

INCH-POUND

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DEPARTMENT OF DEFENSE INTERFACE STANDARD

DATA FORWARDING BETWEEN TACTICAL DATA LINKS (TDLs)



AMSC N/A

AREA: INST

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FOREWORD

1. This Military Standard is approved and mandatory for use by all Departments and Agencies of the Department of Defense the forward data onto the affected tactical data links.

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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<u>Appendix</u>	<u>Title</u>	<u>Inclusion Status</u>
Appendix A	Data Forwarding Between Link 11/11B and Link 16	Included
Annex A	Glossary	Included
Appendix B	Data Forwarding Between Link 22 and Link 16 (This is STANAG 5616 Volume 2)	Not Included
Appendix C	Data Forwarding Between Link 22 and Link 11/11B (This is STANAG 5616 Volume 3)	Not Included
Appendix D	Data Forwarding Between Link 16 and VMF	Included
Annex A	Glossary	Included
Appendix E	Data Forwarding Between Link 16 and Link 16	Included
Annex A	Glossary	Included
Appendix F	Data Forwarding Between IBS CMF and Link 16	Maintained Separately
Annex A	Glossary	Maintained Separately
Annex B	Classified Annex	Maintained Separately
Appendix G	Data Forwarding Between IBS CMF and VMF (Reserved for future development)	Not Included
Appendix H	Data Forwarding From IBS CMF to Link 22 (No document exists for this requirement)	Not Included

MIL-STD-6020C

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SECTION 1

1. SCOPE

1.1 PURPOSE

MIL-STD-6020C describes the approved standards/agreements to achieve compatibility and interoperability between command and control and communications systems and equipment of U.S. military forces employed or intended to be employed in joint/combined tactical operations. MIL-STD-6020C specifies the rules, message translation requirements, and data element translations required to exchange data between tactical data systems. Documents that provide planning and common procedures to forces in the joint/combined environment using Tactical Data Links (TDLS) as the basis for information exchange will compliment this publication.

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1.2 DOCUMENT STRUCTURE

MIL-STD-6020C consists of six sections and eight appendices. Section 1 provides the introduction and scope. Section 2 lists U.S. and NATO documents applicable to data forwarding requirements between tactical data links. Section 2 also shows the relative age of documents that present link-to-link data forwarding requirements. Section 3 cites the location of abbreviations, acronyms, terms, and definitions for each appendix. Section 3 also describes common data forwarding concepts and conventions. Section 4 outlines the structure of a typical data forwarding document and presents exceptions to the generally accepted template. Section 5 clarifies the applicability of the forwarding requirements delineated in the appendices, confirms link to link forwarding requirements, and lists associated data forwarding standards. Section 6 directs the reader to the appropriate appendix for his specific data link to data link forwarding requirements.

Appendix A contains the data forwarding rules, protocols, and translations required between J series (i.e., Link 16) and M series (Link 11/11B) messages. Appendix B provides specifications for data forwarding between tactical data systems employing NATO Digital Data Link 22 and tactical data systems employing Link 16. Appendix C contains specifications for data forwarding between tactical data systems employing Link 22 and tactical data systems employing Link 11/11B. Appendix D specifies the rules, protocols, message translation requirements, and data element translations required to exchange data between tactical data systems employing Variable Message Format (VMF) and tactical data systems employing Link 16. Appendix E describes the general forwarding rules for the exchange of Link 16 data over non-JTIDS/MIDS media (i.e., via the Joint Range Extension (JRE) interface). Appendix F specifies the rules, protocols, message translation requirements, and data element translations required to exchange data between systems employing the Integrated Broadcast Service (IBS) Common Message Format (CMF) and tactical data systems employing Link 16. Appendix G specifies the rules, protocols, message translation requirements, and data element translations required to exchange data between systems employing the IBS CMF and tactical data systems employing VMF. Appendix H specifies the rules, protocols, message translation requirements, and data element translations required to forward data from systems employing the IBS CMF to tactical data systems employing NATO Digital Data Link 22.

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1.3 BACKGROUND

On 5 July 1984, the Deputy Secretary of Defense signed DOD Directive 5154.28, which established the Joint Tactical Command, Control and Communications Agency (JTC3A) under the Defense Communication Agency (DCA). The Directive assigned JTC3A responsibility for the development and maintenance of a joint architecture, interface standards, and interface definitions for tactical/mobile C³ systems. All program activities and resources of the Joint Tactical Communication Office and the Joint Interoperability of Tactical Command and Control Systems (JINTACCS) Program were transferred to the JTC3A. JTC3A on 1 February 1992 was changed to the Joint Interoperability and Engineering Organization (JIEO) in the Defense Information Systems Agency (DISA), formerly DCA.

DISA chairs the Joint Multi-TDL Standards Working Group (JMSWG). The Joint Tactical Data Link Configuration Control Board (CCB), a subordinate element of the JMSWG, directed (via Action Item 00-3/2) that JIEO propose a format for data forwarding between all tactical data links. The proposed format should include requirements documented in both U.S. standards and NATO standardization agreements. At CCB 01-1 JIEO proposed developing a MIL-STD with appendices that document specific link to link forwarding requirements (e.g., MIL-STD-6016 Appendix C, STANAG 5616 Volume 2, and STANAG 5616 Volume 3 would become three appendices in the new MIL-STD). JIEO would add additional appendices to the MIL-STD as the community identifies and documents new data forwarding requirements. The CCB concurred with this approach.

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1.4 POLICY

Applicable statements of policy are contained in DOD and NATO directives and correspondence. Essentially, interoperability, compatibility, and commonality in the degree necessary to provide for flexible, effective, and economical operation of tactical forces will be achieved. Commonality, compatibility, and interoperability are objectives. Interoperability in joint/combined tactical operations is absolutely essential for operational effectiveness.

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1.5 CONCEPT

Appendices in MIL-STD-6020C comply with basic DOD and NATO policies.

Appendices were developed in consonance with the following concepts:

- a. Tactical command and control, and communications systems standards/agreements are developed only for systems and equipment applicable to functional areas in which the need for interoperability and compatibility has been validated as essential by the Joint Chiefs of Staff.
- b. These standards/agreements apply to operational and future tactical systems and use system characteristics previously approved for Service use where such characteristics meet the joint/combined requirements.
- c. This document establishes certain standards/agreements and criteria for message formats and transmission characteristics that will be used in the design and/or procurement of systems and equipment. Additionally, these standards/agreements will be used in computer program development and when new system designs are implemented within existing systems.
- d. An interface between tactical systems should exploit the maximum capability of sensors and processors to provide precise information exchange in support of tactical operations.
- e. Message format standards/agreements and information exchange criteria in those standards/agreements are designed to support established doctrine and known requirements. They will be responsive to revision, as indicated.

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1.6 APPLICATION OF STANDARDS

The services, commands, and applicable DOD Agencies will use MIL-STD-6020C in their developing and acquiring new systems, computer programs, and equipment as required, and for their updating existing systems for use on applicable tactical data links.

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1.7 CONFIGURATION MANAGEMENT

MIL-STD-6020C is essentially a "covering" document for its individual appendices. Each appendix of MIL-STD-6020C:

- a. Can stand alone as an independent document.
- b. Is configuration managed as an independent document.
- c. May (with direction from the CCB) be "base lined" independently from other appendices.
- d. Retains the classification markings from its source document (e.g., Appendix C retains the classification markings of STANAG 5616 Volume 3.).

The Director, DISA is responsible for the configuration management of MIL-STD-6020C. Service/DOD Agency requests for changes to the basic document must be prepared, submitted, and processed in accordance with the CJCSI 6610.01 and the TDL CCB Terms of Reference (TOR). DISA EE2 will promulgate approved changes to all participants. The Secretary of Defense must approve any application for waiver of a standard/agreement to a specific equipment or system.

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SECTION 2

2. APPLICABLE DOCUMENTS

2.1 MILITARY STANDARD

2.1.1 DEPARTMENT OF DEFENSE (DOD) STANDARDS

a. MIL-STD-188-203-1A - Tactical Digital Information Link (TADIL) A Message Standard.

b. MIL-STD-188-203-3 - Tactical Digital Information Link (TADIL) C Message Standard.

c. MIL-STD-188-212 - Tactical Digital Information Link (TADIL) B Message Standard.

d. MIL-STD-2045-47001B - Interoperability Standard for Connectionless Data Transfer Application Layer Standard.

e. MIL-STD-3011 - Interoperability Standard for the Joint Range Extension Application Protocol.

f. MIL-STD-6004 - Tactical Digital Information Link (TADIL) C Message Standard.

g. MIL-STD-6011 - Tactical Data Link (TDL) 11/11B Message Standard.

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

i. MIL-STD-6017 - Variable Message Format (VMF).

j. MIL-STD-6018 - Integrated Broadcast Service (IBS) Common Message Format (CMF) Standard.

(Copies of these documents are available online at <https://assist.dla.mil>.)

2.1.2 NORTH ATLANTIC TREATY ORGANIZATION (NATO) STANDARDIZATION
AGREEMENT (STANAG)

- a. STANAG 4175 - Technical Characteristics of the Multi-Functional Information Distribution System (MIDS).
- b. STANAG 5511 - Tactical Data Exchange - Link 11/11B.
- c. STANAG 5516 - Tactical Data Exchange - Link 16.
- d. STANAG 5522 - Tactical Data Exchange - Link 22.
- e. STANAG 5616 Volume 1 - Standards for Data Forwarding Between Tactical Data Systems Employing Link 11/11B and Tactical Data Systems Employing Link 16.
- f. STANAG 5616 Volume 2 - Standards for Data Forwarding Between Tactical Data Systems Employing Link 22 and Tactical Data Systems Employing Link 16.
- g. STANAG 5616 Volume 3 - Standards for Data Forwarding Between Tactical Data Systems Employing Link 22 and Tactical Data Systems Employing Link 11/11B.
- h. STANAG 5616 Volume 4 - Standards for Data Forwarding Between Tactical Data Systems Employing Link 16 and Tactical Data Systems Employing JREAP.

(Copies of these documents are available online at <http://nsa.nato.int/nsa/>.)

2.2 OTHER PUBLICATIONS

- a. ACP 167(J) - Glossary of Communications-Electronics Terms.
- b. ADatP-33(C) - Multi-Link Standard Operating Procedures for Tactical Data Systems Employing Link 11, Link 11B, Link 16, IJMS, and Link 22.

c. Joint Pub 1-02 - Department of Defense Dictionary of Military and Associated Terms.

d. CJCSM 6120.01, Joint Multi-Tactical Data Link (TDL) Operating Procedures.

e. CJCSM 6610.01, JINTACCS Standard Policy TADIL Standardization Policy and Procedures.

f. System Segment Specification for JTIDS/MIDS Class 2 Terminal.

2.3 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. However, nothing in this document supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.4 AGE OF LINK DOCUMENTATION

The following table shows the relative age of documents that present link-to-link data forwarding requirements. Unless otherwise indicated, the table gives the MIL-STD publication date. For a STANAG, the table gives the date from the distribution cover letter for the final, MG-approved version. The table may assist managers and custodians in their identifying substantial age differences in key documentation and in their planning for release of future editions.

TABLE 2.1. RELATIVE AGE OF LINK DOCUMENTATION

	Link and Documentation	Forwarding Document	Link and Documentation
1.	From/To Link 11 MIL-STD-6011E 2012 STANAG 5511 Ed9 2013	MIL-STD-6020C Appendix A 2013 STANAG 5616 Ed6 Vol 1 2010	To/From Link 16 MIL-STD-6016E 2012 STANAG 5516 Ed6 2010
2.	From/To Link 22 STANAG 5522 Ed4 2010	STANAG 5616 Ed6 Vol 2 2010	To/From Link 16 STANAG 5516 Ed6 2010
3.	From/To Link 11 STANAG 5511 Ed9 2013	STANAG 5616 Ed6 Vol 3 2010	To/From Link 22 STANAG 5522 Ed4 2010
4.	From/To JRE Interface MIL-STD-3011A 2011 STANAG 5518 Ed2 2013	MIL-STD-6020C Appendix E 2013	To/From Link 16 MIL-STD-6016E 2012
5.	From/To VMF MIL-STD-6017C 2012	MIL-STD-6020C Appendix D 2013	To/From Link 16 MIL-STD-6016E 2012
6.	From/To IBS CMF MIL-STD-6018A 2013	MIL-STD-6020C Appendix F 2013	To/From Link 16 MIL-STD-6016E 2012
7.	From IBS CMF MIL-STD-6018A 2013	Reserved for future development.	To VMF MIL-STD-6017C 2012
8.	From IBS CMF MIL-STD-6018A 2013	Pending Requirement	To Link 22 STANAG 5522 Ed4 2010

SECTION 3

3. DEFINITIONS

Section 3 has three subsections. Subsection 1 contains abbreviations and acronyms for the basic MIL-STD-6020C. Subsection 2 provides the location of abbreviations, acronyms, terms, and definitions for the appendices of MIL-STD-6020C. Subsection 3 describes common data forwarding concepts, conventions, and terminology.

3.1 ABBREVIATIONS AND ACRONYMS

This subsection defines the abbreviations and acronyms used in the basic MIL-STD-6020C.

ADatP	Allied Data Processing Publication
ACP	Allied Communications Publication
BLOS	Beyond Line-Of-Sight
C ³	Command, Control, and Communications
CCB	Configuration Control Board
CJCSM	Chairman of the Joint Chiefs of Staff Memorandum
CMF	Common Message Format
CMP	Configuration Management Plan
DCA	Defense Communications Agency
DFI	Data Field Identifier
DISA	Defense Information Systems Agency

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DOD	Department of Defense
DUI	Data Use Identifier
IBS	Integrated Broadcast Service
ICP	Interface Change Proposal
JIEO	Joint Interoperability and Engineering Organization
JINTACCS	Joint Interoperability of Tactical Command and Control Systems
JMSWG	Joint Multi-Tactical Data Link Standards Working Group
JRE	Joint Range Extension
JTC3A	Joint Tactical Command, Control and Communications Agency
JTIDS	Joint Tactical Information Distribution System
MIDS	Multifunctional Information Distribution System
MIL-STD	Military Standard
MG	Multi-national Group (NATO)
NATO	North Atlantic Treaty Organization
STANAG	Standardization Agreement (NATO)
TADIL	Tactical Digital Information Link
TDL	Tactical Data Link
TDS	Tactical Data System
TIDP-TE	Technical Interface Design Plan - Test Edition

U.S. United States of America
 VMF Variable Message Format

3.2 TERMS AND DEFINITIONS

This subsection provides the location of abbreviations, acronyms, terms, and definitions for the appendices of MIL-STD-6020C.

TABLE 3.1. GLOSSARY LOCATION

APPENDIX ID	APPENDIX NAME	GLOSSARY LOCATION
A	Standards for Data Forwarding Between Link 11/11B and Link 16	MIL-STD-6020C Appendix A, Annex A, Page A-A-1
B	Standards for Data Forwarding Between Link 22 and Link 16	MIL-STD-6020C Appendix B, Annex B (See STANAG 5616 Edition 6, Volume 2, Annex B, Page B-5)
C	Standards for Data Forwarding Between Link 22 and Link 11/11B	MIL-STD-6020C Appendix C, Annex B (See STANAG 5616 Edition 6, Volume 3, Annex B, Page B-14)
D	Standards for Data Forwarding Between Link 16 and Variable Message Format (VMF)	MIL-STD-6020C Appendix D, Annex A, Page D-A-1
E	Standards for Data Forwarding Between Link 16 and Link 16 (over Non-JTIDS/MIDS Media)	MIL-STD-6020C Appendix E, Annex A, Page E-A-1
F	Standards for Data Forwarding Between the Integrated Broadcast Service (IBS) Common Message Format (CMF) and Link 16	MIL-STD-6020C Appendix F, Annex A, Page F-A-1
G	Standards for Data Forwarding Between the IBS CMF and VMF	Reserved for future development
H	Standards for Data Forwarding From the IBS CMF to Link 22	Reserved for future development

3.3 COMMON DATA FORWARDING CONCEPTS, CONVENTIONS, AND TERMINOLOGY

The following paragraphs describe common data forwarding concepts, conventions, and terminology.

3.3.1 DATA FORWARDING CONCEPTS

3.3.1.1 DATA FORWARDING

Data forwarding is 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. Forwarded data is based on the received data and is not dependent upon the data forwarding unit's local system data or its implementation of the received message or the forwarded message.

3.3.1.2 CONCURRENT OPERATIONS

Concurrent operations is the process of communicating on two or more digital data links at the same time as a participant. The concurrent operating unit exchanges all information held in its local database, but remote information is not forwarded. The concurrent operating unit adheres to the protocols of each link. The local database of a concurrent operating unit is the normal assimilation of data by that unit and includes local sensor data, local operator inputs, and data received and accepted into the local database from a data link, e.g., ID or IFF/SIF data.

3.3.1.3 MESSAGE TRANSLATION

Message translation is 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. The translation of messages may vary based on message content. Therefore, message translation standards include rules for selecting the message(s) to which a received message is to be translated based on the type of message received and, in some cases, on the content of the message(s). A forwarder shall process the complete received message prior to taking any forwarding action.

3.3.1.4 DATA ELEMENT TRANSLATION

Data element translation is the process by which a data element (also commonly referred to as a field), or multiple data elements, received on one data link is transformed to the appropriate data element(s) required for transmission on another data link. Equating data elements, converting data elements, and using special considerations for those to which equivalence and conversion do not apply does this translation.

3.3.1.5 DATA ELEMENT EQUIVALENCE

Data element equating is the process of moving, without change, a data item value of a data element from a received message on one link to a data item value of a data element in a different message format for transmission on another link.

3.3.1.6 DATA ELEMENT CONVERSION

Data element conversion is the process of altering the data item value of a data element from a received message on one link to a data item value of a data element in a different message format for transmission on another link. This process is employed when some degree of data item value conversion by a forwarding unit is required. For example, data element conversion may alter the granularity or transform coordinates.

3.3.2 TERMINOLOGY CONVENTIONS

The following terminology conventions are used to specify the nature of data forwarding requirements and information.

- a. "Shall" indicates that a procedure or capability is mandatory (i.e., the procedure or capability must be implemented and it is testable).
- b. "May" indicates that a procedure or capability is optional.
- c. "Will" and "is/are" generally are used descriptively for informational purposes. "Will" and "is/are" are not directive in nature.

d. "Automatically" indicates that a Tactical Data System (TDS) computer without operator stimulus or other operator action shall execute a function or action. Data forwarding requirements call for automated system actions unless otherwise stated. Therefore, the term "automatically" is implied, and is stated specifically only where necessary for emphasis or clarity.

e. "Operator" is the person entering and receiving tactical information within a TDS, as appropriate to the capability to which a particular requirement applies. No attempt is made to specify the operator position or title expected to carry out the specified actions or use specified capabilities, because these vary among systems and platforms.

SECTION 4

4. TEMPLATE FOR DATA FORWARDING DOCUMENTATION

The following paragraphs describe the structure of a typical data forwarding document. The section also presents exceptions to the generally accepted template.

4.1 TYPICAL DATA FORWARDING DOCUMENT

A typical data forwarding document (e.g., STANAG 5616 Volume 3) contains the three major elements: Introduction, General Requirements, and Detailed Requirements. Following is a rough outline for a typical data forwarding document. Subsequent paragraphs in this section describe the entries in the outline.

a. Introduction.

b. General Requirements.

c. Detailed Requirements.

(1) Message Translation Requirements.

(a) Message Translation Trees.

1) Test Node Diagram and Conditions.

2) Required Actions.

3) Notes.

(b) Related Messages.

(c) Forwarding Transmit Requirements.

(d) Data Retention Rules.

(2) Data Element Translation.

(a) Translation Tables.

(b) Notes.

(3) General Notes for Message Data Element Translation.

4.1.1 INTRODUCTION

The Introduction presents the general and administrative information needed to orient the reader and support the data forwarding document. Sections might include scope, reference documents, acronyms/abbreviations, and definitions.

4.1.2 GENERAL REQUIREMENTS

The General Requirements section explains the operational requirement that led to development of the document. General Requirements define data forwarding terminology, responsibilities, concepts, conventions, and considerations. This section also presents applicable general data forwarding rules. The General Requirements section explains link characteristics, describes the message numbering convention, and provides a list of messages for each associated link.

4.1.3 DETAILED REQUIREMENTS

The Detailed Requirements section is the core of the typical data forwarding document. This section addresses three areas: message translation requirements, data element translation, and general notes for message data element translation.

4.1.3.1 MESSAGE TRANSLATION REQUIREMENTS

The Message Translation Requirements section identifies the message translation requirements that a forwarding unit must satisfy. The section provides message translations for each translatable message or message sequence. The Message Translation Requirements section typically includes

the following sets of information for each message translation: message translation trees, related messages, forwarding transmit requirements, and data retention rules.

4.1.3.1.1 MESSAGE TRANSLATION TREES

A message translation tree is a logical set of conditions that depicts how a received message or message sequence is tested to determine the appropriate translation and course of action. This logic is not intended to direct system design. But the end result, however accomplished, shall be in consonance with required actions depicted in the translation tree. The title at the top of each message translation tree identifies the input message or message sequence for which the tree applies. Input messages must satisfy certain basic criteria (e.g., filters, reporting responsibility determination, and data source determination). Each message translation tree contains four parts: a test node diagram, test node condition(s), required action(s), and note(s).

4.1.3.1.1.1 TEST NODE DIAGRAM AND CONDITIONS

The test node diagram, with conditions, represents binary conditions that must be considered to translate a message. Test nodes that are the same and that appear at different places in the tree are identified by the same test node number and, when possible, appear on the same line. Processing through the nodes of a test node diagram provides a unique branch that leads to a set of required actions.

4.1.3.1.1.2 REQUIRED ACTIONS

Required actions accomplish several functions while collectively identifying all possible options for a given translation. A forwarder shall process the complete received message or message sequence in accordance with the appropriate translation tree, prior to taking any forwarding action. This process will eliminate the possibility of the forwarder originating unnecessary duplicate messages as each 'Required Action' of the Test Node Diagram is being considered. This action also may identify data that must be retained to satisfy link protocols, as well as changes that should be made or flags that should be set to assure that duplicate messages are detected,

periodic transmissions are accomplished, subsequent messages are processed, and purging requirements are supported. The required actions refer only to forwarding requirements, not to actions to be taken on the link from which the message is received.

4.1.3.1.1.3 NOTES

The notes provide additional information or clarification about a test node condition and/or required action. All notes refer only to forwarding requirements, not to actions to be taken on the link from which the message is received.

4.1.3.1.2 RELATED MESSAGES

The related messages section lists all the messages that can be transmitted as a result of the receipt of a message or message sequence from the other associated link.

4.1.3.1.3 FORWARDING TRANSMIT REQUIREMENTS

When the processing of required actions results in the generation of a message, transmit requirements for that message must comply with the protocols of the appropriate link.

4.1.3.1.4 DATA RETENTION RULES

Data retention rules pertain only to the data forwarding function of a forwarding unit. These rules identify data that must be maintained for proper data transfer over multi-TDL interfaces. If no data retention rule is specified, then data may be purged upon completion of all data forwarding functions (e.g., receipt/compliance and redundant transmissions) associated with receipt of the listed message.

4.1.3.2 DATA ELEMENT TRANSLATION

This section provides data element translations between associated link messages as required by the message translation process. The data element translation section presents those actions required to generate a message for

transmission on a data link based on information received on another data link.

4.1.3.2.1 TRANSLATION TABLES

Data element translation tables present information in tabular form according to the message being generated. The translation table is a data element by data element depiction of the message to be generated with an indication of the source of the data to be used in the data element.

4.1.3.2.2 NOTES

The data element translation table may reference table notes and/or general notes. A table note provides amplifying information that must be considered to complete the data element translation process. A table note is included with the translation table. The note number reference in the translation table has no prefix (e.g., 3 refers to table note number three).

4.1.3.3 GENERAL NOTES

The general notes section provides the general notes used for message data element translations. A general note provides amplifying information that must be considered to complete the data element translation process. General notes are not collocated with the data element translation table. The general note number reference in the translation table has the letter "G" as a prefix (e.g., G3 refers to general note number three).

4.2 EXCEPTIONS TO THE ACCEPTED FORMAT

Following are exceptions to the generally accepted template for a data forwarding document.

4.2.1 LINKS WITH COMMON DATA IDENTIFIERS AND NUMERICAL IDENTIFICATION

The great majority of Link 22 data field identifiers (DFI) and data use identifiers (DUI) is common with those in Link 16 and have the same numerical identification. This commonality causes the structure of STANAG 5616 Volume 2 to differ from the structure of a typical data forwarding document. The

primary differences are in the Detailed Requirements portion of the document. Following is a rough outline for STANAG 5616 Volume 2. Subsequent paragraphs in this section describe selected entries in the outline.

- a. Introduction.
- b. General Requirements.
- c. Detailed Requirements.
 - (1) Message Translation Requirements.
 - (a) Link Word/Message Data Element Source Extraction Tables.
 - (b) Tables for Link Words Not Forwarded.
 - (c) Message Translation Rules.
 - (2) Data Element Translation Requirements.
 - (a) Link to Link Translation Tables.
 - (b) Notes.

4.2.1.1 MESSAGE TRANSLATION REQUIREMENTS

This chapter describes the message translation requirements when forwarding data between Link 16 and Link 22. The format of the chapter varies considerably from the format used for Link 11-Link 16 data forwarding where, essentially, messages are received on one link, translated as required, and transmitted on another link. In Link 16-Link 22 data forwarding, the governing factors are the transmission protocols, procedures and message formats of the destination link.

4.2.1.1.1 LINK WORD/MESSAGE DATA ELEMENT SOURCE EXTRACTION TABLES

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These tables clarify the data element translation process. The tables specify from which received words/messages the necessary data has been provided to prepare the message to be transmitted.

4.2.1.1.2 TABLES FOR LINK WORDS NOT FORWARDED

Two tables show the messages that are not forwarded. One table lists the Link 22 messages that shall not be transmitted as a result of data received from Link 16 and which are not forwarded to Link 16. A second table lists the Link 16 words that shall be transmitted as a result of data received from Link 22 and which are not forwarded to Link 22.

4.2.1.1.3 MESSAGE TRANSLATION RULES

In Link 16-Link 22 data forwarding, the requirement for message to message translations exists in fewer instances than in data forwarding between Link 11/11B and Link 16. The chapter includes rules for data retention, track quality, and message validity/legality.

4.2.1.2 DATA ELEMENT TRANSLATION REQUIREMENTS

This chapter provides the data element translations between Link 16 and Link 22 as required by the message translation process. Chapter tables show only those data elements that are not common to both J-Series and F-Series messages.

4.2.1.2.1 LINK TO LINK TRANSLATION TABLES

The Chapter provides four tables for link to link data element translations. Two tables are for translations from Link 22 to Link 16, and two tables are for translations from Link 16 to Link 22. Table entries are ordered by source link message/word number or by source data element.

4.2.1.2.2 NOTES

The link to link translation table may reference a note that is applicable to that particular translation requirement. A table note provides amplifying

information that must be considered to complete the data element translation process. The table note is included with the translation table.

4.2.2 LINK 16 TO LINK 16 FORWARDING VIA JRE

The Joint Range Extension (JRE) interface is intended to provide improved information distribution by extending the range of nets exchanging tactical information beyond line-of-sight (BLOS). This alternative capability provides for connecting two or more Link 16 networks using a JRE (i.e., non-JTIDS/MIDS media) link for forwarding between Link 16 networks. MIL-STD-6020C Appendix E provides rules, protocols, and translations for data forwarding between multiple Link 16 networks over the JRE interface. In the data forwarding process, J2.x messages received on Link 16 are forwarded in a J2.0 Indirect Interface Unit PPLI message on the JRE link. This unique data forwarding process causes the structure of MIL-STD-6020C Appendix E to differ from the structure of a typical data forwarding document. The following is a rough outline for MIL-STD-6020C Appendix E. Subsequent paragraphs in this section describe selected entries in the outline.

- a. Introduction.
- b. Joint Range Extension.
- c. General Requirements.
- d. Detailed Requirements.
 - (1) Data Element Translation Tables.
 - (2) Notes.

4.2.2.1 JOINT RANGE EXTENSION

This section describes the various JRE interfaces (e.g., a JRE interface between Link 16 Networks or between a Link 16 network and a JRE Unit), and the general requirements for data exchange outside of Link 16. MIL-STD-3011 defines the protocols and message structures for the transmission and reception of pre-formatted messages over communications media other than

those for which these messages were designed. The section includes JRE filters (i.e., types, capabilities, and application rules).

4.2.2.2 GENERAL REQUIREMENTS

This section specifies the rules, considerations, and protocols for the forwarding data between Link 16 and Link 16 via JRE. Topics include the extrapolation of position data and the preservation of the original track number.

4.2.2.3 DETAILED REQUIREMENTS

This section provides the data element translations between Link 16 and JRE. No message translation tables (i.e., trees) are provided because data forwarding from JRE to Link 16 is one for one.

4.2.2.4 DATA ELEMENT TRANSLATION TABLES

This section provides the Link 16 to Link 16 data element translations. A table is provided for each translation from the J2.2 to J2.0, J2.3 to J2.0, J2.4 to J2.0, J2.5 to J2.0, and J2.6 to J2.0. These tables are a data element by a data element depiction of the J2.0 message to be generated with an indication of the source of the data to be used in the data element. Following each table are notes referring to that table. J2.0 to J2.0 is a one for one word, data element, and data item equivalent, so no translation table is required.

SECTION 5

5. GENERAL REQUIREMENTS

Section 5 has two subsections. Subsection 1 defines the applicability of MIL-STD-6020C. Subsection 2 identifies link to link forwarding requirements and their associated data forwarding standards.

5.1 DATA FORWARDING

Data forwarding is the process of receiving data on one digital data link and outputting the data in the proper format and protocol of another digital data link. In the process, a message(s) received on one link is translated to an appropriate message(s) on another link.

All systems that forward data between:

- * Link 11/11B and Link 16
- * Link 22 and Link 16
- * Link 22 and Link 11/11B
- * Link 16 and VMF
- * Link 16 and Link 16 (i.e., over non-JTIDS/MIDS media)
- * IBS CMF and Link 16
- * IBS CMF and VMF

or

- * From IBS CMF to Link 22

must adhere to the appropriate appendix of this MIL-STD.

Some systems may use internal system translations (e.g., Link 16 to Link 11B) and some systems may transmit originated track data on more than one data

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link at the same time. Functionally, such systems are not data forwarders. However, such systems will adhere to the guidance in the appropriate appendix of MIL-STD-6020C to ensure that the closest possible relationship of data elements and data element interpretation will be maintained among all users of the data.

5.2 LINK TO LINK REQUIREMENTS AND STANDARDS

Table 5.1 confirms link to link forwarding requirements and cites the data forwarding standard (if any) associated with the requirement. The table is a matrix. The user finds the desired "FROM" link row on the left of the table, then finds the desired "TO" link column at the top of the table. If the block where the "FROM" link row and "TO" link column cross contains "N/A" or "No Plan," then no link to link data forwarding requirement exists. If the block contains other data, then a link to link data forwarding requirement exists. The table also identifies US legacy TDLS.

TABLE 5.1. LINK TO LINK FORWARDING REQUIREMENTS AND ASSOCIATED STANDARDS

TO → - - - - - FROM ↓	LINK 16*	LINK 22*	LINK 11**	IBS CMF*	VMF*
LINK 16*	MS6020C Appendix E	STANAG 5616 Volume 2	MS6020C Appendix A	MS6020C Appendix F	MS6020C Appendix D
LINK 22*	STANAG 5616 Volume 2	N/A	STANAG 5616 Volume 3	No Plan	No Plan
LINK 11**	MS6020C Appendix A	STANAG 5616 Volume 3	MS6011 L11 – L11B, L11B – L11B	No Plan	No Plan
IBS CMF*	MS6020C Appendix F	Reserved for future development	No Plan	N/A	Reserved for future development
VMF*	MS6020C Appendix D	No Plan	No Plan	Reserved for future development	N/A

* Joint Family TDL

** Legacy TDL

SECTION 6

6. DETAILED REQUIREMENTS

The appendices described in this section provide the approved standards/agreements required to exchange data between tactical data systems of U.S. military forces employed or intended to be employed in joint/combined tactical operations.

6.1 DATA FORWARDING BETWEEN LINK 11/11B AND LINK 16

Appendix A contains the data forwarding rules, protocols, and translations required between J series (i.e., Link 16) and M series (Link 11/11B) messages. Annex A to Appendix A contains the glossary. Appendix A formerly was known as MS6016 Appendix C.

6.2 DATA FORWARDING BETWEEN LINK 22 AND LINK 16

Appendix B provides specifications for data forwarding between tactical data systems employing NATO Digital Data Link 22 and tactical data systems employing Link 16. Appendix B is STANAG 5616 Volume 2.

6.3 DATA FORWARDING BETWEEN LINK 22 AND LINK 11/11B

Appendix C contains specifications for data forwarding between tactical data systems employing Link 22 and tactical data systems employing Link 11/11B. Appendix C is STANAG 5616 Volume 3.

6.4 DATA FORWARDING BETWEEN LINK 16 AND VMF

Appendix D specifies the rules, protocols, message translation requirements, and data element translations required to exchange data between tactical data systems employing Variable Message Format (VMF) and tactical data systems employing Link 16. Annex A to Appendix D contains the glossary.

6.5 DATA FORWARDING BETWEEN LINK 16 AND LINK 16

Appendix E describes the general forwarding rules for the exchange of Link 16 data over non-JTIDS/MIDS media (i.e., the Joint Range Extension (JRE) interface). Annex A to Appendix E contains the glossary. Appendix E formerly was known as MS6016 Appendix C Annex A.

6.6 DATA FORWARDING BETWEEN IBS CMF AND LINK 16

Appendix F specifies the rules, protocols, message translation requirements, and data element translations required to exchange data between systems employing the Integrated Broadcast Service (IBS) Common Message Format (CMF) and tactical data systems employing Link 16. This Appendix is maintained separately.

6.7 DATA FORWARDING BETWEEN IBS CMF AND VMF

Appendix G specifies the rules, protocols, message translation requirements, and data element translations required to exchange data between systems employing the IBS CMF and tactical data systems employing the VMF. Reserved for future development.

6.8 DATA FORWARDING FROM IBS CMF TO LINK 22

Appendix H specifies the rules, protocols, message translation requirements, and data element translations required to forward data from systems employing the IBS CMF to tactical data systems employing NATO Digital Data Link 22. No data forwarding document exists for this requirement.

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SECTION 7

7. NOTES

This section contains information of a general or explanatory nature which may be helpful, but is not mandatory.

7.1 INTENDED USE

This standard will be used by organizations that have a requirement to exchange data between tactical data systems.

7.2 SUPERSESSION DATA

Appendix A of this standard supersedes Appendix C of MIL-STD-6016B, 01 August 2002.

7.3 INTERFACE CHANGE PROPOSALS (ICPs) INCLUDED IN THIS UPDATE

ICP	DLCP	Title	Appendix
TM05-064/Ch4	ML316	IFF/SIF Mode S	A
TM06-044/Ch7	ML393	USN ASW Platforms Additional Sonobuoy Data	A
TM07-037/Ch4 (sup)	No DLCP	Provide Precision Position Information and Elevation in the J3.3 Message	F
TM07-040/Ch5	ML388	Adding Mine Warfare Data to the J3.0 Reference Point Message (Pt=0 (Hazard), Pt Amp=2 (Mine)) (Updates Appendix F Only)	A (Note 1)
TM07-042/Ch3	ML390	Clarifications for the Terms Association, Coupling, and Pairing	A

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ICP	DLCP	Title	Appendix
TM07-081	No DLCP	M.82 Translation from the J2.0 and J2.2	A
TM07-131/Ch1	No DLCP	J2.0 IIU PPLI Transmission Protocols	A, E
TM07-143/Ch2	ML414	J7.5 Special Code II and DISUSED ACT=2 Transmission/Forwarding Requirements	A
TM07-146/Ch1	No DLCP	Correction of Reference for Responsibility for Message Retransmission	E
TM08-012/Ch4	ML402	Changes to DFI 804 (Air Specific Type)	A (Note 1)
TM08-012/Ch4 (sup)	No DLCP	Changes to DFI 804 (Air Specific Type)	A (Note 1)
TM08-022/Ch3 (sup)	No DLCP	Alignment of Subsurface Platform Designators with Current ATP-28	A (Note 1)
TM08-041/Ch5	ML420	J2.0 IIU PPLI Transmission Protocols	A, E
TM08-042/Ch5	ML277	J16.0 Image Transfer Message	A
TM08-043/Ch3	ML282	Link 16 to/from JREAP Forwarding Rules (From TJ04-048)	E
TM08-059/Ch1	No DLCP	Unit Reference Number (URN) Reservations to Support Source Track Number (STN) Based Tactical Data Networking (TDN) Systems	A (Note 1)
TM08-075/Ch3	ML438	Addition of AEA Jammer Status word to the J/FJ13.2 Message	A
TM08-083/Ch2	ML429	SM-6 Surface-to-Air (SAM) Missile Type	A (Note 1)

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ICP	DLCP	Title	Appendix
TM09-007/Ch1	SL-242-5616-USA-M49	Addition of JREAP Data Forwarding paragraphs for STANAG 5616 Ed5 Vol. 4 (Derived from ICP TM08-043), and corrections to MIL-STD-6020A, Apdx E.	E
TM09-023/Ch1 (sup)	No DLCP	Changes to DFI/DUI 1797 002	A (Note 1)
TM09-044/Ch1	No DLCP	Reinstate Filter Data Request Indicator and Filter Number in the J7.1 Data Update Request Message	A
TM09-071/Ch4	ML481	Addition of the NPSI field in the J2.0 IIU PPLI Message	D, E
TM09-086/Ch1	SL-247-5616-USA-M50	Datum Forwarding Incorporation Error	A
TM09-103/Ch1 (sup)	ML469	Addition of Patriot Missile Types to DFI(s) (749/804/399)	F
TM09-111/Ch3	ML460	Associating Multiple Space Objects with the Same Launch Point Estimate	A
TM10-002/Ch1	ML462	Addition of Japanese Air, Surface, and Land Specific Type Data Items	A
TM10-070/Ch1	ML472	TacMobile Name Change	A, E (Note 1)
TM10-070/Ch1 (sup)	No DLCP	TacMobile Name Change (Appendix F and G)	A, E (Note 1)
TM10-106/Ch1	ML477	J3.5 Track Identifier Deletion	A, F
TM10-106/Ch1 (sup)	No DLCP	J3.5 Track Identifier Deletion	A, F
TM10-109/Ch1 (sup)	ML478	Change Spec Type value "PANTZYR" to "SA-22 Greyhound"	F
TM10-123/Ch4 (sup)	ML498	Create New UAV Controlling Unit Functional Area	F
TM10-135/Ch1	SL-266-5616-USA-M55	Mil-STD-6020A, and STANAG 5616 Forwarding Protocol Clarification	A
TM11-005/Ch1 (sup)	ML480	New addition to Site Type and Land Specific Type	F

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ICP	DLCP	Title	Appendix
TM11-015/Ch1	No DLCP	CMF Nationality/Alliance Code Corrections	F
TM11-020/Ch3	ML532	JREAP J-Series with NPG Assignment Message	E
TM11-021/Ch3	ML490	JREAP J3.6 Rocket Filter update	E
TM11-022/Ch3	ML491	JREAP National Use Sub-Sublabel Filter Message	E
TM11-047/Ch3 (sup)	ML489	Addition of Amplification Confidence Ambiguity to the J/FJ3.6 message.	F
TM11-063/Ch1	ML486	Change Air Specific Type Values for French Helicopters	F
TM11-065	No DLCP	Correction to TM10-115 Bearing Accuracy Mapping	F
TM11-066/Ch1	No DLCP	TM10-115 Editorial Corrections to MIL-STD-6020 Appendix F	F
TM11-067/Ch1	No DLCP	Addition of General Note 33 to J2.0 and J14.0 Mappings	F
TM11-080/Ch2	SL-275-5616-USA-M02	Editorial Corrections to MIL-STD-6020A, STANAG 5616 Vol 1 and STANAG 5616 Vol 3	A
TM11-129/Ch2	ML497	Add Littoral Combat Ship (LCS) to DFI/DUIs 808/001 and 1797/002	A, F
TM11-129/Ch2 (sup)	No DLCP	Add Littoral Combat Ship (LCS) to DFI/DUIs 808/001 and 1797/002	A, F
TM11-136/Ch1	No DLCP	CMF IMP-2 Mnemonics Update	F
TM12-002/Ch1	No DLCP	CMF Compliance with DoD Country Code Standard	F
TM12-005	SL-282-5616-USA-M04	J2.0C2 Word Forwarding from the J2.x Messages	E
TM12-016/Ch2	ML541	Add Gray Eagle UAV and UAV Control Station to DFIs 804, 810 and 1555	F
TM12-024	No DLCP	Corrections to MIL-STD-6020, Table A.5.2-M.3-3	A

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ICP	DLCP	Title	Appendix
TM12-028	No DLCP	Corrections to MIL-STD-6020 Tables D.5.2-K05.1-1 and D.5.2-K05.1-2	D
TM12-037/Ch1	No DLCP	MIL-STD-6020B Editorial Corrections	F
TM12-041/Ch1	No DLCP	MIL-STD-6020 Requirements Clarifications	F
TM12-044/Ch1	No DLCP	Data Forwarding K05.1 Land Specific Type Translation from the J2.0	D
TM12-065/Ch1	No DLCP	MIL-STD-6020B Appendix G Deletion	Main, G
TM12-068	No DLCP	Additional CMF Unit Options	F
TM12-069/Ch1	No DLCP	MS6020 Data Owner Guidance Update	F
TM13-018	No DLCP	Add new Callsign element to CMF	F
TM13-019	No DLCP	Correct TM07-054 Incorporation Error	F
TM13-020	No DLCP	Forwarding of Bailout indication	F
TM13-021/Ch1	No DLCP	Update CMF Nationality	F
TM13-022	No DLCP	MIL-STD-6020B Mapping Corrections	F
TM13-023	No DLCP	Setting of SPI for CMF/Link 16 Forwarding	F
TM13-024	No DLCP	Additions to Entity Type	F
TM13-141	No DLCP	Comment Resolution to MIL-STD-6020C	

Note 1: This ICP was partially incorporated into MIL-STD-6020B

7.4 SUBJECT TERM (KEY WORD) LISTING

Ballistic Missile Defense (BMD)

Command and Control

Controlling Unit

Correlation

Data Element Dictionary

Data Update

Electronic warfare

Engagement status

Full Covariance

Handover

J Series

JREAP

Link 11

Link 11B

Link 16

Link 22

M Series

Partial Covariance

Random Track Error Covariance

Receipt compliance

VMF

7.5 CHANGES FROM PREVIOUS ISSUE

Marginal notations are not used in the revision to identify changes with respect to the previous issue due to the extent of the changes.

INCH-POUND

MIL-STD-6020C
31 October 2013
Superseding
MIL-STD-6020B
30 September 2011

DEPARTMENT OF DEFENSE INTERFACE STANDARD

DATA FORWARDING BETWEEN TACTICAL DATA LINKS

APPENDIX A – LINK 11/11B AND LINK 16



AMSC N/A

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APPENDIX A

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A.1 SCOPE

This appendix specifies the rules, message translation requirements, and data element translations required to exchange data between tactical data systems employing Link 16 and tactical data systems employing Link 11/11B. This appendix is a mandatory part of this standard. The information contained herein is intended for compliance.

A.2 APPLICABLE DOCUMENTS

A.2.1 GENERAL

The documents listed in this section are specified in sections A.4 and A.5 of this appendix. This section does not include documents cited in other sections of this standard, recommended for additional information, or used for examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections A.4 and A.5 of this appendix, whether or not they are listed.

A.2.2 GOVERNMENT DOCUMENTSA.2.2.1 SPECIFICATIONS, STANDARDS, AND HANDBOOKS

The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the current issues of these documents are listed in the Department of Defense Index of Specifications and Standards (DoDISS).

STANDARDSDEPARTMENT OF DEFENSE

MIL-STD-6011E - Tactical Data Link (TDL) 11/11B Message
Standard

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(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

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A.3 DEFINITIONS

Applicable definitions are in Annex A (i.e., Glossary) of this appendix.

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A.4 GENERAL REQUIREMENTS

A.4.1 DATA FORWARDING RULES

The Link 16 interface is intended to provide improved information distribution, relative navigation, and identification capability in support of inter- and intra-Service/Agency tactical command and control and mission execution functions. These functions will also be supported by information exchange via other digital data links, e.g., Link 11 and 11B. For effective accomplishment of these functions, there must be an unrestricted flow of information between the Tactical Data Systems (TDSs) serviced by a network of digital data links. This requires that selected Command and Control (C^2) TDSs interfacing with multiple links provide for transferring data between the dissimilar links without altering the intent of the information exchanged.

The purpose of MIL-STD-6020B Appendix A is to specify the rules, protocols, and translations required between J-Series and M-Series messages. Data forwarding is 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. Those data elements applicable within the messages are translated to the appropriate data elements in the corresponding messages. Within the data forwarding process, data management will be minimized. All systems that forward data must adhere to appendix A. In the course of implementing Link 16, it is recognized that some systems may use internal system translations (i.e., Link 16 to Link 11B) and some systems may transmit originated track data on more than one data link at the same time. Functionally, such systems are not data forwarders; however, these systems will adhere to the guidance of section A.5.2 to ensure that the closest possible relationship of data elements and data element interpretation will be maintained among all users of the data.

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A.4.1.1 FORWARDING REQUIREMENTS

A forwarding requirement exists between Link 16 and other links. This appendix covers only the forwarding between Link 16 (fixed word format) and inter-Service data links (Link 11/11B). Data forwarding shall be accomplished by the selected units simultaneously participating on more than one TDL.

A.4.1.2 FORWARDING CONSIDERATIONS

The Link 16 forwarding rules and procedures are designed to:

- a. Minimize the time delays inherent in the forwarding operation.
- b. Be used, to the maximum extent possible, without changes to existing digital data link protocols and message formats.
- c. Insure that data transmitted by the forwarding unit agree as closely as possible with the meaning of the data received for forwarding.

A.4.1.3 CONCURRENT OPERATIONS

Concurrent operations is the process of communicating on two, or more, digital data links at the same time as a participant. The concurrent operating unit exchanges all information held in its local database, but remote information is not forwarded. Protocols of each link are adhered to by the concurrent operating unit. The local database of a concurrent operating unit is the normal assimilation of data by that unit and includes local sensor data, local operator inputs, and data received and accepted into the local database from a data link, e.g., ID or IFF/SIF data.

A.4.2 DATA FORWARDING PROCESS

Factors to be considered in the data forwarding process are message translation and data element translation.

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A.4.2.1 MESSAGE TRANSLATION

Message translation is 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.

There may not be a one-for-one translation of the messages used on the data links. For example, multiple messages received on one link may translate into a single message to be transmitted on the second link, or vice versa. The translation of messages may vary based on message content. Therefore, message translation standards include rules for selecting the message(s) to which a received message or group of messages is to be translated based on the type of message(s) received and, in some cases, on the content of the message(s). A forwarder shall process the complete received message or message sequence in accordance with the appropriate translation tree, prior to taking any forwarding action. This process will eliminate the possibility of the forwarder originating unnecessary duplicate messages as each 'Required Action' of the Test Node Diagram is being considered. Section A.5.1 of this appendix provides the complete set of translations for those messages to be forwarded between Link 16 and Link 11/11B.

A.4.2.2 DATA ELEMENT TRANSLATION

Data element translation is the process by which a data element (also commonly referred to as a field) or multiple data elements received on one data link are transformed to the appropriate data element(s) required for transmission on another data link. This translation is done by equating data elements, converting data elements, and using special considerations for which equivalence and conversion do not apply. Section A.5.2 of this appendix provides a complete set of data element translations for those data elements to be forwarded between Link 16 and Link 11/11B.

A.4.2.2.1 DATA ELEMENT EQUIVALENCE

Data element equating is the process of moving, without change, a data item value of a data element from a received message on one link to a data item

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value of a data element in a different message format for transmission on another link.

A.4.2.2.2 DATA ELEMENT CONVERSION

Data element conversion is the process of altering the data item value of a data element from a received message on one link to a data item value of a data element in a different message format for transmission on another link. This process is employed when some degree of data item value conversion by a forwarding unit is required. For example, data element conversion may alter the granularity, transform coordinates, or change velocity to course and speed. In some cases multiple data elements from one data link will relate to a single data element on another data link, e.g., M-Series scale factors.

A.4.2.2.3 SPECIAL CONSIDERATIONS

There are data elements for which equivalence and conversion do not apply, and these require special considerations, such as (1) disregarding a data element that is not applicable to the message format that will be transmitted, (2) generating data elements not available in the received message but required for the format of the message to be transmitted, (3) retaining and recalling from the forwarding system's database information that is required by differing message formats on the varying links, e.g., data source.

A.4.3 GENERAL FORWARDING RULES

These forwarding rules are established to standardize data forwarding between Link 16 and Link 11/11B:

- a. When data link networks are established, there shall be only one communication path in use at a time for data being forwarded to prevent communication loops. A communication path is a combination of digital data links and interconnecting nodes that provide a path for information exchange.
- b. A Forwarding JTIDS Unit (FJU) shall have the capability to forward all translatable messages.

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c. The FJU must be provided sufficient time slots by the network manager so that all required messages from Link 11/11B can be forwarded onto Link 16.

d. The FJU shall have the capability to forward data for all translatable Link 16 messages, as required by this appendix. The FJU shall discard messages that cannot be forwarded.

e. The FJU shall have the capability to forward data for all translatable Link 11/11B messages, as required by this appendix. The FJU shall discard messages that cannot be forwarded.

f. The FJU shall use the same transmit rules to forward a translated message that it would use to transmit a locally originated message of the same type unless specified otherwise in this Appendix. The FJU shall resolve any differences in the transmit procedures of the various types of links that it interfaces with, as specified in section A.5.1. For example, a message may be transmitted N times at M-second intervals on Link 11/11B and the corresponding message may be transmitted only once on Link 16. Therefore, the forwarder must have provisions for identifying and discarding the retransmission of the message from Link 11/11B, since the FJU must transmit the corresponding message only once on Link 16. Conversely, the FJU must have provisions for identifying when to redundantly retransmit a previously received message from Link 16 onto Link 11/11B. The message translation trees in section A.5.1 specify forwarding transmit rules.

g. The FJU shall inhibit the forwarding of received data when:

(1) The data are received from, or addressed to, a unit not currently held as an active interfacing unit. There are two exceptions to this rule:

(a) Reestablishing active status of the Interface Unit (before receipt of data).

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(b) If the addressed message is either a J9.0 with Command set to value 0-8, 23 or 30, or M.15 with Command set to value 0-8 or 21, the message may be forwarded as a system option.

(c) Surveillance data originated by a unit for which PPLIs are not being received shall be forwarded.

(2) The coordinated filter criteria for the appropriate TDL prohibits forwarding the data.

(3) The received message is technically illegal or invalid as defined in MIL-STD-6016 and/or MIL-STD-6011.

(4) A periodically updated message is superseded by a second message before the first message can be forwarded. The new data shall override the stale data and only the most current message shall be forwarded.

h. The FJU shall have the capability to filter exercise and Special Processing Indicator (SPI) data. Emergency and Force Tell track alerts shall override exercise and SPI filters. Forwarding of the following information shall not be inhibited by any other filter that is under operator control:

(1) Data on Command and Control Interface Units (C^2 IUs) and on track numbers less than 00200 (octal).

(2) Information on any track or nonCommand and Control Interface Unit ($nonC^2$ IU) with an Emergency or Force Tell indicator set.

(3) Commands.

(4) Engagement Status.

(5) Handovers.

(6) Controlling Unit Reports.

(7) Pairings.

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(8) Track Management.

i. The FJU shall forward an addressed message only on the interfacing link upon which the message addressee is located. All other messages, including messages containing a collective address, shall be forwarded on all interfacing links except the link upon which the message was received.

j. When addressed messages require receipt/compliance, the FJU shall transmit a machine receipt or appropriate CANTPRO to the message originator. Machine receipts (R/C = 2) shall not be forwarded. The message translation trees in section A.5.1 specify the response(s) for automatic CANTPRO responses.

k. The FJU may extrapolate positional data for real-time tracks and units to the time of transmission.

A.4.4 ACTIVE/INACTIVE STATUS

An FJU shall maintain the active status of each Command and Control JTIDS Unit (C² JU) on Link 16 and of each Participating Unit (PU) and/or Reporting Unit (RU) on Link 11/11B. Only data from active sources shall be forwarded, except as detailed in Chapter 1, paragraph 1.3f(1). Responses to Data Update Request are found in the message translation trees in section A.5.1.

A.4.4.1 LINK 11 TO LINK 16 ACTIVE UNIT INDICATION

The active status of a Link 11 unit or of a unit received via Link 11 is determined by the receipt of a valid M.1 or M.1/M.5 message sequence. In some cases involving the Special Processing or the Reference/Position Indicators, two separate M.1 sequences for the unit may be received during a single Link 11 transmit opportunity. (Two M.1 messages will form each M.1 message sequence.) An FJU shall transmit a J2.0 message on a unit when an M.1 sequence is received from Link 11. In cases where two separate M.1 message sequences are received during a single transmit opportunity, the FJU may transmit a single J2.0 message or a separate J2.0 message for each M.1 message sequence.

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A.4.4.2 LINK 11B TO LINK 16 ACTIVE UNIT INDICATION

The active status of a directly tied Link 11B unit is determined by the receipt of a valid M.1 or M.1/M.9A(AC=0)/M.5 message sequence. (Two M.1 messages will form each M.1 message sequence.) The continued active status of the directly tied Link 11B unit is determined by the receipt of periodic M.0 messages. The active status of an indirectly tied unit on Link 11B is determined by receipt of a valid M.9A(AC=0)/M.5 message sequence. An FJU shall transmit a J2.0 message on a unit when an M.1, M.1/M.9A(AC=0)/M.5, or M.9A(AC=0)/M.5 message sequence is received on Link 11B. The unit may remain active indefinitely, with no further M.1 or M.5 messages being received. The FJU shall continue to transmit J2.0 messages at the periodic rate specified for Link 16 as long as the unit remains active.

A.4.4.3 LINK 16 TO LINK 11 ACTIVE UNIT INDICATION

The active status of a Link 16 unit is determined by the receipt of a J2 series message with the Network Participation Status Indicator set to a value of 1, 4, or 5, or by receipt of surveillance report from a TN, Source not held in the FJU data base. The active status of a non-Link 16 unit, forwarded through Link 16, is determined by the receipt of a J2.0 message. An FJU shall transmit an M.1 message sequence (with R/P Indicator = 1) in each FJU Link 11 transmit opportunity for each active forwarded C² unit held. An M.5 message will be sent as a part of the M.1 message sequence initially and at the appropriate rate thereafter. If the C² unit position or other data changes, the M.1/M.5 message sequence shall be sent at the next FJU Link 11 transmit opportunity. Multiple M.1 message sequences for the same C² unit may be required during a single FJU Link 11 transmit opportunity to forward data with different Special Processing requirements. See paragraph A.4.7.2 for data forwarding of active nonC² units.

A.4.4.4 LINK 16 TO LINK 11B ACTIVE UNIT INDICATION

The active status of a Link 16 unit is determined by the receipt of an appropriate J2 series message with the Network Participation Status Indicator set to a value of 1, 4, or 5, or by receipt of surveillance report from a TN, Source not held in the FJU data base. The active status of a nonLink 16

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unit, forwarded through Link 16, is determined by the receipt of a J2.0 message. An FJU shall transmit an M.9A(AC=0)/M.5 message sequence upon receipt of any J2 series message that establishes a C² unit as being active. An M.5 message shall be transmitted if the C² unit position or other forwarded data change in the J2 series message. See paragraph A.4.7.2 for data forwarding of active nonC² units. Except as indicated above, the redundant J2 series message shall not be forwarded on Link 11B.

A.4.4.5 LINK 11 TO LINK 16 INACTIVE UNIT INDICATION

When a valid M.1 message sequence has not been received from a unit on Link 11 within the past 60 seconds, the unit shall be declared inactive. The FJU shall transmit a J7.0 Drop Track Report and cease transmitting J2.0 messages for a unit that becomes inactive.

A.4.4.6 LINK 11B TO LINK 16 INACTIVE UNIT INDICATION

Units shall be declared inactive on Link 11B if:

- a. A valid M.0 message has not been received from a directly tied unit in the past 60 seconds.
- b. A drop track is received from a Forwarding Reporting Unit (FRU) on an indirectly tied unit that the FRU had been forwarding.
- c. An FRU becomes inactive. All units forwarded by that FRU shall be declared inactive concurrently.

The FJU shall transmit a J7.0 Drop Track Report and cease transmitting J2.0 messages for a unit that becomes inactive.

A.4.4.7 LINK 16 TO LINK 11/11B INACTIVE UNIT INDICATION

A unit shall be declared inactive on Link 16 if:

- a. A J2 series message is not received for 60 seconds.

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b. A J2 series message is received with the Network Participation Status Indicator (NPS IND) set to any value other than 1, 4, or 5.

The FJU shall transmit an M.9A(AC=4) Drop Track message and cease reporting data on a unit that becomes inactive on Link 16.

A.4.5 TDL UNIQUE FORWARDING RULES

Due to the differing methods of identifying data source and positional information on the different data links, unique protocols are required for each link.

A.4.5.1 FORWARDING OF DATA ON LINK 16

When forwarding data from Link 11/11B to Link 16, the FJU shall identify the source of all data. This is done by setting the Track Number, Source located in the header to the address of the unit being forwarded. All positional data on Link 16 is expressed in geodetic latitude and longitude.

A.4.5.2 FORWARDING OF DATA ON LINK 11

When forwarding data from Link 16 to Link 11, the FJU shall transmit all data for which a C² unit is the source following the M.1 or M.1/M.5 message sequence used to indicate that unit is an active participant. The M.1 message shall contain the PU/RU Address (Track Number, Source) of the unit whose data are being forwarded and the Delta Latitude/Delta Longitude, referenced from the Data Link Reference Point (DLRP), which reflect the System Coordinate Center (SCC) of the FJU. If the TN Source is greater than 00177 (octal) or is a unit without a PPLI, the pseudo-source TN 00176 (octal) shall be used. All positional data other than the M.1 is X-Y data referenced to the SCC of the FJU.

A.4.5.3 FORWARDING OF DATA ON LINK 11B

When forwarding data from Link 16 to Link 11B, the FJU establishes SCC with an M.1 to each directly tied Link 11B unit giving Delta Latitude/Delta Longitude from the DLRP. All positional data other than the M.1 is X-Y data

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referenced to the SCC of the FJU. When forwarding track reports the FJU shall transmit an initial sequence with the C² unit (whose data are being forwarded) indicated as the data source in an M.9A(AC=0) message. If the TN Source is greater than 00177 (octal) or is a unit without a PPLI, the pseudo-source TN 00176 (octal) shall be used. Following receipt of an acknowledgement from a directly tied Link 11B unit, updated track reports on the acknowledged track shall be forwarded without including data source unless the source changes. Forwarding of other data which do not utilize the M.9A(AC=0) message to identify data source will be in accordance with the conventions of Link 11B.

A.4.6 DATA FORWARDING OF INFORMATION REQUIRING SPECIAL PROCESSING

Information that requires special processing may be forwarded only to those systems capable of handling that level of classification. An FJU shall adhere to all current constraints concerning the handling of data requiring special processing.

A.4.6.1 DATA FORWARDING OF INFORMATION REQUIRING SPECIAL PROCESSING TO
LINK 11B

The special processing status of the information on a track shall be reflected by the SPI field in the M.9A(AC=0) message of an initial message sequence. If the SPI changes in a J3 series message, a new initial sequence shall be transmitted to promulgate the change.

A.4.6.2 DATA FORWARDING OF INFORMATION REQUIRING SPECIAL PROCESSING TO
LINK 11

The special processing status of the information on a track forwarded onto Link 11 shall be reflected by the SPI in the M.1 messages preceding the track reports. If both the information requiring special processing and the information not requiring special processing are forwarded from the same JU, the information not requiring special processing shall be transmitted following M.1 messages with the SPI set to 0. The information requiring special processing shall then be transmitted following M.1 messages with the

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SPI set to 1. If the SPI changes in a J3 series message, the track report shall be transmitted behind the M.1 messages with the SPI set appropriately.

A.4.6.3 DATA FORWARDING OF INFORMATION REQUIRING SPECIAL PROCESSING TO LINK 16

The special processing status of information forwarded on Link 16 shall be reflected by the SPI in the appropriate J-Series message(s). If the special processing status of the information received changes, the SPI in the corresponding J-Series message(s) shall be changed appropriately.

A.4.7 PRECISE PARTICIPANT LOCATION AND IDENTIFICATION DATA FORWARDING

Forwarding of Precise Participant Location and Identification (PPLI) message data promulgates the location and identification of all JTIDS/MIDS units. The forwarding of nonC² JU and C² JU PPLI data is explained in paragraphs 4.7.2 and 4.7.3 below.

A.4.7.1 PPLI REPORTING

A.4.7.1.1 PPLI REPORTING BY JUS

Each JU shall transmit an appropriate J2 PPLI message on the PPLI Network PG, in the specified access mode, at least once per time interval. The time interval is defined as the maximum time differential between PPLI reports that allows C² JUs to maintain other JUs with active status. The location of moving JUs shall be extrapolated to the time of transmission. To maintain an active status on a JU, at least one PPLI must be received every 40-60 seconds, or the JU will be considered inactive. In the latter case, C² JUS may delete the track or begin transmitting a surveillance track (based on own sensor data, or as a nonreal-time track). For surveillance purposes, J2.x messages shall be transmitted periodically in accordance with the appropriate J2.x message Transmit Rules.

A.4.7.1.2 PPLI REPORTING OF FORWARDED IUS

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An FJU shall transmit a J2.0 message on the PPLI Network PG, using the specified access mode, at least once per time interval for each IU which is being forwarded. The time interval for the reporting of forwarded units shall be the same as specified in paragraph 4.7.1.1 above. The TN, Identity (ID), location, and amplifying information shall be identical to the latest information received from the forwarded unit on the other link. The location of moving forwarded units may be extrapolated to the time of transmission.

A.4.7.2 NONC² JU DATA FORWARDING

NonC² JU PPLI messages indicating active network participation status are forwarded onto Link 11/11B as either a special point or surveillance track information, e.g., M.2 messages, with the source track number of the FJU indicated as having reporting responsibility (R²). Surveillance tracks shall have their Track Quality set to 7 in this case. If a nonC² JU is active and a Link 11/11B unit attempts to take R², the following rules shall apply:

- a. The FJU shall accept and acknowledge the Link 11/11B initial sequence and forward to all other Link 11/11B links.
- b. The FJU shall not forward the Link 11/11B initial sequences onto Link 16.
- c. Upon reception of next J2 series message, the FJU shall forward a new initial sequence to Link 11/11B and reassume R².

If no PPLI data have been received from the nonC² JU for 60 seconds, and no initial sequence has been received from Link 11/11B a Drop Track message shall be transmitted by the FJU on Link 11/11B. Also, if a PPLI message indicating that the nonC² JU is inactive has been received, a Drop Track message shall be transmitted by the FJU on Link 11/11B. The nonC² JU is then eligible for normal surveillance reporting responsibility rules. Upon receipt of a PPLI message indicating that the nonC² JU has returned to active status, the FJU again shall forward the surveillance messages on the nonC² JU, with the track number of the FJU as the data source, and shall not forward Link 11/11B originated surveillance data on the track to Link 16.

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A.4.7.3 C² JU DATA FORWARDING

C² JU PPLI messages indicating active network participation status from designated units shall be forwarded on Link 11/11B, as described in section A.5.1. If another PPLI message is not received within 60 seconds from the previous PPLI message or a PPLI message indicating inactive status is received, a Drop Track message shall be transmitted on Link 11/11B. As long as the C² JU is active, the FJU shall not allow a Link 11/11B unit to assume reporting responsibility of this unit in a surveillance message.

PPLI messages having source track number 00200 (octal) or greater, or exceed the maximum source capacity of the FJU, shall be forwarded as surveillance tracks in accordance with paragraph A.4.7.2. The data from these units and active units without a PPLI shall be forwarded with a pseudo source track number address of 176 (octal). The FJU shall set the position of the pseudo source track number 176 (octal) to 10 data miles north of the DLRP. Addressed messages to or from these units and/or the pseudo source track number shall not be forwarded.

A.4.8 DATA FORWARDING MANAGEMENTA.4.8.1 SURVEILLANCE DATA FORWARDING

The forwarding of surveillance messages is specified in the message translation trees in section A.5.1. For various reasons two or more units may be reporting the same track to an FJU. The following criteria for forwarding shall be employed for all surveillance tracks that employ track quality:

- a. If an FJU is forwarding nonreal-time data on a track and real-time data are received on the track, then the real-time data shall be forwarded starting at the next transmission opportunity, and nonreal-time data shall be inhibited.
- b. After a Drop Track message has been forwarded, data from each unit to subsequently report the track shall be forwarded at the next available transmit opportunity.

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c. Data forwarding of surveillance messages from Link 16 to a Link 11/11B link is limited to tracks that are positioned within 511-3/4 miles of the FJU's SCC reported on that link.

A.4.8.2 FORWARDING CONTROLLING UNIT DATAA.4.8.2.1 LINK 16 TO LINK 11/11B

The J10.5 Controlling Unit Report message shall be forwarded as an M.9A(AC=6) message. The M.9A(AC=6) Identity, Primary Identity Amplification and Identity Amplification fields shall be translated from the most current Identity, Platform, Activity, Special Interest Indicator, and Exercise Indicator fields held in the FJU database in accordance with General Note 20 or 21. This rule is in accordance with paragraph A.4.2.2.3 (3), stating the requirement to retain and recall information from the FJUs database.

The J7.0 (ACT = 1) message, with Controlling Unit Indicator = 1, shall be forwarded as an M.9A(AC=6) message having Identity, Primary Identity Amplification and Identity Amplification as translated from the J7.0 message. In all other cases the J7.0 message will be forwarded as an M.9A message with the appropriate action code, regardless of source.

A.4.8.2.2 LINK 11/11B TO LINK 16

The Identity, Primary Identity Amplification and Identity Amplification in an M.9A(AC=6) message shall not be forwarded by the FJU.

The FJU shall set the Controlling Unit Indicator in a J7.0 message as appropriate to indicate whether the originator of an M.9A(AC=1 or 2) does or does not have control of the track.

A.4.8.3 FORWARDING IFF/SIF INFORMATIONA.4.8.3.1 FORWARDING IFF/SIF SURVEILLANCE INFORMATION

Identification Friend or Foe/Selective Identification Feature (IFF/SIF) information for Modes I, II, III, and IV is exchanged on both Link 11/11B and

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Link 16. The unit with R² for a track reports any available IFF/SIF information. The FJU forwards IFF/SIF information in a surveillance message or message sequence only when received from the R² unit.

A.4.8.3.2 FORWARDING IFF/SIF MANAGEMENT INFORMATION

IFF/SIF Management information (i.e., J7.5, M.9A(AC=9)) shall be forwarded as received. Information received in IFF/SIF Management messages, with the exception of IFF/SIF clear messages, shall not be used by the FJU to update IFF/SIF information stored for tracks that are being forwarded.

A.4.8.3.3 FORWARDING SPECIAL CODE INFORMATION

Special Code information shall be forwarded as received.

A.4.8.4 FORWARDING ADDRESSED MESSAGES HAVING RECEIPT/COMPLIANCE

Forwarding addressed Command, Handover, or EW Control/Coordination messages that involve Receipt/Compliance (R/C) requires special handling procedures by the FJU. The FJU inspects all addressed messages to ascertain if the addressee is a unit for which data are being forwarded. The FJU shall respond with a Machine Receipt (MR) to either Original Messages (OM) or to Reply Messages as if it were the addressee for all messages which will be forwarded. The FJU shall then forward the addressed message on the link on which the addressee is active. If the addressee is not active on any link and the addressed message is either a J9.0 with Command set to values 0-8, 23 or 30, or M.15 with Command set to values 0-8 or 21, then the message may be discarded or forwarded as a system option. The FJU shall substitute data source indications appropriate to the link on which data are being forwarded. The FJU assumes responsibility for redundant transmissions if an MR is not received. When an MR or other reply in lieu of an MR is received by the FJU, forwarding responsibility for that specific addressed message is complete. The FJU has no responsibility with respect to matching replies to an OM except when a reply is received in lieu of an MR. The FJU shall generate a CANTPRO (automatic CANTCO for EW Control/Coordination on Link 11/11B) response to the originator of an OM if the addressed unit is inactive or if the addressee fails to MR the forwarded message. If a list of inactive units

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for which the FJU has forwarding responsibilities is not maintained, the FJU shall not generate an MR, CANTPRO, or CANTCO response for inactive units. The transmission sequences vary depending upon the TDLs involved and whether the message is a Handover, Command or EW Control/Coordination message. Specific sequences for Command and Handover messages are provided in tables A.4.8-1 through A.4.8-8.

In order to ensure that commanders can be aware of commands originated by and addressed to other than the commander's own unit, an FJU may forward Command messages onto a link other than the one on which the addressee is active. This is an authorized exception to the actions required by test node condition 1 of tables A.5.1-J9.0 and A.5.1-M.15. The above R/C procedures (and those contained in paragraph 4.1.7 of MIL-STD-6016) are not applicable to such forwarded Commands. The JTIDS/MIDS terminal, however, will automatically notify the FJU (host) that a MR has not been received; the FJU (host), therefore, must ensure that a CANTPRO is not transmitted. The FJU must ensure that Commands are not redundantly forwarded to the same addressee via more than one forwarding unit, due to the R/C problems this would create.

Throughout these tables, the following apply:

- The units are illustrated with the following addresses:
 - 10 = Link 11 PU being forwarded
 - 20 = the FJU
 - 30 = Link 16 JU being forwarded
 - 140 = Link 11B RU being forwarded
- The tables are broken into 3 to 5 segments. The first segment is the forwarding and machine receipt for the original message. The next segment(s) provides the forwarding and machine receipt for replies made by the originally addressed unit. The final segment(s) provides the CANTPRO actions required when the forwarding unit is unable to forward an original message. No CANTPRO responses are made when the FJU is unable to forward a reply message.

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TABLE A.4.8-1. Command Message Transmission Sequence Link 16 to Link 11 (Sheet 1 of 2)

EVENT	JU (Address = 30)	Link 16	FJU (Address = 20)	Link 11	PU (Address = 10)
1	Operator originates Command J9.0 (R/C = 0, ADD = 10, Source = 30) (For forwarding Commands that result in a Handover Message on Link 11, see Handover Link 16 to Link 11.)	---	(If PU 10 is not active go to Event 7. Machine Receipt may be sent prior to Event 7.)		
2	(If MR or other reply is not received, Event 1 is repeated 1 time.)	<-- -----	J9.0 (R/C = 2, ADD = 30, Source = 10) M.1's (ADD = 20) M.1's (ADD = 30) M.15 (R/C = 0, ADD = 10)	----->	
3			(If MR or other reply is not received, the Link 11 portion of Event 2 is repeated 6 times. If still no response, go to Event 7. The received MR is not forwarded.)	<----	M.1's (ADD = 10) M.15 (R/C = 2, ADD = 30) (May make other response in lieu of R/C = 2)
4				<----	WILCO, CANTCO, or CANTPRO M.1's (ADD = 10) M.15 (R/C = 3, 6, or 7; ADD = 30)

TABLE A.4.8-1. Command Message Transmission Sequence Link 16 to Link 11 (Sheet 2 of 2)

EVENT	JU (Address = 30)	Link 16	FJU (Address = 20)	Link 11	PU (Address = 10)
5			M.1's (ADD = 20) M.1's (ADD = 30) M.15 (R/C = 2, ADD = 10) ----- <--- J9.0 (R/C = 3, 6, or 7; ADD = 30; Source = 10)		(If MR is not received, Event 4 is repeated 6 times.)
6	J9.0 (R/C = 2, ADD = 10, Source = 30) (Command process terminates)	--->	(If MR is not received, Event 5, transmission of J9.0 is repeated 1 time. If MR is still not received, no further action takes place.)		
7		<---	PU 10 IS INACTIVE J9.0 (R/C = 20, ADD = 30, Source = 10) -OR- NO MR RECEIVED IN EVENT 3 <--- J9.0 (R/C = 21, ADD = 30, Source = 10)		
8	J9.0 (R/C = 2, ADD = 10, Source = 30) (Command process terminates)	--->	(If MR is not received, Event 7 is repeated 1 time. If MR is still not received, no further action takes place.)		

TABLE A.4.8-2. Command Message Transmission Sequence Link 16 to Link 11B (Sheet 1 of 2)

EVENT	JU (Address = 30)	Link 16	FJU (Address = 20)	Link 11B	RU (Address = 140)
1	Operator originates Command J9.0 (R/C = 0, ADD = 140, Source = 30) (For forwarding commands that result in a Handover message on Link 11B, see Handover Link 16 to Link 11B.)	----->	(If RU 140 is not active go to Event 7. Machine Receipt may be sent prior to Event 7.)		
2	(If MR or other reply is not received, Event 1 is repeated 1 time.)	<----- ----->	J9.0 (R/C = 2, ADD = 30, Source = 140) M.15 (R/C = 0, ADD = 140, TN-1 = 30) (For command values 12 or greater, TN-1 will be other than 30.)	----->	
3			(If MR or other reply is not received, Event 2, transmission of M.15 is repeated 6 times. If still no response, go to Event 7. The received MR is not forwarded.)	<-----	M.15 (R/C = 2, ADD = 30, TN-1 = 140) (May make other response in lieu of R/C = 2)
4				<-----	WILCO, CANTCO or CANTPRO M.15 (R/C = 3, 6, or 7; ADD = 30; TN-1 = 140)

TABLE A.4.8-2. Command Message Transmission Sequence Link 16 to Link 11B (Sheet 2 of 2)

EVENT	JU (Address = 30)	Link 16	FJU (Address = 20)	Link 11B	RU (Address = 140)
5			M.15 (R/C = 2, ADD = 140, TN-1 = 30) ----- <--- J9.0 (R/C = 3, 6, or 7; ADD = 30; Source = 140)	--->	(If MR is not received, Event 4 is repeated 6 times)
6	J9.0 (R/C = 2, ADD = 140, Source = 30) (Command process terminated)		(If MR is not received, Event 5, transmission of J9.0 is repeated 1 time. If MR is still not received, no further action takes place.)		
7			RU 140 IS INACTIVE ----- <--- J9.0 (R/C = 20, ADD = 30, Source = 140) -OR- ----- <--- NO MR RECEIVED IN EVENT 3 ----- <--- J9.0 (R/C = 21, ADD = 30, Source = 140)		
8	J9.0 (R/C = 2, ADD = 140, Source = 30) (Command process terminates)	--->	(If MR is not received, Event 7 is repeated 1 time. If MR is still not received, no further action takes place.)		

TABLE A.4.8-3. Command Message Transmission Sequence Link 11 to Link 16 (Sheet 1 of 2)

EVENT	PU (Address = 10)	Link 11	FJU (Address = 20)	Link 16	JU (Address = 30)
1	Operator originates Command M.1's (ADD = 10) M.15 (R/C = 0, ADD = 30)	----->	(If JU 30 is not active go to Event 7. Machine Receipt may be sent prior to Event 7.)		
2	(If MR or other reply is not received, Event 1 is repeated 6 times.)	<---- -----	M.1's (ADD = 20) M.1's (ADD = 30) M.15 (R/C = 2, ADD = 10) ----- J9.0 (R/C = 0, ADD = 30, Source = 10)	----->	
3			(If MR or other reply not received, Event 2, transmission of J9.0 is repeated 1 time. If still no response, go to Event 9. The received MR is not forwarded.)	<----	J9.0 (R/C = 2, ADD = 10, Source = 30) (May make other response in lieu of R/C = 2)
4				<----	WILCO, CANTCO, or CANTPRO J9.0 (R/C = 3, 6, or 16-19; ADD = 10; Source = 30)
5			J9.0 (R/C = 2, ADD = 30, Source = 10) ----- M.1's (ADD = 20) M.1's (ADD = 30) <---- M.15 (R/C = 3, 6, or 7; ADD = 10)	----->	(If MR is not received, Event 4 is repeated 1 time.)

TABLE A.4.8-3. Command Message Transmission Sequence Link 11 to Link 16 (Sheet 2 of 2)

EVENT	PU (Address = 10)	Link 11	FJU (Address = 20)	Link 16	JU (Address = 30)
6	M.1's (ADD = 10) M.15 (R/C = 2, ADD = 30) (Command process terminates)	---->	(If MR is not received, the Link 11 portion of Event 5 is repeated 6 times. If MR is still not received, no further action takes place.)		
7		<---	<u>JU 30 IS INACTIVE</u> M.1's (ADD = 20) M.15 (R/C = 7, ADD = 10)		
8	M.1's (ADD = 10) M.15 (R/C = 2, ADD = 20)	---->	(If MR is not received, Event 7 is repeated 6 times. If MR is still not received, no further action takes place.)		
9		<---	<u>NO MR RECEIVED IN EVENT 3</u> M.1's (ADD = 20) M.1's (ADD = 30) M.15 (R/C = 7, ADD = 10)		
10	M.1's (ADD = 10) M.15 (R/C = 2, ADD = 30) (Command process terminates)	---->	(If MR is not received, Event 9 is repeated 6 times. If MR is still not received, no further action takes place.)		

TABLE A.4.8-4. Command Message Transmission Sequence Link 11B to Link 16 (Sheet 1 of 2)

EVENT	RU (Address = 140)	Link 11B	FJU (Address = 20)	Link 16	JU (Address = 30)
1	Operator originates Command M.15 (R/C = 0, ADD = 30, TN-1 = 140) (For order values 12 or greater, TN-1 will be other than 140. This rule applies only when R/C = 0.)	----->	(If JU 30 is not active, go to Event 7. Machine Receipt may be sent prior to Event 7.)		
2	(If MR or other reply is not received, Event 1 is repeated 6 times.)	<--- -----	M.15 (R/C = 2, ADD = 140, TN-1 = 30) ----- J9.0 (R/C = 0, ADD = 30, Source = 140)	-----> ---	
3			(If MR or other reply is not received, Event 2, transmission of J9.0 is repeated 1 time. If still no response, go to Event 7. The received MR is not forwarded.)	<---	J9.0 (R/C = 2, ADD = 140, Source = 30) (May make other response in lieu of R/C = 2)
4				<----	WILCO, CANTCO or CANTPRO J9.0 (R/C = 3, 6, 7 or 16-19; ADD = 140; Source = 30)

TABLE A.4.8-4. Command Message Transmission Sequence Link 11B to Link 16 (Sheet 2 of 2)

EVENT	RU (Address = 140)	Link 11B	FJU (Address = 20)	Link 16	JU (Address = 30)
5			J9.0 (R/C = 2, ADD = 30, Source = 140) <--- M.15 (R/C = 3, 6, or 7; ADD = 140; TN-1 = 30)	--->	(If MR is not received, Event 4 is repeated 1 time.)
6	M.15 (R/C = 2, ADD = 30, TN-1 = 140)	--->	(If MR is not received, Event 5, transmission of M.15 is repeated 6 times. If MR is still not received, no further action takes place.)		
7			JU 30 IS INACTIVE -OR- NO MR RECEIVED IN EVENT 3 <--- M.15 (R/C = 7, ADD = 140, TN-1 = 30)		
8	M.15 (R/C = 2, ADD = 30, TN-1 = 140) (Command process terminates)	--->	(If MR is not received, Event 7 is repeated 6 times. If MR is still not received, no further action takes place.)		

TABLE A.4.8-5. Handover Message Transmission Sequence Link 16 to Link 11 (Sheet 1 of 3)

EVENT	JU (Address = 30)	Link 16	FJU (Address = 20)	Link 11	PU (Address = 10)
1	Operator originates Handover J10.3 (R/C = 0, ADD = 10, Source = 30)	----->	(If PU 10 is not active, go to Event 10. Machine Receipt may be sent prior to Event 10.)		
2	(If MR or other reply is not received, Event 1 is repeated 1 time.)	<---- -----	J10.3 (R/C = 2, ADD = 30, Source = 10) M.1's (ADD = 20) M.1's (ADD = 30) M.9A (AC = 6, ADD = 30) M.10A (R/C = 0, ADD = 10) M.9E (as translated from J10.3)	----->	
3			(If MR or other reply not received, all of Event 2, Link 11 portion, is repeated 6 times. If still no response, go to Event 10. The received MR is not forwarded.)	<----	M.1's (ADD = 10) M.10A (R/C = 2, ADD = 30) (May make other response in lieu of R/C = 2)
4				<----	CANTCO or CANTPRO M.1's (ADD = 10) M.10A (R/C = 6 or 7, ADD = 30) (If R/C = 7, set AMP value as appropriate.)

TABLE A.4.8-5. Handover Message Transmission Sequence Link 16 to Link 11 (Sheet 2 of 3)

EVENT	JU (Address = 30)	Link 16	FJU (Address = 20)	Link 11	PU (Address = 10)
5			M.1's (ADD = 20) M.1's (ADD = 30) M.10A (R/C = 2, ADD = 10) ----- <--- J10.3 (R/C = 6, 7, or 16-19; ADD = 30; Source = 10) (CANTPRO values as determined from CANTPRO AMP)	---->	
6	J10.3 (R/C = 2, ADD = 10, Source = 30) (Handover process terminates)	---->	(If MR is not received, the Link 16 portion of Event 5 is repeated 1 time. If MR is still not received, no further action takes place.)		
7				<---	<u>WILCO</u> M.1's (ADD = 10) M.10A (R/C = 3, ADD = 30) M.9E (as appropriate)
8			M.1's (ADD = 20) M.1's (ADD = 30) M.10A (R/C = 2, ADD = 10) ----- <--- J10.3 (R/C = 3, ADD = 30, Source = 10)	---->	(If MR is not received, Event 7 is repeated 6 times.)

TABLE A.4.8-5. Handover Message Transmission Sequence Link 16 to Link 11 (Sheet 3 of 3)

EVENT	JU (Address = 30)	Link 16	FJU (Address = 20)	Link 11	PU (Address = 10)
9	J10.3 (R/C = 2, ADD = 10, Source = 30) (Direct aircraft to shift to PU 10's control)	--->	(If MR is not received, Event 8, transmission of J10.3 is repeated 1 time. If MR is still not received, no further action takes place.)		(When aircraft control is established, commence reporting M.9A (AC = 6) message.)
10		<--- <---	PU 10 IS INACTIVE J10.3 (R/C = 20, ADD = 30, Source = 10) -OR- NO MR RECEIVED IN EVENT 3 J10.3 (R/C = 21, ADD = 30, Source = 10)		
11	J10.3 (R/C = 2, ADD = 10, Source = 30) (Handover process terminates)	--->	(If MR is not received, Event 10 is repeated 1 time. If MR is still not received, no further action takes place.)		

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TABLE A.4.8-6. Handover Message Transmission Sequence Link 16 to Link 11B (Sheet 1 of 3)

EVENT	JU (Address = 30)	Link 16	FJU (Address = 20)	Link 11B	RU (Address = 140)
1	Operator originates Handover J10.3 (R/C = 0, ADD = 140, Source = 30)	----->	(If RU 140 is not active, go to Event 10. Machine Receipt may be sent prior to Event 10.)		
2		<---- -----	J10.3 (R/C = 2, ADD = 30, Source = 140) M.9A (AC = 6, ADD = 30) M.10A (R/C = 0, ADD = 140) M.9E (as translated from J10.3)	----->	
3			(If MR is not received, all of Event 2, Link 11B portion, is repeated 6 times. If still no response, go to Event 10. The received MR is not forwarded.)	<----	M.10A (R/C = 2, ADD = 30) (May make other response in lieu of R/C = 2)
4				<----	CANTCO or CANTPRO M.10A (R/C = 6 or 7, ADD = 30, TN-2 = 140) (If R/C = 7, set AMP value as appropriate.)

TABLE A.4.8-6. Handover Message Transmission Sequence Link 16 to Link 11B (Sheet 2 of 3)

EVENT	JU (Address = 30)	Link 16	FJU (Address = 20)	Link 11B	RU (Address = 140)
5		-----<---	M.10A (R/C = 2, ADD = 140) -----<--- J10.3 (R/C = 6, 7 or 16-19; ADD = 30; Source = 140) (CANTPRO values as determined from CANTPRO AMP)	--->	
6	J10.3 (R/C = 2, ADD = 140, Source = 30) (Handover process terminates)	--->	(If MR is not received, the Link 16 portion of Event 5 is repeated 1 time. If MR is still not received, no further action takes place.)		
7				<---	<u>WILCO</u> M.10A (R/C = 3, ADD = 30, TN-2 = 140) M.9E (as appropriate)
8		-----<---	M.10A (R/C = 2, ADD = 140) -----<--- J10.3 (R/C = 3, ADD 30, Source = 140)	--->	(If MR is not received, Event 7 is repeated 6 times.)

TABLE A.4.8-6. Handover Message Transmission Sequence Link 16 to Link 11B (Sheet 3 of 3)

EVENT	JU (Address = 30)	Link 16	FJU (Address = 20)	Link 11B	RU (Address = 140)
9	J10.3 (R/C = 2, ADD = 140, Source = 30) (Direct aircraft to shift to RU 140's control)	--->	(If MR is not received, Event 8, transmission of J10.3 is repeated 1 time. If MR is still not received, no further action takes place.)		(When aircraft control is established, commence reporting M.9A (AC = 6) message.)
10		<--- <---	RU 140 IS INACTIVE J10.3 (R/C = 20, ADD = 30, Source = 140) -OR- NO MR RECEIVED IN EVENT 3 J10.3 (R/C = 21, ADD = 30, Source = 140)		
11	J10.3 (R/C = 2, ADD = 140, Source = 30) (Handover process terminates)	--->	(If MR is not received, Event 10 is repeated 1 time. If MR is still not received, no further action takes place.)		

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TABLE A.4.8-7. Handover Message Transmission Sequence Link 11B to Link 16 (Sheet 1 of 3)

EVENT	RU (Address = 140)	Link 11B	FJU (Address = 20)	Link 16	JU (Address = 30)
1	Operator originates Handover M.9A (AC = 6, ADD = 140) M.10A (R/C = 0, ADD = 30) M.9E (as appropriate) M.11B or M.11C (system option) (For certain Handover values, a J9.0 would be forwarded. See Command Message sequences for response sequence.)	----->	(If JU 30 is not active go to Event 10. Machine Receipt may be sent prior to Event 10.)		
2	(If MR is not received, Event 1 is repeated 6 times.)	<----- ----->	M.10A (R/C = 2, ADD = 140) J10.5 (Source = 140) J10.3 (R/C = 0, ADD = 30, Source = 140) J13.2 (if M.11B or M.11C is received)	-----> ----->	
3			(If MR or other reply not received, Event 2, transmis- sion of J10.3 is repeated 1 time. If still no response, go to Event 10. The received MR is not forwarded.)	<-----	J10.3 (R/C = 2, ADD = 140, Source = 30) (May make other response in lieu of R/C = 2)
4				<-----	CANTCO or CANTPRO J10.3 (R/C = 6, 7, or 16-19, ADD = 140; Source = 30)

TABLE A.4.8-7. Handover Message Transmission Sequence Link 11B to Link 16 (Sheet 2 of 3)

EVENT	RU (Address = 140)	Link 11B	FJU (Address = 20)	Link 16	JU (Address = 30)
5			J10.3 (R/C = 2, ADD = 30, Source = 140) <--- M.10A (R/C = 6 or 7, ADD = 140, TN-2 = 30) (If R/C = 7, add appropriate AMP value.)	---> -----	(If no MR is received, Event 4 is repeated 1 time.)
6	M.10A (R/C = 2, ADD = 30) (Handover process terminates)	--->	(If MR is not received, Link 11B portion of Event 5 is repeated 6 times. If MR is still not received, no further action takes place.)		
7				<---	<u>WILCO</u> J10.3 (R/C = 3, ADD = 140, Source = 30)
8			J10.3 (R/C = 2, ADD = 30, Source = 140) <--- M.10A (R/C = 3, ADD = 140, TN-2 = 30)	---> -----	(If MR is not received, Event 7 is repeated 1 time.)

TABLE A.4.8-7. Handover Message Transmission Sequence Link 11B to Link 16 (Sheet 3 of 3)

EVENT	RU (Address = 140)	Link 11B	FJU (Address = 20)	Link 16	JU (Address = 30)
9	M.10A (R/C = 2, ADD = 30) (Direct aircraft to shift to JU 30's control)	--->	(If MR is not received, Event 8 is repeated 6 times. If MR is still not received, no further action takes place.)		(When aircraft control is established, commence reporting J10.5 messages.)
10		<--- <---	JU 30 IS INACTIVE M.10A (R/C = 7, AMP = 5, ADD = 140, TN-2 = 30) -OR- NO MR RECEIVED IN EVENT 3 M.10A (R/C = 7, AMP = 6, ADD = 140, TN-2 = 30) (Note that TN-2 is set to 30 by the originating FJU in both of the above cases.)		
11	M.10A (R/C = 2, ADD = 30) (Handover process terminates)	--->	(If MR is not received, Event 10 is repeated 6 times. If MR is still not received, no further action takes place.)		

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TABLE A.4.8-8. Handover Message Transmission Sequence Link 11 to Link 16 (Sheet 1 of 3)

EVENT	PU (Address = 10)	Link 11	FJU (Address = 20)	Link 16	JU (Address = 30)
1	Operator originates Handover M.1's (ADD = 10) M.9A (AC = 6, ADD = 10) M.10A (R/C = 0, ADD = 30) M.9E (as appropriate) M.11B or M.11C (system option) (For certain Handover values, a J9.0 would be forwarded. See Command Message sequences for response sequence.)	----->	(If JU 30 is not active, go to Event 10. Machine Receipt may be sent prior to Event 10.)		
2	(If MR or other reply is not received, Event 1 is repeated 6 times.)	<---- -----	M.1's (ADD = 20) M.1's (ADD = 30) M.10A (R/C = 2, ADD = 10) ----- J10.5 (Source = 10) J10.3 (R/C = 0, ADD = 30, Source = 10) J13.2 (if M.11B or M.11C received)	-----> ----->	
3			(If MR or other reply not received, Event 2, transmission of J10.3 is repeated 1 time. If still no response, go to Event 12. The received MR is not forwarded.)	<----	J10.3 (R/C = 2, ADD = 10, Source = 30) (May make other reply in lieu of R/C = 2)
4				<----	CANTCO or CANTPRO J10.3 (R/C = 6, 7, or 16-19, ADD = 10; Source = 30)

TABLE A.4.8-8. Handover Message Transmission Sequence Link 11 to Link 16 (Sheet 2 of 3)

EVENT	PU (Address = 10)	Link 11	FJU (Address = 20)	Link 16	JU (Address = 30)
5			J10.3 (R/C = 2, ADD = 30, Source = 10) ----- M.1's (ADD = 20) M.1's (ADD = 30) <--- M.10A (R/C = 6 or 7, ADD = 10) (If R/C = 7, add appropriate AMP value.)	---> -----	(If MR is not received, Event 4 is repeated 1 time.)
6	M.1's (ADD = 10) M.10A (R/C = 2, ADD = 30) (Handover process terminates)	--->	(If MR is not received, Link 11 portion of Event 5 is repeated 6 times. If MR is still not received, no further action takes place.)		
7				<---	WILCO J10.3 (R/C = 3, ADD = 10, Source = 30)
8			J10.3 (R/C = 2, ADD = 30, Source = 10) ----- M.1's (ADD = 20) <--- M.1's (ADD = 30) M.10A (R/C = 3, ADD = 10)	---> -----	(If MR is not received, Event 7 is repeated 1 time.)
9	M.1's (ADD = 10) M.10A (R/C = 2, ADD = 30) (Direct aircraft to shift to JU 30's control)	--->	(If MR is not received, Event 8 is repeated 6 times. If MR is still not received, no further action takes place.)		(When aircraft control is established, commence reporting J10.5 messages.)

TABLE A.4.8-8. Handover Message Transmission Sequence Link 11 to Link 16 (Sheet 3 of 3)

EVENT	PU (Address = 10)	Link 11	FJU (Address = 20)	Link 16	JU (Address = 30)
10		<---	JU 30 IS INACTIVE M.1's (ADD = 20) M.10A (R/C = 7, AMP = 5, ADD = 10)		
11	M.1's (ADD = 10) M.10A (R/C = 2, ADD = 20) (Handover process terminates)	----	(If MR is not received, Event 10 is repeated 6 times. If MR is still not received, no further action takes place.)		
12		<---	NO MR RECEIVED IN EVENT 3 M.1's (ADD = 20) M.1's (ADD = 30) M.10A (R/C = 7, AMP = 6, ADD = 10)		
13	M.1's (ADD = 10) M.10A (R/C = 2, ADD = 30) (Handover process terminates)	----	(If MR is not received, Event 12 is repeated 6 times. If MR is still not received, no further action takes place.)		

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A.4.8.5 ELECTRONIC WARFARE DATA FORWARDING

The Link 16 EW data messages, J3.7 (EW Product Information) and J14.0 (EW Parametric Information), include many identical fields and are used for essentially the same purpose. The J14.0 has certain additional fields for reporting more detailed parametric information, equivalent to the M.6C and M.86C Link 11/11B messages. The primary difference between the messages is that the J14.0 is used to exchange a great deal of raw, unevaluated data on the Link 16 EW Network PG, whereas the J3.7 is used only to report selected evaluated data on the Surveillance Network PG. In order to prevent overloading Link 11/11B and still provide for forwarding of parametric data and variable routing of PU/RU data to the Link 16 Network when appropriate, FJUs must have operator selectable controls that allow selection of one of the modes of EW data forwarding that are described below. In any mode, all translatable J14.2 and M.6D messages shall be forwarded.

a. Link 16 to Link 11/11B:

(1) All: Forward J3.7 and J14.0 messages as prescribed in sections A.5.1 and A.5.2. In this mode, the FJU for the EW Network PG must, as a minimum, receive the Surveillance Network PG. The FJU shall not forward any J14.0 containing a Reference TN currently being reported on the Surveillance Network PG except that if the J14.0 includes a J14.0C4 word, an M.6C or M.6C/M.86C shall be forwarded. If a J14.0 is being forwarded and a J3.7 is subsequently received for that Reference TN, the FJU shall discontinue forwarding the J14.0, unless it includes the J14.0C4, in which case only M.6C or M.6C/M.86C messages shall be forwarded for the J14.0.

(2) Product: Forward only J3.7 messages. Do not forward J14.0 messages.

b. Link 11/11B to Link 16:

(1) All: Forward all J3.7 and J14.0 messages resulting from Link 11/11B messages, as prescribed in sections A.5.1 and A.5.2, on to the appropriate network. Simulated M.6 messages shall not be forwarded as J14.0 messages.

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(2) Parametric: Forward only J14.0 messages resulting from Link 11/11B messages. Do not transmit J3.7 messages resulting from translation. In this mode, the Link 11/11B PU/RU data are integrated into the EW Network PG data. They are released to the Surveillance Network only after evaluation and selection by designated JUs, in the same manner as other J14.0 data. Simulated M.6 messages shall not be forwarded in this mode.

A.4.8.6 FORWARDING SIMULATED DATA

The protocols for the forwarding of simulated data are as follows:

A.4.8.6.1 LINK 16 TO LINK 11

Simulated data, including nonC² JU PPLI, track, point, bearing, fix or AOP data, shall be forwarded to Link 11 by transmitting an M.9A(AC=0) message with the Simulation Indicator set to value 1 (SI=1) preceding each simulated data report transmitted. The M.9A(AC=0, SI=1) is not acknowledged on Link 11. The M.9A(AC=0, SI=0) message is not transmitted on Link 11. If an M.9A(AC=5) Track Alert Report is required to precede a simulated data report, the M.9A(AC=0, SI=1) shall follow the M.9A(AC=5).

Simulated C² JUs' PPLIs shall be forwarded to Link 11 with the Simulation Indicator, 1 set to value 1 in the forwarded M.1 message.

A.4.8.6.2 LINK 16 TO LINK 11B

Simulated data shall be forwarded to Link 11B by setting SI=1 in the M.9A(AC=0) Data Source Reports required by normal Link 11B rules, complying with the normal Link 11B rules for transmission and acknowledgement of M.9A(AC=0) Data Source Reports. An FJU must retain the simulation status of all JUs, tracks, points, bearings, fixes, and AOPs being forwarded to Link 11B.

A.4.8.6.3 LINK 11/11B TO LINK 16

Simulated data are forwarded to Link 16 by setting the Simulation Indicator to value 1 (SI=1) in the Link 16 Indirect PPLI, track, point, bearing, fix,

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or AOP reports. An FJU must retain the simulation status of all tracks, points, bearings, fixes, and AOPs being forwarded from Link 11B to Link 16 in order to determine the proper setting of the Link 16 Simulation Indicator.

A.4.8.6.4 FJU SIMULATION FILTER

FJUs shall have an operator selectable simulation transmit filter to inhibit the forwarding of simulated data from Link 16 to Link 11 and each Link 11B link. This filter is required to prevent the transmission of simulated data to any link on which any unit is not capable of recognizing simulated data and should be carefully controlled by coordinated filters. Track Alert (Emergency or Force Tell Indicator = 1) shall not force simulated data through the simulation filter.

A.4.8.7 FORWARDING J2.0 MESSAGES

A.4.8.7.1 J2.0 MESSAGE SUMMARY AND PURPOSE

The J2.0 Indirect Interface Unit PPLI message is used to provide unit information on the Link 16 network when network participation status, identification, and positional information is forwarded from Link 11/11B links. For indirect interface units, the J2.0 message provides the Originator Environment (Surface, Subsurface, Land, Air), type of site (JU, PU, RU, GU, FPU/FRU), and Unit Type (e.g., Tactical Air Operation Center (TAOC), Message Processing Center (MPC), Control and Reporting Center (CRC), etc.). The Source TN field in the Header word that accompanies each J2.0 message will contain the TN associated with the forwarded unit.

A.4.8.7.2 J2.0 MESSAGE TRANSMIT RULES

- a. The J2.0B Indirect Interface Unit PPLI basic message consists of the J2.0I Indirect Interface Unit PPLI initial word and the J2.0E0 Indirect Interface Unit PPLI extension word. The J2.0B basic message shall be transmitted by a Forwarding JTIDS/MIDS Unit when data received from an indirect interface unit indicate that the unit is active. The J2.0B message shall be transmitted periodically at a RRN = 6 (12 seconds, 8-20 second interval) or, when specified, at the access rate in the time slot assignment.

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b. Applicable continuation words shall be transmitted in a J2.0I/J2.0E0/J2.0CX word sequence.

c. If no data exists for the continuation word, the J2.0B message shall be transmitted.

A.4.8.7.3 J2.0 MESSAGE RECEIVE RULES

When a J2.0 Indirect Interface Unit PPLI message is received with the same Source TN as held for a J2.2 Air PPLI, J2.3 Surface PPLI, J2.4 Subsurface PPLI, J2.5 Land Point PPLI, or J2.6 Land Track PPLI message, then the J2.0 Indirect Interface Unit PPLI message will be discarded.

A.4.8.7.4 FORWARDING THE J2.0 MESSAGE

The Source TN in the message header shall be the same as the Source TN in the J2.0 message. Only one J2.0 message shall be transmitted in a time slot.

A.4.8.8 FORWARDING TRACKS FROM LINK 11/11B TO LINK 16

A.4.8.8.1 J7.4 MESSAGE SUMMARY AND PURPOSE

The J7.4 Track Identifier Message is used to transmit special identification numbers associated with the reference TN. The J7.4 message is used to provide the North Atlantic Treaty Organization (NATO) Link 1 TN, the Army Tactical Data Link-1 (ATDL-1) TN, or the Link 11/11B TN associated with a TN that is being reported on Link 16. The J7.4 message can be used to report (Report/Request TN field set to value 0) or request (Report/Request TN field set to value 1) these TNs individually, collectively, or in any combination.

A.4.8.8.2 J7.4 MESSAGE TRANSMIT RULES

The J7.4 Track Identifier message shall be transmitted either automatically or as a result of operator action.

a. The J7.4 message shall be transmitted twice at a 12 second interval automatically or as a result of operator action when:

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(1) The Link 11/11B TN, NATO Link 1 TN or ATDL-1 TN, and the Link 16 TN are initially associated by a forwarding unit.

(2) The Link 11/11B TN changes.

(3) The NATO Link 1 TN changes.

(4) The ATDL-1 TN changes.

b. The J7.4 message shall be transmitted one time automatically if the data transmitted are in response to a J7.4 message that requested TNS.

c. The J7.4 message that is requesting TNS shall be transmitted one time as a result of operator action.

A.4.8.8.3 TRACK IDENTIFIER MANAGEMENT

a. A J7.4 message, which reports one or more TNS, uses the Track Number Applicability indicators to indicate which TN(s) is/are being reported and which TN field(s) of the message is/are to be interpreted. A J7.4 message, which requests TNS, uses the Track Number Applicability indicator to indicate which TN(s) is/are being requested.

b. The J7.4 report message is transmitted initially by an FJU that forwards a track with a TN greater than 07777 from Link 16 to Link 11/11B, by a JU that forwards a track from Link 16 to NATO Link 1 or ATDL-1, and by a JU that forwards a track from NATO Link 1 or ATDL-1 to Link 16. The J7.4 report message may also be transmitted by any JU in response to a J7.4 request message or as the result of operator action. The J7.4 request message may be originated by any JU as a result of operator action. After any JU responds to the request, other JUs shall not respond unless additional TNS for different links have been requested and are held for the track. The latest Link 11/11B, NATO Link 1 TN, or ATDL-1 TN received on a track shall supersede previously received data.

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A.4.9 MESSAGE AND WORD NUMBERING CONVENTIONS

The following numbering conventions are defined to identify the fixed format messages and words.

A.4.9.1 LINK 16 (J-SERIES)A.4.9.1.1 MESSAGE

Jn.m is the numbering convention for a Link 16 message, i.e., a combination of one initial word and any legal combination of extension and continuation words, where n is the Label, Link 16 field value and 0 is less than or equal to n is less than or equal to 31, and m is the Sublabel, Link 16 field value and 0 is less than or equal to m is less than or equal to 7.

For example, J3.2 is the numbering convention for the Air Track message.

A.4.9.1.2 BASIC MESSAGE

Jn.mB is the numbering convention for a Link 16 Basic message, i.e., a combination of an initial word and all extension words that make up a minimum length message as defined in the Transmit and Receive (T/R) rules for the message.

For example, J3.2B is the numbering convention for the Air Track Basic message consisting of the J3.2I Air Track initial word and the J3.2E0 Air Track extension word.

A.4.9.1.3 INITIAL WORD

Jn.mI is the numbering convention for the initial word for a Jn.m message.

For example, J3.2I is the numbering convention for the initial word for the J3.2 Air Track message.

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A.4.9.1.4 EXTENSION WORD

Jn.mEx is the numbering convention for the extension word x for the Jn.m message, where x is a decimal number from 0 through the limitation imposed by the Message Length Indicator (MLI) field.

For example, J3.2E0 is the numbering convention for the first extension word for the J3.2 Air Track message.

A.4.9.1.5 CONTINUATION WORD

Jn.mCx is the numbering convention for the continuation word x for the Jn.m message, where x is a decimal number from 0 through 31.

For example, J3.2C1 is the numbering convention for the first continuation word for the J3.2 Air Track message.

A.4.9.1.6 LINK 16 MESSAGE LABELING SCHEME

Table A.4.9-1 lists the Link 16 message titles under this labeling scheme.

A.4.9.2 LINK 11/11B (M-SERIES)A.4.9.2.1 MESSAGE

M.xy defines a Link 11/11B message, where x is a decimal number from 0 through 15 and represents the label, and y is an alphabetical character representing the sublabel. The exception to this is an amplifying message (always "8") followed by the label and sublabel of the message which must immediately precede the amplifying message. Table A.4.9-2 lists the Link 11/11B messages.

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TABLE A.4.9-1. JTIDS/MIDS Messages

Jn.m n	m	0	1	2	3	4	5	6	7
0-NETWORK MANAGEMENT	INITIAL ENTRY	TEST	NETWORK TIME UPDATE	TIME SLOT ASSIGNMENT	RADIO RELAY CONTROL	REPROMULGATION RELAY	COMMUNICATIONS CONTROL	TIME SLOT REALLOCATION	
1-NETWORK MANAGEMENT	CONNECTIVITY INTERROGATION	CONNECTIVITY STATUS	ROUTE ESTABLISHMENT	ACKNOWLEDGEMENT	COMMUNICANT STATUS	NET CONTROL INITIALIZATION	NEEDLINE PARTICIPATION GROUP ASSIGNMENT		
2-PRECISE PARTICIPANT LOCATION AND IDENTIFICATION	INDIRECT INTERFACE UNIT		AIR	SURFACE	SUBSURFACE	LAND POINT	LAND TRACK		
3-SURVEILLANCE	REFERENCE POINT	EMERGENCY POINT	AIR TRACK	SURFACE TRACK	SUBSURFACE TRACK	LAND POINT/TRACK	SPACE TRACK	ELECTRONIC WARFARE PRODUCT INFORMATION	
4-UNUSED									
5-ASW					ACOUSTIC BEARING/ RANGE				
6-AMPLIFICATION	AMPLIFICATION INFORMATION								
7-INFORMATION MANAGEMENT	TRACK MANAGEMENT	DATA UPDATE REQUEST	CORRELATION	POINTER	TRACK IDENTIFIER	IFF/SIF MANAGEMENT		ASSOCIATION	
8-INFORMATION MANAGEMENT	UNIT DESIGNATOR	MISSION CORRELATOR CHANGE							
9-WEAPONS COORDINATION AND MANAGEMENT	COMMAND	ENGAGEMENT COORDINATION							
10-WEAPONS COORDINATION AND MANAGEMENT			ENGAGEMENT STATUS	HANOVER		CONTROLLING UNIT REPORT	PAIRING		
11-UNUSED									
12-CONTROL	MISSION ASSIGNMENT	VECTOR	PRECISION AIRCRAFT DIRECTION	FLIGHT PATH	CONTROLLING UNIT CHANGE	TARGET/TRACK CORRELATION	TARGET SORTING	TARGET BEARING	
13-PLATFORM AND SYSTEM STATUS	AIRFIELD		AIR	SURFACE	SUBSURFACE	LAND			
14-ELECTRONIC WARFARE	PARAMETRIC INFORMATION		EW CONTROL/ COORDINATION						
15-THREAT WARNING	THREAT WARNING								
16-MISSION SUPPORT	IMAGE TRANSFER	ROUTE CHANGE							
17-MISCELLANEOUS	WEATHER OVER TARGET								
18-27 - UNUSED									
28-NATIONAL USE	U.S. NATIONAL 1 (ARMY)	U.S. NATIONAL 2 (NAVY)	U.S. NATIONAL 3 (AIR FORCE)	U.S. NATIONAL 4 (MARINE CORPS)	FR NATIONAL 1	FR NATIONAL 2	U.S. NATIONAL 5 (NSA)	U.K. NATIONAL	
29-NATIONAL USE (RESERVED)									
30-NATIONAL USE (RESERVED)									
31-MISCELLANEOUS	OVER-THE-AIR REKEYING MANAGEMENT	OVER-THE-AIR REKEYING						NO STATEMENT	
RTT - ROUND-TRIP-TIMING	RTT INTERROGATION ADDRESSED	RTT INTERROGATION BROADCAST	RTT REPLY						

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TABLE A.4.9-2. Link 11/11B Messages (Sheet 1 of 2)

M.xy	Message
M.0	Test Message
M.1	Data Reference Position Message
M.81	Data Reference Position Amplify Message
M.2	Air Track Position Message
M.82	Air Position Amplify Message
M.3	Surface Track Position Message
M.83	Surface Position Amplify Message
M.4A	ASW Primary Message
M.84A	ASW Amplify Message
M.4B	ASW Secondary Message
M.4C	ASW Primary Acoustic Message
M.84C	ASW Primary Acoustic Amplify Message
M.4D	ASW Bearing Message
M.84D	ASW Bearing Amplify Message
M.5	Special Points Position Message
M.85	Special Points Amplify Message
M.6A	EA Intercept Data Message

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TABLE A.4.9-2. Link 11/11B Messages (Sheet 1 of 2) (continued)

M.xy	Message
M.6B	Electronic Warfare Support (ES) Primary Message
M.86B	Electronic Warfare Support Amplify Message
M.6C	Electronic Warfare Support Parametric Message
M.86C	Electronic Warfare Support Parametric Amplify Message
M.6D	Electronic Warfare Coordination and Control Message
M.86D	Electronic Warfare Coordination and Control Amplify Message
M.9A	Management Message (Information)
M.9B	Management Message (Pairing/Association/Correlation)

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TABLE A.4.9-2. Link 11/11B Messages (Sheet 2 of 2)

M.xy	Message
M.9C	Management Message (Pointer)
M.9D	Management Message (Link 11 Monitor)
M.9E	Management Message (Supporting Information)
M.9F(0)	(ACT=0) Area of Probability Basic Message
M.89F(0)	(ACT=0) Area of Probability Basic Amplify Message
M.9F(1)	(ACT=1) Area of Probability Secondary Message
M.9G	Data Link Reference Point Position Message
M.10A	Aircraft Control Message
M.11B	Aircraft Mission Status Message
M.11C	ASW Aircraft Status Message
M.11D	IFF/SIF Message
M.11M	Track/Point Amplification Message
M.811M	Track/Point Amplification Amplify Message
M.12	National Message
M.12.31	Timing Message
M.13	National Message
M.14	Weapon/Engagement Status Message

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TABLE A.4.9-2. Link 11/11B Messages (Sheet 2 of 2) (continued)

M.xy Message

M.15 Command Message

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A.5 DETAILED REQUIREMENTS

A.5.1 MESSAGE TRANSLATION REQUIREMENTSA.5.1.1 GENERAL

This section identifies the message translation requirements to be satisfied by FJUs. This includes an evaluation of messages or message sequences, message contents, link protocols, and message exchange rules. Message translations are provided for each translatable message or message sequence.

A.5.1.2 DETAILED DESCRIPTION OF CONTENTS

This section contains message translations that depict actions required by the FJU for forwarding on one data link due to a particular message being received on another link. These translations are presented as follows:

- a. Message translations for each Link 16 message sequence to a Link 11/11B message or message sequence.
- b. Message translations for each Link 11/11B message or message sequence to a Link 16 message or message sequence.

For each message translation the following sets of information are provided:

- a. Message Translation Trees:

- (1) Test node diagrams.
- (2) Test node conditions.
- (3) Required actions.
- (4) Notes.

- b. Related Messages.

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c. Forwarding Transmit Requirements.

d. Data Retention Rules.

A.5.1.2.1 MESSAGE TRANSLATION TREES

A message translation tree is a logical set of conditions depicting how a received message or message sequence is to be tested to determine the appropriate translation and action to be taken. This logic is not intended to direct system design. But the end result, however accomplished, shall be in consonance with required actions depicted in the translation tree. The title at the top of each message translation tree identifies the input message or message sequence for which the tree applies.

A.5.1.2.1.1 BASIC TRANSLATION CRITERIA

The inputs to a message translation tree are messages received from either the Link 16 or Link 11/11B links that satisfy certain basic criteria. These criteria include such considerations as filters, reporting responsibility determination, and data source determination.

Each message translation tree contains four parts: a test node diagram, test node condition, required actions, and notes.

A.5.1.2.1.2 TEST NODE DIAGRAM AND CONDITIONS

The test node diagram, with conditions, represents binary conditions that must be considered to translate a message. Test nodes that are the same and that appear at different places in the tree are identified by the same test node number and, when possible, appear on the same line. Thus, by processing through the test nodes of a test node diagram, a unique branch that leads to a set of required actions is provided.

A.5.1.2.1.3 REQUIRED ACTIONS

The required actions accomplish several functions while collectively identifying all possible options for a given translation. A forwarder shall

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process the complete received message or message sequence in accordance with the appropriate translation tree, prior to taking any forwarding action. This process will eliminate the possibility of the forwarder originating unnecessary duplicate messages as each 'Required Action' of the Test Node Diagram is being considered. For example, a required action may be to "FWD initial sequence," such as an M.2/M.82 message sequence. Continuing to a subsequent node may result in another "FWD M.2/M.82 initial sequence" and "FWD M.9A(AC=5)." The cumulative set of messages in this example consists of an M.9A(AC=5)/M.2/M.82 message sequence. The action also may identify data that must be retained to satisfy the Link 11/11B/16 protocols and the changes that should be made or flags that should be set to assure that duplicate messages are detected, periodic transmissions are accomplished, subsequent messages are processed, and purging requirements are supported.

When the required action is to forward from one link to another, the abbreviation FWD is used.

When the required action is to transmit on to the received link, the phrase "SET INDICATOR TO TRANSMIT ..." is used.

When a required action results in a message being generated, the FJU shall perform the required data element translation described in section A.5.2.

A.5.1.2.1.4 NOTES

The notes provide additional information or clarification about a test node condition and/or required action.

A.5.1.2.2 RELATED MESSAGES

The related message section provides all the message(s) that can be transmitted as a result of the receipt of a message or message sequence from the other link.

A.5.1.2.3 FORWARDING TRANSMIT REQUIREMENTS

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The transmit requirements for those messages generated as a result of required actions comply with the protocols of the Link 16 and Link 11/11B links as appropriate. Examples are:

- a. The FJU must maintain a count of the number of times to transmit redundant messages.
- b. The FJU must know how frequently periodic messages are required to be transmitted.

A.5.1.2.4 DATA RETENTION RULES

The data retention rules pertain only to the data forwarding function of an FJU and identify data that must be maintained for proper data transfer over multi-TDL interfaces. Upon completion of all data forwarding functions associated with receipt of the listed message including receipt/compliance and redundant transmissions, data may be purged when data retention rules are not specified. Message specific retention rules are specified in section A.5.1 after the Notes and Forwarding Transmit Requirements. General retention rules and minimum retention times for periodically transmitted messages are specified in the following paragraphs.

A.5.1.2.4.1 GENERAL RETENTION RULES

The following general retention rules apply to all messages:

- o An FJU shall retain the TN of all inactive PUs, RUs, and C² JUs for whom data are normally forwarded.
- o An FJU shall retain the simulation status of all JUs, tracks, points, bearings, fixes, and AOPs being forwarded to Link 11B.
- o An FJU shall retain the simulation status of all tracks, points, bearings, fixes, and AOPs being forwarded from Link 11B to Link 16.

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- An FJU shall retain the special processing status of all tracks, points, bearings, fixes, and AOPs being forwarded to or from Link 11B.
- If the Link 16 TN being forwarded is greater than 07777 (octal), the TN association of Link 16 to Link 11/11B shall be retained.
- An FJU may purge all data on a track or point upon receipt of a drop track report on that track or point from the R² unit.
- When a unit for whom the FJU has been forwarding data is no longer an active source, the FJU may purge all data previously received from that unit.

A.5.1.2.4.2 MINIMUM RETENTION TIMES

The FJU may purge all data on periodically updated tracks/points/messages after the following minimum retention times:

- If a positional update/test message/PPLI has not been received from a PU, RU, SU, or JU for 60 seconds.
- If a real-time Air track has not been updated within 60 seconds.
- If a real-time Surface track, Subsurface track, or Land track or point has not been updated within 90 seconds. FJUs that purge a land point shall transmit an M.9A(AC=4) Drop Track Report onto Link 11/11B with the source set to the TN of the JU originator of the point.
- If a nonreal-time Air track has not been updated within 150 seconds.
- If a nonreal-time Surface, Subsurface, or Land track has not been updated within 360 seconds.

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- o If an Emergency Point has not been updated within 60 seconds. FJUs that purge an Emergency Point shall transmit an M.9A(AC=4) Drop Track Report onto Link 11/11B with the source set to the TN of the JU originator of the point.
- o If a Reference Point has not been updated within 360 seconds. FJUs that purge a Reference Point shall transmit an M.9A(AC=4) Drop Track Report onto Link 11/11B with the source set to the TN of the JU originator of the point.

A.5.1.3 TECHNICALLY ILLEGAL/INVALID MESSAGE/MESSAGE SEQUENCE

DETERMINATION

The FJU shall perform preliminary checks on all received messages for both validity and legality as defined by MIL-STD-6016 and/or MIL-STD-6011E.

A.5.1.3.1 GENERAL

The FJU shall evaluate received data for uncorrected errors on Link 16 or detected errors on Link 11/11B and make appropriate decisions to forward or discard the data. The forwarding function shall have the following provisions for routing messages between Link 16 and Link 11/11B as a result of link error detection and correction procedures.

- a. J-Series and M-Series information shall be forwarded if it is received with no detected errors.
- b. J-Series information shall be forwarded if it is received with detected errors and the errors were corrected.
- c. J-Series information shall not be forwarded if it is received with uncorrectable errors.
- d. M-Series information shall not be forwarded if it is received with detected errors. However, if only one of the two M.1 messages from Link 11 is valid and is from an already established Link 11 unit, the valid message and the following data report shall be accepted for forwarding.

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A.5.1.3.2 TECHNICALLY ILLEGAL/INVALID EXAMPLES

The following are provided as examples of illegal/invalid messages and message sequences and are not intended to be all inclusive.

- a. A received Link 16 Basic message that does not include its extension word i.e., J2.0, J2.2, J2.3, J2.5, J2.6, J3.1, J3.2, or J3.3.
- b. A message received with a bit field set to an "ILLEGAL" or "NOT USED" value, unless otherwise specified in Section A.5.2. This check may be limited to those fields that the FJU translates to forward the received message.
- c. A message which must be addressed to a specific unit with the Addressee TN set to "NO STATEMENT" or "Collective Address."
- d. Receipt of improper message sequences, such as:
 - o An M.8x message without a preceding message to amplify.
 - o On Link 11, a message sequence without an M.1 message.
 - o On Link 16, a message without an initial word.
 - o A continuation word followed by an extension word.
- e. A received Link 16 track message that does not include a position, i.e., either 0.0103, 0.0051, or 0.0013 Minute Latitude or 0.0103, 0.0051, or 0.0013 Minute Longitude is set to No Statement in a J2.0, J2.2, J2.3, J2.4, J2.5, J2.6, J3.0, J3.1, J3.2, J3.3, J3.4, or J3.5 message.
- f. The following Link 16 messages with Reference TN set to No Statement: J3.0, J3.1, J3.2, J3.3, J3.4, J3.5, J3.7, J5.4, J6.0, J7.0 (except ACT = 6), J7.1 (ACT = 1), J7.4, J7.5, J10.2, J10.3, J10.5, J10.6, J13.2, J13.3, J13.4, J13.5, and J14.0 message.

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TABLE A.5.1-Jx. J Series to Link 11/11B Message Translation Tree

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<p>1. RECEIVED MESSAGE IS J0 SERIES, J1 SERIES, J8.0, J8.1, J9.1, J12 SERIES, J13.0, J15.0, J16 SERIES, J17.0, J20 SERIES, J28 SERIES, J29 SERIES, J30 SERIES, J31 SERIES, OR RTT SERIES.</p>	
REQUIRED ACTION		
A B Z	<p>A. DISCARD MESSAGE. B. GO TO APPROPRIATE MESSAGE TRANSLATION TREE. Z. END TRANSLATION.</p>	

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TABLE A.5.1-J2.0. J2.0 to Link 11/11B Message Translation Tree (Sheet 1 of 7)

TEST NODE DIAGRAM												TEST NODE CONDITION		NOTES																																																																																																																																												
												1. UNIT IS INACTIVE IN FJU DATABASE OR THIS IS INITIAL REPORT. 2. FJU IS TRANSMITTING M.9A (AC=4). 3. EMERGENCY INDICATOR = 1. 4. FORCE TELL INDICATOR = 1. 5. EMERGENCY INDICATOR HAS CHANGED. 6. FORCE TELL INDICATOR HAS CHANGED.		1, 2																																																																																																																																												
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TABLE A.5.1-J2.0. J2.0 to Link 11/11B Message Translation Tree (Sheet 2 of 7)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES	
<pre> graph TD 7[N: 7] -- Y --> 8[N: 8] 7 -- N --> 9[N: 9] 8 -- N --> 10[N: 10] 8 -- Y --> 11[N: 11] 9 -- N --> 10 9 -- Y --> 12[N: 12] 10 -- N --> 11 10 -- Y --> 12 11 -- N --> 12 11 -- Y --> 12 12 -- N --> 12 12 -- Y --> 12 </pre>	<p>7. NONZERO IFF/SIF REPORTED.</p> <p>8. SITE/UNIT TYPE/PLATFORM OR ACTIVITY DATA HAS CHANGED.</p> <p>9. UNIT IS C2 JU.</p> <p>10. REPORTED POSITION HAS CHANGED.</p> <p>11. ALTITUDE/ELEVATION/DEPTH/COURSE OR SPEED IS OTHER THAN NO STATEMENT.</p> <p>12. SIMULATION INDICATOR = 1.</p>		
<p>O O P P Q Q Q Q R R R R</p> <p style="text-align: center;">S T</p> <p style="text-align: center;">U U U Z Z Z Z Z Z</p>		REQUIRED ACTION	
<p>O O P P Q Q Q Q R R R R</p> <p style="text-align: center;">S T</p> <p style="text-align: center;">U U U Z Z Z Z Z Z</p>		<p>O. FWD M.11D.</p> <p>P. FWD M.8X AMPLIFY MESSAGE.</p> <p>Q. FWD M.1 OR M.2 OR M.3 OR M.4 OR IF APPROPRIATE M.5.</p> <p>R. GO TO TEST NODE 9.</p> <p>S. FWD M.5.</p> <p>T. GO TO NEXT NUMERICAL TEST NODE.</p> <p>U. FWD M.9A(AC=0, SI=1) OR M.1(SIM=1) IF APPROPRIATE.</p> <p>Z. END TRANSLATION.</p>	1,5 1 6

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TABLE A.5.1-J2.0. J2.0 to Link 11/11B Message Translation Tree
(Sheet 3 of 7)

NOTES

1. If the received J2.0 PPLI message has the Command and Control Indicator set to 0 (nonC² IU), Source Track Number 00200 (octal) or greater, or the FJU has exceeded its maximum data source capacity (see paragraph A.4.7.2), the FJU shall forward the received PPLI message(s) onto Link 11/11B as Surveillance or Special Point message(s) as appropriate according to the Originator Environment/Category value. (See paragraph A.4.7.1.) When a C² JU is determined to be active, the FJU shall initiate and forward the appropriate Systems Information messages containing the unit's identification and location onto Link 11/11B. The rules and procedures describing the appropriate messages are as defined for Link 11 and Link 11B.
2. If a unit becomes active and is currently being reported on either Link 11, 11B, or 16 as a Surveillance track or Point, it shall be forwarded in accordance with section A.4.7. The previously reported Surveillance track or Point shall be redesignated immediately as an active Interface Unit (IU). The possibility exists that an additional Surveillance or Point report(s) may be received and shall be discarded, particularly from asynchronous links.
3. If both the Emergency and Force Tell Indicators have been set to "on," only the Emergency alert will be transmitted on Link 11 and Link 11B. Transmission of an initial message sequence is not required if the Force Tell Indicator is changed to "on" and the Emergency alert is already being reported.
4. If both alerts have existed and one ceases, the remaining alert status will continue to be transmitted as an M.9A(AC=5) message and the other, if it had been forwarded, shall be terminated with an M.9A(AC=7) message. Optionally, an FJU may forward an M.9A(AC=7) message even though a previous M.9A(AC=5) message for the same alert had not been transmitted.

APPENDIX A

TABLE A.5.1-J2.0. J2.0 to Link 11/11B Message Translation Tree
(Sheet 4 of 7)

NOTES (Continued)

5. When the PPLI message is forwarded in an M.1/M.5 message sequence, the M.81 amplification message is transmitted on Link 11, if appropriate, and the M.85 amplification message is transmitted on Link 11B, if appropriate.
6. If the simulated unit is a nonC² IU being forwarded to Link 11 or 11B, or a C² IU being forwarded to Link 11B, the M.9A(AC=0, SI=1) message shall precede appropriate messages. If the simulated unit is a C² IU being forwarded to Link 11, the M.1(SIM=1) message will be part of the initial sequence. (See paragraph A.4.8.6)

APPENDIX A

TABLE A.5.1-J2.0. J2.0 to Link 11/11B Message Translation Tree
(Sheet 5 of 7)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J2.0	M.1
	M.81
	M.2
	M.82
	M.3
	M.83
	M.4A
	M.84A
	M.5
	M.85
	M.9A(AC=0, 4, 5 OR 7)
	M.11D

APPENDIX A

TABLE A.5.1-J2.0. J2.0 to Link 11/11B Message Translation Tree
(Sheet 6 of 7)

FORWARDING TRANSMIT REQUIREMENTS

LINK 11

1. An M.1 message sequence shall be transmitted at each FJU transmit opportunity. When an M.81 message is being transmitted, it shall be transmitted immediately following the initial M.1 message sequence and thereafter once every four M.1 message sequences.
2. An M.5 message shall be transmitted immediately following the initial M.1 or M.1/M.81 message sequence and thereafter every FJU transmit opportunity.

LINK 11B

1. An M.5 message shall be transmitted with the initial sequence and thereafter, each time data change.
2. When data are available, an M.85 message shall be transmitted following every M.5 message.

LINK 11/11B

1. An M.9A(AC=5) message shall be transmitted prior to each M.5 message that is transmitted when an Emergency or Force Tell alert status for the unit exists.
2. Forwarding Transmit Requirements for surveillance and point messages are specified as follows:
 - M.2/M.82 in Table A.5.1-J3.2.
 - M.3/M.83 in Table A.5.1-J3.3.
 - M.4A/M.84A in Table A.5.1-J3.4.
 - M.5/M.85 in Table A.5.1-J3.5.

APPENDIX A

TABLE A.5.1-J2.0. J2.0 to Link 11/11B Message Translation Tree
(Sheet 7 of 7)

FORWARDING TRANSMIT REQUIREMENTS (Continued)

3. The M.9A(AC=7) message will be forwarded once in each of three successive transmit opportunities.

DATA RETENTION RULES

1. The FJU shall retain all forwardable track data on all active PUs, RUs, JUs, and GUs being forwarded onto Link 11/11B.
2. Timers shall be maintained on each active PU, RU, JU, and GU being forwarded for proper initiation of update message sequences or Drop Track messages.

APPENDIX A

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TABLE A.5.1-J2.2. J2.2 to Link 11/11B Message Translation Tree (Sheet 1 of 7)

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TABLE A.5.1-J2.2. J2.2 to Link 11/11B Message Translation Tree (Sheet 2 of 7)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<p>8. NONZERO IFF/SIF REPORTED.</p> <p>9. PLATFORM AND/OR ACTIVITY DATA HAS CHANGED.</p> <p>10. VOICE CALL SIGN INDICATOR = 1 AND VOICE CALL SIGN HAS CHANGED.</p> <p>11. UNIT IS C2 JU.</p> <p>12. REPORTED POSITION HAS CHANGED.</p> <p>13. ALTITUDE/VELOCITY OTHER THAN NO STATEMENT.</p> <p>14. SIMULATION INDICATOR = 1.</p>	
	REQUIRED ACTION	
O O O O P P P P Q Q Q Q R R R R R R R S S S S S S S T U V V V Z Z Z Z Z Z	<p>O. FWD M.11D.</p> <p>P. FWD M.8X AMPLIFY MESSAGE.</p> <p>Q. FWD M.9E(AC=1).</p> <p>R. FWD M.1 OR M.2 OR IF APPROPRIATE M.5.</p> <p>S. GO TO TEST NODE 11.</p> <p>T. FWD M.5.</p> <p>U. GO TO NEXT NUMERICAL TEST NODE.</p> <p>V. FWD M.9A(AC=0, SI=1) OR M.1(SIM=1) IF APPROPRIATE.</p> <p>Z. END TRANSLATION.</p>	1,6 1 7

APPENDIX A

TABLE A.5.1-J2.2. J2.2 to Link 11/11B Message Translation Tree
(Sheet 3 of 7)

NOTES

1. If the received J2.2 PPLI message has the Command and Control Indicator set to 0 (nonC² JU), Source Track Number 00200 (octal) or greater, or the FJU has exceeded its maximum data source capacity (see paragraph A.4.7.3), the FJU shall forward the received PPLI message(s) onto Link 11/11B as an Air Surveillance message(s). (See paragraph A.4.7.2) When a C² JU is determined to be active, the FJU shall initiate and forward the appropriate Systems Information messages containing the unit's identification and location onto Link 11/11B. The rules and procedures describing the appropriate messages are as defined for Link 11 and Link 11B.
2. If a unit becomes active and is currently being reported on either Link 11, 11B, or 16 as an Air Surveillance track, it shall be forwarded in accordance with section A.4.7. The previously reported Air Surveillance track shall be redesignated immediately as an active Interface Unit (IU). The possibility exists that an additional Air Surveillance report(s) may be received and shall be discarded, particularly from asynchronous links.
3. If the FJU holds local data for the unit, the FJU shall assume R² for the unit rather than forwarding a Drop Track message. If the reference track is a C² IU being forwarded on Link 11B, link protocol demands that a Drop Track message be sent to signify inactive status of an interface unit. The latter is true even in those cases where the FJU assumes R² for the C² IU.
4. If both the Emergency and Force Tell Indicators have been set to "on," only the Emergency alert will be transmitted on Link 11 and Link 11B. Transmission of an initial message sequence is not required if the Force Tell Indicator is changed to "on" and the Emergency alert is already being reported.
5. If both alerts have existed and one ceases, the remaining alert status will continue to be transmitted as an M.9A(AC=5) message and the other, if it had been forwarded, shall be terminated with an M.9A(AC=7) message.

APPENDIX A

TABLE A.5.1-J2.2. J2.2 to Link 11/11B Message Translation Tree
(Sheet 4 of 7)

NOTES (Continued)

5. (Continued)

Optionally, an FJU may forward an M.9A(AC=7) message even though a previous M.9A(AC=5) message for the same alert had not been transmitted.

6. When the PPLI message is forwarded in an M.1/M.5 message sequence, the M.81 amplification message is transmitted on Link 11, if appropriate, and the M.85 amplification message is transmitted on Link 11B, if appropriate.

7. If the simulated unit is a nonC² JU being forwarded to Link 11 or 11B, or a C² JU being forwarded to Link 11B, the M.9A(AC=0, SI=1) message shall precede appropriate messages. If the simulated unit is a C² JU being forwarded to Link 11, the M.1(SIM=1) message will be part of the initial sequence. (See paragraph A.4.8.6)

APPENDIX A

TABLE A.5.1-J2.2. J2.2 to Link 11/11B Message Translation Tree
(Sheet 5 of 7)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J2.2	M.1
	M.81
	M.2
	M.82
	M.5
	M.85
	M.9A(AC=0, 4, 5 OR 7)
	M.9E
	M.11D

APPENDIX A

TABLE A.5.1-J2.2. J2.2 to Link 11/11B Message Translation Tree
(Sheet 6 of 7)

FORWARDING TRANSMIT REQUIREMENTS

LINK 11

1. An M.1 message sequence shall be transmitted at each FJU transmit opportunity. When an M.81 message is being transmitted, it shall be transmitted immediately following the initial M.1 message sequence and thereafter once every four M.1 message sequences.
2. An M.5 message shall be transmitted immediately following the initial M.1 or M.1/M.81 message sequence and thereafter every FJU transmit opportunity.

LINK 11B

1. An M.5 message shall be transmitted with the initial sequence and thereafter, each time data change.
2. When data are available, an M.85 message shall be transmitted following every M.5 message.

LINK 11/11B

1. An M.9A(AC=5) message shall be transmitted prior to each M.5 message that is transmitted when an Emergency or Force Tell alert status for the unit exists.
2. Forwarding Transmit Requirements for M.2/M.82 messages are specified in Table A.5.1-J3.2.
3. The M.9A(AC=7) message will be forwarded once in each of three successive transmit opportunities.

APPENDIX A

TABLE A.5.1-J2.2. J2.2 to Link 11/11B Message Translation Tree
(Sheet 7 of 7)

DATA RETENTION RULES

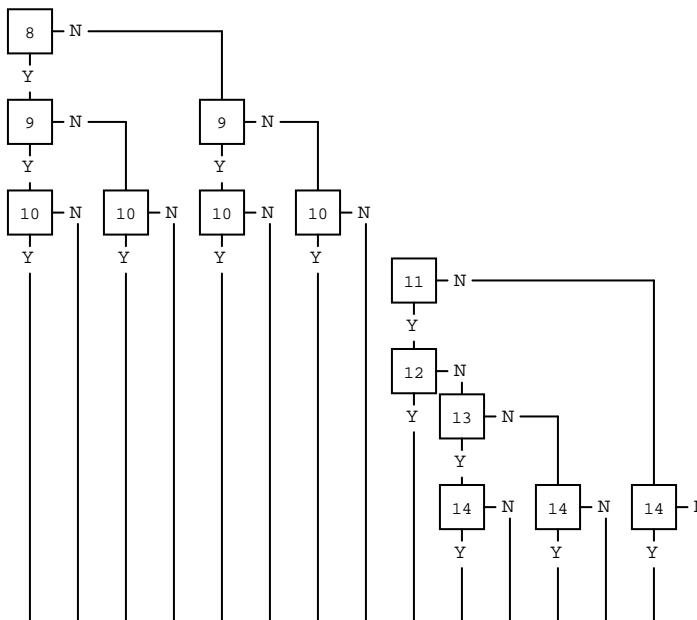
1. The FJU shall retain all forwardable track data on all active JUs being forwarded onto Link 11/11B.
2. Timers shall be maintained on each active JU being forwarded for proper initiation of update message sequences or Drop Track messages.

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TABLE A.5.1-J2.3. J2.3 to Link 11/11B Message Translation Tree (Sheet 1 of 7)

TABLE A.5.1-J2.3. J2.3 to Link 11/11B Message Translation Tree (Sheet 2 of 7)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ul style="list-style-type: none"> 8. NONZERO IFF/SIF REPORTED. 9. PLATFORM AND/OR ACTIVITY DATA HAS CHANGED. 10. VOICE CALL SIGN INDICATOR = 1 AND VOICE CALL SIGN HAS CHANGED. 11. UNIT IS C2 JU. 12. REPORTED POSITION HAS CHANGED. 13. COURSE AND SPEED OTHER THAN NO STATEMENT. 14. SIMULATION INDICATOR = 1. 	
	REQUIRED ACTION	
O O O O P P P P Q Q Q Q R R R R R R R R S S S S S S S S T U V V V Z Z Z Z Z Z	<ul style="list-style-type: none"> O. FWD M.11D. P. FWD M.8X AMPLIFY MESSAGE. Q. FWD M.9E(AC=1). R. FWD M.1 OR M.3 OR IF APPROPRIATE M.5. S. GO TO TEST NODE 11. T. FWD M.3. U. GO TO NEXT NUMERICAL TEST NODE. V. FWD M.9A(AC=0, SI=1) OR M.1(SIM=1) IF APPROPRIATE. Z. END TRANSLATION. 	1,6 1 7

APPENDIX A

TABLE A.5.1-J2.3. J2.3 to Link 11/11B Message Translation Tree
(Sheet 3 of 7)

NOTES

1. If the received J2.3 PPLI message has the Command and Control Indicator set to 0 (nonC² JU), Source Track Number 00200 (octal) or greater, or the FJU has exceeded its maximum data source capacity (see paragraph A.4.7.3), the FJU shall forward the received PPLI message(s) onto Link 11/11B as a Surface Surveillance message(s). (See paragraph A.4.7.2) When a C² JU is determined to be active, the FJU shall initiate and forward the appropriate Systems Information messages containing the unit's identification and location onto Link 11/11B. The rules and procedures describing the appropriate message are as defined for Link 11 and Link 11B.
2. If a unit becomes active and is currently being reported on either Link 11, 11B, or 16 as a Surface Surveillance track, it shall be forwarded in accordance with section A.4.7. The previously reported Surface Surveillance track shall immediately be redesignated as an active IU. The possibility exists that an additional Surface Surveillance report(s) may be received and shall be discarded, particularly from asynchronous links.
3. If the FJU holds local data for the unit, the FJU shall assume R² for the unit rather than forwarding a Drop Track message. If the reference track is a C² IU being forwarded on Link 11B, link protocol demands that a Drop Track message be sent to signify inactive status of an interface unit. The latter is true even in those cases where the FJU assumes R² for the C² IU.
4. If both the Emergency and Force Tell Indicators have been set to "on," only the Emergency alert will be transmitted on Link 11 and Link 11B. Transmission of an initial message sequence is not required if the Force Tell Indicator is changed to "on" and the Emergency alert is already being reported.
5. If both alerts have existed and one ceases, the remaining alert status will continue to be transmitted as an M.9A(AC=5) message and the other, if it had been forwarded, shall be terminated with an M.9A(AC=7) message.

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TABLE A.5.1-J2.3. J2.3 to Link 11/11B Message Translation Tree
(Sheet 4 of 7)

NOTES (Continued)

5. (Continued)

Optionally, an FJU may forward an M.9A(AC=7) message even though a previous M.9A(AC=5) message for the same alert had not been transmitted.

6. When the PPLI message is forwarded in an M.1/M.5 message sequence, the M.81 amplification message is transmitted on Link 11, if appropriate, and the M.85 amplification message is transmitted on Link 11B, if appropriate.

7. If the simulated unit is a nonC² JU being forwarded to Link 11 or 11B, or a C² JU being forwarded to Link 11B, the M.9A(AC=0, SI=1) message shall precede appropriate messages. If the simulated unit is a C² JU being forwarded to Link 11, the M.1(SIM=1) message will be part of the initial sequence. (See paragraph A.4.8.6)

APPENDIX A

TABLE A.5.1-J2.3. J2.3 to Link 11/11B Message Translation Tree
(Sheet 5 of 7)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J2.3	M.1
	M.81
	M.3
	M.83
	M.5
	M.85
	M.9A(AC=0, 4, 5 OR 7)
	M.9E
	M.11D

APPENDIX A

TABLE A.5.1-J2.3. J2.3 to Link 11/11B Message Translation Tree
(Sheet 6 of 7)

FORWARDING TRANSMIT REQUIREMENTS

LINK 11

1. An M.1 message sequence shall be transmitted at each FJU transmit opportunity. When an M.81 message is being transmitted, it shall be transmitted immediately following the initial M.1 message sequence and thereafter once every four M.1 message sequences.
2. An M.5 message shall be transmitted immediately following the initial M.1 or M.1/M.81 message sequence and thereafter every FJU transmit opportunity.

LINK 11B

1. An M.5 message shall be transmitted with the initial sequence and thereafter, each time data change.
2. When data are available, an M.85 message shall be transmitted following every M.5 message.

LINK 11/11B

1. An M.9A(AC=5) message shall be transmitted prior to each M.5 message that is transmitted when an Emergency or Force Tell alert status for the unit exists.
2. The M.9A(AC=7) will be forwarded once in each of three successive transmit opportunities.
3. Forwarding Transmit Requirements for M.3/M.83 messages are specified in Table A.5.1-J3.3.

APPENDIX A

TABLE A.5.1-J2.3. J2.3 to Link 11/11B Message Translation Tree
(Sheet 7 of 7)

DATA RETENTION RULES

1. The FJU shall retain all forwardable track data on all active JUs being forwarded onto Link 11/11B.
2. Timers shall be maintained on each active JU being forwarded for proper initiation of update message sequences or Drop Track messages.

APPENDIX A

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TABLE A.5.1-J2.4. J2.4 to Link 11/11B Message Translation Tree (Sheet 1 of 7)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ul style="list-style-type: none"> 1. RECEIVED J2.4 INDICATES UNIT IS INACTIVE. 2. UNIT IS INACTIVE IN FJU DATABASE OR THIS IS INITIAL REPORT. 3. FJU IS TRANSMITTING M.9A (AC=4). 4. EMERGENCY INDICATOR = 1. 5. FORCE TELL INDICATOR = 1. 6. EMERGENCY INDICATOR HAS CHANGED. 7. FORCE TELL INDICATOR HAS CHANGED. 	1, 2
REQUIRED ACTION		
<p>A B B B B B B B B B</p> <p>D C C B B B B</p> <p>E F F G F G F</p> <p>D G H G H H H H H</p> <p>E H H I I I I I</p> <p>L I I J J J J K</p> <p>L K K M M M M M</p> <p>Z M M M M M M M M M M M M M M M</p>	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD INITIAL SEQUENCE. C. DECLARE THE UNIT ACTIVE. D. DECLARE THE UNIT INACTIVE, FWD M.9A(AC=4). E. CEASE TRANSMITTING M.9A(AC=4). F. SET EMERGENCY STATUS IN DATABASE. G. SET FORCE TELL STATUS IN DATABASE. H. FWD M.9A(AC=5). I. CONTINUE REDUNDANT M.9A(AC=5). J. CLEAR EMERGENCY, FWD M.9A(AC=7). K. CLEAR FORCE TELL, FWD M.9A(AC=7). L. GO TO TEST NODE 4. M. GO TO TEST NODE 8. Z. END TRANSLATION. 	<p>3</p> <p>4</p> <p>5</p> <p>5</p>

TABLE A.5.1-J2.4. J2.4 to Link 11/11B Message Translation Tree (Sheet 2 of 7)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<p>8. NONZERO IFF/SIF REPORTED.</p> <p>9. PLATFORM DATA HAS CHANGED.</p> <p>10. VOICE CALL SIGN INDICATOR = 1 AND VOICE CALL SIGN HAS CHANGED.</p> <p>11. UNIT IS C2 JU.</p> <p>12. REPORTED POSITION HAS CHANGED.</p> <p>13. DEPTH (15 METERS/CATEGORY)/COURSE AND SPEED OTHER THAN NO STATEMENT.</p> <p>14. SIMULATION INDICATOR = 1.</p>	
	REQUIRED ACTION	
O O O O P P P P Q Q Q Q R R R R R R R S S S S S S S T U V V V Z Z Z Z Z Z	<p>O. FWD M.11D.</p> <p>P. FWD M.8X AMPLIFY MESSAGE.</p> <p>Q. FWD M.9E(AC=1).</p> <p>R. FWD M.1 OR M.4A OR IF APPROPRIATE M.5.</p> <p>S. GO TO TEST NODE 11.</p> <p>T. FWD M.5.</p> <p>U. GO TO NEXT NUMERICAL TEST NODE.</p> <p>V. FWD M.9A(AC=0, SI=1) OR M.1(SIM=1) IF APPROPRIATE.</p> <p>Z. END TRANSLATION.</p>	<p>1, 6</p> <p>1</p> <p>7</p>

APPENDIX A

TABLE A.5.1-J2.4. J2.4 to Link 11/11B Message Translation Tree
(Sheet 3 of 7)

NOTES

1. If the received J2.4 PPLI message has the Command and Control Indicator set to 0 (nonC² JU), Source Track Number 00200 (octal) or greater, or the FJU has exceeded its maximum data source capacity (see paragraph A.4.7.3), the FJU shall forward the received PPLI message(s) onto Link 11/11B as a Subsurface Surveillance message(s). (See paragraph A.4.7.2) When a C² JU is determined to be active, the FJU shall initiate and forward the appropriate Systems Information messages containing the unit's identification and location onto Link 11/11B. The rules and procedures describing the appropriate message are as defined for Link 11 and Link 11B.
2. If a unit becomes active and is currently being reported on either Link 11, 11B, or 16 as a Subsurface Surveillance track, it shall be forwarded in accordance with section A.4.7. The previously reported Subsurface Surveillance track shall immediately be redesignated as an active IU. The possibility exists that an additional Subsurface Surveillance report(s) may be received and shall be discarded, particularly from asynchronous links.
3. If the FJU holds local data for the unit, the FJU shall assume R² for the unit rather than forwarding a Drop Track message. If the reference track is a C² IU being forwarded on Link 11B, link protocol demands that a Drop Track message be sent to signify inactive status of an interface unit. The latter is true even in those cases where the FJU assumes R² for the C² IU.
4. If both the Emergency and Force Tell Indicators have been set to "on," only the Emergency alert will be transmitted on Link 11 and Link 11B. Transmission of an initial message sequence is not required if the Force Tell Indicator is changed to "on" and the Emergency alert is already being reported.
5. If both alerts have existed and one ceases, the remaining alert status will continue to be transmitted as an M.9A(AC=5) message and the other, if it had been forwarded, shall be terminated with an M.9A(AC=7) message.

APPENDIX A

TABLE A.5.1-J2.4. J2.4 to Link 11/11B Message Translation Tree
(Sheet 4 of 7)

NOTES (Continued)

5. (Continued)

Optionally, an FJU may forward an M.9A(AC=7) message even though a previous M.9A(AC=5) message for the same alert had not been transmitted.

6. When the PPLI message is forwarded in an M.1/M.5 message sequence, the M.81 amplification message is transmitted on Link 11, if appropriate, and the M.85 amplification message is transmitted on Link 11B, if appropriate.

7. If the simulated unit is a nonC² JU being forwarded to Link 11 or 11B, or a C² JU being forwarded to Link 11B, the M.9A(AC=0, SI=1) message shall precede appropriate messages. If the simulated unit is a C² JU being forwarded to Link 11, the M.1(SIM=1) message will be part of the initial sequence. (See paragraph A.4.8.6)

APPENDIX A

TABLE A.5.1-J2.4. J2.4 to Link 11/11B Message Translation Tree
(Sheet 5 of 7)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J2.4	M.1
	M.81
	M.4A
	M.84A
	M.5
	M.85
	M.9A(AC=0, 4, 5 OR 7)
	M.9E
	M.11D

APPENDIX A

TABLE A.5.1-J2.4. J2.4 to Link 11/11B Message Translation Tree
(Sheet 6 of 7)

FORWARDING TRANSMIT REQUIREMENTS

LINK 11

1. An M.1 message sequence shall be transmitted at each FJU transmit opportunity. When an M.81 message is being transmitted, it shall be transmitted immediately following the initial M.1 message sequence and thereafter once every four M.1 message sequences.
2. An M.5 message shall be transmitted immediately following the initial M.1 or M.1/M.81 message sequence and thereafter every FJU transmit opportunity.

LINK 11B

1. An M.5 message shall be transmitted with the initial sequence and thereafter, each time data change.
2. When data are available, an M.85 message shall be transmitted following every M.5 message.

LINK 11/11B

1. An M.9A(AC=5) message shall be transmitted prior to each M.5 message that is transmitted when an Emergency or Force Tell alert status for the unit exists.
2. The M.9A(AC=7) will be forwarded once in each of three successive transmit opportunities.
3. Forwarding Transmit Requirements for M.4A/M.84A messages are specified in Table A.5.1-J3.4.

APPENDIX A

TABLE A.5.1-J2.4. J2.4 to Link 11/11B Message Translation Tree
(Sheet 7 of 7)

DATA RETENTION RULES

1. The FJU shall retain all forwardable track data on all active JUs being forwarded onto Link 11/11B.
2. Timers shall be maintained on each active JU being forwarded for proper initiation of update message sequences or Drop Track messages.

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TABLE A.5.1-J2.5. J2.5 to Link 11/11B Message Translation Tree (Sheet 1 of 7)

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TABLE A.5.1-J2.5. J2.5 to Link 11/11B Message Translation Tree (Sheet 2 of 7)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES																																
<pre> graph TD 8[N: 8] -- N --> 9_1[N: 9] 8 -- Y --> 10[N: 10] 9_1 -- N --> 11[N: 11] 9_1 -- Y --> 12[N: 12] 11 -- N --> 13_1[N: 13] 11 -- Y --> 13_2[N: 13] 11 -- Y --> 13_3[N: 13] </pre>	<ul style="list-style-type: none"> 8. PLATFORM AND/OR ACTIVITY DATA HAS CHANGED. 9. VOICE CALL SIGN INDICATOR = 1 AND VOICE CALL SIGN HAS CHANGED. 10. UNIT IS C2 JU. 11. REPORTED POSITION HAS CHANGED. 12. ELEVATION HAS CHANGED. 13. SIMULATION INDICATOR = 1. 																																	
	REQUIRED ACTION																																	
<table border="0"> <tr> <td>O</td><td>O</td><td>O</td><td>O</td> </tr> <tr> <td>P</td><td></td><td>P</td><td></td> </tr> <tr> <td>Q</td><td>Q</td><td>Q</td><td>Q</td> </tr> <tr> <td>R</td><td>R</td><td>R</td><td>R</td> </tr> <tr> <td></td><td>S</td><td>S</td><td>S</td> </tr> <tr> <td></td><td>T</td><td></td><td></td> </tr> <tr> <td></td><td>U</td><td>U</td><td>U</td> </tr> <tr> <td></td><td>Z</td><td>Z</td><td>Z</td> </tr> </table>	O	O	O	O	P		P		Q	Q	Q	Q	R	R	R	R		S	S	S		T				U	U	U		Z	Z	Z	<ul style="list-style-type: none"> O. FWD M.8X AMPLIFY MESSAGE. P. FWD M.9E(AC=1). Q. FWD M.1 AND/OR M.5. R. GO TO TEST NODE 10. S. FWD M.5. T. GO TO NEXT NUMERICAL TEST NODE. U. FWD M.9A(AC=0, SI=1) OR M.1(SIM=1) IF APPROPRIATE. Z. END TRANSLATION. 	1, 6 1 7
O	O	O	O																															
P		P																																
Q	Q	Q	Q																															
R	R	R	R																															
	S	S	S																															
	T																																	
	U	U	U																															
	Z	Z	Z																															

APPENDIX A

TABLE A.5.1-J2.5. J2.5 to Link 11/11B Message Translation Tree
(Sheet 3 of 7)

NOTES

1. If the received J2.5 PPLI message has the Command and Control Indicator set to 0 (nonC² JU) or has Source Track Number 00200 (octal) or greater, the FJU shall forward the received PPLI message(s) onto Link 11/11B as a Special Points Position message(s). (See paragraph A.4.7.2) When a C² JU is determined to be active, the FJU shall initiate and forward the appropriate Systems Information messages containing the unit's identification and location onto Link 11/11B. The rules and procedures describing the appropriate messages are as defined for Link 11 and Link 11B.
2. If a unit becomes active and is currently being reported on either Link 11, 11B, or 16, it shall be forwarded in accordance with section A.4.7. The previously reported Point shall be redesignated immediately as an active IU. The possibility exists that an additional Point report(s) may be received and shall be discarded, particularly from asynchronous links.
3. If the FJU holds local data for the unit, the FJU shall assume R² for the unit rather than forwarding a Drop Track message. If the reference track is a C² IU being forwarded on Link 11B, link protocol demands that a Drop Track message be sent to signify inactive status of an interface unit. The latter is true even in those cases where the FJU assumes R² for the C² IU.
4. If both the Emergency and Force Tell Indicators have been set to "on," only the Emergency alert will be transmitted on Link 11 and Link 11B. Transmission of an initial message sequence is not required if the Force Tell Indicator is changed to "on" and the Emergency alert is already being reported.
5. If both alerts have existed and one ceases, the remaining alert status will continue to be transmitted as an M.9A(AC=5) message and the other, if it had been forwarded, shall be terminated with an M.9A(AC=7) message. Optionally, an FJU may forward an M.9A(AC=7) message even though a previous M.9A(AC=5) message for the same alert had not been transmitted.

APPENDIX A

TABLE A.5.1-J2.5. J2.5 to Link 11/11B Message Translation Tree
(Sheet 4 of 7)

NOTES (Continued)

6. When the PPLI message is forwarded in an M.1/M.5 message sequence, the M.81 amplification message is transmitted on Link 11, if appropriate, and the M.85 amplification message is transmitted on Link 11B, if appropriate.
7. If the simulated unit is a nonC² JU being forwarded to Link 11 or 11B, or a C² JU being forwarded to Link 11B, the M.9A(AC=0, SI=1) message shall precede appropriate messages. If the simulated unit is a C² JU being forwarded to Link 11, the M.1(SIM=1) message will be part of the initial sequence. (See paragraph A.4.8.6)

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TABLE A.5.1-J2.5. J2.5 to Link 11/11B Message Translation Tree
(Sheet 5 of 7)

RELATED MESSAGES

<u>RECEIVED LINK 16 MESSAGE</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES THAT MAY BE REQUIRED</u>
J2.5	M.1 M.81 M.5 M.85 M.9A(AC=0, 4, 5 OR 7) M.9E

APPENDIX A

TABLE A.5.1-J2.5. J2.5 to Link 11/11B Message Translation Tree
(Sheet 6 of 7)

FORWARDING TRANSMIT REQUIREMENTS

LINK 11

1. An M.1 message sequence shall be transmitted at each FJU transmit opportunity. When an M.81 message is being transmitted, it shall be transmitted immediately following the initial M.1 message sequence and thereafter once every four M.1 message sequences.
2. An M.5 message shall be transmitted immediately following the initial M.1 or M.1/M.81 message sequence and thereafter every FJU transmit opportunity.

LINK 11B

1. An M.5 message shall be transmitted with the initial sequence and thereafter, each time data change.
2. When data are available, an M.85 message shall be transmitted following every M.5 message.

LINK 11/11B

1. An M.9A(AC=5) message shall be transmitted prior to each M.5 message that is transmitted when an Emergency or Force Tell alert status for the unit exists.
2. The M.9A(AC=7) will be forwarded once in each of three successive transmit opportunities.

DATA RETENTION RULES

1. The FJU shall retain all forwardable track data on all active JUs being forwarded onto Link 11/11B.

APPENDIX A

TABLE A.5.1-J2.5. J2.5 to Link 11/11B Message Translation Tree
(Sheet 7 of 7)

DATA RETENTION RULES (Continued)

2. Timers shall be maintained on each active JU being forwarded for proper initiation of update message sequences or Drop Track messages.

APPENDIX A

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TABLE A.5.1-J2.6. J2.6 to Link 11/11B Message Translation Tree (Sheet 1 of 7)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ul style="list-style-type: none"> 1. RECEIVED J2.6 INDICATES UNIT IS INACTIVE. 2. UNIT IS INACTIVE IN FJU DATABASE OR THIS IS INITIAL REPORT. 3. FJU IS TRANSMITTING M.9A(AC=4). 4. EMERGENCY INDICATOR = 1. 5. FORCE TELL INDICATOR = 1. 6. EMERGENCY INDICATOR HAS CHANGED. 7. FORCE TELL INDICATOR HAS CHANGED. 	1, 2
	REQUIRED ACTION	
A B B B B B B B B B C C D E F F F F G G H H G G H H I I H H H I I I J J J J K K M M K K L L M M M M M M M M M M M M M Z Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD INITIAL SEQUENCE. C. DECLARE THE UNIT ACTIVE. D. DECLARE THE UNIT INACTIVE, FWD M.9A(AC=4). E. CEASE TRANSMITTING M.9A(AC=4). F. SET EMERGENCY STATUS IN DATABASE. G. SET FORCE TELL STATUS IN DATABASE. H. FWD M.9A(AC=5). I. CONTINUE REDUNDANT M.9A(AC=5). J. CLEAR EMERGENCY, FWD M.9A(AC=7). K. CLEAR FORCE TELL, FWD M.9A(AC=7). L. GO TO TEST NODE 4. M. GO TO TEST NODE 8. Z. END TRANSLATION. 	3 4 5 5

TABLE A.5.1-J2.6. J2.6 to Link 11/11B Message Translation Tree (Sheet 2 of 7)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	8. PLATFORM AND/OR ACTIVITY DATA HAS CHANGED. 9. VOICE CALL SIGN INDICATOR = 1 AND VOICE CALL SIGN HAS CHANGED. 10. UNIT IS C2 JU. 11. REPORTED POSITION HAS CHANGED. 12. ELEVATION/VELOCITY HAS CHANGED. 13. SIMULATION INDICATOR = 1.	
	REQUIRED ACTION	
O O P P Q Q Q Q R R R R S S S T U U U Z Z Z Z Z Z	O. FWD M.8X AMPLIFY MESSAGE. P. FWD M.9E(AC=1). Q. FWD M.1 AND/OR M.5. R. GO TO TEST NODE 10. S. FWD M.5. T. GO TO NEXT NUMERICAL TEST NODE. U. FWD M.9A(AC=0, SI=1) OR M.1(SIM=1) IF APPROPRIATE. Z. END TRANSLATION.	1, 6 1 7

APPENDIX A

TABLE A.5.1-J2.6. J2.6 to Link 11/11B Message Translation Tree
(Sheet 3 of 7)

NOTES

1. If the received J2.6 PPLI message has the Command and Control Indicator set to 0 (nonC² JU) or has Source Track Number 00200 (octal) or greater, the FJU shall forward the received PPLI message(s) onto Link 11/11B as a Special Points Position message(s). (See paragraph A.4.7.2) When a C² JU is determined to be active, the FJU shall initiate and forward the appropriate Systems Information messages containing the unit's identification and location onto Link 11/11B. The rules and procedures describing the appropriate messages are as defined for Link 11 and Link 11B.
2. If a unit becomes active and is currently being reported on either Link 11, 11B, or 16, it shall be forwarded in accordance with section A.4.7. The previously reported Point/Track shall be redesignated immediately as an active IU. The possibility exists that an additional Point/Track report(s) may be received and shall be discarded, particularly from asynchronous links.
3. If the FJU holds local data for the unit, the FJU shall assume R² for the unit rather than forwarding a Drop Track message. If the reference track is a C² IU being forwarded on Link 11B, link protocol demands that a Drop Track message be sent to signify inactive status of an interface unit. The latter is true even in those cases where the FJU assumes R² for the C² IU.
4. If both the Emergency and Force Tell Indicators have been set to "on," only the Emergency alert will be transmitted on Link 11/11B. Transmission of an initial message sequence is not required if the Force Tell Indicator is changed to "on" and the Emergency alert is already being reported.
5. If both alerts have existed and one ceases, the remaining alert status will continue to be transmitted as an M.9A(AC=5) message and the other, if it had been forwarded, shall be terminated with an M.9A(AC=7) message. Optionally, an FJU may forward an M.9A(AC=7) message even though a previous M.9A(AC=5) message for the same alert had not been transmitted.

APPENDIX A

TABLE A.5.1-J2.6. J2.6 to Link 11/11B Message Translation Tree
(Sheet 4 of 7)

NOTES (Continued)

6. When the PPLI message is forwarded in an M.1/M.5 message sequence, the M.81 amplification message is transmitted on Link 11, if appropriate, and the M.85 amplification message is transmitted on Link 11B, if appropriate.
7. If the simulated unit is a nonC² JU being forwarded to Link 11 or 11B, or a C² JU being forwarded to Link 11B, the M.9A(AC=0, SI=1) message shall precede appropriate messages. If the simulated unit is a C² JU being forwarded to Link 11, the M.1(SIM=1) message will be part of the initial sequence. (See paragraph A.4.8.6)

APPENDIX A

TABLE A.5.1-J2.6. J2.6 to Link 11/11B Message Translation Tree
(Sheet 5 of 7)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J2.6	M.1
	M.81
	M.5
	M.85
	M.9A(AC=0, 4, 5 OR 7)
	M.9E

APPENDIX A

TABLE A.5.1-J2.6. J2.6 to Link 11/11B Message Translation Tree
(Sheet 6 of 7)

FORWARDING TRANSMIT REQUIREMENTS

LINK 11

1. An M.1 message sequence shall be transmitted at each FJU transmit opportunity. When an M.81 message is being transmitted, it shall be transmitted immediately following the initial M.1 message sequence and thereafter once every four M.1 message sequences.
2. An M.5 message shall be transmitted immediately following the initial M.1 or M.1/M.81 message sequence and thereafter every FJU transmit opportunity.

LINK 11B

1. An M.5 message shall be transmitted with the initial sequence and thereafter, each time data change.
2. When data are available, an M.85 message shall be transmitted following every M.5 message.

LINK 11/11B

1. An M.9A(AC=5) message shall be transmitted prior to each M.5 message that is transmitted when an Emergency or Force Tell alert status for the unit exists.
2. The M.9A(AC=7) will be forwarded once in each of three successive transmit opportunities.

DATA RETENTION RULES

1. The FJU shall retain all forwardable track data on all active JUs being forwarded onto Link 11/11B.

APPENDIX A

TABLE A.5.1-J2.6. J2.6 to Link 11/11B Message Translation Tree
(Sheet 7 of 7)

DATA RETENTION RULES (Continued)

2. Timers shall be maintained on each active JU being forwarded for proper initiation of update message sequences or Drop Track messages.

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TABLE A.5.1-J3.0. J3.0 to Link 11/11B Message Translation Tree (Sheet 1 of 8)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
<pre> graph TD 1[1] -- N --> 2[2] 2 -- N --> 3[3] 3 -- N --> 4[4] 4 -- N --> 5[5] 5 -- N --> 6[6] 6 -- N --> 7[7] 1 -- Y --> 2 2 -- Y --> 3 3 -- Y --> 4 4 -- Y --> 5 5 -- Y --> 6 6 -- Y --> 7 </pre>	<ul style="list-style-type: none"> 1. EXERCISE INDICATOR = 1. 2. PERIODIC REPORT WITH COURSE OR SPEED = NO STATEMENT. 3. POINT TYPE OR POINT AMPLIFICATION IS UNDEFINED OR HAS NO LINK 11/11B EQUIVALENT. 4. LINE/AREA CONTINUATION INDICATOR = 1. 5. POINT/LINE/AREA DESCRIPTOR, 1 = 2. 6. THIS IS INITIAL REPORT FROM DATA SOURCE FOR THIS TN. 7. SPECIAL PROCESSING INDICATOR HAS CHANGED. 	1 2
REQUIRED ACTION		
A A A A A B B H H H Z Z Z Z Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD APPROPRIATE INITIAL SEQUENCE. H. GO TO NEXT NUMERICAL TEST NODE. Z. END TRANSLATION. 	

TABLE A.5.1-J3.0. J3.0 to Link 11/11B Message Translation Tree (Sheet 2 of 8)

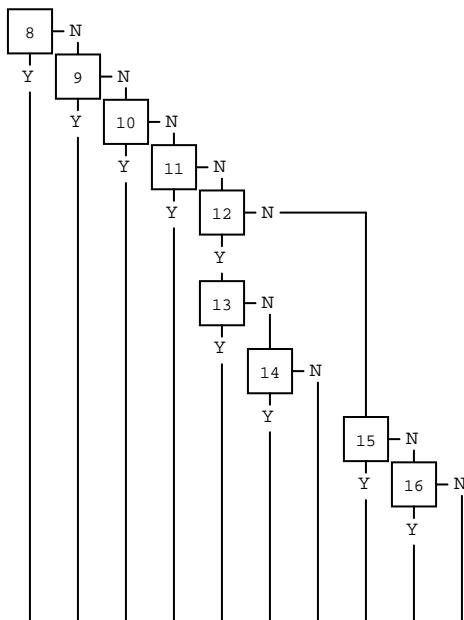
TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES																																																															
	<ul style="list-style-type: none"> 8. SIMULATION INDICATOR = 1. 9. FORCE TELL INDICATOR = 1. 10. FORCE TELL INDICATOR HAS CHANGED. 11. POINT TYPE (PT) = 7 OR 8. 12. PT = 0 AND POINT AMP = 3 OR 6 AND J3.0C5 WORD INCLUDED. 13. TRACK NUMBER, RELATED 2 IS OTHER THAN NO STATEMENT. 14. TRACK NUMBER, RELATED 2 PREVIOUSLY REPORTED A VALUE OTHER THAN NO STATEMENT. 15. SLAVED INDICATOR = 1. 16. HOUR, MINUTE, ALTITUDE, COURSE, SPEED OR TN, RELATED IS OTHER THAN NO STATEMENT. 																																																																
	REQUIRED ACTION																																																																
<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">E</td> <td>C</td> <td>C</td> <td>C</td> <td>C</td> <td>C</td> <td>C</td> </tr> <tr> <td></td> <td>D</td> <td>D</td> <td>D</td> <td>D</td> <td>D</td> <td></td> </tr> <tr> <td style="text-align: center;">F</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">G</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">H</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">I</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">J</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>T</td> <td>T</td> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> </tr> <tr> <td></td> <td>Z</td> <td>Z</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	E	C	C	C	C	C	C		D	D	D	D	D		F							G							H							I							J								T	T	Z	Z	Z	Z		Z	Z					<ul style="list-style-type: none"> C. FWD M.5. D. FWD M.85. E. FWD M.9A(AC=0, SI=1), IF APPROPRIATE. F. FWD M.9A(AC=5). G. FWD M.9A(AC=7). H. GO TO NEXT NUMERICAL TEST NODE. I. GO TO TEST NODE 11. J. GO TO TEST NODE 17. T. FWD M.9B. Z. END TRANSLATION. 	3
E	C	C	C	C	C	C																																																											
	D	D	D	D	D																																																												
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TABLE A.5.1-J3.0. J3.0 to Link 11/11B Message Translation Tree (Sheet 3 of 8)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES																																																
	<p>17. PT = 7, POINT AMPLIFICATION = 0-5, OR POINT AMP = 10 AND NO J3.0C3 WORD WAS RECEIVED.</p> <p>18. PT = 7, POINT AMPLIFICATION = 6 OR 13.</p> <p>19. PT = 7, POINT AMPLIFICATION = 8.</p> <p>20. PT = 7, POINT AMPLIFICATION = 9, OR POINT AMP = 10 AND A J3.0C3 AND/OR A J3.0C4 WORD WAS RECEIVED.</p> <p>21. PT = 8, POINT AMPLIFICATION = 0 OR 1.</p> <p>22. PT = 8, POINT AMPLIFICATION = 2.</p> <p>23. AREA MAJOR AXIS, AREA MINOR AXIS, OR SQUARE/CIRCLE SWITCH = NO STATEMENT OR UNDEFINED.</p> <p>24. TIME (HOURS/MINUTES) OTHER THAN NO STATEMENT.</p> <p>25. TIME FUNCTION = 0, 1, OR 5.</p> <p>26. TIME FUNCTION = 1.</p>																																																	
REQUIRED ACTION																																																		
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<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">A. DISCARD MESSAGE.</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>K. FWD M.4A/M.84A.</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>L. FWD M.4C/M.84C.</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>M. FWD M.4B.</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>N. RETAINED DATA IS COMBINED WITH FOLLOWING J3.0 HAVING REMAINING TIME DATA.</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>O. GO TO TEST NODE 27.</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>P. GO TO TEST NODE 28.</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Z. END TRANSLATION.</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		A. DISCARD MESSAGE.						K. FWD M.4A/M.84A.						L. FWD M.4C/M.84C.						M. FWD M.4B.						N. RETAINED DATA IS COMBINED WITH FOLLOWING J3.0 HAVING REMAINING TIME DATA.						O. GO TO TEST NODE 27.						P. GO TO TEST NODE 28.						Z. END TRANSLATION.						
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P. GO TO TEST NODE 28.																																																		
Z. END TRANSLATION.																																																		

TABLE A.5.1-J3.0. J3.0 to Link 11/11B Message Translation Tree (Sheet 4 of 8)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	27. TIME FUNCTION = 2. 28. COURSE, SPEED, OR TN, RELATED OTHER THAN NO STATEMENT.	
REQUIRED ACTION		
A K M Q Q R S Z Z Z Z	A. DISCARD MESSAGE. K. FWD M.4A/M.84A. M. FWD M.4B. Q. FWD M.9F(AC=0)/M.89F(AC=0). R. FWD M.9F(AC=1). S. COMBINE DATA WITH PRECEDING J3.0 HAVING REMAINING TIME DATA. Z. END TRANSLATION.	4 5

APPENDIX A

TABLE A.5.1-J3.0. J3.0 to Link 11/11B Message Translation Tree
(Sheet 5 of 8)

NOTES

1. If the J3.0C5 contains the Missile Track Number (Related Track Number, 2 is not equal to zero) an M.9B (AC=6) Association message shall also be transmitted to Link 11 and Link 11B showing the Missile/Point relationship. If the J3.0C5 word Track Number, Related 2 is equal to zero, but has previously reported a value other than zero, an M.9B (AC=15) Terminate Pairing/Association shall also be transmitted on Link 11/11B.

