Security Table Index* value as explained in the IBS Enterprise CONOPS).

### F.1.2.2.4 SECURITY CLASSIFICATION ELEMENTS

F.1.2.2.4.1 The *Security Classification Elements* [Security\_Classif\_Elmnts] is a group of elements that identify the security classification information for a data package, an archive

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record, or an archive file. The *Security Classification Elements* group shall contain at least the minimum elements required by the "Data Package Description Elements Package Structure" and as otherwise required by producer rules. It contains the *Security Table Index* [Security\_Tbl\_Idx] field element that holds an integer value indicating the specific entry within the IBS Security Classification Table. The specific entry at that index within the table provides all the required information systems marking characteristics for the associated data package, archive file, or archive record. Usage of the *Security Table Index* along with the associated Security Classification Table is explained in the IBS Enterprise CONOPS.

F.1.2.2.4.2 The *Security Table Index* shall always be sent by the CMF producing system and maintained within the CMF\_Doc throughout its existence.

F.1.2.2.4.3 All messages in a single CMF Doc shall have the identical set of security classification markings (classification, releasability, owner, etc.), and therefore a single *Security Table Index*, since the index is held at the CMF Header and/or Metadata Preamble level. Message Groups have no bearing on security information levels.

F.1.2.2.4.4 When the security classification is transferred to the over-the-air broadcast, the CMF Header shall be removed from the data and replaced with a CIB Metadata Preamble. The *Security Table Index* shall be passed from the CMF Header into the CIB Metadata Preamble (defined in [Section F.2](#) and documented for CIB structure by the IBS CIB Interoperability Standard (IOS)) prior to transmission. Similarly, when receiving data from the over-the-air broadcast, the *Security Table Index* shall be moved from the CIB Metadata Preamble to the CMF Header for non-CIB network use.

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### F.1.2.2.5 DATA PACKAGE CHECKSUM

The *Data Package Checksum* [Data\_Pkg\_Chksm] provides a 16 bit value which any receiver of the package may re-calculate and compare to verify package integrity. The checksum shall be calculated by summing the individual bytes of the data package, not including any header, and ignoring overflow. The *Data Package Checksum* [Data\_Pkg\_Chksm] shall be calculated and reported over all connections that do not have data integrity validation as part of the connection protocol. If a received message contains a checksum and the data packet is manipulated in any way (including any decode/re-encode), a new checksum shall be calculated prior to further transfer.

### F.1.2.2.6 REPLICATION

#### F.1.2.2.6.1 DATA PACKAGE REPLICATION ELEMENTS

The *Data Package Replication Elements* [Data\_Pkg\_Replication\_Elmnts] provide the characteristics for requesting the repetition of transmissions for selected messages over the CIB broadcast. This element composites a *Replication Count* and a *Replication Interval* to establish the conditions of the repetition. The field is optional and is employed in those instances where there is an operational directive to send a given message multiple times. (Note this capability is effectively the process for “reporting” a message multiple times and is not to be confused with the CIB process of automatic “retransmissions”.)

##### F.1.2.2.6.1.1 REPLICATION COUNT

The *Replication Count* [Replication\_Cnt] identifies the number of repeated transmissions, in addition to the original transmission, to be performed by a direct-inject Tactical Data Processor only to the associated radio terminal. The *Replication Count* is an integer field

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with a range of 1 to 5. The count is in addition to the initial transmission such that one (1) replication results in that message (i.e. that specific instance of [CMF\_Doc]) being sent twice in total. A *Replication Count* of three (3) results in four (4) total transmissions, etc.

### F.1.2.2.6.1.2 REPLICATION INTERVAL

The *Replication Interval* [Replication\_Intvl] identifies the wait period by a Tactical Data Processor between transmission completion of the original message and the first replicated message copy as well as an equivalent period between additional copies of duplicate messages. The value applies at the Tactical Data Processor (TDP) sourcing the transmission upon receipt of transmission acknowledgement(s) by the radio terminal. The *Replication Interval* is an integer field with a range of 0 seconds to 120 seconds selectable in one-second intervals. The value cannot firmly establish (i.e. cannot guarantee) the time between radio transmissions as the radio path protocol accommodates additional factors that impact actual transmission time characteristics. A *Replication Interval* of value zero indicates to replicate the transmission immediately in the next transmission, no wait period.

### F.1.2.2.6.2 PROPAGATION OF REPLICATION INFORMATION

Most systems shall not propagate the replication information (i.e. the *Data Package Replication Elements*) and thus only selected infrastructure components may propagate replication information within IBS (where specifically directed by the GIBSSC in support of the IBS architecture). Upon receipt of replicated messages, receiving terminals shall suppress (i.e. not propagate) these messages because they are replicated only to ensure reception.

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**F.1.2.2.7 LOCAL SCOPE ELEMENTS**

The optional *Local Scope Elements* [*Local\_Scope\_Elmnts*] group provides the capability to append elements containing non-CMF data to a CMF package for use strictly within the scope of local system(s) to support local processing methods. This capability supports applications that have a requirement to exchange both CMF and non-CMF data with other applications on a non-IBS Enterprise path. The *Local Scope Elements* shall never be disseminated onto IBS Enterprise paths, and are designated as path excluded from all defined operational CMF paths, both CIB and network. Applications which utilize the local scope elements capability shall build message data using CMF Path 0, which is not an IBS Enterprise operational path. CMF Path 0 may be used for both CMF-X and CMF-B data. (See [Section 4, paragraph 4.3.3.1](#) and [Appendix D, section D.2.7.5](#) for additional information regarding path assignments.) Applications which utilize the local scope elements capability to append local scope non-CMF data to a CMF package shall be responsible for ensuring the CMF package *Security Table Index* value reflects the resulting overall CMF package security classification level.

**F.1.2.2.7.1 Local Scope Elements Package Structure**

*Local\_Scope\_Elmnts* (*Local\_Scope\_Capab\**)

*Local\_Scope\_Capab* (*Local\_Capab\_ID* , *Local\_Capab\_Name* ,  
*Local\_Capab\_Field\**)



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**F.1.2.2.7.2 LOCAL SCOPE CAPABILITY**

*Local Scope Capability* [Local\_Scope\_Capab] establishes a grouping containing those elements which make up a set of data fields for a particular local scope elements capability. The *Local Scope Capability* group may be repeated in order to provide multiple sets of local non-CMF data with a single CMF package.

**F.1.2.2.7.2.1 LOCAL CAPABILITY IDENTIFIER**

The *Local Capability Identifier* [Local\_Capab\_ID] element provides the identification of a particular local scope elements capability. This number shall be uniquely assigned to a particular local scope elements capability at any given time. *Local Capability Identifier* assignment and use is not coordinated by the GIBSSC, but shall be locally controlled by the systems and applications which implement and share its use.

**F.1.2.2.7.2.2 LOCAL CAPABILITY NAME**

The *Local Capability Name* [Local\_Capab\_Name] element identifies the name of a particular local scope elements capability. This name is for informational and/or display purposes only. A local scope elements capability shall be uniquely identified by the *Local Capability Identifier* field.

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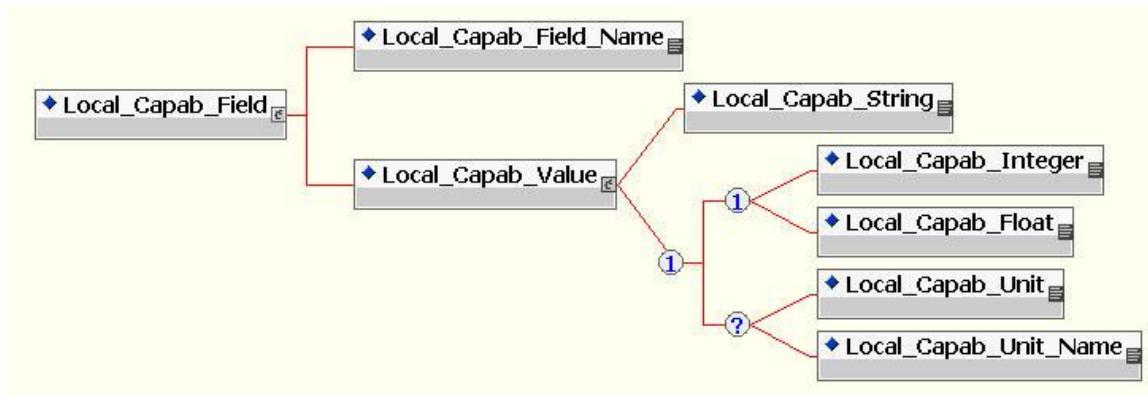
**F.1.2.2.7.2.3 LOCAL CAPABILITY FIELD**

The *Local Capability Field* [Local\_Capab\_Field] element provides a grouping of elements, which together compose a single instance of a local scope elements capability field. The grouping contains the associated field name (*Local Capability Field Name*) and field value (*Local Capability Value*). *Local Capability Field* may be repeated to provide multiple elements to contain non-CMF data in a *Local Scope Capability* group.

**F.1.2.2.7.2.3.1 Local Capability Field Package Structure**

*Local\_Capab\_Field* (*Local\_Capab\_Field\_Name* , *Local\_Capab\_Value*)

*Local\_Capab\_Value* (*Local\_Capab\_String* | ((*Local\_Capab\_Integer* |  
*Local\_Capab\_Float*) , (*Local\_Capab\_Unit* | *Local\_Capab\_Unit\_Name*)?))

**F.1.2.2.7.2.3.1.1 LOCAL CAPABILITY FIELD NAME**

The *Local Capability Field Name* [Local\_Capab\_Field\_Name] element identifies the name of a local scope elements capability field.

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**F.1.2.2.7.2.3.1.2 LOCAL CAPABILITY VALUE**

The *Local Capability Value* [Local\_Capab\_Value] element consists of child elements which provide either a STRING, INTEGER, or FLOAT value, and optionally the unit of measure for a local scope elements capability field.

**F.1.2.2.7.2.3.1.2.1 LOCAL CAPABILITY STRING**

The *Local Capability String* [Local\_Capab\_String] element contains the value of a local scope elements capability field when that field is of type STRING.

**F.1.2.2.7.2.3.1.2.2 LOCAL CAPABILITY INTEGER**

The *Local Capability Integer* [Local\_Capab\_Integer] element contains the value of a local scope elements capability field when that field is of type INTEGER.

**F.1.2.2.7.2.3.1.2.3 LOCAL CAPABILITY FLOAT**

The *Local Capability Float* [Local\_Capab\_Float] element contains the value of a local scope elements capability field when that field is of type FLOAT.

**F.1.2.2.7.2.3.1.2.4 LOCAL CAPABILITY UNIT**

The *Local Capability Unit* [Local\_Capab\_Unit] element contains the CMF pre-defined unit of measure for a local scope elements capability field.

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F.1.2.2.7.2.3.1.2.5 LOCAL CAPABILITY UNIT NAME

The *Local Capability Unit Name* [*Local\_Capab\_Unit\_Name*] element identifies the name of the unit of measure for a local scope elements capability field. This element is used when the unit of measure is not currently implemented by CMF, and is defined by the application providing the local scope non-CMF data.

F.1.2.3 CMF HEADER USAGE WITH DATA PACKAGES

The *Data Package Description Elements* portion of the *CMF Header* shall be utilized for systems exchanging CMF data across a non-CIB interface. There is a one-to-one relationship between a *CMF Header* instance and a *CMF Doc* instance. The *Security Table Index* is a mandatory field within every instance of the *CMF Header*. Due to security requirements, the header is used for all non-CIB communications between systems (Tactical Data Processors (TDPs)) over network-type connections such as LANs, and serial interfaces. The *CMF Header* is designed to be generic, so it may be useful as a header for other types of data and it is optional within the content model structure.

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## F.1.3 DATA ARCHIVING

### F.1.3.1 ARCHIVE FILE ELEMENTS

The *Archive File Elements* [Archive\_File\_Elmnts] provide elements that describe an archive file. Archive file implementation, with respect to use of the *CMF Header*, includes local logging functions but does not include externally "posted" archives such as archives posted for netcentric access. To create an archive file using the *CMF Header*, the *Archive File Elements* [Archive\_File\_Elmnts]) group is used. A single (one and only one) document using the *Archive File Elements* shall be placed at the beginning (as first record) of any archive file. After the *Archive File Elements* document, the file shall contain one or more file records using the *Archive Record Elements* [Archive\_Record\_Elmnts] document with each of these documents preceding exactly one archive data package. The data packages stored with each of the archive file records may or may not also have an associated package header preceding the data and may use one of either the existing radio headers (CTT/H-R, TIU, JTT, etc.) or the *CMF Header* (as was used for transmission of the Data Package). The data packages are normally archived exactly as they were received or transmitted. Each *Archive File Elements* shall contain at least the minimum elements required by the "Archive File Elements Package Structure" and as otherwise required by producer rules.

#### F.1.3.1.1 ARCHIVE FILE ELEMENTS PACKAGE STRUCTURE

*Archive\_File\_Elmnts* (*Hdr\_Vers\_Elmnts* , *File\_Xmit\_Rcv\_Indic* ,  
*(Mixed\_Records\_Indic* | *(Data\_Pkg\_Hdr\_Typ* , *Data\_Format\_Elmnts* ,  
*Extern\_Connect\_Desc\_Elmnts?*)) , *Time\_Of\_File\_Archive\_Start* ,  
*Time\_Of\_File\_Archive\_Stop* , *Security\_Classif\_Elmnts?*)

*Hdr\_Vers\_Elmnts* (*Major\_Parser\_API\_Version* , *Minor\_Parser\_API\_Version* ,  
*Major\_DTD\_Version* , *Minor\_DTD\_Version*)

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*Data\_Format\_Elmnts (Data\_Format , Path\_Num?)*

*Extern\_Connect\_Desc\_Elmnts (Extern\_Connect\_Lbl , Extern\_Connect\_Typ? ,  
Extern\_Connect\_Num? , Extern\_Connect\_ID?)*

*Time\_Of\_File\_Archive\_Start (Clk\_Time , Julian\_Day , Yr)*

*Time\_Of\_File\_Archive\_Stop (Clk\_Time , Julian\_Day , Yr)*

*Security\_Classif\_Elmnts (Security\_Tbl\_Idx)*

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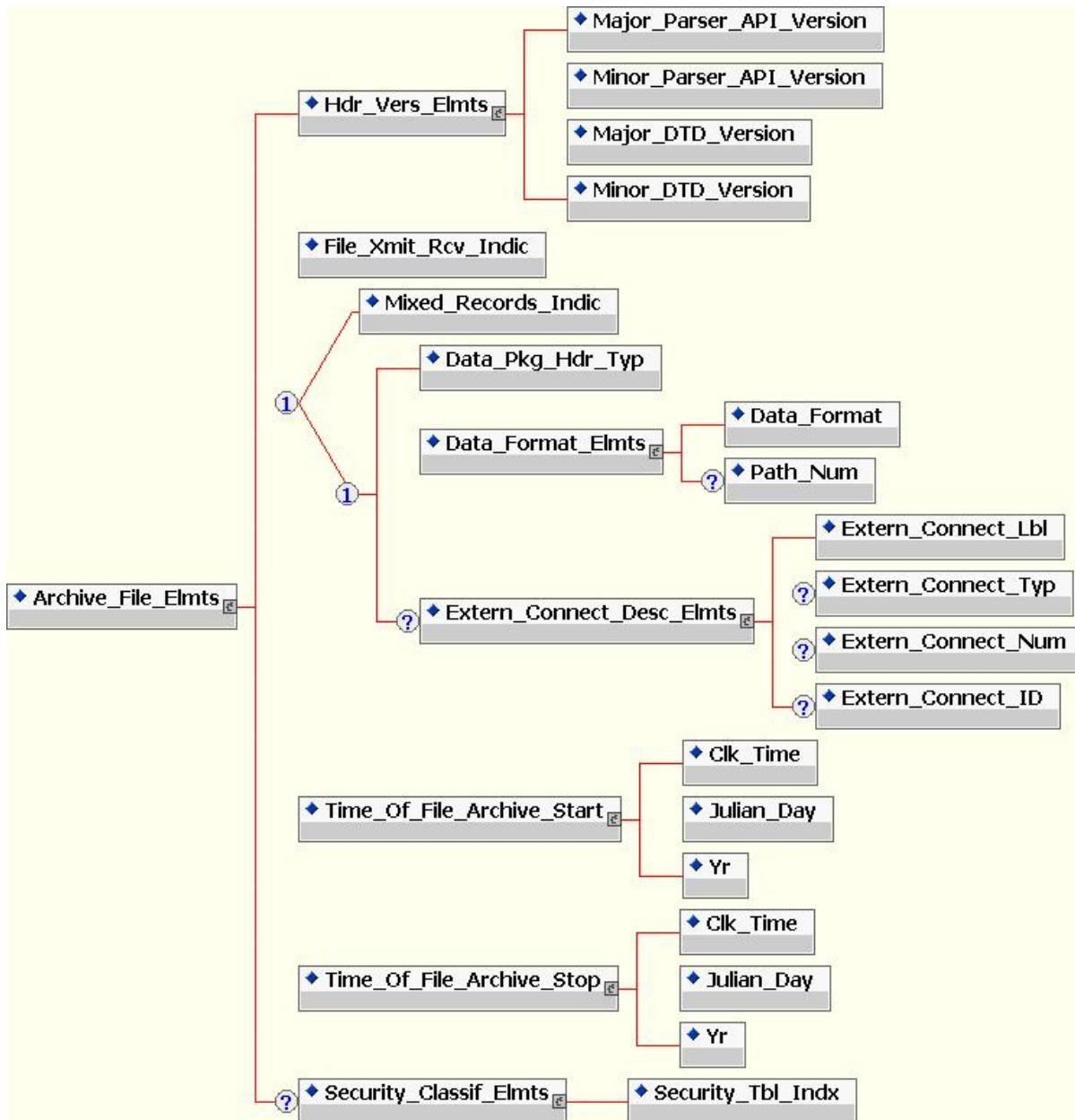


FIGURE F.1.3.1-1 Archive\_File\_Elmnts Graphical Message Map

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F.1.3.1.1.1 The following diagram illustrates the overall generic structure of an archive file:

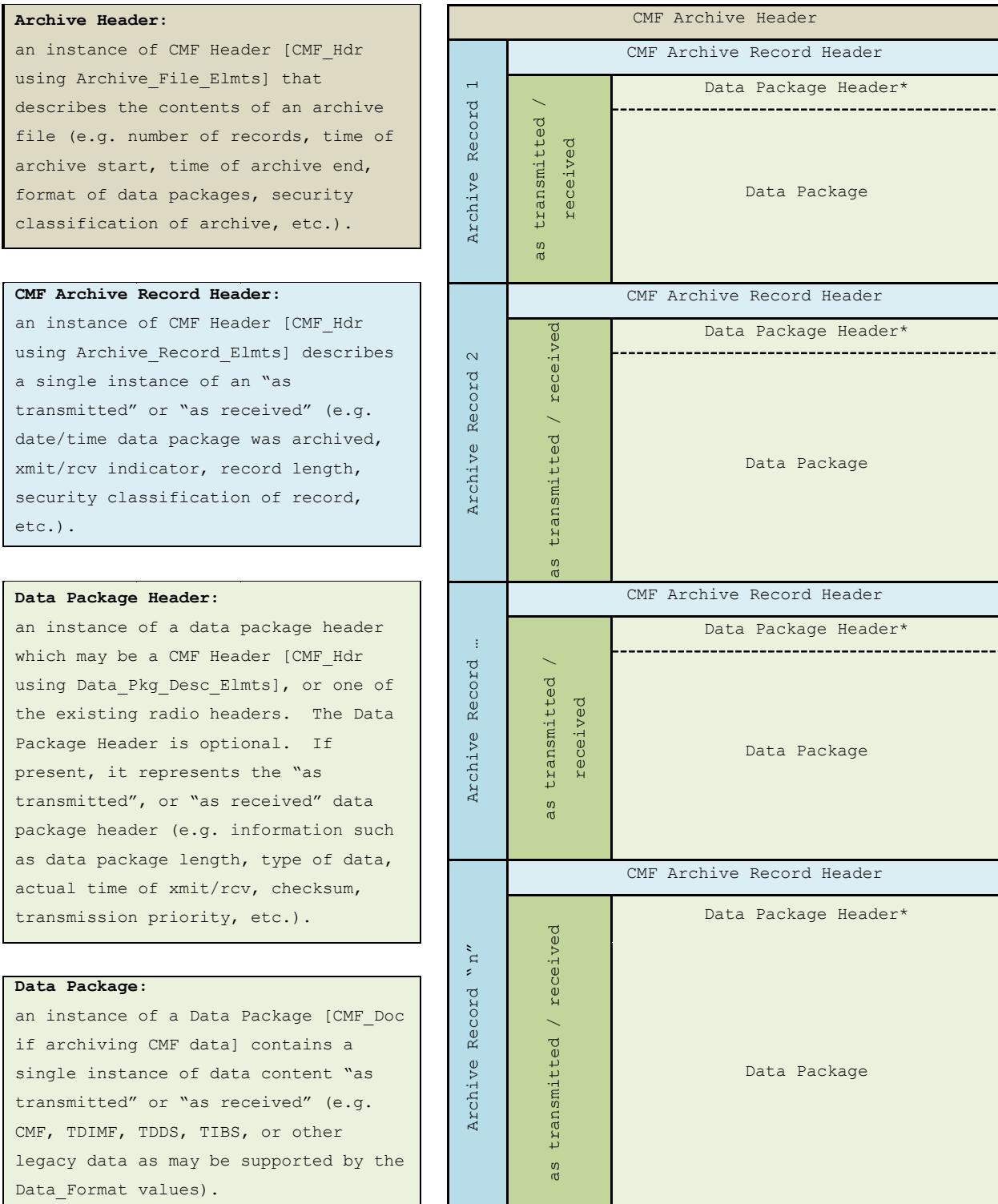


FIGURE F.1.3.1-2 Archive File Structure

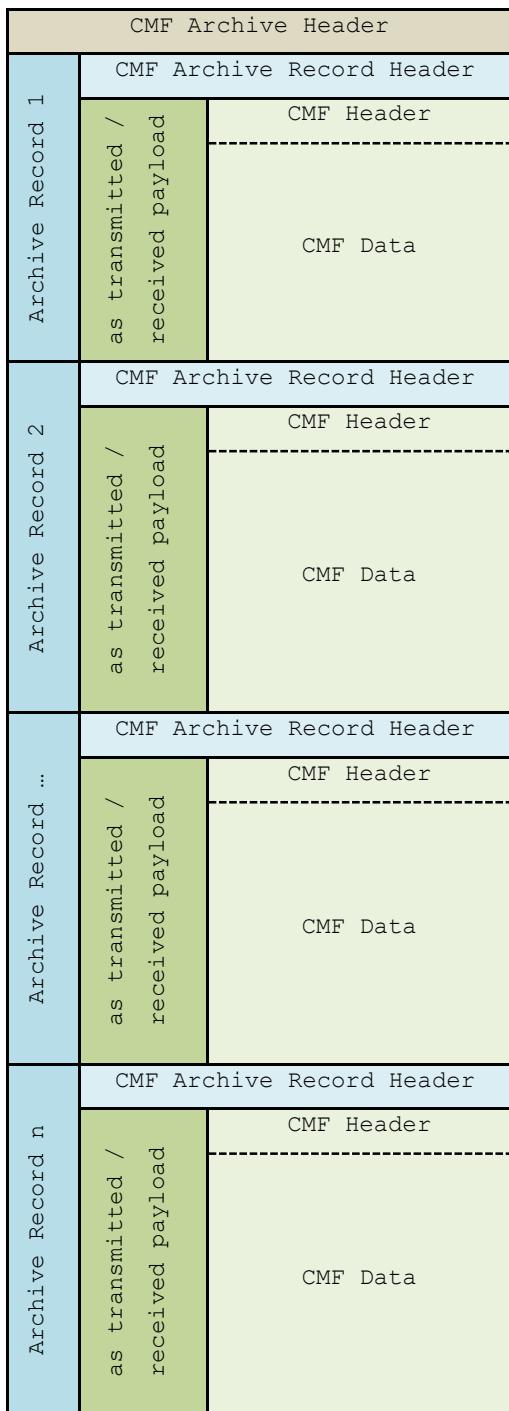
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F.1.3.1.1.2 The following diagrams illustrate an archive file containing only CMF data, and one containing mixed data format records.

Example A: CMF Records Only



Example B: Mixed Records (Hdrs/Data)

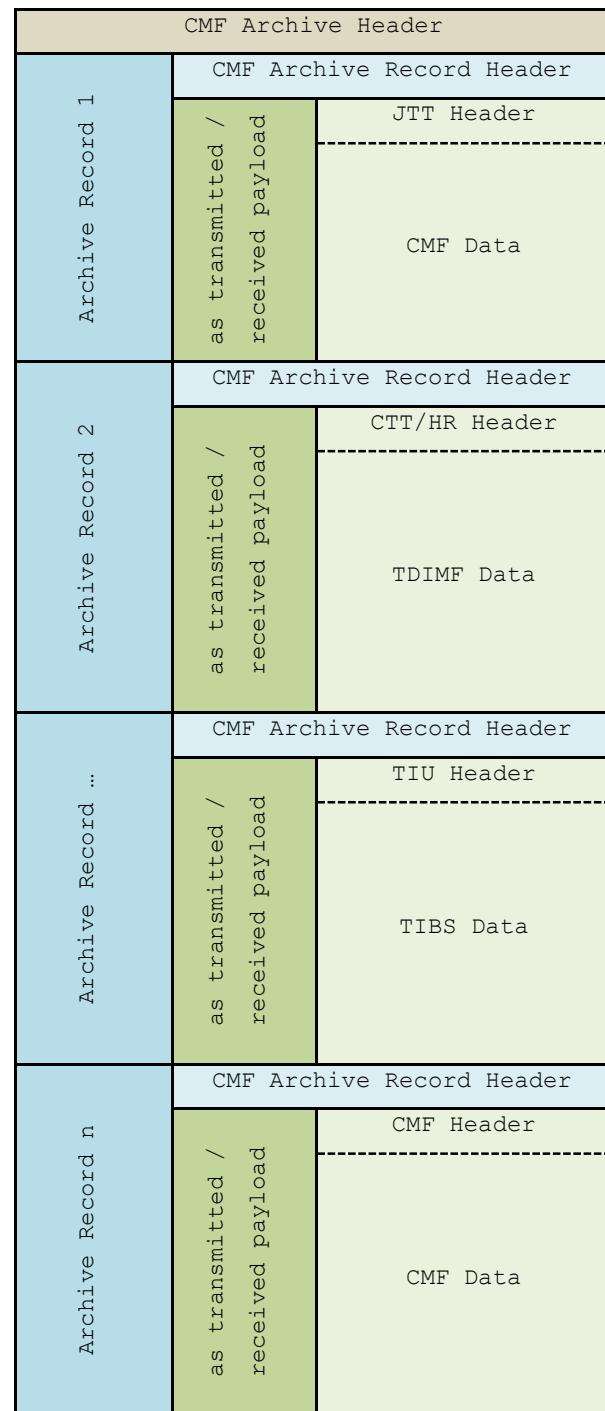


FIGURE F.1.3.1-3 Archive File Examples

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F.1.3.1.1.3 To archive any CMF data for local logging, an IBS system shall either directly create CMF Archive Files or shall provide a capability to provide a CMF Archive File by converting from their local file format. Use of a CMF Archive File using the CMF Headers is strongly recommended for all legacy IBS data. If the CMF Archive File capability is not used directly and the system supports external CMF archive file exchange, an equivalent solution shall be utilized which minimally supports all CMF Archive File capabilities, particularly in respect to the handling of the Information System Security Marking operations (see [Appendix E](#)). The consistency provided will permit archive files on one IBS system to be accessed without modification on any other IBS system. For interoperability between IBS systems and consistency in storage utilization, archive file headers and archive record headers shall be created as CMF-X if the archived data is CMF-X or is mixed format and shall be created as CMF-B if the archived data is CMF-B.

### F.1.3.1.1.4 DISUSED

### F.1.3.1.2 HEADER VERSION ELEMENTS

The *Header Version Elements* [Hdr\_Vers\_Elmnts] provides elements that indicate the versions of the DTD and Parser Library API used to create the reported header. It contains the same information and reuses the content model as described previously in the *Package Description Elements*. This information must be present in the Archive File information in order to decode/interpret the archived information correctly.

### F.1.3.1.3 FILE TRANSMIT/RECEIVE INDICATOR

F.1.3.1.3.1 The *File Transmit/Receive Indicator* [File\_Xmit\_Rcv\_Indic] identifies the direction of data as processed

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prior to inclusion into an archive file (input, output or a mix of both).

F.1.3.1.3.2 Archive files shall indicate whether they contain data which was received, transmitted, or both. This indication is provided via the *File Transmit Receive Indicator* (File\_Xmit\_Rcv\_Indic) element. [Note: Each record within an archive file also identifies whether the attached data was received or transmitted via the *Record Transmit/Receive Indicator* (Record\_Xmit\_Rcv\_Indic).]

F.1.3.1.4 MIXED RECORDS INDICATOR

The *Mixed Records Indicator* [Mixed\_Records\_Indic] identifies that the archive file contains records of more than one data format type.

F.1.3.1.5 DATA PACKAGE HEADER TYPE

The *Data Package Header Type* [Data\_Pkg\_Hdr\_Typ] element is required to indicate what type of header is on the associated data package. If the archive file is not indicated as containing mixed record types, the *Data Package Header Type* shall be present at the *Archive File Elements* level to indicate the type of header for all data packages in the file.

F.1.3.1.6 DATA FORMAT ELEMENTS

*Data Format Elements* [Data\_Format\_Elmnts] provides elements that describe a data format. If the archive file is not indicated as containing mixed record types, the *Data Format Elements* shall be present at the *Archive File Elements* level to describe the data package format for every data package in the file.

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**F.1.3.1.6.1 DATA FORMAT**

*Data Format [Data\_Format]* identifies the type of data format reported or archived.

**F.1.3.1.6.2 PATH NUMBER**

*Path Number [Path\_Num]* indicates an operationally assigned number that identifies a communication path or medium and is used by CMF for path-specific data package interpretation. The *Path Number [Path\_Num]* element shall be included in the *Data Format Elements* for all archiving of CMF-X and CMF-B data packages.

**F.1.3.1.7 EXTERNAL CONNECTION DESCRIPTION ELEMENTS**

The *External Connection Description Elements* [*Extern\_Connect\_Desc\_Elmnts*] are used to identify and describe local port or channel connections over which data was received and/or transmitted. This information is included optionally in archive files or archive records only for tracking, data analysis, or error analysis purposes.

**F.1.3.1.7.1 EXTERNAL CONNECTION LABEL**

The *External Connection Label* [*Extern\_Connect\_Label*] affords a free-text entry field allowing a human readable name, description, or other textual identifier associated with a local external connection.

**F.1.3.1.7.2 EXTERNAL CONNECTION TYPE**

*External Connection Type* [*Extern\_Connect\_Typ*] identifies the type of a local physical connection.

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**F.1.3.1.7.3 EXTERNAL CONNECTION NUMBER**

The *External Connection Number* [*Extern\_Connect\_Num*] indicates a number identifying a local physical connection such as a port, assignment, or other primary connection number.

**F.1.3.1.7.4 EXTERNAL CONNECTION IDENTIFIER**

The *External Connection Identifier* (ID) [*Extern\_Connect\_ID*] indicates a number identifying a logical connection or remote physical path over a local physical connection such as a RF channel number or web client identifier.

**F.1.3.1.8 TIME OF FILE ARCHIVE START**

The *Time Of File Archive Start* [*TimeOfFileArchiveStart*] identifies the time when an archive file was begun.

**F.1.3.1.9 TIME OF FILE ARCHIVE STOP**

The *Time Of File Archive Stop* [*TimeOfFileArchiveStop*] identifies the time when an archive file was completed. It is strongly recommended that midnight be put in as the *Time Of File Archive Stop* time when an archive record file is started. This is in case of a crash before the archive file is completed. [This also assumes any open archive file is also normally closed at midnight and a new one begun regardless of any other file closing/creation criteria.] The time associated with the *Time Of File Archive Stop* shall not be earlier than the *Time Of File Archive Start* time. All times associated with the archive file are associated with the current GMT day/date and year. If archiving is required across multiple days, the archive file shall be closed at midnight GMT and a new one created/opened.

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## F.1.3.1.10 SECURITY CLASSIFICATION ELEMENTS

The *Security Classification Elements* [Security\_Classif\_Elmnts] is a group of elements that identify the security classification information for a data package, an archive record, or an archive file. It contains the *Security Table Index* [Security\_Tbl\_Idx] field element that holds an integer value indicating the specific entry within the IBS Security Classification Table. The specific entry at that index within the table provides all the required information systems marking characteristics for an *Archive File*. Usage of the *Security Table Index* along with the associated Security Classification Table is explained in the IBS Enterprise CONOPS.

F.1.3.1.10.1 The *Security Table Index* shall always be recorded and maintained within the archive file by the CMF archiving system throughout the file's existence.

## F.1.3.2 ARCHIVE RECORD ELEMENTS

*Archive Record Elements* [Archive\_Record\_Elmnts] provides elements that describe a single record contained within an archive file. Each *Archive Record Elements* shall contain at least the minimum elements required by the "Archive Record Elements Package Structure" and as otherwise required by producer rules.

### F.1.3.2.1 ARCHIVE RECORD ELEMENTS PACKAGE STRUCTURE

*Archive\_Record\_Elmnts* (*Record\_Xmit\_Rcv\_Indic* , *Time\_Of\_Record\_Archive* ,  
*Data\_Pkg\_Hdr\_Typ?* , *Data\_Format\_Elmnts?* , *Extern\_Connect\_Desc\_Elmnts?* ,  
*Archive\_Record\_Len* , *Security\_Classif\_Elmnts?*)

*Time\_Of\_Record\_Archive* (*Clk\_Time*)

*Data\_Format\_Elmnts* (*Data\_Format* , *Path\_Num?*)

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*Extern\_Connect\_Desc\_Elmnts (Extern\_Connect\_Lbl , Extern\_Connect\_Typ? , Extern\_Connect\_Num? , Extern\_Connect\_ID?)*

*Security\_Classif\_Elmnts (Security\_Tbl\_Idx)*

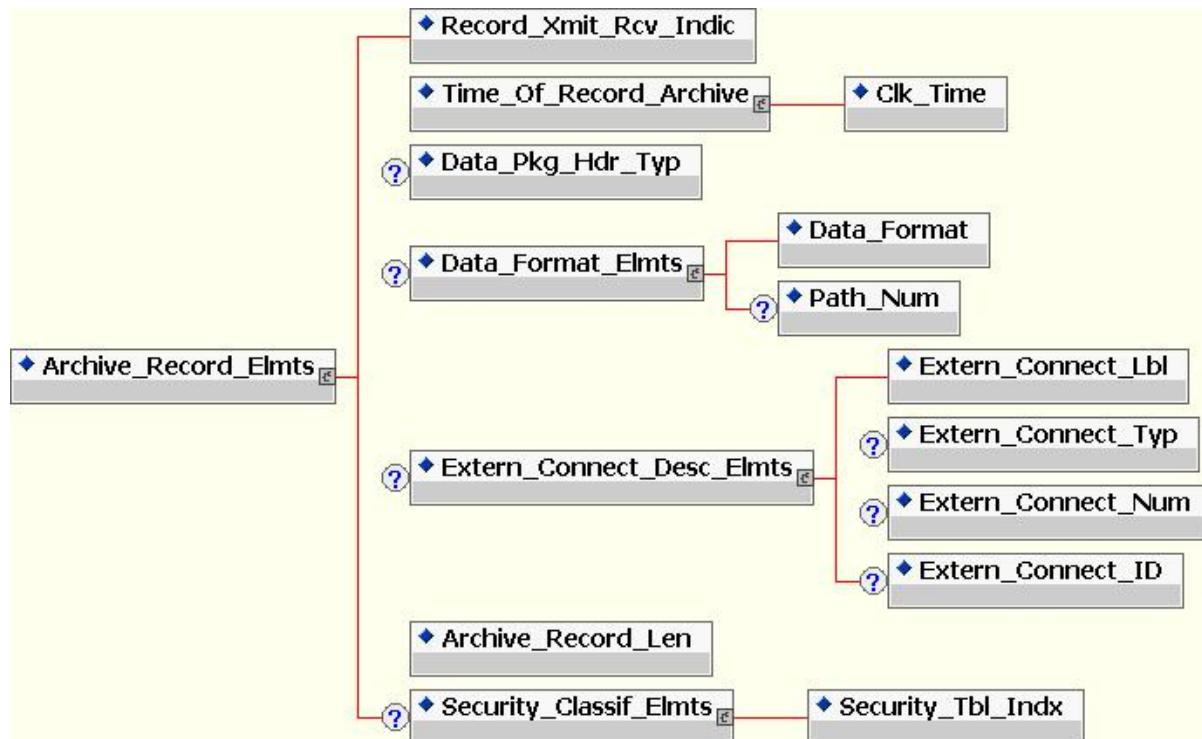


FIGURE F.1.3.2-1 Archive\_Record\_Elmnts Graphical Message Map

## F.1.3.2.2 RECORD TRANSMIT/RECEIVE INDICATOR

### F.1.3.2.2.1 The Record Transmit/Receive Indicator

[Record\_Xmit\_Rcv\_Indic] identifies the direction of data as processed prior to inclusion into an archive record—input or output.

F.1.3.2.2.2 Each record within an archive file identifies whether the attached data was received or transmitted via the Record Transmit/Receive Indicator [Record\_Xmit\_Rcv\_Indic].

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**F.1.3.2.3 TIME OF RECORD ARCHIVE**

The *Time Of Record Archive* [*Time\_Of\_Record\_Archive*] identifies the time (in seconds from the beginning of the current day) when a record of an archive file was stored.

**F.1.3.2.3.1 DATA PACKAGE HEADER TYPE**

The *Data Package Header Type* [*Data\_Pkg\_Hdr\_Typ*] identifies the form of header received with a data package. If the archive file is indicated as containing mixed records, the *Data Package Header Type* shall be included in each *Archive Record Elements* structure to indicate the header type for each of those records which are being archived with any type of data transmission header.

**F.1.3.2.4 DATA FORMAT ELEMENTS**

The *Data Format Elements* [*Data\_Format\_Elmnts*] provides elements that describe a data format. If the archive file is indicated as containing mixed records, the *Data Format Elements* shall be included in each *Archive Record Elements* structure to describe the data package format for each of the data package records which are being archived.

**F.1.3.2.5 EXTERNAL CONNECTION DESCRIPTION ELEMENTS**

The *External Connection Description Elements* [*Extern\_Connect\_Desc\_Elmnts*] are used to identify and describe local port or channel connections over which data was received and/or transmitted. This information is optionally included in archive files or archive records only for tracking, data analysis, or error analysis purposes.

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**F.1.3.2.5.1 EXTERNAL CONNECTION LABEL**

The *External Connection Label* [Extern\_Connect\_Label] affords a free-text entry field allowing a human readable name, description, or other textual identifier associated with a local external connection.

**F.1.3.2.5.2 EXTERNAL CONNECTION TYPE**

*External Connection Type* [Extern\_Connect\_Typ] identifies the type of a local physical connection.

**F.1.3.2.5.3 EXTERNAL CONNECTION NUMBER**

*External Connection Number* [Extern\_Connect\_Num] indicates a number identifying a local physical connection such as a port, assignment, or other primary connection number.

**F.1.3.2.5.4 EXTERNAL CONNECTION IDENTIFIER**

*External Connection Identifier* (ID) [Extern\_Connect\_ID] indicates a number identifying a logical connection or remote physical path over a local physical connection such as an RF channel number or web client identifier.

**F.1.3.2.6 ARCHIVE RECORD LENGTH**

The *Archive Record Length* [Archive\_Record\_Len] shall indicate the number of bytes within the data package portion of an archive record including any data header, but not including the archive record header.

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**F.1.3.2.7 SECURITY CLASSIFICATION ELEMENTS**

The *Security Classification Elements* [Security\_Classif\_Elmnts] is a group of elements that identify the security classification information for a data package, an archive record, or an archive file. It contains the *Security Table Index* [Security\_Tbl\_Idx] field element that holds an integer value indicating the specific entry within the IBS Security Classification Table. The specific entry at that index within the table provides all the required information systems marking characteristics including the security classification information, for an Archive Record. Usage of the *Security Table Index* along with the associated Security Classification Table is explained in the IBS Enterprise CONOPS.

F.1.3.2.7.1 The *Security Table Index* shall always be recorded and maintained within the archive record by the CMF archiving system throughout the record's existence within an archive file.

**F.1.3.3 URGENT INTERIM CAPABILITY (UIC) ELEMENTS**

*Urgent Interim Capability (UIC) Elements* [UIC\_Elmnts] {already defined in [Section 5.6.1.38](#)}

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F.2 CIB METADATA PREAMBLE (CMF HEADER SURROGATE)

F.2.1 The Metadata Preamble is the CIB over-the-air (OTA) analogue or counterpart purpose of the *CMF Header* which is used for non-CIB dissemination of IBS data. The preamble provides information about the IBS data in the CIB payload area separate from, and without the decoding or parsing of, the document itself. The Metadata Preamble is transmitted for all CIB transmissions of CMF data (see the CIB IOS document description of the Terminal-TDP Inband Message Structures for identification of the transmission ordering). The *CMF Header* is not used on the CIB OTA broadcast. Currently the preamble contains security information describing the associated IBS data.