2. J3.0 Point Types = 4-6 have no Link 11/11B equivalent, and 9-15 are Undefined. The following J3.0 Point Amplification values are Undefined or have no Link 11/11B equivalent:

<u>Point Type</u>	<u>Point Amplification</u>
0	10-15
1	10-15
2	4, 7-15
3	9-11, 13-15
7	7, 11, 14-15
8	3-15

3. The M.9A(AC=0, SI=1) message shall precede appropriate messages. (See paragraph A.4.8.6)

4. The M.4B, M.4C, and M.84C are not transmitted on Link 11B.

5. Two J3.0 messages are required to report a NOTACK Area or Friendly Weapon Danger Area (FWDA). One message contains the Time of Activation, and the other message contains the Time of Deactivation. These two times are both required to properly report a NOTACK Area or FWDA on Link 11/11B. If only one time is received, see Table A.5.2-M.4A-2.

APPENDIX A

TABLE A.5.1-J3.0. J3.0 to Link 11/11B Message Translation Tree
(Sheet 6 of 8)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J3.0	M.4A
	M.84A
	M.4B
	M.4C
	M.84C
	M.5
	M.85
	M.9A(AC=0, 5 OR 7)
	M.9B(AC = 6 or 15)
	M.9F(0)
	M.89F(0)
	M.9F(1)

APPENDIX A

TABLE A.5.1-J3.0. J3.0 to Link 11/11B Message Translation Tree
(Sheet 7 of 8)

FORWARDING TRANSMIT REQUIREMENTS

1. When a J3.0 message is received and Point Type is equal to 7 and Point Amplification is not equal to 6 (NOTACK Area) or 13 (FWDA) then the M.4A message shall be transmitted once in each of two consecutive transmission opportunities when initiated on Link 11. The M.4A initial sequence shall be transmitted by the FJU at the first transmission opportunity and every transmission opportunity thereafter until the M.9A(AC=0) message is acknowledged on Link 11B.
2. When both J3.0 messages (J3.0 Time Function = 1, Time of Activation and 2, Time of Deactivation) are received and Point Type is equal to 7 and Point Amplification equal to 6 or 13, then the M.4A/M.84A/M.4B messages shall be transmitted once in each of seven transmission opportunities when initiated on Link 11.
3. The M.4C initial sequence shall be transmitted by the FJU once in each of two successive transmission opportunities on Link 11.
4. The M.5 initial sequence shall be transmitted by the FJU once in each of two successive transmission opportunities on Link 11. The M.5 initial sequence shall be transmitted by the FJU at the first transmission opportunity and every transmission opportunity thereafter until the M.9A(AC=0) message is acknowledged on Link 11B.
5. The M.9F(AC=0) message shall be transmitted by the FJU once in each of two successive transmission opportunities when initiated on Link 11/11B.
6. Upon receipt of the J3.0 message, one M.4A/M.84A or one M.4C/M.84C (on Link 11 only) message sequence, or one M.5 and M.85 if appropriate, or one M.9F(AC=0)/M.89F(AC=0) message sequence, whichever sequence is appropriate, shall be forwarded once in each of two successive transmission opportunities on Link 11/11B.

APPENDIX A

TABLE A.5.1-J3.0. J3.0 to Link 11/11B Message Translation Tree
(Sheet 8 of 8)

FORWARDING TRANSMIT REQUIREMENTS (Continued)

7. Upon receipt of a J3.0 message, one M.5 and M.85 message if appropriate, shall be forwarded by the FJU on Link 11B.

8. On Link 11, if appropriate, the M.4B message shall be forwarded with every M.4A or M.4C message sequence combination that it amplifies for which Time (Hours and Minutes) is provided.

9. When the J3.0 message reports velocity and time and/or altitude, for a reference point, a second M.5 identical to the first shall be sent followed by a second M.85 in which the alternate parameters are included.

10. If appropriate, the M.9F(AC=1) shall be forwarded immediately following every M.9F(AC=0)/M.89F(AC=0) message combination that it amplifies.

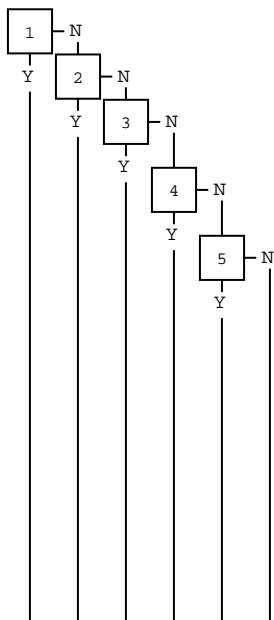
11. The M.9A(AC=5) message, if appropriate, shall be forwarded at the same frequency as, and immediately preceding the message to which it applies. If two message pairs are being transmitted to forward one J3.0 message, the M.9A(AC=5) need not be transmitted prior to the second message pair. The M.9A(AC=5) shall be transmitted prior to the M.9A(AC=0) if both are appropriate.

12. The M.9A(AC=7) message shall be forwarded once in each of three successive transmit opportunities.

DATA RETENTION RULES

The FJU shall retain the status of the Force Tell Indicator for all reference points being forwarded.

TABLE A.5.1-J3.1. J3.1 to Link 11/11B Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ul style="list-style-type: none"> 1. EXERCISE INDICATOR = 1. 2. SIMULATION INDICATOR = 1. 3. THIS IS INITIAL REPORT FROM THIS DATA SOURCE FOR THIS TN. 4. TN, PREVIOUSLY REPORTED IS OTHER THAN NO STATEMENT. 5. HOUR OR MINUTE IS OTHER THAN NO STATEMENT. 	
	REQUIRED ACTION	
A B C D E E F F F G Z Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD M.9A(AC=0, SI=1), IF APPROPRIATE. C. FWD M.5 INITIAL SEQUENCE. D. FWD M.9B(AC=6). E. FWD M.5. F. GO TO NEXT NUMERICAL TEST NODE. G. FWD M.85. Z. END TRANSLATION. 	1

APPENDIX A

TABLE A.5.1-J3.1. J3.1 to Link 11/11B Message Translation Tree
(Sheet 2 of 4)

NOTES

1. The M.9A(AC=0, SI=1) message shall precede appropriate messages. (See paragraph A.4.8.6)

APPENDIX A

TABLE A.5.1-J3.1. J3.1 to Link 11/11B Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 16 MESSAGE</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES THAT MAY BE REQUIRED</u>
J3.1	M.5
	M.85
	M.9A(AC=0)
	M.9B(AC=6)

APPENDIX A

TABLE A.5.1-J3.1. J3.1 to Link 11/11B Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. The forwarded M.5/M.85 messages are transmitted on Link 11/11B each transmit opportunity until the emergency point is dropped.
2. The forwarded M.9B message shall be transmitted in accordance with Link 11/11B redundancy requirements.

DATA RETENTION RULES

The FJU shall retain current Emergency Point data on all points being forwarded.

TABLE A.5.1-J3.2. J3.2 to Link 11/11B Message Translation Tree (Sheet 1 of 6)

TEST NODE DIAGRAM												TEST NODE CONDITION		NOTES
												1. SIMULATION INDICATOR = 1. 2. THIS IS THE INITIAL REPORT FROM THIS DATA SOURCE, OR TRACK IS NONREAL-TIME (TQ=0), OR SPECIAL PROCESSING INDICATOR HAS CHANGED, OR FORCE TELL INDICATOR HAS CHANGED, OR EMERGENCY INDICATOR HAS CHANGED. 3. TRACK IS NONREAL-TIME (TQ=0) WITH VELOCITY NOT EQUAL TO ZERO OR VELOCITY HAS CHANGED TO ZERO. 4. ID DIFFERENCE INDICATOR HAS CHANGED FROM 1 TO 0. 5. IDENTITY, IDENTITY AMPLIFYING DESCRIPTOR, PLATFORM, AND/OR ACTIVITY HAS CHANGED. 6. ID DIFFERENCE INDICATOR = 1. 7. FJU IS CONTROLLING UNIT AND ID OR ID AMP IS DIFFERENT FROM LOCALLY HELD DATA. 8. NONZERO IFF/SIF IS REPORTED.		1
												REQUIRED ACTION		
A B B B B C C												A. FWD M.9A(AC=0, SI=1), IF APPROPRIATE. B. FWD M.2/M.82 INITIAL SEQUENCE. C. FWD M.2/M.82 WITH VELOCITY. D. FWD M.2. E. FWD M.9A(AC=1, CI=0). F. FWD M.2/M.82. G. SET INDICATOR TO TRANSMIT J7.0 (ACT=1, CU=1). H. FWD M.11D(TR=0). I. FWD M.9A(AC=1, CI=1). J. GO TO NEXT NUMERICAL TEST NODE.		2 3
E E F F F F F F F F G G G G G G G G														
H H H H H H H H I I I I I I I I Y Y Y Y Y Y Y Y														

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TABLE A.5.1-J3.2. J3.2 to Link 11/11B Message Translation Tree (Sheet 2 of 6)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<p>9. FORCE TELL INDICATOR HAS CHANGED.</p> <p>10. EMERGENCY INDICATOR HAS CHANGED.</p> <p>11. EMERGENCY INDICATOR = 1.</p> <p>12. FORCE TELL INDICATOR = 1.</p>	
REQUIRED ACTION		
J J J J J K K K K K L Z Z Z Z Z Z Z Z		3

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TABLE A.5.1-J3.2. J3.2 to Link 11/11B Message Translation Tree
(Sheet 3 of 6)

NOTES

1. If the Air Platform and/or Air Activity field(s) is received as No Statement and a value other than No Statement is held in the FJU database, the value held in the FJU database shall be forwarded.
2. The M.9A(AC=0, SI=1) message shall precede appropriate messages. (See paragraph A.4.8.6)
3. If both Emergency and Force Tell Indicators have been set to "on," only the Emergency alert is transmitted on Link 11/11B. Transmission of an initial message sequence is not required if the Force Tell Indicator is changed to "on" and the Emergency alert is already being reported.

APPENDIX A

TABLE A.5.1-J3.2. J3.2 to Link 11/11B Message Translation Tree
(Sheet 4 of 6)

RELATED MESSAGES

<u>RECEIVED LINK 16 MESSAGE</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES THAT MAY BE REQUIRED</u>
J3.2	M.2
	M.82
	M.9A(AC=0, 1, 5 OR 7)
	M.11D

APPENDIX A

TABLE A.5.1-J3.2. J3.2 to Link 11/11B Message Translation Tree
(Sheet 5 of 6)

FORWARDING TRANSMIT REQUIREMENTS

1. The FJU shall forward the initial sequence on Link 11B with the M.9A(AC=0)/M.2/M.82/M.11D message sequence at the first transmission opportunity and every opportunity thereafter until the M.9A(AC=0) message is acknowledged.
2. The FJU shall forward the M.2/M.82/M.11D initial sequence once on Link 11.
3. The M.2 message shall be forwarded for each subsequent Link 16 Air Track message received.
4. The M.82 message shall be forwarded at least once every fourth transmission of the M.2 message for real-time air tracks and will be reinitiated when reporting responsibility (R²) or identity data changes.
5. The M.82 messages shall be forwarded with every M.2 message for nonreal-time air tracks. If both time and velocity are available, an M.2/M.82 message sequence shall be transmitted with the M.82 message reflecting time and a second M.2/M.82 message pair will be transmitted with the M.82 message reflecting velocity. When a NRT track velocity changes from nonzero to zero velocity, the M.2/M.82 must be reported with zero velocity between one and three times in successive transmission opportunities. Thereafter, only the M.2/M.82 for time will be reported.
6. Upon receipt of the J3.2C1 word with nonzero IFF/SIF data, the M.11D message(s) shall be forwarded.
7. If the M.9A(AC=5) is appropriate, it will be forwarded preceding each M.2/M.82 message sequence.
8. The M.9A(AC=7) message will be forwarded once in each of three successive transmit opportunities.

APPENDIX A

TABLE A.5.1-J3.2. J3.2 to Link 11/11B Message Translation Tree
(Sheet 6 of 6)

FORWARDING TRANSMIT REQUIREMENTS (Continued)

9. If the M.9A(AC=1, CI=1) is appropriate, it will be forwarded preceding each M.2 or M.2/M.82 message sequence. If the M.9A(AC=1, CI=0) is appropriate, it will be forwarded once prior to the M.2/M.82 message sequence.

10. When the FJU is also the Controlling Unit for the track received in the J3.2, and the identity data in the J3.2 message is different from local identity data, the FJU shall forward the appropriate M.2 or M.2/M.82 message pair onto Link 11/11B with the identity as received from the R² unit and an M.9A (AC=6) Controlling Unit Report message containing local identity data. The FJU shall also transmit local identity data in a J7.0 (ACT=1) Track Management message with the Controlling Unit Indicator set to value 1 on the link with the R² unit.

DATA RETENTION RULES

The FJU shall retain the latest reported ID, Identity Amplifying Descriptor, Platform, Activity and the status of the Exercise, Identity Difference, Emergency, and Force Tell Indicators for all tracks being forwarded.

TABLE A.5.1-J3.3. J3.3 to Link 11/11B Message Translation Tree (Sheet 1 of 6)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES	
	<ul style="list-style-type: none"> 1. SIMULATION INDICATOR = 1. 2. THIS IS THE INITIAL REPORT FROM THIS DATA SOURCE, OR TRACK IS NONREAL-TIME ($TQ=0$), OR SPECIAL PROCESSING INDICATOR HAS CHANGED, OR FORCE TELL INDICATOR HAS CHANGED, OR EMERGENCY INDICATOR HAS CHANGED. 3. TRACK IS NONREAL-TIME ($TQ=0$) WITH VELOCITY NOT EQUAL TO ZERO OR VELOCITY HAS CHANGED TO ZERO. 4. ID DIFFERENCE INDICATOR HAS CHANGED FROM 1 TO 0. 5. IDENTITY, IDENTITY AMPLIFYING DESCRIPTOR, PLATFORM, AND/OR ACTIVITY HAS CHANGED. 6. ID DIFFERENCE INDICATOR = 1. 7. NONZERO IFF/SIF IS REPORTED. 	1	
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>A B B B B C C</p> <p style="text-align: center;">D D</p> <p style="text-align: center;">E E F F F F F G G G G G H H Y Y Y Y Y Y Y Y Y</p> </td><td style="width: 50%; vertical-align: top;"> <p>REQUIRED ACTION</p> <ul style="list-style-type: none"> A. FWD M.9A($AC=0$, $SI=1$), IF APPROPRIATE. B. FWD M.3/M.83 INITIAL SEQUENCE. C. FWD M.3/M.83 WITH VELOCITY. D. FWD M.3. E. FWD M.9A($AC=1$, $CI=0$). F. FWD M.3/M.83. G. FWD M.11D($TR=0$). H. FWD M.9A($AC=1$, $CI=1$). Y. GO TO NEXT NUMERICAL TEST NODE. </td></tr> </table>		<p>A B B B B C C</p> <p style="text-align: center;">D D</p> <p style="text-align: center;">E E F F F F F G G G G G H H Y Y Y Y Y Y Y Y Y</p>	<p>REQUIRED ACTION</p> <ul style="list-style-type: none"> A. FWD M.9A($AC=0$, $SI=1$), IF APPROPRIATE. B. FWD M.3/M.83 INITIAL SEQUENCE. C. FWD M.3/M.83 WITH VELOCITY. D. FWD M.3. E. FWD M.9A($AC=1$, $CI=0$). F. FWD M.3/M.83. G. FWD M.11D($TR=0$). H. FWD M.9A($AC=1$, $CI=1$). Y. GO TO NEXT NUMERICAL TEST NODE.
<p>A B B B B C C</p> <p style="text-align: center;">D D</p> <p style="text-align: center;">E E F F F F F G G G G G H H Y Y Y Y Y Y Y Y Y</p>	<p>REQUIRED ACTION</p> <ul style="list-style-type: none"> A. FWD M.9A($AC=0$, $SI=1$), IF APPROPRIATE. B. FWD M.3/M.83 INITIAL SEQUENCE. C. FWD M.3/M.83 WITH VELOCITY. D. FWD M.3. E. FWD M.9A($AC=1$, $CI=0$). F. FWD M.3/M.83. G. FWD M.11D($TR=0$). H. FWD M.9A($AC=1$, $CI=1$). Y. GO TO NEXT NUMERICAL TEST NODE. 		
<p>2 3</p>			

TABLE A.5.1-J3.3. J3.3 to Link 11/11B Message Translation Tree (Sheet 2 of 6)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
<pre> graph TD 8[N: 8] -- N --> 9[N: 9] 8[N: 8] -- N --> 10[N: 10] 9[N: 9] -- N --> 11[N: 11] 10[N: 10] -- N --> 11[N: 11] 9[N: 9] -- Y --> 8[N: 8] 10[N: 10] -- Y --> 8[N: 8] 11[N: 11] -- Y --> 9[N: 9] 11[N: 11] -- Y --> 10[N: 10] 11[N: 11] -- Y --> 11[N: 11] </pre>	8. FORCE TELL INDICATOR HAS CHANGED. 9. EMERGENCY INDICATOR HAS CHANGED. 10. EMERGENCY INDICATOR = 1. 11. FORCE TELL INDICATOR = 1.	
REQUIRED ACTION		
I I I I I J J J J J K Z Z Z Z Z Z Z Z Z Z	I. FWD M.9A(AC=5) AND RETAIN ALERT STATUS (ON). J. FWD M.9A(AC=7) AND RETAIN ALERT STATUS (OFF). K. NO CHANGE TO CURRENT ALERT STATUS, CONTINUE M.9A(AC=5) AT NORMAL RATE IF APPROPRIATE. Z. END TRANSLATION.	3

APPENDIX A

TABLE A.5.1-J3.3. J3.3 to Link 11/11B Message Translation Tree
(Sheet 3 of 6)

NOTES

1. If the Surface Platform or Surface Activity field(s) is received as No Statement and a value other than No Statement is held in the FJU database, the value held in the FJU database shall be forwarded.
2. The M.9A(AC=0, SI=1) message shall precede appropriate messages. (See paragraph A.4.8.6)
3. If both Emergency and Force Tell Indicators have been set to "on," only the Emergency alert is transmitted on Link 11/11B. Transmission of an initial message sequence is not required if the Force Tell Indicator is changed to "on" and the Emergency alert is already being reported.

APPENDIX A

TABLE A.5.1-J3.3. J3.3 to Link 11/11B Message Translation Tree
(Sheet 4 of 6)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J3.3	M.3
	M.83
	M.9A(AC=0, 1, 5 OR 7)
	M.11D

APPENDIX A

TABLE A.5.1-J3.3. J3.3 to Link 11/11B Message Translation Tree
(Sheet 5 of 6)

FORWARDING TRANSMIT REQUIREMENTS

1. The FJU shall forward the initial sequence on Link 11B with the M.9A(AC=0)/M.3/M.83/M.11D message sequence at the first transmission opportunity and every opportunity thereafter until the M.9A(AC=0) message is acknowledged.
2. The FJU shall forward the M.3/M.83/M.11D message sequence on Link 11 once when the track is initiated.
3. The M.3 message shall be forwarded for each subsequent Link 16 Surface message received.
4. The M.83 message shall be forwarded every fourth transmission of the M.3 message for real-time Surface tracks and will be reinitiated when reporting responsibility or identity data change.
5. The M.83 messages shall be forwarded with every M.3 message for nonreal-time Surface (Maritime) tracks. If both time and velocity are available, an M.3/M.83 message sequence shall be transmitted with the M.83 message reflecting time and a second M.3/M.83 message pair will be transmitted with the M.83 message reflecting velocity. When a NRT track velocity changes from nonzero to zero velocity, the M.3/M.83 must be reported with zero velocity between one and three times in successive transmission opportunities. Thereafter, only the M.3/M.83 for time will be reported.
6. Upon receipt of the J3.3C1 word with nonzero IFF/SIF data, the M.11D message(s) shall be forwarded.
7. If the M.9A(AC=5) is appropriate, it will be forwarded preceding each M.3/M.83 message sequence.
8. The M.9A(AC=7) message will be forwarded once in each of three successive transmit opportunities.

APPENDIX A

TABLE A.5.1-J3.3. J3.3 to Link 11/11B Message Translation Tree
(Sheet 6 of 6)

FORWARDING TRANSMIT REQUIREMENTS (Continued)

9. If the M.9A(AC=1, CI=1) is appropriate, it will be forwarded preceding each M.3 or M.3/M.83 message sequence. If the M.9A(AC=1, CI=0) is appropriate, it will be forwarded once prior to the M.3/M.83 message sequence.

DATA RETENTION RULES

The FJU shall retain the latest reported ID, Identity Amplifying Descriptor, Platform, Activity and the status of the Exercise, Identity Difference, Emergency, and Force Tell Indicators for all tracks being forwarded.

TABLE A.5.1-J3.4. J3.4 to Link 11/11B Message Translation Tree (Sheet 1 of 6)

TEST NODE DIAGRAM		TEST NODE CONDITION	NOTES																																																								
<pre> graph TD 1[1] -- Y --> 2[2] 1 -- N --> 3[3] 2 -- Y --> 3 2 -- N --> 4[4] 3 -- Y --> 5[5] 3 -- N --> 6[6] 4 -- Y --> 6 4 -- N --> 7[7] 5 -- Y --> 6 5 -- N --> 7 6 -- Y --> 7 6 -- N --> 7 7 -- Y --> 7 7 -- N --> 7 </pre>		<ol style="list-style-type: none"> 1. DATA REPORT TYPE = 3, 5 - 7. 2. SIMULATION INDICATOR = 1. 3. THIS IS INITIAL REPORT FROM THIS DATA SOURCE. 4. SPECIAL PROCESSING INDICATOR HAS CHANGED. 5. SENSOR, COURSE, SPEED, OR DEPTH OTHER THAN NO STATEMENT. 6. MINUTE OR HOUR OTHER THAN NO STATEMENT OR SUBSURFACE ACTIVITY = 1, 5, 8-11, 18, 21, 23, 30, 32, 40; OR, DATUM ERROR OTHER THAN NO STATEMENT. 7. NONZERO IFF/SIF IS REPORTED. 																																																									
<table style="width: 100%; text-align: center;"> <tr> <td>A</td> <td>B</td> <td>C C</td> <td>D D</td> <td>C C</td> <td>F F F F</td> <td>E E E E</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>G G G G</td> <td></td> <td></td> </tr> <tr> <td>D</td> <td>D</td> <td></td> <td></td> <td></td> <td>H H H H</td> <td>I I I I</td> <td></td> </tr> <tr> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>I I I I</td> <td>I I I I</td> <td></td> </tr> <tr> <td>I</td> <td>I</td> <td>I</td> <td>I</td> <td>I</td> <td>I I I I</td> <td>I I I I</td> <td></td> </tr> <tr> <td>J</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Z</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		A	B	C C	D D	C C	F F F F	E E E E							G G G G			D	D				H H H H	I I I I		H	H	H	H	H	I I I I	I I I I		I	I	I	I	I	I I I I	I I I I		J								Z								<p>REQUIRED ACTION</p> <ol style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD M.9A(AC=0, SI=1), IF APPROPRIATE. C. FWD M.4A/M.84A INITIAL SEQUENCE. D. FWD M.4A/M.84A/M.4B INITIAL SEQUENCE. E. FWD M.4A. F. FWD M.4A/M.84A. G. FWD M.4B. H. FWD M.11D(TR=0). I. GO TO TEST NODE 8. J. GO TO NEXT NUMERICAL TEST NODE. Z. END TRANSLATION. 	<p>1</p> <p>2</p>
A	B	C C	D D	C C	F F F F	E E E E																																																					
					G G G G																																																						
D	D				H H H H	I I I I																																																					
H	H	H	H	H	I I I I	I I I I																																																					
I	I	I	I	I	I I I I	I I I I																																																					
J																																																											
Z																																																											

TABLE A.5.1-J3.4. J3.4 to Link 11/11B Message Translation Tree (Sheet 2 of 6)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
<pre> graph TD 8[N:8] -- N --> 9[N:9] 8[N:8] -- Y --> 10[N:10] 9[N:9] -- N --> 11[N:11] 9[N:9] -- Y --> 10[N:10] 10[N:10] -- N --> 11[N:11] 10[N:10] -- Y --> 11[N:11] 11[N:11] -- N --> 11[N:11] 11[N:11] -- Y --> 11[N:11] 11[N:11] -- N --> 11[N:11] 11[N:11] -- Y --> 11[N:11] </pre>	8. FORCE TELL INDICATOR HAS CHANGED. 9. EMERGENCY INDICATOR HAS CHANGED. 10. EMERGENCY INDICATOR = 1. 11. FORCE TELL INDICATOR = 1.	
REQUIRED ACTION		
K K K K K L L L L L M M M M M N N N N N N N N Z Z Z Z Z Z Z Z Z	K. FWD APPROPRIATE INITIAL SEQUENCE. L. FWD M.9A(AC=5). M. FWD M.9A(AC=7). N. RETAIN ALERT STATUS (ON/OFF) IN FJU DATA BASE. Z. END TRANSLATION.	3

APPENDIX A

TABLE A.5.1-J3.4. J3.4 to Link 11/11B Message Translation Tree
(Sheet 3 of 6)

NOTES

1. The M.9A(AC=0, SI=1) message shall precede appropriate messages. (See paragraph A.4.8.6)
2. If the Subsurface Platform or Subsurface Activity field(s) is received as No Statement and a value other than No Statement is held in the FJU database, the value held in the FJU database shall be forwarded.
3. If both Emergency and Force Tell Indicators have been set to "on," only the Emergency alert is transmitted on Link 11/11B. Transmission of an initial message sequence is not required if the Force Tell Indicator is changed to "on" and the Emergency alert is already being reported.

APPENDIX A

TABLE A.5.1-J3.4. J3.4 to Link 11/11B Message Translation Tree
(Sheet 4 of 6)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J3.4	M.4A
	M.84A
	M.4B
	M.9A(AC=0, 5 OR 7)
	M.11D

APPENDIX A

TABLE A.5.1-J3.4. J3.4 to Link 11/11B Message Translation Tree
(Sheet 5 of 6)

FORWARDING TRANSMIT REQUIREMENTS

1. On Link 11 the FJU shall forward the M.4A/M.84A initial sequence and if appropriate, the M.4B, once in each of two successive transmission opportunities. On Link 11B the FJU shall forward the M.9A(AC=0)/M.4A/M.84A initial sequence at the first transmission opportunity and every opportunity thereafter until the M.9A(AC=0) message is acknowledged.
2. The M.4A message, and M.84A message if appropriate, shall be forwarded for each subsequent Link 16 Subsurface Track message received.
3. On Link 11, the M.4B message shall be forwarded with every M.4A or M.4A/M.84A combination, that it amplifies for which a Time (Minutes and Hours) is provided.
4. Upon receipt of the J3.4C1 word with nonzero IFF/SIF data, the M.11D message(s) shall be forwarded.
5. If appropriate, the M.9A(AC=0, SI=1) message shall be forwarded once preceding every transmission of a simulated track on Link 11. If appropriate, the M.9A(AC=0, SI=1) message shall be forwarded at the first transmission opportunity and every transmission opportunity thereafter until the M.9A(AC=0, SI=1) message is acknowledged on Link 11B.
6. The M.9A(AC=5) message, if appropriate, shall be forwarded at the same frequency as, and immediately preceding the M.4A message to which it applies. The M.9A(AC=5) shall be transmitted prior to the M.9A (AC=0) if both are appropriate.
7. The M.9A(AC=7) message shall be forwarded once in each of three successive transmission opportunities.

APPENDIX A

TABLE A.5.1-J3.4. J3.4 to Link 11/11B Message Translation Tree
(Sheet 6 of 6)

DATA RETENTION RULES

The FJU shall retain the latest reported ID, Platform, Activity, Confidence Level and the status of the Exercise, Emergency, and Force Tell Indicators for all tracks being forwarded.

TABLE A.5.1-J3.5. J3.5 to Link 11/11B Message Translation Tree (Sheet 1 of 5)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES																				
	<ul style="list-style-type: none"> 1. EXERCISE INDICATOR = 1. 2. SIMULATION INDICATOR = 1. 3. NONZERO IFF/SIF DATA IS REPORTED. 4. THIS IS INITIAL REPORT FROM DATA SOURCE. 5. SPECIAL PROCESSING INDICATOR HAS CHANGED. 6. HOUR OR MINUTE OTHER THAN NO STATEMENT. 7. ELEVATION, 25 FT OTHER THAN ELEVATION UNKNOWN. 																					
	REQUIRED ACTION																					
<table style="margin-left: auto; margin-right: auto;"> <tr> <td>A</td> <td>B</td> <td>C C C C</td> <td>D D D</td> <td></td> </tr> <tr> <td></td> <td></td> <td>E E</td> <td>E E</td> <td></td> </tr> <tr> <td>G</td> <td>F</td> <td>G G</td> <td>H H H H H H</td> <td></td> </tr> <tr> <td>Z</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	A	B	C C C C	D D D				E E	E E		G	F	G G	H H H H H H		Z					<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD M.9A(AC=0, SI=1), IF APPROPRIATE. C. FWD M.5 INITIAL SEQUENCE. D. FWD M.5. E. FWD M.85. F. FWD M.11D(TR=0). G. GO TO NEXT NUMERICAL TEST NODE. H. GO TO TEST NODE 8. Z. END TRANSLATION. 	1 2
A	B	C C C C	D D D																			
		E E	E E																			
G	F	G G	H H H H H H																			
Z																						

TABLE A.5.1-J3.5. J3.5 to Link 11/11B Message Translation Tree (Sheet 2 of 5)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
<pre> graph TD 8[N: 8] -- N --> 9L[N: 9] 8[N: 8] -- N --> 10L[N: 10] 9L[N: 9] -- N --> 11L1[N: 11] 9L[N: 9] -- N --> 11L2[N: 11] 10L[N: 10] -- N --> 11L3[N: 11] 11L1[N: 11] -- Y --> Out1 11L2[N: 11] -- Y --> Out2 11L3[N: 11] -- Y --> Out3 </pre>	8. FORCE TELL INDICATOR HAS CHANGED. 9. EMERGENCY INDICATOR HAS CHANGED. 10. EMERGENCY INDICATOR = 1. 11. FORCE TELL INDICATOR = 1.	
REQUIRED ACTION		
C C C C C I I I I I J J J J J K K K K K K K K Z Z Z Z Z Z Z Z Z		C. FWD M.5 INITIAL SEQUENCE. I. FWD M.9A(AC=5). J. FWD M.9A(AC=7). K. RETAIN ALERT STATUS (ON OR OFF) IN FJU DATABASE. Z. END TRANSLATION.
		2 2

APPENDIX A

TABLE A.5.1-J3.5. J3.5 to Link 11/11B Message Translation Tree
(Sheet 3 of 5)

NOTES

1. The M.9A(AC=0, SI=1) message shall precede appropriate messages. (See paragraph A.4.8.6)
2. If both Emergency and Force Tell Indicators have been set to "on," only the Emergency alert is transmitted on Link 11/11B. Transmission of an initial message sequence is not required if the Force Tell Indicator is changed to "on" and the Emergency alert is already being reported.

APPENDIX A

TABLE A.5.1-J3.5. J3.5 to Link 11/11B Message Translation Tree
(Sheet 4 of 5)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J3.5	M.5
	M.85
	M.9A(AC=0, 5 OR 7)
	M.11D

APPENDIX A

TABLE A.5.1-J3.5. J3.5 to Link 11/11B Message Translation Tree
(Sheet 5 of 5)

FORWARDING TRANSMIT REQUIREMENTS

1. The M.5 initial sequence shall be transmitted by the FJU once in each of two successive transmission opportunities on Link 11. The M.5 initial sequence shall be transmitted by the FJU at the first transmission opportunity and every transmission opportunity thereafter until the M.9A(AC=0) message is acknowledged on Link 11B.
2. Upon receipt of the J3.5 message, one M.5, and M.85 message if appropriate, shall be forwarded once in each of two successive transmit opportunities on Link 11.
3. Upon receipt of the J3.5 message, one M.5, and M.85 message if appropriate, shall be forwarded by the FJU on Link 11B.
4. The M.9A(AC=5) message and an M.85 message shall be forwarded at the same frequency as the M.5 message.
5. When the J3.5 message reports velocity and time and/or altitude, a second M.5 message identical to the first shall be sent, followed by a second M.85 message in which the alternative parameters are included.
6. The M.9A(AC=7) message shall be forwarded once in each of two or three successive transmit opportunities on Link 11 and once in each of three successive transmit opportunities on Link 11B.
7. Upon receipt of the J3.5C1 word with nonzero IFF/SIF data, the M.11D message(s) shall be forwarded.

DATA RETENTION RULES

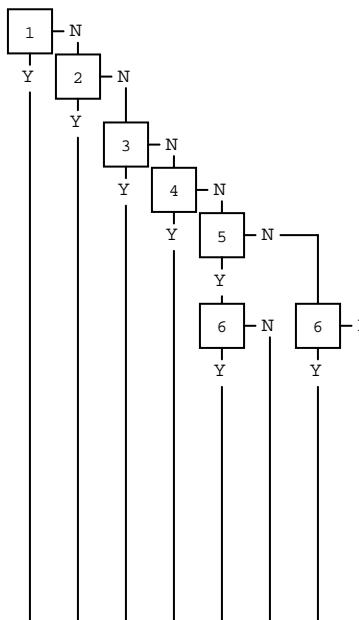
The FJU shall retain the status of the Exercise, Emergency, and Force Tell Indicators for all tracks being forwarded.

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TABLE A.5.1-J3.6. J3.6 to Link 11/11B Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ul style="list-style-type: none"> 1. SIMULATION INDICATOR = 1. 2. THIS IS INITIAL REPORT FROM THIS DATA SOURCE. 3. SPECIAL PROCESSING INDICATOR HAS CHANGED. 4. ID DIFFERENCE INDICATOR HAS CHANGED. 5. FORCE TELL INDICATOR HAS CHANGED. 6. FORCE TELL INDICATOR = 1 . 	
	REQUIRED ACTION	
A B B B B C D D D E E F G G H H H H Z Z Z Z	<ul style="list-style-type: none"> A. FWD M.9A(AC=0, SI=1). B. FWD M.2/M.82 INITIAL SEQUENCE. C. FWD M.9A(AC=1, CI=1). D. RETAIN ALERT STATUS (ON OR OFF) IN FJU DATABASE. E. FWD M.9A(AC=5). F. FWD M.9A(AC=7). G. FWD M.2/M.82 MESSAGE SEQUENCE. H. GO TO NEXT NUMERICAL TEST NODE. Z. END TRANSLATION. 	1 2 2

APPENDIX A

TABLE A.5.1-J3.6. J3.6 to Link 11/11B Message Translation Tree
(Sheet 2 of 4)

NOTES

1. The M.9A(AC=0, SI=1) message shall precede the appropriate messages on both Link 11 and Link 11B. (See paragraph A.4.8.6)
2. The proper M.2/M.82 Air Surveillance sequence (ID AMP = Missile) on Link 11, preceded by an M.9A(AC=0, SPI=0 or 1) for Link 11B, may be forwarded to both Link 11 and Link 11B for initial sequences and changes to SPI.

APPENDIX A

TABLE A.5.1-J3.6. J3.6 to Link 11/11B Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J3.6	M.2/M.82
	M.9A(AC=0, 1, 5 OR 7)

APPENDIX A

TABLE A.5.1-J3.6. J3.6 to Link 11/11B Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. The FJU may forward the initial M.2/M.82 Air Surveillance sequence (ID AMP = Missile) on Link 11, preceded by an M.9A(AC=0) for Link 11B.
2. The FJU may forward each subsequent Link 16 Space Track message received in the proper M.2/M.82 Air Surveillance sequence (ID AMP = Missile) to both Link 11 and Link 11B.
3. If the M.9A(AC=1, CI=1) and/or M.9A(AC=5) is appropriate, it/they will be forwarded preceding each M.2/M.82 (ID AMP = Missile) on Link 11 and Link 11B.
4. The M.9A(AC=7) message will be forwarded once in each of three successive transmit opportunities.

DATA RETENTION RULES

The FJU shall retain the latest reported ID, Platform, and Activity for all tracks being forwarded.

TABLE A.5.1-J3.7. J3.7 to Link 11/11B Message Translation Tree (Sheet 1 of 5)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES																					
	<ul style="list-style-type: none"> 1. FIX OR BEARING DESCRIPTOR (FIX BRG) = 6. 2. FIX BRG = 4. 3. TN, ORIGIN = NO STATEMENT. 4. FIX BRG = 1. 5. AREA MAJOR AXIS, AREA MINOR AXIS, OR SQUARE/CIRCLE SWITCH = NO STATEMENT OR UNDEFINED. 6. COURSE OR SPEED = NO STATEMENT. 7. FIX BRG = 5. 8. FREQUENCY DATA ARE INCLUDED. 9. EMITTER NUMBER INDICATOR = 1. 10. FIX BRG = 0. 	1																					
REQUIRED ACTION																							
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; text-align: center;">A A A</td> <td style="width: 33%; text-align: center;">A</td> <td style="width: 33%;"></td> </tr> <tr> <td>B</td> <td></td> <td></td> </tr> <tr> <td>C</td> <td></td> <td></td> </tr> <tr> <td>D</td> <td style="text-align: center;">E E E</td> <td style="text-align: center;">E</td> </tr> <tr> <td></td> <td style="text-align: center;">F F</td> <td></td> </tr> <tr> <td>G G G G G G G</td> <td></td> <td>Z</td> </tr> <tr> <td>Z Z Z</td> <td></td> <td></td> </tr> </table>		A A A	A		B			C			D	E E E	E		F F		G G G G G G G		Z	Z Z Z			
A A A	A																						
B																							
C																							
D	E E E	E																					
	F F																						
G G G G G G G		Z																					
Z Z Z																							
<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD M.6A. C. FWD M.9F(AC=0)/M.89F(AC=0). D. FWD M.9F(AC=0)/M.89F(AC=0)/M.9F(AC=1). E. FWD M.6B/M.86B (EV SW=0). F. FWD M.6B/M.86B (EV SW=1). G. GO TO TEST NODE 11. Z. END TRANSLATION. 																							
		2																					
		3																					
		3																					
		3																					
		3																					

TABLE A.5.1-J3.7. J3.7 to Link 11/11B Message Translation Tree (Sheet 2 of 5)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	11. SIMULATION INDICATOR = 1. 12. THIS IS THE INITIAL REPORT FROM THIS DATA SOURCE, SPECIAL PROCESSING INDICATOR HAS CHANGED. 13. EMERGENCY INDICATOR = 1. 14. EMERGENCY INDICATOR HAS CHANGED. 15. FORCE TELL INDICATOR = 1. 16. FORCE TELL INDICATOR HAS CHANGED.	4 4 4 4
	REQUIRED ACTION	
H I J J K K K K L L L L N N N N Z Z Z Z	H. FWD M.9A(AC=0, SI=1), IF APPROPRIATE. I. FWD INITIAL SEQUENCE. J. FWD M.9A(AC=5). K. RETAIN ALERT STATUS IN FJU DATABASE. L. FWD M.9A(AC=7). N. GO TO NEXT NUMERICAL TEST NODE. Z. END TRANSLATION.	5 1

APPENDIX A

TABLE A.5.1-J3.7. J3.7 to Link 11/11B Message Translation Tree
(Sheet 3 of 5)

NOTES

1. There is no difference between forwarding an initial sequence and subsequent transmissions on Link 11. On Link 11B, the initial sequence is preceded by an M.9A(AC=0), which is repeated at each transmit opportunity until it is acknowledged. After the M.9A(AC=0) is acknowledged, Link 11 and 11B message sequences are the same. The M.9A(AC=0) is given only once in a sequence for an initial sequence.
2. If both the Frequency, 1 value in the J3.7C4 and the Elevation Angle value in the J3.7C1 are not No Statement, then consecutive M.6A messages need to be forwarded with Switch = 0 and Switch = 1, respectively.
3. Link 11/11B Transmit Rules only require that M.6A, M.6B/M.86B, and M.9F/M.89F messages be transmitted when data change, whereas Link 16 Transmit Rules require that J3.7 messages be transmitted periodically every 48 seconds and when data change. However, these messages shall be forwarded upon receipt of each J3.7 message, regardless of whether data have changed. This is an exception to the general forwarding rule in paragraph A.4.3.
4. If both the Emergency and Force Tell Indicators have been set to "on," only the Emergency alert will be transmitted on Link 11 and Link 11B. Transmission of an initial message sequence is not required if the Force Tell Indicator is changed to "on" and the Emergency alert is already being reported. If this is an initial report with Emergency and Force Tell Indicator = 0, this does not constitute a change and the M.9A(AC=7) is not sent.
5. The M.9A(AC=0, SI=1) message shall precede appropriate messages. (See paragraph A.4.8.6)

APPENDIX A

TABLE A.5.1-J3.7. J3.7 to Link 11/11B Message Translation Tree
(Sheet 4 of 5)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J3.7	M.6A
	M.6B
	M.86B
	M.9A(AC=0, 5 OR 7)
	M.9F(0)
	M.89F(0)
	M.9F(1)

APPENDIX A

TABLE A.5.1-J3.7. J3.7 to Link 11/11B Message Translation Tree
(Sheet 5 of 5)

FORWARDING TRANSMIT REQUIREMENTS

1. The FJU shall transmit the M.6A or M.6B/M.86B initial sequence on Link 11B, immediately preceded by a M.9A(AC=0) message at the first transmission opportunity and every opportunity thereafter until the M.9A(AC=0) message is acknowledged.
2. The M.6A or the M.6B/M.86B shall be transmitted once in each of two consecutive transmission opportunities on Link 11 and once on Link 11B, except as required by rule 1 above.
3. The FJU shall transmit the M.9F(AC=0)/M.89F(AC=0) or M.9F(AC=0)/M.89F(AC=0)/M.9F(AC=1) initial sequence on Link 11B immediately preceded by an M.9A(AC=0) message at the first transmission opportunity and every transmission opportunity thereafter until the M.9A(AC=0) is acknowledged.
4. The M.9F(AC=0)/M.89F(AC=0) and M.9F(AC=0)/M.89F(AC=0)/M.9F(AC=1) shall be transmitted once in each of two consecutive transmission opportunities, except as required by rule 3 above.
5. If the M.9A(AC=5) is appropriate, it shall be transmitted at the same frequency and immediately preceding the M.6A, M.6B, or M.9F message sequence to which it applies. The M.9A(AC=5) shall be transmitted prior to the M.9A(AC=0), if both are appropriate.
6. The M.9A(AC=7) shall be transmitted once in each of three consecutive transmission opportunities.

DATA RETENTION RULES

The FJU shall retain the latest reported status of the Emergency and Force Tell Indicators for all J3.7 TNs being forwarded.

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TABLE A.5.1-J5.4. J5.4 to Link 11 Message Translation Tree (Sheet 1 of 5)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
<pre> graph TD 1[1] -- N --> 2[2] 2 -- N --> 3_1[3] 1 -- Y --> 3_1 3_1 -- N --> 3_2[3] 3_1 -- N --> 3_3[3] 3_1 -- Y --> 3_4[3] </pre>	<ul style="list-style-type: none"> 1. THIS IS INITIAL REPORT FROM THE DATA SOURCE. 2. SPECIAL PROCESSING INDICATOR HAS CHANGED. 3. MINUTE OR HOUR OTHER THAN NO STATEMENT. 	1
REQUIRED ACTION		
A A B B C D E E E E E E	<ul style="list-style-type: none"> A. FWD M.4D/M.84D INITIAL SEQUENCE. B. FWD M.4D/M.84D/M.4B INITIAL SEQUENCE. C. FWD M.4D/M.84D SEQUENCE. D. FWD M.4D/M.84D/M.4B SEQUENCE. E. GO TO TEST NODE 4. 	

TABLE A.5.1-J5.4. J5.4 to Link 11 Message Translation Tree (Sheet 2 of 5)

TEST NODE DIAGRAM		TEST NODE CONDITION	NOTES
		4. SIMULATION INDICATOR = 1. 5. FORCE TELL INDICATOR HAS CHANGED. 6. EMERGENCY INDICATOR HAS CHANGED. 7. EMERGENCY INDICATOR = 1. 8. FORCE TELL INDICATOR = 1.	
			REQUIRED ACTION
G	F F F F F	F. FWD APPROPRIATE INITIAL SEQUENCE. G. FWD M.9A(AC=0, SI=1). H. FWD M.9A(AC=5). I. FWD M.9A(AC=7). J. RETAIN ALERT STATUS (ON/OFF) IN FJU DATA BASE. K. GO TO TEST NODE 5. Z. END TRANSLATION.	1
J	H H H H H		2
K	Z Z Z Z Z Z Z Z Z		

APPENDIX A

TABLE A.5.1-J5.4. J5.4 to Link 11 Message Translation Tree (Sheet 3 of 5)

NOTES

1. The J5.4 message is not forwarded on to Link 11B.
2. If both Emergency and Force Tell Indicators have been set to "on," only the Emergency alert is transmitted on Link 11. Transmission of an initial message sequence is not required if the Force Tell Indicator is changed to "on" and the Emergency alert is already being reported.

APPENDIX A

TABLE A.5.1-J5.4. J5.4 to Link 11 Message Translation Tree (Sheet 4 of 5)

RELATED MESSAGES

<u>RECEIVED LINK 16 MESSAGE</u>	<u>ALL POSSIBLE LINK 11 MESSAGES THAT MAY BE REQUIRED</u>
J5.4	M.4B M.4D M.84D M.9A(AC=0, 5 OR 7)

APPENDIX A

TABLE A.5.1-J5.4. J5.4 to Link 11 Message Translation Tree (Sheet 5 of 5)

FORWARDING TRANSMIT REQUIREMENTS

1. The FJU shall forward the M.4D/M.84D initial message sequence and if appropriate, the M.4B, on Link 11 once in each of two successive transmission opportunities.
2. The M.4D/M.84D message sequence, and M.4B message if appropriate, shall be forwarded for each subsequent J5.4 message received.
3. If appropriate, the M.9A(AC=0, SI=1) message shall be forwarded once preceding every transmission of a simulated track on Link 11.
4. The M.9A(AC=5) message, if appropriate, shall be forwarded at the same frequency as, and immediately preceding the M.4D message to which it applies. The M.9A(AC=5) shall be transmitted prior to the M.9A(AC=0) if both are appropriate.
5. The M.9A(AC=7) message shall be forwarded once in each of three successive transmission opportunities.

DATA RETENTION RULES

The FJU shall retain the latest reported status of the Emergency and Force Tell Indicators for all J5.4 TNs being forwarded.

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TABLE A.5.1-J6.0. J6.0 to Link 11/11B Message Translation Tree (Sheet 1 of 3)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. ENVIRONMENT = 1.	
REQUIRED ACTION		
A B Z Z		A. DISCARD MESSAGE. B. FWD M.11M/M.811M MESSAGE SEQUENCE. Z. END TRANSLATION.

APPENDIX A

TABLE A.5.1-J6.0. J6.0 to Link 11/11B Message Translation Tree
(Sheet 2 of 3)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J6.0	M.11M
	M.811M

APPENDIX A

TABLE A.5.1-J6.0. J6.0 to Link 11/11B Message Translation Tree
(Sheet 3 of 3)

FORWARDING TRANSMIT REQUIREMENTS

1. Three M.11M/M.811M message sequences shall be forwarded for each J6.0 message unless Activity Amplification Index values 1 through 10 are reported.
2. When the J6.0 message reports Activity Amplification Index values 1 through 10, the M.11M/M.811M message sequence shall be forwarded three times, except that a change in the Activity Amplification Index shall interrupt the redundant transmission of the message containing the previous Activity Amplification Index. The redundant J6.0 messages shall be discarded.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

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TABLE A.5.1-J7.0. J7.0 to Link 11/11B Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ul style="list-style-type: none"> 1. ACTION, TRACK MANAGEMENT = 5, 6, OR 7. 2. ACTION, TRACK MANAGEMENT = 0. 3. ACTION, TRACK MANAGEMENT = 1 OR 2 AND FJU IS CONTROLLING UNIT. 4. IS TN, REFERENCE AN ACTIVE UNIT. 5. IS TN, SOURCE THE CURRENT R2 FOR THE TN, REFERENCE. 6. ACTION, TRACK MANAGEMENT = 1. 7. ACTION, TRACK MANAGEMENT = 2. 8. ENVIRONMENT = 2 OR 3. 9. CONTROLLING UNIT INDICATOR = 1. 10. ACTION, TRACK MANAGEMENT = 3. 11. ALERT STATUS CHANGE = 1. 	
		1
		2
REQUIRED ACTION		
A B B C D E F F G G H H I I J J K L M Z Z Z Z Z Z Z Z Z Z Z Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD M.9A(AC=4). C. DECLARE UNIT INACTIVE IN FJU DATABASE. D. FWD M.9A(AC=1). E. FWD M.9A(AC=2). F. FWD M.9A(AC=5). G. SET EMERGENCY INDICATOR IN DATABASE. H. FWD M.9A(AC=7). I. CLEAR EMERGENCY INDICATOR IN DATABASE. J. SET FORCE TELL INDICATOR IN DATABASE. K. CLEAR FORCE TELL INDICATOR IN DATABASE. L. SET INDICATOR TO TRANSMIT J7.0 (ACT=1, CUI=1). M. FWD M.9A(AC=6). Z. END TRANSLATION. 	3

APPENDIX A

TABLE A.5.1-J7.0. J7.0 to Link 11/11B Message Translation Tree
(Sheet 2 of 4)

NOTES

1. If the FJU is retaining ID data received in a previous M.9A(AC=1, CI=0) or J7.0 (ACT = 1) message for the same TN, disregard this message.
2. Environment of 2 (Air) or 3 (Surface) are the only legal values on Link 11/11B for Information Difference or Change Data Order messages.
3. If the FJU holds local data for the track, the FJU shall assume R² for the track rather than forwarding a Drop Track message. If the reference track is a C2 IU being forwarded on Link 11B, link protocol demands that a Drop Track message be sent to signify inactive status of an interface unit. The latter is true even in those cases where the FJU assumes R² for the C2 IU.

APPENDIX A

TABLE A.5.1-J7.0. J7.0 to Link 11/11B Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

RECEIVED LINK 16

ALL POSSIBLE LINK 11/11B MESSAGES

MESSAGE

THAT MAY BE REQUIRED

J7.0

M.9A(AC=1, 2 OR 4-7)

APPENDIX A

TABLE A.5.1-J7.0. J7.0 to Link 11/11B Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. A single M.9A(AC=1, 2, or 6) message shall be forwarded for each J7.0 (ACT=1 or 2) message received unless the FJU is the Controlling Unit. If the FJU is the Controlling Unit, the M.9A (AC=1 or 2) shall not be forwarded. The FJU shall transmit locally held identity in a J7.0 (ACT=1) with the Controlling Unit Indicator set to value 1.
2. Upon receipt of the J7.0 (ACT=3 or 4), the M.9A(AC=5 or 7) shall be transmitted in three consecutive transmit opportunities.
3. The M.9A(AC=4) message is transmitted in two consecutive transmit opportunities after receipt of a J7.0 (ACT=0) message. If the track becomes active, including an R² shift, prior to either of the M.9A(AC=4) messages being transmitted, the M.9A(AC=4) message(s) that would have followed will not be transmitted. If the FJU has local data, the instructions in Note 1 of the Translation Tree shall be followed.

DATA RETENTION RULES

The FJU shall retain ID data received in a J7.0 (ACT=1) message until the conflict has been resolved by the R² unit or an R² shift occurs.

TABLE A.5.1-J7.1. J7.1 to Link 11/11B Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES																																								
<pre> graph TD 1[1] -- N --> 2[2] 1 -- Y --> 2 2 -- N --> 4[4] 2 -- Y --> 5[5] 3[3] -- N --> 4 3 -- Y --> 6[6] 4 -- N --> 6 4 -- Y --> 7[7] 5 -- N --> 6 5 -- Y --> 6 6 -- N --> 7 6 -- Y --> 7 </pre>	<ul style="list-style-type: none"> 1. ACTION, DATA UPDATE REQUEST = 2-7. 2. TN, ADDRESSEE = 177 (OCTAL) OR FJU ADDRESS. 3. TN, ADDRESSEE = LINK 11/11B UNIT BEING FORWARDED. 4. ACTION, DATA UPDATE REQUEST = 0. 5. TN, REFERENCE = ADDRESS OF ACTIVE LINK 11/11B UNIT BEING FORWARDED. 6. DATA REQUEST INDICATOR(S) OTHER THAN WEATHER OR FILTER ARE SET TO 1. 7. TN, REFERENCE = 0. 	1 2																																								
	REQUIRED ACTION																																									
<table style="width: 100%; text-align: center;"> <tr> <td>A</td><td></td><td></td><td></td><td>A</td><td></td><td></td><td></td> </tr> <tr> <td>B</td><td>B</td><td>B</td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>C</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>D</td><td></td><td></td><td></td><td>E</td><td></td><td></td><td></td> </tr> <tr> <td>Z</td><td>Z</td><td>Z</td><td>Z</td><td>Z</td><td>Z</td><td>Z</td><td></td> </tr> </table>	A				A				B	B	B						C								D				E				Z	Z	Z	Z	Z	Z	Z		<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. RESPOND WITH APPROPRIATE LOCAL DATA ON LINK 16. C. RESPOND WITH J2.0 FOR EACH ACTIVE LINK 11/11B UNIT. D. RESPOND WITH J2.0 FOR SPECIFIED UNIT. E. FWD M.9A(AC=3) TO ADDRESSEE. Z. END TRANSLATION. 	
A				A																																						
B	B	B																																								
C																																										
D				E																																						
Z	Z	Z	Z	Z	Z	Z																																				

APPENDIX A

TABLE A.5.1-J7.1. J7.1 to Link 11/11B Message Translation Tree
(Sheet 2 of 4)

NOTES

1. Check each addressee of the J7.1 message to determine if forwarding is required and if multiple forwarding is required for the one J7.1 message.
2. The discrete data request indicators cannot be forwarded. All data received in response to a Data Update Request message shall be passed by the FJU without regard to the original data request indicator settings.

APPENDIX A

TABLE A.5.1-J7.1. J7.1 to Link 11/11B Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

RECEIVED LINK 16

ALL POSSIBLE LINK 11/11B MESSAGES

MESSAGE

THAT MAY BE REQUIRED

J7.1

M.9A(AC=3)

APPENDIX A

TABLE A.5.1-J7.1. J7.1 to Link 11/11B Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. A single M9.A(AC=3) message shall be transmitted on the appropriate link(s) to each active addressee for every J7.1 message received.
2. The FJU shall respond, when appropriate, to a Data Update Request with J2.0 messages for active units that are being forwarded.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-J7.2. J7.2 to Link 11/11B Message Translation Tree (Sheet 1 of 3)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. TRACK NUMBER, RETAINED OR TRACK NUMBER, DROPPED = 00000, 00077, 00176, 00177, OR 07777 (OCTAL).	
REQUIRED ACTION		
A B Z Z	A. DISCARD MESSAGE. B. FWD M.9B(AC=7). Z. END TRANSLATION.	

APPENDIX A

TABLE A.5.1-J7.2. J7.2 to Link 11/11B Message Translation Tree
(Sheet 2 of 3)

RELATED MESSAGES

RECEIVED LINK 16

ALL POSSIBLE LINK 11/11B MESSAGES

MESSAGE

THAT MAY BE REQUIRED

J7.2

M.9B(AC=7)

APPENDIX A

TABLE A.5.1-J7.2. J7.2 to Link 11/11B Message Translation Tree
(Sheet 3 of 3)

FORWARDING TRANSMIT REQUIREMENTS

Upon receipt of the J7.2 the M.9B (AC=7) shall be transmitted in two consecutive transmit opportunities. If a second identical J7.2 message is received within 1(0.5-2,0.25) seconds it shall be ignored and shall not interrupt the transmission cycle.

DATA RETENTION RULES

There are no data retention rules associated with this message translation.

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TABLE A.5.1-J7.3. J7.3 to Link 11/11B Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
<pre> graph TD N1[1] -- N --> N2[2] N2 -- N --> N3[] N1 -- Y --> N4[] N2 -- Y --> N5[] </pre>	<ol style="list-style-type: none"> 1. TN, ADDRESSEE = 177 (OCTAL) OR ACTION, POINTER = 5-7. 2. TN ADDRESSEE(S) IS AN ACTIVE LINK 11/11B UNIT FOR WHOM DATA ARE BEING FORWARDED BY THIS FJU. 	1
REQUIRED ACTION		
A A B B Z Z Z		A. DISCARD MESSAGE. B. FWD M.9C TO ADDRESSEE. Z. END TRANSLATION.

APPENDIX A

TABLE A.5.1-J7.3. J7.3 to Link 11/11B Message Translation Tree
(Sheet 2 of 4)

NOTES

1. Check each addressee of the J7.3 message to determine if forwarding is required and if multiple forwarding is required for the one J7.3 message.

APPENDIX A

TABLE A.5.1-J7.3. J7.3 to Link 11/11B Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

RECEIVED LINK 16

ALL POSSIBLE LINK 11/11B MESSAGES

MESSAGE

THAT MAY BE REQUIRED

J7.3

M.9C

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TABLE A.5.1-J7.3. J7.3 to Link 11/11B Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

A single M.9C message shall be transmitted to each active addressee for every J7.3 message received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-J7.4. J7.4 to Link 11/11B Message Translation Tree (Sheet 1 of 3)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ol style="list-style-type: none"> 1. NATO LINK 1 TN APPLICABILITY = 0. 2. TN, REFERENCE LESS THAN 07777 (OCTAL), OR AN ASSOCIATION IS HELD BETWEEN TN, REFERENCE AND LINK 11/11B TN. 3. TN, REPORT/REQUEST = 0. 4. FJU HOLDS NATO LINK 1 TN FOR TN, REFERENCE IN ITS DATABASE. 	
REQUIRED ACTION		
A A A B C Z Z Z Z Z	A. DO NOT FORWARD MESSAGE. B. FWD M.9E(AC=3, SW=0). C. FWD M.9E(AC=5, SW=0). Z. END TRANSLATION.	

APPENDIX A

TABLE A.5.1-J7.4. J7.4 to Link 11/11B Message Translation Tree
(Sheet 2 of 3)

RELATED MESSAGES

RECEIVED LINK 16

ALL POSSIBLE LINK 11/11B MESSAGES

MESSAGE

THAT MAY BE REQUIRED

J7.4

M.9E(AC=3 OR 5)

APPENDIX A

TABLE A.5.1-J7.4. J7.4 to Link 11/11B Message Translation Tree
(Sheet 3 of 3)

FORWARDING TRANSMIT REQUIREMENTS

1. The M.9E message shall be forwarded one time for each translation of the received J7.4 message as indicated in the translation tree.
2. Only NATO Link 1 Track Number Reports/Requests are forwarded to/from Link 16 and Link 11/11B. Reports/Requests for TNs other than NATO Link 1 are handled by the FJU as a normal link participant, following the rules and protocols of the individual link, but are not forwarded.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

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TABLE A.5.1-J7.5. J7.5 to Link 11/11B Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES	
	<ul style="list-style-type: none"> 1. ACTION, IFF/SIF MANAGEMENT = 2, or 4-7. 2. ACTION, IFF/SIF MANAGEMENT = 0. 3. ACTION, IFF/SIF MANAGEMENT = 1. 		
REQUIRED ACTION			
A B C Z Z Z Z		A. DISCARD MESSAGE. B. FWD M.9A(AC=9, ISAC=0). C. FWD M.9A(AC=9, ISAC=1, MI = 2-4, or 6). D. FWD M.11D(TR=1). Z. END TRANSLATION.	1

APPENDIX A

TABLE A.5.1-J7.5. J7.5 to Link 11/11B Message Translation Tree
(Sheet 2 of 4)

NOTES

1. The FJU shall modify IFF/SIF information in its database as appropriate to the J7.5 (ACT = 0) IFF/SIF Clear message received from any source. The IFF/SIF information subsequently forwarded shall reflect this change until modified by the R² unit.

APPENDIX A

TABLE A.5.1-J7.5. J7.5 to Link 11/11B Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J7.5	M.9A(AC=9)
	M.11D

APPENDIX A

TABLE A.5.1-J7.5. J7.5 to Link 11/11B Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. A single M.9A(AC=9) message is forwarded for each applicable mode reported in the J7.5 (ACT = 0 or 1) message unless the J7.5 (ACT = 0) message clears Modes I, II, and III. In that case, a single M.9A (AC=9) message shall be forwarded.
2. An M.9A(AC=9) message clearing IFF/SIF data shall be transmitted once in each of the next three transmit opportunities. In all other cases, the M.9A(AC=9) message shall be transmitted once.
3. Three M.11D(TR=1) messages shall be transmitted for each J7.5 (ACT = 3) message received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-J7.7. J7.7 to Link 11/11B Message Translation Tree (Sheet 1 of 3)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
<pre> graph TD N1[1] -- N --> N2[2] N2 -- N --> Out[N] In1[Y] --> N1 In2[Y] --> N2 </pre>	<ul style="list-style-type: none"> 1. ACTION, ASSOCIATION = 2-7. 2. ACTION, ASSOCIATION = 1. 	
REQUIRED ACTION		
A B C C Z Z Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. CLEAR ASSOCIATION IN DATABASE. C. FWD M.9B. Z. END TRANSLATION. 	

APPENDIX A

TABLE A.5.1-J7.7. J7.7 to Link 11/11B Message Translation Tree
(Sheet 2 of 3)

RELATED MESSAGES

RECEIVED LINK 16

ALL POSSIBLE LINK 11/11B MESSAGES

MESSAGE

THAT MAY BE REQUIRED

J7.7

M.9B(AC = 6 or 15)

APPENDIX A

TABLE A.5.1-J7.7. J7.7 to Link 11/11B Message Translation Tree
(Sheet 3 of 3)

FORWARDING TRANSMIT REQUIREMENTS

A single M.9B message shall be forwarded for a J7.7 (ACT = 0) message. The M.9B messages shall be forwarded in three consecutive transmission opportunities for a J7.7 (ACT = 1) message.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

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TABLE A.5.1-J9.0. J9.0 to Link 11/11B Message Translation Tree (Sheet 1 of 5)

TEST NODE DIAGRAM		TEST NODE CONDITION	NOTES
		<ol style="list-style-type: none"> 1. ADDRESSEE IS A LINK 11B UNIT AND COMMAND = 14-22, 27 OR 29. 2. ADDRESSEE IS A UNIT TO WHOM DATA ARE BEING FORWARDED; COMMAND = 0-9, 14-25, OR 30; AND R/C=0-4, 6-7, OR 15-16. 3. COMMAND = 9, 24 OR 25. 4. COMMAND = 20-22. 5. ADDRESSEE ACTIVE. 6. COMMAND = 0-8, 23 OR 30. 7. R/C = 3, 4, 6, 7, 15, OR 16. 8. R/C = 0. 9. R/C = 2. 10. R/C = 23-30. 	1 2
<p style="text-align: center;">A A A B A B A C B B B A</p> <p style="text-align: center;">B B C C B C B C C C C</p> <p style="text-align: center;">C C</p> <p style="text-align: center;">D</p> <p style="text-align: center;">E</p> <p style="text-align: center;">F</p> <p style="text-align: center;">G</p> <p style="text-align: center;">Z Z Z Z Z Z Z Z Z Z Z Z</p>			
<p style="text-align: center;">A. DISCARD MESSAGE. B. DO NOT FORWARD MESSAGE. C. SET INDICATOR TO TRANSMIT J9.0 CANTPRO. D. FWD M.10A. E. FWD M.15. F. GO TO TEST NODE 11. G. GO TO TEST NODE 12. Z. END TRANSLATION.</p>			

TABLE A.5.1-J9.0. J9.0 to Link 11/11B Message Translation Tree (Sheet 2 of 5)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
<pre> graph TD 11[N: 11] -- Y --> 12[N: 12] 12 -- Y --> 13[N: 13] 13 -- Y --> 14[N: 14] 14 -- N --> 15[N: 15] 15 -- Y --> 16[N: 16] 16 -- Y --> 17[N: 17] 17 -- Y --> 18[N: 18] 18 -- Y --> 19_1[N: 19] 19_1 -- Y --> 19_2[N: 19] 19_2 -- Y --> 19_3[N: 19] 19_3 -- Y --> 19_4[N: 19] </pre>	<ul style="list-style-type: none"> 11. VOICE CALL SIGN IS OTHER THAN ALL BLANKS OR VOICE FREQ/CHANNEL IS VALUE 1-7,000. 12. COMMAND = 0-8, 23 OR 30. 13. COMMAND = 14 OR 15. 14. COMMAND = 16 OR 17. 15. COMMAND = 18 OR 19. 16. COMMAND MISSION IS OTHER THAN NO STATEMENT. 17. DUTY ASSIGNMENT IS OTHER THAN NO STATEMENT. 18. COMMAND = 27 WITH TN, FRIENDLY WEAPON = 0 AND IMPACT TIME (HOUR AND MINUTE) OF NS OR EQUAL TO SYSTEM ACTUAL TIME PLUS 1-60 MINUTES. 19. R/C = 0. 	
	REQUIRED ACTION	
A B C D E H I Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. DO NOT FORWARD MESSAGE. C. SET INDICATOR TO TRANSMIT J9.0 CANTPRO. D. FWD M.10A. E. FWD M.15. H. FWD M.15 ON LINK 11 ONLY. I. FWD M.9E. Z. END TRANSLATION. 	

APPENDIX A

TABLE A.5.1-J9.0. J9.0 to Link 11/11B Message Translation Tree
(Sheet 3 of 5)

NOTES

1. The collective address of 0177 (octal) is included as one for which data are being forwarded. The FJU may forward J9.0 Command messages to a link other than the one on which the addressee is active. In this case, R/C procedures do not apply. (See paragraph A.4.8.4)
2. If the addressee is not active, the FJU may forward M.15 Command values 0-8 or 21 and transmit a J9.0 CANTPRO back to the originator. If the FJU does not forward M.15 Command values 0-8 or 21, the message shall be discarded and a J9.0 CANTPRO shall be transmitted back to the originator. (See paragraph A.4.8.4)

APPENDIX A

TABLE A.5.1-J9.0. J9.0 to Link 11/11B Message Translation Tree
(Sheet 4 of 5)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J9.0	M.9E
	M.10A
	M.15

APPENDIX A

TABLE A.5.1-J9.0. J9.0 to Link 11/11B Message Translation Tree
(Sheet 5 of 5)

FORWARDING TRANSMIT REQUIREMENTS

1. The M.15 message with other than R/C = 1 shall be redundantly forwarded until a Machine Receipt, or other appropriate reply, is received or until redundancy requirements are met. When redundancy requirements are met and a reply has not been received for an Original (R/C = 0) Command message, the FJU shall reply on Link 16 with a CANTPRO (R/C = 21).
2. The M.15 message with R/C = 1 shall be forwarded seven times on Link 11/11B. The redundant J9.0 R/C = 1 messages received will be discarded.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

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TABLE A.5.1-J10.2. J10.2 to Link 11/11B Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
<pre> graph TD 1[1] --- N1[N] 1 --- Y1[Y] 1 --- 2L[2] 2L --- N2L[N] 2L --- Y2L[Y] 2L --- 3L[3] 3L --- N3L[N] 3L --- Y3L[Y] 2L --- 2R[2] 2R --- N2R[N] 2R --- Y2R[Y] 2R --- 3R[3] 3R --- N3R[N] 3R --- Y3R[Y] </pre>	<ul style="list-style-type: none"> 1. SINGLE ENGAGEMENT STATUS REPORTED. 2. IS THERE A WES = 5, 8, OR 9. 3. IS THERE A WES = 2-4, 6, 7, OR 10-14. 	1 1
REQUIRED ACTION		
A A A B B B Z Z Z Z Z	<ul style="list-style-type: none"> A. FWD M.14 SEVEN TIMES FOR EACH W/ES = 5, 8, OR 9. B. FWD M.14 ONE TIME FOR EACH W/ES = 2-4, 6, 7, OR 10-14. Z. END TRANSLATION. 	

APPENDIX A

TABLE A.5.1-J10.2. J10.2 to Link 11/11B Message Translation Tree
(Sheet 2 of 4)

NOTES

1. A J10.2 message with Weapon Engagement Status (WES) equal to 0 or 1 will not be forwarded.

APPENDIX A

TABLE A.5.1-J10.2. J10.2 to Link 11/11B Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

RECEIVED LINK 16

ALL POSSIBLE LINK 11/11B MESSAGES

MESSAGE

THAT MAY BE REQUIRED

J10.2

M.14

APPENDIX A

TABLE A.5.1-J10.2. J10.2 to Link 11/11B Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. The J10.2C1 word is used to report multiple engagements. Separate M.14 message sequences will be generated for each engagement received.
2. One M.14 message will be forwarded for each Weapon Engagement Status received unless W/ES = 5, 8, or 9.
3. M.14 W/ES = 5, 8, or 9 message(s) will be forwarded in seven consecutive transmit opportunities. The redundant J10.2 message received will be discarded. When Weapon Engagement Status changes from 5 or 8 for identical TN Friendly Weapon System and TN Target, prior to completion of redundant transmissions, the previous values will no longer be reported.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-J10.3. J10.3 to Link 11/11B Message Translation Tree (Sheet 1 of 5)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ul style="list-style-type: none"> 1. ADDRESSEE IS A UNIT TO WHOM DATA ARE BEING FORWARDED BY THIS FJU; REQUEST FOR ASSUME CONTROL = 0-2; AND R/C = 0, 2-3, 6-7, OR 15-22. 2. R/C = 2. 3. R/C = 0. 4. ADDRESSEE IS CURRENTLY INACTIVE. 5. CANCELLATION INDICATOR = 1. 6. REQUEST FOR ASSUME CONTROL = 2. 7. LINK 4A ADDRESS IS OTHER THAN 0. 8. VOICE CALL SIGN IS OTHER THAN ALL BLANKS. 9. REQUEST FOR ASSUME CONTROL = 0 OR 1. 	1
		2
A A		REQUIRED ACTION
B B C D D E E F G I J K Z Z Z Z Z Z Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. DO NOT FORWARD MESSAGE. C. SET INDICATOR TO TRANSMIT J10.3 CANTPRO. D. FWD M.10A. E. SET INDICATOR TO PRECEDE M.10A WITH M.9A (AC=6). F. SET INDICATOR TO INCLUDE M.9E(AC=0) IN SEQUENCE. G. GO TO TEST NODE 8. H. GO TO TEST NODE 10. I. SET INDICATOR TO INCLUDE M.9E(AC=1) IN SEQUENCE. J. GO TO TEST NODE 9. K. GO TO TEST NODE 11. Z. END TRANSLATION. 	
	1 3 3	

TABLE A.5.1-J10.3. J10.3 to Link 11/11B Message Translation Tree (Sheet 2 of 5)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
<pre> graph TD 10[10] -- N --> 11[11] 11 -- N --> 12[12] 10 -- Y --> Y1[] 11 -- Y --> Y2[] 12 -- Y --> Y3[] </pre>	10. R/C = 3. 11. LINK 4A FREQUENCY IS OTHER THAN NO STATEMENT. 12. VOICE FREQUENCY IS OTHER THAN NO STATEMENT.	
REQUIRED ACTION		1
D D D D L M N Z Z Z	D. FWD M.10A. L. SET INDICATOR TO INCLUDE M.9E(AC=4) IN SEQUENCE. M. GO TO TEST NODE 12. N. SET INDICATOR TO INCLUDE M.9E(AC=2) IN SEQUENCE. Z. END TRANSLATION.	

APPENDIX A

TABLE A.5.1-J10.3. J10.3 to Link 11/11B Message Translation Tree
(Sheet 3 of 5)

NOTES

1. The FJU responds to each J10.3 message, which is not discarded, with a J10.3 CANTPRO message or a J10.3 Machine Receipt (MR) message. The FJU shall originate a J10.3 CANTPRO response message only to a J10.3 Original (R/C = 0) Handover message and then only in those cases shown in this table. The FJU shall respond with a J10.3 MR message for those J10.3 messages that are accepted for forwarding. The FJU then forwards the proper handover sequence to the addressee on the appropriate data link. If the FJU fails to receive an M.10A MR message or other reply, the sequence is repeated until seven attempts have been made to forward the data. If after seven attempts an M.10A MR message or other reply is not received, the FJU shall send a J10.3 CANTPRO (R/C = 21) message addressed to the originator of the J10.3 Original (R/C = 0) message. If an M.10A MR message is not received for a J10.3 WILCO, CANTCO, or CANTPRO reply message forwarded to Link 11/11B after seven attempts to forward, the FJU takes no further action. If a reply is received from the addressee prior to the transmission of a J10.3 MR message originated by the FJU, that reply may be transmitted instead of the FJU's J10.3 MR message.
2. The Voice Call Sign forwarded shall be limited to the Voice Call Sign contained within the J10.3 message being forwarded. A voice call sign held in the FJU database or received in another message shall not be included in the handover sequence.
3. The handover sequence for an original J10.3 (R/C = 0) message being forwarded on Link 11/11B includes, in order, an M.9A(AC=6) message as indicated in the message translation tree, an M.10A message, followed by appropriate M.9E messages. The sequence for a J10.3 WILCO (R/C = 3) message being forwarded on Link 11/11B is an M.10A message followed by appropriate M.9E messages. Other J10.3 message replies on Link 11/11B are sent an M.10A message alone. In case of redundant Link 11/11B transmissions being required, the full sequence is repeated with each transmission opportunity.

APPENDIX A

TABLE A.5.1-J10.3. J10.3 to Link 11/11B Message Translation Tree
(Sheet 4 of 5)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J10.3	M.9A(AC=6) M.9E(AC=0-2 OR 4) M.10A

APPENDIX A

TABLE A.5.1-J10.3. J10.3 to Link 11/11B Message Translation Tree
(Sheet 5 of 5)

FORWARDING TRANSMIT REQUIREMENTS

The appropriate handover sequence shall be redundantly forwarded until a machine receipt, or other appropriate reply, is received or until redundancy requirements are met. When redundancy requirements are met and a reply has not been received for a forwarded Original (R/C = 0) Handover message, the FJU shall reply on Link 16 with a CANTPRO (R/C = 21).

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

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TABLE A.5.1-J10.5. J10.5 to Link 11/11B Message Translation Tree (Sheet 1 of 3)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
<pre> graph TD N1[1] --- N1_out[N] N1_out --- N2_in[N] N2_in --- N2_out[Y] </pre>	<ul style="list-style-type: none"> 1. VOICE CALL SIGN = ALL BLANKS. 2. FJU IS CONTROLLING UNIT AND TN, REFERENCE IS NOT SUBJECT OF HANDOVER. 	
	REQUIRED ACTION	
A A B C Z Z Z	<ul style="list-style-type: none"> A. FWD M.9A(AC=6). B. FWD M.9E(AC=1). C. SET INDICATOR TO TRANSMIT J10.5. Z. END TRANSLATION. 	

APPENDIX A

TABLE A.5.1-J10.5. J10.5 to Link 11/11B Message Translation Tree
(Sheet 2 of 3)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J10.5	M.9A(AC=6) M.9E(AC=1)

APPENDIX A

TABLE A.5.1-J10.5. J10.5 to Link 11/11B Message Translation Tree
(Sheet 3 of 3)

FORWARDING TRANSMIT REQUIREMENTS

1. A single M.9A(AC=6) message shall be forwarded for each J10.5 message received unless the FJU is the Controlling Unit. If the FJU is the Controlling Unit for an air track and receives a J10.5 message from another unit on the same aircraft when it is not the subject of a Handover, the received J10.5 message shall not be forwarded. The FJU shall transmit a J10.5 message at the next transmit opportunity with own unit as the Controlling Unit.
2. A single M.9E(AC=1) message shall be forwarded for each J10.5 message received that contains a valid voice call sign.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

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TABLE A.5.1-J10.6. J10.6 to Link 11/11B Message Translation Tree (Sheet 1 of 3)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. PAIRING ACTION = 0-7 OR 15.	
	REQUIRED ACTION	
A B Z Z	A. DISCARD MESSAGE. B. FWD M.9B. Z. END TRANSLATION.	

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APPENDIX A

TABLE A.5.1-J10.6. J10.6 to Link 11/11B Message Translation Tree
(Sheet 2 of 3)

RELATED MESSAGES

RECEIVED LINK 16

ALL POSSIBLE LINK 11/11B MESSAGES

MESSAGE

THAT MAY BE REQUIRED

J10.6

M.9B(AC = 0-5 or 15)

APPENDIX A

TABLE A.5.1-J10.6. J10.6 to Link 11/11B Message Translation Tree
(Sheet 3 of 3)

FORWARDING TRANSMIT REQUIREMENTS

A single M.9B(AC=0-5) message shall be forwarded in the next transmission opportunity on Link 11/11B for a J10.6 (Pairing Action=1-7) message. The M.9B(AC=15) messages shall be forwarded in two consecutive transmission opportunities on Link 11/11B for a J10.6 (Pairing Action=15) message.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

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TABLE A.5.1-J13.2. J13.2 to Link 11/11B Message Translation Tree (Sheet 1 of 5)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
<pre> graph TD 1[1] -- N --> 2[2] 2 -- N --> 3[3] 3 -- N --> 4[4] 4 -- N --> 5[5] 5 -- N --> 6[6] 6 -- N --> 7[7] 7 -- N --> 8[8] 8 -- N --> 9[9] 9 -- N --> 7[7] 1 -- Y --> 2 2 -- Y --> 3 3 -- Y --> 4 4 -- Y --> 5 5 -- Y --> 6 6 -- Y --> 7 7 -- Y --> 8 8 -- Y --> 9 9 -- Y --> 7 7 -- N --> 7_2[7] 7_2 -- N --> 8_2[8] 8_2 -- N --> 9_2[9] 9_2 -- N --> 7_2 </pre>	<ul style="list-style-type: none"> 1. OPERATIONAL CAPABILITY, AIRCRAFT = 1, 2, OR 3. 2. AIR SPECIFIC TYPE = 1-255. 3. RECEIVED J13.2 INCLUDES A C3 WORD. 4. C3 WORD HAS A NONZERO VALUE IN BIT POSITIONS 26 THROUGH 43. 5. C3 WORD HAS A NONZERO VALUE IN BIT POSITIONS 7 THROUGH 24. 6. RADAR WATCH ALTITUDE NOT EQUAL TO NO STATEMENT. 7. AIR SPECIFIC TYPE AND AIRCRAFT MODEL TRANSLATES TO OTHER THAN NO STATEMENT IN M.11C. 8. FUEL FUNCTION = 0. 9. FUEL NOT EQUAL TO NO STATEMENT. 	1
		1
A		REQUIRED ACTION
B		<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD M.14. C. FWD M.11C BSW = 0 ON LINK 11 ONLY. D. FWD M.11C BSW = 1 ON LINK 11 ONLY. E. FWD M.11C BSW = 2 ON LINK 11 ONLY. F. GO TO NEXT TEST NODE. G. GO TO TEST NODE 10. Z. END TRANSLATION.
C		
D		
E		
F		
G		
Z		

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TABLE A.5.1-J13.2. J13.2 to Link 11/11B Message Translation Tree (Sheet 2 of 5)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
<pre> graph TD 10[N: 10] -- N --> 11_1[N: 11] 10 -- Y --> 12[N: 12] 11_1 -- N --> 13[N: 13] 11_1 -- Y --> 14[N: 14] 12 -- N --> 13 12 -- Y --> 15[N: 15] 13 -- N --> 14 13 -- Y --> 15 14 -- N --> 15 </pre>	10. TIME REPORT FUNCTION = 4. 11. FUEL FUNCTION = 0. 12. FUEL NOT EQUAL TO NO STATEMENT. 13. AIR SPECIFIC TYPE TRANSLATES TO OTHER THAN NO STATEMENT IN M.11B. 14. NUMBER AND TYPE OF STORES TRANSLATES TO WEAPON TYPE. 15. GUN CAPABLE = 1.	
	REQUIRED ACTION	
H H H H H I I Z Z Z Z Z Z Z Z A	A. DISCARD MESSAGE. H. FWD M.11B(FT SW=0). I. FWD M.11B(FT SW=1). Z. END TRANSLATION.	

APPENDIX A

TABLE A.5.1-J13.2. J13.2 to Link 11/11B Message Translation Tree
(Sheet 3 of 5)

NOTES

1. The following Link 16 Air Specific Type values are translatable to other than No Statement in the M.11C message: 533, 543, 544, 563, 565, 568-570, 624, 680, 765, 1297-1299, 1311, 1345 and 1386.
2. The following Link 16 Air Specific Type values are translatable to other than No Statement in the M.11B message: 1-2, 4-6, 8, 11-12, 104-110, 150-153, 156, 256-259, 321, and 343.
3. The following Link 16 Type of Stores values are translatable to the M.11B message: 1, 2, 3, and 11 (if the corresponding Number of Stores is other than zero).

APPENDIX A

TABLE A.5.1-J13.2. J13.2 to Link 11/11B Message Translation Tree
(Sheet 4 of 5)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J13.2	M.11B
	M.11C(LINK 11 ONLY)
	M.14

APPENDIX A

TABLE A.5.1-J13.2. J13.2 to Link 11/11B Message Translation Tree
(Sheet 5 of 5)

FORWARDING TRANSMIT REQUIREMENTS

1. An M.11B or M.11C and/or M.14 message or series of messages shall be transmitted for each J13.2 message received. There are no cases where both the M.11B and the M.11C message will be forwarded for a single J13.2 message received. An M.14 and either an M.11B or M.11C message or series of messages may result from a J13.2 message received.
2. When an M.11B message is forwarded for a J13.2 message received from a JU under own unit control, the FJU shall replace controller manually entered platform status data for the JU with non-zero platform status data from the last received J13.2 message prior to forwarding the M.11B message.
3. When the J13.2 message reports time remaining on station and pounds of fuel, two M.11B messages shall be transmitted with identical information with the exception of the Fuel/Time Switch and Fuel/Time fields.
4. When the J13.2 message contains data that result in a series of two or three M.11C messages, each M.11C message shall be transmitted with identical A-Frames.

DATA RETENTION RULES

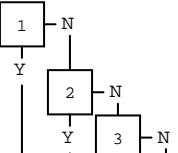
There are no Data Retention Rules associated with this message translation.

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TABLE A.5.1-J13.3. J13.3 to Link 11/11B Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES												
	<ul style="list-style-type: none"> 1. RECEIVED J13.3 DOES NOT INCLUDE A J13.3C1, C2, C5, C6, OR C7 WORD. 2. RECEIVED J13.3 INCLUDES A J13.3C2 WORD. 3. RECEIVED J13.3 INCLUDES J13.3C1, C5, C6, OR C7 WORD WHICH CONTAINS MISSILE TYPE VALUE = 0-6, 8-17, 24-26, 48, 51, OR 57-63. 	1												
REQUIRED ACTION														
<table border="0"> <tr> <td>A</td><td></td><td>A</td></tr> <tr> <td>B</td><td>B</td><td></td></tr> <tr> <td>C</td><td></td><td></td></tr> <tr> <td>Z</td><td>Z</td><td>Z</td></tr> </table>	A		A	B	B		C			Z	Z	Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD M.14. C. GO TO TEST NODE 3. Z. END TRANSLATION. 	
A		A												
B	B													
C														
Z	Z	Z												

APPENDIX A

TABLE A.5.1-J13.3. J13.3 to Link 11/11B Message Translation Tree
(Sheet 2 of 4)

NOTES

1. To satisfy this test node, the Missile Type, 1 through 12 fields must be checked to determine the necessity of forwarding multiple M.14 messages.

APPENDIX A

TABLE A.5.1-J13.3. J13.3 to Link 11/11B Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

RECEIVED LINK 16

ALL POSSIBLE LINK 11/11B MESSAGES

MESSAGE

THAT MAY BE REQUIRED

J13.3

M.14

APPENDIX A

TABLE A.5.1-J13.3. J13.3 to Link 11/11B Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

One or two M.14 messages shall be transmitted for each missile type or for the Active Electronic Decoy Launcher System status in the received J13.3 message.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-J13.4. J13.4 to Link 11/11B Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
<pre> graph TD N1[1] -- Y --> N2[2] N2 -- N --> Out[] N1 -- N --> Out </pre>	<ul style="list-style-type: none"> 1. RECEIVED J13.4 DOES NOT INCLUDE A J13.4C1 WORD. 2. J13.4C1 WORD CONTAINS MISSILE TYPE VALUE = 0-6, 8-17, 24-26, OR 57-63. 	1
REQUIRED ACTION		
A B Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD M.14. Z. END TRANSLATION. 	

APPENDIX A

TABLE A.5.1-J13.4. J13.4 to Link 11/11B Message Translation Tree
(Sheet 2 of 4)

NOTES

1. To satisfy this test node, the Missile Type, 1, 2, and 3 fields must be checked to determine the necessity of forwarding multiple M.14 messages.

APPENDIX A

TABLE A.5.1-J13.4. J13.4 to Link 11/11B Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

RECEIVED LINK 16

ALL POSSIBLE LINK 11/11B MESSAGES

MESSAGE

THAT MAY BE REQUIRED

J13.4

M.14

APPENDIX A

TABLE A.5.1-J13.4. J13.4 to Link 11/11B Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

One or two M.14 messages shall be transmitted for each missile type in the received J13.4 message.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-J13.5. J13.5 to Link 11/11B Message Translation Tree (Sheet 1 of 3)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ul style="list-style-type: none"> 1. OPERATIONAL CAPABILITY, HOT INVENTORY, AND COLD INVENTORY ARE ALL NO STATEMENT. 2. SITE TYPE IS 10-16, OR 28. 	
REQUIRED ACTION		
A A B Z Z Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD M.14 MESSAGE. Z. END TRANSLATION. 	

APPENDIX A

TABLE A.5.1-J13.5. J13.5 to Link 11/11B Message Translation Tree
(Sheet 2 of 3)

RELATED MESSAGES

RECEIVED LINK 16

ALL POSSIBLE LINK 11/11B MESSAGES

MESSAGE

THAT MAY BE REQUIRED

J13.5

M.14

APPENDIX A

TABLE A.5.1-J13.5. J13.5 to Link 11/11B Message Translation Tree
(Sheet 3 of 3)

FORWARDING TRANSMIT REQUIREMENTS

A single M.14 message shall be transmitted for each J13.5 Land Platform and System Status message received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

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TABLE A.5.1-J14.0. J14.0 to Link 11/11B Message Translation Tree (Sheet 1 of 5)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ul style="list-style-type: none"> 1. FIX OR BEARING DESCRIPTOR (F/B) = 6 OR TN, REFERENCE/INDEX NUMBER INDICATOR = 1. 2. F/B = 4. 3. BEARING ORIGIN = 1. 4. F/B = 1. 5. AREA MAJOR AXIS, AREA MINOR AXIS OR SQUARE/CIRCLE SWITCH = NO STATEMENT OR UNDEFINED. 6. COURSE OR SPEED = NO STATEMENT. 7. F/B = 5. 8. F/B = 0. 9. PARAMETER SOURCE = 3 OR 4. 	
REQUIRED ACTION		
A A A B C D E F G Z Z K K K K Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD M.6A. C. FWD M.9F(AC=0)/M.89F(AC=0). D. FWD M.9F(AC=0)/M.89F(AC=0)/M.9F(AC=1). E. FWD M.6B/M.86B(EV SW=0). F. FWD M.5/M.85. G. GO TO TEST NODE 10. K. GO TO TEST NODE 15. Z. END TRANSLATION. 	1 2 3

TABLE A.5.1-J14.0. J14.0 to Link 11/11B Message Translation Tree (Sheet 2 of 5)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
<pre> graph TD 10[N:10] -- N --> 11[N:11] 10 -- Y --> 12[N:12] 11 -- N --> 13[N:13] 11 -- Y --> 14[N:14] 12 -- N --> 13_1[N:13] 12 -- Y --> 15[N:15] 13_1 -- N --> 13_2[N:13] 13_1 -- Y --> 14 13_2 -- N --> 14 13_2 -- Y --> 15 14 -- N --> 15 14 -- Y --> 15 </pre>	10. J14.OC4 WORD INCLUDED. 11. POLARIZATION, PULSE WIDTH, OR ANTENNA SCAN RATE/PERIOD INDICATOR NOT EQUAL TO 0. 12. FREQUENCY DATA INCLUDED. 13. Emitter Number Indicator = 1. 14. F/B = 0. 15. SPECIAL PROCESSING INDICATOR HAS CHANGED, THIS IS INITIAL REPORT FROM THE DATA SOURCE, OR RESPONSE INDICATOR = 1.	
	REQUIRED ACTION	1
H I M M E E E J J K K K L Z Z Z	A. DISCARD MESSAGE. E. FWD M.6B/M.86B(EV SW=0). H. FWD M.6C/M.86C. I. FWD M.6C. J. FWD M.6B/M.86B (EV SW=1). K. GO TO TEST NODE 15. L. FWD APPROPRIATE INITIAL SEQUENCE. M. GO TO TEST NODE 12. Z. END TRANSLATION.	

APPENDIX A

TABLE A.5.1-J14.0. J14.0 to Link 11/11B Message Translation Tree
(Sheet 3 of 5)

NOTES

1. If an M.6C or an M.6C/M.86C message results with no M.6B being transmitted, the received J14.0 message is discarded and not forwarded.
2. If both the Frequency, 1 value in the J14.0E0 and the Elevation Angle value in the J14.0C2 are not No Statement, then consecutive M.6A messages shall be forwarded with Switch = 0 and Switch = 1, respectively.
3. The Switch value is set to 0 when Course and Speed are reported as No Statement. The Switch value is set to 1 if Minute and Hour or Altitude, 25 Ft are other than No Statement. If both Switch = 0 and 1 are required, the M.5/M.85(SW=0) shall be immediately followed by an identical M.5, followed by an M.85(SW=1).

APPENDIX A

TABLE A.5.1-J14.0. J14.0 to Link 11/11B Message Translation Tree
(Sheet 4 of 5)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J14.0	M.5
	M.85
	M.6A
	M.6B
	M.86B
	M.6C
	M.86C
	M.9A
	M.9F(0)
	M.89F(0)
	M.9F(1)

APPENDIX A

TABLE A.5.1-J14.0. J14.0 to Link 11/11B Message Translation Tree
(Sheet 5 of 5)

FORWARDING TRANSMIT REQUIREMENTS

1. The M.5 initial sequence shall be transmitted by the FJU once in each of two successive transmission opportunities on Link 11. The M.5 initial sequence shall be transmitted by the FJU at the first transmission opportunity and every transmission opportunity thereafter until the M.9A(AC=0) message is acknowledged on Link 11B.
2. The FJU shall transmit the M.6A, M.6B, or M.6C initial sequence on Link 11B immediately preceded by an M.9A(AC=0) message at the first transmission opportunity and every opportunity thereafter until the M.9A(AC=0) message is acknowledged.
3. The M.5/M.85, M.6A, M.6B/M.86B, M.6C, or the M.6C/M.86C shall be transmitted once in each of two consecutive transmission opportunities on Link 11 and once on Link 11B except as required by rules 1 and 2 above.
4. The FJU shall transmit the M.9F(AC=0)/M.89F(AC=0) or M.9F(AC=0)/M.89F(AC=0)/M.9F(AC=1) initial sequence on Link 11B immediately preceded by an M.9A(AC=0) message at the first transmission opportunity and every transmission opportunity thereafter until the M.9A(AC=0) is acknowledged.
5. The M.9F(AC=0)/M.89F(AC=0) and M.9F(AC=0)/M.89F(AC=0)/M.9F(AC=1) shall be transmitted once in each of two consecutive transmission opportunities, except as required by rule 4 above.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

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TABLE A.5.1-J14.2. J14.2 to Link 11/11B Message Translation Tree (Sheet 1 of 5)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ul style="list-style-type: none"> 1. ADDRESSEE IS A UNIT TO WHOM DATA ARE BEING FORWARDED BY THIS FJU AND ELECTRONIC WARFARE ACTION VALUE (EWAC) IS OTHER THAN 25, 27-29, OR 32-63. 2. EWAC NOT EQUAL TO 0-14, 19. 3. EWAC = 4. 4. J14.2C1, J14.2C3, OR J14.2C4 WORD NOT INCLUDED. 5. EWAC = 0, 2, OR 3. 6. TN, ADDRESSEE = 0177 (OCTAL). 7. EWAC = 5, 6, 11, OR 12. 8. REFERENCE EWAC NOT EQUAL TO 0-4, 13, OR 14. 	1
A E E E E F F G Z		REQUIRED ACTION
	<ul style="list-style-type: none"> A. DISCARD MESSAGE. E. GO TO TEST NODE 17. F. GO TO TEST NODE 13. G. GO TO TEST NODE 9. Z. END TRANSLATION. 	

TABLE A.5.1-J14.2. J14.2 to Link 11/11B Message Translation Tree (Sheet 2 of 5)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES																		
	<p>9. EWAC = 7.</p> <p>10. Emitter number indicator not equal to 1, and Emitter confidence = 0.</p> <p>11. EWAC = 13 OR 14.</p> <p>12. J14.2C1 word not included.</p> <p>13. Addressee active.</p> <p>14. R/C = 0, 1, 6-14, or 16-21.</p> <p>15. EWAC = 4 AND J14.2C1 OR J14.2C3 word included.</p> <p>16. EWAC = 19</p> <p>17. R/C = 0.</p>																			
REQUIRED ACTION																				
<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">E</td> <td style="text-align: center;">F</td> <td style="text-align: center;">E</td> <td style="text-align: center;">F</td> <td style="text-align: center;">B</td> <td style="text-align: center;">B</td> <td style="text-align: center;">B</td> <td style="text-align: center;">A</td> <td style="text-align: center;">A</td> <td style="text-align: center;">D</td> <td style="text-align: center;">H</td> <td style="text-align: center;">H</td> <td style="text-align: center;">Z</td> </tr> </table>		E	F	E	F	B	B	B	A	A	D	H	H	Z	Z	Z	Z	Z	Z	<p>A. Discard message.</p> <p>B. FWD M.6D.</p> <p>D. Set indicator to transmit J14.2 CANTPRO.</p> <p>E. Go to Test Node 17.</p> <p>F. Go to Test Node 13.</p> <p>H. FWD M.86D.</p> <p>Z. END TRANSLATION.</p>
E	F	E	F	B	B	B	A	A	D	H	H	Z	Z	Z	Z	Z	Z			

APPENDIX A

TABLE A.5.1-J14.2. J14.2 to Link 11/11B Message Translation Tree
(Sheet 3 of 5)

NOTES

1. The collective address of 0177 (octal) is included as one for which data are being forwarded.

APPENDIX A

TABLE A.5.1-J14.2. J14.2 to Link 11/11B Message Translation Tree
(Sheet 4 of 5)

RELATED MESSAGES

<u>RECEIVED LINK 16</u>	<u>ALL POSSIBLE LINK 11/11B MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
J14.2	M.6D
	M.86D

APPENDIX A

TABLE A.5.1-J14.2. J14.2 to Link 11/11B Message Translation Tree
(Sheet 5 of 5)

FORWARDING TRANSMIT REQUIREMENTS

1. The M.6D(Control=0-7, 14, or 15) message with R/C ≠ 1 shall be redundantly forwarded until a Machine Receipt, or other appropriate reply, is received or until redundancy requirements are met. When redundancy requirements are met and a reply has not been received for an Original (R/C=0) message, the FJU shall reply on Link 16 with a CANTPRO (R/C = 21).
2. The M.6D(Control=0-7) message with R/C = 1 shall be forwarded seven times on Link 11/11B. The redundant J14.2 R/C = 1 messages received shall be discarded.
3. The M.6D(Control=14 or 15) message with R/C = 1 shall be forwarded two times on Link 11/11B. The redundant J14.2 R/C = 1 messages received shall be discarded.
4. The M.6D(Control=8-13) message shall be forwarded two times on Link 11/11B. The redundant J14.2 R/C = 1 messages received shall be discarded.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

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TABLE A.5.1-M.x. M-Series to Link 16 Message Translation Tree

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. RECEIVED MESSAGE IS M.0, M.9D, M.9G, M12 SERIES, M.12.31, OR M.13.	
REQUIRED ACTION		
A B Z	A. DISCARD MESSAGE. B. GO TO APPROPRIATE MESSAGE TRANSLATION TREE. Z. END TRANSLATION.	

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TABLE A.5.1-M.1. M.1/M.81/M.11D to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ul style="list-style-type: none"> 1. RECEIVED M.1 IDENTICAL TO ANOTHER M.1. RECEIVED IN THE SAME TRANSMIT OPPORTUNITY. 2. R/P = 1. 3. RECEIVED M.1 IS FROM LINK 11B. 4. UNIT IS INACTIVE IN FJU DATABASE OR THIS IS INITIAL REPORT. 5. SPI = 0. 6. NEXT RECEIVED MESSAGE IS M.11D OR M.11D/M.11D MESSAGE SEQUENCE HAVING NONZERO CODES FOR PU/RU SOURCE. 7. TYPE REPORT = 0. 	1 2
	REQUIRED ACTION	
A A B C D E E F F F F G G G G H H J J J J J K Z Z Z Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD POSITION FOR UNIT BASED ON RELATED M.5. C. GO TO TEST NODE 3. D. REDUNDANTLY FWD J2.0 UNTIL UNIT BECOMES INACTIVE. E. DECLARE THE UNIT ACTIVE. F. FWD A SINGLE J2.0. G. FWD ALL DATA FOLLOWING THE M.1 (OR M.1/M.81) WITH M.1 PU/RU ADDRESS AS SOURCE. H. SET SPI = 1 IN ALL MESSAGES WHICH FOLLOW THIS M.1. J. GO TO TEST NODE 6. K. SET INDICATOR TO REINITIATE J2.0C1 WORD. L. FWD J7.5 (ACT = 3). Z. END TRANSLATION. 	

APPENDIX A

TABLE A.5.1-M.1. M.1/M.81/M.11D to Link 16 Message Translation Tree
(Sheet 2 of 4)

NOTES

1. The locations of all units in the Link 11/11B interface must be reported either in the M.1 Data Reference Position message or the M.5 Special Points Position message. However, systems may, in the same Link 11 transmit opportunity, report unit location in M.1's having R/P = 0 followed by a report of the SCC location in M.1's having R/P = 1, in which case, an M.5 message will not normally be received.
2. The FJU shall check to determine if M.11D message(s) having IFF/SIF data for the unit follow the M.1 or M.1/M.81 sequence. This check will terminate after three Link 11/11B message frame times.

APPENDIX A

TABLE A.5.1-M.1. M.1/M.81/M.11D to Link 16 Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
M.1/M.81	J2.0
M.11D	J7.5

APPENDIX A

TABLE A.5.1-M.1. M.1/M.81/M.11D to Link 16 Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. A single J2.0 message shall be transmitted for each M.1 message sequence received on Link 11. In cases where two separate M.1 message sequences are received during a single transmit opportunity, the FJU may transmit a single J2.0 or a separate J2.0 for each M.1 sequence.
2. J2.0 messages shall be redundantly transmitted for all active units received from Link 11B.
3. The J2.0C1 shall be transmitted by the FJU with the next periodic update of the J2.0B message when IFF/SIF data are received.

DATA RETENTION RULES

1. The FJU shall retain track and IFF/SIF data on all active PUs and RUs for whom data are being forwarded.
2. Timers shall be maintained on each active PU and RU being forwarded for proper initiation of update PPLI messages or Drop Track messages.

APPENDIX A

TABLE A.5.1-M.2. M.2/M.82/M.11D to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM												TEST NODE CONDITION			NOTES			
												1. RECEIVED M.2 IS FOLLOWED BY AN M.82. 2. THIS IS INITIAL REPORT FROM PU/RU SOURCE FOR TN. 3. TQ = 0. 4. M.82 CONTAINS TIME. 5. ID OR PRI AMP HAS CHANGED. 6. FJU IS CONTROLLING UNIT AND ID OR ID AMP IS DIFFERENT FROM LOCALLY HELD DATA. 7. NEXT RECEIVED M.2/M.82 MESSAGE SEQUENCE IS FROM PU/RU SOURCE FOR TN. 8. NEXT RECEIVED M.11D OR M.11D/M.11D MESSAGE SEQUENCE HAS NONZERO CODES FROM PU/RU SOURCE FOR TN. 9. TYPE REPORT = 0.			1			
															1			
B B B B B B A A A A D D D D D D C C C C C C B B B Z Z Z Z Z Z F F F F F F Z Z Z															1,2			
A. DISCARD MESSAGE. B. FWD APPROPRIATE J3.2 MESSAGE. C. FWD APPROPRIATE J3.2 MESSAGE WITH NEW ID DATA. D. SET INDICATOR TO REINITIATE J3.2C1 WORD. E. SET INDICATOR TO TRANSMIT M.9A (AC = 6). F. FWD J7.5(ACT = 3). Z. END TRANSLATION.															3 3,4 3			

APPENDIX A

TABLE A.5.1-M.2. M.2/M.82/M.11D to Link 16 Message Translation Tree
(Sheet 2 of 4)

NOTES

1. The FJU shall check to determine if the next message received from the PU/RU Source is for the specified track number. This check will terminate after three Link 11/11B message frame times. Track report message sequences received from Link 11/11B include the following variations:

- o M.2,
- o M.2/M.82, or
- o M.2/M.82/M.2/M.82.

Additionally, M.11D messages may be included following the track report. The FJU shall include all data received when surveillance tracks are forwarded to Link 16.

2. Refer also to the M.11D to Link 16 message translation tree.

3. The FJU shall retain and update data received from the R² unit and track alert data or IFF/SIF clear data received from any source. The FJU shall forward all data held when the J3.2 message is transmitted. Additionally, the FJU shall retain and forward any values received from a JU for identity-related data (ref. section A.5.3, General Note 20) and for data elements not applicable to Link 11/11B.

4. When an ID or PRI AMP change is received without the amplifying message, all previously received M.82 message data will continue to be forwarded, except that the ID AMP will change to No Statement.

APPENDIX A

TABLE A.5.1-M.2. M.2/M.82/M.11D to Link 16 Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
M.2/M.82	J3.2
M.11D	J7.5

APPENDIX A

TABLE A.5.1-M.2. M.2/M.82/M.11D to Link 16 Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. When the initial sequence for an Air track is received from Link 11/11B, the FJU will set an indicator to initiate and transmit the appropriate J3.2 message with all data.
2. A J3.2I/J3.2E0 word sequence will be forwarded for each subsequent Link 11/11B Air Track message sequence received.
3. A J3.2I/J3.2E0/J3.2C1 word sequence will be transmitted every 8 transmissions of the J3.2B basic message for real-time Air tracks and will be reinitiated when: (1) M.11D IFF/SIF data are changed, (2) any M.2 or M.82 fields translatable to the J3.2C1 are changed, or (3) nonreal-time tracks are reported.
4. When the Forwarder is also the Controlling Unit for the track reported in the M.2 or M.2/M.82 pair, and the Identity data in the message(s) is different from locally held Identity data, the FJU shall transmit locally held Identity data in an M.9A (AC=6) Controlling Unit Report message at the next transmit opportunity to the link from which the differing data was received. The FJU also shall report the received (M.2 or M.2/M.82) identity data in the J3.2 message followed by a J7.0 (ACT=1) message containing its local identity information.

DATA RETENTION RULES

The FJU shall retain the latest reported ID, PRI AMP, ID AMP, IFF/SIF, and the status of the Emergency and Force Tell Indicators for all tracks being forwarded.

TABLE A.5.1-M.3. M.3/M.83/M.11D to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM												TEST NODE CONDITION		NOTES					
												1.	RECEIVED M.3 IS FOLLOWED BY AN M.83.	1					
												2.	THIS IS INITIAL REPORT FROM PU/RU SOURCE FOR TN.						
												3.	TQ = 0.						
												4.	M.83 CONTAINS TIME.						
												5.	ID OR PRI AMP HAS CHANGED.						
												6.	NEXT RECEIVED M.3/M.83 MESSAGE SEQUENCE IS FROM PU/RU SOURCE FOR TN.	1					
												7.	NEXT RECEIVED M.11D OR M.11D/M.11D MESSAGE SEQUENCE HAS NONZERO CODES FROM PU/RU SOURCE FOR TN.	1,2					
												8.	TYPE REPORT = 0.						
REQUIRED ACTION																			
B	B	B	B	B	B	A	B	B	B	A	A	C	C	B	B	B	A.	DISCARD MESSAGE.	3
D	E	Z	Z	Z	Z	D	E	Z	Z	D	D	E	Z	Z	Z	E.	FWD APPROPRIATE J3.3 MESSAGE.	3,4	
Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	F.	FWD APPROPRIATE J3.3 MESSAGE WITH NEW ID DATA.	3	
																G.	SET INDICATOR TO REINITIATE J3.3C1 WORD.		
																H.	FWD J7.5 (ACT = 3).		
																I.	END TRANSLATION.		

APPENDIX A

TABLE A.5.1-M.3. M.3/M.83/M.11D to Link 16 Message Translation Tree
(Sheet 2 of 4)

NOTES

1. The FJU shall check to determine if the next message received from the PU/RU Source is for the specified track number. This check will terminate after three Link 11/11B message frame times. Track report message sequences received from Link 11/11B include the following variations:

- o M.3,
- o M.3/M.83, or
- o M.3/M.83/M.3/M.83.

Additionally, M.11D messages may be included following the track report. The FJU shall include all data received when surveillance tracks are forwarded to Link 16.

2. Refer also to the M.11D to Link 16 message translation tree.

3. The FJU shall retain and update data received from the R² unit and track alert data or IFF/SIF clear data received from any source. The FJU shall forward all data held when the J3.3 message is transmitted. Additionally, the FJU shall retain and forward any values received from a JU for identity-related data (ref. section A.5.3, General Note 21) and for data elements not applicable to Link 11/11B.

4. When an ID or PRI AMP change is received without the amplifying message, all previously received M.83 message data will continue to be forwarded, except that the ID AMP will change to No Statement.

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TABLE A.5.1-M.3. M.3/M.83/M.11D to Link 16 Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
M.3/M.83	J3.3
M.11D	J7.5

APPENDIX A

TABLE A.5.1-M.3. M.3/M.83/M.11D to Link 16 Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. When the initial sequence for a Surface track is received from Link 11/11B, the FJU will set an indicator to initiate and transmit the appropriate J3.3 message with all data.
2. A J3.3I/J3.3E0 word sequence will be forwarded for each subsequent Link 11/11B Surface Track message sequence received.
3. A J3.3I/J3.3E0/J3.3C1 word sequence will be transmitted every 8 transmissions of the J3.3B basic message for real-time Surface tracks and will be reinitiated when: (1) M.11D IFF/SIF data are changed, (2) any M.3 or M.83 fields translatable to the J3.3C1 are changed, or (3) nonreal-time tracks are reported.

DATA RETENTION RULES

The FJU shall retain the latest reported ID, PRI AMP, ID AMP, IFF/SIF, and the status of the Emergency and Force Tell Indicators for all tracks being forwarded.

TABLE A.5.1-M.4A. M.4A/M.84A/M.4B/M.11D to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM														TEST NODE CONDITION							NOTES	
														1. CLASSIFICATION = 0 AND CLASSIFICATION AMPLIFICATION = 1-7. 2. RECEIVED M.4A OR M.4A/M.84A IS/ARE FOLLOWED BY M.4B. 3. DATA REPORT TYPE = 0-2. 4. CLASSIFICATION = 4 AND CLASSIFICATION AMPLIFICATION = 2. 5. DATA REPORT TYPE = 3 AND ASW POINT TYPE = 12. 6. NEXT RECEIVED M.11D OR M.11D MESSAGE SEQUENCE HAS NONZERO CODES FROM PU/RU SOURCE FOR TN. 7. TYPE REPORT = 0.							1	
														1. CLASSIFICATION = 0 AND CLASSIFICATION AMPLIFICATION = 1-7. 2. RECEIVED M.4A OR M.4A/M.84A IS/ARE FOLLOWED BY M.4B. 3. DATA REPORT TYPE = 0-2. 4. CLASSIFICATION = 4 AND CLASSIFICATION AMPLIFICATION = 2. 5. DATA REPORT TYPE = 3 AND ASW POINT TYPE = 12. 6. NEXT RECEIVED M.11D OR M.11D MESSAGE SEQUENCE HAS NONZERO CODES FROM PU/RU SOURCE FOR TN. 7. TYPE REPORT = 0.							1	
A A B B B C D D D E E E Z Z Z Z Z Z Z Z Z Z Z Z Z Z														REQUIRED ACTION								
A A B B B C D D D E E E Z Z Z Z Z Z Z Z Z Z Z Z Z Z														A. DISCARD MESSAGE. B. FWD J3.4 MESSAGE. C. SET INDICATOR TO REINITIATE J3.4C1 WORD. D. FWD J3.0 MESSAGE. E. FWD J7.5 (ACT = 3). Z. END TRANSLATION.							2	3

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TABLE A.5.1-M.4A. M.4A/M.84A/M.4B/M.11D to Link 16 Message Translation Tree
(Sheet 2 of 4)

NOTES

1. The FJU shall check to determine if the next message received from the PU/RU Source is for the specified track number. This check will terminate after three Link 11/11B message frame times. Track report message sequences received from Link 11/11B include the following variations:

- o M.4A
- o M.4A/M.84A
- o M.4A/M.84A/M.4B (Link 11 only)
- o M.4A/M.4B (Link 11 only)

Additionally, an M.11D message may be included following the track report. The FJU shall include all data received when surveillance tracks are forwarded to Link 16.

If the received M.4B message does not follow an M.4A or M.84A message, refer to the M.4B to Link 16 message translation tree.

If the received M.11D message does not follow an M.4A, M.84A, or M.4B message, refer to the M.11D to Link 16 message translation tree.

2. The FJU shall retain and update data received from the R² unit and track alert data or IFF/SIF clear data received from any source. The FJU shall forward all data held when the J3.4 message is transmitted.

3. When reporting NOTACK Area or FWDA information both Time of Activation and Time of Deactivation must be specified. Two J3.0 messages shall be transmitted sequentially, the first with Time Function set to value 1 and the second with Time Function set to value 2.

APPENDIX A

TABLE A.5.1-M.4A. M.4A/M.84A/M.4B/M.11D to Link 16 Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
M.4A/M.84A	J3.0
M.4B	J3.4
M.11D	J7.5

APPENDIX A

TABLE A.5.1-M.4A. M.4A/M.84A/M.4B/M.11D to Link 16 Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. When the initial sequence for a Subsurface track is received from Link 11/11B, the FJU shall set an indicator to initiate and transmit the appropriate J3.0 or J3.4 message with all data.
2. A J3.4I/J3.4E0 word sequence shall be forwarded for each subsequent Link 11/11B Subsurface track message sequence received.
3. A J3.4I/J3.4E0/J3.4C1 word sequence shall be transmitted when any field translatable to the J3.4C1 is received.
4. A J3.4I/J3.4E0/J3.4C2 word sequence shall be transmitted when DATUM Error is reported.
5. A J3.0I/J3.0E0 word sequence shall be forwarded for each subsequent Link 11/11B ASW Point message sequence received.
6. When defining a reference point which has course and speed, a J3.0I/J3.0E0/J3.0C2 word sequence shall be used.

DATA RETENTION RULES

The FJU shall retain the latest reported ID, IFF/SIF, and the status of the Emergency and Force Tell Indicators for all tracks being forwarded.

TABLE A.5.1-M.4B. M.4B to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ul style="list-style-type: none"> 1. RECEIVED M.4B HAS TN PREVIOUSLY REPORTED IN AN M.4 MESSAGE. 2. GMT CONTACT FIRST ACQUIRED OR GMT AT WHICH THE TRACK WAS OBSERVED AT THE POSITION PREVIOUSLY REPORTED IN M.4A, OR GMT AT WHICH DATUM WAS ESTABLISHED. 3. GMT OF EFFECTIVE COMMENCEMENT TIME FOR THE NOTACK AREA. 4. GMT AT WHICH THE ACOUSTIC BEARING WAS ESTABLISHED. 5. TIME SWITCH = 3. 6. M.4A DATA REPORT TYPE = 0-2. 	1
	REQUIRED ACTION	
B A A A C B D Z Z Z Z Z Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD APPROPRIATE J3.4 MESSAGE. C. FWD APPROPRIATE J3.0 MESSAGE. D. FWD APPROPRIATE J5.4 MESSAGE. Z. END TRANSLATION. 	

APPENDIX A

TABLE A.5.1-M.4B. M.4B to Link 16 Message Translation Tree (Sheet 2 of 4)

NOTES

1. The FJU shall check to determine if the track number has been previously received in a valid M.4A, M.4C, or M.4D. An M.4B may be received alone in a transmission opportunity and is valid if the track number has been established in a valid M.4A, M.4C, or M.4D in a previous transmission opportunity. Message sequences received from Link 11 include the following variations:

- o M.4A/M.4B
- o M.4A/M.84A/M.4B
- o M.4B
- o M.4C/M.84C/M.4B
- o M.4D/M.84D/M.4B

Additionally, M.11D messages may be included following the track report. The FJU shall include all data received when surveillance tracks are forwarded to Link 16.

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TABLE A.5.1-M.4B. M.4B to Link 16 Message Translation Tree (Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B MESSAGE</u>	<u>ALL POSSIBLE LINK 16 MESSAGES THAT MAY BE REQUIRED</u>
M.4B	J3.0
	J3.4
	J5.4

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TABLE A.5.1-M.4B. M.4B to Link 16 Message Translation Tree (Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

When an independent M.4B is received, the appropriate J3.0, J3.4 or J5.4 message shall be transmitted including the new M.4B data.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-M.4C. M.4C/M.84C/M.4B to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
<pre> graph TD N1[1] -- N --> N2[2] N2 -- N --> N3[3] N3 -- N --> N4[4] N4 -- N --> N5[3] N5 -- N --> N6[4] N1 -- Y --> Y1[] N2 -- Y --> Y2[] N3 -- Y --> Y3[] N4 -- Y --> Y4[] N5 -- Y --> Y5[] N6 -- Y --> Y6[] </pre>	<ul style="list-style-type: none"> 1. RECEIVED M.4C IS FOLLOWED BY AN M.84C MESSAGE. 2. RECEIVED M.4C/M.84C IS FOLLOWED BY AN M.4B MESSAGE. 3. SWITCH = 0. 4. SWITCH = 2 OR 3. 	1 1,2 2
	REQUIRED ACTION	
A A A B C C D D Z Z Z Z Z Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. DISCARD M.4B MESSAGE. C. FWD APPROPRIATE J5.4 MESSAGE. D. FWD APPROPRIATE J3.0 MESSAGE. Z. END TRANSLATION. 	

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TABLE A.5.1-M.4C. M.4C/M.84C/M.4B to Link 16 Message Translation Tree
(Sheet 2 of 4)

NOTES

1. The FJU shall check to determine if the next message received from the PU/RU source is for the specified track number. This check will terminate after three Link 11 message frame times. Message sequences received from Link 11 include the following variations:

- o M.4C/M.84C
- o M.4C/M.84C/M.4B

2. If the received M.4B message does not follow an M.84C message, refer to the M.4B to Link 16 Message Translation Tree.

APPENDIX A

TABLE A.5.1-M.4C. M.4C/M.84C/M.4B to Link 16 Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
M.4C/M.84C	J3.0
M.4B	J5.4

APPENDIX A

TABLE A.5.1-M.4C. M.4C/M.84C/M.4B to Link 16 Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. When the initial sequence for sonobuoy or reference sonobuoy position is received from Link 11, the FJU shall set an indicator to initiate and transmit the appropriate J3.0 (Point Amplification 9 or 10) message with all data.
2. A J3.0I/J3.0E0 (Point Amplification 9 or 10) word sequence shall be forwarded for each subsequent Link 11 sonobuoy or reference sonobuoy position message sequence received.
3. A J3.0I/J3.0E0/J3.0C3 (Point Amplification 9 or 10) word sequence shall be forwarded when any field translatable to the J3.0C3 is received.
4. When the initial sequence for an Acoustic Bearing message is received from Link 11, the FJU shall set an indicator to initiate and transmit the appropriate J5.4 message with all data.
5. A J5.4I/J5.4E0 word sequence shall be forwarded for each subsequent Link 11 Acoustic Bearing message received.
6. A J5.4I/J5.4E0/J5.4C1 word sequence shall be forwarded when any field translatable to the J5.4C1 is received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-M.4D. M.4D/M.84D/M.4B to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES									
<pre> graph TD N1[1] --- N1N1[N] N1 --- N1Y1[Y] N1Y1 --- N2[2] N2 --- N2N2[N] N2 --- N2Y2[Y] N2Y2 --- N3L[3] N2Y2 --- N3R[3] N3L --- N3LN1[N] N3L --- N3YN1[Y] N3R --- N3RN1[N] N3R --- N3YN2[Y] N3RN1 --- N4L[4] N3RN1 --- N4R[4] N4L --- N4LN2[N] N4L --- N4ZN2[Z] N4R --- N4RN2[N] N4R --- N4ZN3[Z] </pre>	<ul style="list-style-type: none"> 1. RECEIVED M.4D IS FOLLOWED BY AN M.84D MESSAGE AND RECEIVED M.4D/M.84D MESSAGE SEQUENCE IS LEGAL. 2. RECEIVED M.4D/M.84D IS FOLLOWED BY AN M.4B MESSAGE. 3. BEARING REPORT TYPE = 1. 4. M.84D(SW=0) BEARING INDICATOR = 1 OR M.84D(SW=1) BEARING INDICATOR = 1, OR NO M.84D(SW=1) RECEIVED. 	1 1,2									
	REQUIRED ACTION										
<table style="margin-left: auto; margin-right: auto;"> <tr> <td>A</td><td>A</td><td>A</td></tr> <tr> <td>B</td><td>B</td><td>B</td></tr> <tr> <td>Z</td><td>Z</td><td>Z</td></tr> </table>	A	A	A	B	B	B	Z	Z	Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD J5.4 MESSAGE. Z. END TRANSLATION. 	
A	A	A									
B	B	B									
Z	Z	Z									

APPENDIX A

TABLE A.5.1-M.4D. M.4D/M.84D/M.4B to Link 16 Message Translation Tree
(Sheet 2 of 4)

NOTES

1. Up to five M.4D and/or M.84D messages may be received in a legal M.4D/M.84D message sequence. After an M.4D message is received, the FJU must check the following messages until a message which is not an M.4D or M.84D from the same PU/RU source for the specified track number is received. The data from all messages in a legal M.4D/M.84D message sequence shall be forwarded in a single J5.4 message. The following are the only legal M.4D/M.84D message sequences:

- o M.4D(BSW=0 or 1), M.84D(SW=0).
- o M.4D(BSW=0 or 1), M.84D(SW=0), M.4D(BSW=2), M.84D(SW=1).
- o M.4D(BSW=0 or 1), M.84D(SW=0), M.4D(BSW=2), M.84D(SW=1), M.4D(BSW=3).
- o M.4D(BSW=0 or 1), M.84D(SW=0), M.4D(BSW=2), M.4D(BSW=3).
- o M.4D(BSW=0 or 1), M.84D(SW=0), M.4D(BSW=3).
- o M.4D(BSW=0 or 1), M.84D(SW=0), M.4D(BSW=2).

2. If the received M.4B message does not follow an M.84D message, refer to the M.4B to Link 16 Message Translation Tree.

APPENDIX A

TABLE A.5.1-M.4D. M.4D/M.84D/M.4B to Link 16 Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
M.4D/M.84D	J5.4
M.4B	

APPENDIX A

TABLE A.5.1-M.4D. M.4D/M.84D/M.4B to Link 16 Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. When the initial sequence for an ASW Bearing is received from Link 11, the FJU shall set an indicator to initiate and transmit the appropriate J5.4 message with all data.
2. A J5.4I/J5.4E0 word sequence shall be forwarded for each subsequent Link 11 Acoustic Bearing message received.
3. A J5.4I/J5.4E0/J5.4C1 and/or J5.4C2 word sequence shall be forwarded when any field translatable to the J5.4C1 and/or J5.4C2 is received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-M.5. M.5/M.85/M.11D to Link 16 Message Translation Tree (Sheet 1 of 4)

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TABLE A.5.1-M.5. M.5/M.85/M.11D to Link 16 Message Translation Tree
(Sheet 2 of 4)

NOTES

1. The FJU will check to see if the next message received from the PU/RU source is related, e.g., M.5/M.85 message sequence, or is a second M.5/M.85 message sequence for the same object reporting M.85 alternative data. Note that in cases where the REF = 1 or 2 in the M.85 message, the M.5 message and the M.85 message will have different track numbers. The check will terminate upon receipt of an unrelated message or after three Link 11/11B time frames, whichever occurs first.
2. M.5 Point = 3 is not translated. M.5 Point = 11-12 are Undefined. The following Point Amplify values of Points other than 7 are Undefined:

<u>Point</u>	<u>Point Amplify</u>
0	1-7
1	1-7
5	4, 7
8	2-7
9	2-7
10	2-7
13	7

3. The FJU shall check to determine if M.11D message(s) having IFF/SIF data for the PU/RU follow(s) the M.5 or M.5/M.85 sequences. This check will terminate after three Link 11/11B message frame times.
4. The J2.0 message is not initiated by receipt of an M.5 message on Link 11. In cases where R/P=1 in the M.1 message, positional and other data are reported in M.5 or M.5/M.85 message(s). In these latter cases the most current M.5/M.85 data are included in J2.0 transmissions until superseded by a new M.5 or M.5/M.85 message sequence.

APPENDIX A

TABLE A.5.1-M.5. M.5/M.85/M.11D to Link 16 Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
M.5	J2.0
M.5/M.85	J3.0
M.11D	J3.1
	J3.5
	J3.7
	J7.5
	J14.0

APPENDIX A

TABLE A.5.1-M.5. M.5/M.85/M.11D to Link 16 Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. J2.0 messages are redundantly transmitted at the Link 16 rate for all active units that have been received on Link 11B. In all other cases a single Link 16 message shall be forwarded for each M.5 message or M.5/M.85 message sequence received. In cases where a second M.5/M.85 message sequence is received, reporting alternative data in the same opportunity, a single Link 16 message shall be forwarded.
2. The J2.0C1 shall be transmitted by the FJU with the next periodic update of the J2.0B message when IFF/SIF data are received.
3. Upon forwarding a J3.0 or J3.5 (PTI = 0) message, the FJU shall transmit periodic updates at a RRN = 3 (96 seconds, 1.2-2 minute interval).

DATA RETENTION RULES

1. The FJU shall retain track and IFF/SIF data on all PUs, RUs, and SUs being forwarded.
2. Timers shall be retained on each active IU being forwarded for proper initiation of update PPLI messages or Drop Track messages.

TABLE A.5.1-M.6A. M.6A to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. TRACK NUMBER, ORIGIN HAS BEEN PREVIOUSLY REPORTED.	1
REQUIRED ACTION		
A B C Z Z	A. DISCARD MESSAGE. B. FWD APPROPRIATE J3.7 MESSAGE SEQUENCE. C. FWD APPROPRIATE J14.0 MESSAGE SEQUENCE. Z. END TRANSLATION.	2 2

APPENDIX A

TABLE A.5.1-M.6A. M.6A to Link 16 Message Translation Tree (Sheet 2 of 4)

NOTES

1. Simulated M.6A messages shall not be forwarded as J14.0 messages. (See paragraph A.4.8.5)
2. Forward J3.7 and J14.0 messages in accordance with the J3.7 and J14.0 message data element translation tables.

APPENDIX A

TABLE A.5.1-M.6A. M.6A to Link 16 Message Translation Tree (Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>

M.6A	J3.7
	J14.0

APPENDIX A

TABLE A.5.1-M.6A. M.6A to Link 16 Message Translation Tree (Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

One J3.7 message and one J14.0 message shall be transmitted for each M.6A received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-M.6B. M.6B/M.86B to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ul style="list-style-type: none"> 1. M.6B IMMEDIATELY FOLLOWED BY M.86B. 2. EVALUATION SWITCH = 0. 3. BEARING INDICATOR = 0. 4. PLATFORM = 0. 5. PLATFORM = 1, 6, OR 7. 6. BROAD CLASSIFICATION = 4 AND AMPLIFYING CHARACTERISTICS = 5. 	1
	REQUIRED ACTION	
	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD J3.7I/J3.7C1/J3.7C2/J3.7C4. C. FWD J3.7I/J3.7C4. D. FWD J3.7I/J3.7C1/J3.7C4. E. FWD J3.7I/J3.7C1/J3.7C2/J3.7C3. F. FWD J3.7I/J3.7C3. G. FWD J3.7I/J3.7C1/J3.7C3. H. FWD J14.0I/J14.0E0/J14.0C1/J14.0C2/J14.0C5. I. FWD J14.0I/J14.0E0/J14.0C1/J14.0C2. J. FWD J14.0I/J14.0E0. K. FWD J14.0I/J14.0E0/J14.0C5. L. FWD J14.0I/J14.0C1/J14.0C2/J14.0C3/J14.0C5. M. FWD J14.0I/J14.0C1/J14.0C2/J14.0C3. N. FWD J14.0I/J14.0C3. O. FWD J14.0I/J14.0C3/J14.0C5. Z. END TRANSLATION. 	<ul style="list-style-type: none"> 2

APPENDIX A

TABLE A.5.1-M.6B. M.6B/M.86B to Link 16 Message Translation Tree
(Sheet 2 of 4)

NOTES

1. Simulated M.6B messages shall not be forwarded as J14.0 messages. (See paragraph A.4.8.5)
2. The FJU shall check to determine if the M.6B/M.86B is immediately followed by an M.6C or M.6C/M.86C for the specified track number. This check will terminate after three Link 11/11B message frame times. If the M.6C or M.6C/M.86C is received immediately after the M.6B, the J14.0C4 word shall also be included in this word sequence.

APPENDIX A

TABLE A.5.1-M.6B. M.6B/M.86B to Link 16 Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
M.6B	J3.7
M.86B	J14.0

APPENDIX A

TABLE A.5.1-M.6B. M.6B/M.86B to Link 16 Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

One J3.7 message and one J14.0 message shall be transmitted for each M.6B/M.86B message sequence received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-M.6C. M.6C or M.6C/M.86C to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. M.6C IMMEDIATELY PRECEDED BY M.6B/M.86B WITH SAME TRACK NUMBER.	1
REQUIRED ACTION		
A B Z Z	A. DISCARD MESSAGE. B. FWD J14.0C4 WORD. Z. END TRANSLATION.	2

APPENDIX A

TABLE A.5.1-M.6C. M.6C or M.6C/M.86C to Link 16 Message Translation Tree
(Sheet 2 of 4)

NOTES

1. Simulated M.6C messages shall not be forwarded. (See paragraph A.4.8.5)
2. The J14.0C4 word shall be included in the J14.0 word sequence forwarding the M.6B/M.86B.

APPENDIX A

TABLE A.5.1-M.6C. M.6C or M.6C/M.86C to Link 16 Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
M.6C	J14.0
M.86C	

APPENDIX A

TABLE A.5.1-M.6C. M.6C or M.6C/M.86C to Link 16 Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

One J14.0 message shall be transmitted for each M.6C or M.6C/M.86C received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-M.6D. M.6D or M.6D/M.86D to Link 16 Message Translation Tree (Sheet 1 of 5)

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TABLE A.5.1-M.6D. M.6D or M.6D/M.86D to Link 16 Message Translation Tree (Sheet 2 of 5)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	10. CONTROL = 5. 11. FREQUENCY/FREQUENCY RANGE = 0. 12. Emitter Function and Emitter Number = 0. 13. CONTROL = 7, 12, OR 13 AND REFERENCED/CANCELLED CONTROL VALUE IS OTHER THAN 5 THROUGH 13. 14. CONTROL = 14 OR 15. 15. CONTROL = 6.	
REQUIRED ACTION		
		A. DISCARD MESSAGE. C. FWD J14.2I/J14.2E0. G. FWD J14.2I/J14.2E0/J14.2C1. H. FWD J14.2I/J14.2E0/J14.2C1/J14.2C3. I. FWD J14.2I/J14.2E0/J14.2C1/J14.2C3/J14.2C4. J. FWD J14.2I/J14.2E0/J14.2C1/J14.2C4. K. FWD J14.2I/J14.2E0/J14.2C2/J14.2C4. Z. END TRANSLATION.

APPENDIX A

TABLE A.5.1-M.6D. M.6D or M.6D/M.86D to Link 16 Message Translation Tree
(Sheet 3 of 5)

NOTES

1. The FJU shall discard all identical M.6D EW Control/Coordination (Addressee = 177 (octal) or no Addressee) messages received within 90 seconds after the initial message is received and forwarded.
2. The collective address of 177 (octal) is included as one for which data are being forwarded.

APPENDIX A

TABLE A.5.1-M.6D. M.6D or M.6D/M.86D to Link 16 Message Translation Tree
(Sheet 4 of 5)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>

M.6D	J14.2
M.86D	

APPENDIX A

TABLE A.5.1-M.6D. M.6D or M.6D/M.86D to Link 16 Message Translation Tree
(Sheet 5 of 5)

FORWARDING TRANSMIT REQUIREMENTS

1. The J14.2 message with other than R/C = 1 shall be redundantly forwarded until a Machine Receipt, or other appropriate reply, is received or until redundancy requirements are met. When redundancy requirements are met and a reply has been received for an Original (R/C = 0) EW Coordination and Control message, the FJU shall reply on Link 11 with an automatic CANTCO (R/C = 3).

2. The J14.2 message with R/C = 1 shall be forwarded three times on Link 16. The redundant M.6D(R/C=1) messages received will be discarded.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

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TABLE A.5.1-M.9A. M.9A to Link 16 Message Translation Tree (Sheet 1 of 10)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES																																																															
	<ul style="list-style-type: none"> 1. ACTION = 4. 2. ACTION = 5. 3. ACTION = 7. 4. TRACK NUMBER IS ACTIVE UNIT. 5. PU/RU SOURCE IS CURRENT R2 UNIT. 6. FOLLOWED BY M.9A(AC=0, AI=0). 7. ACTION = 0. 8. ACKNOWLEDGE INDICATOR = 0. 9. FOLLOWED BY TRACK REPORT. 	1																																																															
	REQUIRED ACTION																																																																
<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">A</td><td style="text-align: center;">A</td><td></td><td style="text-align: center;">A</td><td></td><td style="text-align: center;">B</td><td></td></tr> <tr> <td></td><td></td><td></td><td style="text-align: center;">C</td><td></td><td></td><td></td></tr> <tr> <td style="text-align: center;">C</td><td style="text-align: center;">C</td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td style="text-align: center;">D</td><td style="text-align: center;">D</td><td style="text-align: center;">D</td><td style="text-align: center;">C</td><td></td><td></td><td></td></tr> <tr> <td style="text-align: center;">E</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td style="text-align: center;">F</td><td style="text-align: center;">F</td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td style="text-align: center;">G</td><td style="text-align: center;">G</td><td style="text-align: center;">G</td><td></td><td></td><td></td><td></td></tr> <tr> <td style="text-align: center;">H</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td style="text-align: center;">Z</td><td style="text-align: center;">Z</td><td style="text-align: center;">Z</td><td style="text-align: center;">Z</td><td style="text-align: center;">Z</td><td style="text-align: center;">Z</td><td style="text-align: center;">I</td></tr> </table>	A	A		A		B					C				C	C						D	D	D	C				E							F	F						G	G	G					H							Z	Z	Z	Z	Z	Z	I	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. DO NOT FORWARD MESSAGE. C. SET INDICATOR TO PROCESS TRACK REPORT THAT FOLLOWS. D. FWD APPROPRIATE ALERT INDICATION IN TRACK REPORT. E. DECLARE UNIT INACTIVE IN FJU DATABASE. F. FWD J7.0 (ACT=0). G. GO TO TEST NODE 10. H. GO TO TEST NODE 11. I. GO TO TEST NODE 12. Z. END TRANSLATION. 	2
A	A		A		B																																																												
			C																																																														
C	C																																																																
D	D	D	C																																																														
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TABLE A.5.1-M.9A. M.9A to Link 16 Message Translation Tree (Sheet 2 of 10)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	10. STATUS INDICATOR = 0. 11. PU/RU SOURCE AND/OR SPI CHANGED. 12. ACTION = 6. 13. FJU IS CONTROLLING UNIT AND RECEIVES M.9A(AC=6) ON AN AIRCRAFT THAT IS NOT THE SUBJECT OF A HANDOVER. 14. ACTION = 1 AND ENVIRONMENT/CATEGORY = 1-2. 15. FJU IS CONTROLLING UNIT. 16. R2 UNIT IS ON LINK 16. 17. CONFLICT INDICATOR = 0. 18. CONFLICT INDICATOR CHANGED.	4,5
REQUIRED ACTION		
		6

TABLE A.5.1-M.9A. M.9A to Link 16 Message Translation Tree (Sheet 3 of 10)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES																					
	<p>19. ACTION = 2 AND ENVIRONMENT/CATEGORY = 1-2.</p> <p>20. FJU IS CONTROLLING UNIT.</p> <p>21. ACTION = 3.</p> <p>22. PU/RU ADDRESS IS A UNIT TO WHOM DATA ARE BEING FORWARDED BY THIS FJU.</p> <p>23. STATUS INDICATOR = 1.</p> <p>24. TN = 0.</p> <p>25. ACTION = 9 AND MODE INDICATOR = 0, 2-4, or 6.</p> <p>26. IFF/SIF ACTION CODE = 0.</p>	7																					
		REQUIRED ACTION																					
<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">A</td> <td style="text-align: center;">A</td> </tr> <tr> <td style="text-align: center;">N</td> <td style="text-align: center;">L</td> </tr> <tr> <td style="text-align: center;">O</td> <td></td> </tr> <tr> <td style="text-align: center;">T</td> <td></td> </tr> <tr> <td style="text-align: center;">V</td> <td></td> </tr> <tr> <td style="text-align: center;">Z</td> <td style="text-align: center;">U</td> </tr> <tr> <td style="text-align: center;">Z</td> <td style="text-align: center;">U</td> </tr> <tr> <td style="text-align: center;">Z</td> <td style="text-align: center;">Z</td> </tr> <tr> <td style="text-align: center;">Z</td> <td style="text-align: center;">Z</td> </tr> <tr> <td style="text-align: center;">Z</td> <td style="text-align: center;">Z</td> </tr> </table>		A	A	N	L	O		T		V		Z	U	Z	U	Z	Z	Z	Z	Z	Z	<p>A. DISCARD MESSAGE.</p> <p>L. RETAIN DATA IN FJU DATABASE.</p> <p>N. FWD J7.0 (ACT = 1, CUI = 1).</p> <p>O. SET INDICATOR TO TRANSMIT M.9A(AC=6).</p> <p>T. FWD J7.1.</p> <p>U. FWD J7.5.</p> <p>V. FWD J7.0 (ACT = 2).</p> <p>Z. END TRANSLATION.</p>	6
A	A																						
N	L																						
O																							
T																							
V																							
Z	U																						
Z	U																						
Z	Z																						
Z	Z																						
Z	Z																						

APPENDIX A

TABLE A.5.1-M.9A. M.9A to Link 16 Message Translation Tree (Sheet 4 of 10)

NOTES

1. The following messages or message sequences constitute valid track reports which follow the M.9A(AC=0) message. When the amplifying message as specified below is not received, the M.9A(AC=0) message shall be discarded.

- o M.2 (valid only on Link 11)
- o M.2/M.82
- o M.3 (valid only on Link 11)
- o M.3/M.83
- o M.4A
- o M.4A/M.84A
- o M.4C/M.84C
- o M.4D/M.84D
- o M.5
- o M.5/M.85
- o M.6A
- o M.6B/M.86B
- o M.9F/M.89F

The following messages or message sequences constitute valid track reports which follow the M.9A(AC=5) message. When the amplifying message as specified below is not received, the M.9A(AC=5) message shall be discarded. The M.9A (AC=5, STI=0) Emergency Alert shall also be discarded whenever an M.5, M.4A or M.4C translates to a J3.0 Reference Point message (i.e., M.5 Point Type = 2,4,5,6,8,9 or 10, M.4A Data Report Type = 3, or M.4C Switch = 2 or 3). The M.9A (AC=5) Alert shall also be discarded whenever an M.5 translates to a J3.1 Emergency Point message (i.e., M.5 Point Type = 7).

- o M.2/M.82
- o M.3/M.83
- o M.4A
- o M.4A/M.84A
- o M.4C/M.84C
- o M.4D/M.84D

APPENDIX A

TABLE A.5.1-M.9A. M.9A to Link 16 Message Translation Tree (Sheet 5 of 10)

NOTES (Continued)

1. (Continued)

- o M.5
- o M.6A
- o M.6B/M.86B
- o M.9A(AC=0, SI=1)

2. Refer to the specific Link 11/11B message to Link 16 message translation tree to determine the appropriate J series message to be forwarded.

3. If the FJU holds local data for the unit/track, the FJU shall assume R² for the unit/track rather than forwarding a Drop Track message.

4. Receipt of a change to the M.9A(AC=1) CI value shall be retained in the FJU database for transmission of the appropriate J3.x message.

5. If the FJU is retaining ID data received in a previous M.9A(AC=1, CI=0) or J7.0(ACT = 1) message for the same TN, discard this message.

6. The source, SPI, and Simulation Indicator data in the M.9A(AC=0) message from Link 11B and the track alert status data in the M.9A(AC=5 or 7) message must be retained in the FJU database for utilization in track reports. The controlling unit address in the M.9A(AC=6) message must also be retained for identity difference and change data order processing.

7. When the addressed unit is the FJU, it shall, when appropriate, respond with M.5(PT=13) messages in an initial report sequence for all active interface units for which data are being forwarded.

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TABLE A.5.1-M.9A. M.9A to Link 16 Message Translation Tree (Sheet 6 of 10)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
M.9A	J7.0(ACT = 0, 1, 2, 3, or 4)
	J7.1
	J7.5
	J10.5

APPENDIX A

TABLE A.5.1-M.9A. M.9A to Link 16 Message Translation Tree (Sheet 7 of 10)

FORWARDING TRANSMIT REQUIREMENTS

1. A single J7.0 message shall be forwarded for the first M.9A(AC=1, CI=0) message received from a non-R² unit, when the R² unit is on Link 16 and the FJU is neither the Controlling Unit nor the R² unit. The FJU shall discard all identical messages received within 30 seconds after the initial message is received.

a. M.9A(AC=1, CI=0) messages received from the R² unit resolving an Identity Conflict shall not be forwarded, but shall be used to clear the ID Difference Indicator field in the appropriate J3.x Surveillance message.

b. M.9A (AC=1, CI=0) messages shall not be forwarded when the R² unit is not on Link 16 or when the FJU is either the R² unit or the Controlling Unit. If the FJU is the Controlling Unit and the identity information received in the M.9A (AC=1, CI=0) message is different from locally held information, the FJU shall transmit an M.9A (AC=6) Controlling Unit Report message containing locally held identity information at the next transmit opportunity to the link from which the M.9A (AC=1, CI=0) was received.

c. If the FJU is the Controlling Unit and the R² unit is on Link 16, the FJU shall transmit its locally held identity data in a J7.0 (ACT=1) with the Controlling Unit Indicator set to value 1 and an M.9A (AC=6) at the next transmit opportunity to the link from which the M.9A (AC=1) was received.

d. M.9A (AC=1, CI=1) messages received from a non-R² unit shall be discarded.

e. M.9A (AC=1, CI=1) messages received from the R² unit shall not be forwarded, but shall be used to set the ID Difference Indicator field in the appropriate J3.x Surveillance message.

2. Forwarding of the M.9A (AC=2) is dependent on whether or not the FJU is the Controlling Unit:

APPENDIX A

TABLE A.5.1-M.9A. M.9A to Link 16 Message Translation Tree (Sheet 8 of 10)

FORWARDING TRANSMIT REQUIREMENTS (Continued)

2. (Continued)

a. If the FJU is not the Controlling Unit, a single J7.0 message shall be forwarded for each M.9A (AC=2) message received.

b. If the FJU is the Controlling Unit, the M.9A (AC=2) shall not be forwarded and the FJU shall transmit its locally held identity data in a J7.0 (ACT=1) with the Controlling Unit Indicator set to value 1. The FJU shall also transmit an M.9A (AC=6) at the next transmit opportunity to the link from which the M.9A (AC=2) was received.

3. A single J7.1 message shall be forwarded for each M.9A(AC=3) message received.

4. Only the first M.9A(AC=4) message received shall be forwarded. The FJU shall discard all identical messages received within 30 seconds after the initial message is received. A single J7.0 message shall be forwarded on the Surveillance NPG for the first M.9A(AC=4) received unless one of the following conditions exist. (Note, if the TN in the M.9A(AC=4) message is being reported in an M.6 or M.9F(Source=1) message, the J7.0 may be transmitted on both the Surveillance and EW NPGs.)

a. If the M.9A(AC=4) is received from a unit that does not have R² for the subject track, it shall not be forwarded.

b. If the FJU has local data on a track for which a valid M.9A(AC=4) is received and eligibility remains for the FJU to assume R², the FJU shall not forward the M.9A(AC=4) message, but shall assume R² and transmit the appropriate initial sequence messages at the next transmit opportunity onto all operational links, including the source link.

5. A single J7.0 message shall be forwarded for the first M.9A(AC=5) message received from a nonR² unit. When the first M.9A(AC=5) message is received

APPENDIX A

TABLE A.5.1-M.9A. M.9A to Link 16 Message Translation Tree (Sheet 9 of 10)

FORWARDING TRANSMIT REQUIREMENTS (Continued)

5. (Continued)

from the R² unit, the appropriate alert indication in the Link 16 series message will be set. This alert indication will be retained until terminated by any unit. The FJU shall discard all identical messages received within 30 seconds after the initial message is received and forwarded.

6. Forwarding of the M.9A (AC=6) is dependent on whether the FJU is the Controlling Unit of a track and whether that track is the subject of a Handover. In any case, the M.9A (AC=6) message identity data will not be used when forwarding surveillance data.

a. If the FJU is not the Controlling Unit, or the FJU is the Controlling Unit of a track that is the subject of a Handover, a single J10.5 message shall be forwarded for each M9.A (AC=6) message received.

b. If the FJU is the Controlling Unit of a track that is not the subject of a Handover, the received M.9A (AC=6) message shall not be forwarded. The FJU shall transmit an M.9A (AC=6) message at the next transmit opportunity on the link from which the M.9A (AC=6) was received, with own unit as the Controlling Unit.

7. A single J7.0 message shall be forwarded for the first M.9A (AC=7) message received. The FJU shall discard all identical messages received within 30 seconds after the initial message is received.

8. A single J7.5 message shall be forwarded for the first M.9A(AC=9) message received. The FJU shall discard all identical messages received within 30 seconds after the initial message is received and forwarded.

APPENDIX A

TABLE A.5.1-M.9A. M.9A to Link 16 Message Translation Tree (Sheet 10 of 10)

DATA RETENTION RULES

1. The SPI, Simulation Indicator, and Source data from the Link 11B M.9A(AC=0) message shall be retained in the FJU database for utilization in track reports.
2. The FJU shall retain the latest reported status of the Emergency and Force Tell Indicators for all tracks being forwarded.
3. The current controlling unit address received in an M.9A(AC=6, STI=0) shall be retained in the FJU database until control is terminated.
4. The FJU shall retain and update IFF/SIF information received in an M.9A(AC=9, ISAC=0) IFF/SIF Clear message received from any source.
5. The FJU shall retain ID data received in an M.9A(AC=1, CI=0) message from a nonR² unit for the track until the conflict has been resolved by the R² unit or an R² shift occurs.

TABLE A.5.1-M.9B. M.9B to Link 16 Message Translation Tree (Sheet 1 of 3)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES															
	<ul style="list-style-type: none"> 1. ACTION = 0-5. 2. ACTION = 6. 3. ACTION = 15. 4. ACTION = 7 AND NEITHER TN-1 NOR TN-2 EQUAL 0000, 0077, 0176, 0177, 7777 (OCTAL). 																
REQUIRED ACTION																	
<p style="text-align: center;">A</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>B</td> <td>B</td> <td></td> <td></td> <td></td> </tr> <tr> <td>C</td> <td>C</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> </tr> </table>	B	B				C	C				Z	Z	Z	Z	Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD J10.6. C. FWD J7.7. D. FWD J7.2. Z. END TRANSLATION. 	
B	B																
C	C																
Z	Z	Z	Z	Z													

APPENDIX A

TABLE A.5.1-M.9B. M.9B to Link 16 Message Translation Tree (Sheet 2 of 3)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B MESSAGE</u>	<u>ALL POSSIBLE LINK 16 MESSAGES THAT MAY BE REQUIRED</u>
M.9B	J7.2
	J7.7
	J10.6

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TABLE A.5.1-M.9B. M.9B to Link 16 Message Translation Tree (Sheet 3 of 3)

FORWARDING TRANSMIT REQUIREMENTS

1. A single J7.2, J7.7 or J10.6 message shall be transmitted for each M.9B(AC=0-7) message received.
2. A single J7.7 and J10.6 message shall be forwarded for each M.9B(AC=15) message received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

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TABLE A.5.1-M.9C. M.9C to Link 16 Message Translation Tree (Sheet 1 of 3)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. ADDRESSEE IS AN ACTIVE LINK 16 UNIT FOR WHOM DATA ARE BEING FORWARDED BY THIS FJU.	
	REQUIRED ACTION	
A B Z Z	A. DISCARD MESSAGE. B. FWD J7.3 TO ADDRESSEE. Z. END TRANSLATION.	

APPENDIX A

TABLE A.5.1-M.9C. M.9C to Link 16 Message Translation Tree (Sheet 2 of 3)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>

M.9C

J7.3

APPENDIX A

TABLE A.5.1-M.9C. M.9C to Link 16 Message Translation Tree (Sheet 3 of 3)

FORWARDING TRANSMIT REQUIREMENTS

A single J7.3 message shall be transmitted for each M.9C message received.

DATA RETENTION RULES

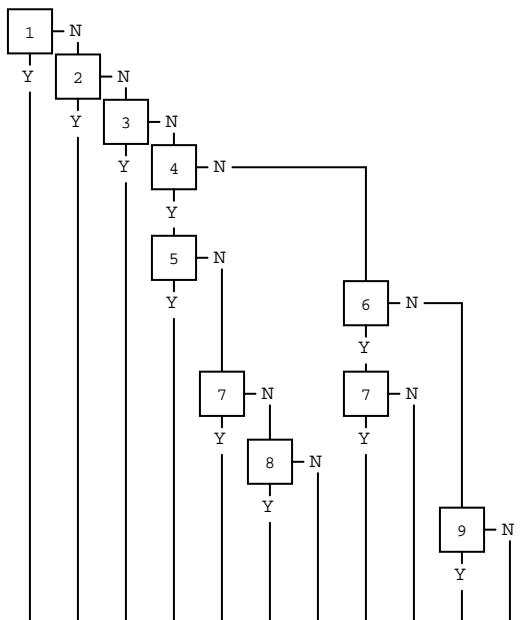
There are no Data Retention Rules associated with this message translation.

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TABLE A.5.1-M.9E. M.9E to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ul style="list-style-type: none"> 1. ACTION = 6 or 7. 2. ACTION = 5 AND SWITCH = 0. 3. ACTION = 3 AND SWITCH = 0. 4. ACTION = 1 AND NONE OF THE FOUR VOICE CALL COMPONENT CODES = 36-62. 5. TRACK NUMBER IS A POINT. 6. ACTION = 0. 7. M.9E IS PART OF HANDOVER SEQUENCE FOLLOWING A M.10A R/C = 0. 8. M.9E ORIGINATED BY UNIT CURRENTLY REPORTING CONTROL OF TRACK. 9. M.9E IS PART OF A SEQUENCE FOLLOWING A M.10A R/C=3. 	1
	REQUIRED ACTION	
A B B C D Z Z Z Z Z Z Z Z Z	<ul style="list-style-type: none"> A. DO NOT FORWARD MESSAGE. B. FWD J7.4. C. INCLUDE RELATED DATA IN FORWARDED J9.0 OR J10.3. D. INCLUDE RELATED DATA IN THE NEXT FORWARDED J10.5 FROM THE SAME SOURCE. Z. END TRANSLATION. 	1

APPENDIX A

TABLE A.5.1-M.9E. M.9E to Link 16 Message Translation Tree (Sheet 2 of 4)

NOTES

1. A voice call sign is sent on Link 11/11B only for Special Points and for controlled aircraft. An M.9E message with Voice Call Sign for a controlled aircraft is sent with a handover sequence or at variable rates depending upon circumstances. In the latter case, specific message sequences will not always be true. Therefore, the M.9E message data relating a Voice Call Sign which is not part of a handover sequence shall be included as a part of the next Controlling Unit Report forwarded from the same data source.

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TABLE A.5.1-M.9E. M.9E to Link 16 Message Translation Tree (Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
M.9E	J7.4
	J9.0
	J10.3
	J10.5

APPENDIX A

TABLE A.5.1-M.9E. M.9E to Link 16 Message Translation Tree (Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. A single J7.4 message shall be forwarded for each M.9E(AC=3 or 5) message received.
2. Only the specific M.9E message data that are received as a part of a handover sequence shall be forwarded in the related J9.0 or J10.3 message. If redundant transmission of the forwarded J9.0 or J10.3 message is required due to no machine receipt, the M.9E message data will be repeated. Forwarding a WILCO reply shall include only the M.9E message data that are reported as a part of the sequence following the M.10A (R/C=3) message.
3. An M.9E message reporting Voice Call Sign of a controlled aircraft which is not preceded by an M.10A message in the same transmit opportunity shall be forwarded as a part of the next Controlling Unit Report from the same source.
4. The voice call sign data contained in the M.9E message shall continue to be redundantly reported by the FJU with each J10.5 message forwarded until it is changed.

DATA RETENTION RULES

The FJU shall retain the latest reported Voice Call Sign.

TABLE A.5.1-M.9F-1. M.9F(0)/M.89F(0) to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES										
	<ul style="list-style-type: none"> 1. M.9F IMMEDIATELY FOLLOWED BY M.89F. 2. SOURCE = 1. 3. SOURCE = 2. 4. CATEGORY/PLATFORM = 3. 											
REQUIRED ACTION												
<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">A</td> <td style="text-align: center;">A</td> </tr> <tr> <td style="text-align: center;">B</td> <td style="text-align: center;">B</td> </tr> <tr> <td style="text-align: center;">C</td> <td></td> </tr> <tr> <td style="text-align: center;">D</td> <td></td> </tr> <tr> <td style="text-align: center;">Z</td> <td style="text-align: center;">Z</td> </tr> </table>		A	A	B	B	C		D		Z	Z	1 1
A	A											
B	B											
C												
D												
Z	Z											
<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD J3.7I/J3.7C1/J3.7C2. C. FWD J14.0I/J14.0C2. D. FWD J3.0I/J3.0E0/J3.0C2. Z. END TRANSLATION. 												

APPENDIX A

TABLE A.5.1-M.9F-1. M.9F(0)/M.89F(0) to Link 16 Message Translation Tree
(Sheet 2 of 4)

NOTES

1. The FJU shall check to determine if the M.9F(AC=0)/M.89F(AC=0) message is immediately followed by an M.9F(AC=1) for the specified track number. This check will terminate after three Link 11/11B message frame times. If the M.9F(AC=1) message is received immediately after the M.89F(AC=0), the J3.7C3 or J14.0C1, as appropriate, shall also be included in this word sequence.

APPENDIX A

TABLE A.5.1-M.9F-1. M.9F(0)/M.89F(0) to Link 16 Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
M.9F(0)	J3.0
M.89F(0)	J3.7 J14.0

APPENDIX A

TABLE A.5.1-M.9F-1. M.9F(0)/M.89F(0) to Link 16 Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

One J3.7 message and one J14.0 message or one J3.0 message, as appropriate, shall be transmitted for each M.9F(AC=0)/M.89F(AC=0) message received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-M.9F-2. M.9F(1) to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES																									
	<ul style="list-style-type: none"> 1. TRACK NUMBER HAS BEEN PREVIOUSLY RECEIVED IN M.9F(AC=0) MESSAGE. 2. M.89F(AC=0) SOURCE = 1. 3. M.89F(AC=0) CATEGORY/PLATFORM = 3. 4. SWITCH = 1. 5. THIS IS THE INITIAL M.9F(AC=1) WITH SWITCH = 1 FOR THIS TRACK NUMBER. 6. RELATED TRACK NUMBER HAS CHANGED. 																										
	REQUIRED ACTION																										
<table style="width: 100%; text-align: center;"> <tr> <td>A</td><td>A</td><td>A</td><td>A</td><td>A</td> </tr> <tr> <td>B</td><td>B</td><td>C</td><td>D</td><td>E</td> </tr> <tr> <td>Z</td><td>Z</td><td>Z</td><td>Z</td><td>Z</td> </tr> <tr> <td>F</td><td>F</td><td></td><td>F</td><td></td> </tr> <tr> <td>Z</td><td>Z</td><td>Z</td><td>Z</td><td>Z</td> </tr> </table>	A	A	A	A	A	B	B	C	D	E	Z	Z	Z	Z	Z	F	F		F		Z	Z	Z	Z	Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD J7.7I (ACT = 0). C. FWD J7.7I (ACT = 1). D. FWD J3.7I/J3.7C3. E. FWD J14.0I/J14.0C1. F. FWD J3.0I/J3.0C2. Z. END TRANSLATION. 	1 2 3 3 4
A	A	A	A	A																							
B	B	C	D	E																							
Z	Z	Z	Z	Z																							
F	F		F																								
Z	Z	Z	Z	Z																							

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TABLE A.5.1-M.9F-2. M.9F(1) to Link 16 Message Translation Tree
(Sheet 2 of 4)

NOTES

1. When an M.9F(AC=1) is received with Switch = 1 for the first time, the FJU shall transmit a J7.7 message with Track Number, Subject = M.9F Track Number and Track Number, Associated = M.9F Related Track Number. The PU/RU that originated the M.9F(AC=1) shall be reported as TN, Source of the J7.7 message.
2. When an M.9F(AC=1) is received with Switch = 1 and Related Track Number has changed from the previous report, the FJU shall transmit a J7.7 (ACT = 1) terminating the previous association, followed by a J7.7 (ACT = 0) with Track Number, Subject = M.9F Track Number and Track Number, Associated = the new M.9F Related Track Number.
3. If an M.9F(AC=0)/M.89F(AC=0) message sequence was received immediately preceding the M.9F(AC=1), the J3.7C3 and J14.0C1 words shall be included in the J3.7 and J14.0 messages resulting from the M.9F(AC=0)/M.89F(AC=0). Otherwise, J3.7I/J3.7C3 and J14.0I/J14.0C1 word sequences shall be forwarded.
4. If an M.9F(AC=0)/M.89F(AC=0) message sequence was received immediately preceding the M.9F(AC=1) message, Related Track Number or X Dot and Y Dot shall be translated to TN, Related or Course and Speed in the J3.0 message resulting from the M.9F(AC=0)/M.89F(AC=0). Otherwise, a J3.0I/J3.0E0/J3.0C2 word sequence shall be forwarded.

APPENDIX A

TABLE A.5.1-M.9F-2. M.9F(1) to Link 16 Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
M.9F(1)	J3.0
	J3.7
	J7.7
	J14.0

APPENDIX A

TABLE A.5.1-M.9F-2. M.9F(1) to Link 16 Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. One J3.7 message and one J14.0 message or one J3.0 message, as appropriate, shall be transmitted for each M.9F(AC=1) message received.
2. One J7.7 (ACT = 0) and one J7.7 (ACT = 1) message, as appropriate, shall be transmitted for each M.9F(AC=1) message received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-M.10A. M.10A to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES	
	<ul style="list-style-type: none"> 1. ADDRESSEE IS A UNIT TO WHOM DATA ARE BEING FORWARDED BY THIS FJU; ORDER = 0-6; AND R/C=0, 2-4, OR 6-7. 2. R/C = 2. 3. R/C = 0. 4. ADDRESSEE IS CURRENTLY INACTIVE. 5. ORDER = 0, 1, OR 6. 6. ORDER = 0 OR 1 AND R/C = 3 OR 4. 7. M.10A IS FOLLOWED BY ONE OR MORE M.9E (AC=0, 1, 2, OR 4) MESSAGE(S). 8. ORDER = 6 AND M.9E (AC=2 OR 4). 9. M.10A IS FOLLOWED BY M.9E (AC=1 OR 2). 	1 2,3 3 3	
<p>B B</p> <p>C</p> <p>D D D</p> <p>E</p> <p>F F</p> <p>G</p> <p>H H H</p> <p>Z Z Z Z Z Z Z Z Z Z</p>		REQUIRED ACTION	
<p>A A</p>		<p>A. DISCARD MESSAGE.</p> <p>B. DO NOT FORWARD MESSAGE.</p> <p>C. SET INDICATOR TO TRANSMIT M.10A CANTPRO WITH CANTPRO AMP = 5.</p> <p>D. FWD J10.3.</p> <p>E. SET INDICATOR TO INCLUDE J10.3C1 IN SEQUENCE.</p> <p>F. FWD J9.0.</p> <p>G. SET INDICATOR TO INCLUDE J9.OC1 IN SEQUENCE.</p> <p>H. SET INDICATOR TO INCLUDE J10.3E0 IN SEQUENCE.</p> <p>Z. END TRANSLATION.</p>	1

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TABLE A.5.1-M.10A. M.10A to Link 16 Message Translation Tree (Sheet 2 of 4)

NOTES

1. The FJU responds to each M.10A message, which is not discarded, with an M.10A CANTPRO message or an M.10A Machine Receipt (MR) message. The FJU shall originate an M.10A CANTPRO Response message only in response to an M.10A Original (R/C = 0) Handover message and then only in those cases shown in this table. The FJU shall respond with an M.10A MR message for those M.10A messages that are accepted for forwarding. The FJU then forwards a J9.0 message or a J10.3 message as appropriate on Link 16. If the FJU fails to receive a Link 16 MR or other reply, the data are forwarded a second time. If after two attempts a Link 16 MR or other reply is not received, the FJU shall send an M.10A CANTPRO message with CANTPRO AMP = 6 addressed to the originator of the M.10A Original (R/C = 0) message. If a Link 16 MR is not received for an M.10A, WILCO, CANTCO or CANTPRO reply message forwarded to Link 16, after two attempts to forward, the FJU takes no further action. If a reply is received from the addressee prior to the transmission of an M.10A MR message originated by the FJU, that reply may be transmitted instead of the FJU's M.10A MR message.

2. The FJU shall check to determine if the next message received from the PU/RU Source is for the specified track number. This check will terminate after three Link 11/11B message frame times.

3. The M.10A(Order=0 or 1, R/C=0) can only be followed by M.9E(AC=0 and/or 1). The M.10A(Order=0 or 1, R/C=3) can only be followed by M.9E(AC=2 and/or 4).

The M.10A(Order=6, R/C=0) can be followed by M.9E(AC=0, 1, 2, and/or 4). The M.10A(Order=6, R/C=3) cannot be followed by M.9E(AC=2 and/or 4).

The M.9E(AC=6) may be included following the M.10A, but is not forwarded.

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TABLE A.5.1-M.10A. M.10A to Link 16 Message Translation Tree (Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>

M.10A	J9.0
	J10.3

APPENDIX A

TABLE A.5.1-M.10A. M.10A to Link 16 Message Translation Tree (Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

The J9.0 message or the J10.3 message shall be redundantly forwarded until a Machine Receipt, or other appropriate reply, is received or until redundancy requirements are met. When redundancy requirements are met and a reply has not been received for an Original (R/C = 0) Handover message, the FJU shall reply on Link 11/11B with a CANTPRO (R/C = 7) and CANTPRO AMP equal to 6.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-M.11B. M.11B to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES																																			
<pre> graph TD 1[1] -- Y --> 2[2] 1 -- N --> 3_1[3] 2 -- Y --> 3_2[3] 2 -- N --> 4[4] 3_1 -- Y --> 4 3_1 -- N --> 3_2 3_2 -- Y --> 4 3_2 -- N --> 5[5] 4 -- Y --> 5 4 -- N --> 3_2 </pre>	<ol style="list-style-type: none"> 1. TN IS ACTIVE JU. 2. AIRCRAFT TYPE IS VALUE 1 THROUGH 20. 3. WEAPON TYPE IS TRANSLATABLE. 4. ORDNANCE D VALUE > 0. 5. RECEIVED M.11B IMMEDIATELY FOLLOWED BY ANOTHER M.11B FOR SAME TN FROM SAME SOURCE. 	1																																			
REQUIRED ACTION																																					
<table border="1"> <tr> <td>A</td> <td>B</td> <td>B</td> <td>B</td> <td>B</td> <td>B</td> <td>B</td> </tr> <tr> <td>C</td> <td>C</td> <td>C</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>D</td> <td>D</td> <td></td> <td>D</td> <td>D</td> <td></td> <td></td> </tr> <tr> <td>E</td> <td>E</td> <td>E</td> <td>E</td> <td>E</td> <td>E</td> <td>E</td> </tr> <tr> <td>Z</td> <td></td> <td></td> <td>F</td> <td></td> <td>Z</td> <td></td> </tr> </table>		A	B	B	B	B	B	B	C	C	C					D	D		D	D			E	E	E	E	E	E	E	Z			F		Z		
A	B	B	B	B	B	B																															
C	C	C																																			
D	D		D	D																																	
E	E	E	E	E	E	E																															
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<p>A.</p> <p>B.</p> <p>C.</p> <p>D.</p> <p>E.</p> <p>F.</p> <p>Z.</p>		1																																			
<p>DISCARD MESSAGE.</p> <p>FWD J13.2I.</p> <p>FWD J13.2C1 WORD.</p> <p>FWD J13.2C2 WORD.</p> <p>GO TO TEST NODE 5.</p> <p>GO TO TEST NODE 2.</p> <p>END TRANSLATION.</p>																																					

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APPENDIX A

TABLE A.5.1-M.11B. M.11B to Link 16 Message Translation Tree (Sheet 2 of 4)

NOTES

1. It is possible to receive sequential M.11B messages having different Fuel/Time Switch values in the same transmission opportunity. The FJU shall check the next message received to determine if it is another M.11B from the same PU/RU source for the same TN. The FJU accumulates the separate M.11B messages for transmission in a single J13.2 message. This check will terminate after three Link 11/11B message frame times if no other messages are received.

APPENDIX A

TABLE A.5.1-M.11B. M.11B to Link 16 Message Translation Tree (Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>

M.11B	J13.2
-------	-------

APPENDIX A

TABLE A.5.1-M.11B. M.11B to Link 16 Message Translation Tree (Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

A single J13.2 message shall be transmitted for each M.11B message or series of messages received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-M.11C. M.11C to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
 <pre> graph TD N1((N)) -- "Y" --> N2((N)) N2 -- "Y" --> N1 </pre>	<ol style="list-style-type: none"> AIRCRAFT TYPE IS RECEIVED WITH VALUE 2-4, 6, 7, 11, OR 12 SET. RECEIVED M.11C IS IMMEDIATELY FOLLOWED BY ANOTHER M.11C FOR SAME TN FROM SAME SOURCE. 	1
	REQUIRED ACTION	
A A B C C D Z	<ol style="list-style-type: none"> FWD J13.2 INCLUDING J13.2C3 WORD. SET INDICATOR TO INCLUDE J13.2C1 WORD. GO TO NEXT TEST NODE. GO TO TEST NODE 1. END TRANSLATION. 	

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APPENDIX A

TABLE A.5.1-M.11C. M.11C to Link 16 Message Translation Tree (Sheet 2 of 4)

NOTES

1. It is possible to receive sequential M.11C messages having different B-Frames in the same transmission opportunity. The FJU shall check the next message received to determine if it is another M.11C from the same PU/RU source for the same TN. The FJU accumulates the separate M.11C messages for transmission in a single J13.2 message. This check will terminate after three Link 11 message frame times if no other messages are received.

APPENDIX A

TABLE A.5.1-M.11C. M.11C to Link 16 Message Translation Tree (Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>

M.11C	J13.2
-------	-------

APPENDIX A

TABLE A.5.1-M.11C. M.11C to Link 16 Message Translation Tree (Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

A single J13.2 message shall be transmitted for each M.11C message or series of messages received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-M.11D. M.11D to Link 16 Message Translation Tree (Sheet 1 of 3)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
<pre> graph TD N1[1] -- N --> N2[2] N2 -- N --> N3[3] N1 -- Y --> Out1 N2 -- Y --> Out2 N3 -- Y --> Out3 </pre>	<ul style="list-style-type: none"> 1. TYPE REPORT = 1. 2. PU/RU SOURCE IS CURRENT R2 FOR TN. 3. NONZERO IFF/SIF DATA IS REPORTED. 	
	REQUIRED ACTION	
A A B C Z Z Z Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD J7.5 (ACT = 3). C. SET INDICATOR TO INCLUDE IFF/SIF DATA IN NEXT J2.0C1 OR J3.XC1 MESSAGE REPORT. Z. END TRANSLATION. 	

APPENDIX A

TABLE A.5.1-M.11D. M.11D to Link 16 Message Translation Tree (Sheet 2 of 3)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B MESSAGE</u>	<u>ALL POSSIBLE LINK 16 MESSAGES THAT MAY BE REQUIRED</u>
M.11D	J7.5(ACT = 3) J2.0C1 J3.0C1 J3.2C1 J3.3C1 J3.4C1 J3.5C1 J3.6C1 J3.7C1

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APPENDIX A

TABLE A.5.1-M.11D. M.11D to Link 16 Message Translation Tree (Sheet 3 of 3)

FORWARDING TRANSMIT REQUIREMENTS

A single J7.5 (ACT = 3) shall be forwarded for the first M.11D(TR=1) message received. The FJU shall discard all identical messages received within 30 seconds after the first message is received and forwarded.

DATA RETENTION RULES

The FJU shall retain and update IFF/SIF information received in an M.11D(TR=0) message from the R² unit.

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APPENDIX A

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TABLE A.5.1-M.11M. M.11M/M.811M to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. M.11M CATEGORY = 6.	1
REQUIRED ACTION		
A B Z Z		A. DISCARD MESSAGE. B. FWD J6.0. Z. END TRANSLATION.

APPENDIX A

TABLE A.5.1-M.11M. M.11M/M.811M to Link 16 Message Translation Tree
(Sheet 2 of 4)

NOTES

1. Upon receipt of a valid M.11M message or M.11M/M.811M message sequence, the FJU shall forward an appropriate J6.0 message. The FJU shall check to determine if the M.11M is followed by an M.811M. This check will terminate after three Link 11/11B message frame times.

APPENDIX A

TABLE A.5.1-M.11M. M.11M/M.811M to Link 16 Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
M.11M/M.811M	J6.0

APPENDIX A

TABLE A.5.1-M.11M. M.11M/M.811M to Link 16 Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. A single J6.0 message shall be forwarded for the first M.11M/M.811M message sequence received, unless Current Activity values 1 through 10 are reported. The redundant M.11M/M.811M message sequences shall be discarded.
2. When the M.11M/M.811M message sequence reports Current Activity values 1 through 10, the J6.0 message shall be forwarded three times, except that a change in the Current Activity shall interrupt the redundant transmission of the message containing the previous Current Activity. The redundant M.11M/M.811M message sequences shall be discarded.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-M.14. M.14 to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES										
<pre> graph TD N1[N1] -- N --> N2[N2] N2 -- N --> N3[N3] N3 -- N --> N4[N4] N4 -- N --> N5[N5] N1 -- Y --> Y1[N1_Y] N3 -- Y --> Y3[N3_Y] N5 -- Y --> Y5[N5_Y] </pre>	<ol style="list-style-type: none"> 1. W/ES = 0, 1, OR 12. 2. W/ES = 2, 5, 6, 8, OR 10 AND WEAPON TYPE = 0-10. 3. W/ES = 3 AND WEAPON TYPE = 0-2, 4, 6-8, OR 10. 4. W/ES = 4 OR 7 AND WEAPON TYPE = 1-10. 5. W/ES = 9 AND WEAPON TYPE = 0. 											
REQUIRED ACTION												
<p style="text-align: center;">A</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>B</td> <td>C</td> <td>C</td> <td>C</td> <td>C</td> </tr> <tr> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> </tr> </table>		B	C	C	C	C	Z	Z	Z	Z	Z	1
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Z	Z	Z	Z	Z								
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<p style="text-align: center;">B</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>A</td> <td>D</td> <td>F</td> <td>G</td> <td>H</td> </tr> <tr> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> </tr> </table>		A	D	F	G	H	Z	Z	Z	Z	Z	
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Z	Z	Z	Z	Z								
<p style="text-align: center;">C</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>E</td> <td>I</td> <td>J</td> <td>K</td> <td>L</td> </tr> <tr> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> </tr> </table>		E	I	J	K	L	Z	Z	Z	Z	Z	
E	I	J	K	L								
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<p style="text-align: center;">D</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>M</td> <td>N</td> <td>O</td> <td>P</td> <td>Q</td> </tr> <tr> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> </tr> </table>		M	N	O	P	Q	Z	Z	Z	Z	Z	
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<p style="text-align: center;">E</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>R</td> <td>S</td> <td>T</td> <td>U</td> <td>V</td> </tr> <tr> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> </tr> </table>		R	S	T	U	V	Z	Z	Z	Z	Z	
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<p style="text-align: center;">F</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>X</td> <td>Y</td> <td>Z</td> <td>W</td> <td>V</td> </tr> <tr> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> </tr> </table>		X	Y	Z	W	V	Z	Z	Z	Z	Z	
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<p style="text-align: center;">G</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>U</td> <td>V</td> <td>W</td> <td>X</td> <td>Y</td> </tr> <tr> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> </tr> </table>		U	V	W	X	Y	Z	Z	Z	Z	Z	
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<p style="text-align: center;">I</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>U</td> <td>V</td> <td>W</td> <td>X</td> <td>Y</td> </tr> <tr> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> </tr> </table>		U	V	W	X	Y	Z	Z	Z	Z	Z	
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<p style="text-align: center;">S</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>U</td> <td>V</td> <td>W</td> <td>X</td> <td>Y</td> </tr> <tr> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> </tr> </table>		U	V	W	X	Y	Z	Z	Z	Z	Z	
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<p style="text-align: center;">T</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>Y</td> <td>Z</td> <td>W</td> <td>V</td> <td>U</td> </tr> <tr> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> </tr> </table>		Y	Z	W	V	U	Z	Z	Z	Z	Z	
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<p style="text-align: center;">Z</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>Y</td> <td>Z</td> <td>W</td> <td>V</td> <td>U</td> </tr> <tr> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> <td>Z</td> </tr> </table>		Y	Z	W	V	U	Z	Z	Z	Z	Z	
Y	Z	W	V	U								
Z	Z	Z	Z	Z								

APPENDIX A

TABLE A.5.1-M.14. M.14 to Link 16 Message Translation Tree (Sheet 2 of 4)

NOTES

1. The Environment/Category of the M.14 TN Friendly Weapon System will determine whether the J13.2 Air, J13.3 Surface, J13.4 Subsurface, or J13.5 Land Platform and System Status message will be forwarded. If the Environment/Category of the M.14 TN Friendly Weapon System cannot be determined, a J13 Series message shall not be forwarded.

APPENDIX A

TABLE A.5.1-M.14. M.14 to Link 16 Message Translation Tree (Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
M.14	J10.2
	J13.2
	J13.3
	J13.4
	J13.5

APPENDIX A

TABLE A.5.1-M.14. M.14 to Link 16 Message Translation Tree (Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. Each Engagement Status message will be forwarded in the appropriate J10.2 message or J13 series message when received, unless W/ES = 5, 8, or 9.
2. When W/ES = 5, 8, or 9, the first Engagement Status message received will be forwarded in the appropriate J10.2 message in two consecutive transmit opportunities. The FJU shall discard redundant M.14 W/ES = 5, 8, or 9 messages received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE A.5.1-M.15. M.15 to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES																																				
<pre> graph TD 1[N1] -- N --> 2[N2] 2 -- N --> 3[N3] 2 -- Y --> 4[N4] 3 -- N --> 5[N5] 4 -- N --> 5 4 -- Y --> 6[N6] 5 -- N --> 7[N7] 6 -- N --> 7 </pre>	<ul style="list-style-type: none"> 1. ADDRESSEE IS A UNIT TO WHOM DATA ARE BEING FORWARDED BY THIS FJU, OR COMMAND = 0-8, OR 12-21; AND R/C = 0-4, OR 6-7. 2. R/C = 2. 3. ADDRESSEE IS ACTIVE OR TN, ADDRESSEE = 177 (OCTAL). 4. COMMAND = 16 OR 17 AND TN WEAPON SYSTEM/TN-1/ORIGINATOR = 27-4095. 5. COMMAND = 18 OR 19 AND TN WEAPON SYSTEM/TN-1/ORIGINATOR = 41-4095. 6. COMMAND = 0-8, OR 21. 7. R/C = 0. 	1,2 3																																				
	REQUIRED ACTION																																					
<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">A</td><td style="text-align: center;">A</td><td></td><td style="text-align: center;">A</td><td></td><td></td></tr> <tr> <td style="text-align: center;">B</td><td></td><td></td><td style="text-align: center;">B</td><td style="text-align: center;">B</td><td></td></tr> <tr> <td></td><td style="text-align: center;">C</td><td style="text-align: center;">C</td><td></td><td></td><td></td></tr> <tr> <td style="text-align: center;">Z</td><td style="text-align: center;">Z</td><td style="text-align: center;">Z</td><td style="text-align: center;">Z</td><td style="text-align: center;">Z</td><td style="text-align: center;">D</td></tr> <tr> <td></td><td></td><td></td><td style="text-align: center;">D</td><td style="text-align: center;">D</td><td style="text-align: center;">D</td></tr> <tr> <td></td><td></td><td></td><td style="text-align: center;">Z</td><td style="text-align: center;">Z</td><td style="text-align: center;">Z</td></tr> </table>	A	A		A			B			B	B			C	C				Z	Z	Z	Z	Z	D				D	D	D				Z	Z	Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. DO NOT FORWARD MESSAGE. C. FWD J9.0. D. SET INDICATOR TO TRANSMIT M.15 CANTPRO. Z. END TRANSLATION. 	
A	A		A																																			
B			B	B																																		
	C	C																																				
Z	Z	Z	Z	Z	D																																	
			D	D	D																																	
			Z	Z	Z																																	

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TABLE A.5.1-M.15. M.15 to Link 16 Message Translation Tree (Sheet 2 of 4)

NOTES

1. The collective address of 177 (octal) is included as one for which data are being forwarded. The FJU may forward M.15 Command messages to a link other than the one on which the addressee is active. In this case, R/C procedures do not apply. (See paragraph A.4.8.4)
2. The FJU shall discard all identical M.15 Command (Addressee = 177 (octal)) messages received within 90 seconds after the initial message is received and forwarded.
3. If the addressee is not active the FJU may forward J9.0 Command values 0-8 or 30 and transmit an M.15 CANTPRO back to the originator. If the FJU does not forward J9.0 Command values 0-8 or 30, the message shall be discarded and an M.15 CANTPRO shall be transmitted back to the originator. (See paragraph A.4.8.4)

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TABLE A.5.1-M.15. M.15 to Link 16 Message Translation Tree (Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 11/11B MESSAGE</u>	<u>ALL POSSIBLE LINK 16 MESSAGES THAT MAY BE REQUIRED</u>
M.15	J9.0

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TABLE A.5.1-M.15. M.15 to Link 16 Message Translation Tree (Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. The J9.0 message with other than R/C = 1 shall be redundantly forwarded until a Machine Receipt, or other appropriate reply, is received or until redundancy requirements are met. When redundancy requirements are met and a reply has not been received for an Original (R/C = 0) Command message, the FJU shall reply on Link 11/11B with a CANTPRO (R/C = 7).
2. The J9.0 message with R/C = 1 shall be forwarded three times on Link 16. The redundant M.15(R/C=1) messages received will be discarded.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

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A.5.2 DATA ELEMENT TRANSLATION

A.5.2.1 GENERAL

This section provides the data element translations between Link 16 (J-Series) and Link 11/11B (M-Series) messages as required by the message translation process in section A.5.1. The data element translations depict actions required to generate a message for transmission on a data link based on information received on another data link. Information in this section is presented in tabular form according to the message being generated.

A.5.2.2 DETAILED DESCRIPTION OF CONTENTS

Messages that can be forwarded are depicted by data element translation tables. The J-Series data element translation tables are presented first, followed by the M-Series data element translation tables.

A.5.2.2.1 DATA ELEMENT TRANSLATION TABLES

These tables are a data element by a data element depiction of the message to be generated with an indication of the source of the data to be used in the data element.

A.5.2.2.1.1 LINK 16 DATA ELEMENT TRANSLATION TABLES

Data element translation tables for Link 16 are presented in the following format:

TABLE A.5.2-Jn.m. Jn.m Message Data Element Translation from Link 11/11B							
LINK 16				LINK 11/11B			
		TRANSLATION					
WORD	DATA ELEMENT	VALUE	REQUIRED	MESSAGE	FIELD	VALUE	NOTES

where;

LINK 16 WORD = The Link 16 word being generated.

LINK 16 DATA ELEMENT = List of all data elements contained in the Link 16 word being generated.

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LINK 16 VALUE = Decimal value of the data element being generated unless otherwise noted.

TRANSLATION REQUIRED = An indication of the translation activity that is required to determine the correct value of the data element.

LINK 11/11B MESSAGE = Identifies the Link 11/11B message that contains the field corresponding to the data element.

LINK 11/11B FIELD = Identifies the field in the specified Link 11/11B message that corresponds to the data element.

LINK 11/11B VALUE = Decimal value of the field in the Link 11/11B message unless otherwise noted.

NOTES = Reference to amplifying information that must be taken into consideration to complete the data element translation process. A note number preceded by the letter "G" indicates a "General Note" that may be found in section A.5.3. A note number with no prefix indicates a note that is specifically stated within the translation table.

A.5.2.2.1.2 LINK 11/11B DATA ELEMENT TRANSLATION TABLES

Data element translation tables for Link 11/11B are presented in the following format:

TABLE A.5.2-M.x. M.x Message Data Element Translation from Link 16

LINK 11/11B				LINK 16			
				TRANSLATION			
<u>MESSAGE</u>	<u>FIELD</u>	<u>VALUE</u>	<u>REQUIRED</u>	<u>WORD</u>	<u>DATA ELEMENT</u>	<u>VALUE</u>	<u>NOTES</u>

where;

LINK 11/11B MESSAGE = The Link 11/11B message being generated.

LINK 11/11B FIELD = List of all fields contained in the Link 11/11B message being generated.

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LINK 11/11B VALUE = Decimal value of the field being generated unless otherwise noted.

TRANSLATION REQUIRED = An indication of the translation activity that is required to determine the correct value of the field.

LINK 16 WORD = Identifies the Link 16 word that contains the data element corresponding to the field.

LINK 16 DATA ELEMENT = The data element in the identified Link 16 word that corresponds to the field.

LINK 16 VALUE = Decimal value of the data element in the Link 16 message unless otherwise noted.

NOTES = Reference to amplifying information that must be taken into consideration to complete the data element translation process. A note number preceded by the letter "G" indicates a "General Note" that may be found in section A.5.3. A note number with no prefix indicates a note that is specifically stated within the translation table.

A.5.2.2.2 DATA ELEMENT TRANSLATION TABLE ENTRIES

Within the translation tables the following entries are used:

AT = As translated.

NA = Not available in the other message series.

RX = All valid values as received.

CR = Conversion is required.

AR = As required by the formats and protocols of the link on which the message will be transmitted.

= = Data element and bit field equivalence.

A.5.2.3 DEFAULT CONDITIONS

When the message required for data element translation has not been received, the default condition will be No Statement if defined, or 0.

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TABLE A.5.2-J.x. J Series Message Data Element Translation from Link 11/11B

Link 16			TRANSLATION			Link 11/11B		
WORD	DATA ELEMENT		VALUE	REQUIRED	MESSAGE	FIELD	VALUE	NOTES

There are no Link 11/11B messages that will stimulate the transmission of a J0 Series, J1 Series, J2.2, J2.3, J2.4, J2.5, J2.6, J3.6, J8.0, J8.1, J9.1, J12 Series, J13.0, J15.0, J16 Series, J17.0, J28 Series, J29 Series, J30 Series, J31 Series or RTT Message.

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TABLE A.5.2-J. HEADER Message Data Element Translation from Link 11/11B

WORD HEADER	DATA ELEMENT TIME SLOT TYPE	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE AR	REQUIRED NONE	MESSAGE NA			
	RELAYED TRANSMISSION INDICATOR	AR	NONE	NA	NA	NA	G1
	TYPE MODIFIER	AR	NONE	NA	NA	NA	
	TRACK NUMBER, SOURCE	AT	CR	See General Note 2	PU/RU Address	RX	G1, G2, G12
	SECURE DATA UNIT SERIAL NUMBER	AR	NONE	NA	NA	NA	

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TABLE A.5.2-J2.0. J2.0 Message Data Element Translation from Link 11/11B (Sheet 1 of 6)

Link 16				Link 11/11B			
WORD J2.0I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	2	CR	M.1 and/or M.5(PT=13)	LABEL LABEL	1 5	
	SUBLABEL, J-SERIES	0	CR	M.1 and/or M.5(PT=13)	LABEL LABEL	1 5	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	EXERCISE INDICATOR	0	NONE	NA	NA	NA	
	FORCE TELL INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	1	G4
	BAILOUT INDICATOR	0	NONE	NA	NA	NA	
	EMERGENCY INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	0	G4
	COMMAND AND CONTROL INDICATOR	1	NONE	NA	NA	NA	1
	SIMULATION INDICATOR	RX	=	M.1 or M.9A(AC=0)	SIMULATION INDICATOR, 1 SIMULATION INDICATOR	RX RX	G6 G6
A-375	TRACK NUMBER, SOURCE	AT	CR	M.1 or M.81 or M.5 or M.85	PU/RU ORIGINATOR PU/RU ORIGINATOR TRACK NUMBER/ADDRESS RELATED TRACK NUMBER/ TRACK NUMBER	RX RX RX RX	G12 G12 G12 G12
	FLIGHT LEADER INDICATOR	0	NONE	NA	NA	NA	
	MISSION COMMANDER INDICATOR	0	NONE	NA	NA	NA	
	GENERIC UNIT TYPE	0	NONE	NA	NA	NA	
	ALTITUDE, 25 FT	AT	CR	M.81 or M.85	HEIGHT/DEPTH SCALE INDICATOR ORIGINATOR ENVIRONMENT/ CATEGORY HEIGHT/DEPTH HEIGHT/DEPTH SWITCH	RX RX RX RX	5,G10 7,G10
	ALTITUDE QUALITY, GU	0	NONE	NA	NA	NA	

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TABLE A.5.2-J2.0. J2.0 Message Data Element Translation from Link 11/11B (Sheet 2 of 6)

Link 16				Link 11/11B			
WORD J2.0I (Cont'd)	DATA ELEMENT POSITION QUALITY, GU	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	SITE	AT	CR	M.5 or M.1	POINT POINT AMPLIFY PU/RU ORIGINATOR	13 RX RX	2
	UNIT TYPE	RX	=	M.81	UNIT TYPE	RX	
	ORIGINATOR ENVIRONMENT	RX	=	M.81	ORIGINATOR ENVIRONMENT/ CATEGORY	RX	
J2.0E0	WORD FORMAT	2	NONE	NA	NA	NA	
	LATITUDE 1, 0.0013 MINUTE	AT	CR	M.1 or M.5	REFERENCE/POSITION INDICATOR DELTA LATITUDE SCALE INDICATOR X COORDINATE Y COORDINATE	RX RX RX RX	3
	LONGITUDE 1, 0.0013 MINUTE	AT	CR	M.1 or M.5	REFERENCE/POSITION INDICATOR DELTA LONGITUDE SCALE INDICATOR X COORDINATE Y COORDINATE	RX RX RX RX	G9
	AIRBORNE INDICATOR	AT	CR	M.81	HEIGHT/DEPTH SCALE INDICATOR ORIGINATOR ENVIRONMENT/ CATEGORY	RX RX RX	6
	COURSE	AT	CR	M.81 or M.85	X DOT Y DOT ORIGINATOR ENVIRONMENT/ CATEGORY SWITCH X DOT Y DOT	RX RX RX 0 RX RX	G8

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TABLE A.5.2-J2.0. J2.0 Message Data Element Translation from Link 11/11B (Sheet 3 of 6)

Link 16				Link 11/11B			
WORD J2.0EO (Cont'd)	DATA ELEMENT SPEED	TRANSLATION			FIELD X DOT Y DOT ORIGINATOR ENVIRONMENT/ CATEGORY	VALUE RX	NOTES G8
		VALUE AT	REQUIRED CR	MESSAGE M.81 or			
				M.85	SWITCH X DOT Y DOT	0 RX RX	G8
J2.0C1	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	
	MODE I CODE	AT	CR	M.11D(TR=0)	SWITCH MODE I CODE	0 RX	4
	MODE II CODE	RX	=	M.11D(TR=0)	MODE II CODE	RX	
	MODE III CODE	RX	=	M.11D(TR=0)	SWITCH MODE III CODE	1 RX	
	ELEVATION, 25 FT	AT	CR	M.81 or	HEIGHT/DEPTH SCALE INDICATOR ORIGINATOR ENVIRONMENT/ CATEGORY	RX RX RX	5,G10
				M.85	HEIGHT/DEPTH HEIGHT/DEPTH SWITCH	RX RX	G10
	DEPTH, 15 METERS	AT	CR	M.81 or	HEIGHT/DEPTH	RX	5,G10, G11
					SCALE INDICATOR ORIGINATOR ENVIRONMENT/ CATEGORY	RX RX	
				M.85	HEIGHT/DEPTH	RX	7,G10, G11
					HEIGHT/DEPTH SWITCH	RX	
	DEPTH CATEGORY	0	NONE	NA	NA	NA	
	AIR PLATFORM	0	NONE	NA	NA	NA	

TABLE A.5.2-J2.0. J2.0 Message Data Element Translation from Link 11/11B (Sheet 4 of 6)

Link 16		TRANSLATION					Link 11/11B	
WORD	DATA ELEMENT	VALUE	REQUIRED	MESSAGE	FIELD	VALUE	NOTES	
J2.0C1 (Cont'd)	SURFACE PLATFORM	0	NONE	NA	NA	NA		
	SUBSURFACE PLATFORM	0	NONE	NA	NA	NA		
	LAND PLATFORM	0	NONE	NA	NA	NA		
	AIR ACTIVITY	0	NONE	NA	NA	NA		
	SURFACE ACTIVITY	0	NONE	NA	NA	NA		
	SUBSURFACE ACTIVITY	0	NONE	NA	NA	NA		
	LAND ACTIVITY	0	NONE	NA	NA	NA		
	MISSION CORRELATOR	0	NONE	NA	NA	NA		
J2.0C2	NOT TRANSLATED							
J2.0C3	NOT TRANSLATED							

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TABLE A.5.2-J2.0. J2.0 Message Data Element Translation from Link 11/11B
(Sheet 5 of 6)

NOTES

1. All M.1 and/or M.5(PT=13) messages translated relate to C² units; therefore, the J2.0 Command and Control Indicator is arbitrarily set to 1 when translating these messages. NonC² units, tracks, and points will be translated to a J3.x series message.
2. Site is determined from M.5 Point = 13, Point Amplify as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
SITE	POINT AMPLIFY
0 - NO STATEMENT	0 - NO STATEMENT
1 - FPU/FRU	1 - FPU/FRU
2 - PU	2 - PU
3 - RU	6 - APU
4 - JU	3 - RU
5 - FJU	4 - JU
7 - GU	5 - FJU
	7 - GU

If the M.1 is not accompanied by an M.5 message, the Site value should be set to 2 (PU) or 3 (RU) according to whether the M.1 PU/RU Address is in the range 001-076₈ or 100-175₈.

3. The Delta Latitude/Longitude is applied to a common Data Link Reference Point to determine Latitude and Longitude of the SCC. The Latitude and Longitude converted from the M.1 message are forwarded as unit position when the Reference/Position Indicator = 0. Otherwise, unit position will be converted from the M.5 message.
4. Valid Mode I codes for data link exchange shall range from 01 through 73 (octal) with 31 possible values, those values with least significant digit greater than 3 not being used. The Mode I field of the J2.0C1 IFF Codes are in the order A4, A2, A1, B2, B1, with the most significant bit A4 in bit position 12. The Mode I field of the M.11D IFF Codes are in the order A4, A2, A1, B4, B2, B1 (B4 is never set since the second digit never exceeds 3) and the most significant bit A4 is bit position 23.

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TABLE A.5.2-J2.0. J2.0 Message Data Element Translation from Link 11/11B
(Sheet 6 of 6)

NOTES (Continued)

5. If Originator Environment/Category = 3 (Air) then Altitude, 25 Ft in the J2.0I word shall be translated from Height/Depth and Elevation, 25 Ft in the J2.0C1 word shall be set to 2047. If Originator Environment/Category is set to 0 (Surface) or 2 (Land), then Altitude, 25 Ft shall be set to 8191 and Elevation, 25 Ft shall be translated from Height/Depth. If Originator Environment/Category is set to 1 (Subsurface), then Altitude, 25 Ft shall be set to 8191, and Elevation, 25 Ft shall be set to 2047, and Depth, 15 Meters in the J2.0C2 word shall be translated from Height/Depth.

6. If Originator Environment/Category = 3 (Air) and Height/Depth is greater than 0, then Airborne Indicator shall be set to 1 (Airborne). Airborne Indicator shall be set to 0 (Not Airborne) for all other combinations.

7. When there is no M.81 message available, e.g. with the M.1(R/P=1), M.1(R/P=1), M.5(PT=13), M.85 initial sequence, or when forwarding from Link 11B, the Originator Environment value shall be derived from the M.85 Height/Depth field and Height/Depth Switch bit as follows:

- a. Absence of any M.85 message indicates Land;
- b. A non-zero Height value indicates Air;
- c. A non-zero Depth value indicates Subsurface; and
- d. A zero Height/Depth value indicates Surface.

TABLE A.5.2-J3.0-1. J3.0 Message Data Element Translation from the M.4A/M.84A Message (Sheet 1 of 7)

Link 16				Link 11/11B			
WORD J3.0I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	3	CR	M.4A	LABEL	4	1
	SUBLABEL, J-SERIES	0	CR	M.4A	SUB_LABEL	0	1
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	EXERCISE INDICATOR	0	NONE	NA	NA	NA	
	FORCE TELL INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	1	G4
	SPECIAL PROCESSING INDICATOR	RX	=	M.1 or M.9A(AC=0)	SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR	RX RX	G5
	SIMULATION INDICATOR	RX	=	M.9A(AC=0)	SIMULATION INDICATOR	RX	G6
	TRACK NUMBER, REFERENCE	AT	CR	M.4A	TRACK NUMBER	RX	G13
	SLAVED INDICATOR	0	NONE	NA	NA	NA	
	LINE/AREA CONTINUATION INDICATOR	0	NONE	NA	NA	NA	
	TIME FUNCTION	AT	CR	M.4B M.84A M.84A or M.84A	TIME SWITCH ASW POINT TYPE NOTACK DURATION FWDA DURATION	RX RX RX RX	2
	POINT/LINE/AREA DESCRIPTOR, 1	AT	CR	M.84A	ASW POINT TYPE	RX	10
	POINT TYPE	7 or 8	CR	M.4A M.84A	DATA REPORT TYPE ASW POINT TYPE	3 RX	3
	POINT AMPLIFICATION	AT	CR	M.4A M.84A	DATA REPORT TYPE ASW POINT TYPE	3 RX	3
	MINUTE	AT	CR	M.4B	MINUTES TIME SWITCH	RX RX	4
	HOUR	AT	CR	M.4B	HOURS TIME SWITCH	RX RX	5

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TABLE A.5.2-J3.0-1. J3.0 Message Data Element Translation from the M.4A/M.84A Message (Sheet 2 of 7)

		Link 16			Link 11/11B		
WORD J3.0E0	DATA ELEMENT WORD FORMAT	VALUE 2	TRANSLATION		FIELD NA	VALUE NA	NOTES
			REQUIRED NONE	MESSAGE NA			
	TYPE OF BURST	0	NONE	NA	NA	NA	
	LATITUDE, 0.0103 MINUTE	AT	CR	M.4A	SCALE INDICATOR X COORDINATE Y COORDINATE	RX RX RX	G9
	ESTIMATED YIELD	0	NONE	NA	NA	NA	
	LONGITUDE, 0.0103 MINUTE	AT	CR	M.4A	SCALE INDICATOR X COORDINATE Y COORDINATE	RX RX RX	G9
	ALTITUDE, 100 FT 1	1023	NONE	NA	NA	NA	
	ALTITUDE, 100 FT 2	1023	NONE	NA	NA	NA	
A-382	J3.0C1	NOT TRANSLATED					
	J3.0C2	WORD FORMAT	1	NONE	NA	NA	NA
		CONTINUATION WORD LABEL	2	NONE	NA	NA	NA
		SPEED	AT	CR	M.84A	SPEED	RX 7
		TRACK NUMBER, RELATED	0	NONE	NA	NA	NA
		COURSE	AT	CR	M.84A	COURSE/BEARING INDICATOR COURSE/BEARING	RX 8
		SQUARE/CIRCLE SWITCH	AT	CR	M.4A M.84A	DATA REPORT TYPE ASW POINT TYPE	3 RX 6
		AXIS ORIENTATION	0	NONE	NA	NA	NA 9
		AREA MAJOR AXIS	AT	CR	M.84A	NOTACK RADIUS	RX 6
		AREA MINOR AXIS	AT	CR	M.84A	NOTACK RADIUS	RX 6
	J3.0C3	NOT TRANSLATED					
	J3.0C4	NOT TRANSLATED					
	J3.0C5	WORD FORMAT	0	NONE	NA	NA	NA

TABLE A.5.2-J3.0-1. J3.0 Message Data Element Translation from the M.4A/M.84A Message (Sheet 3 of 7)

WORD J3.0C5 (Cont'd)	Link 16				Link 11/11B		
	DATA ELEMENT CONTINUATION WORD LABEL	VALUE 5	TRANSLATION		FIELD NA	VALUE NA	NOTES
			REQUIRED NONE	MESSAGE NA			
	ENVIRONMENT	4	CR	M.84A	ASW POINT TYPE	13	
	SPACE AMPLIFICATION	0	NONE	NA	NA	NA	
	AIR AMPLIFICATION	0	NONE	NA	NA	NA	
	SURFACE AMPLIFICATION	0	NONE	NA	NA	NA	
	SUBSURFACE AMPLIFICATION	RX	CR	M.84A	TORPEDO TYPE	RX	G15
	LAND AMPLIFICATION	0	NONE	NA	NA	NA	
	AMPLIFICATION CONFIDENCE	0	NONE	NA	NA	NA	
	SQUARE/CIRCLE SWITCH	AT	CR	M.84A	SQUARE/CIRCLE SWITCH, 1	RX	11
	AXIS ORIENTATION	RX	=	M.84A	AXIS ORIENTATION	RX	
	AREA MAJOR AXIS, 4	RX	=	M.84A	AREA MAJOR AXIS	RX	
	AREA MINOR AXIS, 4	RX	=	M.84A	AREA MINOR AXIS	RX	
	SECOND	63	NONE	NA	NA	NA	
	TRACK NUMBER, RELATED 2	0	NONE	NA	NA	NA	
	LAUNCH POINT CALCULATION INDICATOR	0	NONE	NA	NA	NA	
J3.0C6	NOT TRANSLATED						

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TABLE A.5.2-J3.0-1. J3.0 Message Data Element Translation from the M.4A/M.84A
Message (Sheet 4 of 7)

NOTES

1. The J3.0 message is only translated from an M.4A message when Data Report Type is 3.
2. If data are forwarded when the M.4B is not received, the Time Function shall be forwarded as No Statement. The Time Function is determined from the M.4B Time Switch and M.84A ASW Point Type fields as follows:

Link 16	Link 11/11B	
TIME FUNCTION	TIME SWITCH	ASW POINT TYPE
0 - NO STATEMENT	0 - NO STATEMENT	All
1 - ACTIVATION TIME	1 - GMT OF ACQUISITION/ OBSERVATION/ ESTABLISHMENT/ COMMENCEMENT	12 or 13
5 - TIME POINT ESTABLISHED	1 - GMT OF ACQUISITION/ OBSERVATION/ ESTABLISHMENT/ COMMENCEMENT	All except 12 or 13

Both the Time of Activation and the Time of Deactivation shall be forwarded for NOTACK Areas or Friendly Weapon Danger Areas (FWDAs) (ASW Point Type 12 or 13). Two J3.0 messages shall be transmitted sequentially to report the times. The first J3.0 message reports the Activation Time as determined from the time given in the M.4B. If no M.4B is received, the NOTACK or FWDA message is not forwarded. The second J3.0 message reports the Deactivation Time as determined by translating the M.84A NOTACK or FWDA Duration value and adding the resulting Hours and Minutes to the Activation Time.

The J3.0 Deactivation Time (Time Function = 2) is determined by adding the translated M.84A NOTACK Duration value to the Activation Time for the NOTACK. The NOTACK Duration translation is as follows:

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TABLE A.5.2-J3.0-1. J3.0 Message Data Element Translation from the M.4A/M.84A Message (Sheet 5 of 7)

NOTES (Continued)

2. (Continued)

<u>Link 16</u>		<u>Link 11/11B</u>
HOUR	MINUTE	
0	30	NOTACK DURATION
1	0	1 - 30 MINUTES
1	30	0 - 1 HOUR
2	0	2 - 1 HOUR 30 MINUTES
		3 - 2 HOURS

3. The Point Type (PT) and Point Amplification fields are determined from the M.84A ASW Point Type field as follows:

<u>Link 16</u>		<u>Link 11/11B</u>
POINT TYPE	POINT AMPLIFICATION	ASW POINT TYPE
7 - ASW	0 - NO STATEMENT	0 - NO STATEMENT
	1 - SINKER	7 - ASW SUBSURFACE STATION
	2 - BRIEF CONTACT	14-63 - UNDEFINED
	3 - SEARCH CENTER (ASW)	1 - SINKER
	4 - ESTIMATED POSITION (EP)	2 - BRIEF CONTACT
	5 - FIX (ASW)	3 - ASW SEARCH CENTER
	6 - NOTACK AREA	11 - ESTIMATED POSITION
	10 - SONOBUOY PATTERN REFERENCE POSITION	10 - FIX
	13 - FRIENDLY WEAPON DANGER AREA (FWDA)	12 - NOTACK AREA
8 - ASW, 1	0 - CHARTED WRECK	4 - SONOBUOY PATTERN REFERENCE POSITION
	1 - BOTTOMED NONSUBMARINE	13 - FRIENDLY WEAPON DANGER AREA (FWDA)
	2 - ASW STATION	6 - CHARTED WRECK
		9 - BOTTOMED NONSUBMARINE
		5 - ASW STATION

4. The J3.0I Minute field is determined from the M.4B Minutes and Time Switch fields as follows:

<u>Link 16</u>	<u>Link 11/11B</u>	
MINUTE	TIME SWITCH	MINUTES
0-59 - 0 THROUGH 59	1	0-59 - 0 THROUGH 59
63 - NO STATEMENT	0, 2, 3	MINUTES Any

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TABLE A.5.2-J3.0-1. J3.0 Message Data Element Translation from the M.4A/M.84A
Message (Sheet 6 of 7)

NOTES (Continued)

5. The J3.0I Hour field is determined from the M.4B Hours and Time Switch fields as follows:

Link 16	Link 11/11B	
HOUR	TIME SWITCH	HOURS
0-23 (0-23 HOURS)	1	0-23 - 0 THROUGH 23 HOURS
31 - NO STATEMENT	0, 2, 3	ANY

6. If M.84A ASW Point Type = 12 (NOTACK Area), J3.0C2 Square/Circle Switch shall be set to value 2, and Area Major Axis and Area Minor Axis shall be equal, and determined from M.84A NOTACK Radius as follows:

Link 16	Link 11/11B
AREA MAJOR AXIS	NOTACK RADIUS
2 (8 dm)	2 (8 dm)
3 (12 dm)	3 (12 dm)
4 (16 dm)	4 (16 dm)
5 (20 dm)	5 (20 dm)

Other than the above case, J3.0C2 Square/Circle Switch, Area Major Axis, and Area Minor Axis shall be set to No Statement.

7. The Speed field is determined as follows:

Link 16	Link 11/11B
SPEED	SPEED
0-63 (0-126 Data Miles/Hour)	0-126 - 0 THROUGH 126 DM/HR
2047 - NO STATEMENT	127 - NO STATEMENT

Link 11/11B speed is in 1 dm/h increments, and Link 16 speed is in 2dm/h increments. Translate Link 11/11B to the nearest Link 16 increment, rounded up. For example, Link 11/11B speed of 33dm/h shall translate to 34 dm/h in Link 16 vice 32 dm/h.

8. The J3.0C2 Course field is determined from the M.84A Course/Bearing and Course/Bearing Indicator (CBI) fields as follows:

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TABLE A.5.2-J3.0-1. J3.0 Message Data Element Translation from the M.4A/M.84A
Message (Sheet 7 of 7)

NOTES (Continued)

8. (Continued)

<u>Link 16</u>	<u>Link 11/11B</u>	
<u>COURSE</u>	<u>COURSE/BEARING</u>	<u>COURSE/BEARING</u>
<u>INDICATOR</u>		
0-359 - 0 THROUGH 359 DEGREES	1	0-255 (0-358 19/32 Degrees)
511 - NO STATEMENT	0	Any

Link 11/11B Course/Bearing is in 360/256 degree increments, and Link 16 Course is in 1 degree increments. Translate Link 11/11B to the nearest Link 16 increment (.5 rounded up). For example, Link 11/11B Course/Bearing of 21 16/32 degrees shall translate to 22 degrees in Link 16 vice 21 degrees.

9. Since the M.84A reports a NOTACK Area with only a radius, the area will be a circle and the Axis Orientation field in the J3.0C2 word shall be set to 0 indicating True North.

10. When forwarding a NOTACK Area or FWDA, the J3.0 Point/Line/Area Descriptor, 1 field shall be set to value 1 (Single Point Area). Otherwise it shall be set to value 0 (Point).

11. When forwarding a Square/Circle value, the J3.0 Square/Circle Switch shall be set as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>SQUARE/CIRCLE SWITCH</u>	<u>SQUARE/CIRCLE SWITCH, 1</u>
1 - SQUARE/RECTANGULAR	0 - SQUARE/RECTANGLE
2 - CIRCULAR/ELLIPTICAL	1 - CIRCLE/ELLIPSE

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TABLE A.5.2-J3.0-2. J3.0 Message Data Element Translation from the M.4C/M.84C Message (Sheet 1 of 5)

Link 16				Link 11/11B			
WORD J3.0I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	3	CR	M.4C	LABEL	4	1
	SUBLABEL, J-SERIES	0	CR	M.4C	SUB_LABEL	2	1
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	EXERCISE INDICATOR	0	NONE	NA	NA	NA	
	FORCE TELL INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	1	G4
	SPECIAL PROCESSING INDICATOR	RX	=	M.1 or M.9A(AC=0)	SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR	RX RX	G5
	SIMULATION INDICATOR	RX	=	M.9A(AC=0)	SIMULATION INDICATOR	RX	G6
	TRACK NUMBER, REFERENCE	AT	CR	M.4C	TRACK NUMBER	RX	G13
	SLAVED INDICATOR	0	NONE	NA	NA	NA	
	LINE/AREA CONTINUATION INDICATOR	0	NONE	NA	NA	NA	
	TIME FUNCTION	AT	CR	M.84C	TIME REMAINING	RX	2
	POINT/LINE/AREA DESCRIPTOR, 1		NONE	NA	NA	NA	
	POINT TYPE	7	NONE	NA	NA	NA	
	POINT AMPLIFICATION	AT	CR	M.4C	SWITCH	RX	3
	MINUTE	AT	CR	M.84C	TIME REMAINING	RX	2
	HOUR	AT	CR	M.84C	TIME REMAINING	RX	2
J3.0EO	WORD FORMAT	2	NONE	NA	NA	NA	
	TYPE OF BURST	0	NONE	NA	NA	NA	
	LATITUDE, 0.0103 MINUTE	AT	CR	M.4C	SCALE INDICATOR X COORDINATE Y COORDINATE	RX RX RX	G9

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TABLE A.5.2-J3.0-2. J3.0 Message Data Element Translation from the M.4C/M.84C Message (Sheet 2 of 5)

		Link 16			Link 11/11B		
WORD J3.0E0 (Cont'd)	DATA ELEMENT ESTIMATED YIELD	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LONGITUDE, 0.0103 MINUTE	AT	CR	M.4C	SCALE INDICATOR X COORDINATE Y COORDINATE	RX RX RX	G9
	ALTITUDE, 100 FT 1	1023	NONE	NA	NA	NA	
	ALTITUDE, 100 FT 2	1023	NONE	NA	NA	NA	
J3.0C1	NOT TRANSLATED						
J3.0C2	NOT TRANSLATED						
J3.0C3	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	3	NONE	NA	NA	NA	
	CHANNEL NUMBER, SONOBUOY RF	AT	CR	M.4C M.84C	SWITCH CHANNEL AMPLIFY CHANNEL NUMBER	2 or 3 RX RX	4, G15
	DEPTH INDICATOR (SONOBUOY)	RX	=	M.84C	TRANSDUCER DEPTH	RX	
	DEPTH, TRANSDUCER (SONOBUOY)	0	NONE	NA	NA	NA	
	SONOBUOY TYPE	AT	CR	M.84C	TYPE	RX	
	SONOBUOY PATTERN	0	NONE	NA	NA	NA	
	SONOBUOY TYPE NUMBER	0	NONE	NA	NA	NA	5
	SONOBUOY SPACING	0	NONE	NA	NA	NA	
	SONOBUOY ROW SPACING	0	NONE	NA	NA	NA	
	SONOBUOY PATTERN RADIUS	0	NONE	NA	NA	NA	
	BEARING, ASW PLOT	511	NONE	NA	NA	NA	
	HOLDING CONTACT	RX	=	M.4C	CONTACT STATUS	RX	
J3.0C4	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	4	NONE	NA	NA	NA	

TABLE A.5.2-J3.0-2. J3.0 Message Data Element Translation from the M.4C/M.84C Message (Sheet 3 of 5)

WORD J3.0C4 (Cont'd)	DATA ELEMENT TRACK NUMBER, RELATED 1	TRANSLATION			Link 11/11B		
		VALUE 0	REQUIRED NONE	MESSAGE NA	FIELD NA	VALUE NA	NOTES
	SONOBUOY TYPE, 1	AT	CR	M.84C	TYPE, 1 SONOBUOY SWITCH	RX 1	5
	VHF CONFIRMATION	0	NONE	NA	NA	NA	
	SONOBUOY SUBTYPE	0	NONE	NA	NA	NA	
	BUOY WELLNESS	0	NONE	NA	NA	NA	
	SONOBUOY IDENTIFICATION	0	NONE	NA	NA	NA	
	CURRENT LIFE SETTING	0	NONE	NA	NA	NA	
	SONIC CHANNEL	0	NONE	NA	NA	NA	
	PAYLOAD DEPTH	0	NONE	NA	NA	NA	
	PAYLOAD REMAINING	0	NONE	NA	NA	NA	
	SONIC FREQUENCY	0	NONE	NA	NA	NA	
	POST ID	0	NONE	NA	NA	NA	
	ACOUSTIC GAIN CONTROL	0	NONE	NA	NA	NA	
	PROCESSOR MODE	0	NONE	NA	NA	NA	
	SONIC MODE	0	NONE	NA	NA	NA	
	TRANSMITTER STATUS	0	NONE	NA	NA	NA	
J3.0C5	NOT TRANSLATED						
J3.0C6	NOT TRANSLATED						

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TABLE A.5.2-J3.0-2. J3.0 Message Data Element Translation from the M.4C/M.84C
Message (Sheet 4 of 5)

NOTES

1. The J3.0 message is only translated from an M.4C message when the Switch value is 2 or 3. When the M.4C Switch value is 0 the J5.4 message is forwarded.
2. If the Time Remaining is received in an M.84C message, the J3.0 message will be forwarded with Time Function = 2 (Deactivation Time); otherwise, it will be forwarded with Time Function, Minute, and Hour all set to No Statement. Deactivation Time is determined by adding the translated M.84C Time Remaining value to the current time. The Time Remaining translation is as follows:

Link 16		Link 11/11B
HOUR	MINUTE	TIME REMAINING
0	0	0 (0 MINUTES)
	1	1 (< 2 MINUTES)
	4	2 (< 5 MINUTES)
	9	3 (< 10 MINUTES)
	14	4 (< 15 MINUTES)
	19	5 (< 20 MINUTES)
	24	6 (< 25 MINUTES)
	29	7 (< 30 MINUTES)
	59	8 (< 1 HOUR)
1	59	9 (< 2 HOURS)
2		10 (< 3 HOURS)
3		11 (< 4 HOURS)
4		12 (< 5 HOURS)
9		13 (< 10 HOURS)
10		14 (= OR > 10 HOURS)
31	63	15 (NO STATEMENT)

3. The Point Amplification field is determined from the M.4C Switch field as follows:

Link 16	Link 11/11B
POINT AMPLIFICATION	SWITCH
9 - SONOBUOY POSITION	2 - SONOBUOY POSITION
10 - SONOBUOY PATTERN REFERENCE POSITION	3 - REFERENCE SONOBUOY POSITION

4. The M.84C Channel Amplify field (7 bits) reports channel numbers 32 through 99. The Channel Number field (5 bits) reports channel numbers 1 through 31. If M.84C Channel Number is nonzero, J3.0C3 Channel Number, Sonobuoy RF, shall equate to M.84C Channel Number in accordance with General Note 15. If M.84C Channel

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TABLE A.5.2-J3.0-2. J3.0 Message Data Element Translation from the M.4C/M.84C
Message (Sheet 5 of 5)

NOTES (Continued)

4. (Continued)

Number = 0, the J3.0C3 Channel Number, Sonobuoy RF, shall equate to M.84C Channel Amplify if Channel Amplify = 32-99; otherwise, the J3.0C3 Channel Number, Sonobuoy RF field shall be set to value 0.

5. The Sonobuoy Type field and Sonobuoy Type, 1 field are determined from the M.84C Type, Type, 1 and Sonobuoy Switch fields as follows:

<u>Link 16</u>	<u>Link 11/11B</u>	
<u>SONOBUOY TYPE</u>	<u>SWITCH</u>	<u>TYPE</u>
0 - NO STATEMENT	0	0 - NO STATEMENT
1 - BT		10 - DISUSED
2 - LOFAR		11 - DISUSED
3 - RO		13 - DISUSED
4 - DIFAR		1 - BT
5 - VLA		2 - LOFAR
6 - CAMBS		3 - RO
7 - BARRA		4 - DIFAR
10 - VLAD		5 - VLA
12 - WIDE BAND LOFAR		6 - CAMBS
13 - DICASS		9 - BARRA
14 - ADAR		12 - VLAD
15 - NUAMP		14 - WIDE BAND LOFAR
		15 - DICASS
		7 - ADAR
		8 - NUAMP

<u>Link 16</u>	<u>Link 11/11B</u>	
<u>SONOBUOY TYPE, 1</u>	<u>SONOBUOY SWITCH</u>	<u>TYPE, 1</u>
0 - NO STATEMENT	1	0 - NO STATEMENT
1 - HIDAR		7-15 - UNDEFINED
2 - SSQ110		1 - HIDAR
3 - CAMBS6		2 - SSQ110
4 - ALFEA		3 - CAMBS6
5 - SSQ911		4 - ALFEA
6 - SSQ981D		5 - SSQ911
		6 - SSQ981D

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TABLE A.5.2-J3.0-3. J3.0 Message Data Element Translation from the M.5/M.85 Message (Sheet 1 of 9)

Link 16				Link 11/11B			
WORD J3.0I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	3	CR	M.5	LABEL	5	
	SUBLABEL, J-SERIES	0	CR	M.5	LABEL	5	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	EXERCISE INDICATOR	0	NONE	NA	NA	NA	
	FORCE TELL INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	1	G4
	SPECIAL PROCESSING INDICATOR	RX	=	M.1 or M.9A(AC=0)	SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR	RX	G5
	SIMULATION INDICATOR	RX	=	M.9A(AC=0)	SIMULATION INDICATOR	RX	G6
	TRACK NUMBER, REFERENCE	AT	CR	M.5	TRACK NUMBER/ADDRESS	RX	G13
	SLAVED INDICATOR	AT	CR	M.85	REFERENCE	RX	1
	LINE/AREA CONTINUATION INDICATOR	0	NONE	NA	NA	NA	
	TIME FUNCTION	AT	CR	M.85	SWITCH TIME SWITCH	1 RX	2
	POINT/LINE/AREA DESCRIPTOR, 1	0	NONE	NA	NA	NA	
	POINT TYPE	AT	CR	M.5	POINT POINT AMPLIFY	RX RX	3
	POINT AMPLIFICATION	AT	CR	M.5	POINT POINT AMPLIFY	RX RX	3
	MINUTE	AT	CR	M.85	SWITCH MINUTES	RX RX	4
	HOUR	AT	CR	M.85	SWITCH HOURS	RX RX	4

TABLE A.5.2-J3.0-3. J3.0 Message Data Element Translation from the M.5/M.85 Message (Sheet 2 of 9)

Link 16				Link 11/11B			
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		WORD FORMAT	VALUE	REQUIRED	MESSAGE		
J3.0E0	TYPE OF BURST	0	NONE		NA	NA	NA
	LATITUDE, 0.0103 MINUTE	AT	CR	M.5	SCALE INDICATOR	RX	5,G9
				M.85	X COORDINATE	RX	
					Y COORDINATE	RX	
					REFERENCE	0	
	ESTIMATED YIELD	0	NONE	NA	NA	NA	
	LONGITUDE, 0.0103 MINUTE	AT	CR	M.5	SCALE INDICATOR	RX	5,G9
				M.85	X COORDINATE	RX	
					Y COORDINATE	RX	
					REFERENCE	0	
	ALTITUDE, 100 FT 1	AT	CR	M.85	SWITCH	RX	6,G10
					HEIGHT/DEPTH SWITCH	0	
					HEIGHT/DEPTH	RX	
	ALTITUDE, 100 FT 2	1023	NONE	NA	NA	NA	
J3.0C1	WORD FORMAT	1	NONE	NA	NA	NA	5
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	
	DELTA LATITUDE, 0.0313 MINUTE 1	AT	CR	M.5	SCALE INDICATOR	RX	5,G9
				M.85	X COORDINATE	RX	
					Y COORDINATE	RX	
					RELATED TRACK NUMBER/	RX	
					TRACK NUMBER		
					REFERENCE	1 or 2	
				M.1 or	TRACK NUMBER	RX	
				M.2 or	TRACK NUMBER	RX	
				M.3 or	TRACK NUMBER	RX	
				M.4A or	TRACK NUMBER	RX	
				M.4B or	TRACK NUMBER	RX	
				M.4C or	TRACK NUMBER	RX	
				M.4D or	TRACK NUMBER	RX	
				M.5	(POSITION)	RX	
	DELTA LONGITUDE, 0.0313 MINUTE 1	AT	CR	M.5	SCALE INDICATOR	RX	5,G9
				M.85	X COORDINATE	RX	
					Y COORDINATE	RX	
					RELATED TRACK NUMBER/	RX	
					TRACK NUMBER		
					REFERENCE	1 or 2	

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TABLE A.5.2-J3.0-3. J3.0 Message Data Element Translation from the M.5/M.85 Message (Sheet 3 of 9)

Link 16				Link 11/11B			
WORD J3.0C1 (Cont'd)	DATA ELEMENT TYPE OF BURST	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LATITUDE, 0.0103 MINUTE	AT	CR	M.5 M.85	SCALE INDICATOR X COORDINATE Y COORDINATE REFERENCE	RX RX RX 0	5,G9
	ESTIMATED YIELD	0	NONE	NA	NA	NA	
	LONGITUDE, 0.0103 MINUTE	AT	CR	M.5 M.85	SCALE INDICATOR X COORDINATE Y COORDINATE REFERENCE	RX RX RX 0	5,G9
	ALTITUDE, 100 FT 1	AT	CR	M.85	SWITCH HEIGHT/DEPTH SWITCH HEIGHT/DEPTH	RX 0 RX	6,G10
	ALTITUDE, 100 FT 2	1023	NONE	NA	NA	NA	
	WORD FORMAT	1	NONE	NA	NA	NA	5
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	
	DELTA LATITUDE, 0.0313 MINUTE 1	AT	CR	M.5 M.85 M.1 or M.2 or M.3 or M.4A or M.4B or M.4C or M.4D or M.5	SCALE INDICATOR X COORDINATE Y COORDINATE RELATED TRACK NUMBER/ TRACK NUMBER REFERENCE TRACK NUMBER TRACK NUMBER TRACK NUMBER TRACK NUMBER TRACK NUMBER (POSITION)	RX RX RX RX RX RX RX RX RX	5,G9 1 or 2
	DELTA LONGITUDE, 0.0313 MINUTE 1	AT	CR	M.5 M.85	SCALE INDICATOR X COORDINATE Y COORDINATE RELATED TRACK NUMBER/ TRACK NUMBER REFERENCE	RX RX RX RX RX RX	5,G9 1 or 2

TABLE A.5.2-J3.0-3. J3.0 Message Data Element Translation from the M.5/M.85 Message (Sheet 4 of 9)

Link 16					Link 11/11B		
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		VALUE	REQUIRED	MESSAGE			
J3.0C1 (Cont'd)		M.1 or			TRACK NUMBER	RX	
		M.2 or			TRACK NUMBER	RX	
		M.3 or			TRACK NUMBER	RX	
		M.4A or			TRACK NUMBER	RX	
		M.4B or			TRACK NUMBER	RX	
		M.4C or			TRACK NUMBER	RX	
		M.4D or			TRACK NUMBER	RX	
		M.5		(POSITION)		RX	
	END POINT, 1	0	NONE	NA	NA	NA	
	DELTA LATITUDE, 0.0313 MINUTE 2	8192	NONE	NA	NA	NA	
J3.0C2	DELTA LONGITUDE, 0.0313 MINUTE 2	8192	NONE	NA	NA	NA	
	END POINT, 2	0	NONE	NA	NA	NA	
	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	2	NONE	NA	NA	NA	
	SPEED	AT	CR	M.85	SWITCH	RX	7, G8
					X DOT	RX	
					Y DOT	RX	
	TRACK NUMBER, RELATED	AT	CR	M.85	RELATED TRACK NUMBER / TRACK NUMBER REFERENCE	RX	5, 8, G13
	COURSE	AT	CR	M.85	SWITCH	RX	7, G8
					X DOT	RX	
J3.0C3	SQUARE/CIRCLE SWITCH		NONE	NA	Y DOT	RX	
	AXIS ORIENTATION	255	NONE	NA	NA	NA	
	AREA MAJOR AXIS	63	NONE	NA	NA	NA	
	AREA MINOR AXIS	63	NONE	NA	NA	NA	
	NOT TRANSLATED		NONE				
J3.0C4	WORD FORMAT	1	NONE	NA	NA	NA	8

TABLE A.5.2-J3.0-3. J3.0 Message Data Element Translation from the M.5/M.85 Message (Sheet 5 of 9)

Link 16				Link 11/11B			
WORD J3.0C4 (Cont'd)	DATA ELEMENT CONTINUATION WORD LABEL	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 4	REQUIRED NONE	MESSAGE NA			
	TRACK NUMBER, RELATED 1	AT	CR	M.85	RELATED TRACK NUMBER / TRACK NUMBER REFERENCE	RX 2	5,8, G13
	VHF CONFIRMATION	0	NONE	NA	NA	NA	
	SONOBUOY SUBTYPE	0	NONE	NA	NA	NA	
	BUOY WELLNESS	0	NONE	NA	NA	NA	
	SONOBUOY IDENTIFICATION	0	NONE	NA	NA	NA	
	CURRENT LIFE SETTING	0	NONE	NA	NA	NA	
	SONIC CHANNEL	0	NONE	NA	NA	NA	
	PAYLOAD DEPTH	0	NONE	NA	NA	NA	
	PAYLOAD REMAINING	0	NONE	NA	NA	NA	
	SONIC FREQUENCY	0	NONE	NA	NA	NA	
	POST ID	0	NONE	NA	NA	NA	
	ACOUSTIC GAIN CONTROL	0	NONE	NA	NA	NA	
	PROCESSOR MODE	0	NONE	NA	NA	NA	
	SONIC MODE	0	NONE	NA	NA	NA	
	TRANSMITTER STATUS	0	NONE	NA	NA	NA	
J3.0C5	NOT TRANSLATED						
J3.0C6	NOT TRANSLATED						

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TABLE A.5.2-J3.0-3. J3.0 Message Data Element Translation from the M.5/M.85
Message (Sheet 6 of 9)

NOTES

1. Slaved Indicator is determined from Reference as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>SLAVED INDICATOR</u>	<u>REFERENCE</u>
0	0
1	1

<u>Link 16</u>	<u>Link 11/11B</u>
<u>REFERENCE</u>	<u>TIME SWITCH</u>
0	1 - INDICATES THE GMT OF THE OBSERVATION/INFORMATION ON WHICH THE X AND Y IN THE M.5 IS ESTABLISHED.
1	0 - INDICATES THE GMT OF THE INITIAL OBSERVATION/INFORMATION ON WHICH THE ORIGINAL X AND Y IN THE ORIGINAL M.5 WAS ESTABLISHED.

2. When the M.85 Switch field value = 0, the Time Function field is set to 0.
When the M.85 Switch field value = 1, the Time Function field is determined from
the M.85 Time Switch field as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>TIME FUNCTION</u>	<u>TIME SWITCH</u>
0 - NO STATEMENT	1 - INDICATES THE GMT OF THE OBSERVATION/INFORMATION ON WHICH THE X AND Y IN THE M.5 IS ESTABLISHED.

<u>Link 16</u>	<u>Link 11/11B</u>
5 - TIME POINT ESTABLISHED	0 - INDICATES THE GMT OF THE INITIAL OBSERVATION/INFORMATION ON WHICH THE ORIGINAL X AND Y IN THE ORIGINAL M.5 WAS ESTABLISHED.

3. Point Type and Point Amplification are determined from Point and Point Amplify as follows:

<u>Link 16</u>	<u>POINT</u>	<u>AMPLIFICATION</u>
<u>POINT TYPE</u>		
0 - HAZARD	0 - NO STATEMENT	
	1 - NAVIGATION	
	2 - MINE	
	3 - IMPACT POINT	
	4 - GROUND ZERO	
	5 - AIM/WEAPON	
	ENTRY POINT	
	6 - MISSILE	
	LAUNCH POINT	
	7 - ELECTRONIC	
	ATTACK (EA)	
	DECoy	

<u>Link 11/11B</u>	<u>POINT</u>	<u>POINT AMPLIFY</u>
	2 - HAZARD	0 - NO STATEMENT
		1 - NAVIGATION
		2 - MINE
		3 - IMPACT POINT
		4 - GROUND ZERO
		5 - AIM/WEAPON
		ENTRY POINT
		6 - MISSILE
		LAUNCH POINT
		7 - EA DECOY

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TABLE A.5.2-J3.0-3. J3.0 Message Data Element Translation from the M.5/M.85
Message (Sheet 7 of 9)

NOTES (Continued)

3. (Continued)

Link 16		Link 11/11B	
POINT TYPE	POINT AMPLIFICATION	POINT	POINT AMPLIFY
1 - REFERENCE POINT (GENERAL)	8 - ENGAGEMENT POINT 9 - OIL RIG 0 - NO STATEMENT	10 - HAZARD, 1	0 - ENGAGEMENT POINT 1 - OIL RIG 0 - NO STATEMENT
2 - STATION (GENERAL)	1 - MARSHALL POINT 2 - WAYPOINT 3 - CORRIDOR TAB 4 - POSITION AND INTENDED MOVEMENT (PIM) 5 - DISPOSITION CENTER 6 - FORMATION CENTER 7 - SEARCH AREA 8 - VICTOR LIMA (VL)	4 - REFERENCE POINT (GENERAL)	1 - MARSHAL POINT 2 - WAYPOINT 3 - CORRIDOR TAB 4 - POSITION AND INTENDED MOVEMENT (PIM) 5 - DISPOSITION CENTER 6 - FORMATION CENTER 7 - SEARCH AREA 0 - VICTOR LIMA (VL)
3 - STATION (AIR)	9 - SUBMARINE POSITION AND INTENDED MOVEMENT (SIM) 0 - NO STATEMENT	8 - REFERENCE POINT (GENERAL), 1	1 - SUBMARINE POSITION AND INTENDED MOVEMENT (SIM) 0 - NO STATEMENT
	1 - TOMCAT 2 - PICKET 3 - RENDEZVOUS 5 - REPLENISHMENT 6 - RESCUE 0 - NO STATEMENT	5 - STATION (GENERAL)	1 - TOMCAT 2 - PICKET 3 - RENDEZVOUS 5 - REPLENISHMENT 6 - RESCUE 0 - NO STATEMENT
	1 - COMBAT AIR PATROL (CAP) 2 - AIRBORNE EARLY WARNING (AEW)	6 - STATION (AIR)	1 - COMBAT AIR PATROL (CAP) 2 - AIRBORNE EARLY WARNING (AEW)

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TABLE A.5.2-J3.0-3. J3.0 Message Data Element Translation from the M.5/M.85
Message (Sheet 8 of 9)

NOTES (Continued)

3. (Continued)

Link 16		Link 11/11B	
POINT TYPE	POINT AMPLIFICATION	POINT	POINT AMPLIFY
3 -	ANTISUBMARINE WARFARE (ASW) FIXED WING	3 -	ANTISUBMARINE WARFARE (ASW) FIXED WING
4 -	ANTISUBMARINE WARFARE (ASW) HELICOPTER (HELO)	4 -	ANTISUBMARINE WARFARE (ASW) HELICOPTER (HELO)
5 -	REPLENISHMENT	5 -	REPLENISHMENT
6 - STRIKE	INITIAL POINT (IP)	6 - STRIKE	INITIAL POINT (IP)
7 - TACAN		7 - TACAN	
8 - TANKER	9 - STATION (AIR), 1	0 - TANKER	
12 - ORBIT POINT		1 - ORBIT POINT	

4. When Switch = 0, the Link 16 Minute and Hour fields are set to No Statement. When Switch = 1, the Link 11/11B and Link 16 Minute and Hour fields are equivalent.

5. If M.85 Reference = 0, the J3.0E0 is translated. If M.85 Reference = 1 or 2, the J3.0C1 is translated. The FJU shall determine the difference in Latitude and Longitude between the position of the M.85 Related Track Number/Track Number (TN), if available from previous M.1, M.2, M.3, M.4, or M.5 messages, and the position of the slaved point as reported in the M.5 message. The position of the Related Track Number shall be extrapolated to the time in the M.85 message if Time Switch = 1, or to the time of receipt of the M.5/M.85 message if Time Switch = 0 or no M.85(SW=0) message is received. The difference shall be reported as Delta Latitude, 0.0313 Minute 1 and Delta Longitude, 0.0313 Minute 1 in the J3.0C1 message. If the position of Related TN is not available, the M.5/M.85 message with Reference = 1 or 2 shall not be forwarded.

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TABLE A.5.2-J3.0-3. J3.0 Message Data Element Translation from the M.5/M.85
Message (Sheet 9 of 9)

NOTES (Continued)

6. When Switch = 0, or when Switch = 1 and Height/Depth Switch = 1, Altitude, 100 Ft 1 shall be forwarded as No Statement. When Switch = 1 and Height/Depth Switch = 0, Altitude, 100 Ft 1 is derived from Height/Depth in accordance with General Note 10.
7. When Switch = 1, Speed and Course are forwarded as No Statement. When Switch = 0, Speed and Course are derived from X Dot and Y Dot in accordance with General Note 8.
8. When Reference = 0 or 2, J3.0C2 Track Number, Related shall be set to No Statement, if the J3.0C2 Word is translated. When Reference = 1, J3.0C2 Track Number, Related is translated from M.85 Related Track Number. The J3.0C4 word shall only be translated when Reference = 2.

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TABLE A.5.2-J3.0-4. J3.0 Message Data Element Translation from the M.9F(0)/M.89F(0) Message (Sheet 1 of 5)

Link 16				Link 11/11B			
WORD J3.0I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	3	CR	M.9F(0) or	LABEL	9	
	SUBLABEL, J-SERIES	0	CR	M.9F(1)	SUBLABEL	5	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	EXERCISE INDICATOR	0	NONE	NA	NA	NA	
	FORCE TELL INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	1	G4
	SPECIAL PROCESSING INDICATOR	RX	=	M.1 or M.9A(AC=0)	SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR	RX RX	G5
	SIMULATION INDICATOR	RX	=	M.9A(AC=0)	SIMULATION INDICATOR	RX	G6
	TRACK NUMBER, REFERENCE	AT	CR	M.9F(0)	TRACK NUMBER	RX	G13
	SLAVED INDICATOR	0	NONE	NA	NA	NA	
	LINE/AREA CONTINUATION INDICATOR	0	NONE	NA	NA	NA	
	TIME FUNCTION	AT	CR	M.89F(0)	MINUTES HOURS	RX RX	1
	POINT/LINE/AREA DESCRIPTOR, 1	1	CR	M.9F(0)			
	POINT TYPE	7	CR	M.89F(0)	CATEGORY/PLATFORM SOURCE	3 RX	3
	POINT AMPLIFICATION	12	CR	M.89F(0)	CATEGORY/PLATFORM SOURCE	3 RX	3
	MINUTE	RX	=	M.89F(0)	MINUTES	RX	
	HOUR	RX	=	M.89F(0)	HOURS	RX	
J3.0E0	WORD FORMAT	2	NONE	NA	NA	NA	

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TABLE A.5.2-J3.0-4. J3.0 Message Data Element Translation from the M.9F(0)/M.89F(0) Message (Sheet 2 of 5)

		Link 16			Link 11/11B		
WORD J3.0E0 (Cont'd)	DATA ELEMENT TYPE OF BURST	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LATITUDE, 0.0103 MINUTE	AT	CR	M.9F(0)	X COORDINATE Y COORDINATE	RX RX	G9
	ESTIMATED YIELD	0	NONE	NA	NA	NA	
	LONGITUDE, 0.0103 MINUTE	AT	CR	M.9F(0)	X COORDINATE Y COORDINATE	RX RX	G9
	ALTITUDE, 100 FT 1	1023	NONE	NA	NA	NA	
	ALTITUDE, 100 FT 2	1023	NONE	NA	NA	NA	
J3.0C1	NOT TRANSLATED						
J3.0C2	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	2	NONE	NA	NA	NA	
	SPEED	AT	CR	M.9F(1)	SWITCH X DOT Y DOT SCALE INDICATOR	RX RX RX RX	4 , G8
	TRACK NUMBER, RELATED	0	NONE	NA	NA	NA	
	COURSE	AT	CR	M.9F(1)	SWITCH X DOT Y DOT SCALE INDICATOR	RX RX RX RX	4 , G8
	SQUARE/CIRCLE SWITCH	AT	CR	M.89F(0)	SQUARE/CIRCLE SWITCH	RX	5
	AXIS ORIENTATION	AT	CR	M.89F(0)	BEARING	RX	G17
	AREA MAJOR AXIS	AT	CR	M.89F(0)	MAJOR AXIS	RX	G18
	AREA MINOR AXIS	AT	CR	M.89F(0)	MINOR AXIS	RX	G18
J3.0C3	NOT TRANSLATED						
J3.0C4	NOT TRANSLATED						

TABLE A.5.2-J3.0-4. J3.0 Message Data Element Translation from the M.9F(0)/M.89F(0) Message (Sheet 3 of 5)

Link 16			Link 11/11B				
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		VALUE	REQUIRED	MESSAGE			
J3.0C5	NOT TRANSLATED						
J3.0C6	NOT TRANSLATED						

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TABLE A.5.2-J3.0-4. J3.0 Message Data Element Translation from the
M.9F(0)/M.89F(0) Message (Sheet 4 of 5)

NOTES

1. The Time Function field is determined from the M.89F(AC=0) Minutes and Hours fields as follows:

Link 16	Link 11/11B	
TIME FUNCTION	HOURS	MINUTES
0 - NO STATEMENT	31 - NO STATEMENT	63 - NO STATEMENT
5 - TIME POINT ESTABLISHED	0000-2359 - GMT of the establishment/update of the area of probability	0000-2359 - GMT of the establishment/update of the area of probability

2. The Point/Line/Area Descriptor, 1 field is determined from the entire M.9F(AC=0)/M.89F(AC=0)/M.9F(AC=1) message sequence. When this message sequence is received, the Point/Line/Area Descriptor, 1 shall be set to 1 (Single Point Area).

3. The Point Type and the Point Amplification fields are determined from the M.89F(AC=0) Category/Platform and Source fields. When the Category/Platform = 3 (Subsurface) and Source is other than 1 (EW Bearings or Fix) or 2 (Intelligence), the Link 16 message is transmitted with the Point Type code for ASW (7), as well as the Point Amplification code for Area of Probability (12). When Source = 1, for any Category/Platform, the M.9F/M.89F is forwarded in J3.7 and J14.0 messages. When Source = 2, for any Category/ Platform, the M.9F/M.89F is forwarded in a J3.7 message.

4. When the M.9F(AC=1) Switch = 1, and an M.9F(AC=1) with Switch = 0 has not been previously received, Speed and Course are forwarded as No Statement. When the M.9F(AC=1) Switch = 0, or an M.9F(AC=1) with Switch = 0 has been previously received, Speed and Course are derived from X Dot, Y Dot, and Scale Indicator in accordance with General Note 8.

5. The Square/Circle Switch field is determined as follows:

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TABLE A.5.2-J3.0-4. J3.0 Message Data Element Translation from the
M.9F(0)/M.89F(0) Message (Sheet 5 of 5)

NOTES (Continued)

5. (Continued)

<u>Link 16</u>	<u>Link 11/11B</u>
SQUARE/CIRCLE SWITCH	SQUARE/CIRCLE SWITCH
1 - SQUARE/RECTANGULAR	0 - SQUARE/RECTANGLE
2 - CIRCULAR/ELLIPTICAL	1 - CIRCLE/ELLIPSE

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TABLE A.5.2-J3.1. J3.1 Message Data Element Translation from Link 11/11B (Sheet 1 of 3)

Link 16				Link 11/11B			
WORD J3.1I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	3	CR	M.5	LABEL	5	
	SUBLABEL, J-SERIES	1	CR	M.5	LABEL	5	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	EXERCISE INDICATOR	0	NONE	NA	NA	NA	
	SPECIAL PROCESSING INDICATOR	RX	=	M.1 or M.9A(AC=0)	SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR	RX RX	G5
	SIMULATION INDICATOR	RX	=	M.9A(AC=0)	SIMULATION INDICATOR	RX	G6
	TRACK NUMBER, REFERENCE	AT	CR	M.5	TRACK NUMBER/ADDRESS	RX	G13
	PERSONNEL INVOLVED	0	NONE	NA	NA	NA	
	EMERGENCY TYPE	AT	CR	M.5	POINT POINT AMPLIFY	RX RX	1
	TRACK NUMBER, PREVIOUSLY REPORTED	AT	CR	M.9B(AC=6)	TRACK NUMBER TWO	RX	2
J3.1EO	WORD FORMAT	2	NONE	NA	NA	NA	
	LATITUDE, 0.0051 MINUTE	AT	CR	M.5	SCALE INDICATOR X COORDINATE Y COORDINATE	RX RX RX	G9
	LONGITUDE, 0.0051 MINUTE	AT	CR	M.5	SCALE INDICATOR X COORDINATE Y COORDINATE	RX RX RX	G9
	TIME FUNCTION	AT	CR	M.85	SWITCH TIME SWITCH	1 RX	3
	POSITION ACCURACY	0	NONE	NA	NA	NA	
	MINUTE	AT	CR	M.85	SWITCH MINUTES	RX RX	4

TABLE A.5.2-J3.1. J3.1 Message Data Element Translation from Link 11/11B (Sheet 2 of 3)

WORD J3.1E0 (Cont'd)	DATA ELEMENT HOUR	TRANSLATION			FIELD SWITCH HOURS	VALUE RX	NOTES 4
		VALUE AT	REQUIRED CR	MESSAGE M.85			
J3.1C1	NOT TRANSLATED						

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TABLE A.5.2-J3.1. J3.1 Message Data Element Translation from Link 11/11B
(Sheet 3 of 3)

NOTES

1. The Emergency Type field is determined from Point value = 7 and the Point Amplify fields as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>EMERGENCY TYPE</u>	<u>POINT AMPLIFY</u>
0 - NO STATEMENT/OTHER	0 - NO STATEMENT
1 - DOWN AIRCRAFT	4-7 - UNDEFINED
2 - MAN IN WATER	1 - DOWN A/C/PU DITCHING
5 - DISTRESSED VESSEL	2 - MAN-IN-WATER/PU BAILOUT
	3 - DISTRESSED VESSEL

2. Track Number, Previously Reported is provided if an M.9B(AC=6) message has been received with Track Number One equal to Track Number, Reference of the J3.1I word. In this case the Track Number, Previously Reported, in the J3.1I word, is set to the value received in the M.9B(AC=6) Track Number Two field. If an M.9B(AC=6) message has not been received, then the Track Number, Previously Reported, in the J3.1I word, is set to No Statement.

3. When the M.85 Switch = 1, the Time Function field is determined from the M.85 Time Switch field as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>TIME FUNCTION</u>	<u>TIME SWITCH</u>
0 - NO STATEMENT	1 - INDICATES THE GMT OF THE OBSERVATION/INFORMATION ON WHICH THE X AND Y IN THE M.5 IS ESTABLISHED.
5 - TIME POINT ESTABLISHED	0 - INDICATES THE GMT OF THE INITIAL OBSERVATION/INFORMATION ON WHICH THE ORIGINAL X AND Y IN THE ORIGINAL M.5 WAS ESTABLISHED.

4. Time is received in the M.85 message when Switch = 1.

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TABLE A.5.2-J3.2. J3.2 Message Data Element Translation from Link 11/11B (Sheet 1 of 4)

Link 16				Link 11/11B			
WORD J3.2I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	3	CR	M.2	LABEL	2	
	SUBLABEL, J-SERIES	2	CR	M.2	LABEL	2	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	EXERCISE INDICATOR	AT	CR	M.2	IDENTITY PRIMARY IDENTITY AMPLIFICATION	RX RX	G20
				M.82	IDENTITY AMPLIFICATION	RX	
	PPLI TRACK NUMBER AND IDENTITY INDICATOR	0	NONE	NA	NA	NA	
	FORCE TELL INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	1	G4
	EMERGENCY INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	0	G4
	SPECIAL PROCESSING INDICATOR	RX	=	M.1 or M.9A(AC=0)	SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR	RX RX	G5
	SIMULATION INDICATOR	RX	=	M.9A(AC=0)	SIMULATION INDICATOR	RX	G6
	TRACK NUMBER, REFERENCE	AT	CR	M.2	TRACK NUMBER	RX	G13
	STRENGTH	AT	CR	M.82	SIZE	RX	1
	ALTITUDE SOURCE	RX	=	M.82	HEIGHT SOURCE	RX	
	ALTITUDE, 25 FT	AT	CR	M.2 M.82	SCALE INDICATOR HEIGHT	RX RX	2
	IDENTITY DIFFERENCE INDICATOR	RX	=	M.9A(AC=1)	CONFLICT INDICATOR	RX	
	TRACK QUALITY	AT	CR	M.2	TRACK QUALITY	RX	4

TABLE A.5.2-J3.2. J3.2 Message Data Element Translation from Link 11/11B (Sheet 2 of 4)

		Link 16			Link 11/11B		
WORD J3.2I (Cont'd)	DATA ELEMENT IDENTITY	TRANSLATION			FIELD IDENTITY PRIMARY IDENTITY AMPLIFICATION	VALUE RX	NOTES G20
		VALUE AT	REQUIRED CR	MESSAGE M.2			
				M.82	IDENTITY PRIMARY IDENTITY AMPLIFICATION	RX	
	IDENTITY AMPLIFYING DESCRIPTOR	AT	CR	M.2	IDENTITY PRIMARY IDENTITY AMPLIFICATION	RX	G20
				M.82	IDENTITY AMPLIFICATION	RX	
	SPECIAL INTEREST INDICATOR	AT	CR	M.2	IDENTITY PRIMARY IDENTITY AMPLIFICATION	RX	G20
				M.82	IDENTITY AMPLIFICATION	RX	
A-416 J3.2E0	WORD FORMAT	2	NONE	NA	NA	NA	
	LATITUDE, 0.0051 MINUTE	AT	CR	M.2	SCALE INDICATOR X COORDINATE Y COORDINATE	RX RX RX	G9
	LONGITUDE, 0.0051 MINUTE	AT	CR	M.2	SCALE INDICATOR X COORDINATE Y COORDINATE	RX RX RX	G9
	PASSIVE/ACTIVE INDICATOR	1	NONE	NA	NA	NA	5
	COURSE	AT	CR	M.2 M.82	SCALE INDICATOR SWITCH X DOT Y DOT	RX RX RX RX	6, G8
	SPEED	AT	CR	M.2 M.82	SCALE INDICATOR SWITCH X DOT Y DOT	RX RX RX RX	6, G8
	WORD FORMAT	1	NONE	NA	NA	NA	
J3.2C1	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	
	AIR SPECIFIC TYPE INDICATOR	0	NONE	NA	NA	NA	

TABLE A.5.2-J3.2. J3.2 Message Data Element Translation from Link 11/11B (Sheet 3 of 4)

Link 16				Link 11/11B			
WORD J3.2C1 (Cont'd)	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		VALUE AT	REQUIRED CR	MESSAGE M.11D(TR=0)		0 RX	
	MODE II CODE	RX	=	M.11D(TR=0)	MODE II CODE	RX	
	MODE III CODE	RX	=	M.11D(TR=0)	SWITCH MODE III CODE	1 RX	
	MODE IV INDICATOR	RX	=	M.11D(TR=0)	MODE IV INDICATOR	RX	
	PPLI IFF/SIF INDICATOR	0	NONE	NA	NA	NA	
	AIR PLATFORM	AT	CR	M.2	IDENTITY PRIMARY IDENTITY AMPLIFICATION	RX RX	G20
				M.82	IDENTITY AMPLIFICATION	RX	
	AIR ACTIVITY	AT	CR	M.2	IDENTITY PRIMARY IDENTITY AMPLIFICATION	RX RX	G20
				M.82	IDENTITY AMPLIFICATION	RX	
	MINUTE	AT	CR	M.82	SWITCH TIME	1 RX	6,G15
	HOUR	AT	CR	M.82	SWITCH TIME	1 RX	6,G15
J3.2C4	NOT TRANSLATED						
J3.2C5	NOT TRANSLATED						

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TABLE A.5.2-J3.2. J3.2 Message Data Element Translation from Link 11/11B
 (Sheet 4 of 4)

NOTES

1. The Strength field is determined from the Size field as follows:

Link 16	Link 11/11B
STRENGTH	SIZE
0 - NO STATEMENT	0 - NO STATEMENT
1 - 1 UNIT	1 - SINGLE TARGET
13 - 2 THROUGH 7 (FEW) UNITS	2 - FEW (2 TO 7) TARGETS
14 - GREATER THAN 7 (MANY) UNITS	3 - MANY (8 OR MORE) TARGETS

2. The Scale Indicator field determines the scaling of the Height field.

3. Not Used.

4. Track Quality is reported with values 0-7 on Link 11/11B. These values will be translated to identical numerical values for Link 16.

5. The Passive/Active Indicator does not exist on Link 11/11B. The normal for Link 11/11B is considered to be active sensor derived information; therefore, forwarded data will be reported with value = 1 in this field.

6. Time is received in the M.82 message only for nonreal-time tracks. No Statement will be forwarded for Minute and Hour for real-time tracks. X Dot and Y Dot may be received for both real-time and nonreal-time tracks. No Statement will be forwarded for Course and Speed if an M.82 message has not been received with X Dot and Y Dot.

7. Valid Mode I codes for data link exchange shall range from 01 through 73 (octal) with 31 possible values, those values with the least significant digit greater than 3 not being used. The Mode I field of the J3.2C1 IFF Codes are in the order A4, A2, A1, B2, B1, with the most significant bit A4 in bit position 12. The Mode I field of the M11D IFF Codes are in the order A4, A2, A1, B4, B2, B1 (B4 is never set since the second digit never exceeds 3) and the most significant bit A4 is bit position 23.

TABLE A.5.2-J3.3. J3.3 Message Data Element Translation from Link 11/11B (Sheet 1 of 5)

Link 16				Link 11/11B			
WORD J3.3I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	3	CR	M.3	LABEL	3	
	SUBLABEL, J-SERIES	3	CR	M.3	LABEL	3	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	EXERCISE INDICATOR	AT	CR	M.3	IDENTITY PRIMARY IDENTITY AMPLIFICATION	RX RX	G21
				M.83	IDENTITY AMPLIFICATION	RX	
	PPLI TRACK NUMBER AND IDENTITY INDICATOR	0	NONE	NA	NA	NA	
	FORCE TELL INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	1	G4
	EMERGENCY INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	0	G4
	SPECIAL PROCESSING INDICATOR	RX	=	M.1 or M.9A(AC=0)	SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR	RX RX	G5
	SURFACE SPECIFIC TYPE	0	NONE	NA	NA	NA	
	SIMULATION INDICATOR	RX	=	M.9A(AC=0)	SIMULATION INDICATOR	RX	G6
	TRACK NUMBER, REFERENCE	AT	CR	M.3	TRACK NUMBER	RX	G13
	STRENGTH	AT	CR	M.83	SIZE	RX	1
	IDENTITY DIFFERENCE INDICATOR	RX	=	M.9A(AC=1)	CONFLICT INDICATOR	RX	
	TRACK QUALITY	AT	CR	M.3	TRACK QUALITY	RX	3
	IDENTITY	AT	CR	M.3	IDENTITY PRIMARY IDENTITY AMPLIFICATION	RX RX	G21
				M.83	IDENTITY AMPLIFICATION	RX	

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TABLE A.5.2-J3.3. J3.3 Message Data Element Translation from Link 11/11B (Sheet 2 of 5)

Link 16		TRANSLATION					Link 11/11B	
WORD J3.3I (Cont'd)	DATA ELEMENT IDENTITY AMPLIFYING DESCRIPTOR	VALUE AT	REQUIRED CR	MESSAGE M.3		FIELD IDENTITY PRIMARY IDENTITY AMPLIFICATION IDENTITY AMPLIFICATION	VALUE RX	NOTES G21
				M.83				
	SPECIAL INTEREST INDICATOR	AT	CR	M.3		IDENTITY PRIMARY IDENTITY AMPLIFICATION IDENTITY AMPLIFICATION	RX	G21
				M.83				
J3.3E0	WORD FORMAT	2	NONE	NA		NA	NA	
	LATITUDE, 0.0051 MINUTE	AT	CR	M.3		SCALE INDICATOR X COORDINATE Y COORDINATE	RX	G9
	LONGITUDE, 0.0051 MINUTE	AT	CR	M.3		SCALE INDICATOR X COORDINATE Y COORDINATE	RX	G9
	PASSIVE/ACTIVE INDICATOR	1	NONE	NA		NA	NA	4
	COURSE	AT	CR	M.3 M.83		SCALE INDICATOR SWITCH X DOT Y DOT	RX	5,G8
	SPEED	AT	CR	M.3 M.83		SCALE INDICATOR SWITCH X DOT Y DOT	RX	5,G8
J3.3C1	WORD FORMAT	1	NONE	NA		NA	NA	
	CONTINUATION WORD LABEL	1	NONE	NA		NA	NA	
	MODE I CODE	AT	CR	M.11D(TR=0)		SWITCH MODE I CODE	0 RX	7
	MODE II CODE	RX	=	M.11D(TR=0)		MODE II CODE	RX	
	MODE III CODE	RX	=	M.11D(TR=0)		SWITCH MODE III CODE	1 RX	

TABLE A.5.2-J3.3. J3.3 Message Data Element Translation from Link 11/11B (Sheet 3 of 5)

WORD J3.3C1 (Cont'd)	DATA ELEMENT	TRANSLATION			Link 11/11B					
		MODE	IV INDICATOR	VALUE RX	REQUIRED =	MESSAGE M.11D(TR=0)	FIELD MODE	IV INDICATOR	VALUE RX	NOTES
	PPLI IFF/SIF INDICATOR			0	NONE	NA		NA	NA	
	SURFACE PLATFORM			AT	CR	M.3		IDENTITY PRIMARY IDENTITY AMPLIFICATION	RX	G21
						M.83		IDENTITY AMPLIFICATION	RX	
	SURFACE ACTIVITY			AT	CR	M.3		IDENTITY PRIMARY IDENTITY AMPLIFICATION	RX	5,G21
						M.83		IDENTITY AMPLIFICATION CURRENT MISSION	RX	
	MINUTE			AT	CR	M.83		SWITCH TIME	1 RX	6
	HOUR			AT	CR	M.83		SWITCH TIME	1 RX	6
J3.3C2	NOT TRANSLATED									

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TABLE A.5.2-J3.3. J3.3 Message Data Element Translation from Link 11/11B
 (Sheet 4 of 5)

NOTES

1. The Strength field is determined from the Size field as follows:

Link 16	Link 11/11B
STRENGTH	SIZE
0 - NO STATEMENT	0 - NO STATEMENT
1 - 1 UNIT	1 - SINGLE TARGET
13 - 2 THROUGH 7 (FEW) UNITS	2 - FEW (2 TO 7) TARGETS
14 - GREATER THAN 7 (MANY) UNITS	3 - MANY (8 OR MORE) TARGETS

2. Not Used.

3. Track Quality is reported with values 0-7 on Link 11/11B. These values will be translated to identical numerical values for Link 16.

4. The Passive/Active Indicator does not exist on Link 11/11B. The normal for Link 11/11B is considered to be active sensor derived information; therefore, forwarded data will be reported with value = 1 in this field.

5. If M.83 Current Mission received is listed below, Surface Activity is determined from Current Mission as indicated below, not as indicated in General Note 21. Otherwise, Surface Activity is determined as indicated in General Note 21.

Link 16	Link 11/11B
SURFACE ACTIVITY	CURRENT MISSION
5 - ANTISURFACE WARFARE	13 - ANTI-SURFACE WARFARE
6 - ELECTRONIC WARFARE (EW)	7 - EW
8 - SEARCH AND RESCUE (SAR)	5 - PLANE GUARD/SAR
12 - NAVAL SURFACE FIRE SUPPORT	3 - NAVAL GUNFIRE SUPPORT
13 - INTRUDING	11 - INTRUDER
14 - AMPHIBIOUS WARFARE	8 - AMPHIBIOUS ASSAULT
18 - ANTISUBMARINE WARFARE (ASW)	2 - ASW
22 - STRIKE WARFARE	6 - STRIKE
23 - ANTIAIR WARFARE	1 - AAW
28 - MARKING	10 - MARKER
30 - UNDERWAY REPLENISHMENT	4 - UNDERWAY REPLENISHMENT
39 - SHADOWING	9 - SHADOWER

6. Time is received in the M.83 message only for nonreal-time tracks. No Statement will be forwarded for Minute and Hour for real-time tracks. X Dot and

APPENDIX A

TABLE A.5.2-J3.3. J3.3 Message Data Element Translation from Link 11/11B
(Sheet 5 of 5)

NOTES (Continued)

6. (Continued)

Y Dot may be received for both real-time and nonreal-time tracks. No Statement will be forwarded for Course and Speed if an M.83 message has not been received with X Dot and Y Dot.

7. Valid Mode I codes for data link exchange shall range from 01 through 73 (octal) with 31 possible values, those values with least significant digit greater than 3 not being used. The Mode I field of the J3.3C1 IFF Codes are in the order A4, A2, A1, B2, B1, with the most significant bit A4 in bit position 12. The Mode I field of the M.11D IFF Codes are in the order A4, A2, A1, B4, B2, B1 (B4 is never set since the second digit never exceeds 3) and the most significant bit A4 is bit position 23.

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TABLE A.5.2-J3.4. J3.4 Message Data Element Translation from Link 11/11B (Sheet 1 of 9)

Link 16				Link 11/11B			
WORD J3.4I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	3	CR	M. 4A	LABEL	4	1
	SUBLABEL, J-SERIES	4	CR	M. 4A	SUB_LABEL	0	1
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	EXERCISE INDICATOR	0	NONE	NA	NA	NA	
	PPLI TRACK NUMBER AND IDENTITY INDICATOR	0	NONE	NA	NA	NA	
	FORCE TELL INDICATOR	AT	CR	M. 9A(AC=5 OR 7)	STATUS INDICATOR	1	G4
	EMERGENCY INDICATOR	AT	CR	M. 9A(AC=5 OR 7)	STATUS INDICATOR	0	G4
	SPECIAL PROCESSING INDICATOR	RX	=	M.1 or M.9A(AC=0)	SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR	RX	G5
	SIMULATION INDICATOR	RX	=	M.9A(AC=0)	SIMULATION INDICATOR	RX	G6
	TRACK NUMBER, REFERENCE	AT	CR	M.4A	TRACK NUMBER	RX	G13
	DATA REPORT TYPE	AT	CR	M.4A M.84A	DATA REPORT TYPE DEPTH INDICATOR DEPTH	RX RX RX	1
	IDENTITY	AT	CR	M.4A	IDENTITY	RX	2
	IDENTITY AMPLIFYING DESCRIPTOR	NA	NONE	NA	NA	NA	
	CONFIDENCE LEVEL	AT	CR	M.84A	CLASSIFICATION CLASSIFICATION AMPLIFICATION POSSIBLE SUBMARINE	RX RX RX	3
	SUBSURFACE PLATFORM	AT	CR	M.84A M.4B	CLASSIFICATION CLASSIFICATION AMPLIFICATION MISSILE CAPABILITY	RX RX RX	4
	SUBSURFACE ACTIVITY	AT	CR	M.4B	MISSION	RX	5

TABLE A.5.2-J3.4. J3.4 Message Data Element Translation from Link 11/11B (Sheet 2 of 9)

Link 16		TRANSLATION						Link 11/11B	
WORD J3.4I (Cont'd)	DATA ELEMENT IDENTITY DIFFERENCE INDICATOR	VALUE 0	REQUIRED NONE	MESSAGE NA	FIELD NA	VALUE NA	NOTES 6		
	LAUNCH CAPABILITY	AT	CR	M.4B	MISSILE CAPABILITY	RX	13		
J3.4E0	WORD FORMAT	2	NONE	NA	NA	NA			
	LATITUDE, 0.0051 MINUTE	AT	CR	M.4A	SCALE INDICATOR X COORDINATE Y COORDINATE	RX RX RX	G9		
	LONGITUDE, 0.0051 MINUTE	AT	CR	M.4A	SCALE INDICATOR X COORDINATE Y COORDINATE	RX RX RX	G9		
	COURSE	AT	CR	M.84A	COURSE/BEARING INDICATOR COURSE/BEARING	RX RX	7		
	SPEED, ASW	AT	CR	M.84A	SPEED	RX	8		
J3.4C1	WORD FORMAT	1	NONE	NA	NA	NA			
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA			
	MINUTE	RX	=	M.4B	MINUTES	RX			
	HOUR	RX	=	M.4B	HOURS	RX			
	DEPTH, 15 METERS	AT	CR	M.84A	DEPTH DEPTH INDICATOR	RX 0	G11		
	DEPTH CONTACT	AT	CR	M.84A	DEPTH DEPTH INDICATOR	RX 1	9		
	SENSOR	AT	CR	M.84A	SENSOR	RX	10		
	MODE I CODE	AT	CR	M.11D(TR=0)	SWITCH MODE I CODE	0 RX	11		
	MODE II CODE	RX	=	M.11D(TR=0)	MODE II CODE	RX			
	MODE III CODE	RX	=	M.11D(TR=0)	SWITCH MODE III CODE	1 RX			
	MODE IV INDICATOR	RX	=	M.11D(TR=0)	MODE IV INDICATOR	RX			

TABLE A.5.2-J3.4. J3.4 Message Data Element Translation from Link 11/11B (Sheet 3 of 9)

Link 16				Link 11/11B			
WORD J3.4C1 (Cont'd)	DATA ELEMENT TIME FUNCTION, ASW	TRANSLATION			FIELD NONREAL-TIME INDICATOR TIME SWITCH	VALUE RX	NOTES 12
		VALUE AT	REQUIRED CR	MESSAGE M.4A			
J3.4C2	WORD FORMAT	1	NONE	NA	NA	NA	NA
	CONTINUATION WORD LABEL	2	NONE	NA	NA	NA	NA
	SUBSURFACE SPECIFIC TYPE	0	NONE	NA	NA	NA	NA
	DATUM ERROR	RX	=	M.4B	DATUM ERROR	RX	

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TABLE A.5.2-J3.4. J3.4 Message Data Element Translation from Link 11/11B
(Sheet 4 of 9)

NOTES

1. The J3.4I Data Report Type field shall be determined as follows:

<u>Link 16</u>	<u>Link 11/11B</u>		
<u>DATA REPORT TYPE</u>	<u>DATA REPORT TYPE</u>	<u>DEPTH INDICATOR</u>	<u>DEPTH</u>
0 - SUBSURFACE TRACK	0 - SUBSURFACE TRACK	0	Any
		1	Other than 1
1 - SURFACED SUBMARINE	1 - SURFACED SUBMARINE	0 or 1	Any
2 - SNORKELING SUBMARINE	0 - SUBSURFACE TRACK	1	1 - SNORKELING
4 - DATUM	2 - DATUM	0 or 1	Any

2. The J3.4I Identity field is determined as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>IDENTITY</u>	<u>IDENTITY</u>
0 - PENDING	0 - NO STATEMENT/PENDING
1 - UNKNOWN	3 - UNKNOWN
3 - FRIEND	1 - FRIEND
6 - HOSTILE	2 - HOSTILE

3. The Confidence Level field is determined from the M.84A Classification, Classification Amplification, and Possible Submarine fields as follows:

<u>Link 16</u>	<u>Link 11/11B</u>	<u>CLASSIFICATION</u>	<u>POSSIBLE</u>
<u>CONFIDENCE LEVEL</u>	<u>CLASSIFICATION</u>	<u>AMPLIFICATION</u>	<u>SUBMARINE</u>
0 - NO STATEMENT	0 - NO STATEMENT	0 - NO STATEMENT	(NOT INTERPRETED)
2 - POSSIBLE SUBMARINE LOW ONE	1 - POSSIBLE SUBMARINE	ANY	0 - NO STATEMENT
			1 - POSSIBLE SUBMARINE 1
			5-7 - UNDEFINED
3 - POSSIBLE SUBMARINE LOW TWO			2 - POSSIBLE SUBMARINE 2
4 - POSSIBLE SUBMARINE HIGH THREE			3 - POSSIBLE SUBMARINE 3

APPENDIX A

TABLE A.5.2-J3.4. J3.4 Message Data Element Translation from Link 11/11B
(Sheet 5 of 9)

NOTES (Continued)

3. (Continued)

<u>Link 16</u>	<u>Link 11/11B</u>		
<u>CONFIDENCE LEVEL</u>	<u>CLASSIFICATION</u>	<u>CLASSIFICATION AMPLIFICATION</u>	<u>POSSIBLE SUBMARINE</u>
5 - POSSIBLE SUBMARINE HIGH FOUR			4 - POSSIBLE SUBMARINE 4
6 - PROBABLE SUBMARINE	2 - PROBABLE SUBMARINE 5 - ACOUSTIC POSITIVE	ANY	(NOT INTERPRETED)
7 - CERTAIN SUBMARINE	3 - CERTAIN SUBMARINE	ANY	
8 - NON SUBMARINE	4 - NONSUBMARINE 6 - TORPEDO	0, 2-7 ANY	
9 - SURFACE VESSEL	4 - NONSUBMARINE	1 - SURFACE VESSEL	

4. The J3.4I Subsurface Platform is determined from the M.84A Classification and Classification Amplification and M.4B Missile Capability fields as follows:

<u>Link 16</u>	<u>Link 11/11B</u>		
<u>SUBSURFACE PLATFORM</u>	<u>CLASSIFICATION</u>	<u>CLASSIFICATION AMPLIFICATION</u>	<u>MISSILE CAPABILITY</u>
0	0	0	0
	1-3, 5	0 or 4-7	0
1	1-3, 5	1	0
2		2	0
5			1 or 2
9		3	0
12	0	0	1 or 2
	1-3, 5	0	1 or 2
		1	1 or 2
		3	1 or 2
18	4	0	NA
19		1	NA
20	6	Any	NA
21	4	4	NA
22		3	NA
23		7	NA
25		5	NA
27		6	NA
29	0	0	3 or 4
	1-3, 5	Any	3 or 4

APPENDIX A

TABLE A.5.2-J3.4. J3.4 Message Data Element Translation from Link 11/11B
(Sheet 6 of 9)

NOTES (Continued)

5. The Subsurface Activity is determined from the M.4B Mission field as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>SUBSURFACE ACTIVITY</u>	<u>MISSION</u>
0 - NO STATEMENT	0 - NO STATEMENT
1 - RECONNAISSANCE	3 - RECONNAISSANCE
5 - ANTISURFACE WARFARE	1 - ANTISHIPPING
8 - SEARCH AND RESCUE (SAR)	6 - SPECIAL/SAR
9 - ESCORTING	7 - ESCORT
10 - MINELAYING	4 - MINE LAYING
11 - TRANSITING	5 - TRANSITING
18 - ANTISUBMARINE WARFARE (ASW)	2 - ANTISUBMARINE

6. The Identity Difference Indicator does not relate to the Link 11/11B M.9A(AC=1) Information Difference Report message.

7. The J3.4E0 Course field is determined from the M.84A Course/Bearing and Course/Bearing Indicator (CBI) fields as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>COURSE</u>	<u>COURSE/BEARING</u>
0-359 - 0 THROUGH 359 DEGREES	INDICATOR
511 - NO STATEMENT	0

<u>COURSE/BEARING</u>
0-255 (0-358 19/32 degrees) (NOT INTERPRETED)

Link 11/11B Course/Bearing is in 360/256 degree increments, and Link 16 Course is in 1 degree increments. Translate Link 11/11B to the nearest Link 16 Increment (.5 rounded up). For example, Link 11/11B Course/Bearing of 21 16/32 degrees shall translate to 22 degrees in Link 16 vice 21 degrees.

8. Link 11/11B Speed is in 1 data mile per hour increments and Link 16 Speed is in 0.5 data mile per hour increments. Therefore, the Link 11/11B Speed shall translate to an identical speed in Link 16. Value 127 (No Statement) shall translate to value 511 (No Statement).

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TABLE A.5.2-J3.4. J3.4 Message Data Element Translation from Link 11/11B
(Sheet 7 of 9)

NOTES (Continued)

9. The Depth Contact field is determined from the M.84A Depth and Depth Indicator fields as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>DEPTH CONTACT</u>	<u>DEPTH</u>
0 - NO STATEMENT	0 - UNKNOWN/NO STATEMENT
1 - ESTIMATED SHALLOW	11-63 - UNDEFINED
2 - ABOVE LAYER	1 - SNORKELING
3 - BELOW LAYER	2 - ESTIMATED SHALLOW
4 - ESTIMATED DEEP	4 - ABOVE FIRST LAYER
5 - BOTTOMED	5 - BELOW FIRST LAYER
7 - PERISCOPE DEPTH	6 - BETWEEN FIRST AND SECOND LAYER
	7 - BETWEEN SECOND AND THIRD LAYERS
	8 - BELOW BOTTOM LAYER
	9 - ESTIMATED DEEP
	10 - BOTTOMED
	3 - PERISCOPE DEPTH

10. The Sensor field is determined as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>SENSOR</u>	<u>SENSOR</u>
0 - NO STATEMENT/UNKNOWN	0 - NO STATEMENT
1 - ACTIVE SONAR	33-57 - UNDEFINED
2 - PASSIVE SONAR	1 - ACTIVE SONAR
3 - PASSIVE SONOBUOY	3 - SHIP VARIABLE DEPTH SONAR- ACTIVE
4 - ACTIVE SONOBUOY	6 - SUBMARINE ACTIVE SONAR
5 - MAD	8 - HELO ACTIVE SONAR
6 - VISUAL	2 - PASSIVE SONAR
7 - RADAR	4 - SHIP VARIABLE DEPTH SONAR- PASSIVE
8 - ES	7 - SUBMARINE PASSIVE SONAR
9 - TAS/TAC TAS	9 - HELO PASSIVE SONAR
	20 - PASSIVE SONOBUOY
	18 - ACTIVE SONOBUOY (RANGE AND BEARING)
	19 - ACTIVE SONOBUOY (RANGE ONLY)
	59 - CASS
	13 - MAD
	27 - VISUAL
	10 - RADAR
	12 - ES
	30 - TOWED ARRAY

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TABLE A.5.2-J3.4. J3.4 Message Data Element Translation from Link 11/11B
 (Sheet 8 of 9)

NOTES (Continued)

10. (Continued)

<u>Link 16</u>	<u>Link 11/11B</u>
<u>SENSOR</u>	<u>SENSOR</u>
10 - IRDS	60 - ITASS
11 - LOFAR	31 - INFRARED DETECTION SYSTEM
12 - DIFAR	14 - LOFAR (AREA)
13 - DIRECT PATH	15 - LOFAR (H FIX)
14 - BOTTOM BOUNCE	16 - LOFAR (C FIX)
15 - CONVERGENCE ZONE 1	17 - DIFAR
16 - CONVERGENCE ZONE 2	21 - DIRECT PATH
17 - CONVERGENCE ZONE 3	22 - BOTTOM BOUNCE
18 - LLLTV	23 - CONVERGENCE ZONE 1
19 - UNDERWATER TELEPHONE	24 - CONVERGENCE ZONE 2
20 - INTELLIGENCE	25 - CONVERGENCE ZONE 3
21 - DESIGNATED FIX	26 - LLLTV
22 - PASSIVE SOURCE (CPA)	29 - UNDERWATER TELEPHONE [UWT]
23 - PASSIVE DIRECTIONAL SONOBUOY	11 - INTELLIGENCE
24 - DICASS	28 - DESIGNATED FIX
25 - SOSUS	58 - PASSIVE SOURCE (CPA)
26 - FLIR	32 - PASSIVE DIRECTIONAL SONOBUOY
27 - SHIP SONAR	61 - DICASS
	62 - SOSUS
	63 - FLIR
	5 - SHIP SONAR (VDS AND HULL MOUNTED)

11. Valid Mode I codes for data link exchange shall range from 01 through 73 (octal) with 31 possible values, those values with least significant digit greater than 3 not being used. The Mode I field of the J3.4C1 IFF Codes are in the order A4, A2, A1, B2, B1, with the most significant bit A4 in bit position 12. The Mode I field of the M.11D IFF Codes are in the order A4, A2, A1, B4, B2, B1 (B4 is never set since the second digit never exceeds 3) and the most significant bit A4 is bit position 23.

12. The J3.4C1 Time Function, ASW field is determined from the M.4A Nonreal-Time (NRT) Indicator and the M.4B Time Switch fields as follows:

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TABLE A.5.2-J3.4. J3.4 Message Data Element Translation from Link 11/11B
(Sheet 9 of 9)

NOTES (Continued)

12. (Continued)

<u>Link 16</u>	<u>Link 11/11B</u>
TIME FUNCTION, ASW	NONREAL-TIME INDICATOR
0 - NO STATEMENT	0 or 1
1 - TIME CONTACT FIRST ACQUIRED/TIME DATUM ESTABLISHED	0
2 - TIME OF CURRENT POSITIONAL DATA	1
3 - TIME CONTACT LOST	0 or 1
	TIME SWITCH
	0 - NO STATEMENT
	1 - GMT OF ACQUISITION/ OBSERVATION/ ESTABLISHMENT/ COMMENCEMENT
	1 - GMT OF ACQUISITION/ OBSERVATION/ ESTABLISHMENT/ COMMENCEMENT
	3 - GMT OF TIME LOST

13. The J3.4I Launch Capability is determined from the M4.B Missile Capability as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
LAUNCH CAPABILITY	MISSILE CAPABILITY
0 - NO STATEMENT	0 - NO STATEMENT
1 - MAY LAUNCH MISSILE WHILE SUBMERGED	1 - WITH BALLISTIC MISSILE CAPABILITY. MAY LAUNCH MISSILE WHILE SUBMERGED. OR 3 - WITH CRUISE MISSILE CAPABILITY. MAY LAUNCH MISSILE WHILE SUBMERGED.
2 - MUST BE SURFACED TO LAUNCH MISSILE	2 - WITH BALLISTIC MISSILE CAPABILITY. MUST BE SURFACED TO LAUNCH MISSILE. OR 4 - WITH CRUISE MISSILE CAPABILITY. MUST BE SURFACED TO LAUNCH MISSILE.

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TABLE A.5.2-J3.5. J3.5 Message Data Element Translation from Link 11/11B (Sheet 1 of 5)

WORD J3.5I	Link 16				Link 11/11B		
	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
LABEL, J-SERIES	3	CR		M.5	LABEL	5	
SUBLABEL, J-SERIES	5	CR		M.5	LABEL	5	
MESSAGE LENGTH INDICATOR	AR	NONE		NA	NA	NA	G3
EXERCISE INDICATOR	0	NONE		NA	NA	NA	
FORCE TELL INDICATOR	AT	CR		M.9A(AC=5 OR 7)	STATUS INDICATOR	1	G4
EMERGENCY INDICATOR	AT	CR		M.9A(AC=5 OR 7)	STATUS INDICATOR	0	G4
SPECIAL PROCESSING INDICATOR	RX	=		M.1 or M.9A(AC=0)	SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR	RX	G5
SIMULATION INDICATOR	RX	=		M.9A(AC=0)	SIMULATION INDICATOR	RX	G6
TRACK NUMBER, REFERENCE	AT	CR		M.5	TRACK NUMBER/ADDRESS	RX	
STRENGTH	0	NONE		NA	NA	NA	
ELEVATION, 25 FT	AT	CR		M.85	SWITCH HEIGHT/DEPTH SWITCH HEIGHT/DEPTH	1 0 RX	G10
POINT/TRACK INDICATOR	0	NONE		NA	NA	NA	
PPLI TRACK NUMBER AND IDENTITY INDICATOR	0	NONE		NA	NA	NA	
IDENTITY DIFFERENCE INDICATOR	0	NONE		NA	NA	NA	
TRACK QUALITY	0	NONE		NA	NA	NA	
IDENTITY	AT	CR		M.5	POINT	RX	1
IDENTITY AMPLIFYING DESCRIPTOR	NA	NONE		NA	NA	NA	
SPECIAL INTEREST INDICATOR	0	NONE		NA	NA	NA	

TABLE A.5.2-J3.5. J3.5 Message Data Element Translation from Link 11/11B (Sheet 2 of 5)

Link 16				Link 11/11B			
WORD J3.5E0	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 2	REQUIRED NONE	MESSAGE NA			
	LATITUDE, 0.0051 MINUTE	AT	CR	M.5	SCALE INDICATOR X COORDINATE Y COORDINATE	RX RX RX	G9
	LONGITUDE, 0.0051 MINUTE	AT	CR	M.5	SCALE INDICATOR X COORDINATE Y COORDINATE	RX RX RX	G9
	PASSIVE/ACTIVE INDICATOR	0	NONE	NA	NA	NA	
	COURSE	AT	CR	M.85	SWITCH X DOT Y DOT	0 RX RX	G8
	SPEED	AT	CR	M.85	SWITCH X DOT Y DOT	0 RX RX	G8
A-436 J3.5C1	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	
	LAND SPECIFIC TYPE INDICATOR	0	NONE	NA	NA	NA	
	MODE I CODE	AT	CR	M.11D(TR=0)	SWITCH MODE I CODE	0 RX	2
	MODE II CODE	RX	=	M.11D(TR=0)	MODE II CODE	RX	
	MODE III CODE	RX	=	M.11D(TR=0)	SWITCH MODE III CODE	1 RX	
	MODE IV INDICATOR	RX	=	M.11D(TR=0)	MODE IV INDICATOR	RX	
	PPLI IFF/SIF INDICATOR	0	NONE	NA	NA	NA	
	LAND PLATFORM	AT	CR	M.5	POINT POINT AMPLIFY	RX RX	1
	LAND ACTIVITY	0	NONE	NA	NA	NA	

TABLE A.5.2-J3.5. J3.5 Message Data Element Translation from Link 11/11B (Sheet 3 of 5)

WORD J3.5C1 (Cont'd)	DATA ELEMENT LAND SPECIFIC TYPE	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	TIME FUNCTION	AT	CR	M.85	SWITCH TIME SWITCH	1 RX	3
	MINUTE	AT	CR	M.85	TIME SWITCH MINUTES	1 RX	G15
	HOUR	AT	CR	M.85	TIME SWITCH HOURS	1 RX	G15
J3.5C2	NOT TRANSLATED						
J3.5C3	NOT TRANSLATED						

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TABLE A.5.2-J3.5. J3.5 Message Data Element Translation from Link 11/11B
(Sheet 4 of 5)

NOTES

- There are only a few Point/Point Amplify values that are translated from Link 11/11B to the J3.5 message. The rest of these are translated into a J3.0, J3.1, or J3.7 message. The translation to the J3.5 message is as follows:

<u>Link 16</u>		<u>Link 11/11B</u>	
<u>IDENTITY</u>	<u>LAND PLATFORM</u>	<u>POINT</u>	<u>POINT AMPLIFY</u>
3 - FRIEND	3 - COMMAND/ CONTROL/ COMMAND AND CONTROL CENTER	14 - SUPPORT UNIT (SU)	0 - NO STATEMENT
	7 - AIRFIELD/ AIRBASE		2 - AIR BASE
	33 - RADAR SITE	1 - RADAR	0 - NO STATEMENT
	40 - SURFACE-TO- AIR MISSILE (SAM) SITE	14 - SUPPORT UNIT (SU)	3 - SAM SITE
	41 - MARITIME HEADQUARTERS		1 - MHQ
	42 - AIR SUPPORT RADAR TEAM (ASRT)		4 - ASRT
	43 - DIRECT AIR SUPPORT CENTER (DASC)		5 - DASC
	44 - FORWARD AIR CONTROL PARTY (FACP)/ TACTICAL AIR CONTROL PARTY (TACP)		6 - FACP
	22 - AIR DEFENSE ARTILLERY		7 - ADA/BOC/TDS
6 - HOSTILE	0 - NO STATEMENT	15 - ENEMY POINT	0 - NO STATEMENT
	1 - TROOP CONCENTRATION/ UNIT		1 - TROOP CONCENTRATION
	7 - AIRFIELD/ AIRBASE		2 - AIR BASE
	13 - CONVOY		5 - CONVOY
	18 - TRAIN		6 - RAIL
	21 - FIELD ARTILLERY		4 - ARTILLERY
	26 - BRIDGE		7 - BRIDGE
	40 - SURFACE-TO- AIR MISSILE (SAM) SITE		3 - SAM SITE

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TABLE A.5.2-J3.5. J3.5 Message Data Element Translation from Link 11/11B
 (Sheet 5 of 5)

NOTES (Continued)

2. Valid Mode I codes for data link exchange shall range from 01 through 73 (octal) with 31 possible values, those values with least significant digit greater than 3 not being used. The Mode I field of the J3.5C1 IFF Codes are in the order A4, A2, A1, B2, B1, with the most significant bit A4 in bit position 12. The Mode I field of the M.11D IFF Codes are in the order A4, A2, A1, B4, B2, B1 (B4 is never set since the second digit never exceeds 3) and the most significant bit A4 is bit position 23.
3. When the M.85 Switch field = 1, the Time Function field is determined from the M.85 Time Switch field as follows:

Link 16	Link 11/11B
TIME FUNCTION	TIME SWITCH
0 - NO STATEMENT	1 - OBSERVATION/INFORMATION
5 - TIME POINT ESTABLISHED	0 - INITIAL OBSERVATION/INFORMATION

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TABLE A.5.2-J3.7-1. J3.7 Message Data Element Translation from the M.5/M.85 Message (Sheet 1 of 4)

Link 16				Link 11/11B			
WORD J3.7I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	3	CR	M.5	LABEL	5	1
	SUBLABEL, J-SERIES	7	CR	M.5	LABEL	5	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	EXERCISE INDICATOR	0	NONE	NA	NA	NA	
	FORCE TELL INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	1	G4
	EMERGENCY INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	0	G4
	SPECIAL PROCESSING INDICATOR	RX	=	M.1 or M.9A(AC=0)	SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR	RX RX	G5
	SIMULATION INDICATOR	RX	=	M.9A(AC=0)	SIMULATION INDICATOR	RX	G6
	TRACK NUMBER, REFERENCE	AT	CR	M.5	TRACK NUMBER/ADDRESS	RX	G13
	FIX OR BEARING DESCRIPTOR	0	NONE	NA	NA	NA	1
	SECOND	0	NONE	NA	NA	NA	
	MINUTE	AT	CR	M.85	SWITCH TIME SWITCH MINUTES	1 RX RX	2
	HOUR	AT	CR	M.85	SWITCH TIME SWITCH HOURS	1 RX RX	3
	IDENTITY DIFFERENCE INDICATOR	0	NONE	NA	NA	NA	
	SQUARE/CIRCLE SWITCH		NONE	NA	NA	NA	
	IDENTITY	0	NONE	NA	NA	NA	
	IDENTITY AMPLIFYING DESCRIPTOR	NA	NONE	NA	NA	NA	
	LOCK-ON INDICATOR	0	NONE	NA	NA	NA	

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TABLE A.5.2-J3.7-1. J3.7 Message Data Element Translation from the M.5/M.85 Message (Sheet 2 of 4)

Link 16				Link 11/11B			
WORD J3.7C1	DATA ELEMENT NOT TRANSLATED	TRANSLATION			FIELD	VALUE	NOTES
		VALUE	REQUIRED	MESSAGE			
J3.7C2	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	2	NONE	NA	NA	NA	
	LATITUDE, 0.0051 MINUTE	AT	CR	M.5	SCALE INDICATOR X COORDINATE Y COORDINATE	RX RX RX	G9
	LONGITUDE, 0.0051 MINUTE	AT	CR	M.5	SCALE INDICATOR X COORDINATE Y COORDINATE	RX RX RX	G9
	AREA MAJOR AXIS	63	NONE	NA	NA	NA	
	AREA MINOR AXIS	63	NONE	NA	NA	NA	
	AXIS ORIENTATION	255	NONE	NA	NA	NA	
	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	3	NONE	NA	NA	NA	
	COURSE	AT	CR	M.85	SWITCH X DOT Y DOT	0 RX RX	G8
J3.7C3	SPEED	AT	CR	M.85	SWITCH X DOT Y DOT	0 RX RX	G8
	ALTITUDE, 25 FT	AT	CR	M.85	SWITCH HEIGHT/DEPTH SWITCH HEIGHT/DEPTH	1 0 RX	G10
	EMITTER NUMBER INDICATOR	0	NONE	NA	NA	NA	
	EMITTER NUMBER	0	NONE	NA	NA	NA	
	WARTIME RESERVE MODE INDICATOR	0	NONE	NA	NA	NA	
	EMITTER CONFIDENCE	0	NONE	NA	NA	NA	
	NOT TRANSLATED						
J3.7C4							

TABLE A.5.2-J3.7-1. J3.7 Message Data Element Translation from the M.5/M.85 Message (Sheet 3 of 4)

WORD J3.7C5	DATA ELEMENT NOT TRANSLATED	TRANSLATION			FIELD	VALUE	NOTES
		VALUE	REQUIRED	MESSAGE			

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TABLE A.5.2-J3.7-1. J3.7 Message Data Element Translation from the M.5/M.85
Message (Sheet 4 of 4)

NOTES

1. The J3.7 message is only translated from an M.5 message when Point = 0.
2. When the M.85 Switch = 0, the J3.7I Minute field is transmitted as No Statement. When Switch = 1, the J3.7I Minute field is determined from the M.85 Time Switch and Minutes fields as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
MINUTE	TIME SWITCH
0-59 - 0 THROUGH 59	1
63 - NO STATEMENT	0

3. When the M.85 Switch = 0, the J3.7I Hour field is forwarded as No Statement. When Switch = 1, the J3.7I Hour field is determined from the M.85 Time Switch and Hours fields as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
HOUR	TIME SWITCH
0-23 (0-23 HOURS)	1
31 - NO STATEMENT	0

TABLE A.5.2-J3.7-2. J3.7 Message Data Element Translation from the M.6A Message (Sheet 1 of 5)

WORD J3.7I	Link 16				Link 11/11B		
	DATA ELEMENT	TRANSLATION			FIELD	VALUE NA	NOTES
		WORD FORMAT	VALUE 0	REQUIRED NONE	MESSAGE NA		
LABEL, J-SERIES	3	CR		M.6A	LABEL	6	
SUBLABEL, J-SERIES	7	CR		M.6A	SUB_LABEL	0	
MESSAGE LENGTH INDICATOR	AR	NONE		NA	NA	NA	G3
EXERCISE INDICATOR	0	NONE		NA	NA	NA	
FORCE TELL INDICATOR	AT	CR		M.9A(AC=5 OR 7)	STATUS INDICATOR	1	G4
EMERGENCY INDICATOR	AT	CR		M.9A(AC=5 OR 7)	STATUS INDICATOR	0	G4
SPECIAL PROCESSING INDICATOR	RX	=		M.1 or M.9A(AC=0)	SPECIAL PROCESSING INDICATOR	RX	G5
SIMULATION INDICATOR	RX	=		M.9A(AC=0)	SIMULATION INDICATOR	RX	G6
TRACK NUMBER, REFERENCE	AT	CR		M.6A	TRACK NUMBER	RX	G13
FIX OR BEARING DESCRIPTOR	4	NONE		NA	NA	NA	1
SECOND	AT	CR		M.6A	ACTION VALUE TIME STALE	1 RX	3
MINUTE	AT	CR		M.6A	ACTION VALUE TIME STALE	1 RX	3
HOUR	AT	CR		M.6A	ACTION VALUE TIME STALE	1 RX	3
IDENTITY DIFFERENCE INDICATOR	0	NONE		NA	NA	NA	
SQUARE/CIRCLE SWITCH	0	NONE		NA	NA	NA	
IDENTITY	AT	CR		M.6A	ACTION VALUE THREAT EVALUATION	1 RX	2
IDENTITY AMPLIFYING DESCRIPTOR	NA	NONE		NA	NA	NA	
LOCK-ON INDICATOR	0	NONE		NA	NA	NA	

TABLE A.5.2-J3.7-2. J3.7 Message Data Element Translation from the M.6A Message (Sheet 2 of 5)

Link 16				Link 11/11B			
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		WORD FORMAT	VALUE	REQUIRED	MESSAGE		
J3.7C1	CONTINUATION WORD LABEL		1	NONE	NA	NA	NA
	BEARING ORIGIN		0	NONE	NA	NA	NA
	BEARING		RX	=	M.6A	ACTION VALUE BEARING	0 RX
	TRACK NUMBER, ORIGIN		AT	CR	M.6A	ACTION VALUE TN OF ORIGIN	0 RX
	BEARING ACCURACY		AT	CR	M.6A	ACTION VALUE BEARING ACCURACY	0 RX
	ELEVATION ANGLE		RX	=	M.6A	ACTION VALUE SWITCH ELEVATION	1 1 RX
	PLATFORM EVALUATION CONFIDENCE		0	NONE	NA	NA	NA
	ENVIRONMENT		AT	CR	M.6A	ACTION VALUE PLATFORM	1 RX
J3.7C2	WORD FORMAT		1	NONE	NA	NA	NA
	CONTINUATION WORD LABEL		2	NONE	NA	NA	NA
	LATITUDE, 0.0051 MINUTE		AT	CR	(See Note 8)	NA	NA
	LONGITUDE, 0.0051 MINUTE		AT	CR	(See Note 8)	NA	NA
	AREA MAJOR AXIS		63	NONE	NA	NA	
	AREA MINOR AXIS		63	NONE	NA	NA	
	AXIS ORIENTATION		255	NONE	NA	NA	NA
J3.7C3	NOT TRANSLATED						
J3.7C4	WORD FORMAT		1	NONE	NA	NA	NA
	CONTINUATION WORD LABEL		4	NONE	NA	NA	NA
	PLATFORM		AT	CR	M.6A	PLATFORM	RX
							7

TABLE A.5.2-J3.7-2. J3.7 Message Data Element Translation from the M.6A Message (Sheet 3 of 5)

WORD J3.7C4 (Cont'd)	DATA ELEMENT FREQUENCY/FREQUENCY RANGE INDICATOR	TRANSLATION			FIELD NA	VALUE NA	NOTES
		LINK 16 VALUE 1	REQUIRED NONE	MESSAGE NA			
	FREQUENCY MULTIPLIER, 1	AT	CR	M.6A	ACTION VALUE SWITCH FREQUENCY	1 0 RX	G19
	FREQUENCY, 1	AT	CR	M.6A	ACTION VALUE SWITCH FREQUENCY	1 0 RX	G19
	FREQUENCY MULTIPLIER, 2	AT	CR	M.6A	ACTION VALUE SWITCH FREQUENCY	1 0 RX	G19
	FREQUENCY, 2	AT	CR	M.6A	ACTION VALUE SWITCH FREQUENCY	1 0 RX	G19
J3.7C5	NOT TRANSLATED						

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TABLE A.5.2-J3.7-2. J3.7 Message Data Element Translation from the M.6A Message
(Sheet 4 of 5)

NOTES

1. The M.6A only describes EA LOBs. Therefore, Fix or Bearing Descriptor is always set to 4 (Bearing EA).

2. Identity is determined from the M.6A Threat Evaluation field as follows:

<u>Link 16</u>
<u>IDENTITY</u>
0 - PENDING
1 - UNKNOWN
3 - FRIEND
5 - SUSPECT

<u>Link 11/11B</u>
<u>THREAT EVALUATION</u>
0 - PENDING
1 - UNKNOWN
2 - NONTREAT/FRIEND
3 - THREAT

3. Hour, Minute, and Second are determined from the M.6A Time Stale field by subtracting the value in the Time Stale field from the estimated time of transmission of the J3.7 message, rounding to the nearest second. Time Stale = 127, No Statement, shall be translated to Hour = 31, No Statement, Minute = 63, No Statement, and Second = 63, No Statement.

4. The M.6A message only describes EA LOBs relative to a TN of Origin. Therefore, Bearing Origin in the J3.7 message is set to 0.

5. Bearing Accuracy is determined as follows:

<u>Link 16</u>
<u>BEARING ACCURACY</u>
0 (NO STATEMENT)
3 (<= 5.0 DEGREES)
6 (<= 2.0 DEGREES)
7 (<= 1.0 DEGREES)

<u>Link 11/11B</u>
<u>BEARING ACCURACY</u>
3 (> = 5 DEGREES/NO STATEMENT)
2 (< 5 DEGREES)
1 (< 2 DEGREES)
0 (< 1 DEGREE)

6. When Action Value = 1 and Switch = 1, the M.6A Elevation equates to the J3.7 Elevation Angle, except that M.6A Elevation = 512 shall be converted to J3.7 Elevation Angle = 511, because J3.7 Elevation Angle = 512 means No Statement, but M.6A Elevation = 512 means $\pi/2$.

7. The J3.7 Environment (ENV) and Platform fields are determined from the M.6A Platform field as follows:

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TABLE A.5.2-J3.7-2. J3.7 Message Data Element Translation from the M.6A Message
(Sheet 5 of 5)

NOTES (Continued)

7. (Continued)

<u>Link 16</u>		<u>Link 11/11B</u>
<u>ENVIRONMENT</u>	<u>PLATFORM TYPE</u>	<u>PLATFORM</u>
0 - NO STATEMENT/ UNKNOWN	0 - NO STATEMENT	0 - NO STATEMENT
<u>Link 16</u>		<u>Link 11/11B</u>
<u>ENVIRONMENT</u>	AIR PLATFORM	<u>PLATFORM</u>
2 - AIR	0 - NO STATEMENT	2 - AIRBORNE (AIRCRAFT EXCLUDING MISSILE)
	13 - MISSILE	1 - MISSILE
	36 - MISSILE CONTROL UNIT	6 - MISSILE CONTROL UNIT (AIRBORNE)
<u>Link 16</u>		<u>Link 11/11B</u>
<u>ENVIRONMENT</u>	SURFACE PLATFORM	<u>PLATFORM</u>
3 - SURFACE	0 - NO STATEMENT	3 - SURFACE
	33 - MISSILE CONTROL UNIT	7 - MISSILE CONTROL UNIT (SURFACE/ SUBSURFACE)
<u>Link 16</u>		<u>Link 11/11B</u>
<u>ENVIRONMENT</u>	SUBSURFACE PLATFORM	<u>PLATFORM</u>
4 - SUBSURFACE	0 - NO STATEMENT	4 - SUBSURFACE (SUBMARINE)
<u>Link 16</u>		<u>Link 11/11B</u>
<u>ENVIRONMENT</u>	LAND PLATFORM	<u>PLATFORM</u>
5 - LAND	0 - NO STATEMENT	5 - LAND

8. If the position of the M.6A TN of Origin is held by the FJU, the position may be translated and forwarded as Latitude and Longitude in the J3.7C2 word. (This position may be obtained from a previously reported M.1, M.2, M.3, M.4, and/or M.5 message.) Otherwise, Latitude and Longitude shall be forwarded as No Statement.

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TABLE A.5.2-J3.7-3. J3.7 Message Data Element Translation from the M.6B/M.86B Message (Sheet 1 of 6)

Link 16					Link 11/11B		
WORD J3.7I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		0	NONE	MESSAGE NA			
	LABEL, J-SERIES	3	CR	M.6B	LABEL	6	
	SUBLABEL, J-SERIES	7	CR	M.6B	SUB_LABEL	1	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	EXERCISE INDICATOR	0	NONE	NA	NA	NA	
	FORCE TELL INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	1	G4
	EMERGENCY INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	0	G4
	SPECIAL PROCESSING INDICATOR	RX	=	M.1 or M.9A(AC=0)	SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR	RX RX	G5 G5
	SIMULATION INDICATOR	RX	=	M.9A(AC=0)	SIMULATION INDICATOR	RX	G6
	TRACK NUMBER, REFERENCE	AT	CR	M.6B	TRACK NUMBER	RX	G13
	FIX OR BEARING DESCRIPTOR	AT	CR	M.6B M.86B	FIX OR BEARING REPORT SOURCE BEARING INDICATOR	RX RX RX	1
	SECOND	0	NONE	NA	NA	NA	
	MINUTE	AT	CR	M.86B	TIME STALE	RX	2
	HOUR	AT	CR	M.86B	TIME STALE	RX	2
	IDENTITY DIFFERENCE INDICATOR	0	NONE	NA	NA	NA	
	SQUARE/CIRCLE SWITCH		NONE	NA	NA	NA	
	IDENTITY	AT	CR	M.6B	THREAT EVALUATION	RX	3
	IDENTITY AMPLIFYING DESCRIPTOR	NA	NONE	NA	NA	NA	
	LOCK-ON INDICATOR	0	NONE	NA	NA	NA	
J3.7C1	WORD FORMAT	1	NONE	NA	NA	NA	

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TABLE A.5.2-J3.7-3. J3.7 Message Data Element Translation from the M.6B/M.86B Message (Sheet 2 of 6)

		Link 16			Link 11/11B		
WORD J3.7C1 (Cont'd)	DATA ELEMENT CONTINUATION WORD LABEL	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 1	REQUIRED NONE	MESSAGE NA			
	BEARING ORIGIN	1	NONE	NA	NA	NA	
	BEARING	AT	CR	M.86B	BEARING INDICATOR BEARING	0 RX	4
	TRACK NUMBER, ORIGIN	0	NONE	NA	NA	NA	
	BEARING ACCURACY	AT	CR	M.86B	BEARING ACCURACY	RX	5
	ELEVATION ANGLE	512	NONE	NA	NA	NA	
	PLATFORM EVALUATION CONFIDENCE	RX	=	M.86B	REPORT SOURCE PLATFORM EVALUATION CONFIDENCE	1 RX	6
	ENVIRONMENT	AT	CR	M.6B or M.6B M.86B	PLATFORM EVALUATION SWITCH BROAD CLASSIFICATION AMPLIFYING CHARACTERISTICS	RX 0 4 5	7 7
J3.7C2	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	2	NONE	NA	NA	NA	
	LATITUDE, 0.0051 MINUTE	AT	CR	M.6B	X COORDINATE Y COORDINATE	RX RX	G9
	LONGITUDE, 0.0051 MINUTE	AT	CR	M.6B	X COORDINATE Y COORDINATE	RX RX	G9
	AREA MAJOR AXIS	63	NONE	NA	NA	NA	
	AREA MINOR AXIS	63	NONE	NA	NA	NA	
	AXIS ORIENTATION	255	NONE	NA	NA	NA	
J3.7C3	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	3	NONE	NA	NA	NA	
	COURSE	511	NONE	NA	NA	NA	
	SPEED	2047	NONE	NA	NA	NA	

TABLE A.5.2-J3.7-3. J3.7 Message Data Element Translation from the M.6B/M.86B Message (Sheet 3 of 6)

		Link 16			Link 11/11B		
WORD J3.7C3 (Cont'd)	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		VALUE	REQUIRED	MESSAGE			
	ALTITUDE, 25 FT	8191	NONE	NA	NA	NA	
	EMITTER NUMBER INDICATOR	1	CR	M.86B	EVALUATION SWITCH	1	
	EMITTER NUMBER	RX	=	M.86B	EVALUATION SWITCH EMITTER NUMBER	1 RX	G15
	WARTIME RESERVE MODE INDICATOR	0	NONE	NA	NA	NA	
	EMITTER CONFIDENCE	RX	=	M.86B	EVALUATION SWITCH CONFIDENCE	1 RX	
J3.7C4	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	4	NONE	NA	NA	NA	
	PLATFORM	AT	CR	M.6B or M.6B M.86B	PLATFORM EVALUATION SWITCH BROAD CLASSIFICATION AMPLIFYING CHARACTERISTICS	RX 0 4 5	7 7
	FREQUENCY/FREQUENCY RANGE INDICATOR	AT	CR	M.86B	EVALUATION SWITCH FREQUENCY MULTIPLIER	0 RX	G19
	FREQUENCY MULTIPLIER, 1	AT	CR	M.86B	EVALUATION SWITCH FREQUENCY MULTIPLIER	0 RX	G19
	FREQUENCY, 1	AT	CR	M.86B	EVALUATION SWITCH FREQUENCY/FREQUENCY RANGE	0 RX	G19
	FREQUENCY MULTIPLIER, 2	AT	CR	M.86B	EVALUATION SWITCH FREQUENCY MULTIPLIER	0 RX	G19
	FREQUENCY, 2	AT	CR	M.86B	EVALUATION SWITCH FREQUENCY/FREQUENCY RANGE	0 RX	G19
J3.7C5	NOT TRANSLATED						

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TABLE A.5.2-J3.7-3. J3.7 Message Data Element Translation from the M.6B/M.86B
Message (Sheet 4 of 6)

NOTES

1. Fix or Bearing Descriptor is determined from the M.6B Fix or Bearing (F/B), M.86B Report Source (RS), and the M.86B Bearing Indicator fields, as follows:

<u>Link 16</u>	<u>Link 11/11B</u>		
<u>FIX OR BEARING DESCRIPTOR</u>	<u>FIX OR BEARING</u>	<u>REPORT SOURCE</u>	<u>BEARING INDICATOR</u>
0 - EW FIX	1 - FIX	0 - ES (OTHER THAN RDF)	0 OR 1
3 - BEARING, ES	0 - BEARING	0 - ES (OTHER THAN RDF)	0 - BEARING
5 - BEARING, RADIO DIRECTION FINDING	0 - BEARING	1 - RDF	NA
7 - BEARING, UNKNOWN	0 - BEARING	0 - ES (OTHER THAN RDF)	1 - BEARING UNKNOWN

(Note: An M.6B/M.86B with F/B = 1 and RS = 1 is illegal. Also, when M.86B RS = 1, the M.86B has no Bearing Indicator field.)

2. Hour and Minute are determined from the M.86B Time Stale field by subtracting the value in the Time Stale field from the estimated time of transmission of the J3.7 message, rounding to the nearest whole minute. This procedure will be used when Time Stale = 30, even though 30 is defined as 30 minutes or more. Time Stale = 31, Nonreal-Time Fix or Bearing, shall be translated to Hour = 31, No Statement, and Minute = 63, No Statement.

3. The Identity field is determined from the M.6B Threat Evaluation field as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>IDENTITY</u>	<u>THREAT EVALUATION</u>
0 - PENDING	0 - PENDING
1 - UNKNOWN	1 - UNKNOWN
2 - ASSUMED FRIEND	2 - NONTREAT/FRIEND
5 - SUSPECT	3 - THREAT

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TABLE A.5.2-J3.7-3. J3.7 Message Data Element Translation from the M.6B/M.86B
Message (Sheet 5 of 6)

NOTES (Continued)

4. Link 11/11B Bearing is in 360/512 degree increments, and Link 16 Bearing is in 360/4096 degree increments. Translate Link 11/11B to the nearest Link 16 increment (.5 rounded up).

5. Bearing Accuracy is determined as follows:

<u>Link 16</u>
BEARING ACCURACY
0 (NO STATEMENT)
1 (> 10.0 DEGREES)
2 (<= 10.0 DEGREES)
6 (<= 2.0 DEGREES)

<u>Link 11/11B</u>
BEARING ACCURACY
0 (NO STATEMENT)
3 (= OR > 10 DEGREES)
2 (< 10 DEGREES)
1 (< 2 DEGREES)

6. If Report Source is equal to 0, Platform Evaluation Confidence will be transmitted as value 0.

7. If M.6B/M.86B Evaluation Switch = 0, Broad Classification = 4 - Countermeasures, and Amplifying Characteristics = 5 - Active Electronic Decoy, the J3.7 Environment/Category shall be set to 2 - Air and Platform shall be set to 49 - Active Electronic Decoy. Otherwise, the J3.7 Environment (ENV) and Platform fields are determined from the M.6B Platform field as follows:

<u>Link 16</u>	<u>LINK 11/11B</u>
ENVIRONMENT	PLATFORM
0 - NO STATEMENT/ UNKNOWN	0 - NO STATEMENT

<u>Link 11/11B</u>
PLATFORM

<u>Link 16</u>	<u>Link 11/11B</u>
ENVIRONMENT	PLATFORM
2 - AIR	2 - AIRBORNE (AIRCRAFT EXCLUDING MISSILE)
	1 - MISSILE
	6 - MISSILE CONTROL UNIT (AIRBORNE)

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TABLE A.5.2-J3.7-3. J3.7 Message Data Element Translation from the M.6B/M.86B Message (Sheet 6 of 6)

NOTES (Continued)

7. (Continued)

<u>Link 16</u>	<u>Link 11/11B</u>
ENVIRONMENT	SURFACE PLATFORM
3 - SURFACE	0 - NO STATEMENT
	33 - MISSILE CONTROL
	UNIT
ENVIRONMENT	SUBSURFACE PLATFORM
4 - SUBSURFACE	0 - NO STATEMENT
ENVIRONMENT	LAND PLATFORM
5 - LAND	0 - NO STATEMENT

TABLE A.5.2-J3.7-4. J3.7 Message Data Element Translation from the M.9F(0)/M.89F(0) Message (Sheet 1 of 4)

Link 16				Link 11/11B			
WORD J3.7I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	3	CR	M.9F(0)	LABEL	9	
	SUBLABEL, J-SERIES	7	CR	M.9F(0)	SUBLABEL	5	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	EXERCISE INDICATOR	0	NONE	NA	NA	NA	
	FORCE TELL INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	1	G4
	EMERGENCY INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	0	G4
	SPECIAL PROCESSING INDICATOR	RX	=	M.1 or M.9A(AC=0)	SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR	RX RX	G5 G5
	SIMULATION INDICATOR	RX	=	M.9A(AC=0)	SIMULATION INDICATOR	RX	G6
	TRACK NUMBER, REFERENCE	AT	CR	M.9F(0)	TRACK NUMBER	RX	G13
	FIX OR BEARING DESCRIPTOR	1	CR	M.89F(0)	SOURCE	1 or 2	
	SECOND	0	NONE	NA	NA	NA	
	MINUTE	RX	=	M.89F(0)	MINUTES	RX	
	HOUR	RX	=	M.89F(0)	HOURS	RX	
	IDENTITY DIFFERENCE INDICATOR	0	NONE	NA	NA	NA	
	SQUARE/CIRCLE SWITCH	AT	CR	M.89F(0)	SQUARE/CIRCLE SWITCH	RX	1
	IDENTITY	0	NONE	NA	NA	NA	2
	IDENTITY AMPLIFYING DESCRIPTOR	NA	NONE	NA	NA	NA	
	LOCK-ON INDICATOR	0	NONE	NA	NA	NA	
J3.7C1	WORD FORMAT	1	NONE	NA	NA	NA	

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TABLE A.5.2-J3.7-4. J3.7 Message Data Element Translation from the M.9F(0)/M.89F(0) Message (Sheet 2 of 4)

		Link 16			Link 11/11B		
WORD J3.7C1 (Cont'd)	DATA ELEMENT CONTINUATION WORD LABEL	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 1	REQUIRED NONE	MESSAGE NA			
J3.7C1 (Cont'd)	BEARING ORIGIN	0	NONE	NA	NA	NA	
	BEARING	0	NONE	NA	NA	NA	
	TRACK NUMBER, ORIGIN	0	NONE	NA	NA	NA	
	BEARING ACCURACY	0	NONE	NA	NA	NA	
	ELEVATION ANGLE	512	NONE	NA	NA	NA	
	PLATFORM EVALUATION CONFIDENCE	0	NONE	NA	NA	NA	
	ENVIRONMENT	AT	CR	M.89F(0)	CATEGORY/PLATFORM	RX	3
J3.7C2	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	2	NONE	NA	NA	NA	
	LATITUDE, 0.0051 MINUTE	AT	CR	M.9F(0)	X COORDINATE Y COORDINATE	RX RX	G9
	LONGITUDE, 0.0051 MINUTE	AT	CR	M.9F(0)	X COORDINATE Y COORDINATE	RX RX	G9
	AREA MAJOR AXIS	AT	CR	M.89F(0)	MAJOR AXIS	RX	G18
	AREA MINOR AXIS	AT	CR	M.89F(0)	MINOR AXIS	RX	G18
	AXIS ORIENTATION	AT	CR	M.89F(0)	BEARING	RX	G17
J3.7C3	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	3	NONE	NA	NA	NA	
	COURSE	AT	CR	M.9F(1)	SWITCH SCALE INDICATOR X DOT Y DOT	0 RX RX RX	G8

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TABLE A.5.2-J3.7-4. J3.7 Message Data Element Translation from the M.9F(0)/M.89F(0) Message (Sheet 3 of 4)

Link 16		TRANSLATION			Link 11/11B		
WORD	DATA ELEMENT	VALUE	REQUIRED	MESSAGE	FIELD	VALUE	NOTES
J3.7C3 (Cont'd)	SPEED	AT	CR	M.9F(1)	SWITCH	0	
					SCALE INDICATOR	RX	G8
					X DOT	RX	
					Y DOT	RX	
	ALTITUDE, 25 FT	8191	NONE	NA	NA	NA	
	EMITTER NUMBER INDICATOR	0	NONE	NA	NA	NA	
	EMITTER NUMBER	0	NONE	NA	NA	NA	
	WARTIME RESERVE MODE INDICATOR	0	NONE	NA	NA	NA	
	EMITTER CONFIDENCE	0	NONE	NA	NA	NA	
J3.7C4	NOT TRANSLATED						
J3.7C5	NOT TRANSLATED						

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TABLE A.5.2-J3.7-4. J3.7 Message Data Element Translation from the
M.9F(0)/M.89F(0) Message (Sheet 4 of 4)

NOTES

1. The Square/Circle Switch is determined as follows:

<u>Link 16</u>
SQUARE/CIRCLE SWITCH
1 - SQUARE/RECTANGULAR
2 - CIRCULAR/ELLIPTICAL

<u>Link 11/11B</u>
SQUARE/CIRCLE SWITCH
0 - SQUARE/RECTANGLE
1 - CIRCLE/ELLIPSE

2. Identity is not contained in the M.9F/M.89F message. Therefore, Identity in the J3.7I word shall be set to 0 (Pending).

3. Environment is determined from M.89F(AC=0) Category/Platform field as follows:

<u>Link 16</u>
ENVIRONMENT
0 - NO STATEMENT/UNKNOWN
2 - AIR
3 - SURFACE
4 - SUBSURFACE

<u>Link 11/11B</u>
CATEGORY/PLATFORM
0 - NO STATEMENT
1 - AIR
2 - SURFACE
3 - SUBSURFACE

TABLE A.5.2-J5.4-1. J5.4 Message Data Element Translation from the M.4C/M.84C Message (Sheet 1 of 4)

Link 16				Link 11/11B			
WORD J5.4I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	5	CR	M.4C	LABEL	4	1
	SUBLABEL, J-SERIES	4	CR	M.4C	SUB_LABEL	2	1
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	EXERCISE INDICATOR	0	NONE	NA	NA	NA	
	PPLI TRACK NUMBER AND IDENTITY INDICATOR	0	NONE	NA	NA	NA	
	FORCE TELL INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	1	G4
	EMERGENCY INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	0	G4
	SPECIAL PROCESSING INDICATOR	RX	=	M.1	SPECIAL PROCESSING INDICATOR	RX	G5
	SIMULATION INDICATOR	RX	=	M.9A(AC=0)	SIMULATION INDICATOR	RX	G6
	TRACK NUMBER, REFERENCE	AT	CR	M.4C	TRACK NUMBER	RX	G13
	IDENTITY	AT	CR	M.4C	IDENTITY	RX	2
	IDENTITY AMPLIFYING DESCRIPTOR	NA	NONE	NA	NA	NA	
	CONFIDENCE LEVEL	0	NONE	NA	NA	NA	
	SUBSURFACE PLATFORM	0	NONE	NA	NA	NA	
	MINUTE	AT	CR	M.4B	MINUTES TIME SWITCH	RX RX	3
	HOUR	AT	CR	M.4B	HOURS TIME SWITCH	RX RX	3
	BEARING DRIFT	0	NONE	NA	NA	NA	
	AUDIO	0	NONE	NA	NA	NA	
	DOPPLER	0	NONE	NA	NA	NA	
J5.4E0	WORD FORMAT	2	NONE	NA	NA	NA	

TABLE A.5.2-J5.4-1. J5.4 Message Data Element Translation from the M.4C/M.84C Message (Sheet 2 of 4)

Link 16					Link 11/11B		
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		AT	CR	MESSAGE			
J5.4E0 (Cont'd)	LATITUDE, 0.0051 MINUTE	AT	CR	M.4C	SCALE INDICATOR	RX	
					X COORDINATE	RX	
					Y COORDINATE	RX	
	LONGITUDE, 0.0051 MINUTE	AT	CR	M.4C	SCALE INDICATOR	RX	G9
					X COORDINATE	RX	
					Y COORDINATE	RX	
	BEARING REPORT TYPE	AT	CR	M.4C M.84C	SWITCH BEARING	0 RX	1,4
	FREQUENCY, SOURCE ACOUSTIC	AT	CR	M.84C	MAIN RATE FREQUENCY	RX	5
	BEARING 1, ASW	AT	CR	M.4C M.84C	SWITCH BEARING	0 RX	1,4
	WORD FORMAT	1	NONE	NA	NA	NA	
J5.4C1	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	
	FREQUENCY, ASSOCIATED ACOUSTIC 1	0	NONE	NA	NA	NA	
	FREQUENCY, ASSOCIATED ACOUSTIC 2	0	NONE	NA	NA	NA	
	BEARING 2, ASW	0	NONE	NA	NA	NA	6
	BROADBAND	0	NONE	NA	NA	NA	
	RANGE ACCURACY, ASW	0	NONE	NA	NA	NA	
	RANGE	AT	CR	M.4C M.84C	SWITCH RANGE	0 RX	1,7
	SENSOR INDICATOR	0	NONE	NA	NA	NA	
	BEARING ACCURACY, ASW	AT	CR	M.84C	BEARING ACCURACY	RX	8
J5.4C2	NOT TRANSLATED						

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TABLE A.5.2-J5.4-1. J5.4 Message Data Element Translation from the M.4C/M.84C
Message (Sheet 3 of 4)

NOTES

1. The J5.4 message is only translated from an M.4C when Switch value is 0 (Bearing and/or Range). When the M.4C Switch value is 2 or 3, the J3.0 message is forwarded.
2. The Identity field is determined as follows:

<u>Link 16</u>	
<u>IDENTITY</u>	
0	- PENDING
1	- UNKNOWN
3	- FRIEND
6	- HOSTILE

<u>Link 11</u>	
<u>IDENTITY</u>	
0	- NO STATEMENT/PENDING
3	- UNKNOWN
1	- FRIEND
2	- HOSTILE

3. If M.4B Time Switch = 1, J5.4I Minute and Hour equate to M.4B Minutes and Hours, respectively. Otherwise, J5.4I Minute and Hour shall be set to No Statement.

4. The J5.4 Bearing Report Type (BRT) and Bearing 1, ASW fields are determined from the M.84C Bearing field as follows:

<u>Link 16</u>	
<u>BEARING REPORT TYPE</u>	<u>BEARING 1, ASW</u>
0	0-254 (0357 3/16 DEGREES)
3	(NOT INTERPRETED)

<u>Link 11/11B</u>	
<u>BEARING</u>	
0-254	(0 THROUGH 357 48/256 DEGREES)
255	(NO STATEMENT/ UNKNOWN)

5. The Frequency, Source Acoustic (FSA) is translated from the middle frequency of the frequency range reported in the M.84C Main Rate Frequency (MRF) field. For example, the M.84C value 2 (100 < F < 200 HZ) equates to the J5.4 value 1200 (150 HZ). This is derived by the following formula:

The value of the FSA = the value of the (MRF X 800) - 400. For example, 1200 = (2 X 800) - 400 for the M.84C value 2 (100 < F < 200 HZ).

MRF = 0 and 26-31 shall be translated to FSA = 0.

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TABLE A.5.2-J5.4-1. J5.4 Message Data Element Translation from the M.4C/M.84C
Message (Sheet 4 of 4)

NOTES (Continued)

6. Ambiguous bearings are not reported in the M.4C/M.84C/M.4B Bearing message. Therefore, the Bearing 2, ASW field shall be set to 0 (0 Degrees) for transmission.

7. The conversion of Range between Link 16 and Link 11 is as follows:

<u>Link 16</u>
RANGE
0 - NO STATEMENT/UNKNOWN
1-524 (250-131,000 Yds)

<u>Link 11/11B</u>
RANGE
0 - NO STATEMENT/UNKNOWN
1-8, 191 (16-131,056 Yds)

Link 16 Range is in 250 yard increments, and Link 11 range is in 16 yard increments. Link 11 Range of 16 to 112 shall translate to 250 yards in Link 16. All other Link 11 Ranges shall be translated to the nearest Link 16 250 yard increment.

8. The J5.4C1 Bearing Accuracy, ASW field is determined from the M.84C Bearing Accuracy field as follows:

<u>Link 16</u>
BEARING ACCURACY, ASW
0 (NO STATEMENT)
1 (+ OR - 2 DEGREES)
2 (+ OR - 5 DEGREES)
3 (+ OR - 10 DEGREES)
4 (+ OR - 15 DEGREES)
5 (+ OR - 20 DEGREES)
6 (+ OR - 30 DEGREES)
8 (OVER 45 DEGREES)

<u>Link 11/11B</u>
BEARING ACCURACY
0 (NO STATEMENT)
1 (< = 2 DEGREES)
2 (< = 5 DEGREES)
3 (< = 10 DEGREES)
4 (< = 15 DEGREES)
5 (< = 20 DEGREES)
6 (< = 30 DEGREES)
7 (OVER 30 DEGREES)

TABLE A.5.2-J5.4-2. J5.4 Message Data Element Translation from the M.4D/M.84D Message (Sheet 1 of 6)

WORD J5.4I	DATA ELEMENT WORD FORMAT	TRANSLATION			Link 11/11B		
		VALUE 0	REQUIRED NONE	MESSAGE NA	FIELD NA	VALUE NA	NOTES
	LABEL, J-SERIES	5	CR	M.4D	LABEL	4	
	SUBLABEL, J-SERIES	4	CR	M.4D	SUB LABEL	3	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	EXERCISE INDICATOR	0	NONE	NA	NA	NA	
	PPLI TRACK NUMBER AND IDENTITY INDICATOR	0	NONE	NA	NA	NA	
	FORCE TELL INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	1	G4
	EMERGENCY INDICATOR	AT	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	0	G4
	SPECIAL PROCESSING INDICATOR	RX	=	M.1	SPECIAL PROCESSING INDICATOR	RX	G5
	SIMULATION INDICATOR	RX	=	M.9A(AC=0)	SIMULATION INDICATOR	RX	G6
	TRACK NUMBER, REFERENCE	AT	CR	M.4D	TRACK NUMBER	RX	G13
	IDENTITY	AT	CR	M.4D	IDENTITY	RX	1
	IDENTITY AMPLIFYING DESCRIPTOR	NA	NONE	NA	NA	NA	
	CONFIDENCE LEVEL	AT	CR	M.84D	SWITCH CLASSIFICATION CLASSIFICATION AMPLIFICATION	0 RX RX	2
	SUBSURFACE PLATFORM	AT	CR	M.84D	SWITCH CLASSIFICATION CLASSIFICATION AMPLIFICATION	0 RX RX	3
	MINUTE	AT	CR	M.4B	MINUTES TIME SWITCH	RX RX	4
	HOUR	AT	CR	M.4B	HOURS TIME SWITCH	RX RX	4

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TABLE A.5.2-J5.4-2. J5.4 Message Data Element Translation from the M.4D/M.84D Message (Sheet 2 of 6)

		Link 16			Link 11/11B		
WORD J5.4I (Cont'd)	DATA ELEMENT BEARING DRIFT	TRANSLATION			FIELD SWITCH BEARING DRIFT	VALUE 0 RX	NOTES 5
		VALUE RX	REQUIRED =	MESSAGE M.84D			
	AUDIO	RX	=	M.4D	B-FRAME SWITCH AUDIO	2 RX	5
	DOPPLER	RX	=	M.4D	B-FRAME SWITCH DOPPLER	2 RX	5
J5.4E0	WORD FORMAT	2	NONE	NA	NA	NA	
	LATITUDE, 0.0051 MINUTE	AT	CR	M.4D	B-FRAME SWITCH X COORDINATE Y COORDINATE	0 or 1 RX RX	G9
	LONGITUDE, 0.0051 MINUTE	AT	CR	M.4D	B-FRAME SWITCH X COORDINATE Y COORDINATE	0 or 1 RX RX	G9
	BEARING REPORT TYPE	AT	CR	M.4D	B-FRAME SWITCH BEARING REPORT TYPE SWITCH	0 or 1 RX 0	6
				M.84D	BEARING INDICATOR	RX	
	FREQUENCY, SOURCE ACOUSTIC	AT	CR	M.4D	B-FRAME SWITCH SOURCE ACOUSTIC FREQUENCY	2 RX	5
	BEARING 1, ASW	AT	CR	M.4D	B-FRAME SWITCH BEARING REPORT TYPE SWITCH	0 or 1 RX 0	7
				M.84D	BEARING 1	RX	
J5.4C1	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	
	FREQUENCY, ASSOCIATED ACOUSTIC 1	AT	CR	M.84D	SWITCH FIRST ASSOCIATED ACOUSTIC FREQUENCY	1 RX	5
	FREQUENCY, ASSOCIATED ACOUSTIC 2	AT	CR	M.84D	SWITCH SECOND ASSOCIATED ACOUSTIC FREQUENCY	1 RX	5

TABLE A.5.2-J5.4-2. J5.4 Message Data Element Translation from the M.4D/M.84D Message (Sheet 3 of 6)

		Link 16			Link 11/11B		
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		AT	CR	MESSAGE			
J5.4C1 (Cont'd)	BEARING 2, ASW			M.4D	B-FRAME SWITCH	0 or 1	5, 7
				M.84D	BEARING REPORT TYPE	RX	
	BROADBAND	AT	CR	M.4D	SWITCH	1	
	RANGE ACCURACY, ASW	AT	CR	M.84D	BEARING 2	RX	
	RANGE	AT	CR	M.84D	B-FRAME SWITCH	2	5
	SENSOR INDICATOR	AT	CR	M.84D	BROADBAND	RX	
	BEARING ACCURACY, ASW	AT	CR	M.84D	SWITCH	0	5
					RANGE ACCURACY	RX	
					SWITCH	0	5
J5.4C2	WORD FORMAT	1	NONE	NA	SENSOR	RX	
	CONTINUATION WORD LABEL	2	NONE	NA	SWITCH	0	8
	DEPTH CONTACT	AT	CR	M.84D	BEARING ACCURACY	RX	
	SUBSURFACE ACTIVITY	0	NONE	NA	CONTACT DEPTH	0	5
	DEPTH, ABOVE/BELOW LAYER (SENSOR)	AT	CR	M.4D	NA	NA	
	DEPTH, SENSOR	AT	CR	M.4D	NA	NA	
	TRACK NUMBER, ORIGIN	AT	CR	M.4D	B-FRAME SWITCH	2	5
	SOUND PROPAGATION PATH	AT	CR	M.4D	ABOVE/BELOW LAYER	RX	
					B-FRAME SWITCH	3	5, 9
					SENSOR DEPTH	RX	
					B-FRAME SWITCH	3	5, G13
					TN ORIGINATOR	RX	
					B-FRAME SWITCH	2	5
					SOUND PROPAGATION	RX	
					PATH		

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TABLE A.5.2-J5.4-2. J5.4 Message Data Element Translation from the M.4D/M.84D
Message (Sheet 4 of 6)

NOTES

1. The J5.4I Identity field is determined as follows:

<u>Link 16</u>	<u>Link 11</u>
<u>IDENTITY</u>	<u>IDENTITY</u>
0 - PENDING	0 - NO STATEMENT/PENDING
1 - UNKNOWN	3 - UNKNOWN
3 - FRIEND	1 - FRIEND
6 - HOSTILE	2 - HOSTILE

2. The J5.4I Confidence Level field is determined from the M.84D Classification and Classification Amplification fields as follows:

<u>Link 16</u>	<u>Link 11</u>	<u>CLASSIFICATION</u>	<u>AMPLIFICATION</u>
<u>CONFIDENCE LEVEL</u>	<u>CLASSIFICATION</u>	<u>CLASSIFICATION</u>	<u>AMPLIFICATION</u>
0 - NO STATEMENT	0 - NO STATEMENT / UNCLASSIFIED	0 - NO STATEMENT	
2 - POSSIBLE SUBMARINE LOW ONE	9-15 - UNDEFINED	ANY	
3 - POSSIBLE SUBMARINE LOW TWO	1 - POSSUB 1		
4 - POSSIBLE SUBMARINE HIGH THREE	2 - POSSUB 2		
5 - POSSIBLE SUBMARINE HIGH FOUR	3 - POSSUB 3		
6 - PROBABLE SUBMARINE	4 - POSSUB 4		
7 - CERTAIN SUBMARINE	5 - PROBABLE SUBMARINE		
8 - NON SUBMARINE	6 - ACOUSTIC POSITIVE (ACPOS)	0, 2-5, 8-15	
9 - SURFACE VESSEL	7 - CERTAIN SUBMARINE	1, 6, 7	
	8 - NONSUBMARINE		

3. The J5.4I Subsurface Platform is determined from the M.84D Classification and Classification Amplification fields as follows:

<u>Link 16</u>	<u>Link 11</u>	<u>CLASSIFICATION</u>	<u>AMPLIFICATION</u>
<u>SUBSURFACE PLATFORM</u>	<u>CLASSIFICATION</u>	<u>CLASSIFICATION</u>	<u>AMPLIFICATION</u>
0	0	0	
1-7	1-7	0, 4, 7, 8, 10, 15	
9-15	9-15	ANY	

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TABLE A.5.2-J5.4-2. J5.4 Message Data Element Translation from the M.4D/M.84D
Message (Sheet 5 of 6)

NOTES (Continued)

3. (Continued)

<u>Link 16</u>	<u>Link 11</u>	<u>CLASSIFICATION</u>	<u>AMPLIFICATION</u>
<u>SUBSURFACE PLATFORM</u>	<u>CLASSIFICATION</u>		
1	1-7	1	
2		3	
6		9	
8		11	
9		2	
14		5	
15		6	
18	8	0, 4, 8-15	
19		1, 6, 7	
20		2	
22		3	
25		5	
33	1-7	12	
34		13	
41		14	

4. If the M.4B Time Switch = 1, J5.4I Minute and Hour equate to M.4B Minutes and Hours, respectively. Otherwise, J5.4I Minute and Hour shall be set to No Statement.

5. If no M.4D with the indicated B-Frame Switch value, or M.84D with the indicated Switch value, is received in this message sequence, the indicated Link 16 fields shall be set to No Statement. Otherwise, the Link 11 fields equate without conversion.

6. If M.84D(SW=0) Bearing Indicator = 1, set J5.4 Bearing Report Type (BRT) to value 3. Otherwise, M.4D BRT equates to J5.4 BRT.

7. If the Link 16 BRT to be forwarded is 0 or 2, Bearing 1 equates without conversion to Bearing 1 ASW, and Bearing 2 ASW shall arbitrarily be set to 0 since it is not interpreted. If the Link 16 BRT to be forwarded is 1, Bearing 1 and Bearing 2 equate without conversion to Bearing 1 ASW and Bearing 2 ASW,

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TABLE A.5.2-J5.4-2. J5.4 Message Data Element Translation from the M.4D/M.84D
Message (Sheet 6 of 6)

NOTES (Continued)

7. (Continued)

respectively. If the Link 16 BRT to be forwarded is 3, Bearing 1 ASW and Bearing 2 ASW shall arbitrarily be set to 0 since these two fields will not be interpreted.

8. The J5.4C1 Bearing Accuracy, ASW field is determined from the M.84D Bearing Accuracy field as follows:

<u>Link 16</u>
<u>BEARING ACCURACY, ASW</u>
0 (NO STATEMENT)
1 (+ OR - 2 DEGREES)
2 (+ OR - 5 DEGREES)
3 (+ OR - 10 DEGREES)
4 (+ OR - 15 DEGREES)
5 (+ OR - 20 DEGREES)
6 (+ OR - 30 DEGREES)
8 (OVER 45 DEGREES)

<u>Link 11/11B</u>
<u>BEARING ACCURACY</u>
0 (NO STATEMENT)
1 (< = 2 DEGREES)
2 (< = 5 DEGREES)
3 (< = 10 DEGREES)
4 (< = 15 DEGREES)
5 (< = 20 DEGREES)
6 (< = 30 DEGREES)
7 (OVER 30 DEGREES)

9. The J5.4C2 Sensor Depth field is derived from the M.4D Sensor Depth field as follows: The Sensor Depth field value forwarded on Link 16 shall be twice that of the Link 11 value; except, when value 21-30 (Undefined), or 31 (No Statement), is received from Link 11, a value 127 (No Statement), shall be forwarded on Link 16.

TABLE A.5.2-J6.0. J6.0 Message Data Element Translation from the M.11M/M.811M Message (Sheet 1 of 13)

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WORD J6.0I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	6	CR	M.11M	LABEL	11	
	SUBLABEL, J-SERIES	0	CR	M.11M	SUBLABEL	12	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	ENVIRONMENT	AT	CR	M.11M	CATEGORY	RX	1
	SPECIAL PROCESSING INDICATOR	RX	=	M.11M	SPECIAL PROCESSING INDICATOR	RX	G5
	TRACK NUMBER, REFERENCE	AT	CR	M.11M	TRACK NUMBER	RX	G13
	NATIONALITY/ALLIANCE OF TRACK	AT	CR	M.11M	NATIONALITY/ALLIANCE	RX	1
	SPACE PLATFORM	0	NONE	NA	NA	NA	
	AIR PLATFORM	AT	CR	M.11M	CATEGORY GENERAL TYPE	1 or 5 RX	3
	SURFACE PLATFORM	AT	CR	M.11M	CATEGORY GENERAL TYPE	2 RX	4
	SUBSURFACE PLATFORM	AT	CR	M.11M	CATEGORY GENERAL TYPE	3 RX	5
	LAND PLATFORM	AT	CR	M.11M	CATEGORY GENERAL TYPE SPECIFIC TYPE	3 RX	6
						RX	15
	SPACE ACTIVITY	0	NONE	NA	NA	NA	
	AIR ACTIVITY	AT	CR	M.11M M.811M	CATEGORY MISSION	1 or 5 RX	7
	SURFACE ACTIVITY	AT	CR	M.11M M.811M	CATEGORY MISSION	2 RX	8
	SUBSURFACE ACTIVITY	AT	CR	M.11M M.811M	CATEGORY MISSION	3 RX	9
	LAND ACTIVITY	AT	CR	M.11M M.811M	CATEGORY MISSION	4 RX	10

TABLE A.5.2-J6.0. J6.0 Message Data Element Translation from the M.11M/M.811M Message (Sheet 2 of 13)

		Link 16			Link 11/11B		
WORD J6.0I (Cont'd)	DATA ELEMENT ACTIVITY AMPLIFICATION INDEX	TRANSLATION			FIELD CATEGORY	VALUE RX	NOTES
		VALUE AT	REQUIRED CR	MESSAGE M.11M			
				M.811M	CURRENT ACTIVITY	RX	11
	OPERATIONAL STATUS	RX	=	M.811M	OPERATIONAL STATUS	RX	
J6.0E0	WORD FORMAT	2	NONE	NA	NA	NA	
	SPACE SPECIFIC TYPE	0	NONE	NA	NA	NA	
	AIR SPECIFIC TYPE	AT	CR	M.11M	CATEGORY GENERAL TYPE SPECIFIC TYPE	1 or 5 RX RX	12
	SURFACE SPECIFIC TYPE	AT	CR	M.11M	CATEGORY GENERAL TYPE SPECIFIC TYPE	2 RX RX	13
A-472	SUBSURFACE SPECIFIC TYPE	AT	CR	M.11M	CATEGORY GENERAL TYPE SPECIFIC TYPE	3 RX RX	14
	LAND SPECIFIC TYPE	AT	CR	M.11M	CATEGORY GENERAL TYPE SPECIFIC TYPE	4 RX RX	15
	TYPE MODIFICATION	0	NONE	NA	NA	NA	
	TRACK NUMBER, OBJECTIVE	AT	CR	M.811M	TRACK NUMBER-2	RX	G13
	LOCAL DISCRETE IDENTIFIER	RX	=	M.811M	SWITCH DISCRETE IDENTIFIER	1 RX	16
	TRACK NUMBER, CONTROLLING AGENCY OF TN REFERENCE	AT	CR	M.811M	SWITCH CONTROLLING UNIT	0 RX	16 G13
J6.0C1	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	
	THREAT TYPE	0	NONE	NA	NA	NA	
	THREAT WEAPON	0	NONE	NA	NA	NA	
	THREAT FUEL	0	NONE	NA	NA	NA	

TABLE A.5.2-J6.0. J6.0 Message Data Element Translation from the M.11M/M.811M Message (Sheet 3 of 13)

Link 16				Link 11/11B			
WORD J6.0C1 (Cont'd)	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		VALUE	REQUIRED	MESSAGE			
	SAM/SSM TYPE, 1	0	NONE	NA		NA	
	SAM/SSM TYPE, 2	0	NONE	NA		NA	
	SAM/SSM TYPE, 3	0	NONE	NA		NA	
NATIONALITY/ALLIANCE OF TRACK, 1		AT	CR	M.11M	NATIONALITY/ALLIANCE	RX	2

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TABLE A.5.2-J6.0. J6.0 Message Data Element Translation from the M.11M/M.811M
Message (Sheet 4 of 13)

NOTES

1. The conversion from Category to Environment is as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>ENVIRONMENT</u>	<u>CATEGORY</u>
0 - NO STATEMENT/UNKNOWN	0 - NO STATEMENT/UNKNOWN
2 - AIR	7 - RESET TO NO STATEMENT/UNKNOWN
3 - SURFACE	1 - AIR
4 - SUBSURFACE	5 - MISSILE
5 - LAND	2 - SURFACE (OCEANIC)
	3 - SUBSURFACE
	4 - LAND

2. Nationality/Alliance of Track and Nationality/Alliance of Track, 1 are derived from Nationality/Alliance as follows:

<u>Link 16</u>		
NATIONALITY/ALLIANCE OF TRACK	NATIONALITY/ALLIANCE OF TRACK, 1	NATIONALITY/ALLIANCE
0	0	0, 53
1-29	0	1-29
31-52	0	31-52
54-98	0	54-98
126	111	30
127	0	99

3. When the M.11M Category = 1 (Air), the J6.0I Air Platform is derived from General Type as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
AIR PLATFORM	GENERAL TYPE
0 - NO STATEMENT	0 - NO STATEMENT
	11-13 - UNDEFINED
	14 - OTHER

APPENDIX A

TABLE A.5.2-J6.0. J6.0 Message Data Element Translation from the M.11M/M.811M
Message (Sheet 5 of 13)

NOTES (Continued)

3. (Continued)

<u>Link 16</u>	<u>Link 11/11B</u>
<u>AIR PLATFORM</u>	<u>GENERAL TYPE</u>
1 - FIGHTER	1 - FIGHTER/INTERCEPTOR
2 - FIGHTER BOMBER	2 - FIGHTER/BOMBER ATTACK
4 - BOMBER	3 - BOMBER
16 - AIRBORNE EARLY WARNING AND CONTROL (AEW)	10 - AEW
19 - DRONE	6 - DRONE/RPV
23 - CIVIL, GENERAL	8 - CIVIL
27 - HELICOPTER (HELO)	4 - HELO
28 - ATTACK HELICOPTER	5 - ATTACK HELO
33 - TACTICAL SUPPORT	7 - SUPPORT
34 - PATROL	9 - PATROL
63 - RESET TO NO STATEMENT	15 - RESET TO NO STATEMENT

When the M.11M Category = 5 (Missile), set the J6.0I Air Platform field to 13 (Missile).