F.2.2 The structure of the Metadata Preamble is as shown:

Table F.2.1-1 CIB Metadata Preamble

WORD 1															
BYTE 1								BYTE 2							
8	7	6	5	4	3	2	1	8	7	6	5	4	3	2	1
X	R	R	R	S	S	S	S	S	S	S	S	S	S	S	S

where the bits are defined as:

X = Metadata Preamble eXtension Indicator	Identifies presence of each 2-byte Metadata Preamble word
0 = Preamble continues into another word (2 more bytes)	
1 = Preamble terminates on current 2 byte word (Note: for extensibility purposes continue reading preamble words until X=1)	
R = RESERVED	Reserved for future use All R bits = Undefined (producers shall set all R bits to 0)
S = Security Table Index	Index to an entry in the IBS Security Classification Table 0 = Undefined 1-4095 = Index value (12 bits where bits 1-4 of Byte 1 = MSBs, and bits 1-8 of Byte 2 = LSBs)

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F.2.3 The Metadata Preamble values are set from corresponding information which may be present in a sourced *CMF Header* or vice-versa for translation to a *CMF Header*. If the producer reports directly over-the-air without a received *CMF Header*, the settings of the Metadata Preamble fields shall still follow the rules for the below-described corresponding *CMF Header* element(s).

F.2.3.1 The value for the S bits (i.e., *Security Table Index*) in the Metadata Preamble shall map directly to and from the value of the *CMF Header Security Table Index* element. Note that this information is mandatory and shall always be present in the Metadata Preamble.

F.2.3.2 To support extensibility and forward compatibility of the Message Preamble, producers shall currently set the X bit in Word 1 to "1" (i.e., identifying the final word to be sent) indicating no more bytes, but receivers shall always continue reading bytes (two at a time) until the last X bit is set to "1". Additional bytes/words may be added to the Metadata Preamble in the future. Consumers shall ignore bytes read which they do not yet support.

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# **DEPARTMENT OF DEFENSE INTERFACE STANDARD**

## **INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) STANDARD**

### **APPENDIX G – CMF INFORMATION SYSTEM MARKING RESERVED FOR FUTURE DEVELOPMENT**



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# **DEPARTMENT OF DEFENSE INTERFACE STANDARD**

## **INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) STANDARD**

### **APPENDIX H – CMF PARSER API SPECIFICATION**



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## H.1 CMF PARSER API SPECIFICATION

### H.1.1 CMF PARSER API CERTIFICATION - The CMF Application

Programming Interface (API) Specification defines both the API and behavioral requirements for the IBS implementation of CMF parsing, encoding, and decoding solutions.

H.1.1.1 In order for a CMF-B parser component to be certified, it shall fully comply with this specification including the following:

- a. Shall be implemented as a linkable software library component.
- b. Shall implement the public API as defined by the CMF Parser Library Developer's Guide (PLDG).
- c. Shall fully comply with all rules and constraints defined in [Appendix D](#), Data Specification.

H.1.1.2 In order for a CMF-X parser component to be certified, it shall fully comply with this specification including the following:

- a. Shall utilize a validating parser that conforms to the W3C XML Specification, version 1.0.
- b. Shall implement with equivalent behavior, those portions of the API as defined by the CMF Parser Library Developer's Guide (PLDG) which are not otherwise available via a validating parser that conforms to the W3C XML Specification, version 1.0. (Note that some elements of the CMF design have been developed in XML to facilitate this requirement such as the XML-based Mnemonics Definition File and the Security Classification Table.)

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c. Shall fully comply with all rules and constraints defined in [Appendix D](#), Data Specification with particular attention to the Special CMF Production Rules in [section 5](#).

d. Shall report, in all instances of created CMF-X data, the API major and minor version numbers from the labeled column in the Revision History of the CMF PLDG. The versions to be utilized are those which correspond to the PLDG version applicable to the component under certification.

H.1.2 [CMF PARSER API CAPABILITIES](#) - All CMF data injected into or received from the IBS enterprise, shall be encoded or decoded by a CMF processor that implements a fully compliant CMF parser component.

H.1.2.1 The XML standard defines extensive data constructs. Many of these constructs extend above and beyond the constructs defined by the CMF vocabulary. Similarly, processing of such constructs extends above and beyond the specific capabilities provided by the CMF Application Programming Interface (CAPI). The CAPI, as described by the CMF PLDG, defines all of the features necessary to parse, decode, and encode CMF data, but it guarantees no specific handling of unsupported XML constructs (i.e. embedded DTD declarations, comments, namespaces, etc.). The CMF Parser Library (CMFPL), made available to all IBS developers, implements a fully certified CAPI software component.

H.1.2.2 The CMF Parser API Specification also includes the capability to process XML constructs that extend above and beyond the CAPI by providing an XML Application Programming Interface (XAPI). An example of a compliant XAPI interface is the Xerces-C++ parser. Xerces-C++ is a validating XML parser written in C++. The XAPI provides the ability to process XML documents that are XML conformant but may contain XML constructs that are beyond the restrictions provided by the CMF vocabulary. The CMF Parser Library (CMFPL), made

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available to all IBS developers, also provides a full XAPI component implementation (i.e. Xerces-C++ to complement the CAPI capabilities).

H.1.2.3 XAPI and CAPI can be used in concert or separately. The XML data produced via either interface is compliant with the XML specification. CAPI supports a subset of the XML constructs supported by XAPI; thus, all XML data produced via CAPI can be parsed via XAPI. XML data created through prudent use of XAPI can, in turn, be parsed via CAPI.

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**MIL-STD-6018C  
29 January 2021  
Superseding  
MIL-STD-6018B  
15 December 2017**

# **DEPARTMENT OF DEFENSE INTERFACE STANDARD**

## **INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) STANDARD**

### **APPENDIX I – FUNCTIONAL IMPLEMENTATIONS**



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## I.1 SCOPE

I.1.1 The purpose of this appendix is to establish implementation guidelines and rules for functional uses of the CMF messages and data to support operationally-specific requirements.

I.1.2 The basic CMF structure is intended to be generic and flexible and associates data elements in a physics-based manner where possible (e.g. various frequency fields in a single group). Therefore they can be utilized by multiple and varied functional scenarios.

I.1.3 This appendix describes those functions that utilize the more generic structures into a larger and/or more complex scenario. For example, the conveyance of a ballistic missile utilizes multiple *Entity Messages* along with use of the *Data Management Message* and requires specific settings for various data elements in order for the ballistic missile to be effectively communicated.

I.1.4 Further, this appendix provides guidance on some of the more unique and intricate capabilities provided by CMF (e.g. encoding, decoding, algorithmic manipulation, etc. for a Cartesian Covariance Matrix).

## I.2 MISSILE AND SPACE TRACK REPORTING

IBS provides numerous capabilities for reporting of missile and space track entities. Missiles and space tracks are normally a high priority threat on IBS and, due to their flight characteristics, normally require expedited handling and additional positional information. For example, in addition to the required CMF polar coordinates, missile and space entities are often reported with rectangular spacial coordinates to provide increased accuracy on their 3-dimensional position and movement. The following sections detail

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the applicable CMF capabilities and provide the guidelines for reporting of missile and space entities on IBS.

### I.2.1 MISSILE REPORTING

Powered munitions operating within the earth's atmosphere, or possibly to the edge of the space domain, are reported on IBS as missiles. Missiles may be reported on IBS as surface-to-surface or air-to-surface ballistic missiles, or may be reported as surface-to-air, surface-to-surface, or air-to-surface non-ballistic missiles. Missiles may transition between ballistic and non-ballistic flight. Reporting of transitioned missiles shall follow the applicable category in which it is operating.

#### I.2.1.1 BALLISTIC MISSILE REPORTING

The purpose of the ballistic missile-specific element representation in CMF is to provide a means of relaying tracking data across the network that is directly related to ballistic missile flight. The *Extrapolation Indicator* element is available to identify that the data being provided (position, altitude, etc.) is extrapolated and not the result of direct observation. Earth-Centered Fixed (ECF) coordinates and a covariant position-velocity matrix supply the prediction information.

##### I.2.1.1.1 BALLISTIC MISSILE LAUNCH CONVENTIONS

I.2.1.1.1.1 As data is available, the launch point, missile, and impact point shall be reported as separate entities of a single ballistic missile event. The Ballistic Missile Event Sequencing Table ([Table I.2-1](#)) provides a summary of the typical ballistic missile message reporting sequence. Ballistic missile producers shall comply with the "DATA MANAGEMENT MSG" specific guidance contained in the table. (Note: IBS producers will not always be able to report all the

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listed entities within each of the respective phases of a missile event.)

I.2.1.1.1.2 The launch point shall be represented as a Surface, Land, or General Reference entity (SR<sub>x</sub>, LN<sub>x</sub>, or GR<sub>x</sub>, where x is Friend, Hostile, Unknown, Suspect, Assumed Friend, Neutral, or Pending) and shall be amplified with the LNCH mnemonic in the *Entity Activity* field to indicate Launch (Weapons Release) Activity.

I.2.1.1.1.2.1 If the entity has been reported using the *Maneuvering Indicator*, IBS, the associated launch point will not be changed in position, altitude, or area of uncertainty until the point is dropped. Once the entity is reported as maneuvering, the launch data shall never change.

I.2.1.1.1.3 Ballistic missiles shall be identified with an *Environment ID* set to Surface-to-Surface Missile, Air-to-Surface Missile, Air, or General Reference entity (SS<sub>x</sub>, AS<sub>x</sub>, AR<sub>x</sub>, or GR<sub>x</sub>) and shall be amplified with the BURN (during boost phase) mnemonic, BNOUT (booster burnout) mnemonic, or SPC (post boost) mnemonic in the *Entity Activity* field to indicate a missile entity. Additionally, if a missile is no longer being observed (burned out, but without the accompanying impact point), and thus will no longer be reported on by the producer, the ENDOBS mnemonic in the *Entity Status* field shall be populated in the final missile entity report.

I.2.1.1.1.3.1 A ballistic missile shall be reported with an *Entity Type*, IBS value which represents the actual type of missile that was launched, based upon sensor inputs.

I.2.1.1.1.4 All ballistic missile events shall include an impact point, an azimuth corridor, or both. An impact point shall be identified with an *Environment ID* set to General Reference Unknown (GRU) and shall be amplified with the IMPCT mnemonic in the *Entity*

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Activity field. The azimuth corridor is reported as a part of the missile report.

I.2.1.1.1.5 Entities shall be paired using the "MSL" setting for *Pair Logic* (in a *Data Management Message*) throughout the ballistic missile event (as the entities become reportable). The launch point (subject) shall be paired to the missile (object). The missile (subject) shall be paired to the impact point (object). *Data Management Message* pairings remain in effect during subsequent launch point update, missile update, and impact point update reports during the ballistic missile event. Other than stale updates, producers do not need to generate additional *Data Management Messages* if the same entity numbers are used throughout the ballistic missile event. If there is a change in entity GTN assignment, for example due to a radar dropped track or reporting responsibility (R2) shift, new *Data Management Messages* will be generated with new pairing information, as applicable.

I.2.1.1.1.5.1 At the end of the event, if any missile event entity is dropped, an *Unpair Logic* shall first be transmitted with the value set to "POF" (Pair Off) for each respective pairing that was established with the missile during the event. The *Unpair Logic* shall also be reported prior to any missile event entity drop or cancel which occurs before the end of the event, such as when the producer has lost tracking on the missile (DROP) or has determined that invalid information was previously generated (CANCEL). Note that the launch point and impact point entities are generally, but not always, dropped when the missile entity is dropped.

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I.2.1.1.1.6 In addition to reporting the launch and impact points for the missile; it is also possible for the producer to report an unbounded or a bounded *Azimuth Corridor* which defines the flight path/intended impact area of the missile. The *Azimuth Corridor* is reported as a part of the missile report and does not require a separate report or a pairing to associate it with the missile. Receiving systems which display azimuth corridors should remove them from system displays at the same time the missile track is removed from the display. Note that a paired impact point may or may not necessarily be within the boundaries of a reported *Azimuth Corridor*.

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TABLE I.2-1 Ballistic Missile Event Sequencing Table

ENTITY MSG				DATA MANAGEMENT MSG	
ENTITY	ENVIRONMENT ID	ENTITY ACTIVITY	ENTITY STATUS	RELATIONSHIP INDICATOR	PAIR/UNPAIR LOGIC
<b><u>Initial Report</u></b>					
*Launch Point	SRx, LNx, or GRx	LNCH	***	Subject	MSL
Missile	SSx, ASx, ARx, or GRx	BURN	***	Object	
<b><u>Burn Phase Update Reports</u></b>					
Launch Point	SRx, LNx, or GRx	LNCH	***	Subject	MSL
Missile	SSx, ASx, ARx, or GRx	BURN	***	Object Subject	
**Impact Point	GRU	IMPCT	***	Object	MSL
<b><u>Burnout Phase Reports</u></b>					
Launch Point	SRx, LNx, or GRx	LNCH	***	Subject	MSL
Missile	SSx, ASx, ARx, or GRx	BNOUT	***	Object Subject	
**Impact Point	GRU	IMPCT	***	Object	MSL
<b><u>Post Boost Phase Reports</u></b>					
Launch Point	SRx, LNx, or GRx	LNCH	***	Subject	MSL
Missile	SSx, ASx, ARx, or GRx	SPC	***	Object Subject	
**Impact Point	GRU	IMPCT	***	Object	MSL
<b><u>Burnout Phase/End of Observation Phase Reports</u></b>					
Launch Point	SRx, LNx, or GRx	LNCH	***	Subject	MSL
Missile	SSx, ASx, ARx, or GRx	BNOUT	ENDOBS	Object Subject	
**Impact Point	GRU	IMPCT	***	Object	MSL
<b><u>Missile Drop Report****</u></b>					
Launch Point (may update/drop)	SRx, LNx or GRx	LNCH	***	Subject	POF
Missile (Dropping)	N/A	N/A	N/A	Object Subject	
Impact Point (may update/drop)	GRU	IMPCT	***	Object	POF
* Launch Point may or may not be reported on first report of missile detection.					
** Impact Point may or may not be reported during burn phase.					
*** Various Entity Status values may be inserted by producer as appropriate.					
**** TES producers do not generally transmit a missile drop message at the end of a missile event sequence, but if a drop message is issued, an unpair message shall be transmitted first.					

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I.2.1.1.1.7 If a producer sends 3-dimensional error information in any ballistic missile observation reports, the producer shall send either the *Full Covariance Matrix* of the *Entity Rectangular Accuracy Elements*, which composites *Sigma X Y Z Position*, *Sigma X Y Z Velocity*, *Full Matrix Elements*, and *Signs Of Full Matrix Elements*; OR the *Partial Covariance Matrix* of the *Entity Rectangular Accuracy Elements*, which composites the *Position Submatrix* and the *Velocity Submatrix*.

I.2.1.1.1.7.1 The *Error Sum 3D* [Err\_Sum\_3D] element is optional for use with either instance above.

**I.2.1.1.2 CMF ELEMENT USAGE FOR BALLISTIC MISSILE REPORTING**

I.2.1.1.2.1 The following is a description of the use of CMF Elements in the performance of a ballistic missile reporting mission.

I.2.1.1.2.2 The *Climb Rate* data field is used to express the rate of climb (positive or negative) for the entity.

I.2.1.1.2.3 CMF uses *Entity Polar Location Elements* to contain various 2-dimensional and 3-dimensional representations of location uncertainty. Uncertainty in two dimensions may be represented by available elements for circular, rectangular, and elliptical error using *Error Circle 2D*, *Error Rectangle 2D*, and *Error Ellipse 2D*, respectively. Three-dimension uncertainty is represented by the *Error 3D* [Err\_3D] using one of the 2-dimensional representations in composite with *Area Semi-Intermediate Axis*, *Area Orientation*, *Semi-Major Elevation*, and *Geometric Area Switch* to describe a cube, a three dimensional rectangle, a cylinder, a sphere, or an ellipsoid.

I.2.1.1.2.4 The *Error 3D* [Err\_3D] contains the data elements required to describe a 3-dimensional error volume. The *Area Semi-Intermediate Axis* [Semi\_Intermed] is used in conjunction with area semi-major axis, and area semi-minor axis to describe a cube, a three-

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dimensional rectangle, a cylinder or spheroid. For these shapes, the volume is defined as having a 50% probability of containing the true location of the referenced entity. The *Area Orientation* [Area\_Orient] is the angle or roll in degrees, between the area semi-minor axis and the plane defined by the local vertical and area semi-major axis.

I.2.1.1.2.5 The *Semi-Major Elevation* [Semi\_Maj\_Elev] element is the elevation of the ellipsoid semi-major axis, in degrees, measured from local horizontal.

I.2.1.1.2.6 The *Geometric Area Switch* [Geom\_Area\_Swch] identifies the three dimensional shape of the error volume by providing the two dimensional shape for the 3D plane. The 3D plane is the plane orthogonal to the area semi-major axis and area semi-minor axis. Depending upon whether the 2D plane is reported as an error ellipse 2D or as an error rectangle 2D, this switch reports a complete error volume which is cubical, 3D rectangular, cylindrical, 3D ellipsoidal, or spherical. If error rectangle 2D is reported, this switch indicates a cube/3D rectangle. If error ellipse 2D is reported, this switch indicates a sphere/3D ellipsoid.

### I.2.1.1.2.7 DISUSED

I.2.1.1.2.8 CMF uses the *Azimuth Corridor* [Azimuth\_Corridor] to report an unbounded or bounded area that represents the likely impact area of the missile. The unbounded corridor is delineated via the use of a *Corridor Center Line, IBS* [Corridor\_Center\_Line] measured from true north and which originates from a reference point that is reported in the *Polar Single Location* [Polar\_Single\_Loc] field. The width of the corridor is specified in the *Corridor Arc Width, IBS* [Corridor\_Arc\_Width] reported in degrees of an angle, which is centered on the *Corridor Center Line, IBS*. The *Corridor Arc Minimum Range* and *Corridor Arc Maximum Range* elements, when reported, define an azimuth corridor bounded wedge. Refer to the explanation for the

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*Azimuth Corridor* group of elements under the *Reference Polar Platform Elements* description in Section 5.

I.2.1.1.2.9 When the *Azimuth Corridor* report does not include the range data elements, receiving systems must have access to the operational database of minimum and maximum missile trajectory information (managed by USSTRATCOM/Missile Warning Functional Managers Office) to determine the range of the missile. For systems that have access to the range information, it is possible to combine the *Azimuth Corridor* with the range data to establish a bounded area for the predicted impact (see the element explanation for *Azimuth Corridor* under the *Reference Polar Platform Elements* section).

I.2.1.1.3 TES SPECIFIC BALLISTIC MISSILE REPORTING REQUIREMENTS

I.2.1.1.3.1 The *TES Event Identifier* data field is used to identify the TES event with which the entity is associated. The producer shall assign the same *TES Event Identifier* value to each entity (launch point, missile, and impact point) involved in a missile event. Each TES producer is assigned a specific block of *TES Event Identifier* values to use.

I.2.1.1.3.2 The *Producer Message Sequence Number* data field is used by a producer to sequentially number each CMF message generated. It is used by TES analysts to determine if all message(s) within a sequence of messages from a specific producer were received. Each TES producer shall include the *Producer Message Sequence Number* data element in every CMF message.

I.2.1.1.3.3 TES producers shall report the *Entity Update Number* to identify sequential reports of an entity (i.e., each specific contact).

## I.2.1.1.3.4 DISUSED

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I.2.1.1.3.5 TES producers shall not generate reports containing the partial covariance matrix (i.e., will only report full covariance).

I.2.1.1.3.6 TES producers shall report metric units where available in CMF.

I.2.1.1.3.7 The *Provider Community* [Provider\_Community] and *Provider Data Category* [Provider\_Data\_Categ] elements in the *Message Filter Elements* [Msg\_Filter\_Elmnts] group are used to identify whether a TES IR producer or TES Radar producer has made the data available for dissemination via IBS. For each *Entity Message* generated, TES IR producers shall set *Provider Community* equal to "TES" and *Provider Data Category* equal to "IR"; and TES Radar producers shall set *Provider Community* equal to "TES" and *Provider Data Category* equal to "RDR".

I.2.1.1.3.8 IMPORTANT: The *Message Filter Elements* group and its elements are being transitioned into use to replace the *Provider Type* element. During the transition period, all TES producers shall also report a *Provider Type* value of "IRBSA". Following full consumer implementation of *Message Filter Elements*, the *Provider Type* element will be removed or disused.