4. When the M.11M Category = 2 (Surface Oceanic), the J6.0I Surface Platform is derived from General Type as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>SURFACE PLATFORM</u>	<u>GENERAL TYPE</u>
0 - NO STATEMENT	0 - NO STATEMENT
1 - AIRCRAFT CARRIER	1 - AIRCRAFT CARRIER
3 - CRUISER	3 - CRUISER
4 - DESTROYER	2 - DESTROYER
5 - FRIGATE	4 - FRIGATE
7 - AMPHIBIOUS	7 - AMPHIBIOUS
12 - TANKER/OILER	9 - TANKER/OILER
14 - MINE WARFARE SHIP	6 - MINE WARFARE
27 - PATROL	5 - PATROL
28 - SUPPORT	8 - SUPPORT
29 - FISHING VESSEL	10 - FISHING BOAT
30 - MERCHANT VESSEL	11 - MERCHANT
63 - RESET TO NO STATEMENT	15 - RESET TO NO STATEMENT

5. When the M.11M Category = 3 (Subsurface), the J6.0I Subsurface Platform is derived from General Type as follows:

APPENDIX A

TABLE A.5.2-J6.0. J6.0 Message Data Element Translation from the M.11M/M.811M
Message (Sheet 6 of 13)

NOTES (Continued)

5. (Continued)

<u>Link 16</u>
<u>SUBSURFACE PLATFORM</u>
0 - NO STATEMENT
12 - NUCLEAR BALLISTIC MISSILE SUBMARINE
28 - ATTACK SUBMARINE
29 - CRUISE MISSILE LAUNCHER
63 - RESET TO NO STATEMENT

<u>Link 11/11B</u>
<u>GENERAL TYPE</u>
0 - NO STATEMENT
4-13 - UNDEFINED
14 - OTHER
3 - BALLISTIC MISSILE LAUNCHER
1 - ATTACK
2 - CRUISE MISSILE LAUNCHER
15 - RESET TO NO STATEMENT

6. When the M.11M Category = 4 (Land), the J6.0I Land Platform is derived from General Type as follows:

<u>Link 16</u>
<u>LAND PLATFORM</u>
0 - NO STATEMENT
1 - TROOP CONCENTRATION/UNIT
7 - AIRFIELD/AIRBASE
13 - CONVOY
21 - FIELD ARTILLERY
22 - AIR DEFENSE ARTILLERY
40 - SURFACE-TO-AIR MISSILE (SAM) SITE
63 - RESET TO NO STATEMENT

<u>Link 11/11B</u>
<u>GENERAL TYPE</u>
0 - NO STATEMENT
14 - OTHER
12 - TROOP CONCENTRATION
5 - AIR BASE
13 - CONVOY/VEHICLE
11 - FIELD ARTILLERY SITE
2 - AAA SITE
1 - SAM SITE
15 - RESET TO NO STATEMENT

Link 11/11B General Types 3 (GCI Site), 4 (EA Site), 6 (Trap), 7 (Dummy), 8 (Command Center), 9 (SSM Site), and 10 (Point Target), equate directly to Link 16 Land Specific Type (see Note 15).

7. When the M.11M Category = 1 (Air), the J6.0I Air Activity is derived from the M.811M Mission field as follows:

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TABLE A.5.2-J6.0. J6.0 Message Data Element Translation from the M.11M/M.811M Message (Sheet 7 of 13)

NOTES (Continued)

7. (Continued)

<u>Link 16</u>	<u>Link 11/11B</u>
AIR ACTIVITY	MISSION
0 - NO STATEMENT	0 - NO STATEMENT
1 - RECONNAISSANCE	21-50 - UNDEFINED
4 - LOGISTICS SUPPORT	4 - RECCE
5 - ANTISURFACE WARFARE	5 - AIRLIFT (LOGISTICS)
8 - SEARCH AND RESCUE (SAR)	19 - ANTISHIP
10 - MINELAYING	15 - SAR
14 - ELECTRONIC WARFARE SUPPORT (ES)	17 - MINE LAYING
16 - PATROL (OCEAN SURVEILLANCE)	10 - ES
18 - ANTISUBMARINE WARFARE (ASW)	6 - PATROL (OCEAN SURVEILLANCE)
21 - AIR ASSAULT	14 - ASW
23 - ELECTRONIC ATTACK (EA)	12 - AIRBORNE ASSAULT
26 - MEDICAL EVACUATION (MEDEVAC)	13 - AIR ASSAULT
27 - MINE COUNTERMEASURES	9 - EA
29 - REFUELING/TANKING	16 - MEDEVAC
30 - INTERDICTION	18 - MINE SWEEPING
31 - COMBAT AIR PATROL (CAP)	11 - REFUEL
35 - CLOSE AIR SUPPORT (CAS)	3 - INTERDICTION
36 - AIRBORNE EARLY WARNING (AEW)	1 - CAP (COUNTER AIR)
38 - AIRBORNE COMMAND POST (ACP)	2 - CAS
44 - SPECIAL	8 - AEW
115-126 - AIR ACTIVITY 1 THROUGH 12	7 - AIRBORNE COMMAND POST (ACP)
127 - RESET TO NO STATEMENT	20 - SPECIAL
	51-62 - AM-1 THROUGH AM-12
	63 - RESET TO NO STATEMENT

When the M.11M Category = 5 (Missile), the J6.0I Air Platform is set to 13 (Missile) and the Air Activity is derived from the M.811M Mission field as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
AIR ACTIVITY	MISSION
0 - NO STATEMENT	0 - NO STATEMENT
5 - ANTISURFACE WARFARE	6-50 - UNDEFINED
18 - ANTISUBMARINE WARFARE (ASW)	51-62 - MM-1 THROUGH MM-12
34 - NONCOMBATANT OPERATIONS	2 - ANTISURFACE WARFARE
43 - STRIKE WARFARE	3 - ANTISUBSURFACE WARFARE
51 - COUNTER-AIR WARFARE	5 - NONCOMBATANT OPERATIONS
127 - RESET TO NO STATEMENT	4 - STRIKE WARFARE
	1 - ANTIAIR WARFARE
	63 - RESET TO NO STATEMENT

APPENDIX A

TABLE A.5.2-J6.0. J6.0 Message Data Element Translation from the M.11M/M.811M
Message (Sheet 8 of 13)

NOTES (Continued)

8. When the M.11M Category = 2 (Surface Oceanic), the J6.0I Surface Activity is derived from the M.811M Mission field as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>SURFACE ACTIVITY</u>	<u>MISSION</u>
0 - NO STATEMENT	0 - NO STATEMENT
1 - AIR WARFARE SUPPORT	11-50 - UNDEFINED
5 - ANTISURFACE WARFARE	2 - AIR WARFARE SUPPORT
6 - ELECTRONIC WARFARE (EW)	3 - ANTISURFACE WARFARE
14 - AMPHIBIOUS WARFARE	8 - ELECTRONIC WARFARE
18 - ANTISUBMARINE WARFARE (ASW)	6 - AMPHIBIOUS WARFARE
21 - SPECIAL WARFARE	4 - ANTISUBMARINE WARFARE
22 - STRIKE WARFARE	10 - SPECIAL WARFARE
23 - ANTIAIR WARFARE	5 - STRIKE WARFARE
27 - MINE WARFARE	1 - ANTIAIR WARFARE
29 - NONCOMBATANT OPERATIONS	7 - MINE WARFARE
115-126 - SURFACE ACTIVITY 1 THROUGH 12	9 - NONCOMBATANT OPERATIONS
127 - RESET TO NO STATEMENT	51-62 - SM-1 THROUGH SM-12
	63 - RESET TO NO STATEMENT

9. When the M.11M Category = 3 (Subsurface), the J6.0I Subsurface Activity is derived from the M.811M Mission field as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>SUBSURFACE ACTIVITY</u>	<u>MISSION</u>
0 - NO STATEMENT	0 - NO STATEMENT
5 - ANTISURFACE WARFARE	9-50 - UNDEFINED
6 - ELECTRONIC WARFARE (EW)	3 - ANTISURFACE WARFARE
14 - AMPHIBIOUS WARFARE	7 - ELECTRONIC WARFARE
18 - ANTISUBMARINE WARFARE (ASW)	4 - AMPHIBIOUS WARFARE
21 - SPECIAL WARFARE	2 - ANTISUBMARINE WARFARE
22 - STRIKE WARFARE	6 - SPECIAL WARFARE
27 - MINE WARFARE	1 - STRIKE WARFARE
29 - NONCOMBATANT OPERATIONS	5 - MINE WARFARE
115-126 - SUBSURFACE ACTIVITY 1 THROUGH 12	8 - NONCOMBATANT OPERATIONS
127 - RESET TO NO STATEMENT	51-62 - UM-1 THROUGH UM-12
	63 - RESET TO NO STATEMENT

10. When the M.11M Category = 4 (Land), the J6.0I Land Activity is derived from the M.811M Mission field as follows:

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TABLE A.5.2-J6.0. J6.0 Message Data Element Translation from the M.11M/M.811M Message (Sheet 9 of 13)

NOTES (Continued)

10. (Continued)

<u>Link 16</u>	<u>Link 11/11B</u>
LAND ACTIVITY	MISSION
0 - NO STATEMENT	0 - NO STATEMENT
127 - RESET TO NO STATEMENT	1-62 - UNDEFINED
	63 - RESET TO NO STATEMENT

11. When M.11M Category = 5, Activity Amplification Index is derived from Current Activity as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
ACTIVITY AMPLIFICATION INDEX	CURRENT ACTIVITY
0 - NO STATEMENT	0 - NO STATEMENT
2 - ASSIGNED TO DESTROY	1 - UNDEFINED
63 - RESET TO NO STATEMENT	3-62 - UNDEFINED
	2 - ASSIGNED TO DESTROY
	63 - RESET TO NO STATEMENT

When M.11M Category is not equal to 5, Activity Amplification Index equates to Current Activity.

12. When the M.11M Category = 1 (Air), the J6.0E0 Air Specific Type is derived from General Type and Specific Type as follows:

<u>Link 16</u>	<u>Link 11/11B</u>	
AIR SPECIFIC TYPE	GENERAL TYPE	SPECIFIC TYPE
0	1	0-31, 49-62
4094	ALL	63
0	2	0-31, 34, 49-62
	3	0-31, 33, 41-62
	4	0-31, 39-62
	5	0-31, 35-62
	6	0-62
	7	0-31, 38, 44, 48-62
	8	0-32, 44-62
	9 or 10	0-62
	11-13	ANY
1	1 or 2	41
2	1 or 2	42
4	1	43
5	1	44

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TABLE A.5.2-J6.0. J6.0 Message Data Element Translation from the M.11M/M.811M
Message (Sheet 10 of 13)

NOTES (Continued)

12. (Continued)

Link 16	Link 11/11B	
AIR SPECIFIC TYPE	GENERAL TYPE	SPECIFIC TYPE
6	1 or 2	45
8	1 or 2	46
38	1	47
39	1	48
45	2	36
50	1 or 2	37
53	1	38
54	2	38
55	2	39
61	1	40
62	1	34
63	1 or 2	35
64	1	36
66	1	39
70	1 or 2	32
71	1 or 2	33
256	2	43
258	2	40
260	2	48
262	3	39
266	3	40
267	2	47
268	2	44
289	3	36
291	3 or 7	34
292	3	35
293	3	38
294	3 or 7	32
296	3	37
592	7	36
594	7	41
766	10	0-31, 62
822	7	40
1027	7	42
1028	7	43
1030	7	45
1031	7	46
1040	7 or 8	37
1042	8	38
1043	8	39
1044	8	40
1048	8	43

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TABLE A.5.2-J6.0. J6.0 Message Data Element Translation from the M.11M/M.811M
Message (Sheet 11 of 13)

NOTES (Continued)

12. (Continued)

Link 16	Link 11/11B	
AIR SPECIFIC TYPE	GENERAL TYPE	SPECIFIC TYPE
1049	8	41
1051	8	42
1071	8	36
1087	7	33
1098	7 or 8	35
1104	8	34
1108	8	33
1109	7	39
1110	7	47
1280	5	34
1290	4	36
1292	4	35
1294	4	38
1300	4	37
1329	5	32
1333	4	32
1334	4	33
1336	4	34
1339	5	33

When the M.11M Category=5, Missile, Specific Type value 63 shall be translated to 4094, Reset to No Statement, in the J6.0E0 Air Specific Type field. All other valid M.11M Category=5 Specific Type values shall be translated to 0, No Statement, in the J6.0E0 Air Specific Type field.

13. When the M.11M Category = 2, Surface Oceanic, Specific Type value 63 shall be translated to 4095, Reset to No Statement, in the J6.0E0 Surface Specific Type field. All other valid M.11M Category = 2 Specific Type values shall be translated to 0, No Statement, in the J6.0E0 Surface Specific Type field.

14. When the M.11M Category = 3, Subsurface, Specific Type value 63 shall be translated to 4095, Reset to No Statement, in the J6.0E0 Subsurface Specific Type field. All other valid M.11M Category = 3 Specific Type values shall be translated to 0, No Statement, in the J6.0E0 Subsurface Specific Type field.

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TABLE A.5.2-J6.0. J6.0 Message Data Element Translation from the M.11M/M.811M
Message (Sheet 12 of 13)

NOTES (Continued)

15. When the M.11M Category = 4 (Land), the J6.0E0 Land Specific Type is derived from General Type and Specific Type as follows:

<u>Link 16</u>	<u>Link 11/11B</u>	
<u>LAND SPECIFIC TYPE</u>	<u>GENERAL TYPE</u>	<u>SPECIFIC TYPE</u>
4094	ALL	63
0	1	0-39, 41, 42, 44, 46-62
	2	0-31, 45-62
	5	0 or 39-62
	11	0-32, 35-62
	12	0-31, 36-62
	13	0-31, 36, 38-62
	14	0-62
178	1	40
28	1	45
177	1	43
64	12	35
69	12	34
70	12	33
73	5	1-38
77	11	34
83	13	37
94	13	32
154	2	44
155	11	33

In some cases Link 11/11B General Type and Specific Type translate to both Link 16 Land Specific Type and Land Platform. These translations are converted as follows:

<u>Link 16</u>	<u>Link 11/11B</u>		
<u>LAND SPECIFIC</u>	<u>LAND PLATFORM</u>	<u>GENERAL TYPE</u>	<u>SPECIFIC TYPE</u>
TYPE			
0	3	8	0-31, 33-34, 36-37, 49-62
	17	13	33
	48		35
90	0	7	0-31, 34, 37-62
	22		33
	24		35
	32		36
	40		32

APPENDIX A

TABLE A.5.2-J6.0. J6.0 Message Data Element Translation from the M.11M/M.811M
Message (Sheet 13 of 13)

NOTES (Continued)

15. (Continued)

Link 16		Link 11/11B	
LAND SPECIFIC		GENERAL TYPE	SPECIFIC TYPE
TYPE	LAND PLATFORM		
91	0	6	0-62
92	0	10	0-31, 34, 40-62
	8		37
	9		33 or 36
	11		32
	16		35
	32		39
	33		38
93	0	4	0-31, 34-62
	32		33
	33		32
96	0	3	0-62
113	7	8	46
114	3	8	32
139	0	9	0-62
154	3	8	35
155	25	13	34
452	3	8	38
454	3	8	39
455	37	8	40
456	37	8	41
457	3	8	42
459	3	8	43
460	45	8	44
461	45	8	45
462	3	8	47
463	7	8	48

16. The J6.0EO Local Discrete Identifier and Track Number, Controlling Agency of TN Reference fields are derived from the M.811M Discrete Identifier and Controlling Unit fields respectively. However only one field at a time can be sent in the M.811M message. If the Switch in the M.811M message is set to 0 then the Controlling Unit is reported and if the Switch is set to 1 then the Discrete Identifier is reported.

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TABLE A.5.2-J7.0-1. J7.0(ACT=0) Message Data Element Translation from Link 11/11B (Sheet 1 of 3)

Link 16				Link 11/11B			
WORD J7.0I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	7	CR	M.9A	LABEL	9	
	SUBLABEL, J-SERIES	0	CR	M.9A	SUBLABEL	0	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	EXERCISE INDICATOR	0	NONE	NA	NA	NA	1
	ACTION, TRACK MANAGEMENT	0	CR	M.9A	ACTION	4	
	CONTROLLING UNIT INDICATOR	0	NONE	NA	NA	NA	1
	TRACK NUMBER, REFERENCE	AT	CR	M.9A	TRACK NUMBER	RX	G13
	STRENGTH	0	NONE	NA	NA	NA	
	ALERT STATUS CHANGE	0	NONE	NA	NA	NA	
	SPACE PLATFORM	0	NONE	NA	NA	NA	
	AIR PLATFORM	0	NONE	NA	NA	NA	1
	SURFACE PLATFORM	0	NONE	NA	NA	NA	1
	SUBSURFACE PLATFORM	0	NONE	NA	NA	NA	1
	LAND PLATFORM	0	NONE	NA	NA	NA	1
	SPACE ACTIVITY	0	NONE	NA	NA	NA	
	AIR ACTIVITY	0	NONE	NA	NA	NA	1
	SURFACE ACTIVITY	0	NONE	NA	NA	NA	1
	SUBSURFACE ACTIVITY	0	NONE	NA	NA	NA	1
	LAND ACTIVITY	0	NONE	NA	NA	NA	1
	ENVIRONMENT	0	NONE	NA	NA	NA	1
	IDENTITY	0	NONE	NA	NA	NA	1
	IDENTITY AMPLIFYING DESCRIPTOR	NA	NONE	NA	NA	NA	

TABLE A.5.2-J7.0-1. J7.0(ACT=0) Message Data Element Translation from Link 11/11B (Sheet 2 of 3)

WORD J7.0I (Cont'd)	Link 16				Link 11/11B		
	DATA ELEMENT		TRANSLATION	FIELD	VALUE	NOTES	
	SPECIAL INTEREST	INDICATOR	VALUE	REQUIRED	MESSAGE	NA	NA
J7.0E0	NOT TRANSLATED		0	NONE	NA		
J7.0C1	NOT TRANSLATED						

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TABLE A.5.2-J7.0-1. J7.0(ACT=0) Message Data Element Translation from Link
11/11B (Sheet 3 of 3)

NOTES

1. An equivalent field exists in the M.9A message but is not reported with the M.9A(AC=4) Drop Track message.

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TABLE A.5.2-J7.0-2. J7.0(ACT=1) or J7.0(ACT=2) Message Data Element Translation from Link 11/11B
(Sheet 1 of 3)

Link 16				Link 11/11B			
WORD J7.0I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	7	CR	M.9A	LABEL	9	
	SUBLABEL, J-SERIES	0	CR	M.9A	SUBLABEL	0	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	EXERCISE INDICATOR	AT	CR	M.9A(AC=1 OR 2)	IDENTITY PRIMARY IDENTITY AMPLIFICATION IDENTITY AMPLIFICATION	RX RX	G20
	ACTION, TRACK MANAGEMENT	1 or 2	=	M.9A	ACTION	1 or 2	
	CONTROLLING UNIT INDICATOR	AT	CR	M.9A(AC=6)	PU/RU ADDRESS/SOURCE	RX	2
	TRACK NUMBER, REFERENCE	AT	CR	M.9A(AC=1 OR 2)	TRACK NUMBER	RX	G13
	STRENGTH	0	NONE	NA	NA	NA	
	ALERT STATUS CHANGE	0	NONE	NA	NA	NA	1
	SPACE PLATFORM	0	NONE	NA	NA	NA	
	AIR PLATFORM	AT	CR	M.9A(AC=1 OR 2)	IDENTITY PRIMARY IDENTITY AMPLIFICATION IDENTITY AMPLIFICATION	RX RX	G20
	SURFACE PLATFORM	AT	CR	M.9A(AC=1 OR 2)	IDENTITY PRIMARY IDENTITY AMPLIFICATION IDENTITY AMPLIFICATION	RX RX	G21
	SUBSURFACE PLATFORM	0	NONE	NA	NA	NA	3
	LAND PLATFORM	0	NONE	NA	NA	NA	3
	SPACE ACTIVITY	0	NONE	NA	NA	NA	

TABLE A.5.2-J7.0-2. J7.0(ACT=1) or J7.0(ACT=2) Message Data Element Translation from Link 11/11B
(Sheet 2 of 3)

Link 16				TRANSLATION				Link 11/11B		
WORD	DATA ELEMENT	VALUE	REQUIRED	MESSAGE		FIELD	VALUE	NOTES		
J7.0I (Cont'd)	AIR ACTIVITY	AT	CR	M.9A(AC=1 OR 2)		IDENTITY	RX	G20		
						PRIMARY IDENTITY	RX			
						AMPLIFICATION				
						IDENTITY	RX			
						AMPLIFICATION				
	SURFACE ACTIVITY	AT	CR	M.9A(AC=1 OR 2)		IDENTITY	RX	G21		
						PRIMARY IDENTITY	RX			
						AMPLIFICATION				
						IDENTITY	RX			
						AMPLIFICATION				
	LAND ACTIVITY	0	NONE	NA		NA	NA	3		
	ENVIRONMENT	AT	CR	M.9A(AC=1 OR 2)		ENVIRONMENT/CATEGORY	RX	3		
	IDENTITY	AT	CR	M.9A(AC=1 OR 2)		IDENTITY	RX	G20, G21		
						PRIMARY IDENTITY	RX			
						AMPLIFICATION				
						IDENTITY	RX			
						AMPLIFICATION				
	IDENTITY AMPLIFYING DESCRIPTOR	AT	CR	M.9A(AC=1 OR 2)		IDENTITY	RX	G20, G21		
						PRIMARY IDENTITY	RX			
						AMPLIFICATION				
						IDENTITY	RX			
						AMPLIFICATION				
	SPECIAL INTEREST INDICATOR	AT	CR	M.9A(AC=1 OR 2)		IDENTITY	RX	G20, G21		
						PRIMARY IDENTITY	RX			
						AMPLIFICATION				
						IDENTITY	RX			
						AMPLIFICATION				
J7.0EO	NOT TRANSLATED									
J7.0C1	NOT TRANSLATED									

APPENDIX A

TABLE A.5.2-J7.0-2. J7.0(ACT=1) or J7.0(ACT=2) Message Data Element Translation
from Link 11/11B (Sheet 3 of 3)

NOTES

1. An equivalent field exists in the M.9A message but is not reported with the M.9A(AC=1 or 2) message.
2. The controlling unit is determined by a separately received M.9A(AC=6) message. This field should reflect whether the forwarded M.9A(AC=1 or 2) message did or did not originate with the current controlling unit.
3. Air and Surface are the only Environment values that are legal for transmission with the M.9A(AC=1 or 2) message. The conversion for Environment/Category is as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>ENVIRONMENT</u>	<u>ENVIRONMENT/CATEGORY</u>
2 - AIR	1 - AIR
3 - SURFACE	2 - SURFACE

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TABLE A.5.2-J7.0-3. J7.0(ACT=3) or J7.0(ACT=4) Message Data Element Translation from Link 11/11B
 (Sheet 1 of 3)

WORD J7.0I	DATA ELEMENT WORD FORMAT	TRANSLATION			Link 11/11B		
		VALUE 0	REQUIRED NONE	MESSAGE NA	FIELD NA	VALUE NA	NOTES
			CR	M.9A			
	LABEL, J-SERIES	7	CR	M.9A	LABEL	9	
	SUBLABEL, J-SERIES	0	CR	M.9A	SUBLABEL	0	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	EXERCISE INDICATOR	0	NONE	NA	NA	NA	
	ACTION, TRACK MANAGEMENT	3 or 4	CR	M.9A(AC=5 OR 7)	STATUS INDICATOR	RX	1
	CONTROLLING UNIT INDICATOR	0	NONE	NA	NA	NA	2
	TRACK NUMBER, REFERENCE	AT	CR	M.9A	TRACK NUMBER	RX	G13
	STRENGTH	0	NONE	NA	NA	NA	
	ALERT STATUS CHANGE	AT	CR	M.9A	ACTION	5 or 7	1
	SPACE PLATFORM	0	NONE	NA	NA	NA	
	AIR PLATFORM	0	NONE	NA	NA	NA	2
	SURFACE PLATFORM	0	NONE	NA	NA	NA	2
	SUBSURFACE PLATFORM	0	NONE	NA	NA	NA	2
	LAND PLATFORM	0	NONE	NA	NA	NA	2
	SPACE ACTIVITY	0	NONE	NA	NA	NA	
	AIR ACTIVITY	0	NONE	NA	NA	NA	2
	SURFACE ACTIVITY	0	NONE	NA	NA	NA	2
	SUBSURFACE ACTIVITY	0	NONE	NA	NA	NA	2
	LAND ACTIVITY	0	NONE	NA	NA	NA	2
	ENVIRONMENT	0	NONE	NA	NA	NA	
	IDENTITY	0	NONE	NA	NA	NA	2

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TABLE A.5.2-J7.0-3. J7.0(ACT=3) or J7.0(ACT=4) Message Data Element Translation from Link 11/11B
 (Sheet 2 of 3)

Link 16				TRANSLATION			Link 11/11B		
<u>WORD</u>	<u>DATA ELEMENT</u>	<u>VALUE</u>	<u>REQUIRED</u>	<u>MESSAGE</u>	<u>FIELD</u>	<u>VALUE</u>	<u>NOTES</u>		
J7.0I (Cont'd)	IDENTITY AMPLIFYING DESCRIPTOR	NA	NONE	NA	NA	NA			
	SPECIAL INTEREST INDICATOR	0	NONE	NA	NA	NA			
J7.0E0	NOT TRANSLATED								
J7.0C1	NOT TRANSLATED								

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TABLE A.5.2-J7.0-3. J7.0(ACT=3) or J7.0(ACT=4) Message Data Element Translation
from Link 11/11B (Sheet 3 of 3)

NOTES

1. The M.9A(AC=5) message establishes the J7.0 Alert Status Change value = 1 message. The M.9A(AC=7) message establishes the J7.0 Alert Status Change value = 0 message. The M.9A Status Indicator = 0 message establishes the J7.0 Action, Track Management value = 3 message. The M.9A Status Indicator = 1 message establishes the J7.0 Action, Track Management value = 4 message. Note that the J7.0 message will be forwarded only in those cases where the current Link 16 state will be altered.
2. An equivalent field exists in the M.9A message but is not reported with the M.9A(AC=5 or 7) message.

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TABLE A.5.2-J7.1. J7.1 Message Data Element Translation from Link 11/11B (Sheet 1 of 2)

Link 16				Link 11/11B			
WORD J7.1I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	7	CR	M.9A	LABEL	9	
	SUBLABEL, J-SERIES	1	CR	M.9A	SUBLABEL ACTION	0 3	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	ACTION, DATA UPDATE REQUEST	AT	CR	M.9A(AC=3)	STATUS INDICATOR	1	1
	SPACE AMBIGUITY MATRIX REQUEST INDICATOR	0	NONE	NA	NA	NA	
	TRACK NUMBER, REFERENCE	AT	CR	M.9A	TRACK NUMBER	RX	G13
	REFERENCE POINT DATA REQUEST INDICATOR	1	CR	M.9A(AC=3)	STATUS INDICATOR	1	1
	ELECTRONIC ATTACK DATA REQUEST INDICATOR	1	CR	M.9A(AC=3)	STATUS INDICATOR	1	1
	ES DATA REQUEST INDICATOR	1	CR	M.9A(AC=3)	STATUS INDICATOR	1	1
	ELECTRONIC WARFARE FIXES DATA REQUEST INDICATOR	1	CR	M.9A(AC=3)	STATUS INDICATOR	1	1
	FILTER DATA REQUEST INDICATOR	0	NONE	NA	NA	NA	
	FILTER NUMBER	0	NONE	NA	NA	NA	
	NUMBER/FREQUENCY OF UPDATES	0	NONE	NA	NA	NA	
	COVARIANCE INDICATOR	0	NONE	NA	NA	NA	
	TRACK NUMBER, ADDRESSEE 1	AT	CR	M.9A	PU/RU ADDRESS/SOURCE	RX	G12
J7.1C1	NOT TRANSLATED						

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TABLE A.5.2-J7.1. J7.1 Message Data Element Translation from Link 11/11B
(Sheet 2 of 2)

NOTES

1. If the Status Indicator = 1 and Track Number = 0 in the M.9A(AC=3) message, the Action, Data Update Request is set to 0 and all data request indicators except filter are set to 1. In all other cases, the M.9A(AC=3) message is not forwarded.
2. The J7.1C1 word will never be sent as a result of forwarding an M.9A(AC=3) message since only one addressee can be given in the latter message.

TABLE A.5.2-J7.2. J7.2 Message Data Element Translation from Link 11/11B

WORD J7.2I	Link 16			Link 11/11B			
	DATA ELEMENT WORD FORMAT	VALUE 0	TRANSLATION REQUIRED NONE	MESSAGE NA	FIELD NA	VALUE NA	NOTES
	LABEL, J-SERIES	7	CR	M.9B	LABEL	9	
	SUBLABEL, J-SERIES	2	CR	M.9B	SUBLABEL ACTION	1 7	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	ACTION, CORRELATE	0	CR	M.9B	ACTION	7	
	RESPONSE VALUE	RX	=	M.9B	RESPONSE VALUE	RX	
	TRACK NUMBER, RETAINED	AT	CR	M.9B	TRACK NUMBER ONE	RX	G13
	TRACK NUMBER, DROPPED	AT	CR	M.9B	TRACK NUMBER TWO	RX	G13

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TABLE A.5.2-J7.3. J7.3 Message Data Element Translation from Link 11/11B (Sheet 1 of 2)

Link 16				Link 11/11B			
WORD J7.3I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	7	CR	M.9C	LABEL	9	
	SUBLABEL, J-SERIES	3	CR	M.9C	SUBLABEL	2	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	ACTION, POINTER	AT	CR	M.9C	OPERATOR POSITION	RX	1
	LATITUDE, 0.0412 MINUTE	AT	CR	M.9C	X COORDINATE Y COORDINATE	RX RX	G9
	LONGITUDE, 0.0412 MINUTE	AT	CR	M.9C	X COORDINATE Y COORDINATE	RX RX	G9
	TRACK NUMBER, ADDRESSEE 1	AT	CR	M.9C	PU/RU ADDRESSEE	RX	G12
J7.3C1	NOT TRANSLATED						
J7.3C2	NOT TRANSLATED						
J7.3C3	NOT TRANSLATED						

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TABLE A.5.2-J7.3. J7.3 Message Data Element Translation from Link 11/11B
(Sheet 2 of 2)

NOTES

1. The Action, Pointer field is determined from the Operator Position field as follows:

<u>Link 16</u>
<u>ACTION, POINTER</u>
1 - WEAPONS
2 - TRACKING
3 - ELECTRONIC WARFARE
4 - SPECIAL PROCESSING

<u>Link 11/11B</u>
<u>OPERATOR POSITION</u>
0 - WEAPONS
1 - TRACKING
2 - EW
3 - SP

2. The J7.3C1 word will never be sent as a result of forwarding an M.9C message since only one addressee can be given in the latter message.

TABLE A.5.2-J7.4. J7.4 Message Data Element Translation from Link 11/11B (Sheet 1 of 2)

Link 16				Link 11/11B			
WORD J7.4I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	7	CR	M.9E	LABEL	9	
	SUBLABEL, J-SERIES	4	CR	M.9E	SUBLABEL	4	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	TRACK NUMBER, REPORT/ REQUEST	AT	CR	M.9E	ACTION	RX	1
	LINK 11/LINK 11B TRACK NUMBER APPLICABILITY	0	NONE	NA	NA	NA	2
	NATO LINK 1 TRACK NUMBER APPLICABILITY	1	NONE	NA	NA	NA	2
	ATDL-1 TRACK NUMBER APPLICABILITY	0	NONE	NA	NA	NA	2
	IJMS, SYSTEM REFERENCE NUMBER APPLICABILITY	0	NONE	NA	NA	NA	2
	TRACK NUMBER, REFERENCE	AT	CR	M.9E	TRACK NUMBER	RX	G13
	LINK 11/LINK 11B TRACK NUMBER	0	NONE	NA	NA	NA	
	NATO LINK 1 TRACK NUMBER	RX	=	M.9E	LINK 1 NATO TRACK NUMBER	RX	3
J7.4E0	NOT TRANSLATED						

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TABLE A.5.2-J7.4. J7.4 Message Data Element Translation from Link 11/11B
(Sheet 2 of 2)

NOTES

1. If the Link 11/11B Action = 5, set TN, Report/Request to 1. If the Link 11/11B Action = 3 or 7, set TN, Report/Request to 0.
2. Only NATO Link 1 Track Number is forwarded to Link 16. Therefore, only the NATO Link 1 Track Number Applicability field is set to 1, all other Applicability fields are set to 0.
3. Set to AA000 if forwarding an M.9E(AC=5) message.

TABLE A.5.2-J7.5-1. J7.5 Message Data Element Translation from the M.9A(AC=9) Message (Sheet 1 of 4)

Link 16				Link 11/11B			
WORD J7.5I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES 1
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	7	CR	M.9A	LABEL	9	
	SUBLABEL, J-SERIES	5	CR	M.9A	SUBLABEL	0	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	ACTION, IFF/SIF MANAGEMENT	AT	CR	M.9A	ACTION IFF/SIF ACTION CODE MODE INDICATOR	9 RX RX	1 2
	MODE IV INDICATOR APPLICABILITY	AT	CR	M.9A	MODE INDICATOR	RX	3
	MODE IV INDICATOR	AT	CR	M.9A	MODE I CODE MODE II/III CODE MODE IV INDICATOR MODE INDICATOR	RX RX RX RX	4,G15 4,G15 4,G15 3
	TRACK NUMBER, REFERENCE	AT	CR	M.9A	TRACK NUMBER	RX	G13
	MODE I CODE APPLICABILITY	AT	CR	M.9A	MODE INDICATOR	RX	3
	MODE II CODE APPLICABILITY	AT	CR	M.9A	MODE INDICATOR	RX	3
	MODE III CODE APPLICABILITY	AT	CR	M.9A	MODE INDICATOR	RX	3
	MODE I CODE	AT	CR	M.9A	MODE I CODE MODE II/III CODE MODE IV INDICATOR MODE INDICATOR	RX RX RX RX	4,5, G15 4,5, G15 4,5, G15 3
	MODE II CODE	AT	CR	M.9A	MODE I CODE MODE II/III CODE MODE IV INDICATOR MODE INDICATOR	RX RX RX RX	4,G15 4,G15 4,G15 4,G15
	MODE III CODE	AT	CR	M.9A	MODE I CODE MODE II/III CODE MODE IV INDICATOR MODE INDICATOR	RX RX RX RX	4,G15 4,G15 4,G15 3

TABLE A.5.2-J7.5-1. J7.5 Message Data Element Translation from the M.9A(AC=9) Message (Sheet 2 of 4)

Link 16			TRANSLATION			Link 11/11B		
WORD	DATA ELEMENT		VALUE	REQUIRED	MESSAGE	FIELD	VALUE	NOTES
J7.5C1	NOT TRANSLATED							
J7.5C2	NOT TRANSLATED							

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TABLE A.5.2-J7.5-1. J7.5 Message Data Element Translation from the M.9A(AC=9)
Message (Sheet 3 of 4)

NOTES

1. The J7.5 (ACT=0 or 1) messages are translated from the M.9A(AC=9) message.
The J7.5 (ACT=3) message is translated from the M.11D(TR=1) message.

2. The Action, IFF/SIF Management field is translated from both the IFF/SIF Action Code and the Mode Indicator fields as follows:

<u>Link 16</u>	<u>Link 11/11B</u>	
<u>ACTION, IFF/SIF MANAGEMENT</u>	<u>IFF/SIF ACTION CODE</u>	<u>MODE INDICATOR</u>
0	0	6
1	1	2-4, 6

3. The Mode Applicability field is translated from the Mode Indicator field as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>MODE IV INDICATOR APPLICABILITY</u>	<u>MODE INDICATOR</u>
0	6
1	3

<u>Link 16</u>	<u>Link 11/11B</u>
<u>MODE I CODE APPLICABILITY</u>	<u>MODE INDICATOR</u>
0	3, 4, 6
1	0 or 2

<u>Link 16</u>	<u>Link 11/11B</u>
<u>MODE II CODE APPLICABILITY</u>	<u>MODE INDICATOR</u>
0	2, 3, 6
1	0 or 4

<u>Link 16</u>	<u>Link 11/11B</u>
<u>MODE III CODE APPLICABILITY</u>	<u>MODE INDICATOR</u>
0	2-4
1	0 or 6

4. Only one of the J7.5 Mode I, II, III, or IV data elements will be nonzero as translated from the M.9A(AC=9, ISAC=1) message. The Mode Indicator (MI=2, 3, 4, or 6) indicates which mode is reported in the M.9A(AC=9) Mode I/II/III/IV Codes field. In all other cases the J7.5 Mode Codes will be equal to zero.

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TABLE A.5.2-J7.5-1. J7.5 Message Data Element Translation from the M.9A(AC=9)
Message (Sheet 4 of 4)

NOTES (Continued)

5. Valid Mode I codes for data link exchange shall range from 01 through 73 (octal) with 31 possible values, those values with least significant digit greater than 3 not being used. The Mode I field of the J7.5I IFF Codes are in the order A4, A2, A1, B2, B1, with the most significant bit A4 in bit position 45. The Mode I/II/III Code field of the M.9A(AC=9) IFF codes are in the order A, B, C, D, (A, B only for Mode I) with each triad in the order 4, 2, 1 and the most significant bit A4 is bit position 23.

TABLE A.5.2-J7.5-2. J7.5 Message Data Element Translation from the M.11D Message (Sheet 1 of 2)

Link 16				Link 11/11B			
WORD J7.5I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	7	CR	M.11D	LABEL	11	
	SUBLABEL, J-SERIES	5	CR	M.11D	SUBLABEL	3	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	ACTION, IFF/SIF MANAGEMENT	3	AT	M.11D	TYPE REPORT	1	1
	MODE IV INDICATOR APPLICABILITY	0	NONE	NA	NA	NA	
	MODE IV INDICATOR	0	NONE	NA	NA	NA	
	TRACK NUMBER, REFERENCE	AT	CR	M.11D	TRACK NUMBER	RX	G13
	SPECIAL CODE I APPLICABILITY	0	NONE	NA	NA	NA	
	SPECIAL CODE II APPLICABILITY	1	NONE	NA	NA	NA	
	SPECIAL CODE III APPLICABILITY	0	NONE	NA	NA	NA	
	SPECIAL CODE I	0	NONE	NA	NA	NA	
	SPECIAL CODE II	RX	=	M.11D	SPECIAL CODE	RX	
	SPECIAL CODE III	0	NONE	NA	NA	NA	
J7.5C1	NOT TRANSLATED						
J7.5C2	NOT TRANSLATED						

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TABLE A.5.2-J7.5-2. J7.5 Message Data Element Translation from the M.11D Message
(Sheet 2 of 2)

NOTES

1. The J7.5 (ACT=3) message is translated from the M.11D(TR=1) message. All other J7.5 messages are translated from the M.9A(AC=9) message.

TABLE A.5.2-J7.7. J7.7 Message Data Element Translation from Link 11/11B (Sheet 1 of 2)

Link 16				Link 11/11B			
WORD J7.7I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	7	CR	M.9B	LABEL	9	
	SUBLABEL, J-SERIES	7	CR	M.9B	SUBLABEL	1	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	ACTION, ASSOCIATION	AT	CR	M.9B	ACTION	6 or 15	1
	TRACK NUMBER, SUBJECT	AT	CR	M.9B	TRACK NUMBER ONE	RX	G13
	TRACK NUMBER, ASSOCIATED	AT	CR	M.9B	TRACK NUMBER TWO	RX	G13
J7.7C1	NOT TRANSLATED						
J7.7C2	NOT TRANSLATED						
J7.7C3	NOT TRANSLATED						
J7.7C4	NOT TRANSLATED						
J7.7C5	NOT TRANSLATED						

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TABLE A.5.2-J7.7. J7.7 Message Data Element Translation from Link 11/11B
(Sheet 2 of 2)

NOTES

1. The M.9B(AC=6) message is forwarded as a J7.7 (ACT=0) message. The M.9B(AC=15) message is forwarded as both a J7.7 (ACT=1) message and a J10.6 (ACT=15) message.

TABLE A.5.2-J9.0-1. J9.0 Message Data Element Translation from the M.9E/M.10A Message (Sheet 1 of 3)

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Link 16					Link 11/11B			
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES	
		WORD FORMAT	VALUE	REQUIRED	MESSAGE			
J9.0I	LABEL, J-SERIES	9	CR		M.10A	LABEL	10	1
	SUBLABEL, J-SERIES	0	CR		M.10A	SUBLABEL	0	
	MESSAGE LENGTH INDICATOR	AR	NONE		NA	NA	NA	G3
	TRACK NUMBER, ADDRESSEE	AT	CR		M.10A	PU/RU ADDRESSEE	RX	G12
	COMMAND	AT	CR		M.10A	ORDER	RX	2
	THREAT WARNING CONDITION	0	NONE		NA	NA	NA	
	WEAPON TYPE	0	NONE		NA	NA	NA	
	TRACK NUMBER, OBJECTIVE	AT	CR		M.10A	TRACK NUMBER TWO	RX	G13
	RECEIPT/COMPLIANCE	AT	CR		M.10A	RECEIPT/COMPLIANCE CANTPRO AMP	RX RX	3, G15
	RECURRENCE RATE, RECEIPT/ COMPLIANCE	AR	NONE		NA	NA	NA	
J9.0EO	WORD FORMAT	2	NONE		NA	NA	NA	
	DUTY ASSIGNMENT	63	NONE		NA	NA	NA	
	COMMAND MISSION	31	NONE		NA	NA	NA	
	NUMBER OF AIRCRAFT	63	NONE		NA	NA	NA	
	THREAT WARNING ENVIRONMENT	0	NONE		NA	NA	NA	
	DUTY ASSIGNMENT FUNCTIONAL AREA	0	NONE		NA	NA	NA	
	TRACK NUMBER, FRIENDLY WEAPON	AT	CR		M.10A	TRACK NUMBER ONE	RX	G13
J9.0C1	WORD FORMAT	1	NONE		NA	NA	NA	4
	CONTINUATION WORD LABEL	1	NONE		NA	NA	NA	
	VOICE CALL SIGN	RX	CR		M.9E	ACTION VOICE CALL SIGN	1 RX	

TABLE A.5.2-J9.0-1. J9.0 Message Data Element Translation from the M.9E/M.10A Message (Sheet 2 of 3)

WORD J9.0C1 (Cont'd)	Link 16			Link 11/11B			
	DATA ELEMENT VOICE FREQUENCY/CHANNEL	TRANSLATION			FIELD ACTION VOICE CONTROL FREQUENCY	VALUE 2 RX	NOTES
		VALUE RX	REQUIRED CR	MESSAGE M.9E			
	CONTROL CHANNEL	127	NONE	NA	NA	NA	NA
	SECURE RADIO INDICATOR	0	NONE	NA	NA	NA	NA

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TABLE A.5.2-J9.0-1. J9.0 Message Data Element Translation from the M.9E/M.10A
Message (Sheet 3 of 3)

NOTES

1. The J9.0 message may be translated from either the M.10A or M.15 message. Selected M.10A messages (Order values 2-5) will be forwarded as J9.0 messages. All M.15 messages will be forwarded as J9.0 messages.
2. The M.10A Order values will be forwarded in the J9.0 Command as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>COMMAND</u>	<u>ORDER</u>
20	2
21	3
22	4 or 5

All other M.10A Order values will be forwarded in the J10.3 Handover message.

3. The M.10A Receipt/Compliance (R/C) values, and R/C = 7 CANTPRO AMP values, will be forwarded in the J9.0 R/C field as follows:

<u>Link 16</u>	<u>Link 11/11B</u>	
<u>RECEIPT/COMPLIANCE</u>	<u>RECEIPT/COMPLIANCE</u>	<u>CANTPRO AMP</u>
0	0	NA
3	3	
4	4	
6	6	
7	7	0
16	7	1
17	7	2
18	7	3
19	7	4
20	7	5
21	7	6
22	7	7

4. The J9.0C1 word is only forwarded when the M.10A (R/C =0) message is followed by the M.9E (AC=1 and/or 2) message.

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TABLE A.5.2-J9.0-2. J9.0 Message Data Element Translation from the M.15 Message (Sheet 1 of 4)

Link 16				Link 11/11B			
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		WORD FORMAT	VALUE	REQUIRED	MESSAGE		
J9.0I	LABEL, J-SERIES	9	CR		M.15	LABEL	15
	SUBLABEL, J-SERIES	0	CR		M.15	LABEL	15
	MESSAGE LENGTH INDICATOR	AR	NONE		NA	NA	G3
	TRACK NUMBER, ADDRESSEE	AT	CR		M.15	TN ADDRESSEE	RX G12
	COMMAND	AT	CR		M.15	COMMAND	RX 2
	THREAT WARNING CONDITION	RX	=		M.15	THREAT WARNING AIR	RX
	WEAPON TYPE	RX	=		M.15	WEAPON TYPE	RX
	TRACK NUMBER, OBJECTIVE	AT	CR		M.15	TN TARGET/TN-2	RX G13
	NUMBER OF ASSOCIATED DMPIS	0	NONE		NA	NA	NA
	RECEIPT/COMPLIANCE	AT	CR		M.15	RECEIPT/COMPLIANCE	0, 1, 3, 4, 6, 7 G15
J9.0EO	RECURRENCE RATE, RECEIPT/ COMPLIANCE	AR	NONE		NA	NA	NA
	WORD FORMAT	2	NONE		NA	NA	NA
	DUTY ASSIGNMENT	RX	=		M.15	COMMAND DUTY ASSIGNMENT	RX RX 3
	COMMAND MISSION	AT	CR		M.15	COMMAND TN WEAPON SYSTEM/TN-1/ORIGINATOR	RX RX 4, G15
	NUMBER OF AIRCRAFT	63	NONE		NA	NA	NA
	THREAT WARNING ENVIRONMENT	AT	CR		M.15	COMMAND THREAT WARNING AIR	0, 1, 21 RX 5
	DUTY ASSIGNMENT FUNCTIONAL AREA	RX	=		M.15	COMMAND DUTY ASSIGNMENT FUNCTIONAL AREA	RX RX 3

TABLE A.5.2-J9.0-2. J9.0 Message Data Element Translation from the M.15 Message (Sheet 2 of 4)

WORD J9.0E0 (Cont'd)	DATA ELEMENT TRACK NUMBER, FRIENDLY WEAPON	TRANSLATION			Link 11/11B		
		VALUE AT	REQUIRED CR	MESSAGE M.15	FIELD COMMAND TN WEAPON SYSTEM/TN- 1/ORIGINATOR	VALUE RX	NOTES 6,G13
J9.0C1	NOT TRANSLATED						
J9.0C2	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	2	AT	M.15	COMMAND	20	
	HOUR	0	NONE	NA	NA	NA	7
	MINUTE	RX	=	M.15	IMPACT TIME	RX	7
	SECOND	0	NONE	NA	NA	NA	
	NUMBER OF MISSILES	RX	=	M.15	NUMBER OF MISSILES	RX	7

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TABLE A.5.2-J9.0-2. J9.0 Message Data Element Translation from the M.15 Message
(Sheet 3 of 4)

NOTES

1. The J9.0 message may be translated from either the M.10A message or M.15 message. Selected M.10A messages (Order values 2-5) will be forwarded as J9.0 messages. All M.15 messages will be forwarded as J9.0 messages.
2. If the Command value in the M.15 message equals 0-2, 4-8, or 14-19 the identical values will be reported for the Command value in the J9.0 message. When the M.15 message Command value is 3 (Investigate/Assign), the J9.0 message Command value 3 (Assign) or 23 (Investigate/Interrogate) will be determined by Weapon Type. If the Weapon Type is 1 (Aircraft), Command value 23 will be transmitted. If Weapon Type is 0 (Any/All Weapon Systems), 2 (Missile), or 3 (Conventional), then Command value 3 will be transmitted. If the M.15 Command Value is 20, the J9.0 Command Value 27 shall be forwarded. If the M.15 Command Value is 21, the J9.0 Command Value 30 shall be forwarded.
3. If the M.15 Command value is 18 or 19, the M.15 Duty Assignment Functional Area and Duty Assignment fields will be reported as identical values on Link 16 in the J9.0 Duty Assignment Functional Area and Duty Assignment fields. If the Command value is other than 18 or 19, the Duty Assignment is set to No Statement.
4. If the M.15 Command value is 16 or 17, the J9.0 Command Mission equates to M.15 TN Weapon System/TN-1/Originator in accordance with General Note 15. If the Command value is other than 16 or 17, set Command Mission to No Statement.
5. For M.15 Command values 0, 1 and 21, the Link 16 Threat Warning, Environment data element shall be determined from the M.15 Threat Warning Air data element as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
THREAT WARNING ENVIRONMENT	THREAT WARNING AIR
1 - AIR	Other than 0
0 - NO STATEMENT	0 - NO STATEMENT

<u>Link 16</u>	<u>Link 11/11B</u>
THREAT WARNING ENVIRONMENT	THREAT WARNING AIR
1 - AIR	Other than 0
0 - NO STATEMENT	0 - NO STATEMENT

6. If the M.15 Command value is 0-11 or 21, the M.15 TN Weapon System/TN-1/Originator will be the Track Number of the weapon system specified on Link 11 and

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TABLE A.5.2-J9.0-2. J9.0 Message Data Element Translation from the M.15 Message
(Sheet 4 of 4)

NOTES (Continued)

6. (Continued)

will be reported as identical values on Link 16 in the J9.0 Track Number, Friendly Weapon field. On Link 11B, the M.15 TN Weapon System/TN-1/Originator will be the Track Number of the originator of the message and No Statement will be reported on Link 16 in the J9.0 Track Number, Friendly Weapon field.

7. If the M.15 Command value is 20, the M.15 Number of Missiles and Impact Time fields will be reported as identical values on Link 16 in the J9.0 Number of Missiles and Minute fields, and the J9.0 Hour field shall be set as follows: if the Impact Time is No Statement then use No Statement; if the minutes given by the Impact Time exceed the Forwarding Unit's system actual minutes, then use the system actual hour; if the minutes given are less than or equal to Forwarding Unit's system actual minutes, then use the system actual hour plus 1. If the Command value is other than 20, then set Hour and Minute to No Statement and Number of Missiles to All Available.

TABLE A.5.2-J10.2. J10.2 Message Data Element Translation from Link 11/11B (Sheet 1 of 2)

Link 16				Link 11/11B			
WORD J10.2I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	10	CR	M.14	LABEL	14	
	SUBLABEL, J-SERIES	2	CR	M.14	LABEL	14	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	TRACK NUMBER, REFERENCE	AT	CR	M.14	TN FRIENDLY WEAPON SYSTEM	RX	G13
	TRACK NUMBER, TARGET	AT	CR	M.14	TN TARGET	RX	G13
	WEAPON SYSTEM	AT	CR	M.14	WEAPON TYPE	RX	1
	WEAPON ENGAGEMENT STATUS	AT	CR	M.14	WEAPON/ENGAGEMENT STATUS	RX	2
					WEAPON TYPE	RX	
A-521	J10.2C1	NOT TRANSLATED					
	J10.2C2	NOT TRANSLATED					

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TABLE A.5.2-J10.2. J10.2 Message Data Element Translation from Link 11/11B
(Sheet 2 of 2)

NOTES

1. If the M.14 message Weapon Type (WT) values 0-9 are used, the identical values will be used in the J10.2 Weapon System. When M.14 WT = 10 (Air-to-Surface Missile) is received, the J10.2 Weapon System = 18 (Air-to-Surface Missile) will be forwarded. When M.14 WT = 13 (Active Electronic Decoy) is received, the J10.2 Weapon System = 19 (Active Electronic Decoy) will be forwarded.
2. The M.14 message Weapon/Engagement Status (W/ES)=0 or 1 will be forwarded to the J13 series message. When the M.14 W/ES=2 (Investigating) and the Weapon Type=3, 5, or 9 is received, the J10.2 WES = 11 (Investigating) will be forwarded. All other W/ES values will be reported as identical values in the J10.2 message.

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TABLE A.5.2-J10.3. J10.3 Message Data Element Translation from Link 11/11B (Sheet 1 of 4)

Link 16				Link 11/11B			
WORD J10.3I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	10	CR	M.10A	LABEL	10	
	SUBLABEL, J-SERIES	3	CR	M.10A	SUBLABEL	0	1
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	TRACK NUMBER, ADDRESSEE	AT	CR	M.10A	PU/RU ADDRESSEE	RX	G12
	TRACK NUMBER, REFERENCE	AT	CR	M.10A	TRACK NUMBER ONE	RX	G13
	REQUEST FOR ASSUME CONTROL	AT	CR	M.10A	ORDER	RX	1
	CANCELLATION INDICATOR	RX	=	M.10A	ORDER/CANCELLATION INDICATOR	RX	
	RECEIPT/COMPLIANCE	AT	CR	M.10A	RECEIPT/COMPLIANCE CANTPRO AMP	RX RX	2,G15
	RECURRENCE RATE, RECEIPT/ COMPLIANCE	AR	NONE	NA	NA	NA	
J10.3E0	WORD FORMAT	2	NONE	NA	NA	NA	
	TRACK NUMBER, OBJECTIVE	AT	CR	M.10A	TRACK NUMBER TWO ORDER	RX RX	3
	LINK 4A ADDRESS	RX	CR	M.9E	ACTION LINK 4A ADDRESS	0 RX	4
	VOICE CALL SIGN	RX	CR	M.9E	ACTION VOICE CALL SIGN	1 RX	4
J10.3C1	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	
	CONTROL CHANNEL	127	NONE	NA	NA	NA	
	VOICE FREQUENCY/CHANNEL	AT	CR	M.9E	ACTION VOICE CONTROL FREQUENCY	2 RX	4,5,8

TABLE A.5.2-J10.3. J10.3 Message Data Element Translation from Link 11/11B (Sheet 2 of 4)

Link 16		TRANSLATION			Link 11/11B		
WORD	DATA ELEMENT	VALUE	REQUIRED	MESSAGE	FIELD	VALUE	NOTES
		AT	CR	M.9E	ACTION	4	4,5,8
J10.3C1 (Cont'd)	LINK 4A FREQUENCY				LINK 4A CONTROL FREQUENCY	RX	
	MODE III CODE	0	NONE	NA	NA	NA	6
	SQUAWK FLASH INDICATOR	0	NONE	NA	NA	NA	
	RADIO TYPE	0	NONE	NA	NA	NA	
	SECURE RADIO INDICATOR	0	NONE	NA	NA	NA	
J10.3C2	NOT TRANSLATED						

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TABLE A.5.2-J10.3. J10.3 Message Data Element Translation from Link 11/11B
(Sheet 3 of 4)

NOTES

1. Request for Assume Control values 0 and 1 translate directly from the M.10A message. Request for Assume Control value 2 translates directly from an M.10A(Order=6) message. All other M.10A message Order values translate to J9.0 messages.
2. The M.10A Receipt/Compliance (R/C) values, and R/C = 7 CANTPRO AMP values, will be forwarded in the J10.3 R/C field as follows:

<u>Link 16</u>	<u>Link 11/11B</u>	
<u>RECEIPT/COMPLIANCE</u>	<u>RECEIPT/COMPLIANCE</u>	<u>CANTPRO AMP</u>
0	0	NA
3	3	
4	4	
6	6	
7	7	0
16	7	1
17	7	2
18	7	3
19	7	4
20	7	5
21	7	6
22	7	7

3. M.10A message with R/C = 3, 6, or 7 received from Link 11B, and any M.10A (Order =6) message, will have the address of the originating unit in the M.10A message TN-2 field. In these cases the forwarded Objective Track Number in the J10.3E0 word will be set to zero and not the received M.10A message TN-2 value.
4. One or more M.9E messages with information related to the controlled unit may be received following an M.10A (Order = 6, R/C =0) message or M.10A (Order =0 or 1, R/C = 3) message. Different M.9E messages may be expected following an M.10A message with R/C value of Original Order or WILCO. The FJU shall forward only the M.9E message derived information that is received following the current M.10A message being forwarded.
5. Forwarded J10.3 (Request for Assume Control = 0 or 1) WILCO replies shall include the J10.3C1 word even if no M.9E message was received following the M.10A

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TABLE A.5.2-J10.3. J10.3 Message Data Element Translation from Link 11/11B
(Sheet 4 of 4)

NOTES (Continued)

5. (Continued)

(Order = 0 or 1) message. In this case, the Voice Frequency/Channel and/or Link 4A Frequency fields shall be forwarded as value 0.

6. The Mode III Code used in the J10.3C1 word has no relation to the Mode III Code reported in the M.11D message.

7. This word is not forwarded from Link 11/11B. The Mission Correlator of this word is not related to the Mission Number found in the M.9E(AC=6) message.

8. Forwarded J10.3 (Request for Assume Control = 2) replies (R/C = 2, 3, 6, or 7) shall include a J10.3C1 word which is identical to the J10.3C1 word received by the FJU in the original J10.3 (R/C = 0) message. Therefore, the FJU must save the original J10.3 (Request for Assume Control = 2, R/C = 0) until an M.10A reply (R/C = 3, 6, or 7) is received from the Addressee TN of the original message, or until the FJU transmits a J10.3 (Request for Assume Control = 2, R/C = 21) reply to the originator.

TABLE A.5.2-J10.5. J10.5 Message Data Element Translation from Link 11/11B (Sheet 1 of 2)

WORD J10.5I	Link 16			Link 11/11B		
	DATA ELEMENT WORD FORMAT	VALUE	TRANSLATION REQUIRED MESSAGE	FIELD	VALUE	NOTES
		0	NONE NA	NA	NA	
LABEL, J-SERIES	10	CR	M.9A	LABEL	9	
SUBLABEL, J-SERIES	5	CR	M.9A	SUBLABEL ACTION	0 6	
MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
TRACK NUMBER, REFERENCE	AT	CR	M.9A(AC=6)	TRACK NUMBER	RX	G13
VOICE CALL SIGN	RX	CR	M.9E(AC=1)	VOICE CALL SIGN	RX	1
HANOVER INDICATOR	0	NONE	NA	NA	NA	
MISSION CORRELATOR	0	NONE	NA	NA	NA	2
CONTROLLING UNIT STATUS	AT	CR	M.9A(AC=6)	STATUS INDICATOR	RX	3

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TABLE A.5.2-J10.5. J10.5 Message Data Element Translation from Link 11/11B
(Sheet 2 of 2)

NOTES

1. The Voice Call Sign reported in an M.9E(AC=1) message will only be accepted if it is reported by the unit currently reporting control.
2. The Mission Correlator field of the J10.5 message is not related to the Mission Number field of the M.9E(AC=6) message.
3. The M.9A(AC=6) Status Indicator is converted as follows:

Link 16	Link 11/11B
CONTROLLING UNIT STATUS	STATUS INDICATOR
0	1
1	0

TABLE A.5.2-J10.6. J10.6 Message Data Element Translation from Link 11/11B (Sheet 1 of 2)

WORD J10.6I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	10	CR	M.9B	LABEL	9	
	SUBLABEL, J-SERIES	6	CR	M.9B	SUBLABEL	1	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	TRACK NUMBER, REFERENCE	AT	CR	M.9B	TRACK NUMBER ONE	RX	G13
	TRACK NUMBER, OBJECTIVE	AT	CR	M.9B	TRACK NUMBER TWO	RX	G13
	PAIRING ACTION	AT	CR	M.9B	ACTION	RX	1

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TABLE A.5.2-J10.6. J10.6 Message Data Element Translation from Link 11/11B
(Sheet 2 of 2)

NOTES

1. The J10.6I message Pairing Action value is determined by the M.9B message Action as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>PAIRING ACTION</u>	<u>ACTION</u>
1 - GENERAL PAIRING	0 - GENERAL PAIRING
2 - INTERDICTION PAIRING	1 - STRIKE PAIRING
3 - RENDEZVOUS PAIRING	2 - RENDEZVOUS
4 - COMBAT AIR PATROL PAIRING	4 - CAP STATION PAIRING
5 - CLOSE AIR SUPPORT PAIRING	5 - CLOSE AIR SUPPORT
6 - RETURN TO BASE PAIRING	3 - RTB PAIRING
15 - TERMINATE PAIRING	15 - TERMINATE PAIRING/ASSOCIATION

The M.9B(AC=6) message translates to the J7.7 message. The M.9B(AC=15) message is forwarded as both a J7.7 (ACT=1) message and a J10.6 (ACT=15) message.

TABLE A.5.2-J13.2-1. J13.2 Message Data Element Translation from the M.11B Message (Sheet 1 of 5)

Link 16				Link 11/11B			
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		WORD FORMAT	VALUE	REQUIRED	MESSAGE		
J13.2I	LABEL, J-SERIES		13	CR	M.11B	LABEL	11
	SUBLABEL, J-SERIES		2	CR	M.11B	SUBLABEL	1
	MESSAGE LENGTH INDICATOR	AR		NONE	NA	NA	NA
	OPERATIONAL CAPABILITY, AIRCRAFT	0		NONE	NA	NA	NA
	TRACK NUMBER, REFERENCE	AT		CR	M.11B	TRACK NUMBER	RX
	FUEL FUNCTION	0		NONE	NA	NA	NA
	FUEL	AT		CR	M.11B	FUEL/TIME SWITCH FUEL/TIME	0 RX
	RADAR CHANNEL INDICATOR	0		NONE	NA	NA	NA
	RADAR CHANNEL	0		NONE	NA	NA	NA
	TIME REPORT FUNCTION	AT		CR	M.11B	FUEL/TIME SWITCH FUEL/TIME	1 RX
J13.2C1	MINUTE	AT		CR	M.11B	FUEL/TIME SWITCH FUEL/TIME	1 RX
	HOUR	AT		CR	M.11B	FUEL/TIME SWITCH FUEL/TIME	1 RX
	WORD FORMAT	1		NONE	NA	NA	NA
	CONTINUATION WORD LABEL	1		NONE	NA	NA	NA
	RADAR STATUS	0		NONE	NA	NA	NA
	INFRARED STATUS	0		NONE	NA	NA	NA
	MISSILE CHANNEL	0		NONE	NA	NA	NA
A-531	LASER STATUS	0		NONE	NA	NA	NA
	TELEVISION STATUS	0		NONE	NA	NA	NA

TABLE A.5.2-J13.2-1. J13.2 Message Data Element Translation from the M.11B Message (Sheet 2 of 5)

Link 16		TRANSLATION			Link 11/11B		
WORD	DATA ELEMENT	VALUE	REQUIRED	MESSAGE	FIELD	VALUE	NOTES
J13.2C1 (Cont'd)	RADAR WARNING AND RECEIVING STATUS	0	NONE	NA	NA	NA	
	AIR-TO-AIR WEAPON RELEASE SYSTEM STATUS	0	NONE	NA	NA	NA	
	AIR-TO-GROUND WEAPON RELEASE SYSTEM STATUS	0	NONE	NA	NA	NA	
	RADIO TYPE, 1	0	NONE	NA	NA	NA	
	RADIO STATUS, 1	0	NONE	NA	NA	NA	
	SECURE RADIO INDICATOR, 1	0	NONE	NA	NA	NA	
	RADIO TYPE, 2	0	NONE	NA	NA	NA	
	RADIO STATUS, 2	0	NONE	NA	NA	NA	
	SECURE RADIO INDICATOR, 2	0	NONE	NA	NA	NA	
	RADIO TYPE, 3	0	NONE	NA	NA	NA	
	RADIO STATUS, 3	0	NONE	NA	NA	NA	
	SECURE RADIO INDICATOR, 3	0	NONE	NA	NA	NA	
	AUTOPILOT STATUS	0	NONE	NA	NA	NA	
J13.2C2	SENSOR TARGET REPORTING STATUS	0	NONE	NA	NA	NA	
	AIRCRAFT MODEL	0	NONE	NA	NA	NA	
	AIR SPECIFIC TYPE	AT	CR	M.11B	AIRCRAFT TYPE	RX	3
	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	2	NONE	NA	NA	NA	
	SUMMATION INDICATOR	0	NONE	NA	NA	NA	
	NUMBER OF STORES, 1	63	NONE	NA	NA	NA	
	TYPE OF STORES, 1	AT	CR	M.11B	WEAPON TYPE	RX	4

TABLE A.5.2-J13.2-1. J13.2 Message Data Element Translation from the M.11B Message (Sheet 3 of 5)

Link 16				Link 11/11B			
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		VALUE	REQUIRED	MESSAGE			
J13.2C2 (Cont'd)	NUMBER OF STORES, 2	63	NONE	NA	NA	NA	
	TYPE OF STORES, 2	AT	CR	M.11B	WEAPON TYPE	RX	4
	NUMBER OF STORES, 3	63	NONE	NA	NA	NA	
	TYPE OF STORES, 3	AT	CR	M.11B	WEAPON TYPE	RX	4
	NUMBER OF STORES, 4	63	NONE	NA	NA	NA	
	TYPE OF STORES, 4	AT	CR	M.11B	WEAPON TYPE	RX	4
	GUN CAPABLE	AT	CR	M.11B	ORDNANCE D	RX	5
	IFF/SIF TRANSPONDER STATUS	0	NONE	NA	NA	NA	
	IFF/SIF INTERROGATOR STATUS	0	NONE	NA	NA	NA	
J13.2C3	NOT TRANSLATED						
J13.2C4	NOT TRANSLATED						
J13.2C5	NOT TRANSLATED						
J13.2C6	NOT TRANSLATED						
J13.2C7	NOT TRANSLATED						
J13.2C8	NOT TRANSLATED						

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TABLE A.5.2-J13.2-1. J13.2 Message Data Element Translation from the M.11B
Message (Sheet 4 of 5)

NOTES

1. Fuel is reported in 400-pound increments in the M.11B message when the Fuel/Time Switch (FT SW) is set to zero. These reported fuel values will be translated to their directly equivalent 100-pound increment value in the J13.2 message. An M.11B message reporting 50,800 pounds or more of fuel (value 127) will be forwarded as 50,800 pounds. Fuel in the J13.2 message will be set to No Statement if Fuel in the M.11B message is reported as 0 value or if the FT SW is reported as 1.
2. Time-to-Time Off Task in minutes is reported in the M.11B message when the FT SW is set to 1. In this case the minutes will be converted directly to hours and minutes, and the Time Report Function field will be forwarded as value 4. An M.11B message with FT SW set to value 1 and Fuel/Time set to value 127 will be forwarded as two hours and six minutes. If the M.11B FT SW is received as zero, the J13.2 Time Report Function, Minute and Hour will all be forwarded as No Statement.
3. The Air Specific Type is determined from the M.11B Aircraft Type field as follows:

<u>Link 16</u>	<u>AIR SPECIFIC TYPE</u>
0 - NO STATEMENT	
1 - F-4 PHANTOM II	
2 - F-5 TIGER II	
4 - F-14 TOMCAT	
5 - F-15 EAGLE	
6 - F-16 FIGHTING FALCON	
8 - F-104 STARFIGHTER	
11 - F-111	
12 - F/A-18 A/B/C/D HORNET	

<u>Link 11/11B</u>	<u>AIRCRAFT TYPE</u>
0 - NO STATEMENT	
2 - F-8	
5 - F-101	
6 - F-102	
8 - F-106	
10 - A-3	
12 - A-5	
21-31 - UNDEFINED	
1 - F-4	
20 - F-5	
3 - F-14	
4 - F-15	
17 - F-16	
7 - F-104	
9 - F-111	
18 - F-18	
19 - A-18	

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TABLE A.5.2-J13.2-1. J13.2 Message Data Element Translation from the M.11B
Message (Sheet 5 of 5)

NOTES (Continued)

3. (Continued)

<u>Link 16</u>	<u>Link 11/11B</u>
<u>AIR SPECIFIC TYPE</u>	<u>AIRCRAFT TYPE</u>
150 - AV-8B HARRIER II	15 - AV-8
256 - A-4 SKYHAWK	11 - A-4
257 - A-6 INTRUDER	13 - A-6
258 - A-7 CORSAIR II	14 - A-7
259 - A/OA-10 THUNDERBOLT II	16 - A/OA-10

4. The M.11B Weapon Type provides the capability to show the simple presence or absence of a particular group of air-to-air weapons. The J13.2 message indicates a specific type of weapon in a Type of Stores field and the quantity of that weapon being carried in the related Number of Stores field. Any one of the Type of Stores fields may be selected by the FJU to forward each associated weapon type. Bit 32 of the M.11B will be ignored for data forwarding purposes. If bits 33-35 are all zero, the J13.2 Type of Stores 1, 2, 3, and 4 will be forwarded as No Statement. If bit 33 is received as 1, Type of Stores value = 1 will be forwarded. If bit 34 is received as 1, Type of Stores value = 2 will be forwarded. If bit 35 is received as 1, Type of Stores value = 3 will be forwarded.

5. Gun Capable is determined from the M.11B Ordnance D Field as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>GUN CAPABLE</u>	<u>ORDNANCE D</u>
0	0
1	1
	2
	3

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TABLE A.5.2-J13.2-2. J13.2 Message Data Element Translation from the M.11C Message (Sheet 1 of 8)

Link 16				Link 11/11B			
WORD J13.2I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		0	NONE	MESSAGE NA			
	LABEL, J-SERIES	13	CR	M.11C	LABEL	11	
	SUBLABEL, J-SERIES	2	CR	M.11C	SUBLABEL	2	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	OPERATIONAL CAPABILITY, AIRCRAFT	0	NONE	NA	NA	NA	
	TRACK NUMBER, REFERENCE	AT	CR	M.11C	TRACK NUMBER	RX	G13
	FUEL FUNCTION	0	NONE	NA	NA	NA	
	FUEL	AT	CR	M.11C	B-FRAME SWITCH FUEL	2 RX	1
	RADAR CHANNEL INDICATOR	0	NONE	NA	NA	NA	
	RADAR CHANNEL	0	NONE	NA	NA	NA	
	TIME REPORT FUNCTION	AT	CR	M.11C	TIME REMAINING	RX	2
	MINUTE	AT	CR	M.11C	TIME REMAINING	RX	2
	HOUR	AT	CR	M.11C	TIME REMAINING	RX	2
J13.2C1	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	
	RADAR STATUS	0	NONE	NA	NA	NA	
	INFRARED STATUS	0	NONE	NA	NA	NA	
	MISSILE CHANNEL	0	NONE	NA	NA	NA	
	LASER STATUS	0	NONE	NA	NA	NA	
	TELEVISION STATUS	0	NONE	NA	NA	NA	
	RADAR WARNING AND RECEIVING STATUS	0	NONE	NA	NA	NA	

TABLE A.5.2-J13.2-2. J13.2 Message Data Element Translation from the M.11C Message (Sheet 2 of 8)

Link 16		TRANSLATION			Link 11/11B		
WORD	DATA ELEMENT	VALUE	REQUIRED	MESSAGE	FIELD	VALUE	NOTES
J13.2C1 (Cont'd)	AIR-TO-AIR WEAPON RELEASE SYSTEM STATUS	0	NONE	NA	NA	NA	
	AIR-TO-GROUND WEAPON RELEASE SYSTEM STATUS	0	NONE	NA	NA	NA	
	RADIO TYPE, 1	0	NONE	NA	NA	NA	
	RADIO STATUS, 1	0	NONE	NA	NA	NA	
	SECURE RADIO INDICATOR, 1	0	NONE	NA	NA	NA	
	RADIO TYPE, 2	0	NONE	NA	NA	NA	
	RADIO STATUS, 2	0	NONE	NA	NA	NA	
	SECURE RADIO INDICATOR, 2	0	NONE	NA	NA	NA	
	RADIO TYPE, 3	0	NONE	NA	NA	NA	
	RADIO STATUS, 3	0	NONE	NA	NA	NA	
	SECURE RADIO INDICATOR, 3	0	NONE	NA	NA	NA	
J13.2C2	AUTOPilot STATUS	0	NONE	NA	NA	NA	
	SENSOR TARGET REPORTING STATUS	0	NONE	NA	NA	NA	
J13.2C3	AIRCRAFT MODEL	AT	CR	M.11C	B-FRAME SWITCH AIRCRAFT TYPE	1 RX	3
	AIR SPECIFIC TYPE	AT	CR	M.11C	B-FRAME SWITCH AIRCRAFT TYPE	1 RX	3
NOT TRANSLATED							
WORD FORMAT							
CONTINUATION WORD LABEL							
CONVENTIONAL DEPTH BOMB INVENTORY							

TABLE A.5.2-J13.2-2. J13.2 Message Data Element Translation from the M.11C Message (Sheet 3 of 8)

Link 16				Link 11/11B			
WORD J13.2C3 (Cont'd)	DATA ELEMENT SPECIAL DEPTH BOMB INVENTORY	TRANSLATION			FIELD B-FRAME SWITCH SPECIAL DEPTH BOMB INVENTORY	VALUE 1 RX	NOTES 4
		VALUE RX	REQUIRED =	MESSAGE M.11C			
	CONVENTIONAL TORPEDO INVENTORY	RX	=	M.11C	B-FRAME SWITCH CONVENTIONAL TORPEDO INVENTORY	1 RX	4
	SPECIAL TORPEDO INVENTORY	RX	=	M.11C	B-FRAME SWITCH SPECIAL TORPEDO INVENTORY	1 RX	4
	CONVENTIONAL MISSILE INVENTORY	RX	=	M.11C	B-FRAME SWITCH CONVENTIONAL MISSILE INVENTORY	1 RX	4
	SPECIAL MISSILE INVENTORY	RX	=	M.11C	B-FRAME SWITCH SPECIAL MISSILE INVENTORY	1 RX	4
	ROCKET INVENTORY	RX	=	M.11C	B-FRAME SWITCH ROCKET INVENTORY	1 RX	4
	ACTIVE SONOBUOY INVENTORY	RX	=	M.11C	B-FRAME SWITCH ACTIVE SONOBUOY INVENTORY	1 RX	4
	PASSIVE SONOBUOY INVENTORY	RX	=	M.11C	B-FRAME SWITCH PASSIVE SONOBUOY INVENTORY	1 RX	4
	RADAR STATUS INDICATOR	RX	=	M.11C	B-FRAME SWITCH SENSOR STATUS	0 RX	5
	ELECTRONIC WARFARE SUPPORT, STATUS	RX	=	M.11C	B-FRAME SWITCH SENSOR STATUS	0 RX	5
	INFRARED STATUS INDICATOR	RX	=	M.11C	B-FRAME SWITCH SENSOR STATUS	0 RX	5
	LOW FREQUENCY ANALYSIS AND RECORDING STATUS	RX	=	M.11C	B-FRAME SWITCH SENSOR STATUS	0 RX	5
	MAGNETIC ANOMALY DETECTOR STATUS	RX	=	M.11C	B-FRAME SWITCH SENSOR STATUS	0 RX	5

TABLE A.5.2-J13.2-2. J13.2 Message Data Element Translation from the M.11C Message (Sheet 4 of 8)

Link 16				Link 11/11B			
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		SEARCH LIGHT STATUS	RX	=	M.11C		
J13.2C3 (Cont'd)	LOW LIGHT LEVEL TELEVISION STATUS	RX	=	M.11C	B-FRAME SWITCH SENSOR STATUS	0 RX	5
	DIFAR/CODAR STATUS	RX	=	M.11C	B-FRAME SWITCH SENSOR STATUS	0 RX	5
	ACTIVE SONOBUOY STATUS	RX	=	M.11C	B-FRAME SWITCH SENSOR STATUS	0 RX	5
	RECORDER STATUS, 1	RX	=	M.11C	B-FRAME SWITCH SENSOR STATUS	0 RX	5
	RECORDER STATUS, 2	RX	=	M.11C	B-FRAME SWITCH SENSOR STATUS	0 RX	5
	RECORDER STATUS, 3	RX	=	M.11C	B-FRAME SWITCH SENSOR STATUS	0 RX	5
	RECORDER STATUS, 4	RX	=	M.11C	B-FRAME SWITCH SENSOR STATUS	0 RX	5
	SONAR STATUS	RX	=	M.11C	B-FRAME SWITCH SENSOR STATUS	0 RX	5
	SPECIAL SONOBUOY STATUS, 1	RX	=	M.11C	B-FRAME SWITCH SENSOR STATUS	0 RX	5
	SPECIAL SONOBUOY STATUS, 2	RX	=	M.11C	B-FRAME SWITCH SENSOR STATUS	0 RX	5
	SPECIAL PROCESSOR STATUS, 1	RX	=	M.11C	B-FRAME SWITCH SENSOR STATUS	0 RX	5
	SPECIAL PROCESSOR STATUS, 2	RX	=	M.11C	B-FRAME SWITCH SENSOR STATUS	0 RX	5
	RADAR WATCH ALTITUDE	AT	CR	M.11C	B-FRAME SWITCH ALTITUDE FOR WATCH	2 RX	6
J13.2C4	NOT TRANSLATED						
J13.2C5	NOT TRANSLATED						

TABLE A.5.2-J13.2-2. J13.2 Message Data Element Translation from the M.11C Message (Sheet 5 of 8)

Link 16			TRANSLATION			Link 11/11B		
WORD	DATA ELEMENT		VALUE	REQUIRED	MESSAGE	FIELD	VALUE	NOTES
J13.2C6	NOT TRANSLATED							
J13.2C7	NOT TRANSLATED							
J13.2C8	NOT TRANSLATED							

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TABLE A.5.2-J13.2-2. J13.2 Message Data Element Translation from the M.11C
Message (Sheet 6 of 8)

NOTES

1. If the B-Frame Switch is set to 2, Fuel is reported in 400-pound increments in the M.11C message. These reported Fuel values will be translated to their directly equivalent 100-pound increment values in the J13.2 message. An M.11C message reporting 50,800 pounds or more of fuel (value 127) will be forwarded as 50,800 pounds. Fuel in the J13.2 message will be set to No Statement if the M.11C Fuel value is zero or if the M.11C message reporting fuel is not received.
2. Time Report Function (TRF), Hour, and Minute are determined from the M.11C Time Remaining field as follows:

<u>Link 16</u>			<u>Link 11</u>
TIME REPORT			
FUNCTION	HOUR	MINUTE	TIME REMAINING
0	31 - NO STATEMENT	63 - NO STATEMENT	0 - NO STATEMENT
			1 - RETURNING TO BASE
			2 - ENROUTE TO STATION
			3 - 0 THROUGH 15 MINUTES
			4 - 16 THROUGH 30 MINUTES
			5 - 31 THROUGH 45 MINUTES
			6 - 46 MINUTES THROUGH 1 HOUR
			7 - LONGER THAN 1 HOUR THROUGH 1.5 HOURS
			8 - LONGER THAN 1.5 HOURS THROUGH 2 HOURS
			9 - LONGER THAN 2 HOURS THROUGH 2.5 HOURS
5	0	15	
		30	
		45	
	1	0	
	1	30	
	2	0	
	2	30	

Current Time
Plus

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TABLE A.5.2-J13.2-2. J13.2 Message Data Element Translation from the M.11C
Message (Sheet 7 of 8)

NOTES (Continued)

2. (Continued)

<u>Link 16</u>		<u>Link 11</u>		
<u>TIME REPORT</u>	<u>FUNCTION</u>	<u>HOUR</u>	<u>MINUTE</u>	<u>TIME REMAINING</u>
		3	0	10 - LONGER THAN 2.5 HOURS THROUGH 3 HOURS
		4	0	11 - LONGER THAN 3 HOURS THROUGH 4 HOURS
		6	0	12 - LONGER THAN 4 HOURS THROUGH 6 HOURS
		8	0	13 - LONGER THAN 6 HOURS THROUGH 8 HOURS
		10	0	14 - LONGER THAN 8 HOURS THROUGH 10 HOURS
		10	1	15 - LONGER THAN 10 HOURS

3. The M.11C Aircraft Type values will be forwarded in the J13.2 Aircraft Model and Air Specific Type as follows:

<u>Link 16</u>		<u>Link 11</u>	
<u>AIR SPECIFIC TYPE</u>	<u>AIRCRAFT MODEL</u>	<u>AIRCRAFT TYPE</u>	
0 - NO STATEMENT	0 - NO STATEMENT	0 - NO STATEMENT	
533 - P-3 ORION	2 - B 3 - C	13-15 - UNDEFINED 2 - P-3A/P-3B 3 - P-3C	
543 - S-2 TRACKER	5 - E	6 - S-2E	
544 - S-3B VIKING	0 - NO STATEMENT	7 - S-3	
563 - BR 1150 ATL1	0 - NO STATEMENT	11 - BREGUET ATLANTIQUE	
568 - CP-140 AURORA	0 - NO STATEMENT	12 - AURORA	
570 - NIMROD MR2	0 - NO STATEMENT	4 - NIMROD	

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TABLE A.5.2-J13.2-2. J13.2 Message Data Element Translation from the M.11C
Message (Sheet 8 of 8)

NOTES (Continued)

3. (Continued)

<u>Link 16</u>		<u>Link 11</u>
<u>AIR SPECIFIC TYPE</u>	<u>AIRCRAFT MODEL</u>	<u>AIRCRAFT TYPE</u>
765 - ASW	0 - NO STATEMENT	1 - MARITIME PATROL AIRCRAFT
1535 - HELICOPTER GENERAL	0 - NO STATEMENT	5 - VS (FW, ASW GENERAL) 8 - ASW HELO (GENERAL) 9 - ASW HELO (DIPPING) 10 - ASW HELO (WEAPON CARRIER)

4. When the M.11C B-Frame Switch=1 is not received, forward all noted fields as value 0.

5. When the M.11C B-Frame Switch=0 is not received, forward all noted fields as value 0.

6. Radar Watch Altitude of the J13.2 message reports the best altitude for radar watch in 100-foot increments. The Altitude for Watch of the M.11C message reports the same information in 500-foot increments. The M.11C value will be translated to the directly equivalent value in the J13.2 message. Example: M.11C value 5 (2,500 Feet) is translated to value 25 (2,500 Feet) in the J13.2 message. When the M.11C message is received with value 0 (No Statement), the J13.2 Radar Watch Altitude value 511 (No Statement) will be forwarded. When the M.11C B-Frame Switch=2 is not received, forward Radar Watch Altitude of No Statement.

TABLE A.5.2-J13.2-3. J13.2 Message Data Element Translation from the M.14 Message (Sheet 1 of 2)

Link 16				Link 11/11B			
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		WORD FORMAT	VALUE	REQUIRED	MESSAGE		
J13.2I	LABEL, J-SERIES		13	CR	M.14	LABEL	14
	SUBLABEL, J-SERIES		2	CR	M.14	LABEL	14
	MESSAGE LENGTH INDICATOR		AR	NONE	NA	NA	NA
	OPERATIONAL CAPABILITY, AIRCRAFT		AT	CR	M.14	WEAPON/ENGAGEMENT STATUS	RX
	TRACK NUMBER, REFERENCE		AT	CR	M.14	TN FRIENDLY WEAPON SYSTEM	RX
	FUEL FUNCTION		0	NONE	NA	NA	NA
	FUEL		4095	NONE	NA	NA	NA
	RADAR CHANNEL INDICATOR		0	NONE	NA	NA	NA
	RADAR CHANNEL		0	NONE	NA	NA	NA
	TIME REPORT FUNCTION		0	NONE	NA	NA	NA
	MINUTE		63	NONE	NA	NA	NA
	HOUR		31	NONE	NA	NA	NA
J13.2C1	NOT TRANSLATED						
J13.2C2	NOT TRANSLATED						
J13.2C3	NOT TRANSLATED						
J13.2C4	NOT TRANSLATED						
J13.2C5	NOT TRANSLATED						
J13.2C6	NOT TRANSLATED						
J13.2C7	NOT TRANSLATED						
J13.2C8	NOT TRANSLATED						

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TABLE A.5.2-J13.2-3. J13.2 Message Data Element Translation from the M.14
Message (Sheet 2 of 2)

NOTES

1. The Operational Capability, Aircraft shall be determined from the M.14 Weapon/Engagement Status as follows:

Link 16	Link 11/11B
OPERATIONAL CAPABILITY, AIRCRAFT	WEAPON/ENGAGEMENT STATUS
1	0
3	1

2. These data are not translated from the M.14 message. The Data Forwarder shall not combine data previously received in M.11B or M.11C messages in this translation since the currency of that data cannot be assured.

TABLE A.5.2-J13.3. J13.3 Message Data Element Translation from the M.14 Message (Sheet 1 of 5)

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Link 16				Link 11/11B			
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		WORD FORMAT	VALUE	REQUIRED	MESSAGE		
J13.3I	LABEL, J-SERIES		13	CR	M.14	LABEL	14
	SUBLABEL, J-SERIES		3	CR	M.14	LABEL	14
	MESSAGE LENGTH INDICATOR	AR		NONE	NA	NA	G3
	TRACK NUMBER, REFERENCE	AT		CR	M.14	TN FRIENDLY WEAPON SYSTEM	RX G13
	FLIGHT DECK STATUS		0	NONE	NA	NA	NA
	LANDING APPROACH CONDITION		0	NONE	NA	NA	NA
	TIME REPORT FUNCTION		0	NONE	NA	NA	NA
	MINUTE		63	NONE	NA	NA	NA
	HOUR		31	NONE	NA	NA	NA
	SURFACE SPECIFIC TYPE		0	NONE	NA	NA	NA
J13.3C1	WORD FORMAT		1	NONE	NA	NA	NA
	CONTINUATION WORD LABEL		1	NONE	NA	NA	NA
	MISSILE TYPE, 1	AT		CR	M.14	WEAPON TYPE WEAPON RANGE	RX RX 2
	OPERATIONAL MISSILE INVENTORY, 1	AT		CR	M.14	HOT INVENTORY	RX 3
	NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 1	AT		CR	M.14	NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE	RX 4
	MISSILE TYPE, 2		0	NONE	NA	NA	NA
	OPERATIONAL MISSILE INVENTORY, 2		127	NONE	NA	NA	NA
	NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 2		15	NONE	NA	NA	NA
	MISSILE TYPE, 3		0	NONE	NA	NA	NA

TABLE A.5.2-J13.3. J13.3 Message Data Element Translation from the M.14 Message (Sheet 2 of 5)

Link 16				Link 11/11B			
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		VALUE	REQUIRED	MESSAGE			
J13.3C1 (Cont'd)	OPERATIONAL MISSILE INVENTORY, 3	127	NONE	NA	NA	NA	
	NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 3	15	NONE	NA	NA	NA	
	FUEL FUNCTION	0	NONE	NA	NA	NA	
	FUEL, SURFACE	0	NONE	NA	NA	NA	
J13.3C2	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	2	NONE	NA	NA	NA	
	COMMAND AND CONTROL SYSTEM	0	NONE	NA	NA	NA	
	DATA LINK AND DISPLAY SYSTEM	0	NONE	NA	NA	NA	
A-548	NAVIGATION SYSTEM	0	NONE	NA	NA	NA	
	COMMUNICATION SYSTEM	0	NONE	NA	NA	NA	
	SURFACE SEARCH RADAR	0	NONE	NA	NA	NA	
	2D AIR SEARCH RADAR	0	NONE	NA	NA	NA	
	3D AIR SEARCH RADAR	0	NONE	NA	NA	NA	
	PRECISION APPROACH RADAR	0	NONE	NA	NA	NA	
	IFF/SIF INTERROGATOR AND TRANSPONDER SYSTEM	0	NONE	NA	NA	NA	
	SONAR SYSTEM	0	NONE	NA	NA	NA	
	ELECTRONIC ATTACK	0	NONE	NA	NA	NA	
	ELECTRONIC WARFARE SUPPORT AND OTHER ELECTRONIC ATTACK	0	NONE	NA	NA	NA	
	GUN FIRE CONTROL SYSTEM	0	NONE	NA	NA	NA	
	GUNS	0	NONE	NA	NA	NA	

TABLE A.5.2-J13.3. J13.3 Message Data Element Translation from the M.14 Message (Sheet 3 of 5)

Link 16				Link 11/11B			
WORD J13.3C2 (Cont'd)	DATA ELEMENT MISSILE, ROCKET, AND LAUNCHERS	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	CRUISE MISSILES	0	NONE	NA	NA	NA	
	EMBARKED ASSAULT CRAFT	0	NONE	NA	NA	NA	
	ENERGY GENERATION SYSTEM- NUCLEAR	0	NONE	NA	NA	NA	
	ENERGY GENERATION SYSTEM- CONVENTIONAL	0	NONE	NA	NA	NA	
	AIRCRAFT HANDLING, LAUNCH, AND RECOVERY SYSTEMS	0	NONE	NA	NA	NA	
	FIGHTER AIRCRAFT	0	NONE	NA	NA	NA	
	ATTACK, STRIKE/FIGHTER AIRCRAFT	0	NONE	NA	NA	NA	
	FIXED WING ANTI-SUBMARINE WARFARE AIRCRAFT	0	NONE	NA	NA	NA	
	HELICOPTER ANTI-SUBMARINE WARFARE AIRCRAFT	0	NONE	NA	NA	NA	
	AIRBORNE EARLY WARNING AIRCRAFT	0	NONE	NA	NA	NA	
	ELECTRONIC SUPPORT AIRCRAFT	0	NONE	NA	NA	NA	
	TANKER AIRCRAFT	0	NONE	NA	NA	NA	
	HELICOPTER SUPPORT AIRCRAFT	0	NONE	NA	NA	NA	
	ACTIVE ELECTRONIC DECOY LAUNCHER SYSTEM	AT	CR	M.14	WEAPON/ENGAGEMENT STATUS WEAPON TYPE	0, 1 13	5
J13.3C3	NOT TRANSLATED						
J13.3C4	NOT TRANSLATED						

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TABLE A.5.2-J13.3. J13.3 Message Data Element Translation from the M.14 Message
(Sheet 4 of 5)

NOTES

1. The J13.3 message may be derived only from the M.14 message.
2. The M.14 Weapon Type and Weapon Range will be forwarded in the J13.3 Missile Type, 1 as follows:

<u>Link 16</u>	<u>Link 11/11B</u>	
<u>MISSILE TYPE, 1</u>	<u>WEAPON TYPE</u>	<u>WEAPON RANGE</u>
0	ANY NOT LISTED BELOW	ANY NOT LISTED BELOW
1	1	1
2	1	2
3	1	3
4	2	1
5	2	2
6	2	3
12	11	1
13	11	2
14	11	3
15	12	1
16	12	2
17	12	3

3. The M.14 Hot Inventory will be forwarded in the J13.3 Operational Missile Inventory, 1 as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>OPERATIONAL MISSILE INVENTORY, 1</u>	<u>HOT INVENTORY</u>
1-125	1-125
126	126, 127
127	0

4. The J13.3 Number of Fire Control Systems Available, 1 is determined from the M.14 Number of Fire Control Systems Available as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 1</u>	<u>NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE</u>
1	1
2	2
3	3
15	0

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TABLE A.5.2-J13.3. J13.3 Message Data Element Translation from the M.14 Message
(Sheet 5 of 5)

NOTES (Continued)

5. The J13.3C2 Active Electronic Decoy Launcher System status is determined from the M.14 Weapon/Engagement Status when M.14 Weapon Type = 13 (Active Electronic Decoy) as follows:

<u>Link 16</u>
ACTIVE ELECTRONIC DECOY LAUNCHER
SYSTEM
0 - NO STATEMENT
2 - NOT OPERATIONAL

<u>Link 11/11B</u>
WEAPON/ENGAGEMENT STATUS
0 - AVAILABLE
1 - OUT OF ACTION

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TABLE A.5.2-J13.4. J13.4 Message Data Element Translation from the M.14 Message (Sheet 1 of 3)

Link 16				Link 11/11B			
WORD J13.4I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES 1
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	13	CR	M.14	LABEL	14	
	SUBLABEL, J-SERIES	4	CR	M.14	LABEL	14	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	TRACK NUMBER, REFERENCE	AT	CR	M.14	TN FRIENDLY WEAPON SYSTEM	RX	G13
	SUBSURFACE SPECIFIC TYPE	0	NONE	NA	NA	NA	
J13.4C1	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	
	MISSILE TYPE, 1	AT	CR	M.14	WEAPON TYPE WEAPON RANGE	RX RX	2
	OPERATIONAL MISSILE INVENTORY, 1	AT	CR	M.14	HOT INVENTORY	RX	3
	MISSILE TYPE, 2	0	NONE	NA	NA	NA	
	OPERATIONAL MISSILE INVENTORY, 2	127	NONE	NA	NA	NA	
	MISSILE TYPE, 3	0	NONE	NA	NA	NA	
	OPERATIONAL MISSILE INVENTORY, 3	127	NONE	NA	NA	NA	
	TORPEDO TYPE, 1	0	NONE	NA	NA	NA	
	TORPEDO INVENTORY, 1	7	NONE	NA	NA	NA	
	TORPEDO TYPE, 2	0	NONE	NA	NA	NA	
	TORPEDO INVENTORY, 2	7	NONE	NA	NA	NA	
	TORPEDO TUBE	0	NONE	NA	NA	NA	
	VERTICAL LAUNCHER	0	NONE	NA	NA	NA	
	FIRE CONTROL SYSTEM	0	NONE	NA	NA	NA	

TABLE A.5.2-J13.4. J13.4 Message Data Element Translation from the M.14 Message (Sheet 2 of 3)

Link 16			TRANSLATION			Link 11/11B		
WORD	DATA ELEMENT	NOT TRANSLATED	VALUE	REQUIRED	MESSAGE	FIELD	VALUE	NOTES
J13.4C2								

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TABLE A.5.2-J13.4. J13.4 Message Data Element Translation from the M.14 Message
(Sheet 3 of 3)

NOTES

1. The J13.4 message may be derived only from the M.14 message.
2. The M.14 Weapon Type and Weapon Range will be forwarded in the J13.4 Missile Type, 1 as follows:

<u>Link 16</u>	<u>Link 11/11B</u>	
<u>MISSILE TYPE, 1</u>	<u>WEAPON TYPE</u> (Any not listed below)	<u>WEAPON RANGE</u> (Any not listed below)
0		
1	1	1
2	1	2
3	1	3
4	2	1
5	2	2
6	2	3
12	11	1
13	11	2
14	11	3
15	12	1
16	12	2
17	12	3

3. The M.14 Hot Inventory will be forwarded in the J13.4 Operational Missile Inventory, 1 as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>OPERATIONAL MISSILE INVENTORY, 1</u>	<u>HOT INVENTORY</u>
1 - 125	1 - 125
126	126, 127
127	0

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TABLE A.5.2-J13.5. J13.5 Message Data Element Translation from the M.14 Message (Sheet 1 of 3)

Link 16					Link 11/11B		
WORD J13.5I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	13	CR	M.14	LABEL	14	
	SUBLABEL, J-SERIES	5	CR	M.14	LABEL	14	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	OPERATIONAL CAPABILITY	AT	CR	M.14	WEAPON/ENGAGEMENT STATUS	RX	1
	TRACK NUMBER, REFERENCE	AT	CR	M.14	TN FRIENDLY WEAPON SYSTEM	RX	G13
	SITE TYPE	0	NONE	NA	NA	NA	2
	HOT INVENTORY	AT	CR	M.14	HOT INVENTORY	RX	3
	SAM MODE STATE	0	NONE	NA	NA	NA	
	TIME FUNCTION	0	NONE	NA	NA	NA	
	MINUTE	63	NONE	NA	NA	NA	
	HOUR	31	NONE	NA	NA	NA	
	PERIMETER ENGAGEMENT STATUS	AT	CR	M.14	WEAPON/ENGAGEMENT STATUS	RX	4
J13.5C1	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	
	COLD INVENTORY	AT	CR	M.14	COLD INVENTORY	RX	5
	OPERATIONAL IMPAIRMENT	0	NONE	NA	NA	NA	
	NATO LINK 1 STATUS	0	NONE	NA	NA	NA	
	LINK 14 STATUS	0	NONE	NA	NA	NA	
	LINK 11 STATUS	0	NONE	NA	NA	NA	
	LINK 11B STATUS	0	NONE	NA	NA	NA	
	LINK 16 STATUS	0	NONE	NA	NA	NA	

TABLE A.5.2-J13.5. J13.5 Message Data Element Translation from the M.14 Message (Sheet 2 of 3)

Link 16				Link 11/11B			
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		ATDL 1 STATUS	REQUIRED	MESSAGE			
J13.5C1 (Cont'd)	IJMS STATUS	0	NONE	NA	NA	NA	NA
	COMMUNICATIONS IMPAIRMENT	0	NONE	NA	NA	NA	NA
	CONTROL POSITIONS	31	NONE	NA	NA	NA	NA
	TIME FUNCTION	0	NONE	NA	NA	NA	NA
	MINUTE	63	NONE	NA	NA	NA	NA
	HOUR	31	NONE	NA	NA	NA	NA
	PRIMARY SURVEILLANCE RADAR STATUS	0	NONE	NA	NA	NA	NA
	SECONDARY SURVEILLANCE RADAR STATUS	0	NONE	NA	NA	NA	NA
	TERTIARY SURVEILLANCE RADAR STATUS	0	NONE	NA	NA	NA	NA
	ACQUISITION RADAR STATUS	0	NONE	NA	NA	NA	NA
	ILLUMINATING RADAR STATUS	0	NONE	NA	NA	NA	NA
	MODE IV INTERROGATOR STATUS	0	NONE	NA	NA	NA	NA
	IFF/SIF INTERROGATOR STATUS	0	NONE	NA	NA	NA	NA
J13.5C3	NOT TRANSLATED						

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TABLE A.5.2-J13.5. J13.5 Message Data Element Translation from the M.14 Message
(Sheet 3 of 3)

NOTES

1. The M.14 Weapon/Engagement Statutes (W/ES) will be reported in the J13.5 Operational Capability field as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>OPERATIONAL CAPABILITY</u>	<u>WEAPON/ENGAGEMENT STATUS</u>
0	12
1	0
3	1

2. Site Type is more specific than Weapon Type; therefore, the generic weapon types of SAM and Conventional (Short-range Missile/Guns) do not translate to Site Type.

3. The M.14 Hot Inventory will be translated to the J13.5 Hot Inventory as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>HOT INVENTORY</u>	<u>HOT INVENTORY</u>
1-125	1-125
126	126, 127
127	0

4. The M.14 W/ES field will be reported in the J13.5 Perimeter Engagement Status field as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>PERIMETER ENGAGEMENT STATUS</u>	<u>WEAPON/ENGAGEMENT STATUS</u>
0	0, 1
1	12

5. The M.14 Cold Inventory will be translated to the J13.5 Cold Inventory as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>COLD INVENTORY</u>	<u>COLD INVENTORY</u>
1-31	1-31
127	0

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TABLE A.5.2-J14.0-1. J14.0 Message Data Element Translation from the M.5/M.85 Message (Sheet 1 of 4)

Link 16				Link 11/11B			
WORD J14.0I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	14	CR	M.5	LABEL	5	1
	SUBLABEL, J-SERIES	0	CR	M.5	LABEL	5	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	THREAT EVALUATION	0	NONE	NA	NA	NA	
	RESPONSE INDICATOR, EWAC	0	NONE	NA	NA	NA	
	SPECIAL PROCESSING INDICATOR	RX	=	M.1 or M.9A(AC=0)	SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR	RX	G5
	AGILE Emitter	0	NONE	NA	NA	NA	
	TRACK NUMBER, REFERENCE/ INDEX NUMBER INDICATOR	0	NONE	NA	NA	NA	
	TRACK NUMBER, REFERENCE	AT	CR	M.5	TRACK NUMBER/ADDRESS	RX	G13
	INDEX NUMBER	0	NONE	NA	NA	NA	
	BEARING ORIGIN	0	NONE	NA	NA	NA	
	SQUARE/CIRCLE SWITCH		NONE	NA	NA	NA	
	FIX OR BEARING DESCRIPTOR	0	NONE	NA	NA	NA	
	SECOND	0	NONE	NA	NA	NA	
	MINUTE	AT	CR	M.85	SWITCH TIME SWITCH MINUTES	1 RX RX	2
	HOUR	AT	CR	M.85	SWITCH TIME SWITCH HOURS	1 RX RX	3
	REQUEST NUMBER	0	NONE	NA	NA	NA	
	ENVIRONMENT	0	NONE	NA	NA	NA	

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TABLE A.5.2-J14.0-1. J14.0 Message Data Element Translation from the M.5/M.85 Message (Sheet 2 of 4)

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WORD J14.0I (Cont'd)	DATA ELEMENT LOCK-ON	TRANSLATION			Link 11/11B		
		VALUE 0	REQUIRED NONE	MESSAGE NA	FIELD NA	VALUE NA	NOTES
J14.0E0	NOT TRANSLATED						
J14.0C1	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	
	PARAMETER SOURCE	0	NONE	NA	NA	NA	
	BEARING ACCURACY	0	NONE	NA	NA	NA	
	BEARING	0	NONE	NA	NA	NA	
	SECTOR WIDTH	255	NONE	NA	NA	NA	
	ELEVATION ANGLE/ALTITUDE INDICATOR	AT	CR	M.85	HEIGHT/DEPTH SWITCH	RX	4
	ELEVATION ANGLE	512	NONE	NA	NA	NA	
	ALTITUDE, 25 FT	AT	CR	M.85	SWITCH HEIGHT/DEPTH SWITCH HEIGHT/DEPTH	1 0 RX	G10
	COURSE	AT	CR	M.85	SWITCH X DOT Y DOT	0 RX RX	G8
	SPEED	AT	CR	M.85	SWITCH X DOT Y DOT	0 RX RX	G8
J14.0C2	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	2	NONE	NA	NA	NA	
	LATITUDE, 0.0051 MINUTE	AT	CR	M.5	SCALE INDICATOR X COORDINATE Y COORDINATE	RX RX RX	G9
	LONGITUDE, 0.0051 MINUTE	AT	CR	M.5	SCALE INDICATOR X COORDINATE Y COORDINATE	RX RX RX	G9

TABLE A.5.2-J14.0-1. J14.0 Message Data Element Translation from the M.5/M.85 Message (Sheet 3 of 4)

Link 16				Link 11/11B			
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		VALUE	REQUIRED	MESSAGE			
J14.0C2 (Cont'd)	AREA MAJOR AXIS	63	NONE	NA	NA	NA	
	AREA MINOR AXIS	63	NONE	NA	NA	NA	
	AXIS ORIENTATION	255	NONE	NA	NA	NA	
J14.0C3	NOT TRANSLATED						
J14.0C4	NOT TRANSLATED						
J14.0C5	NOT TRANSLATED						
J14.0C6	NOT TRANSLATED						

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TABLE A.5.2-J14.0-1. J14.0 Message Data Element Translation from the M.5/M.85
Message (Sheet 4 of 4)

NOTES

1. The J14.0 message is only translated from an M.5 message when Point = 0, and the EA Fix is not simulated.

2. When the M.85 Switch = 0, the J14.0 Minute field is forwarded as No Statement. When Switch = 1, the J14.0 Minute field is determined from the M.85 Time Switch and Minutes fields as follows:

<u>Link 16</u>	<u>Link 11/11B</u>	
<u>MINUTE</u>	<u>TIME SWITCH</u>	<u>MINUTES</u>
0-59 - 0 THROUGH 59	1	0-59 - 0 THROUGH 59
63 - NO STATEMENT	0	MINUTES ANY

3. When the M.85 Switch = 0, the J14.0 Hour field is forwarded as No Statement. When Switch = 1, the J14.0 Hour field is determined from the M.85 Time Switch and Hours field as follows:

<u>Link 16</u>	<u>Link 11/11B</u>	
<u>HOUR</u>	<u>TIME SWITCH</u>	<u>HOURS</u>
0-23 (0-23 HOURS)	1	0-23 - 0 THROUGH 23
31 - NO STATEMENT	0	HOURS ANY

4. The Elevation Angle/Altitude Indicator is determined from the Height/Depth Switch as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>ELEVATION ANGLE/ALTITUDE INDICATOR</u>	<u>HEIGHT/DEPTH SWITCH</u>
0 - NO STATEMENT	1 - DEPTH IN 50 FOOT INCREMENTS
2 - ALTITUDE IS BEING REPORTED	0 - HEIGHT IN 500 FOOT INCREMENTS

TABLE A.5.2-J14.0-2. J14.0 Message Data Element Translation from the M.6A Message (Sheet 1 of 7)

Link 16				Link 11/11B			
WORD J14.0I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
	LABEL, J-SERIES	14	CR	M.6A	LABEL	6	
	SUBLABEL, J-SERIES	0	CR	M.6A	SUB_LABEL	0	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	THREAT EVALUATION	AT	CR	M.6A	ACTION VALUE THREAT EVALUATION	1 RX	1
	RESPONSE INDICATOR, EWAC	0	NONE	NA	NA	NA	
	SPECIAL PROCESSING INDICATOR	RX	=	M.1 or M.9A(AC=0)	SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR	RX RX	G5 G5
	AGILE Emitter	0	NONE	NA	NA	NA	
	TRACK NUMBER, REFERENCE/ INDEX NUMBER INDICATOR	0	NONE	NA	NA	NA	
	TRACK NUMBER, REFERENCE	AT	CR	M.6A	TRACK NUMBER	RX	G13
	INDEX NUMBER	0	NONE	NA	NA	NA	
	BEARING ORIGIN	0	NONE	NA	NA	NA	2
	SQUARE/CIRCLE SWITCH	0	NONE	NA	NA	NA	
	FIX OR BEARING DESCRIPTOR	4	NONE	NA	NA	NA	3
	SECOND	AT	CR	M.6A	ACTION VALUE TIME STALE	1 RX	4
	MINUTE	AT	CR	M.6A	ACTION VALUE TIME STALE	1 RX	4
	HOUR	AT	CR	M.6A	ACTION VALUE TIME STALE	1 RX	4
	REQUEST NUMBER	0	NONE	NA	NA	NA	
	ENVIRONMENT	AT	CR	M.6A	ACTION VALUE PLATFORM	1 RX	5

TABLE A.5.2-J14.0-2. J14.0 Message Data Element Translation from the M.6A Message (Sheet 2 of 7)

Link 16					Link 11/11B		
WORD J14.0I (Cont'd)	DATA ELEMENT	TRANSLATION			FIELD	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	MESSAGE NA			
J14.0E0	WORD FORMAT	2	NONE	NA	NA	NA	
	TRACK NUMBER, ORIGIN	AT	CR	M.6A	ACTION VALUE TN OF ORIGIN	0 RX	G13
	FREQUENCY/FREQUENCY RANGE INDICATOR	1	NONE	NA	NA	NA	
	FREQUENCY MULTIPLIER, 1	AT	CR	M.6A	ACTION VALUE SWITCH FREQUENCY	1 0 RX	G19
	FREQUENCY, 1	AT	CR	M.6A	ACTION VALUE SWITCH FREQUENCY	1 0 RX	G19
	FREQUENCY MULTIPLIER, 2	AT	CR	M.6A	ACTION VALUE SWITCH FREQUENCY	1 0 RX	G19
	FREQUENCY, 2	AT	CR	M.6A	ACTION VALUE SWITCH FREQUENCY	1 0 RX	G19
J14.0C1	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	
	PARAMETER SOURCE	0	NONE	NA	NA	NA	
	BEARING ACCURACY	AT	CR	M.6A	ACTION VALUE BEARING ACCURACY	0 RX	6
	BEARING	RX	=	M.6A	ACTION VALUE BEARING	0 RX	
	SECTOR WIDTH	255	NONE	NA	NA	NA	
	ELEVATION ANGLE/ALTITUDE INDICATOR	1	NONE	NA	NA	NA	

TABLE A.5.2-J14.0-2. J14.0 Message Data Element Translation from the M.6A Message (Sheet 3 of 7)

Link 16		TRANSLATION					Link 11/11B	
WORD	DATA ELEMENT	VALUE	REQUIRED	MESSAGE	FIELD	VALUE	NOTES	
J14.0C1 (Cont'd)	ELEVATION ANGLE	AT	CR	M.6A	ACTION VALUE SWITCH ELEVATION	1 1 RX	7	
	ALTITUDE, 25 FT	8191	NONE	NA	NA	NA		
	COURSE	511	NONE	NA	NA	NA		
	SPEED	2047	NONE	NA	NA	NA		
J14.0C2	NOT TRANSLATED							
J14.0C3	WORD FORMAT	1	NONE	NA	NA	NA		
	CONTINUATION WORD LABEL	3	NONE	NA	NA	NA		
	EMITTER FUNCTION	0	NONE	NA	NA	NA		
	MODULATION CODE	0	NONE	NA	NA	NA		
	MULTIPLE EVALUATION	0	NONE	NA	NA	NA		
	BROAD CLASSIFICATION	RX	=	M.6A	ACTION VALUE BROAD CLASSIFICATION	0 RX		
	AMPLIFYING CHARACTERISTICS	RX	=	M.6A	ACTION VALUE AMPLIFYING CHARACTERISTICS	1 RX		
	EMITTER CONFIDENCE	0	NONE	NA	NA	NA		
	EMITTER NUMBER	0	NONE	NA	NA	NA		
	EMITTER NUMBER INDICATOR	0	NONE	NA	NA	NA		
	WARTIME RESERVE MODE INDICATOR	0	NONE	NA	NA	NA		
J14.0C4	WORD FORMAT	1	NONE	NA	NA	NA		
	CONTINUATION WORD LABEL	4	NONE	NA	NA	NA		
	PRF/PRI INDICATOR	0	NONE	NA	NA	NA		
	PULSE REPETITION FREQUENCY	0	NONE	NA	NA	NA		

TABLE A.5.2-J14.0-2. J14.0 Message Data Element Translation from the M.6A Message (Sheet 4 of 7)

		Link 16			Link 11/11B		
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		VALUE	REQUIRED	MESSAGE			
J14.0C4 (Cont'd)	PULSE REPETITION INTERVAL	0	NONE	NA	NA	NA	
	PULSE WIDTH	0	NONE	NA	NA	NA	
	JITTER	0	NONE	NA	NA	NA	
	SCAN TYPE	0	NONE	NA	NA	NA	
	ANTENNA SCAN RATE/PERIOD INDICATOR	0	NONE	NA	NA	NA	
	ANTENNA SCAN RATE	0	NONE	NA	NA	NA	
	ANTENNA SCAN PERIOD	0	NONE	NA	NA	NA	
	POLARIZATION	0	NONE	NA	NA	NA	
	JAMMER RECEIVED SIGNAL LEVEL	RX	=	M.6A	ACTION VALUE SWITCH JAMMER RECEIVED SIGNAL LEVEL	1 1 RX	
	WORD FORMAT	1	NONE	NA	NA	NA	
J14.0C5	CONTINUATION WORD LABEL	5	NONE	NA	NA	NA	
	NATIONALITY/ALLIANCE OF TRACK	0	NONE	NA	NA	NA	
	PLATFORM EVALUATION CONFIDENCE	0	NONE	NA	NA	NA	
	PLATFORM	AT	CR	M.6A	ACTION VALUE PLATFORM	1 RX	5
	ACTIVITY	0	NONE	NA	NA	NA	
	SPACE SPECIFIC TYPE	0	NONE	NA	NA	NA	
	AIR SPECIFIC TYPE	0	NONE	NA	NA	NA	
	SURFACE SPECIFIC TYPE	0	NONE	NA	NA	NA	
	SUBSURFACE SPECIFIC TYPE	0	NONE	NA	NA	NA	
	LAND SPECIFIC TYPE	0	NONE	NA	NA	NA	

TABLE A.5.2-J14.0-2. J14.0 Message Data Element Translation from the M.6A Message (Sheet 5 of 7)

Link 16				TRANSLATION			Link 11/11B		
WORD	DATA ELEMENT	VALUE	REQUIRED	MESSAGE	FIELD	VALUE	NOTES		
J14.0C5 (Cont'd)	LOCAL DISCRETE IDENTIFIER	0	NONE	NA	NA	NA			
J14.0C6	NOT TRANSLATED								

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TABLE A.5.2-J14.0-2. J14.0 Message Data Element Translation from the M.6A
Message (Sheet 6 of 7)

NOTES

1. The Threat Evaluation field is determined as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>THREAT EVALUATION</u>	<u>THREAT EVALUATION</u>
0 - PENDING/NO STATEMENT	0 - PENDING
1 - UNKNOWN	1 - UNKNOWN
2 - NON-THREAT	2 - NONTREAT/FRIEND
3 - THREAT	3 - THREAT

2. The M.6A message only describes EA LOBs relative to TN of Origin. Therefore, Bearing Origin in the J14.0I word is set to 0.

3. The M.6A message only describes EA LOBs; therefore Fix or Bearing Descriptor is always set to 4 (Bearing EA).

4. Hour, Minute, and Second are determined from the M.6A Time Stale field by subtracting the value in the Time Stale field from the estimated time of transmission of the J14.0 message, rounding to the nearest second. Time Stale = 127 (No Statement) shall be translated to Hour = 31 (No Statement), Minute = 63 (No Statement), and Second = 63 (No Statement).

5. The J14.0 Environment (ENV) and Platform fields are determined from the M.6A Platform field as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>ENVIRONMENT</u>	<u>AIR PLATFORM</u>
0 - NO STATEMENT/ UNKNOWN	0 - NO STATEMENT
2 - AIR	0 - NO STATEMENT
	13 - MISSILE
	36 - MISSILE CONTROL UNIT
	2 - AIRBORNE (AIRCRAFT EXCLUDING MISSILE)
	1 - MISSILE
	6 - MISSILE CONTROL UNIT (AIRBORNE)

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TABLE A.5.2-J14.0-2. J14.0 Message Data Element Translation from the M.6A Message (Sheet 7 of 7)

NOTES (Continued)

5. (Continued)

<u>Link 16</u>		<u>Link 11/11B</u>	
ENVIRONMENT	SURFACE PLATFORM	PLATFORM	
3 - SURFACE	0 - NO STATEMENT	3 - SURFACE	
		7 - MISSILE CONTROL	
		UNIT	SUBSURFACE)
<u>Link 16</u>		<u>Link 11/11B</u>	
ENVIRONMENT	SUBSURFACE PLATFORM	PLATFORM	
4 - SUBSURFACE	0 - NO STATEMENT	4 - SUBSURFACE	(SUBMARINE)
<u>Link 16</u>		<u>Link 11/11B</u>	
ENVIRONMENT	LAND PLATFORM	PLATFORM	
5 - LAND	0 - NO STATEMENT	5 - LAND	

6. Bearing Accuracy is determined as follows:

<u>Link 16</u>		<u>Link 11/11B</u>	
BEARING ACCURACY		BEARING ACCURACY	
0 (NO STATEMENT)		3 (> = 5 DEGREES/NO STATEMENT)	
3 (<= 5.0 DEGREES)		2 (< 5 DEGREES)	
6 (<= 2.0 DEGREES)		1 (< 2 DEGREES)	
7 (<= 1.0 DEGREES)		0 (< 1 DEGREE)	

7. When Action Value = 1 and Switch = 1, the M.6A Elevation equates to the J14.0 Elevation Angle, except that M.6A Elevation = 512 shall be converted to J14.0 Elevation Angle = 511, because J14.0 Elevation Angle = 512 means No Statement, but M.6A Elevation = 512 means $\pi/2$.

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TABLE A.5.2-J14.0-3. J14.0 Message Data Element Translation from the M.6B/M.86B/M.6C/M.86C Message
 (Sheet 1 of 9)

Link 16				TRANSLATION				Link 11/11B		
WORD J14.0I	DATA ELEMENT WORD FORMAT	VALUE	REQUIRED	MESSAGE	FIELD	VALUE	NOTES			
	LABEL, J-SERIES	14	CR	M.6B	LABEL	6				
	SUBLABEL, J-SERIES	0	CR	M.6B	SUB_LABEL	1				
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3			
	THREAT EVALUATION	AT	CR	M.6B	THREAT EVALUATION	RX	1			
	RESPONSE INDICATOR, EWAC	0	NONE	NA	NA	NA				
	SPECIAL PROCESSING INDICATOR	RX	=	M.1 or M.9A(AC=0)	SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR	RX	G5			
	AGILE Emitter	0	NONE	NA	NA	NA				
	TRACK NUMBER, REFERENCE/ INDEX NUMBER INDICATOR	0	NONE	NA	NA	NA				
	TRACK NUMBER, REFERENCE	AT	CR	M.6B	TRACK NUMBER	RX	G13			
	INDEX NUMBER	0	NONE	NA	NA	NA				
	BEARING ORIGIN	1	NONE	NA	NA	NA				
	SQUARE/CIRCLE SWITCH		NONE	NA	NA	NA				
	FIX OR BEARING DESCRIPTOR	AT	CR	M.6B M.86B	FIX OR BEARING BEARING INDICATOR REPORT SOURCE	RX RX RX	2			
	SECOND	0	NONE	NA	NA	NA				
	MINUTE	AT	CR	M.86B	TIME STALE	RX	3			
	HOUR	AT	CR	M.86B	TIME STALE	RX	3			
	REQUEST NUMBER	0	NONE	NA	NA	NA				

TABLE A.5.2-J14.0-3. J14.0 Message Data Element Translation from the M.6B/M.86B/M.6C/M.86C Message
(Sheet 2 of 9)

Link 16				TRANSLATION			Link 11/11B		
WORD	DATA ELEMENT	VALUE		REQUIRED	MESSAGE	FIELD	VALUE	NOTES	
J14.0I (Cont'd)	ENVIRONMENT	AT	CR		M.6B or M.6B M.86B	PLATFORM	RX	4	
	LOCK-ON	RX	=		M.86B	LOCK-ON/SPY	RX		
J14.0E0	WORD FORMAT	2	NONE		NA	NA	NA		
	TRACK NUMBER, ORIGIN	0	NONE		NA	NA	NA		
	FREQUENCY/FREQUENCY RANGE INDICATOR	AT	CR		M.86B	EVALUATION SWITCH FREQUENCY MULTIPLIER	0 RX	G19	
	FREQUENCY MULTIPLIER, 1	AT	CR		M.86B	EVALUATION SWITCH FREQUENCY MULTIPLIER	0 RX	G19	
	FREQUENCY, 1	AT	CR		M.86B	EVALUATION SWITCH FREQUENCY/FREQUENCY RANGE	0 RX	G19	
	FREQUENCY MULTIPLIER, 2	AT	CR		M.86B	EVALUATION SWITCH FREQUENCY MULTIPLIER	0 RX	G19	
	FREQUENCY, 2	AT	CR		M.86B	EVALUATION SWITCH FREQUENCY/FREQUENCY RANGE	0 RX	G19	
J14.0C1	WORD FORMAT	1	NONE		NA	NA	NA		
	CONTINUATION WORD LABEL	1	NONE		NA	NA	NA		
	PARAMETER SOURCE	AT	CR		M.86B	REPORT SOURCE	RX	5	
	BEARING ACCURACY	AT	CR		M.86B	BEARING ACCURACY	RX	6	
	BEARING	AT	CR		M.86B	BEARING INDICATOR BEARING	0 RX	7	
	SECTOR WIDTH	255	NONE		NA	NA	NA		
	ELEVATION ANGLE/ALTITUDE INDICATOR	0	NONE		NA	NA	NA		

TABLE A.5.2-J14.0-3. J14.0 Message Data Element Translation from the M.6B/M.86B/M.6C/M.86C Message
 (Sheet 3 of 9)

Link 16		TRANSLATION				Link 11/11B		
WORD	DATA ELEMENT	VALUE	REQUIRED	MESSAGE	FIELD	VALUE	NOTES	
J14.0C1 (Cont'd)	ELEVATION ANGLE	512	NONE	NA	NA	NA		
	ALTITUDE, 25 FT	8191	NONE	NA	NA	NA		
	COURSE	511	NONE	NA	NA	NA		
	SPEED	2047	NONE	NA	NA	NA		
J14.0C2	WORD FORMAT	1	NONE	NA	NA	NA		
	CONTINUATION WORD LABEL	2	NONE	NA	NA	NA		
	LATITUDE, 0.0051 MINUTE	AT	CR	M.6B	X COORDINATE Y COORDINATE	RX RX	G9	
	LONGITUDE, 0.0051 MINUTE	AT	CR	M.6B	X COORDINATE Y COORDINATE	RX RX	G9	
	AREA MAJOR AXIS	63	NONE	NA	NA	NA		
	AREA MINOR AXIS	63	NONE	NA	NA	NA		
	AXIS ORIENTATION	255	NONE	NA	NA	NA		
J14.0C3	WORD FORMAT	1	NONE	NA	NA	NA		
	CONTINUATION WORD LABEL	3	NONE	NA	NA	NA		
	EMITTER FUNCTION	0	NONE	NA	NA	NA		
	MODULATION CODE	0	NONE	NA	NA	NA		
	MULTIPLE EVALUATION	0	NONE	NA	NA	NA		
	BROAD CLASSIFICATION	RX	=	M.86B	EVALUATION SWITCH BROAD CLASSIFICATION	0 RX		
	AMPLIFYING CHARACTERISTICS	RX	=	M.86B	EVALUATION SWITCH AMPLIFYING CHARACTERISTICS	0 RX		
	EMITTER CONFIDENCE	RX	=	M.86B	EVALUATION SWITCH CONFIDENCE	1 RX		

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TABLE A.5.2-J14.0-3. J14.0 Message Data Element Translation from the M.6B/M.86B/M.6C/M.86C Message
(Sheet 4 of 9)

Link 16		TRANSLATION			Link 11/11B		
WORD	DATA ELEMENT	VALUE	REQUIRED	MESSAGE	FIELD	VALUE	NOTES
J14.0C3 (Cont'd)	EMITTER NUMBER	RX	=	M.86B	EVALUATION SWITCH EMITTER NUMBER	1 RX	G15
	EMITTER NUMBER INDICATOR	1	CR	M.86B	EVALUATION SWITCH	1	
	WARTIME RESERVE MODE INDICATOR	0	NONE	NA	NA	NA	
J14.0C4	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	4	NONE	NA	NA	NA	
	PRF/PRI INDICATOR	0	NONE	NA	NA	NA	
	PULSE REPETITION FREQUENCY	AT	CR	M.6C	PULSE REPETITION FREQUENCY PRF SCALING	RX RX	8
	PULSE REPETITION INTERVAL	0	NONE	NA	NA	NA	
	PULSE WIDTH	AT	CR	M.86C	PULSE WIDTH	RX	9
	JITTER	RX	=	M.6C	JITTER	RX	
	SCAN TYPE	RX	=	M.6C	SCAN TYPE	RX	
	ANTENNA SCAN RATE/PERIOD INDICATOR	AT	CR	M.86C	SWITCH	RX	10
	ANTENNA SCAN RATE	RX	=	M.86C	SWITCH SCAN RATE	1 RX	
	ANTENNA SCAN PERIOD	RX	=	M.86C	SWITCH ANTENNA SCAN PERIOD	0 RX	
	POLARIZATION	RX	=	M.86C	POLARIZATION	RX	
	JAMMER RECEIVED SIGNAL LEVEL	0	NONE	NA	NA	NA	
J14.0C5	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	5	NONE	NA	NA	NA	

TABLE A.5.2-J14.0-3. J14.0 Message Data Element Translation from the M.6B/M.86B/M.6C/M.86C Message
 (Sheet 5 of 9)

WORD J14.0C5 (Cont'd)	DATA ELEMENT	TRANSLATION			Link 11/11B		
		VALUE	REQUIRED	MESSAGE	FIELD	VALUE	NOTES
	NATIONALITY/ALLIANCE OF TRACK	0	NONE	NA	NA	NA	
	PLATFORM EVALUATION CONFIDENCE	AT	CR	M.86B	REPORT SOURCE PLATFORM EVALUATION CONFIDENCE	RX RX	11
	PLATFORM	AT	CR	M.6B or M.6B M.86B	PLATFORM EVALUATION SWITCH BROAD CLASSIFICATION AMPLIFYING CHARACTERISTICS	RX 0 4 5	4 4
	ACTIVITY	0	NONE	NA	NA	NA	
	SPACE SPECIFIC TYPE	0	NONE	NA	NA	NA	
	AIR SPECIFIC TYPE	0	NONE	NA	NA	NA	
	SURFACE SPECIFIC TYPE	0	NONE	NA	NA	NA	
	SUBSURFACE SPECIFIC TYPE	0	NONE	NA	NA	NA	
	LAND SPECIFIC TYPE	0	NONE	NA	NA	NA	
	LOCAL DISCRETE IDENTIFIER	0	NONE	NA	NA	NA	
J14.0C6	NOT TRANSLATED						

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TABLE A.5.2-J14.0-3. J14.0 Message Data Element Translation from the
M.6B/M.86B/M.6C/M.86C Message (Sheet 6 of 9)

NOTES

- Threat Evaluation is determined as follows:

<u>Link 16</u>	
<u>THREAT EVALUATION</u>	
0 - PENDING/NO STATEMENT	
1 - UNKNOWN	
2 - NON-THREAT	
3 - THREAT	

<u>Link 11/11B</u>	
<u>THREAT EVALUATION</u>	
0 - PENDING	
1 - UNKNOWN	
2 - NONTREAT/FRIEND	
3 - THREAT	

- The J14.0 Fix or Bearing Descriptor is determined from the M.6B/M.86B Fix or Bearing (F/B), Report Source (RS), and Bearing Indicator (BI) fields, as follows:

<u>Link 16</u>		<u>Link 11/11B</u>	
<u>FIX OR BEARING</u>	<u>DESCRIPTOR</u>	<u>FIX OR BEARING</u>	<u>REPORT SOURCE</u>
0 - EW FIX		1 - FIX	0 - ES (OTHER THAN RDF)
3 - BEARING, ES		0 - BEARING	0 - ES (OTHER THAN RDF)
5 - BEARING, RADIO DIRECTION FINDING		0 - BEARING	1 - RDF
7 - BEARING, UNKNOWN		0 - BEARING	0 - ES (OTHER THAN RDF)
			1 - BEARING UNKNOWN

(Note: An M.6B/M.86B with F/B = 1 and RS = 1 is illegal. Also, when M.86B RS = 1, the M.86B has no Bearing Indicator field.)

- Hour and Minute are determined from the M.86B Time Stale field by subtracting the value in the Time Stale field from the estimated time of transmission of the J14.0, rounding to the nearest whole minute. This procedure will be used when Time Stale = 30, even though 30 is defined as 30 minutes or more. Time Stale = 31 (Nonreal-time Fix or Bearing) shall be translated to Hour = 31 (No Statement) and Minute = 63 (No Statement).

- If Link 11/11B Evaluation Switch = 0, Broad Classification = 4 - Countermeasures, and Amplifying Characteristics = 5 - Active Electronic Decoy, the J14.0 Environment shall be set to 2 - Air and Platform shall be set to 49 -

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TABLE A.5.2-J14.0-3. J14.0 Message Data Element Translation from the
M.6B/M.86B/M.6C/M.86C Message (Sheet 7 of 9)

NOTES (Continued)

4. (Continued)

Active Electronic Decoy. Otherwise, the J14.0 Environment and Platform fields are determined from the M.6B Platform field as follows:

<u>Link 16</u>		<u>Link 11/11B</u>	
<u>ENVIRONMENT</u>		<u>PLATFORM</u>	
0 - NO STATEMENT/ UNKNOWN	AIR PLATFORM	0 - NO STATEMENT	0 - NO STATEMENT
2 - AIR	0 - NO STATEMENT	2 - AIRBORNE (AIRCRAFT EXCLUDING MISSILE)	1 - MISSILE
	13 - MISSILE	3 - SURFACE	6 - MISSILE CONTROL UNIT (AIRBORNE)
	36 - MISSILE CONTROL UNIT	7 - MISSILE CONTROL UNIT (SURFACE/ SUBSURFACE)	
<u>Link 16</u>		<u>Link 11/11B</u>	
<u>ENVIRONMENT</u>		<u>PLATFORM</u>	
3 - SURFACE	SURFACE PLATFORM	3 - SURFACE	
	0 - NO STATEMENT	7 - MISSILE CONTROL UNIT (SURFACE/ SUBSURFACE)	
	33 - MISSILE CONTROL UNIT		
<u>Link 16</u>		<u>Link 11/11B</u>	
<u>ENVIRONMENT</u>		<u>PLATFORM</u>	
4 - SUBSURFACE	SUBSURFACE PLATFORM	4 - SUBSURFACE	
	0 - NO STATEMENT	(SUBMARINE)	
<u>Link 16</u>		<u>Link 11/11B</u>	
<u>ENVIRONMENT</u>		<u>PLATFORM</u>	
5 - LAND	LAND PLATFORM	5 - LAND	
	0 - NO STATEMENT		

5. The J14.0 Parameter Source field is determined from the M.86B Report Source field as follows:

<u>Link 16</u>		<u>Link 11/11B</u>	
<u>PARAMETER SOURCE</u>		<u>REPORT SOURCE</u>	
5 - REPORT SOURCE, RADIO DIRECTION FINDING		1 - RDF	
6 - REPORT SOURCE, OTHER		0 - ES (OTHER THAN RDF)	

6. Bearing Accuracy is determined as follows:

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TABLE A.5.2-J14.0-3. J14.0 Message Data Element Translation from the
M.6B/M.86B/M.6C/M.86C Message (Sheet 8 of 9)

NOTES (Continued)

6. (Continued)

<u>Link 16</u>	<u>Link 11/11B</u>
BEARING ACCURACY	BEARING ACCURACY
0 (NO STATEMENT)	0 (NO STATEMENT)
1 (> 10.0 DEGREES)	3 (= OR > 10 DEGREES)
2 (<= 10.0 DEGREES)	2 (< 10 DEGREES)
6 (<= 2.0 DEGREES)	1 (< 2 DEGREES)

7. Link 11/11B Bearing is in 360/512 degree increments, and Link 16 Bearing is in 360/4096 degree increments. Translate Link 11/11B to the nearest Link 16 increment (.5 rounded up)

8. When the M.6C PRF Scaling (PS) = 1, the J14.0C4 Pulse Repetition Frequency (PRF) = M.6C PRF. When M.6C PS = 0, J14.0C4 PRF shall forward the decimal equivalents of M.6C PRF, except that M.6C PS = 0, PRF = 131,071 shall be translated to J14.0C4 PRF = 8388607 (131,071 PPS or greater). When M.6C PS = 2, the M.6C PRF shall be rounded to the nearest 0.1 PPS (0.05 being rounded up), then J14.0C4 PRF shall be forwarded as M.6C PRF.

9. Link 11/11B Pulse Width is in .1 microsecond increments, and Link 16 Pulse Width is in .05 microsecond increments. Translate Link 11/11B to the equivalent Link 16 increment.

10. The Antenna Scan Rate/Period Indicator is determined from the M.86C Switch field as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
ANTENNA SCAN RATE/PERIOD INDICATOR	SWITCH
1 - PRIMARY ANTENNA SCAN RATE BEING REPORTED	1 - SCAN RATE REPORTED
2 - ANTENNA SCAN PERIOD BEING REPORTED	0 - ANTENNA SCAN PERIOD REPORTED

11. If Report Source = 0, the M.86B has no Platform Evaluation Confidence field and J14.0 Platform Evaluation Confidence shall be transmitted as value 0. If

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TABLE A.5.2-J14.0-3. J14.0 Message Data Element Translation from the
M.6B/M.86B/M.6C/M.86C Message (Sheet 9 of 9)

NOTES (Continued)

11. (Continued)

Report Source = 1, J14.0 Platform Evaluation Confidence equates to M.86B Platform Evaluation Confidence.

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TABLE A.5.2-J14.0-4. J14.0 Message Data Element Translation from the M.9F(0)/M.89F(0) Message
(Sheet 1 of 4)

Link 16				TRANSLATION				Link 11/11B		
WORD J14.0I	DATA ELEMENT	VALUE	REQUIRED	MESSAGE	FIELD	VALUE	NOTES			
	LABEL, J-SERIES	14	CR	M.9F	LABEL	9				
	SUBLABEL, J-SERIES	0	CR	M.9F	SUBLABEL	5				
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3			
	THREAT EVALUATION	0	NONE	NA	NA	NA				
	RESPONSE INDICATOR, EWAC	0	NONE	NA	NA	NA				
	SPECIAL PROCESSING INDICATOR	RX	=	M.1 or M.9A(AC=0)	SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR	RX	G5			
	AGILE Emitter	0	NONE	NA	NA	NA				
	TRACK NUMBER, REFERENCE/ INDEX NUMBER INDICATOR	0	NONE	NA	NA	NA				
	TRACK NUMBER, REFERENCE	AT	CR	M.9F	TRACK NUMBER	RX	G13			
	INDEX NUMBER	0	NONE	NA	NA	NA				
	BEARING ORIGIN	0	NONE	NA	NA	NA				
	SQUARE/CIRCLE SWITCH	AT	CR	M.89F(0)	SQUARE/CIRCLE SWITCH	RX	1			
	FIX OR BEARING DESCRIPTOR	1	CR	M.89F(0)	SOURCE	1				
	SECOND	0	NONE	NA	NA	NA				
	MINUTE	RX	=	M.89F(0)	MINUTES	RX				
	HOUR	RX	=	M.89F(0)	HOURS	RX				
	REQUEST NUMBER	0	NONE	NA	NA	NA				
	ENVIRONMENT	AT	CR	M.89F(0)	CATEGORY/PLATFORM	RX	2			
	LOCK-ON	0	NONE	NA	NA	NA				

TABLE A.5.2-J14.0-4. J14.0 Message Data Element Translation from the M.9F(0)/M.89F(0) Message
(Sheet 2 of 4)

Link 16			TRANSLATION			Link 11/11B		
WORD	DATA ELEMENT	VALUE	REQUIRED	MESSAGE	FIELD	VALUE	NOTES	
J14.0E0	WORD FORMAT	1	NONE	NA	NA	NA		
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA		
	PARAMETER SOURCE	0	NONE	NA	NA	NA		
	BEARING ACCURACY	0	NONE	NA	NA	NA		
	BEARING	0	NONE	NA	NA	NA		
	SECTOR WIDTH	255	NONE	NA	NA	NA		
	ELEVATION ANGLE/ALTITUDE INDICATOR	0	NONE	NA	NA	NA		
	ELEVATION ANGLE	512	NONE	NA	NA	NA		
	ALTITUDE, 25 FT	8191	NONE	NA	NA	NA		
	COURSE	AT	CR	M.9F(1)	SWITCH SCALE INDICATOR X DOT Y DOT	0 RX RX	G8	
J14.0C1	SPEED	AT	CR	M.9F(1)	SWITCH SCALE INDICATOR X DOT Y DOT	0 RX RX	G8	
	WORD FORMAT	1	NONE	NA	NA	NA		
	CONTINUATION WORD LABEL	2	NONE	NA	NA	NA		
	LATITUDE, 0.0051 MINUTE	AT	CR	M.9F(0)	X COORDINATE Y COORDINATE	RX RX	G9	
	LONGITUDE, 0.0051 MINUTE	AT	CR	M.9F(0)	X COORDINATE Y COORDINATE	RX RX	G9	
	AREA MAJOR AXIS	AT	CR	M.89F(0)	MAJOR AXIS	RX	G18	
	AREA MINOR AXIS	AT	CR	M.89F(0)	MINOR AXIS	RX	G18	

TABLE A.5.2-J14.0-4. J14.0 Message Data Element Translation from the M.9F(0)/M.89F(0) Message
 (Sheet 3 of 4)

Link 16			TRANSLATION			Link 11/11B		
<u>WORD</u>	<u>DATA ELEMENT</u>	<u>VALUE</u>	<u>REQUIRED</u>	<u>MESSAGE</u>	<u>FIELD</u>	<u>VALUE</u>	<u>NOTES</u>	
J14.0C2 (Cont'd)	AXIS ORIENTATION	AT	CR	M.89F(0)	BEARING	RX	G17	
J14.0C3	NOT TRANSLATED							
J14.0C4	NOT TRANSLATED							
J14.0C5	NOT TRANSLATED							
J14.0C6	NOT TRANSLATED							

APPENDIX A

TABLE A.5.2-J14.0-4. J14.0 Message Data Element Translation from the
M.9F(0)/M.89F(0) Message (Sheet 4 of 4)

NOTES

1. The Square/Circle Switch is determined as follows:

<u>Link 16</u>
SQUARE/CIRCLE SWITCH
1 - SQUARE/RECTANGULAR
2 - CIRCULAR/ELLIPTICAL

<u>Link 11/11B</u>
SQUARE/CIRCLE SWITCH
0 - SQUARE/RECTANGLE
1 - CIRCLE/ELLIPSE

2. Environment is determined from the M.89F(AC=0) Category/Platform field as follows:

<u>Link 16</u>
ENVIRONMENT
0 - NO STATEMENT/UNKNOWN
2 - AIR
3 - SURFACE
4 - SUBSURFACE

<u>Link 11/11B</u>
CATEGORY/PLATFORM
0 - NO STATEMENT
1 - AIR
2 - SURFACE
3 - SUBSURFACE

TABLE A.5.2-J14.2. J14.2 Message Data Element Translation from the M.6D/M.86D Message (Sheet 1 of 8)

Link 16					Link 11/11B		
WORD J14.2I	DATA ELEMENT WORD FORMAT	TRANSLATION			FIELD NA	VALUE NA	NOTES
		0	NONE	MESSAGE NA			
	LABEL, J-SERIES	14	CR	M.6D	LABEL	6	
	SUBLABEL, J-SERIES	2	CR	M.6D	SUB_LABEL	3	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	G3
	TRACK NUMBER, ADDRESSEE	AT	CR	M.6D	TN ADDRESSEE	RX	1, G12
	ELECTRONIC WARFARE ACTION VALUE	AT	CR	M.6D	CONTROL	RX	2
	TRACK NUMBER, REFERENCE	AT	CR	M.6D	TRACK NUMBER RESPONSE TRACK NUMBER	RX RX	3, G13
	TASK PRIORITY	0	NONE	NA	NA	NA	
	REQUEST NUMBER	0	NONE	NA	NA	NA	
	SECTOR/AREA/LOCATION INDICATOR	AT	CR	M.6D	CONTROL	5, 14, 15 4	
	RECEIPT/COMPLIANCE	AT	CR	M.6D	CONTROL RECEIPT/COMPLIANCE	RX RX	5
	RECURRENCE RATE, RECEIPT/ COMPLIANCE	AR	NONE	NA	NA	NA	
J14.2E0	WORD FORMAT	2	NONE	NA	NA	NA	
	IMMEDIATE ACTION INDICATOR	0	NONE	NA	NA	NA	
	MINUTE	63	NONE	NA	NA	NA	
	HOUR	31	NONE	NA	NA	NA	
	SECOND	63	NONE	NA	NA	NA	
	TIME DURATION	AT	CR	M.6D	CONTROL REPORT DURATION	14 or 15 6 RX	
	TRACK NUMBER, ASSOCIATED	AT	CR	M.6D	CONTROL ASSOCIATED TN	9 or 10 RX	7 G13

TABLE A.5.2-J14.2. J14.2 Message Data Element Translation from the M.6D/M.86D Message (Sheet 2 of 8)

		Link 16			Link 11/11B		
WORD J14.2E0 (Cont'd)	DATA ELEMENT REFERENCE ELECTRONIC WARFARE ACTION VALUE	TRANSLATION			FIELD CONTROL REFERENCED CONTROL VALUE CANCELED CONTROL VALUE	VALUE RX RX	NOTES 8
		VALUE AT	REQUIRED CR	MESSAGE M.6D			
	DECOY TYPE	RX	=	M.6D M.86D	CONTROL DECOY TYPE	6 RX	
	DECOY MISSION	RX	=	M.6D M.86D	CONTROL DECOY MISSION	6 RX	
	INDEX NUMBER	0	NONE	NA	NA	NA	
	PERIODICITY OF REPORT	RX	=	M.6D	CONTROL PERIOD	0 RX	
	ELECTRONIC WARFARE COORDINATOR INDICATOR	AT	CR	M.6D	CONTROL EWC INDICATOR	RX RX	9
	SQUARE/CIRCLE SWITCH	RX	=	M.6D M.86D	CONTROL SQUARE/CIRCLE SWITCH,	6 RX 2	
	AUTOMATIC ELECTRONIC ATTACK NEGATION	RX	=	M.6D M.86D	CONTROL AUTOMATIC EA NEGATION	6 RX	
J14.2C1	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	
	BEARING	AT	CR	M.6D or M.86D	BEARING BEARING/AXIS ORIENTATION	RX RX	10 13
	TRACK NUMBER, ORIGIN	AT	CR	M.6D	TN ADDRESSEE	RX	10, G13
	BEARING ORIGIN	0	NONE	NA	NA	NA	10
	SECTOR WIDTH	AT	CR	M.6D or M.86D	BEARING WIDTH SECTOR WIDTH	RX RX	11 11
	ELEVATION ANGLE	512	NONE	NA	NA	NA	
J14.2C2	WORD FORMAT	1	NONE	NA	NA	NA	

TABLE A.5.2-J14.2. J14.2 Message Data Element Translation from the M.6D/M.86D Message (Sheet 3 of 8)

		Link 16			Link 11/11B		
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES
		VALUE	REQUIRED	MESSAGE			
J14.2C2 (Cont'd)	CONTINUATION WORD LABEL	2	NONE	NA	NA	NA	
	LATITUDE, 0.0051 MINUTE	1048576	NONE	NA	NA	NA	
	LONGITUDE, 0.0051 MINUTE	2097152	NONE	NA	NA	NA	
	AREA MAJOR AXIS	AT	CR	M.6D M.86D	CONTROL MAJOR AXIS	6 RX	13
	AREA MINOR AXIS	AT	CR	M.6D M.86D	CONTROL MINOR AXIS	6 RX	13
	AXIS ORIENTATION	AT	CR	M.6D M.86D	CONTROL BEARING/AXIS ORIENTATION	6 RX	G17
	WORD FORMAT	1	NONE	NA	NA	NA	
J14.2C3	CONTINUATION WORD LABEL	3	NONE	NA	NA	NA	
	EMITTER FUNCTION	RX	=	M.6D or M.86D	CONTROL EMITTER FUNCTION	5 RX	
	EMITTER NUMBER	RX	=	M.6D or M.86D	EMITTER NUMBER	RX	12, G15
	EMITTER NUMBER INDICATOR	1	NONE	NA	EMITTER NUMBER	RX	
	MODULATION CODE	0	NONE	NA	NA	NA	
	WARTIME RESERVE MODE INDICATOR	0	NONE	NA	NA	NA	
	EMITTER CONFIDENCE	RX	=	M.6D	CONFIDENCE	RX	
	WORD FORMAT	1	NONE	NA	NA	NA	
	CONTINUATION WORD LABEL	4	NONE	NA	NA	NA	
J14.2C4	FREQUENCY/FREQUENCY RANGE INDICATOR	AT	CR	M.6D	CONTROL	4, 5, or 6	
	FREQUENCY MULTIPLIER, 1	AT	CR	M.6D	FREQUENCY/FREQUENCY RANGE	RX	G19

TABLE A.5.2-J14.2. J14.2 Message Data Element Translation from the M.6D/M.86D Message (Sheet 4 of 8)

Link 16					Link 11/11B			
WORD	DATA ELEMENT	TRANSLATION			FIELD	VALUE	NOTES	
		VALUE	REQUIRED	MESSAGE				
J14.2C4 (Cont'd)	FREQUENCY, 1	AT	CR	M.6D	FREQUENCY/FREQUENCY RANGE	RX	G19	
	FREQUENCY MULTIPLIER, 2	AT	CR	M.6D	FREQUENCY MULTIPLIER	RX	G19	
	FREQUENCY, 2	AT	CR	M.6D	FREQUENCY/FREQUENCY RANGE	RX	G19	
J14.2C5	NOT TRANSLATED							
J14.2C6	NOT TRANSLATED							
J14.2C7	NOT TRANSLATED							
J14.2C8	NOT TRANSLATED							

APPENDIX A

TABLE A.5.2-J14.2. J14.2 Message Data Element Translation from the M.6D/M.86D
Message (Sheet 5 of 8)

NOTES

1. M.6D messages with Control = 8, 9, 10, or 11 are not addressed and do not contain a TN, Addressee field. When forwarded to Link 16 in a J14.2 message, J14.2I Track Number, Addressee shall be set to 00177 (octal).

2. Electronic Warfare Action Value (EWAC) is determined from M.6D Control as follows:

<u>Link 16</u>	
<u>ELECTRONIC WARFARE ACTION VALUE</u>	
0	- REQUEST PERIODIC REPORT
1	- REQUEST AUTOMATIC EVALUATION
2	- REQUEST MANUAL EVALUATION
3	- REQUEST UPDATE AND WATCH
4	- REQUEST DIRECTED SEARCH
5	- CANCEL REQUEST
7	- Emitter EVALUATION
8	- PARAMETER ASSOCIATION
9	- Emitter ASSOCIATION
10	- DISASSOCIATION
11	- NO FIND
12	- RESPONSE TO AN ELECTRONIC WARFARE REQUEST
13	- EVALUATE TRACK
14	- EVALUATE SECTOR
19	- DEPLOY DECOYS

<u>Link 11/11B</u>	
<u>CONTROL</u>	
0	- REQUEST PERIODIC REPORT
1	- REQUEST AUTOMATIC EVALUATION
2	- REQUEST MANUAL EVALUATION
3	- REQUEST UPDATE THEN WATCH
4	- REQUEST DIRECTED SEARCH
5	- REQUEST DIRECTED SECTOR SEARCH
7	- CANCEL REQUEST/CEASE REPORT
8	- Emitter EVALUATION
9	- PARAMETER ASSOCIATION
10	- Emitter ASSOCIATION
11	- DISASSOCIATION
12	- NO FIND
13	- RESPONSE TO EW REQUEST
14	- EVALUATE TRACK
15	- EVALUATE SECTOR
6	- DEPLOY DECOYS

3. When M.6D Control = 15, Track Number is Not Used and J14.2I Track Number (TN), Reference shall be set to 00000. When M.6D Control = 13, J14.2I TN, Reference is translated from M.6D Response Track Number. For all other Control values, J14.2I TN, Reference is translated from M.6D Track Number.

4. When M.6D Control = 5, 14, or 15, J14.2I Sector/Area/Location Indicator (S/A/L) shall be set to value 1 (Sector). For all other Control values, S/A/L shall be set at 0 (No Statement).

5. When M.6D Control = 8-13, the M.6D has no Receipt/Compliance (R/C) field and J14.2I R/C shall be set to 1. For all other Control values, R/C is determined as follows:

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TABLE A.5.2-J14.2. J14.2 Message Data Element Translation from the M.6D/M.86D
Message (Sheet 6 of 8)

NOTES (Continued)

5. (Continued)

<u>Link 16</u>
<u>RECEIPT/COMPLIANCE</u>
0 - ORIGINAL ORDER
1 - ORIGINAL ORDER
6 - CANTCO (CANNOT COMPLY)
7 - CANTPRO (CANNOT PROCESS)

<u>Link 11</u>
<u>RECEIPT/COMPLIANCE</u>
0 - ORIGINAL ORDER - RECEIPT/COMPLIANCE REQUIRED
1 - ORIGINAL ORDER - NO RECEIPT/COMPLIANCE REQUIRED
3 - CANTCO
2 - CANTPRO

6. Time Duration is determined from M.6D Report Duration as follows:

<u>Link 16</u>
<u>TIME DURATION</u>
0 - NO STATEMENT
12 - 1 MINUTE
13 - 5 MINUTES
14 - 20 MINUTES

<u>Link 11</u>
<u>REPORT DURATION</u>
0 - ONE REPORT REGARDLESS OF TIME
1 - 1 MINUTE
2 - 5 MINUTES
3 - 20 MINUTES

7. If M.6D Control ≠ 9 or 10, J14.2E0 TN, Associated shall be set to 00000.

When M.6D Control = 9 or 10, J14.2E0 TN, Associated is translated from M.6D Associated TN.

8. If M.6D Control ≠ 7, 12, or 13, J14.2E0 Reference EWAC shall be set to 63.

When M.6D Control = 7, 12, or 13, Reference EWAC is determined from M.6D Referenced or Canceled Control Value as follows:

<u>Link 16</u>
<u>REFERENCE ELECTRONIC WARFARE ACTION VALUE</u>
0 - REQUEST PERIODIC REPORT
1 - REQUEST AUTOMATIC EVALUATION
2 - REQUEST MANUAL EVALUATION
3 - REQUEST UPDATE AND WATCH
4 - REQUEST DIRECTED SEARCH
13 - EVALUATE TRACK
14 - EVALUATE SECTOR
19 - DEPLOY DECOYS

<u>Link 11/11B</u>
<u>CONTROL</u>
0 - REQUEST PERIODIC REPORT
1 - REQUEST AUTOMATIC EVALUATION
2 - REQUEST MANUAL EVALUATION
3 - REQUEST UPDATE THEN WATCH
4 - REQUEST DIRECTED SEARCH
5 - REQUEST DIRECTED SECTOR SEARCH
14 - EVALUATE TRACK
15 - EVALUATE SECTOR
6 - DEPLOY DECOYS

APPENDIX A

TABLE A.5.2-J14.2. J14.2 Message Data Element Translation from the M.6D/M.86D
Message (Sheet 7 of 8)

NOTES (Continued)

9. When M.6D Control ≠ 8-13, the M.6D has no EWC Indicator, and the J14.2E0 EWC Indicator shall be set to default value 0. When M.6D Control = 8-13, the M.6D EWC Indicator equates to the J14.2 EWC Indicator.

10. The J14.2C1 word is only translated when M.6D Control = 5, 6, 14, or 15. When Control = 5, M.86D Bearing equates to J14.2C1 Bearing and TN, Origin shall be set to the TN of M.6D TN Addressee. When Control = 6 and Square/Circle Switch, 2 = No Statement, the M.86D Bearing/Axis Orientation field equates to the J14.2C1 Bearing, and TN, Origin shall be set to the TN of M.6D TN Addressee. When Control = 14, Bearing and TN, Origin shall be set to value 0. When Control = 15, M.6D Bearing equates to J14.2C1 Bearing and TN, Origin shall be set to value 0. Bearing Origin must be set to default value 0 in all cases, since no bearing origin is specified in the M.6D or M.86D.

11. When M.6D Control = 14 or 15, Link 11 Bearing Width is defined as the total width of the sector centered on the specified bearing, whereas Link 16 Sector Width is defined as the number of degrees on each side of the bearing. Therefore, Link 16 Sector Width is half the Link 11 Bearing Width, and Sector Width is determined from M.6D Bearing Width as follows:

<u>Link 16</u>	<u>Link 11/11B</u>
<u>SECTOR WIDTH</u>	<u>BEARING WIDTH</u>
3 - 3 DEGREES	0 - 5 DEGREES
5 - 5 DEGREES	1 - 10 DEGREES
10 - 10 DEGREES	2 - 20 DEGREES
15 - 15 DEGREES	3 - 30 DEGREES
23 - 23 DEGREES	4 - 45 DEGREES
45 - 45 DEGREES	5 - 90 DEGREES
90 - 90 DEGREES	6 - 180 DEGREES
180 - 180 DEGREES	7 - 360 DEGREES

When M.6D Control = 5 or 6, M.86D Sector Width equates to J14.2C1 Sector Width.

12. When M.6D Control = 5, M.86D Emitter Number equates to J14.2C3 Emitter Number in accordance with General Note 15. When M.6D Control = 8, M.6D Emitter Number equates to J14.2C3 Emitter Number in accordance with General Note 15.

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TABLE A.5.2-J14.2. J14.2 Message Data Element Translation from the M.6D/M.86D
Message (Sheet 8 of 8)

NOTES (Continued)

13. The J14.2C2 word is only translated when M.6D Control = 6. When the M.86D Square/Circle Switch, 2 = 1 or 2, the Bearing/Axis Orientation field translates to J14.2C2 Axis Orientation and M.86D Major and Minor Axes translate to J14.2C2 Area Major and Minor Axes.

TABLE A.5.2-Mx. M-Series Message Data Element Translation from Link 16

Link 11/11B			TRANSLATION			Link 16		
<u>MESSAGE</u>	<u>FIELD</u>		<u>VALUE</u>	<u>REQUIRED</u>	<u>WORD</u>	<u>DATA ELEMENT</u>	<u>VALUE</u>	<u>NOTES</u>

There are no Link 16 messages that will stimulate the transmission of a M.0, M.9D, M.9G, M.12, M.12.31 or M.13 Message.

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TABLE A.5.2-M.1-1. M.1 Message Data Element Generation from the LINK 16 Message (Sheet 1 of 2)

Link 11				Link 16			
<u>MESSAGE</u> M.1	<u>FIELD</u> LABEL	TRANSLATION			<u>DATA ELEMENT</u>	<u>VALUE</u> NA	<u>NOTES</u>
		1	NONE	WORD NA			
	REFERENCE/POSITION INDICATOR	1	NONE	NA	NA	NA	1
	SPECIAL PROCESSING INDICATOR	AR	NONE	NA	NA	NA	2, G5
	SIMULATION INDICATOR, 1	0	NONE	NA	NA	NA	
	DELTA LATITUDE	AR	NONE	NA	NA	NA	3
	PU/RU ORIGINATOR	176	NONE	NA	NA	NA	
	DELTA LONGITUDE	AR	NONE	NA	NA	NA	3

APPENDIX A

TABLE A.5.2-M.1-1. M.1 Message Data Element Generation from the LINK 16 Message
(Sheet 2 of 2)

NOTES

1. Reference/Position Indicator must be set to 1 indicating the SCC position. This SCC is that of the FJU.
2. On Link 11, the Special Processing Indicator (SPI) of the M.1 message shall be set to the appropriate value for the data following the M.1 message. If the same data source reports both non-SPI and SPI data, the non-SPI M.1 message and data are followed by the SPI M.1 message data.
3. The reported Delta Latitude and Delta Longitude are the offsets showing position of the FJU's SCC referenced to the DLRP. All positional data forwarded by the FJU are referenced to the FJU's SCC.

TABLE A.5.2-M.1-2. M.1/M.81 Message Data Element Translation from the J2.0 Message (Sheet 1 of 3)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 2	NOTES
		VALUE 1	REQUIRED CR	WORD J2.0I			
M.1	REFERENCE/POSITION INDICATOR	1	NONE	NA	NA	NA	1
	SPECIAL PROCESSING INDICATOR	AR	NONE	NA	NA	NA	2, G5
	SIMULATION INDICATOR, 1	RX	=	J2.0I	SIMULATION INDICATOR	RX	G6
	DELTA LATITUDE	AR	NONE	NA	NA	NA	3
	PU/RU ORIGINATOR	AT	CR	HEADER or J2.0I	TRACK NUMBER, SOURCE	RX	G2, G12
					TRACK NUMBER, SOURCE	RX	G2, G12
	DELTA LONGITUDE	AR	NONE	NA	NA	NA	3
M.81	LABEL	8	CR	J2.0I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 0	4
	PU/RU ORIGINATOR	AT	CR	HEADER or J2.0I	TRACK NUMBER, SOURCE	RX	G2, G12
					TRACK NUMBER, SOURCE	RX	G2, G12
	HEIGHT/DEPTH	AT	CR	J2.0I or J2.0C1	ALTITUDE, 25 FT ORIGINATOR ENVIRONMENT ELEVATION, 25 FT DEPTH, 15 METERS	RX RX RX RX	5, G10 G10 G10, G11
	X DOT	AT	CR	J2.0E0	COURSE SPEED	RX RX	G7
	Y DOT	AT	CR	J2.0E0	COURSE SPEED	RX RX	G7
	ORIGINATOR ENVIRONMENT/ CATEGORY	RX	=	J2.0I	ORIGINATOR ENVIRONMENT	RX	
	UNIT TYPE	RX	=	J2.0I	UNIT TYPE	RX	
	MISSILE UNIT	0	NONE	NA	NA	NA	

TABLE A.5.2-M.1-2. M.1/M.81 Message Data Element Translation from the J2.0 Message (Sheet 2 of 3)

Link 11/11B			TRANSLATION			Link 16		
MESSAGE	FIELD	SCALE INDICATOR	VALUE	REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES
M.81 (Cont'd)			AT	CR	J2.0I	ALTITUDE, 25 FT	RX	5,G10
					J2.0C1	ORIGINATOR ENVIRONMENT	RX	
						ELEVATION, 25 FT	RX	G10
						DEPTH, 15 METERS	RX	G10

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TABLE A.5.2-M.1-2. M.1/M.81 Message Data Element Translation from the J2.0
Message (Sheet 3 of 3)

NOTES

1. Reference/Position Indicator must be set to 1 indicating the SCC position. This SCC is that of the FJU.
2. On Link 11, the Special Processing Indicator (SPI) of the M.1 message shall be set to the appropriate value for the data following the M.1 message. If the same data source reports both non-SPI and SPI data, the non-SPI M.1 message and data are followed by the SPI M.1 message data.
3. The reported Delta Latitude and Delta Longitude are the offsets showing position of the FJU's SCC referenced to the DLRP. The actual position of the forwarded IU is reported in an M.5 message referenced to the FJU's SCC. All other positional data forwarded by the FJU are also referenced to the FJU's SCC.
4. An M.81 message is forwarded only on Link 11, and then only when Unit Type is reported in the J2.0 message.
5. The Height/Depth and Scale Indicator fields of the M.81 message shall be translated from the altitude, elevation, or depth field as appropriate to the Originator Environment. The Height/Depth field shall be set to 0 for Originator Environment of 0 (Surface).

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TABLE A.5.2-M.1-3. M.1/M.81 Message Data Element Translation from the J2.2 Message (Sheet 1 of 2)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 2	NOTES
		VALUE 1	REQUIRED CR	WORD J2.2I			
M.1	REFERENCE/POSITION INDICATOR	1	NONE	NA	NA	NA	1
	SPECIAL PROCESSING INDICATOR	AR	NONE	NA	NA	NA	2, G5
	SIMULATION INDICATOR, 1	RX	=	J2.2I	SIMULATION INDICATOR	RX	G6
	DELTA LATITUDE	AR	NONE	NA	NA	NA	3
	PU/RU ORIGINATOR	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
	DELTA LONGITUDE	AR	NONE	NA	NA	NA	3
	LABEL	8	CR	J2.2I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 2	
	PU/RU ORIGINATOR	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
	HELICOPTER CARRYING	0	NONE	NA	NA	NA	
	HEIGHT/DEPTH	AT	CR	J2.2I	ALTITUDE, 25 FT	RX	G10
M.81	X DOT	AT	CR	J2.2E0	COURSE SPEED	RX RX	G7
	Y DOT	AT	CR	J2.2E0	COURSE SPEED	RX RX	G7
	ORIGINATOR ENVIRONMENT/ CATEGORY	3	CR	J2.2I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 2	
	UNIT TYPE	AT	CR	J2.2C1	AIR PLATFORM	RX	4
	MISSILE UNIT	0	NONE	NA	NA	NA	
	SCALE INDICATOR	AR	CR	J2.2I	ALTITUDE, 25 FT	RX	G10

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TABLE A.5.2-M.1-3. M.1/M.81 Message Data Element Translation from the J2.2
Message (Sheet 2 of 2)

NOTES

1. Reference/Position Indicator must be set to 1 indicating the SCC position. This SCC is that of the FJU.
2. On Link 11, the Special Processing Indicator (SPI) of the M.1 message shall be set to the appropriate value for the data following the M.1 message. If the same data source reports both non-SPI and SPI data, the non-SPI M.1 message and data are followed by the SPI M.1 message data.
3. The reported Delta Latitude and Delta Longitude are the offsets showing position of the FJU's SCC referenced to the DLRP. The actual position of the forwarded IU is reported in M.5 message referenced to the FJU's SCC. All other positional data forwarded by the FJU are also referenced to the FJU's SCC.
4. The M.81 Unit Type is derived from the J2.2 Air Platform as follows:

<u>Link 11</u>	<u>Link 16</u>
<u>UNIT TYPE</u>	AIR PLATFORM
0 - NO STATEMENT	ALL VALUES NOT LISTED BELOW
1 - MARITIME PATROL AIRCRAFT	17 - MARITIME PATROL AIRCRAFT (MPA)
2 - CARRIER BASED ASW AIRCRAFT	34 - PATROL
3 - AEW AIRCRAFT	15 - ANTISUBMARINE WARFARE (ASW)
6 - HELO	16 - AIRBORNE EARLY WARNING AND CONTROL (AEW)
	27 - HELICOPTER (HELO)
	28 - ATTACK HELICOPTER
	29 - HELICOPTER GUNSHIP
	30 - ANTISUBMARINE WARFARE HELICOPTER (ASW HELO)
	31 - MINE WARFARE HELICOPTER
	32 - TRANSPORT HELICOPTER

TABLE A.5.2-M.1-4. M.1/M.81 Message Data Element Translation from the J2.3 Message (Sheet 1 of 2)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 2	NOTES 3
		VALUE 1	REQUIRED CR	WORD J2.3I			
A-605	REFERENCE/POSITION INDICATOR	1	NONE	NA	NA	NA	1
	SPECIAL PROCESSING INDICATOR	AR	NONE	NA	NA	NA	2, G5
	SIMULATION INDICATOR, 1	RX	=	J2.3I	SIMULATION INDICATOR	RX	G6
	DELTA LATITUDE	AR	NONE	NA	NA	NA	3
	PU/RU ORIGINATOR	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
	DELTA LONGITUDE	AR	NONE	NA	NA	NA	3
	LABEL	8	CR	J2.3I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 3	
	PU/RU ORIGINATOR	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
	HELICOPTER CARRYING	0	NONE	NA	NA	NA	
	HEIGHT/DEPTH	0	NONE	NA	NA	NA	
	X DOT	AT	CR	J2.3E0	COURSE SPEED	RX RX	G7
	Y DOT	AT	CR	J2.3E0	COURSE SPEED	RX RX	G7
	ORIGINATOR ENVIRONMENT/ CATEGORY	0	CR	J2.3I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 3	
	UNIT TYPE	AT	CR	J2.3C1	SURFACE PLATFORM	RX	4
	MISSILE UNIT	0	NONE	NA	NA	NA	
	SCALE INDICATOR	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.1-4. M.1/M.81 Message Data Element Translation from the J2.3
Message (Sheet 2 of 2)

NOTES

1. Reference/Position Indicator must be set to 1 indicating the SCC position. This SCC is that of the FJU.
2. On Link 11, the Special Processing Indicator (SPI) of the M.1 message shall be set to the appropriate value for the data following the M.1 message. If the same data source reports both non-SPI and SPI data, the non-SPI M.1 message and data are followed by the SPI M.1 message data.
3. The reported Delta Latitude and Delta Longitude are the offsets showing position of the FJU's SCC referenced to the DLRP. The actual position of the forwarded IU is reported in an M.5 message referenced to the FJU's SCC. All other positional data forwarded by the FJU are also referenced to the FJU's SCC.
4. The M.81 Unit Type is derived from the J2.3 Surface Platform as follows:

<u>Link 11</u>
UNIT TYPE
0 - NO STATEMENT
2 - AIRCRAFT CARRIER
3 - CRUISER
4 - DD/ESCORT (AAW)
7 - FAST PATROL BOAT
8 - LHA/LHD
9 - LCC
10 - FRIGATE
11 - MINE WARFARE VESSEL
12 - AUXILIARY

<u>Link 16</u>
SURFACE PLATFORM
ALL VALUES NOT LISTED BELOW
1 - AIRCRAFT CARRIER
2 - BATTLESHIP
3 - CRUISER
4 - DESTROYER
6 - FAST PATROL BOAT
8 - LHA/LHD
9 - AMPHIBIOUS ASSAULT COMMAND SHIP (LCC)
5 - FRIGATE
14 - MINE WARFARE SHIP
13 - AUXILIARY SHIP

TABLE A.5.2-M.1-5. M.1/M.81 Message Data Element Translation from the J2.4 Message (Sheet 1 of 2)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 2	NOTES
		VALUE 1	REQUIRED CR	WORD J2.4I			
M.1	REFERENCE/POSITION INDICATOR	1	NONE	NA	NA	NA	1
	SPECIAL PROCESSING INDICATOR	AR	NONE	NA	NA	NA	2, G5
	SIMULATION INDICATOR, 1	RX	=	J2.4I	SIMULATION INDICATOR	RX	G6
	DELTA LATITUDE	AR	NONE	NA	NA	NA	3
	PU/RU ORIGINATOR	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
	DELTA LONGITUDE	AR	NONE	NA	NA	NA	3
	LABEL	8	CR	J2.4I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 4	
	PU/RU ORIGINATOR	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
	HELICOPTER CARRYING	0	NONE	NA	NA	NA	
	HEIGHT/DEPTH	AT	CR	J2.4I	DEPTH, 15 METERS DEPTH CATEGORY	RX RX	4, G10
M.81	X DOT	AT	CR	J2.4E0	COURSE SPEED	RX RX	G7
	Y DOT	AT	CR	J2.4E0	COURSE SPEED	RX RX	G7
	ORIGINATOR ENVIRONMENT/CATEGORY	1	CR	J2.4I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 4	
	UNIT TYPE	0	NONE	NA	NA	NA	
	MISSILE UNIT	0	NONE	NA	NA	NA	
	SCALE INDICATOR	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.1-5. M.1/M.81 Message Data Element Translation from the J2.4
Message (Sheet 2 of 2)

NOTES

1. Reference/Position Indicator must be set to 1 indicating the SCC position. This SCC is that of the FJU.
2. On Link 11, the Special Processing Indicator (SPI) of the M.1 message shall be set to the appropriate value for the data following the M.1 message. If the same data source reports both non-SPI and SPI data, the non-SPI M.1 message and data are followed by the SPI M.1 message data.
3. The reported Delta Latitude and Delta Longitude are the offsets showing position of the FJU's SCC referenced to the DLRP. The actual position of the forwarded IU is reported in an M.5 message referenced to the FJU's SCC. All other positional data forwarded by the FJU are also referenced to the FJU's SCC.
4. If the J2.4I Depth Category field is set to No Statement, Depth, 15 Meters field shall be translated to the Link 11/11B Height/Depth field in accordance with General Note 10. If the J2.4I Depth Category field is set to other than No Statement, the Link 11/11B Height/Depth field shall be set to value 0.

TABLE A.5.2-M.1-6. M.1/M.81 Message Data Element Translation from the J2.5 Message (Sheet 1 of 2)

Link 11/11B		TRANSLATION					Link 16	
MESSAGE	FIELD LABEL	VALUE 1	REQUIRED CR	WORD J2.5I	DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 2	NOTES	
M.1	REFERENCE/POSITION INDICATOR	1	NONE	NA	NA	NA	1	
	SIMULATION INDICATOR, 1	RX	=	J2.5I	SIMULATION INDICATOR	RX	G6	
	SPECIAL PROCESSING INDICATOR	AR	NONE	NA	NA	NA	2, G5	
	DELTA LATITUDE	AR	NONE	NA	NA	NA	3	
	PU/RU ORIGINATOR	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12	
	DELTA LONGITUDE	AR	NONE	NA	NA	NA	3	
	LABEL	8	CR	J2.5I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 5		
	PU/RU ORIGINATOR	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12	
	HELICOPTER CARRYING	0	NONE	NA	NA	NA		
	HEIGHT/DEPTH	AT	CR	J2.5I	ELEVATION, 25 FT	RX	G10	
M.81	X DOT	0	NONE	NA	NA	NA		
	Y DOT	0	NONE	NA	NA	NA		
	ORIGINATOR ENVIRONMENT/ CATEGORY	2	CR	J2.5I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 5		
	UNIT TYPE	AT	CR	J2.5C1	LAND PLATFORM	RX	4	
	MISSILE UNIT	0	NONE	NA	NA	NA		
	SCALE INDICATOR	AR	CR	J2.5I	ELEVATION, 25 FT	RX	G10	

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TABLE A.5.2-M.1-6. M.1/M.81 Message Data Element Translation from the J2.5
Message (Sheet 2 of 2)

NOTES

1. Reference/Position Indicator must be set to 1 indicating the SCC position. This SCC is that of the FJU.
2. On Link 11, the Special Processing Indicator (SPI) of the M.1 message shall be set to the appropriate value for the data following the M.1 message. If the same data source reports both non-SPI and SPI data, the non-SPI M.1 message and data are followed by the SPI M.1 message data.
3. The reported Delta Latitude and Delta Longitude are the offsets showing position of the FJU's SCC referenced to the DLRP. The actual position of the forwarded IU is reported in an M.5 message referenced to the FJU's SCC. All other positional data forwarded by the FJU are also referenced to the FJU's SCC.
4. The M.81 Unit Type is derived from the J2.5 Land Platform as follows:

<u>Link 11</u>	
<u>UNIT TYPE</u>	
0 - NO STATEMENT	
3 - TOC/MTOC/JMAST	
10 - ARMY AIR DEFENSE COMMAND POST (AADCP)	
12 - COMMAND/CONTROL/COMMAND AND CONTROL CENTER	
13 - SURVEILLANCE SITE	

<u>Link 16</u>	
<u>LAND PLATFORM</u>	
ALL VALUES NOT LISTED BELOW	
41 - MARITIME HEADQUARTERS	
49 - TERMINAL HIGH ALTITUDE AREA DEFENSE (THAAD)	
50 - JOINT TACTICAL GROUND STATION (JTAGS)	
3 - COMMAND/CONTROL/COMMAND AND CONTROL CENTER	
37 - SURVEILLANCE SITE	

TABLE A.5.2-M.1-7. M.1/M.81 Message Data Element Translation from the J2.6 Message (Sheet 1 of 2)

Link 11/11B		TRANSLATION					Link 16	
MESSAGE	FIELD LABEL	VALUE	REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES	
		1	CR	J2.6I	LABEL, J-SERIES SUBLABEL, J-SERIES	2		
A-611 M.81	REFERENCE/POSITION INDICATOR	1	NONE	NA	NA	NA	1	
	SIMULATION INDICATOR, 1	RX	=	J2.6I	SIMULATION INDICATOR	RX	G6	
	SPECIAL PROCESSING INDICATOR	AR	NONE	NA	NA	NA	2, G5	
	DELTA LATITUDE	AR	NONE	NA	NA	NA	3	
	PU/RU ORIGINATOR	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12	
	DELTA LONGITUDE	AR	NONE	NA	NA	NA	3	
	LABEL	8	CR	J2.6I	LABEL, J-SERIES SUBLABEL, J-SERIES	2		
	PU/RU ORIGINATOR	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12	
	HELICOPTER CARRYING	0	NONE	NA	NA	NA		
	HEIGHT/DEPTH	AT	CR	J2.6I	ELEVATION, 25 FT	RX	G10	
	X DOT	AT	CR	J2.6E0	COURSE SPEED	RX RX	G7	
	Y DOT	AT	CR	J2.6E0	COURSE SPEED	RX RX	G7	
	ORIGINATOR ENVIRONMENT/ CATEGORY	2	CR	J2.6I	LABEL, J-SERIES SUBLABEL, J-SERIES	2		
	UNIT TYPE	AT	CR	J2.6C1	LAND PLATFORM	RX	4	
	MISSILE UNIT	0	NONE	NA	NA	NA		
	SCALE INDICATOR	AR	CR	J2.6I	ELEVATION, 25 FT	RX	G10	

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TABLE A.5.2-M.1-7. M.1/M.81 Message Data Element Translation from the J2.6
Message (Sheet 2 of 2)

NOTES

1. Reference/Position Indicator must be set to 1 indicating the SCC position. This SCC is that of the FJU.
2. On Link 11, the Special Processing Indicator (SPI) of the M.1 message shall be set to the appropriate value for the data following the M.1 message. If the same data source reports both non-SPI and SPI data, the non-SPI M.1 message and data are followed by the SPI M.1 message data.
3. The reported Delta Latitude and Delta Longitude are the offsets showing position of the FJU's SCC referenced to the DLRP. The actual position of the forwarded IU is reported in an M.5 message referenced to the FJU's SCC. All other positional data forwarded by the FJU are also referenced to the FJU's SCC.
4. The M.81 Unit Type is derived from the J2.6 Land Platform as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>UNIT TYPE</u>	<u>LAND PLATFORM</u>
0 - NO STATEMENT	ALL VALUES NOT LISTED BELOW
3 - TOC/MTOC/JMAST	41 - MARITIME HEADQUARTERS
10 - ARMY AIR DEFENSE COMMAND POST (AADCP)	49 - TERMINAL HIGH ALTITUDE AREA DEFENSE (THAAD)
12 - COMMAND/CONTROL/COMMAND AND CONTROL CENTER	50 - JOINT TACTICAL GROUND STATION (JTAGS)
13 - SURVEILLANCE SITE	3 - COMMAND/CONTROL/COMMAND AND CONTROL CENTER
	37 - SURVEILLANCE SITE

TABLE A.5.2-M.2-1. M.2/M.82 Message Data Element Translation from the J2.0 Message (Sheet 1 of 4)

Link 11/11B					Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 2	NOTES
		VALUE 2	REQUIRED CR	WORD J2.0I			
M.2	TRACK NUMBER	AT	CR	HEADER or J2.0I	TRACK NUMBER, SOURCE TRACK NUMBER, SOURCE	RX RX	G13 G2, G13
	IDENTITY	1	NONE	NA	NA	NA	1
	PRIMARY IDENTITY AMPLIFICATION	AT	CR	J2.0C1	AIR PLATFORM AIR ACTIVITY	RX RX	G20
	SCALE INDICATOR	AT	CR	J2.0I J2.0E0	ALTITUDE, 25 FT LATITUDE 1, 0.0013 MINUTE LONGITUDE 1, 0.0013 MINUTE	RX RX RX	2,G10
	TRACK QUALITY	7	NONE	NA	NA	NA	3
	X COORDINATE	AT	CR	J2.0E0	LATITUDE 1, 0.0013 MINUTE LONGITUDE 1, 0.0013 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J2.0E0	LATITUDE 1, 0.0013 MINUTE LONGITUDE 1, 0.0013 MINUTE	RX RX	G9
	LABEL	8	CR	J2.0I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 0	
	TRACK NUMBER	AT	CR	HEADER or J2.0I	TRACK NUMBER, SOURCE TRACK NUMBER, SOURCE	RX RX	G13 G2, G13
	HEIGHT	AT	CR	J2.0I	ALTITUDE, 25 FT	RX	2,4, G10
M.82	X DOT	AT	CR	J2.0E0	COURSE SPEED	RX RX	G7
	Y DOT	AT	CR	J2.0E0	COURSE SPEED	RX RX	G7
	SWITCH	0	NONE	NA	NA	NA	5
	SIZE	1	CR	NA	NA	RX	6
	IDENTITY AMPLIFICATION	AT	CR	J2.0C1	AIR PLATFORM AIR ACTIVITY	RX RX	G20

TABLE A.5.2-M.2-1. M.2/M.82 Message Data Element Translation from the J2.0 Message (Sheet 2 of 4)

Link 11/11B			TRANSLATION			Link 16		
MESSAGE M.82 (Cont'd)	FIELD HEIGHT	SOURCE	VALUE 3	REQUIRED NONE	WORD NA	DATA ELEMENT NA	VALUE NA	NOTES 7

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TABLE A.5.2-M.2-1. M.2/M.82 Message Data Element Translation from the J2.0
Message (Sheet 3 of 4)

NOTES

1. The M.2 Identity shall be set to Friend for all J2.0 messages that are forwarded.

2. The Scale Indicator (SI) in the M.2 message may be utilized as follows:

- o SI = 0 Tracks are reported in 500-yard increments up to 512 data miles.
- o SI = 1 Tracks are reported in 31 1/4-yard increments up to 32 data miles.

The Height field in the M.82 message is determined by the Scale Indicator in the M.2 message as follows:

- o SI = 0 Tracks are reported in 500-foot increments up to 127,000 feet.
- o SI = 1 Tracks are reported in 31 1/4-foot increments up to 7,937 1/2 feet.

The FJU may forward all tracks with Scale Indicator set to 0.

3. The Track Quality shall be set to 7 by the FJU.

4. The J2.0 altitude reported in excess of 127,000 feet shall be forwarded as Unknown.

5. The M.82 Switch shall always be set to 0 since a J2.0 message with Originator Environment of Air will never be forwarded as a nonreal-time track.

6. The Size shall be set to 1 since a J2.0 message supports only one entity per message.

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TABLE A.5.2-M.2-1. M.2/M.82 Message Data Element Translation from the J2.0
Message (Sheet 4 of 4)

NOTES (Continued)

7. The Height Source shall be set to 3 by the FJU to indicate the data were reported by the aircraft.

TABLE A.5.2-M.2-2. M.2/M.82 Message Data Element Translation from the J2.2 Message (Sheet 1 of 3)

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		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 2	NOTES
		VALUE 2	REQUIRED CR	WORD J2.2I			
M.2	TRACK NUMBER	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G13
	IDENTITY	1	NONE	NA	NA	NA	1
	PRIMARY IDENTITY AMPLIFICATION	AT	CR	J2.2C1	AIR PLATFORM AIR ACTIVITY	RX RX	G20
	SCALE INDICATOR	AR	CR	J2.2I J2.2E0	ALTITUDE, 25 FT LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX RX	2,G10
	TRACK QUALITY	7	NONE	NA	NA	NA	3
	X COORDINATE	AT	CR	J2.2E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J2.2E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	G9
	LABEL	8	CR	J2.2I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 2	
	TRACK NUMBER	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G13
	HEIGHT	AT	CR	J2.2I	ALTITUDE, 25 FT	RX	2,4, G10
M.82	X DOT	AT	CR	J2.2E0	COURSE SPEED	RX RX	G7
	Y DOT	AT	CR	J2.2E0	COURSE SPEED	RX RX	G7
	SWITCH	0	NONE	NA	NA	NA	5
	SIZE	AT	CR	J2.2I	STRENGTH	RX	6
	IDENTITY AMPLIFICATION	AT	CR	J2.2C1	AIR PLATFORM AIR ACTIVITY	RX RX	G20
	HEIGHT SOURCE	3	NONE	NA	NA	NA	7

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TABLE A.5.2-M.2-2. M.2/M.82 Message Data Element Translation from the J2.2
Message (Sheet 2 of 3)

NOTES

1. The M.2 Identity shall be set to Friend for all J2.2 messages that are forwarded.

2. The Scale Indicator (SI) in the M.2 message may be utilized as follows:

- o SI = 0 Tracks are reported in 500-yard increments up to 512 data miles.
- o SI = 1 Tracks are reported in 31 1/4-yard increments up to 32 data miles.

The Height field in the M.82 message is determined by the Scale Indicator in the M.2 message as follows:

- o SI = 0 Tracks are reported in 500-foot increments up to 127,000 feet.
- o SI = 1 Tracks are reported in 31 1/4-foot increments up to 7,937 1/2 feet.

The FJU may forward all tracks with Scale Indicator set to 0.

3. The Track Quality shall be set to 7 by the FJU.

4. The J2.2 altitude reported in excess of 127,000 feet shall be forwarded as Unknown.

5. The M.82 Switch shall always be set to 0 since a J2.2 message will never be forwarded as a nonreal-time track.

6. The Strength field values in the J2.2 message will be converted to the Size values in the M.82 message as follows:

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TABLE A.5.2-M.2-2. M.2/M.82 Message Data Element Translation from the J2.2
Message (Sheet 3 of 3)

NOTES (Continued)

6. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>
<u>SIZE</u>	<u>STRENGTH</u>
0	0
1	1
2	2-7, 13
3	8-12, 14, 15

7. The Height Source shall be set to 3 by the FJU to indicate the data were reported by the aircraft.

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TABLE A.5.2-M.2-3. M.2/M.82 Message Data Element Translation from the J3.2 Message (Sheet 1 of 4)

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		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 3	NOTES
		VALUE 2	REQUIRED CR	WORD J3.2I			
M.2	TRACK NUMBER	AT	CR	J3.2I	TRACK NUMBER, REFERENCE	RX	G13
	IDENTITY	AT	CR	J3.2I	IDENTITY	RX	2
	PRIMARY IDENTITY AMPLIFICATION	AT	CR	J3.2I J3.2C1	IDENTITY AIR SPECIFIC TYPE INDICATOR AIR PLATFORM AIR ACTIVITY	RX RX RX RX	2
	SCALE INDICATOR	AR	CR	J3.2I J3.2E0	ALTITUDE, 25 FT LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX RX	2,G10
	TRACK QUALITY	AT	CR	J3.2I	TRACK QUALITY	RX	3
	X COORDINATE	AT	CR	J3.2E0	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J3.2E0	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
M.82	LABEL	8	CR	J3.2I	LABEL, J-SERIES SUBLABEL, J-SERIES	3 2	
	TRACK NUMBER	AT	CR	J3.2I	TRACK NUMBER, REFERENCE	RX	G13
	HEIGHT	AT	CR	J3.2I	ALTITUDE, 25 FT	RX	2,4, G10
	X DOT	AT	CR	J3.2E0	COURSE SPEED	RX RX	5,G7
	Y DOT	AT	CR	J3.2E0	COURSE SPEED	RX RX	5,G7
	TIME	AT	CR	J3.2C1	HOUR MINUTE	RX RX	5,G15
	SWITCH	AR	NONE	NA	NA	NA	5
	SIZE	AT	CR	J3.2I	STRENGTH	RX	6

TABLE A.5.2-M.2-3. M.2/M.82 Message Data Element Translation from the J3.2 Message (Sheet 2 of 4)

Link 11/11B		TRANSLATION		Link 16			
MESSAGE M.82 (Cont'd)	FIELD IDENTITY AMPLIFICATION	VALUE AT	REQUIRED CR	WORD J3.2I J3.2C1	DATA ELEMENT IDENTITY AIR SPECIFIC TYPE INDICATOR AIR PLATFORM AIR ACTIVITY	VALUE RX	NOTES 2
	HEIGHT SOURCE	RX	=	J3.2I	ALTITUDE SOURCE	RX	

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TABLE A.5.2-M.2-3. M.2/M.82 Message Data Element Translation from the J3.2
Message (Sheet 3 of 4)

NOTES

1. If Air Specific Type Indicator is received as value 1, Link 11/11B PRI AMP and ID AMP fields will be set to No Statement, except when data other than No Statement is held in the FJU database, in which case data held will be forwarded. In all cases data shall be forwarded in accordance with General Note 20.
2. The Scale Indicator in the M.2 message may be utilized as follows:

- o SI = 0 Tracks are reported in 500-yard increments up to 511 3/4 data miles.
- o SI = 1 Tracks are reported in 31 1/4-yard increments up to 32 data miles.

The Height field in the M.82 message is determined by the Scale Indicator in the M.2 message as follows:

- o SI = 0 Tracks are reported in 500-foot increments up to 127,000 feet.
- o SI = 1 Tracks are reported in 31 1/4-foot increments up to 7,937 1/2 feet.

The FJU may forward all tracks with the Scale Indicator set to 0.

3. The Track Quality values 0-7 in the J3.2 message will be reported as identical values in the M.2 message on Link 11/11B. All other Track Quality values (8-15) in the J3.2 message will be converted to a Track Quality of 7 in the M.2 message.
4. The J3.2 altitude reported in excess of 127,000 feet shall be forwarded as Unknown.

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TABLE A.5.2-M.2-3. M.2/M.82 Message Data Element Translation from the J3.2
Message (Sheet 4 of 4)

NOTES (Continued)

5. The Switch (SW) in the M.82 message determines when the M.82 message will contain Time or Velocity (X Dot, Y Dot). Time is transmitted for nonreal-time tracks (NRT) only. If the J3.2 message reports an NRT and velocity is available, the FJU will transmit an M.2/M.82 (SW=1) message reflecting time, followed by a second M.2/M.82 (SW=0) message reflecting velocity.

6. The Strength field values in the J3.2 message will be converted to the Size values in the M.82 message as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>SIZE</u>	<u>STRENGTH</u>
0	0
1	1
2	2-7, 13
3	8-12, 14, 15

TABLE A.5.2-M.2-4. M.2/M.82 Message Data Element Translation from the J3.6 Message (Sheet 1 of 4)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 3	NOTES
		VALUE 2	REQUIRED CR	WORD J3.6I			
M.2	TRACK NUMBER	AT	CR	J3.6I	TRACK NUMBER, REFERENCE	RX	G13
	IDENTITY	AT	CR	J3.6I	IDENTITY	RX	1
	PRIMARY IDENTITY AMPLIFICATION	AT	CR	J3.6I	IDENTITY	RX	1
	SCALE INDICATOR	AR	CR	J3.6E0	X POSITION IN WGS-84 Y POSITION IN WGS-84	RX RX	2
	TRACK QUALITY	AT	CR	J3.6I	TRACK QUALITY, 1	RX	3
	X COORDINATE	AT	CR	J3.6E0	X POSITION IN WGS-84 Y POSITION IN WGS-84 Z POSITION IN WGS-84	RX RX RX	4
				J3.6E1			
	Y COORDINATE	AT	CR	J3.6E0	X POSITION IN WGS-84 Y POSITION IN WGS-84 Z POSITION IN WGS-84	RX RX RX	4
				J3.6E1			
M.82	LABEL	8	CR	J3.6I	LABEL, J-SERIES SUBLABEL, J-SERIES	3 6	
	TRACK NUMBER	AT	CR	J3.6I	TRACK NUMBER, REFERENCE	RX	G13
	HEIGHT	255	NONE	NA	NA	NA	
	X DOT	AT	CR	J3.6E0 J3.6E1	X VELOCITY IN WGS-84 Y VELOCITY IN WGS-84 Z VELOCITY IN WGS-84	RX RX RX	5
	Y DOT	AT	CR	J3.6E0 J3.6E1	X VELOCITY IN WGS-84 Y VELOCITY IN WGS-84 Z VELOCITY IN WGS-84	RX RX RX	5
	TIME	AT	CR	J3.6I	MINUTE SECOND	RX RX	6
	SWITCH	AR	NONE	NA	NA	NA	6
	SIZE	0	NONE	NA	NA	NA	
	IDENTITY AMPLIFICATION	AT	CR	J3.6I	IDENTITY	RX	1

TABLE A.5.2-M.2-4. M.2/M.82 Message Data Element Translation from the J3.6 Message (Sheet 2 of 4)

Link 11/11B			TRANSLATION			Link 16		
MESSAGE	FIELD	SOURCE	VALUE	REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES
M.82 (Cont'd)	HEIGHT	SOURCE	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.2-4. M.2/M.82 Message Data Element Translation from the J3.6
Message (Sheet 3 of 4)

NOTES

1. ID, PRI AMP, and ID AMP are translated from Identity as follows:

<u>Link 11/11B</u>		<u>Link 16</u>	
<u>IDENTITY</u>	<u>PRIMARY AMPLIFICATION</u>	<u>IDENTITY</u>	<u>AMPLIFICATION</u>
0 - UNKNOWN	0 - PENDING 1 - UNKNOWN 2 - ASSUMED FRIEND 3 - SUSPECT	0 - NO STATEMENT 0 - NS 0 - NS	0 - PENDING 1 - UNKNOWN 2 - ASSUMED FRIEND 5 - SUSPECT
1 - FRIEND	0 - GENERAL	1 - NEUTRAL 3 - MISSILE	4 - NEUTRAL 3 - FRIEND
2 - HOSTILE	0 - GENERAL	1 - MISSILE	6 - HOSTILE

2. The Scale Indicator in the M.2 message may be utilized as follows:

- o SI = 0 Tracks are reported in 500-yard increments up to 511 3/4 data miles.
- o SI = 1 Tracks are reported in 31 1/4-yard increments up to 31 63/64 data miles.

The FJU may forward all tracks with the Scale Indicator set to 0.

3. The Link 11/11B Track Quality field is translated from Track Quality, 1 as follows:

<u>Link 11/11B</u>		<u>Link 16</u>	
<u>TRACK QUALITY</u>		<u>TRACK QUALITY, 1</u>	
0		0	
7		15	

4. The Link 11/11B position (X Coordinate and Y Coordinate) is derived from the J3.6E0 X Position in WGS-84, J3.6E0 Y Position in WGS-84 and J3.6E1 Z Position in WGS-84 fields.

5. The Link 11/11B course and speed (X Dot and Y Dot) are derived from the J3.6E0 X Velocity in WGS-84, J3.6E1 Y Velocity in WGS-84 and J3.6E1 Z Velocity in

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TABLE A.5.2-M.2-4. M.2/M.82 Message Data Element Translation from the J3.6
Message (Sheet 4 of 4)

NOTES (Continued)

5. (Continued)

WGS-84 fields. A Link 16 Speed greater than the maximum reportable Link 11/11B velocity will be translated to the maximum reportable velocity, maintaining the proper azimuth component of velocity as required to translate the Link 16 Course.

6. The Switch (SW) in the M.82 message determines when the M.82 message will contain Time or Velocity (X Dot, Y Dot). Time is transmitted for nonreal-time tracks (NRT) only. If the J3.6 message reports an NRT and velocity is available, the FJU will transmit an M.2/M.82 (SW=1) message reflecting time, followed by a second M.2/M.82 (SW=0) message reflecting velocity. Since the time field for Link 16 only provides minutes and seconds while the time field on Link 11 provides hours and minutes, the FJU must provide correct GMT hour and round off seconds to the nearest minute (rounding up to the next minute if seconds greater than or equal to 30).

TABLE A.5.2-M.3-1. M.3/M.83 Message Data Element Translation from the J2.0 Message (Sheet 1 of 4)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE	NOTES
		VALUE 3	REQUIRED CR	WORD J2.0I			
M.3	TRACK NUMBER	AT	CR	HEADER or J2.0I	TRACK NUMBER, SOURCE TRACK NUMBER, SOURCE	RX RX	G13 G2, G13
	IDENTITY	1	NONE	NA	NA	NA	1
	PRIMARY IDENTITY AMPLIFICATION	AT	CR	J2.0C1	SURFACE PLATFORM	RX	G21
	SCALE INDICATOR	AT	CR	J2.0E0	LATITUDE 1, 0.0013 MINUTE LONGITUDE 1, 0.0013 MINUTE	RX RX	2,G10
	TRACK QUALITY	7	NONE	NA	NA	NA	3
	X COORDINATE	AT	CR	J2.0E0	LATITUDE 1, 0.0013 MINUTE LONGITUDE 1, 0.0013 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J2.0E0	LATITUDE 1, 0.0013 MINUTE LONGITUDE 1, 0.0013 MINUTE	RX RX	G9
	LABEL	8	CR	J2.0I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 0	
	TRACK NUMBER	AT	CR	HEADER or J2.0I	TRACK NUMBER, SOURCE TRACK NUMBER, SOURCE	RX RX	G13 G2, G13
	UNIT CAPABILITY	0	NONE	NA	NA	NA	
M.83	CURRENT MISSION	AT	CR	J2.0C1	SURFACE ACTIVITY	RX	4
	X DOT	AT	CR	J2.0E0	COURSE SPEED	RX RX	G7
	Y DOT	AT	CR	J2.0E0	COURSE SPEED	RX RX	G7
	SWITCH	0	NONE	NA	NA	NA	5
	SIZE	1	NONE	NA	NA	RX	6
	IDENTITY AMPLIFICATION	AT	CR	J2.0C1	SURFACE PLATFORM SURFACE ACTIVITY	RX RX	G21

TABLE A.5.2-M.3-1. M.3/M.83 Message Data Element Translation from the J2.0 Message (Sheet 2 of 4)

Link 11/11B			TRANSLATION			Link 16		
MESSAGE	FIELD		VALUE	REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES
M.83 (Cont'd)	HELICOPTER CARRYING		0	NONE	NA	NA	NA	

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TABLE A.5.2-M.3-1. M.3/M.83 Message Data Element Translation from the J2.0
Message (Sheet 3 of 4)

NOTES

1. The M.3 Identity shall be set to Friend for all J2.0 messages that are forwarded.

2. The M.3 Scale Indicator is determined as follows:

- o SI = 0 Tracks are reported in 31 1/4-yard increments up to 32 data miles.
- o SI = 1 Tracks are reported in 500-yard increments up to 511 3/4 data miles.

The FJU may forward all tracks with SI = 1.

3. The Track Quality shall be set to 7 by the FJU.

4. The J2.0C1 Surface Activity will be translated to the M.83 Current Mission as follows:

<u>Link 11/11B</u>	
<u>CURRENT MISSION</u>	
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
13	

<u>Link 16</u>	
<u>SURFACE ACTIVITY</u>	
0	4-27, 29, 31, 34, 35, 40-127
1	23
2	18
3	12
4	30
5	8, 36, 37
6	22
7	6, 32, 33
8	14
9	39
10	28
11	13
13	5

5. The M.83 Switch shall always be set to 0 since a J2.0 message with Originator Environment of Surface will never be forwarded as a nonreal-time track.

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TABLE A.5.2-M.3-1. M.3/M.83 Message Data Element Translation from the J2.0
Message (Sheet 4 of 4)

NOTES (Continued)

6. The M.83 Size will be set to 1 since the J2.0 message supports only one entity per message.

TABLE A.5.2-M.3-2. M.3/M.83 Message Data Element Translation from the J2.3 Message (Sheet 1 of 3)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 2 3	NOTES
		VALUE 3	REQUIRED CR	WORD J2.3I			
M.3	TRACK NUMBER	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G13
	IDENTITY	1	NONE	NA	NA	NA	1
	PRIMARY IDENTITY AMPLIFICATION	AT	CR	J2.3C1	SURFACE PLATFORM	RX	G21
	SCALE INDICATOR	AR	CR	J2.3E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	2,G10
	TRACK QUALITY	7	NONE	NA	NA	NA	3
	X COORDINATE	AT	CR	J2.3E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J2.3E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	G9
	LABEL	8	CR	J2.3I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 3	
	TRACK NUMBER	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G13
	UNIT CAPABILITY	0	NONE	NA	NA	NA	
M.83	CURRENT MISSION	AT	CR	J2.3C1	SURFACE ACTIVITY	RX	4
	X DOT	AT	CR	J2.3E0	COURSE SPEED	RX RX	G7
	Y DOT	AT	CR	J2.3E0	COURSE SPEED	RX RX	G7
	SWITCH	0	NONE	NA	NA	NA	5
	SIZE	AT	CR	J2.3I	STRENGTH	RX	6
	IDENTITY AMPLIFICATION	AT	CR	J2.3C1	SURFACE PLATFORM SURFACE ACTIVITY	RX RX	G21
	HELICOPTER CARRYING	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.3-2. M.3/M.83 Message Data Element Translation from the J2.3
Message (Sheet 2 of 3)

NOTES

1. The M.3 Identity shall be set to Friend for all J2.3 messages that are forwarded.

2. The M.3 Scale Indicator is determined as follows:

- o SI = 0 Tracks are reported in 31 1/4-yard increments up to 32 data miles.
- o SI = 1 Tracks are reported in 500-yard increments up to 511 3/4 data miles.

The FJU may forward all tracks with SI = 1.

3. The Track Quality shall be set to 7 by the FJU.

4. The J2.3C1 Surface Activity will be translated to the M.83 Current Mission as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>CURRENT MISSION</u>	<u>SURFACE ACTIVITY</u>
0	0-4, 7, 9-11, 15-17, 19-21, 24-27, 29, 31, 34, 35, 38, 40-127
1	23
2	18
3	12
4	30
5	8, 36, 37
6	22
7	6, 32, 33
8	14
9	39
10	28
11	13
13	5

5. The M.83 Switch shall always be set to 0 since a J2.3 message will never be forwarded as a nonreal-time track.

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TABLE A.5.2-M.3-2. M.3/M.83 Message Data Element Translation from the J2.3
Message (Sheet 3 of 3)

NOTES (Continued)

6. The J2.3I Strength values will be converted to the M.83 Size values as follows:

Link 11/11B	Link 16
SIZE	STRENGTH
0	0
1	1
2	2-7, 13
3	8-12, 14, 15

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TABLE A.5.2-M.3-3. M.3/M.83 Message Data Element Translation from the J3.3 Message (Sheet 1 of 5)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 3	NOTES
		VALUE 3	REQUIRED CR	WORD J3.3I			
M.3	TRACK NUMBER	AT	CR	J3.3I	TRACK NUMBER, REFERENCE	RX	G13
	IDENTITY	AT	CR	J3.3I	EXERCISE INDICATOR IDENTITY IDENTITY AMPLIFYING DESCRIPTOR	RX RX RX	G21
	PRIMARY IDENTITY AMPLIFICATION	AT	CR	J3.3I	EXERCISE INDICATOR IDENTITY IDENTITY AMPLIFYING DESCRIPTOR	RX RX RX	G21
				J3.3C1	SURFACE PLATFORM SURFACE ACTIVITY	RX RX	
	SCALE INDICATOR	AR	CR	J3.3E0	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	1,G10
	TRACK QUALITY	AT	CR	J3.3I	TRACK QUALITY	RX	2
	X COORDINATE	AT	CR	J3.3E0	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J3.3E0	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
M.83	LABEL	8	CR	J3.3I	LABEL, J-SERIES SUBLABEL, J-SERIES	3 3	
	TRACK NUMBER	AT	CR	J3.3I	TRACK NUMBER, REFERENCE	RX	G13
	UNIT CAPABILITY	0	NONE	NA	NA	NA	
	CURRENT MISSION	AT	CR	J3.3C1	SURFACE ACTIVITY	RX	3
	X DOT	AT	CR	J3.3E0	COURSE SPEED	RX RX	4,G7
	Y DOT	AT	CR	J3.3E0	COURSE SPEED	RX RX	4,G7
	TIME	AT	CR	J3.3C1	HOUR MINUTE	RX RX	4,G15

TABLE A.5.2-M.3-3. M.3/M.83 Message Data Element Translation from the J3.3 Message (Sheet 2 of 5)

Link 11/11B		Link 16					
MESSAGE M.83 (Cont'd)	FIELD SWITCH	TRANSLATION			DATA ELEMENT	VALUE NA	NOTES 4
		VALUE AR	REQUIRED NONE	WORD NA			
	SIZE	AT	CR	J3.3I	STRENGTH	RX	5
	IDENTITY AMPLIFICATION	AT	CR	J3.3I	EXERCISE INDICATOR	RX	
					IDENTITY	RX	
				J3.3C1	IDENTITY AMPLIFYING	RX	
					DESCRIPTOR	RX	
	HELICOPTER CARRYING	0	NONE	NA	SURFACE PLATFORM	RX	
					SURFACE ACTIVITY	RX	
					NA	NA	

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TABLE A.5.2-M.3-3. M.3/M.83 Message Data Element Translation from the J3.3
Message (Sheet 3 of 5)

NOTES

1. The Scale Indicator in the M.3 message is determined as follows:

- o SI = 0 Tracks are reported in 31 1/4-yard increments up to 32 data miles.
- o SI = 1 Tracks are reported in 500-yard increments up to 512 data miles.

The FJU may forward all tracks with the Scale Indicator set to 1.

2. The J3.3I Track Quality (TQ) values 0-7 will be reported as identical values in the M.3 on Link 11/11B. All other J3.3I TQ values (8-15) will be converted to M.3 TQ of 7.

3. The J3.3C1 Surface Activity will be translated to the M.83 Current Mission as follows:

Link 11/11B
CURRENT MISSION
0 - NO STATEMENT

Link 16
<u>SURFACE ACTIVITY</u>
0 - NO STATEMENT
1 - AIR WARFARE SUPPORT
2 - OVER THE HORIZON TARGETING (OTH)
3 - TRAINING
4 - LOGISTICS SUPPORT
7 - FISHERY PROTECTION
9 - ESCORTING
10 - MINELAYING
11 - TRANSITING
15 - INTELLIGENCE COLLECTING
16 - PATROL
17 - TRANSPORT
19 - DISUSED
20 - TOWING
21 - SPECIAL WARFARE
24 - FISHING
25 - PICKETING
26 - MINE COUNTERMEASURES
27 - MINE WARFARE

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TABLE A.5.2-M.3-3. M.3/M.83 Message Data Element Translation from the J3.3
Message (Sheet 4 of 5)

NOTES (Continued)

3. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>
CURRENT MISSION	SURFACE ACTIVITY
1 - AAW	29 - NONCOMBATANT OPERATIONS
2 - ASW	31 - SURVEYING
3 - NAVAL GUNFIRE SUPPORT	34 - FLIGHT OPERATIONS
4 - UNDERWAY REPLENISHMENT	35 - VIDEO DATA LINKING (TARGETING)
5 - PLANE GUARD/SAR	38 - SPECIAL OPERATIONS
6 - STRIKE	40 - INTERVENING
7 - EW	41 - NUCLEAR, BIOLOGICAL, CHEMICAL (NBC) OPERATIONS
8 - AMPHIBIOUS ASSAULT	42 - NUCLEAR OPERATIONS
9 - SHADOWER	43 - BIOLOGICAL OPERATIONS
10 - MARKER	44 - CHEMICAL OPERATIONS
11 - INTRUDER	47 - BMD MISSION
13 - ANTI-SURFACE WARFARE	48, 49 - UNDEFINED
	50 - RETURN TO BASE (RTB)
	51-114 - UNDEFINED
	115-126 - SURFACE ACTIVITY 1 THROUGH 12
	127 - RESET TO NO STATEMENT
	23 - ANTIAIR WARFARE
	18 - ANTISUBMARINE WARFARE (ASW)
	12 - NAVAL SURFACE FIRE SUPPORT
	30 - UNDERWAY REPLENISHMENT
	8 - SEARCH AND RESCUE (SAR)
	36 - PLANE GUARD
	37 - RESCUE SHIP/LIFEGUARD
	46 - COMBAT SEARCH AND RESCUE (CSAR)
	22 - STRIKE WARFARE
	6 - ELECTRONIC WARFARE (EW)
	32 - ELECTRONIC WARFARE SUPPORT (ES)
	33 - ELECTRONIC ATTACK (EA)
	45 - ELECTRONIC PROTECTION (EP)
	14 - AMPHIBIOUS WARFARE
	39 - SHADOWING
	28 - MARKING
	13 - INTRUDING
	5 - ANTISURFACE WARFARE

4. The M.83 Switch determines when the M.83 will contain time or velocity (X Dot, Y Dot). Time is transmitted for NRT only. If the J3.3 message reports an

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TABLE A.5.2-M.3-3. M.3/M.83 Message Data Element Translation from the J3.3
Message (Sheet 5 of 5)

NOTES (Continued)

4. (Continued)

NRT and velocity is available, the FJU will transmit an M.3/M.83(SW=1) reflecting time, and a second M.3/M.83(SW=0) reflecting velocity.

5. The J3.3I Strength values will be converted to the M.83 Size values as follows:

Link 11/11B	Link 16
SIZE	STRENGTH
0	0
1	1
2	2-7, 13
3	8-12, 14, 15

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TABLE A.5.2-M.4A-1. M.4A/M.84A Message Data Element Translation from the J2.0 Message (Sheet 1 of 5)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE	NOTES
		VALUE	REQUIRED	WORD			
M.4A	TRACK NUMBER	AT	CR	HEADER or J2.0I	TRACK NUMBER, SOURCE TRACK NUMBER, SOURCE	RX RX	G13 G2, G13
	IDENTITY	1	NONE	NA	NA	NA	1
	DATA REPORT TYPE	AT	CR	J2.0C1	DEPTH CATEGORY	RX	2
	NONREAL-TIME INDICATOR	0	NONE	NA	NA	NA	3
	SCALE INDICATOR	AT	CR	J2.0E0	LATITUDE 1, 0.0013 MINUTE LONGITUDE 1, 0.0013 MINUTE	RX RX	4, G9
	SUB LABEL	0	CR	J2.0I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 0	
	X COORDINATE	AT	CR	J2.0E0	LATITUDE 1, 0.0013 MINUTE LONGITUDE 1, 0.0013 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J2.0E0	LATITUDE 1, 0.0013 MINUTE LONGITUDE 1, 0.0013 MINUTE	RX RX	G9
M.84A	LABEL	8	CR	J2.0I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 0	
	ASW POINT TYPE	0	NONE	NA	NA	NA	5
	CLASSIFICATION	3	NONE	NA	NA	NA	6
	COURSE/BEARING	AT	CR	J2.0E0	COURSE	RX	8
	CLASSIFICATION AMPLIFICATION	AT	CR	J2.0C1	SUBSURFACE PLATFORM	RX	7
	DEPTH	AT	CR	J2.0C1	DEPTH, 15 METERS DEPTH CATEGORY	RX RX	9, G11
	DEPTH INDICATOR	AT	CR	J2.0C1	DEPTH, 15 METERS DEPTH CATEGORY	RX RX	9, G11
	SENSOR	0	NONE	NA	NA	NA	
	NOTACK DURATION	0	NONE	NA	NA	NA	

TABLE A.5.2-M.4A-1. M.4A/M.84A Message Data Element Translation from the J2.0 Message (Sheet 2 of 5)

Link 11/11B		Link 16					
MESSAGE M.84A (Cont'd)	FIELD	TRANSLATION			DATA ELEMENT	VALUE	NOTES
		NOTACK	RADIUS	REQUIRED	WORD		
	COURSE/BEARING INDICATOR	AT	CR	J2.0E0	COURSE	RX	8
	SPEED	AT	CR	J2.0E0	SPEED	RX	10
	POSSIBLE SUBMARINE	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.4A-1. M.4A/M.84A Message Data Element Translation from the J2.0
Message (Sheet 3 of 5)

NOTES

1. The M.4A Identity shall be set to Friend for all J2.0 messages that are forwarded.
2. The Data Report Type shall be set to value 0 (Subsurface Track) for all J2.0 messages that are forwarded when Depth Category is set to a value other than 1 (Surfaced). If Depth Category is set to Surfaced, then Data Report Type shall be set to value 1 (Surfaced Submarine).
3. The Nonreal-Time Indicator (NRT) shall be set to No Statement for all J2.0 messages that are forwarded.
4. The Scale Indicator in the M.4A is determined as follows:
 - o SI=0 Tracks are reported in 31 1/4 yard increments up to 32 data miles.
 - o SI=1 Tracks are reported in 500 yard increments up to 512 data miles.

The FJU may forward all tracks with the Scale Indicator set to 1.

5. When Data Report Type in the M.4A equals 0 or 1, this field is Spare.
6. The Classification shall be set to Certain Submarine for all J2.0 messages that are forwarded.
7. The M.84A Classification Amplification field is determined from the J2.0C1 Subsurface Platform as follows:

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TABLE A.5.2-M.4A-1. M.4A/M.84A Message Data Element Translation from the J2.0 Message (Sheet 4 of 5)

NOTES (Continued)

7. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>
CLASSIFICATION AMPLIFICATION	SUBSURFACE PLATFORM
0	0 or 63
1	1, 28, 29
2	2-8, 35, 36
3	9-17, 33, 34, 37

8. The M.84A Course/Bearing and Course/Bearing Indicator (CBI) fields are determined by the J2.0EO Course field as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
COURSE/BEARING	COURSE
INDICATOR	
0 COURSE/BEARING 0 (NOT INTERPRETED)	360-510 - ILLEGAL 511 - NO STATEMENT
1 COURSE/BEARING 0-255 - 0 THROUGH 358 152/256 DEGREES	0-359 - 0 THROUGH 359 DEGREES

Link 16 Course is in 1 degree increments, and Link 11/11B Course/Bearing is in 360/256 degree increments. Translate Link 16 to the nearest Link 11/11B increment (.5 rounded up).

9. When the J2.0 Depth, 15 Meters field is set to No Statement, the Depth Indicator field shall be set to value one and the Depth field determined as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
DEPTH	DEPTH CATEGORY
0 - UNKNOWN/NO STATEMENT	0 - NO STATEMENT
2 - ESTIMATED SHALLOW	1 - SURFACED
3 - PERISCOPE DEPTH	15 - UNKNOWN
4 - ABOVE FIRST LAYER	2 - ESTIMATED SHALLOW
5 - BELOW FIRST LAYER	3 - PERISCOPE DEPTH
6 - BETWEEN FIRST AND SECOND LAYER	4 - ABOVE FIRST LAYER
7 - BETWEEN SECOND AND THIRD LAYERS	5 - BELOW FIRST LAYER
8 - BELOW BOTTOM LAYER	6 - BETWEEN FIRST AND SECOND LAYERS
9 - ESTIMATED DEEP	7 - BETWEEN SECOND AND THIRD LAYERS
10 - BOTTOMED	8 - BELOW BOTTOM LAYER
	9 - ESTIMATED DEEP
	10 - BOTTOMED

APPENDIX A

TABLE A.5.2-M.4A-1. M.4A/M.84A Message Data Element Translation from the J2.0
Message (Sheet 5 of 5)

NOTES (Continued)

9. (Continued)

When the J2.0 Depth, 15 Meters field is set to other than No Statement, the Depth Indicator shall be set to value 0. Depth shall be translated in accordance with General Note 11.

10. The M.84A Speed is in 1 data mile per hour increments; and the J2.0E0 Speed is in 0.5 data mile per hour increments. The J2.0E0 Speed values 0-252 (0-126 data miles per hour) shall be translated to the equivalent M.84A Speed, with 0.5 data mile per hour increments arbitrarily rounded to the higher data mile. The J2.0E0 Speed values 253-510 (126.5-255 data miles per hour) shall be translated to the M.84A Speed value 126 (126 data miles per hour). The J2.0E0 Speed value 511 (No Statement) shall be translated to M.84A Speed value 127 (No Statement).

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TABLE A.5.2-M.4A-2. M.4A/M.84A Message Data Element Translation from the J2.4 Message (Sheet 1 of 5)

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Link 11/11B		Link 16					
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 2	NOTES
		VALUE 4	REQUIRED CR	WORD J2.4I			
M.4A	TRACK NUMBER	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G13
	IDENTITY	1	NONE	NA	NA	NA	1
	DATA REPORT TYPE	AT	CR	J2.4I	DEPTH CATEGORY	RX	2
	NONREAL-TIME INDICATOR	0	NONE	NA	NA	NA	3
	SCALE INDICATOR	AR	CR	J2.4E0	LATITUDE, 0.0103 MINUTE LONGITUDE, 0.0103 MINUTE	RX RX	4, G9
	SUB LABEL	0	CR	J2.4I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 4	
	X COORDINATE	AT	CR	J2.4E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J2.4E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	G9
M.84A	LABEL	8	CR	J2.4I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 4	
	ASW POINT TYPE	0	NONE	NA	NA	NA	5
	CLASSIFICATION	3	NONE	NA	NA	NA	6
	COURSE/BEARING	AT	CR	J2.4E0	COURSE	RX	8
	CLASSIFICATION AMPLIFICATION	AT	CR	J2.4C1	SUBSURFACE PLATFORM	RX	7
	DEPTH	AT	CR	J2.4I	DEPTH, 15 METERS DEPTH CATEGORY	RX RX	9, G11
	DEPTH INDICATOR	AT	CR	J2.4I	DEPTH, 15 METERS DEPTH CATEGORY	RX RX	9, G11
	SENSOR	0	NONE	NA	NA	NA	
	NOTACK DURATION	0	NONE	NA	NA	NA	
	NOTACK RADIUS	0	NONE	NA	NA	NA	

TABLE A.5.2-M.4A-2. M.4A/M.84A Message Data Element Translation from the J2.4 Message (Sheet 2 of 5)

Link 11/11B		Link 16					
MESSAGE M.84A (Cont'd)	FIELD COURSE/BEARING INDICATOR	TRANSLATION			DATA ELEMENT COURSE	VALUE RX	NOTES 8
		VALUE AT	REQUIRED CR	WORD J2.4E0			
	SPEED	AT	CR	J2.4E0	SPEED	RX	10
	POSSIBLE SUBMARINE	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.4A-2. M.4A/M.84A Message Data Element Translation from the J2.4
Message (Sheet 3 of 5)

NOTES

1. The M.4A Identity shall be set to Friend for all J2.4 messages that are forwarded.
2. The Data Report Type shall be set to value 0 (Subsurface Track) for all J2.4 messages that are forwarded when Depth Category is set to a value other than 1 (Surfaced). If Depth Category is set to Surfaced, then Data Report Type shall be set to value 1 (Surfaced Submarine).
3. The Nonreal-Time Indicator (NRT) shall be set to No Statement for all J2.4 messages that are forwarded.
4. The Scale Indicator in the M.4A is determined as follows:
 - o SI=0 Tracks are reported in 31 1/4 yard increments up to 32 data miles.
 - o SI=1 Tracks are reported in 500 yard increments up to 512 data miles.

The FJU may forward all tracks with the Scale Indicator set to 1.

5. When Data Report Type in the M.4A equals 0 or 1, this field is Spare.
6. The Classification shall be set to Certain Submarine for all J2.4 messages that are forwarded.
7. The M.84A Classification Amplification field is determined from the J2.4C1 Subsurface Platform as follows:

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TABLE A.5.2-M.4A-2. M.4A/M.84A Message Data Element Translation from the J2.4 Message (Sheet 4 of 5)

NOTES (Continued)

7. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>
CLASSIFICATION AMPLIFICATION	SUBSURFACE PLATFORM
0	0 or 63
1	1, 28, 29
2	2-8, 35, 36
3	9-17, 33, 34, 37

8. The M.84A Course/Bearing and Course/Bearing Indicator (CBI) fields are determined by the J2.4E0 Course field as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
COURSE/BEARING	COURSE
INDICATOR	
0 COURSE/BEARING 0 (NOT INTERPRETED)	360-510 - ILLEGAL 511 - NO STATEMENT
1 COURSE/BEARING 0-255 - 0 THROUGH 358 152/256 DEGREES	0-359 - 0 THROUGH 359 DEGREES

Link 16 Course is in 1 degree increments, and Link 11/11B Course/Bearing is in 360/256 degree increments. Translate Link 16 to the nearest Link 11/11B increment (.5 rounded up).

9. When the J2.4 Depth, 15 Meters field is set to No Statement, the Depth Indicator field shall be set to value one and the Depth field determined as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
DEPTH	DEPTH CATEGORY
0 - UNKNOWN/NO STATEMENT	0 - NO STATEMENT
2 - ESTIMATED SHALLOW	1 - SURFACED
3 - PERISCOPE DEPTH	15 - UNKNOWN
4 - ABOVE FIRST LAYER	2 - ESTIMATED SHALLOW
5 - BELOW FIRST LAYER	3 - PERISCOPE DEPTH
6 - BETWEEN FIRST AND SECOND LAYER	4 - ABOVE FIRST LAYER
7 - BETWEEN SECOND AND THIRD LAYERS	5 - BELOW FIRST LAYER
8 - BELOW BOTTOM LAYER	6 - BETWEEN FIRST AND SECOND LAYERS
9 - ESTIMATED DEEP	7 - BETWEEN SECOND AND THIRD LAYERS
10 - BOTTOMED	8 - BELOW BOTTOM LAYER
	9 - ESTIMATED DEEP
	10 - BOTTOMED

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TABLE A.5.2-M.4A-2. M.4A/M.84A Message Data Element Translation from the J2.4
Message (Sheet 5 of 5)

NOTES (Continued)

9. (Continued)

When the J2.4 Depth, 15 Meters field is set to other than No Statement, the Depth Indicator shall be set to value 0. Depth shall be translated in accordance with General Note 11.

10. The M.84A Speed is in 1 data mile per hour increments; and the J2.4E0 Speed is in 0.5 data mile per hour increments. The J2.4E0 Speed values 0-252 (0-126 data miles per hour) shall be translated to the equivalent M.84A Speed, with 0.5 data mile per hour increments arbitrarily rounded to the higher data mile. The J2.4E0 Speed values 253-510 (126.5-255 data miles per hour) shall be translated to the M.84A Speed value 126 (126 data miles per hour). The J2.4E) Speed value 511 (No Statement) shall be translated to M.84A Speed value 127 (No Statement).

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TABLE A.5.2-M.4A-3. M.4A/M.84A Message Data Element Translation from the J3.0 Message (Sheet 1 of 6)

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Link 11/11B		Link 16					
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 3	NOTES
		VALUE 4	REQUIRED CR	WORD J3.0I			
M.4A	TRACK NUMBER	AT	CR	J3.0I	TRACK NUMBER, REFERENCE	RX	G13
	IDENTITY	0	NONE	NA	NA	NA	
	DATA REPORT TYPE	3	CR	J3.0I	POINT TYPE POINT AMPLIFICATION	7 or 8 RX	1
	NONREAL-TIME INDICATOR	0	NONE	NA	NA	NA	
	SCALE INDICATOR	AR	CR	J3.0E0	LATITUDE, 0.0103 MINUTE LONGITUDE, 0.0103 MINUTE	RX RX	2, G9
	SUB LABEL	0	CR	J3.0I	SUBLABEL, J-SERIES	0	
	X COORDINATE	AT	CR	J3.0E0	LATITUDE, 0.0103 MINUTE LONGITUDE, 0.0103 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J3.0E0	LATITUDE, 0.0103 MINUTE LONGITUDE, 0.0103 MINUTE	RX RX	G9
	LABEL	8	CR	J3.0I	LABEL, J-SERIES SUBLABEL, J-SERIES	3 0	
	ASW POINT TYPE	AT	CR	J3.0I	POINT TYPE POINT AMPLIFICATION	7 or 8 RX	1
M.84A	CLASSIFICATION	0	NONE	NA	NA	NA	
	COURSE/BEARING	AT	CR	J3.0C2	COURSE	RX	3
	AXIS ORIENTATION	RX	=	J3.0C5	AXIS ORIENTATION	RX	
	CLASSIFICATION AMPLIFICATION	0	NONE	NA	NA	NA	
	DEPTH	0	NONE	NA	NA	NA	
	TORPEDO TYPE	RX	CR	J3.0C5	SUBSURFACE AMPLIFICATION	RX	G15
	AREA MAJOR AXIS	RX	=	J3.0C5	AREA MAJOR AXIS, 4	RX	
	AREA MINOR AXIS	RX	=	J3.0C5	AREA MINOR AXIS, 4	RX	
	DEPTH INDICATOR	1	NONE	NA	NA	NA	

TABLE A.5.2-M.4A-3. M.4A/M.84A Message Data Element Translation from the J3.0 Message (Sheet 2 of 6)

Link 11/11B				Link 16			
MESSAGE M.84A (Cont'd)	FIELD SENSOR	TRANSLATION			DATA ELEMENT	VALUE NA	NOTES
		VALUE 0	REQUIRED NONE	WORD NA			
	NOTACK DURATION	AT	CR	J3.0I	POINT AMPLIFICATION TIME FUNCTION MINUTE HOUR	6 2 RX RX	4
	NOTACK RADIUS	AT	CR	J3.0I J3.0C2	POINT AMPLIFICATION SQUARE/CIRCLE SWITCH AREA MAJOR AXIS AREA MINOR AXIS	6 RX RX RX	5
	COURSE/BEARING INDICATOR	AT	CR	J3.0C2	COURSE	RX	3
	SPEED	AT	CR	J3.0C2	SPEED	RX	6
	SQUARE/CIRCLE SWITCH, 1	AT	CR	J3.0C5	SQUARE/CIRCLE SWITCH	RX	8
	FWDA DURATION	AT	CR	J3.0I	TIME FUNCTION MINUTE HOUR	2 RX RX	7
	POSSIBLE SUBMARINE	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.4A-3. M.4A/M.84A Message Data Element Translation from the J3.0
Message (Sheet 3 of 6)

NOTES

1. The ASW Point Type field will be determined from the J3.0I Point Type and Point Amplification fields as follows:

Link 11/11B	Link 16	
ASW POINT TYPE	POINT TYPE	POINT AMPLIFICATION
0 - NO STATEMENT	7 - ASW	0 - NO STATEMENT
1 - SINKER		14, 15 - UNDEFINED
2 - BRIEF CONTACT		1 - SINKER
3 - ASW SEARCH CENTER		2 - BRIEF CONTACT
4 - SONOBUOY PATTERN REFERENCE POSITION		3 - SEARCH CENTER (ASW)
5 - ASW STATION	8 - ASW, 1	10 - SONOBUOY PATTERN REFERENCE POSITION
6 - CHARTED WRECK		2 - ASW STATION
9 - BOTTOMED NONSUBMARINE		0 - CHARTED WRECK
10 - FIX	7 - ASW	1 - BOTTOMED NONSUBMARINE
11 - ESTIMATED POSITION		5 - FIX (ASW)
12 - NOTACK AREA		4 - ESTIMATED POSITION (EP)
13 - FRIENDLY WEAPON DANGER AREA (FWDA)		6 - NOTACK AREA
		13 - FRIENDLY WEAPON DANGER AREA (FWDA)

2. The Scale Indicator in the M.4A message is determined as follows:

- o SI=0 Tracks are reported in 31 1/4 yard increments up to 32 data miles.
- o SI=1 Tracks are reported in 500-yard increments up to 511 3/4 data miles.

The FJU may forward all tracks with SI=1.

3. The M.84A Course/Bearing and Course/Bearing Indicator (CBI) fields are determined by the J3.0 Course field as follows:

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TABLE A.5.2-M.4A-3. M.4A/M.84A Message Data Element Translation from the J3.0 Message (Sheet 4 of 6)

NOTES (Continued)

3. (Continued)

<u>Link 11/11B</u>		<u>Link 16</u>
<u>COURSE/BEARING</u>		
<u>INDICATOR</u>	<u>COURSE/BEARING</u>	<u>COURSE</u>
0	0 (NOT INTERPRETED)	360-510 - ILLEGAL
1	0-255 - 0 THROUGH 358 152/256 DEGREES	511 - NO STATEMENT 0-359 - 0 THROUGH 359 DEGREES

Link 16 Course is in 1 degree increments, and Link 11/11B Course/Bearing is in 360/256 degree increments. Translate Link 16 to the nearest Link 11/11B increment (.5 rounded up).

4. The NOTACK Duration will be interpreted from the J3.0I Time Function, Minute, and Hours fields. Two J3.0 messages are required to report a NOTACK Area. One message contains the time of activation and the other message contains the time of deactivation. NOTACK Duration shall be forwarded after both J3.0 messages have been received. The NOTACK Duration is determined by subtracting the Activation Time from the Deactivation Time (DT-AT). If both J3.0 messages are not received within 12 seconds, NOTACK Duration shall be forwarded as value 3, 2 hours.

<u>Link 11/11B</u>	<u>Link 16</u>	
<u>NOTACK DURATION</u>	<u>HOUR</u>	<u>MINUTE</u>
0 - 1 HOUR	0	31-59
	1	0
1 - 30 MINUTES	0	0-30
2 - 1 HOUR 30 MINUTES	1	1-30
3 - 2 HOURS	1	31-59
	2-23	ANY

5. When J3.0I Point Amplification = 6 and a value of 1 or 2 is received in the J3.0C2 Square/Circle Switch field, the area will be interpreted as a circle with the NOTACK Radius determined from the Area Major Axis and Area Minor Axis field, whichever is larger, as follows:

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TABLE A.5.2-M.4A-3. M.4A/M.84A Message Data Element Translation from the J3.0 Message (Sheet 5 of 6)

NOTES (Continued)

5. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>
NOTACK RADIUS	AREA MAJOR AXIS
0 - 10 DM	3 (12 DM) 63 - NO STATEMENT
1 - 5 DM	0 (0 DM) 1 (4 DM) 2 (8 DM)
2 - 15 DM	4 (16 DM)
3 - 20 DM	5 (20 DM) 6-62 (24-248 DM OR MORE)
	AREA MINOR AXIS
	3 (12 DM) 63 - NO STATEMENT
	0 (0 DM) 1 (4 DM) 2 (8 DM)
	4 (16 DM)
	5 (20 DM) 6-62 (24-248 DM OR MORE)

6. The M.84A Speed is in 1 data mile per hour increments, and the J3.0C2 Speed is in 2 data mile per hour increments. The J3.0C2 Speed values 0-63 (0-126 data miles per hour) shall be translated to the equivalent M.84A Speed. The J3.0C2 Speed values 64-2046 (128-4092 data miles per hour) shall be translated to the M.84A Speed value 126 (126 data miles per hour). The J3.0C2 Speed value 2047 (No Statement) shall be translated to M.84A Speed value 127 (No Statement).

7. The FWDA Duration will be interpreted from the J3.0I Time Function, Minute, and Hour fields. Two J3.0 messages are required to report a FWDA. One message contains the time of activation and the other message contains the time of deactivation. FWDA Duration shall be forwarded after both J3.0 messages have been received. The FWDA Duration is determined by subtracting the Activation Time from the Deactivation Time (DT-AT). If both J3.0 messages are not received within 12 seconds, FWDA Duration shall be forwarded as value 31, 155 minutes.

FWDA Duration is reported in 5 minute increments with a maximum value of 155 minutes. Translate Link 16 DT-AT to the nearest Link 11/11B increment, rounding up.

<u>Link 11/11B</u>	<u>Link 16</u>	
FWDA DURATION	HOUR	MINUTE
5 THROUGH 55	0	0-55
60	0	55-59
	1	0

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TABLE A.5.2-M.4A-3. M.4A/M.84A Message Data Element Translation from the J3.0
Message (Sheet 6 of 6)

NOTES (Continued)

7. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>	
<u>FWDA DURATION</u>	<u>HOUR</u>	<u>MINUTE</u>
65 THROUGH 115	1	1-55
120	1	55-59
	2	0
125 THROUGH 150	2	1-30
155	2	35
	2	36-59
	3-23	ANY

8. The Square/Circle Switch, 1 is determined as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>SQUARE/CIRCLE SWITCH, 1</u>	<u>SQUARE/CIRCLE SWITCH</u>
0 - SQUARE/RECTANGLE	1 - SQUARE/RECTANGULAR
1 - CIRCLE/ELLIPSE	2 - CIRCULAR/ELLIPTICAL

TABLE A.5.2-M.4A-4. M.4A/M.84A Message Data Element Translation from the J3.4 Message (Sheet 1 of 7)

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		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 3	NOTES
		VALUE 4	REQUIRED CR	WORD J3.4I			
M.4A	TRACK NUMBER	AT	CR	J3.4I	TRACK NUMBER, REFERENCE	RX	G13
	IDENTITY	AT	CR	J3.4I	IDENTITY EXERCISE INDICATOR	RX RX	1
	DATA REPORT TYPE	AT	CR	J3.4I	DATA REPORT TYPE	RX	2
	NONREAL-TIME INDICATOR	AT	CR	J3.4C1	TIME FUNCTION, ASW	RX	3
	SCALE INDICATOR	AT	CR	J3.4E0	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	4,G9
	SUB LABEL	0	CR	J3.4I	SUBLABEL, J-SERIES	4	
	X COORDINATE	AT	CR	J3.4E0	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J3.4E0	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
M.84A	LABEL	8	CR	J3.4I	LABEL, J-SERIES SUBLABEL, J-SERIES	3 4	
	ASW POINT TYPE	0	NONE	NA	NA	NA	5
	CLASSIFICATION	AT	CR	J3.4I	CONFIDENCE LEVEL SUBSURFACE PLATFORM	RX RX	6,7
	COURSE/BEARING	AT	CR	J3.4E0	COURSE	RX	8
	CLASSIFICATION AMPLIFICATION	AT	CR	J3.4I	CONFIDENCE LEVEL SUBSURFACE PLATFORM	RX RX	6,7
	DEPTH	AT	CR	J3.4I J3.4C1	DATA REPORT TYPE DEPTH CONTACT DEPTH, 15 METERS	RX RX RX	9 9 G11
	DEPTH INDICATOR	AR	CR	J3.4I J3.4C1	DATA REPORT TYPE DEPTH CONTACT DEPTH, 15 METERS	RX RX RX	9 9 G11
	SENSOR	AT	CR	J3.4C1	SENSOR	RX	10
	NOTACK DURATION	0	NONE	NA	NA	NA	

TABLE A.5.2-M.4A-4. M.4A/M.84A Message Data Element Translation from the J3.4 Message (Sheet 2 of 7)

Link 11/11B		TRANSLATION						Link 16	
MESSAGE M.84A (Cont'd)	FIELD	NOTACK	RADIUS	VALUE	REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES
	COURSE/BEARING INDICATOR		AT	CR		J3.4E0	COURSE	RX	8
	SPEED		AT	CR		J3.4E0	SPEED, ASW	RX	11
	POSSIBLE SUBMARINE		AT	CR		J3.4I	CONFIDENCE LEVEL	RX	6

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TABLE A.5.2-M.4A-4. M.4A/M.84A Message Data Element Translation from the J3.4
Message (Sheet 3 of 7)

NOTES

1. If J3.4 Exercise Indicator = 1, translate all identities to M.4A Identity = Friend. If J3.4 Exercise Indicator = 0, the M.4A Identity field is determined as follows:

<u>Link 11/11B</u>
<u>IDENTITY</u>
0 - NO STATEMENT/PENDING
1 - FRIEND
2 - HOSTILE
3 - UNKNOWN

<u>Link 16</u>
<u>IDENTITY</u>
0 - PENDING
7 - UNDEFINED
3 - FRIEND
4 - NEUTRAL
6 - HOSTILE
1 - UNKNOWN
2 - ASSUMED FRIEND
5 - SUSPECT

2. The Link 11/11B Data Report Type field will be determined as follows:

<u>Link 11/11B</u>
<u>DATA REPORT TYPE</u>
0 - SUBSURFACE TRACK
1 - SURFACED SUBMARINE
2 - DATUM

<u>Link 16</u>
<u>DATA REPORT TYPE</u>
0 - SUBSURFACE TRACK
2 - SNORKELING SUBMARINE
1 - SURFACED SUBMARINE
4 - DATUM

3. The M.4A Nonreal-Time Indicator (NRT) is determined from the J3.4C1 Time Function, ASW field as follows:

<u>Link 11/11B</u>
<u>NONREAL-TIME INDICATOR</u>
0 - NO STATEMENT
1 - NONREAL-TIME TRACK DATA

<u>Link 16</u>
<u>TIME FUNCTION, ASW</u>
1 - TIME CONTACT FIRST ACQUIRED/ TIME DATUM ESTABLISHED
3 - TIME CONTACT LOST
0 - NO STATEMENT
2 - TIME OF CURRENT POSITIONAL DATA

4. The Scale Indicator in the M.4A is determined as follows:

- o SI=0 Tracks are reported in 31 1/4 yard increments up to 32 data miles.
- o SI=1 Tracks are reported in 500 yard increments up to 512

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TABLE A.5.2-M.4A-4. M.4A/M.84A Message Data Element Translation from the J3.4
Message (Sheet 4 of 7)

NOTES (Continued)

4. (Continued)

data miles.

The FJU may forward all tracks with the Scale Indicator set to 1.

5. When Data Report Type in the M.4A equals 0-2, this field is Spare.

6. If the J3.4I Confidence Level is other than value 2-5, this M.84A field is Spare and shall be set to value 0. If J3.4I Confidence Level = 2-5, Possible Submarine is determined from Confidence Level as follows:

<u>Link 11/11B</u>	
<u>POSSIBLE SUBMARINE</u>	
1 - POSSIBLE SUBMARINE 1	
2 - POSSIBLE SUBMARINE 2	
3 - POSSIBLE SUBMARINE 3	
4 - POSSIBLE SUBMARINE 4	

<u>Link 16</u>	
<u>CONFIDENCE LEVEL</u>	
2 - POSSIBLE SUBMARINE LOW ONE	
3 - POSSIBLE SUBMARINE LOW TWO	
4 - POSSIBLE SUBMARINE HIGH THREE	
5 - POSSIBLE SUBMARINE HIGH FOUR	

7. The M.84A Classification and Classification Amplification fields are determined from the J3.4I Confidence Level and Subsurface Platform as follows:

<u>Link 11/11B</u>	
<u>CLASSIFICATION</u>	<u>AMPLIFICATION</u>
0	0
1	0
	1
	2
	3
2	0
	1
	2
	3

<u>Link 16</u>	
<u>CONFIDENCE LEVEL</u>	<u>SUBSURFACE</u>
	<u>PLATFORM</u>
0	ALL EXCEPT 20
1	ALL EXCEPT 20
2-5	0, 18, 19, 21- 27, 30-32, 38- 48, 50-63
	1, 28, 29, 49
	2-8, 35, 36
	9-17, 33, 34, 37
6	0, 18, 19, 21- 27, 30-32, 38- 48, 50-63
	1, 28, 29, 49
	2-8, 35, 36
	9-17, 33, 34, 37

APPENDIX A

TABLE A.5.2-M.4A-4. M.4A/M.84A Message Data Element Translation from the J3.4
Message (Sheet 5 of 7)

NOTES (Continued)

7. (Continued)

<u>Link 11/11B</u>		<u>Link 16</u>	
<u>CLASSIFICATION</u>	<u>AMPLIFICATION</u>	<u>CONFIDENCE LEVEL</u>	<u>SUBSURFACE</u>
3	0	7	PLATFROM 0, 18, 19, 21- 27, 30-32, 38- 48, 50-63
	1		1, 28, 29, 49
	2		2-8, 35, 36
	3		9-17, 33, 34, 37
4	0	8	0-18, 24, 26, 28-37, 41-63
	1		19
	3	9	ALL EXCEPT 20
	4	8	22
	5		21
	6		25
	7		27
6	0	ALL	23
			20

8. The M.84A Course/Bearing and Course/Bearing Indicator (CBI) fields are determined by the J3.4E0 Course field as follows:

<u>Link 11/11B</u>		<u>Link 16</u>	
<u>COURSE/BEARING</u>	<u>INDICATOR</u>	<u>COURSE/BEARING</u>	<u>COURSE</u>
	0	0 (NOT INTERPRETED)	360-510 - ILLEGAL
1		0-255 - 0 THROUGH 358 152/256 DEGREES	511 - NO STATEMENT 0-359 - 0 THROUGH 359 DEGREES

Link 16 Course is in 1 degree increments, and Link 11/11B Course/Bearing is in 360/256 degree increments. Translate Link 16 to the nearest Link 11/11B increment (.5 rounded up).

9. When J3.4I Data Report Type = 0 or 1, and information is reported in the J3.4C1 Depth Contact, the information shall be forwarded in the M.84A Depth field with the M.84A Depth Indicator (DI) field set to one. The Depth field will be determined as follows:

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TABLE A.5.2-M.4A-4. M.4A/M.84A Message Data Element Translation from the J3.4
Message (Sheet 6 of 7)

NOTES (Continued)

9. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>
<u>DEPTH</u>	<u>DEPTH CONTACT</u>
0 - UNKNOWN/NO STATEMENT	0 - NO STATEMENT
2 - ESTIMATED SHALLOW	6 - UNKNOWN
3 - PERISCOPE DEPTH	8-15 - UNDEFINED
4 - ABOVE FIRST LAYER	1 - ESTIMATED SHALLOW
8 - BELOW BOTTOM LAYER	7 - PERISCOPE DEPTH
9 - ESTIMATED DEEP	2 - ABOVE LAYER
10 - BOTTONED	3 - BELOW LAYER
	4 - ESTIMATED DEEP
	5 - BOTTONED

When J3.4I Data Report Type =2 (Snorkeling Submarine), the M.84A Depth Indicator and Depth fields shall be set to value 1 (Snorkeling).

When other than No Statement is reported in the J3.4C1 Depth, 15 meters field, set Depth Indicator to 0 and translate Depth in accordance with General Note 11. J3.4C1 Depth greater than 63 shall be translated to M.84A Depth = 63.

If neither J3.4C1 Depth Contact = 1-5 nor Depth, 15 Meters = 0-126, the M.84A Depth Indicator shall be set to value 1 and M.84A Depth shall be set to value 0.

If both J3.4C1 Depth Contact = 1-5 and J3.4C1 Depth, 15 Meters = 0-126, an M.4A/M.84A(DI=0) message sequence shall be transmitted, followed by an M.4A/M.84A(DI=1) message sequence.

10. The Sensor field will be determined as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>SENSOR</u>	<u>SENSOR</u>
0 - NO STATEMENT	0 - NO STATEMENT/UNKNOWN
1 - ACTIVE SONAR	28-31 - UNDEFINED
2 - PASSIVE SONAR	1 - ACTIVE SONAR
5 - SHIP SONAR (VDS AND HULL MOUNTED)	2 - PASSIVE SONAR
	27 - SHIP SONAR

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TABLE A.5.2-M.4A-4. M.4A/M.84A Message Data Element Translation from the J3.4
Message (Sheet 7 of 7)

NOTES (Continued)

10. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>
<u>SENSOR</u>	<u>SENSOR</u>
10 - RADAR	7 - RADAR
11 - INTELLIGENCE	20 - INTELLIGENCE
12 - ES	8 - ES
13 - MAD	5 - MAD
14 - LOFAR (AREA)	11 - LOFAR
17 - DIFAR	12 - DIFAR
18 - ACTIVE SONOBUOY (RANGE AND BEARING)	4 - ACTIVE SONOBUOY
20 - PASSIVE SONOBUOY	3 - PASSIVE SONOBUOY
21 - DIRECT PATH	13 - DIRECT PATH
22 - BOTTOM BOUNCE	14 - BOTTOM BOUNCE
23 - CONVERGENCE ZONE 1	15 - CONVERGENCE ZONE 1
24 - CONVERGENCE ZONE 2	16 - CONVERGENCE ZONE 2
25 - CONVERGENCE ZONE 3	17 - CONVERGENCE ZONE 3
26 - LLLTV	18 - LLLTV
27 - VISUAL	6 - VISUAL
28 - DESIGNATED FIX	21 - DESIGNATED FIX
29 - UNDERWATER TELEPHONE [UWT]	19 - UNDERWATER TELEPHONE
30 - TOWED ARRAY	9 - TAS/TAC TAS
31 - INFRARED DETECTION SYSTEM	10 - IRDS
32 - PASSIVE DIRECTIONAL SONOBUOY	23 - PASSIVE DIRECTIONAL SONOBUOY
58 - PASSIVE SOURCE (CPA)	22 - PASSIVE SOURCE (CPA)
61 - DICASS	24 - DICASS
62 - SOSUS	25 - SOSUS
63 - FLIR	26 - FLIR

11. The M.84A Speed is in 1 data mile per hour increments, and the J3.4E0 Speed is in 0.5 data mile per hour increments. The J3.4E0 Speed values 0-252 (0-126 data miles per hour) shall be translated to the equivalent M.84A Speed, with 0.5 data mile per hour increments arbitrarily rounded to the higher data mile. The J3.4E0 Speed values 253-510 (126.5-255 data miles per hour) shall be translated to the M.84A Speed value 126 (126 data miles per hour). The J3.4E0 Speed value 511 (No Statement) shall be translated to M.84A Speed value 127 (No Statement).

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TABLE A.5.2-M.4B-1. M.4B Message Data Element Translation from the J3.0 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.4B	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 3	NOTES
		VALUE 4	REQUIRED CR	WORD J3.0I			
	TRACK NUMBER	AT	CR	J3.0I	TRACK NUMBER, REFERENCE	RX	G13
	MISSION	0	NONE	NA	NA	NA	
	SUB LABEL	1	CR	J3.0I	SUBLABEL, J-SERIES	0	
	MINUTES	AT	CR	J3.0I	MINUTE	RX	1
	HOURS	AT	CR	J3.0I	HOUR	RX	1
	TIME SWITCH	AT	CR	J3.0I	TIME FUNCTION	RX	1
	DATUM ERROR	0	NONE	NA	NA	NA	
	MISSILE CAPABILITY	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.4B-1. M.4B Message Data Element Translation from the J3.0 Message
(Sheet 2 of 2)

NOTES

1. If Point Amplification = 6, 9, or 10 and Point Type = 7 and Time Function = 2 (Deactivation Time), then NOTACK Duration or Time Remaining shall be forwarded in an M.84A or M.84C message (see Tables A.5.2-M.4A-3 and A.5.2-M.4C). Otherwise, time in the J3.0 message shall be translated into the M.4B in the Hours and Minutes fields. The M.4B Time Switch shall be determined from the J3.0I Time Function field as follows:

<u>Link 11</u>
<u>TIME SWITCH</u>
0 - NO STATEMENT

1 - GMT OF ACQUISITION/OBSERVATION/
ESTABLISHMENT/COMMENCEMENT

<u>Link 16</u>
<u>TIME FUNCTION</u>
0 - NO STATEMENT
1 - ACTIVATION TIME
5 - TIME POINT ESTABLISHED

TABLE A.5.2-M.4B-2. M.4B Message Data Element Translation from the J3.4 Message (Sheet 1 of 4)

Link 11/11B				Link 16			
MESSAGE M.4B	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 3	NOTES
		VALUE 4	REQUIRED CR	WORD J3.4I			
	TRACK NUMBER	AT	CR	J3.4I	TRACK NUMBER, REFERENCE	RX	G13
	MISSION	AT	CR	J3.4I	SUBSURFACE ACTIVITY	RX	1
	SUB LABEL	1	CR	J3.4I	SUBLABEL, J-SERIES	4	
	MINUTES	RX	=	J3.4C1	MINUTE	RX	
	HOURS	RX	=	J3.4C1	HOUR	RX	
	TIME SWITCH	AT	CR	J3.4C1	TIME FUNCTION, ASW	RX	2
	DATUM ERROR	RX	=	J3.4C2	DATUM ERROR	RX	3
	MISSILE CAPABILITY	AT	CR	J3.4I	SUBSURFACE PLATFORM LAUNCH CAPABILITY	RX RX	4

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TABLE A.5.2-M.4B-2. M.4B Message Data Element Translation from the J3.4 Message
(Sheet 2 of 4)

NOTES

1. The J3.4I Subsurface Activity will be translated to the M.4B Mission field as follows:

<u>Link 11</u>	<u>Link 16</u>
<u>MISSION</u>	<u>SUBSURFACE ACTIVITY</u>
0 - NO STATEMENT	0 - NO STATEMENT
	2 - OVER THE HORIZON TARGETING (OTHT)
	3 - TRAINING
	4 - DIVING
	6 - ELECTRONIC WARFARE (EW)
	7 - SURVEILLANCE
	12 - SPECIAL WEAPONS ATTACK
	13 - SURFACING
	14 - AMPHIBIOUS WARFARE
	15 - INTELLIGENCE COLLECTING
	16 - PATROL
	17 - TRANSPORT
	19 - DISUSED
	20 - BOTTOMING
	22 - STRIKE WARFARE
	24 - SNORKELING
	25 - CONVENTIONAL ATTACK
	26 - MINE COUNTERMEASURES
	27 - MINE WARFARE
	28 - MARKING
	29 - NONCOMBATANT OPERATIONS
	31 - VIDEO DATA LINKING (TARGETING)
	33 - SHADOWING
	34 - INTERVENING
	35 - NUCLEAR, BIOLOGICAL, CHEMICAL (NBC) OPERATIONS
	36 - NUCLEAR OPERATIONS
	37 - BIOLOGICAL OPERATIONS
	38 - CHEMICAL OPERATIONS
	39 - ELECTRONIC WARFARE SUPPORT (ES)
	41-49 - UNDEFINED
	50 - RETURN TO BASE (RTB)
	51-114 - UNDEFINED
	115-126 - SUBSURFACE ACTIVITY 1 THROUGH 12
	127 - RESET TO NO STATEMENT
1 - ANTISHIPPING	5 - ANTISURFACE WARFARE
2 - ANTISUBMARINE	18 - ANTISUBMARINE WARFARE (ASW)
3 - RECONNAISSANCE	1 - RECONNAISSANCE

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TABLE A.5.2-M.4B-2. M.4B Message Data Element Translation from the J3.4 Message
(Sheet 3 of 4)

NOTES (Continued)

1. (Continued)

<u>Link 11</u>	<u>Link 16</u>
<u>MISSION</u>	<u>SUBSURFACE ACTIVITY</u>
4 - MINE LAYING	10 - MINELAYING
5 - TRANSITING	11 - TRANSITING
6 - SPECIAL/SAR	8 - SEARCH AND RESCUE (SAR)
	21 - SPECIAL WARFARE
	23 - CLANDESTINE OPERATIONS
	32 - SPECIAL OPERATIONS
	40 - COMBAT SEARCH AND RESCUE (CSAR)
7 - ESCORT	9 - ESCORTING
	30 - DIRECT SUPPORT

2. The M.4B Time Switch is translated from the J3.4C1 Time Function, ASW field as follows:

<u>Link 11</u>	<u>Link 16</u>
<u>TIME SWITCH</u>	<u>TIME FUNCTION, ASW</u>
0 - NO STATEMENT	0 - NO STATEMENT
1 - GMT OF ACQUISITION/OBSERVATION/ESTABLISHMENT/COMMENCEMENT	1 - TIME CONTACT FIRST ACQUIRED/TIME DATUM ESTABLISHED
3 - GMT OF TIME LOST	2 - TIME OF CURRENT POSITIONAL DATA
	3 - TIME CONTACT LOST

3. Datum Error is used in the M.4B message only for the M.4A Data Report Type value 2. For all other Data Report Type values this field is Spare and shall be set to zero.

4. The M.4B Missile Capability is determined from J3.4I Subsurface Platform and Launch Capability as follows:

<u>Link 11/11B</u>	<u>Link 16</u>	<u>SUBSURFACE PLATFORM</u>
<u>MISSILE CAPABILITY</u>	<u>LAUNCH CAPABILITY</u>	<u>ALL</u>
0 - NO STATEMENT	0 - NO STATEMENT	ALL EXCEPT 5 or 12 or 29

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TABLE A.5.2-M.4B-2. M.4B Message Data Element Translation from the J3.4 Message
(Sheet 4 of 4)

NOTES (Continued)

4. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>	
<u>MISSILE CAPABILITY</u>	<u>LAUNCH CAPABILITY</u>	<u>SUBSURFACE PLATFORM</u>
1 - BALLISTIC SUBMERGED	1 - MAY LAUNCH MISSILE WHILE SUBMERGED	5 - DIESEL ELECTRIC BALLISTIC MISSILE SUBMARINE
2 - BALLISTIC SURFACED	2 - MUST BE SURFACED TO LAUNCH MISSILE	12 - NUCLEAR BALLISTIC MISSILE SUBMARINE
3 - CRUISE SUBMERGED	1 - MAY LAUNCH MISSILE WHILE SUBMERGED	5 or 12
4 - CRUISE SURFACED	2 - MUST BE SURFACED TO LAUNCH MISSILE	29 - CRUISE MISSILE LAUNCHER
		29 - CRUISE MISSILE LAUNCHER

TABLE A.5.2-M.4B-3. M.4B Message Data Element Translation from the J5.4 Message

Link 11/11B		TRANSLATION					Link 16	
MESSAGE M.4B	FIELD LABEL	VALUE 4	REQUIRED CR	WORD J5.4I	DATA ELEMENT LABEL, J-SERIES	VALUE 5	NOTES	
	TRACK NUMBER	AT	CR	J5.4I	TRACK NUMBER, REFERENCE	RX	G13	
	MISSION	0	NONE	NA	NA	NA		
	SUB LABEL	1	CR	J5.4I	SUBLABEL, J-SERIES	4		
	MINUTES	RX	=	J5.4I	MINUTE	RX		
	HOURS	RX	=	J5.4I	HOUR	RX		
	TIME SWITCH	1	NONE	NA	NA	NA		
	DATUM ERROR	0	NONE	NA	NA	NA		
	MISSILE CAPABILITY	0	NONE	NA	NA	NA		

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TABLE A.5.2-M.4C. M.4C/M.84C Message Data Element Translation from Link 16 (Sheet 1 of 4)

Link 11/11B				Link 16			
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE	NOTES
		VALUE	REQUIRED	WORD			
M.4C	TRACK NUMBER	AT	CR	J3.0I	TRACK NUMBER, REFERENCE	RX	G13
	IDENTITY	0	NONE	NA	NA	NA	
	SWITCH	AT	CR	J3.0I	POINT TYPE POINT AMPLIFICATION	7 9 or 10	1
	CONTACT STATUS	RX	=	J3.0C3	HOLDING CONTACT	RX	
	SCALE INDICATOR	AR	CR	J3.0E0	LATITUDE, 0.0103 MINUTE LONGITUDE, 0.0103 MINUTE	RX RX	2
	SUB LABEL	2	CR	J3.0I	SUBLABEL, J-SERIES	0	
	X COORDINATE	AT	CR	J3.0E0	LATITUDE, 0.0103 MINUTE LONGITUDE, 0.0103 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J3.0E0	LATITUDE, 0.0103 MINUTE LONGITUDE, 0.0103 MINUTE	RX RX	G9
	LABEL	8	CR	J3.0I	LABEL, J-SERIES SUBLABEL, J-SERIES	3 0	
	CHANNEL AMPLIFY	RX	=	J3.0C3	CHANNEL NUMBER, SONOBUOY RF	RX	3
M.84C	SONOBUOY SWITCH	AT	CR	J3.0C3 J3.0C4	SONOBUOY TYPE SONOBUOY TYPE, 1	RX RX	4
	TYPE, 1	AT	CR	J3.0C4	SONOBUOY TYPE, 1	RX	4
	TYPE	AT	CR	J3.0C3	SONOBUOY TYPE	RX	4
	TIME REMAINING	AT	CR	J3.0I	TIME FUNCTION MINUTE HOUR	RX RX RX	5
	TRANSDUCER DEPTH	RX	=	J3.0C3	DEPTH INDICATOR (SONOBUOY)	RX	
	CHANNEL NUMBER	AT	CR	J3.0C3	CHANNEL NUMBER, SONOBUOY RF	RX	3
	CALIBRATION STATUS	0	NONE	NA	NA	NA	
	TIME LOST	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.4C. M.4C/M.84C Message Data Element Translation from Link 16
(Sheet 2 of 4)

NOTES

1. The M.4C Switch is determined from the J3.0I Point Amplification field when Point Type = 7 as follows:

<u>Link 11</u>	<u>Link 16</u>
<u>SWITCH</u>	<u>POINT AMPLIFICATION</u>
2 - SONOBUOY POSITION	9 - SONOBUOY POSITION
3 - REFERENCE SONOBUOY POSITION	10 - SONOBUOY PATTERN REFERENCE POSITION

2. The Scale Indicator field in the M.4C message is determined as follows:

- o SI=0 Tracks are reported in 31 1/4 yard increments up to 32 data miles.
- o SI=1 Tracks are reported in 500 yard increments up to 511 3/4 data miles.

The FJU may forward all tracks with Scale Indicator set to 1.

3. If Channel Number, Sonobuoy RF = 0-31, M.84C Channel Number shall equate to Channel Number, Sonobuoy RF. Otherwise, M.84C Channel Number shall be set to value 0. The M.84C Channel Amplify shall equate to Channel Number, Sonobuoy RF.

4. The Type, Type, 1 and Sonobuoy Switch fields are determined from the J3.0C3 Sonobuoy Type and/or J3.0C4 Sonobuoy Type, 1 fields as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>SONOBUOY SWITCH</u>	<u>SONOBUOY TYPE</u>
0	0 - NO STATEMENT
	8 - DISUSED
	9 - DISUSED
	11 - DISUSED
1 - BT	1 - BT
2 - LOFAR	2 - LOFAR
3 - RO	3 - RO
4 - DIFAR	4 - DIFAR
5 - VLA	5 - VLA
6 - CAMBS	6 - CAMBS

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TABLE A.5.2-M.4C. M.4C/M.84C Message Data Element Translation from Link 16
(Sheet 3 of 4)

NOTES (Continued)

4. (Continued)

<u>Link 11/11B</u>		<u>Link 16</u>
<u>SONOBUOY SWITCH</u>	<u>TYPE</u>	<u>SONOBUOY TYPE</u>
	7 - ADAR	14 - ADAR
	8 - NUAMP	15 - NUAMP
	9 - BARRA	7 - BARRA
	12 - VLAD	10 - VLAD
	14 - WIDE BAND LOFAR	12 - WIDE BAND LOFAR
	15 - DICASS	13 - DICASS

<u>Link 11/11B</u>		<u>Link 16</u>
<u>SONOBUOY SWITCH</u>	<u>TYPE, 1</u>	<u>SONOBUOY TYPE, 1</u>
1	0 - NO STATEMENT	0 - NO STATEMENT
	1 - HIDAR	1 - HIDAR
	2 - SSQ110	2 - SSQ110
	3 - CAMBS6	3 - CAMBS6
	4 - ALFEA	4 - ALFEA
	5 - SSQ911	5 - SSQ911
	6 - SSQ981D	6 - SSQ981D

5. If Time Function is other than value 2 (Time Remaining) shall be set to value 15 (No Statement). When Time Function = 2 (Deactivation Time), the FJU shall subtract the current time from the J3.0I Hour and Minute, to the nearest minute, (the FJU must account for date change) and then forward the result as M.84C Time Remaining as follows:

<u>Link 11/11B</u>		<u>Link 16</u>
<u>TIME REMAINING</u>	<u>HOUR</u>	<u>MINUTE</u>
0 - 0 MINUTES	0	0
1 - < 2 MINUTES		1
2 - < 5 MINUTES		2-4
3 - < 10 MINUTES		5-9
4 - < 15 MINUTES		10-14
5 - < 20 MINUTES		15-19
6 - < 25 MINUTES		20-24
7 - < 30 MINUTES		25-29
8 - < 1 HOUR		30-59
9 - < 2 HOURS	1	0-59
10 - < 3 HOURS	2	0-59
11 - < 4 HOURS	3	0-59

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TABLE A.5.2-M.4C. M.4C/M.84C Message Data Element Translation from Link 16
(Sheet 4 of 4)

NOTES (Continued)

5. (Continued)

Link 11/11B	Link 16	
TIME REMAINING	HOUR	MINUTE
12 - < 5 HOURS	4	0-59
13 - < 10 HOURS	5-9	0-59
14 - = OR > 10 HOURS	10-23	0-59

TABLE A.5.2-M.4D. M.4D/M.84D Message Data Element Translation from Link 16 (Sheet 1 of 8)

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Link 11/11B				Link 16			
MESSAGE M.4D	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 5	NOTES
		VALUE 4	REQUIRED CR	WORD J5.4I			
	TRACK NUMBER	AT	CR	J5.4I	TRACK NUMBER, REFERENCE	RX	G13
	IDENTITY	AT	CR	J5.4I	IDENTITY EXERCISE INDICATOR	RX RX	1
	BEARING REPORT TYPE	RX	=	J5.4E0	BEARING REPORT TYPE	RX	
	B-FRAME SWITCH	AT	CR	J5.4E0	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	2,G9
	SUB LABEL	3	CR	J5.4I	SUBLABEL, J-SERIES	4	
	X COORDINATE	AT	CR	J5.4E0	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	2,G9
	Y COORDINATE	AT	CR	J5.4E0	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	2,G9
	SOURCE ACOUSTIC FREQUENCY	RX	=	J5.4E0	FREQUENCY, SOURCE ACOUSTIC	RX	
	BROADBAND	RX	=	J5.4C1	BROADBAND	RX	
	AUDIO	RX	=	J5.4I	AUDIO	RX	
	SOUND PROPAGATION PATH	AT	CR	J5.4C2	SOUND PROPAGATION PATH	RX	3
	DOPPLER	RX	=	J5.4I	DOPPLER	RX	
	ABOVE/BELOW LAYER	RX	=	J5.4C2	DEPTH, ABOVE/BELOW LAYER (SENSOR)	RX	
	TN ORIGINATOR	AT	CR	J5.4C2	TRACK NUMBER, ORIGIN	RX	G13
	SENSOR DEPTH	AT	CR	J5.4C2	DEPTH, SENSOR	RX	5
M.84D	LABEL	8	CR	J5.4I	LABEL, J-SERIES	5	
	SENSOR	RX	=	J5.4C1	SENSOR INDICATOR	RX	
	BEARING DRIFT	RX	=	J5.4I	BEARING DRIFT	RX	
	BEARING ACCURACY	AT	CR	J5.4C1	BEARING ACCURACY, ASW	RX	6
	CONTACT DEPTH	AT	CR	J5.4C2	DEPTH CONTACT	RX	7

TABLE A.5.2-M.4D. M.4D/M.84D Message Data Element Translation from Link 16 (Sheet 2 of 8)

Link 11/11B				Link 16			
MESSAGE M.84D (Cont'd)	FIELD CLASSIFICATION	TRANSLATION			DATA ELEMENT CONFIDENCE LEVEL	VALUE RX	NOTES 8,9
		VALUE AT	REQUIRED CR	WORD J5.4I			
	CLASSIFICATION AMPLIFICATION	AT	CR	J5.4I	CONFIDENCE LEVEL SUBSURFACE PLATFORM	RX RX	9
	SWITCH	AR	NONE	NA	NA	NA	
	BEARING 1	RX	=	J5.4E0	BEARING 1, ASW	RX	
	BEARING INDICATOR	AT	CR	J5.4E0	BEARING REPORT TYPE	RX	10
	RANGE	RX	=	J5.4C1	RANGE	RX	
	RANGE ACCURACY	RX	=	J5.4C1	RANGE ACCURACY, ASW	RX	
	LABEL	8	CR	J5.4I	LABEL, J-SERIES	5	
	FIRST ASSOCIATED ACOUSTIC FREQUENCY	RX	=	J5.4C1	FREQUENCY, ASSOCIATED ACOUSTIC 1	RX	
	SWITCH	AR	NONE	NA	NA	NA	
	BEARING 2	RX	=	J5.4C1	BEARING 2, ASW	RX	
	BEARING INDICATOR	0	NONE	NA	NA	NA	
	SECOND ASSOCIATED ACOUSTIC FREQUENCY	RX	=	J5.4C1	FREQUENCY, ASSOCIATED ACOUSTIC 2	RX	

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TABLE A.5.2-M.4D. M.4D/M.84D Message Data Element Translation from Link 16
(Sheet 3 of 8)

NOTES

1. If J5.4 Exercise Indicator = 1, translate to M.4D Identity = Friend. If J5.4 Exercise Indicator = 0, the M.4D Identity field is determined as follows:

<u>Link 11</u>	<u>Link 16</u>
<u>IDENTITY</u>	<u>IDENTITY</u>
0 - NO STATEMENT/PENDING	0 - PENDING
1 - FRIEND	7 - UNDEFINED
2 - HOSTILE	3 - FRIEND
3 - UNKNOWN	4 - NEUTRAL
	6 - HOSTILE
	1 - UNKNOWN
	2 - ASSUMED FRIEND
	5 - SUSPECT

2. The M.4D B-Frame Switch determines whether the M.4D will contain the Track Number Originator and Sensor Depth (Switch = 3); or Source Acoustic Frequency, Broadband, Audio, Sound Propagation Path, Doppler and Above/Below Layer (Switch = 2); or position (X Coordinate, Y Coordinate) (Switch = 0 or 1). When position is reported, the B-Frame Switch is interpreted as follows:

- o BSW = 0 Tracks are reported in 31 1/4 yd. increments up to 32 data miles.
- o BSW = 1 Tracks are reported in 500 yd. increments up to 511 3/4 data miles.

When position is forwarded, the FJU may forward all tracks with the BSW set to one.

3. The M.4D Sound Propagation Path field is determined as follows:

<u>Link 11</u>	<u>Link 16</u>
<u>SOUND PROPAGATION PATH</u>	<u>SOUND PROPAGATION PATH</u>
0 - NO STATEMENT	0 - NO STATEMENT
1 - UNKNOWN	8 - MULTIPATH 9-15 - UNDEFINED 1 - UNKNOWN

APPENDIX A

TABLE A.5.2-M.4D. M.4D/M.84D Message Data Element Translation from Link 16
(Sheet 4 of 8)

NOTES (Continued)

3. (Continued)

Link 11	Link 16
SOUND PROPAGATION PATH	SOUND PROPAGATION PATH
2 - DIRECT PATH	2 - DIRECT PATH
3 - BOTTOM BOUNCE	3 - BOTTOM BOUNCE
4 - CONVERGENCE ZONE 1	4 - CONVERGENCE ZONE 1
5 - CONVERGENCE ZONE 2	5 - CONVERGENCE ZONE 2
6 - CONVERGENCE ZONE 3 OR BEYOND	6 - CONVERGENCE ZONE 3 OR BEYOND
7 - CONVERGENCE ZONE UNSPECIFIED	7 - CONVERGENCE ZONE UNSPECIFIED

4. Not used.

5. When J5.4C2 Depth, Sensor is an even value less than or equal to 40 (600 meters), M.4D Sensor Depth shall be set to the value whose meaning is equal to the received meaning. When J5.4C2 Depth, Sensor is an odd value less than or equal to 39 (585 meters), then the M.4D Sensor Depth shall be set to the data item whose meaning is 50 feet greater than the received meaning. For the J5.4C2 Depth, Sensor values greater than or equal to 41 (615 meters), the M.4D Sensor Depth shall be forwarded as value 20 (2000 feet), except for the J5.4C2 Depth, Sensor value 127 (No Statement) which shall be forwarded as value 31 (No Statement) in the M.4D Sensor Depth field.

6. The M.84D Bearing Accuracy field is determined as follows:

Link 11	Link 16
BEARING ACCURACY	BEARING ACCURACY, ASW
0 (NO STATEMENT)	0 (NO STATEMENT)
1 (< = 2 DEGREES)	9-15 (UNDEFINED)
2 (< = 5 DEGREES)	1 (+ OR - 2 DEGREES)
3 (< = 10 DEGREES)	2 (+ OR - 5 DEGREES)
4 (< = 15 DEGREES)	3 (+ OR - 10 DEGREES)
5 (< = 20 DEGREES)	4 (+ OR - 15 DEGREES)
6 (< = 30 DEGREES)	5 (+ OR - 20 DEGREES)
7 (OVER 30 DEGREES)	6 (+ OR - 30 DEGREES)
	7 (+ OR - 45 DEGREES)
	8 (OVER 45 DEGREES)

7. The M.84D Contact Depth field is determined from the J5.4C2 Depth Contact field as follows:

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TABLE A.5.2-M.4D. M.4D/M.84D Message Data Element Translation from Link 16
(Sheet 5 of 8)

NOTES (Continued)

7. (Continued)

<u>Link 11</u>	
<u>CONTACT DEPTH</u>	
0	- UNKNOWN/NO STATEMENT
1	- ESTIMATED SHALLOW
2	- ABOVE LAYER
3	- BELOW LAYER
4	- ESTIMATED DEEP
6	- PERISCOPE DEPTH
5	- BOTTOMED

<u>Link 16</u>	
<u>DEPTH CONTACT</u>	
0	- NO STATEMENT
6	- UNKNOWN
8-15	- UNDEFINED
1	- ESTIMATED SHALLOW
2	- ABOVE LAYER
3	- BELOW LAYER
4	- ESTIMATED DEEP
7	- PERISCOPE DEPTH
5	- BOTTOMED

8. The M.84D Classification field is determined from the J5.4I Confidence Level field as follows:

<u>Link 11/11B</u>	
<u>CLASSIFICATION</u>	
0	- NO STATEMENT/UNCLASSIFIED
1	- POSSUB 1
2	- POSSUB 2
3	- POSSUB 3
4	- POSSUB 4
5	- PROBABLE SUBMARINE
7	- CERTAIN SUBMARINE
8	- NONSUBMARINE

<u>Link 16</u>	
<u>CONFIDENCE LEVEL</u>	
0	- NO STATEMENT
1	- UNCLASSIFIED
2	- POSSIBLE SUBMARINE LOW ONE
3	- POSSIBLE SUBMARINE LOW TWO
4	- POSSIBLE SUBMARINE HIGH THREE
5	- POSSIBLE SUBMARINE HIGH FOUR
6	- PROBABLE SUBMARINE
7	- CERTAIN SUBMARINE
8	- NON SUBMARINE
9	- SURFACE VESSEL

9. The M.4D Classification and Classification Amplification fields are determined from the J5.4I Confidence Level and Subsurface Platform fields as follows:

<u>Link 11</u>	
	CLASSIFICATION
<u>CLASSIFICATION</u>	<u>AMPLIFICATION</u>
0	0
1	0
	1
	2

<u>Link 16</u>	
	SUBSURFACE
<u>CONFIDENCE LEVEL</u>	<u>PLATFORM</u>
0 or 1	ALL
2	0, 7, 13, 16-27, 30-32, 38-40, 42-63 1, 28, 29, 49 9-12, 37

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TABLE A.5.2-M.4D. M.4D/M.84D Message Data Element Translation from Link 16
(Sheet 6 of 8)

NOTES (Continued)

9. (Continued)

<u>Link 11</u>		<u>Link 16</u>
<u>CLASSIFICATION</u>	<u>AMPLIFICATION</u>	<u>CONFIDENCE LEVEL</u>
	3	
	5	
	6	
	9	
	11	
	12	
	13	
	14	
2	0	3
	1	
	2	
	3	
	5	
	6	
	9	
	11	
	12	
	13	
	14	
3	0	4
	1	
	2	
	3	
	5	
	6	
	9	
	11	
	12	
	13	
	14	

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TABLE A.5.2-M.4D. M.4D/M.84D Message Data Element Translation from Link 16
(Sheet 7 of 8)

NOTES (Continued)

9. (Continued)

<u>Link 11</u>		<u>Link 16</u>	
<u>CLASSIFICATION</u>	<u>AMPLIFICATION</u>	<u>CONFIDENCE LEVEL</u>	<u>SUBSURFACE</u>
<u>CLASSIFICATION</u>	<u>AMPLIFICATION</u>	<u>CONFIDENCE LEVEL</u>	<u>PLATFORM</u>
4	0	5	0, 7, 13, 16-27, 30-32, 38-40, 42-63
	1		1, 28, 29, 49
	2		9-12, 37
	3		2-5, 35, 36
	5		14
	6		15
	9		6
	11		8
	12		33
	13		34
	14		41
5	0	6	0, 7, 13, 16-27, 30-32, 38-40, 42-63
	1		1, 28, 29, 49
	2		9-12, 37
	3		2-5, 35, 36
	5		14
	6		15
	9		6
	11		8
	12		33
	13		34
	14		41
7	0	7	0, 7, 13, 16-27, 30-32, 38-40, 42-63
	1		1, 28, 29, 49
	2		9-12, 37
	3		2-5, 35, 36
	5		14
	6		15
	9		6

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TABLE A.5.2-M.4D. M.4D/M.84D Message Data Element Translation from Link 16
 (Sheet 8 of 8)

NOTES (Continued)

9. (Continued)

<u>Link 11</u>		<u>Link 16</u>	
<u>CLASSIFICATION</u>	<u>AMPLIFICATION</u>	<u>CONFIDENCE LEVEL</u>	<u>SUBSURFACE</u>
			<u>PLATFORM</u>
	11		8
	12		33
	13		34
	14		41
8	0	8	0-18, 21, 23, 24, 26-37, 41- 63
	1		19
	2	9	ALL
	3	8	20
	5		22
			25

10. If the J5.4 Bearing Report Type field is set to value 3, set the M.84D Bearing Indicator field to value 1. Otherwise, set the Bearing Indicator field to value 0.

TABLE A.5.2-M.5-1. M.5/M.85 Message Data Element Translation from the J2.0 Message (Sheet 1 of 3)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE	NOTES
		5	CR	J2.0I			
M.5	TRACK NUMBER/ADDRESS	AT	CR	HEADER or J2.0I	TRACK NUMBER, SOURCE	RX	G2, G12
					TRACK NUMBER, SOURCE	RX	G2, G12
	SCALE INDICATOR	AT	CR	J2.0E0	LATITUDE 1, 0.0013 MINUTE LONGITUDE 1, 0.0013 MINUTE	RX RX	1
	POINT	13	NONE	NA	NA	NA	
	POINT AMPLIFY	AT	CR	J2.0I	SITE	RX	5
	X COORDINATE	AT	CR	J2.0E0	LATITUDE 1, 0.0013 MINUTE LONGITUDE 1, 0.0013 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J2.0E0	LATITUDE 1, 0.0013 MINUTE LONGITUDE 1, 0.0013 MINUTE	RX RX	G9
	LABEL	8	CR	J2.0I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 0	
	RELATED TRACK NUMBER/TRACK NUMBER	AT	CR	HEADER or J2.0I	TRACK NUMBER, SOURCE	RX	2,G2, G12
					TRACK NUMBER, SOURCE	RX	2,G2, G12
M.85	SWITCH	AR	NONE	NA	NA	NA	3
	REFERENCE	0	NONE	NA	NA	NA	2
	X DOT	AT	CR	J2.0E0	COURSE SPEED	RX RX	3,G7
	Y DOT	AT	CR	J2.0E0	COURSE SPEED	RX RX	3,G7
	MINUTES	63	NONE	NA	NA	NA	4
	HOURS	31	NONE	NA	NA	NA	4
	TIME SWITCH	0	NONE	NA	NA	NA	4

TABLE A.5.2-M.5-1. M.5/M.85 Message Data Element Translation from the J2.0 Message (Sheet 2 of 3)

Link 11/11B			TRANSLATION			Link 16		
MESSAGE	FIELD		VALUE	REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES
M.85 (Cont'd)	HEIGHT/DEPTH		AT	CR	J2.0I or J2.0C1	ALTITUDE, 25 FT ORIGINATOR ENVIRONMENT ELEVATION, 25 FT DEPTH, 15 METERS	RX RX RX RX	3,G10 3,G10 G11, G19
	HEIGHT/DEPTH SWITCH		AT	CR	J2.0I	ORIGINATOR ENVIRONMENT	RX	3,G10

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TABLE A.5.2-M.5-1. M.5/M.85 Message Data Element Translation from the J2.0
Message (Sheet 3 of 3)

NOTES

1. The FJU may forward all positions with Scale Indicator = 0.
2. The Related TN/TN field contains the same TN as contained in the immediately preceding M.5 message. The Reference (REF) field shall be set to 0 to indicate that the track number in the M.5 message and the M.85 message are identical. Slaved Points that are indicated by REF = 1 or 2 are not used in this translation.
3. If necessary to report X Dot, Y Dot, and Height/Depth, a second M.5 message identical to the first will be transmitted, followed by a second M.85 message in which the alternate parameters are included. The Switch is set to 0 when Course and Speed are reported as other than No Statement. The Switch is set to 1 if Altitude, 25 Ft, Elevation, 25 Ft, or Depth, 15 Meters is other than No Statement.
4. Time other than No Statement in this message is not appropriate since this is a real-time report of a PU/RU's position.
5. Point Amplification is determined from Site as follows:

Link 11/11B	
<u>POINT AMPLIFY</u>	
0	- NO STATEMENT
1	- FPU/FRU
2	- PU
3	- RU
4	- JU
5	- FJU
7	- GU

Link 16	
<u>SITE</u>	
0	- NO STATEMENT
6	- UNDEFINED
1	- FPU/FRU
2	- PU
3	- RU
4	- JU
5	- FJU
7	- GU

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TABLE A.5.2-M.5-2. M.5/M.85 Message Data Element Translation from the J2.2 Message (Sheet 1 of 2)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE	NOTES
		VALUE	REQUIRED	WORD			
M.5	TRACK NUMBER/ADDRESS	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
	SCALE INDICATOR	AR	CR	J2.2E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	1
	POINT	13	CR	J2.2I	COMMAND AND CONTROL INDICATOR	1	2
	POINT AMPLIFY	4	CR	J2.2I	COMMAND AND CONTROL INDICATOR	1	
	X COORDINATE	AT	CR	J2.2E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J2.2E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	G9
	LABEL	8	CR	J2.2I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 2	
	RELATED TRACK NUMBER/TRACK NUMBER	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	3,G2, G12
	SWITCH	AR	NONE	NA	NA	NA	4
	REFERENCE	0	NONE	NA	NA	NA	3
M.85	X DOT	AT	CR	J2.2E0	COURSE SPEED	RX RX	4,G7
	Y DOT	AT	CR	J2.2E0	COURSE SPEED	RX RX	4,G7
	MINUTES	63	NONE	NA	NA	NA	5
	HOURS	31	NONE	NA	NA	NA	5
	TIME SWITCH	0	NONE	NA	NA	NA	5
	HEIGHT/DEPTH	AT	CR	J2.2I	ALTITUDE, 25 FT	RX	4,G10
	HEIGHT/DEPTH SWITCH	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.5-2. M.5/M.85 Message Data Element Translation from the J2.2
Message (Sheet 2 of 2)

NOTES

1. The FJU may forward all positions with the Scale Indicator = 0.
2. The Command and Control Indicator must be set to 1 in order for an M.5 message to be constructed. If the C² Indicator is set to 0 then the M.5 will not be sent.
3. The Related TN/TN field contains the same TN as contained in the immediately preceding M.5 message. The Reference (REF) field shall be set to 0 to indicate that the track number in the M.5 message and the M.85 message is identical. Slaved Points that are indicated by REF = 1 or 2 are not used in this translation.
4. To forward both X Dot/Y Dot and Height data, two identical M.5 messages are transmitted with each being followed by an M.85 in which the alternate parameters are reported. The M.85 Switch is set to 0 when velocity is reported or to 1 when Height is reported.
5. Time other than No Statement in this message is not appropriate since this is a real-time report of a JU's position.

TABLE A.5.2-M.5-3. M.5/M.85 Message Data Element Translation from the J2.3 Message (Sheet 1 of 2)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE	NOTES
		VALUE	REQUIRED	WORD			
M.5	TRACK NUMBER/ADDRESS	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
	SCALE INDICATOR	AR	CR	J2.3E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	1
	POINT	13	CR	J2.3I	COMMAND AND CONTROL INDICATOR	1	2
	POINT AMPLIFY	4	CR	J2.3I	COMMAND AND CONTROL INDICATOR	1	
	X COORDINATE	AT	CR	J2.3E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J2.3E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	G9
	LABEL	8	CR	J2.3I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 3	
	RELATED TRACK NUMBER/TRACK NUMBER	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	3,G2, G12
	SWITCH	AR	NONE	NA	NA	NA	4
	REFERENCE	0	NONE	NA	NA	NA	3
M.85	X DOT	AT	CR	J2.3E0	COURSE SPEED	RX RX	4,G7
	Y DOT	AT	CR	J2.3E0	COURSE SPEED	RX RX	4,G7
	MINUTES	63	NONE	NA	NA	NA	5
	HOURS	31	NONE	NA	NA	NA	5
	TIME SWITCH	0	NONE	NA	NA	NA	5
	HEIGHT/DEPTH	AT	CR	J2.3I	ELEVATION, 25 FT	RX	4,G10
	HEIGHT/DEPTH SWITCH	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.5-3. M.5/M.85 Message Data Element Translation from the J2.3
Message (Sheet 2 of 2)

NOTES

1. The FJU may forward all positions with the Scale Indicator = 0.
2. The Command and Control Indicator must be set to 1 in order for an M.5 message to be constructed. If the C² Indicator is set to 0 then the M.5 will not be sent.
3. The Related TN/TN field contains the same TN as contained in the immediately preceding M.5 message. The Reference field shall be set to 0 to indicate that the track number in the M.5 message and the M.85 message is identical. Slaved Points that are indicated by REF = 1 or 2 are not used in this translation.
4. To forward both X Dot/Y Dot and Height data, two identical M.5 messages are transmitted with each being followed by an M.85 in which the alternate parameters are reported. The M.85 Switch is set to 0 when velocity is reported or to 1 when Height is reported.
5. Time other than No Statement in this message is not appropriate since this is a real-time report of a JU's position.

TABLE A.5.2-M.5-4. M.5/M.85 Message Data Element Translation from the J2.4 Message (Sheet 1 of 2)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 2	NOTES
		VALUE 5	REQUIRED CR	WORD J2.4I			
M.5	TRACK NUMBER/ADDRESS	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
	SCALE INDICATOR	AR	CR	J2.4E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	1
	POINT	13	CR	J2.4I	COMMAND AND CONTROL INDICATOR	1	2
	POINT AMPLIFY	4	CR	J2.4I	COMMAND AND CONTROL INDICATOR	1	
	X COORDINATE	AT	CR	J2.4E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J2.4E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	G9
	LABEL	8	CR	J2.4I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 4	
	RELATED TRACK NUMBER/TRACK NUMBER	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	3,G2, G12
	SWITCH	AR	NONE	NA	NA	NA	4
	REFERENCE	0	NONE	NA	NA	NA	3
M.85	X DOT	AT	CR	J2.4E0	COURSE SPEED	RX RX	4,G7
	Y DOT	AT	CR	J2.4E0	COURSE SPEED	RX RX	4,G7
	MINUTES	63	NONE	NA	NA	NA	5
	HOURS	31	NONE	NA	NA	NA	5
	TIME SWITCH	0	NONE	NA	NA	NA	5
	HEIGHT/DEPTH	RX	CR	J2.4I	DEPTH, 15 METERS	RX	4,G15
	HEIGHT/DEPTH SWITCH	1	NONE	NA	NA	NA	

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TABLE A.5.2-M.5-4. M.5/M.85 Message Data Element Translation from the J2.4
Message (Sheet 2 of 2)

NOTES

1. The FJU may forward all positions with the Scale Indicator = 0.
2. The Command and Control Indicator must be set to 1 in order for an M.5 message to be constructed. If the C² Indicator is set to 0 then the M.5 will not be sent.
3. The Related TN/TN field contains the same TN as contained in the immediately preceding M.5 message. The Reference (REF) field shall be set to 0 to indicate that the track number in the M.5 message and the M.85 message is identical. Slaved Points that are indicated by REF = 1 or 2 are not used in this translation.
4. If necessary to report X Dot, Y Dot, and Height, a second M.5 message identical to the first will be transmitted, followed by a second M.85 message in which the alternate parameters are included. The Switch is set to 0 when Course and Speed are reported as other than No Statement. The Switch is set to 1 if Minutes and Hour and/or Depth, 15 Meters are other than No Statement.
5. Time other than No Statement in this message is not appropriate since this is a real-time report of a JU's position.

TABLE A.5.2-M.5-5. M.5/M.85 Message Data Element Translation from the J2.5 Message (Sheet 1 of 3)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE	NOTES
		VALUE	REQUIRED	WORD			
M.5	TRACK NUMBER/ADDRESS	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
	SCALE INDICATOR	AR	CR	J2.5E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	1
	POINT	13	CR	J2.5I	COMMAND AND CONTROL INDICATOR	1	2
	POINT AMPLIFY	4	CR	J2.5I	COMMAND AND CONTROL INDICATOR	1	
	X COORDINATE	AT	CR	J2.5I	DISPLACED POSITION INDICATOR	RX	3
				J2.5E0 or	LATITUDE, 0.0013 MINUTE	RX	G9
				J2.5C4	LONGITUDE, 0.0013 MINUTE	RX	
					LATITUDE, 0.0103 MINUTE	RX	G9
					LONGITUDE, 0.0103 MINUTE	RX	
	Y COORDINATE	AT	CR	J2.5I	DISPLACED POSITION INDICATOR	RX	3
				J2.5E0 or	LATITUDE, 0.0013 MINUTE	RX	G9
				J2.5C4	LONGITUDE, 0.0013 MINUTE	RX	
					LATITUDE, 0.0103 MINUTE	RX	G9
					LONGITUDE, 0.0103 MINUTE	RX	
M.85	LABEL	8	CR	J2.5I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 5	
	RELATED TRACK NUMBER/TRACK NUMBER	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	4, G2, G12
	SWITCH	1	NONE	NA	NA	NA	
	REFERENCE	0	NONE	NA	NA	NA	4
	MINUTES	63	NONE	NA	NA	NA	5
	HOURS	31	NONE	NA	NA	NA	5
	TIME SWITCH	0	NONE	NA	NA	NA	5
	HEIGHT/DEPTH	AT	CR	J2.5I	ELEVATION, 25 FT	RX	G10

TABLE A.5.2-M.5-5. M.5/M.85 Message Data Element Translation from the J2.5 Message (Sheet 2 of 3)

Link 11/11B			TRANSLATION			Link 16		
MESSAGE	FIELD		VALUE	REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES
M.85 (Cont'd)	HEIGHT/DEPTH SWITCH		0	NONE	NA	NA	NA	

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TABLE A.5.2-M.5-5. M.5/M.85 Message Data Element Translation from the J2.5
Message (Sheet 3 of 3)

NOTES

1. The FJU may forward all positions with the Scale Indicator = 0.
2. The Command and Control Indicator must be set to 1 in order for an M.5 message to be constructed. If the C² Indicator is set to 0 then the M.5 will not be sent.
3. The unit position is translated from the J2.5E0 if the Displaced Position Indicator is set to 0 and from the J2.5C4 if the Displaced Position Indicator is set to 1.
4. The Related TN/TN field contains the same TN as contained in the immediately preceding M.5 message. The Reference (REF) field shall be set to 0 to indicate that the track number in the M.5 message and the M.85 message is identical. Slaved Points that are indicated by REF = 1 or 2 are not used in this translation.
5. Time other than No Statement in this message is not appropriate since this is a real-time report of a JU's position.

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TABLE A.5.2-M.5-6. M.5/M.85 Message Data Element Translation from the J2.6 Message (Sheet 1 of 3)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE	NOTES
		VALUE	REQUIRED	WORD			
M.5	TRACK NUMBER/ADDRESS	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
	SCALE INDICATOR	AR	CR	J2.6E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	1
	POINT	13	CR	J2.6I	COMMAND AND CONTROL INDICATOR	1	2
	POINT AMPLIFY	4	CR	J2.6I	COMMAND AND CONTROL INDICATOR	1	
	X COORDINATE	AT	CR	J2.6E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J2.6E0	LATITUDE, 0.0013 MINUTE LONGITUDE, 0.0013 MINUTE	RX RX	G9
	LABEL	8	CR	J2.6I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 6	
	RELATED TRACK NUMBER/TRACK NUMBER	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	3,G2, G12
	SWITCH	AR	NONE	NA	NA	NA	4
	REFERENCE	0	NONE	NA	NA	NA	3
M.85	X DOT	AT	CR	J2.6E0	COURSE SPEED	RX RX	4,G7
	Y DOT	AT	CR	J2.6E0	COURSE SPEED	RX RX	4,G7
	MINUTES	63	NONE	NA	NA	NA	5
	HOURS	31	NONE	NA	NA	NA	5
	TIME SWITCH	0	NONE	NA	NA	NA	5
	HEIGHT/DEPTH	AT	CR	J2.6I	ELEVATION, 25 FT	RX	4,G10
	HEIGHT/DEPTH SWITCH	0	NONE	NA	NA	NA	

TABLE A.5.2-M.5-6. M.5/M.85 Message Data Element Translation from the J2.6 Message (Sheet 2 of 3)

Link 11/11B			TRANSLATION			Link 16		
<u>MESSAGE</u>	<u>FIELD</u>		<u>VALUE</u>	<u>REQUIRED</u>	<u>WORD</u>	<u>DATA ELEMENT</u>	<u>VALUE</u>	<u>NOTES</u>
M.85 (Cont'd)	HEIGHT/DEPTH		AT	CR				
	HEIGHT/DEPTH SWITCH		0	NONE				

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TABLE A.5.2-M.5-6. M.5/M.85 Message Data Element Translation from the J2.6
Message (Sheet 3 of 3)

NOTES

1. The FJU may forward all positions with the Scale Indicator = 0.
2. The Command and Control Indicator must be set to 1 in order for an M.5 message to be constructed. If the C² Indicator is set to 0 then the M.5 will not be sent.
3. The Related TN/TN field contains the same TN as contained in the immediately preceding M.5 message. The Reference (REF) field shall be set to 0 to indicate that the track number in the M.5 message and the M.85 message is identical. Slaved Points that are indicated by REF = 1 or 2 are not used in this translation.
4. To forward both X Dot/Y Dot and Height data, two identical M.5 messages are transmitted with each being followed by an M.85 in which the alternate parameters are reported. The M.85 Switch is set to 0 when velocity is reported or to 1 when Height is reported.
5. Time other than No Statement in this message is not appropriate since this is a real-time report of a JU's position.

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TABLE A.5.2-M.5-7. M.5/M.85 Message Data Element Translation from the J3.0 Message (Sheet 1 of 5)

Link 11/11B				Link 16			
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE	NOTES
		VALUE	REQUIRED	WORD			
M.5	TRACK NUMBER/ADDRESS	AT	CR	J3.0I	TRACK NUMBER, REFERENCE	RX	G13
	SCALE INDICATOR	AR	CR	J3.0E0	LATITUDE, 0.0103 MINUTE LONGITUDE, 0.0103 MINUTE	RX RX	1
	POINT	AT	CR	J3.0I	POINT TYPE POINT AMPLIFICATION	RX RX	2
	POINT AMPLIFY	AT	CR	J3.0I	POINT TYPE POINT AMPLIFICATION	RX RX	2
	X COORDINATE	AT	CR	J3.0I J3.0E0 or J3.0I J3.0C1 J2.x or J3.x	SLAVED INDICATOR LATITUDE, 0.0103 MINUTE LONGITUDE, 0.0103 MINUTE SLAVED INDICATOR DELTA LATITUDE, 0.0313 MINUTE 1 DELTA LONGITUDE, 0.0313 MINUTE 1 TRACK NUMBER (POSITION) TRACK NUMBER (POSITION)	0 RX RX 1 RX RX RX RX	3 G9 3 G9
A-707	Y COORDINATE	AT	CR	J3.0I J3.0E0 or J3.0I J3.0C1 J2.x or J3.x	SLAVED INDICATOR LATITUDE, 0.0103 MINUTE LONGITUDE, 0.0103 MINUTE SLAVED INDICATOR DELTA LATITUDE, 0.0313 MINUTE 1 DELTA LONGITUDE, 0.0313 MINUTE 1 TRACK NUMBER (POSITION) TRACK NUMBER (POSITION)	0 RX RX 1 RX RX RX RX	3 G9 3 G9
M.85	LABEL	8	CR	J3.0I	LABEL, J-SERIES SUBLABEL, J-SERIES	3 0	
	RELATED TRACK NUMBER/TRACK NUMBER	AT	CR	J3.0I or J3.0C2 or J3.0C4	SLAVED INDICATOR TRACK NUMBER, REFERENCE TRACK NUMBER, RELATED TRACK NUMBER, RELATED 1	RX RX RX RX	5 G13 G13 G13
	SWITCH	AT	CR	J3.0I	MINUTE HOUR	RX RX	4

TABLE A.5.2-M.5-7. M.5/M.85 Message Data Element Translation from the J3.0 Message (Sheet 2 of 5)

Link 11/11B		Link 16						
MESSAGE M.85 (Cont'd)	FIELD	TRANSLATION				DATA ELEMENT	VALUE	NOTES
		VALUE	REQUIRED	WORD	J3.0E0 J3.0C2			
	REFERENCE	AT	CR	J3.0I		SLAVED INDICATOR	RX	5
	X DOT	AT	CR	J3.0C2		COURSE SPEED	RX RX	G7
	Y DOT	AT	CR	J3.0C2		COURSE SPEED	RX RX	G7
	MINUTES	RX	=	J3.0I		MINUTE	RX	
	HOURS	RX	=	J3.0I		HOUR	RX	
	TIME SWITCH	AT	CR	J3.0I		TIME FUNCTION	RX	6
	HEIGHT/DEPTH	AT	CR	J3.0E0		ALTITUDE, 100 FT 1 ALTITUDE, 100 FT 2	RX 1023	7
A-708	HEIGHT/DEPTH SWITCH	0	NONE	NA		NA	NA	

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TABLE A.5.2-M.5-7. M.5/M.85 Message Data Element Translation from the J3.0
Message (Sheet 3 of 5)

NOTES

1. The FJU may forward all positions with Scale Indicator = 0.
2. Point and Point Amplify are determined from Point Type and Point Amplification as follows:

<u>Link 11/11B</u>		<u>Link 16</u>
POINT	POINT AMPLIFY	POINT
2 - HAZARD	0 - NO STATEMENT	0 - HAZARD
	1 - NAVIGATION	1 - NAVIGATION
	2 - MINE	2 - MINE
	3 - IMPACT POINT	3 - IMPACT POINT
	4 - GROUND ZERO	4 - GROUND ZERO
	5 - AIM/WEAPON	5 - AIM/WEAPON
	ENTRY POINT	ENTRY POINT
	6 - MISSILE	6 - MISSILE
	LAUNCH POINT	LAUNCH POINT
	7 - EA DECOY	7 - ELECTRONIC ATTACK (EA) DECOY
10 - HAZARD, 1	0 - ENGAGEMENT POINT	8 - ENGAGEMENT POINT
	1 - OIL RIG	9 - OIL RIG
4 - REFERENCE POINT (GENERAL)	0 - NO STATEMENT	0 - NO STATEMENT
	1 - MARSHAL POINT	1 - MARSHALL POINT
	2 - WAYPOINT	2 - WAYPOINT
	3 - CORRIDOR TAB	3 - CORRIDOR TAB
	4 - POSITION AND INTENDED MOVEMENT (PIM)	4 - POSITION AND INTENDED MOVEMENT (PIM)
	5 - DISPOSITION CENTER	5 - DISPOSITION CENTER
	6 - FORMATION CENTER	6 - FORMATION CENTER
	7 - SEARCH AREA	7 - SEARCH AREA
8 - REFERENCE POINT (GENERAL), 1	0 - VICTOR LIMA (VL)	8 - VICTOR LIMA (VL)
	1 - SUBMARINE POSITION AND INTENDED MOVEMENT (SIM)	9 - SUBMARINE POSITION AND INTENDED MOVEMENT (SIM)

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TABLE A.5.2-M.5-7. M.5/M.85 Message Data Element Translation from the J3.0
Message (Sheet 4 of 5)

NOTES (Continued)

2. (Continued)

Link 11/11B		Link 16	
POINT	POINT AMPLIFY	POINT TYPE	POINT AMPLIFICATION
5 - STATION (GENERAL)	0 - NO STATEMENT	2 - STATION (GENERAL)	0 - NO STATEMENT
	1 - TOMCAT		1 - TOMCAT
	2 - PICKET		2 - PICKET
	3 - RENDEZVOUS		3 - RENDEZVOUS
	5 - REPLENISHMENT		5 - REPLENISHMENT
	6 - RESCUE		6 - RESCUE
6 - STATION (AIR)	0 - NO STATEMENT	3 - STATION (AIR)	0 - NO STATEMENT
	1 - COMBAT AIR PATROL (CAP)		1 - COMBAT AIR PATROL (CAP)
	2 - AIRBORNE		2 - AIRBORNE
	EARLY WARNING (AEW)		EARLY WARNING (AEW)
	3 - ANTISUBMARINE WARFARE (ASW) FIXED WING		3 - ANTISUBMARINE WARFARE (ASW) FIXED WING
	4 - ANTISUBMARINE WARFARE (ASW) HELICOPTER (HELO)		4 - ANTISUBMARINE WARFARE (ASW) HELICOPTER (HELO)
	5 - REPLENISHMENT		5 - REPLENISHMENT
	6 - STRIKE INITIAL POINT (IP)		6 - STRIKE INITIAL POINT (IP)
	7 - TACAN		7 - TACAN
9 - STATION (AIR), 1	0 - TANKER		8 - TANKER
	1 - ORBIT POINT		12 - ORBIT POINT

3. If the J3.0I Slaved Indicator = 0, translate the M.5 X and Y Coordinates from the J3.0E0 Latitude and Longitude in accordance with General Note 9. If the J3.0I Slaved Indicator = 1, determine the Latitude and Longitude of the point by applying the J3.0C1 Delta Latitude, 0.0313 Minute 1 and Delta Longitude, 0.0313 Minute 1 to the position of the Related TN, if available from previous J2.x or J3.x messages, extrapolated to the time of receipt of this J3.0 message. Then

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TABLE A.5.2-M.5-7. M.5/M.85 Message Data Element Translation from the J3.0
Message (Sheet 5 of 5)

NOTES (Continued)

3. (Continued)

translate the M.5 X and Y Coordinates from the resulting latitude and longitude of the J3.0 point in accordance with General Note 9. If the position of the Related TN is not available, the J3.0 message shall not be forwarded.

4. The Switch value is set to 0 when Course and Speed are reported as other than No Statement. The Switch value is set to 1 if Minute and Hour and/or Altitude, 100 Ft 1 are other than No Statement.

5. When the Slaved Indicator = 0, M.85 Track Number is translated from J3.0I Track Number, Reference, and M.85 Reference shall be set to value 0. When the Slaved Indicator = 1 and the J3.0C4 word is received, M.85 Related Track Number is translated from J3.0C4 Track Number, Related 1 and M.85 Reference shall be set to value 2. When the Slaved Indicator = 1 and the J3.0C4 word is not received, M.85 Related Track Number is translated from J3.0C2 Track Number, Related, and M.85 Reference shall be set to value 1.

6. Time Switch/Time Function Equivalence:

Link 11/11B
TIME SWITCH
0
1

Link 16
TIME FUNCTION
5
0-4, 6, 7

7. When the bit code value for Altitude, 100 Ft 2 in the J3.0E0 word is set to a value other than 1023, this data element represents a maximum altitude and Altitude, 100 Ft 1 represents a minimum altitude. Height/Depth Unknown will be forwarded when minimum/maximum altitudes are specified in the J3.0E0 word.

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TABLE A.5.2-M.5-8. M.5/M.85 Message Data Element Translation from the J3.1 Message (Sheet 1 of 2)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 3	NOTES
		VALUE 5	REQUIRED CR	WORD J3.1I			
M.5	TRACK NUMBER/ADDRESS	AT	CR	J3.1I	TRACK NUMBER, REFERENCE	RX	G13
	SCALE INDICATOR	AR	CR	J3.1E0	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	1
	POINT	7	CR	J3.1I	LABEL, J-SERIES SUBLABEL, J-SERIES	3 1	
	POINT AMPLIFY	AT	CR	J3.1I	EMERGENCY TYPE	RX	2
	X COORDINATE	AT	CR	J3.1E0	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J3.1E0	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
	LABEL	8	CR	J3.1I	LABEL, J-SERIES SUBLABEL, J-SERIES	3 1	
	RELATED TRACK NUMBER/TRACK NUMBER	AT	CR	J3.1I	TRACK NUMBER, REFERENCE	RX	G13
	SWITCH	1	NONE	NA	NA	NA	3
	REFERENCE	0	NONE	NA	NA	NA	
M.85	X DOT	NA	NONE	NA	NA	NA	3
	Y DOT	NA	NONE	NA	NA	NA	3
	MINUTES	RX	=	J3.1E0	MINUTE	RX	
	HOURS	RX	=	J3.1E0	HOUR	RX	
	TIME SWITCH	AT	CR	J3.1E0	TIME FUNCTION	RX	4
	HEIGHT/DEPTH	255	NONE	NA	NA	NA	3
	HEIGHT/DEPTH SWITCH	0	NONE	NA	NA	NA	3

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TABLE A.5.2-M.5-8. M.5/M.85 Message Data Element Translation from the J3.1
Message (Sheet 2 of 2)

NOTES

1. The FJU may forward all positions with Scale Indicator = 0.
2. Point Amplify/Emergency Type Equivalence:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>POINT AMPLIFY</u>	<u>EMERGENCY TYPE</u>
0	0
1	6-15
2	1 or 3
3	2 or 4
	5

3. Course, speed, and altitude are not reported in the J3.1 message. The Switch value is set to 1 to report Minute and Hour.

4. Time Switch/Time Function Equivalence:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>TIME SWITCH</u>	<u>TIME FUNCTION</u>
0	5
1	0-4, 6, 7

TABLE A.5.2-M.5-9. M.5/M.85 Message Data Element Translation from the J3.5 Message (Sheet 1 of 4)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 3	NOTES
		VALUE 5	REQUIRED CR	WORD J3.5I			
A-715	TRACK NUMBER/ADDRESS	AT	CR	J3.5I	TRACK NUMBER, REFERENCE	RX	G13
	SCALE INDICATOR	AR	CR	J3.5E0	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	1
	POINT	AT	CR	J3.5I	EXERCISE INDICATOR IDENTITY LAND PLATFORM	RX RX RX	2
	POINT AMPLIFY	AT	CR	J3.5C1	LAND PLATFORM	RX	2
	X COORDINATE	AT	CR	J3.5E0	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J3.5E0	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
	M.85	LABEL	8	CR	J3.5I	LABEL, J-SERIES SUBLABEL, J-SERIES	3 5
	RELATED TRACK NUMBER/TRACK NUMBER	AT	CR	J3.5I	TRACK NUMBER, REFERENCE	RX	G13
	SWITCH	AR	NONE	NA	NA	NA	3, G7
	REFERENCE	0	NONE	NA	NA	NA	4
A-715	X DOT	AT	CR	J3.5E0	COURSE SPEED	RX RX	G7
	Y DOT	AT	CR	J3.5E0	COURSE SPEED	RX RX	G7
	MINUTES	RX	=	J3.5C1	MINUTE	RX	
	HOURS	RX	=	J3.5C1	HOUR	RX	
	TIME SWITCH	AT	CR	J3.5C1	TIME FUNCTION	RX	5
	HEIGHT/DEPTH	AT	CR	J3.5I	ELEVATION, 25 FT	RX	G10
	HEIGHT/DEPTH SWITCH	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.5-9. M.5/M.85 Message Data Element Translation from the J3.5
Message (Sheet 2 of 4)

NOTES

1. The FJU may forward all positions with Scale Indicator = 0.
2. If the J3.5 Exercise Indicator = 0, the Point/Point Amplify values will be based upon Identity and Land Platform relationships. The following listing depicts the correspondence between the values:

<u>Link 11/11B</u>		<u>Link 16</u>	
<u>POINT</u>	<u>POINT AMPLIFY</u>	<u>IDENTITY</u>	<u>LAND PLATFORM</u>
1 - RADAR	0 - NO STATEMENT	0-4, 7	33 - RADAR SITE
14 - SUPPORT UNIT (SU)	0 - NO STATEMENT	3	0 - NO STATEMENT
	1 - MHQ		41 - MARITIME HEADQUARTERS
	2 - AIR BASE		7 - AIRFIELD/ AIRBASE
	3 - SAM SITE		40 - SURFACE-TO- AIR MISSILE (SAM) SITE
	4 - ASRT		49 - TERMINAL HIGH ALTITUDE AREA DEFENSE (THAAD)
	5 - DASC		57 - BALLISTIC MISSILE DEFENSE SITE
	6 - FACP		42 - AIR SUPPORT RADAR TEAM (ASRT)
	7 - ADA/BOC/TDS		43 - DIRECT AIR SUPPORT CENTER (DASC)
			44 - FORWARD AIR CONTROL PARTY (FACP)/ TACTICAL AIR CONTROL PARTY (TACP)
			22 - AIR DEFENSE ARTILLERY
			45 - TACTICAL OPERATIONS CENTER (TOC)

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TABLE A.5.2-M.5-9. M.5/M.85 Message Data Element Translation from the J3.5
Message (Sheet 3 of 4)

NOTES (Continued)

2. (Continued)

<u>Link 11/11B</u>	<u>POINT</u>	<u>POINT AMPLIFY</u>	<u>Link 16</u>	<u>IDENTITY</u>	<u>LAND PLATFORM</u>
15 - ENEMY POINT	0 - NO STATEMENT		5 or 6		46 - TACTICAL DATA SYSTEM (TDS)
					50 - JOINT TACTICAL GROUND STATION (JTAGS)
	1 - TROOP CONCENTRATION				0 - NO STATEMENT ALL OTHERS NOT LISTED
	2 - AIR BASE				1 - TROOP CONCENTRATION/ UNIT
	3 - SAM SITE				7 - AIRFIELD/ AIRBASE
	4 - ARTILLERY				40 - SURFACE-TO- AIR MISSILE (SAM) SITE
	5 - CONVOY				21 - FIELD ARTILLERY
	6 - RAIL				13 - CONVOY
	7 - BRIDGE				18 - TRAIN
					26 - BRIDGE

All other combinations shall be forwarded as Point = 4 (Reference Point General) and Point Amplify = 0 (No Statement).

3. The Switch value is set to 0 when Course and Speed are reported as other than No Statement. The Switch value is set to 1 when Minute and Hour or Elevation, 25 ft are other than No Statement. If both course and speed and time or elevation are required to be forwarded, an M.5/M.85(Switch=0) shall be immediately followed by an M.5/M.85(Switch=1).

4. The Reference (REF) field shall be set to 0 to indicate that the track number in the M.5 message and the M.85 message is identical. Slaved Points that are indicated by REF = 1 or 2 are not used in this translation.

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TABLE A.5.2-M.5-9. M.5/M.85 Message Data Element Translation from the J3.5
Message (Sheet 4 of 4)

NOTES (Continued)

5. Time Switch/Time Function Equivalence:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>TIME SWITCH</u>	<u>TIME FUNCTION</u>
0	5
1	0-4, 6, 7

TABLE A.5.2-M.5-10. M.5/M.85 Message Data Element Translation from the J14.0 Message (Sheet 1 of 2)

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		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 14 0	NOTES 1
		VALUE 5	REQUIRED CR	WORD J14.0I			
M.5	TRACK NUMBER/ADDRESS	AT	CR	J14.0I	TRACK NUMBER, REFERENCE	RX	G13
	SCALE INDICATOR	AR	CR	J14.0C2	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	2
	POINT	0	CR	J14.0I J14.0C1	FIX OR BEARING DESCRIPTOR PARAMETER SOURCE	0 3 or 4	1
	POINT AMPLIFY	0	NONE	NA	NA	NA	
	X COORDINATE	AT	CR	J14.0C2	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J14.0C2	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
	LABEL	8	CR	J14.0I	LABEL, J-SERIES SUBLABEL, J-SERIES	14 0	
	RELATED TRACK NUMBER/TRACK NUMBER	AT	CR	J14.0I	TRACK NUMBER, REFERENCE	RX	G13
	SWITCH	AR	NONE	NA	NA	NA	3
	REFERENCE	0	NONE	NA	NA	NA	
	X DOT	AT	CR	J14.0C1	COURSE SPEED	RX RX	G7
	Y DOT	AT	CR	J14.0C1	COURSE SPEED	RX RX	G7
M.85	MINUTES	RX	=	J14.0I	MINUTE	RX	
	HOURS	RX	=	J14.0I	HOUR	RX	
	TIME SWITCH	1	NONE	NA	NA	NA	
	HEIGHT/DEPTH	AT	CR	J14.0C1	ALTITUDE, 25 FT	RX	G10
	HEIGHT/DEPTH SWITCH	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.5-10. M.5/M.85 Message Data Element Translation from the J14.0
Message (Sheet 2 of 2)

NOTES

1. The M.5 message is only translated from a J14.0 message when Fix or Bearing Descriptor is set to zero and Parameter Source is set to 3 or 4.
2. The FJU may forward all positions with Scale Indicator = 0.
3. The Switch value is set to 0 when Course and Speed are reported as other than No Statement. The Switch value is set to 1 if Minute and Hour or Altitude, 25 Ft, are other than No Statement. If both Switch = 0 and 1 are required, the M.5/M.85(Switch=0) shall be immediately followed by an identical M.5, followed by an M.85(Switch=1).

TABLE A.5.2-M.6A-1. M.6A Message Data Element Translation from the J3.7 Message (Sheet 1 of 4)

Link 11/11B				Link 16			
MESSAGE M.6A	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 3	NOTES
		VALUE 6	REQUIRED CR	WORD J3.7I			
	TRACK NUMBER	AT	CR	J3.7I	TRACK NUMBER, REFERENCE	RX	G13
	BEARING ACCURACY	AT	CR	J3.7C1	BEARING ACCURACY	RX	2
	BROAD CLASSIFICATION	0	NONE	NA	NA	NA	
	ACTION VALUE	AR	NONE	NA	NA	NA	1
	SUB LABEL	0	CR	J3.7I	SUBLABEL, J-SERIES	7	
	BEARING	RX	=	J3.7C1	BEARING	RX	
	TN OF ORIGIN	AT	CR	J3.7C1	TRACK NUMBER, ORIGIN	RX	G13
	THREAT EVALUATION	AT	CR	J3.7I	EXERCISE INDICATOR IDENTITY	RX RX	3
	PLATFORM	AT	CR	J3.7C1 J3.7C4	ENVIRONMENT PLATFORM	RX RX	4
	FREQUENCY	AT	CR	J3.7C4	FREQUENCY, 1 FREQUENCY MULTIPLIER, 1 FREQUENCY, 2 FREQUENCY MULTIPLIER, 2 FREQUENCY/FREQUENCY RANGE INDICATOR	RX RX RX RX RX	G19
A-721	JAMMER RECEIVED SIGNAL LEVEL	0	NONE	NA	NA	NA	
	ELEVATION	AT	CR	J3.7C1	ELEVATION ANGLE	1	7
	SWITCH	AR	NONE	NA	NA	NA	5
	AMPLIFYING CHARACTERISTICS	0	NONE	NA	NA	NA	
	TIME STALE	AT	CR	J3.7I	HOUR MINUTE SECOND	RX RX RX	6

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TABLE A.5.2-M.6A-1. M.6A Message Data Element Translation from the J3.7 Message
(Sheet 2 of 4)

NOTES

1. When translating to Broad Classification, Bearing Accuracy, Bearing, or TN of Origin, set Action value to 0. When translating to Threat Evaluation, Platform, Time Stale, Elevation, or Frequency, set Action value to 1. In order to forward all data received, two M.6A (ACT=0 and ACT=1) messages may have to be sent.
2. Bearing Accuracy is determined as follows:

<u>Link 11/11B</u>	
<u>BEARING ACCURACY</u>	
0 (< 1 DEGREE)	
1 (< 2 DEGREES)	
2 (< 5 DEGREES)	
3 (> = 5 DEGREES/NO STATEMENT)	

<u>Link 16</u>	
<u>BEARING ACCURACY</u>	
7 (<= 1.0 DEGREES)	
THROUGH	
15 (<= 0.001 DEGREES)	
6 (<= 2.0 DEGREES)	
3 (<= 5.0 DEGREES)	
4 (<= 4.0 DEGREES)	
5 (<= 3.0 DEGREES)	
0 (NO STATEMENT)	
1 (> 10.0 DEGREES)	
2 (<= 10.0 DEGREES)	

3. When the J3.7I Exercise Indicator = 1, Threat Evaluation shall be set to 2, regardless of J3.7I Identity. When the J3.7I Exercise Indicator = 0, Threat Evaluation is determined from the J3.7I Identity field as follows:

<u>Link 11/11B</u>	
<u>THREAT EVALUATION</u>	
0 - PENDING	
1 - UNKNOWN	
2 - NONTHREAT/FRIEND	
3 - THREAT	

<u>Link 16</u>	
<u>IDENTITY</u>	
0 - PENDING	
7 - UNDEFINED	
1 - UNKNOWN	
2 - ASSUMED FRIEND	
3 - FRIEND	
4 - NEUTRAL	
5 - SUSPECT	
6 - HOSTILE	

4. Platform is determined from the J3.7C1 Environment and J3.7C4 Platform fields as follows:

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TABLE A.5.2-M.6A-1. M.6A Message Data Element Translation from the J3.7 Message
(Sheet 3 of 4)

NOTES (Continued)

4. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>
<u>PLATFORM</u>	<u>ENVIRONMENT</u>
0 - NO STATEMENT	0 - NO STATEMENT/UNKNOWN
	6, 7 - UNDEFINED
<u>Link 11/11B</u>	<u>Link 16</u>
<u>PLATFORM</u>	<u>ENVIRONMENT</u>
1 - MISSILE	1 - SPACE
2 - AIRBORNE (AIRCRAFT EXCLUDING MISSILE)	1 - SPACE
	0-9, 15-61, 63
<u>Link 11/11B</u>	<u>Link 16</u>
<u>PLATFORM</u>	<u>ENVIRONMENT</u>
1 - MISSILE	2 - AIR
2 - AIRBORNE (AIRCRAFT EXCLUDING MISSILE)	2 - AIR
6 - MISSILE CONTROL UNIT (AIRBORNE)	2 - AIR
	36
<u>Link 11/11B</u>	<u>Link 16</u>
<u>PLATFORM</u>	<u>ENVIRONMENT</u>
3 - SURFACE	3 - SURFACE
7 - MISSILE CONTROL UNIT (SURFACE/ SUBSURFACE)	3 - SURFACE
	33
<u>Link 11/11B</u>	<u>Link 16</u>
<u>PLATFORM</u>	<u>ENVIRONMENT</u>
4 - SUBSURFACE (SUBMARINE)	4 - SUBSURFACE
7 - MISSILE CONTROL UNIT (SURFACE/ SUBSURFACE)	4 - SUBSURFACE
	49
<u>Link 11/11B</u>	<u>Link 16</u>
<u>PLATFORM</u>	<u>ENVIRONMENT</u>
5 - LAND	5 - LAND
	0-57, 62, 63

5. When translating to Frequency in the M.6A, set Switch to 0. When translating to Elevation in the M.6A, set Switch to 1. In order to forward both Frequency and Elevation, two M.6A(ACT=1, SW=0, and ACT=1, SW=1) messages must be sent.

APPENDIX A

TABLE A.5.2-M.6A-1. M.6A Message Data Element Translation from the J3.7 Message
(Sheet 4 of 4)

NOTES (Continued)

6. Time Stale is determined from the J3.7I Hour, Minute and Second fields by subtracting Hour, Minute and Second from the estimated time of transmission of the forwarded M.6A message, to the nearest 0.25 second. If the result is greater than 31.5 seconds, or if Hour, Minute, or Second is received as No Statement, translate to Time Stale = 127, No Statement.
7. When J3.7C1 Elevation Angle/Altitude Indicator ≠1 or Elevation Angle = 512 (No Statement), the M.6A(ACT=1) shall not be transmitted with Switch = 1. Otherwise J3.7 Elevation Angle equates to the M.6A Elevation field.

TABLE A.5.2-M.6A-2. M.6A Message Data Element Translation from the J14.0 Message (Sheet 1 of 4)

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Link 11/11B		Link 16						
MESSAGE M.6A	FIELD LABEL	VALUE 6	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 14	NOTES
			REQUIRED CR	WORD J14.0I				
	TRACK NUMBER	AT	CR	J14.0I		TRACK NUMBER, REFERENCE	RX	G13
	ACTION VALUE	AR	NONE	NA		NA	NA	1
	SUB LABEL	0	CR	J14.0I		SUBLABEL, J-SERIES	0	
	BEARING ACCURACY	AT	CR	J14.0C1		BEARING ACCURACY	RX	2
	BROAD CLASSIFICATION	RX	=	J14.0C3		BROAD CLASSIFICATION	RX	
	BEARING	RX	=	J14.0C1		BEARING	RX	
	TN OF ORIGIN	AT	CR	J14.0E0		TRACK NUMBER, ORIGIN	RX	G13
	THREAT EVALUATION	AT	CR	J14.0I		THREAT EVALUATION	RX	3
	PLATFORM	AT	CR	J14.0I J14.0C5		ENVIRONMENT PLATFORM	RX RX	4
	FREQUENCY	AT	CR	J14.0E0	FREQUENCY, 1 FREQUENCY MULTIPLIER, 1 FREQUENCY, 2 FREQUENCY MULTIPLIER, 2 FREQUENCY/FREQUENCY RANGE INDICATOR	RX RX RX RX RX	G19	
	JAMMER RECEIVED SIGNAL LEVEL	RX	=	J14.0C4	JAMMER RECEIVED SIGNAL LEVEL	RX		
	ELEVATION	AT	CR	J14.0C1	ELEVATION ANGLE/ALTITUDE INDICATOR ELEVATION ANGLE	1	RX	5
	SWITCH	AR	NONE	NA	NA	NA	NA	6
	AMPLIFYING CHARACTERISTICS	RX	=	J14.0C3	AMPLIFYING CHARACTERISTICS	RX		
	TIME STALE	AT	CR	J14.0I	HOUR MINUTE SECOND	RX RX RX		7

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TABLE A.5.2-M.6A-2. M.6A Message Data Element Translation from the J14.0 Message
(Sheet 2 of 4)

NOTES

1. When translating to Bearing Accuracy, Broad Classification, Bearing, or TN of Origin, set Action Value to 0. When translating to Threat Evaluation, Platform, Frequency, Jammer Received Signal Level, Elevation, Amplifying Characteristics, or Time Stale, set Action Value to 1. In order to forward all data received, two or three M.6A(ACT=0 and/or ACT=1, SW=0 and/or ACT=1, SW=1) messages may have to be sent.

2. Bearing Accuracy is determined as follows:

<u>Link 11/11B</u>	
<u>BEARING ACCURACY</u>	
0 (< 1 DEGREE)	
1 (< 2 DEGREES)	
2 (< 5 DEGREES)	
3 (> = 5 DEGREES/NO STATEMENT)	

<u>Link 16</u>	
<u>BEARING ACCURACY</u>	
7 (<= 1.0 DEGREES)	
THROUGH	
15 (<= 0.001 DEGREES)	
6 (<= 2.0 DEGREES)	
3 (<= 5.0 DEGREES)	
4 (<= 4.0 DEGREES)	
5 (<= 3.0 DEGREES)	
0 (NO STATEMENT)	
1 (> 10.0 DEGREES)	
2 (<= 10.0 DEGREES)	

3. Threat Evaluation is determined as follows:

<u>Link 11/11B</u>	
<u>THREAT EVALUATION</u>	
0 - PENDING	
1 - UNKNOWN	
2 - NONTHREAT/FRIEND	
3 - THREAT	

<u>Link 16</u>	
<u>THREAT EVALUATION</u>	
0 - PENDING/NO STATEMENT	
5-7 - UNDEFINED	
1 - UNKNOWN	
2 - NON-THREAT	
4 - FRIEND	
3 - THREAT	

4. Platform is determined from the J14.0I Environment and J14.0C5 Platform fields as follows:

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TABLE A.5.2-M.6A-2. M.6A Message Data Element Translation from the J14.0 Message
(Sheet 3 of 4)

NOTES (Continued)

4. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>
<u>PLATFORM</u>	<u>ENVIRONMENT</u>
0 - NO STATEMENT	0 - NO STATEMENT/UNKNOWN
	6, 7 - UNDEFINED
<u>Link 11/11B</u>	<u>Link 16</u>
<u>PLATFORM</u>	<u>ENVIRONMENT</u>
1 - MISSILE	1 - SPACE
2 - AIRBORNE (AIRCRAFT EXCLUDING MISSILE)	1 - SPACE
	62
	0-9, 15-61, 63
<u>Link 11/11B</u>	<u>Link 16</u>
<u>PLATFORM</u>	<u>ENVIRONMENT</u>
1 - MISSILE	2 - AIR
2 - AIRBORNE (AIRCRAFT EXCLUDING MISSILE)	2 - AIR
6 - MISSILE CONTROL UNIT (AIRBORNE)	2 - AIR
	13, 37-39, 41-45
	0-12, 14-35, 40, 46, 47, 52-63
	36
<u>Link 11/11B</u>	<u>Link 16</u>
<u>PLATFORM</u>	<u>ENVIRONMENT</u>
3 - SURFACE	3 - SURFACE
7 - MISSILE CONTROL UNIT (SURFACE/ SUBSURFACE)	3 - SURFACE
	0-32, 34, 38-63
	33
<u>Link 11/11B</u>	<u>Link 16</u>
<u>PLATFORM</u>	<u>ENVIRONMENT</u>
4 - SUBSURFACE (SUBMARINE)	4 - SUBSURFACE
7 - MISSILE CONTROL UNIT (SURFACE/ SUBSURFACE)	4 - SUBSURFACE
	0-37, 41-48, 50-63
	49
<u>Link 11/11B</u>	<u>Link 16</u>
<u>PLATFORM</u>	<u>ENVIRONMENT</u>
5 - LAND	5 - LAND
	0-57, 62, 63

5. If J14.0C1 Elevation Angle/Altitude Indicator (EL/ALT IND) ≠ 1 or Elevation Angle (EL ANG) = 512 (No Statement), and J14.0C4 Jammer Received Signal Level (JRSLS) or J14.0I Amplifying Characteristics (AC) is not No Statement, the

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TABLE A.5.2-M.6A-2. M.6A Message Data Element Translation from the J14.0 Message
(Sheet 4 of 4)

NOTES (Continued)

5. (Continued)

M.6A(ACT=1, SW=1) shall be transmitted with Elevation = 0 because there is not a No Statement value for M.6A Elevation. If J14.0C1 EL/ALT IND ≠ 1 or EL ANG = 512 and J14.0C4 JRSL and J14.0I AC are both No Statement, the M.6A shall not be transmitted with Switch = 1. Otherwise, J14.0C1 Elevation Angle equates to M.6A Elevation.

6. When translating to Frequency in the M.6A, set Switch to 0. When translating to Elevation in the M.6A, set Switch to 1. In order to forward both Frequency and Elevation, two M.6A(ACT=1, SW=0, and ACT=1, SW=1) messages must be sent.

7. Time Stale is determined from the J14.0I Hour, Minute and Second fields by subtracting Hour, Minute, and Second from the estimated time of transmission of the forwarded M.6A message, to the nearest 0.25 second. If the result is greater than 31.5 seconds, or if Hour, Minute, or Second is received as No Statement, translate to Time Stale = 127 (No Statement).

TABLE A.5.2-M.6B-1. M.6B/M.86B Message Data Element Translation from the J3.7 Message (Sheet 1 of 6)

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Link 11/11B		Link 16					
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 3	NOTES
		VALUE 6	REQUIRED CR	WORD J3.7I			
M.6B	TRACK NUMBER	AT	CR	J3.7I	TRACK NUMBER, REFERENCE	RX	G13
	FIX OR BEARING	AT	CR	J3.7I	FIX OR BEARING DESCRIPTOR	RX	1
	THREAT EVALUATION	AT	CR	J3.7I	EXERCISE INDICATOR IDENTITY	RX RX	2
	PLATFORM	AT	CR	J3.7C1 J3.7C4	ENVIRONMENT PLATFORM	RX RX	3
	SUB LABEL	1	CR	J3.7I	SUBLABEL, J-SERIES	7	
	X COORDINATE	AT	CR	J3.7C2	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J3.7C2	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
	LABEL	8	CR	J3.7I	LABEL, J-SERIES SUBLABEL, J-SERIES	3 7	
	TIME STALE	AT	CR	J3.7I	HOUR MINUTE SECOND	RX RX RX	4
	REPORT SOURCE	AT	CR	J3.7I	FIX OR BEARING DESCRIPTOR	RX	5
M.86B	BEARING ACCURACY	AT	CR	J3.7C1	BEARING ACCURACY	RX	6
	BEARING	AT	CR	J3.7C1	BEARING	RX	7
	BEARING INDICATOR	AT	CR	J3.7I	FIX OR BEARING DESCRIPTOR	RX	8
	LOCK-ON/SPY	0	NONE	NA	NA	NA	
	PLATFORM EVALUATION CONFIDENCE	RX	=	J3.7C1	PLATFORM EVALUATION CONFIDENCE	RX	
	FREQUENCY/FREQUENCY RANGE	AT	CR	J3.7C4	FREQUENCY/FREQUENCY RANGE INDICATOR FREQUENCY, 1 FREQUENCY MULTIPLIER, 1 FREQUENCY, 2 FREQUENCY MULTIPLIER, 2	RX RX RX RX	G19

TABLE A.5.2-M.6B-1. M.6B/M.86B Message Data Element Translation from the J3.7 Message (Sheet 2 of 6)

MESSAGE M.86B (Cont'd)	FIELD FREQUENCY MULTIPLIER	TRANSLATION			DATA ELEMENT FREQUENCY/FREQUENCY RANGE INDICATOR	VALUE RX	NOTES G19
		VALUE AT	REQUIRED CR	WORD J3.7C4			
	BROAD CLASSIFICATION	AT	CR	J3.7C1 J3.7C4	ENVIRONMENT PLATFORM	RX	11
	AMPLIFYING CHARACTERISTICS	AT	CR	J3.7C1 J3.7C4	ENVIRONMENT PLATFORM	RX	11
	EMITTER NUMBER	AT	CR	J3.7C3	EMITTER NUMBER INDICATOR EMITTER NUMBER	1 RX	9 G15
	CONFIDENCE	RX	=	J3.7C3	EMITTER CONFIDENCE	RX	
	EVALUATION SWITCH	AR	NONE	NA	NA	NA	10

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TABLE A.5.2-M.6B-1. M.6B/M.86B Message Data Element Translation from the J3.7 Message (Sheet 3 of 6)

NOTES

1. Fix or Bearing is determined from the J3.7I Fix or Bearing Descriptor as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>FIX OR BEARING</u>	<u>FIX OR BEARING DESCRIPTOR</u>
0 - BEARING	2 - BEARING, TYPE NOT SPECIFIED
	3 - BEARING, ES
	5 - BEARING, RADIO DIRECTION
	FINDING
	7 - BEARING, UNKNOWN
1 - FIX	0 - EW FIX

Link 16 values 1, 4, and 6 will not be forwarded in this message.

2. When J3.7I Exercise Indicator = 1, Threat Evaluation shall be set to 2 regardless of J3.7I Identity. When J3.7I Exercise Indicator = 0, Threat Evaluation is determined from the J3.7I Identity field as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>THREAT EVALUATION</u>	<u>IDENTITY</u>
0 - PENDING	0 - PENDING
1 - UNKNOWN	5 - 7 UNDEFINED
2 - NONTHREAT/FRIEND	1 - UNKNOWN
	2 - ASSUMED FRIEND
3 - THREAT	3 - FRIEND
	4 - NEUTRAL
	5 - SUSPECT
	6 - HOSTILE

3. Platform is determined from the J3.7C1 Environment and J3.7C4 Platform fields as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>PLATFORM</u>	<u>ENVIRONMENT</u>
0 - NO STATEMENT	0 - NO STATEMENT/UNKNOWN
	6, 7 - UNDEFINED

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TABLE A.5.2-M.6B-1. M.6B/M.86B Message Data Element Translation from the J3.7 Message (Sheet 4 of 6)

NOTES (Continued)

3. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>
<u>PLATFORM</u>	<u>ENVIRONMENT</u>
1 - MISSILE	1 - SPACE
2 - AIRBORNE (AIRCRAFT EXCLUDING MISSILE)	1 - SPACE
	0-9, 15-61, 63
<u>Link 11/11B</u>	<u>Link 16</u>
<u>PLATFORM</u>	<u>ENVIRONMENT</u>
0 - NO STATEMENT	2 - AIR
1 - MISSILE	2 - AIR
2 - AIRBORNE (AIRCRAFT EXCLUDING MISSILE)	2 - AIR
6 - MISSILE CONTROL UNIT (AIRBORNE)	2 - AIR
	36
<u>Link 11/11B</u>	<u>Link 16</u>
<u>PLATFORM</u>	<u>ENVIRONMENT</u>
3 - SURFACE	3 - SURFACE
7 - MISSILE CONTROL UNIT (SURFACE/ SUBSURFACE)	3 - SURFACE
	0-32, 34, 38-63
	33
<u>Link 11/11B</u>	<u>Link 16</u>
<u>PLATFORM</u>	<u>ENVIRONMENT</u>
4 - SUBSURFACE (SUBMARINE)	4 - SUBSURFACE
7 - MISSILE CONTROL UNIT (SURFACE/ SUBSURFACE)	4 - SUBSURFACE
	0-37, 41-48, 50-63
	49
<u>Link 11/11B</u>	<u>Link 16</u>
<u>PLATFORM</u>	<u>ENVIRONMENT</u>
5 - LAND	5 - LAND
	0-57, 62, 63

4. Time Stale is determined from the J3.7I Hour, Minute, and Second fields by subtracting Hour, Minute, and Second from the estimated time of transmission of the forwarded M.86B message and rounding to the nearest whole minute. If the result is greater than 29 minutes, translate to Time Stale = 30 (30 Minutes or More). If either Hour or Minute is received as No Statement, translate to Time Stale = 31 (Nonreal-Time Fix or Bearing).

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TABLE A.5.2-M.6B-1. M.6B/M.86B Message Data Element Translation from the J3.7
Message (Sheet 5 of 6)

NOTES (Continued)

5. Report Source is determined from the J3.7I Fix or Bearing Descriptor field as follows:

Link 11/11B	Link 16
REPORT SOURCE	FIX OR BEARING DESCRIPTOR
0 - ES (OTHER THAN RDF)	0 - EW FIX
	2 - BEARING, TYPE NOT SPECIFIED
	3 - BEARING, ES
	7 - BEARING, UNKNOWN
1 - RDF	5 - BEARING, RADIO DIRECTION FINDING

Values 1, 4, and 6 in Link 16 will not be forwarded in this message.

6. Bearing Accuracy is determined as follows:

Link 11/11B	Link 16
BEARING ACCURACY	BEARING ACCURACY
0 (NO STATEMENT)	0 (NO STATEMENT)
1 (< 2 DEGREES)	6 (<= 2.0 DEGREES)
	THROUGH
2 (< 10 DEGREES)	15 (<= 0.001 DEGREES)
	2 (<= 10.0 DEGREES)
	THROUGH
3 (= OR > 10 DEGREES)	5 (<= 3.0 DEGREES)
	1 (> 10.0 DEGREES)

7. Link 16 Bearing is in 360/4096 degree increments, and Link 11/11B Bearing is in 360/512 degree increments. Translate Link 16 to the nearest Link 11/11B increment (.5 rounded up), except that a Link 16 Bearing greater than 359 19/64 shall be forwarded as a Link 11/11B Bearing of 359 19/64.

8. Bearing Indicator is determined from the J3.7I Fix or Bearing Descriptor as follows:

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TABLE A.5.2-M.6B-1. M.6B/M.86B Message Data Element Translation from the J3.7 Message (Sheet 6 of 6)

NOTES (Continued)

8. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>
BEARING INDICATOR	FIX OR BEARING DESCRIPTOR
0 - BEARING	2 - BEARING, TYPE NOT SPECIFIED
	3 - BEARING, ES
	5 - BEARING, RADIO DIRECTION
	FINDING
1 - BEARING UNKNOWN	0 - EW FIX
	7 - BEARING, UNKNOWN

Link 16 values 1, 4, and 6 are not forwarded in this message.

9. When the J3.7 Emitter Number Indicator = 1, the Link 16 Emitter Number equates to the Link 11/11B Emitter Number. If the J3.7 Emitter Number Indicator = 0, the Link 16 Emitter Number field is not interpreted and cannot be forwarded.

10. When translating to Frequency/Frequency Range and Frequency Multiplier, set the Evaluation Switch to 0. When translating to Emitter Number and Confidence, set the Evaluation Switch to 1. In order to forward all data received, two M.86B(EV SW=0 and EV SW=1) messages may have to be sent.

11. If Link 16 Env = 2 (Air) and Platform = 49 (Active Electronic Decoy), Broad Classification shall be set to 4 (Countermeasures) and Amplifying Characteristics shall be set to 5 (Active Electronic Decoy). Otherwise, both Broad Classification and Amplifying Characteristics shall be set to 0 (No Statement).