I.2.1.1.3.9 TES producers shall report the *Cooperative Location Indicator* set to "COOPERATIVE" for entity locations that were derived using reported locations from sensors on more than one platform.

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I.2.1.2 NON-BALLISTIC MISSILE REPORTING

The purpose of the non-ballistic missile-specific element representation in CMF is to provide a means of relaying tracking data across the network that is directly related to non-ballistic missile flight. The *Extrapolation Indicator* element is available to identify that the data being provided (position, altitude, etc.) is extrapolated and not the result of direct observation. Earth-Centered Fixed (ECF) coordinates and a covariant position-velocity matrix supply the prediction information.

I.2.1.2.1 NON-BALLISTIC MISSILE LAUNCH CONVENTIONS

I.2.1.2.1.1 As data is available, the launch point, missile, and impact point shall be reported as separate entities of a single non-ballistic missile event. The Non-Ballistic Missile Event Sequencing Table ([Table I.2-2](#)) provides a summary of the typical non-ballistic missile message reporting sequence. Non-ballistic missile producers shall comply with the "DATA MANAGEMENT MSG" specific guidance contained in the table. (Note: IBS producers will not always be able to report all the listed entities within each of the respective phases of a missile event.)

I.2.1.2.1.2 The launch point shall be represented as a Surface, Land, or General Reference entity (SR<sub>x</sub>, LN<sub>x</sub>, or GR<sub>x</sub>, where x is Friend, Hostile, Unknown, Suspect, Assumed Friend, Neutral, or Pending) and shall be amplified with the LNCH mnemonic in the *Entity Activity* field to indicate Launch (Weapons Release) Activity.

I.2.1.2.1.2.1 If the entity has been reported using the *Maneuvering Indicator*, IBS, the associated launch point will not be changed in position, altitude, or area of uncertainty until the point is dropped. Once the entity is reported as maneuvering, the launch data shall never change.

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I.2.1.2.1.3 Non-ballistic missiles shall be identified with an *Environment ID* set to Surface-to-Surface Missile, Surface-to-Air Missile, Air-to-Surface Missile, or General Reference entity (SSx, SAX, ASx, or GRx) and shall be amplified with the BURN (during boost phase) mnemonic, BNOUT (booster burnout) mnemonic, or SPC (post boost) mnemonic in the *Entity Activity* field to indicate a missile entity. Additionally, if a missile is no longer being observed (burned out, but without the accompanying impact point), and thus will no longer be reported on by the producer, the ENDOBS mnemonic in the *Entity Status* field shall be populated in the final missile entity report.

I.2.1.2.1.3.1 A non-ballistic missile shall be reported with an *Entity Type*, IBS value which represents the actual type of missile that was launched, based upon sensor inputs.

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TABLE I.2-2 Non-Ballistic Missile Event Sequencing Table

ENTITY MSG				DATA MANAGEMENT MSG	
ENTITY	ENVIRONMENT ID	ENTITY ACTIVITY	ENTITY STATUS	RELATIONSHIP INDICATOR	PAIR/UNPAIR LOGIC
<b><u>Initial Report</u></b>					
*Launch Point	SRx, LNx, or GRx	LNCH	***	Subject	MSL
Missile	SSx, ASx, SAX, or GRx	BURN	***	Object	
<b><u>Burn Phase Update Reports</u></b>					
Launch Point	SRx, LNx, or GRx	LNCH	***	Subject	MSL
Missile	SSx, ASx, SAX, or GRx	BURN	***	Object	
**Impact Point	GRU	IMPCT	***	Subject	MSL
<b><u>Burnout Phase Reports</u></b>					
Launch Point	SRx, LNx, or GRx	LNCH	***	Subject	MSL
Missile	SSx, ASx, SAX, or GRx	BNOUT	***	Object	
**Impact Point	GRU	IMPCT	***	Subject	MSL
<b><u>Post Boost Phase Reports</u></b>					
Launch Point	SRx, LNx, or GRx	LNCH	***	Subject	MSL
Missile	SSx, ASx, SAX, or GRx	SPC	***	Object	
**Impact Point	GRU	IMPCT	***	Subject	MSL
<b><u>Burnout Phase/End of Observation Phase Reports</u></b>					
Launch Point	SRx, LNx, or GRx	LNCH	***	Subject	MSL
Missile	SSx, ASx, SAX, or GRx	BNOUT	ENDOBS	Object	
**Impact Point	GRU	IMPCT	***	Subject	MSL
<b><u>Missile Drop Report****</u></b>					
Launch Point (may update/drop)	SRx, LNx or GRx	LNCH	***	Subject	POF
Missile (Dropping)	N/A	N/A	N/A	Object	
Impact Point (may update/drop)	GRU	IMPCT	***	Subject	POF
				Object	

\* Launch Point may or may not be reported on first report of missile detection.

\*\* Impact Point may or may not be reported during burn phase.

\*\*\* Various Entity Status values may be inserted by producer as appropriate.

\*\*\*\* TES producers do not generally transmit a missile drop message at the end of a missile event sequence, but if a drop message is issued, an unpair message shall be transmitted first.

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I.2.1.2.1.4 All non-ballistic missile events shall include an impact point, an azimuth corridor, or both. An impact point shall be identified with an *Environment ID* set to General Reference Unknown (GRU) and shall be amplified with the IMPCT mnemonic in the *Entity Activity* field. The azimuth corridor is reported as a part of the missile report.

I.2.1.2.1.5 Entities shall be paired using the "MSL" setting for Pair Logic (in a *Data Management Message*) throughout the event (as the entities become reportable). The launch point (subject) shall be paired to the missile (object). The missile (subject) shall be paired to the impact point (object). *Data Management Message* pairings remain in effect during subsequent launch point update, missile update, and impact point update reports during the event. Other than stale updates, producers do not need to generate additional *Data Management Messages* if the same entity numbers are used throughout the event. If there is a change in entity GTN assignment, for example due to a radar dropped track or reporting responsibility (R2) shift, new *Data Management Messages* will be generated with new pairing information, as applicable.

I.2.1.2.1.5.1 At the end of the event, if any missile event entity is dropped, an *Unpair Logic* shall first be transmitted with the value set to "POF" (Pair Off) for each respective pairing that was established with the missile during the event. The *Unpair Logic* shall also be reported prior to any missile event entity drop or cancel which occurs before the end of the event, such as when the producer has lost tracking on the missile (DROP) or has determined that invalid information was previously generated (CANCEL). Note that the launch point and impact point entities are generally, but not always, dropped when the missile entity is dropped.

I.2.1.2.1.6 In addition to reporting the launch and impact points for the missile, it is also possible for the producer to report an

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unbounded or a bounded *Azimuth Corridor* which defines the flight path/intended impact area of the missile. The *Azimuth Corridor* is reported as a part of the missile report and does not require a separate report or a pairing to associate it with the missile.

Receiving systems which display azimuth corridors should remove them from system displays at the same time the missile track is removed from the display. Note that a paired impact point may or may not necessarily be within the boundaries of a reported *Azimuth Corridor*.

I.2.1.2.1.7 If a producer sends 3-dimensional error information in any non-ballistic missile observation reports, the producer shall send either the *Full Covariance Matrix* of the *Entity Rectangular Accuracy Elements*, which composites *Sigma X Y Z Position*, *Sigma X Y Z Velocity*, *Full Matrix Elements*, and *Signs Of Full Matrix Elements*; OR the *Partial Covariance Matrix* of the *Entity Rectangular Accuracy Elements*, which composites the *Position Submatrix* and the *Velocity Submatrix*.

I.2.1.2.1.7.1 The *Error Sum 3D* [*Err\_Sum\_3D*] element is optional for use with either instance above.

### I.2.1.2.2 CMF ELEMENT USAGE FOR NON-BALLISTIC MISSILE REPORTING

I.2.1.2.2.1 The following is a description of the use of CMF Elements in the performance of a non-ballistic missile reporting mission.

I.2.1.2.2.2 The *Climb Rate* data field is used to express the rate of climb (positive or negative) for the entity.

I.2.1.2.2.3 CMF uses *Entity Polar Location Elements* to contain various 2-dimensional and 3-dimensional representations of location uncertainty. Uncertainty in two dimensions may be represented by available elements for circular, rectangular, and elliptical error using *Error Circle 2D*, *Error Rectangle 2D*, and *Error Ellipse 2D*,

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respectively. Three-dimension uncertainty is represented by the *Error 3D* using one of the 2-dimensional representations in composite with *Area Semi-Intermediate Axis*, *Area Orientation*, *Semi-Major Elevation*, and *Geometric Area Switch* to describe a cube, a three dimensional rectangle, a cylinder, a sphere, or an ellipsoid.

I.2.1.2.2.4 The *Error 3D* [*Err\_3D*] contains the data elements required to describe a 3-dimensional error volume. The *Area Semi-Intermediate Axis* [*Semi\_Intermed*] is used in conjunction with area semi-major axis, and area semi-minor axis to describe a cube, a three-dimensional rectangle, a cylinder or spheroid. For these shapes, the volume is defined as having a 50% probability of containing the true location of the referenced entity. The *Area Orientation* [*Area\_Orient*] is the angle or roll in degrees, between the area semi-minor axis and the plane defined by the local vertical and area semi-major axis.

I.2.1.2.2.5 The *Semi-Major Elevation* [*Semi\_Maj\_Elev*] element is the elevation of the ellipsoid semi-major axis, in degrees, measured from local horizontal.

I.2.1.2.2.6 The *Geometric Area Switch* [*Geom\_Area\_Swch*] identifies the three dimensional shape of the error volume by providing the two dimensional shape for the 3D plane. The 3D plane is the plane orthogonal to the area semi-major axis and area semi-minor axis. Depending upon whether the 2D plane is reported as an error ellipse 2D or as an error rectangle 2D, this switch reports a complete error volume which is cubical, 3D rectangular, cylindrical, 3D ellipsoidal, or spherical. If error rectangle 2D is reported, this switch indicates a cube/3D rectangle. If error ellipse 2D is reported, this switch indicates a sphere/3D ellipsoid.

I.2.1.2.2.7 CMF uses the *Azimuth Corridor* [*Azimuth\_Corridor*] to report an unbounded or bounded area that represents the likely impact area of the missile. The unbounded corridor is delineated via the use

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of a *Corridor Center Line* [Corridor\_Center\_Line] measured from true north and which originates from a reference point that is reported in the *Polar Single Location* [Polar\_Single\_Loc] field. The width of the corridor is specified in the *Corridor Arc Width* [Corridor\_Arc\_Width] reported in degrees of an angle, which is centered on the *Corridor Center Line*. The *Corridor Arc Minimum Range* and *Corridor Arc Maximum Range* elements, when reported, define an azimuth corridor bounded wedge. Refer to the explanation for the *Azimuth Corridor* group of elements under the *Reference Polar Platform Elements* description in Section 5.

I.2.1.2.2.8 When the *Azimuth Corridor* report does not include the range data elements, receiving systems must have access to the operational database of minimum and maximum missile trajectory information (managed by USSTRATCOM/Missile Warning Functional Managers Office) to determine the range of the missile. For systems that have access to the range information, it is possible to combine the *Azimuth Corridor* with the range data to establish a bounded area for the predicted impact (see the element explanation for *Azimuth Corridor* under the *Reference Polar Platform Elements* section).

I.2.1.2.3 TES SPECIFIC NON-BALLISTIC MISSILE REPORTING REQUIREMENTS

I.2.1.2.3.1 The *TES Event Identifier* data field is used to identify the TES event with which the entity is associated. The producer shall assign the same *TES Event Identifier* value to each entity (launch point, missile, and impact point) involved in a missile event. Each TES producer is assigned a specific block of *TES Event Identifier* values to use.

I.2.1.2.3.2 The *Producer Message Sequence Number* data field is used by a producer to sequentially number each CMF message generated. It is used by TES analysts to determine if all message(s) within a

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sequence of messages from a specific producer were received. Each TES producer shall include the *Producer Message Sequence Number* data element in every CMF message.

I.2.1.2.3.3 TES producers shall report the *Entity Update Number* to identify sequential reports of an entity (i.e., each specific contact).

I.2.1.2.3.4 TES producers shall not generate reports containing the partial covariance matrix (i.e., will only report full covariance).

I.2.1.2.3.5 TES producers shall report metric units where available in CMF.

I.2.1.2.3.6 The *Provider Community* [Provider\_Community] and *Provider Data Category* [Provider\_Data\_Categ] elements in the *Message Filter Elements* [Msg\_Filter\_Elmnts] group are used to identify whether a TES IR producer or TES Radar producer has made the data available for dissemination via IBS. For each *Entity Message* generated, TES IR producers shall set *Provider Community* equal to "TES" and *Provider Data Category* equal to "IR"; and TES Radar producers shall set *Provider Community* equal to "TES" and *Provider Data Category* equal to "RDR".

I.2.1.2.3.7 IMPORTANT: The *Message Filter Elements* group and its elements are being transitioned into use to replace the *Provider Type* element. During the transition period, all TES producers shall also report a *Provider Type* value of "IRBSA". Following full consumer implementation of *Message Filter Elements*, the *Provider Type* element will be removed or disused.

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I.2.1.2.3.8 TES producers shall report the *Cooperative Location Indicator* set to “COOPERATIVE” for entity locations that were derived using reported locations from sensors on more than one platform.

### I.2.2 SPACE TRACK REPORTING

I.2.2.1 Entities travelling into, operating within, or travelling from the space domain (i.e., outside of the earth's atmosphere) are reported on IBS as space tracks or objects.

I.2.2.2 A space track shall be identified with an *Environment ID* set to Space (i.e., the first two characters of the ID are “SP”).

### I.2.3 X Y Z POSITION and X Y Z VELOCITY REPORTING

I.2.3.1 The *Entity Rectangular Location Elements* contain the X Y Z Position coordinates. The *Entity Rectangular Attitude Elements* contain the X Y Z Velocity coordinates. The position and velocity fields will be transmitted together.

I.2.3.2 The X Y Z Positions and X Y Z Velocities are distributed between the *Entity Rectangular Location Elements* and the *Entity Rectangular Attitude Elements*. The values in these data fields must be considered integral, related components for defining composite values.

I.2.3.3 The X Y Z Position element defines the position (coordinate) of the specified element along the X, Y, Z axis of the WGS-84 ECF Cartesian coordinate system. This field is comprised of children which contain the values of the original X, Y, Z position components and together represent the X, Y, Z Position.

I.2.3.4 The X Y Z Resolution Switch in the *Entity Rectangular Location Elements* is a covariance resolution switch. This switch

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indicates whether the X, Y, and Z Position information has been obtained from one or more sources of the same type.

I.2.3.5 The X Y Z Velocity data fields in the Entity Rectangular Attitude Elements element define the rate of change in position of the specified element in the direction of the X, Y, Z axis of the WGS-84 ECF Cartesian coordinate system. This field is comprised of children which contain the values of the original X, Y, Z velocity components and together represent the X, Y, Z Velocity.

**I.2.4 FULL AND PARTIAL COVARIANCE MATRIX REPORTING**

I.2.4.1 The Full Covariance Matrix content model within the Entity Rectangular Accuracy Elements contains the components of the full 6x6 covariant matrix. The Partial Covariance Matrix contains the 3x3 position and velocity covariant sub-matrices. The Position Submatrix provides the position 3x3 covariant sub-matrix and the Velocity Submatrix provides the velocity 3x3 covariant sub-matrix. The Full Covariance Matrix and the Partial Covariance Matrix are mutually exclusive.

I.2.4.2 The Full Covariance Matrix is a result of Cholesky decomposition and precompensation operations on the entire 6x6 matrix, while the Partial Covariance Matrix is only from operations on the 3x3 position and velocity sub-matrices.

I.2.4.3 The Sigma X Y Z Velocity element, the Submatrix Elements, and the Signs Of Submatrix Elements are used for the ECF Cartesian Velocity Covariance Sub-Matrix. These values are the result of operations on the 3x3 velocity sub-matrix only and therefore, row 1-column 1 refers to the first element in the velocity sub-matrix.

I.2.4.4 The Sigma X Y Z Position is defined as the square root of the variance in the X, Y, Z position of the WGS-84 ECF Cartesian

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coordinate system. The value shall be logarithmically encoded according to the formula in paragraph I.2.5.4.11.2 and thus has the following possible values:

0 to 1022 = 1 to 1,000,000 feet (nonlinear)

1023 = Undefined

I.2.4.5 The Covariance Data Element 22 from row 2-column 2 of the Cholesky Decomposed Covariance Matrix or the position sub-matrix is contained in the *Covariance Data Element 22, IBS [Covar\_Elmt\_22]*. All elements on the major diagonal are bounded in the range from 0 to 1 and are by definition positive, therefore no sign is transmitted.

I.2.4.6 The absolute value of the Covariance Data Element 23 from row 2-column 3 of the Cholesky Decomposed Covariance Matrix or the position sub-matrix is contained in the *Absolute Value of Covariance Data Element 23, IBS [Covar\_Elmt\_23]*. All elements not on the major diagonal are bounded in the range from -1 to 1 and are transmitted as an absolute value and a separate sign bit.

I.2.4.7 The *Sign of Covariance Data Element 23, IBS [Sign\_23]*, either a positive or negative sign, is applied to the value in the *Absolute Value of Covariance Data Element 23, IBS* data field to form its true value. If this field is set to negative, then the true value of the covariance data element in row 2- column 3 is the two's complement of that element.

I.2.4.8 The Covariance Data Element 33, from row 3-column 3 of the Cholesky Decomposed Covariance Matrix or the position sub-matrix is contained in the *Covariance Data Element 33, IBS [Covar\_Elmt\_33]*. All elements on the major diagonal are bounded in the range from 0 to 1 and are by definition positive, therefore no sign is transmitted.

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I.2.4.9 The *Sign of Covariance Data Element 12, IBS [Sign\_12]* is the sign bit for the data element in row 1-column 2 of the Cholesky Decomposed Covariance Matrix. NOTE: Covariance Data Elements in the first row of the Cholesky decomposition of the precompensated covariance matrix (elements 11, 12, 13, 14, 15, and 16) or position covariance sub-matrix (elements 11, 12, and 13) are not transmitted because they can be recomputed from the other values if just their sign bits are transmitted. NOTE: Covariance Data Element 11, in row 1-column 1, always equals 1.0 and therefore, is never transmitted.

I.2.4.9.1 The *Sign of Covariance Data Element 13, IBS [Sign\_13]* is the sign bit for the data element in row 1-column 3 of the Cholesky Decomposed Covariance Matrix. NOTE: Covariance Data Elements in the first row of the Cholesky decomposition of the precompensated covariance matrix (elements 11, 12, 13, 14, 15, and 16) or position covariance sub-matrix (elements 11, 12, and 13) are not transmitted because they can be recomputed from the other values if just their sign bits are transmitted. NOTE: Covariance Data Element 11, in row 1-column 1, always equals 1.0 and therefore, is never transmitted.

I.2.4.10 The absolute value of the Covariance Data Element 24 from row 2-column 4 of the Cholesky Decomposed Covariance Matrix is contained in the *Absolute Value of Covariance Data Element 24, IBS [Covar\_Elmt\_24]*. All elements not on the major diagonal are bounded in the range from -1 to 1 and are transmitted as an absolute value and a separate sign bit.

I.2.4.11 The *Sign of Covariance Data Element 24, IBS [Sign\_24]*, either a positive or negative sign, is applied to the value in the *Absolute Value of Covariance Data Element 24, IBS* data field to form its true value. If this field is set to negative, then the true value of the covariance data element in row 2- column 4 is the two's complement of that element.

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I.2.4.12 The absolute value of the Covariance Data Element 34 from row 3-column 4 of the Cholesky Decomposed Covariance Matrix is contained in the *Absolute Value of Covariance Data Element 34, IBS [Covar\_Elmt\_34]*. All elements not on the major diagonal are bounded in the range from -1 to 1 and are transmitted as an absolute value and a separate sign bit.

I.2.4.13 The *Sign of Covariance Data Element 34, IBS [Sign\_34]*, either a positive or negative sign, is applied to the value in the *Absolute Value of Covariance Data Element 34, IBS* data field to form its true value. If this field is set to negative, then the true value of the covariance data element in row 3- column 4 is the two's complement of that element.

I.2.4.14 The Covariance Data Element 44 from row 4-column 4 of the Cholesky Decomposed Covariance Matrix or the position sub-matrix is contained in the *Covariance Data Elemenet 44, IBS [Covar\_Elmt\_44]*. All elements on the major diagonal are bounded in the range from 0 to 1 and are by definition positive, therefore no sign is transmitted.

I.2.4.15 The *Sign of Covariance Data Element 14, IBS [Sign\_14]* is the sign bit for the data element in row 1-column 4 of the Cholesky Decomposed Covariance Matrix. NOTE: Covariance Data Elements in the first row of the Cholesky decomposition of the precompensated covariance matrix (elements 11, 12, 13, 14, 15, and 16) are not transmitted because they can be recomputed from the other values if just their sign bits are transmitted. NOTE: Covariance Data Element 11, in row 1-column 1, always equals 1.0 and therefore, is never transmitted.