TABLE A.5.2-M.6B-2. M.6B/M.86B Message Data Element Translation from the J14.0 Message (Sheet 1 of 6)

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Link 11/11B		Link 16					
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 14	NOTES
		VALUE 6	REQUIRED CR	WORD J14.0I			
M.6B	TRACK NUMBER	AT	CR	J14.0I	TRACK NUMBER, REFERENCE	RX	G13
	FIX OR BEARING	AT	CR	J14.0I	FIX OR BEARING DESCRIPTOR	RX	1
	THREAT EVALUATION	AT	CR	J14.0I	THREAT EVALUATION	RX	2
	PLATFORM	AT	CR	J14.0I J14.0C5	ENVIRONMENT PLATFORM	RX RX	3
	SUB LABEL	1	CR	J14.0I	SUBLABEL, J-SERIES	0	
	X COORDINATE	AT	CR	J14.0C2	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J14.0C2	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
M.86B	LABEL	8	CR	J14.0I	LABEL, J-SERIES SUBLABEL, J-SERIES	14 0	
	TIME STALE	AT	CR	J14.0I	MINUTE HOUR SECOND	RX RX RX	4
	REPORT SOURCE	AT	CR	J14.0I	FIX OR BEARING DESCRIPTOR	RX	5
	BEARING ACCURACY	AT	CR	J14.0C1	BEARING ACCURACY	RX	6
	BEARING	AT	CR	J14.0C1	BEARING	RX	7
	BEARING INDICATOR	AT	CR	J14.0I	FIX OR BEARING DESCRIPTOR	RX	8
	LOCK-ON/SPY	RX	=	J14.0I	LOCK-ON	RX	
	PLATFORM EVALUATION CONFIDENCE	RX	=	J14.0C5	PLATFORM EVALUATION CONFIDENCE	RX	
	FREQUENCY/FREQUENCY RANGE	AT	CR	J14.0E0	FREQUENCY/FREQUENCY RANGE INDICATOR FREQUENCY, 1 FREQUENCY MULTIPLIER, 1 FREQUENCY, 2 FREQUENCY MULTIPLIER, 2	RX RX RX RX RX	G19

TABLE A.5.2-M.6B-2. M.6B/M.86B Message Data Element Translation from the J14.0 Message (Sheet 2 of 6)

Link 11/11B					Link 16		
MESSAGE M.86B (Cont'd)	FIELD FREQUENCY MULTIPLIER	TRANSLATION			DATA ELEMENT FREQUENCY/FREQUENCY RANGE INDICATOR	VALUE RX	NOTES G19
		VALUE AT	REQUIRED CR	WORD J14.0E0			
					FREQUENCY MULTIPLIER, 1	RX	
					FREQUENCY MULTIPLIER, 2	RX	
	BROAD CLASSIFICATION	AT	CR	J14.0C3 or J14.0I J14.0C5	BROAD CLASSIFICATION	RX	11
					ENVIRONMENT PLATFORM	RX	11
	AMPLIFYING CHARACTERISTICS	AT	CR	J14.0C3 or J14.0I J14.0C5	AMPLIFYING CHARACTERISTICS	RX	11
					ENVIRONMENT PLATFORM	RX	11
	EMITTER NUMBER	AT	CR	J14.0C3	EMITTER NUMBER INDICATOR	1	
					EMITTER NUMBER	RX	9, G15
	CONFIDENCE	RX	=	J14.0C3	EMITTER CONFIDENCE	RX	
	EVALUATION SWITCH	AR	NONE	NA	NA	NA	10

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TABLE A.5.2-M.6B-2. M.6B/M.86B Message Data Element Translation from the J14.0 Message (Sheet 3 of 6)

NOTES

1. Fix or Bearing is determined from the J14.0I Fix or Bearing Descriptor as follows:

<u>Link 11/11B</u>	
<u>FIX OR BEARING</u>	
0 - BEARING	
1 - FIX	

<u>Link 16</u>	
<u>FIX OR BEARING DESCRIPTOR</u>	
2 - BEARING, TYPE NOT SPECIFIED	
3 - BEARING, ES	
5 - BEARING, RADIO DIRECTION	
FINDING	
7 - BEARING, UNKNOWN	
0 - EW FIX	

Link 16 values 1, 4, and 6 will not be forwarded in this message.

2. Threat Evaluation is determined as follows:

<u>Link 11/11B</u>	
<u>THREAT EVALUATION</u>	
0 - PENDING	
1 - UNKNOWN	
2 - NONTHREAT/FRIEND	
3 - THREAT	

<u>Link 16</u>	
<u>THREAT EVALUATION</u>	
0 - PENDING/NO STATEMENT	
5-7 - UNDEFINED	
1 - UNKNOWN	
2 - NON-THREAT	
4 - FRIEND	
3 - THREAT	

3. Platform is determined from the J14.0I Environment and J14.0C5 Platform fields as follows:

<u>Link 11/11B</u>	
<u>PLATFORM</u>	
0 - NO STATEMENT	

<u>Link 16</u>	
<u>ENVIRONMENT</u>	
0 - NO STATEMENT/UNKNOWN	
6, 7 - UNDEFINED	

<u>Link 11/11B</u>	
<u>PLATFORM</u>	
1 - MISSILE	
2 - AIRBORNE (AIRCRAFT EXCLUDING MISSILE)	

<u>Link 16</u>	<u>ENVIRONMENT</u>	<u>SPACE PLATFORM</u>
1 - SPACE		62
1 - SPACE		0-9, 15-61, 63

APPENDIX A

TABLE A.5.2-M.6B-2. M.6B/M.86B Message Data Element Translation from the J14.0 Message (Sheet 4 of 6)

NOTES (Continued)

3. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>
PLATFORM	<u>ENVIRONMENT</u>
0 - NO STATEMENT	2 - AIR
1 - MISSILE	2 - AIR
2 - AIRBORNE (AIRCRAFT EXCLUDING MISSILE)	2 - AIR
6 - MISSILE CONTROL UNIT (AIRBORNE)	2 - AIR
	36
<u>Link 11/11B</u>	<u>Link 16</u>
PLATFORM	<u>ENVIRONMENT</u>
3 - SURFACE	3 - SURFACE
7 - MISSILE CONTROL UNIT (SURFACE/ SUBSURFACE)	3 - SURFACE
	33
<u>Link 11/11B</u>	<u>Link 16</u>
PLATFORM	<u>ENVIRONMENT</u>
4 - SUBSURFACE (SUBMARINE)	4 - SUBSURFACE
7 - MISSILE CONTROL UNIT (SURFACE/ SUBSURFACE)	4 - SUBSURFACE
	49
<u>Link 11/11B</u>	<u>Link 16</u>
PLATFORM	<u>ENVIRONMENT</u>
5 - LAND	5 - LAND
	LAND PLATFORM
	0-57, 62, 63

4. Time Stale is determined from the J14.0I Hour, Minute, and Second fields by subtracting the Hour, Minute, and Second fields from the estimated time of transmission of the forwarded M.86B message, then rounding to the nearest whole minute. If the result is greater than 29 minutes, translate to Time Stale = 30 (30 Minutes or More). If either Hour or Minute is received as No Statement, translate to Time Stale = 31 (Nonreal-Time Fix or Bearing).

5. Report Source is determined from the J14.0I Fix or Bearing Descriptor field as follows:

APPENDIX A

TABLE A.5.2-M.6B-2. M.6B/M.86B Message Data Element Translation from the J14.0 Message (Sheet 5 of 6)

NOTES (Continued)

5. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>
REPORT SOURCE	FIX OR BEARING DESCRIPTOR
0 - ES (OTHER THAN RDF)	0 - EW FIX
	2 - BEARING, TYPE NOT SPECIFIED
	3 - BEARING, ES
	7 - BEARING, UNKNOWN
1 - RDF	5 - BEARING, RADIO DIRECTION FINDING

Values 1, 4, and 6 in Link 16 will not be forwarded in this message.

6. Bearing Accuracy is determined as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
BEARING ACCURACY	BEARING ACCURACY
0 (NO STATEMENT)	0 (NO STATEMENT)
1 (< 2 DEGREES)	6 (<= 2.0 DEGREES)
	THROUGH
2 (< 10 DEGREES)	15 (<= 0.001 DEGREES)
	2 (<= 10.0 DEGREES)
	THROUGH
3 (= OR > 10 DEGREES)	5 (<= 3.0 DEGREES)
	1 (> 10.0 DEGREES)

7. Link 16 Bearing is in 360/4096 degree increments, and Link 11/11B Bearing is in 360/512 degree increments. Translate Link 16 to the nearest Link 11/11B increment (.5 rounded up), except that a Link 16 Bearing greater than 359 19/64 shall be forwarded as a Link 11/11B Bearing of 359 19/64.

8. The Bearing Indicator is determined from the J14.0I Fix or Bearing Descriptor as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
BEARING INDICATOR	FIX OR BEARING DESCRIPTOR
0 - BEARING	2 - BEARING, TYPE NOT SPECIFIED
	3 - BEARING, ES
	5 - BEARING, RADIO DIRECTION FINDING
1 - BEARING UNKNOWN	0 - EW FIX
	7 - BEARING, UNKNOWN

APPENDIX A

TABLE A.5.2-M.6B-2. M.6B/M.86B Message Data Element Translation from the J14.0
Message (Sheet 6 of 6)

NOTES (Continued)

8. (Continued)

Link 16 values 1, 4, and 6 are not forwarded in this message.

9. When the J14.0 Emitter Number Indicator = 1, the Link 16 Emitter Number equates to the Link 11/11B Emitter Number. If the J14.0 Emitter Number Indicator ≠ 1, the Link 16 Emitter Number field is not interpreted and cannot be forwarded.

10. When translating to Frequency/Frequency Range, Frequency Multiplier, Broad Classification, and Amplifying Characteristics, set the Evaluation Switch to 0. When translating to Emitter Number and Confidence, set the Evaluation Switch to 1. In order to forward all data received, two M.86B(EV SW=0 and EV SW=1) messages may have to be sent.

11. If Link 16 Env = 2 (Air) and Platform = 49 (Active Electronic Decoy), Broad Classification shall be set to 4 (Countermeasures) and Amplifying Characteristics shall be set to 5 (Active Electronic Decoy). Otherwise Broad Classification equates to J14.0C3 Broad Classification and Amplifying Characteristics equates to J14.0C3 Amplifying Characteristics.

TABLE A.5.2-M.6C. M.6C/M.86C Message Data Element Translation from Link 16 (Sheet 1 of 2)

Link 11/11B		Link 16						
MESSAGE	FIELD	TRANSLATION				DATA ELEMENT	VALUE	NOTES
		REQUIRED	WORD					
M.6C	LABEL	6	CR	J14.0I	LABEL, J-SERIES	14		
	TRACK NUMBER	AT	CR	J14.0I	TRACK NUMBER, REFERENCE	RX	G13	
	SUB LABEL	2	CR	J14.0I	SUBLABEL, J-SERIES	0		
	SCAN TYPE	RX	=	J14.0C4	SCAN TYPE	RX		
	PRF SCALING	AT	CR	J14.0C4	PRF/PRI INDICATOR PULSE REPETITION FREQUENCY PULSE REPETITION INTERVAL	RX RX RX	2	
	PULSE REPETITION FREQUENCY	AT	CR	J14.0C4	PRF/PRI INDICATOR PULSE REPETITION FREQUENCY PULSE REPETITION INTERVAL	RX RX RX	2	
	LABEL	8	CR	J14.0I	LABEL, J-SERIES SUBLABEL, J-SERIES	14 0		
	POLARIZATION	RX	=	J14.0C4	POLARIZATION	RX		
	PULSE WIDTH	AT	CR	J14.0C4	PULSE WIDTH	RX	3	
	ANTENNA SCAN PERIOD	RX	=	J14.0C4	ANTENNA SCAN PERIOD	RX		
	SCAN RATE	RX	=	J14.0C4	ANTENNA SCAN RATE	RX		
	SWITCH	AT	CR	J14.0C4	ANTENNA SCAN RATE/PERIOD INDICATOR	RX	4	

APPENDIX A

TABLE A.5.2-M.6C. M.6C/M.86C Message Data Element Translation from Link 16
(Sheet 2 of 2)

NOTES

1. Not Used
2. When J14.0C4 PRF/PRI Indicator is set to 0 (PRF Being Reported), Pulse Repetition Frequency (PRF) is forwarded as shown below. When PRF/PRI Indicator is set to 1 (PRI Being Reported), it must be converted to PRF. The inverse of Pulse Repetition Interval (PRI) ($1/\text{PRI}$) = PRF. This value (derived from PRF or inverse of PRI) is rounded to the nearest 0.1 Pulses Per Second (PPS) if < 13107.15 PPS or the nearest whole PPS if ≥ 13107.15 , and is forwarded as shown below.

<u>Link 11/11B</u>		<u>Link 16</u>	
<u>PULSE REPETITION</u>	<u>PRF SCALING</u>	<u>PULSE REPETITION</u>	<u>FREQUENCY</u>
0 - NO STATEMENT	0	0 - NO STATEMENT	0.1 - 13107.1
1-131071	1 - .1 PULSES/SECOND	13107.2 - 131070.4	
13107 - 131070	0 - 1 PULSE/SECOND		
131071	0 - 1 PULSE/SECOND	>= 131070.5	

3. Link 16 Pulse Width is in .05 microsecond increments, and Link 11/11B Pulse Width is in .1 microsecond increments. Translate Link 16 to the nearest Link 11/11B increment (.5 rounded up).

4. When the J14.0C4 Antenna Scan Rate/Period Indicator (ASP IND) is set to 0 (No Statement), the M.86C Antenna Scan Period field shall be set to 0 (No Statement), and the M.86C Switch shall be set to 0. When ASP IND = 1 or 2, the Switch field is determined from the J14.0C4 ASP IND field as follows:

<u>Link 11/11B</u>		<u>Link 16</u>	
<u>SWITCH</u>	<u>ANTENNA SCAN RATE/PERIOD INDICATOR</u>	<u>SWITCH</u>	<u>ANTENNA SCAN RATE/PERIOD INDICATOR</u>
0 - ANTENNA SCAN PERIOD REPORTED	2 - ANTENNA SCAN PERIOD BEING REPORTED		
1 - SCAN RATE REPORTED	1 - PRIMARY ANTENNA SCAN RATE BEING REPORTED		

TABLE A.5.2-M.6D. M.6D/M.86D Message Data Element Translation from Link 16 (Sheet 1 of 7)

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Link 11/11B				Link 16			
MESSAGE M.6D	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 14	NOTES
		VALUE 6	REQUIRED CR	WORD J14.2I			
	TRACK NUMBER	AT	CR	J14.2I	TRACK NUMBER, REFERENCE	RX	1, G13
	CONTROL	AT	CR	J14.2I	ELECTRONIC WARFARE ACTION VALUE	RX	2
	RECEIPT/COMPLIANCE	AT	CR	J14.2I	RECEIPT/COMPLIANCE	RX	3
	EWC INDICATOR	RX	=	J14.2I	ELECTRONIC WARFARE ACTION VALUE	7-12	4
				J14.2E0	ELECTRONIC WARFARE COORDINATOR INDICATOR	RX	
	SUB LABEL	3	CR	J14.2I	SUBLABEL, J-SERIES	2	
	PERIOD	RX	=	J14.2I	ELECTRONIC WARFARE ACTION VALUE	0	
				J14.2E0	PERIODICITY OF REPORT	RX	
	TN ADDRESSEE	AT	CR	J14.2I	TRACK NUMBER, ADDRESSEE	RX	5, G12
	FREQUENCY/FREQUENCY RANGE	AT	CR	J14.2I	ELECTRONIC WARFARE ACTION VALUE	4 or 19	
				J14.2C4	FREQUENCY/FREQUENCY RANGE INDICATOR	RX	G19
					FREQUENCY, 1	RX	
					FREQUENCY MULTIPLIER, 1	RX	
					FREQUENCY, 2	RX	
					FREQUENCY MULTIPLIER, 2	RX	
	FREQUENCY MULTIPLIER	AT	CR	J14.2I	ELECTRONIC WARFARE ACTION VALUE	4 or 19	
				J14.2C4	FREQUENCY/FREQUENCY RANGE INDICATOR	RX	G19
					FREQUENCY MULTIPLIER, 1	RX	
					FREQUENCY MULTIPLIER, 2	RX	
	REFERENCED CONTROL VALUE	AT	CR	J14.2I	ELECTRONIC WARFARE ACTION VALUE	5, 6, 12	
				J14.2E0	REFERENCE ELECTRONIC WARFARE ACTION VALUE	RX	6

APPENDIX A

TABLE A.5.2-M.6D. M.6D/M.86D Message Data Element Translation from Link 16 (Sheet 2 of 7)

Link 11/11B					Link 16		
MESSAGE M.6D (Cont'd)	FIELD EMITTER NUMBER	TRANSLATION			DATA ELEMENT ELECTRONIC WARFARE ACTION VALUE	VALUE 7	NOTES 7
		VALUE AT	REQUIRED CR	WORD J14.2I			
				J14.2C3	EMITTER NUMBER INDICATOR	1	
				J14.2C3	EMITTER NUMBER	RX	G15
	CONFIDENCE	RX	=	J14.2I	ELECTRONIC WARFARE ACTION VALUE	7	
				J14.2C3	EMITTER CONFIDENCE	RX	
	MULTIPLE EVALUATION	0	NONE	NA	NA	NA	
	ASSOCIATED TN	AT	CR	J14.2I	ELECTRONIC WARFARE ACTION VALUE	8 or 9	
				J14.2E0	TRACK NUMBER, ASSOCIATED	RX	G13
	CANCELED CONTROL VALUE	AT	CR	J14.2I	ELECTRONIC WARFARE ACTION VALUE	11	
				J14.2E0	REFERENCE ELECTRONIC WARFARE ACTION VALUE	RX	6
	RESPONSE TRACK NUMBER	AT	CR	J14.2I	ELECTRONIC WARFARE ACTION VALUE	12	
				J14.2E0	TRACK NUMBER, REFERENCE	RX	G13
	BEARING	AT	=	J14.2I	ELECTRONIC WARFARE ACTION VALUE	14	
				J14.2C1	BEARING	RX	
	REPORT DURATION	AT	CR	J14.2I	ELECTRONIC WARFARE ACTION VALUE	13 or 14	
				J14.2E0	TIME DURATION	RX	9
	BEARING WIDTH	AT	CR	J14.2I	ELECTRONIC WARFARE ACTION VALUE	13 or 14	
				J14.2C1	SECTOR WIDTH	RX	10
M.86D	LABEL	8	CR	J14.2I	ELECTRONIC WARFARE ACTION VALUE	4 or 19	
	BEARING/AXIS ORIENTATION	AT	CR	J14.2C1 or J14.2C2	BEARING	RX	
				J14.2C2	AXIS ORIENTATION	RX	11
	SECTOR WIDTH	RX	=	J14.2C1	SECTOR WIDTH	RX	

TABLE A.5.2-M.6D. M.6D/M.86D Message Data Element Translation from Link 16 (Sheet 3 of 7)

Link 11/11B				Link 16			
MESSAGE M.86D (Cont'd)	FIELD EMITTER NUMBER	TRANSLATION		WORD J14.2I	DATA ELEMENT	VALUE 4	NOTES
		VALUE AT	REQUIRED CR				
				J14.2C3	ELECTRONIC WARFARE ACTION VALUE		
	EMITTER FUNCTION	RX	=	J14.2I	EMITTER NUMBER INDICATOR	1	7
				J14.2C3	EMITTER NUMBER	RX	
	DECOY TYPE	RX	=	J14.2I	ELECTRONIC WARFARE ACTION VALUE	4	
				J14.2E0	DECOY TYPE	RX	
	DECOY MISSION	RX	=	J14.2I	ELECTRONIC WARFARE ACTION VALUE	19	
				J14.2E0	DECOY MISSION	RX	
	AUTOMATIC EA NEGATION	RX	=	J14.2I	ELECTRONIC WARFARE ACTION VALUE	19	
				J14.2E0	AUTOMATIC ELECTRONIC ATTACK NEGATION	RX	
	SQUARE/CIRCLE SWITCH, 2	RX	=	J14.2I	ELECTRONIC WARFARE ACTION VALUE	19	
				J14.2E0	SQUARE/CIRCLE SWITCH	RX	
	MINOR AXIS	AT	CR	J14.2I	ELECTRONIC WARFARE ACTION VALUE	19	
				J14.2C2	AREA MINOR AXIS	RX	11
	MAJOR AXIS	AT	CR	J14.2I	ELECTRONIC WARFARE ACTION VALUE	19	
				J14.2C2	AREA MAJOR AXIS	RX	11

APPENDIX A

TABLE A.5.2-M.6D. M.6D/M.86D Message Data Element Translation from Link 16
(Sheet 4 of 7)

NOTES

1. When J14.2I EW Action Value (EWAC) = 12, Track Number, Reference translates to M.6D Response Track Number and M.6D Track Number shall be set to 0000. When J14.2I EWAC = 14, Track Number, Reference is not used and M.6D Track Number shall be set to 0000. For all other EWACs, M.6D Track Number is translated from J14.2I TN, Reference.
2. Control is determined from the J14.2I EWAC as follows:

<u>Link 11</u>	<u>Link 16</u>
<u>CONTROL</u>	<u>ELECTRONIC WARFARE ACTION VALUE</u>
0 - REQUEST PERIODIC REPORT	0 - REQUEST PERIODIC REPORT
1 - REQUEST AUTOMATIC EVALUATION	1 - REQUEST AUTOMATIC EVALUATION
2 - REQUEST MANUAL EVALUATION	2 - REQUEST MANUAL EVALUATION
3 - REQUEST UPDATE THEN WATCH	3 - REQUEST UPDATE AND WATCH
4 - REQUEST DIRECTED SEARCH	4 - REQUEST DIRECTED SEARCH (WITHOUT EITHER J14.2C1 OR J14.2C3 WORD)
5 - REQUEST DIRECTED SECTOR SEARCH	4 - REQUEST DIRECTED SEARCH (WITH J14.2C1 OR J14.2C3 WORD)
6 - DEPLOY DECOYS	19 - DEPLOY DECOYS
7 - CANCEL REQUEST/CEASE REPORT	5 - CANCEL REQUEST
8 - Emitter EVALUATION	6 - CEASE REPORT
9 - PARAMETER ASSOCIATION	7 - Emitter EVALUATION
10 - Emitter ASSOCIATION	8 - PARAMETER ASSOCIATION
11 - DISASSOCIATION	9 - Emitter ASSOCIATION
12 - NO FIND	10 - DISASSOCIATION
13 - RESPONSE TO EW REQUEST	11 - NO FIND
14 - EVALUATE TRACK	12 - RESPONSE TO AN ELECTRONIC WARFARE REQUEST
15 - EVALUATE SECTOR	13 - EVALUATE TRACK
	14 - EVALUATE SECTOR

3. When J14.2I EWAC = 7-12, the M.6D has no Receipt/Compliance (R/C) field. When J14.2I EWAC = 0-6, 13, 14 or 19, Receipt/Compliance is determined as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>RECEIPT/COMPLIANCE</u>	<u>RECEIPT/COMPLIANCE</u>
0 - ORIGINAL ORDER -RECEIPT/ COMPLIANCE REQUIRED	0 - ORIGINAL ORDER
1 - ORIGINAL ORDER - NO RECEIPT/ COMPLIANCE REQUIRED	1 - ORIGINAL ORDER

APPENDIX A

TABLE A.5.2-M.6D. M.6D/M.86D Message Data Element Translation from Link 16
(Sheet 5 of 7)

NOTES (Continued)

3. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>
<u>RECEIPT/COMPLIANCE</u>	<u>RECEIPT/COMPLIANCE</u>
3 - CANTCO	6 - CANTCO (CANNOT COMPLY)
	7-14 - CANTPRO (CANNOT PROCESS)
	16-21 - CANTPRO (CANNOT PROCESS)

4. When J14.2I EWAC = 0-6, 13, 14 or 19, the M.6D has no EWC Indicator field.

When J14.2I EWAC = 7-12, the J14.2 EWC Indicator equates to the M.6D EWC Indicator.

5. When J14.2I EWAC = 7-10, the M.6D has no TN, Addressee. The J14.2 (EWAC = 7-10) shall be translated and forwarded to Link 11/11B as M.6D(Control=8-11) if the J14.2 TN, Addressee = 00177 (octal) or an active PU/RU for whom data are being forwarded by this FJU.

6. Referenced Control Value or Canceled Control Value is determined from J14.2E0 Reference EWAC as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>CONTROL</u>	<u>ELECTRONIC WARFARE ACTION VALUE</u>
0 - REQUEST PERIODIC REPORT	0 - REQUEST PERIODIC REPORT
1 - REQUEST AUTOMATIC EVALUATION	1 - REQUEST AUTOMATIC EVALUATION
2 - REQUEST MANUAL EVALUATION	2 - REQUEST MANUAL EVALUATION
3 - REQUEST UPDATE THEN WATCH	3 - REQUEST UPDATE AND WATCH
4 - REQUEST DIRECTED SEARCH	4 - REQUEST DIRECTED SEARCH (WITHOUT EITHER J14.2C1 OR J14.2C3 WORD)
5 - REQUEST DIRECTED SECTOR SEARCH	4 - REQUEST DIRECTED SEARCH (WITH J14.2C1 OR J14.2C3 WORD)
6 - DEPLOY DECOYS	19 - DEPLOY DECOYS
14 - EVALUATE TRACK	13 - EVALUATE TRACK
15 - EVALUATE SECTOR	14 - EVALUATE SECTOR

7. When the J14.2C3 Emitter Number Indicator = 1, the Link 16 Emitter Number equates to the Link 11/11B Emitter Number. If the J14.2C3 Emitter Number Indicator ≠ 1, the Link 16 Emitter Number field is not interpreted and cannot be forwarded.

APPENDIX A

TABLE A.5.2-M.6D. M.6D/M.86D Message Data Element Translation from Link 16
(Sheet 6 of 7)

NOTES (Continued)

8. Not Used.

9. Report Duration is determined from J14.2E0 Time Duration as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>REPORT DURATION</u>	<u>TIME DURATION</u>
0 (ONE REPORT REGARDLESS OF TIME)	0 (NO STATEMENT)
1 (1 MINUTE)	1 (1 SECOND)
2 (5 MINUTES)	2 (2 SECONDS)
3 (20 MINUTES)	3 (3 SECONDS)
	4 (4 SECONDS)
	5 (5 SECONDS)
	6 (10 SECONDS)
	7 (15 SECONDS)
	8 (20 SECONDS)
	9 (25 SECONDS)
	10 (30 SECONDS)
	11 (UNDEFINED)
	12 (1 MINUTE)
	13 (5 MINUTES)
	14 (20 MINUTES)
	15 (30 MINUTES)

10. Link 16 Sector Width is defined as the number of degrees on each side of the specified bearing, whereas Link 11/11B M.6D Bearing Width is defined as the total width of the sector centered on the specified bearing. Therefore, Link 11/11B M.6D Bearing Width is double the Link 16 Sector Width, and Bearing Width is determined from J14.2C1 Sector Width as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>BEARING WIDTH</u>	<u>SECTOR WIDTH</u>
0 (5 DEGREES)	0-2 (0-2 DEGREES)
1 (10 DEGREES)	3-5 (3-5 DEGREES)
2 (20 DEGREES)	6-10 (6-10 DEGREES)
3 (30 DEGREES)	11-15 (11-15 DEGREES)
4 (45 DEGREES)	16-22 (16-22 DEGREES)
5 (90 DEGREES)	23-45 (23-45 DEGREES)
6 (180 DEGREES)	46-90 (46-90 DEGREES)
7 (360 DEGREES)	91-180 (91-180 DEGREES)
	255 (NO STATEMENT)

Link 11 M.86D Sector Width equates to J14.2C1 Sector Width.

APPENDIX A

TABLE A.5.2-M.6D. M.6D/M.86D Message Data Element Translation from Link 16
(Sheet 7 of 7)

NOTES (Continued)

11. When Link 16 EWAC = 4 (Request Directed Search) the J14.2C1 Bearing equates to the M.86D Bearing/Axis Orientation. When Link 16 EWAC = 19 (Deploy Decoys), the J14.2E0 Square/Circle Switch equates to the M.86D Square/Circle Switch, 2, J14.2C2 Axis Orientation translates to the M.86D Bearing/Axis Orientation and the J14.2C2 Area Minor Axis and Area Major Axis translate to the M.86D Minor Axis and Major Axis.

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TABLE A.5.2-M.9A-1. M.9A(AC=0) Message Data Element Translation from Link 16 (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9A	FIELD LABEL	TRANSLATION			DATA ELEMENT	VALUE NA	NOTES 1
		VALUE 9	REQUIRED NONE	WORD NA			
	SUBLABEL	0	NONE	NA	NA	NA	
	ACTION	0	NONE	NA	NA	NA	
	ENVIRONMENT/CATEGORY	0	NONE	NA	NA	NA	
	ACKNOWLEDGE INDICATOR	0	NONE	NA	NA	NA	
	SIMULATION INDICATOR	AT	CR	J2.xI or J3.xI or J5.4I or J14.0I	SIMULATION INDICATOR SIMULATION INDICATOR SIMULATION INDICATOR SIMULATION INDICATOR	RX RX RX RX	5,G6 5,G6
	TRACK NUMBER	AT	CR	HEADER or J3.xI or J5.4I or J14.0I	TRACK NUMBER, SOURCE TRACK NUMBER, REFERENCE TRACK NUMBER, REFERENCE TRACK NUMBER, REFERENCE	RX RX RX RX	2,G13
	PU/RU ADDRESS/SOURCE	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	3,G12
	SPECIAL PROCESSING INDICATOR	RX	=	J2.x or J3.xI or J5.4I or J14.0I	SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR SPECIAL PROCESSING INDICATOR	RX RX RX RX	4,G5 4,G5 4,G5 4,G5

APPENDIX A

TABLE A.5.2-M.9A-1. M.9A(AC=0) Message Data Element Translation from Link 16
(Sheet 2 of 2)

NOTES

1. M.9A(AC=0) shall be transmitted on Link 11B as a part of the initial sequence for the following messages: M.2/M.82, M.3/M.83, M.4A/M.84, M.5, and M.6A.
2. The Track Number of the M.9A(AC=0) message is derived from the Track Number, Source in the Link 16 Header message for units reported in J2.x messages, or and from the Track Number, Reference in J3.x, J5.4, and J14.0 messages.
3. The PU/RU Address/Source of the M.9A(AC=0) message shall always be the source of the data being forwarded.
4. The Special Processing Indicator of the M.9A(AC=0) shall always be set to 0 when identifying the data source for the C² unit's positional data received in a J2.x message.
5. The Simulation Indicator of the M.9A(AC=0) shall always be set to value 0, when forwarding J14.0 messages. Otherwise, the Simulation Indicator is translated as received in the J2.x, J3.x, or J5.4 message.

TABLE A.5.2-M.9A-2. M.9A(AC=1) Message Data Element Translation from the J3.2/J3.3 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9A	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 3	NOTES
		VALUE 9	REQUIRED CR	WORD J3.xI			
	SUBLABEL	0	CR	J3.xI	SUBLABEL, J-SERIES	2 or 3	
	ACTION	1	CR	J3.xI	IDENTITY DIFFERENCE INDICATOR	RX	1
	ENVIRONMENT/CATEGORY	AT	CR	J3.xI	SUBLABEL, J-SERIES	2 or 3	2
	IDENTITY	AT	CR	See note 4			
	PRIMARY IDENTITY AMPLIFICATION	AT	CR	See Note 4			
	IDENTITY AMPLIFICATION	AT	CR	See Note 4			
	TRACK NUMBER	AT	CR	J3.xI	TRACK NUMBER, REFERENCE	RX	G13
	PU/RU ADDRESS/SOURCE	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	3, G12
	CONFLICT INDICATOR	RX	=	J3.xI	IDENTITY DIFFERENCE INDICATOR	RX	1

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TABLE A.5.2-M.9A-2. M.9A(AC=1) Message Data Element Translation from the J3.2/J3.3 Message (Sheet 2 of 2)

NOTES

1. The M.9A(AC=1, CI=1) is translated when the J3.2 or J3.3 message with Identity Difference Indicator set to value 1 is forwarded. The M.9A(AC=1, CI=0) is translated when the Identity Difference Indicator has changed from value 1 to value 0 in the J3.2 or J3.3 message being forwarded.
2. The M.9A(AC=1) Environment/Category is determined from the Link 16 Sublabel as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>ENVIRONMENT/CATEGORY</u>	<u>SUBLABEL, J-SERIES</u>
1 - AIR	2 - AIR
2 - SURFACE	3 - SURFACE

3. The PU/RU Address/Source of an M.9A(AC=1) message being forwarded onto Link 11/11B shall always be the source of the data being forwarded.
4. The M.9A(AC=1, CI=0) Identity, Primary Identity Amplification, and Identity Amplification fields shall be translated from the J3.2 or J3.3 Exercise Indicator, Identity, Platform, and Activity fields in accordance with General Notes 20 and 21. The same fields in the M.9A(AC=1, CI=1) shall be transmitted from the FJU's database in accordance with the Data Retention Rules for M.9A and J7.0 translation trees.

TABLE A.5.2-M.9A-3. M.9A(AC=1 OR 2) Message Data Element Translation from the J7.0 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9A	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 7	NOTES
		VALUE 9	REQUIRED CR	WORD J7.0I			
	SUBLABEL	0	CR	J7.0I	SUBLABEL, J-SERIES	0	
	ACTION	1 or 2	=	J7.0I	ACTION, TRACK MANAGEMENT	1 or 2	
	ENVIRONMENT/CATEGORY	AT	CR	J7.0I	ENVIRONMENT	RX	1
	IDENTITY	AT	CR	J7.0I	IDENTITY	RX	G20, G21
	PRIMARY IDENTITY AMPLIFICATION	AT	CR	J7.0I	IDENTITY	RX	G20, G21
					PLATFORM ACTIVITY	RX	
	IDENTITY AMPLIFICATION	AT	CR	J7.0I	IDENTITY	RX	G20, G21
					PLATFORM ACTIVITY	RX	
	TRACK NUMBER	AT	CR	J7.0I	TRACK NUMBER, REFERENCE	RX	G13
	PU/RU ADDRESS/SOURCE	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	2,G12
	CONFLICT INDICATOR	0	NONE	NA	NA	NA	3

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TABLE A.5.2-M.9A-3. M.9A(AC=1 OR 2) Message Data Element Translation from the
J7.0 Message (Sheet 2 of 2)

NOTES

1. Environment/Category and Environment equivalence:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>ENVIRONMENT/CATEGORY</u>	<u>ENVIRONMENT</u>
1	2
2	3

2. The PU/RU Address/Source of an M.9A(AC=1 or 2) message being forwarded onto Link 11/11B shall always be the source of the data being forwarded.
3. The M.9A(AC=2) message does not contain Conflict Indicator.

TABLE A.5.2-M.9A-4. M.9A(AC=3) Message Data Element Translation from the J7.1 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9A	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 7	NOTES
		VALUE 9	REQUIRED CR	WORD J7.1I			
	SUBLABEL	0	CR	J7.1I	SUBLABEL, J-SERIES	1	
	ACTION	3	NONE	NA	NA	NA	
	TRACK NUMBER	0	CR	J7.1I	TRACK NUMBER, REFERENCE	0	1
	PU/RU ADDRESS/SOURCE	AT	CR	J7.1I or J7.1C1	TRACK NUMBER, ADDRESSEE 1 TRACK NUMBER, ADDRESSEE 2 TRACK NUMBER, ADDRESSEE 3 TRACK NUMBER, ADDRESSEE 4 TRACK NUMBER, ADDRESSEE 5	RX RX RX RX RX	2,G12 2,G12 2,G12 2,G12 2,G12
	STATUS INDICATOR	1	NONE	NA	NA	NA	

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TABLE A.5.2-M.9A-4. M.9A(AC=3) Message Data Element Translation from the J7.1
Message (Sheet 2 of 2)

NOTES

1. The J7.1I (Track Number, Reference = 0) message is the only case that is forwarded.
2. A separate M.9A(AC=3) will be forwarded for each addressee.

TABLE A.5.2-M.9A-5. M.9A(AC=4) Message Data Element Translation from Link 16 (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9A	FIELD LABEL	TRANSLATION		WORD (See Note 1)	DATA ELEMENT NETWORK PARTICIPATION STATUS INDICATOR	VALUE RX	NOTES 1
		VALUE 9	REQUIRED CR				
	SUBLABEL	0	CR	(See Note 1)	NETWORK PARTICIPATION STATUS INDICATOR	RX	1
	ACTION	4	CR	(See Note 1)	NETWORK PARTICIPATION STATUS INDICATOR	RX	1
	TRACK NUMBER	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	2,G13
	PU/RU ADDRESS/SOURCE	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	2,3, G12

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TABLE A.5.2-M.9A-5. M.9A(AC=4) Message Data Element Translation from Link 16
(Sheet 2 of 2)

NOTES

1. The M.9A(AC=4) Drop Track Report is translated from the J2.2I, J2.3I, J2.4I, J2.5I, or J2.6I when the Network Participation Status Indicator is set to a value other than 1, 4, or 5; or the M.9A(AC=4) Drop Track Report is generated by the FJU for an active unit if a J2 series message has not been received from that unit for 60 seconds. (See paragraph A.4.4.7)
2. If the M.9A(AC=4)Drop Track Report is being generated because a J2 series message has not been received based on Note 1, the Track Number, Source is provided for the unit from the FJU database.
3. The PU/RU Address/Source of the M.9A(AC=4) Drop Track shall always be the source of the Data being forwarded.

TABLE A.5.2-M.9A-6. M.9A(AC=4) Message Data Element Translation from the J7.0 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9A	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 7	NOTES
		VALUE 9	REQUIRED CR	WORD J7.0I			
	SUBLABEL	0	CR	J7.0I	SUBLABEL, J-SERIES	0	
	ACTION	4	CR	J7.0I	ACTION, TRACK MANAGEMENT	0	
	TRACK NUMBER	AT	CR	J7.0I	TRACK NUMBER, REFERENCE	RX	G13
	PU/RU ADDRESS/SOURCE	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	1,G12

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TABLE A.5.2-M.9A-6. M.9A(AC=4) Message Data Element Translation from the J7.0
Message (Sheet 2 of 2)

NOTES

1. The PU/RU Address/Source of an M.9A(AC=4) message shall always be the source of the data being forwarded.

TABLE A.5.2-M.9A-7. M.9A(AC=5 OR 7) Message Data Element Translation from the J2.x/J3.x Message
(Sheet 1 of 4)

Link 11/11B		Link 16						
MESSAGE M.9A	FIELD LABEL	VALUE 9	TRANSLATION			DATA ELEMENT	VALUE NA	NOTES
			REQUIRED NONE	WORD NA				
	SUBLABEL	0	NONE	NA		NA	NA	
	ACTION	AT	CR	J2.xI or J3.xI		FORCE TELL INDICATOR EMERGENCY INDICATOR FORCE TELL INDICATOR EMERGENCY INDICATOR	RX RX RX RX	1 1
	ENVIRONMENT/CATEGORY	AT	CR	J2.xI or J3.xI		(See Note 2) (See Note 2)	RX RX	2
	TRACK NUMBER	AT	CR	HEADER or J3.xI		TRACK NUMBER, SOURCE TRACK NUMBER, REFERENCE	RX RX	3, G13
	PU/RU ADDRESS/SOURCE	AT	CR	HEADER		TRACK NUMBER, SOURCE	RX	4, G12
	STATUS INDICATOR	AT	CR	J2.xI or J3.xI		FORCE TELL INDICATOR EMERGENCY INDICATOR FORCE TELL INDICATOR EXERCISE INDICATOR	RX RX RX RX	1 1

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TABLE A.5.2-M.9A-7. M.9A(AC=5 OR 7) Message Data Element Translation from the J2.x/J3.x Message (Sheet 2 of 4)

NOTES

1. The proper setting of the M.9A Action and Status Indicator fields is determined by comparing the Force Tell and Emergency status previously reported for the track on Link 11/11B with the status of the track currently reported in the PPLI or Surveillance message being forwarded. When the FT, EMG, or both being reported in the PPLI or Surveillance messages do not change, the appropriate M.9A(AC=5) Track Alert Report shall continue to be transmitted immediately preceding each Track Position and Track Position Amplify message pair. The proper setting for the forwarded M.9A Action and Status Indicator fields are as follows:

Previous J2.x or J3.x

Force Tell and Emergency Setting	FT=0 EMG=0	FT=0 EMG=0	FT=0 EMG=0	FT=0 EMG=0	FT=1 EMG=0	FT=1 EMG=0	FT=1 EMG=0	FT=1 EMG=0
-------------------------------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------

Current J2.x or J3.x

Force Tell and Emergency Setting	FT=0 EMG=0	FT=1 EMG=0	FT=0 EMG=1	FT=1 EMG=1	FT=0 EMG=0	FT=1 EMG=0	FT=0 EMG=0	FT=1 EMG=1
-------------------------------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------

M.9A AC=5, STI=0

X X¹ X X¹

M.9A AC=5, STI=1

X X

M.9A AC=7, STI=0

M.9A AC=7, STI=1 X X

Previous J2.x or J3.x

Force Tell and Emergency Setting	FT=0 EMG=1	FT=0 EMG=1	FT=0 EMG=1	FT=0 EMG=1	FT=1 EMG=1	FT=1 EMG=1	FT=1 EMG=1	FT=1 EMG=1
-------------------------------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------

Current J2.x or J3.x

Force Tell and Emergency Setting	FT=0 EMG=0	FT=1 EMG=0	FT=0 EMG=1	FT=1 EMG=1	FT=0 EMG=0	FT=1 EMG=0	FT=0 EMG=0	FT=1 EMG=1
-------------------------------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------

M.9A AC=5, STI=0

X X¹ X X¹

M.9A AC=5, STI=1

X³

M.9A AC=7, STI=0

X X X X

M.9A AC=7, STI=1

X² X²

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TABLE A.5.2-M.9A-7. M.9A(AC=5 OR 7) Message Data Element Translation from the J2.x/J3.x Message (Sheet 3 of 4)

NOTES (Continued)

1. (Continued)

¹ Only the Emergency status will be reported on the interface when both Emergency and Force Tell status exist, but the Force Tell status must be maintained in the FJU database.

² The M.9A(AC=7, STI=1) is required for transmission on the interface only if the Force Tell alert had previously been reported.

³ Force Tell Alert transmitted if it has not been previously reported.

2. The Environment/Category field will be set only when forwarding the M.9A(AC=5) message as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>Environment/Category</u>	<u>Message Data Element</u>
0 - No Statement	J2.x/Sublabel = 5, or 6. J3.x/Sublabel = 1, or 5.
1 - Air	J2.0/Originator Environment = 3 J2.x/Sublabel = 2 J3.x/Sublabel = 2
2 - Surface	J2.0/Originator Environment = 0 J2.x/Sublabel = 3 J3.x/Sublabel = 3
3 - Subsurface	J2.0/Originator Environment = 1 J2.x/Sublabel = 4 J3.x/Sublabel = 4
4 - Special Point	J2.0/Originator Environment = 2 J3.x/Sublabel = 0
5 - EW Bearings and Fixes	J3.7/Sublabel = 7

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TABLE A.5.2-M.9A-7. M.9A(AC=5 OR 7) Message Data Element Translation from the J2.x/J3.x Message (Sheet 4 of 4)

NOTES (Continued)

3. The Track Number of the M.9A(AC=5 or 7) message is derived from the Track Number, Source in the Link 16 Header message for units reported in J2.x messages, or from Track Number Reference in J3.x messages.
4. The PU/RU Address/Source of the M.9A(AC=5 or 7) message shall always be the source of the data being forwarded.

TABLE A.5.2-M.9A-8. M.9A(AC=5 OR 7) Message Data Element Translation from the J5.4 Message (Sheet 1 of 3)

Link 11/11B				Link 16			
MESSAGE M.9A	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 5	NOTES
		VALUE 9	REQUIRED NONE	WORD J5.4I			
	SUBLABEL	0	NONE	J5.4I	SUBLABEL, J-SERIES	4	
	ACTION	AT	CR	J5.4I	FORCE TELL INDICATOR EMERGENCY INDICATOR	RX RX	1
	ENVIRONMENT/CATEGORY	3	NONE	NA	NA	NA	2
	TRACK NUMBER	AT	CR	J5.4I	TRACK NUMBER, REFERENCE	RX	3,G13
	PU/RU ADDRESS/SOURCE	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	4,G12
	STATUS INDICATOR	AT	CR	J5.4I	FORCE TELL INDICATOR EMERGENCY INDICATOR	RX RX	1

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TABLE A.5.2-M.9A-8. M.9A(AC=5 OR 7) Message Data Element Translation from the J5.4 Message (Sheet 2 of 3)

NOTES

1. The proper setting of the M.9A Action and Status Indicator fields is determined by comparing the Force Tell (FT) and Emergency (EMG) status previously reported for the track on Link 11 with the status of the track as currently reported in the Surveillance message being forwarded. When the FT, EMG, or both being reported in the Surveillance messages do not change, the appropriate M.9A (AC=5) Track Alert Report shall continue to be transmitted immediately preceding each Track Position and Track Position Amplify message pair. The proper setting for the forwarded M.9A Action and Status Indicator fields are as follows. (To use the following table, find the former status of the FT and EMG indicators along the top row, then find the current status of the FT and EMG indicators from the second row. Read down and where there is an "X" read left to determine the message(s) to be sent.)

Previous J5.4

Force Tell and Emergency Setting	FT=0 EMG=0	FT=0 EMG=0	FT=0 EMG=0	FT=0 EMG=0	FT=1 EMG=0	FT=1 EMG=0	FT=1 EMG=0	FT=1 EMG=0
-------------------------------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------

Current J5.4

Force Tell and Emergency Setting	FT=0 EMG=0	FT=1 EMG=0	FT=0 EMG=1	FT=1 EMG=1	FT=0 EMG=0	FT=1 EMG=0	FT=0 EMG=1	FT=1 EMG=1
-------------------------------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------

M.9A AC=5, STI=0		X		X ¹			X	X ¹
------------------	--	---	--	----------------	--	--	---	----------------

M.9A AC=5, STI=1		X				X	
------------------	--	---	--	--	--	---	--

M.9A AC=7, STI=0							
------------------	--	--	--	--	--	--	--

M.9A AC=7, STI=1					X		X
------------------	--	--	--	--	---	--	---

Previous J5.4

Force Tell and Emergency Setting	FT=0 EMG=1	FT=0 EMG=1	FT=0 EMG=1	FT=0 EMG=1	FT=1 EMG=1	FT=1 EMG=1	FT=1 EMG=1	FT=1 EMG=1
-------------------------------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------

Current J5.4

Force Tell and Emergency Setting	FT=0 EMG=0	FT=1 EMG=0	FT=0 EMG=1	FT=1 EMG=1	FT=0 EMG=0	FT=1 EMG=0	FT=0 EMG=1	FT=1 EMG=1
-------------------------------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------

M.9A AC=5, STI=0		X		X ¹			X	X ¹
------------------	--	---	--	----------------	--	--	---	----------------

M.9A AC=5, STI=1		X					X ³
------------------	--	---	--	--	--	--	----------------

M.9A AC=7, STI=0	X	X			X	X	
------------------	---	---	--	--	---	---	--

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TABLE A.5.2-M.9A-8. M.9A(AC=5 OR 7) Message Data Element Translation from the J5.4 Message (Sheet 3 of 3)

NOTES (Continued)

1. (Continued)

M.9A AC=7, STI=1 X² X²

¹ Only the Emergency status will be reported on the interface when both Emergency and Force Tell statuses exist, but the Force Tell status must be maintained in the FJU database.

² The M.9A(AC=7, STI=1) is required for transmission on the interface only if the Force Tell alert has previously been reported.

³ Force Tell Alert transmitted if it has not been previously reported.

2. The Environment/Category field will only be set when forwarding the M.9A (AC=5) message.

3. The Track Number of the M.9A (AC = 5 or 7) message shall be derived from the Track Number, Reference in the J5.4 message.

4. The PU/RU Address/Source of the M.9A (AC = 5 or 7) message shall always be the source of the data being forwarded.

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TABLE A.5.2-M.9A-9. M.9A(AC=5) Message Data Element Translation from the J7.0 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9A	FIELD LABEL	TRANSLATION		DATA ELEMENT LABEL, J-SERIES	VALUE 7	NOTES	
		VALUE 9	REQUIRED CR	WORD J7.0I			
	SUBLABEL	0	CR	J7.0I	SUBLABEL, J-SERIES	0	
	ACTION	5	CR	J7.0I	ACTION, TRACK MANAGEMENT ALERT STATUS CHANGE	3 or 4 1	
	ENVIRONMENT/CATEGORY	0	=	J7.0I	ENVIRONMENT	0	
	TRACK NUMBER	AT	CR	J7.0I	TRACK NUMBER, REFERENCE	RX G13	
	PU/RU ADDRESS/SOURCE	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX 1,G12	
	STATUS INDICATOR	AT	CR	J7.0I	ACTION, TRACK MANAGEMENT	3 or 4 2	

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TABLE A.5.2-M.9A-9. M.9A(AC=5) Message Data Element Translation from the J7.0
Message (Sheet 2 of 2)

NOTES

1. The PU/RU Address/Source of the M.9A(AC=5 or 7) message shall always be the source of the data being forwarded.
2. The STI field is determined as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>STATUS INDICATOR</u>	<u>ACTION, TRACK MANAGEMENT</u>
0 - EMERGENCY ALERT	3
1 - FORCE TELL ALERT	4

TABLE A.5.2-M.9A-10. M.9A(AC=6) Message Data Element Translation from the J7.0(ACT=1) Message
(Sheet 1 of 2)

Link 11/11B				Link 16			
<u>MESSAGE</u> M.9A(AC=6)	<u>FIELD</u> <u>LABEL</u>	TRANSLATION			<u>DATA ELEMENT</u> <u>LABEL, J-SERIES</u>	<u>VALUE</u> 7	<u>NOTES</u>
		<u>VALUE</u> 9	<u>REQUIRED</u> CR	<u>WORD</u> J7.0I			
	SUBLABEL	0	CR	J7.0I	SUBLABEL, J-SERIES	0	1
	ACTION	6	CR	J7.0I	ACTION, TRACK MANAGEMENT CONTROLLING UNIT INDICATOR	1 1	1
	ENVIRONMENT/CATEGORY	1	CR	J7.0I	ENVIRONMENT	2	G20
	IDENTITY	AT	CR	J7.0I	EXERCISE INDICATOR IDENTITY IDENTITY AMPLIFYING DESCRIPTOR	RX RX RX	G20
	PRIMARY IDENTITY AMPLIFICATION	AT	CR	J7.0I	EXERCISE INDICATOR IDENTITY IDENTITY AMPLIFYING DESCRIPTOR AIR PLATFORM AIR ACTIVITY	RX RX RX RX RX	G20
	IDENTITY AMPLIFICATION	AT	CR	J7.0I	EXERCISE INDICATOR IDENTITY AIR PLATFORM AIR ACTIVITY	RX RX RX RX	G20
	TRACK NUMBER	AT	CR	J7.0I	TRACK NUMBER, REFERENCE	RX	G13
	PU/RU ADDRESS/SOURCE	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	2, G12
	STATUS INDICATOR	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.9A-10. M.9A(AC=6) Message Data Element Translation from the
J7.0(ACT=1) Message (Sheet 2 of 2)

NOTES

1. The Exercise Indicator, Identity, Identity Amplifying Descriptor, Air Platform, and Air Activity fields received in a J7.0 (ACT=1) with the Controlling Unit Indicator field set to value 1 shall be used to update data held in the FJU database.
2. The PU/RU Address/Source field of an M.9A(AC=6) message forwarded to Link 11/11B shall always be the source of the data being forwarded.

TABLE A.5.2-M.9A-11. M.9A(AC=6) Message Data Element Translation from the J10.3 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9A(AC=6)	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 10	NOTES
		VALUE 9	REQUIRED CR	WORD J10.3I			
	SUBLABEL	0	CR	J10.3I	SUBLABEL, J-SERIES	3	1
	ACTION	6	NONE	NA	NA	NA	
	ENVIRONMENT/CATEGORY	1	NONE	NA	NA	NA	2
	IDENTITY	AT	CR	J2.2I or J3.2I	(See Note 1) EXERCISE INDICATOR IDENTITY IDENTITY AMPLIFYING DESCRIPTOR SPECIAL INTEREST INDICATOR	RX RX RX RX RX	1 G20
	PRIMARY IDENTITY AMPLIFICATION	AT	CR	J2.2C1 or J3.2I J3.2C1	AIR PLATFORM AIR ACTIVITY EXERCISE INDICATOR IDENTITY IDENTITY AMPLIFYING DESCRIPTOR SPECIAL INTEREST INDICATOR AIR PLATFORM AIR ACTIVITY	RX RX RX RX RX RX RX RX	G20
	IDENTITY AMPLIFICATION	AT	CR	J2.2C1 or J3.2I J3.2C1	AIR PLATFORM AIR ACTIVITY EXERCISE INDICATOR IDENTITY IDENTITY AMPLIFYING DESCRIPTOR SPECIAL INTEREST INDICATOR AIR PLATFORM AIR ACTIVITY	RX RX RX RX RX RX RX RX	G20
	TRACK NUMBER	AT	CR	J10.3I	TRACK NUMBER, REFERENCE	RX	G13
	PU/RU ADDRESS/SOURCE	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	2, G12
	STATUS INDICATOR	0	CR	J10.3I	SUBLABEL, J-SERIES	3	

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TABLE A.5.2-M.9A-11. M.9A(AC=6) Message Data Element Translation from the J10.3
Message (Sheet 2 of 2)

NOTES

1. The M.9A(AC=6) Identity is derived from the PPLI or surveillance information on the track. If it is derived from the J2.2 PPLI message, the Identity field shall be set to value 1 or 3, Friend. The determination of this value is dependent on the Platform/Activity in accordance with General Note 20. If the M.9A(AC=6) Identity is derived from the J3.2 Surveillance message, it will be determined in accordance with General Note 20.
2. The PU/RU Address/Source field of an M.9A(AC=6) message forwarded on Link 11/11B shall always be the source of data being forwarded.

TABLE A.5.2-M.9A-12. M.9A(AC=6) Message Data Element Translation from the J10.5 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9A(AC=6)	FIELD LABEL	TRANSLATION		DATA ELEMENT LABEL, J-SERIES	VALUE 10	NOTES	
		VALUE 9	REQUIRED CR	WORD J10.5I			
	SUBLABEL	0	CR	J10.5I	SUBLABEL, J-SERIES	5	
	ACTION	6	NONE	NA	NA	NA	
	ENVIRONMENT/CATEGORY	1	NONE	NA	NA	NA	
	IDENTITY	AT	CR	J2.0I or J3.2I	(See Note 2) EXERCISE INDICATOR IDENTITY IDENTITY AMPLIFYING DESCRIPTOR SPECIAL INTEREST INDICATOR	RX RX RX RX RX	
	PRIMARY IDENTITY AMPLIFICATION	AT	CR	J2.2C1 or J3.2I J3.2C1	AIR PLATFORM AIR ACTIVITY EXERCISE INDICATOR IDENTITY IDENTITY AMPLIFYING DESCRIPTOR SPECIAL INTEREST INDICATOR AIR PLATFORM AIR ACTIVITY	RX RX RX RX RX RX RX RX	
	IDENTITY AMPLIFICATION	AT	CR	J2.2C1 or J3.2I J3.2C1	AIR PLATFORM AIR ACTIVITY EXERCISE INDICATOR IDENTITY IDENTITY AMPLIFYING DESCRIPTOR SPECIAL INTEREST INDICATOR AIR PLATFORM AIR ACTIVITY	RX RX RX RX RX RX RX RX	
	TRACK NUMBER	AT	CR	J10.5I	TRACK NUMBER, REFERENCE	RX	
	PU/RU ADDRESS/SOURCE	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	
	STATUS INDICATOR	AT	CR	J10.5I	CONTROLLING UNIT STATUS	RX	

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TABLE A.5.2-M.9A-12. M.9A(AC=6) Message Data Element Translation from the J10.5 Message (Sheet 2 of 2)

NOTES

1. The M.9A(AC=6) Identity, Primary Identity Amplification, and Identity Amplification fields will be set to value 0 when M.9A(AC=6, STI=1).
2. The M.9A(AC=6) Identity is derived from the PPLI or surveillance information on the track. If it is derived from the J2.2 PPLI message, the Identity field shall be set to value 3, Friend.
3. The PU/RU Address/Source field of an M.9A(AC=6) message forwarded onto Link 11/11B shall always be the source of data being forwarded.
4. The J10.5 Controlling Unit Status is forwarded as follows:

Link 11/11B	
STATUS INDICATOR	
0	
1	

Link 16	
CONTROLLING UNIT STATUS	
1	
0	

TABLE A.5.2-M.9A-13. M.9A(AC=7) Message Data Element Translation from the J7.0 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9A(AC=7)	FIELD LABEL	TRANSLATION		DATA ELEMENT LABEL, J-SERIES	VALUE 7	NOTES	
		VALUE 9	REQUIRED CR	WORD J7.0I			
	SUBLABEL	0	CR	J7.0I	SUBLABEL, J-SERIES	0	
	ACTION	7	CR	J7.0I	ACTION, TRACK MANAGEMENT ALERT STATUS CHANGE	3 or 4 0	
	TRACK NUMBER	AT	CR	J7.0I	TRACK NUMBER, REFERENCE	RX G13	
	PU/RU ADDRESS/SOURCE	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX 1,G12	
	STATUS INDICATOR	AT	CR	J7.0I	ACTION, TRACK MANAGEMENT	3 or 4 2	

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TABLE A.5.2-M.9A-13. M.9A(AC=7) Message Data Element Translation from the J7.0
Message (Sheet 2 of 2)

NOTES

1. The PU/RU Address/Source of the M.9A(AC=5 or 7) message shall always be the source of the data being forwarded.
2. The STI field is determined as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>STATUS INDICATOR</u>	<u>ACTION, TRACK MANAGEMENT</u>
0 - EMERGENCY ALERT	3
1 - FORCE TELL ALERT	4

TABLE A.5.2-M.9A-14. M.9A(AC=9) Message Data Element Translation from the J7.5 Message (Sheet 1 of 3)

Link 11/11B				Link 16			
MESSAGE M.9A(AC=9)	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 7	NOTES
		VALUE 9	REQUIRED CR	WORD J7.5I			
	SUBLABEL	0	CR	J7.5I	SUBLABEL, J-SERIES	5	
	ACTION	9	CR	J7.5I	ACTION, IFF/SIF MANAGEMENT	RX	1
	MODE I/II/III CODE	AT	CR	J7.5I	MODE I CODE	RX	2,3, G15
					MODE I CODE APPLICABILITY	RX	
					MODE II CODE	RX	
					MODE II CODE APPLICABILITY	RX	
					MODE III CODE	RX	
					MODE III CODE APPLICABILITY	RX	
	MODE IV INDICATOR	RX	=	J7.5I	MODE IV INDICATOR	RX	
	TRACK NUMBER	AT	CR	J7.5I	TRACK NUMBER, REFERENCE	RX	G13
	PU/RU ADDRESS/SOURCE	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G12
	IFF/SIF ACTION CODE	AT	CR	J7.5I	ACTION, IFF/SIF MANAGEMENT	RX	4
	MODE INDICATOR	AT	CR	J7.5I	ACTION, IFF/SIF MANAGEMENT	RX	5
					MODE I CODE APPLICABILITY	RX	
					MODE II CODE APPLICABILITY	RX	
					MODE III CODE APPLICABILITY	RX	
					MODE IV INDICATOR APPLICABILITY	RX	

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TABLE A.5.2-M.9A-14. M.9A(AC=9) Message Data Element Translation from the J7.5 Message (Sheet 2 of 3)

NOTES

1. The M.9A(AC=9) message shall be forwarded from the J7.5 (ACT=0, 1) message.
2. The multiple modes possible in a single J7.5 message may result in multiple M.9A(AC=9) messages being forwarded.
3. Valid Mode I codes for data link exchange shall range from 01 through 73 (octal) with 31 possible values, those values with least significant digit greater than 3 not being used. The Mode I/II/III Code field of the M.9A(AC=9) IFF Codes are in the order A, B, C, D (A, B only for Mode I), with each triad in the order 4, 2, 1 and the most significant bit A4 in bit position 23. The Mode I field of the J7.5I IFF codes are in the order A4, A2, A1, B2, B1 with the most significant bit A4 in bit position 45.
4. IFF/SIF Action Code (ISAC) translation from Action, IFF/SIF Management:

<u>Link 11/11B</u>	
<u>IFF/SIF ACTION CODE</u>	
0 - CLEAR REQUEST	
1 - DIFFERENCE REPORT	

<u>Link 16</u>	
<u>ACTION, IFF/SIF MANAGEMENT</u>	
0 - CLEAR IFF/SIF	
1 - IFF/SIF DIFFERENCE REPORT	

5. The M.9A(AC=9, Mode Indicator (MI) = 2, 3, 4, or 6) message may be used for ISAC = 0 or 1. The MI = 0 is only applicable in conjunction with the ISAC = 0. If the J7.5 Mode IV Indicator Applicability = 1 and the Action, IFF/SIF Management = 0, a separate M.9A(AC=9) shall be transmitted with ISAC = 0 and MI = 3. In the latter case, the remaining applicable modes will be forwarded in the manner resulting in the fewest M.9A(AC=9) messages.

<u>Link 11/11B</u>	
<u>IFF/SIF ACTION CODE</u>	<u>MODE INDICATOR</u>
0	2
1	2

<u>Link 16</u>	
<u>MODE I CODE</u>	<u>ACTION, IFF/SIF MANAGEMENT</u>
<u>APPLICABILITY</u>	<u>MANAGEMENT</u>
1	0
1	1

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TABLE A.5.2-M.9A-14. M.9A(AC=9) Message Data Element Translation from the J7.5 Message (Sheet 3 of 3)

NOTES (Continued)

5. (Continued)

Link 11/11B	
IFF/SIF ACTION	
CODE	MODE INDICATOR
0	4
1	4

Link 16	
MODE II CODE	ACTION, IFF/SIF
APPLICABILITY	MANAGEMENT
1	0
1	1

Link 11/11B	
IFF/SIF ACTION	
CODE	MODE INDICATOR
0	6
1	6

Link 16	
MODE III CODE	ACTION, IFF/SIF
APPLICABILITY	MANAGEMENT
1	0
1	1

Link 11/11B

Link 16	
MODE	IV
INDICATOR	ACTION, IFF/SIF
APPLICABILITY	MANAGEMENT
1	0
1	1

IFF/SIF ACTION

<u>MODE</u>	<u>ACTION, IFF/SIF</u>
<u>APPLICABILITY</u>	<u>MANAGEMENT</u>
MODE I = 1 AND	0
MODE II = 1	
AND MODE III	
= 1	

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TABLE A.5.2-M.9B-1. M.9B Message Data Element Translation from the J3.0 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9B	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 3	NOTES
		VALUE 9	REQUIRED CR	WORD J3.0I			
	SUBLABEL	1	CR	J3.0I	LABEL, J-SERIES SUBLABEL, J-SERIES	3 0	
	ACTION	AT	CR	J3.0C5	TRACK NUMBER, RELATED 2	RX	1
	TN ORIGINATOR	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
	TRACK NUMBER ONE	AT	CR	J3.0I	TRACK NUMBER, REFERENCE	RX	G13
	TRACK NUMBER TWO	AT	CR	J3.0C5	TRACK NUMBER, RELATED 2	RX	G13

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TABLE A.5.2-M.9B-1. M.9B Message Data Element Translation from the J3.0 Message
(Sheet 2 of 2)

NOTES

1. The M.9B(AC=6 or 15) message is determined by the J3.0C5 word Track Number, Related 2 value as follows:

a. If the Track Number, Related 2 is not equal to zero, AC shall be set to 6, Associate Data.

b. If the Track Number, Related 2 is equal to zero, but has previously reported a value other than zero, AC shall be set to 15, Terminate Pairing/Association.

TABLE A.5.2-M.9B-2. M.9B Message Data Element Translation from the J3.1 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9B	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 3	NOTES 1
		VALUE 9	REQUIRED CR	WORD J3.1I			
	SUBLABEL	1	CR	J3.1I	SUBLABEL, J-SERIES	1	
	ACTION	6	NONE	NA	NA	NA	
	TN ORIGINATOR	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
	TRACK NUMBER ONE	AT	CR	J3.1I	TRACK NUMBER, REFERENCE	RX	G13
	TRACK NUMBER TWO	AT	CR	J3.1I	TRACK NUMBER, PREVIOUSLY REPORTED	RX	G13

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TABLE A.5.2-M.9B-2. M.9B Message Data Element Translation from the J3.1 Message
(Sheet 2 of 2)

NOTES

1. The M.9B message is derived from either the J3.1, J7.2, J7.7, or J10.6 message.

TABLE A.5.2-M.9B-3. M.9B Message Data Element Translation from the J7.2 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9B	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 7	NOTES 1
		VALUE 9	REQUIRED CR	WORD J7.2I			
	SUBLABEL	1	CR	J7.2I	SUBLABEL, J-SERIES	2	
	ACTION	7	CR	J7.2I	ACTION, CORRELATE	0	
	TN ORIGINATOR	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
	RESPONSE VALUE	RX	=	J7.2I	RESPONSE VALUE	RX	
	TRACK NUMBER ONE	AT	CR	J7.2I	TRACK NUMBER, RETAINED	RX	G13
	TRACK NUMBER TWO	AT	CR	J7.2I	TRACK NUMBER, DROPPED	RX	G13

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TABLE A.5.2-M.9B-3. M.9B Message Data Element Translation from the J7.2 Message
(Sheet 2 of 2)

NOTES

1. The M.9B message is derived from either the J3.1, J7.2, J7.7, or J10.6 message.

TABLE A.5.2-M.9B-4. M.9B Message Data Element Translation from the J7.7 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9B	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 7	NOTES 1
		VALUE 9	REQUIRED CR	WORD J7.7I			
	SUBLABEL	1	CR	J7.7I	SUBLABEL, J-SERIES	7	
	ACTION	AT	CR	J7.7I	ACTION, ASSOCIATION	RX	2
	TN ORIGINATOR	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
	TRACK NUMBER ONE	AT	CR	J7.7I	TRACK NUMBER, SUBJECT	RX	G13
	TRACK NUMBER TWO	AT	CR	J7.7I	TRACK NUMBER, ASSOCIATED	RX	G13

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TABLE A.5.2-M.9B-4. M.9B Message Data Element Translation from the J7.7 Message
(Sheet 2 of 2)

NOTES

1. The M.9B message is derived from either the J3.1, J7.2, J7.7 or J10.6 message.
2. The M.9B(AC=6 or 15) message is determined by the J7.7 Action, Association value as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
ACTION	ACTION, ASSOCIATION
6	0
15	1

TABLE A.5.2-M.9B-5. M.9B Message Data Element Translation from the J10.6 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9B	FIELD LABEL	TRANSLATION		DATA ELEMENT LABEL, J-SERIES	VALUE 10	NOTES 1	
		VALUE 9	REQUIRED CR	WORD J10.6I			
	SUBLABEL	1	CR	J10.6I	SUBLABEL, J-SERIES	6	
	ACTION	AT	CR	J10.6I	PAIRING ACTION	RX 2	
	TN ORIGINATOR	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX G2, G12	
	RESPONSE VALUE	0	NONE	NA	NA	NA	
	TRACK NUMBER ONE	AT	CR	J10.6I	TRACK NUMBER, REFERENCE	RX G13	
	TRACK NUMBER TWO	AT	CR	J10.6I	TRACK NUMBER, OBJECTIVE	RX G13	

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TABLE A.5.2-M.9B-5. M.9B Message Data Element Translation from the J10.6 Message
(Sheet 2 of 2)

NOTES

1. The M.9B message is derived from either the J3.1, J7.2, J7.7 or J10.6 message.
2. The M.9B(AC=0-5 or 15) message is determined by the J10.6 Pairing Action value as follows:

<u>Link 11/11B</u>
<u>ACTION</u>
0 - GENERAL PAIRING
1 - STRIKE PAIRING
2 - RENDEZVOUS
3 - RTB PAIRING
4 - CAP STATION PAIRING
5 - CLOSE AIR SUPPORT
15 - TERMINATE PAIRING/ASSOCIATION

<u>Link 16</u>
<u>PAIRING ACTION</u>
0 - NO STATEMENT
1 - GENERAL PAIRING
7 - TANKER PAIRING
8-14 - UNDEFINED
2 - INTERDICTION PAIRING
3 - RENDEZVOUS PAIRING
6 - RETURN TO BASE PAIRING
4 - COMBAT AIR PATROL PAIRING
5 - CLOSE AIR SUPPORT PAIRING
15 - TERMINATE PAIRING

TABLE A.5.2-M.9C. M.9C Message Data Element Translation from Link 16 (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9C	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 7	NOTES
		VALUE 9	REQUIRED CR	WORD J7.3I			
	SUBLABEL	2	CR	J7.3I	SUBLABEL, J-SERIES	3	
	PU/RU ORIGINATOR	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G12
	PU/RU ADDRESSEE	AT	CR	J7.3I J7.3C1	TRACK NUMBER, ADDRESSEE 1 TRACK NUMBER, ADDRESSEE 2 TRACK NUMBER, ADDRESSEE 3 TRACK NUMBER, ADDRESSEE 4 TRACK NUMBER, ADDRESSEE 5	RX RX RX RX RX	G12 1,G12 1,G12 1,G12 1,G12
	OPERATOR POSITION	AT	CR	J7.3I	ACTION, POINTER	RX	2
	X COORDINATE	AT	CR	J7.3I	LATITUDE, 0.0412 MINUTE LONGITUDE, 0.0412 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J7.3I	LATITUDE, 0.0412 MINUTE LONGITUDE, 0.0412 MINUTE	RX RX	G9

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TABLE A.5.2-M.9C. M.9C Message Data Element Translation from Link 16
(Sheet 2 of 2)

NOTES

1. The multiple addressees possible in a single J7.3 message may result in multiple M.9C messages, each addressed to a different unit.
2. The Operator Position field is determined from the Action, Pointer field as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
OPERATOR POSITION	ACTION, POINTER
0 - WEAPONS	0 - NO STATEMENT
1 - TRACKING	1 - WEAPONS
2 - EW	2 - TRACKING
3 - SP	3 - ELECTRONIC WARFARE
	4 - SPECIAL PROCESSING

TABLE A.5.2-M.9E-1. M.9E(AC=0) Message Data Element Translation from the J10.3 Message (Sheet 1 of 2)

Link 11/11B				Link 16				
MESSAGE M.9E	FIELD LABEL	TRANSLATION				DATA ELEMENT LABEL, J-SERIES	VALUE 10	NOTES
		VALUE 9	REQUIRED CR	WORD J10.3I				
	SUBLABEL	4	CR	J10.3I		SUBLABEL, J-SERIES	3	
	TRACK NUMBER	AT	CR	J10.3I or HEADER		REQUEST FOR ASSUME CONTROL TRACK NUMBER, REFERENCE TRACK NUMBER, SOURCE	RX RX RX	2 G13 G12
	ACTION	0	CR	J10.3E0		LINK 4A ADDRESS	RX	1
	LINK 4A ADDRESS	RX	=	J10.3E0		LINK 4A ADDRESS	RX	

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TABLE A.5.2-M.9E-1. M.9E(AC=0) Message Data Element Translation from the J10.3
Message (Sheet 2 of 2)

NOTES

1. The M.9E(AC=0) message is forwarded when the FJU receives the J10.3 (R/C = 0) message with Link 4A Address set to other than 0.
2. If the J10.3 message has Request for Assume Control set to value 0 or 1, the M.9E Track Number is determined from the J10.3 Reference TN. If the J10.3 message has request for Assume Control set to value 2, the M.9E Track Number is determined from Source TN in the received header word.

TABLE A.5.2-M.9E-2. M.9E(AC=1) Message Data Element Translation from the J2.2 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9E	FIELD LABEL	TRANSLATION		DATA ELEMENT LABEL, J-SERIES	VALUE 2	NOTES 1	
		VALUE 9	REQUIRED CR	WORD J2.2I			
	SUBLABEL	4	CR	J2.2I	SUBLABEL, J-SERIES	2	
	TRACK NUMBER	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX G12	
	ACTION	1	=	J2.2C2	VOICE CALL SIGN INDICATOR	1	
	VOICE CALL SIGN	RX	=	J2.2C2	VOICE CALL SIGN	RX 2	

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TABLE A.5.2-M.9E-2. M.9E(AC=1) Message Data Element Translation from the J2.2
Message (Sheet 2 of 2)

NOTES

1. The M.9E(AC=1) message may be forwarded from the J2.2, J2.3, J2.4, J2.5, J2.6, J9.0, J10.3, and J10.5 messages.
2. The M.9E(AC=1) message is forwarded when the FJU receives a J2.2 message in which the Voice Call Sign has changed.

TABLE A.5.2-M.9E-3. M.9E(AC=1) Message Data Element Translation from the J2.3 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9E	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 2	NOTES 1
		VALUE 9	REQUIRED CR	WORD J2.3I			
	SUBLABEL	4	CR	J2.3I	SUBLABEL, J-SERIES	3	
	TRACK NUMBER	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G12
	ACTION	1	=	J2.3C2	VOICE CALL SIGN INDICATOR	1	
	VOICE CALL SIGN	RX	=	J2.3C2	VOICE CALL SIGN	RX	2

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TABLE A.5.2-M.9E-3. M.9E(AC=1) Message Data Element Translation from the J2.3
Message (Sheet 2 of 2)

NOTES

1. The M.9E(AC=1) message may be forwarded from the J2.2, J2.3, J2.4, J2.5, J2.6, J9.0, J10.3, and J10.5 messages.
2. The M.9E(AC=1) message is forwarded when the FJU receives a J2.3 message in which the Voice Call Sign has changed.

TABLE A.5.2-M.9E-4. M.9E(AC=1) Message Data Element Translation from the J2.4 Message (Sheet 1 of 2)

Link 11/11B					Link 16		
MESSAGE M.9E	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 2	NOTES 1
		VALUE 9	REQUIRED CR	WORD J2.4I			
	SUBLABEL	4	CR	J2.4I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 4	
	TRACK NUMBER	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G12
	ACTION	1	=	J2.4C2	VOICE CALL SIGN INDICATOR	1	
	VOICE CALL SIGN	RX	=	J2.4C2	VOICE CALL SIGN	RX	2

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TABLE A.5.2-M.9E-4. M.9E(AC=1) Message Data Element Translation from the J2.4
Message (Sheet 2 of 2)

NOTES

1. The M.9E(AC=1) message may be forwarded from the J2.2, J2.3, J2.4, J2.5, J2.6, J9.0, J10.3, and J10.5 messages.
2. The M.9E(AC=1) message is forwarded when the FJU receives a J2.4 message in which the Voice Call Sign has changed.

TABLE A.5.2-M.9E-5. M.9E(AC=1) Message Data Element Translation from the J2.5 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9E	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 2	NOTES 1
		VALUE 9	REQUIRED CR	WORD J2.5I			
	SUBLABEL	4	CR	J2.5I	SUBLABEL, J-SERIES	5	
	TRACK NUMBER	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G12
	ACTION	1	=	J2.5C1	VOICE CALL SIGN INDICATOR	1	
	VOICE CALL SIGN	RX	=	J2.5C1	VOICE CALL SIGN	RX	2

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TABLE A.5.2-M.9E-5. M.9E(AC=1) Message Data Element Translation from the J2.5
Message (Sheet 2 of 2)

NOTES

1. The M.9E(AC=1) message may be forwarded from the J2.2, J2.3, J2.4, J2.5, J2.6, J9.0, J10.3, and J10.5 messages.
2. The M.9E(AC=1) message is forwarded when the FJU receives a J2.5 message in which the Voice Call Sign has changed.

TABLE A.5.2-M.9E-6. M.9E(AC=1) Message Data Element Translation from the J2.6 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9E	FIELD LABEL	TRANSLATION		DATA ELEMENT LABEL, J-SERIES	VALUE 2	NOTES 1	
		VALUE 9	REQUIRED CR	WORD J2.6I			
	SUBLABEL	4	CR	J2.6I	SUBLABEL, J-SERIES	6	
	TRACK NUMBER	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX G12	
	ACTION	1	=	J2.6C1	VOICE CALL SIGN INDICATOR	1	
	VOICE CALL SIGN	RX	=	J2.6C1	VOICE CALL SIGN	RX 2	

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TABLE A.5.2-M.9E-6. M.9E(AC=1) Message Data Element Translation from the J2.6
Message (Sheet 2 of 2)

NOTES

1. The M.9E(AC=1) message may be forwarded from the J2.2, J2.3, J2.4, J2.5, J2.6, J9.0, J10.3, and J10.5 messages.
2. The M.9E(AC=1) message is forwarded when the FJU receives a J2.6 message in which the Voice Call Sign has changed.

TABLE A.5.2-M.9E-7. M.9E(AC=1) Message Data Element Translation from the J9.0 Message (Sheet 1 of 2)

Link 11/11B					Link 16			
MESSAGE M.9E	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 9	NOTES 1	
		VALUE 9	REQUIRED CR	WORD J9.0I				
	SUBLABEL	4	CR	J9.0I	SUBLABEL, J-SERIES	0		
	TRACK NUMBER	AT	CR	J9.0E0	TRACK NUMBER, FRIENDLY WEAPON	RX	G13	
	ACTION	1	CR	J9.0C1	VOICE CALL SIGN	RX	2	
	VOICE CALL SIGN	RX	=	J9.0C1	VOICE CALL SIGN	RX		

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TABLE A.5.2-M.9E-7. M.9E(AC=1) Message Data Element Translation from the J9.0
Message (Sheet 2 of 2)

NOTES

1. The M.9E(AC=1) message may be forwarded from the J2.2, J2.3, J2.4, J2.5, J2.6, J9.0, J10.3, and J10.5 messages.
2. The M.9E(AC=1) message is forwarded when the FJU receives the J9.0 message with Voice Call Sign set to other than 0.

TABLE A.5.2-M.9E-8. M.9E(AC=1) Message Data Element Translation from the J10.3 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9E	FIELD LABEL	TRANSLATION		DATA ELEMENT LABEL, J-SERIES	VALUE 10	NOTES 1	
		VALUE 9	REQUIRED CR	WORD J10.3I			
	SUBLABEL	4	CR	J10.3I	SUBLABEL, J-SERIES	3	
	TRACK NUMBER	AT	CR	J10.3I or HEADER	REQUEST FOR ASSUME CONTROL TRACK NUMBER, REFERENCE TRACK NUMBER, SOURCE	RX RX RX 3 G13 G12	
	ACTION	1	CR	J10.3E0	VOICE CALL SIGN	RX 2	
	VOICE CALL SIGN	RX	=	J10.3E0	VOICE CALL SIGN	RX	

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TABLE A.5.2-M.9E-8. M.9E(AC=1) Message Data Element Translation from the J10.3
Message (Sheet 2 of 2)

NOTES

1. The M.9E(AC=1) message may be forwarded from the J2.2, J2.3, J2.4, J2.5, J2.6, J9.0, J10.3, and J10.5 messages.
2. The M.9E(AC=1) message is forwarded when the FJU receives the J10.3(R/C = 0) message with Voice Call Sign set to other than 0.
3. If the J10.3 message has Request for Assume Control set to value 0 or 1, the M.9E Track Number is determined from the J10.3 Reference TN. If the J10.3 message has Request for Assume Control set to value 2, the M.9E Track Number is determined from Source TN in the received header word.

TABLE A.5.2-M.9E-9. M.9E(AC=1) Message Data Element Translation from the J10.5 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9E	FIELD LABEL	TRANSLATION		DATA ELEMENT LABEL, J-SERIES	VALUE 10	NOTES 1	
		VALUE 9	REQUIRED CR	WORD J10.5I			
	SUBLABEL	4	CR	J10.5I	SUBLABEL, J-SERIES	5	
	TRACK NUMBER	AT	CR	J10.5I	TRACK NUMBER, REFERENCE	RX G13	
	ACTION	1	CR	J10.5I	VOICE CALL SIGN	RX 2	
	VOICE CALL SIGN	RX	=	J10.5I	VOICE CALL SIGN	RX	

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TABLE A.5.2-M.9E-9. M.9E(AC=1) Message Data Element Translation from the J10.5
Message (Sheet 2 of 2)

NOTES

1. The M.9E(AC=1) message may be forwarded from the J2.2, J2.3, J2.4, J2.5, J2.6, J9.0, J10.3, and J10.5 messages.
2. The M.9E(AC=1) message is forwarded when the FJU receives the J10.5 message with Voice Call Sign set to other than 0.

TABLE A.5.2-M.9E-10. M.9E(AC=2) Message Data Element Translation from the J9.0 Message (Sheet 1 of 2)

Link 11/11B					Link 16			
MESSAGE M.9E	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 9	NOTES 1	
		VALUE 9	REQUIRED CR	WORD J9.0I				
	SUBLABEL	4	CR	J9.0I	SUBLABEL, J-SERIES	0		
	TRACK NUMBER	AT	CR	J9.0E0	TRACK NUMBER, FRIENDLY WEAPON	RX	G13	
	ACTION	2	CR	J9.0C1	VOICE FREQUENCY/CHANNEL	RX	2	
	VOICE CONTROL FREQUENCY	RX	=	J9.0C1	VOICE FREQUENCY/CHANNEL	RX		

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TABLE A.5.2-M.9E-10. M.9E(AC=2) Message Data Element Translation from the J9.0
Message (Sheet 2 of 2)

NOTES

1. The M.9E(AC=2) message may be forwarded from the J9.0 and J10.3 messages.
2. The M.9E(AC=2) message is forwarded when the FJU receives the J9.0 message with Voice Frequency/Channel other than No Statement.

TABLE A.5.2-M.9E-11. M.9E(AC=2) Message Data Element Translation from the J10.3 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9E	FIELD LABEL	TRANSLATION		DATA ELEMENT LABEL, J-SERIES	VALUE 10	NOTES 1	
		VALUE 9	REQUIRED CR	WORD J10.3I			
	SUBLABEL	4	CR	J10.3I	SUBLABEL, J-SERIES	3	
	TRACK NUMBER	AT	CR	J10.3I	TRACK NUMBER, REFERENCE	RX G13	
	ACTION	2	CR	J10.3C1	VOICE FREQUENCY/CHANNEL	RX 2	
	VOICE CONTROL FREQUENCY	RX	=	J10.3C1	VOICE FREQUENCY/CHANNEL	RX	

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TABLE A.5.2-M.9E-11. M.9E(AC=2) Message Data Element Translation from the J10.3
Message (Sheet 2 of 2)

NOTES

1. The M.9E(AC=2) message may be forwarded from the J9.0 and J10.3 messages.
2. The M.9E(AC=2) message is forwarded when the FJU receives the J10.3 (Request for Assume Control = 0 or 1, R/C = 3, message or J10.3 Request for Assume Control = 2, R/C = 0) message with Voice Frequency/Channel other than No Statement.

TABLE A.5.2-M.9E-12. M.9E(AC=3) Message Data Element Translation from the J7.4 Message

Link 11/11B				Link 16			
MESSAGE M.9E	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 7	NOTES
		VALUE 9	REQUIRED CR	WORD J7.4I			
	SUBLABEL	4	CR	J7.4I	SUBLABEL, J-SERIES	4	
	TRACK NUMBER	AT	CR	J7.4I	TRACK NUMBER, REFERENCE	RX	G13
	ACTION	3	CR	J7.4I	TRACK NUMBER, REPORT/ REQUEST NATO LINK 1 TRACK NUMBER APPLICABILITY	0	
	LINK 1 NATO TRACK NUMBER	RX	=	J7.4I	NATO LINK 1 TRACK NUMBER	RX	
	SWITCH	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.9E-13. M.9E(AC=4) Message Data Element Translation from the J10.3 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9E	FIELD LABEL	TRANSLATION		WORD J10.3I	DATA ELEMENT LABEL, J-SERIES	VALUE 10	NOTES
		VALUE 9	REQUIRED CR				
	SUBLABEL	4	CR	J10.3I	SUBLABEL, J-SERIES	3	
	TRACK NUMBER	AT	CR	J10.3I	TRACK NUMBER, REFERENCE	RX	G13
	ACTION	4	CR	J10.3C1	VOICE FREQUENCY/CHANNEL	RX	1
	LINK 4A CONTROL FREQUENCY	RX	=	J10.3C1	LINK 4A FREQUENCY	RX	

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TABLE A.5.2-M.9E-13. M.9E(AC=4) Message Data Element Translation from the J10.3 Message (Sheet 2 of 2)

NOTES

1. The M.9E(AC=4) message is forwarded when the FJU receives the J10.3 (Request for Assume Control = 0 or 1, R/C = 3, message or J10.3 Request for Assume Control = 2, R/C = 0) message with Link 4A Frequency other than No Statement.

TABLE A.5.2-M.9E-14. M.9E(AC=5) Message Data Element Translation from the J7.4 Message

Link 11/11B				Link 16			
MESSAGE M.9E	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 7	NOTES
		VALUE 9	REQUIRED CR	WORD J7.4I			
	SUBLABEL	4	CR	J7.4I	SUBLABEL, J-SERIES	4	
	TRACK NUMBER	AT	CR	J7.4I	TRACK NUMBER, REFERENCE	RX	G13
	ACTION	5	CR	J7.4I	TRACK NUMBER, REPORT/ REQUEST NATO LINK 1 TRACK NUMBER APPLICABILITY	1	
	SWITCH	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.9F-1. M.9F(0)/M.89F(0) Message Data Element Translation from the J3.0 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE	FIELD	TRANSLATION			DATA ELEMENT	VALUE	NOTES
		VALUE	REQUIRED	WORD	LABEL, J-SERIES		
M.9F(0)	SUBLABEL	5	CR	J3.0I	SUBLABEL, J-SERIES	0	
	TRACK NUMBER	AT	CR	J3.0I	TRACK NUMBER, REFERENCE	RX	G13
	ACTION	0	NONE	NA	NA	NA	
	X COORDINATE	AT	CR	J3.0E0	LATITUDE, 0.0103 MINUTE LONGITUDE, 0.0103 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J3.0E0	LATITUDE, 0.0103 MINUTE LONGITUDE, 0.0103 MINUTE	RX RX	G9
M.89F(0)	LABEL	8	CR	J3.0I	LABEL, J-SERIES SUBLABEL, J-SERIES	3 0	
	MINUTES	RX	=	J3.0I	MINUTE	RX	
	HOURS	RX	=	J3.0I	HOUR	RX	
	CATEGORY/PLATFORM	3	NONE	NA	NA	NA	
	SOURCE	0	NONE	NA	NA	NA	
	SQUARE/CIRCLE SWITCH	AT	CR	J3.0C2	SQUARE/CIRCLE SWITCH	RX	1
	PROBABILITY FACTOR	2	NONE	NA	NA	NA	
	BEARING, ORIENTATION	AT	CR	J3.0C2	AXIS ORIENTATION	RX	G17
	MINOR AXIS	AT	CR	J3.0C2	AREA MINOR AXIS	RX	G18
	MAJOR AXIS	AT	CR	J3.0C2	AREA MAJOR AXIS	RX	G18

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TABLE A.5.2-M.9F-1. M.9F(0)/M.89F(0) Message Data Element Translation from the J3.0 Message (Sheet 2 of 2)

NOTES

1. The Square/Circle Switch is determined as follows:

Link 11/11B

SQUARE/CIRCLE SWITCH
0 - SQUARE/RECTANGLE
1 - CIRCLE/ELLIPSE

Link 16

SQUARE/CIRCLE SWITCH
1 - SQUARE/RECTANGULAR
2 - CIRCULAR/ELLIPTICAL

TABLE A.5.2-M.9F-2. M.9F(0)/M.89F(0) Message Data Element Translation from the J3.7 Message (Sheet 1 of 2)

Link 11/11B					Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 3	NOTES
		VALUE 9	REQUIRED CR	WORD J3.7I			
M.9F(0)	SUBLABEL	5	CR	J3.7I	SUBLABEL, J-SERIES	7	
	TRACK NUMBER	AT	CR	J3.7I	TRACK NUMBER, REFERENCE	RX	G13
	ACTION	0	NONE	NA	NA	NA	
	X COORDINATE	AT	CR	J3.7C2	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J3.7C2	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
	LABEL	8	CR	J3.7I	LABEL, J-SERIES SUBLABEL, J-SERIES	3 7	
	MINUTES	RX	=	J3.7I	MINUTE	RX	
	HOURS	RX	=	J3.7I	HOUR	RX	
	CATEGORY/PLATFORM	AT	CR	J3.7C1	ENVIRONMENT	RX	1
	SOURCE	1	NONE	NA	NA	NA	
M.89F(0)	SQUARE/CIRCLE SWITCH	AT	CR	J3.7I	SQUARE/CIRCLE SWITCH	RX	2
	PROBABILITY FACTOR	2	NONE	NA	NA	NA	
	BEARING, ORIENTATION	AT	CR	J3.7C2	AXIS ORIENTATION	RX	G17
	MINOR AXIS	AT	CR	J3.7C2	AREA MINOR AXIS	RX	G18
	MAJOR AXIS	AT	CR	J3.7C2	AREA MAJOR AXIS	RX	G18

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TABLE A.5.2-M.9F-2. M.9F(0)/M.89F(0) Message Data Element Translation from the
J3.7 Message (Sheet 2 of 2)

NOTES

1. Category/Platform is determined from the J3.7C1 Environment field as follows:

<u>Link 11/11B</u>
<u>CATEGORY/PLATFORM</u>
0 - NO STATEMENT
1 - AIR
2 - SURFACE
3 - SUBSURFACE

<u>Link 16</u>
<u>ENVIRONMENT</u>
0 - NO STATEMENT/UNKNOWN
5 - LAND
1 - SPACE
2 - AIR
3 - SURFACE
4 - SUBSURFACE

2. The Square/Circle Switch is determined as follows:

<u>Link 11/11B</u>
<u>SQUARE/CIRCLE SWITCH</u>
0 - SQUARE/RECTANGLE
1 - CIRCLE/ELLIPSE

<u>Link 16</u>
<u>SQUARE/CIRCLE SWITCH</u>
1 - SQUARE/RECTANGULAR
2 - CIRCULAR/ELLIPTICAL

TABLE A.5.2-M.9F-3. M.9F(0)/M.89F(0) Message Data Element Translation from the J14.0 Message (Sheet 1 of 2)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 14	NOTES
		VALUE 9	REQUIRED CR	WORD J14.0I			
M.9F(0)	SUBLABEL	5	CR	J14.0I	SUBLABEL, J-SERIES	0	
	TRACK NUMBER	AT	CR	J14.0I	TRACK NUMBER, REFERENCE	RX	G13
	ACTION	0	NONE	NA	NA	NA	
	X COORDINATE	AT	CR	J14.0C2	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
	Y COORDINATE	AT	CR	J14.0C2	LATITUDE, 0.0051 MINUTE LONGITUDE, 0.0051 MINUTE	RX RX	G9
	LABEL	8	CR	J14.0I	LABEL, J-SERIES SUBLABEL, J-SERIES	14 0	
	MINUTES	RX	=	J14.0I	MINUTE	RX	
	HOURS	RX	=	J14.0I	HOUR	RX	
	CATEGORY/PLATFORM	AT	CR	J14.0I	ENVIRONMENT	RX	1
	SOURCE	1	NONE	NA	NA	NA	

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TABLE A.5.2-M.9F-3. M.9F(0)/M.89F(0) Message Data Element Translation from the
J14.0 Message (Sheet 2 of 2)

NOTES

1. Category/Platform is determined from the J14.0I Environment field as follows:

<u>Link 11/11B</u>
<u>CATEGORY/PLATFORM</u>
0 - NO STATEMENT
1 - AIR
2 - SURFACE
3 - SUBSURFACE

<u>Link 16</u>
<u>ENVIRONMENT</u>
0 - NO STATEMENT/UNKNOWN
5 - LAND
1 - SPACE
2 - AIR
3 - SURFACE
4 - SUBSURFACE

2. The Square/Circle Switch is determined as follows:

<u>Link 11/11B</u>
<u>SQUARE/CIRCLE SWITCH</u>
0 - SQUARE/RECTANGLE
1 - CIRCLE/ELLIPSE

<u>Link 16</u>
<u>SQUARE/CIRCLE SWITCH</u>
1 - SQUARE/RECTANGULAR
2 - CIRCULAR/ELLIPTICAL

TABLE A.5.2-M.9F-4. M.9F(1) Message Data Element Translation from the J3.0 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9F(1)	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 3	NOTES
		VALUE 9	REQUIRED CR	WORD J3.0I			
	SUBLABEL	5	CR	J3.0I	SUBLABEL, J-SERIES	0	
	TRACK NUMBER	AT	CR	J3.0I	TRACK NUMBER, REFERENCE	RX	G13
	SWITCH	AR	NONE	NA	NA	NA	1
	SCALE INDICATOR	AT	CR	J3.0C2	COURSE SPEED	RX RX	2, G7
	ACTION	1	NONE	NA	NA	NA	
	X DOT	AT	CR	J3.0C2	COURSE SPEED	RX RX	G7
	Y DOT	AT	CR	J3.0C2	COURSE SPEED	RX RX	G7
	EXPANSION/CONTRACTION RATE	127	NONE	NA	NA	NA	
	EXPANSION/CONTRACTION SWITCH	0	NONE	NA	NA	NA	
	RELATED TRACK NUMBER	AT	CR	J3.0C2	TRACK NUMBER, RELATED	RX	G13

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TABLE A.5.2-M.9F-4. M.9F(1) Message Data Element Translation from the J3.0
Message (Sheet 2 of 2)

NOTES

1. If J3.0C2 Course or Speed and Related Track Number are other than No Statement, two M.9F(AC=1) messages shall be forwarded; the first with Switch = 0 and the second with Switch = 1. Otherwise, Switch shall be set to zero to report velocity or to one to report Related Track Number.
2. The Scale Indicator (SI) in the M.9F(AC=1) is determined as follows:
 - o SI = 0, track velocities are reported in 225/256 data miles/hour increments up to 111 159/256 data miles/hour.
 - o SI = 1, track velocities are reported in 28 1/8 data miles/hour increments up to 3571 7/8 data miles/hour.

The FJU may forward all velocities with Scale Indicator set to 1.

TABLE A.5.2-M.9F-5. M.9F(1) Message Data Element Translation from the J3.7 Message (Sheet 1 of 2)

MESSAGE M.9F(1)	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 3	NOTES
		VALUE 9	REQUIRED CR	WORD J3.7I			
	SUBLABEL	5	CR	J3.7I	SUBLABEL, J-SERIES	7	
	TRACK NUMBER	AT	CR	J3.7I	TRACK NUMBER, REFERENCE	RX	G13
	SWITCH	0	NONE	NA	NA	NA	1
	SCALE INDICATOR	AR	CR	J3.7C3	COURSE SPEED	RX RX	2, G7
	ACTION	1	NONE	NA	NA	NA	
	X DOT	AT	CR	J3.7C3	COURSE SPEED	RX RX	G7
	Y DOT	AT	CR	J3.7C3	COURSE SPEED	RX RX	G7
	EXPANSION/CONTRACTION RATE	127	NONE	NA	NA	NA	
	EXPANSION/CONTRACTION SWITCH	0	NONE	NA	NA	NA	
	RELATED TRACK NUMBER	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.9F-5. M.9F(1) Message Data Element Translation from the J3.7
Message (Sheet 2 of 2)

NOTES

1. The M.9F(AC=1) Switch value is always set to 0. The M.9F(AC=1, SW=1) message containing Related Track Number cannot be derived from the J3.7 message.
2. The Scale Indicator (SI) in the M.9F(AC=1) is determined as follows:
 - o SI = 0, track velocities are reported in 225/256 data miles/hour increments up to 111 159/256 data miles/hour.
 - o SI = 1, track velocities are reported in 28 1/8 data miles/hour increments up to 3571 7/8 data miles/hour.

The FJU may forward all velocities with Scale Indicator set to 1.

TABLE A.5.2-M.9F-6. M.9F(1) Message Data Element Translation from the J14.0 Message (Sheet 1 of 2)

Link 11/11B				Link 16			
MESSAGE M.9F(1)	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 14	NOTES
		VALUE 9	REQUIRED CR	WORD J14.0I			
	SUBLABEL	5	CR	J14.0I	SUBLABEL, J-SERIES	0	
	TRACK NUMBER	AT	CR	J14.0I	TRACK NUMBER, REFERENCE	RX	G13
	SWITCH	0	NONE	NA	NA	NA	1
	SCALE INDICATOR	AR	CR	J14.0C1	COURSE SPEED	RX RX	2, G7
	ACTION	1	NONE	NA	NA	NA	
	X DOT	AT	CR	J14.0C1	COURSE SPEED	RX RX	G7
	Y DOT	AT	CR	J14.0C1	COURSE SPEED	RX RX	G7
	EXPANSION/CONTRACTION RATE	127	NONE	NA	NA	NA	
	EXPANSION/CONTRACTION SWITCH	0	NONE	NA	NA	NA	
	RELATED TRACK NUMBER	AT	NONE	NA	NA	NA	

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TABLE A.5.2-M.9F-6. M.9F(1) Message Data Element Translation from the J14.0
Message (Sheet 2 of 2)

NOTES

1. The M.9F(AC=1) Switch value shall always be set to value 0. The M.9F(AC=1, SW=1) message (containing Related Track Number) shall not be derived from the J14.0 message.
2. The Scale Indicator (SI) in the M.9F(AC=1) is determined as follows:
 - o SI = 0, track velocities are reported in 225/256 data miles/hour increments up to 111 159/256 data miles/hour.
 - o SI = 1, track velocities are reported in 28 1/8 data miles/hour increments up to 3571 7/8 data miles/hour.

The FJU may forward all velocities with Scale Indicator set to 1.

TABLE A.5.2-M.10A-1. M.10A Message Data Element Translation from the J9.0 Message (Sheet 1 of 3)

Link 11/11B				Link 16			
MESSAGE M.10A	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 9	NOTES 1
		VALUE 10	REQUIRED CR	WORD J9.0I			
	PU/RU ADDRESSEE	AT	CR	J9.0I	TRACK NUMBER, ADDRESSEE	RX	G12
	SUBLABEL	0	CR	J9.0I	SUBLABEL, J-SERIES	0	
	ORDER	AT	CR	J9.0I	COMMAND	RX	2
	CANTPRO AMP	AT	CR	J9.0I	RECEIPT/COMPLIANCE	RX	3
	ORDER/CANCELLATION INDICATOR	0	NONE	NA	NA	NA	
	RECEIPT/COMPLIANCE	AT	CR	J9.0I	RECEIPT/COMPLIANCE	RX	3
	TRACK NUMBER ONE	AT	CR	J9.0I	COMMAND	RX	5
				J9.0E0	TRACK NUMBER, ADDRESSEE	RX	G13
					TRACK NUMBER, FRIENDLY WEAPON	RX	G13
	TRACK NUMBER TWO	AT	CR	J9.0I or HEADER	TRACK NUMBER, OBJECTIVE TRACK NUMBER, SOURCE	RX RX	4,G13 4,G2, G12

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TABLE A.5.2-M.10A-1. M.10A Message Data Element Translation from the J9.0
Message (Sheet 2 of 3)

NOTES

1. The M.10A message may be derived from the J9.0 message or J10.3 message.

2. The M.10A Order value is derived from the J9.0 Command field as follows:

<u>Link 11/11B</u>	
<u>ORDER</u>	
2	20
3	21
4	22

<u>Link 16</u>	
<u>COMMAND</u>	
20	
21	
22	

3. The Receipt/Compliance value in the J9.0 message will be reported on Link 11/11B in the Receipt/Compliance field of the M.10A message as follows:

<u>Link 11/11B</u>	
<u>RECEIPT/COMPLIANCE</u>	
0	0
3	3 or 4
6	6
7	7-22

<u>Link 16</u>	
<u>RECEIPT/COMPLIANCE</u>	
0	
3 or 4	
6	
7-22	

The M.10A message CANTPRO AMP is set to 0 with the exception of those cases where the Receipt/Compliance value is 16 through 22. In the latter case, set the M.10A message Receipt/Compliance to 7 and the CANTPRO AMP as follows:

<u>Link 11/11B</u>	
<u>CANTPRO AMP</u>	
1	16
2	17
3	18
4	19
5	20
6	21
7	22

<u>Link 16</u>	
<u>RECEIPT/COMPLIANCE</u>	
16	
17	
18	
19	
20	
21	
22	

4. When forwarding to Link 11, the Track Number Two (TN-2) field shall be set to the Track Number, Objective as translated. When forwarding to Link 11B, TN-2 shall be set to the source of the J9.0 or the J9.0 R/C message.

5. If the received J9.0 Command is value 20 or 21, and Friendly Weapon TN is non-zero, M.10A Track Number One (TN-1) is determined from the J9.0 Friendly

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TABLE A.5.2-M.10A-1. M.10A Message Data Element Translation from the J9.0
Message (Sheet 3 of 3)

NOTES (Continued)

5. (Continued)

Weapon TN. If the received J9.0 Command is value 21 and Friendly Weapon TN = 00000, TN-1 is determined from J9.0 Addressee TN. If the received J9.0 Command is value 22, TN-1 shall be set to 0000.

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TABLE A.5.2-M.10A-2. M.10A Message Data Element Translation from the J10.3 Message (Sheet 1 of 3)

Link 11/11B		Link 16						
MESSAGE M.10A	FIELD LABEL	TRANSLATION				DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 10 3	NOTES 1
		VALUE 10	REQUIRED CR	WORD J10.3I				
	PU/RU ADDRESSEE	AT	CR	J10.3I	TRACK NUMBER, ADDRESSEE	TRACK NUMBER, ADDRESSEE	RX	G12
	SUBLABEL	0	CR	J10.3I	SUBLABEL, J-SERIES	SUBLABEL, J-SERIES	3	
	ORDER	AT	CR	J10.3I	REQUEST FOR ASSUME CONTROL	REQUEST FOR ASSUME CONTROL	RX	2
	CANTPRO AMP	AT	CR	J10.3I	RECEIPT/COMPLIANCE	RECEIPT/COMPLIANCE	RX	3
	ORDER/CANCELLATION INDICATOR	RX	=	J10.3I	CANCELLATION INDICATOR	CANCELLATION INDICATOR	RX	
	RECEIPT/COMPLIANCE	AT	CR	J10.3I	RECEIPT/COMPLIANCE	RECEIPT/COMPLIANCE	RX	3
	TRACK NUMBER ONE	AT	CR	J10.3I	TRACK NUMBER, REFERENCE	TRACK NUMBER, REFERENCE	RX	G13
	TRACK NUMBER TWO	AT	CR	J10.3I or HEADER	REQUEST FOR ASSUME CONTROL TRACK NUMBER, OBJECTIVE TRACK NUMBER, SOURCE	REQUEST FOR ASSUME CONTROL TRACK NUMBER, OBJECTIVE TRACK NUMBER, SOURCE	RX RX RX	4 G13 G2, G12

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TABLE A.5.2-M.10A-2. M.10A Message Data Element Translation from the J10.3
Message (Sheet 2 of 3)

NOTES

1. The M.10A message may be derived from the J9.0 message or the J10.3 message.
2. The M.10A message Order value is derived from the J10.3 Request for Assume Control field as follows:

<u>Link 11/11B</u>
<u>ORDER</u>
0
1
6

<u>Link 16</u>
<u>REQUEST FOR ASSUME CONTROL</u>
0
1
2

3. The Receipt/Compliance value in the J10.3 message will be reported on Link 11/11B in the Receipt/Compliance field of the M.10A message as follows:

<u>Link 11/11B</u>
<u>RECEIPT/COMPLIANCE</u>
0
3
6
7

<u>Link 16</u>
<u>RECEIPT/COMPLIANCE</u>
0
3
6
7-22

The M.10A message CANTPRO AMP is set to 0 with the exception of those cases where the J10.3 Receipt/Compliance value is 16 through 22. In the latter case set the M.10A message Receipt/Compliance (R/C) to 7 and the CANTPRO AMP as follows:

<u>Link 11/11B</u>
<u>CANTPRO AMP</u>
1
2
3
4
5
6
7

<u>Link 16</u>
<u>RECEIPT/COMPLIANCE</u>
16
17
18
19
20
21
22

4. Normally, if the J10.3 Request for Assume Control = 2, the Track Number, Two (TN-2) field will be set to the Header word Source TN as translated, or if the J10.3 Request for Assume Control = 0 or 1, TN-2 will be set to the Track Number, Objective as translated. When forwarding to Link 11B, there are two exceptions:

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TABLE A.5.2-M.10A-2. M.10A Message Data Element Translation from the J10.3
Message (Sheet 3 of 3)

NOTES (Continued)

4. (Continued)

- a. TN-2 is set to the address of the unit originating a reply of R/C = 3, 6 or greater than 6.
- b. TN-2 is set to the address of the originally addressed unit in the M.10A(R/C=0) message when the forwarding unit originates a CANTPRO.

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TABLE A.5.2-M.11B. M.11B Message Data Element Translation from Link 16 (Sheet 1 of 4)

Link 11/11B				Link 16			
MESSAGE M.11B	FIELD LABEL	VALUE 11	TRANSLATION		DATA ELEMENT LABEL, J-SERIES	VALUE 13	NOTES
			REQUIRED CR	WORD J13.2I			
SUBLABEL		1	CR	J13.2I	SUBLABEL, J-SERIES	2	
TRACK NUMBER		AT	CR	J13.2I	TRACK NUMBER, REFERENCE	RX	G13
FUEL/TIME SWITCH		AT	CR	J13.2I	FUEL FUNCTION FUEL TIME REPORT FUNCTION MINUTE HOUR	RX RX RX RX RX	1
ORDNANCE A		0	NONE	NA	NA	NA	
ORDNANCE B		0	NONE	NA	NA	NA	
ORDNANCE C		0	NONE	NA	NA	NA	
ORDNANCE D		AT	CR	J13.2C2	GUN CAPABLE	RX	2
WEAPON TYPE		AT	CR	J13.2C2	TYPE OF STORES, 1 TYPE OF STORES, 2 TYPE OF STORES, 3 TYPE OF STORES, 4 NUMBER OF STORES, 1 NUMBER OF STORES, 2 NUMBER OF STORES, 3 NUMBER OF STORES, 4 GUN CAPABLE	RX RX RX RX RX RX RX RX RX	3
				J13.2C7	TYPE OF STORES, 5 TYPE OF STORES, 6 TYPE OF STORES, 7 TYPE OF STORES, 8 NUMBER OF STORES, 5 NUMBER OF STORES, 6 NUMBER OF STORES, 7 NUMBER OF STORES, 8	RX RX RX RX RX RX RX RX	3
FUEL/TIME		AT	CR	J13.2I	FUEL FUNCTION FUEL TIME REPORT FUNCTION MINUTE HOUR	0 RX 4 RX RX	1,4 1,5
AIRCRAFT TYPE		AT	CR	J13.2C1	AIR SPECIFIC TYPE	RX	6

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TABLE A.5.2-M.11B. M.11B Message Data Element Translation from Link 16
(Sheet 2 of 4)

NOTES

1. If fuel data are received the Fuel/Time Switch (FT SW) is set to 0. If time data are received, the FT SW is set to 1. If both fuel and time data are received, two M.11B messages are required to forward the data. In the latter case, all fields with the exception of FT SW and Fuel/Time will be set to identical values for both transmissions. If neither Fuel nor Time data are received, the M.11B message is forwarded with FT SW set to 0.

2. The J13.2 Gun Capable will be reported in the M.11B Ordnance D field as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>ORDNANCE D</u>	<u>GUN CAPABLE</u>
0	0
2	1

3. The M.11B Weapon Type provides the capability to show the simple presence or absence of a particular group of air-to-air weapons. The J13.2 indicates a specific type of weapon in a Type of Stores field and the quantity of that weapon being carried in the related Number of Stores field. As many as eight separate weapons may be reported. There are no restrictions as to which weapon will be shown in which of the eight available fields. It would be possible that Type of Stores, 3 would show a weapon while Type of Stores 1, 2, and 4 were No Statement. It is also possible that a Type of Stores will be reported in the J13.2 message with the related Number of Stores field set to 0. In this case, the related Weapon Type will be forwarded as 0. Bit 32 of the M.11B will always be forwarded as zero. Bit 34 of the M.11B will be set to 1 if the J13.2C2 Gun Capable bit is one. The remaining conditions for setting the individual Weapon Type bits to value one are:

<u>Link 11/11B</u>		
<u>WEAPON TYPE</u>	<u>TYPE OF STORES, 1-8</u>	<u>NUMBER OF STORES, 1-8</u>
BIT 33 = 1	1	1 - 63
	11	1 - 63

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TABLE A.5.2-M.11B. M.11B Message Data Element Translation from Link 16
(Sheet 3 of 4)

NOTES (Continued)

3. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>	
<u>WEAPON TYPE</u>	<u>TYPE OF STORES, 1-8</u>	<u>NUMBER OF STORES, 1-8</u>
BIT 34 = 1	2	1 - 63
BIT 35 = 1	3	1 - 63

4. If the J13.2 Fuel Function is received as value 1, fuel data are not forwarded in the M.11B message. Fuel is reported in 400-pound increments in the M.11B and 100-pound increments in the J13.2. Fuel values 0, 1, 2, 3, and 4095 of the J13.2 will be forwarded as value 0 in the M.11B. Fuel values 4 through 507 of the J13.2 will be translated to the direct equivalent or the next lower M.11B Fuel/Time value. Example; J13.2 values 4, 5, 6, and 7 are translated to M.11B value 1 (400 pounds). J13.2 Fuel values 508 or greater will all be translated to M.11B Fuel/Time value 127.

5. If the J13.2 Time Report Function (TRF) is received as other than value 4, time data are not forwarded in the M.11B message. Zero hours and zero minutes through two hours and six minutes are converted to minutes and forwarded as received. All values for two hours and seven minutes or greater are forwarded as value 127.

6. The M.11B Aircraft Type field is determined from the J13.2C1 Air Specific Type field as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>AIRCRAFT TYPE</u>	<u>AIR SPECIFIC TYPE</u>
0 - NO STATEMENT	0 - NO STATEMENT
1 - F-4	1 - F-4 PHANTOM II
3 - F-14	4 - F-14 TOMCAT
4 - F-15	107 - F-14B TOMCAT
	108 - F-14D TOMCAT
	5 - F-15 EAGLE
	109 - F-15E STRIKE EAGLE

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TABLE A.5.2-M.11B. M.11B Message Data Element Translation from Link 16
 (Sheet 4 of 4)

NOTES (Continued)

6. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>
<u>AIRCRAFT TYPE</u>	<u>AIR SPECIFIC TYPE</u>
7 - F-104	8 - F-104 STARFIGHTER
9 - F-111	11 - F-111
11 - A-4	256 - A-4 SKYHAWK
13 - A-6	257 - A-6 INTRUDER
14 - A-7	258 - A-7 CORSAIR II
15 - AV-8	150 - AV-8B HARRIER II
	151 - AV-8B NIGHT ATTACK HARRIER
	152 - AV-8D NIGHT ATTACK HARRIER
	153 - AV-8B HARRIER II PLUS
	321 - HARRIER GR7
	343 - HARRIER GR9/9A
16 - A/OA-10	259 - A/OA-10 THUNDERBOLT II
17 - F-16	6 - F-16 FIGHTING FALCON
18 - F-18	12 - F/A-18 A/B/C/D HORNET
	104 - F/A-18E/F SUPER HORNET
20 - F-5	156 - EF-18M HORNET
	2 - F-5 TIGER II
	105 - F-5E
	106 - F-5F
	110 - F-5A/B/G

TABLE A.5.2-M.11C. M.11C Message Data Element Translation from Link 16 (Sheet 1 of 6)

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TABLE A.5.2-M.11C. M.11C Message Data Element Translation from Link 16 (Sheet 2 of 6)

Link 11				Link 16			
MESSAGE M.11C (Cont'd)	FIELD	TRANSLATION		WORD	DATA ELEMENT	VALUE	NOTES
		VALUE	REQUIRED				
	CONVENTIONAL MISSILE INVENTORY	RX	=	J13.2C3	CONVENTIONAL MISSILE INVENTORY	RX	
	SPECIAL MISSILE INVENTORY	RX	=	J13.2C3	SPECIAL MISSILE INVENTORY	RX	
	ROCKET INVENTORY	RX	=	J13.2C3	ROCKET INVENTORY	RX	
	ACTIVE SONOBUOY INVENTORY	RX	=	J13.2C3	ACTIVE SONOBUOY INVENTORY	RX	
	PASSIVE SONOBUOY INVENTORY	RX	=	J13.2C3	PASSIVE SONOBUOY INVENTORY	RX	
	AIRCRAFT TYPE	AT	CR	J13.2C1	AIR SPECIFIC TYPE AIRCRAFT MODEL	RX RX	4
	ALTITUDE FOR WATCH	AT	CR	J13.2C3	RADAR WATCH ALTITUDE	RX	5
	FUEL	AT	CR	J13.2I	FUEL FUNCTION FUEL	0 RX	6

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TABLE A.5.2-M.11C. M.11C Message Data Element Translation from Link 16
(Sheet 3 of 6)

NOTES

1. Time Remaining value 2 shall be forwarded if the Time Report Function (TRF) is 3. Time Remaining value 0 shall be forwarded if the TRF is 0, 1, or 4, or if the TRF is 5 and Minute and Hour are No Statement. Where TRF is 5, the present time of day will be subtracted from the reported Depart Station Time; if the time is positive, it gives time remaining until the aircraft is due to depart station; if the result is negative time, Time Remaining value 1 - Returning to Base shall be forwarded. Time Remaining on Station derived from TRF 5 shall be translated as follows:

<u>Link 11</u>	<u>Link 16</u>	
<u>TIME REMAINING</u>	<u>MINUTE</u>	<u>HOUR</u>
0 - NO STATEMENT	63	31
3 - 0 THROUGH 15 MINUTES	0 - 15	0
4 - 16 THROUGH 30 MINUTES	16 - 30	0
5 - 31 THROUGH 45 MINUTES	31 - 45	0
6 - 46 MINUTES THROUGH 1 HOUR	46 - 59	0
	0	1
7 - LONGER THAN 1 HOUR THROUGH 1.5 HOURS	1 - 30	1
8 - LONGER THAN 1.5 HOURS THROUGH 2 HOURS	31 - 59	1
	0	2
9 - LONGER THAN 2 HOURS THROUGH 2.5 HOURS	1 - 30	2
10 - LONGER THAN 2.5 HOURS THROUGH 3 HOURS	31 - 59	2
	0	3
11 - LONGER THAN 3 HOURS THROUGH 4 HOURS	1 - 59	3
	0	4
12 - LONGER THAN 4 HOURS THROUGH 6 HOURS	1 - 59	4
	0-59	5
	0	6

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TABLE A.5.2-M.11C. M.11C Message Data Element Translation from Link 16
(Sheet 4 of 6)

NOTES (Continued)

1. (Continued)

Link 11	Link 16	
TIME REMAINING	MINUTE	HOUR
13 - LONGER THAN 6 HOURS THROUGH 8 HOURS	1 - 59	6
	0 - 59	7
	0	8
14 - LONGER THAN 8 HOURS THROUGH 10 HOURS	1 - 59	8
	0 - 59	9
	0	10
15 - LONGER THAN 10 HOURS	1 - 59	10
	0-59	11 - 23

2. As many as three M.11C messages, with different B-Frames and B-Frame Switch (BSW) values, may be required to forward a single J13.2 message. If more than one M.11C message is forwarded from one J13.2 message, the Time Remaining field will be set to an identical value in each M.11C transmitted.

If the J13.2C3 bits 26-43 are other than No Statement, set the BSW to 0. If the J13.2C3 Conventional Depth Bomb Inventory, Special Depth Bomb Inventory, Conventional Torpedo Inventory, Special Torpedo Inventory, Conventional Missile Inventory, Special Missile Inventory, Rocket Inventory, Active Sonobuoy Inventory, or Passive Sonobuoy Inventory field(s) is (are) other than No Statement, or if Air Specific Type and Aircraft model are translatable to other than No Statement in Aircraft Type, set the BSW to 1. If the J13.2I Fuel or the J13.2C3 Radar Watch Altitude are translatable to Fuel or Altitude for Watch, then set the BSW to 2.

3. The Sensor Status, bit positions 26 through 43 of the M.11C, shall be set identically to those received in bit positions 26 through 43 of the J13.2C3. When forwarding Sensor Status, bits 44 through 47 are transmitted as zero.

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TABLE A.5.2-M.11C. M.11C Message Data Element Translation from Link 16
(Sheet 5 of 6)

NOTES (Continued)

4. The J13.2 Air Specific Type and Aircraft Model will be translated to the M.11C Aircraft Type as follows:

<u>Link 11</u>	<u>Link 16</u>	
<u>AIRCRAFT TYPE</u>	<u>AIR SPECIFIC TYPE</u>	<u>AIRCRAFT MODEL</u>
0 - NO STATEMENT	ALL VALUES NOT LISTED BELOW	ALL
1 - MARITIME PATROL AIRCRAFT	533 - P-3 ORION 565 - BN-2T MARITIME DEFENDER 680 - P-8A MMA 686 - P-1	ALL EXCEPT 1,2,3 ALL ALL ALL
2 - P-3A/P-3B	533 - P-3 ORION	1 - A or 2 - B
3 - P-3C		3 - C
4 - NIMROD	570 - NIMROD MR2 624 - NIMROD MRA4	ALL ALL
5 - VS (FW, ASW GENERAL)	543 - S-2 TRACKER 569 - HS.748 COASTGUARDER	ALL EXCEPT 5 ALL
6 - S-2E	765 - ASW	ALL
7 - S-3	543 - S-2 TRACKER	5 - E
8 - ASW HELO (GENERAL)	544 - S-3B VIKING 1297 - SH-2 SEA SPRITE 1298 - SH-3 SEA KING 1299 - SH-60 SEA HAWK 1311 - CH-124 SEA KING 1345 - KA-27 HELIX-A (ASW) 1386 - MERLIN HM1	ALL ALL ALL ALL ALL ALL ALL
11 - BREGUET ATLANTIQUE	563 - BR 1150 ATLL	ALL
12 - AURORA	568 - CP-140 AURORA 625 - CP-140A ARCTURUS	ALL ALL

5. Altitude for Watch of the M.11C message reports the best altitude for radar watch in 500-foot increments. The Radar Watch Altitude reports the same information in 100-foot increments. The J13.2 Radar Watch Altitude will be translated to the nearest 500-foot increment in the M.11C; e.g., 800 through 1,200 will be translated to 1,000 feet. J13.2 Radar Watch altitudes above 31,700 feet will be translated to 0 (No Statement) in the M.11C message.

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TABLE A.5.2-M.11C. M.11C Message Data Element Translation from Link 16
(Sheet 6 of 6)

NOTES (Continued)

6. If the J13.2 Fuel Function is received as value 1, fuel data are not forwarded in the M.11C message. Fuel is reported in 400-pound increments in the M.11C message and 100-pound increments in the J13.2 message. Fuel values 0, 1, 2, 3, and 4095 of the J13.2 message will be forwarded as zero in the M.11C message. Fuel values 4 through 507 of the J13.2 message will be translated to the directly equivalent or next lower M.11C Fuel value. For example, 400, 500, 600, and 700 pounds of fuel are all translated to M.11C value 1 (400 pounds). J13.2 Fuel values 508 or greater will all be translated to M.11C value 127.

TABLE A.5.2-M.11D-1. M.11D Message Data Element Translation from the J2.X Message (Sheet 1 of 2)

Link 11/11B		TRANSLATION					Link 16	
MESSAGE M.11D	FIELD LABEL	VALUE 11	REQUIRED CR	WORD J2.xI	DATA ELEMENT LABEL, J-SERIES	VALUE 2	NOTES 1	
	SUBLABEL	3	CR	J2.xI	SUBLABEL, J-SERIES	0, 2-4		
	TRACK NUMBER	AT	CR	J2.xI	TRACK NUMBER, REFERENCE	RX		
	SWITCH	AR	NONE	NA	NA	NA	2	
	MODE IV INDICATOR	RX	=	J2.xC1	MODE IV INDICATOR	RX		
	TYPE REPORT	0	NONE	NA	NA	NA	1	
	MODE II CODE	RX	=	J2.xC1	MODE II CODE	RX		
	MODE I CODE	AT	CR	J2.xC1	MODE I CODE	RX	3	
	MODE III CODE	RX	=	J2.xC1	MODE III CODE	RX		

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TABLE A.5.2-M.11D-1. M.11D Message Data Element Translation from the J2.X
Message (Sheet 2 of 2)

NOTES

1. The M.11D(TR=0) message is translated from the J2.x messages as specified below:

- o J2.0, J2.2, J2.3, J2.4 (Modes I/II/III).
- o The M.11D(TR=1) message is translated from the J7.5 message.

2. Two M.11D messages are necessary to report all possible IFF/SIF data associated with a specific track. Switch (SW) = 0 indicates Modes I and II; SW = 1 indicates Modes II and III.

3. Valid Mode I codes for data link exchange shall range from 01 through 73 (octal) with 31 possible values, those values with the least significant digit greater than 3 not being used. The Mode I field of the M.11D IFF Codes are in the order A4, A2, A1, B4, B2, B1 with the most significant bit A4 in bit position 47. B4 is never set since the second digit never exceeds 3. The Mode I Code field of the J2.0C1, J2.2C1, J2.3C1, and J2.4C1 IFF Codes are in the order A4, A2, A1, B2, B1 with the most significant bit A4 in bit position 12.

TABLE A.5.2-M.11D-2. M.11D Message Data Element Translation from the J3.X Message (Sheet 1 of 2)

MESSAGE M.11D	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES	VALUE 3	NOTES 1
		VALUE 11	REQUIRED CR	WORD J3.XI			
	SUBLABEL	3	CR	J3.XI	SUBLABEL, J-SERIES	1-5	
	TRACK NUMBER	AT	CR	J3.XI	TRACK NUMBER, REFERENCE	RX	
	SWITCH	AR	NONE	NA	NA	NA	2
	MODE IV INDICATOR	RX	=	J3.XC1	MODE IV INDICATOR	RX	
	TYPE REPORT	0	NONE	NA	NA	NA	1
	MODE II CODE	RX	=	J3.XC1	MODE II CODE	RX	
	MODE I CODE	AT	CR	J3.XC1	MODE I CODE	RX	3
	MODE III CODE	RX	=	J3.XC1	MODE III CODE	RX	

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TABLE A.5.2-M.11D-2. M.11D Message Data Element Translation from the J3.X
Message (Sheet 2 of 2)

NOTES

1. The M.11D(TR=0) message is translated from the J3.x messages as specified below:

- o J3.2, J3.3, J3.4, J3.5 (Modes I/II/III/IV).
- o The M.11D(TR=1) message is translated from the J7.5 message.

2. Two M.11D messages are necessary to report all possible IFF/SIF data associated with a specific track. Switch (SW) = 0 indicates Modes I and II; SW = 1 indicates Modes II and III.

3. Valid Mode I codes for data link exchange shall range from 01 through 73 (octal) with 31 possible values, those values with the least significant digit greater than 3 not being used. The Mode I Code field of the M.11D IFF codes are in the order A4, A2, A1, B4, B2, B1 with the most significant bit A4 in bit position 47. B4 is never set since the second digit never exceeds 3. The Mode I Code field of the J3.x IFF Codes are in the order A4, A2, A1, B2, B1. The most significant bit A4 is located:

<u>Word</u>	<u>Bit Position</u>
J3.2C1	12
J3.3C1	12
J3.4C1	38
J3.5C1	12

TABLE A.5.2-M.11D-3. M.11D Message Data Element Translation from the J7.5 Message (Sheet 1 of 2)

Link 11/11B		Link 16						
MESSAGE M.11D	FIELD LABEL	TRANSLATION				DATA ELEMENT LABEL, J-SERIES	VALUE 7	NOTES 1
		VALUE 11	REQUIRED CR	WORD J7.5I				
	SUBLABEL	3	CR	J7.5I		SUBLABEL, J-SERIES	5	
	TRACK NUMBER	AT	CR	J7.5I		TRACK NUMBER, REFERENCE	RX	G13
	SWITCH	0	NONE	NA		NA	NA	
	MODE IV INDICATOR	0	NONE	NA		NA	NA	
	TYPE REPORT	1	CR	J7.5I		ACTION, IFF/SIF MANAGEMENT	3	1
	SPECIAL CODE	RX	=	J7.5I		SPECIAL CODE II SPECIAL CODE II APPLICABILITY	RX 1	2

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TABLE A.5.2-M.11D-3. M.11D Message Data Element Translation from the J7.5
Message (Sheet 2 of 2)

NOTES

1. The M.11D(TR=1) message is translated from the J7.5 (ACT=3) message. All other M.11D messages are translated from the J2.0, J2.2, J2.3, J2.4, J3.1, J3.2, J3.3, J3.4, or J3.5 message.
2. Special Codes I and III which may appear in the J7.5 (ACT=3) message are not available in the M-Series messages.

TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0 Message (Sheet 1 of 21)

		Link 11/11B			Link 16		
MESSAGE	FIELD LABEL	TRANSLATION			DATA ELEMENT	VALUE	NOTES
		VALUE 11	REQUIRED CR	WORD J6.0I			
M.11M	SUBLABEL	12	CR	J6.0I	LABEL, J-SERIES SUBLABEL, J-SERIES	6 0	
	SPECIAL PROCESSING INDICATOR	RX	=	J6.0I	SPECIAL PROCESSING INDICATOR	RX	G5
	TRACK NUMBER	AT	CR	J6.0I	TRACK NUMBER, REFERENCE	RX	G13
	CATEGORY	AT	CR	J6.0I	ENVIRONMENT AIR PLATFORM	RX See Note 1	1
	NATIONALITY/ALLIANCE	AT	CR	J6.0I	NATIONALITY/ALLIANCE OF TRACK	RX	2
				J6.0C1	NATIONALITY/ALLIANCE OF TRACK, 1	RX	2
	SPECIFIC TYPE	AT	CR	J6.0I J6.0E0	ENVIRONMENT AIR SPECIFIC TYPE SURFACE SPECIFIC TYPE SUBSURFACE SPECIFIC TYPE LAND SPECIFIC TYPE LAND PLATFORM	RX RX RX RX RX See Note 3	3, 4
	GENERAL TYPE	AT	CR	J6.0I	ENVIRONMENT AIR PLATFORM SURFACE PLATFORM SUBSURFACE PLATFORM LAND PLATFORM	RX RX RX RX RX	3, 4
				J6.0E0	AIR SPECIFIC TYPE LAND SPECIFIC TYPE	See Note 3 See Note 4	
	PU/RU ORIGINATOR	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
M.811M	LABEL	8	CR	J6.0I	LABEL, J-SERIES SUBLABEL, J-SERIES	6 0	

TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0 Message (Sheet 2 of 21)

Link 11/11B				Link 16			
MESSAGE M.811M (Cont'd)	FIELD MISSION	TRANSLATION			DATA ELEMENT	VALUE	NOTES
		VALUE AT	REQUIRED CR	WORD J6.0I			
					ENVIRONMENT	RX	5
					AIR ACTIVITY	RX	
					SURFACE ACTIVITY	RX	
					SUBSURFACE ACTIVITY	RX	
					LAND ACTIVITY	RX	
					AIR PLATFORM	See Note 5	
	CURRENT ACTIVITY	AT	CR	J6.0I	ENVIRONMENT ACTIVITY AMPLIFICATION INDEX	RX RX	6
					AIR PLATFORM	See Note 6	
	OPERATIONAL STATUS	RX	=	J6.0I	OPERATIONAL STATUS	RX	
	SWITCH	AT	CR	J6.0E0	LOCAL DISCRETE IDENTIFIER TRACK NUMBER, CONTROLLING AGENCY OF TN REFERENCE	RX RX	7
	TRACK NUMBER-2	AT	CR	J6.0E0	TRACK NUMBER, OBJECTIVE	RX	G13
	CONTROLLING UNIT	AT	CR	J6.0E0	TRACK NUMBER, CONTROLLING AGENCY OF TN REFERENCE	RX	7, G13
	DISCRETE IDENTIFIER	RX	=	J6.0E0	LOCAL DISCRETE IDENTIFIER	RX	7

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TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0
Message (Sheet 3 of 21)

NOTES

1. The conversion from Environment to Category is as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>CATEGORY</u>	<u>ENVIRONMENT</u>
0 - NO STATEMENT/UNKNOWN	0 - NO STATEMENT/UNKNOWN
1 - AIR	2 - AIR (EXCEPT WITH AN AIR PLATFORM VALUE OF 13, 37-39 OR 41-45)
2 - SURFACE (OCEANIC)	3 - SURFACE
3 - SUBSURFACE	4 - SUBSURFACE
4 - LAND	5 - LAND
5 - MISSILE	2 - AIR (WITH AN AIR PLATFORM VALUE OF 13, 37-39 OR 41-45)

2. Nationality/Alliance is derived from Nationality/Alliance of Track and Nationality/Alliance of Track, 1 as follows:

<u>Link 11/11B</u>	<u>Link 16</u>	<u>Link 16</u>
<u>NATIONALITY/ALLIANCE</u>	<u>NATIONALITY/ALLIANCE</u>	<u>NATIONALITY/ALLIANCE</u>
<u>OF TRACK, 1</u>	<u>OF TRACK</u>	<u>OF TRACK</u>
0	ALL	0, 30, 53, 54, 99-125
0	0-110, 112-255	126
1-29	ALL	1-29
30	111	126
31-52	ALL	31-52
55-98	ALL	55-98
99	ALL	127

3. Link 11/11B Air Category General Type and Specific Type shall normally be translated from Link 16 Air Specific Type as shown below. However, if Air Specific Type data are unavailable or set to 0 (No Statement), Link 11/11B General Type shall be derived from Link 16 Air Platform as shown in Note 4, and the Link 11/11B Specific Type shall be set to 0. If Link 16 Air/Land Specific Type is set to 4094 (Reset to No Statement), translate Link 11/11B General Type based upon Note 4, then set Link 11/11B Specific Type to 63 (Reset to No Statement). Link 11/11B Surface, Subsurface, and Land Category Specific Type shall be derived from Link 16 Specific Type as shown below, except for some Link

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TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0
Message (Sheet 4 of 21)

NOTES (Continued)

3. (Continued)

11/11B land category specific types which are derived from the Link 16 Land Platform and/or Land Specific Type.

<u>Link 11/11B</u> (AIR CATEGORY)		<u>Link 16</u>
<u>GENERAL TYPE</u>	<u>SPECIFIC TYPE</u>	<u>AIR SPECIFIC TYPE</u>
1	0	3, 7, 9-37, 40-44, 46-49, 51, 52, 56-60, 65, 67-69, 72-104, 111, 112, 122-128, 142-145, 147-149, 156-253, 255
	32	70
	33	71
	34	62, 129-133
	35	63, 134-137, 146
	36	64, 138-141
	37	50, 113, 114
	38	53, 115, 116
	39	66
	40	61
	41	1
	42	2, 105, 106, 110
	43	4, 107, 108
	44	5
	45	6
	46	8
	47	38
	48	39
2	0	109, 150-155, 254, 257, 259, 263-265, 269-288, 295, 299-327, 331-333, 340-511
	36	45
	38	54, 117-121
	39	55
	40	258, 328-330
	43	256
	44	268
	47	267
	48	260
3	0	261, 290, 297, 298
	32	294, 334-339, 670, 671

APPENDIX A

TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0
Message (Sheet 5 of 21)

NOTES (Continued)

3. (Continued)

<u>Link 11/11B</u> (AIR CATEGORY)		<u>Link 16</u>
<u>GENERAL TYPE</u>	<u>SPECIFIC TYPE</u>	<u>AIR SPECIFIC TYPE</u>
	34	291
	35	292
	36	289
	37	296
	38	293
	39	262
	40	266
4	0	1281-1289, 1291, 1293, 1295-1299, 1301- 1328, 1330-1332, 1335, 1337, 1338, 1340-1408, 1411- 1426, 1432-1535
	32	1333
	33	1334
	34	1336
	35	1292
	36	1290
	37	1300
	38	1294
5	32	1329
	33	1339, 1427-1431
	34	1280, 1409, 1410
6	0	1022
7	0	512-591, 593, 595, 596, 600, 601, 603- 658, 669, 672-765, 767, 788, 796, 798, 801, 810, 823, 853- 926, 1023, 1029, 1032-1035, 1059, 1083-1086, 1088- 1097, 1099-1103, 1105-1107, 1112- 1115, 1206
	33	597-599, 1087
	34	668
	35	1098
	36	592
	37	1040
	39	1109
	41	594

APPENDIX A

TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0
Message (Sheet 6 of 21)

NOTES (Continued)

3. (Continued)

<u>Link 11/11B</u> (AIR CATEGORY)		<u>Link 16</u>
<u>GENERAL TYPE</u>	<u>SPECIFIC TYPE</u>	<u>AIR SPECIFIC TYPE</u>
	42	1027
	43	1028, 1202, 1203
	45	1030
	46	1031, 1207-1209, 1211
	47	1110
	48	768-787, 789-795, 797, 799, 800, 802-809, 811-822, 824-852, 927
8	0	1036-1039, 1041, 1045- 1047, 1050, 1052- 1058, 1060-1070, 1072-1082, 1116- 1201, 1204, 1205, 1210, 1212-1279
	33	1108
	34	1104
	36	1071
	38	1042
	39	1043
	40	1044
	41	1049
	42	1051
	43	1048
10	0	766
14	0	602
<u>Link 11/11B</u> (SURFACE (OCEANIC) CATEGORY)		<u>Link 16</u>
<u>SPECIFIC TYPE</u>		<u>SURFACE SPECIFIC TYPE</u>
0		0
63		4095
<u>Link 11/11B</u> (SUBSURFACE CATEGORY)		<u>Link 16</u>
<u>SPECIFIC TYPE</u>		<u>SUBSURFACE SPECIFIC TYPE</u>
0		0
63		4095

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TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0 Message (Sheet 7 of 21)

NOTES (Continued)

3. (Continued)

<u>Link 11/11B</u> (LAND CATEGORY)		<u>Link 16</u>	
GENERAL TYPE	SPECIFIC TYPE	LAND SPECIFIC TYPE	LAND PLATFORM
1	40	178	ALL
	43	177	ALL
	45	28	ALL
	63	4094	ALL
4	32	93	33
	33		32
7	0	226-228	ALL
	32	90	40
	33		22
	35		24
	36		32
8	32	114	ALL
	35	154	ALL
	38	452, 453	ALL
	39	454	ALL
	40	455	ALL
	41	456	ALL
	42	457, 458	ALL
	43	459	ALL
	44	460	ALL
	45	461	ALL
	46	113	ALL
	47	462	ALL
	48	463	ALL
10	32	92	11
	33		9
	35		16
	37		8
	38		33
	39		32
11	33	155	ALL
	34	77	ALL
12	32	71	ALL
	33	70	ALL
	34	69	ALL
		72	ALL
	35	64	ALL
		66	ALL
		68	ALL
13	32	94	ALL
	33	ALL	17
	34	155	25
	35	ALL	48
	37	83	ALL

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TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0
Message (Sheet 8 of 21)

NOTES (Continued)

3. (Continued)

Any Link 16 Land Specific Type values not listed here will translate to Link 11/11B Specific Type value 0 (No Statement).

Air Specific Type values of 1536-4093, and 4095 translate to 0 (No Statement), within the M.11M Missile Category Specific Type field.

4. General Type is derived from the Link 16 Platform field, except in the Air Category General Type field, and the Land Category General Type field (where values 3, 4, 6, 7, 9, and 10 are derived from the Link 16 Land Specific Type field). For Air Category, Link 11/11B General Type shall be derived from Link 16 Air Platform only if Link 16 Air Specific Type data are unavailable (See Note 3). The conversion to General Type is as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
(AIR CATEGORY)	
<u>GENERAL TYPE</u>	<u>AIR PLATFORM</u>
0 - NO STATEMENT	0 - NO STATEMENT
1 - FIGHTER/INTERCEPTOR	12 - DISUSED
2 - FIGHTER/BOMBER ATTACK	52-62 - UNDEFINED
3 - BOMBER	1 - FIGHTER
4 - HELO	9 - INTERCEPTOR
5 - ATTACK HELO	2 - FIGHTER BOMBER
6 - DRONE/RPV	3 - ATTACK
7 - SUPPORT	4 - BOMBER
8 - CIVIL	27 - HELICOPTER (HELO)
9 - PATROL	30 - ANTISUBMARINE WARFARE HELICOPTER (ASW HELO)
	31 - MINE WARFARE HELICOPTER
	32 - TRANSPORT HELICOPTER
	28 - ATTACK HELICOPTER
	29 - HELICOPTER GUNSHIP
	19 - DRONE
	48 - UNMANNED AERIAL VEHICLE (UAV)
	20 - REMOTELY PILOTED VEHICLE (RPV)
	33 - TACTICAL SUPPORT
	22 - CIVIL, AIRLINER
	23 - CIVIL, GENERAL
	17 - MARITIME PATROL AIRCRAFT (MPA)
	34 - PATROL

APPENDIX A

TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0
Message (Sheet 9 of 21)

NOTES (Continued)

4. (Continued)

<u>Link 11/11B</u> (AIR CATEGORY) <u>GENERAL TYPE</u>	<u>Link 16</u> <u>AIR PLATFORM</u>
10 - AEW	16 - AIRBORNE EARLY WARNING AND CONTROL (AEW)
14 - OTHER	5 - RECONNAISSANCE 6 - TANKER 7 - TANKER (BOOM ONLY) 8 - TANKER (DROGUE ONLY)
15 - RESET TO NO STATEMENT	10 - TRANSPORT 11 - AIRBORNE COMMAND POST (ACP) 14 - ELECTRONIC WARFARE (EW) 15 - ANTISUBMARINE WARFARE (ASW) 18 - SEARCH AND RESCUE (SAR) 21 - FIXED WING GUNSHIP 24 - LIGHTER THAN AIR (LTA) 25 - GLIDER 26 - DECOY 35 - MISCELLANEOUS FIXED WING 36 - MISSILE CONTROL UNIT 40 - LOGISTIC 46 - AIRBORNE LAND SURVEILLANCE 47 - AIRBORNE LASER 49 - ACTIVE ELECTRONIC DECOY 50 - INFRARED DECOY 51 - CHAFF DECOY 63 - RESET TO NO STATEMENT
<u>Link 11/11B</u> (SURFACE (OCEANIC) CATEGORY) <u>GENERAL TYPE</u>	<u>Link 16</u> <u>SURFACE PLATFORM</u>
0 - NO STATEMENT	0 - NO STATEMENT 40-62 - UNDEFINED
1 - AIRCRAFT CARRIER	1 - AIRCRAFT CARRIER
2 - DESTROYER	4 - DESTROYER
3 - CRUISER	39 - LITTORAL COMBAT SHIP (LCS)
4 - FRIGATE	3 - CRUISER
5 - PATROL	2 - BATTLESHIP
6 - MINE WARFARE	5 - FRIGATE
7 - AMPHIBIOUS	6 - FAST PATROL BOAT 27 - PATROL 14 - MINE WARFARE SHIP 15 - MINE COUNTERMEASURES MARITIME VESSEL (MCMV)
	7 - AMPHIBIOUS 8 - LHA/LHD

APPENDIX A

TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0
Message (Sheet 10 of 21)

NOTES (Continued)

4. (Continued)

<u>Link 11/11B</u>	
<u>(SURFACE (OCEANIC) CATEGORY)</u>	
<u>GENERAL TYPE</u>	
8 - SUPPORT	
9 - TANKER/OILER	
10 - FISHING BOAT	
11 - MERCHANT	
14 - OTHER	
15 - RESET TO NO STATEMENT	

<u>Link 16</u>
SURFACE PLATFORM
9 - AMPHIBIOUS ASSAULT COMMAND SHIP (LCC)
10 - LANDING CRAFT (LC)
23 - LANDING PLATFORM
24 - LANDING SHIP
32 - AMPHIBIOUS GENERAL ASSAULT
28 - SUPPORT
12 - TANKER/OILER
29 - FISHING VESSEL
30 - MERCHANT VESSEL
11 - TROOP SHIP
13 - AUXILIARY SHIP
16 - HOSPITAL SHIP
17 - SURFACED SUBMARINE
18 - HYDROFOIL
19 - AIR CUSHION VEHICLE
20 - INTELLIGENCE COLLECTOR
21 - SURVEY VESSEL
22 - NON-MILITARY
25 - COMMAND
26 - OCEAN RESEARCH
31 - PATROL CRAFT ESCORT
33 - MISSILE CONTROL UNIT
34 - DECOY
35 - INFRARED DECOY
36 - CHAFF DECOY
37 - ACTIVE ELECTRONIC DECOY
38 - CORVETTE
63 - RESET TO NO STATEMENT

<u>Link 11/11B</u>	
<u>(SUBSURFACE CATEGORY)</u>	
<u>GENERAL TYPE</u>	
0 - NO STATEMENT	
1 - ATTACK	
2 - CRUISE MISSILE LAUNCHER	
3 - BALLISTIC MISSILE LAUNCHER	
14 - OTHER	

<u>Link 16</u>
SUBSURFACE PLATFORM
0 - NO STATEMENT
7, 13, 16, 17 - DISUSED
42-48, 50-62 - UNDEFINED
28 - ATTACK SUBMARINE
29 - CRUISE MISSILE LAUNCHER
5 - DIESEL ELECTRIC BALLISTIC MISSILE SUBMARINE
12 - NUCLEAR BALLISTIC MISSILE SUBMARINE
1 - SUBMARINE PROPULSION UNKNOWN

APPENDIX A

TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0
Message (Sheet 11 of 21)

NOTES (Continued)

4. (Continued)

<u>Link 11/11B</u> (SUBSURFACE CATEGORY) <u>GENERAL TYPE</u>	<u>Link 16</u>
15 - RESET TO NO STATEMENT	<p>SUBSURFACE PLATFORM</p> <p>2 - DIESEL ELECTRIC SUBMARINE GENERAL</p> <p>3 - DIESEL ELECTRIC ATTACK SUBMARINE</p> <p>4 - DIESEL ELECTRIC MISSILE SUBMARINE</p> <p>6 - TYPE 1 DIESEL</p> <p>8 - TYPE 3 DIESEL</p> <p>9 - NUCLEAR SUBMARINE GENERAL</p> <p>10 - NUCLEAR ATTACK SUBMARINE</p> <p>11 - NUCLEAR MISSILE SUBMARINE</p> <p>14 - TYPE II NUCLEAR</p> <p>15 - TYPE III NUCLEAR</p> <p>18 - NON-SUBMARINE</p> <p>19 - SURFACE VESSEL</p> <p>20 - TORPEDO</p> <p>21 - MINE</p> <p>22 - DECOY</p> <p>23 - WRECK</p> <p>24 - SEABED PIPELINE</p> <p>25 - FISH/MARINE LIFE</p> <p>26 - SWIMMER/FROGMAN</p> <p>27 - KNUCKLE/WAKE</p> <p>30 - PINNACLE/SEAMOUNTAIN</p> <p>31 - NON-MILITARY SUBMERSIBLE</p> <p>32 - UNDEFINED</p> <p>33 - TYPE VI NUCLEAR</p> <p>34 - TYPE VII NUCLEAR</p> <p>35 - CONVENTIONAL (COMMAND AND CONTROL)</p> <p>36 - CONVENTIONAL (AUXILIARY)</p> <p>37 - NUCLEAR (COMMAND AND CONTROL)</p> <p>38 - INFRARED DECOY</p> <p>39 - CHAFF DECOY</p> <p>40 - ACTIVE ELECTRONIC DECOY</p> <p>41 - TYPE 4 DIESEL</p> <p>49 - MISSILE CONTROL UNIT</p> <p>63 - RESET TO NO STATEMENT</p>

APPENDIX A

TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0 Message (Sheet 12 of 21)

NOTES (Continued)

4. (Continued)

<u>Link 11/11B</u> (LAND CATEGORY)	<u>Link 16</u>	
<u>GENERAL TYPE</u>	<u>LAND PLATFORM</u>	<u>LAND SPECIFIC TYPE</u>
0 - NO STATEMENT	0 - NO STATEMENT	ALL
	30 - DISUSED	
	35 - DISUSED	
	62 - UNDEFINED	
1 - SAM SITE	40 - SURFACE-TO-AIR MISSILE (SAM) SITE	ALL
	49 - TERMINAL HIGH ALTITUDE AREA DEFENSE (THAAD)	ALL
	57 - BALLISTIC MISSILE DEFENSE SITE	ALL
2 - AAA SITE	22 - AIR DEFENSE ARTILLERY	ALL
	56 - AIR DEFENSE SITE	ALL
3 - GCI SITE	ALL	96 - GCI SITE
4 - EA SITE	ALL	93 - EA SITE
5 - AIR BASE	7 - AIRFIELD/AIRBASE	ALL
6 - TRAP	ALL	91 - TRAP
7 - DUMMY	ALL	90 - DUMMY
8 - COMMAND CENTER	2 - HEADQUARTER COMPLEX	ALL
	3 - COMMAND/CONTROL/ COMMAND AND CONTROL CENTER	ALL
	41 - MARITIME HEADQUARTERS	ALL
	43 - DIRECT AIR SUPPORT CENTER (DASC)	ALL
	45 - TACTICAL OPERATIONS CENTER (TOC)	ALL
	50 - JOINT TACTICAL GROUND STATION (JTAGS)	ALL
	59 - AIR SUPPORT OPERATIONS CENTER (ASOC)	ALL
9 - SSM SITE	ALL	139 - SSM
10 - POINT TARGET	ALL	92 - POINT TARGET
11 - FIELD ARTILLERY SITE	21 - FIELD ARTILLERY	ALL
12 - TROOP CONCENTRATION	1 - TROOP CONCENTRATION/UNIT	ALL

APPENDIX A

TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0
Message (Sheet 13 of 21)

NOTES (Continued)

4. (Continued)

<u>Link 11/11B</u> <u>(LAND CATEGORY)</u>	<u>Link 16</u>	
<u>GENERAL TYPE</u>	<u>LAND PLATFORM</u>	<u>LAND SPECIFIC TYPE</u>
13 - CONVOY/VEHICLE	4 - ASSEMBLY AREA	ALL
	13 - CONVOY	ALL
	14 - COMBAT VEHICLE	ALL
	15 - COMBAT SUPPORT VEHICLE	ALL
	16 - VEHICLE, OTHER	ALL
	17 - TANK	ALL
	18 - TRAIN	ALL
	19 - REMOTELY PILOTED VEHICLE/UNMANNED GROUND VEHICLE (UGV)	ALL
	48 - TRACKED VEHICLE	ALL
	51 - ARMOR UNIT	ALL
14 - OTHER	5 - INSTALLATION/ FACILITY, MILITARY	ALL
	6 - INSTALLATION/ FACILITY, CIVILIAN	ALL
	8 - PORT/HARBOR FACILITY	ALL
	9 - STORAGE SITE	ALL
	10 - TACTICAL POSITION	ALL
	11 - FORTIFICATION	ALL
	12 - INTERSECTION	ALL
	20 - MORTAR	ALL
	23 - ROCKET LAUNCHER	ALL
	24 - MISSILE LAUNCHER	ALL
	25 - SPECIAL WEAPON	ALL
	26 - BRIDGE	ALL
	27 - BUILDING/ STRUCTURE	ALL
	28 - POWER FACILITY	ALL
	29 - RAIL FACILITY	ALL
	31 - NAVAID SITE	ALL
	32 - COMMUNICATION SITE	ALL
	33 - RADAR SITE	ALL
	34 - ANTENNA/EMITTER	ALL
	36 - ELECTRONIC WARFARE SITE	ALL
	37 - SURVEILLANCE SITE	ALL
	38 - BRIDGING EQUIPMENT	ALL

APPENDIX A

TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0 Message (Sheet 14 of 21)

NOTES (Continued)

4. (Continued)

<u>Link 11/11B</u> (LAND CATEGORY)	<u>Link 16</u>	
<u>GENERAL TYPE</u>	<u>LAND PLATFORM</u>	<u>LAND SPECIFIC TYPE</u>
	39 - MINE WARFARE EQUIPMENT	ALL
	42 - AIR SUPPORT RADAR TEAM (ASRT)	ALL
	44 - FORWARD AIR CONTROL PARTY (FACP) / TACTICAL AIR CONTROL PARTY (TACP)	ALL
	46 - TACTICAL DATA SYSTEM (TDS)	ALL
	52 - CAVALRY UNIT	ALL
	53 - ENGINEER UNIT	ALL
	54 - AIRBORNE UNIT	ALL
	55 - AVIATION UNIT	ALL
	58 - SPECIAL OPERATIONS UNIT	ALL
	60 - INFRARED DECOY	ALL
	61 - ACTIVE ELECTRONIC DECOY	ALL
15 - RESET TO NO STATEMENT	63 - RESET TO NO STATEMENT	ALL
<u>Link 11/11B</u> (MISSILE CATEGORY)	<u>Link 16</u>	
<u>GENERAL TYPE</u>	<u>AIR PLATFORM</u>	
1 - ANTIAIR	37 - SURFACE-TO-AIR MISSILE (SAM)	
2 - ANTISURF	41 - AIR-TO-AIR MISSILE (AAM)	
3 - ANTISUB	38 - AIR-TO-SURFACE MISSILE (ASM)	
14 - OTHER	39 - SURFACE-TO-SURFACE MISSILE (SSM)	
	42 - SUBSURFACE-TO-SURFACE MISSILE	
	43 - SURFACE-TO-SUBSURFACE MISSILE	
	13 - MISSILE	
	44 - CRUISE MISSILE	
	45 - BALLISTIC MISSILE	

5. The M.811M Mission field is derived from the J6.0I Activity fields as follows:

APPENDIX A

TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0 Message (Sheet 15 of 21)

NOTES (Continued)

5. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>
(AIR CATEGORY)	AIR ACTIVITY
<u>MISSION</u>	
0 - NO STATEMENT	0 - NO STATEMENT
	2 - OVER THE HORIZON TARGETING (OTHT)
	3 - TRAINING
	9 - ESCORTING
	11 - TRANSITING
	13 - INTRUDING
	15 - COMMUNICATIONS RELAY
	19 - DISUSED
	20 - TOWING
	22 - INTERCEPTION
	24 - POLICING
	25 - CONVENTIONAL ATTACK
	32 - FORWARD AIR CONTROLLER (FAC)
	33 - VERY IMPORTANT PERSON (VIP) FLIGHT
	34 - NONCOMBATANT OPERATIONS
	37 - GROUND ATTACK TACTICS (GAT)
	41 - DISUSED
	43 - STRIKE WARFARE
	45 - HIJACK
	48 - XRAY
	49 - ANTI AIR WARFARE (AAW)
	51 - COUNTER-AIR WARFARE
	52 - RETURN TO BASE (RTB)
	53 - MINE WARFARE
	54 - CHAFF LAYING
	55 - VIDEO DATA LINKING (TARGETING)
	56 - DIPPING
	57 - DISUSED
	58 - ORBITING
	59 - UNDER RECALL
	60 - ENGAGING
	61 - ENGAGING (PRIORITY KILL)
	62 - INVESTIGATING
	63 - CLEARED TO DROP
	64 - INTERVENING
	65 - DIVERTING
	66 - AIR-TO-GROUND
	67 - AIR-TO-AIR
	68 - PRECISION BOMBING
	69 - LASER DESIGNATION
	70 - DISUSED
	71 - SHADOWING

APPENDIX A

TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0
Message (Sheet 16 of 21)

NOTES (Continued)

5. (Continued)

<u>Link 11/11B</u> (AIR CATEGORY)	<u>Link 16</u>
<u>MISSION</u>	<u>AIR ACTIVITY</u>
1 - CAP (COUNTER AIR)	72 - COVERING
2 - CAS	73 - VISUAL IDENTIFICATION
3 - INTERDICTION	74 - HIGH ENERGY LASING
4 - RECCE	81 - ABORTING MISSION
5 - AIRLIFT (LOGISTICS)	82 - STANDOFF OPERATIONS
6 - PATROL (OCEAN SURVEILLANCE)	84-114 - UNDEFINED
7 - AIRBORNE COMMAND POST (ACP)	31 - COMBAT AIR PATROL (CAP)
8 - AEW	35 - CLOSE AIR SUPPORT (CAS)
9 - EA	30 - INTERDICTION
10 - ES	1 - RECONNAISSANCE
11 - REFUEL	7 - SURVEILLANCE
13 - AIR ASSAULT	42 - SPOTTING
14 - ASW	4 - LOGISTICS SUPPORT
15 - SAR	17 - AIRLIFT (TRANSPORT)
16 - MEDEVAC	47 - TROOPLIFT
17 - MINE LAYING	16 - PATROL (OCEAN SURVEILLANCE)
18 - MINE SWEEPING	38 - AIRBORNE COMMAND POST (ACP)
19 - ANTISHIP	50 - COMMAND AND CONTROL
20 - SPECIAL	36 - AIRBORNE EARLY WARNING (AEW)
	23 - ELECTRONIC ATTACK (EA)
	46 - JAMMER
	75 - ELECTRONIC PROTECTION (EP)
	6 - ELECTRONIC WARFARE (EW)
	14 - ELECTRONIC WARFARE SUPPORT (ES)
	29 - REFUELING/TANKING
	21 - AIR ASSAULT
	18 - ANTISUBMARINE WARFARE (ASW)
	8 - SEARCH AND RESCUE (SAR)
	28 - SEARCH
	39 - RESCUE COMBAT AIR PATROL (RESCAP)
	83 - COMBAT SEARCH AND RESCUE (CSAR)
	26 - MEDICAL EVACUATION (MEDEVAC)
	10 - MINELAYING
	27 - MINE COUNTERMEASURES
	5 - ANTISURFACE WARFARE
	40 - SURFACE COMBAT AIR PATROL (SUCAP)
	12 - SPECIAL WEAPONS ATTACK
	44 - SPECIAL

APPENDIX A

TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0
Message (Sheet 17 of 21)

NOTES (Continued)

5. (Continued)

<u>Link 11/11B</u> (AIR CATEGORY) <u>MISSION</u>	<u>Link 16</u> <u>AIR ACTIVITY</u>
51-62 - AM-1 THROUGH AM-12 63 - RESET TO NO STATEMENT	76 - SPECIAL OPERATIONS 77 - NUCLEAR, BIOLOGICAL, CHEMICAL (NBC) OPERATIONS 78 - NUCLEAR OPERATIONS 79 - BIOLOGICAL OPERATIONS 80 - CHEMICAL OPERATIONS 115-126 - AIR ACTIVITY 1 THROUGH 12 127 - RESET TO NO STATEMENT
<u>Link 11/11B</u> (SURFACE (OCEANIC) CATEGORY) <u>MISSION</u>	<u>Link 16</u> <u>SURFACE ACTIVITY</u>
0 - NO STATEMENT	0 - NO STATEMENT 2 - OVER THE HORIZON TARGETING (OTHT) 3 - TRAINING 4 - LOGISTICS SUPPORT 7 - FISHERY PROTECTION 8 - SEARCH AND RESCUE (SAR) 9 - ESCORTING 11 - TRANSITING 12 - NAVAL SURFACE FIRE SUPPORT 13 - INTRUDING 15 - INTELLIGENCE COLLECTING 16 - PATROL 17 - TRANSPORT 19 - DISUSED 20 - TOWING 24 - FISHING 25 - PICKETING 28 - MARKING 30 - UNDERWAY REPLENISHMENT 31 - SURVEYING 34 - FLIGHT OPERATIONS 35 - VIDEO DATA LINKING (TARGETING) 36 - PLANE GUARD 37 - RESCUE SHIP/LIFEGUARD 39 - SHADOWING 40 - INTERVENING 46 - COMBAT SEARCH AND RESCUE (CSAR) 47 - BMD MISSION 48, 49 - UNDEFINED

APPENDIX A

TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0
Message (Sheet 18 of 21)

NOTES (Continued)

5. (Continued)

<u>Link 11/11B</u>	
(SURFACE (OCEANIC) CATEGORY)	
<u>MISSION</u>	
1 - ANTCIAIR WARFARE	
2 - AIR WARFARE SUPPORT	
3 - ANTISURFACE WARFARE	
4 - ANTISUBMARINE WARFARE	
5 - STRIKE WARFARE	
6 - AMPHIBIOUS WARFARE	
7 - MINE WARFARE	
8 - ELECTRONIC WARFARE	
9 - NONCOMBATANT OPERATIONS	
10 - SPECIAL WARFARE	
51-62 - SM-1 THROUGH SM-12	
63 - RESET TO NO STATEMENT	

<u>Link 16</u>
SURFACE ACTIVITY
50 - RETURN TO BASE (RTB)
51-114 - UNDEFINED
23 - ANTCIAIR WARFARE
1 - AIR WARFARE SUPPORT
5 - ANTISURFACE WARFARE
18 - ANTISUBMARINE WARFARE (ASW)
22 - STRIKE WARFARE
14 - AMPHIBIOUS WARFARE
10 - MINELAYING
26 - MINE COUNTERMEASURES
27 - MINE WARFARE
6 - ELECTRONIC WARFARE (EW)
32 - ELECTRONIC WARFARE SUPPORT (ES)
33 - ELECTRONIC ATTACK (EA)
45 - ELECTRONIC PROTECTION (EP)
29 - NONCOMBATANT OPERATIONS
21 - SPECIAL WARFARE
38 - SPECIAL OPERATIONS
41 - NUCLEAR, BIOLOGICAL, CHEMICAL (NBC) OPERATIONS
42 - NUCLEAR OPERATIONS
43 - BIOLOGICAL OPERATIONS
44 - CHEMICAL OPERATIONS
115-126 - SURFACE ACTIVITY 1 THROUGH 12
127 - RESET TO NO STATEMENT

<u>Link 11/11B</u>	
(SUBSURFACE CATEGORY)	
<u>MISSION</u>	
0 - NO STATEMENT	

<u>Link 16</u>
SUBSURFACE ACTIVITY
0 - NO STATEMENT
1 - RECONNAISSANCE
2 - OVER THE HORIZON TARGETING (OTH)
3 - TRAINING
4 - DIVING
7 - SURVEILLANCE
8 - SEARCH AND RESCUE (SAR)
9 - ESCORTING
11 - TRANSITING
12 - SPECIAL WEAPONS ATTACK
13 - SURFACING

APPENDIX A

TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0
Message (Sheet 19 of 21)

NOTES (Continued)

5. (Continued)

<u>Link 11/11B</u> (SUBSURFACE CATEGORY) <u>MISSION</u>	<u>Link 16</u> <u>SUBSURFACE ACTIVITY</u>
1 - STRIKE WARFARE	22 - STRIKE WARFARE
2 - ANTISUBMARINE WARFARE	18 - ANTISUBMARINE WARFARE (ASW)
3 - ANTISURFACE WARFARE	5 - ANTISURFACE WARFARE
4 - AMPHIBIOUS WARFARE	14 - AMPHIBIOUS WARFARE
5 - MINE WARFARE	10 - MINELAYING
6 - SPECIAL WARFARE	26 - MINE COUNTERMEASURES
7 - ELECTRONIC WARFARE	27 - MINE WARFARE
8 - NONCOMBATANT OPERATIONS	21 - SPECIAL WARFARE
51-62 - UM-1 THROUGH UM-12	32 - SPECIAL OPERATIONS
63 - RESET TO NO STATEMENT	35 - NUCLEAR, BIOLOGICAL, CHEMICAL (NBC) OPERATIONS
	36 - NUCLEAR OPERATIONS
	37 - BIOLOGICAL OPERATIONS
	38 - CHEMICAL OPERATIONS
	6 - ELECTRONIC WARFARE (EW)
	39 - ELECTRONIC WARFARE SUPPORT (ES)
	29 - NONCOMBATANT OPERATIONS
	115-126 - SUBSURFACE ACTIVITY 1 THROUGH 12
	127 - RESET TO NO STATEMENT

APPENDIX A

TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0 Message (Sheet 20 of 21)

NOTES (Continued)

5. (Continued)

<u>Link 11/11B</u>	<u>Link 16</u>
(LAND CATEGORY)	
<u>MISSION</u>	<u>LAND ACTIVITY</u>
0 - NO STATEMENT	0-126
63 - RESET TO NO STATEMENT	127 - RESET TO NO STATEMENT
<u>Link 11/11B</u>	<u>Link 16</u>
(MISSILE CATEGORY)	
<u>MISSION</u>	<u>AIR PLATFORM</u>
0 - NO STATEMENT	13, 37-39, 41-45
1 - ANTIAIR WARFARE	13, 37, 41, 44, 45
2 - ANTISURFACE WARFARE	13, 38, 39, 42, 44, 45
3 - ANTISUBSURFACE WARFARE	13, 43-45
4 - STRIKE WARFARE	13, 37-39, 41-45
5 - NONCOMBATANT OPERATIONS	13, 37-39, 41-45
63 - RESET TO NO STATEMENT	13, 37-39, 41-45
	<u>AIR ACTIVITY</u>
	0-4, 6-17, 19-33, 35-42, 44-52, 57-126
	51 - COUNTER-AIR WARFARE
	5 - ANTISURFACE WARFARE
	18 - ANTISUBMARINE WARFARE (ASW)
	43 - STRIKE WARFARE
	34 - NONCOMBATANT OPERATIONS
	127 - RESET TO NO STATEMENT

6. Current Activity is derived from the Activity Amplification Index as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
(AIR CATEGORY)	
<u>CURRENT ACTIVITY</u>	<u>ACTIVITY AMPLIFICATION INDEX</u>
0 - NO STATEMENT	0 - NO STATEMENT
1-27	28 - SHADOW
51-63	29 - INTERVENE
	1-27
	51-63

Current Activity and Activity Amplification Index fields within the Surface, Subsurface, and Land Categories are equivalent with no conversion necessary.

APPENDIX A

TABLE A.5.2-M.11M. M.11M/M.811M Message Data Element Translation from the J6.0
Message (Sheet 21 of 21)

NOTES (Continued)

6. (Continued)

<u>Link 11/11B</u> (MISSILE CATEGORY)	<u>Link 16</u>	<u>ACTIVITY AMPLIFICATION</u> <u>INDEX</u>
CURRENT ACTIVITY	AIR PLATFORM	
0 - NO STATEMENT	13, 37-39, 41-45	0-1, 3-29, 51-62
2 - ASSIGNED TO DESTROY		2 - ASSIGNED TO DESTROY
63 - RESET TO NO STATEMENT		63 - RESET TO NO STATEMENT

7. The Switch field in the M.811M message is determined by the presence of nonzero data in either the Local Discrete Identifier or Track Number, Controlling Agency of TN Reference fields. If both of these fields contain nonzero data, then two M.811M messages must be sent. If only the Local Discrete Identifier field is present, then the Switch field shall be set to 1. If only the Track Number, Controlling Agency of TN Reference is present, then the Switch shall be set to 0.

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TABLE A.5.2-M.14-1. M.14 Message Data Element Translation from the J10.2 Message (Sheet 1 of 3)

Link 11/11B		TRANSLATION					Link 16		
MESSAGE M.14	FIELD LABEL	VALUE 14	REQUIRED CR	WORD J10.2I	DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 10	NOTES 1		
	WEAPON/ENGAGEMENT STATUS	AT	CR	J10.2I/ J10.2C1 J10.2I	WEAPON ENGAGEMENT STATUS WEAPON/ENGAGEMENT STATUS WEAPON SYSTEM	RX RX RX	2 2 3		
	WEAPON TYPE	AT	CR	J10.2I	WEAPON SYSTEM	RX	NA		
	WEAPON RANGE	0	NONE	NA	NA	NA	NA		
	NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE	0	NONE	NA	NA	NA	NA		
	WARHEAD	0	NONE	NA	NA	NA	NA		
	PU/RU SOURCE	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12		
	TN FRIENDLY WEAPON SYSTEM	AT	CR	J10.2I	TRACK NUMBER, REFERENCE	RX	G13		
	TN TARGET	AT	CR	J10.2I/ J10.2C1	TRACK NUMBER, TARGET TRACK NUMBER, TARGET A	RX RX	G13 G13		

APPENDIX A

TABLE A.5.2-M.14-1. M.14 Message Data Element Translation from the J10.2 Message
(Sheet 2 of 3)

NOTES

1. The M.14 message may be derived from the J10.2, J13.2, J13.3, J13.4, or J13.5 message.
2. The M.14 Weapon/Engagement Status (W/ES) is determined from the J10.2 Weapon Engagement Status and Weapon System fields as follows:

<u>Link 11/11B</u>	<u>Link 16</u>	
WEAPON/ENGAGEMENT STATUS	WEAPON ENGAGEMENT STATUS	WEAPON SYSTEM
2 - ASSIGNED, WEAPON ASSIGNED, INVESTIGATING	2 - WEAPON ASSIGNED	ANY
	3 - TRACKING/LOCKED ON/READY TO FIRE/ BIRD AFFIRM	3, 5, 9, 17
	4 - FIRING/MISSILE IN FLIGHT/ENGAGING TO DESTROY/DECOY LAUNCHED	0, 10-16
	11 - INVESTIGATING/ INTERROGATING	ANY
	12 - SHADOWING	ANY
	13 - INTERVENING	ANY
	14 - COVERING	ANY
3 - TRACKING OR TRACKING/LOCKED ON/ READY TO FIRE	3 - TRACKING/LOCKED ON/READY TO FIRE/ BIRD AFFIRM	ALL EXCEPT 3, 5, 9, 17
4 - FIRING OR ENGAGING	4 - FIRING/MISSILE IN FLIGHT/ENGAGING TO DESTROY/DECOY LAUNCHED	ALL EXCEPT 0, 10-16, 19
4 - FIRING/DECoy LAUNCHED	4 - FIRING/MISSILE IN FLIGHT/ENGAGING TO DESTROY/DECOY LAUNCHED	19
5 - EFFECTIVE	5 - EFFECTIVE/TARGET DESTROYED/GRAND SLAM	ANY
6 - PARTIALLY EFFECTIVE	6 - PARTIALLY EFFECTIVE	ANY
7 - NOT EFFECTIVE	7 - NOT EFFECTIVE	0, 10-16
8 - ENGAGEMENT BROKEN	7 - NOT EFFECTIVE	ALL EXCEPT 0, 10-16
9 - HEADS UP	8 - ENGAGEMENT BROKEN	ANY
10 - ENGAGEMENT INTERRUPTED	9 - HEADS UP	0
	10 - ENGAGEMENT INTERRUPTED	ANY

APPENDIX A

TABLE A.5.2-M.14-1. M.14 Message Data Element Translation from the J10.2 Message
(Sheet 3 of 3)

NOTES (Continued)

2. (Continued)

All other J10.2 Weapon Engagement Status and Weapon System combinations shall be discarded without sending the M.14 message.

3. Weapon Type is determined from J10.2 Weapon System as follows:

Link 11/11B	Link 16
<u>WEAPON TYPE</u>	<u>WEAPON SYSTEM</u>
0 - NO STATEMENT	0 - NO STATEMENT
1 - SURFACE-TO-AIR MISSILE (SAM)	1 - SURFACE-TO-AIR MISSILE (SAM)
2 - SURFACE-TO-SURFACE MISSILE (SSM)	2 - SURFACE-TO-SURFACE MISSILE (SSM)
3 - INTERCEPTOR	3 - AIRCRAFT
4 - CONVENTIONAL (SHORT RANGE MISSILE/GUNS)	4 - CONVENTIONAL (SHORT RANGE MISSILE OR GUNS)
5 - ASW HELO	5 - ANTISUBMARINE WARFARE HELICOPTER
6 - ASW MISSILE	6 - ANTISUBMARINE WARFARE MISSILE
7 - DEPTH CHARGE/DEPTH BOMB	7 - DEPTH CHARGE/DEPTH BOMB
8 - TORPEDO	8 - TORPEDO
9 - FIXED WING ASW AIRCRAFT	9 - FIXED WING ANTISUBMARINE WARFARE AIRCRAFT
10 - AIR-TO-SURFACE MISSILE (ASM)	18 - AIR-TO-SURFACE MISSILE (ASM)
13 - ACTIVE ELECTRONIC DECOY	19 - ACTIVE ELECTRONIC DECOY

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TABLE A.5.2-M.14-2. M.14 Message Data Element Translation from the J13.2 Message (Sheet 1 of 2)

Link 11/11B		TRANSLATION					Link 16	
MESSAGE M.14	FIELD LABEL	VALUE 14	REQUIRED CR	WORD J13.2I	DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 13 2	NOTES 1	
	WEAPON/ENGAGEMENT STATUS	AT	CR	J13.2I	OPERATIONAL CAPABILITY, AIRCRAFT	RX	2	
	WEAPON TYPE	3	NONE	NA	NA	NA	NA	
	WEAPON RANGE	0	NONE	NA	NA	NA	NA	
	NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE	0	NONE	NA	NA	NA	NA	
	WARHEAD	0	NONE	NA	NA	NA	NA	
	PU/RU SOURCE	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12	
	TN FRIENDLY WEAPON SYSTEM	AT	CR	J13.2I	TRACK NUMBER, REFERENCE	RX	G13	
	HOT INVENTORY	0	NONE	NA	NA	NA	NA	
	COLD INVENTORY	0	NONE	NA	NA	NA	NA	
	TN TARGET	0	NONE	NA	NA	NA	NA	

APPENDIX A

TABLE A.5.2-M.14-2. M.14 Message Data Element Translation from the J13.2 Message
(Sheet 2 of 2)

NOTES

1. The M.14 message may be derived from the J10.2, J13.2, J13.3, J13.4, or J13.5 messages.
2. The Weapon/Engagement Status shall be determined from the J13.2 Operational Capability, Aircraft as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
WEAPON/ENGAGEMENT STATUS	OPERATIONAL CAPABILITY, AIRCRAFT
0	1
1	2
	3

APPENDIX A

TABLE A.5.2-M.14-3. M.14 Message Data Element Translation from the J13.3 Message (Sheet 1 of 7)

Link 11/11B				Link 16			
MESSAGE M.14	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 13	NOTES 1
		VALUE 14	REQUIRED CR	WORD J13.3I			
	WEAPON/ENGAGEMENT STATUS	AT	CR	J13.3C1	OPERATIONAL MISSILE INVENTORY, 1	RX	2
				J13.3C5	OPERATIONAL MISSILE INVENTORY, 2	RX	2
				J13.3C6	OPERATIONAL MISSILE INVENTORY, 3	RX	2
				J13.3C7	OPERATIONAL MISSILE INVENTORY, 4	RX	
				J13.3C1	OPERATIONAL MISSILE INVENTORY, 5	RX	
				J13.3C5	OPERATIONAL MISSILE INVENTORY, 6	RX	
					OPERATIONAL MISSILE INVENTORY, 7	RX	
					OPERATIONAL MISSILE INVENTORY, 8	RX	
					OPERATIONAL MISSILE INVENTORY, 9	RX	
					OPERATIONAL MISSILE INVENTORY, 10	RX	
					OPERATIONAL MISSILE INVENTORY, 11	RX	
					OPERATIONAL MISSILE INVENTORY, 12	RX	
					NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 1	RX	
					NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 2	RX	
					NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 3	RX	
					NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 4	RX	
					NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 5	RX	
					NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 6	RX	

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TABLE A.5.2-M.14-3. M.14 Message Data Element Translation from the J13.3 Message (Sheet 2 of 7)

Link 11/11B				Link 16			
MESSAGE M.14 (Cont'd)	FIELD	TRANSLATION		DATA ELEMENT	VALUE	NOTES	
		VALUE	REQUIRED	WORD			
WEAPON TYPE	AT CR	J13.3C6	NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 7	NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 7	RX		
			NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 8	NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 8	RX		
			NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 9	NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 9	RX		
		J13.3C7	NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 10	NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 10	RX		
			NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 11	NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 11	RX		
			NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 12	NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 12	RX		
		J13.3C5	MISSILE TYPE, 1	MISSILE TYPE, 1	RX	3	
			MISSILE TYPE, 2	MISSILE TYPE, 2	RX	3	
			MISSILE TYPE, 3	MISSILE TYPE, 3	RX	3	
			MISSILE TYPE, 4	MISSILE TYPE, 4	RX		
			MISSILE TYPE, 5	MISSILE TYPE, 5	RX		
			MISSILE TYPE, 6	MISSILE TYPE, 6	RX		
WEAPON RANGE	AT CR	J13.3C6	MISSILE TYPE, 7	MISSILE TYPE, 7	RX		
			MISSILE TYPE, 8	MISSILE TYPE, 8	RX		
			MISSILE TYPE, 9	MISSILE TYPE, 9	RX		
		J13.3C7	MISSILE TYPE, 10	MISSILE TYPE, 10	RX		
			MISSILE TYPE, 11	MISSILE TYPE, 11	RX		
			MISSILE TYPE, 12	MISSILE TYPE, 12	RX		
		J13.3C2	ACTIVE ELECTRONIC DECOY LAUNCHER SYSTEM	ACTIVE ELECTRONIC DECOY LAUNCHER SYSTEM	RX	6	
			MISSILE TYPE, 1	MISSILE TYPE, 1	RX	3	
			MISSILE TYPE, 2	MISSILE TYPE, 2	RX	3	
		J13.3C5	MISSILE TYPE, 3	MISSILE TYPE, 3	RX	3	
			MISSILE TYPE, 4	MISSILE TYPE, 4	RX		
			MISSILE TYPE, 5	MISSILE TYPE, 5	RX		
			MISSILE TYPE, 6	MISSILE TYPE, 6	RX		
			MISSILE TYPE, 7	MISSILE TYPE, 7	RX		
			MISSILE TYPE, 8	MISSILE TYPE, 8	RX		
		J13.3C6	MISSILE TYPE, 9	MISSILE TYPE, 9	RX		
			MISSILE TYPE, 10	MISSILE TYPE, 10	RX		
			MISSILE TYPE, 11	MISSILE TYPE, 11	RX		
			MISSILE TYPE, 12	MISSILE TYPE, 12	RX		
		J13.3C7	ACTIVE ELECTRONIC DECOY LAUNCHER SYSTEM	ACTIVE ELECTRONIC DECOY LAUNCHER SYSTEM	RX	6	

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TABLE A.5.2-M.14-3. M.14 Message Data Element Translation from the J13.3 Message (Sheet 3 of 7)

Link 11/11B					Link 16		
MESSAGE M.14 (Cont'd)	FIELD NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE	TRANSLATION			DATA ELEMENT NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 1	VALUE RX	NOTES 4
		VALUE AT	REQUIRED CR	WORD J13.3C1			
		J13.3C5		J13.3C6	NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 2	RX	4
					NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 3	RX	4
					NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 4	RX	
					NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 5	RX	
					NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 6	RX	
					NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 7	RX	
					NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 8	RX	
					NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 9	RX	
					NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 10	RX	
					NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 11	RX	
					NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE, 12	RX	
	WARHEAD	0	NONE	NA	NA	NA	
	PU/RU SOURCE	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
	TN FRIENDLY WEAPON SYSTEM	AT	CR	J13.3I	TRACK NUMBER, REFERENCE	RX	G13
	HOT INVENTORY	AT	CR	J13.3C1	OPERATIONAL MISSILE INVENTORY, 1	RX	5
				J13.3C5	OPERATIONAL MISSILE INVENTORY, 2	RX	5
					OPERATIONAL MISSILE INVENTORY, 3	RX	5
					OPERATIONAL MISSILE INVENTORY, 4	RX	
					OPERATIONAL MISSILE INVENTORY, 5	RX	
					OPERATIONAL MISSILE INVENTORY, 6	RX	

TABLE A.5.2-M.14-3. M.14 Message Data Element Translation from the J13.3 Message (Sheet 4 of 7)

Link 11/11B		TRANSLATION			Link 16		
MESSAGE M.14 (Cont'd)	FIELD	VALUE	REQUIRED	WORD J13.3C6	DATA ELEMENT	VALUE	NOTES
				J13.3C7	OPERATIONAL MISSILE INVENTORY, 7	RX	
					OPERATIONAL MISSILE INVENTORY, 8	RX	
					OPERATIONAL MISSILE INVENTORY, 9	RX	
					OPERATIONAL MISSILE INVENTORY, 10	RX	
					OPERATIONAL MISSILE INVENTORY, 11	RX	
					OPERATIONAL MISSILE INVENTORY, 12	RX	
COLD INVENTORY		0	NONE	NA	NA	NA	
TN TARGET		0	NONE	NA	NA	NA	

APPENDIX A

TABLE A.5.2-M.14-3. M.14 Message Data Element Translation from the J13.3 Message
(Sheet 5 of 7)

NOTES

1. The M.14 message may be derived from the J10.2, J13.2, J13.3, J13.4, or J13.5 messages.
2. The M.14 messages forwarding J13 series status information will have the Weapon/Engagement Status (W/ES) set to value 1 if either an Operational Missile Inventory or Number of Fire Control Systems Available is 0 in the J13.3 message. In all other cases, the W/ES will be set to 0.
3. The M.14 Weapon Type and Weapon Range fields provide the capability to show the simple presence or absence of a particular group of surface-to-air or surface-to-surface missiles. As many as twelve separate weapons may be reported in the J13.3. There are no restrictions as to which weapon will be shown in which of the twelve available fields. It would be possible that Missile Type, 2 would show a weapon while all other Missile Types were No Statement. The J13.3 Missile Type, 1 through 12 will be forwarded in the M.14 Weapon Type and Weapon Range fields as follows:

<u>Link 11/11B</u>		<u>Link 16</u>
<u>Weapon Type</u>	<u>Weapon Range</u>	<u>Missile Type, 1 - 12</u>
1	1	1
	2	2, 10, 11
	3	3, 8, 9, 12-14, 18-23, 27, 48, 51
2	1	4
	2	5, 26
	3	6, 15-17, 24, 25

In addition, if Missile Type = 8, 9, 12-25, 27, 48, or 51, then also transmit another M.14 with:

11	1	9, 12, 18-21
	2	13, 22
	3	8, 14, 23, 27, 48, 51

APPENDIX A

TABLE A.5.2-M.14-3. M.14 Message Data Element Translation from the J13.3 Message
(Sheet 6 of 7)

NOTES (Continued)

3. (Continued)

12	1	15
	2	16, 24
	3	17, 25

4. As many as twelve separate Number of Fire Control Systems Available corresponding to Missile Type, 1-12 may be reported in the J13.3. There are no restrictions as to which Number of Fire Control Systems Available field will be shown in which of the twelve available fields. It would be possible that Number of Fire Control Systems Available, 2 corresponding with Missile Type, 2 would show a valid Number of Fire Control Systems Available while all other Number of Fire Control Systems Available were No Statement. The M.14 Number of Fire Control Systems Available field is determined as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
Number of Fire Control	Number of Fire Control
<u>Systems Available</u>	<u>Systems Available, 1 - 12</u>
0	0
	15
1	1
2	2
3	3-14

5. As many as twelve separate inventories may be reported in J13.3. There are no restrictions as to which inventory will be shown in which of the twelve available fields. It would be possible that Operational Missile Inventory, 2 would show an inventory while all other Operational Missile Inventory were No Statement. The M.14 Hot Inventory field is determined from the J13.3 Operational Missile Inventory, 1-12 fields as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
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APPENDIX A

TABLE A.5.2-M.14-3. M.14 Message Data Element Translation from the J13.3 Message
(Sheet 7 of 7)

NOTES (Continued)

5. (Continued)

<u>HOT INVENTORY</u>	<u>OPERATIONAL MISSILE INVENTORY, 1 - 12</u>
0	0
	127
1-125	1-125
126	126

6. When the M.14 Weapon Type field is set to 13 (Active Electronic Decoy), the M.14 Weapon/Engagement Status field provides the capability to show the availability of an Active Electronic Decoy System. The translation from the J13.3C2 word Active Electronic Decoy Launcher System is as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>WEAPON/ENGAGEMENT STATUS</u>	<u>ACTIVE ELECTRONIC DECOY LAUNCHER SYSTEM</u>
0 - AVAILABLE	0 - NO STATEMENT
1 - OUT OF ACTION	1 - DEGRADED 3 - OPERATIONAL 2 - NOT OPERATIONAL

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TABLE A.5.2-M.14-4. M.14 Message Data Element Translation from the J13.4 Message (Sheet 1 of 3)

Link 11/11B					Link 16		
MESSAGE M.14	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 13	NOTES 1
		VALUE 14	REQUIRED CR	WORD J13.4I			
	WEAPON/ENGAGEMENT STATUS	AT	CR	J13.4C1	OPERATIONAL MISSILE INVENTORY, 1	RX	2
					OPERATIONAL MISSILE INVENTORY, 2	RX	2
					OPERATIONAL MISSILE INVENTORY, 3	RX	2
	WEAPON TYPE	AT	CR	J13.4C1	MISSILE TYPE, 1	RX	3
					MISSILE TYPE, 2	RX	3
					MISSILE TYPE, 3	RX	3
	WEAPON RANGE	AT	CR	J13.4C1	MISSILE TYPE, 1	RX	3
					MISSILE TYPE, 2	RX	3
					MISSILE TYPE, 3	RX	3
	NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE	0	NONE	NA	NA	NA	
	WARHEAD	0	NONE	NA	NA	NA	
	PU/RU SOURCE	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
	TN FRIENDLY WEAPON SYSTEM	AT	CR	J13.4I	TRACK NUMBER, REFERENCE	RX	G13
	HOT INVENTORY	AT	CR	J13.4C1	OPERATIONAL MISSILE INVENTORY, 1	RX	4
					OPERATIONAL MISSILE INVENTORY, 2	RX	4
					OPERATIONAL MISSILE INVENTORY, 3	RX	4
	COLD INVENTORY	0	NONE	NA	NA	NA	
	TN TARGET	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.14-4. M.14 Message Data Element Translation from the J13.4 Message
(Sheet 2 of 3)

NOTES

1. The M.14 message may be derived from the J10.2, J13.2, J13.3, J13.4, or J13.5 messages.
2. The M.14 messages forwarding J13 series status information will have the Weapon/Engagement Status (W/ES) set to value 1 if an Operational Missile Inventory is set to value 0 in the J13.4 message. In all other cases, the W/ES will be set to value 0.
3. The M.14 Weapon Type and Weapon Range fields provide the capability to show the simple presence or absence of a particular group of surface-to-air or surface-to-surface missiles. As many as three separate weapons may be reported in the J13.4. There are no restrictions as to which weapon will be shown in which of the three available fields. It would be possible that Missile Type, 2 would show a weapon while Missile Type, 1 and 3 were No Statement. The J13.4 Missile Type, 1, 2, or 3 will be forwarded in the M.14 Weapon Type and Weapon Range fields as follows:

<u>Link 11/11B</u>		<u>Link 16</u>
<u>Weapon Type</u>	<u>Weapon Range</u>	<u>Missile Type, 1, 2 or 3</u>
0	0	0, 57-63
1	1	1
	2	2
		9
		10
		11
	3	3
		8
		12-14
2	1	4
	2	5
		26
	3	6

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TABLE A.5.2-M.14-4. M.14 Message Data Element Translation from the J13.4 Message
(Sheet 3 of 3)

NOTES (Continued)

3. (Continued)

15-17
24
25

In addition, if Missile Type = 8-9, 12-17 or 24-26 then also transmit another M.14 with:

11	1	9, 12
	2	13
	3	8, 14
12	1	15, 26
	2	16, 24
	3	17, 25

4. As many as three separate inventories may be reported in J13.4. There are no restrictions as to which inventory will be shown in which of the three available fields. It would be possible that Operational Missile Inventory, 2 would show an inventory while Operational Missile Inventory, 1 and 3 were No Statement. The M.14 Hot Inventory field is determined from the J13.4 Operational Missile Inventory, 1-3 fields as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>Hot Inventory</u>	<u>Operational Missile Inventory, 1, 2 or 3</u>
0	0
	127
1-125	1-125
126	126

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TABLE A.5.2-M.14-5. M.14 Message Data Element Translation from the J13.5 Message (Sheet 1 of 3)

Link 11/11B		TRANSLATION			Link 16		
MESSAGE M.14	FIELD LABEL	VALUE 14	REQUIRED CR	WORD J13.5I	DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 13 5	NOTES 1
	WEAPON/ENGAGEMENT STATUS	AT	CR	J13.5I	PERIMETER ENGAGEMENT STATUS OPERATIONAL CAPABILITY HOT INVENTORY	RX RX RX	2
	WEAPON TYPE	AT	CR	J13.5I	SITE TYPE	RX	3
	WEAPON RANGE	0	NONE	NA	NA	NA	
	NUMBER OF FIRE CONTROL SYSTEMS AVAILABLE	0	NONE	NA	NA	NA	
	WARHEAD	0	NONE	NA	NA	NA	
	PU/RU SOURCE	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G2, G12
	TN FRIENDLY WEAPON SYSTEM	AT	CR	J13.5I	TRACK NUMBER, REFERENCE	RX	G13
	HOT INVENTORY	AT	CR	J13.5I	HOT INVENTORY	RX	4
	COLD INVENTORY	AT	CR	J13.5C1	COLD INVENTORY	RX	5
	TN TARGET	0	NONE	NA	NA	NA	

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TABLE A.5.2-M.14-5. M.14 Message Data Element Translation from the J13.5 Message
(Sheet 2 of 3)

NOTES

1. The M.14 message may be derived from the J10.2, J13.2, J13.3, J13.4, or J13.5 messages.

2. The M.14 Weapon/Engagement Status (W/ES) is translated from the J13.5 Perimeter Engagement Status, Operational Capability and Hot Inventory as follows:

<u>Link 11/11B</u>	<u>Link 16</u>		
WEAPON/ ENGAGEMENT STATUS	PERIMETER ENGAGEMENT STATUS	OPERATIONAL CAPABILITY	HOT INVENTORY
0	0	0	1-126
		1	0-127
		2	
1	0	0	0 or 127
		3	0-127
12	1	1	0-127
		2 or 3	

The Link 16 Operational Capability value No Statement has no directly corresponding value in Link 11/11B.

3. The J13.5 Site Type will be reported in the M.14 Weapon Type as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
WEAPON TYPE	SITE TYPE
0 - NO STATEMENT	0 - NO STATEMENT
1 - SURFACE-TO-AIR MISSILE (SAM)	ALL VALUES NOT LISTED BELOW
4 - CONVENTIONAL (SHORT RANGE MISSILE/GUNS)	10, 11, 12, 13, 14 OR 28 15 OR 16

4. The J13.5 Hot Inventory will be reported in the M.14 Hot Inventory as follows:

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TABLE A.5.2-M.14-5. M.14 Message Data Element Translation from the J13.5 Message
(Sheet 3 of 3)

NOTES (Continued)

4. (Continued)

<u>Link 11/11B</u>
HOT INVENTORY
0
1 - 125
126

<u>Link 16</u>
HOT INVENTORY
0 OR 127
1-125
126

5. The J13.5 Cold Inventory will be reported in the M.14 Cold Inventory as follows:

<u>Link 11/11B</u>
COLD INVENTORY
0
1-30
31

<u>Link 16</u>
COLD INVENTORY
0 OR 127
1-30
31-126

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TABLE A.5.2-M.15. M.15 Message Data Element Translation from the J9.0 Message (Sheet 1 of 2)

Link 11/11B					Link 16		
MESSAGE M.15	FIELD LABEL	TRANSLATION			DATA ELEMENT LABEL, J-SERIES SUBLABEL, J-SERIES	VALUE 9	NOTES
		VALUE 15	REQUIRED CR	WORD J9.0I			
	TN ADDRESSEE	AT	CR	J9.0I	TRACK NUMBER, ADDRESSEE	RX	G12
	THREAT WARNING AIR	RX	=	J9.0I	THREAT WARNING CONDITION THREAT WARNING ENVIRONMENT	RX RX	1
	COMMAND	AT	CR	J9.0I	COMMAND	RX	2
	WEAPON TYPE	RX	=	J9.0I	WEAPON TYPE	RX	
	RECEIPT/COMPLIANCE	AT	CR	J9.0I	RECEIPT/COMPLIANCE	RX	3
	TN WEAPON SYSTEM/TN-1/ ORIGINATOR	AT	CR	J9.0E0	TRACK NUMBER, FRIENDLY WEAPON COMMAND MISSION TRACK NUMBER, SOURCE	RX RX RX	4, G12
				HEADER			
	DUTY ASSIGNMENT	RX	=	J9.0E0	DUTY ASSIGNMENT	RX	
	DUTY ASSIGNMENT FUNCTIONAL AREA	RX	=	J9.0E0	DUTY ASSIGNMENT FUNCTIONAL AREA	RX	
	IMPACT TIME	RX	=	J9.0C2	MINUTE	RX	
	NUMBER OF MISSILES	RX	=	J9.0C2	NUMBER OF MISSILES	RX	
	TN TARGET/TN-2	AT	CR	J9.0I	TRACK NUMBER, OBJECTIVE	RX	G13

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TABLE A.5.2-M.15. M.15 Message Data Element Translation from the J9.0 Message
(Sheet 2 of 2)

NOTES

1. If Threat Warning Environment is not = 1 set the M.15 Threat Warning Air field to No Statement.
2. If the J9.0 Command value is 20-22, the M.10A will be forwarded. Otherwise, the J9.0 Command value will be reported in the M.15 Command message as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>COMMAND</u>	<u>COMMAND</u>
0-8	0-8
3	23
14-19	14-19
20	27
21	30

3. The R/C value in the J9.0 message will be reported on Link 11/11B in the R/C field of the M.15 message as follows:

<u>Link 11/11B</u>	<u>Link 16</u>
<u>RECEIPT/COMPLIANCE</u>	<u>RECEIPT/COMPLIANCE</u>
0 or 1	0 or 1
3 or 4	3 or 4
6	6
7	7-22

4. The Command value of the J9.0 message will determine which J9.0 Data Element will be translated to TN Weapon System/TN-1/Originator.

<u>J9.0 COMMAND</u>	<u>J9.0 DATA ELEMENT</u>
0-8, 23 or 30 (For Link 11)	TRACK NUMBER, FRIENDLY WEAPON
0-8, 23 or 30 (For Link 11B)	HEADER, TN SOURCE
16 or 17	COMMAND MISSION

For the J9.0 message data elements above, the identical values will be used for the M.15 field.

5. Not Used.

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A.5.3 GENERAL NOTES FOR MESSAGE DATA ELEMENT TRANSLATION

This section provides the general notes used for message data element translations in section A.5.2.

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GENERAL NOTE 1 HEADER INFORMATION

Header information is required on all Link 16 messages. The Track Number, Source will be that of the unit whose data are being forwarded within the time slot. Only data from the Track Number, Source shall be transmitted within a time slot. An FJU forwarding for multiple sources shall ensure the above separation of data and individual data sources. The Relayed Transmission Indicator shall be set to 0 by the FJU for forwarded messages. Subsequent relay by any platform of these forwarded messages will follow normal procedure for setting of the Relayed Transmission Indicator. Messages which are originated by the FJU such as a Drop Track for a unit which becomes inactive shall be transmitted with the FJU as Track Number, Source.

GENERAL NOTE 2 DATA SOURCE DETERMINATION

LINK 16. The data source of Link 16 messages is contained in the Link 16 message header.

The Source TN field in the J2.0I word shall be set the same as the Source TN in the header if both are non-zero.

LINK 11. The data source of Link 11 messages that do not include data source (M.81, M.2, M.82, M.3, M.83, M.4A, M.84A, M.4B, M.4C, M.84C, M.4D, M.84D, M.5, M.85, M.6A, M.6B, M.86B, M.6C, M.86C, M.6D, M.9A(AC=3), M.9E, M.9F(AC=0), M.89F(AC=0), M.9F(AC=1), M.10A(Order=0-5), M.11B, M.11C, M.11D, M.811M, and M.15) is determined by the data source of the last received M.1 message.

The data source of Link 11 messages that include data source (M.1, M.9A(AC=1, 2, 4, 5, 6, 7, 9), M.9B, M.9C, M.10A(Order=6), M.11M, and M.14) is determined by the PU/RU source in the message.

LINK 11B. The source of Link 11B messages that do not include data source is as follows:

<u>LINK 11B Messages</u>	<u>Data Source</u>
M.2, M.82, M.3, M.83, M.4A,	PU/RU of the last received and acknowledged

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M.84A, M.5, M.85, M.6A,
 M.9F(AC=0), M.89F(AC=0),
 M.9F(AC=1), M.11D

M.9A(AC=3) PU/RU of the M.1 message received on the same channel on which the M.9A(AC=3) message was received.

M.9E, M.11B PU/RU of the last received M.9A(AC=6) message on the channel on which the message was last received.

M.10A See specific message rule.

M.811M PU/RU of the immediately preceding M.11M.

The data source of Link 11B messages that include data source (M.0, M.1, M.9A(AC=1, 2, 4, 5, 6, 7, 9), M.9B, M.9C, M.11M, M.14, M.15) is determined by the PU/RU source in the message.

GENERAL NOTE 3 MESSAGE LENGTH INDICATOR

The Message Length Indicator value indicates the additional 75-bit words that are part of this message. A maximum of seven additional words, either extension or continuation words, may be transmitted in a single time slot.

GENERAL NOTE 4 EMERGENCY/FORCE TELL INDICATORS

Since the M.9A(AC=5) message is not transmitted with every M.1, M.2, or M.3 message, the Emergency and Force Tell indicators are set to 0 or 1 in accordance with the track alert information held in the FJU's database on the track.

GENERAL NOTE 5 SPECIAL PROCESSING INDICATOR

LINK 16. The Special Processing Indicator (SPI) in the Link 11/11B message is set in accordance with the received J3.x, J5.4, J6.0, or J14.0 message

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being forwarded. The SPI information is forwarded to Link 11 by setting the SPI bit in the M.1 message(s) preceding the forwarded data. On Link 11B, SPI information is forwarded in the M.9A (AC=0) message as part of an initial sequence. The one exception to this rule involves the forwarding of a J6.0 message as an M.11/.811M message sequence. Since the M.11M message contains a SPI field, the setting of the SPI bit in a preceding Link 11, M.1 or Link 11B, M.9A (AC=0) message is not required.

LINK 11. The Special Processing Indicator in the Link 16 surveillance message is set in accordance with the latest received M.1 message. The SPI in the J6.0 message is set in accordance with the received M.11M message.

LINK 11B. The Special Processing Indicator in the Link 16 surveillance message is set in accordance with the latest received and acknowledged M.9A(AC=0) message. The SPI in the J6.0 message is set in accordance with the received M.11M message.

GENERAL NOTE 6 SIMULATION INDICATOR

Units may originate and report simulated tracks on Links 11/11B/16 when such reports do not represent real (live) objects. Simulated tracks may be transmitted concurrently with reports of live tracks. On Link 16 the Simulation Indicator shall be set to 1 to indicate a simulated track and set to "0" to indicate a real track.

On Link 11, an M.9A(AC=0, SI=1) message precedes each report of a simulated track; the absence of an M.9A(AC=0, SI=1) message indicates a real track.

On Link 11B, an M.9A(AC=0, SI=1) message precedes each report of a simulated track once in each of six successive transmit opportunities or until an acknowledgement is received; an M.9A(AC=0, SI=0) message precedes each report of a real track until acknowledged.

If the simulated unit is a non C^2 JU being forwarded to Link 11 or 11B, or a C^2 IU being forwarded to Link 11B, the M.9A (AC=0, SI=1) message shall precede appropriate messages. If the simulated unit is a C^2 IU being forwarded to Link 11, the M.1 (SIM=1) message will be part of the initial sequence.

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GENERAL NOTE 7 COURSE AND SPEED TO X DOT AND Y DOT

See MIL-STD-6016 paragraph 4.2.6. A Link 16 Speed greater than the maximum reportable Link 11/11B velocity will be translated to the maximum reportable velocity, maintaining the proper azimuth component of velocity as required to translate the Link 16 Course.

GENERAL NOTE 8 X DOT AND Y DOT TO COURSE AND SPEED

See MIL-STD-6016 paragraph 4.2.6. A Link 11/11B velocity greater than the maximum reportable Link 16 speed will be translated to the maximum reportable Link 16 Speed, and the appropriate Course.

GENERAL NOTE 9 LATITUDE/LONGITUDE

See MIL-STD-6016 paragraph 4.2.6.

GENERAL NOTE 10 ALTITUDE, ELEVATION, AND HEIGHT

The forwarded altitude, height or elevation shall be translated to the nearest value increment of the destination link. The FJU has the option of implementing for forwarding the single Scale Indicator (SI=0) on Link 11/11B. This provides the greatest range of height. Translations which result in one half increment will be rounded up to the next higher increment. The following are two examples:

a. A J3.2 altitude of 225 feet (Bit Code 9) will either be forwarded as 0 height (M.2 SI=0, M.82 Height Code=0) or as 218.75 feet (M.2 SI=1, M.82 Height Code=7).

b. A J3.2 altitude of 250 feet (Bit Code 10) will either be forwarded as 500 feet (M.2 SI=0, M.82 Height Code=1) or as 250 feet (M.2 SI=1, M.82 Height Code=8).

When the received value exceeds the largest value possible on the destination link, the received value shall be forwarded as No Statement or Unknown.

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The altitude, elevation, and height ranges and scalings between Link 16 and Link 11/11B are depicted in GENERAL NOTE 10.1.

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GENERAL NOTE 10.1. Altitude, Elevation, and Height Translations
 (Sheet 1 of 3)

FOR Link 16 J2.0, J2.2, J3.2 AND J3.7 MESSAGES				
DATA ELEMENT	INCREMENT	RANGE	BIT CODE	REMARKS
ALTITUDE, 25 FT	25 FT.	0-204,750	0-8190	
		Altitude Unknown/No Statement	8191	

FOR Link 16 J3.0 MESSAGE				
DATA ELEMENT	INCREMENT	RANGE	BIT CODE	REMARKS
ALTITUDE, 100 FT 1	100 FT.	0-102,200	0-1022	Altitude, 100 Ft. 1 shall be forwarded as No Statement when Altitude, 100 Ft. 2 is other than No Statement. Altitude, 100 Ft. 1 represents the minimum altitude of an altitude block when Altitude 100, Ft. 2 is other than No Statement. Altitude blocks cannot be forwarded to Link 11/11B.
		NO STATEMENT	1023	

FOR Link 16 J2.0, J2.3, J2.5, J2.6 AND J3.5 MESSAGES				
DATA ELEMENT	INCREMENT	RANGE	BIT CODE	REMARKS
ELEVATION, 25 FT	25 FT.	0-51,150	0-2046	
		Elevation Unknown/No Statement	2047	

FOR Link 16 J2.0 AND J2.4 MESSAGES				
DATA ELEMENT	INCREMENT	RANGE	BIT CODE	REMARKS
DEPTH, 15 METERS	15 METERS	0-1,890	0-126	See individual data element translation tables for depth translations.
		NO STATEMENT	127	
DEPTH CATEGORY	--	--	0-10	

FOR Link 16 J3.4 MESSAGE				
DATA ELEMENT	INCREMENT	RANGE	BIT CODE	REMARKS
DEPTH, 15 METERS	15 METERS	0-1,890	0-126	See individual data element translation tables for depth translations.
		NO STATEMENT	127	
DEPTH CATEGORY	--	--	0-6	

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GENERAL NOTE 10.1. Altitude, Elevation, and Height Translations
 (Sheet 2 of 3)

FOR Link 11 M.81 MESSAGE					
ENV VALUE	SCALE INDICATOR	INCREMENT	RANGE	BIT CODE	REMARKS
0	0-1	NA	NA	NA	Forward Altitude as No Statement
1	0	IN 50 FOOT INCREMENT S	0 THROUGH 12,700 FEET	0-254	
			NO STATEMENT	255	
	1	IN 25 FOOT INCREMENT S	0 THROUGH 6,350 FEET	0-254	
			NO STATEMENT	255	
2	0	IN 50 FOOT INCREMENT S	0 THROUGH 12,700 FEET	0-254	
			NO STATEMENT	255	
	1	IN 25 FOOT INCREMENT S	0 THROUGH 6,350 FEET	0-254	
			NO STATEMENT	255	
3	0	IN 500 FOOT INCREMENT S	0 THROUGH 127,000 FEET	0-254	
			NO STATEMENT	255	
	1	IN 31 1/4 FOOT INCREMENT S	0 THROUGH 7,937 1/2 FEET	0-254	
			NO STATEMENT	255	

FOR Link 11/11B M.2 AND M.82 MESSAGES				
SCALE INDICATOR	INCREMENT	RANGE	BIT CODE	REMARKS
0	500 Ft.	0 THROUGH 127,000 FEET	0-254	
		UNKNOWN	255	
1	31.25 Ft.	0 THROUGH 7,937 1/2 FEET	0-254	
		UNKNOWN	255	

FOR Link 11/11B M.84A MESSAGE				
DEPTH INDICATOR	INCREMENT	RANGE	BIT CODE	REMARKS
0	50 Ft.	0 THROUGH 3,150 FEET	0-63	See individual data element translation tables for specific translations of all depth values.
1	--	UNKNOWN/NO STATEMENT	0	
		Various named layers and undefined values	1-63	

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GENERAL NOTE 10.1. Altitude, Elevation, and Height Translations
(Sheet 3 of 3)

FOR Link 11/11B M.85 MESSAGE				
HEIGHT/DEPTH SWITCH	INCREMENT	RANGE	BIT CODE	REMARKS
0	500 Ft.	0 THROUGH 127,000 FEET	0-254	Reports Height
		NO STATEMENT	255	
1	50 Ft.	0 THROUGH 12,700 FEET	0-254	Reports Depth. Forward J3.0 with Altitude, 100 Ft. 1 and Altitude, 100 Ft. 2 fields both set to 1023, No Statement.
		NO STATEMENT	255	

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GENERAL NOTE 11 DEPTH

Depth is reported on Link 16 in 15 meter increments, with a range of 0-1890 meters. Depth is reported on Link 11 in 50 foot increments. Since 3m. = 9.84ft., the conversion is approximated, using a ratio of 3 meters to 10 feet. When the received value exceeds the largest value possible on the destination link, the received value shall be forwarded as the maximum value on the destination link.

GENERAL NOTE 12 PU/RU ADDRESS/TRACK NUMBER, SOURCE

The Link 16 Track Number, Source data element contains 15 bits while the Link 11/11B PU/RU Address field contains only 7 bits. When translating from Link 11/11B to Link 16, the eight most significant bits of the Link 16 Track Number, Source data element must be zero, and the seven bits of the Link 11/11B PU/RU Address will become the seven least significant bits of the Link 16 Track Number, Source. When translating from Link 16 to Link 11/11B, the seven least significant bits of the Link 16 Track Number, Source when less than 00200 (octal) become the Link 11/11B PU/RU Address. See paragraph A.4.7.3 for forwarding of Link 16 C² units having an address of 00200 (octal) or greater.

GENERAL NOTE 13 TRACK NUMBER

To accommodate the forwarding of dissimilar TNs, the J7.4 Track Identifier message in the Link 16 message series provides the Link 11/11B, NATO Link 1, and Link 16 TNs assigned to a single entity.

Two conversion procedures are required for TNs. The procedures are:

If a received TN is less than 7777 (octal), the TN will be forwarded without conversion except for the addition or deletion of leading zeros (seven most significant bit positions) to account for the difference in field size between Link 16 and Link 11/11B.

If an initial report (track, point, etc) with a TN greater than 7777 (octal) is received on Link 16, the FJU will assign an available Link 11/11B

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TN to the subject entity and substitute the appropriate Link 16 or Link 11/11B TN in all forwarded messages concerning the entity. In addition, the FJU will transmit a Track Identifier message on Link 16 and Link 11/11B reporting the relationship between the Link 16 and Link 11/11B TNs.

The following is an example of a Link 16 to Link 11 exchange of a 19-bit TN:

- a. A JU on Link 16 establishes a new track and reports it with TN AZ200.
- b. The FJU receives TN AZ200 and assigns it a Link 11 TN 3333.
- c. The FJU transmits:
 - (1) On Link 11, a track report with TN 3333.
 - (2) On Link 16, a J7.4 message indicating that TN AZ200 is the same entity as TN 3333.

GENERAL NOTE 14 NOT USED

GENERAL NOTE 15 VALUE EQUIVALENCE

Valid decimal values and definitions are identical for Link 16 and Link 11/11B; however, the bit fields are different sizes.

GENERAL NOTE 16 NOT USED

GENERAL NOTE 17 AXIS ORIENTATION/BEARING

- a. A Link 11/11B Bearing between 0 and 178 19/32 degrees is translated to the nearest whole degree as Link 16 Axis Orientation. When the Link 11/11B Bearing is between 180 and 358 19/32 degrees, subtract 180 degrees, then translate to the nearest whole degree as Link 16 Axis Orientation.

- b. A Link 16 Axis Orientation between 0 and 179 degrees is translated to the nearest Link 11/11B bearing between 0 and 178 19/32. When the Link 16

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Axis Orientation is No Statement and Area Major Axis and Area Minor Axis are other than No Statement, it will be translated to Link 11/11B Bearing = 0.

c. A Link 11/11B Bearing/Axis Orientation is in 1/4096 increments (of a circle) and a Link 16 Axis Orientation is 0-179 degrees. Translate a Link 11/11B Bearing/Axis Orientation between 0 and 179 467/512 degrees to a Link 16 Axis Orientation by multiplying the bit field value by 45 and dividing the result by 512, rounded to the nearest whole degree. When the Link 11/11B Bearing/Axis Orientation is between 180 and 359 467/512 degrees, subtract 180 degrees, then translate to the nearest whole degree as above.

d. A link 16 Axis Orientation between 0 and 179 degrees is translated to the nearest Link 11/11B Bearing/Axis Orientation between 0 and 179 467/512 degrees.

GENERAL NOTE 18 AREA MINOR AXIS AND AREA MAJOR AXIS

a. If divisible by 4, Link 11/11B Major Axis and Minor Axis between 0 and 244 are translated to Link 16 Area Major Axis and Minor Axis. If not divisible by 4, add 2 data miles and translate to Link 16 Area Major Axis and Minor Axis. Link 11/11B Major Axis and Minor Axis greater than 244 are translated to Link 16 Area Major Axis or Minor Axis = 244.

b. Link 16 Area Major Axis and Minor Axis are translated to Link 11/11B Major Axis and Minor Axis. If Link 16 Area Major Axis or Minor Axis is No Statement, the message is not translated to a Link 11 Area of Probability.

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GENERAL NOTE 19 FREQUENCY CONVERSION

Conversion between Link 11/11B and Link 16 Frequencies shall be accomplished as follows:

a. Link 11/11B to Link 16:

(1) When translating M.6A Frequency, or when translating M.6B/M.86B or M.6D, Link 11/11B Frequency Multiplier (FM) = 0 (Frequency Range), set the Link 16 Frequency/Frequency Range Indicator (F/R IND) to 1, and determine Link 16 FM, 1 and 2, and Frequency, 1 and 2, from Link 11/11B Frequency as follows:

Link 16				Link 11/11B	
FM, 1	FREQ, 1	FM, 2	FREQ, 2	FREQ VALUE	FREQUENCY RANGE
0	0	0	0	0	NO STATEMENT
				14-16383	UNDEFINED
0	1	6	249	1	0-249 MHZ
6	250	6	499	2	250-499 MHZ
6	500	6	999	3	500-999 MHZ
6	1000	6	1999	4	1000-1999 MHZ
6	2000	6	2999	5	2000-2999 MHZ
6	3000	6	3999	6	3000-3999 MHZ
6	4000	6	5999	7	4000-5999 MHZ
6	6000	6	7999	8	6000-7999 MHZ
6	8000	6	9999	9	8000-9999 MHZ
6	10000	6	19999	10	10,000-19,999 MHZ
6	20000	6	39999	11	20,000-39,999 MHZ
6	40000	6	59999	12	40,000-59,999 MHZ
6	60000	6	100000	13	60,000-100,000 MHZ

(2) When translating M.6B/M.86B or M.6D, Link 11/11B FM ≠ 0, set Link 16 F/R IND to 0, set FM, 1 = Link 11/11B FM; set Frequency, 1 = Link 11/11B Frequency, and set FM, 2 and Frequency, 2 to No Statement (FM, 2 = 15, Frequency, 2 = 0).

b. Link 16 to Link 11/11B:

(1) To translate to the M.6A, when the Link 16 F/R IND = 0 (Frequency), which indicates that a single frequency is to be translated to a frequency range, translate the result of Link 16 (FM, 1 times Frequency, 1) to the appropriate M.6A Frequency value that is defined by the range that

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includes the result of FM, 1 times Frequency, 1 (for example, a Link 16 Frequency of 8500 MHz would translate to an M.6A Frequency of 9, since 8500 falls in the range of 8000-9999 MHz). If Link 16 (FM, 1 times Frequency, 1) is greater than 100,000 MHz then Frequency value will be set to 0 (No Statement).

(2) To translate the M.6B/M.86B or M.6D, when the Link 16 F/R IND = 0 (Frequency), which indicates that a single frequency is to be translated, as opposed to a frequency range, if the result of Link 16 (FM, 1 times Frequency, 1) is less than or equal to $16,383 \times 10^7$ Hz directly translate the numerical value of (FM, 1 times Frequency, 1) to the appropriate values of Link 11/11B FM Frequency that yields the same result. If the result of Link 16 (FM, 1 times Frequency, 1) is greater than $16,383 \times 10^7$ Hz, then the M.86B or M.6D FM field shall be set to value 0 and the F/FR field shall be set to value 0 (No Statement).

(3) If the Link 16 F/R IND = 1 (Frequency Range), it indicates that a frequency range shall be translated to a frequency range in either the M.6A, M.6B/M.86B or M.6D. If translating to the M.6B/M.86B or M.6D, set M.86B or M.6D FM to 0. The FJU shall determine if the Link 16 lower and upper limits, as expressed by (FM, 1 times Frequency, 1) and (FM, 2 times Frequency, 2), respectively, are both contained within a single defined Link 11/11B Frequency Range, as listed below (the Link 11/11B Frequency Ranges are identical in the M.6A, M.86B or M.6D). If so, set Link 11/11B Frequency value accordingly. If not, set the Link 11/11B Frequency field to the value whose defined upper limit is closest to the result of (FM, 2 times Frequency, 2), as follows:

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Link 11/11B		Link 16
FREQUENCY VALUE	RANGE	FM, 2 X FREQ, 2
0	NO STATEMENT	0
1	0-249 MHZ	≤ 374 MHZ
2	250-499 MHZ	375-749 MHZ
3	500-999 MHZ	750-1499 MHZ
4	1000-1999 MHZ	1500-2499 MHZ
5	2000-2999 MHZ	2500-3499 MHZ
6	3000-3999 MHZ	3500-4999 MHZ
7	4000-5999 MHZ	5000-6999 MHZ
8	6000-7999 MHZ	7000-8999 MHZ
9	8000-9999 MHZ	9000-14,999 MHZ
10	10,000-19,999 MHZ	15,000-29,999 MHZ
11	20,000-39,999 MHZ	30,000-49,999 MHZ
12	40,000-59,999 MHZ	50,000-79,999 MHZ
13	60,000-100,000 MHZ	> 79,999 MHZ

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GENERAL NOTE 20 AIR IDENTITY TRANSLATIONS

General notes 20.1 through 20.3 shall be used to translate a Link 16 Air Track Identity to a Link 11/11B Air Track Identity, and vice versa.

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GENERAL NOTE 20.1. LINK 16 IDENTITY VERSUS LINK 11/11B IDENTITY AND PRIMARY IDENTITY
AMPLIFICATION EQUIVALENCE

Link 16		Link 11/11B				
IDENTITY	VALUE	IDENTITY	VALUE	PRIMARY IDENTITY AMPLIFICATION	VALUE	OTHER
PENDING	0	UNKNOWN	0	PENDING	0	
UNDEFINED	7					
UNKNOWN	1	UNKNOWN	0	UNKNOWN	1	
ASSUMED FRIEND	2	UNKNOWN	0	ASSUMED FRIEND	2	
FRIEND	3	FRIEND	1 or 3	AS APPROPRIATE	0-3	SEE GENERAL NOTE 20.3.
NEUTRAL	4	FRIEND	1	GENERAL	0	ONLY WITH ID AMP=1, NEUTRAL.
SUSPECT	5	UNKNOWN	0	SUSPECT	3	
HOSTILE	6	HOSTILE	2	GENERAL	0	
				UNDEFINED	1-3	

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GENERAL NOTE 20.2. AIR IDENTITY TRANSLATION SPECIAL CASES (Sheet 1 of 2)

Link 16				Link 11/11B		
IDENTITY	AIR PLATFORM	AIR ACTIVITY	OTHER INDICATIONS ¹	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
SUSPECT	ALL (NS)	ALL (NS)	SPECIAL INTEREST ² INDICATOR=1	UNKNOWN	UNKNOWN	ZOMBIE/INTRUDER
FRIEND	ALL (NS)	ALL (NS)	SPECIAL INTEREST ² INDICATOR=1	FRIEND	SPECIAL MISSION	KILO/YOKE
PENDING	ALL	ALL	SPECIAL INTEREST ³ INDICATOR=1	UNKNOWN	PENDING	NO STATEMENT
UNKNOWN	ALL	ALL	SPECIAL INTEREST ³ INDICATOR=1	UNKNOWN	UNKNOWN	NS
ASSUMED FRIEND	ALL	ALL	SPECIAL INTEREST ³ INDICATOR=1	UNKNOWN	ASSUMED FRIEND	NS
NEUTRAL	ALL	ALL	SPECIAL INTEREST ³ INDICATOR=1	FRIEND	GENERAL	NEUTRAL
HOSTILE	ALL	ALL	SPECIAL INTEREST ³ INDICATOR=1	HOSTILE	GENERAL	NS

¹ If both Special Interest Indicator and Exercise Indicator equal 1, then GENERAL NOTE 20.2 (Sheet 2 of 2) shall be used for translation.

² The Special Interest Indicator has two way forwarding only with Link 16 Identity of SUSPECT or FRIEND.

³ These Identities with Special Interest Indicator are only forwarded from Link 16 to Link 11/11B and not vice versa.

GENERAL NOTE 20.2. AIR IDENTITY TRANSLATION SPECIAL CASES (Sheet 2 of 2)

Link 16				Link 11/11B		
IDENTITY AMPLIFYING DESCRIPTOR	AIR PLATFORM	AIR ACTIVITY	OTHER INDICATIONS	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
EXERCISE FRIEND	ALL (NS)	ALL (NS)	EXERCISE INDICATOR=1	FRIEND	GENERAL	MIL TRAINING
All others except FAKER and JOKER						NEUTRALIZED FAKER
JOKER	ALL (NS)	ALL (NS)	EXERCISE INDICATOR=1	FRIEND	GENERAL	JOKER
FAKER	ALL (EW)	JAMMER	EXERCISE INDICATOR=1	FRIEND	SPECIAL MISSION	JAMMER (FAKER) (NATO)
FAKER	ALL (NS)	ALL OTHERS (NS)	EXERCISE INDICATOR=1	FRIEND	SPECIAL MISSION	FAKER

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GENERAL NOTE 20.3. AIR IDENTITY TRANSLATION (Sheet 1 of 15)

If a track is being reported on Link 11/11B and the table offers multiple Link 16 selections for the translation and vice versa, forward the first (top) selection. If the Link 16 choice is "ALL (X)," where "X" represents No Statement (NS) or another specific value, forward "X" if no other value for Platform and/or Activity is held in the FJU database. If a value other than No Statement for Platform and/or Activity has been previously reported on Link 16 and that value is translated to Link 11/11B, then the Link 16 values will be retained for subsequent forwarding to Link 16. If the Link 11/11B changes Identity (ID), Primary Identity Amplification (PRI AMP), and/or Identity Amplification (ID AMP), the Link 16 values previously held will be discarded and no longer forwarded. For example, if an R² JU reports Assumed Friend, Fighter/Bomber, and Interdiction for Identity, Platform, and Activity, respectively, then the translation to Link 11/11B would be Unknown, Assumed Friend, Bomber for ID, PRI AMP, and ID AMP, respectively. The FJU, though, retains Assumed Friend, Fighter/Bomber, and Interdiction in the database. When a PU/RU assumes R² for this track and reports Unknown, Assumed Friend, and Bomber, the FJU will forward the retained values of Assumed Friend, Fighter/Bomber, and Interdiction. If the PU/RU changes the values to Unknown, Assumed Friend and Fighter, the FJU will forward Assumed Friend, Fighter, and No Statement onto Link 16. (See sheet 6 of GENERAL NOTE 20.3.)

Within a specific Identity whenever "ALL" appears in the Link 16 Platform or Activity columns, it means "ALL PLATFORMS or ACTIVITIES" including undefined values unless a specific value appears elsewhere in the Platform or Activity columns.

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GENERAL NOTE 20.3. AIR IDENTITY TRANSLATION (Sheet 2 of 15)

Link 16			Link 11/11B		
IDENTITY	AIR PLATFORM	AIR ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
PENDING	ALL (NS)	ALL (NS)	UNKNOWN	PENDING	NO STATEMENT
UNKNOWN	NO STATEMENT	(NS)	UNKNOWN	UNKNOWN	NS
	BOMBER	ALL (NS)			UNDEFINED
FIGHTER BOMBER	MINELAYING SPECIAL WEAPONS ATTACK AIR ASSAULT CONVENTIONAL ATTACK INTERDICTION CLOSE AIR SUPPORT (CAS) GROUND ATTACK TACTICS (GAT) STRIKE WARFARE ANTISUBMARINE WARFARE (ASW) ANTISURFACE WARFARE	UNKNOWN	UNKNOWN	BOMBER	
ATTACK	ALL				
FIGHTER	ALL (NS)				
FIGHTER BOMBER	ALL EXCEPT THOSE LISTED ABOVE FOR FIGHTER/BOMBER	UNKNOWN	UNKNOWN	FIGHTER	
INTERCEPTOR	ALL				

GENERAL NOTE 20.3. AIR IDENTITY TRANSLATION (Sheet 3 of 15)

Link 16			Link 11/11B		
IDENTITY	AIR PLATFORM	AIR ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
UNKNOWN	AIRBORNE EARLY WARNING AND CONTROL (AEW)	ALL (NS)	UNKNOWN	UNKNOWN	AEW/RECCE/EW/DECOY
	AIRBORNE COMMAND POST (ACP) RECONNAISSANCE ELECTRONIC WARFARE (EW) MARITIME PATROL AIRCRAFT (MPA) DECOY PATROL AIRBORNE LAND SURVEILLANCE	ALL			
	HELICOPTER (HELO)	ALL (NS)		UNKNOWN	HELO/TRANSPORT
	ATTACK HELICOPTER HELICOPTER GUNSHIP ANTISUBMARINE WARFARE HELICOPTER (ASW HELO) MINE WARFARE HELICOPTER TRANSPORT HELICOPTER TRANSPORT	ALL			
	MISSILE CONTROL UNIT	ALL		UNKNOWN	MISSILE PLATFORM
	ALL OTHERS (NS)	ALL (NS)		UNKNOWN	NS
	NO STATEMENT	NO STATEMENT		SUSPECT	NS
	DRONE REMOTELY PILOTED VEHICLE (RPV) UNMANNED AERIAL VEHICLE (UAV)	ALL		SUSPECT	DRONE/RPV

GENERAL NOTE 20.3. AIR IDENTITY TRANSLATION (Sheet 4 of 15)

Link 16			Link 11/11B		
IDENTITY	AIR PLATFORM	AIR ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
SUSPECT	BOMBER	ALL EXCEPT XRAY (NS)	UNKNOWN	SUSPECT	BOMBER
	FIGHTER BOMBER	MINELAYING SPECIAL WEAPONS ATTACK AIR ASSAULT CONVENTIONAL ATTACK INTERDICTION CLOSE AIR SUPPORT (CAS) GROUND ATTACK TACTICS (GAT) STRIKE WARFARE ANTISUBMARINE WARFARE (ASW) ANTISURFACE WARFARE			
	ATTACK	ALL EXCEPT XRAY			
	FIGHTER	ALL EXCEPT XRAY (NS)	UNKNOWN	SUSPECT	FIGHTER
	FIGHTER BOMBER	ALL EXCEPT XRAY AND THOSE LISTED ABOVE FOR FIGHTER/BOMBER			
	INTERCEPTOR	ALL EXCEPT XRAY			

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GENERAL NOTE 20.3. AIR IDENTITY TRANSLATION (Sheet 5 of 15)

Link 16			Link 11/11B		
IDENTITY	AIR PLATFORM	AIR ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
SUSPECT	AIRBORNE EARLY WARNING AND CONTROL (AEW)	ALL EXCEPT XRAY (NS)	UNKNOWN	SUSPECT	AEW/RECCE/EW/DECOY
	AIRBORNE COMMAND POST (ACP) RECONNAISSANCE ELECTRONIC WARFARE (EW) MARITIME PATROL AIRCRAFT (MPA) DECOY PATROL AIRBORNE LAND SURVEILLANCE	ALL EXCEPT XRAY			
	HELICOPTER (HELO)	ALL EXCEPT XRAY (NS)		SUSPECT	HELO/TRANSPORT
	ATTACK HELICOPTER HELICOPTER GUNSHIP ANTISUBMARINE WARFARE HELICOPTER (ASW HELO) MINE WARFARE HELICOPTER TRANSPORT HELICOPTER TRANSPORT	ALL EXCEPT XRAY			
	MISSILE CONTROL UNIT	ALL EXCEPT XRAY	UNKNOWN	SUSPECT	MISSILE PLATFORM
	ALL (NS)	XRAY	UNKNOWN	SUSPECT	XRAY/INTRUDER
	ALL (NS)	ALL EXCEPT XRAY (NS)	UNKNOWN	SUSPECT	NS
	NO STATEMENT	NO STATEMENT	UNKNOWN	ASSUMED FRIEND	NS
					UNDEFINED
ASSUMED FRIEND					

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GENERAL NOTE 20.3. AIR IDENTITY TRANSLATION (Sheet 6 of 15)

Link 16			Link 11/11B		
IDENTITY	AIR PLATFORM	AIR ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
ASSUMED FRIEND	BOMBER	ALL (NS)	UNKNOWN	ASSUMED FRIEND	BOMBER
	FIGHTER BOMBER	MINELAYING SPECIAL WEAPONS ATTACK AIR ASSAULT CONVENTIONAL ATTACK INTERDICTION CLOSE AIR SUPPORT (CAS) GROUND ATTACK TACTICS (GAT) STRIKE WARFARE ANTISUBMARINE WARFARE (ASW) ANTISURFACE WARFARE			
	ATTACK	ALL			
	FIGHTER	ALL (NS)			
	FIGHTER BOMBER	ALL EXCEPT THOSE LISTED ABOVE FOR FIGHTER/BOMBER			
	INTERCEPTOR	ALL			

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GENERAL NOTE 20.3. AIR IDENTITY TRANSLATION (Sheet 7 of 15)

Link 16			Link 11/11B		
IDENTITY	AIR PLATFORM	AIR ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
ASSUMED FRIEND	AIRBORNE EARLY WARNING AND CONTROL (AEW)	ALL (NS)	UNKNOWN	ASSUMED FRIEND	AEW/RECCE/EW/DECOY
	AIRBORNE COMMAND POST (ACP) RECONNAISSANCE ELECTRONIC WARFARE (EW) MARITIME PATROL AIRCRAFT (MPA) DECOY PATROL AIRBORNE LAND SURVEILLANCE	ALL			
	HELICOPTER (HELO)	ALL (NS)		ASSUMED FRIEND	HELO/TRANSPORT
	ATTACK HELICOPTER HELICOPTER GUNSHIP ANTISUBMARINE WARFARE HELICOPTER (ASW HELO) MINE WARFARE HELICOPTER TRANSPORT HELICOPTER TRANSPORT	ALL			
	MISSILE CONTROL UNIT	ALL		ASSUMED FRIEND	MISSILE PLATFORM
	ALL OTHERS (NS)	ALL (NS)		ASSUMED FRIEND	NS
	NO STATEMENT	NO STATEMENT		GENERAL	NS
				UNDEFINED	UNDEFINED
HOSTILE			HOSTILE		

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GENERAL NOTE 20.3. AIR IDENTITY TRANSLATION (Sheet 8 of 15)

Link 16			Link 11/11B		
IDENTITY	AIR PLATFORM	AIR ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
HOSTILE	MISSILE SURFACE-TO-AIR MISSILE (SAM) AIR-TO-SURFACE MISSILE (ASM) SURFACE-TO-SURFACE MISSILE (SSM) AIR-TO-AIR MISSILE (AAM) SUBSURFACE-TO-SURFACE MISSILE SURFACE-TO-SUBSURFACE MISSILE CRUISE MISSILE BALLISTIC MISSILE DRONE REMOTELY PILOTED VEHICLE (RPV) UNMANNED AERIAL VEHICLE (UAV)	ALL (NS) ALL	HOSTILE	GENERAL	MISSILE

GENERAL NOTE 20.3. AIR IDENTITY TRANSLATION (Sheet 9 of 15)

Link 16			Link 11/11B		
IDENTITY	AIR PLATFORM	AIR ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
HOSTILE	BOMBER	ALL EXCEPT JAMMER (NS)	HOSTILE	GENERAL	BOMBER
	FIGHTER BOMBER	MINELAYING SPECIAL WEAPONS ATTACK AIR ASSAULT CONVENTIONAL ATTACK INTERDICTION CLOSE AIR SUPPORT (CAS) GROUND ATTACK TACTICS (GAT) STRIKE WARFARE ANTISUBMARINE WARFARE (ASW) ANTISURFACE WARFARE			
	ATTACK	ALL EXCEPT JAMMER			
	FIGHTER	ALL EXCEPT JAMMER (NS)	HOSTILE	GENERAL	FIGHTER
	FIGHTER BOMBER	ALL EXCEPT JAMMER AND THOSE LISTED ABOVE FOR FIGHTER/BOMBER			
	INTERCEPTOR	ALL EXCEPT JAMMER			

GENERAL NOTE 20.3. AIR IDENTITY TRANSLATION (Sheet 10 of 15)

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Link 16			Link 11/11B		
IDENTITY	AIR PLATFORM	AIR ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
HOSTILE	AIRBORNE EARLY WARNING AND CONTROL (AEW)	ALL EXCEPT JAMMER (NS)	HOSTILE	GENERAL	AEW/RECCE/EW/DECOY
	AIRBORNE COMMAND POST (ACP) RECONNAISSANCE ELECTRONIC WARFARE (EW) MARITIME PATROL AIRCRAFT (MPA) DECOY PATROL AIRBORNE LAND SURVEILLANCE	ALL EXCEPT JAMMER			
	HELICOPTER (HELO)	ALL EXCEPT JAMMER (NS)			
	ATTACK HELICOPTER HELICOPTER GUNSHIP ANTISUBMARINE WARFARE HELICOPTER (ASW HELO) MINE WARFARE HELICOPTER TRANSPORT HELICOPTER TRANSPORT	ALL EXCEPT JAMMER			
	MISSILE CONTROL UNIT	ALL EXCEPT JAMMER			
	ALL (NS)	JAMMER			
	ALL OTHERS (NS)	ALL EXCEPT JAMMER (NS)			
NEUTRAL	ALL (NS)	ALL (NS)	FRIEND	GENERAL	NEUTRAL
FRIEND	NO STATEMENT	NO STATEMENT	FRIEND	GENERAL UNDEFINED	NS UNDEFINED

GENERAL NOTE 20.3. AIR IDENTITY TRANSLATION (Sheet 11 of 15)

Link 16			Link 11/11B		
IDENTITY	AIR PLATFORM	AIR ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
FRIEND	CIVIL, AIRLINER	ALL (NS)	FRIEND	GENERAL	NONMIL
	CIVIL, GENERAL	ALL			
	MISSILE	ALL (NS)		GENERAL	MISSILE
	SURFACE-TO-AIR MISSILE (SAM)	ALL			
	AIR-TO-SURFACE MISSILE (ASM)				
	SURFACE-TO-SURFACE MISSILE (SSM)				
	AIR-TO-AIR MISSILE (AAM)				
	SUBSURFACE-TO-SURFACE MISSILE				
	SURFACE-TO-SUBSURFACE MISSILE				
	CRUISE MISSILE				
ALL (NS) EXCEPT FIGHTER, FIGHTER/BOMBER AND INTERCEPTOR WITH RTB	BALLISTIC MISSILE		FRIEND	GENERAL	RTB
	ALL (NS) EXCEPT FIGHTER, FIGHTER/BOMBER AND INTERCEPTOR WITH RTB	RETURN TO BASE (RTB)		GENERAL	RTB
	HELICOPTER (HELO)	ALL EXCEPT HELO ACTIVITIES LISTED BELOW (NS)		HELO	NS
	MINE WARFARE HELICOPTER				
ANTISUBMARINE WARFARE HELICOPTER (ASW HELO)	ANTISUBMARINE WARFARE HELICOPTER (ASW HELO)	ALL (NS)	FRIEND	HELO	ASW
	HELICOPTER (HELO)	ANTISUBMARINE WARFARE (ASW) DIPPING			
ALL HELO PLATFORMS WHEN ACTIVITY = ASW OR DIPPING					

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GENERAL NOTE 20.3. AIR IDENTITY TRANSLATION (Sheet 12 of 15)

Link 16			Link 11/11B		
IDENTITY	AIR PLATFORM	AIR ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
FRIEND	HELICOPTER (HELO) ALL HELO PLATFORMS WHEN ACTIVITY = SAR	SEARCH AND RESCUE (SAR)	FRIEND	HELO	SAR
	HELICOPTER GUNSHIP ATTACK HELICOPTER	ALL (NS)	FRIEND	HELO	GUN SHIP
	HELICOPTER (HELO) ALL HELO PLATFORMS WHEN ACTIVITY IS AS LISTED	RECONNAISSANCE SURVEILLANCE PATROL (OCEAN SURVEILLANCE) SEARCH	FRIEND	HELO	RECON/RECCE
	TRANSPORT HELICOPTER ALL HELO PLATFORMS WHEN ACTIVITY = LOGISTICS SUPPORT, AIRLIFT, TROOPLIFT, OR MEDEVAC	LOGISTICS SUPPORT AIRLIFT (TRANSPORT)	FRIEND	HELO	LOGISTIC
		TROOPLIFT AIR ASSAULT	FRIEND	HELO	TROOPLIFT
		MEDICAL EVACUATION (MEDEVAC)	FRIEND	HELO	MEDEVAC
	BOMBER	ALL (NS)	FRIEND	STRIKE/SUPPORT/ BOMBER	NS
	ATTACK MISSILE CONTROL UNIT FIXED WING GUNSHIP	ALL			
	TACTICAL SUPPORT	ALL EXCEPT ASW, CAS, LOGISTICS, SUPPORT, INTERDICTION			

GENERAL NOTE 20.3. AIR IDENTITY TRANSLATION (Sheet 13 of 15)

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Link 16			Link 11/11B		
IDENTITY	AIR PLATFORM	AIR ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
FRIEND	FIGHTER BOMBER	MINELAYING SPECIAL WEAPONS ATTACK AIR ASSAULT CONVENTIONAL ATTACK STRIKE WARFARE ANTISUBMARINE WARFARE (ASW) ANTISURFACE WARFARE	FRIEND	STRIKE/SUPPORT/ BOMBER	NS
	ANTISUBMARINE WARFARE (ASW)	ALL (NS)	FRIEND	STRIKE/SUPPORT/ BOMBER	ASW
	MARITIME PATROL AIRCRAFT (MPA)	ALL			
	ALL EXCEPT HELOS	ANTISUBMARINE WARFARE (ASW)	FRIEND	STRIKE/SUPPORT/ BOMBER	TANKER (GENERAL)
	TANKER	ALL (NS)			
	TANKER (BOOM ONLY)	ALL (NS)			
	TANKER (DROGUE ONLY)	ALL (NS)			
	ALL (TACTICAL SUPPORT)	CLOSE AIR SUPPORT (CAS)			
	LOGISTIC	ALL (LOGISTICS SUPPORT)	FRIEND	STRIKE/SUPPORT/ BOMBER	LOGISTIC
	TRANSPORT	ALL			
	ALL	LOGISTICS SUPPORT	FRIEND	STRIKE/SUPPORT/ BOMBER	INTERDICTION
	ALL (NS)	INTERDICTION			

GENERAL NOTE 20.3. AIR IDENTITY TRANSLATION (Sheet 14 of 15)

Link 16			Link 11/11B		
IDENTITY	AIR PLATFORM	AIR ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
FRIEND	FIGHTER INTERCEPTOR FIGHTER BOMBER	ALL EXCEPT RTB, RESCAP, CAP, ASW, LOGISTICS SUPPORT, INTERDICTION (NS)	FRIEND	INT/FIGHTER	NS
	ALL EXCEPT HELOS (FIGHTER)	RESCUE COMBAT AIR PATROL (RESCAP)			UNAVAILABLE
		COMBAT AIR PATROL (CAP)			UNDEFINED
	FIGHTER INTERCEPTOR FIGHTER BOMBER	RETURN TO BASE (RTB)	FRIEND	INT/FIGHTER	RTB
	DRONE REMOTELY PILOTED VEHICLE (RPV) UNMANNED AERIAL VEHICLE (UAV)	ALL	FRIEND	INT/FIGHTER	DRONE/RPV
	NO STATEMENT	SPECIAL	FRIEND	SPECIAL MISSION	NS
	AIRBORNE EARLY WARNING AND CONTROL (AEW) AIRBORNE COMMAND POST (ACP) AIRBORNE LAND SURVEILLANCE	ALL (NS)	FRIEND	SPECIAL MISSION	AEW/ARP/ABCCC
	ALL	COMMUNICATIONS RELAY AIRBORNE EARLY WARNING (AEW) AIRBORNE COMMAND POST (ACP) COMMAND AND CONTROL			
	SEARCH AND RESCUE (SAR)	ALL (SAR)	FRIEND	SPECIAL MISSION	SAR
	ALL EXCEPT HELOS	SAR			

GENERAL NOTE 20.3. AIR IDENTITY TRANSLATION (Sheet 15 of 15)

Link 16			Link 11/11B		
IDENTITY	AIR PLATFORM	AIR ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
FRIEND	ELECTRONIC WARFARE (EW)	ALL (SAR)	FRIEND	SPECIAL MISSION	EW
	ALL	ELECTRONIC WARFARE (EW) ELECTRONIC WARFARE SUPPORT (ES) ELECTRONIC ATTACK (EA) JAMMER CHAFF LAYING ELECTRONIC PROTECTION (EP)			
	RECONNAISSANCE PATROL	ALL (NS)			
	ALL EXCEPT HELOS	RECONNAISSANCE SURVEILLANCE PATROL (OCEAN SURVEILLANCE) POLICING SEARCH			
	ALL OTHERS (NS)	ALL OTHERS (NS)	FRIEND	GENERAL	NS

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GENERAL NOTE 21 SURFACE IDENTITY TRANSLATION

General notes 21.1 through 21.3 shall be used to translate a Link 16 Surface Track Identity to a Link 11/11B Surface Track Identity, and vice versa.

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GENERAL NOTE 21.1. LINK 16 IDENTITY VERSUS LINK 11/11B IDENTITY AND PRIMARY IDENTITY
AMPLIFICATION EQUIVALENCE

Link 16		Link 11/11B				
IDENTITY	VALUE	IDENTITY	VALUE	PRIMARY IDENTITY AMPLIFICATION	VALUE	OTHER
PENDING	0	UNKNOWN	0	PENDING	0	
UNKNOWN	1	UNKNOWN	0	UNKNOWN	1	
ASSUMED FRIEND	2	UNKNOWN	0	ASSUMED FRIEND	2	
FRIEND	3	FRIEND	1 OR 3	AS APPROPRIATE	0-3	SEE GENERAL NOTE 21.3.
NEUTRAL	4	FRIEND	1	GENERAL	0	ONLY WITH ID AMP = 1, NEUTRAL.
SUSPECT	5	UNKNOWN	0	SUSPECT	3	
HOSTILE	6	HOSTILE	2	GENERAL	0	
				UNDEFINED	1-3	

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GENERAL NOTE 21.2. SURFACE TRANSLATION SPECIAL CASES

Link 16				Link 11/11B		
IDENTITY AMPLIFYING DESCRIPTOR	PLATFORM	ACTIVITY	OTHER INDICATIONS ¹	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
EXERCISE FRIEND	ALL (NS)	ALL (NS)	EXERCISE INDICATOR=1	FRIEND	GENERAL	NS
ALL OTHERS EXCEPT FAKER AND JOKER						NEUTRALIZED FAKER
JOKER	ALL (NS)	ALL (NS)	EXERCISE INDICATOR=1	FRIEND	GENERAL	JOKER
FAKER	ALL (NS)	ALL (NS)	EXERCISE INDICATOR=1	FRIEND	GENERAL	FAKER

¹ The Special Interest Indicator shall be ignored for forwarding in all cases.

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If a track is being reported on Link 11/11B and the table offers multiple Link 16 selections for the translation and vice versa, forward the first (top) selection. If the Link 16 choice is "ALL (X)," where "X" represents No Statement (NS) or another specific value forward "X" provided no other value for Platform and/or Activity is held in the FJU database. If a value other than No Statement for Platform and/or Activity has been previously reported on Link 16 and that value is translated to Link 11/11B, then the Link 16 values will be retained for subsequent forwarding to Link 16. If the Link 11/11B changes Identity (ID), Primary Identity Amplification (PRI AMP), and/or Identity Amplification (ID AMP), the Link 16 values previously held will be discarded and no longer forwarded. For example, if an R² JU reports Assumed Friend, Ocean Research, and Surveying for Identity, Platform, and Activity, respectively, then the translation to Link 11/11B would be Unknown, Assumed Friend, and Non-MIL for ID, PRI AMP, and ID AMP, respectively. The FJU, though, retains Assumed Friend, Ocean Research, and Surveying in the database. When a PU/RU assumes R² for this track and reports Unknown, Assumed Friend, and Non-MIL, the FJU will forward the retained values of Assumed Friend, Ocean Research, and Surveying. If the PU/RU changes the values to Unknown, Assumed Friend, and SIGINT, the FJU will forward Assumed Friend, Intelligence Collector, and Intelligence Collecting onto Link 16. (See sheet 4 of GENERAL NOTE 21.3.)

Within a specific identity whenever "ALL" appears in the Link 16 Platform or Activity columns, it means "ALL PLATFORMS or ACTIVITIES" including undefined values, unless a specific value appears elsewhere in the PLATFORM or ACTIVITY columns.

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Link 16			Link 11/11B		
IDENTITY	SURFACE PLATFORM	SURFACE ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
PENDING	ALL (NS)	ALL (NS)	UNKNOWN	PENDING	NS
UNKNOWN	NO STATEMENT	ALL (NS)	UNKNOWN	UNKNOWN	NS
	AIRCRAFT CARRIER	ALL (NS)	UNKNOWN	UNKNOWN	AIRCRAFT CARRIER
	CRUISER	ALL (NS)	UNKNOWN	UNKNOWN	CG/DD
	BATTLESHIP DESTROYER FRIGATE	ALL			
	FAST PATROL BOAT	ALL (NS)	UNKNOWN	UNKNOWN	PB/PG
	AMPHIBIOUS	ALL (NS)	UNKNOWN	UNKNOWN	AMPHIBIOUS
	LHA/LHD AMPHIBIOUS ASSAULT COMMAND SHIP (LCC) LANDING CRAFT (LC) LANDING PLATFORM LANDING SHIP AMPHIBIOUS GENERAL ASSAULT	ALL			
	ALL	AMPHIBIOUS WARFARE	UNKNOWN	UNKNOWN	NONMIL
	NON-MILITARY	ALL (NS)			
	HOSPITAL SHIP SURVEY VESSEL OCEAN RESEARCH FISHING VESSEL MERCHANT VESSEL	ALL			
	ALL	FISHING NONCOMBATANT OPERATIONS			
	SURFACED SUBMARINE	ALL (NS)	UNKNOWN	UNKNOWN	SURFACED SUBMARINE

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Link 16			Link 11/11B		
IDENTITY	SURFACE PLATFORM	SURFACE ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
UNKNOWN	INTELLIGENCE COLLECTOR	ALL (INTELLIGENCE COLLECTING)	UNKNOWN	UNKNOWN	SIGINT
	ALL	ELECTRONIC WARFARE (EW) INTELLIGENCE COLLECTING ELECTRONIC WARFARE SUPPORT (ES) ELECTRONIC ATTACK (EA)			
	ALL OTHERS (NS)	ALL (NS)			
ASSUMED FRIEND	NO STATEMENT	ALL (NS)	UNKNOWN	ASSUMED FRIEND	NS
	AIRCRAFT CARRIER		UNKNOWN	ASSUMED FRIEND	AIRCRAFT CARRIER
	CRUISER		UNKNOWN	ASSUMED FRIEND	CG/DD
	BATTLESHIP DESTROYER FRIGATE	ALL	UNKNOWN	ASSUMED FRIEND	PB/PG
	FAST PATROL BOAT	ALL (NS)			
	AMPHIBIOUS	ALL (NS)			
	LHA/LHD AMPHIBIOUS ASSAULT COMMAND SHIP (LCC) LANDING CRAFT (LC) LANDING PLATFORM LANDING SHIP AMPHIBIOUS GENERAL ASSAULT	ALL	UNKNOWN	ASSUMED FRIEND	AMPHIBIOUS
	ALL	AMPHIBIOUS WARFARE			

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Link 16			Link 11/11B		
IDENTITY	SURFACE PLATFORM	SURFACE ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
ASSUMED FRIEND	NON-MILITARY	ALL (NS)	UNKNOWN	ASSUMED FRIEND	NONMIL
	HOSPITAL SHIP	ALL			
	SURVEY VESSEL				
	OCEAN RESEARCH				
	FISHING VESSEL				
	MERCHANT VESSEL				
	ALL	FISHING NONCOMBATANT OPERATIONS			
SUSPECT	SURFACED SUBMARINE	ALL (NS)	UNKNOWN	ASSUMED FRIEND	SURFACED SUBMARINE
	INTELLIGENCE COLLECTOR	ALL (INTELLIGENCE COLLECTING)	UNKNOWN	ASSUMED FRIEND	SIGINT
	ALL	ELECTRONIC WARFARE (EW) INTELLIGENCE COLLECTING ELECTRONIC WARFARE SUPPORT (ES) ELECTRONIC ATTACK (EA)			
	ALL OTHERS (NS)	ALL (NS)			
	NO STATEMENT	ALL (NS)	UNKNOWN	SUSPECT	NS
	AIRCRAFT CARRIER	ALL (NS)	UNKNOWN	SUSPECT	AIRCRAFT CARRIER
	CRUISER	ALL (NS)	UNKNOWN	SUSPECT	CG/DD
	BATTLESHIP DESTROYER FRIGATE	ALL			
	FAST PATROL BOAT	ALL (NS)	UNKNOWN	SUSPECT	PB/PG

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Link 16			Link 11/11B		
IDENTITY	SURFACE PLATFORM	SURFACE ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
SUSPECT	AMPHIBIOUS	ALL (NS)	UNKNOWN	SUSPECT	AMPHIBIOUS
	LHA/LHD	ALL			
	AMPHIBIOUS ASSAULT COMMAND SHIP (LCC)				
	LANDING CRAFT (LC)				
	LANDING PLATFORM				
	LANDING SHIP				
	AMPHIBIOUS GENERAL ASSAULT				
	ALL	AMPHIBIOUS WARFARE			
	NON-MILITARY	ALL (NS)		SUSPECT	NONMIL
	HOSPITAL SHIP SURVEY VESSEL OCEAN RESEARCH FISHING VESSEL MERCHANT VESSEL	ALL			
	ALL	FISHING NONCOMBATANT OPERATIONS	UNKNOWN	SUSPECT	SURFACED SUBMARINE
	SURFACED SUBMARINE	ALL (NS)		SUSPECT	SIGINT
	INTELLIGENCE COLLECTOR	ALL (INTELLIGENCE COLLECTING)		SUSPECT	
	ALL	ELECTRONIC WARFARE (EW) INTELLIGENCE COLLECTING ELECTRONIC WARFARE SUPPORT (ES) ELECTRONIC ATTACK (EA)			

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Link 16			Link 11/11B		
IDENTITY	SURFACE PLATFORM	SURFACE ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
SUSPECT	ALL OTHERS (NS)	ALL (NS)	UNKNOWN	SUSPECT	NS
HOSTILE	NO STATEMENT	ALL (NS)	HOSTILE	GENERAL	NS
	AIRCRAFT CARRIER	ALL (NS)		UNDEFINED	UNDEFINED
	CRUISER	ALL (NS)	HOSTILE	GENERAL	AIRCRAFT CARRIER
	BATTLESHIP DESTROYER FRIGATE	ALL		GENERAL	CG/DD
	FAST PATROL BOAT	ALL (NS)	HOSTILE	GENERAL	PB/PG
	AMPHIBIOUS	ALL (NS)	HOSTILE	GENERAL	AMPHIBIOUS
	LHA/LHD AMPHIBIOUS ASSAULT COMMAND SHIP (LCC)	ALL		GENERAL	
	LANDING CRAFT (LC)				
	LANDING PLATFORM				
	LANDING SHIP AMPHIBIOUS GENERAL ASSAULT				
ALL	AMPHIBIOUS WARFARE				
NON-MILITARY	ALL (NS)	HOSTILE	GENERAL	NONMIL	
HOSPITAL SHIP SURVEY VESSEL OCEAN RESEARCH	ALL		GENERAL		
FISHING VESSEL MERCHANT VESSEL					
ALL	FISHING NONCOMBATANT OPERATIONS				
SURFACED SUBMARINE	ALL (NS)	HOSTILE	GENERAL	SURFACED SUBMARINE	

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Link 16			Link 11/11B		
IDENTITY	SURFACE PLATFORM	SURFACE ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
HOSTILE	INTELLIGENCE COLLECTOR	ALL (INTELLIGENCE COLLECTING)	HOSTILE	GENERAL	SIGINT
	ALL	ELECTRONIC WARFARE (EW) INTELLIGENCE COLLECTING ELECTRONIC WARFARE SUPPORT (ES) ELECTRONIC ATTACK (EA)			
	ALL OTHERS (NS)	ALL (NS)			
NEUTRAL	ALL (NS)	ALL (NS)	FRIEND	GENERAL	NEUTRAL
FRIEND	NO STATEMENT	NO STATEMENT	FRIEND	GENERAL	NS
					UNDEFINED
	NON-MILITARY	ALL (NS)			UNDEFINED
	SURVEY VESSEL	ALL	FRIEND	GENERAL	NONMIL
	FISHING VESSEL				
	MERCHANT VESSEL				
	ALL	FISHING NONCOMBATANT OPERATIONS			
	AUXILIARY SHIP SUPPORT	ALL EXCEPT AMPHIBIOUS WARFARE (NS)	FRIEND	AUXILIARY	NS
					UNDEFINED
	TANKER/OILER	ALL (NS)			REPAIR
	TROOP SHIP	ALL EXCEPT AMPHIBIOUS WARFARE (NS)			CARGO
	HOSPITAL SHIP	ALL (NS)	FRIEND	AUXILIARY	TANKER
					TROOP
					HOSP

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Link 16			Link 11/11B		
IDENTITY	SURFACE PLATFORM	SURFACE ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
FRIEND	NO STATEMENT	SPECIAL WARFARE	FRIEND	SPECIAL MISSION	NS
	MISSILE CONTROL UNIT	ALL			
	FAST PATROL BOAT	ALL (NS)		SPECIAL MISSION	PB/PG
	MINE WARFARE SHIP	MINELAYING MINE WARFARE		SPECIAL MISSION	MINELAYER
	OCEAN RESEARCH	ALL (NS)		SPECIAL MISSION	OCEAN RESEARCH
	INTELLIGENCE COLLECTOR	ALL (INTELLIGENCE COLLECTING)		SPECIAL MISSION	SIGINT
	ALL	ELECTRONIC WARFARE (EW) INTELLIGENCE COLLECTING ELECTRONIC WARFARE SUPPORT (ES) ELECTRONIC ATTACK (EA)			
	AIR CUSHION VEHICLE	ALL (NS)	FRIEND	SPECIAL MISSION	ACV/HYDRO
	HYDROFOIL	ALL			
	SURFACED SUBMARINE	ALL (NS)	FRIEND	SPECIAL MISSION	SURFACED SUBMARINE
	MINE WARFARE SHIP	MINE COUNTERMEASURES	FRIEND	SPECIAL MISSION	MINESWEEPER
	MINE COUNTERMEASURES MARITIME VESSEL (MCMV)	ALL			
	COMMAND	ALL EXCEPT AMPHIBIOUS WARFARE (NS)	FRIEND	LINE	NS
	AIRCRAFT CARRIER	ALL (NS)			UNDEFINED
	CRUISER	ALL (NS)	FRIEND	LINE	CG
	BATTLESHIP	ALL (NS)	FRIEND	LINE	BB
	DESTROYER	ALL (NS)	FRIEND	LINE	DD

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Link 16			Link 11/11B		
IDENTITY	SURFACE PLATFORM	SURFACE ACTIVITY	IDENTITY	PRIMARY IDENTITY AMPLIFICATION	IDENTITY AMPLIFICATION
FRIEND	FRIGATE	ALL (NS)	FRIEND	LINE	FF
	PATROL	ALL (NS)	FRIEND	LINE	PATROL CRAFT
	PATROL CRAFT ESCORT	ALL			
	AMPHIBIOUS	ALL (NS)	FRIEND	AMPHIBIOUS	NS
	AMPHIBIOUS GENERAL ASSAULT	ALL			
	LANDING PLATFORM	ALL (NS)	FRIEND	AMPHIBIOUS	LANDING PLATFORM
	LANDING SHIP	ALL (NS)	FRIEND	AMPHIBIOUS	LANDING SHIP
	LANDING CRAFT (LC)	ALL (NS)	FRIEND	AMPHIBIOUS	LANDING CRAFT
	TROOP SHIP	AMPHIBIOUS WARFARE	FRIEND	AMPHIBIOUS	TROOP
	AUXILIARY SHIP SUPPORT	AMPHIBIOUS WARFARE	FRIEND	AMPHIBIOUS	CARGO
	AMPHIBIOUS ASSAULT COMMAND SHIP (LCC)	ALL (AMPHIBIOUS WARFARE)	FRIEND	AMPHIBIOUS	COMMAND
	COMMAND	AMPHIBIOUS WARFARE			
	LHA/LHD	ALL (NS)	FRIEND	AMPHIBIOUS	LHA/LHD
	ALL OTHERS (NS)	ALL (NS)	FRIEND	GENERAL	NS

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GLOSSARY

A-A.1. DEFINITIONS

This chapter, in two subsections, contains Abbreviations, Acronyms, and Definition of Terms related to the exchange of data between tactical data systems employing Link 16 and tactical data systems employing Link 11/11B.

A-A.1.1 ABBREVIATIONS AND ACRONYMS

This section defines the abbreviations and acronyms used in the appendix.

AAW	Anti-Air Warfare
AC	Action/Action Code
ACK	Acknowledge
ACLS	Automatic Carrier Landing System
ACT	Action/Action Value
AD	Air Defense
AEW	Airborne Early Warning
AGL	Above Ground Level
AIC	Air Intercept Control
AJ	Antijam
ALS	Automatic Landing System
AOP	Area of Probability
AOR	Area of Responsibility
ARM	Antiradiation Missile
ASW	Antisubmarine Warfare
ATC	Air Traffic Control
ATDL-1	Army Tactical Data Link-1
BRT	Bearing Report Type
C ²	Command and Control
C ² IU	Command and Control Interface Unit
C ² JU	Command and Control JTIDS Unit
C ³ CM	Command, Control, and Communications Countermeasures
CAINS	Carrier Aircraft Inertial Navigation System
CANTCO	Cannot Comply
CANTPRO	Cannot Process
CAP	Combat Air Patrol
CAS	Close Air Support
CDS	Combat Direction System
CM	Countermeasures
COMSEC	Communications Security
CQ	Communications Quality
CRC	Control and Reporting Center
CVLL	Cryptovariable Logical Label
DF	Direction Finding

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DFI	Data Field Identifier
DI	Data Item
DLA	Data Link Address
DLRP	Data Link Reference Point
DM	Data Mile
DOD	Department of Defense
DUI	Data Use Identifier
EA	Electronic Attack
EC	Electronic Combat
EMCON	Emission Control
EMG IND	Emergency Indicator
ENV	Environment
EOB	Electronic Order of Battle
EOT	End of Transmission
EP	Electronic Protection or Estimated Position
EPLRS	Enhanced Position Location Reporting System
ES	Electronic Warfare Support
EW	Electronic Warfare
EWAC	Electronic Warfare Action Value
EWC	Electronic Warfare Coordinator
EWS	Electronic Warfare Surveillance
FAC	Forward Air Controller
F/B	Fix or Bearing
F/FR	Frequency/Frequency Range
FEBA	Forward Edge of the Battle Area
FI	Filter Indicator
FIFO	First In First Out
FJU	Forwarding JTIDS Unit
FJUA	Forwarding JTIDS Unit A (between Links 11 and 16)
FJUAB	Forwarding JTIDS Unit AB (between Links 11, 11B, and 16)
FJUABG	Forwarding JTIDS Unit ABG (between Link 11, 11B, Generic Data Links and Link 16)
FJUAG	Forwarding JTIDS Unit AG (between Link 11, Generic Data Links and Link 16)
FJUB	Forwarding JTIDS Unit B (between Links 11B and 16)
FJUBG	Forwarding JTIDS Unit BG (between Link 11B, Generic Data Links and Link 16)
FJUG	Forwarding JTIDS Unit G (between Generic Data Links and Link 16)
FLOT	Forward Line of Own Troops
FM	Frequency Multiplier
FPU	Forwarding Participating Unit
FRU	Forwarding Reporting Unit
FSCL	Fire Support Coordination Line
FT	Feet or Foot
FT IND	Force Tell Indicator
FWDA	Friendly Weapon Danger Area
GMT	Greenwich Mean Time
GPS	Global Positioning System
GU	Generic Unit
HAVCO	Have Complied
HD SW	Height/Depth Switch

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HUMINT	Human Intelligence
ICP	Interface Change Proposal
ID	Identity/Identification
ID AMP	Identity Amplification
IFF/SIF	Identification Friend or Foe/Selective Identification Feature
IND	Indicator
IOP	Interface Operating Procedures
ISN	Initial Slot Number
IU	Interface Unit
JCS	Joint Chiefs of Staff
JCS Pub	Joint Chiefs of Staff Publication
JOC	Joint Operational Commander
JRE	Joint Range Extension
JRE JU	Joint Range Extension JTIDS Unit
JREU	Joint Range Extension Unit
JTAO	Joint Tactical Air Operations
JTIDS	Joint Tactical Information Distribution System
JU	JTIDS/MIDS Unit
LOB	Line of Bearing
LOS	Line of Sight
MAD	Mission Assignment Discrete
MDR	Message Directed Relay
MEZ	Missile Engagement Zone
MIDS	Multifunctional Information Distribution System
MLI	Message Length Indicator
MOP	Memorandum of Policy
MPC	Message Processing Center
MR	Machine Receipt
MS	Message Start
MSEC	Message Security
MSL	Mean Sea Level
NA	Not Applicable
NATO	North Atlantic Treaty Organization
NC	Navigation Controller
NCS	Network Control Station
NES	Net Entry Signal
NON C ² JU	Non Command and Control JTIDS Unit
NON EW C ²	Non Electronic Warfare Command and Control JTIDS Unit
NOTACK	No Attack
NPG	Network Participation Group
NPS IND	Network Participation Status Indicator
NRT	Nonreal-Time
NS	No Statement
NTR	Network Time Reference
NU	Not Used
OCC	Operational Contingency Constraint
OM	Original Message
OPNL CDR	Operational Commander
OTAR	Over-the-Air Rekeying
PAD	Precision Aircraft Direction
PG	Participation Group

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PGC	Participation Group Community
PIM	Position and Intended Movement
PPLI	Precise Participant Location and Identification
PR	Position Reference
PRF	Pulse Repetition Frequency
PRI	Pulse Repetition Interval
PRI AMP	Primary Identity Amplification
PT	Point
PU	Participating Unit
Q_{ar}	Relative Azimuth Quality
Q_{pq}	Geodetic Position Quality
Q_{pr}	Relative Position Quality
Q_t	Time Quality
R^2	Reporting Responsibility
R/C	Receipt/Compliance
RDF	Radio Direction Finding
REF	Reference
REL NAV	Relative Navigation
RI	Relay Transmission Indicator
R/P	Reference Position
RPV	Remotely Piloted Vehicle
RRN	Recurrence Rate Number
R-S	Reed-Solomon
RTT	Round-Trip-Timing
RU	Reporting Unit
RV	Response Value
SADL	Situation Awareness Data Link
SAI NUM	Slot Assignment Index Number
SAM	Surface-to-Air Missile
SAR	Search and Rescue
SCC	System Coordinate Center
SDU	Secure Data Unit
SEAD	Suppression of Enemy Air Defenses
SI	Scale Indicator
SID	Status Information Discrete
SIF	Selective Identification Feature
SIGINT	Signal Intelligence
SIM	Simulation
SIS	Special Information System
SPI	Special Processing Indicator
STDL (16)	Satellite Tactical Data Link (16)
STN	Source Track Number
SU	Support Unit
SW	Switch
TACAN	Tactical Air Navigation
TACC	Tactical Air Control Center (USAF, USN) or Tactical Air Command Center (USMC)
TACS	Tactical Air Control System
TACS/TADS	Tactical Air Control System/Tactical Air Defense System
TADIL	Tactical Digital Information Link
TAOC	Tactical Air Operations Center
TBD	To Be Determined
TDL	Tactical Data Link
TDMA	Time Division Multiple Access

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TDS	Tactical Data System
THAAD	Theater High Altitude Area Defense
TIDP-TE	Technical Interface Design Plan - Test Edition
TN	Track Number
TOA	Time of Arrival
TPQ	Target Position Quality
TQ	Track Quality
T/R	Transmit/Receive
TR	Type Report
TRANSEC	Transmission Security
TRF	Time Report Function
UHF	Ultra High Frequency
UME	Unformatted Message Element
UPS	Universal Polar Stereographic
USAF	United States Air Force
USMC	United States Marine Corps
USN	United States Navy
USS	User Source Synchronization
UTM	Universal Transverse Mercator
W/ES	Weapon Engagement Status
WES	Weapon Engagement Status
WGS-84	World Geodetic System-84
WILCO	Will Comply

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A-A.1.2 TERMS, DEFINITIONS, AND CONVENTIONS

The following terms and conventions are used for the purpose of this appendix:

SHALL	indicates a procedure or capability is mandatory.
MAY	indicates a procedure or capability is optional.
WILL/IS/ARE	generally used descriptively for information purposes.

This subsection provides the terms and definitions used in this appendix.

<u>Term</u>	<u>Definition</u>
Acknowledge	The act of notifying a unit transmitting a message that the message has been received as a valid message. (MIL-STD-6011)
Active Synchronization	A procedure used by a JTIDS/MIDS terminal to effect and maintain fine synchronization with system time based on the Round-Trip-Timing (RTT) process.
Address	A number applied to an Interface Unit to associate information and directives with interface units or tracks for both digital and voice communications. (Derived from MIL-STD-6011)
Air Support Operations (ASO)	Air Operations in support of friendly forces, to include action against enemy surface and ground assets exclusive of air-to-air operations.
Architecture	The timing structure of the system. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Association	The automatic or manual establishment of a relationship between two or more tracks when the information on them is deemed to pertain to the same contact.

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	Examples include a ballistic missile track and its launcher, or an EW fix/AOP pertaining to a real time surface track.
Automatic Acknowledgment	A machine verification function whereby a terminal that receives a message addressed to it retransmits a copy of that message back to the source during a later time slot, verifying the receipt of the original message. (System Segment Specification for JTIDS/MIDS Class 2 Terminal).
Bit	A binary digit. In the binary system of numbering, each digit can only have one of two values (0 or 1). (Derived from ACP 167E)
Coarse Synchronization	The state of synchronization with system time that allows a terminal to receive and process messages and to achieve fine synchronization. (System Segment Specification for JTIDS/MIDS Class 2 Terminal).
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)
Command and Control JTIDS Unit(C ² JU)	A JU with command and control (C ²) capability.
Common Track	A track on which an IU holds locally derived positional information, and the IU has correlated the track to a remotely reported track. (MIL-STD-6011)
Common Tracking	The process of sharing a common track number and shifting reporting responsibility between IUs.
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)

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Concurrent Operations

The process of communicating on two, or more, digital data links at the same time, as a participant. The concurrent operating unit exchanges with these links all information held in its local data base, but remote information is not forwarded. Protocols of each link are adhered to by the concurrent operating unit. The local data base of a concurrent operating unit is the normal assimilation of data by that unit and includes local sensor data, local operator inputs, and data received and accepted into the local database from a data link, e.g., ID or IFF/SIF data.

Contention Access Mode

A transmit access mode in which a given time slot block is assigned to more than one JU. Each JU will transmit at a specified rate in the time slot block by selecting time slots for transmission pseudorandomly.

Control

The near real-time direction of weapons systems and supporting platforms for the accomplishment of assigned missions.

Coupling

The relationship between a non-friendly entity and another entity reported on the interface using the Track/Point Amplification or Threat Warning messages, for example, the coupling of a hostile track to what may be its target.

Correlation

The determination that a system track or local sensor track data report represents the same object or point as another track and/or the process of combining two such tracks/data under one track number.

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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) The Link 16 data element is the Data Use Identifier (DUI).
Data Field Identifier (DFI) (JTIDS/MIDS)	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 (JTIDS/MIDS)	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).
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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Data Source	A unit to which data can be addressed and from which data can be identified as to source, e.g., all IUS. (MIL-STD-6011)
Data Symbol	A general term for representing both information symbols and parity symbols in aggregate. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Data Use Identifier (DUI) (JTIDS/MIDS)	A JTIDS/MIDS 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. When a DUI is designated as the contents of a JTIDS message field, the DUI name is the field name, and the data items employed by the DUI are (subject to any implementation or message restrictions) the data items which may be conveyed in that field.
Decorrelation	<p>(1) The determination that locally held track data for a given track number does not represent the same object or point as a track data being received in a remote track report for the same track number. (MIL-STD-6011)</p> <p>(2) The process of establishing a new track number for a local track when a remote track report with the same track number as the local track is determined to represent a different object. (MIL-STD-6011)</p>
Dedicated Access Mode	A transmit access mode in which time slots are assigned to an individual unit for that unit's exclusive use.

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Default Condition	The state automatically assumed by a terminal's hardware or software in the absence of an input directing otherwise.
Directive	<p>(1) A military communication in which policy is established or a specific action is ordered. (Joint Pub 1-02)</p> <p>(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)</p> <p>(3) Broadly speaking, any communication that initiates or governs action, conduct, or procedure. (Joint Pub 1-02)</p>
Drop Track	An indication from the unit having reporting responsibility for a particular track that the unit will no longer report it. Other units holding an interest in that track may continue to report it. (Derived from Joint Pub 1-02)
Dual Designation	The same track is being reported by two or more units using two or more different track numbers. (MIL-STD-6011)
Duplicate Track Number	The same track number used by two or more units for two or more different tracks. (MIL-STD-6011)
Dynamic Network Management	Management of the network by active participation of a network manager in response to changing needs during operations, typically by use of Network Management messages.
Electronic Attack (EA)	Actions taken to prevent or reduce an enemy's effective use of the electromagnetic spectrum. EA includes electronic jamming, and electronic deception including manipulative deception, simulative deceptive and imitative deception. (Derived from Joint Pub 1-02) (corresponds to the term Electronic Countermeasures (ECM) used in NATO operations)

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Electronic Protection (EP)	Actions taken to ensure effective friendly use of the electromagnetic spectrum despite the enemy's use of EW. (Derived from Joint Pub 1-02) (corresponds to the term Electronic Counter-Countermeasures (ECCM) used in NATO operations)
Electronic Warfare (EW)	Actions involving the use of electromagnetic energy to determine, exploit, reduce, or prevent hostile use of the electromagnetic spectrum, and actions retaining friendly use of the electromagnetic spectrum. There are three divisions within EW: EA, EP, and ES. (Derived from Joint Pub 1-02)
Electronic Warfare Support (ES)	Actions taken to search for, intercept, locate, record, and analyze radiated electromagnetic energy for the purpose of exploiting such radiations in support of military operations. Thus, ES provides a source of EW information required to conduct EA, EP, threat detection, warning, avoidance, target acquisition, and homing. (Derived from Joint Pub 1-02) (corresponds to the term Electronic Warfare Support Measures (ESM) used in NATO operations)
Emergency Track	A track in a condition that requires immediate action or assistance; namely, an aircraft with an emergency situation or a distressed vessel. (Derived from MIL-STD-6011)
Engagement Status	The current relationship between a weapon system and a target. (Derived from MIL-STD-6011)
Environment	The environment in which the associated track is operating; e.g., air, surface, subsurface.

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Epoch	A 12.8-minute time interval consisting of 98,304 time slot intervals, each of 7.8125 milliseconds duration. The time slots in each epoch are organized into three sets (A, B, or C) of 32, 768 time slots each. There are 112.5 epochs in a 24 hour period. (Derived from System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Error Correction Encoding	The JTIDS forward error correction encoding function that utilizes Reed-Solomon encoding of data. See Reed-Solomon Code. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Error Detection Encoding	An encoding process that allows the detection of a residual message error condition after the error correction function (Reed-Solomon) is executed. The process generates a 12-bit parity code for each block of 225 bits, using a (237, 225) polynomial generator function. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Extended Range	The longer of two range options for a JTIDS/MIDS terminal, providing a line-of-sight range capability of 0-500 nautical miles with respect to the allocated propagation for message transmission. (Derived from System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Fine Synchronization	The state of synchronization with system time that allows a terminal to transmit messages. A terminal may utilize a passive or an active synchronization procedure to achieve fine synchronization. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Fixed Word Format (FWF)	A 70-bit structure consisting of a formalized arrangement of predefined fields of fixed length and sequence.

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Fixed Word Format Message	A J-Series message utilizing fixed word format (FWF). An FWF message is started by an initial word which may be then followed by one or more extension and/or continuation words.
Force Tell	The process whereby data that are being inhibited by a filter are allowed to be transmitted or received. (CJCSM 6120.01)
Forwarding JTIDS Unit (FJU)	A JU that translates and forwards data among IUs using J-series messages and M-Series messages. An FJU is either an FJUA, FJUB, or FJUAB.
Forwarding JTIDS Unit A (FJUA)	A JU communicating on both Link 11 and Link 16 while forwarding information between Link 11 and Link 16 participants.
Forwarding JTIDS Unit ABG (FJUABG)	A unit communicating on Link 16, Link 11, Link 11B, and a Generic Data Link while forwarding information among Link 16, Link 11, Link 11B, and Generic Data Link Participants.
Forwarding JTIDS Unit AG (FJUAG)	A unit communicating on Link 16, Link 11, and a Generic Data Link while forwarding information among Link 16, Link 11, and Generic Data Link Participants.
Forwarding JTIDS Unit B (FJUB)	A JU communicating on both Link 11B and Link 16 while forwarding information between Link 11B and Link 16 participants.
Forwarding JTIDS Unit BG (FJUBG)	A unit communicating on Link 16, Link 11B, and a Generic Data Link while forwarding information among Link 16, Link 11B, and Generic Data Link Participants.
Forwarding JTIDS Unit AB (FJUAB)	A JU communicating on Link 16, Link 11, and Link 11B while forwarding information among Link 16, Link 11, and Link 11B participants.

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Forwarding JTIDS Unit G (FJUG)

A unit communicating on both Link 16 and a Generic Data Link while forwarding information between Link 16 and Generic Data Link Participants.

Forwarding Participating Unit (FPU)

A PU that is forwarding data between Link 11 and one or more RUs.

Forwarding Reporting Unit (FRU)

An RU that is forwarding data between two or more RUs.

Free Text Message

Bit-oriented messages whose information bits may be used to represent digitized voice, teletype and other forms of free text information. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

Geodetic Position Quality (Q_{pg})

A measure of the quality of a JTIDS/MIDS terminal's geodetic position reported in the terminal's Position and Status Reports. Geodetic Position Quality is reported as an integer from 0-15 where the higher numbers correspond to the higher qualities, i.e., lower errors in position. (System Segment Specification for JTIDS Class 2 Terminal)

Generic Unit (GU)

A C² or nonC² unit, operating on a data link (excepting Link 11/11B) that does not utilize a JTIDS/MIDS compliant system, and the protocols, conventions, and fixed word message formats defined by the MIL-STD-6016. GUs also include JUs forwarded onto data links other than Link 11/11B.

Handover

The passing of control authority of an aircraft or other air vehicle from one control agency to another control agency. Handover action is complete when the receiving controller acknowledges assumption of control authority. (Derived from MIL-STD-6011)

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Header (Message)

The leading bits of each message are coded as a (16, 7) Reed-Solomon code-word that provides 35 bits of information and 45 bits of associated forward error correction code. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

Information Symbol

A 5-bit data element comprising both information and error detection code (inner parity) bits, or a combination of both. The information bits may represent either Reed-Solomon generated information or non-error-coded information. (System Segment Specification for JTIDS Class 2 Terminal)

Initial Entry

The procedure by which a subscriber terminal becomes a system participant initially and may achieve coarse synchronization with system time. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

Initial Entry JTIDS Unit (IEJU)

Any JTIDS/MIDS unit that transmits the Initial Entry message in the appropriate time slot.

Initial Slot Number (ISN)

The number assigned to the first time slot in a block of time slots relative to the beginning of an epoch.

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)

Interface

A boundary or point common to two or more similar or dissimilar command and control systems, subsystems, or other entities against which or at which necessary information flow takes place. (Joint Pub 1-02)

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Interface Operating Procedures (IOP)	A document used to provide a functional understanding of data exchange on a Tactical Data Link (TDL) and to describe operator initiated actions and their effect on the exchange of data.
Interface Unit (IU)	A JU, PU, or RU communicating directly or indirectly (i.e., identified as a data source) on the interface.
Interleaving	A pattern of orienting the data symbols of a message for transmission, applicable to Modes 1 and 2. A fixed interleaving pattern is used for Mode 4. (System Segment Specification for JTIDS Class 2 Terminal)
Interoperability	<p>(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)</p> <p>(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)</p> <p>(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.</p>
Jam Strobe	A line projecting from a jammed radar on the approximate azimuth of the jamming source. (MIL-STD-6011)

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Joint	Connotes activities, operations, organization, etc., in which elements of more than one Service of the same nation participate. (Joint Pub 1-02)
Joint Range Extension	A multi-Service concept for extending the range of nets exchanging tactical data beyond the range of tactical communications terminals used for these nets, and providing alternatives for the transfer of this data within local areas.
Joint Range Extension Unit	A unit connected directly on a JRE link and not forwarding or communicating on a Link 16 network.
Joint Range Extension JTIDS Unit	A unit communicating directly on Link 16 and on a JRE link, but not forwarding between the two (concurrent operations).
JTIDS	Joint Tactical Information Distribution System. The JTIDS/MIDS is a joint-service system which provides an Integrated Communications, Navigation, and Identification (ICNI) capability. The JTIDS/MIDS provides a reliable, secure, jam resistant, high-capacity, ICNI capability through the use of direct-sequence, spread-spectrum, frequency-hopping, and error detection and correction techniques. (Derived from System Segment Specification for JTIDS/MIDS Class 2 Terminal)
JTIDS/MIDS Net	One of 128 time-division structures comprising a JTIDS/MIDS network. Each net consists of a continuous stream of time intervals (time slots) with 98,304 time slots per 12.8-minute epoch, during which digital data whose signal characteristics are determined by a cryptographic variable in conjunction with a unique net number are distributed.

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JTIDS/MIDS Network

The JTIDS/MIDS structure (usable only with Mode 1 communications) having a total usable capacity of 98,304 time slots per epoch per net and 128 nets. All nets are synchronized so that each time slot of each net is time-coincident with the corresponding time slot (same set and number) of every other net.

The signal characteristics of all data distributed within a specified multinetted structure are determined by a cryptographic variable in conjunction with a set of net numbers that define the structure.

JTIDS/MIDS Unit (JU)

A unit communicating directly on Link 16.

Local Data

Data derived from organic sensors and/or the IU's own capabilities to process, analyze, and classify track data, including data received from a remote source on a local track and accepted into the IU's database.

Local Track

A track established within an interface unit based on local positional data. Amplifying data associated with the track may be derived locally, from supporting units, or from data links. (MIL-STD-6011)

Machine Receipt

See Automatic Acknowledgement.

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.

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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.

Minimum Implementation

The statement of minimum data exchange requirements that must be implemented by Service/Agency systems participating on the Joint Tactical Data Link (TDL) 16 Interface to ensure the continued flow of information. This is defined in terms of requirements that must be met at seven different levels: Functional, Related Function, Message, Related Message, Word, DE, and DI.

Minimum Information Exchange Requirements

Those categories of information that must be exchanged between operational facilities in order to provide commanders with essential information for decision making.

Mode 1 Communications

Mode 1 JTIDS/MIDS transmissions consist of a sequence of wide-band transmission symbol packets (single pulse, 13-microsecond packets and double-pulse, 26-microsecond packets), the pulses of which are formed by continuous phase shift modulation (CPSM) of the carrier frequency. The signal processing required to transform base-band data to the JTIDS signal waveforms for transmission includes base-band data encryption, forward error correction encoding, error detection encoding, cyclic code shift keying (CCSK) encoding, data symbol interleaving, and the selection of a variable start time.

Mode 2 Communications

Mode 2 JTIDS/MIDS transmissions are identical to Mode 1, except that Mode 2 operates in the narrow-band mode.

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Mode 4 Communications	Mode 4 JTIDS/MIDS transmissions have signal waveform characteristics identical to Mode 2, except that Mode 4 does not employ base-band data encryption signal processing.
Navigation Controller	The Navigation Controller establishes the origin and North orientation of the U, V relative grid for the Relative Navigation function. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Needline Participation Group	A unique list of netted subscribers compiled without regard to the specific messages they exchange with each other. This list is a means of transmitting any message to a common set of users.
Net	See "JTIDS/MIDS Net."
Net Number	A 7-bit code that identifies each net as a decimal number (0 through 127). (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Network	See "JTIDS/MIDS Network."
Network Management Concepts	A set of operational concepts that deals with the allocation and assignment of JTIDS/MIDS resources and functions to satisfy user requirements.
Network Management Function	An action or activity affecting the relationships, actions, or activities of the various elements of the network.
Network Management Tools	The procedures employed by a network manager to ensure effective and efficient use of the JTIDS/MIDS message transmission capacity.
Network Manager	A JTIDS/MIDS unit that is designated to employ the required tools to allocate, assign, and manage the JTIDS/MIDS network resources.

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Network Participation Group	A unique list of applicable messages used to support an agreed-upon technical function without regard to subscriber identities. This list is a means of transmitting a common set of messages to all interested users.
Network Time Reference (NTR)	A subscriber terminal that is assigned as the reference for system time for each synchronized netted system. The NTR terminal's clock time is never updated by system information and is the reference to which all other terminals synchronize their own clocks. There is only one NTR.
Noncommand and Control JTIDS Unit (nonC ² JU)	A JU without command and control capability.
Normal Mode	The standard mode of terminal operation with respect to receipt and transmission of messages. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Normal Range	The shorter of two range options for a JTIDS/MIDS terminal, providing a line-of-sight coverage capability of 0-300 nautical miles with respect to the allocated propagation for message transmission. (Derived from System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Order	A communications which is written, oral, or by signal, that conveys instructions from a superior to a subordinate. (DOD IADB) In a broad sense, the terms "order" and "command" are synonymous. However, an order implies discretion as to the details of execution whereas a command does not. (Joint Pub 1-02)
Pairing	The establishment of an operational relationship (other than an engagement) between a friendly track and another track or point, for example, a rendezvous or tanker pairing.

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Parity Symbol	A 5-bit error-correction code data element generated by the Reed-Solomon encoding process. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Participating Unit (PU)	A unit communicating directly on Link 11. (MIL-STD-6011)
Participation Group Community (PGC)	The set of JUs assigned to participate as transmitters and/or receivers in the corresponding participation group.
Participation Group Pool	One or more time slot blocks assigned to a given participation group to satisfy participation group needs, priorities, and functional characteristics.
Passive Synchronization	A procedure used by a terminal to effect and maintain fine synchronization with system time by passive observations of Position and Status messages transmitted by other terminals. The synchronizing terminal is not required to transmit any information. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Perimeter Engagement	The unit is initiating multiple simultaneous engagements with no capability to perform independent kill assessment. However, W/ES values of Firing and Engagement Broken will be automatically transmitted for each missile/target pair.
Polling Mode	A mode of terminal operation whereby the terminal can receive messages but does not transmit any fixed format messages except to transmit automatic message acknowledgments, RTT interrogations, or other messages in response to special interrogations. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

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Pool	One or more time slot blocks that can be used to satisfy a particular functional requirement or the total JTIDS/MIDS capacity that can be divided into pools to satisfy all functional requirements.
Position Reference	One or more JUs designated as a network reference. Such a JU has maintained a geodetic position accuracy of 50 feet, one sigma (standard deviation) over a long period of time.
Primary User	A subscriber terminal that utilizes the active synchronization (RTT) procedure and serves as a high-quality source for synchronization by the general Relative Navigation community. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Pulse (JTIDS/MIDS)	A 6.4-microsecond burst of carrier frequency continuous phase shift modulated at a 5-megabit-per-second rate by the transmission symbol. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Purge	Removal from database in response to internal system criteria.
Radio Relaying	A function for extending radio coverage based on time delay relaying where a message received during one time slot is subsequently retransmitted in another time slot. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Radio Silence Mode	A mode of terminal operation where the terminal receives but does not transmit fixed word format or variable message format messages. (Derived from System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Receive Block	A time slot block assigned for message reception.

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Receipt/Compliance	The acknowledgment of a message and/ or an indication of intent to respond to a message, either by machine acknowledgment or operator action.
Recurrence Rate	The total number of time slots per epoch assigned (or deleted) in a single time block assignment, specified as an integer, $R = 0$ to 15 where 2 = the number of time slots. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Recurrence Rate Number (RNN)	An integer R , $0 < R < 15$, where 2^R is the recurrence rate of the block assignment.
Reed-Solomon Code	As applied to JTIDS/MIDS, a forward error correction encoding scheme using a 32-ary cyclic block code in the class of generalized Bose-Chaudhuri-Hocquenghem (BCH) codes where the basic block codeword is a (31, 15)codeword, i.e., 31 5-bit data symbols per codeword, of which 15 are information symbols and 16 are parity symbols. Message headers are (16,7) codewords which are shortened (31,15) codewords where 7 are information symbols and 9 are parity symbols. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Relative Azimuth Quality (Q_{ar})	A measure of the quality of a terminal's estimate of the orientation of the U,V grid with respect to grid North. Relative Azimuth Quality is reported in the terminal's Position and Status Reports as an integer from 0-7, where the higher numbers correspond to the higher qualities, i.e., lower errors in angular orientation. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

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Relative Common Grid

A rectilinear planar grid tangent to the Earth surface at the grid origin whose coordinates are U, V Cartesian coordinates, where the V-axis is the North-South axis and the U-axis is the East-West axis.
(System Segment Specification for JTIDS/MIDS Class 2 Terminal)

Relative Navigation

A procedure used by a terminal to determine its position and velocity in a common reference coordinate system by passive observations of Position and Status messages transmitted by other terminals.
(System Segment Specification for JTIDS/MIDS Class 2 Terminal)

Relative Position Quality (Q_{pr})

A measure of the quality of a terminal's relative position with respect to the U, V relative grid. Relative Position Quality is reported in the terminal's Position and Status Reports as an integer from 0-15, where the higher qualities, i.e., less error in position. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

Relay

An automatic function of the JTIDS/MIDS terminal that provides retransmission of received information to extend the range beyond line of sight.

Relay Block

One to 64 time slot blocks assigned to independently specified nets for the relay of messages. The number of time slots selected for message reception must equal the number of time slots selected for message transmission. Each block is described by set (A, B, or C), a specific time slot in the block, and the recurrence rate.

Remote Data

Data derived from data link reports from another unit.

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Remote Track	A track established within an interface unit based upon positional information derived from a data link report or reports. Amplifying data associated with the track may be derived locally, from supporting units, or from data links. (MIL-STD-6011)
Reporting Responsibility (R^2)	The requirement for the IU with the best positional data on a track to transmit track data on the interface.
Reporting Unit (RU)	A unit communicating on a point-to-point data link (e.g., Link 11B) which can be identified as a data source. (MIL-STD-6011)
Repromulgation	The rebroadcast of a specified message or messages. The re promulgation request field specifies the number of times the message should be relayed and the time slot in which it is to be broadcast.
Response Time End-to-End Response Time	The time from new information availability at the source JU to reception of the message at the destination JU.
JU Response Time	The time from new information availability at the JU to the transmission of the information on the link. This is defined for each message in the JTIDS TIDP-TE.
Terminal Response Time	The time from new information availability at the terminal to the transmission of the information on the link. This time is part of the JU response time.
Round-Trip-Timing (RTT)	The process used by a JTIDS/MIDS terminal to directly determine the offset between its clock and that of another JTIDS/MIDS terminal. This is used to achieve and maintain fine synchronization and to improve the terminal's time quality. This process involves the exchange of RTT Interrogation and Reply Messages.

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RTT Message	A short, 35-bit message used by the Active synchronization method, either an RTT Interrogation Message or RTT Reply Message. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Satellite Tactical Data Link (16) (STDL (16))	The STDL (16) system is a near real time tactical data link system which uses SHF satellite communications to provide a BLOS enhancement to Link 16 message communications.
Secondary User	The general category for the majority of system subscriber terminals. Secondary user terminals generally utilize the Passive synchronization procedures for synchronizing in the Relative Navigation community. (System Segment Specification for JTIDS/MIDS Class 2 Terminal) Secondary users may use RTT messages when improved time quality is needed to maintain position quality.
Situational Awareness Data Link (SADL)	SADL is a data link that enables aircraft to share and display flight information with other SADL-equipped aircraft and to share and display friendly position locations with the Army's Digitized Battlefield. SADL radios are production EPLRS radios with modified software and firmware. These modifications allow the SADL radios to interoperate with the EPLRS ground community or to operate independently in SADL-only air-to-air networks. SADL permits display of EPLRS-equipped friendly unit locations as well as the position and status of other SADL network members.
Source Address	Specifies the Source Track Number of the Link 16 message.
Source Track Number	The Track Number (Address) allocated to a JTIDS unit to uniquely identify it on Link 16.

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Stacked Net	The coordinated use of specific blocks of time slots on different nets in a JTIDS/MIDS network by different communities of users.
Static Network Management	Management of the network in accordance with a preplanned scheme not subject to changes by a network manager during operations.
Subscriber	A participant in the use of the system, either actively (transmission of information) or passively (receiver of information only), or both. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Supporting Unit (SU)	A unit supporting an IU and providing data for the interface, but not identified as a data source. (Derived from MIL-STD-6011)
Symbol Packet	A signal element containing either one (single-pulse symbol packet) or two (double-pulse symbol packet) 6.4-microsecond pulses. The single-pulse packet (13 microseconds) consists of a 6.4-microsecond pulse followed by a 6.6-microsecond interval of dead time; the double pulse packet (26 microseconds) consists of two 6.4-microsecond pulses separated and followed by 6.6-microsecond interval of dead time. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Synchronization Preamble	Sixteen symbol packets that preface each transmitted message to allow for the detection of the beginning of each message and the subsequent decoding of the entire message. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

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Systematic Code

A code having the characteristic that each information block is encoded into a codeword comprised of "n" symbols in such a way that the first "k" symbols of the codeword are exactly the same as the information block and last "n-k" symbols of the codeword are redundant symbols which are functions of the information symbols. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

Tactical Command and Control

The exercise of authority and direction by a properly designated commander over assigned forces in the accomplishment of his mission. Tactical command and control functions are performed through an arrangement of personnel, equipment, communications, and procedures which are employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of his mission. (Joint Pub 1-02)

Tactical Command and Control System

The facilities, equipment, communications, procedures, and personnel essential to Theater-Level and commanders Below-Theater-Level for planning, directing, and controlling operations of assigned and attached forces pursuant to the missions assigned and which provide for the conveyance and/or exchange of data and information from one person or force to another. (Joint Pub 1-02)

Automated Tactical Command and Control System

A command and control system or part thereof which fully manipulates the movement of information from source to user without human intervention. (Automated execution of a decision without human intervention is not mandatory.) (Joint Pub 1-02)

Semiautomated Tactical Command and Control System

A machine-aided command and control system wherein human intervention is required in varying degrees to operate the system. (Joint Pub 1-02)

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Manual Tactical Command and Control System	A command and control system that acquires, processes, and passes information generated by man at the source and is received, processed, and acted upon by manual means. (Joint Pub 1-02)
Tactical Digital Information Link (TADIL)	A JCS approved standardized communications link suitable for transmission of digital information. A data link is characterized by its standardized message formats and transmission characteristics.
TADIL A	A secure, netted data link utilizing parallel transmission frame characteristics and standard message formats at either 2250 or 1364 bits per second. Transmission characteristics and standards for Link 11 are set forth in MIL-STD-6011 and MIL-STD-188-203-1A.
TADIL B	A secure, point-to-point data link utilizing serial transmission frame characteristics and standard message formats at a basic speed of 600 or of 1200 bits per second. This data link interconnects tactical air defense and air control units. Transmission characteristics and standards for Link 11 are set forth in MIL-STD-6011 and MIL-STD-188-212. Message formats are the same for Link 11B and Link 11.
TADIL C	A time division data transmission link between control station and controlled aircraft. It provides the capability for automatic transmission of orders, status, and other information. Data exchange is accomplished on a fully automatic link at 5000 bits per second, using serial transmission. Transmission characteristics and standards for Link 4A are set forth in MIL-STD-6004 and MIL-STD-188-203-3.

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TADIL J

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.

Link 16 Interface

The tactical data exchange interface comprised of three basic components: participating JUs, the Link 16 Message Standard, and Voice Coordination Nets/Circuits. The interface may be connected via data forwarder(s) to a JTAC interface (i.e., Link 11 and/or Link 11B).

Link 16 Message

A functionally oriented, variable length string of one or more 70-bit words in either fixed word format or variable message format.

Technical Interface Concepts (TIC)

A document used to establish the conceptual foundation for the design, implementation, and test documentation for the general development of the Joint Chiefs of Staff (JCS) program for ensuring compatibility, interoperability, and operational effectiveness of tactical command and control operational facilities/systems. A TIC identifies:

- (a) tactical command and control systems and operational facilities of the Services/Agencies.
- (b) joint interface points, either manual or digital; and
- (c) inter-Service/Agency information to be exchanged among automated and manual tactical command and control systems.

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Technical Interface Design Plan (TIDP)	An engineering implementation plan that specifies the technical standards required to achieve compatibility and interoperability as specified in the Technical Interface Concepts. The plan includes a comprehensive technical description of the operational interface, message implementation, methods, and rules for processing data between operational facilities and a final list of effective Service/Agency facilities/systems.
Terminal (JTIDS/MIDS)	The integrated equipment comprised of hardware, firmware, and software elements used as the means for participating as a system subscriber. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Test Mode	A mode of terminal operation whereby a terminal is required to transmit Test messages. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Time (System)	The time maintained by the terminal assigned as the Network Time Reference (NTR) to which all other participating terminals are synchronized. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Time (Terminal)	The estimate of time derived by a terminal as a result of executing either the active or a passive synchronization procedure. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Time Quality (Q_t)	A measure of the quality of a terminal's state of synchronization with system time reported in the terminal's Position and Status Report. Time Quality is reported as an integer from 0-15 where the higher numbers correspond to the higher levels of quality, i.e., lower errors in timing. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

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Time Refinement Symbols	Four transmission symbols added to each message after the synchronization preamble symbols to provide for measuring accurate time-of-arrival of messages. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Time Slot	A 7.8125-millisecond time interval during which messages may be transmitted. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Time Slot Assignment	The designation to the terminal of the specific time slot block in which it will transmit or receive messages.
Time Slot Block	A collection of time slots spaced uniformly in time over each epoch and belonging to a single time slot set. A block is defined by indexing time slot number (0 to 32,767), set (A, B, or C), and a recurrence rate number (0 to 15).
Time Slot Number	A 17-bit code that identifies each full time slot. The code consisting of a 2-bit set field (set A, B, or C) and a 15-bit slot field representing the decimal numbers zero to 32,767. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Time Slot Reallocation	A transmit access mode in which each Access Mode participant periodically assigns itself time slots from a shared pool of time slots. A participant assigns transmit time slots after transmitting a Time Slot Reallocation (TSR) message and receiving TSR messages from other participants.

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Time Slot Reuse	A method to increase the JTIDS/MIDS network capacity by allowing more than one terminal to transmit in a single time slot on a single net number. This is appropriate for JUs in proximity to each other that have information to exchange; receivers will lock onto the message with the shortest time of arrival.
Time Slot Separation	The interval between time slots in an epoch assigned to a block expressed in terms of R (R = RRN), where the separation between time slots = $3 \times 2^{15-R}$.
Track	(1) The graphic and/or alphanumeric representation of an object, point, or bearing whose position and/or characteristics are collated from sensors and/or other data sources. (MIL-STD-6011)
	(2) A collated set of data...associated with a track number for the purpose of representing the position and/or characteristics of a specific object, point, or bearing. (MIL-STD-6011)
Track Quality	A measure of the reliability of the positional information of a reported track.
Transmit Block	A time slot block assigned for the transmission of messages.
Transmission Symbol	A 32-bit sequence, one of 32 possible sequences generated by cyclic code shift keying, having a direct correlation with a 5-bit data symbol for the purpose of direct sequence spectrum spreading. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Variable Message Format (VMF)	A message structure using predefined fields of fixed length employing internal syntax and a header extension. The internal syntax specifies the presence, absence, and recurrence of fields as selected by the user.

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Variable Message Format Message	A Link 16 message utilizing variable message format.
Word Format	The type of Link 16 word construction. There are four such types: initial, extension, continuation, and variable message format.

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30 September 2011

DEPARTMENT OF DEFENSE INTERFACE STANDARD

DATA FORWARDING BETWEEN TACTICAL DATA LINKS (TDLs)

APPENDIX B – LINK 22 AND LINK 16

(STANAG 5616 EDITION 6_ VOLUME 2)



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DEPARTMENT OF DEFENSE INTERFACE STANDARD

DATA FORWARDING BETWEEN TACTICAL DATA LINKS (TDLs)

APPENDIX C – LINK 22 AND LINK 11/11B

(STANAG 5616 EDITION 6_ VOLUME 3)



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DEPARTMENT OF DEFENSE INTERFACE STANDARD

DATA FORWARDING BETWEEN TACTICAL DATA LINKS (TDLs)

APPENDIX D – LINK 16 AND VMF



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D.1 SCOPE

This appendix specifies the rules, message translation requirements, and data element translations required to exchange data between tactical data systems employing Variable Message Format (VMF) and tactical data systems employing Link 16. This appendix is a mandatory part of this standard. The information contained herein is intended for compliance.

The information contained in this appendix is intended as guidance for developers and users. It is not mandatory for systems to forward data between VMF and Link 16. However, if a unit is designated as a forwarder then implementation of the rules in this appendix is mandatory.

D.2 APPLICABLE DOCUMENTS

D.2.1 GENERAL

The documents listed in this section are specified in sections D.4 and D.5 of this appendix. This section does not include documents cited in other sections of this standard, recommended for additional information, or used for examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections D.4 and D.5 of this appendix, whether or not they are listed.

D.2.2 GOVERNMENT DOCUMENTSD.2.2.1 SPECIFICATIONS, STANDARDS, AND HANDBOOKS

The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the current issues of these documents are listed in the Department of Defense Index of Specifications and Standards (DoDISS).

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STANDARDS

DEPARTMENT OF DEFENSE

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

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

MIL-STD-2045-47001(Series) - Interoperability Standard
for Connectionless Data Transfer
Application Layer Standard

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D.3 DEFINITIONS

Applicable definitions are in Annex A (i.e., Glossary) of this appendix.

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D.4 GENERAL REQUIREMENTS

D.4.1 DATA FORWARDING RULES

VMF is designed as a common means of exchanging digital data across an interface that could be between combat units at varied organizational levels, with varying needs for volume and detail of information, and applicable to a broad range of tactical communication systems. The VMF interface has been designed to support joint operations within the following joint functional areas: Network Control, General Information Exchange, Fire Support Operations, Air Operations; Intelligence Operations; Land Combat Operations, Maritime Operations; Combat Service Support; Special Operations; Joint Task Force (JTF) Operations Control; and Air Defense/Air Space Control.

The Link 16 interface is intended to provide improved information distribution, relative navigation, and identification capability in support of inter- and intra-Service/Agency tactical command and control and mission execution functions. Link 16 supports Airborne Operations, Air Defense/Anti-Air Warfare (A/C) Operations, Air Defense/SAM Operations, Air Reconnaissance/Surveillance Operations, Airspace Control, Air Strike/Interdiction Operations, ASW Operations, CAS Operations, Fire Support Operations, Land Combat Operations, Search & Rescue Operations, and Ship-to-Shore Movement.

These functions will be enhanced by information exchanges between VMF and other data links, e.g. Link 16. For the most effective accomplishment of these functions, there must be a flow of information between the Tactical Data Systems (TDSs) serviced by a network of digital data links. This requires that selected TDSs interfacing with multiple links provide for transferring data between the dissimilar links without altering the intent of the information exchanged.

The purpose of this appendix is to specify the rules, protocols, and translations required between VMF and Link 16. Data forwarding is 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

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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 unit(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.

Those data elements applicable within the messages are translated to the appropriate data elements in the corresponding messages. Within the data forwarding process, data management will be minimized. All systems that forward data must adhere to this appendix. In the course of implementing VMF, it is recognized that some systems may use internal system translations (i.e., Link 16 to VMF) and some systems may transmit originated data on more than one data link at the same time. Functionally, such systems are not data forwarders; however, these systems shall comply with the rules in Section D.5.2 to ensure that the closest possible relationship of data elements and data element interpretation will be maintained among all users of the data.

D.4.1.1 FORWARDING REQUIREMENTS

A forwarding requirement exists between VMF and data links. This appendix covers only the forwarding between VMF and Link 16 (fixed word format). Data forwarding shall be accomplished by the selected units simultaneously participating on Link 16 and any VMF data link.

D.4.1.2 FORWARDING CONSIDERATIONS

The VMF forwarding rules and procedures are designed to:

- a. Minimize the time delays inherent in the forwarding operation.
- b. To the maximum extent possible, be used without changes to existing digital data link protocols and message formats.

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c. Ensure that data transmitted by the forwarding unit (or unit performing internal system translation or simultaneous data origination on multiple data links) agree as closely as possible with the meaning of the data received for forwarding.

D.4.1.3 CONCURRENT OPERATIONS

Concurrent operations is the process of communicating on two, or more, digital data links at the same time as a participant. The concurrent operating unit exchanges all information held in its local database, but remote information is not forwarded. Protocols of each link are adhered to by the concurrent operating unit. The local database of a concurrent operating unit is the normal assimilation of data by that unit and includes local sensor data, local operator inputs, and data received and accepted into the local database from a data link, e.g., ID or IFF/SIF data.

D.4.2 DATA FORWARDING PROCESSING FACTORS

Factors to be considered in the data forwarding process include message translation, data element translation, data equivalence, data element conversion, and timeliness.

D.4.2.1 MESSAGE TRANSLATION

Message translation is 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.

There may not be a one-for-one translation of the messages used on the data links. For example, multiple messages received on one link may translate into a single message to be transmitted on the second link, or vice versa. The translation of messages may vary based on message content. Therefore, message translation standards include rules for selecting the message(s) to which a received message or group of messages is to be translated based on the type of message(s) received and, in some cases, on the content of the message(s). A forwarder shall process the complete received message or

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message sequence in accordance with the appropriate translation tree, prior to taking any forwarding action. This process will eliminate the possibility of the forwarder originating unnecessary duplicate messages as each 'Required Action' of the Test Node Diagram is being considered. Section D.5.1 of this appendix provides the complete set of translations for those messages which may be forwarded.

D.4.2.2 DATA ELEMENT TRANSLATION

Data element translation is the process by which a data element (also commonly referred to as a field) or multiple data elements received on one data link are transformed to the appropriate data element(s) required for transmission on another data link. This translation is done by equating data elements, converting data elements, and using special considerations for which equivalence and conversion do not apply. Section D.5.2 of this appendix provides a complete set of data element translations for those data elements which may be forwarded between VMF and Link 16.

D.4.2.2.1 DATA ELEMENT EQUIVALENCE

Data element equating is the process of moving, without change, a data item value of a data element from a received message on one link to a data item value of a data element in a different message format for transmission on another link.

D.4.2.2.2 DATA ELEMENT CONVERSION

Data element conversion is the process of altering the data item value of a data element from a received message on one link to a data item value of a data element in a different message format for transmission on another link. This process is employed when some degree of data item value conversion by a forwarding unit is required. For example, data element conversion may alter the granularity, transform coordinates, or change velocity to course and speed. In some cases multiple data elements from one data link will relate to a single data element on another data link.

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D.4.2.2.3 SPECIAL CONSIDERATIONS

There are data elements for which equivalence and conversion do not apply, and these require special considerations, for example:

- a. Disregarding a data element that is not applicable to the message format that will be transmitted.
- b. Generating data elements not available in the received message but required for the format of the message to be transmitted.
- c. Retaining and recalling from the forwarding system's database information that is required by differing message formats on the varying links, e.g., data source.

D.4.3 GENERAL FORWARDING RULES

These forwarding rules are established to standardize data forwarding between VMF and Link 16:

- a. When data link networks are established, there shall be only one communication path in use at a time for data being forwarded to prevent communication loops. A communication path is a combination of digital data links and interconnecting nodes that provide a path for information exchange. Multiple Forwarding VMF Units (FVUs) may be employed for the purpose of providing communication paths between Link 16 and VMF. When multiple FVUs are simultaneously performing forwarding functions, those FVUs must be configured to reduce or eliminate transmission of redundant information (e.g., by setting FVU filters to constrain situational awareness entities to a specific geographic area that does not overlap with other FVUs).
- b. The FVU must be provided sufficient Link 16 time slots by the network manager so all required messages from VMF can be forwarded onto Link 16. Also, the FVU must be a participant on those Link 16 network participation groups for which messages are being forwarded. The FVU must be allocated sufficient Source Track Numbers (TNs) and Unit Reference Numbers

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(URNs) so it can assign TNs for data being forwarded onto Link 16 and URNs for data being forwarded to VMF.

c. The FVU shall be capable of forwarding all translatable messages from the VMF link onto Link 16 (see Table D.5.1.Kx). The FVU shall discard messages that cannot be forwarded.

d. The FVU shall be capable of forwarding all translatable messages from Link 16 onto the VMF link (see Table D.5.1.Jx). The FVU shall discard messages that cannot be forwarded.

e. The FVU shall use the same transmit rules to forward a translated message that it would use to transmit a locally originated message of the same type unless specified otherwise in this Appendix. The FVU shall resolve any differences in the transmit procedures of the various types of links that it interfaces with, as specified in section D.5.1. For example, a message may be transmitted N times at M-second intervals on Link 16 and the corresponding message may be transmitted only once on VMF. Therefore, the forwarder must have provisions for identifying and discarding the retransmission of the message from Link 16 when the FVU may need to transmit the corresponding message less frequently to VMF in order to avoid saturating the potentially lower bandwidth system. Conversely, the FVU must have provisions for identifying when to retransmit a previously received message from Link 16 to VMF. The message translation tables in Section D.5 specify forwarding transmit rules.

f. The FVU shall inhibit the forwarding of received data when:

(1) The data are addressed to a unit not currently held as an active interfacing unit as defined in paragraph D.4.4, except when re-establishing the active status of the Interface Unit (before receipt of data).

(2) The coordinated filter criteria for the appropriate data link prohibit forwarding the data.

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(3) A periodically updated message is superseded by a second message before the first message can be forwarded. The new data shall override the stale data and only the most current message shall be forwarded.

(4) The receiving data link is not authorized at the required classification levels to receive and process the data.

g. The FVU shall forward an addressed message only on the interfacing link upon which the message addressee is located. All other messages, including messages containing a collective address, shall be forwarded on all interfacing links except the link upon which the message was received.

h. The FVU shall extrapolate Link 16-originated positional data for real-time tracks and units to the time of transmission, except for space tracks.

i. Positions originated on VMF will not be extrapolated.

D.4.4 ACTIVE/INACTIVE STATUS

An FVU shall maintain the active status of each JTIDS Unit (JU) and each VMF Unit (VU). All VUs shall be considered active unless the FVU is provided a status change by an appropriate authority.

D.4.5 TACTICAL DATA LINK UNIQUE FORWARDING RULES

Due to the differing methods of identifying data source and positional information on the different data links, unique protocols are required for each link.

D.4.5.1 FORWARDING OF DATA ON LINK 16

When forwarding data from VMF to Link 16, the FVU shall identify the source of all data when known. This is done by setting the Track Number, Source in the Link 16 message/header to the TN that has been associated to the URN of

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the VMF unit whose data is being forwarded. If the URN of the source is not present within the VMF message and/or header, the FVU shall be the source.

D.4.5.2 FORWARDING OF DATA ON VMF

When forwarding data from Link 16 to VMF, the FVU shall identify the source of all data. This is done by setting the URN in the VMF message and/or header to the URN that has been associated to the Track Number, Source in the Link 16 message header.

D.4.6 DATA FORWARDING OF INFORMATION REQUIRING SPECIAL PROCESSING

Information that requires special processing shall not be forwarded to VMF as there is no way to properly identify the data requiring special processing.

D.4.7 PARTICIPANT LOCATION AND IDENTIFICATION DATA FORWARDING

Friendly units report their own positions on VMF and Link 16 as described in the following subparagraphs.

D.4.7.1 VMF POSITION AND IDENTIFICATION

VMF units use the K05.1 Position Report to promulgate their position and identity to other VMF participants. Each VMF participant is assigned a unique URN that is used to associate a given Position Report with a specific VMF unit. Position messages have no mandated periodicity.

D.4.7.2 LINK 16 PRECISE PARTICIPANT LOCATION AND IDENTIFICATION

Link 16 units use an appropriate Precise Participant Location and Identification (PPLI) message to promulgate their position and identity to other participants. Each participant is assigned a unique TN that is used to associate a given PPLI with a specific Link 16 unit (JU). PPLIs do have a mandated periodicity.

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D.4.7.3 TRACK NUMBER, SOURCE - UNIT REFERENCE NUMBER RELATIONSHIP

There is no established relationship between TNs and URNs and, as such, the FVU must establish and maintain the TN/URN mapping. The FVU shall retain the TN to URN and URN to TN mapping and utilize it when performing subsequent forwarding of PPLIs/Position Reports received from an established source.

D.4.8 DATA FORWARDING MANAGEMENTD.4.8.1 SURVEILLANCE AND SITUATION AWARENESS DATA FORWARDING

The forwarding of surveillance/situation awareness messages between Link 16 and VMF is specified in the message translation tables in Section D.5. When originating and processing surveillance or situation awareness data and associated messages, the FVU shall abide by the associated protocols governing that processing for the given data link as specified within MIL-STD-6016 and MIL-STD-6017.

D.4.8.1.1 LINK 16 SURVEILLANCE DATA

Surveillance tracks are reported on Link 16 using the associated track message: air, surface, subsurface, land, or space. On Link 16, each track is assigned a unique TN that is used within the associated track message. Link 16 has specific rules associated with track management and reporting responsibility (R^2) that must be adhered to by a unit that is generating track messages.

D.4.8.1.2 VMF SITUATION AWARENESS DATA

VMF allows for the reporting of "entities" that can be viewed as pseudo-tracks. A single, globally understood entity ID reference numbering scheme will be used to uniquely identify entities, objects, or events on any VMF interface.

An Entity ID Reference Number (EIRN) will be generated by each system that promulgates an entity onto a communications net employing VMF. Two fields, URN and Entity ID Serial Number (EISN) (DFI/DUI 4046/004), comprise an EIRN.

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MIL-STD-6017 does not specify entity reporting rules. MIL-STD-6017 does not implement the concept of a track. Reporting responsibility, correlation, or conflict resolution procedures are not specified by MIL-STD-6017. Such rules, as exist, are defined by the implementing unit standard operating procedure (SOP), promulgating authority or host system specification.

D.4.8.1.3 TRACK NUMBER - ENTITY ID REFERENCE NUMBER RELATIONSHIP

There is no relationship between TNs and EIRNs, therefore, the FVU must establish and maintain the TN/EIRN mapping. The FVU shall retain the TN to EIRN and EIRN to TN mapping and utilize it for assigning TNs/EIRNs when performing subsequent forwarding of tracks/entities received from an established source. Where the EIRN is not used the forwarder will be unable to maintain TN/EIRN mapping.

D.4.8.2 FORWARDING ADDRESSED MESSAGES HAVING RECEIPT/COMPLIANCE

TBD.

D.4.8.3 ELECTRONIC WARFARE DATA FORWARDING

TBD.

D.4.8.4 FORWARDING SIMULATED DATA

The protocols for forwarding simulated data are as described in the following subparagraphs.

D.4.8.4.1 LINK 16 TO VMF

An FVU must retain the simulation status of all entities being forwarded from Link 16 to VMF in order to determine the proper setting of the Operation Indicator within the header. Simulated data shall be forwarded to VMF by setting the Operation Indicator to value 2 (simulation) within the application header.

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D.4.8.4.2 VMF TO LINK 16

An FVU must retain the simulation status of all entities being forwarded from VMF to Link 16 in order to determine the proper setting of the Link 16 Simulation Indicator. Simulated data are forwarded to Link 16 by setting the Simulation Indicator to value 1 (SI=1) in the Link 16 message.

D.4.8.4.3 FVU SIMULATION FILTER

FVUs shall have an operator selectable simulation transmit filter to inhibit the forwarding of simulated data between VMF and Link 16. This filter is required to prevent the transmission of simulated data to any link on which any unit is not capable of recognizing simulated data. Track Alert (Emergency or Force Tell Indicator = 1) shall not force simulated data through the simulation filter.

D.4.9 MESSAGE AND WORD NUMBERING CONVENTIONS

The following numbering conventions are defined to identify VMF messages and Link 16 messages and words.

D.4.9.1 VMFD.4.9.1.1 VMF MESSAGE LABELING SCHEME

Knn.m is the numbering convention for a variable message format where "nn" is the Functional Area Designator (FAD), and "m" is the message number. (Note: VMF message number value 0 is reserved for Network Control messages.) Therefore, Knn.1 is the first defined message of all currently defined messages within a functional area.

Table 5.9-1 in MIL-STD-6017 lists the VMF messages and their purposes under this labeling scheme.

D.4.9.2 LINK 16 (J-SERIES)

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D.4.9.2.1 MESSAGE

Jn.m is the numbering convention for a Link 16 message, i.e., a combination of one initial word and any legal combination of extension and continuation words, where n is the "Label, Link 16" field value ($0 \leq n \leq 31$) and m is the "Sublabel, Link 16" field value ($0 \leq m \leq 7$).

For example, J3.2 is the numbering convention for the Air Track message.

D.4.9.2.2 BASIC MESSAGE

Jn.mB is the numbering convention for a Link 16 Basic message, i.e., a combination of an initial word and all extension words that make up a minimum length message as defined in the Transmit and Receive (T/R) rules for the message.

For example, J3.2B is the numbering convention for the Air Track Basic message consisting of the J3.2I Air Track initial word and the J3.2E0 Air Track extension word.

D.4.9.2.3 INITIAL WORD

Jn.mI is the numbering convention for the Initial word for a Jn.m message.

For example, J3.2I is the numbering convention for the initial word for the J3.2 Air Track message.

D.4.9.2.4 EXTENSION WORD

Jn.mEx is the numbering convention for the Extension word x for the Jn.m message, where x is a decimal number from 0 through the limitation imposed by the Message Length Indicator (MLI) field.

For example, J3.2E0 is the numbering convention for the first extension word for the J3.2 Air Track message.

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D.4.9.2.5 CONTINUATION WORD

Jn.mCx is the numbering convention for the Continuation word x for the Jn.m message, where x is a decimal number from 1 through 31.

For example, J3.2C1 is the numbering convention for the first continuation word for the J3.2 Air Track message.

D.4.9.2.6 LINK 16 MESSAGE LABELING SCHEME

Table D.4.9-1 lists the Link 16 message titles under this labeling scheme.

Table D.4.9-1. Link 16 Messages (Sheet 1 of 3)

jn.m n	m	0	1	2	3	4	5	6	7
0 - NETWORK MANAGEMENT	INITIAL ENTRY	TEST	NETWORK TIME UPDATE	TIME SLOT ASSIGNMENT	RADIO RELAY CONTROL	REPROMULGATION RELAY	COMMUNICATIONS CONTROL	TIME SLOT REALLOCATION	
1 - NETWORK MANAGEMENT	CONNECTIVITY INTERROGATION	CONNECTIVITY STATUS	ROUTE ESTABLISHMENT	ACKNOWLEDGEMENT	COMMUNICANT STATUS	NET CONTROL INITIALIZATION	NEEDLINE PARTICIPATION GROUP ASSIGNMENT		
2 - PRECISE PARTICIPANT LOCATION AND IDENTIFICATION	INDIRECT INTERFACE UNIT		AIR	SURFACE	SUBSURFACE	LAND POINT	LAND TRACK		
3 - SURVEILLANCE	REFERENCE POINT	EMERGENCY POINT	AIR TRACK	SURFACE TRACK	SUBSURFACE TRACK	LAND POINT/TRACK	SPACE TRACK	ELECTRONIC WARFARE PRODUCT INFORMATION	
4 - UNUSED									
5 - ASW					ACOUSTIC BEARING/RANGE				
6 - AMPLIFICATION	AMPLIFICATION INFORMATION								
7 - INFORMATION MANAGEMENT	TRACK MANAGEMENT	DATA UPDATE REQUEST	CORRELATION	POINTER	TRACK IDENTIFIER	IFF/SIF MANAGEMENT		ASSOCIATION	
8 - INFORMATION MANAGEMENT	UNIT DESIGNATOR	MISSION CORRELATOR CHANGE							
9 - WEAPONS COORDINATION AND MANAGEMENT	COMMAND	ENGAGEMENT COORDINATION							
10 - WEAPONS COORDINATION AND MANAGEMENT			ENGAGEMENT STATUS	HANOVER		CONTROLLING UNIT REPORT	PAIRING		
11 - UNUSED									
12 - CONTROL	MISSION ASSIGNMENT	VECTOR	PRECISION AIRCRAFT DIRECTION	FLIGHT PATH	CONTROLLING UNIT CHANGE	TARGET/TRACK CORRELATION	TARGET SORTING	TARGET BEARING	
13 - PLATFORM AND SYSTEM STATUS	AIRFIELD		AIR	SURFACE	SUBSURFACE	LAND			
14 - ELECTRONIC WARFARE	PARAMETRIC INFORMATION		EW CONTROL COORDINATION						
15 - THREAT WARNING	THREAT WARNING								
16 - MISSION SUPPORT	IMAGE TRANSFER	ROUTE CHANGE							

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Table D.4.9-1. Link 16 Messages (Sheet 2 of 3)

jn.m n	m	0	1	2	3	4	5	6	7
17 - MISCELLANEOUS	WEATHER OVER TARGET								
18-26 - UNUSED									
27 - NATIONAL USE		(0)-JP NATIONAL 1 (1)-SZ NATIONAL 1 (2)-TU NATIONAL 1 (ARMY) (3)-TU NATIONAL 2 (NAVY) (4)-TU NATIONAL 3 (AIR FORCE) (5)-PL NATIONAL 1 (ARMY) (6)-PL NATIONAL 2 (ARMY) (7)-PL NATIONAL 3 (NAVY) (8)-PL NATIONAL 4 (NAVY) (9)-PL NATIONAL 5 (AIR FORCE) (10)-PL NATIONAL 6 (AIR FORCE) (11)-FIN NATIONAL 1 (12)-GRC NATIONAL 1 (13)-GRC NATIONAL 2 (14)-GRC NATIONAL 3 . . (31)-UNDEFINED							
28 - NATIONAL USE	U.S. NATIONAL 1 (ARMY)	U.S. NATIONAL 2 (NAVY)	U.S. NATIONAL 3 (AIR FORCE)	U.S. NATIONAL 4 (MARINE CORPS)	FR NATIONAL 1	FR NATIONAL 2	U.S. NATIONAL 5 (NSA)	UK NATIONAL 1	
29 - NATIONAL USE	RESERVED	TARGETING INFORMATION	UK NATIONAL 3	SP NATIONAL 1	SP NATIONAL 2	CA NATIONAL		AU NATIONAL	
30 - NATIONAL USE	GE NATIONAL AIR FORCE	GE NATIONAL 2	IT NATIONAL 1	IT NATIONAL 2	IT NATIONAL 3	FR NATIONAL 3 (ARMY)	FR NATIONAL 4 (AIR FORCE)	FR NATIONAL 5 (NAVY)	

Table D.4.9-1. Link 16 Messages (Sheet 3 of 3)

jn.m n	m	0	1	2	3	4	5	6	7
31 - MISCELLANEOUS	OVER-THE-AIR REKEYING MANAGEMENT	OVER-THE-AIR REKEYING							NO STATEMENT
RTT - ROUND-TRIP-TIMING	RTT INTERROGATION ADDRESSED	RTT INTERROGATION BROADCAST	RTT REPLY						

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D.5 DETAILED REQUIREMENTS

D.5.1 MESSAGE TRANSLATION REQUIREMENTS

D.5.1.1 GENERAL

This section identifies the message translation requirements that FVUs shall satisfy. This includes an evaluation of messages or message sequences, message contents, link protocols, and message exchange rules. Message translations are provided for each translatable message or message sequence.

D.5.1.2 DETAILED DESCRIPTION OF CONTENTS

This section contains message translations that depict actions required by the FVU for forwarding on one data link due to a particular message being received on another link. These translations are presented as follows: (1) Message forwarding requirements for each Link 16 message or message sequence to a VMF message or message sequence and (2) Message forwarding requirements for each VMF message or message sequence to a Link 16 message or message sequence. For each message translation the following sets of information are provided:

a. Message Translation Trees:

- (1) Test node diagrams.
- (2) Test node conditions.
- (3) Required actions.
- (4) Notes.

b. Related Messages.

c. Forwarding Transmit Requirements.

d. Data Retention Rules.

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D.5.1.2.1 MESSAGE TRANSLATION TREES

A message translation tree is a logical set of conditions depicting how a received message or message sequence is to be tested to determine the appropriate translation and action to be taken. This logic is not intended to direct system design. But the end result, however accomplished, shall be in consonance with required actions depicted in the translation tree. The title at the top of each message translation tree identifies the input message or message sequence for which the tree applies. See Table D.5.1-Jx, J Series to VMF Message Translation Tree.

D.5.1.2.1.1 BASIC TRANSLATION CRITERIA

The inputs to a message translation tree are messages received from either VMF or data links that satisfy certain basic criteria. These criteria include such considerations as filters, reporting responsibility determination, and data source determination.

D.5.1.2.1.2 TEST NODE DIAGRAM AND CONDITIONS

The test node diagram, with conditions, represents binary conditions that must be considered to translate a message. Test nodes that are the same and that appear at different places in the tree are identified by the same test node number and, when possible, appear on the same line. Thus, processing through the test nodes of a test node diagram provides a unique branch that leads to a set of required actions.

D.5.1.2.1.3 REQUIRED ACTIONS

The required actions accomplish several functions while collectively identifying all possible options for a given translation. A forwarder shall process the complete received message or message sequence in accordance with the appropriate translation tree, prior to taking any forwarding action. This process will eliminate the possibility of the forwarder originating unnecessary duplicate messages as each 'Required Action' of the Test Node Diagram is being considered.

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When the required action is to forward from one link to another, the abbreviation FWD is used. When the required action is to transmit on to the received link, the phrase "SET INDICATOR TO TRANSMIT ..." is used. When a required action results in a message being generated, the FVU shall perform the required data element translation described in Section D.5.2.

D.5.1.2.1.4 NOTES

The notes provide additional information or clarification about a test node condition and/or required action.

D.5.1.2.2 RELATED MESSAGES

The related message section provides all the message(s) that can be transmitted as a result of the receipt of a message or message sequence from the other link.

D.5.1.2.3 FORWARDING TRANSMIT REQUIREMENTS

The forwarding transmit requirements for messages generated as a result of required actions must comply with the protocols of Link 16 or VMF as appropriate.

D.5.1.2.4 DATA RETENTION RULES

The data retention rules pertain to the data forwarding function of an FVU and identify data that must be maintained for proper data transfer over multi-data link interfaces. Upon completion of all data forwarding functions associated with receipt of the listed message, including receipt/compliance and redundant transmissions, data may be purged when data retention rules are not specified. Message specific retention rules are specified in Section D.5.1 after the Notes and Forwarding Transmit Requirements. General retention rules and minimum retention times for periodically transmitted messages are specified in the following paragraphs.

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D.5.1.2.4.1 GENERAL RETENTION RULES

The following general retention rules apply to all messages:

- a. An FVU shall retain the TN of all inactive JUs for whom data are normally forwarded.
- b. An FVU may purge all data on a track or point upon receipt of a drop track report on that track or point from the R² unit.
- c. When a unit for whom the FVU has been forwarding data is no longer an active source, the FVU may purge all data previously received from that unit.
- d. The FVU shall retain data for all tracks/points/entities, which it forwards, that meet the update requirements defined in Paragraph D.5.1.2.4.2.

D.5.1.2.4.2 MINIMUM RETENTION TIMESD.5.1.2.4.2.1 LINK 16 DATA

The FVU may purge all Link 16 data on periodically updated tracks/points/messages after the following minimum retention times.

- a. If a Link 16 positional update/test message/PPLI has not been received from a JU for 60 seconds.
- b. If a Link 16 real-time Air track has not been updated within 60 seconds.
- c. If a Link 16 real-time Land, Surface, or Subsurface track has not been updated within 90 seconds.
- d. If a Link 16 real-time Space track has not been updated within the predicted impact time.

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e. If a Link 16 non-real-time Air track has not been updated within 150 seconds.

f. If a Link 16 non-real-time Land, Surface, or Subsurface track has not been updated within 360 seconds.

g. If a Link 16 Emergency point has not been updated within 60 seconds.

The FVU shall maintain the original reference number mapping (e.g., URN to STN or TN to EIRN) for the purged entity/track until directed to remove it by an appropriate authority. This should prevent the generation of a new reference number on the receiving link should the entity/track reappear on the forwarded link.

D.5.1.2.4.2.2 VMF DATA

The FVU may purge all VMF data on periodically updated tracks/points/messages after the following minimum retention times.

a. If a VMF reported entity (not a Position Report) from an active VU has not been updated within 360 seconds.

b. If a VMF Position Report from a VU not under Emission Control (EMCON) conditions has not been updated within 60 minutes (3600 seconds).

c. If a VMF Position Report from a VU who has notified the network it is under EMCON conditions has not been updated for 4 hours (14400 seconds).

The FVU shall maintain the original reference number mapping (e.g., URN to STN or TN to EIRN) for the purged entity/track until directed to remove it by an appropriate authority. This should prevent the generation of a new reference number on the receiving link should the entity/track reappear on the forwarded link.

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D.5.1.3 TECHNICALLY ILLEGAL/INVALID MESSAGE/MESSAGE SEQUENCE DETERMINATION

The FVU shall perform preliminary checks on all received messages for both validity and legality as defined by MIL-STD-6016. For VMF the preliminary checks are performed by the message originator (e.g, FVU or VU) IAW MIL-STD-6017.

TABLE D.5.1-Jx. J Series to VMF Message Translation Tree

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. RECEIVED MESSAGE IS NOT A J2.0, J2.2, J2.3, J2.4, J2.5, J2.6, J3.1, J3.2, J3.3, J3.5, J13.2, J13.3, OR J28.2(0).	
REQUIRED ACTION		
A B Z	A. DISCARD MESSAGE. B. GO TO APPROPRIATE MESSAGE TRANSLATION TREE. Z. END TRANSLATION.	1

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TABLE D.5.1-J2.0, J2.0 to K05.1 Message Translation Tree (Sheet 1 of 3)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. RECEIVED J2.0 HEADER TN SOURCE = 00000, 00077, 000176, 00177, OR 07777.	
		REQUIRED ACTION
A B Z Z	A. DISCARD MESSAGE. B. FWD K05.1 MESSAGE. Z. END TRANSLATION.	

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TABLE D.5.1-J2.0. J2.0 to K05.1 Message Translation Tree (Sheet 2 of 3)

RELATED MESSAGES

<u>RECEIVED LINK 16 MESSAGE</u>	<u>ALL POSSIBLE VMF MESSAGES THAT MAY BE REQUIRED</u>
J2.0	K05.1

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TABLE D.5.1-J2.0. J2.0 to K05.1 Message Translation Tree (Sheet 3 of 3)

FORWARDING TRANSMIT REQUIREMENTS

A K05.1 message shall be transmitted once for each J2.0 message received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

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TABLE D.5.1-J2.2/J13.2. J2.2/J13.2 to K05.1 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. RECEIVED J2.2 HEADER TN SOURCE = 00000, 00077, 00176, 00177, OR 07777. 2. NO J13.2 MESSAGE RECEIVED OR RECEIVED J13.2 TN REFERENCE MATCHES J2.2 HEADER TN SOURCE.	1
		REQUIRED ACTION
A B B Z Z Z	A. DISCARD MESSAGE B. FWD K05.1 MESSAGE. C. DISCARD J13.2 MESSAGE. Z. END TRANSLATION	

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TABLE D.5.1-J2.2/J13.2. J2.2/J13.2 to VMF Message Translation Tree
(Sheet 2 of 4)

NOTES

1. Receipt of the J13.2 is only necessary to provide air specific type information. If no J13.2 message has been received, forward the K05.1 message with air platform translated as required.

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TABLE D.5.1-J2.2/J13.2. J2.2/J13.2 to VMF Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 16 MESSAGE</u>	<u>ALL POSSIBLE VMF MESSAGES THAT MAY BE REQUIRED</u>
J2.2	K05.1
J13.2	

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TABLE D.5.1-J2.2/J13.2. J2.2/J13.2 to VMF Message Translation Tree
(Sheet 4 of 4)

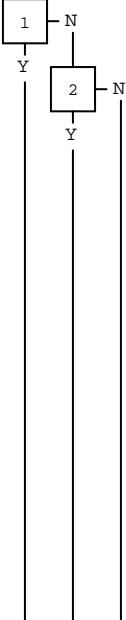
FORWARDING TRANSMIT REQUIREMENTS

A K05.1 message shall be transmitted once for each J2.2 message received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE D.5.1-J2.3/J13.3. J2.3/J13.3 to K05.1 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ul style="list-style-type: none"> 1. RECEIVED J2.3 HEADER TN SOURCE = 00000, 00077, 00176, 00177, OR 07777. 2. NO J13.3 MESSAGE RECEIVED OR RECEIVED J13.3 TN REFERENCE MATCHES J2.3 HEADER TN SOURCE. 	1
REQUIRED ACTION		
A B B C Z Z Z		<ul style="list-style-type: none"> A. DISCARD MESSAGE B. FWD K05.1 MESSAGE. C. DISCARD J13.3 MESSAGE. Z. END TRANSLATION

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TABLE D.5.1-J2.3/J13.3. J2.3/J13.3 to K05.1 Message Translation Tree
(Sheet 2 of 4)

NOTES

1. Receipt of the J13.3 is only necessary to provide Surface Specific Type information. If no J13.3 message has been received, forward the K05.1 message with Surface Platform translated as required.

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TABLE D.5.1-J2.3/J13.3. J2.3/J13.3 to K05.1 Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 16 MESSAGE</u>	<u>ALL POSSIBLE VMF MESSAGES THAT MAY BE REQUIRED</u>
J2.3	K05.1
J13.3	

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TABLE D.5.1-J2.3/J13.3. J2.3/J13.3 to K05.1 Message Translation Tree
(Sheet 4 of 4)

FORWARDING TRANSMIT REQUIREMENTS

A K05.1 message shall be transmitted once for each J2.3 message received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE D.5.1-J2.4/J13.4. J2.4/J13.4 to K05.1 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ul style="list-style-type: none"> 1. RECEIVED J2.4 HEADER TN SOURCE = 00000, 00077, 00176, 00177, OR 07777. 2. NO J13.4 MESSAGE RECEIVED OR RECEIVED J13.4 TN REFERENCE MATCHES J2.4 HEADER TN SOURCE. 	1
REQUIRED ACTION		
A B B C Z Z Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE B. FWD K05.1 MESSAGE. C. DISCARD J13.4 MESSAGE. Z. END TRANSLATION 	

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TABLE D.5.1-J2.4/J13.4. J2.4/J13.4 to K05.1 Message Translation Tree
(Sheet 2 of 4)

NOTES

1. Receipt of the J13.4 is only necessary to provide Subsurface Specific Type information. If no J13.4 message has been received, forward the K05.1 message with Subsurface Platform translated as required.

APPENDIX D

TABLE D.5.1-J2.4/J13.4. J2.4/J13.4 to K05.1 Message Translation Tree
(Sheet 3 of 4)

RELATED MESSAGES

<u>RECEIVED LINK 16 MESSAGE</u>	<u>ALL POSSIBLE VMF MESSAGES THAT MAY BE REQUIRED</u>
J2.4	K05.1
J13.4	

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TABLE D.5.1-J2.4/J13.4. J2.4/J13.4 to K05.1 Message Translation Tree
(Sheet 4 of 4)

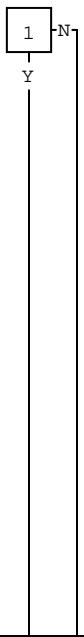
FORWARDING TRANSMIT REQUIREMENTS

A K05.1 message shall be transmitted once for each J2.4 message received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE D.5.1-J2.5 J2.5 to K05.1 Message Translation Tree (Sheet 1 of 3)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. RECEIVED J2.5 HEADER TN SOURCE = 00000, 00077, 000176, 00177, OR 07777.	
REQUIRED ACTION		
A B Z Z	A. DISCARD MESSAGE. B. FWD K05.1 MESSAGE. Z. END TRANSLATION.	

APPENDIX D

TABLE D.5.1-J2.5. J2.5 to K05.1 Message Translation Tree (Sheet 2 of 3)

RELATED MESSAGES

RECEIVED LINK 16
MESSAGE

J2.5

ALL POSSIBLE VMF MESSAGES
THAT MAY BE REQUIRED

K05.1

APPENDIX D

TABLE D.5.1-J2.5. J2.5 to K05.1 Message Translation Tree (Sheet 3 of 3)

FORWARDING TRANSMIT REQUIREMENTS

A K05.1 message shall be transmitted once for each J2.5 message received.

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

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TABLE D.5.1-J2.6. J2.6 to K05.1 Message Translation Tree (Sheet 1 of 3)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. RECEIVED J2.6 HEADER TN SOURCE = 00000, 00077, 000176, 00177, OR 07777.	
		REQUIRED ACTION
A B Z Z	A. DISCARD MESSAGE. B. FWD K05.1 MESSAGE. Z. END TRANSLATION.	

APPENDIX D

TABLE D.5.1-J2.6. J2.6 to K05.1 Message Translation Tree (Sheet 2 of 3)

RELATED MESSAGES

<u>RECEIVED LINK 16 MESSAGE</u>	<u>ALL POSSIBLE VMF MESSAGES THAT MAY BE REQUIRED</u>
J2.6	K05.1

APPENDIX D

TABLE D.5.1-J2.6. J2.6 to K05.1 Message Translation Tree (Sheet 3 of 3)

FORWARDING TRANSMIT REQUIREMENTS

A K05.1 message shall be transmitted once for each J2.6 message received.

DATA RETENTION RULES

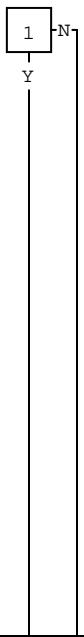
There are no Data Retention Rules associated with this message translation.

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TABLE D.5.1-J3.1. J3.1 to VMF Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. TN REFERENCE = 00000, 00077, 00176, 00177, OR 07777.	
REQUIRED ACTION		
A B Z Z	A. DISCARD MESSAGE. B. FWD K03.6 MESSAGE. Z. END TRANSLATION.	

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TABLE D.5.1-J3.1. J3.1 to VMF Message Translation Table (Sheet 2 of 4)

RELATED MESSAGES

<u>RECEIVED Link 16 MESSAGE</u>	<u>ALL POSSIBLE VMF MESSAGES THAT MAY BE REQUIRED</u>
J3.1	K03.6

APPENDIX D

TABLE D.5.1-J3.1. J3.1 to VMF Message Translation Table (Sheet 3 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. A K03.6 shall be transmitted once for each J3.1 received.

APPENDIX D

TABLE D.5.1-J3.1 J3.1 to VMF Message Translation Table (Sheet 4 of 4)

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE D.5.1-J3.2. J3.2 to VMF Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. RECEIVED MESSAGE TN, REFERENCE = 00000, 00077, 00176, 00177, OR 07777.	
REQUIRED ACTION		
A B Z Z	A. DISCARD MESSAGE. B. FWD K04.1 MESSAGE. Z. END TRANSLATION.	

APPENDIX D

TABLE D.5.1-J3.2. J3.2 to VMF Message Translation Tree (Sheet 2 of 4)

RELATED MESSAGES

RECEIVED LINK 16

ALL POSSIBLE VMF MESSAGES

MESSAGE

THAT MAY BE REQUIRED

J3.2

K04.1

APPENDIX D

TABLE D.5.1-J3.2. J3.2 to VMF Message Translation Tree (Sheet 3 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. The FVU shall transmit one K04.1 message for each J3.2 message received.
2. When a drop track message is received the FVU shall ensure that the last received message is forwarded and then cease forwarding the data.

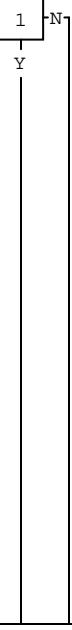
APPENDIX D

TABLE D.5.1-J3.2. J3.2 to VMF Message Translation Tree (Sheet 4 of 4)

DATA RETENTION RULES

1. The FVU may purge all Link 16 data on periodically updated tracks/messages if a Link 16 real-time Air track has not been updated within 36 seconds.
2. The FVU may purge all Link 16 data on periodically updated tracks/messages if a Link 16 non-real-time Air track has not been updated within 150 seconds.

TABLE D.5.1-J3.3. J3.3 to VMF Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<p>1. RECEIVED MESSAGE TN, REFERENCE = 00000, 00077, 00176, 00177, OR 07777.</p>	
TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
<p>A B Z Z</p>	<p>REQUIRED ACTION</p> <p>A. DISCARD MESSAGE. B. FWD K04.1 MESSAGE. Z. END TRANSLATION.</p>	

APPENDIX D

TABLE D.5.1-J3.3. J3.3 to VMF Message Translation Tree (Sheet 2 of 4)

RELATED MESSAGES

RECEIVED LINK 16

MESSAGE

J3.3

ALL POSSIBLE VMF MESSAGES

THAT MAY BE REQUIRED

K04.1

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TABLE D.5.1-J3.3. J3.3 to VMF Message Translation Tree (Sheet 3 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. The FVU shall transmit one K04.1 message for each J3.3 message received.
2. When a drop track message is received the FVU shall ensure that the last received message is forwarded and then cease forwarding the data.

APPENDIX D

TABLE D.5.1-J3.3. J3.3 to VMF Message Translation Tree (Sheet 4 of 4)

DATA RETENTION RULES

1. The FVU may purge all Link 16 data on periodically updated tracks/messages if a Link 16 real-time Surface track has not been updated within 90 seconds.
2. The FVU may purge all Link 16 data on periodically updated tracks/messages if a Link 16 non-real-time Surface track has not been updated within 360 seconds.

TABLE D.5.1-J3.4. J3.4 to VMF Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. RECEIVED MESSAGE TN, REFERENCE = 00000, 00077, 00176, 00177, OR 07777.	
	REQUIRED ACTION	
A B Z Z	A. DISCARD MESSAGE. B. FWD K04.1 MESSAGE. Z. END TRANSLATION.	