I.2.4.16 The absolute value of the Covariance Data Element 25 from row 2-column 5 of the Cholesky Decomposed Covariance Matrix is contained in the *Absolute Value of Covariance Data Element 25, IBS [Covar\_Elmt\_25]*. All elements not on the major diagonal are bounded

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in the range from -1 to 1 and are transmitted as an absolute value and a separate sign bit.

I.2.4.17 The *Sign of Covariance Data Element 25, IBS [Sign\_25]*, either a positive or negative sign, is applied to the value in the *Absolute Value of Covariance Data Element 25, IBS* data field to form its true value. If this field is set to negative, then the true value of the covariance data element in row 2- column 5 is the two's complement of that element.

I.2.4.18 The absolute value of the Covariance Data Element 35 from row 3-column 5 of the Cholesky Decomposed Covariance Matrix is contained in the *Absolute Value of Covariance Data Element 35, IBS [Covar\_Elmt\_35]*. All elements not on the major diagonal are bounded in the range from -1 to 1 and are transmitted as an absolute value and a separate sign bit.

I.2.4.19 The *Sign of Covariance Data Element 35, IBS [Sign\_35]*, either a positive or negative sign, is applied to the value in the *Absolute Value of Covariance Data Element 35, IBS* data field to form its true value. If this field is set to negative, then the true value of the covariance data element in row 3- column 5 is the two's complement of that element.

I.2.4.20 The absolute value of the Covariance Data Element 45 from row 4-column 5 of the Cholesky Decomposed Covariance Matrix is contained in the *Absolute Value of Covariance Data Element 45, IBS [Covar\_Elmt\_45]*. All elements not on the major diagonal are bounded in the range from -1 to 1 and are transmitted as an absolute value and a separate sign bit.

I.2.4.21 The *Sign of Covariance Data Element 45, IBS [Sign\_45]*, either a positive or negative sign, is applied to the value in the *Absolute Value of Covariance Data Element 45, IBS* data field to form

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its true value. If this field is set to negative, then the true value of the covariance data element in row 4- column 5 is the two's complement of that element.

I.2.4.22 The Covariance Data Element 55 from row 5-column 5 of the Cholesky Decomposed Covariance Matrix or the position sub-matrix is contained in the *Covariance Data Element 55, IBS* [Covar\_Elmt\_55]. All elements on the major diagonal are bounded in the range from 0 to 1 and are by definition positive, therefore no sign is transmitted.

I.2.4.23 The *Boost Indicator* [Boost\_Indic] data field indicates whether the referenced entity is in a boost phase/stage. It also signals the contents of the *Ballistic Missile Beta, IBS* [Ballistic\_Missl\_Beta] data field as to whether non-boost (Beta) or boost (Acceleration) is being reported. If the indicator identifies a non-boost phase, then Beta expresses the measured atmospheric drag effects on an object with a constant reference area, e.g., a ballistic missile. It is defined as the mass of the object divided by the product of its coefficient of drag and its reference area. The *Ballistic Missile Beta, IBS* field is only reported when the associated entity is not in boost stage or, in other words, has burned out.

I.2.4.24 The *Sign of Covariance Data Element 15, IBS* [Sign\_15] is the sign bit for the data element in row 1-column 5 of the Cholesky Decomposed Covariance Matrix. NOTE: Covariance Data Elements in the first row of the Cholesky decomposition of the precompensated covariance matrix (elements 11, 12, 13, 14, 15, and 16) are not transmitted because they can be recomputed from the other values if just their sign bits are transmitted. NOTE: Covariance Data Element 11, in row 1-column 1, always equals 1.0 and therefore, is never transmitted.

I.2.4.25 The absolute value of the Covariance Data Element 26 from row 2-column 6 of the Cholesky Decomposed Covariance Matrix is

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contained in the *Absolute Value of Covariance Data Element 26, IBS* [Covar\_Elmt\_26]. All elements not on the major diagonal are bounded in the range from -1 to 1 and are transmitted as an absolute value and a separate sign bit.

I.2.4.26 The *Sign of Covariance Data Element 26, IBS* [Sign\_26], either a positive or negative sign, is applied to the value in the *Absolute Value of Covariance Data Element 26, IBS* data field to form its true value. If this field is set to negative, then the true value of the covariance data element in row 2- column 6 is the two's complement of that element.

I.2.4.27 The absolute value of the Covariance Data Element 36 from row 3-column 6 of the Cholesky Decomposed Covariance Matrix is contained in the *Absolute Value of Covariance Data Element 36, IBS* [Covar\_Elmt\_36]. All elements not on the major diagonal are bounded in the range from -1 to 1 and are transmitted as an absolute value and a separate sign bit.

I.2.4.28 The *Sign of Covariance Data Element 36, IBS* [Sign\_36], either a positive or negative sign, is applied to the value in the *Absolute Value of Covariance Data Element 36, IBS* data field to form its true value. If this field is set to negative, then the true value of the covariance data element in row 3- column 6 is the two's complement of that element.

I.2.4.29 The absolute value of the Covariance Data Element 46 from row 4-column 6 of the Cholesky Decomposed Covariance Matrix is contained in the *Absolute Value of Covariance Data Element 46, IBS* [Covar\_Elmt\_46]. All elements not on the major diagonal are bounded in the range from -1 to 1 and are transmitted as an absolute value and a separate sign bit.

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I.2.4.30 The *Sign of Covariance Data Element 46, IBS [Sign\_46]*, either a positive or negative sign, is applied to the value in the *Absolute Value of Covariance Data Element 46, IBS* data field to form its true value. If this field is set to negative, then the true value of the covariance data element in row 4- column 6 is the two's complement of that element.

I.2.4.31 The absolute value of the Covariance Data Element 56 from row 5-column 6 of the Cholesky Decomposed Covariance Matrix is contained in the *Absolute Value of Covariance Data Element 56, IBS [Covar\_Elmt\_56]*. All elements not on the major diagonal are bounded in the range from -1 to 1 and are transmitted as an absolute value and a separate sign bit.

I.2.4.32 The *Sign of Covariance Data Element 56, IBS [Sign\_56]*, either a positive or negative sign, is applied to the value in the *Absolute Value of Covariance Data Element 56, IBS* data field to form its true value. If this field is set to negative, then the true value of the covariance data element in row 5- column 6 is the two's complement of that element.

I.2.4.33 The *Sign of Covariance Data Element 16, IBS [Sign\_16]* is the sign bit for the data element in row 1-column 6 of the Cholesky Decomposed Covariance Matrix. NOTE: Covariance Data Elements in the first row of the Cholesky decomposition of the precompensated covariance matrix (elements 11, 12, 13, 14, 15, and 16) are not transmitted because they can be recomputed from the other values if just their sign bits are transmitted. NOTE: Covariance Data Element 11, in row 1-column 1, always equals 1.0 and therefore, is never transmitted.

I.2.4.34 The *X Y Z Velocity* data fields define the rate of change in position of the specified element in the direction of the X, Y, Z axis of the WGS-84 Earth-Centered, Earth-Fixed (ECF) Cartesian

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coordinate system. Combined, these fields contain the absolute value of the original X, Y, and Z velocity.

I.2.4.35 The *Sigma X Y Z Velocity* is defined as the square root of the variance in the X, Y, Z velocity of the WGS-84 ECF Cartesian coordinate system. The value shall be logarithmically encoded according to the formula in paragraph I.2.5.4.11.3 and thus has the following possible values:

0 to 1022 = 1 to 1,312,336 feet/second (nonlinear)

1023 = Undefined

I.2.4.36 The Velocity Covariance Data Element 22 from row 2-column 2 of the Cholesky Decomposed Velocity Submatrix is contained in the *Covariance Data Element 22, IBS [Covar\_Elmt\_22]*. All elements on the major diagonal are bounded in the range from 0 to 1 and are by definition positive, therefore no sign is transmitted.

I.2.4.37 The absolute value of the Velocity Covariance Data Element 23 from row 2-column 3 of the Cholesky Decomposed Velocity Submatrix is contained in the *Covariance Data Element 23, IBS [Covar\_Elmt\_23]*. All elements not on the major diagonal are bounded in the range from 1 to 1 and are transmitted as an absolute value with a separately transmitted sign bit.

I.2.4.38 The *Sign of Covariance Data Element 23, IBS [Sign\_23]*, either a positive or negative sign, is applied to the value in the *Absolute Value of Covariance Data Element 23, IBS* data field to form its true value. If this field is set to negative, then the true value of the velocity sub-matrix data element in row 2- column 3 is the two's complement of that element.

I.2.4.39 The Velocity Covariance Data Element 33 from row 3-column 3 of the Cholesky Decomposed Velocity Submatrix is contained in the *Covariance Data Element 33, IBS [Covar\_Elmt\_33]*. All elements on

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the major diagonal are bounded in the range from 0 to 1 and are by definition positive, therefore no sign is transmitted.

I.2.4.40 The *Sign of Covariance Data Element 12*, IBS [Sign\_12] is the sign bit for the data element in row 1-column 2 of the Cholesky Decomposed Covariance Matrix. If this field is set to enumerated value Negative, then the true value of the Velocity Covariance Data Element in row 1-column 2 is the one's compliment of that element.

I.2.4.41 The *Sign of Covariance Data Element 13*, IBS [Sign\_13] is the sign bit for the data element in row 1-column 3 of the Cholesky Decomposed Covariance Matrix. If this field is set to enumerated value Negative, then the true value of the Velocity Covariance Data Element in row 1-column 3 is the one's compliment of that element.

**I.2.5 ECF CARTESIAN COVARIANCE MATRIX ENCODING AND DECODING**

I.2.5.1 This section is provided to detail, for the CMF user, the purpose, origin, encoding, transmission format, and decoding of the ECF Cartesian Covariance Matrix. There are significant mathematical complexities and computationally intensive conversions required in the encoding and decoding process.

I.2.5.2 Although the ECF Cartesian Covariance Matrix was added to TBM Reporting such that its use is not limited to support of Theater Ballistic Missile Defense (TBMD) operations, TBMD is the impetus and initial intended use. This explanation of its implementation and coding will be from the TBMD support perspective including TBMD information exchange other than just the matrix itself.

**I.2.5.3 ECF CARTESIAN COVARIANCE MATRIX BACKGROUND**

I.2.5.3.1 Current communications requirements in support of Theater Ballistic Missile Defense (TBMD) for in-theater tactical

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operations have been developed by the joint services via the Defense Information Systems Agency (DISA). The communication parameters necessary to exchange the TBMD information in the theater arena have been added to Link 16. The requirements for global tactical TBMD communications are heavily leveraged upon Link 16 implementation of an early Ballistic Missile Defense (BMD) Interface Change Proposal (ICP) to MIL-STD-6016. Certain CMF Elements, e.g., launch and impact point reports, support portions of the Link 16 additions for TBMD. The addition of elements (X, Y, Z positions, velocities, and the associated covariance matrix) supports other portions.

I.2.5.3.2 TBMD operations provide for three major mission areas: Attack Operations, Active Defense, and Passive Defense. Given accurate launcher location and adequate warning, Attack Operations can damage the launch capability or destroy enemy missiles prior to launch. Enemy missiles in flight can be destroyed by Active Defense measures and Passive Defense tactics can improve the chance of survival in the target area. Ballistic missile detection systems will indicate the detection of a missile launch with estimates of the launch point, the current location and trajectory, and the impact point or area. Together these estimates describe a ballistic missile "event" for which the association of the estimates must be retained during transmission. The intent of BMD communications is to relay these estimates from the remote sensors to both the in-theater and out-of-theater defensive assets with sufficient speed and accuracy to enable the most effective execution of the three mission areas.

### **I.2.5.4 BMD MESSAGE IMPLEMENTATION**

I.2.5.4.1 TBM event information exchange employs two coordinate systems to provide a complete report. A spherical coordinate system is used to report launch points and impact points as latitude and longitude locations. An Earth-centered, Earth-fixed (ECF) Cartesian

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coordinate system is used to report missile location and covariance information.

I.2.5.4.2 The X, Y, and Z positions of the ECF Cartesian coordinate system, as defined by the 1984 World Geodetic System (WGS-84) are measured from the center of the earth. The X-axis penetrates the 0° and 180° meridians and positive in the 0° direction. The Y-axis penetrates the 90° E and 90° W meridians and positive in the 90° E direction. The Z-axis penetrates the north and south poles and positive in the north direction. The X, Y, and Z velocities follow the same orientation.

I.2.5.4.3 Cartesian location and movement is represented as a position vector and a velocity vector. Missile Beta provides an assessment of drag effects. The covariance information is expressed within a covariance matrix.

### I.2.5.4.4 ECF COVARIANCE MATRIX DEFINITION

I.2.5.4.4.1 The covariance matrix is defined as a symmetric 6x6-element matrix representing the calculated tracking errors and statistical estimates of biases produced by emplacement errors, alignment errors, and other systematic errors. This matrix indicates the estimated accuracy of the position and velocity measurements and can be utilized to predict or extrapolate future positions. With X, Y, and Z being the Cartesian locations and  $V_x$ ,  $V_y$ , and  $V_z$  being the velocities in the respective directions, the covariance matrix places X, Y, Z,  $V_x$ ,  $V_y$ , and  $V_z$  as the 6 row variables and also as the 6 column variables. Each row / column element within the matrix then defines the covariance relationship between each of the different measured variables. This covariance relationship is the likelihood that, when the row variable changes, the column variable it is related to changes in a particular manner. The format for covariance matrix P is given in [Figure I.2.5-1](#).

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	X	Y	Z	$V_x$	$V_y$	$V_z$
X	$P_{11}$	$P_{12}$	$P_{13}$	$P_{14}$	$P_{15}$	$P_{16}$
Y	$P_{21}$	$P_{22}$	$P_{23}$	$P_{24}$	$P_{25}$	$P_{26}$
Z	$P_{31}$	$P_{32}$	$P_{33}$	$P_{34}$	$P_{35}$	$P_{36}$
$V_x$	$P_{41}$	$P_{42}$	$P_{43}$	$P_{44}$	$P_{45}$	$P_{46}$
$V_y$	$P_{51}$	$P_{52}$	$P_{53}$	$P_{54}$	$P_{55}$	$P_{56}$
$V_z$	$P_{61}$	$P_{62}$	$P_{63}$	$P_{64}$	$P_{65}$	$P_{66}$

FIGURE I.2.5-1 Covariance Matrix Format

I.2.5.4.4.2 The six major diagonal elements in the covariance matrix ( $P_{ii}$ ) contain the variances ( $\sigma^2_i$ ) for each of the six variables. The relationship between the variables in the off-diagonal elements is defined by the covariance equation  $P_{ij} = \text{Cov}(R, C) = E((R - \mu_R)(C - \mu_C))$  where R is the row variable, C is column variable,  $\mu_R$  is the mean of measured R values,  $\mu_C$  is the mean of measured C values and E is the symbol for the probability expectation function. Therefore, if we let U represent  $V_x$ , V represent  $V_y$ , and W represent  $V_z$ , then the contents of the covariance matrix as originally computed as the sensor are as in [Figure I.2.5-2](#). Note that since  $\text{Cov}(R, C) = \text{Cov}(C, R)$ , only the  $\text{Cov}(R, C)$  notation ordering was used in [Figure I.2.5-2](#) so that it is apparent that the matrix is symmetrical around the diagonal.

$\sigma_x^2$	$\text{Cov}(X, Y)$	$\text{Cov}(X, Z)$	$\text{Cov}(X, U)$	$\text{Cov}(X, V)$	$\text{Cov}(X, W)$
$\text{Cov}(X, Y)$	$\sigma_y^2$	$\text{Cov}(Y, Z)$	$\text{Cov}(Y, U)$	$\text{Cov}(Y, V)$	$\text{Cov}(Y, W)$
$\text{Cov}(X, Z)$	$\text{Cov}(Y, Z)$	$\sigma_z^2$	$\text{Cov}(Z, U)$	$\text{Cov}(Z, V)$	$\text{Cov}(Z, W)$
$\text{Cov}(X, U)$	$\text{Cov}(Y, U)$	$\text{Cov}(Z, U)$	$\sigma_u^2$	$\text{Cov}(U, V)$	$\text{Cov}(U, W)$
$\text{Cov}(X, V)$	$\text{Cov}(Y, V)$	$\text{Cov}(Z, V)$	$\text{Cov}(U, V)$	$\sigma_v^2$	$\text{Cov}(V, W)$
$\text{Cov}(X, W)$	$\text{Cov}(Y, W)$	$\text{Cov}(Z, W)$	$\text{Cov}(U, W)$	$\text{Cov}(V, W)$	$\sigma_w^2$

FIGURE I.2.5-2 Covariance Matrix Contents

I.2.5.4.4.3 The major value of the covariant is that, if any two of the variables are independent, the covariance between them will be

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zero (0). CAUTION, the reverse is not always true and cannot be counted on because the covariance only indicates the linear relationship (slope / intercept). The sign of the covariance indicates the relationship of the variables also. A positive sign indicates a positive relationship. If X increases, then Y will increase etc. A negative sign indicates an inverse relationship. If X increases, then Y will decrease etc. Letting VS be the state vector [X, Y, Z, V<sub>x</sub>, V<sub>y</sub>, V<sub>z</sub>], VE be the tracker's estimate of the state vector [X<sub>E</sub>, Y<sub>E</sub>, Z<sub>E</sub>, V<sub>xE</sub>, V<sub>yE</sub>, V<sub>zE</sub>], and V be the track error VS - VE, the covariance matrix P is a symmetric, positive definite matrix computed such that P satisfies the following equation:

$$V^T P^{-1} V = 12.5916$$

I.2.5.4.4.4 This equation defines an ellipsoid in six-dimensional state space having a probability of no less than 95 percent of containing the track error V. The value 12.5916 corresponds to the 0.95 quartile of the central Chi-squared statistic with six degrees of freedom. Therefore, for normally distributed errors and zero bias, P is the usual covariance matrix. If errors are not normally distributed, e.g., if a contribution to the error is uniformly distributed, or if the bias errors are nonzero, then P may differ from the track covariance matrix, e.g., by linear scaling in the appropriate direction.

I.2.5.4.4.5 Due to bandwidth concerns and limitations, it is possible and desirable to reduce the number of matrix elements transmitted. U. S. Marine Corps studies determined that most encoding schemes result in anomalies in error basket volumes. To overcome these anomalies, the JIEO determined that the covariance matrix would be converted into a correlation matrix, pre-compensated, and decomposed using a Cholesky algorithm. The encoding process results in fewer values from the matrix along with a few factors resulting

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from the conversion process that are then either logarithmically or linearly encoded for transmission.

I.2.5.4.5 COVARIANCE TO CORRELATION MATRIX CONVERSION

I.2.5.4.5.1 The six root variances (aka "sigma" values) are defined as the square roots of the six diagonal elements of the covariance matrix according to the equation:

$$[\sigma = \sqrt{P_{ii}} = \sqrt{\sigma^2_i}]$$

I.2.5.4.5.2 The first three variances (i.e.,  $\sigma_i$ ; i=1 to 3) are the variances in the X, Y, and Z position (aka Sigma X,Y,Z Position) and the remaining three variances (i.e.,  $\sigma_i$ ; i=4 to 6) are the variances in the X, Y, and Z velocity (aka Sigma X,Y,Z Velocity).

I.2.5.4.5.3 The correlation of two variables is defined as their covariance, Cov (R, C), divided by the root variance,  $\sigma_i$ , for each variable. Therefore the correlation matrix **C**, composed of elements  $c_{ij}$  in the same way as the covariance matrix **P** is composed of elements  $p_{ij}$ , is calculated by taking the square root of each diagonal element (the root variances) of **P** and dividing all elements in the same row and column of **P** by that root variance according to the equation:

$$c_{ij} = \frac{p_{ij}}{\sqrt{\sigma_i^2} \sqrt{\sigma_j^2}} = \frac{p_{ij}}{\sigma_i \sigma_j}$$

where  $p_{ij}$  are the elements of covariance matrix **P**,  
 $\sigma^2$  are the diagonal elements of **P** (the variances),  
 $\sigma$  are the root variances (square roots of the diagonals),  
and  $c_{ij}$  are the elements of the correlation matrix **C**.

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I.2.5.4.6 You can see that all of the diagonal values of the correlation matrix **C** will equal to 1.0 since for those elements,  $i = j$ ,  $P_{ii} = \sigma_i^2$ , and the following occurs:

$$c_{ij} |_{i=j} = c_{ii} = \frac{P_{ii}}{\sqrt{\sigma_i^2} \sqrt{\sigma_i^2}} = \frac{P_{ii}}{\sigma_i \sigma_i} = \frac{\sigma_i^2}{\sigma_i \sigma_i} = \frac{\sigma_i^2}{\sigma_i^2} = 1.0$$

I.2.5.4.7 The resulting matrix shown in [Figure I.2.5-3](#) is the correlation matrix **C**.

$c =$	$\frac{P_{xy}}{\sigma_x \sigma_y}$	$\frac{P_{xz}}{\sigma_x \sigma_z}$	$\frac{P_{xu}}{\sigma_x \sigma_u}$	$\frac{P_{xv}}{\sigma_x \sigma_v}$	$\frac{P_{xw}}{\sigma_x \sigma_w}$
$1.0$	$\frac{P_{xy}}{\sigma_x \sigma_y}$	$\frac{P_{xz}}{\sigma_x \sigma_z}$	$\frac{P_{xu}}{\sigma_x \sigma_u}$	$\frac{P_{xv}}{\sigma_x \sigma_v}$	$\frac{P_{xw}}{\sigma_x \sigma_w}$
$\frac{P_{xy}}{\sigma_x \sigma_y}$	$1.0$	$\frac{P_{yz}}{\sigma_y \sigma_z}$	$\frac{P_{yu}}{\sigma_y \sigma_u}$	$\frac{P_{yv}}{\sigma_y \sigma_v}$	$\frac{P_{yw}}{\sigma_y \sigma_w}$
$\frac{P_{xz}}{\sigma_x \sigma_z}$	$\frac{P_{yz}}{\sigma_y \sigma_z}$	$1.0$	$\frac{P_{zu}}{\sigma_z \sigma_u}$	$\frac{P_{zv}}{\sigma_z \sigma_v}$	$\frac{P_{zw}}{\sigma_z \sigma_w}$
$\frac{P_{xu}}{\sigma_x \sigma_u}$	$\frac{P_{yu}}{\sigma_y \sigma_u}$	$\frac{P_{zu}}{\sigma_z \sigma_u}$	$1.0$	$\frac{P_{uv}}{\sigma_u \sigma_v}$	$\frac{P_{uw}}{\sigma_u \sigma_w}$
$\frac{P_{xv}}{\sigma_x \sigma_v}$	$\frac{P_{yv}}{\sigma_y \sigma_v}$	$\frac{P_{zv}}{\sigma_z \sigma_v}$	$\frac{P_{uv}}{\sigma_u \sigma_v}$	$1.0$	$\frac{P_{vw}}{\sigma_v \sigma_w}$
$\frac{P_{xw}}{\sigma_x \sigma_w}$	$\frac{P_{yw}}{\sigma_y \sigma_w}$	$\frac{P_{zw}}{\sigma_z \sigma_w}$	$\frac{P_{uw}}{\sigma_u \sigma_w}$	$\frac{P_{vw}}{\sigma_v \sigma_w}$	$1.0$

FIGURE I.2.5-3 Correlation Matrix Contents

I.2.5.4.7.1 Where the covariant matrix **P** may have any value in the elements, the values of the correlation matrix **C** are bounded in the range -1 to 1. The values of -1 and 1 indicate a perfect linear relationship between the respective variables.

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I.2.5.4.8 CORRELATION MATRIX PRE-COMPENSATION

I.2.5.4.8.1 After the correlation matrix **C** has been computed, it is pre-compensated to ensure that it will remain positive definite (the eigenvalues are all positive) when it is decoded. This is done by slightly adjusting the correlation matrix **C** by a very small scalar value according to the following formula to create the pre-compensated matrix **C'**:

$$\mathbf{C}' = (1.0 - 2^{-22})\mathbf{C} + (2^{-22})\mathbf{I}$$

where **I** is the 6 x 6 Identity matrix (all 1's on diagonal, 0's elsewhere).

I.2.5.4.8.2 This formula has the effect of multiplying all of the off-diagonal elements of **C** by  $(1.0 - 2^{-22})$  but leaving the major diagonal elements equal to 1.0. The resulting pre-compensated correlation matrix **C'** is ensured to remain positive definite throughout the remaining encoding and decoding processes despite any round-off errors.

I.2.5.4.9 CHOLESKY DECOMPOSITION

I.2.5.4.9.1 Once the pre-compensated correlation matrix **C'** has been created, it is decomposed using a Cholesky algorithm (matrix square root) according to the formula in [Figure I.2.5-4](#):

$$[\mathbf{C}' = \mathbf{U}^T \mathbf{U}]$$

FIGURE I.2.5-4 Cholesky Decomposition Formula

I.2.5.4.9.2 The upper triangular matrix (all zeroes below the major diagonal matrix **U**) is defined as a Cholesky decomposition of **C'**, if multiplying **U** times its transpose **U<sup>T</sup>**, a lower triangular matrix (all

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zeroes above the major diagonal), is equal to the matrix **C'**. The matrix **U** is obtained from **C'** by the Cholesky algorithm which is a modified version of Gaussian elimination but avoids row exchanges or row multiplication which would destroy the position-dependent variable relationships. Additionally the Cholesky algorithm is more efficient as it requires on the order of fifty percent fewer processor cycles (i.e., execution steps) to obtain the matrix **U**.

I.2.5.4.9.3 To apply the Cholesky algorithm to the matrix **C'** and determine matrix **U**, the elements of matrix **U** are computed in column order starting with computation of all of the left-most column elements within the upper triangular portion of **U** and moving right one column at a time. The elements within each column of **U** are determined from the elements of **C'** and the previously computed elements in the prior columns of the matrix **U** to the left and above each respective element according to the equations detailed below.

I.2.5.4.9.4 The Cholesky equation to determine the diagonal elements of matrix **U** from **C'** elements and all the above elements within a column of **U** is as follows:

$$U_{jj} = \sqrt{C'_{jj} - \sum_{k=1}^{j-1} U_{kj}^2}; \text{ for all } j=i.$$

I.2.5.4.9.5 The Cholesky equation to determine the non-diagonal upper-triangular elements of matrix **U** from the elements of **C'** and from the upper-triangular elements above and to the left within matrix **U** is as follows:

$$U_{ij} = \frac{1}{U_{ii}} \left( C'_{ij} - \sum_{k=1}^{i-1} U_{ki} U_{kj} \right); \text{ for all } j>i.$$

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I.2.5.4.9.6 The resulting matrix is the Cholesky decomposition matrix **U**. The first row and first column element  $u_{11}$  of **U** is 1.0. The other major diagonal elements are all positive and less than 1, the upper-triangular elements are in the range of -1 to 1 and, of course, the lower-triangular elements are all zero.

**I.2.5.4.10 REDUCTION OF TRANSMITTED ELEMENTS**

I.2.5.4.10.1 To reconstruct the correlation matrix **C** (or eventually the original covariance matrix **P** with minimal induced error), the receiver must have a complete Cholesky decomposition matrix **U**, but only some of the elements of **U** will be logarithmically or linearly encoded and transmitted. A little explanation is required to convey which elements must be transmitted versus those that can be easily re-computed from the subset transmitted. Given the structure of the matrices **U** and **U<sup>T</sup>** as in [Figure I.2.5-5](#) and [Figure I.2.5-6](#) respectively, the correlation matrix **C** is computed according to [Figure I.2.5-7](#). Note that the pre-compensation is ignored as the receiver re-computes directly to the correlation matrix **C** because  $\mathbf{C} \approx \mathbf{C}'$ , and thus  $\mathbf{C} \approx \mathbf{U}^T \mathbf{U}$ . The pre-compensation was a minuscule amount of error intentionally introduced in order to properly decompose the matrix (keep the matrix positive definite). Reversing pre-compensation might make the matrix non-positive definite, which is what it is preventing.

$u_{11}$	$u_{12}$	$u_{13}$	$u_{14}$	$u_{15}$	$u_{16}$
0	$u_{22}$	$u_{23}$	$u_{24}$	$u_{25}$	$u_{26}$
0	0	$u_{33}$	$u_{34}$	$u_{35}$	$u_{36}$
0	0	0	$u_{44}$	$u_{45}$	$u_{46}$
0	0	0	0	$u_{55}$	$u_{56}$
0	0	0	0	0	$u_{66}$

<b>U</b> =	<table border="1"><tr><td><math>u_{11}</math></td><td><math>u_{12}</math></td><td><math>u_{13}</math></td><td><math>u_{14}</math></td><td><math>u_{15}</math></td><td><math>u_{16}</math></td></tr><tr><td>0</td><td><math>u_{22}</math></td><td><math>u_{23}</math></td><td><math>u_{24}</math></td><td><math>u_{25}</math></td><td><math>u_{26}</math></td></tr><tr><td>0</td><td>0</td><td><math>u_{33}</math></td><td><math>u_{34}</math></td><td><math>u_{35}</math></td><td><math>u_{36}</math></td></tr><tr><td>0</td><td>0</td><td>0</td><td><math>u_{44}</math></td><td><math>u_{45}</math></td><td><math>u_{46}</math></td></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td><td><math>u_{55}</math></td><td><math>u_{56}</math></td></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td><math>u_{66}</math></td></tr></table>	$u_{11}$	$u_{12}$	$u_{13}$	$u_{14}$	$u_{15}$	$u_{16}$	0	$u_{22}$	$u_{23}$	$u_{24}$	$u_{25}$	$u_{26}$	0	0	$u_{33}$	$u_{34}$	$u_{35}$	$u_{36}$	0	0	0	$u_{44}$	$u_{45}$	$u_{46}$	0	0	0	0	$u_{55}$	$u_{56}$	0	0	0	0	0	$u_{66}$
$u_{11}$	$u_{12}$	$u_{13}$	$u_{14}$	$u_{15}$	$u_{16}$																																
0	$u_{22}$	$u_{23}$	$u_{24}$	$u_{25}$	$u_{26}$																																
0	0	$u_{33}$	$u_{34}$	$u_{35}$	$u_{36}$																																
0	0	0	$u_{44}$	$u_{45}$	$u_{46}$																																
0	0	0	0	$u_{55}$	$u_{56}$																																
0	0	0	0	0	$u_{66}$																																

FIGURE I.2.5-5 Cholesky Decomposed Matrix Format

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$\mathbf{U}^T =$	$u_{11}$	0	0	0	0	0
	$u_{12}$	$u_{22}$	0	0	0	0
	$u_{13}$	$u_{23}$	$u_{33}$	0	0	0
	$u_{14}$	$u_{24}$	$u_{34}$	$u_{44}$	0	0
	$u_{15}$	$u_{25}$	$u_{35}$	$u_{45}$	$u_{55}$	0
	$u_{16}$	$u_{26}$	$u_{36}$	$u_{46}$	$u_{56}$	$u_{66}$

FIGURE I.2.5-6 Cholesky Decomposed Matrix Transposed Format

I.2.5.4.10.2 NOTE: The subscripts in  $\mathbf{U}^T$  have been left the same as they were in  $\mathbf{U}^T$  so that the transposition operation can easily be seen. For example  $u_{16}$  in row 6 column 1 would really be  $u_{61}$  if the normal matrix notation were followed. Also this makes the computation of  $\mathbf{C}$  clearer in [Figure I.2.5-7](#).

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$u_{11} * u_{11}$	$u_{11} * u_{12}$	$u_{11} * u_{13}$	$u_{11} * u_{14}$	$u_{11} * u_{15}$	$u_{11} * u_{16}$
$u_{11} * u_{12}$	$u_{12} * u_{12} +$ $u_{22} * u_{22}$	$u_{13} * u_{12} +$ $u_{23} * u_{22}$	$u_{14} * u_{12} +$ $u_{24} * u_{22}$	$u_{15} * u_{12} +$ $u_{25} * u_{22}$	$u_{16} * u_{12} +$ $u_{26} * u_{22}$
$u_{11} * u_{13}$	$u_{13} * u_{12} +$ $u_{23} * u_{22}$	$u_{13} * u_{13} +$ $u_{23} * u_{23} +$ $u_{33} * u_{33}$	$u_{13} * u_{14} +$ $u_{23} * u_{24} +$ $u_{33} * u_{34}$	$u_{13} * u_{15} +$ $u_{23} * u_{25} +$ $u_{33} * u_{35}$	$u_{13} * u_{16} +$ $u_{23} * u_{26} +$ $u_{33} * u_{36}$
$u_{11} * u_{14}$	$u_{14} * u_{12} +$ $u_{24} * u_{22}$	$u_{13} * u_{14} +$ $u_{23} * u_{24} +$ $u_{33} * u_{34}$	$u_{14} * u_{14} +$ $u_{24} * u_{24} +$ $u_{34} * u_{34} +$ $u_{44} * u_{44}$	$u_{14} * u_{15} +$ $u_{24} * u_{25} +$ $u_{34} * u_{35} +$ $u_{44} * u_{45}$	$u_{14} * u_{16} +$ $u_{24} * u_{26} +$ $u_{34} * u_{36} +$ $u_{44} * u_{46}$
$u_{11} * u_{15}$	$u_{15} * u_{12} +$ $u_{25} * u_{22}$	$u_{13} * u_{15} +$ $u_{23} * u_{25} +$ $u_{33} * u_{35}$	$u_{14} * u_{15} +$ $u_{24} * u_{25} +$ $u_{34} * u_{35} +$ $u_{44} * u_{45}$	$u_{15} * u_{15} +$ $u_{25} * u_{25} +$ $u_{35} * u_{35} +$ $u_{45} * u_{45} +$ $u_{55} * u_{55}$	$u_{15} * u_{16} +$ $u_{25} * u_{26} +$ $u_{35} * u_{36} +$ $u_{45} * u_{46} +$ $u_{55} * u_{56}$
$u_{11} * u_{16}$	$u_{16} * u_{12} +$ $u_{26} * u_{22}$	$u_{13} * u_{16} +$ $u_{23} * u_{26} +$ $u_{33} * u_{36}$	$u_{14} * u_{16} +$ $u_{24} * u_{26} +$ $u_{34} * u_{36} +$ $u_{44} * u_{46}$	$u_{15} * u_{16} +$ $u_{25} * u_{26} +$ $u_{35} * u_{36} +$ $u_{45} * u_{46} +$ $u_{55} * u_{56}$	$u_{16} * u_{16} +$ $u_{26} * u_{26} +$ $u_{36} * u_{36} +$ $u_{46} * u_{46} +$ $u_{56} * u_{56} +$ $u_{66} * u_{66}$

FIGURE I.2.5-7 Correlation Matrix Contents

I.2.5.4.10.3 Since a receiver knows that all diagonal elements of the correlation matrix **C** are equal to 1.0 as shown in [Figure I.2.5-3](#), then looking at the equations in the diagonal locations in [Figure I.2.5-7](#), it can be seen that the sum of the squares of the diagonal elements of **C** for each column  $j$  is equal to 1.0 as given in the equation (a) below:

$$(a) \quad c_{jj} = \sum_{i=1}^j (u_{ij})^2 = 1; j \geq 1$$

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I.2.5.4.10.4 Grouping all but the first row elements,  $u_{1j}$ , gives equation (b) :

$$(b) \quad u_{1j}^2 + \sum_{i=2}^j (u_{ij})^2 = 1; j \geq 1$$

I.2.5.4.10.5 Knowing that  $u_{11} = 1.0$  and solving for the remaining first row elements,  $u_{1j}$ , gives equations (c) and (d) below:

$$(c) \quad u_{1j}^2 = 1 - \sum_{i=2}^j (u_{ij})^2; j \geq 2$$

$$(d) \quad u_{1j} = \pm \sqrt{1 - \sum_{i=2}^j (u_{ij})^2}; j \geq 2$$

or written equivalently with a sign variable as:

$$(d) \quad u_{1j} = s_{1j} \sqrt{1 - \sum_{i=2}^j (u_{ij})^2}; j \geq 2$$

I.2.5.4.10.6 Equation (d) shows that the first row elements,  $u_{1j}$ , of Cholesky matrix **U** can be computed from the other elements except for the ambiguous sign from the square root. Therefore, by sending only the signs of the elements in the first row, their values can be easily re-computed. The signs of the diagonal elements  $u_{jj}$  are not sent since they are by definition always positive (and the  $u_{11}$  element is not sent at all because it is always equal to 1.0).

I.2.5.4.10.7 The elements that are transmitted are shown in [Figure I.2.5-8](#). Only the sign is sent for those with  $s_{1j}$  notation, only the absolute value is sent for those with normal  $u_{jj}$  notation, both the sign and absolute value is sent for those in bold  $\mathbf{s}_{1j}\mathbf{u}_{1j}$  notation, and nothing is sent for those with a "-".

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$U =$	$\begin{array}{cccccc} -- & S_{12} & S_{13} & S_{14} & S_{15} & S_{16} \\ -- & U_{22} & \mathbf{S}_{23}U_{23} & \mathbf{S}_{24}U_{24} & \mathbf{S}_{25}U_{25} & \mathbf{S}_{26}U_{26} \\ -- & -- & U_{33} & \mathbf{S}_{34}U_{34} & \mathbf{S}_{35}U_{35} & \mathbf{S}_{36}U_{36} \\ -- & -- & -- & U_{44} & \mathbf{S}_{45}U_{45} & \mathbf{S}_{46}U_{46} \\ -- & -- & -- & -- & U_{55} & \mathbf{S}_{56}U_{56} \\ -- & -- & -- & -- & -- & U_{66} \end{array}$
-------	--

FIGURE I.2.5-8 Identification of Transmitted Elements

I.2.5.4.10.8 To summarize, the following is sent to fully describe a Cartesian location and its related error volume:

- X, Y, Z positions
- X, Y, Z velocities
- five  $u_{jj}$  values without signs (the diagonals of  $\mathbf{U}$ , except  $u_{11}$ )
- five signs,  $s_{1j}$ , for first row,  $u_{1j}$ , values (to calculate  $u_{1j}$ )
- ten  $u_{ij}$  values with signs (to calculate  $u_{1j}$  and reconstruct  $\mathbf{U}$ )
- six root variances,  $\sigma_i$  (to re-calculate  $\mathbf{P}$  from  $\mathbf{C}$  from  $\mathbf{U}$ )

I.2.5.4.10.9 In other words, in addition to the X, Y, Z positions and X, Y, Z velocities, the five signs for the first row ( $u_{1j}$ ), and the ten values with signs ( $u_{ij}$ ) are sent for reconstruction of the Cholesky matrix  $\mathbf{U}$  which is then used with its transpose  $\mathbf{U}^T$  to re-compile a close approximation to the original correlation matrix  $\mathbf{C}$ , and finally, the root variances ( $\sigma_i$ ) are sent in order to reconstruct the original covariance matrix  $\mathbf{P}$  from the reconstructed correlation matrix  $\mathbf{C}$ .

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**I.2.5.4.11 LOGARITHMIC AND LINEAR ENCODING**

I.2.5.4.11.1 The Cholesky matrix **U** elements to be transmitted are linearly encoded (simply scaled) from real numbers into integers.

These elements are encoded per the following formula:

$$\text{Integer\_Value} = \text{Truncate}[(\text{abs\_value} * \text{scale\_factor}) + 0.5]$$

where "abs\_value" is the absolute value of one of the matrix elements ( $u_{ij}$  ;  $i > 1$  and  $j > i$ ) to be encoded and "scale\_factor" is the upper or maximum integer value allowed for the respective element (see data definition section for scale factor). Additionally, for those elements where the sign ( $s_{ij}$ ;  $j > i$ ) is also reported, the integer sign is determined and encoded per the following formula:

$$\text{Integer\_Sign} = \begin{cases} 0, & \text{if } u_{ij} \geq 0 \\ 1, & \text{if } u_{ij} < 0 \end{cases}$$

I.2.5.4.11.2 The positional root variances or sigmas ( $\sigma_i$  ;  $i=1, 2,$  and 3) are logarithmically encoded from real numbers into integers according to the formula:

$$\text{Integer\_Value} = \text{Truncate}\left[\left(\frac{1022}{\ln(1000000)} * \ln\left(\frac{\sigma_i}{1.0 \text{ ft}}\right)\right) + 0.5\right]$$

where 1,000,000 is the upper or maximum value allowed for the sigma positions (see data definition section).

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I.2.5.4.11.3 The velocity root variances or sigmas ( $\sigma_i$ ;  $i=4, 5,$  and  $6$ ) are logarithmically encoded from real numbers into integers according to the formula:

$$\text{Integer\_Value} = \text{Truncate}\left[\left(\frac{1022}{\ln(1312336)} * \ln\left(\frac{\sigma_i}{1.0 \text{ ft}}\right)\right) + 0.5\right]$$

where  $1,312,336$  is the upper or maximum value allowed for the sigma velocities (see data definition section).

**I.2.5.4.12 POSITIONAL AND VELOCITY SUBMATRIX DEFINITIONS**

I.2.5.4.12.1 It is possible for the producer of the Cartesian measurements, i.e. the sensor system, to send just the covariance between the position measurements and/or just the covariance between the velocity measurements. The  $3 \times 3$  submatrix in the upper-left corner of covariance matrix  $\mathbf{P}$  contains the position covariance and is called the positional submatrix  $\mathbf{P}_P$  as shown in [Figure I.2.5-9](#). Likewise, the  $3 \times 3$  submatrix in the lower-right corner contains the velocity covariance and is called the velocity submatrix  $\mathbf{P}_V$  as shown in [Figure I.2.5-10](#). Using the same procedure as used on the  $6 \times 6$  matrix to determine the matrix  $\mathbf{U}$  but operating independently on one of the  $3 \times 3$  submatrices, the Cholesky submatrix  $\mathbf{U}_P$  and / or  $\mathbf{U}_V$  can be respectively computed.

$$\mathbf{P}_P = \begin{bmatrix} p_{11} & p_{12} & p_{13} \\ p_{21} & p_{22} & p_{23} \\ p_{31} & p_{32} & p_{33} \end{bmatrix} = \begin{bmatrix} p_{P11} & p_{P12} & p_{P13} \\ p_{P21} & p_{P22} & p_{P23} \\ p_{P31} & p_{P32} & p_{P33} \end{bmatrix}$$

FIGURE I.2.5-9 Position Covariance Sub-matrix Format

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$$P_V = \begin{bmatrix} V_X & & V_Y & & V_Z \\ V_X & p_{44} & p_{45} & p_{46} & \\ V_Y & p_{54} & p_{55} & p_{56} & \\ V_Z & p_{64} & p_{65} & p_{66} & \end{bmatrix} = \begin{bmatrix} V_X & V_Y & V_Z \\ p_{v11} & p_{v12} & p_{v13} \\ p_{v21} & p_{v22} & p_{v23} \\ p_{v31} & p_{v32} & p_{v33} \end{bmatrix}$$

FIGURE I.2.5-10 Velocity Covariance Sub-matrix Format

I.2.5.4.12.2 Note that although  $\mathbf{U}_P$  and  $\mathbf{U}_V$  originate from the upper-left and lower-right corners of matrix  $\mathbf{P}$ , respectively,  $\mathbf{U}_V$  will NOT be equivalent to the lower right corner of  $\mathbf{U}$  because it is derived from independent operations on just the 3x3 components. The format for  $\mathbf{U}_P$  and  $\mathbf{U}_V$  is shown in [Figure I.2.5-11](#).

$$U_P = \begin{bmatrix} u_{p11} & u_{p12} & u_{p13} \\ u_{p21} & u_{p22} & u_{p23} \\ u_{p31} & u_{p32} & u_{p33} \end{bmatrix} \quad U_V = \begin{bmatrix} u_{v11} & u_{v12} & u_{v13} \\ u_{v21} & u_{v22} & u_{v23} \\ u_{v31} & u_{v32} & u_{v33} \end{bmatrix}$$

FIGURE I.2.5-11 Position and Velocity Cholesky Sub-matrix Format

I.2.5.4.12.3 Since the same process as the matrix  $\mathbf{U}$  creates them, the sub-matrices  $\mathbf{U}_P$  and  $\mathbf{U}_V$  have the same general characteristics that are used to reduce the number of elements transmitted. In other words,  $u_{p11}$  and  $u_{v11}$  are always equal to 1.0 and therefore not transmitted, the other diagonal elements are positive and therefore their sign is not transmitted, and the first rows  $u_{p1j}$  and  $u_{v1j}$  can be computed from the other elements except for their sign, so only their sign is transmitted. Using the same notation as [Figure I.2.5-8](#), the [Figure I.2.5-12](#) identifies the elements sent if only the sub-matrices are transmitted.

$$U_P = \begin{bmatrix} - & s_{p12} & s_{p13} \\ - & u_{p22} & \mathbf{u}_{p23} \\ - & - & u_{p33} \end{bmatrix} \quad U_V = \begin{bmatrix} - & s_{v12} & s_{v13} \\ - & u_{v22} & \mathbf{u}_{v23} \\ - & - & u_{v33} \end{bmatrix}$$

FIGURE I.2.5-12 Position & Velocities Transmitted Element ID

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I.2.5.4.13 CMF CARTESIAN COORDINATE SYSTEM IMPLEMENTATION

I.2.5.4.13.1 Data coding conventions outlined in MIL-STD-6016 have been used as a guide in the definition of the CMF Cartesian element formats. This reduces the effort required to convert CMF to Link 16. The resulting implementation is briefly discussed below.

I.2.5.4.13.2 CMF Element *Entity Rectangular Location Elements* is used to send the state vector containing the X, Y, Z position. CMF Element *Entity Rectangular Attitude Elements* is used to send the state vector containing the X, Y, Z velocities. The *Full Covariance Matrix* CMF Element is used to transmit the encode elements necessary to recreate the full 6 x 6 element covariance matrix. The *Partial Covariance Matrix* CMF Element is used to transmit the encode elements necessary to recreate only the 3 x 3 submatrices.

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**I.2.5.4.14 COVARIANCE MATRIX RECONSTRUCTION**

I.2.5.4.14.1 If the full covariance matrix (via elements of the Cholesky decomposition matrix **U**) is received then the following procedure will only have to be performed once to reconstruct **P**, but if the position and velocity covariance submatrices are received (via **U<sub>P</sub>** and **U<sub>V</sub>**) the procedure must be performed independently for each submatrix to reconstruct **P<sub>P</sub>** and **P<sub>V</sub>**. As was done with the encoding process, the decoding process will be explained for the full 6 x 6 matrix and the user can easily see how it applies to the smaller 3 x 3 submatrices.

**I.2.5.4.15 LOGARITHMIC AND LINEAR DECODING**

I.2.5.4.15.1 The received Cholesky matrix **U** elements are linearly decoded (simply re-scaled) from integers into real numbers according to the following formula:

$$u_{ij} = \frac{s_{ij} * \text{Integer\_Value}}{\text{scale\_factor}} ; i > 1 \text{ and } j > i$$

where "Integer\_Value" is the reported (i.e. transmitted) encoded value of the respective i and j matrix element to be decoded and "scale\_factor" is the upper or maximum integer value allowed for the respective element (see data definition section for scale factor). Additionally the sign ( $s_{ij}$ ;  $j > i$ ), for those elements where the encoded integer sign is reported, is decoded per the following formula (all non-reported signs are assumed positive):

$$s_{ij} = \begin{cases} +1, & \text{if Integer\_Sign} = 0 \\ -1, & \text{if Integer\_Sign} = 1 \end{cases}$$

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I.2.5.4.15.2 The positional root variances or sigmas ( $\sigma_i$ ;  $i=1, 2$  and 3) are logarithmically decoded from integers into real numbers according to the formula:

$$\sigma_i = e^{\left[ \frac{\text{Integer\_Value} * \ln(1000000)}{1022} \right]}$$

where "Integer Value" is the reported encoded sigma value;  $e$  = Euler's number (2.71828 18284 59045 23536...); and 1,000,000 is the upper or maximum value allowed for the sigma positions (see data definition section).

I.2.5.4.15.3 The velocity root variances or sigmas ( $\sigma_i$ ;  $i=4, 5$  and 6) are logarithmically decoded from integers into real numbers according to the formula:

$$\sigma_i = e^{\left[ \frac{\text{Integer\_Value} * \ln(1312336)}{1022} \right]}$$

where "Integer\_Value" is the reported encoded sigma value;  $e$  = Euler's number (2.71828 18284 59045 23536...); and 1,312,336 is the upper or maximum value allowed for the sigma velocities (see data definition section).

**I.2.5.4.16 CHOLESKY MATRIX RECONSTRUCTION**

I.2.5.4.16.1 Place the value 1.0 in the  $u_{11}$  location and using the received and decoded signs for the first row,  $s_{1j}$ , and the received and decoded  $u_{ij}$  values compute the remaining first row,  $u_{1j}$ , values according to the formula (from equation d in [Section I.2.5.4.10.5](#)):

$$u_{1j} = s_{1j} \sqrt{1 - \sum_{i=2}^j (u_{ij})^2} ; j \geq 2$$

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I.2.5.4.16.2 If the value under the square root is negative, then set that  $u_{1j}$  equal to 0.0 and adjust (normalize) the remaining elements in that column so that the sum of the squares of the remaining column elements is equal to 1.0 using the following formula:

$$\text{normalized } u_{ij} = \frac{u_{ij}}{\sqrt{\sum_{k=2}^j (u_{kj})^2}}; i \geq 2$$

I.2.5.4.16.3 Now, inserting all of the transmitted and computed values into their respective matrix locations gives a close approximation (including the intentional pre-compensation error and some minor round-off error) of the matrix **U** in the form of [Figure I.2.5-5](#).

I.2.5.4.17 CORRELATION MATRIX RECONSTRUCTION

Using the fact that **U** times its transpose **U<sup>T</sup>** is approximately equal to the correlation matrix **C**, either **U<sup>T</sup>** can be created and a matrix multiplication algorithm utilized, or the equivalent equations in [Figure I.2.5-7](#) can be used to reconstruct the approximation of the original correlation matrix **C**.

I.2.5.4.18 COVARIANCE MATRIX ELEMENT RECONSTRUCTION

Each of the elements of the reconstructed matrix **C** is then multiplied by the corresponding root variances (transmitted separately) according to the following formula resulting in the close approximation of the original covariance matrix **P** as in [Figure I.2.5-2](#):

$$p_{ij} = c_{ij} * (\sigma_i * \sigma_j)$$

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I.3 UNATTENDED GROUND SENSORS (UGS) OVERVIEW

I.3.1 Unattended Ground Sensors (UGS) operations include detecting and tracking entities using remotely monitored seismic, acoustic, magnetic and infrared sensor technologies in addition to or independent of passive and active electronic means. UGS are used in Intelligence, Surveillance, Reconnaissance (ISR) and force protection roles to allow soldiers to remotely monitor activity in areas of interest when manned observation is either impractical or deemed to be too dangerous.

I.3.2 After the UGS are emplaced, they begin to monitor the four geo-physical modalities (seismic, magnetic, acoustic, and passive IR) to detect, classify (e.g. personnel, light wheeled vehicle, tracked vehicle), recognize (e.g. truck, tank, APC) and identify (e.g. BMP, M113, T-72) personnel, vehicles and aircraft within the range of the sensor field. These sensors can cue Electro-Optical/Infrared (EO/IR) cameras within the field to provide target imagery. Detection ranges vary greatly based on weather, foliage and soil conditions, but are typically assumed to be: personnel - 30M, light wheeled vehicle - 150M, heavy wheeled or tracked vehicle - 1000M and helicopters 1500M. Mission objectives and environmental conditions will dictate, but separation between sensors within a field will seldom exceed 500M.

I.3.3 The information from the UGS detection reports and imagery are fed back to a processing center where the data is then utilized in various manners, including promotion to the IBS networks/broadcasts via CMF.

I.3.4 Additionally, the UGS operation monitors the UGS devices and requires an exchange of information about who the emplacer/implanter is, who has responsibility for the UGS devices, etc.

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## I.3.5 UGS MISSION TYPES

I.3.5.1 UGS are used in the two primary roles of protecting the force and providing intelligence, with six primary mission types. Force protection roles require rapid notification, while intelligence roles can tolerate some latency.

### I.3.5.2 Scenario 1 – Fixed Route Surveillance

Characterized by:

- Linear or irregular travel constrained by a fixed route
- Primarily interested in classification (personnel vs. vehicles, or heavy vs. light vehicles) and entity count vs. time (on the order of 10s of seconds to minutes)

### I.3.5.3 Scenario 2 – Decision Point Route Surveillance

Characterized by:

- Linear or irregular travel constrained by a fixed route with intersection(s) allowing for a fixed number of entry/exit points or fixed route selections
- Primarily interested in entry and exit direction, classification (personnel vs. vehicles, or heavy vs. light vehicles) and entity count vs. time (on the order of 10s of seconds to minutes)

### I.3.5.4 Scenario 3 – Area Surveillance

Characterized by:

- Open terrain allows unconstrained movement, but targets “come from somewhere” and “are going somewhere.” This is determined by proper Intelligence Preparation of the Battlefield (IPB)
- Provides flank security or augments a Cavalry screen
- Primarily interested in classification (personnel vs. vehicles, or heavy vs. light vehicles) and entity count vs. time (on the order of 10s of seconds to minutes), velocity and direction of travel

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## I.3.5.5 Scenario 4 – Obstacle Security

Characterized by:

- Sensors augment coverage, providing early warning to guard forces or detect tampering/sapping of security measures
- Primarily interested in the presence of approaching, breaching, or bypassing targets and the classification and composition (type and count) of breaching element

## I.3.5.6 Scenario 5 – LZ/PZ Surveillance

Characterized by:

- Open area, typically several thousand square meters
- Primarily interested in low velocity aircraft, and disembarking personnel and vehicles

## I.3.5.7 Scenario 6 – Airstrip Surveillance

Characterized by:

- Remote, improved or unimproved air strip or surface
- Primarily interested in landing/departing fixed/rotary wing aircraft and embarking/disembarking personnel/vehicles

## I.3.6 UGS IMPLEMENTATION WITH CMF

For CMF, UGS detection and analysis results in the reporting of an *Entity Message*. Information about the entity being detected is reported in normal CMF elements. The *Provider Type* and *Provider Community* elements shall be set to “UGS”. Location information provided in the *Entity Message* report is that of the entity being detected as calculated by the UGS collection agency using input from the UGS devices. The location is not meant to be the individual locations of the various sensors in the string, but rather the accumulation of information that the sensors can provide by working together. Additionally, the *Sensor String Elements* within the *Entity Message* provides information about the actual sensors that collect the

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information, such as who is monitoring the sensor, the  
emplacer/implanter, etc.

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## **I.4 GEO-OBSERVABLES OVERVIEW**

The Geo-observables are raw geo-location measurements including Angle of Arrival (AOA), Time Difference of Arrival (TDOA), and TDOA Rate-of-Change (also known as TDOA-Dot) generated by ELINT collectors. Sharing of this raw collected data permits a geo-observable-capable processor to calculate and report precise emitter geo-locations for tactical consumers. The geo-observables process is a category of coordinated collection.

### **I.4.1 OVERVIEW OF THE GEO-OBSERVABLES PROCESS**

I.4.1.1 The Geo-observable process provides a method of sharing raw geo-location measurements of an emitter including Angle of Arrival (AOA—identified in the CMF *Collaboration Message* as “LOB-only” via the *Collaboration Measurement Type* field), TDOA, and TDOA-Dot among ELINT collectors. Collected data is then used to calculate and report precise emitter geo-locations for tactical consumers.

I.4.1.2 The Geo-observable process allows any participating sensor, which detects activity from a tasked emitter, to share its measurements, and to compute and report the emitter's location based on the shared collected data. The participating sensor does not have to receive and process the collected geo-observable data, but may hand that task off to another participant if necessary.

### **I.4.2 GEO-OBSERVABLE DATA PROVIDERS**

The primary providers in a Geo-observable process and their roles are defined as follows: An Angle of Arrival (AOA) sensor is a participant who provides AOA measurements from the sensor to the emitter. A TDOA provider is a participant who provides time difference of arrival measurements on transmissions from the emitter. The TDOA measurement is the difference between the time of reception

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of the transmission at the reference sensor (sensor 1) and the time of reception at the different sensor (sensor 2). A TDOA-Dot provider is a participant who provides the rate of change of the TDOA-Dot measurements on transmissions from the emitter. The TDOA Rate of Change measurement is the rate of change of the difference between the time of reception of the transmission at the reference sensor (sensor 1) and the time of reception at the different sensor (sensor 2). A Geo-observable Data Processor is a processor capable of producing an emitter location from the raw Geo-observable measurements.

**I.4.3 RAW GEO-OBSERVABLE DATA TRANSFER**

The Geo-observables shall consist of one of three distinct data types: AOA as reported in the *Reference Polar Platform Elements*, TDOA as reported in the *TDOA Elements*, and TDOA-Dot as reported in the *TDOA Rate of Change Elements*. Each of these data types, when reported, shall contain a *Measurement Base Time* with the first, and only the first, transmitted portion of a data type set instance.

**I.4.4 GEO-OBSERVABLE AOA DATA TRANSFER**

I.4.4.1 The geo-observable AOA data shall be sent within the available fields of the *Reference Polar Platform Elements* of the *Collaboration Message*. An AOA data report shall contain collection reference data, including the *Measurement Base Time*, platform (sensor) location, heading, and orientation with a single angle of arrival (i.e., LOB) measurement, as a minimum. An AOA data set, consisting of multiple AOAs, also may be reported. One or more AOAs may be reported from one or more platform positions along a path. Each platform location report may have associated one or more AOA reports.

I.4.4.2 Once the platform starts to transmit the geo-observable AOA sequence, updates shall not be reported, even if changes occur, until the entire AOA data set has been sent. This ensures the

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starting sensor location does not change until after the AOA data is received.

**I.4.5 GEO-OBSERVABLE TDOA DATA TRANSFER**

I.4.5.1 For Geo-observable processing, a TDOA data set shall consist of sensor reference data, a time reference associated with the TDOA set, and from 1 to multiple consecutive TDOAs. Each TDOA data set is based upon the *Measurement Base Time* and shall be sent as a *TDOA Set* consisting of one or more *Delta Time Set* groupings with each set containing one or two *Delta Time* values.

I.4.5.2 Producer-provided short-term and intermediate-term error assessments related to time measurements for the transmitted data are contained in the *TDOA Measurement Errors* element.

I.4.5.3 If the system is in the process of reporting a TDOA group, the sequence shall be completed before transmitting any subsequent TDOA group.

I.4.5.4 TDOA data sets may take several groupings of data to transmit and may require distribution over multiple transmissions. The first grouping of a TDOA data set shall contain all elements and children elements of *Dwell Description Data*, *Sensor 1 Rectangular Reference*, *Sensor 2 Rectangular Reference*, *Time Resolution*, *Time Precision*; and the *Total Number Of Delta Time Sets* determined to be included in the set. The *Sequence Number* in the *Delta Time Set* enables reassembly at the receiver. Additionally, if the error estimates are available, the respective types of error data in the *TDOA Measurement Errors* element shall be reported with the first grouping. The last transmitted grouping for a TDOA data set shall contain the *Final Set Type* to indicate how to interpret the final two time values.

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**I.4.6 GEO-OBSERVABLE TDOA RATE OF CHANGE DATA TRANSFER**

I.4.6.1 For Geo-observable processing, a TDOA-Dot data set shall consist of sensor reference data, a time reference associated with the TDOA-Dot data set, and from 1 to multiple consecutive TDOA-Dot values. Each TDOA-Dot data set is based upon the *Measurement Base Time* and shall be sent as a *TDOA Rate Of Change Set* consisting of one or more *Delta Time Set* groupings with each set containing one or two *Delta Time* values.

I.4.6.2 Producer-provided short-term and intermediate-term error assessments related to time measurements for the transmitted data are contained in the *TDOA Rate Of Change Measurement Errors* element.

I.4.6.3 If the system is in the process of reporting a TDOA Rate of Change group, the sequence shall be completed before transmitting any subsequent TDOA Rate of Change group.

I.4.6.4 TDOA-Dot data sets may take several groupings of data to transmit and may require distribution over multiple transmissions. The first grouping of a TDOA-Dot data set shall contain all elements and children elements of *Dwell Description Data*, *Sensor 1 Rectangular Reference*, *Sensor 2 Rectangular Reference*, *Time Resolution*, *Time Precision*; and the *Total Number Of Delta Time Sets* determined to be included in the set. The *Sequence Number* in the *Delta Time Set* enables reassembly at the receiver. Additionally, if the error estimates are available, the respective types of error data in the *TDOA Rate Of Change Measurement Errors* element shall be reported with the first grouping. The last transmitted grouping for a TDOA-Dot data set shall contain the *Final Set Type* to indicate how to interpret the final two time values.

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**I.4.7 EMITTER LOCATION PROCESSING**

I.4.7.1 The Geo-observable Data Processor will gather the Geo-observable data from all participating sensors. The Central Collection Processor will update the emitter location via the *Entity Message* using these geo-observable measurements. The processor may set the *Cooperative Location Indicator*, which indicates that the reported emitter location is the result of a collaborative effort.

I.4.7.2 If the geo-observable processor does not hold reporting responsibility for the parametric, it must adhere to normal producer rules.

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I.5 SPECIFIC Emitter IDENTIFICATION (SEI) OVERVIEW

Specific Emitter Identification (SEI) entails entity detection and tracking using unconventional parametric information in addition to typical ELINT parametric data to differentiate among multiple emitters of the same type or class.

I.5.1 SEI IMPLEMENTATION WITH CMF

I.5.1.1 For CMF, SEI detection and analysis may result in the reporting of both an *Entity Message* and a *Collaboration Message*. All data which is determined adequate for reporting descriptive information on the subject emitter as well as a limited subset of algorithmic information is reported in an *Entity Message*. Information which is part of an ongoing analysis to include further algorithm information is reported in a *Collaboration Message* which is limited to non-CIB reporting only. The *Reference Entity ID* element shall be reported in the *Collaboration Message*, and the respective referenced *Entity Message* shall be, or shall have been, reported first.

I.5.1.2 Entity Messages containing SEI data shall include the *Provider Type* and *Provider Community* data elements set to a value of "SEI", so messages can be easily filtered by CMF consumers.

I.5.1.3 Collaboration Messages containing SEI data shall include the *Collection Elements* group containing at least one of the following elements: *Collection System Characteristics*, *Collection Termination Time*, *Collection Mission ID*.

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**I.6 RAPID INFORMATION TRANSMISSION (RIT) OVERVIEW**

I.6.1 Rapid Information Transmission (RIT) reporting is used for generating critical, time-sensitive information. RIT reports consist of intelligence information derived from the collection and exploitation of imagery, data from various sensors, and/or human sources.

I.6.2 RIT is not intended to replace the traditional imagery reporting mechanisms. Instead, it is to be used for reporting time-sensitive intelligence or used when the information is required to be disseminated for correlation with other source intelligence in command and control systems and tactical data displays.

I.6.3 RIT reporting for IBS will be focused on time-sensitive information delivery to support the following mission areas:

I.6.3.1 Situational Awareness - Fused battlespace awareness tailored to provide current and projected disposition of blue/red/gray forces through near real-time (NRT)/real-time (RT) sensor data and time-dominant intelligence exploitation. Situational awareness also includes monitoring high-interest current events.

I.6.3.2 Force Readiness (I&W) - Ensuring the readiness of military and civil organizations to undertake missions as assigned in peacetime and wartime by providing Indications and Warning (I&W).

I.6.3.3 Force Protection (Threat Warning and Personnel Recovery)  
- Warning and planning required to minimize vulnerability of joint, multinational, and national organizations from enemy/terrorist threats.

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I.6.3.4 Targeting and Battle Damage Assessment (BDA) - Time-dominant targets are those targets of such high priority to friendly forces that the Joint Force Commander (JFC) designates them as requiring immediate response. RIT support to this mission area will be focused on delivery of initial reporting of pop-up targets, then potential follow-up of precision information for engagement. Targeting support can also include terminal area weather for weaponeering. Phase 1 BDA provides for an initial physical damage assessment derived from a single source of data with reporting requirements within 1-2 hours of information receipt. Depending on the target criticality or weapons management constraints, Phase 2 BDA (functional damage assessment) may also be delivered via RIT reporting.

I.6.3.5 ISR Management and Sensor Cross-cueing - Intelligence, Surveillance, and Reconnaissance (ISR) management and sensor cross-cueing are activities supportable by RIT reporting. The constantly changing operational situation will require the community to be able to dynamically manage and synchronize a collection architecture with next-generation processing, exploitation and dissemination capabilities to provide the critical information to the decision maker. RIT requirements and reporting will provide the rapid dissemination necessary to help dynamic tasking of ISR sensors and rapid reporting of the results.

I.6.3.6 Force Employment and Joint Fires/Maneuver - Transition from force-level planning to execution including C2 activities associated with management of joint fires/maneuver assets.

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I.6.4 RIT IMPLEMENTATION WITH CMF

For CMF, RIT collection and analysis will result in the reporting of Entity Messages. Each CMF message will contain entity identification, location, status, and the analyst's confidence factor for the information being reported. Each message may also contain sensor description information. RIT CMF messages will be composed of exploitation results from imagery-derived and/or human-derived intelligence (including visual observations), and may also contain information from other sources. RIT messages shall include the *Provider Type* and *Provider Community* data elements set to a value of "RIT", so messages can be easily filtered by CMF consumers.

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I.7 NETWORK-ENABLED WEAPON REPORTING (NEWR)I.7.1 NEWR OVERVIEW

I.7.1.1 The 2003 Air Armament Summit underscored weapons networking as the single most cost-effective measure to enhance armament capability in general against the most exigent targets. The summit recommended modification of current weapon inventories to exploit Net-Centric Operations and Warfare via in-flight tracking of weapons, retargeting to engage time-sensitive targets, and providing Bomb Hit Indication (BHI). The summit also envisioned future benefits from weapons that could loiter, search, identify, and autonomously engage targets with precision and relay information back to the battle staff.

I.7.1.2 Precision Guided Munition (PGM) systems are now developed with a transmitter that will provide BHI prior to striking their assigned target. These systems will typically transmit information, within the last several seconds of flight, such as missile status, target location, fuse point for the warhead, and the missile's self assessment of mission effectiveness. The original impetus for BHI implementation in CMF is the Advanced Anti-Radiation Guided Missile (AARGM). The AARGM is designed as a U.S. Navy replacement for the High-Speed Anti-Radiation Missile (HARM).

I.7.1.3 Some weapon systems may be capable of pre-programmed flexing from their original target to an alternate target and/or diverting to a pre-planned divert location. Additionally, some weapon systems may be capable of transmitting information regarding their mission profile and status via Weapon In Flight Tracking (WIFT) reports while enroute to the target, searching, loitering, etc. BHI versus WIFT reports are distinguished by the reported state of the weapon (i.e. CMF element *Weapon State*). Currently, CMF has not incorporated any specific elements in unique support of WIFT reports.

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## I.7.2 BHI NETWORK-ENABLED WEAPON REPORTING (NEWR) WITH CMF

### I.7.2.1 BATTLE DAMAGE ASSESSMENT (BDA) PROCESS

Weapon-sourced BHI messages provide an Operational Commander's BDA Cell with required information needed to make real-time engagement and threat re-attack decisions. These messages also provide highly accurate cueing of other assets to support the BDA process. For example, BDA analysts would not necessarily have to request broad-area imagery to support damage assessment. Instead, they could request specific imagery collection from a broader range of imagery collection assets, including airborne assets. This reduces the volume of national imagery requested. This also allows collection by the first ISR platform that can provide an image of the detonation point, probably an organic or theater asset.

### I.7.2.2 TACTICAL ASSESSMENT PROCESS

Weapon-sourced BHI messages also provide tactical users with required information needed to make real-time engagement and threat re-attack decisions supporting missions in progress. For example, these messages provide electronic attack aircraft with rapid feedback as to whether specific threats have been neutralized or are still active, thus enhancing their electronic warfare battle management capabilities.

### I.7.2.3 AARGM BHI CAPABILITIES

I.7.2.3.1 As the initial source of BHI information on IBS, the primary purpose of AARGM is to suppress enemy air defenses. The AARGM design includes a Weapons Impact Assessment (WIA) transmitter, which reports BHI messages during the last ten seconds of flight prior to target impact.

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I.7.2.3.2 This weapon-generated transmission contains information useful to rapidly assess mission performance. It includes precise, time-stamped data that may contribute to Battle Damage Assessment (BDA), post-strike ISR tasking decisions, and tactical reattack decisions. Data may include weapon status, weapon kinematics, predicted aimpoint, and sensor derived target location and identification. The BHI Report comes prior to weapon impact, and while it may indicate the probability of damage, it cannot provide any data pertaining to actual weapon effects and/or target destruction.

I.7.2.3.3 National systems will be used to collect the weapon's BHI signal. The BHI data will be processed and reported over the IBS Enterprise, and possibly forwarded to Link-16.

**I.7.2.4 BHI WEAPON REPORTING TO IBS****I.7.2.4.1 BHI IBS MESSAGE TYPES**

I.7.2.4.1.1 BHI information may be sourced from one or more weapon-originated messages. Once a target has been designated, IBS producers shall report BHI information as two *Entity Messages* chained as a pair (i.e., using *Pair Logic*) with a *Data Management Message*. The chaining relationship in the *Data Management Message* shall be "TGT".

I.7.2.4.1.2 One *Entity Message* shall identify the weapon (chain subject) and one shall identify the associated target (chain object). For example, AARGM provides a single report to the National System Ground Processor containing both weapon and target information and the National System Ground Processor will create the three required CMF messages.

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I.7.2.4.1.3 If the weapon has diverted or flexed to an alternate target, this shall be represented by an unpairing of an existing chain, if any, and a new chain generated for the new target.

### I.7.2.4.2 BHI ENTITY MESSAGE FOR THE TARGET

I.7.2.4.2.1 The *Entity Message* for the target includes timestamped target identification and three-dimensional location.

I.7.2.4.2.2 The target will typically be reported with an *Entity Type*, *IBS* and/or one or more *Amplification ID* values (*MIDB*, *ELNOT*, *CENOT*, or *AEN*), to identify the actual type of entity that was acquired or targeted, based upon sensor inputs or planned mission profile, respectively. For certain targets, an *Entity Unique Equipment ID* of the target will also be included.

I.7.2.4.2.3 The target *Environment ID* is normally reported as a Hostile (i.e., last character of the ID is an "H").

I.7.2.4.2.4 The target message shall include:

- (1) the minimum elements required for a valid *Entity Message*, where the time provides the BHI timestamp, and the location for the entity is three-dimensional reported as a latitude, longitude, and *Measured Altitude* or *Elevation*;
- (2) *Provider Type* set to "WEAPON";
- (3) *Provider Data Category* set to "WPN"; and
- (4) one or more target identification elements (e.g., *Entity Type*, *MIDB Equipment Code*, *Entity Unique Equipment ID*, *ELNOT*, *CENOT*, *AEN*).

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I.7.2.4.3 BHI ENTITY MESSAGE FOR THE WEAPON

I.7.2.4.3.1 The *Entity Message* for the weapon includes timestamped weapon identification, health and status, and three-dimensional location.

I.7.2.4.3.2 The weapon is reported with an *Entity Type*, *IBS* value which represents the actual type of missile providing the report. For example, for AARGM missiles, the *Entity Type*, *IBS* will be set to "AARGM".

I.7.2.4.3.3 The weapon *Environment ID* is normally reported as an Air Friend (i.e., the ID is "ARF").

I.7.2.4.3.4 The weapon message shall include:

- (1) the minimum elements required for a valid *Entity Message*, where the time provides the BHI timestamp, and the location for the weapon is three-dimensional reported as a latitude, longitude, and *Measured Altitude*;
- (2) *Provider Type* set to "WEAPON";
- (3) *Provider Data Category* set to "WPN";
- (4) *Entity Type*, *IBS*;
- (5) *Weapon State*;
- (6) *Weapon Self Assessment*;

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(7) *Aimpoint*; and

(8) *Time To Fuze*.

I.7.2.4.3.5 If data is available, the weapon message shall include:

(1) *Speed*;

(2) *Flight Path Angle or X Y Z Velocity*;

(3) *Sensor Navigation Status*.

I.7.2.4.3.6 For AARGM, in order to have a required weapon location, the weapon's *Time of Intercept* shall be reported as an extrapolated time (i.e., *Extrapolation Indicator* set to "EXTRAPOLATED") calculated from adding the time to fuze to the time the weapon report was received at the National System Ground Processor. Thus, for AARGM, the weapon location reported in CMF will also be the same as the aimpoint location and the CMF *Time To Fuze* element shall be reported as zero.

I.7.2.4.3.7 Other elements typically included in weapon reports are *Weapon Attack Strategy* and *Co-Located Threat*. These elements should be reported if the data is available.

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29 January 2021  
Superseding  
MIL-STD-6018B  
15 December 2017**

# **DEPARTMENT OF DEFENSE INTERFACE STANDARD**

## **INTEGRATED BROADCAST SERVICE (IBS) COMMON MESSAGE FORMAT (CMF) STANDARD**

### **APPENDIX J – REFERENCE TABLES**



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J.1 NUMBER SYSTEMSTABLE J.1-1 Number Systems

<b>NUMBER SYSTEMS</b>											
	16	8	4	2	1		DECIMAL	BINARY	OCTAL	HEX	
0					0		0	0000	0	0	
1					1		1	0001	1	1	
2				1	0	0	2	0010	2	2	
3			1	1	1		3	0011	3	3	
4		1	0	0	0		4	0100	4	4	
5		1	0	1	0		5	0101	5	5	
6		1	1	0	0		6	0110	6	6	
7		1	1	1	1		7	0111	7	7	
8	1	0	0	0	0		8	1000	10	8	
9	1	0	0	0	1		9	1001	11	9	
10	1	0	0	1	0		10	1010	12	A	
11	1	0	0	1	1		11	1011	13	B	
12	1	1	0	0	0		12	1100	14	C	
13	1	1	0	1	0		13	1101	15	D	
14	1	1	1	0	0		14	1110	16	E	
15	1	1	1	1	1		15	1111	17	F	
16	1	0	0	0	0		<b>POWERS OF TWO</b>				
17	1	0	0	0	0	1	n	$2^n$	n	$2^n$	
18	1	0	0	1	0		1	2	14	16384	
19	1	0	0	1	1		2	4	15	32768	
20	1	0	1	0	0		3	8	16	65536	
21	1	0	1	0	1		4	16	17	131072	
22	1	0	1	1	0		5	32	18	262144	
23	1	0	1	1	1		6	64	19	524288	
24	1	1	0	0	0		7	128	20	1048576	
25	1	1	0	0	1		8	256	21	2097152	
26	1	1	0	1	0		9	512	22	4194304	
27	1	1	0	1	1		10	1024	23	8388608	
28	1	1	1	0	0		11	2048	24	16777216	
29	1	1	1	0	1		12	4096	25	33554432	
30	1	1	1	1	0		13	8192	26	67108864	
31	1	1	1	1	1						

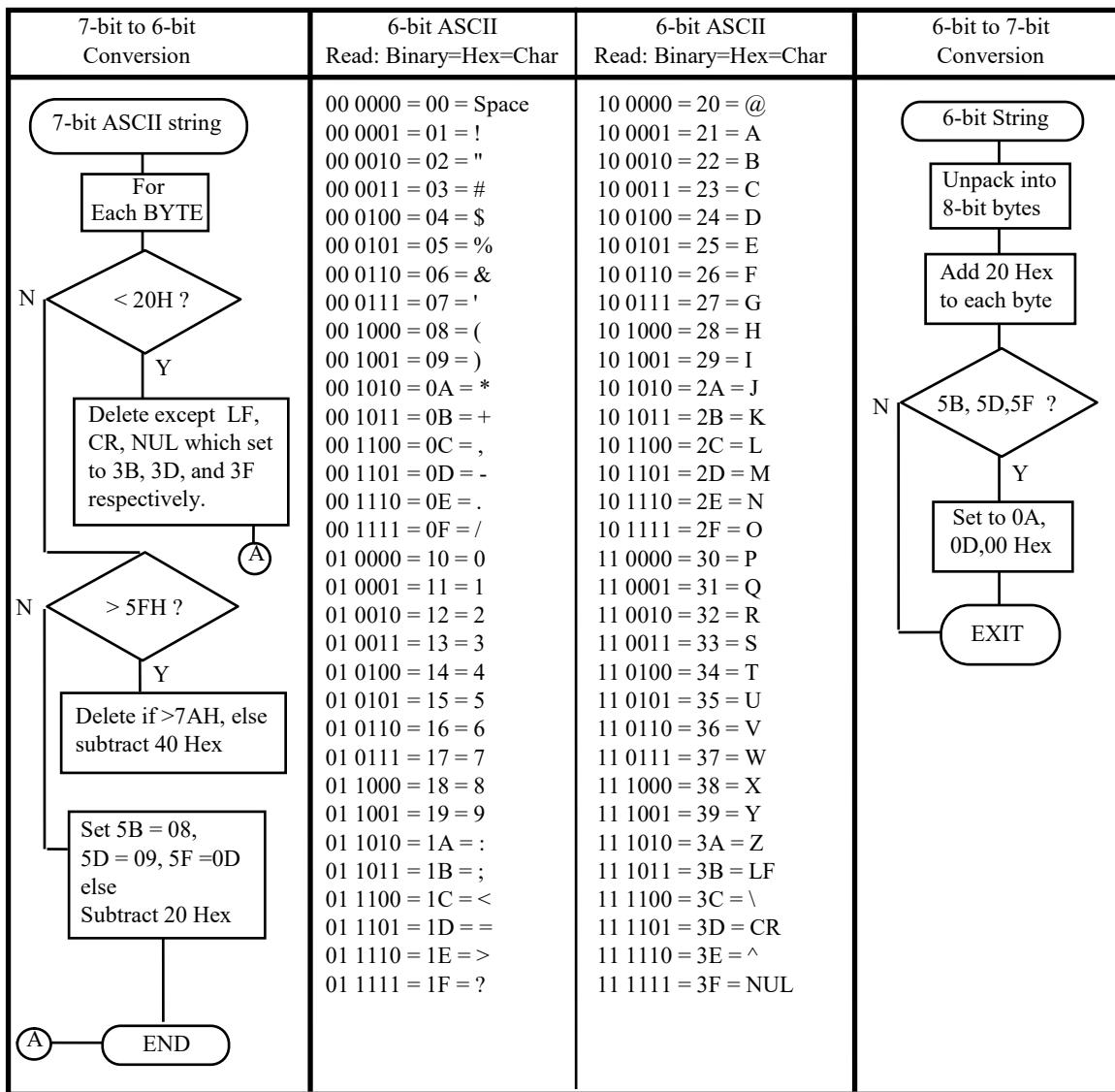
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## J.2 SIX-BIT ASCII CODE CONVERSION

TABLE J.2-1 Six-Bit ASCII Code Conversion



Note: This conversion will result in all alphas, "[" , "]" , and "\_" being changed to all capitals, "(" , ")" , and "-" , respectively. Any occurrences of "{" , "}" , "~" , or DEL will be deleted.

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J.2.1 Comment: The process illustrated in the table represents conceptual design, provided only to aid in understanding the process, and is not intended to mandate an implementation design.

Implementation via look-up table may be determined to offer greater efficiency than implementation via coded process.

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J.3 MATHEMATICAL CONVERSION STANDARDSTABLE J.3-1 Mathematical Conversion Standards

UNIT	SYMBOL	WHEN YOU KNOW	MULTIPLY BY	TO FIND	SYMBOL
Length	in	inches	2.54	centimeters	cm
	in	inches	1000	mils	mil
	mil	mils	0.001	inches	in
	mil	mils	0.0000254	meters	m
	ft	feet	30.48	centimeters	cm
	ft	feet	0.3048	meters	m
	mi	miles	1.609	kilometers	km
	mm	millimeters	0.03937	inches	in
	cm	centimeters	0.3937	inches	in
	m	meters	3.2808	feet	ft
	m	meters	39370	mils	mil
	km	kilometers	0.6214	miles	mi
	km	kilometers	3281	feet	ft
	nmi	nautical miles	6076.1	feet	ft
	nmi	nautical miles	1852	meters	m
	nmi	nautical miles	1.1508	miles	mi
	fathom	fathoms	6.0	feet	ft
	fathom	fathoms	1.8288	meters	ft
Mass (weight)	oz	ounces	28.35	grams	g
	lb	pounds	0.4536	kilograms	kg
	g	grams	0.03527	ounces	oz
	kg	kilograms	2.2046	pounds	lb
Speed	kn	knots	1.1508	mi per hour	mph
	kn	knots	30.87	meters/minute	--
	mph	miles per hour	0.8690	knots	kn
	mph	miles per hour	1.609	km per hour	km/h
	km/h	km per hour	0.6214	mi per hour	mph

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J.3.1 Comment: Conversion factors provided in this table are for information purposes only and are not mandated for use as presented. Implementation design must determine application-required precision.

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**J.4    CONSTANTS AND EQUIVALENT MEASURES****TABLE J.4-1    Constants and Equivalent Measures**

1 nautical mile = 1852 meters
1 nautical mile = 1.012685914 data miles
1 foot = 0.3048 meters
1 data mile = 6000 feet
1 data mile = 1828.8 meters
1 statute mile = 5280 feet = 8 furlongs
Velocity of light in vacuum (c) = 186280 mi/sec = $2.998 \times 10^8$ m/sec
Velocity of sound in dry air = 1127 ft/sec
Degree of longitude at equator = 68.703 miles = 59.661 nmi
Acceleration due to gravity
at sea level, 40° Lat (g) = 32.1578 ft/sec <sup>2</sup>
Base of natural logs = 2.718
1 radian = $180^\circ \div \pi = 57.3^\circ$
360 degrees = $2\pi$ radians
$\pi = 3.1416$
Sin 1' = 0.00029089
Arc 1° = 0.01745 radian
60 seconds('') = 1 minute (')
60 minutes (') = 1 degree (°)
90 degrees (°) = 1 quadrant
4 quadrants = 1 circle of circumference

**J.4.1    Comment:** Conversion factors provided in this table are for information purposes only and are not mandated for use as presented. Implementation design must determine application-required precision.