APPENDIX D

TABLE D.5.1-J3.4. J3.4 to VMF Message Translation Tree (Sheet 2 of 4)

RELATED MESSAGES

RECEIVED LINK 16

MESSAGE

J3.4

ALL POSSIBLE VMF MESSAGES

THAT MAY BE REQUIRED

K04.1

APPENDIX D

TABLE D.5.1-J3.4. J3.4 to VMF Message Translation Tree (Sheet 3 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. The FVU shall transmit one K04.1 message for each J3.4 message received.
2. When a drop track message is received the FVU shall ensure that the last received message is forwarded and then cease forwarding the data.

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TABLE D.5.1-J3.4. J3.4 to VMF Message Translation Tree (Sheet 4 of 4)

DATA RETENTION RULES

1. The FVU may purge all Link 16 data on periodically updated tracks/messages if a Link 16 real-time Subsurface track has not been updated within 90 seconds.
2. The FVU may purge all Link 16 data on periodically updated tracks/messages if a Link 16 non-real-time Subsurface track has not been updated within 360 seconds.

TABLE D.5.1-J3.5. J3.5 to VMF Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. RECEIVED MESSAGE TN, REFERENCE = 00000, 00077, 00176, 00177, OR 07777.	
	REQUIRED ACTION	
A B Z Z	A. DISCARD MESSAGE. B. FWD K04.1 MESSAGE. Z. END TRANSLATION.	

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TABLE D.5.1-J3.5. J3.5 to VMF Message Translation Tree (Sheet 2 of 4)

RELATED MESSAGES

RECEIVED LINK 16

MESSAGE

J3.5

ALL POSSIBLE VMF MESSAGES

THAT MAY BE REQUIRED

K04.1

APPENDIX D

TABLE D.5.1-J3.5. J3.5 to VMF Message Translation Tree (Sheet 3 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. The FVU shall transmit one K04.1 message for each J3.5 message received.
2. When a drop track message is received the FVU shall ensure that the last received message is forwarded and then cease forwarding the data.

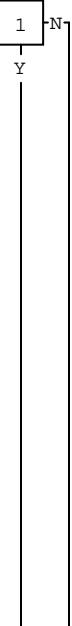
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TABLE D.5.1-J3.5. J3.5 to VMF Message Translation Tree (Sheet 4 of 4)

DATA RETENTION RULES

1. The FVU may purge all Link 16 data on periodically updated tracks/messages if a Link 16 real-time Land track has not been updated within 90 seconds.
2. The FVU may purge all Link 16 data on periodically updated tracks/messages if a Link 16 non-real-time Land track has not been updated within 360 seconds.

TABLE D.5.1-J28.2(0). J28.2(0) to VMF Message Translation Tree (Sheet 1 of 5)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. ADDRESSEE IS 177 OR NOT AN ACTIVE VU FOR WHOM DATA ARE BEING FORWARDED BY THIS FVU.	
	REQUIRED ACTION	
A B Z Z	A. DISCARD MESSAGE. B. K01.1 MESSAGE. Z. END TRANSLATION.	1

APPENDIX D

TABLE D.5.1-J28.2(0). J28.2(0) to VMF Message Translation Table (Sheet 2 of 5)

NOTES

1. The text report is complete when Message Number = Message Count or 96 seconds have elapsed since the last J28.2(0) Text message in the sequence was received. The K01.1 message shall not be forwarded until the text report is complete.

APPENDIX D

TABLE D.5.1-J28.2(0). J28.2(0) to VMF Message Translation Table
(Sheet 3 of 5)

RELATED MESSAGES

<u>RECEIVED Link 16 MESSAGE</u>	<u>ALL POSSIBLE VMF MESSAGES THAT MAY BE REQUIRED</u>
J28.2(0)	K01.1

APPENDIX D

TABLE D.5.1-J28.2(0). J28.2(0) to VMF Message Translation Table
(Sheet 4 of 5)

FORWARDING TRANSMIT REQUIREMENTS

1. FVU shall transmit one K01.1 message for up to 21 concatenated J28.2(0) messages or end of the last J28.2(0) if less than 21 messages are received.
2. If a series of greater than 21 concatenated J28.2(0) messages contain a single text report (as defined in MIL-STD-6016) then the subject field of every K01.1 message required to forward the data shall contain the "Message Number (DFI/DUI 800/002) 'to' Message Number (DFI/DUI 800/002)" contained in that K01.1 message and the total Message Count (DFI/DUI 800/003):
Example "1-21 of 100"
3. The forwarder shall forward the data in ascending Message Number (DFI/DUI 800/002) order.
4. The received J28.2 data shall be placed in each K01.1 message in the order it was received according to its set of Message Numbers, except as follows. The character value 94 Caret (^) shall be used as a fill character for all missing characters corresponding to J28.2(0) Text messages in the sequence that they should have been received but were not. The number of missing characters per J28.2(0) Text message shall be determined from the format of the first J28.2(0) Text message received in the report, i.e., if the format was J28.2(0) I/E0/E0, then 24 Carets (^) shall be inserted in the K01.1 Free Text message for each missing J28.2(0) Text message; if the format was J28.2(0) I/E0/E0/E0/E0, then 57 Carets (^) shall be inserted in the K01.1 Free Text message for each missing J28.2(0) Text.

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TABLE D.5.1-J28.2(0). J28.2(0) to VMF Message Translation Table
(Sheet 5 of 5)

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

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TABLE D.5.1-Kx. K Series to Link 16 Message Translation Tree (Sheet 1 of 2)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ul style="list-style-type: none"> 1. RECEIVED MESSAGE IS NOT A K01.1, K03.6, K04.1, OR K05.1. 	
REQUIRED ACTION		
A B Z	<ul style="list-style-type: none"> A. DISCARD MESSAGE. B. GO TO APPROPRIATE MESSAGE TRANSLATION TREE. Z. END TRANSLATION. 	1

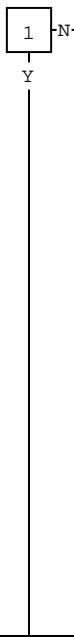
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TABLE D.5.1-Kx. K Series to Link 16 Message Translation Tree (Sheet 2 of 2)

NOTES

1. Some Message Translation Trees remain TBD.

TABLE D.5.1-K01.1. K01.1 to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. HEADER OPERATIONS INDICATOR = 3 (TEST); OR THE GPI FOR G2 = 1 AND NONE OF THE URNS ARE AN ADDRESS FOR WHOM DATA IS BEING FORWARDED BY THIS FVU.	
REQUIRED ACTION		
A B Z Z	A. DISCARD MESSAGE. B. FWD J28.2(0) MESSAGE. Z. END TRANSLATION.	

APPENDIX D

TABLE D.5.1-K01.1. K01.1 to Link 16 Message Translation Table (Sheet 2 of 4)

RELATED MESSAGES

<u>RECEIVED VMF MESSAGE</u>	<u>ALL POSSIBLE LINK 16 MESSAGES THAT MAY BE REQUIRED</u>
K01.1	J28.2(0)

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TABLE D.5.1-K01.1. K01.1 to Link 16 Message Translation Table (Sheet 3 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. FVU shall transmit up to twenty-one J28.2(0) messages for every K01.1 message received.

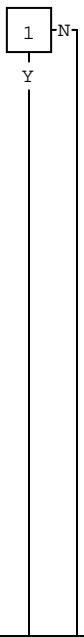
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TABLE D.5.1-K01.1. K01.1 to Link 16 Message Translation Table (Sheet 4 of 4)

DATA RETENTION RULES

There are no Data Retention Rules associated with this message translation.

TABLE D.5.1-K03.6. K03.6 to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. APPLICATION HEADER MS 2045-47001 OPERATION INDICATOR = 3 (TEST).	
REQUIRED ACTION		
A B Z Z		A. DISCARD MESSAGE. B. FWD J3.1 MESSAGE. Z. END TRANSLATION.

APPENDIX D

TABLE D5.1-K03.6. K03.6 to Link 16 Message Translation Table (Sheet 2 of 4)

RELATED MESSAGES

<u>RECEIVED VMF MESSAGE</u>	<u>ALL POSSIBLE LINK 16 MESSAGES THAT MAY BE REQUIRED</u>
K03.6	J3.1

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TABLE D.5.1-K03.6. K03.6 to Link 16 Message Translation Table (Sheet 3 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. A J3.1 message shall be transmitted once every 12 seconds for 10 minutes for each K03.6 received.

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TABLE D.5.1-K03.6. K03.6 to Link 16 Message Translation Table (Sheet 4 of 4)

DATA RETENTION RULES

1. The FVU shall retain all May Day data forwarded onto Link 16, for 10 minutes.

TABLE D.5.1-K04.1. K04.1 to Link 16 Message Translation Tree (Sheet 1 of 4)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	<ul style="list-style-type: none"> 1. OPERATION INDICATOR FIELD IN HEADER = "TEST". 2. DEMENSION = 1 - AIR, 18 - INTELLIGENCE AIR. 3. DIMENSION = 8 - SEA SURFACE, 20 - INTELLIGENCE, SEA SURFACE. 4. DIMENSION = 9 - SEA SUBSURFACE, 21 - INTELLIGENCE, SEA SUBSURFACE. 5. DIMENSION = 2, 3, 4, 5, 6, 7, 19. 6. GPI FOR G2 ENTITY LOCATION = 1. 7. GRI FOR R2 = 0. 8. GRI FOR R1 = 0. 	
		<p>REQUIRED ACTION</p> <ul style="list-style-type: none"> A. DISCARD MESSAGE. B. FWD J3.2 MESSAGE. C. FWD J3.3 MESSAGE. D. FWD J3.4 MESSAGE E. FWD J3.5 MESSAGE. F. RETURN TO TEST NODE 6. G. RETURN TO TEST NODE 2. Z. END TRANSLATION.

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TABLE D.5.1-K04.1. K04.1 to Link 16 Message Translation Tree (Sheet 2 of 4)

RELATED MESSAGES

<u>RECEIVED VMF</u>	<u>ALL POSSIBLE LINK 16 MESSAGES</u>
<u>MESSAGE</u>	<u>THAT MAY BE REQUIRED</u>
K04.1	J3.2
	J3.3
	J3.4
	J3.5

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TABLE D.5.1-K04.1. K04.1 to Link 16 Message Translation Tree (Sheet 3 of 4)

FORWARDING TRANSMIT REQUIREMENTS

1. The FVU shall transmit one J3.X message for each R1 and R2 within the received K04.1 message.

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TABLE D.5.1-K04.1. K04.1 to Link 16 Message Translation Tree (Sheet 4 of 4)

DATA RETENTION RULES

1. The FVU may purge all VMF data on periodically updated tracks/messages if a VMF reported entity has not been updated within 360 seconds.

TABLE D.5.1-K05.1. K05.1 to Link 16 Message Translation Tree (Sheet 1 of 3)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. RECEIVED K05.1 WITH GRI FOR R1 = 1.	
REQUIRED ACTION		
A A B Z Z		A. FWD J2.0 MESSAGE. B. RETURN TO TEST NODE 1. Z. END TRANSLATION.

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TABLE D.5.1-K05.1. K05.1 to Link 16 Message Translation Tree (Sheet 2 of 3)

RELATED MESSAGES

<u>RECEIVED VMF MESSAGE</u>	<u>ALL POSSIBLE LINK 16 MESSAGES THAT MAY BE REQUIRED</u>
K05.1	J2.0

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TABLE D.5.1-K05.1. K05.1 to Link 16 Message Translation Tree (Sheet 3 of 3)

FORWARDING TRANSMIT REQUIREMENTS

1. A J2.0 message shall be transmitted once every 12 seconds for 10 minutes for each K05.1 message received with an environment of Air, Surface, or Subsurface.
2. A J2.0 message shall be transmitted once every 48 seconds for 10 minutes for each K05.1 message received with an environment of Land.

DATA RETENTION RULES

The FVU shall retain for 10 minutes K05.1 data for each J2.0 message forwarded onto Link 16.

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D.5.2 DATA ELEMENT TRANSLATIOND.5.2.1 GENERAL

This section provides the data element translations between VMF (K-Series) and Link 16 (J-Series) messages as required by the message translation process in Section D.5.1. The data element translations depict actions required to generate a message for transmission on a data link based on information received on another data link. Information in this section is presented in tabular form according to the message being generated.

Translations are made by reading from the right side of the table to the left side of the table.

D.5.2.2 DETAILED DESCRIPTION OF CONTENTS

Messages that can be forwarded are depicted by data element translation tables. Tables with the VMF data element translation (from Link 16) are presented first, followed by those with the J-Series data element translation (from VMF).

D.5.2.2.1 DATA ELEMENT TRANSLATION TABLES

These tables are a data element by data element depiction of the message to be generated with an indication of the source of the data to be used in the data element.

D.5.2.2.1.1 VMF DATA ELEMENT TRANSLATION TABLES

Data element translation tables for VMF are presented in the following format:

TABLE D.5.2-Kn.m. Kn.m Message Data Element Translation from Link 16

VMF					Link 16			
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES

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Where:

VMF MESSAGE = The VMF message being generated.

VMF INDEX NUMBER = Acts as a line number to display the numerical position of each field within the message as well as providing a visual representation of how fields within a message "lay out" based on the syntax and repeatability criteria required by presence and recurrence indicators, and repeat codes.

VMF DATA ELEMENT = List of all fields contained in the VMF message being generated.

VMF VALUE = Value of the data element being generated unless otherwise noted.

TRANSLATION REQUIRED = An indication of the translation activity that is required to determine the correct value of the data element.

LINK 16 WORD = Identifies the Link 16 word that contains the data element.

LINK 16 DATA ELEMENT = The data element in the identified Link 16 word.

Link 16 VALUE = Decimal value of the data element in the Link 16 message unless otherwise noted.

NOTES = Reference to amplifying information that must be taken into consideration to complete the data element translation process. A note number preceded by the letter "G" indicates a "General Note" that may be found in Section D.5.3. A note number with no prefix indicates a note that is specifically stated within the translation table.

D.5.2.2.1.2 LINK 16 DATA ELEMENT TRANSLATION TABLES

Data element translation tables for Link 16 are presented in the following format:

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TABLE D.5.2-Jn.m. Jn.m Message Data Element Translation from VMF

LINK 16				VMF					
WORD	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	NOTES	

Where:

LINK 16 WORD = The Link 16 word being generated.

LINK 16 DATA ELEMENT = List of all data elements contained in the Link 16 word being generated.

LINK 16 VALUE = Decimal value of the data element being generated unless otherwise noted.

TRANSLATION REQUIRED = An indication of the translation activity that is required to determine the correct value of the data element.

VMF MESSAGE = Identifies the VMF message or associated message header that contains the field.

VMF INDEX NUMBER = Acts as a line number to display the numerical position of each field within the message as well as providing a visual representation of how fields within a message "lay out" based on the syntax and repeatability criteria required by presence and recurrence indicators, and repeat codes.

VMF DATA ELEMENT = Identifies the VMF data element in the specified VMF message or associated message header.

VMF VALUE = Value of the data element in the VMF message unless otherwise noted.

NOTES = Reference to amplifying information that must be taken into consideration to complete the data element translation process. A note number preceded by the letter "G" indicates a "General Note" that may be

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found in Section D.5.3. A note number with no prefix indicates a note that is specifically stated within the translation table.

D.5.2.2.2 DATA ELEMENT TRANSLATION TABLE ENTRIES

Within the translation tables the following entries are used:

AT - As translated.

NA - Not available in the other message series.

RX - All valid values as received.

CR - Conversion is required.

AR - As required by the formats and protocols of the link on which the message will be transmitted.

= - Data element and bit field equivalence.

None - Conversion not applicable. Data element is not available in other message series.

D.5.2.3 DEFAULT CONDITIONS

When the message required for data element translation has not been received, the default condition will be No Statement, if defined, or the field shall be turned off (preceding FPI/GPI = 0) where applicable.

TABLE D.5.2-K. 2045-47001D CH1 Header Message Data Element Translation from Link 16 Header
(Sheet 1 of 4)

VMF					LINK 16				
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES	
APPLICATION HEADER MS 2045-47001D CH1	NA	VERSION	AR	NONE	NA	NA	NA		
	NA	FPI	AR	NONE	NA	NA	NA		
	NA	DATA COMPRESSION TYPE	AR	NONE	NA	NA	NA		
	NA	GPI [ORIGINATOR ADDRESS GROUP]	1	NONE	NA	NA	NA		
			1	NONE	NA	NA	NA		
			AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G1	
			0	NONE	NA	NA	NA		
	NA	GPI [RECIPIENT ADDRESS GROUP]	1	NONE	NA	NA	NA		
			AT	NONE	NA	NA	NA	3	
			1	NONE	NA	NA	NA		
			AT	CR	JX.YI	TN ADDRESSEE	RX	2, G1	
			0	NONE	NA	NA	NA		
	NA	GPI [INFORMATION ADDRESS GROUP]	0	NONE	NA	NA	NA		
	NA	FPI	AR	NONE	NA	NA	NA		
	NA	HEADER SIZE	AR	NONE	NA	NA	NA		
	NA	GPI [FUTURE USE 1]	0	NONE	NA	NA	NA		
	NA	GPI [FUTURE USE 2]	0	NONE	NA	NA	NA		
	NA	GPI [FUTURE USE 3]	0	NONE	NA	NA	NA		
	NA	GPI [FUTURE USE 4]	0	NONE	NA	NA	NA		
	NA	GPI [FUTURE USE 5]	0	NONE	NA	NA	NA		
	NA	GRI [MESSAGE HANDLING GROUP]	0	NONE	NA	NA	NA		
	NA	UMF	2	NONE	NA	NA	NA		
	NA	FPI	1	NONE	NA	NA	NA		
	NA	MESSAGE STANDARD VERSION	AR	NONE	NA	NA	NA		
	NA	GPI [VMF MESSAGE IDENTIFICATION GROUP]	1	NONE	NA	NA	NA		
			AT	CR	JX.YI	LABEL, J-SERIES	RX	1	
			AT	CR	JX.YI	SUB-LABEL, J-SERIES	RX	1	
			AR	NONE	NA	NA	NA	1	
			AR	NONE	NA	NA	NA	1	
	NA	FPI	0	NONE	NA	NA	NA		

TABLE D.5.2-K. 2045-47001D CH1 Header Message Data Element Translation from Link 16 Header
(Sheet 2 of 4)

VMF					LINK 16				
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES	
APPLICATION HEADER MS 2045-47001D CH1 (CON'T)	NA	FPI	AR	NONE	NA	NA	NA		
	NA	MESSAGE SIZE	AR	NONE	NA	NA	NA		
	NA	OPERATION INDICATOR	AT	CR	JX.YI	EXERCISE INDICATOR OR SIMULATION INDICATOR	RX	1	
	NA	RETRANSMIT INDICATOR	0	NONE	NA	NA	NA		
	NA	MESSAGE PRECEDENCE CODE	AR	NONE	NA	NA	NA		
	NA	SECURITY CLASSIFICATION	2	NONE	NA	NA	NA		
	NA	FPI	AR	NONE	NA	NA	NA		
	NA	FRI	AR	NONE	NA	NA	NA		
	NA	CONTROL/RELEASE MARKING	AR	NONE	NA	NA	NA		
	GPI [ORIGINATOR DTG]	YEAR	1	NONE	NA	NA	NA		
			AR	NONE	NA	NA	NA	G41	
			AR	NONE	NA	NA	NA	G41	
			AR	NONE	NA	NA	NA	G41	
			AR	NONE	NA	NA	NA	G41	
			AR	NONE	NA	NA	NA	G41	
			AR	NONE	NA	NA	NA	G41	
			AR	NONE	NA	NA	NA		
			AR	NONE	NA	NA	NA		
NA	GPI [PERISHABILITY DTG]		0	NONE	NA	NA	NA		
NA	GPI [ACKNOWLEDGMENT REQUEST GROUP]	MACHINE ACKNOWLEDGE REQUEST INDICATOR	AT	NONE	NA	NA	NA	1	
			AT	NONE	NA	NA	NA	1	
			AT	NONE	NA	NA	NA	1	
			AT	NONE	NA	NA	NA	1	
			AT	NONE	NA	NA	NA		
NA	GPI [RESPONSE DATA GROUP]		0	NONE	NA	NA	NA		
NA	GPI [REFERENCE MESSAGE DATA GROUP]		0	NONE	NA	NA	NA		
NA	GPI [FUTURE USE 6]		0	NONE	NA	NA	NA		
NA	GPI [FUTURE USE 7]		0	NONE	NA	NA	NA		
NA	GPI [FUTURE USE 8]		0	NONE	NA	NA	NA		
NA	GPI [FUTURE USE 9]		0	NONE	NA	NA	NA		

TABLE D.5.2-K. 2045-47001D CH1 Header Message Data Element Translation from Link 16 Header
(Sheet 3 of 4)

VMF					LINK 16				
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES	
APPLICATION HEADER MS 2045-47001D CH1 (CON'T)	NA	GPI [FUTURE USE 10]	0	NONE	NA	NA	NA		
	NA	GPI [MESSAGE SECURITY GROUP]	0	NONE	NA	NA	NA		
	NA	GPI [FUTURE USE 11]	0	NONE	NA	NA	NA		
	NA	GPI [FUTURE USE 12]	0	NONE	NA	NA	NA		
	NA	GPI [FUTURE USE 13]	0	NONE	NA	NA	NA		
	NA	GPI [FUTURE USE 14]	0	NONE	NA	NA	NA		
	NA	GPI [FUTURE USE 15]	0	NONE	NA	NA	NA		

APPENDIX D

TABLE D.5.2-K. 2045-47001D CH1 Header Message Data Element Translation from Link 16 Header (Sheet 4 of 4)

NOTES

1. This information is derived from the applicable Message Data Element Translation Table.
2. The URN in the Recipient Address Group shall be assigned to the broadcast URN 16,777,215 unless the applicable Message Data Element Translation Table specifies otherwise.
3. The GRI in the Recipient Address Group shall be set to "0" (NOT REPEATED) unless the applicable Message Data Element Translation Table specifies otherwise.

TABLE D.5.2-K01.1. K01.1 Message Data Element Translation from the J28.2(0) (Sheet 1 of 2)

VMF					LINK 16			
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES
APPLICATION HEADER MS 2045-47001	NA	GPI FOR G2	1	CR	J28.2(0)I	TRACK NUMBER, ADDRESSEE	RX	
		GRI FOR R1	0	CR	J28.2(0)I	TRACK NUMBER, ADDRESSEE	RX	
		URN	AT	CR	J28.2(0)I	TRACK NUMBER, ADDRESSEE	RX	G1
	NA	GPI FOR G9	1	NONE	NA	NA	NA	
	NA	FUNCTIONAL AREA DESGIGNATOR	1	CR	J28.2(0)I	LABEL, J-SERIES	28	
	NA	MESSAGE NUMBER	1	CR	J28.2(0)I	SUBLABEL, J-SERIES	2	
				CR	J28.2(0)I	AF PROPRIETARY FORMAT	0	
K01.1	1.	SUBJECT	AT	CR	J28.2(0)I/ E0	NA	NA	1
	2.1	FRI	AR	NONE	NA	NA	NA	2
	2.2	COMMENTS	AT	CR	J28.2(0)I	CHARACTER #1 AND CHARACTER #2	RX	G13
					J28.2(0)E0	CHARACTER #3 THROUGH CHARACTER #13	RX	G13

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TABLE D.5.2-K01.1. K01.1 Message Data Element Translation from the J28.2(0)
(Sheet 2 of 2)

NOTES

1. The Subject field shall contain the number of K01.1 messages required to forward a complete J28.2(0) Text Report preceded by "Link 16". The number of K01.1 messages is determined by dividing the total number of characters in the complete J28.2(0) Text Report by 1200. Example: "Link 16 01 of 01", up to and including "Link 16 12 of 12".
2. If greater than 200 characters are received from the J28.2(0) then the K01.1 FRI for R1 shall be set to "1" (REPEAT) for each additional 200 characters up to six iterations.

TABLE D.5.2-K03.6. K03.6 Message Data Element Translation from the J3.1 (Sheet 1 of 2)

VMF					LINK 16				
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES	
APPLICATION HEADER MS 2045-47001	NA	GPI FOR G1	1	CR	J3.1I	TRACK NUMBER, REFERENCE	RX		
		FPI	1	CR	J3.1I	TRACK NUMBER, REFERENCE	RX		
		URN	AT	CR	J3.1I	TRACK NUMBER, REFERENCE	RX	G1	
	NA	GPI FOR G9	1	NONE	NA	NA	NA		
	NA	FUNCTIONAL AREA DESIGNATOR	3	CR	J3.1I	LABEL, J-SERIES	3		
	NA	MESSAGE NUMBER	6	CR	J3.1I	SUBLABEL, J-SERIES	1		
	NA	OPERATION INDICATOR	AT	CR	J3.1I	EXERCISE INDICATOR	RX	G10	
				CR	J3.1I	SIMULATION INDICATOR	RX	G10	
K03.6	1.	URN	AT	CR	J3.1I	TRACK NUMBER, PREVIOUSLY REPORTED	RX	G1	
	2.	LATITUDE, 0.0051 MINUTE	RX	=	J3.1E0	LATITUDE, 0.0051 MINUTE	RX		
	3.	LONGITUDE, 0.0051 MINUTE	RX	=	J3.1E0	LONGITUDE, 0.0051 MINUTE	RX		
	4.	MAYDAY DAY	AR	NONE	NA	NA	NA	1	
	5.	MAYDAY HOUR	RX	=	J3.1E0	HOUR	RX		
	6.	MAYDAY MINUTE	RX	=	J3.1E0	MINUTE	RX		
	7.	FPI	0	NONE	NA	NA	NA		
	8.1	FRI FOR R1(5)	0	NONE	NA	NA	NA		
	8.2	AIRCRAFT SYSTEM STATUS	0	NONE	NA	NA	NA		
	9.1	GPI	0	NONE	NA	NA	NA		
	10.	FPI	1	NONE	NA	NA	NA		
	10.1	EMERGENCY TYPE	RX	=	J3.1I	EMERGENCY TYPE	RX		
	11.	FPI	1	NONE	NA	NA	NA		
	11.1	PERSONNEL INVOLVED	RX	=	J3.1I	PERSONNEL INVOLVED	RX		

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TABLE D.5.2-K03.6. K03.6 Message Data Element Translation from the J3.1
(Sheet 2 of 2)

1. Day shall be set to the day of reception.

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TABLE D.5.2-K04.1-1. K04.1 Message Data Element Translation from the J3.2 (Sheet 1 of 4)

VMF					LINK 16				
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES	
APPLICATION HEADER MS 2045-47001	NA	OPERATION INDICATOR	AT	CR	J3.2I	EXERCISE INDICATOR	RX	G10	
			AT	CR	J3.2I	SIMULATION INDICATOR	RX	G10	
K04.1	1.	URN	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G1	
	2.	OBSERVATION DAY	AR	NONE	NA	NA	NA	1	
	3.	OBSERVATION HOUR	AT	CR	J3.2I OR J3.2C1	TRACK QUALITY HOUR	RX	G15	
	4.	OBSERVATION MINUTE	AT	CR	J3.2I OR J3.2C1	TRACK QUALITY MINUTE	RX	G15	
	5.	FPI	AT	CR	J3.2I	TRACK QUALITY	RX	G16	
	5.1	OBSERVATION SECOND	AT	CR					
	6.	GPI	0	NONE	NA	NA	NA		
	7.1	GRI (16)	0	NONE	NA	NA	NA		
	7.2	IDENTITY, VMF	AT	CR	J3.2I	EXERCISE INDICATOR IDENTITY OR EXERCISE INDICATOR IDENTITY AMPLIFYING DESCRIPTOR	RX	G17	
	7.3	DIMENSION	1	NONE	NA	NA	NA		
	7.4	ENTITY TYPE	AT	CR	J3.2C1	AIR PLATFORM	RX	G18	
	7.5	FPI	0	NONE	NA	NA	NA		
	7.6	FPI	0	NONE	NA	NA	NA		
	7.7	FPI	0	NONE	NA	NA	NA		

TABLE D.5.2-K04.1-1. K04.1 Message Data Element Translation from the J3.2 (Sheet 2 of 4)

VMF					LINK 16			
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES
K04.1 (CON'T)	7.8	FPI	0	NONE	NA	NA	NA	
	7.9	FPI	0	NONE	NA	NA	NA	
	7.10	FPI	0	NONE	NA	NA	NA	
	7.11	FPI	AT	CR	J3.2I	STRENGTH	RX	G19
	7.11.1	QUANTITY OF EQUIPMENT/WEAPONS OBSERVED	AT	CR				
	7.12	FPI	0	NONE	NA	NA	NA	
	7.13.1	GRI (16)	0	NONE	NA	NA	NA	
	7.13.2	ENTITY ID SERIAL NUMBER	AT	CR	J3.2I	TRACK NUMBER, REFERENCE	RX	G20
	7.13.3	GPI	1	NONE				
	7.13.3.1	LATITUDE, 0.0013 MINUTE	AT	CR	J3.2E0	LATITUDE, 0.0051 MINUTE	RX	G2
	7.13.3.2	LONGITUDE, 0.0013 MINUTE	AT	CR				
	7.13.4	FPI	0	NONE	NA	NA	NA	
	7.13.5	FPI	1	NONE	NA	NA	NA	
	7.13.5.1	ALTITUDE, 25 FT	RX	=	J3.2I	ALTITUDE, 25 FT	RX	
	7.13.6	GPI	0	NONE				
	7.13.7	GPI	AT	CR	J3.2E0	COURSE SPEED	RX	2
	7.13.7.1	COURSE	RX	=				
	7.13.7.2	UNIT SPEED, KPH	AT	CR	J3.2E0	SPEED	RX	3
	7.13.8	FPI	AT	CR				
	7.13.8.1	ACTIVITY	AT	CR	J3.2C1	AIR ACTIVITY	RX	G21
	7.13.9	FPI	0	NONE				
	7.13.10	GPI	1	NONE	NA	NA	NA	
	7.13.10.1	GPI	0	NONE	NA	NA	NA	
	7.13.10.2	FPI	1	NONE	NA	NA	NA	

TABLE D.5.2-K04.1-1. K04.1 Message Data Element Translation from the J3.2 (Sheet 3 of 4)

VMF					LINK 16				
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES	
K04.1 (CON'T)	7.13.10.2.1	AIR SPECIFIC TYPE	RX	=	J3.2C1	AIR SPECIFIC TYPE	RX		
	7.13.10.3	FPI	0	NONE	NA	NA	NA		
	7.13.10.4	FPI	0	NONE	NA	NA	NA		
	7.13.10.5	FPI	0	NONE	NA	NA	NA		
	8.	FPI	0	NONE	NA	NA	NA		
	9.	GPI	0	NONE	NA	NA	NA		

APPENDIX D

TABLE D.5.2-K04.1-1. K04.1 Message Data Element Translation from the J3.2
(Sheet 4 of 4)

NOTES

1. Observation Day will always be set to the current day of the month.
2. If Course or Speed = No Statement, set GPI to 0, otherwise set GPI to 1.
3. Link 16 DFI 367/018 Speed is expressed in 2 data miles per hour increments. VMF Unit Speed, KPH is expressed in 1 KPH increments. To translate, multiply the Link 16 bit code value by 3.6576 (translate Link 16 to the nearest increment (0.5 rounded up)).

TABLE D.5.2-K04.1-2. K04.1 Message Data Element Translation from the J3.3 (Sheet 1 of 4)

VMF					LINK 16			
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES
APPLICATION HEADER MS 2045-47001	NA	OPERATION INDICATOR	AT	CR	J3.3I	EXERCISE INDICATOR	RX	G10
			AT	CR	J3.3I	SIMULATION INDICATOR	RX	G10
K04.1	1.	URN	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G1
	2.	OBSERVATION DAY	AR	NONE	NA	NA	NA	1
	3.	OBSERVATION HOUR	AT	CR	J3.3I OR J3.3C1	TRACK QUALITY HOUR	RX	G15
	4.	OBSERVATION MINUTE	AT	CR	J3.3I OR J3.3C1	TRACK QUALITY MINUTE	RX	G15
	5.	FPI	AT	CR	J3.3I	TRACK QUALITY	RX	G16
	5.1	OBSERVATION SECOND	AT	CR				
	6.	GPI	0	NONE	NA	NA	NA	
	7.1	GRI (16)	0	NONE	NA	NA	NA	
	7.2	IDENTITY, VMF	AT	CR	J3.3I	EXERCISE INDICATOR IDENTITY OR EXERCISE INDICATOR IDENTITY AMPLIFYING DESCRIPTOR	RX	G17
	7.3	DIMENSION	8	NONE	NA	NA	NA	
	7.4	ENTITY TYPE	RX	CR	J3.3I	SURFACE PLATFORM	RX	G22
	7.5	FPI	0	NONE	NA	NA	NA	
	7.6	FPI	0	NONE	NA	NA	NA	
	7.7	FPI	0	NONE	NA	NA	NA	
	7.8	FPI	0	NONE	NA	NA	NA	
	7.9	FPI	0	NONE	NA	NA	NA	
	7.10	FPI	0	NONE	NA	NA	NA	

TABLE D.5.2-K04.1-2. K04.1 Message Data Element Translation from the J3.3 (Sheet 2 of 4)

VMF				LINK 16				
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES
K04.1 (CON'T)	7.11	FPI	AT	CR	J3.3I	STRENGTH	RX	G19
	7.11.1	QUANTITY OF EQUIPMENT/WEAPONS OBSERVED	AT	CR				
	7.12	FPI	0	NONE	NA	NA	NA	
	7.13.1	GRI (16)	0	NONE	NA	NA	NA	
	7.13.2	ENTITY ID SERIAL NUMBER	AT	CR	J3.3I	TRACK NUMBER, REFERENCE	RX	G20
	7.13.3	GPI	1	NONE	NA	NA	NA	
	7.13.3.1	LATITUDE, 0.0013 MINUTE	AT	CR	J3.3E0	LATITUDE, 0.0051 MINUTE	RX	G2
	7.13.3.2	LONGITUDE, 0.0013 MINUTE	AT	CR	J3.3E0	LONGITUDE, 0.0051 MINUTE	RX	G2
	7.13.4	FPI	0	NONE	NA	NA	NA	
	7.13.5	FPI	0	NONE	NA	NA	NA	
	7.13.6	GPI	0	NONE	NA	NA	NA	
	7.13.7	GPI	AT	CR	J3.3E0	COURSE SPEED	RX	2
	7.13.7.1	COURSE	AT	=	J3.3E0	COURSE	RX	
	7.13.7.2	UNIT SPEED, KPH	AT	CR	J3.3E0	SPEED	RX	3
	7.13.8	FPI	AT	CR	J3.3C1	SURFACE ACTIVITY	RX	G23
	7.13.8.1	ACTIVITY	AT	CR				
	7.13.9	FPI	0	NONE	NA	NA	NA	
	7.13.10	GPI	1	NONE	NA	NA	NA	
	7.13.10.1	GPI	0	NONE	NA	NA	NA	
	7.13.10.2	FPI	0	NONE	NA	NA	NA	

TABLE D.5.2-K04.1-2. K04.1 Message Data Element Translation from the J3.3 (Sheet 3 of 4)

VMF				LINK 16				
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES
K04.1 (CON'T)	7.13.10.3	FPI	1	NONE	NA	NA	NA	
	7.13.10.3.1	SURFACE SPECIFIC TYPE	RX	=	J3.3I	SURFACE SPECIFIC TYPE	RX	
	7.13.10.4	FPI	0	NONE	NA	NA	NA	
	7.13.10.5	FPI	0	NONE	NA	NA	NA	
	8.	FPI	0	NONE	NA	NA	NA	
	9.	FPI	0	NONE	NA	NA	NA	

APPENDIX D

TABLE D.5.2-K04.1-2. K04.1 Message Data Element Translation from the J3.3

(Sheet 4 of 4)

NOTES

1. Observation day will always be set to the current day of the month.
2. If Course or Speed = No Statement, set GPI to "0", otherwise set GPI to "1".
3. Link 16 DFI 367/018 Speed is expressed in 2 data miles per hour increments. VMF Unit Speed, KPH is expressed 1 KPH increments. To translate, multiply the Link 16 bit code value by 3.6576 (translate Link 16 to the nearest increment (0.5 rounded up)).

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TABLE D.5.2-K04.1-3. K04.1 Message Data Element Translation from the J3.4
(Sheet 1 of 1)

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TABLE D.5.2-K04.1-4. K04.1 Message Data Element Translation from the J3.5 (Sheet 1 of 4)

VMF					LINK 16				
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES	
APPLICATION HEADER MS 2045-47001	NA	OPERATION INDICATOR	AT	CR	J3.5I	EXERCISE INDICATOR	RX	G10	
			AT	CR	J3.5I	SIMULATION INDICATOR	RX	G10	
K04.1	1.	URN	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G1	
	2.	OBSERVATION DAY	CR	NONE	NA	NA	NA	1	
	3.	OBSERVATION HOUR	RX	=	J3.5I OR J3.5C1	TRACK QUALITY HOUR	RX	G15	
	4.	OBSERVATION MINUTE	RX	=	J3.5I OR J3.5C1	TRACK QUALITY MINUTE	RX	G15	
	5.	FPI	AT	CR	J3.5I	TRACK QUALITY	RX	G16	
	5.1	OBSERVATION SECOND	AT	CR					
	6.	GPI	0	NONE	NA	NA	NA		
	7.1	GRI (16)	0	NONE	NA	NA	NA		
	7.2	IDENTITY, VMF	AT	CR	J3.5I	EXERCISE INDICATOR IDENTITY OR EXERCISE INDICATOR IDENTITY AMPLIFYING DESCRIPTOR	RX	G17	
	7.3	DIMENSION	AT	CR	J3.5C1	LAND PLATFORM	RX	G24	
	7.4	ENTITY TYPE	RX	CR	J3.5C1	LAND PLATFORM	RX	G24	
	7.5	FPI	0	NONE	NA	NA	NA		

TABLE D.5.2-K04.1-4. K04.1 Message Data Element Translation from the J3.5 (Sheet 2 of 4)

VMF					LINK 16				
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES	
K04.1 (CON'T)	7.6	FPI	0	NONE	NA	NA	NA		
	7.7	FPI	0	NONE	NA	NA	NA		
	7.8	FPI	0	NONE	NA	NA	NA		
	7.9	FPI	0	NONE	NA	NA	NA		
	7.10	FPI	0	NONE	NA	NA	NA		
	7.11	FPI	AT	CR	J3.5I	STRENGTH	RX	G19	
	7.11.1	QUANTITY OF EQUIPMENT/WEAPONS OBSERVED	AT	CR					
	7.12	FPI	0	NONE	NA	NA	NA		
	7.13.1	GRI (16)	0	NONE	NA	NA	NA		
	7.13.2	ENTITY ID SERIAL NUMBER	AT	CR	J3.5I	TRACK NUMBER, REFERENCE	RX	G20	
	7.13.3	GPI	1	NONE	NA	NA	NA		
	7.13.3.1	LATITUDE, 0.0013 MINUTE	AT	CR	J3.5E0	LATITUDE, 0.0051 MINUTE	RX	G2	
	7.13.3.2	LONGITUDE, 0.0013 MINUTE	AT	CR	J3.5E0	LONGITUDE, 0.0051 MINUTE	RX	G2	
	7.13.4	FPI	AT	CR	J3.5I	ELEVATION, 25 FT	RX	2	
	7.13.4.1	ELEVATION, FEET	AT	CR					
	7.13.5	FPI	0	NONE	NA	NA	NA		
	7.13.6	GPI	0	NONE	NA	NA	NA		
	7.13.7	GPI	AT	CR	J3.5E0	COURSE SPEED	RX	3	
	7.13.7.1	COURSE	AT	=	J3.5E0	COURSE	RX		
	7.13.7.2	UNIT SPEED, KPH	AT	CR	J3.5E0	SPEED	RX	4	

TABLE D.5.2-K04.1-4. K04.1 Message Data Element Translation from the J3.5 (Sheet 3 of 4)

VMF					LINK 16				
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES	
K04.1 (CON'T)	7.13.8	FPI	AT	CR	J3.5C1	LAND ACTIVITY	RX	G25	
	7.13.8.1	ACTIVITY	AT	CR					
	7.13.9	FPI	0	NONE	NA	NA	NA	NA	
	7.13.10	GPI	1	NONE	NA	NA	NA	NA	
	7.13.10.1	GPI	0	NONE	NA	NA	NA	NA	
	7.13.10.2	FPI	0	NONE	NA	NA	NA	NA	
	7.13.10.3	FPI	0	NONE	NA	NA	NA	NA	
	7.13.10.4	FPI	0	NONE	NA	NA	NA	NA	
	7.13.10.5	FPI	1	NONE	NA	NA	NA	NA	
	7.13.10.5.1	LAND SPECIFIC TYPE	AT	=	J3.5C1	LAND SPECIFIC TYPE	RX		
	8.	FPI	0	NONE	NA	NA	NA		
	9.	FPI	0	NONE	NA	NA	NA		

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TABLE D.5.2-K04.1-4 K04.1 Message Data Element Translation from the J3.5
(Sheet 4 of 4)

NOTES

1. Observation day will always be set to the current day of the month.
2. If Elevation, 25FT is value 2047 - Elevation Unknown, set FPI to 0, otherwise set FPI to 1 and translate 25 foot increments to 1 foot increments.
3. If Course or Speed = No Statement, set GPI to 0, otherwise set GPI to 1.
4. Link 16 DFI 367/018 Speed is expressed in 2 data miles per hour increments. VMF Unit Speed, KPH is expressed in 1 KPH increments. To translate, multiply the Link 16 bit code value by 3.6576 (translate Link 16 to the nearest increment (0.5 rounded up)).

TABLE D.5.2-K05.1-1. K05.1 Message Data Element Translation from the J2.0 (Sheet 1 of 5)

VMF					LINK 16			
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES
APPLICATION HEADER MS 2045- 47001D CH1	NA	GPI [VMF MESSAGE IDENTIFICATION GROUP]	1	NONE	NA	NA	NA	
		FAD	5	CR	J2.0I	LABEL, J-SERIES	2	
		MESSAGE NUMBER	1	CR	J2.0I	SUBLABEL, J-SERIES	0	
		FPI	0	NONE	NA	NA	NA	
	NA	OPERATION INDICATOR	AT	CR	J2.0I	EXERCISE INDICATOR OR SIMULATION INDICATOR	RX	G10
K05.1	1.1	GRI	0	NONE			RX	
	1.2	URN	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G1
	1.3	UNIT LATITUDE	AT	CR	J2.0E0	LATITUDE 1, 0.0013 MINUTE	RX	G2
	1.4	UNIT LONGITUDE	AT	CR	J2.0E0	LONGITUDE 1, 0.0013 MINUTE	RX	G2
	1.5	LOCATION DERIVATION	AT	CR	J2.0I	GENERIC UNIT TYPE OR SITE	RX	1
	1.6	FPI	1	NONE	NA	NA	NA	
	1.6.1	LOCATION QUALITY	AT	CR	J2.0I	POSITION QUALITY, GU	RX	2
	1.7	EXERCISE INDICATOR (EX IND)	RX	=	J2.0I	EXERCISE INDICATOR	RX	
	1.8	GPI	AR	CR	J2.0E0	COURSE SPEED	RX	3
	1.8.1	COURSE	RX	=	J2.0E0	COURSE	RX	3
	1.8.2	UNIT SPEED, KPH	AT	CR	J2.0E0	SPEED	RX	3, G40
	1.9	FPI	AT	CR	J2.0C1	ELEVATION, 25 FT	RX	4
	1.9.1	ELEVATION, FEET	AR	CR				
	1.10	FPI	AT	CR	J2.0I	ALTITUDE, 25 FT	NA	5

TABLE D.5.2-K05.1-1. K05.1 Message Data Element Translation from the J2.0 (Sheet 2 of 5)

VMF					LINK 16				
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES	
K05.1 (CON'T)	1.10.1	ALTITUDE, 25 FT	RX	=	J2.0I	ALTITUDE, 25 FT	RX	5	
	1.11	GPI	0	NONE	NA	NA	NA	G35	
	1.12	GPI	1	NONE	NA	NA	NA		
	1.12.1	YEAR	AR	NONE	NA	NA	NA	G41	
	1.12.2	MONTH	AR	NONE	NA	NA	NA	G41	
	1.12.3	DAY OF MONTH	AR	NONE	NA	NA	NA	G41	
	1.12.4	HOUR	AR	NONE	NA	NA	NA	G41	
	1.12.5	MINUTE	AR	NONE	NA	NA	NA	G41	
	1.12.6	SECOND	AR	NONE	NA	NA	NA	G41	
	1.13	ORIGINATOR ENVIRONMENT—(ENV)	RX	=	J2.0I	ORIGINATOR ENVIRONMENT	RX		
	1.14	GPI	1	NONE	NA	NA	NA		
	1.14.1	FPI	AT	CR	J2.0I	ORIGINATOR ENVIRONMENT	RX	6	
	1.14.1.1	AIR SPECIFIC TYPE	AT	CR	J2.0C1	AIR PLATFORM	RX	G5	
			RX	=	J2.0C3	AIR SPECIFIC TYPE	RX		
	1.14.2	FPI	AT	CR	J2.0I	ORIGINATOR ENVIRONMENT	RX	7	
	1.14.2.1	SURFACE SPECIFIC TYPE	AT	CR	J2.0C1	SURFACE PLATFORM	RX	G36	
			RX	=	J2.0C3	SURFACE SPECIFIC TYPE	RX		
	1.14.3	FPI	AT	CR	J2.0I	ORIGINATOR ENVIRONMENT	RX	8	
	1.14.3.1	SUBSURFACE SPECIFIC TYPE	AT	CR	J2.0C1	SUBSURFACE PLATFORM	RX	G37	
			RX	=	J2.0C3	SUBSURFACE SPECIFIC TYPE	RX		
	1.14.4	FPI	AT	CR	J2.0I	ORIGINATOR ENVIRONMENT	RX	9	
	1.14.4.1	LAND SPECIFIC TYPE	AT	CR	J2.0C1	LAND PLATFORM	RX	G38	
			RX	=	J2.0C3	LAND SPECIFIC TYPE	RX		

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TABLE D.5.2-K05.1-1. K05.1 Message Data Element Translation from the J2.0 (Sheet 3 of 5)

NOTES

1. VMF Location Derivation is derived from Link 16 Site or Site and Generic Unit Type as follows:

VMF LOCATION DERIVATION	LINK 16 SITE	LINK 16 GENERIC UNIT TYPE
0 - NO STATEMENT	0 - NO STATEMENT AND ALL VALUES NOT LISTED BELOW	NA
9 - LINK 11	1 - FPU/FRU 2 - PU	NA
10 - LINK 11B	3 - RU	NA
11 - LINK 16	4 - JU 5 - FJU	NA
0 - NO STATEMENT	7 - GU	0 - NO STATEMENT AND ALL VALUES NOT LISTED BELOW
3 - EPLRS		5 - EPLRS UNIT
8 - VMF		2 - VMF UNIT
11 - LINK 16		7 - JU

2. The translation of Link 16 Position Quality, GU to VMF Location Quality is as follows:

VMF LOCATION QUALITY	LINK 16 POSITION QUALITY, GU
3 - 10 < QUALITY <= 25 METERS	15 - ≤ 50 FT 14 - ≤ 71 FT
4 - 25 < QUALITY <= 50 METERS	13 - ≤ 100 FT 12 - ≤ 141 FT
5 - 50 < QUALITY <= 75 METERS	11 - ≤ 200 FT
6 - 75 < QUALITY <= 100 METERS	10 - ≤ 282 FT
7 - 100 < QUALITY <= 200 METERS	9 - ≤ 400 FT 8 - ≤ 565 FT
8 - 200 < QUALITY <= 500 METERS	7 - ≤ 800 FT 6 - ≤ 1130 FT 5 - ≤ 1600 FT
9 - 500 < QUALITY <= 1000 METERS	4 - ≤ 2260 FT
10 - 1000 < QUALITY <= 5000 METERS	3 - ≤ 4520 FT 2 - ≤ 9040 FT
11 - 5000 METERS < QUALITY	1 - ≤ 18080 FT 0 - >18080 FT

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TABLE D.5.2-K05.1-1. K05.1 Message Data Element Translation from the J2.0 (Sheet 4 of 5)

NOTES (con't)

3. If J2.0 Course or Speed = No Statement, set GPI to "0" (NOT PRESENT), otherwise set GPI to "1" (PRESENT).
4. If J2.0 Elevation, 25 Ft is specified "2047" (ELEVATION UNKNOWN) then set the FPI to "0" (NOT PRESENT). Otherwise, set FPI to "1" (PRESENT) and translate 25 foot increments to 1 foot increments.
5. If J2.0 Altitude, 25 Ft is specified "8191" (ALTITUDE UNKNOWN) then set the FPI to "0" (NOT PRESENT). Otherwise, set FPI to "1" (PRESENT) and the translation of Altitude, 25 Ft to Altitude, 25 Ft is equivalent.
6. If Originator Environment = 3 Air, then set FPI to "1" (PRESENT) and VMF Air Specific Type is translated from Link 16 as follows: if Link 16 Air Specific Type is other than "0" (NO STATEMENT), then the VMF and Link 16 Specific Type translations are equivalent; if Link 16 Air Specific Type is "0" (NO STATEMENT) translate from Link 16 Air Platform IAW General Note 5. Otherwise set FPI to "0" (NOT PRESENT).
7. If Originator Environment = 0 Surface, then set FPI to "1" (PRESENT) and VMF Surface Specific Type is translated from Link 16 as follows: if Link 16 Surface Specific Type is other than "0" (NO STATEMENT), then the VMF and Link 16 Specific Type translations are equivalent; if Link 16 Surface Specific Type is "0" (NO STATEMENT) translate from Link 16 Surface Platform IAW General Note 36. Otherwise set FPI to "0" (NOT PRESENT).
8. If Originator Environment = 1 Subsurface, then set FPI to "1" (PRESENT) and VMF Subsurface Specific Type is translated from Link 16 as follows: if Link 16 Subsurface Specific Type is other than "0" (NO STATEMENT), then the VMF and Link 16 Specific Type translations are equivalent; if Link 16 Subsurface Specific Type is "0" (NO STATEMENT) translate from Link 16 Subsurface Platform IAW General Note 37. Otherwise set FPI to "0" (NOT PRESENT).

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TABLE D.5.2-K05.1-1. K05.1 Message Data Element Translation from the
J2.0 (Sheet 5 of 5)

NOTES (con't)

9. If Originator Environment = 2 Land, then set FPI to "1" (PRESENT) and VMF Land Specific Type is translated from Link 16 as follows: if Link 16 Land Specific Type is other than "0" (NO STATEMENT), then the VMF and Link 16 Specific Type translations are equivalent; if Link 16 Land Specific Type is "0" (NO STATEMENT) translate from Link 16 Land Platform IAW General Note 36. Otherwise set FPI to "0" (NOT PRESENT).

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TABLE D.5.2-K05.1-2. K05.1 Message Data Element Translation from the J2.2/J13.2 (Sheet 1 of 3)

VMF					LINK 16			
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES
APPLICATION HEADER MS 2045-47001D CH1	NA	GPI [VMF MESSAGE IDENTIFICATION GROUP]	1	NONE	NA	NA	NA	
		FAD	5	CR	J2.2I	LABEL, J-SERIES	2	
		MESSAGE NUMBER	1	CR	J2.2I	SUBLABEL, J-SERIES	2	
		FPI	0	NONE	NA	NA	NA	
K05.1	NA	OPERATION INDICATOR	AT	CR	J2.2I	EXERCISE INDICATOR OR SIMULATION INDICATOR	RX	G10
	1.1	GRI	0	NONE	NA	NA	NA	
	1.2	URN	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G1
	1.3	UNIT LATITUDE	AT	CR	J2.2E0	LATITUDE, 0.0013 MINUTE	RX	G2
	1.4	UNIT LONGITUDE	AT	CR	J2.2E0	LONGITUDE, 0.0013 MINUTE	RX	G2
	1.5	LOCATION DERIVATION	11	NONE	NA	NA	NA	
	1.6	FPI	1	NONE	NA	NA	NA	
	1.6.1	LOCATION QUALITY	AT	CR	J2.2I	GEODETIC POSITION QUALITY	RX	G3
	1.7	EXERCISE INDICATOR (EX IND)	RX	=	J2.2I	EXERCISE INDICATOR	RX	
	1.8	GPI	AT	CR	J2.2E0	COURSE SPEED	NA	1
	1.8.1	COURSE	RX	=	J2.2E0	COURSE	RX	1
	1.8.2	UNIT SPEED, KPH	AT	CR	J2.2E0	SPEED	RX	1, G40
	1.9	FPI	0	NONE	NA	NA	NA	
	1.10	FPI	1	NONE	NA	NA	NA	
	1.10.1	ALTITUDE, 25 FT	RX	=	J2.2I	ALTITUDE, 25 FT	RX	
	1.11	GPI	0	NONE	NA	NA	NA	G35

TABLE D.5.2-K05.1-2. K05.1 Message Data Element Translation from the J2.2/J13.2 (Sheet 2 of 3)

VMF					LINK 16				
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES	
K05.1 (CONT'T)	1.12	GPI	1	NONE	NA	NA	NA		
	1.12.1	YEAR	AR	NONE	NA	NA	NA	G41	
	1.12.2	MONTH	AR	NONE	NA	NA	NA	G41	
	1.12.3	DAY OF MONTH	AR	NONE	NA	NA	NA	G41	
	1.12.4	HOUR	AR	NONE	NA	NA	NA	G41	
	1.12.5	MINUTE	AR	NONE	NA	NA	NA	G41	
	1.12.6	SECOND	AR	NONE	NA	NA	NA	G41	
	1.13	ORIGINATOR ENVIRONMENT (ENV)	3	CR	J2.2I	LABEL, J-SERIES SUBLABEL, J-SERIES	2 2		
	1.14	GPI	1	NONE	NA	NA	NA		
	1.14.1	FPI	1	NONE	NA	NA	NA		
	1.14.1.1	AIR SPECIFIC TYPE	AT	CR	J2.2C1 OR J13.2C1	AIR PLATFORM AIR SPECIFIC TYPE	RX RX	2, G5, 3	
	1.14.2	FPI	0	NONE	NA	NA	NA		
	1.14.3	FPI	0	NONE	NA	NA	NA		
	1.14.4	FPI	0	NONE	NA	NA	NA		

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TABLE D.5.2-K05.1-2. K05.1 Message Data Element Translation from the J2.2/J13.2 (Sheet 3 of 3)

NOTES

1. If Course or Speed = No Statement, set GPI to "0" (NOT PRESENT), otherwise set GPI to "1" (PRESENT).
2. Air Platform shall be translated only if the FVU does not hold non No Statement Air Specific Type from the associated J13.2 message. K05.1 Air Specific Type is derived from J2.2 Air Platform as described in G5.
3. If the FVU database holds non No Statement Air Specific Type data from an associated J13.2 message, the K05.1 Air Specific Type shall be derived from the J13.2 Air Specific Type.

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TABLE D.5.2-K05.1-3. K05.1 Message Data Element Translation from the J2.3/J13.3 (Sheet 1 of 3)

VMF					LINK 16			
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES
APPLICATION HEADER MS 2045- 47001D CH1	NA	GPI [VMF MESSAGE IDENTIFICATION GROUP]	1	NONE	NA	NA	NA	
		FAD	5	CR	J2.3I	LABEL, J-SERIES	2	
		MESSAGE NUMBER	1	CR	J2.3I	SUBLABEL, J-SERIES	3	
		FPI	0	NONE	NA	NA	NA	
	NA	OPERATION INDICATOR	AT	CR	J2.3I	EXERCISE INDICATOR OR SIMULATION INDICATOR	RX	G10
K05.1	1.1	GRI	0	CR	J2.3I	STRENGTH	RX	
	1.2	URN	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G1
	1.3	UNIT LATITUDE	AT	CR	J2.3E0	LATITUDE, 0.0013 MINUTE	RX	G2
	1.4	UNIT LONGITUDE	AT	CR	J2.3E0	LONGITUDE, 0.0013 MINUTE	RX	G2
	1.5	LOCATION DERIVATION	11	NONE	NA	NA	NA	
	1.6	FPI	1	NONE	NA	NA	NA	
	1.6.1	LOCATION QUALITY	AT	CR	J2.3I	GEODETIC POSITION QUALITY	RX	G3
	1.7	EXERCISE INDICATOR (EX IND)	RX	=	J2.3I	EXERCISE INDICATOR	RX	
	1.8	GPI	AT	CR	J2.3E0	COURSE SPEED	RX	1
	1.8.1	COURSE	RX	=	J2.3E0	COURSE	RX	1
	1.8.2	UNIT SPEED, KPH	AT	CR	J2.3E0	SPEED	RX	1, G40

TABLE D.5.2-K05.1-3. K05.1 Message Data Element Translation from the J2.3/J13.3 (Sheet 2 of 3)

VMF					LINK 16				
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES	
K05.1 (CON'T)	1.9	FPI	AT	CR	J2.3I	ELEVATION, 25 FT	RX	2	
	1.9.1	ELEVATION, FEET	AT	CR	J2.3I	ELEVATION, 25 FT	RX	2,G39	
	1.10	FPI	0	NONE	NA	NA	NA		
	1.11	GPI	0	NONE	NA	NA	NA	G35	
	1.12	GPI	1	NONE	NA	NA	NA		
	1.12.1	YEAR	AR	NONE	NA	NA	NA	G41	
	1.12.2	MONTH	AR	NONE	NA	NA	NA	G41	
	1.12.3	DAY OF MONTH	AR	NONE	NA	NA	NA	G41	
	1.12.4	HOUR	AR	NONE	NA	NA	NA	G41	
	1.12.5	MINUTE	AR	NONE	NA	NA	NA	G41	
	1.12.6	SECOND	AR	NONE	NA	NA	NA	G41	
	1.13	ORIGINATOR ENVIRONMENT (ENV)	0	CR	J2.3I	LABEL, LINK 16 SUBLABEL, LINK 16	2 3		
	1.14	GPI	1	NONE	NA	NA	NA		
	1.14.1	FPI	0	NONE	NA	NA	NA		
	1.14.2	FPI	1	NONE	NA	NA	NA		
	1.14.2.1	SURFACE SPECIFIC TYPE	AT	CR	J2.3C1 OR J13.3I	SURFACE PLATFORM SURFACE SPECIFIC TYPE	RX RX	3 4, G36	
	1.14.3	FPI	0	NONE	NA	NA	NA		
	1.14.4	FPI	0	NONE	NA	NA	NA		

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TABLE D.5.2-K05.1-3. K05.1 Message Data Element Translation from the J2.3/J13.3 (Sheet 3 of 3)

NOTES

1. If J2.3 Course or Speed = No Statement, set GPI to "0" (NOT PRESENT), otherwise set GPI to "1" (PRESENT).
2. If J2.3 Elevation, 25 Ft is specified "2047" (ELEVATION UNKNOWN) then set the FPI to "0" (NOT PRESENT). Otherwise, set FPI to "1" (PRESENT) and translate 25 foot increments to 1 foot increments.
3. Surface Platform shall be translated only if the FVU does not hold non No Statement Surface Specific Type from the associated J13.3 message. K05.1 Surface Specific Type is derived from J2.3 Surface Platform as described in G36.
4. If the FVU database holds data from an associated J13.3 message, the K05.1 Surface Specific Type shall be derived from the J13.3 Surface Specific Type.

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TABLE D.5.2-K05.1-4. K05.1 Message Data Element Translation from the J2.4/J13.4 (Sheet 1 of 3)

VMF					LINK 16			
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES
APPLICATION HEADER MS 2045-47001D CH1	NA	GPI [VMF MESSAGE IDENTIFICATION GROUP]	1	NONE	NA	NA	NA	
		FAD	5	CR	J2.4I	LABEL, J-SERIES	2	
		MESSAGE NUMBER	1	CR	J2.4I	SUBLABEL, J-SERIES	4	
		FPI	0	NONE	NA	NA	NA	
	NA	OPERATION INDICATOR	AT	CR	J2.4I	EXERCISE INDICATOR OR SIMULATION INDICATOR	RX	G10
K05.1	1.1	GRI	0	NONE	NA	NA	NA	
	1.2	URN	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G1
	1.3	UNIT LATITUDE	AT	CR	J2.4E0	LATITUDE, 0.0013 MINUTE	RX	G2
	1.4	UNIT LONGITUDE	AT	CR	J2.4E0	LONGITUDE, 0.0013 MINUTE	RX	G2
	1.5	LOCATION DERIVATION	11	NONE	NA	NA	NA	
	1.6	FPI	1	NONE	NA	NA	NA	
	1.6.1	LOCATION QUALITY	AT	CR	J2.4I	GEODETIC POSITION QUALITY	RX	G3
	1.7	EXERCISE INDICATOR (EX IND)	RX	=	J2.4I	EXERCISE INDICATOR	RX	
	1.8	GPI	AR	CR	J2.4E0	COURSE SPEED	RX	1
	1.8.1	COURSE	RX	=	J2.4E0	COURSE	RX	1
	1.8.2	UNIT SPEED, KPH	AT	CR	J2.4E0	SPEED	RX	1,G40

TABLE D.5.2-K05.1-4. K05.1 Message Data Element Translation from the J2.4/J13.4 (Sheet 2 of 3)

VMF					LINK 16				
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES	
K05.1 (CON'T)	1.9	FPI	AT	NONE	J2.4I	DEPTH, 15 METERS	RX	2	
	1.9.1	ELEVATION, FEET	AT	CR	J2.4I	DEPTH, 15 METERS	RX	2,G39	
	1.10	FPI	0	NONE	NA	NA			
	1.11	GPI	0	NONE	NA	NA			G35
	1.12	GPI	1	NONE	NA	NA			
	1.12.1	YEAR	AR	NONE	NA	NA			G41
	1.12.2	MONTH	AR	NONE	NA	NA			G41
	1.12.3	DAY OF MONTH	AR	NONE	NA	NA			G41
	1.12.4	HOUR	AR	NONE	NA	NA			G41
	1.12.5	MINUTE	AR	NONE	NA	NA			G41
	1.12.6	SECOND	AR	NONE	NA	NA			G41
	1.13	ORIGINATOR ENVIRONMENT-(ENV)	1	CR	J2.4I	LABEL, LINK 16 SUBLABEL, LINK 16	2 4		
	1.14	GPI	1	NONE	NA	NA			
	1.14.1	FPI	0	NONE	NA	NA			
	1.14.2	FPI	0	NONE	NA	NA			
	1.14.3	FPI	1	NONE	NA	NA			
	1.14.3.1	SUBSURFACE SPECIFIC TYPE	AT	CR	J2.4C1 OR J13.4I	SUBSURFACE PLATFORM SUBSURFACE SPECIFIC TYPE	RX RX	3,4 G37	
	1.14.4	FPI	0	NONE	NA	NA			

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TABLE D.5.3-K05.1-4. K05.1 Message Data Element Translation from the J2.4/J13.4 (Sheet 3 of 3)

NOTES

1. If J2.4 Course or Speed = No Statement, set GPI to "0" (NOT PRESENT), otherwise set GPI to "1" (PRESENT).
2. If Depth, 15 Meters is specified "27" through "127," set the FPI to "0" (NOT PRESENT). Otherwise, set FPI to "1" (PRESENT) and translate to Elevation, Feet as follows: multiply the Depth, 15 Meters bit code by 49.21 (0.5 rounded up) then subtract the product from 131,072 (if Depth, 15 Meters is specified "0" set Elevation, Feet to "0" (MEAN SEA LEVEL)).
3. Subsurface Platform shall be translated only if the FVU does not hold non No Statement Subsurface Specific Type from the associated J13.4 message. K05.1 Subsurface Specific Type is derived from J2.4 Surface Platform as described in G37.
4. If the FVU database holds data from an associated J13.4 message, the K05.1 Surface Specific Type shall be derived from the J13.4 Surface Specific Type.

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TABLE D.5.2-K05.1-5. K05.1 Message Data Element Translation from the J2.5 (Sheet 1 of 3)

VMF					LINK 16			
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES
APPLICATION HEADER MS 2045-47001D CH1	NA	GPI [VMF MESSAGE IDENTIFICATION GROUP]	1	NONE	NA	NA	NA	
		FAD	5	CR	J2.5I	LABEL, J-SERIES	2	
		MESSAGE NUMBER	1	CR	J2.8I	SUBLABEL, J-SERIES	5	
		FPI	0	NONE	NA	NA	NA	
	NA	OPERATION INDICATOR	AT	CR	J2.5I	EXERCISE INDICATOR OR SIMULATION INDICATOR	RX	G10
K05.1	1.1	GRI	0	CR	J2.5I	STRENGTH	RX	
	1.2	URN	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G1
	1.3	UNIT LATITUDE	AT	CR	J2.5E0	LATITUDE, 0.0013 MINUTE	RX	G2
	1.4	UNIT LONGITUDE	AT	CR	J2.5E0	LONGITUDE, 0.0013 MINUTE	RX	G2
	1.5	LOCATION DERIVATION	11	NONE	NA	NA	NA	
	1.6	FPI	1	NONE	NA	NA	NA	
	1.6.1	LOCATION QUALITY	AT	CR	J2.5I	GEODETIC POSITION QUALITY	RX	G3
	1.7	EXERCISE INDICATOR (EX IND)	RX	=	J2.5I	EXERCISE INDICATOR	RX	
	1.8	GPI	0	NONE	NA	NA	NA	
	1.9	FPI	AT	CR	J2.5I	ELEVATION, 25 FT	RX	1
	1.9.1	ELEVATION, FEET	AT	CR	J2.5I	ELEVATION, 25FT	RX	1,G39

TABLE D.5.2-K05.1-5. K05.1 Message Data Element Translation from the J2.5 (Sheet 2 of 3)

VMF					LINK 16				
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES	
K05.1 (CON'T)	1.10	FPI	0	NONE	NA	NA	NA		
	1.11	GPI	0	NONE	NA	NA	NA	G35	
	1.12	GPI	1	NONE	NA	NA	NA		
	1.12.1	YEAR	AR	NONE	NA	NA	NA	G41	
	1.12.2	MONTH	AR	NONE	NA	NA	NA	G41	
	1.12.3	DAY OF MONTH	AR	NONE	NA	NA	NA	G41	
	1.12.4	HOUR	AR	NONE	NA	NA	NA	G41	
	1.12.5	MINUTE	AR	NONE	NA	NA	NA	G41	
	1.12.6	SECOND	AR	NONE	NA	NA	NA	G41	
	1.13	ORIGINATOR ENVIRONMENT (ENV)	2	CR	J2.5I	LABEL, LINK 16 SUBLABEL, LINK 16	2 5		
	1.14	GPI	1	NONE	NA	NA	NA		
	1.14.1	FPI	0	NONE	NA	NA	NA		
	1.14.2	FPI	0	NONE	NA	NA	NA		
	1.14.3	FPI	0	NONE	NA	NA	NA		
	1.14.4	FPI	1	NONE	NA	NA	NA		
	1.14.4.1	LAND SPECIFIC TYPE	AT	CR	J2.5C1	LAND PLATFORM	RX	G38	

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TABLE D.5.2-K05.1-5. K05.1 Message Data Element Translation from the
J2.5 (Sheet 3 of 3)

NOTES

1. If J2.5 Elevation, 25 Ft is specified "2047" (ELEVATION UNKNOWN) then set the FPI to "0" (NOT PRESENT). Otherwise, set FPI to "1" (PRESENT) and translate 25 foot increments to 1 foot increments.

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TABLE D.5.2-K05.1-6. K05.1 Message Data Element Translation from the J2.6 (Sheet 1 of 3)

VMF					LINK 16			
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES
APPLICATION HEADER MS 2045- 47001D CH1	NA	GPI [VMF MESSAGE IDENTIFICATION GROUP]	1	NONE	NA	NA	NA	
		FAD	5	CR	J2.6I	LABEL, J-SERIES	2	
		MESSAGE NUMBER	1	CR	J2.6I	SUBLABEL, J-SERIES	6	
		FPI	0	NONE	NA	NA	NA	
	NA	OPERATION INDICATOR	AT	CR	J2.6I	EXERCISE INDICATOR OR SIMULATION INDICATOR	RX	G10
K05.1	1.1	GRI	0	CR	J2.6I	STRENGTH	RX	
	1.2	URN	AT	CR	HEADER	TRACK NUMBER, SOURCE	RX	G1
	1.3	UNIT LATITUDE	AT	CR	J2.6E0	LATITUDE, 0.0013 MINUTE	RX	G2
	1.4	UNIT LONGITUDE	AT	CR	J2.6E0	LONGITUDE, 0.0013 MINUTE	RX	G2
	1.5	LOCATION DERIVATION	11	NONE	NA	NA	NA	
	1.6	FPI	1	NONE	NA	NA	NA	
	1.6.1	LOCATION QUALITY	AT	CR	J2.6I	GEODETIC POSITION QUALITY	RX	G3
	1.7	EXERCISE INDICATOR (EX IND)	RX	=	J2.6I	EXERCISE INDICATOR	RX	
	1.8	GPI	AT	CR	J2.6E0	COURSE SPEED	RX	1
	1.8.1	COURSE	RX	=	J2.6E0	COURSE	RX	1

TABLE D.5.2-K05.1-6. K05.1 Message Data Element Translation from the J2.6 (Sheet 2 of 3)

VMF		LINK 16						
MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES
K05.1 (CON'T)	1.8.2	UNIT SPEED, KPH	AT	CR	J2.6E0	SPEED	RX	1,G40
	1.9	FPI	AT	CR	J2.6I	ELEVATION, 25 FT	RX	2
	1.9.1	ELEVATION, FEET	AT	CR	J2.6I	ELEVATION, 25FT	NA	2,G39
	1.10	FPI	0	NONE	NA	NA	NA	
	1.11	GPI	0	NONE	NA	NA	NA	G35
	1.12	GPI	1	NONE	NA	NA	NA	
	1.12.1	YEAR	AR	NONE	NA	NA	NA	G41
	1.12.2	MONTH	AR	NONE	NA	NA	NA	G41
	1.12.3	DAY OF MONTH	AR	NONE	NA	NA	NA	G41
	1.12.4	HOUR	AR	NONE	NA	NA	NA	G41
	1.12.5	MINUTE	AR	NONE	NA	NA	NA	G41
	1.12.6	SECOND	AR	NONE	NA	NA	NA	G41
	1.13	ORIGINATOR ENVIRONMENT (ENV)	2	CR	J2.6I	LABEL, LINK 16 SUBLABEL, LINK 16	2 6	
	1.14	GPI	1	NONE	NA	NA	NA	
	1.14.1	FPI	0	NONE	NA	NA	NA	
	1.14.2	FPI	0	NONE	NA	NA	NA	
	1.14.3	FPI	0	NONE	NA	NA	NA	
	1.14.4	FPI	1	NONE	NA	NA	NA	
	1.14.4.1	LAND SPECIFIC TYPE	AT	CR	J2.6C1	LAND PLATFORM	RX	G38

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TABLE D.5.2-K05.1-6. K05.1 Message Data Element Translation from the J2.6
(Sheet 3 of 3)

NOTES

1. If J2.6 Course or Speed = No Statement, set GPI to "0" (NOT PRESENT), otherwise set GPI to "1" (PRESENT).
2. If J2.6 Elevation, 25 Ft is specified "2047" (ELEVATION UNKNOWN) then set the FPI to "0" (NOT PRESENT). Otherwise, set FPI to "1" (PRESENT) and translate 25 foot increments to 1 foot increments.

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TABLE D.5.2-J. Header Message Data Element Translation from VMF Header (Sheet 1 of 2)

LINK 16				VMF					
WORD	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	NOTES	
HEADER	TIME SLOT TYPE	AR	NONE	NA	NA	NA	NA		
HEADER	RELAY TRANSMISSION INDICATOR	AR	NONE	NA	NA	NA	NA	1	
HEADER	TYPE MODIFIER	AR	NONE	NA	NA	NA	NA		
HEADER	TRACK NUMBER, SOURCE	RX	CR	APPLICATION HEADER MS 2045-47001	NA	UNIT REFERENCE NUMBER	AT	G1, 1	
HEADER	SECURE DATA UNIT SERIAL NUMBER	AR	NONE	NA	NA	NA	NA		

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TABLE D.5.2-J. Header Message Data Element Translation from VMF Header
(Sheet 2 of 2)

NOTES

1. Header information is required on all Link 16 messages. The Track Number, Source will be that of the unit whose data are being forwarded within the time slot. Only data from the Track Number, Source shall be transmitted within a time slot. An FVU forwarding for multiple sources shall ensure the above separation of data and individual data sources. The Relayed Transmission Indicator shall be set to 0 by the FVU for forwarded messages.

TABLE D.5.2-J2.0. J2.0 Message Data Element Translation from the K05.1 (Sheet 1 of 7)

LINK 16				VMF				
WORD	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	NOTES
J2.0I	WORD FORMAT	0	NONE	NA	NA	NA	NA	
	LABEL, J-SERIES	2	CR	APPLICATION HEADER MS 2045-47001	NA	FAD	5	
	SUB-LABEL, J-SERIES	0	CR	APPLICATION HEADER MS 2045-47001	NA	MESSAGE NUMBER	1	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	NA	
	EXERCISE INDICATOR	RX	=	K05.1	1.7 or	EXERCISE INDICATOR (EX IND)	RX	G11
		AT	CR	APPLICATION HEADER MS 2045-47001	NA	OPERATION INDICATOR	RX	
	BAILOUT INDICATOR	0	NONE	NA	NA	NA	NA	
	FORCE TELL INDICATOR	0	NONE	NA	NA	NA	NA	
	EMERGENCY INDICATOR	0	NONE	NA	NA	NA	NA	
	COMMAND AND CONTROL INDICATOR	0	NONE	NA	NA	NA	NA	
	SIMULATION INDICATOR	AT	CR	APPLICATION HEADER MS 2045-47001	NA	OPERATION INDICATOR	RX	G11
	TRACK NUMBER, SOURCE	AT	CR	K05.1	1.1 1.2	GRI URN	RX RX	G1, 1
	FLIGHT LEAD INDICATOR	0	NONE	NA	NA	NA	NA	
	MISSION COMMANDER INDICATOR	0	NONE	NA	NA	NA	NA	
	GENERIC UNIT TYPE	0	NONE	NA	NA	NA	NA	
	ALTITUDE, 25 FT	AT	CR	K05.1	1.10 or 1.10.1	FPI ALTITUDE, 25 FT	RX RX	4
	ALTITUDE QUALITY, GU	0	NONE	NA	NA	NA	NA	

TABLE D.5.2-J2.0. J2.0 Message Data Element Translation from the K05.1 (Sheet 2 of 7)

LINK 16				VMF					
WORD	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	NOTES	
J2.0I (CON'T)	POSITION QUALITY, GU	AT	CR	K05.1	1.6 or 1.6.1	FPI LOCATION QUALITY	RX RX	5 G4	
	SITE	0	NONE	NA	NA	NA	NA		
	UNIT TYPE	0	NONE	NA	NA	NA	NA		
	ORIGINATOR ENVIRONMENT	RX	=	K05.1	1.13	ORIGINATOR ENVIRONMENT CATEGORY (ENV CAT)	RX		
J2.0E0	WORD FORMAT	2	NONE	NA	NA	NA	NA		
	LATITUDE 1, 0.0013	AT	CR	K05.1	1.3	UNIT LATITUDE	RX	6	
	LONGITUDE 1, 0.0013	AT	CR	K05.1	1.4	UNIT LONGITUDE	RX	7	
	AIRBORNE INDICATOR	NA	NONE	NA	NA	NA	NA		
	COURSE	RX	=	K05.1	1.8.1	COURSE	RX		
	SPEED	AT	CR	K05.1	1.8.2	UNIT SPEED, KPH	RX	2	
J2.0C1	WORD FORMAT	1	NONE	NA	NA	NA	NA		
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	NA		
	MODE I CODE	AT	CR	K05.1	1.11.1 or 1.11.1.1	FPI MODE I CODE	RX	8	
	MODE II CODE	AT	CR	K05.1	1.11.2 or 1.11.2.1	FPI MODE II CODE	RX	9	
	MODE III CODE	AT	CR	K05.1	1.11.3 or 1.11.3.1	FPI MODE III CODE	RX	10	

TABLE D.5.2-J2.0. J2.0 Message Data Element Translation from the K05.1 (Sheet 3 of 7)

LINK 16				VMF					
WORD	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	NOTES	
J2.0C1 (CON'T)	ELEVATION, 25 FT	AT	CR	K05.1	1.9 OR 1.9.1	FPI ELEVATION, FEET	RX	11	
	DEPTH, 15 METERS	127	NONE	NA	NA	NA	NA		
	DEPTH CATEGORY	0	NONE	NA	NA	NA	NA		
	AIR PLATFORM	AT	CR	K05.1	1.14.1 OR 1.14.1.1	FPI AIR SPECIFIC TYPE	RX	3, 12	
	AIR ACTIVITY	0	NONE	NA	NA	NA	NA		
	SURFACE PLATFORM (SUR PLT)	AT	CR	K05.1	1.14.2 OR 1.14.2.1	FPI SURFACE SPECIFIC TYPE	RX	3, 13	
	SURFACE ACTIVITY	0	NONE	NA	NA	NA	NA		
	SUBSURFACE PLATFORM (SUB PLT)	AT	CR	K05.1	1.14.3 OR 1.14.3.1	FPI SUBSURFACE SPECIFIC TYPE	RX	3, 14	
	SUBSURFACE ACTIVITY	0	NONE	NA	NA	NA	NA		
	LAND PLATFORM (LND PLT)	AT	CR	K05.1	1.14.4 OR 1.14.4.1	FPI LAND SPECIFIC TYPE	RX	3, 15	
	LAND ACTIVITY	0	NONE	NA	NA	NA	NA		
	MISSION CORRELATOR	0	NONE	NA	NA	NA	NA		
J2.0C2	NOT TRANSLATED		NONE						
J2.0C3	WORD FORMAT	1	NONE	NA	NA	NA	NA		
	CONTINUATION WORD LABEL	3	NONE	NA	NA	NA	NA		
	MINUTE	0	NONE	NA	NA	NA	NA		
	SECOND	0	NONE	NA	NA	NA	NA		

TABLE D.5.2-J2.0. J2.0 Message Data Element Translation from the K05.1 (Sheet 4 of 7)

LINK 16				VMF					
WORD	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	NOTES	
J2.0C3 (CON'T)	MILLISECOND	0	NONE	NA	NA	NA	NA		
	POSITION TIME QUALITY	0	NONE	NA	NA	NA	NA		
	TIME LATENCY INDICATOR	1	NONE	NA	NA	NA	NA		
	LATITUDE, LSBS 0.0003 MINUTES	AT	CR	K05.1	1.3	UNIT LATITUDE	RX	6	
	LONGITUDE, LSBS 0.0003 MINUTES	AT	CR	K05.1	1.4	UNIT LONGITUDE	RX	7	
	ALTITUDE, LSBS 1.5625 FT	0	NONE	NA	NA	NA	NA		
	HOUR TICK	0	NONE	NA	NA	NA	NA		
	AIR SPECIFIC TYPE	AT	CR	K05.1	1.14.1 OR 1.14.1.1	FPI AIR SPECIFIC TYPE	RX	3, 16	
	SURFACE SPECIFIC TYPE	AT	CR	K05.1	1.14.2 OR 1.14.2.1	FPI SURFACE SPECIFIC TYPE	RX	3, 17	
	SUBSURFACE SPECIFIC TYPE	AT	CR	K05.1	1.14.3 OR 1.14.3.1	FPI SUBSURFACE SPECIFIC TYPE	RX	3, 18	
	LAND SPECIFIC TYPE	AT	CR	K05.1	1.14.4 OR 1.14.4.1	FPI LAND SPECIFIC TYPE	RX	3, 19	
NETWORK POSITION STATUS INDICATOR		0	NONE	NA	NA	NA	NA		

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TABLE D.5.2-J2.0. J2.0 Message Data Element Translation from the K05.1 (Sheet 5 of 7)

NOTES

1. If the GRI for R1 is set to "0" (Not Repeated) the FVU will transmit a single J2.0. If the GRI for R1 is set to "1" (Repeated) the FVU will transmit a J2.0 for each repeat. The GRI is set to "0" (Not Repeated) on the last iteration.
2. Unit Speed, KPH (367/403) shall be translated to the nearest value increment of Speed (367/018) (i.e., data miles (DM) per hour). Translations that result in one half or greater increment will be rounded up to the next higher increment. Translations of kilometers per hour (KPH) to data miles (DM) per hour shall be computed using $DM/h = KPH / 1.8288 \text{ km/DM}$.
3. The appropriate Link 16 Specific Type will be determined from the VMF Originator Environment Category (ENV CAT) as shown in the following table.

Specific Type/Originator Environment Category Relationship

Link 16 Point or Track Specific Type	VMF Originator Environment Category (ENV CAT)
SURFACE SPECIFIC TYPE	SURFACE
SUBSURFACE SPECIFIC TYPE	SUBSURFACE
LAND SPECIFIC TYPE	LAND
AIR SPECIFIC TYPE	AIR

4. If FPI is specified "0" (NOT PRESENT) set Altitude, 25 FT to "8191" (ALTITUDE UNKNOWN). If FPI is specified "1" {PRESENT}, translation is equivalent.
5. If FPI is specified "0" (NOT PRESENT) Position Quality, GU is set to "0" (>18,080ft). If FPI is specified "1" {PRESENT}, translate in accordance with General Note 4.

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TABLE D.5.2-J2.0. J2.0 Message Data Element Translation from the K05.1 (Sheet 6 of 7)

NOTES (Continued)

6. The Link 16 latitude is made up by concatenating the J2.0C3 Latitude, LSBs 0.0003 Minute field with the J2.0E0 Latitude 1, 0.0013 Minute field. When these fields are concatenated the translation from VMF Latitude is approximately equivalent. This is accomplished by placing the 23 most significant bits of the VMF Unit Latitude field into J2.0E0 Latitude 1, 0.0013 Minute field and placing the 2 least significant bits of the VMF Unit Latitude field into the J2.0C3 Latitude, LSBs 0.0003 Minute field.

7. The Link 16 longitude is made up by concatenating the J2.0C3 Longitude, LSBs 0.0003 Minute field with the J2.0E0 Longitude 1, 0.0013 Minute field. When these fields are concatenated the translation from VMF Longitude is approximately equivalent. This is accomplished by placing the 24 most significant bits of the VMF Unit Longitude field into J2.0E0 Longitude 1, 0.0013 Minute field and placing the 2 least significant bits of the VMF Unit Longitude field into the J2.0C3 Longitude, LSBs 0.0003 Minute field.

8. If FPI is specified "0" (NOT PRESENT) set Mode I Code to "0" (NO STATEMENT). If FPI is specified "1" {PRESENT}, translation is equivalent.

9. If FPI is specified "0" (NOT PRESENT) set Mode II Code to "0" (NO STATEMENT). If FPI is specified "1" {PRESENT}, translation is equivalent.

10. If FPI is specified "0" (NOT PRESENT) set Mode III Code to "0" (NO STATEMENT). If FPI is specified "1" {PRESENT}, translation is equivalent.

11. If FPI is specified "0" (NOT PRESENT) set Elevation, 25 FT to "2047" (ELEVATION UNKNOWN). If FPI is specified "1" {PRESENT}, translation is equivalent.

12. If FPI is specified "0" (NOT PRESENT) set Air Platform to "0" (NO STATEMENT). If FPI is specified "1" {PRESENT}, translation is according to G6.

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TABLE D.5.2-J2.0. J2.0 Message Data Element Translation from the
K05.1 (Sheet 7 of 7)

NOTES (Continued)

13. If FPI is specified "0" (NOT PRESENT) set Surface Platform to "0" (NO STATEMENT). If FPI is specified "1" {PRESENT}, translation is according to G7.

14. If FPI is specified "0" (NOT PRESENT) set Subsurface Platform to "0" (NO STATEMENT). If FPI is specified "1" {PRESENT}, translation is according to G8.

15. If FPI is specified "0" (NOT PRESENT) set Land Platform to "0" (NO STATEMENT). If FPI is specified "1" {PRESENT}, translation is according to G9.

16. If FPI is specified "0" (NOT PRESENT) set Air Specific Type to "0" (NO STATEMENT). If FPI is specified "1" {PRESENT}, translation is equivalent.

17. If FPI is specified "0" (NOT PRESENT) set Surface Specific Type to "0" (NO STATEMENT). If FPI is specified "1" {PRESENT}, translation is equivalent.

18. If FPI is specified "0" (NOT PRESENT) set Subsurface Specific Type to "0" (NO STATEMENT). If FPI is specified "1" {PRESENT}, translation is equivalent.

19. If FPI is specified "0" (NOT PRESENT) set Land Specific Type to "0" (NO STATEMENT). If FPI is specified "1" {PRESENT}, translation is equivalent.

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TABLE D.5.2-J3.1. J3.1 Message Data Element Translation from the K03.6 (Sheet 1 of 2)

LINK 16				VMF					
WORD	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	NOTES	
J3.1I	WORD FORMAT	0	NONE	NA	NA	NA	NA		
	LABEL, J-SERIES	3	CR	APPLICATION HEADER MS-2045-47001	NA	FUNCTIONAL AREA DESGINATOR	3		
	SUB-LABEL, J-SERIES	1	CR	APPLICATION HEADER MS-2045-47001	NA	MESSAGE NUMBER	6		
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	NA		
	EXERCISE INDICATOR	AT	CR	APPLICATION HEADER MIL-STD-2045-47001	NA	OPERATION INDICATOR	RX	G11	
	SPECIAL PROCESSING INDICATOR	0	NONE	NA	NA	NA	NA		
	SIMULATION INDICATOR	AT	CR	APPLICATION HEADER MIL-STD-2045-47001	NA	OPERATION INDICATOR	RX	G11	
	TRACK NUMBER, REFERENCE	AT	CR	K03.6	1.	URN	RX	G1	
	PERSONNEL INVOLVED	AT	CR	K03.6	11. OR 11.1	FPI PERSONNEL INVOLVED	RX	1	
	EMERGENCY TYPE	AT	CR	K03.6	10. OR 10.1	FPI EMERGENCY TYPE	RX	2	
J3.1E0	TRACK NUMBER, PREVIOUSLY REPORTED	0	NONE	NA	NA	NA	NA		
	WORD FORMAT	2	NONE	NA	NA	NA	NA		
	LATITUDE, 0.0051 MINUTE	RX	=	K03.6	2.	LATITUDE, 0.0051 MINUTE	RX		
	LONGITUDE, 0.0051 MINUTE	RX	=	K03.6	3.	LONGITUDE, 0.0051 MINUTE	RX		
	TIME FUNCTION	5	NONE	NA	NA	NA	NA		
	POSITION ACCURACY	0	NONE	NA	NA	NA	NA		
	MINUTE	RX	=	K03.6	6.	MAYDAY MINUTE	RX		
	HOUR	RX	=	K03.6	5.	MAYDAY HOUR	RX		

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TABLE D.5.2-J3.1. J3.1 Message Data Element Translation from the K03.6
(Sheet 2 of 2)

NOTES

1. If FPI specified "0" (Not Present) set Personnel Involved "0" (No Statement). If FPI is specified "1" (Present) translation is equivalent.
2. If FPI specified "0" (Not Present) set Emergency Type "0" (No Statement/Other). If FPI is specified "1" (Present) translation is equivalent.

TABLE D.5.2-J3.2. J3.2 Message Data Element Translation from the K04.1 (Sheet 1 of 4)

LINK 16				VMF				
WORD	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	NOTES
J3.2I	WORD FORMAT	0	NONE	NA K04.1	NA 7.3	NA	NA	
	LABEL, J-SERIES	3	CR				RX	1
	SUBLABEL, J-SERIES	2	CR					
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	NA	
	EXERCISE INDICATOR	AT	CR	K04.1	7.2	IDENTITY, VMF	RX	9 G28
	PPLI TRACK NUMBER AND IDENTITY INDICATOR	0	NONE	NA	NA	NA	NA	
	FORCE TELL INDICATOR	0	NONE	NA	NA	NA	NA	
	EMERGENCY INDICATOR	0	NONE	NA	NA	NA	NA	
	SPECIAL PROCESSING INDICATOR	0	NONE	NA	NA	NA	NA	
	SIMULATION INDICATOR	AT	CR	APPLICATION HEADER MS 2045-47001	NA	OPERATION INDICATOR	RX	G11
	TRACK NUMBER, REFERENCE	AT	CR	K04.1	7.13.2	ENTITY ID SERIAL NUMBER	RX	G26
	STRENGTH	AT	CR	K04.1	7.11 OR 7.11.1	FPI QUANTITY OF EQUIPMENT/WEAPONS OBSERVED	RX	2 G27
	ALTITUDE SOURCE	0	NONE	NA	NA	NA	NA	
	ALTITUDE, 25 FT	AT	CR	K04.1	7.13.5 OR 7.13.5.1	FPI ALTITUDE, 25 FT	RX RX	3

TABLE D.5.2-J3.2. J3.2 Message Data Element Translation from the K04.1 (Sheet 2 of 4)

LINK 16			TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	VMF			NOTES
WORD	DATA ELEMENT	VALUE				DATA ELEMENT	VALUE		
J3.2I (CON'T)	IDENTITY DIFFERENCE INDICATOR	0	NONE	NA	NA	NA	NA		
	TRACK QUALITY	0	NONE	NA	NA	NA	NA		
	IDENTITY	AT	CR	K04.1	7.2	IDENTITY, VMF	RX	G28	
	IDENTITY AMPLIFYING DESCRIPTOR	AT	CR						
	SPECIAL INTEREST INDICATOR	0	NONE	NA	NA	NA	NA		
J3.2E0	WORD FORMAT	2	NONE	NA	NA	NA	NA		
	LATITUDE, 0.0051 MINUTE	AT	CR	K04.1	7.13.3.1	LATITUDE, 0.0013 MINUTE	RX	G2	
	LONGITUDE, 0.0051 MINUTE	AT	CR	K04.1	7.13.3.2	LONGITUDE, 0.0013 MINUTE	RX	G2	
	PASSIVE/ACTIVE INDICATOR	0	NONE	NA	NA	NA	NA		
	COURSE	AT	CR	K04.1	7.13.7 OR 7.13.7.1	GPI COURSE	RX RX	4	
	SPEED	AT	CR	K04.1	7.13.7 OR 7.13.7.2	GPI UNIT SPEED, KPH	RX RX	5	
J3.2C1	WORD FORMAT	1	NONE	NA	NA	NA	NA		
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	NA		
	AIR SPECIFIC TYPE INDICATOR	AR	NONE	NA	NA	NA	NA	6	
	MODE I CODE	0	NONE	NA	NA	NA	NA		

TABLE D.5.2-J3.2. J3.2 Message Data Element Translation from the K04.1 (Sheet 3 of 4)

LINK 16			VMF					
WORD	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	NOTES
J3.2C1 (CON'T)	MODE II CODE	0	NONE	NA	NA	NA	NA	
	MODE III CODE	0	NONE	NA	NA	NA	NA	
	MODE IV INDICATOR	0	NONE	NA	NA	NA	NA	
	PPLI IFF/SIF INDICATOR	0	NONE	NA	NA	NA	NA	
	AIR PLATFORM	AT	CR	K04.1	7.4	ENTITY TYPE	RX	G29
	AIR ACTIVITY	AT	CR	K04.1	7.13.8 or 7.13.8.1	FPI ACTIVITY	RX	7
	AIR SPECIFIC TYPE	AT	CR	K04.1	7.13.10.2 OR 7.13.10.2.1	FPI AIR SPECIFIC TYPE	RX	G30 8
	MINUTE	RX	=	K04.1	4.	OBSERVATION MINUTE	RX	
	HOUR	RX	=	K04.1	3.	OBSERVATION HOUR	RX	

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TABLE D.5.2-J3.2. J3.2 Message Data Element Translation from the K04.1
(Sheet 4 of 4)

NOTES

1. The J3.2 message is only translated from an K04.1 message when Dimension = 1 - Air, or 18 - Intelligence Air.
2. If FPI is specified "0" (Not Present) set Strength to "0" (No Statement). If FPI is specified "1" (Present) translate to Strength in accordance with General Note 27.
3. If FPI is specified "0" (Not Present) set Altitude, 25 FT to "8191" (Unknown). If FPI is specified "1" (Present) translation is equivalent.
4. If GPI is specified "0" (Not Present) set Course to "511" (No Statement). If GPI is specified "1" (Present) translation is equivalent.
5. If GPI is specified "0" (Not Present) set Speed to "2047" (No Statement). If GPI is specified "1" (Present) translate, by dividing Unit Speed, KPH bit code by 3.6576 (translate to the nearest bit code (0.5 rounded up)).
6. The Air Specific Type Indicator (ASTI) is set to either report Platform and Platform Activity or Specific Type, but not both. If just Platform/Platform Activity is to be sent, set ASTI to 0. If just Specific Type is being sent then set ASTI to 1. If both Platform/Platform Activity and Specific Type are to be forwarded as Non No Statement, then two identical J3.2 messages are sent, except the first shall have ASTI set to 0 and Platform/Platform Activity are sent and the second with ASTI set to 1 and Specific Type is sent.
7. If FPI is specified "0" (Not Present) set Air Activity to "0" (No Statement). If FPI is specified "1" (Present) translate to Air Activity in accordance with General Note 30.
8. If FPI is specified "0" (Not Present) set Air Specific Type to "0" (No Statement). If FPI is specified "1" (Present) translation is equivalent.
9. Link 16 Exercise Indicator is translated from Identity, VMF values 0 - 6 translate to Exercise = 0 and VMF values 7 - 13 translate to Exercise Indicator = 1.

TABLE D.5.2-J3.3. J3.3 Message Data Element Translation from the K04.1 (Sheet 1 of 4)

LINK 16				VMF					
WORD	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	NOTES	
J3.3I	WORD FORMAT	0	NONE	NA	NA	NA	NA		
	LABEL, J-SERIES	3	CR			7.3	DIMENSION	RX	1
	SUBLABEL, J-SERIES	3	CR						
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	NA		
	EXERCISE INDICATOR	AT	CR	K04.1	7.2	IDENTITY, VMF	RX	7, G28	
	PPLI TRACK NUMBER AND IDENTITY INDICATOR	0	NONE	NA	NA	NA	NA		
	FORCE TELL INDICATOR	0	NONE	NA	NA	NA	NA		
	EMERGENCY INDICATOR	0	NONE	NA	NA	NA	NA		
	SPECIAL PROCESSING INDICATOR	0	NONE	NA	NA	NA	NA		
	SIMULATION INDICATOR	AT	CR	APPLICATION HEADER MS 2045-47001	NA	OPERATION INDICATOR	RX	G11	
	TRACK NUMBER, REFERENCE	AT	CR	K04.1	7.13.2	ENTITY ID SERIAL NUMBER	RX	G26	
	STRENGTH	AT	CR	K04.1	7.11 OR 7.11.1	FPI QUANTITY OF EQUIPMENT/WEAPONS OBSERVED	RX	2 G27	
	SURFACE SPECIFIC TYPE	AT	CR	K04.1	7.13.10.3 OR 7.13.10.3.1	FPI SURFACE SPECIFIC TYPE	RX RX	3	
	IDENTITY DIFFERENCE INDICATOR	NA	NONE	NA	NA	NA	NA		

TABLE D.5.2-J3.3. J3.3 Message Data Element Translation from the K04.1 (Sheet 2 of 4)

LINK 16				VMF				
WORD	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	NOTES
J3.3I (CON'T)	TRACK QUALITY	0	NONE	NA	NA	NA	NA	
	IDENTITY CONFIDENCE	0	NONE	NA	NA	NA	NA	
	IDENTITY	AT	CR	K04.1	7.2	IDENTITY, VMF	RX	G28
	IDENTITY AMPLIFYING DESCRIPTOR	AT	CR					
	SPECIAL INTEREST INDICATOR	0	NONE	NA	NA	NA	NA	
J3.3E0	WORD FORMAT	2	NONE	NA	NA	NA	NA	
	LATITUDE, 0.0051 MINUTE	AT	CR	K04.1	7.13.3.1	LATITUDE, 0.0013 MINUTE	RX	G2
	LONGITUDE, 0.0051 MINUTE	AT	CR	K04.1	7.13.3.2	LONGITUDE, 0.0013 MINUTE	RX	G2
	PASSIVE/ACTIVE INDICATOR	0	NONE	NA	NA	NA	NA	
	COURSE	AT	CR	K04.1	7.13.7 OR 7.13.7.1	GPI COURSE	RX RX	4
	SPEED	AT	CR	K04.1	7.13.7 OR 7.13.7.2	GPI UNIT SPEED, KPH	RX RX	5
J3.3C1	WORD FORMAT	1	NONE	NA	NA	NA	NA	
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	NA	
	MODE I CODE	0	NONE	NA	NA	NA	NA	
	MODE II CODE	0	NONE	NA	NA	NA	NA	
	MODE III CODE	0	NONE	NA	NA	NA	NA	
	MODE IV INDICATOR	0	NONE	NA	NA	NA	NA	

TABLE D.5.2-J3.3. J3.3 Message Data Element Translation from the K04.1 (Sheet 3 of 4)

LINK 16				VMF					
WORD	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	NOTES	
J3.3C1 (CON'T)	PPLI IFF/SIF INDICATOR	0	NONE	NA	NA	NA	NA		
	SURFACE PLATFORM	AT	CR	K04.1	7.4	ENTITY TYPE	RX	G31	
	SURFACE ACTIVITY	AT	CR	K04.1	7.13.8 or 7.13.8.1	FPI ACTIVITY	RX	6	G32
	MINUTE	RX	=	K04.1	4.	OBSERVATION MINUTE	RX		
	HOUR	RX	=	K04.1	3.	OBSERVATION HOUR	RX		

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TABLE D.5.2-J3.3. J3.3 Message Data Element Translation from the K04.1
(Sheet 4 of 4)

NOTES

1. The J3.3 message is only translated from an K04.1 message when Dimension = 8 - Sea Surface, or 21 - Intelligence, Sea Surface.
2. If FPI is specified "0" (Not Present) set Strength to "0" (No Statement). If FPI is specified "1" (Present) translate to Strength in accordance with General Note 27.
3. If FPI is specified "0" (Not Present) set Surface Specific Type to "0" (No Statement). If FPI is specified "1" (Present) translation is equivalent.
4. If GPI is specified "0" (Not Present) set Course to "511" (No Statement). If GPI is specified "1" (Present) translation is equivalent.
5. If GPI is specified "0" (Not Present) set Speed to "2047" (No Statement). If GPI is specified "1" (Present) translate, by dividing Unit Speed, KPH bit code by 3.6576 (translate to the nearest bit code (0.5 rounded up)).
6. If FPI is specified "0" (Not Present) set Surface Activity to "0" (No Statement). If FPI is specified "1" (Present) translate to Surface Activity in accordance with General Note 32.
7. Link 16 Exercise Indicator is translated from Identity, VMF values 0-6 translate to Exercise = 0 and VMF values 7-13 translate to Exercise Indicator = 1.

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TABLE D.5.2-J3.4. J3.4 Message Data Element Translation from the K04.1
(Sheet 1 of 1)

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TABLE D.5.2-J3.5. J3.5 Message Data Element Translation from the K04.1 (Sheet 1 of 5)

LINK 16				VMF				
WORD	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	NOTES
J3.5I	WORD FORMAT	0	NONE	NA	NA	NA	NA	
	LABEL, J-SERIES	3	CR	K04.1	7.3	DIMENSION	RX	1
	SUBLABEL, J-SERIES	5	CR					
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	NA	
	EXERCISE INDICATOR	AT	CR	K04.1	7.2	IDENTITY, VMF	RX	9, G28
	FORCE TELL INDICATOR	0	NONE	NA	NA	NA	NA	
	EMERGENCY INDICATOR	0	NONE	NA	NA	NA	NA	
	SPECIAL PROCESSING INDICATOR	0	NONE	NA	NA	NA	NA	
	SIMULATION INDICATOR	AT	CR	APPLICATION HEADER MS 2045-47001	NA	OPERATION INDICATOR	RX	G11
	TRACK NUMBER, REFERENCE	AT	CR	K04.1	7.13.2	ENTITY ID SERIAL NUMBER	RX	G26
	STRENGTH	AT	CR	K04.1	7.11 OR 7.11.1	FPI QUANTITY OF EQUIPMENT/WEAPONS OBSERVED	RX	2 G27
	ELEVATION, 25 FT	RX	CR	K04.1	7.13 OR 7.13.4.1	FPI ELEVATION, FEET	RX	3
	POINT/TRACK INDICATOR	0	NONE	NA	NA	NA	NA	

TABLE D.5.2-J3.5. J3.5 Message Data Element Translation from the K04.1 (Sheet 2 of 5)

LINK 16				VMF				
WORD	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	NOTES
J3.5I (CON'T)	PPLI TRACK NUMBER AND IDENTITY INDICATOR	0	NONE	NA	NA	NA	NA	
	IDENTITY DIFFERENCE INDICATOR	0	NONE	NA	NA	NA	NA	
	TRACK QUALITY	0	NONE	NA	NA	NA	NA	
	IDENTITY CONFIDENCE	0	NONE	NA	NA	NA	NA	
	IDENTITY	AT	CR	K04.1	7.2	IDENTITY, VMF	RX	G28
	IDENTITY AMPLIFYING DESCRIPTOR	AT	CR					
	SPECIAL INTEREST INDICATOR	0	NONE	NA	NA	NA	NA	
J3.5E0	WORD FORMAT	2	NONE	NA	NA	NA	NA	
	LATITUDE, 0.0051 MINUTE	AT	CR	K04.1	7.13.3.1	LATITUDE, 0.0013 MINUTE	RX	G2
	LONGITUDE, 0.0051 MINUTE	AT	CR	K04.1	7.13.3.2	LONGITUDE, 0.0013 MINUTE	RX	G2
	PASSIVE/ACTIVE INDICATOR	0	NONE	NA	NA	NA	NA	
	COURSE	AT	CR	K04.1	7.13.7 OR 7.13.7.1	GPI COURSE	RX RX	4
	SPEED	AT	CR	K04.1	7.13.7 OR 7.13.7.2	GPI UNIT SPEED, KPH	RX RX	5

TABLE D.5.2-J3.5. J3.5 Message Data Element Translation from the K04.1 (Sheet 3 of 5)

LINK 16				VMF				
WORD	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	NOTES
J3.5C1	WORD FORMAT	1	NONE	NA	NA	NA	NA	
	CONTINUATION WORD LABEL	1	NONE	NA	NA	NA	NA	
	LAND SPECIFIC TYPE INDICATOR	AR	NONE	NA	NA	NA	NA	6
	MODE I CODE	0	NONE	NA	NA	NA	NA	
	MODE II CODE	0	NONE	NA	NA	NA	NA	
	MODE III CODE	0	NONE	NA	NA	NA	NA	
	MODE IV INDICATOR	0	NONE	NA	NA	NA	NA	
	PPLI IFF/SIF INDICATOR	0	NONE	NA	NA	NA	NA	
	LAND PLATFORM	AT	CR	K04.1	7.3 7.4	DIMENSION ENTITY TYPE	RX	G33
	LAND ACTIVITY	AT	CR	K04.1	7.13.8 or 7.13.8.1	FPI ACTIVITY	RX	7 G34
	LAND SPECIFIC TYPE	AT	CR	K04.1	7.13.10.5 or 7.13.10.5.1	FPI LAND SPECIFIC TYPE	RX	8
	TIME FUNCTION	0	NONE	NA	NA	NONE	NA	
	MINUTE	RX	=	K04.1	4.	OBSERVATION MINUTE	RX	
	HOUR	RX	=	K04.1	3.	OBSERVATION HOUR	RX	

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TABLE D.5.2-J3.5. J3.5 Message Data Element Translation from the K04.1
(Sheet 4 of 5)

NOTES

1. The J3.5 message is only translated from an K04.1 message when Dimension = 2, 3, 4, 5, 6, 7, or 19.
2. If FPI is specified "0" (Not Present) set Strength to "0" (No Statement). If FPI is specified "1" (Present) translate to Strength in accordance with General Note 27.
3. If FPI is specified "0" (Not Present) set Elevation, 25Ft to "2047" (Elevation Unknown). If FPI is specified "1" (Present) translate to the nearest 25ft increment. All values between 51,150 ft and 65,535 ft inclusive translate to 51,150 ft. All values between -1,320 ft and -1ft inclusive translate to Elevation, 25ft value 0.
4. If GPI is specified "0" (Not Present) set Course to "511" (No Statement). If GPI is specified "1" (Present) translation is equivalent.
5. If GPI is specified "0" (Not Present) set Speed to "2047" (No Statement). If GPI is specified "1" (Present) translate, by dividing Unit Speed, KPH bit code by 3.6576 (translate to the nearest bit code (0.5 rounded up)).
6. The Land Specific Type Indicator (LSTI) is set to either report Platform and Platform Activity or Specific Type, but not both. If just Platform/Platform Activity is to be sent, set LSTI to 0. If just Specific Type is being sent then set LSTI to 1. If both Platform/Platform Activity and Specific Type are to be forwarded as Non No Statement, then two identical J3.5 messages are sent, except the first shall have LSTI set to 0 and Platform/Platform Activity are sent and the second with LSTI set to 1 and Specific Type is sent.
7. If FPI is specified "0" (Not Present) set Land Activity to "0" (No Statement). If FPI is specified "1" (Present) translate to Land Activity in accordance with General Note 34.

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TABLE D.5.2-J3.5. J3.5 Message Data Element Translation from the K04.1
(Sheet 5 of 5)

NOTES

8. If FPI is specified "0" (Not Present) set Specific Type to "0" (No Statement.) If FPI is specified "1" (Present) translation is equivalent.
9. Link 16 Exercise Indicator is translated from Identity, VMF values 0 - 6 translate to Exercise = 0 and VMF values 7 - 13 translate to Exercise Indicator = 1.

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TABLE D.5.2-J28.2(0). J28.2(0) Message Data Element Translation from the K01.1 (Sheet 1 of 4)

LINK 16				VMF				
WORD	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	NOTES
J28.2(0) I	WORD FORMAT	0	NONE	NA	NA	NA	NA	
	LABEL, J-SERIES	28	CR	APPLICATION HEADER MS-2045-47001	NA	FUNCTIONAL AREA DESIGNATOR	1	
	SUB-LABEL, J-SERIES	2	CR	APPLICATION HEADER MS-2045-47001	NA	MESSAGE NUMBER	1	
	AF PROPRIETARY FORMAT	0	CR	APPLICATION HEADER MS-2045-47001	NA	MESSAGE NUMBER	1	
	MESSAGE LENGTH INDICATOR	AR	NONE	NA	NA	NA	NA	
	MESSAGE NUMBER	AR	NONE	NA	NA	NA	NA	
	MESSAGE COUNT	AR	NONE	NA	NA	NA	NA	
	TRACK NUMBER, ADDRESSEE	AT	CR	APPLICATION HEADER MS-2045-47001	NA	GPI	RX	1
						GRI	RX	
						URN	RX	
J28.2(0) E0	CHARACTER #1	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2
	CHARACTER #2	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2
	OPERATOR/WARFARE AREA	0	NONE	NA	NA	NA	NA	
	WORD FORMAT	2	NONE	NA	NA	NA	NA	
	CHARACTER #3	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2
	CHARACTER #4	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2
	CHARACTER #5	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2
	CHARACTER #6	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2
	CHARACTER #7	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2

TABLE 5.2-J28.2(0). J28.2(0) Message Data Element Translation from the K01.1 (Sheet 2 of 4)

LINK 16				VMF					
WORD	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	NOTES	
J28.2(0) E0	CHARACTER #8	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2	
	CHARACTER #9	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2	
	CHARACTER #10	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2	
	CHARACTER #11	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2	
	CHARACTER #12	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2	
	CHARACTER #13	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2	
J28.2(0) E0	WORD FORMAT	2	NONE	NA	NA	NA	NA		
	CHARACTER #3	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2	
	CHARACTER #4	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2	
	CHARACTER #5	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2	
	CHARACTER #6	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2	
	CHARACTER #7	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2	
	CHARACTER #8	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2	
	CHARACTER #9	AT	CR	K01.1	1.	SUBJECT	RX	G14, 2	
	CHARACTER #10	AT	CR	K01.1	2.1	FRI	RX	3	
					2.2	COMMENTS	RX	G14, 4	
	CHARACTER #11	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #12	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #13	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
J28.2(0) E0	WORD FORMAT	2	NONE	NA	NA	NA	NA		
	CHARACTER #3	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #4	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #5	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #6	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #7	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #8	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	

TABLE D.5.2-J28.2(0). J28.2(0) Message Data Element Translation from the K01.1 (Sheet 3 of 4)

LINK 16				VMF					
WORD	DATA ELEMENT	VALUE	TRANSLATION REQUIRED	MESSAGE	INDEX NUMBER	DATA ELEMENT	VALUE	NOTES	
J28.2(0) E0	CHARACTER #9	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #10	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #11	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #12	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #13	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
J28.2(0) E0	WORD FORMAT	2	NONE	NA	NA	NA	NA		
	CHARACTER #3	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #4	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #5	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #6	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #7	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #8	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #9	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #10	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #11	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #12	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #13	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
J28.2(0) E0	WORD FORMAT	2	NONE	NA	NA	NA	NA		
	CHARACTER #3	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #4	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #5	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #6	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #7	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #8	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #9	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #10	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #11	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #12	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	
	CHARACTER #13	AT	CR	K01.1	2.2	COMMENTS	RX	G14, 4	

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TABLE D.5.2-J28.2(0). J28.2(0) Message Data Element Translation from the K01.1 (Sheet 4 of 4)

NOTES:

1. If GPI for G2 is specified "0" (Not Present) set Track Number, Addressee to 177. If GPI for G2 is specified "1" (Present) translate as follows. If the GRI for R1 is set to "0" (Not Repeated) the FVU shall translate the URN to the J28.2(0), Track Number, Addressee (769/006) IAW General Note 1. If the GRI for R1 is set to "1" (Repeated), separate complete J28.2(0) Text Reports shall be sent to each Link 16 addressee. The FVU shall translate the URNs to individual J28.2(0) Text Reports IAW General Note 1 for each iteration of the URN. If any URN translates to a Link 16 addressee that is not being forwarded to, then no Text Report shall be generated for that addressee.
2. The Subject field is always used to fill the first 20 characters of the J28.2(0) message. If the End of Literal Field Marker "127" is received prior to the 20th character of the VMF Subject, the remaining character(s) shall be forwarded as blank(s).
3. The 200 characters in the Comment field of the K01.1 message may be followed by up to 5 additional 200 character blocks (via the FRI setting) for a total of 1200 characters. The length of the J28.2(0) message is determined by the total number of characters received.
4. Since the VMF Subject field occupies the first 20 characters of the J28.2(0) message, the VMF Comment field starts at the 21st character of the J28.2(0) message. If the End of Literal Field Marker "127" is received prior to filling a J28.2(0)I or E0 word, the rest of the characters in that word shall be forwarded as blank(s).

APPENDIX D

D.5.3 GENERAL NOTES FOR MESSAGE DATA ELEMENT TRANSLATION

This section provides the general notes used for message data element translations in Section D.5.2.

GENERAL NOTE 1 TRACK NUMBER, SOURCE (STN)/UNIT REFERENCE NUMBER TRANSLATION

The STN to URN translation is described in GENERAL NOTE 1.1.

The URN to STN translation is described in GENERAL NOTE 1.2.

GENERAL NOTE 1.1 STN TO URN TRANSLATION

The forwarding unit shall use the block of 32,768 URNs from 8,000,000 through 8,032,767. STN to URN translation is accomplished by superimposing the 15-bit STN into the 15 least significant bits of the 24-bit URN and specifying the 9 most significant bits. Translation to the 24-bit URN from the 15-bit STN/ATN shall be as described and shown below.

1) If the STN is in the range of 00000 through 10777 (octal), bits 0-14 shall correspond in each representation and bits 15 through 23 of the URN shall be set to 011 110 101 as shown in the below STN to URN Translation. URNs in the range 8,028,160 through 8,032,767 are utilized.

2) If the STN is in the range of 11000 through 77777 (octal), bits 0-14 shall correspond in each representation and bits 15 through 23 of the URN shall be set to 011 110 100 as shown in the below STN to URN Translation. URNs in the range 8,000,000 through 8,028,159 are utilized.

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GENERAL NOTE 1.1 (Con't)

STN to URN Translation.

STN	URN Bit Position							
	23 22 21 20 19 18 17 16 15	14 13 12	11 10 9	8 7 6	5 4 3	2 1 0		
00000 - 10777			14 13 12	11 10 9	8 7 6	5 4 3	2 1 0	
	0 1 1 1 0 1 0 1	14 13 12	11 10 9	8 7 6	5 4 3	2 1 0		
<hr/>								
11000 - 77777			14 13 12	11 10 9	8 7 6	5 4 3	2 1 0	
	0 1 1 1 0 1 0 0	14 13 12	11 10 9	8 7 6	5 4 3	2 1 0		

GENERAL NOTE 1.2 URN TO STN TRANSLATION

The forwarding unit shall be allocated a block of STNs and URNs. These STNs will be assigned to any VU whose data are being forwarded onto Link 16. The forwarding unit shall retain the URN to STN mapping and utilize it when performing subsequent forwarding of VMF data to Link 16.

GENERAL NOTE 2 LATITUDE/LONGITUDE

The forwarded latitude or longitude shall be translated to the nearest value increment of the destination link. Translations that result in one half or greater increment will be rounded up to the next higher increment.

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GENERAL NOTE 3 LOCATION QUALITY/GEODETIC POSITION QUALITY

The translation of Link 16 Geodetic Position Quality to VMF Location Quality is as follows:

VMF LOCATION QUALITY	LINK 16 GEODETIC POSITION QUALITY
11 - 5000 METERS < QUALITY	0 - >18080 FT 1 - ≤ 18080 FT
10 - 1000 < QUALITY <= 5000 METERS	2 - ≤ 9040 FT 3 - ≤ 4520 FT
9 - 500 < QUALITY <= 1000 METERS	4 - ≤ 2260 FT
8 - 200 < QUALITY <= 500 METERS	5 - ≤ 1600 FT 6 - ≤ 1130 FT 7 - ≤ 800 FT
7 - 100 < QUALITY <= 200 METERS	8 - ≤ 565 FT 9 - ≤ 400 FT
6 - 75 < QUALITY <= 100 METERS	10 - ≤ 282 FT
5 - 50 < QUALITY <= 75 METERS	11 - ≤ 200 FT
4 - 25 < QUALITY <= 50 METERS	12 - ≤ 141 FT 13 - ≤ 100 FT
3 - 10 < QUALITY <= 25 METERS	14 - ≤ 71 FT 15 - ≤ 50 FT

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GENERAL NOTE 4 POSITION QUALITY, GU/LOCATION QUALITY

The translation of VMF Location Quality to Link 16 Position Quality, GU is as follows:

Location Quality to Position Quality, GU Translation

LINK 16 POSITION QUALITY, GU	VMF LOCATION QUALITY
0 - > 18080FT	0 - UNKNOWN
15 - ≤ 50 FT	1 - QUALITY <= 1 METER
15 - ≤ 50 FT	2 - 1 < QUALITY <= 10 METERS
13 - ≤ 100 FT	3 - 10 < QUALITY <= 25 METERS
11 - ≤ 200 FT	4 - 25 < QUALITY <= 50 METERS
10 - ≤ 282 FT	5 - 50 < QUALITY <= 75 METERS
9 - ≤ 400 FT	6 - 75 < QUALITY <= 100 METERS
7 - ≤ TO 800 FT	7 - 100 < QUALITY <= 200 METERS
4 - ≤ 2260 FT	8 - 200 < QUALITY <= 500 METERS
3 - ≤ 4520 FT	9 - 500 < QUALITY <= 1000 METERS
1 - ≤ 18080 FT	10 - 1000 < QUALITY <= 5000 METERS
0 - > 18080 FT	11 - 5000 METERS < QUALITY 12 THROUGH 15 - UNDEFINED

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GENERAL NOTE 5 AIR PLATFORM TO AIR SPECIFIC TYPE TRANSLATION

The translation of Air Platform to Air Specific Type is as follows:

Air Platform to Air Specific Type Translation

VMF Air Specific Type	LINK 16 Air Platform
0 - No Statement	All values not listed below
255 - Fighter/Fighter Bomber General	1 - Fighter 2 - Fighter Bomber 9 - Interceptor
511 - Bomber/Attack General	3 - Attack 4 - Bomber 21 - Fixed Wing Gunship
762 - Tanker	6 - Tanker 7 - Tanker (Boom Only) 8 - Tanker (Drogue Only)
763 - Reconnaissance (RECON)	5 - Reconnaissance
764 - Electronic Warfare (EW)	14 - Electronic Warfare (EW)
765 - ASW	15 - Antisubmarine Warfare (ASW) 17 - Maritime Patrol Aircraft
766 - AEW and C	16 - Airborne Early Warning Control (AEW)
1279 - Transport/Airliner General	10 - Transport 22 - Civil, Airliner
1535 - Helicopter General	27 - Helicopter (Helo) 28 - Attack Helicopter 29 - Helicopter Gunship 30 - Antisubmarine Warfare Helicopter (ASW Helo) 31 - Mine Warfare Helicopter 32 - Transport Helicopter

APPENDIX D

GENERAL NOTE 6 AIR SPECIFIC TYPE TO AIR PLATFORM TRANSLATION

The translation of Air Specific Type to Air Platform is as follows:

Air Specific Type to Air Platform Translation

LINK 16 AIR PLATFORM	VMF AIR SPECIFIC TYPE
0 - No Statement	0 - No Statement and all values not listed below
1 - Fighter	1-2, 4-6, 8, 11-13, 15, 18, 21-23, 27-31, 33-34, 36-41, 44-76, 79-93, 95, 97-99, 104-156, 255
3 - Attack	256-263, 266-268, 270, 277-289, 291-299, 303-304, 306-319, 321-322, 326-343, 511
6 - Tanker	525-527, 647-648, 676, 679, 762
5 - Reconnaissance	763 - Reconnaissance (RECON)
14 - Electronic Warfare (EW)	764 - Electronic Warfare (EW)
15 - Antisubmarine Warfare (ASW)	765 - ASW
16 - Airborne Early Warning Control (AEW)	766 - AEW and C
35 - Miscellaneous Fixed Wing	767 - Miscellaneous General
48 - UNMANNED AERIAL VEHICLE (UAV)	928-946, 1020-1022
10 - Transport	1024-1058, 1060-1067, 1069-1073, 1075-1110, 1112, 1114-1147, 1149-1150, 1153-1155, 1157-1191, 1193-1214, 1278-1279
27 - Helicopter (Helo)	1280-1309, 1311, 1315, 1318-1320, 1322-1325, 1327-1359, 1363-1368, 1370, 1372-1380, 1382-1387, 1391, 1393-1451, 1535
41 - Air-to-Air Missile (AAM)	1537-1539, 1541-1542, 1544-1546, 1548-1549, 1551-1556, 1558-1562, 1565-1581, 1791
38 - Air-to-Surface Missile (ASM)	2044, 2047
37 - Surface-to-Air Missile (SAM)	2048-2049, 2052, 2054, 2057-2059, 2062-2067, 2069-2082, 2084-2087, 2089, 2091-2134, 2138-2147, 4095

GENERAL NOTE 7 SURFACE SPECIFIC TYPE TO SURFACE PLATFORM TRANSLATION

The translation of Surface Specific Type to Surface Platform is as follows:

APPENDIX D
Surface Specific Type to Surface Platform Translation

LINK 16 SURFACE PLATFORM	VMF SURFACE SPECIFIC TYPE
0 - No Statement	0 - No Statement and all values not listed below
1 - Aircraft Carrier	1, 3, 5-6, 8-22, 24, 26-39, 41-52
2 - Battleship	53, 55-64
3 - Cruiser	65, 67-76, 77, 82, 84, 87, 90-91, 94-130
4 - Destroyer	83, 144, 147, 151-156, 158-160, 164-166, 168-170, 172-175, 177-178, 181, 185, 187, 192-199, 202-209, 212-295
5 - Frigate	296-297, 299, 302-305, 307, 312-315, 319-320, 324-340, 342-347, 349-350, 353, 355-359, 361-362, 368, 371-375, 377-383, 385-390, 392-393, 395-481, 484-485, 487, 489-493, 496-517
7 - Amphibious	518
8 - LHA/LHD	564-587
9 - Amphibious Assault Command Ship (LCC)	529-530, 532-540
10 - Landing Craft (LC)	742-753, 756-773, 779-813, 819, 824-825, 827-831, 834-880, 883-884, 886-896
12 - Tanker/Oiler	2846-2856, 2858-2859, 2862-2867, 2869-2880, 2882, 2884-2952, 2954-2974, 2977-3003, 3005-3009, 3011-3055, 3057-3065
14 - Mine Warfare Ship	980-1006, 1009-1014, 1016, 1018-1077, 1079-1155, 1157-1181, 1184-1195, 1200, 1204-1209, 1214-1216, 1220, 1224-1264, 1266, 1271-1276, 1278, 1281-1323, 1327-1347, 1349-1370, 1384-1394, 1397-1406, 1410-1419
15 - Mine Countermeasures Maritime Vessel (MCMV)	969-979
16 - Hospital Ship	2620-2622, 2624-2632
19 - Air Cushion Vehicle	878-880, 883-884, 886-896
23 - Landing Platform	599-600, 602-603, 605-627
24 - Landing Ship	628-630, 632-633, 635-647, 649-658, 660, 663, 671, 673-690, 693-694, 697, 700-706, 708-741
25 - Command	2335, 2337-2339, 2341-2351

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GENERAL NOTE 8 SUBSURFACE SPECIFIC TYPE TO SUBSURFACE PLATFORM TRANSLATION

The translation of Subsurface Specific Type to Subsurface Platform is as follows:

Subsurface Specific Type to Subsurface Platform Translation

LINK 16 SUBSURFACE PLATFORM	VMF SUBSURFACE SPECIFIC TYPE
0 - No Statement	0 - No Statement and all values not listed below
2 - Diesel Electric Submarine General	1, 2, 5, 7-10, 12-19, 21-360
10 - Nuclear Attack Submarine	721-722, 730, 732, 736-738, 741-743, 747-749, 751-1200
12 - Nuclear Ballistic Missile Submarine	441, 443, 445-446, 449, 451-455, 459-720

GENERAL NOTE 9 LAND SPECIFIC TYPE TO LAND PLATFORM TRANSLATION

The translation of Land Specific Type to Land Platform is as follows:

Land Specific Type to Land Platform Translation

LINK 16 LAND PLATFORM	VMF LAND SPECIFIC TYPE
0 - No Statement	0 - No Statement and all values not listed below
1 - Troop Concentration/Unit	64-72, 121
3 - Command/Control/Command and Control Center	63, 97-98, 100, 102, 114-116, 118, 124
4 - Assembly Area	135 - Assembly or Staging Area
6 - Installation/Facility, Civilian	23-24, 26
7 - Airfield/Airbase	73 - Airbase
10 - Tactical Position	133-134

APPENDIX D

Land Specific Type to Land Platform Translation (Sheet 2 of 2)

LINK 16 LAND PLATFORM	VMF LAND SPECIFIC TYPE
12 - Intersection	25 - Road Intersection
16 - Vehicle Other	35-39, 48, 52, 55, 86-89
17 - Tank	80-82
18 - Train	83 - Train
20 - Mortar	77 - Mortar
21 - Field Artillery	59, 61, 120, 155
22 - Air Defense Artillery	154
23 - Rocket Launcher	56 - Multiple Rocket Launcher
26 - Bridge	20 - Bridge 60 - Tactical Bridge
27 - Building/Structure	22 - Building
29 - Rail Facility	130 - Railyards
33 - Radar Site	42 - Mobile Radar
34 - Antenna/Emitter	54 - Jammers 57 - Radio
36 - Electronic Warfare Site	93 - EA Site
39 - Mine Warfare Equipment	41 - Mechanized Mine Sweeper
40 - Surface-to-Air Missile (SAM) Site	138 - SAM
41 - Maritime Headquarters	79 - TOC/MTOC/JMAST
42 - Air Support Radar Team (ASRT)	108 - ASRT
43 - Direct Air Support Center (DASC)	104 - DASC
44 - Forward Air Control Party (FACP)	105 - FACP
49 - Terminal High Altitude Area Defense (THAAD)	220 - TOC (THAAD)
50 - Joint Tactical Ground Station (JTACS)	225 - JTACS
51 - Armor	85, 171
56 - Air Defense Site	176, 226, 227

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GENERAL NOTE 10 EXERCISE AND SIMULATION INDICATOR TO MIL-STD-2045-47001
OPERATION INDICATOR TRANSLATION

The translation of Link 16 DFI 385/003 Exercise Indicator and DFI 1604/001 Simulation Indicator to the MIL-STD-2045-47001 Operation Indicator is as follows:

Exercise and Simulation Indicator to Operation Indicator Translation

2045-47001 APPLICATION HEADER		LINK 16 Message		
Operation Indicator	Exercise Indicator	AND	Simulation Indicator	
00 - Operation	0	AND	0	
01 - Exercise	1	AND	0	
10 - Simulation	0	AND	1	
10 - Simulation	1	AND	1	

GENERAL NOTE 11 MIL-STD-2045-47001 OPERATION INDICATOR TO EXERCISE AND SIMULATION INDICATOR TRANSLATION

The translation of MIL-STD-2045-47001 Operation Indicator to Link 16 DFI 385/003 Exercise Indicator and DFI 1604/001 Simulation Indicator is as follows:

Operation Indicator to Exercise and Simulation Indicator Translation

LINK 16 Message			2045-47001 APPLICATION HEADER
Exercise Indicator	AND	Simulation Indicator	Operation Indicator
0	AND	0	00 - Operation
1	AND	0	01 - Exercise
0	AND	1	10 - Simulation

APPENDIX D

GENERAL NOTE 11 (Con't)

If Operation Indicator equals "00" [Operation] or "01" [Exercise], it shall be used to translate to Link 16 Exercise indicator and the K05.1 Exercise Indicator is not interpreted. If Operation Indicator equals "10" [Simulation], the K05.1 Exercise Indicator shall equate to the J2.0 Exercise Indicator. If Operation Indicator equals "10" [Simulation], Simulation Indicator shall be set to "1" [Simulation].

GENERAL NOTE 12 OPERATION INDICATOR FIELD IN THE MIL-STD-2045-47001 VMF HEADER

The Operation Indicator field in the MIL-STD-2045-47001 VMF Header must match the setting of the Exercise Indicator (EX IND) field in the K05.1 Position Report message.

APPENDIX D

GENERAL NOTE 13 VMF COMMENTS FIELD FROM LINK 16 CHARACHTER (#1 - #13)

J28.2(0)I and E0 words, DFI/DUIs 1851/001 through 1851/013 sequentially uses 6 bit ANSI ASCII characters. K01.1 DFI/DUI 4075/001 has up to 1400 7 bit ANSI ASCII characters per iteration of this field, therefore convert each character to 7 bit ANSI ASCII.

Translation to VMF K01.1 Comments from J28.2(0) Character (#1 - #13)

4075/001 COMMENTS (7 bits)		1851/001 CHARACTER #1 (and 1851/002 through 1851/013) (6 bits)	
Value	Bit Code	Value	Bit Code
Carriage Return	13	//	47 AND 47
Space (or blank)	32	SPACE	32
!	33	!	33
"	34	"	34
#	35	#	35
\$	36	\$	36
%	37	%	37
&	38	&	38
'	39	'	39
(40	(40
)	41)	41
*	42	*	42
+	43	+	43
,	44	,	44
-	45	-	45
.	46	.	46
/	47	/	47
0 to 9	48 - 57	0 to 9	48 - 57
:	58	:	58
;	59	;	59
<	60	<	60
=	61	=	61
>	62	>	62
?	63	?	63
@	64	@	0
A to Z (Upper case)	65 - 90	A-Z	1 - 26
[91	[27
\	92	\	28
]	93]	29
^	94	^	30
_	95	_	31

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GENERAL NOTE 14 LINK 16 CHARACTER (#1 - #13) FROM VMF COMMENTS FIELD

K01.1 DFI/DUI 4075/001 has up to 1400 7 bit ANSI ASCII characters per iteration of this field, therefore convert each character to 6 bit ANSI ASCII into J28.2(0)I and E0 words, DFI/DUIs 1851/001 through 1851/013 sequentially.

Translation to J28.2(0) Character (#1 - #13) from VMF Comments

1851/001 CHARACTER #1 (and 1851/002 through 1851/013) (6 bits)		4075/001 COMMENTS (7 bits)	
Value	Bit Code	Value	Bit Code
@	0	@	64
A-Z	1-26	A to Z (Upper case)	65 - 90
A-Z	1-26	a to z (Lower case)	97 - 122
[27	[91
\	28	\	92
]	29]	93
^	30	^	94
_	31	_	95
(SPACE)	32	Space (or blank)	32
!	33	!	33
"	34	"	34
#	35	#	35
\$	36	\$	36
%	37	%	37
&	38	&	38
'	39	'	39
(40	(40
)	41)	41
*	42	*	42
+	43	+	43
,	44	,	44
-	45	-	45
.	46	.	46
/	47	/	47
/	47	End of Literal Field Marker	127
0-9	48-57	0 to 9	48 - 57
:	58	:	58
;	59	;	59
<	60	<	60
=	61	=	61
>	62	>	62
?	63	?	63
//	47 AND 47	Carriage Return	13

APPENDIX D

GENERAL NOTE 15 TRACK QUALITY TO OBSERVATION HOUR AND OBSERVATION MINUTE

When Track Quality = 1 - 15 Observation Hour and Observation Minute are set to current time. When Track Quality = 0, Observation Hour and Observation Minute are translated directly from the Hour and Minute fields.

GENERAL NOTE 16 TRACK QUALITY TO OBSERVATION SECOND

When Track Quality = 1 - 15, FPI is set to 1 and Observation Second is set to current time. When Track Quality = 0, FPI is set to 0 and therefore Observation Second is not translated.

APPENDIX D

GENERAL NOTE 17 IDENTITY/IDENTITY AMPLIFYING DESCRIPTOR TO IDENTITY, VMF

Link 16 IDENTITY and IDENTITY AMPLIFYING DESCRIPTOR occupy the same bit positions in the Link 16 message. They are distinguished by the setting of the Exercise Indicator. The translation of Link 16 IDENTITY and IDENTITY AMPLIFYING DESCRIPTOR to VMF IDENTITY, VMF follows:

VMF IDENTITY, VMF	Link 16
	Exercise Indicator = 0, Identity
0 - PENDING	0 - PENDING
1 - UNKNOWN	1 - UNKNOWN
2 - ASSUMED FRIEND	2 - ASSUMED FRIEND
3 - FRIEND	3 - FRIEND
4 - NEUTRAL	4 - NEUTRAL
5 - SUSPECT	5 - SUSPECT
6 - HOSTILE	6 - HOSTILE
	Exercise Indicator = 1, Identity Amplifying Descriptor
7 - EXERCISE PENDING	0 - EXERCISE PENDING
8 - EXERCISE UNKNOWN	1 - EXERCISE UNKNOWN
9 - EXERCISE ASSUMED FRIEND	2 - EXERCISE ASSUMED FRIEND
10 - EXERCISE FRIEND	3 - EXERCISE FRIEND
11 - EXERCISE NEUTRAL	4 - EXERCISE NEUTRAL
12 - JOKER	5 - JOKER
13 - FAKER	6 - FAKER

APPENDIX D

GENERAL NOTE 18 AIR PLATFORM TO DIMENSION AND ENTITY TYPE

The translation of Link 16 AIR PLATFORM to VMF Dimension and ENTITY TYPE follows.

VMF ENTITY TYPE Dimension - 1 Air	Link 16 AIR PLATFORM
0 - MILITARY FIXED WING	1 - FIGHTER 2 - FIGHTER BOMBER 3 - ATTACK 4 - BOMBER 6 - TANKER 7 - TANKER (BOOM ONLY) 8 - TANKER (DROGUE ONLY) 9 - INTERCEPTER 10 - TRANSPORT 11 - AIRBORNE COMMAND POST 15 - ANTISUBMARINE WARFARE (ASW) 16 - AIRBORNE EARLY WARNING AND CONTROL (AEW) 17 - MARITIME PATROL AIRCRAFT (MPA) 19 - DRONE 20 - REMOTELY PILOTED VEHICLE (RPV) 21 - FIXED WING GUNSHIP 36 - MISSILE CONTROL UNIT 46 - AIRBORNE LAND SURVEILLANCE 47 - AIRBORNE LASER
1 - MILITARY ROTARY WING	27 - HELICOPTER (HELO) 28 - ATTACK HELICOPTER 29 - HELICOPTER GUNSHIP 30 - ANTISUBMARINE WARFARE HELICOPTER (ASW HELO) 31 - MINE WARFARE HELICOPTER 32 - TRANSPORT HELICOPTER
2 - MILITARY LIGHTER THAN AIR	24 - LIGHTER THAN AIR (LTA)
3 - WEAPON	13 - MISSILE 37 - SURFACE-TO-AIR MISSILE (SAM) 38 - AIR-TO-SURFACE MISSILE (ASM) 39 - SURFACE-TO-SURFACE MISSILE (SSM) 41 - AIR-TO-AIR MISSILE (AAM) 42 - SUBSURFACE-TO-SURFACE MISSILE 43 - SURFACE-TO-SUBSURFACE MISSILE 44 - CRUISE MISSILE 45 - BALLISTIC MISSILE
4 - CIVIL AIRCRAFT	22 - CIVIL, AIRLINER 23 - CIVIL, GENERAL
7 - DECOY	26 - DECOY
8 - UNKNOWN	All NOT LISTED ABOVE

APPENDIX D

GENERAL NOTE 19 STRENGTH TO QUANTITY OF EQUIPMENT/WEAPONS OBSERVED

If the Link 16 Strength field is set to 0 - No Statement, 13 - Few, 14 - Many, or 15 - Greater Than 12 set FPI to 0, otherwise set FPI to 1 and translate Strength to VMF Quantity of Equipment/Weapons Observed as shown below.

VMF QUANTITY OF EQUIPMENT/WEAPONS OBSERVED	LINK 16 STRENGTH
1 - NUMERIC	1 - 1 UNIT
2 - NUMERIC	2 - 2 UNITS
3 - NUMERIC	3 - 3 UNITS
4 - NUMERIC	4 - 4 UNITS
5 - NUMERIC	5 - 5 UNITS
6 - NUMERIC	6 - 6 UNITS
7 - NUMERIC	7 - 7 UNITS
8 - NUMERIC	8 - 8 UNITS
9 - NUMERIC	9 - 9 UNITS
10 - NUMERIC	10 - 10 UNITS
11 - NUMERIC	11 - 11 UNITS
12 - NUMERIC	12 - 12 UNITS

GENERAL NOTE 20 TRACK NUMBER REFERENCE TO ENTITY ID SERIAL NUMBER

Track Number, Reference (TN, Ref) shall be associated with an Entity ID Serial Number (EISN). That EISN shall be associated with the TN, Source that is reporting the TN, Ref. The TN, Ref received from a particular JU shall be assigned the next available EISN that has been associated with that JU. Each update of the TN, Ref from that JU shall use that same EISN.

APPENDIX D

GENERAL NOTE 21 AIR ACTIVITY TO ACTIVITY

If Link 16 Air Activity is other than those listed in the table below then set FPI to 0. Otherwise set FPI to 1 and translate as indicated below.

VMF ACTIVITY	LINK 16 AIR ACTIVITY
0 - ATTACKING	25 - CONVENTIONAL ATTACK
2 - ENGAGING	60 - ENGAGING
5 - OBSERVING	7 - SURVEILLANCE
13 - COVERING	72 - COVERING
14 - RECONNOITERING	1 - RECONNAISSANCE
18 - EVACUATING	26 - MEDICAL EVACUATION (MEDEVAC)
29 - MINE CLEARING	27 - MINE COUNTERMEASURES
30 - MINE LAYING	10 - MINE LAYING
31 - REFUELING	29 - REFUELING/TANKING
32 - BOMBING	68 - PRECISION BOMBING
33 - ELECTRONIC WARFARE	6 - ELECTRONIC WARFARE (EW)
37 - ORBITING	58 - ORBITING
38 - CHAFF LAYING	54 - CHAFF LAYING
39 - TRANSITING	11 - TRANSITING
41 - SHADOWING	71 - SHADOWING
42 - INTERVENING	64 - INTERVENING
45 - STANDOFF OPERATIONS	82 - STANDOFF OPERATIONS
48 - SPECIAL OPERATIONS	76 - SPECIAL OPERATIONS
49 - NBC OPERATIONS	77 - NBC OPERATIONS
50 - NUCLEAR OPERATIONS	78 - NUCLEAR OPERATIONS
51 - BIOLOGICAL OPERATIONS	79 - BIOLOGICAL OPERATIONS
52 - CHEMICAL OPERATIONS	80 - CHEMICAL OPERATIONS
83 - COMBAT SEARCH AND RESCUE (CSAR)	83 - COMBAT SEARCH AND RESCUE (CSAR)

APPENDIX D

GENERAL NOTE 22 SURFACE PLATFORM TO ENTITY TYPE

The translation of Link 16 SURFACE PLATFORM to VMF FOR SYMBOL DIMENSION = 8 SEA SURFACE follows:

VMF ENTITY TYPE	Link 16 SURFACE PLATFORM
0 - COMBATANT	1 - AIRCRAFT CARRIER 2 - BATTLESHIP 3 - CRUISER 4 - DESTROYER 5 - FRIGATE 11 - TROOP SHIP 17 - SURFACED SUBMARINE 20 - INTELLIGENCE COLLECTOR 25 - COMMAND 28 - SUPPORT 33 - MISSILE CONTROL UNIT
2 - COMBATANT, AMPHIBIOUS WARFARE SHIP	7 - AMPHIBIOUS 8 - LHA/LHD 9 - AMPHIBIOUS ASSAULT COMMAND SHIP (LCC) 10 - LANDING CRAFT (LC) 23 - LANDING PLATFORM 24 - LANDING SHIP 32 - AMPHIBIOUS GENERAL ASSAULT
3 - COMBATANT, MINE WARFARE VESSEL	14 - MINE WARFARE SHIP 15 - MINE COUNTERMEASURES MARITIME VESSEL (MCMV)
4 - COMBATANT, PATROL	6 - FAST PATROL BOAT 27 - PATROL 31 - PATROL CRAFT ESCORT
5 - COMBATANT, HOVERCRAFT	19 - AIR CUSHION VEHICLE
6 - SURFACE DECOY	34 - DECOY 35 - INFRARED DECOY 36 - CHAFF DECOY 37 - ACTIVE ELECTRONIC DECOY
8 - NON COMBATANT	16 - HOSPITAL SHIP 21 - SURVEY VESSEL
9 - NON MILITARY	22 - NON-MILITARY 26 - OCEAN RESEARCH 29 - FISHING VESSEL 30 - MERCHANT VESSEL
10 - UNKNOWN	ALL NOT LISTED ABOVE

APPENDIX D

GENERAL NOTE 23 SURFACE ACTIVITY TO ACTIVITY

If Link 16 Surface Activity is other than those listed in the table below then set FPI to 0. Otherwise set FPI to 1 and translate as indicated below.

VMF ACTIVITY	LINK 16 SURFACE ACTIVITY
10 - SCREENING	25 - PICKETING
29 - MINE CLEARING	26 - MINE COUNTERMEASURES
30 - MINE LAYING	10 - MINELAYING
31 - REFUELING	30 - UNDERWAY REPLENISHMENT
33 - ELECTRONIC WARFARE	6 - ELECTRONIC WARFARE
39 - TRANSITING	11 - TRANSITING
41 - SHADOWING	39 - SHADOWING
42 - INTERVENING	40 - INTERVENING
43 - ELECTRONIC PROTECTION (EP)	32 - ELECTRONIC WARFARE SUPPORT (ES)
45 - STANDOFF OPERATIONS	2 - OVER THE HORIZON TARGETING
47 - FIRE SUPPORT	12 - NAVAL GUNFIRE SUPPORT
48 - SPECIAL OPERATIONS	38 - SPECIAL OPERATIONS
49 - NBC OPERATIONS	41 - NBC OPERATIONS
50 - NUCLEAR OPERATIONS	42 - NUCLEAR OPERATIONS
51 - BIOLOGICAL OPERATIONS	43 - BIOLOGICAL OPERATIONS
52 - CHEMICAL OPERATIONS	44 - CHEMICAL OPERATIONS
53 - COMBAT SEARCH AND RESCUE (CSAR)	8 - SEARCH AND RESCUE

APPENDIX D

GENERAL NOTE 24 LAND PLATFORM TO DIMENSION AND ENTITY TYPE

The translation of Link 16 Land Platform to VMF Dimension and Entity Type is shown below.

VMF	Link 16
Dimension and Entity Type	Land Platform
Dimension = 2 Ground Units	
23 - Unknown	All NOT LISTED BELOW
0 - AIR DEFENSE	22 - AIR DEFENSE ARTILLERY 56 - AIR DEFENSE SITE 40 - SURFACE TO AIR MISSILE (SAM) SITE
1 - ARMOR	17 - TANK
3 - AVIATION	55 - AVIATION
5 - ENGINEER	53 - ENGINEER
6 - FIELD ARTILLERY	21 - FIELD ARTILLERY
22 - SPECIAL C2 HQ COMPONENT	3 - COMMAND/CONTROL/COMMAND AND CONTROL CENTER
Dimension = 3 Ground Weapons	
0 - MISSILE LAUNCHER	24 - MISSILE LAUNCHER
1 - SINGLE ROCKET LAUNCHER	23 - ROCKET LAUNCHER
6 - MORTAR	20 - MORTAR
7 - HOWITZER	21 - FIELD ARTILLERY
10 - AIR DEFENSE GUN	22 - AIR DEFENSE ARTILLERY
Dimension = 4 Ground Vehicles	
0 - ARMORED	17 - TANK 51 - ARMOR
2 - ENGINEER VEHICLE	15 - COMBAT SUPPORT VEHICLE
3 - TRAIN LOCOMOTIVE	18 - TRAIN
5 - UNKNOWN	14 - COMBAT VEHICLE 16 - VEHICLE, OTHER
Dimension = 5 Ground Sensors	
0 - RADAR	33 - RADAR SITE
Dimension = 7 Ground Installations	
0 - RAW MATERIAL PRODUCTION/STORAGE	9 - STORAGE SITE
8 - AIRPORT/AIRBASE	7 - AIRFIELD/AIRBASE
9 - SEAPORT/NAVAL BASE	8 - PORT/HARBOR FACILITY
Dimension = 19 Intelligence, Ground	
1 - COMMUNICATIONS	32 - COMMUNICATION SITE
10 - BATTLEFIELD SURVEILLANCE	37 - SURVEILLANCE SITE

APPENDIX D

GENERAL NOTE 25 LAND ACTIVITY TO ACTIVITY

If Link 16 Land Activity is other than those listed in the table below then set FPI to 0. Otherwise set FPI to 1 and translate as indicated below.

VMF Activity	LINK 16 Land Activity
0 - ATTACKING	8 - ANTIAIR ATTACK 9 - AMPHIBIOUS ASSAULT 11 - CONVENTIONAL ATTACK/ASSAULT 12 - SPECIAL WEAPONS ATTACK
1 - DEFENDING	43 - DEFENDING
2 - ENGAGING	6 - ENGAGING
3 - WITHDRAWING	51 - RETROGRADE/WITHDRAWING
4 - DELAYING	2 - DELAYING
7 - BYPASSING	40 - BYPASSING
8 - FORTIFYING	22 - BUILDING FORTIFICATION/BARRIER
10 - SCREENING	34 - SCREENING
11 - MOVING	3 - MOVING
14 - RECONNOITERING	28 - RECONNAISSANCE/PATROLLING
15 - REPAIRING	36 - REPAIRING
18 - EVACUATING	31 - MEDICAL EVACUATION (MEDEVAC)
30 - MINE LAYING	26 - MINE LAYING
31 - REFUELING	37 - REFUELING
33 - ELECTRONIC WARFARE	27 - JAMMING 53 - ELECTRONIC WARFARE SUPPORT (ES) 54 - ELECTRONIC ATTACK (EA)
34 - RIVER CROSSING	19 - RIVER CROSSING
40 - ACQUIRING/TRACKING	4 - DETECTING 5 - ACQUIRING
45 - STANDOFF OPERATIONS	14 - OVER THE HORIZON TARGETING
46 - LAUNCHING	10 - FIRING/LAUNCHING
48 - SPECIAL OPERATIONS	61 - SPECIAL OPERATIONS
49 - NBC OPERATIONS	62 - NBC OPERATIONS
50 - NUCLEAR OPERATIONS	63 - NUCLEAR OPERATIONS
51 - BIOLOGICAL OPERATIONS	64 - BIOLOGICAL OPERATIONS
52 - CHEMICAL OPERATIONS	65 - CHEMICAL OPERATIONS
53 - COMBAT SEARCH AND RESCUE (CSAR)	29 - SEARCH AND RESCUE (SAR) 66 - COMBAT SEARCH AND RESCUE (CSAR)

APPENDIX D

GENERAL NOTE 26 VMF REFERENCE NUMBER TO TRACK NUMBER REFERENCE

The FVU shall be allocated a block of Link 16 track numbers (TNs). These TNs will be assigned to any reported entity being forwarded onto Link 16. The VMF entity being forwarded has an associated VMF reference number (Entity ID Reference Number (URN plus Entity ID Serial Number)), the forwarding unit shall assign a TN from its block and create a record of the TN to VMF reference number mapping and utilize it when performing subsequent updating or forwarding of the VMF entity onto Link 16.

GENERAL NOTE 27 QUANTITY OF EQUIPMENT/WEAPONS OBSERVED TO STRENGTH

Link 16 STRENGTH	VMF QUANTITY OF EQUIPMENT/WEAPONS OBSERVED
0 - NO STATEMENT	0 - 0 NUMERIC
1 - 1 UNIT	1 - 1 NUMERIC
2 - 2 UNITS	2 - 2 NUMERIC
3 - 3 UNITS	3 - 3 NUMERIC
4 - 4 UNITS	4 - 4 NUMERIC
5 - 5 UNITS	5 - 5 NUMERIC
6 - 6 UNITS	6 - 6 NUMERIC
7 - 7 UNITS	7 - 7 NUMERIC
8 - 8 UNITS	8 - 8 NUMERIC
9 - 9 UNITS	9 - 9 NUMERIC
10 - 10 UNITS	10 - 10 NUMERIC
11 - 11 UNITS	11 - 11 NUMERIC
12 - 12 UNITS	12 - 12 NUMERIC
15 - GREATER THAN 12 UNITS	13 THROUGH 16383 - 13 NUMERIC THROUGH 16,383 NUMERIC

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GENERAL NOTE 28 IDENTITY, VMF TO IDENTITY/IDENTITY AMPLIFYING DESCRIPTOR

Link 16 Identity and Identity Amplifying Descriptor occupy the same bit positions in the Link 16 message. They are distinguished by the setting of the Exercise Indicator. The translation of VMF Identity, VMF to Link 16 Exercise Indicator, Identity, and Identity Amplifying Descriptor is as follows:

Link 16	VMF
Identity, Exercise Indicator = 0	Identity, VMF
0 - PENDING	0 - PENDING
1 - UNKNOWN	1 - UNKNOWN
2 - ASSUMED FRIEND	2 - ASSUMED FRIEND
3 - FRIEND	3 - FRIEND
4 - NEUTRAL	4 - NEUTRAL
5 - SUSPECT	5 - SUSPECT
6 - HOSTILE	6 - HOSTILE
Identity Amplifying Descriptor, Exercise Indicator = 1	
0 - EXERCISE PENDING	7 - EXERCISE PENDING
1 - EXERCISE UNKNOWN	8 - EXERCISE UNKNOWN
2 - EXERCISE ASSUMED FRIEND	9 - EXERCISE ASSUMED FRIEND
3 - EXERCISE FRIEND	10 - EXERCISE FRIEND
4 - EXERCISE NEUTRAL	11 - EXERCISE NEUTRAL
5 - JOKER	12 - JOKER
6 - FAKER	13 - FAKER

GENERAL NOTE 29 DIMENSION AND ENTITY TYPE TO AIR PLATFORM

Link 16 AIR PLATFORM	VMF ENTITY TYPE
	Dimension = 1 Air
0 - NO STATEMENT	ALL NOT LISTED BELOW
23 - CIVIL, GENERAL	4 - CIVIL AIRCRAFT
24 - LIGHTER THAN AIR (LTA)	2 - MILITARY LIGHTER THAN AIR
26 - DECOY	7 - DECOY
27 - HELICOPTER	1 - MILITARY ROTARY WING
35 - MISCELLANEOUS FIXED WING	0 - MILITARY FIXED WING
	Dimension = 18 Intelligence Air
0 - NO STATEMENT	ALL

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GENERAL NOTE 30 ACTIVITY TO AIR ACTIVITY

LINK 16 AIR ACTIVITY	VMF ACTIVITY
0 - NO STATEMENT	ALL NOT LISTED BELOW
1 - RECONNAISSANCE	14 - RECONNOITERING
6 - ELECTRONIC WARFARE (EW)	33 - ELECTRONIC WARFARE
7 - SURVEILLANCE	5 - OBSERVING
10 - MINE LAYING	30 - MINE LAYING
11 - TRANSITING	39 - TRANSITING
25 - CONVENTIONAL ATTACK	0 - ATTACKING
27 - MINE COUNTERMEASURES	29 - MINE CLEARING
29 - REFUELING/TANKING	31 - REFUELING
47 - TROOPLIFT	18 - EVACUATING
58 - ORBITING	37 - ORBITING
54 - CHAFF LAYING	38 - CHAFF LAYING
60 - ENGAGING	2 - ENGAGING
64 - INTERVENING	42 - INTERVENING
68 - PRECISION BOMBING	32 - BOMBING
71 - SHADOWING	41 - SHADOWING
72 - COVERING	13 - COVERING
76 - SPECIAL OPERATIONS	48 - SPECIAL OPERATIONS
77 - NBC OPERATIONS	49 - NBC OPERATIONS
78 - NUCLEAR OPERATIONS	50 - NUCLEAR OPERATIONS
79 - BIOLOGICAL OPERATIONS	51 - BIOLOGICAL OPERATIONS
80 - CHEMICAL OPERATIONS	52 - CHEMICAL OPERATIONS
82 - STANDOFF OPERATIONS	45 - STANDOFF OPERATIONS
83 - COMBAT SEARCH AND RESCUE (CSAR)	53 - COMBAT SEARCH AND RESCUE (CSAR)

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GENERAL NOTE 31 DIMENSION AND ENTITY TYPE TO SURFACE PLATFORM

Link 16 SURFACE PLATFORM	VMF ENTITY TYPE
	Dimension = 8 Sea Surface
0 - NO STATEMENT	ALL NOT LISTED BELOW
7 - AMPHIBIOUS	2 - COMBATANT, AMPHIBIOUS WARFARE SHIP
14 - MINE WARFARE SHIP	3 - COMBATANT, MINE WARFARE VESSEL
19 - AIR CUSHION VEHICLE	5 - COMBATANT, HOVERCRAFT
22 - NON-MILITARY	9 - NON MILITARY
27 - PATROL	4 - COMBATANT, PATROL
34 - DECOY	6 - SURFACE DECOY
	Dimension = 20 Intelligence, Sea Surface
0 - NO STATEMENT	ALL

GENERAL NOTE 32 ACTIVITY TO SURFACE ACTIVITY

LINK 16 SURFACE ACTIVITY	VMF ACTIVITY
0 - NO STATEMENT	ALL NOT LISTED BELOW
6 - ELECTRONIC WARFARE	33 - ELECTRONIC WARFARE 43 - ELECTRONIC PROTECTION (EP)
10 - MINELAYING	30 - MINE LAYING
11 - TRANSITING	39 - TRANSITING
12 - NAVAL GUNFIRE SUPPORT	47 - FIRE SUPPORT
25 - PICKETING	10 - SCREENING
26 - MINE COUNTERMEASURES	29 - MINE CLEARING
30 - UNDERWAY REPLENISHMENT	31 - REFUELING
38 - SPECIAL OPERATIONS	48 - SPECIAL OPERATIONS
39 - SHADOWING	41 - SHADOWING
40 - INTERVENING	42 - INTERVENING
41 - NBC OPERATIONS	49 - NBC OPERATIONS
42 - NUCLEAR OPERATIONS	50 - NUCLEAR OPERATIONS
43 - BIOLOGICAL OPERATIONS	51 - BIOLOGICAL OPERATIONS
44 - CHEMICAL OPERATIONS	52 - CHEMICAL OPERATIONS
46 - COMBAT SEARCH AND RESCUE (CSAR)	53 - COMBAT SEARCH AND RESCUE (CSAR)

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GENERAL NOTE 33 DIMENSION AND ENTITY TYPE TO LAND PLATFORM

LINK 16 Land Platform	VMF Dimension and Entity Type
0 - NO STATEMENT	ALL ENTITY TYPES NOT LISTED BELOW WITHIN THE LISTED DIMENSIONS
	Dimension = 2 Ground Units
0 - NO STATEMENT	23 - UNKNOWN
56 - AIR DEFENSE SITE	0 - AIR DEFENSE
17 - TANK	1 - ARMOR
55 - AVIATION	3 - AVIATION
53 - ENGINEER	5 - ENGINEER
21 - FIELD ARTILLERY	6 - FIELD ARTILLERY
3 - COMMAND/CONTROL/COMMAND AND CONTROL CENTER	22 - SPECIAL C2 HQ COMPONENT
	Dimension = 3 Ground Weapons
24 - MISSILE LAUNCHER	0 - MISSILE LAUNCHER
23 - ROCKET LAUNCHER	1 - SINGLE ROCKET LAUNCHER 2 - MULTIPLE ROCKET LAUNCHER
20 - MORTAR	6 - MORTAR
21 - FIELD ARTILLERY	7 - HOWITZER
22 - AIR DEFENSE ARTILLERY	10 - AIR DEFENSE GUN
	Dimension = 4 Ground Vehicles
51 - ARMOR	0 - ARMORED
15 - COMBAT SUPPORT VEHICLE	1 - UTILITY VEHICLE 2 - ENGINEER VEHICLE
18 - TRAIN	3 - TRAIN LOCOMOTIVE
16 - VEHICLE, OTHER	4 - CIVILIAN VEHICLE 5 - UNKNOWN
	Dimension = 5 Ground Sensors
33 - RADAR SITE	0 - RADAR
	Dimension = 6 Ground Special Equipment
39 - MINE WARFARE EQUIPMENT	3 - LAND MINES 4 - CLAYMORE
	Dimension = 7 Ground Installations
5 - INSTALLATION/FACILITY, CIVILIAN	0 - RAW MATERIAL PRODUCTION/STORAGE 1 - PROCESSING FACILITY 3 - EQUIPMENT MANUFACTURE 4 - SERVICE, RESEARCH, UTILITY
6 - INSTALLATION/FACILITY, MILITARY	2 - DECON FACILITY 5 - MILITARY 7 - MILITARY BASE/FACILITY
9 - STORAGE SITE	16 - WAREHOUSE/STORAGE FACILITY
7 - AIRFIELD/AIRBASE	8 - AIRPORT/AIRBASE
8 - PORT/HARBOR FACILITY	9 - SEAPORT/NAVAL BASE
	Dimension = 19 Intelligence, Ground
32 - COMMUNICATION SITE	1 - COMMUNICATIONS 2 - CELLULAR/MOBILE
33 - RADAR SITE	7 - RADAR
37 - SURVEILLANCE SITE	10 - BATTLEFIELD SURVEILLANCE

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GENERAL NOTE 34 ACTIVITY TO LAND ACTIVITY

LINK 16 Land Activity	VMF Activity
0 - NO STATEMENT	ALL NOT LISTED BELOW
2 - DELAYING	4 - DELAYING
3 - MOVING	11 - MOVING
5 - ACQUIRING	40 - ACQUIRING/TRACKING
6 - ENGAGING	2 - ENGAGING
11 - CONVENTIONAL ATTACK/ASSAULT	0 - ATTACKING 32 - BOMBING
15 - TRANSITING	39 - TRANSITING
19 - RIVER CROSSING	34 - RIVER CROSSING
22 - BUILDING FORTIFICATION/BARRIER	8 - FORTIFYING
25 - MINE SWEEPING	29 - MINE CLEARING
26 - MINE LAYING	30 - MINE LAYING
28 - RECONNAISSANCE/PATROLLING	14 - RECONNOITERING
34 - SCREENING	10 - SCREENING
36 - REPAIRING	15 - REPAIRING
37 - REFUELING	31 - REFUELING
40 - BYPASSING	7 - BYPASSING
43 - DEFENDING	1 - DEFENDING
51 - RETROGRADE/WITHDRAWING	3 - WITHDRAWING
53 - ELECTRONIC WARFARE SUPPORT (ES)	43 - ELECTRONIC PROTECTION (EP)
59 - LAUNCHING	46 - LAUNCHING
60 - FIRE SUPPORT	47 - FIRE SUPPORT
61 - SPECIAL OPERATIONS	48 - SPECIAL OPERATIONS
62 - NBC OPERATIONS	49 - NBC OPERATIONS
63 - NUCLEAR OPERATIONS	50 - NUCLEAR OPERATIONS
64 - BIOLOGICAL OPERATIONS	51 - BIOLOGICAL OPERATIONS
64 - CHEMICAL OPERATIONS	52 - CHEMICAL OPERATIONS
66 - COMBAT SEARCH AND RESCUE (CSAR)	53 - COMBAT SEARCH AND RESCUE (CSAR)

GENERAL NOTE 35 LINK 16 PPLI MODE I, II, AND III CODE TRANSLATION TO VMF
K05.1 GROUP G2, IFF MODES

Mode I, II, and III Codes in Link 16 PPLI messages are transmitted as "NO STATEMENT" and are not interpreted on reception and therefore the GPI for Group G2, IFF Modes shall be specified "0" (NOT PRESENT).

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GENERAL NOTE 36 SURFACE PLATFORM TO SURFACE SPECIFIC TYPE TRANSLATION

Surface Platform to Surface Specific Type Translation

SURFACE SPECIFIC TYPE	SURFACE PLATFORM
0 - NO STATEMENT	0 - NO STATEMENT AND ALL VALUES NOT LISTED BELOW
1 - CV GENERAL	1 - AIRCRAFT CARRIER
53 - BB GENERAL	2 - BATTLESHIP
77 - CG GENERAL	3 - CRUISER
144 - DD GENERAL	4 - DESTROYER
296 - FF GENERAL	5 - FRIGATE
529 - LCC GENERAL	9 - AMPHIBIOUS ASSAULT COMMAND SHIP (LCC)
564 - LHA GENERAL	8 - LHA/LHD
588 - LPA GENERAL	23 - LANDING PLATFORM
628 - LSD GENERAL	24 - LANDING SHIP
742 - LC GENERAL	10 - LANDING CRAFT (LC)
878 - LCAC GENERAL	19 - AIR CUSHION VEHICLE
2846 - AO GENERAL	12 - TANKER/OILER
1002 - MHC GENERAL	14 - MINE WARFARE SHIP
969 - MCM GENERAL	15 - MINE COUNTERMEASURES MARITIME VESSEL (MCMV)
2620 - AH GENERAL	16 - HOSPITAL SHIP
2335 - AGF GENERAL	25 - COMMAND

GENERAL NOTE 37 SUBSURFACE PLATFORM TO SUBSURFACE SPECIFIC TYPE TRANSLATION

Subsurface Platform to Subsurface Specific Type Translation

SUBSURFACE SPECIFIC TYPE	SUBSURFACE PLATFORM
0 - NO STATEMENT	0 - NO STATEMENT AND ALL OTHERS NOT LISTED BELOW
1 - SS GENERAL	1 - 8
721 - SSN GENERAL	9, 10, 13-17, 28, 33, 34
441 - SSBN GENERAL	11, 12

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GENERAL NOTE 38 LAND PLATFORM TO LAND SPECIFIC TYPE TRANSLATION

The translation of Land Platform to Land Specific Type is as follows:

Land Platform to Land Specific Type

LAND SPECIFIC TYPE	LAND PLATFORM
0 - NO STATEMENT	0 - NO STATEMENT AND ALL OTHERS NOT LISTED BELOW
66 - GROUP	1 - TROOP CONCENTRATION/UNIT
135 - ASSEMBLY OR STAGING AREA	4 - ASSEMBLY AREA
22 - BUILDING	5 - INSTALLATION/FACILITY, MILITARY
22 - BUILDING	6 - INSTALLATION/FACILITY, CIVILIAN
73 - AIRBASE	7 - AIRFIELD/AIRBASE
25 - ROAD INTERSECTION	12 - INTERSECTION
152 - CONVOY	13 - CONVOY
85 - ARMORED INFANTRY FIGHTING VEHICLE	14 - COMBAT VEHICLE
52 - ENGINEER VEHICLES	15 - COMBAT SUPPORT VEHICLE
81 - MEDIUM TANK	17 - TANK
83 - TRAIN	18 - TRAIN
77 - MORTAR	20 - MORTAR
155 - ARTILLERY	21 - FIELD ARTILLERY
154 - AIR DEFENSE ARTILLERY	22 - AIR DEFENSE ARTILLERY
56 - MULTIPLE ROCKET LAUNCHER	23 - ROCKET LAUNCHER
20 - BRIDGE	26 - BRIDGE
22 - BUILDING	27 - BUILDING/STRUCTURE
53 - GENERATOR	28 - POWER FACILITY
130 - RAILYARDS	29 - RAIL FACILITY
174 - COMMUNICATIONS EQUIPMENT	32 - COMMUNICATION SITE
42 - MOBILE RADAR	33 - RADAR SITE
44 - (SSSB) SHIP SHORE SHIP BUFFER	35 - BUFFER CENTER
165 - ELECTRONIC WARFARE	36 - ELECTRONIC WARFARE SITE
156 - SURVEILLANCE	37 - SURVEILLANCE SITE
138 - SAM	40 - SURFACE-TO-AIR MISSILE (SAM) SITE
79 - TOC/MTOC/JMAST	41 - MARITIME HEADQUARTERS
108 - ASRT	42 - AIR SUPPORT RADAR TEAM (ASRT)
104 - DASC	43 - DIRECT AIR SUPPORT CENTER (DASC)
105 - FACP	44 - FORWARD AIR CONTROL PARTY (FACP)
125 - (BOC) BATTERY OPERATIONS CENTER	45 - BATTALION OPERATIONS CENTER (BOC)
220 - TOC (THAAD)	49 - THEATER HIGH ALTITUDE AREA DEFENSE (THAAD)

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GENERAL NOTE 39 ALTITUDE, ELEVATION, HEIGHT, AND DEPTH

The forwarded altitude, elevation, height, or depth shall be translated to the nearest value increment of the destination link. Translations that result in one half or greater increment will be rounded up to the next higher increment. When the received value exceeds the largest value possible on the destination link, the received value shall be forwarded as the maximum value on the destination link.

GENERAL NOTE 40 SPEED TO UNIT SPEED TRANSLATION

Link 16 Speed is expressed in 2 data miles per hour increments. VMF Unit Speed, KPH is expressed in 1 KPH increments. To translate Link 16 Speed to VMF Unit Speed, KPH, multiply the Link 16 bit code value by 3.6576 (translate to the nearest Unit Speed, KPH bit code increment (0.5 rounded up)).

GENERAL NOTE 41 DATE AND TIME TRANSLATION

Date and time data shall be set to the reception time of the message as determined by the VMF network clock.

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GLOSSARY

D-A.1. DEFINITIONS

This chapter, in two subsections, contains Abbreviations, Acronyms, and Definition of Terms related to the exchange of data between tactical data systems employing VMF and tactical data systems employing Link 16.

D-A.1.1 ABBREVIATIONS AND ACRONYMS

This section defines the abbreviations and acronyms used in the appendix.

AAM	Air-to-Air Missile
AAW	Anti-Air Warfare
AC	Action/Action Code
ACA	Airspace Coordination Area
ACC	Air Combat Command
ACK	Acknowledge
ACLS	Automatic Carrier Landing System
ACP	Allied Communication Publication
ACT	Action/Action Value
AD	Air Defense
AEW	Airborne Early Warning
AFATDS	Advanced Field Artillery Tactical Data System
AFSC	Air Force Specialty Code
AGL	Above Ground Level
AIC	Air Intercept Control
AIR ACT	Air Platform Activity
AIS	Association of Information Standards
AJ	Antijam
ALS	Automatic Landing System
ANSI	American National Standards Institute
AOP	Area of Probability
AOR	Area of Responsibility
AOU	Area of Uncertainty
ARM	Antiradiation Missile
ASAS	All Source Analysis System
ASCII	American Standard Code for Information Interchange
ASM	Air-to-Surface Missile
ASOC	Air Support Operations Center
ASR	Ammunition Supply Rate
ASRT	Air Support Radar Team
ASW	Antisubmarine Warfare
ATC	Air Traffic Control
ATDL-1	Army Tactical Data Link-1
AXS ORI	Axis Orientation
BB	Base Banding

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BCS	Battery Computer System
BRIL	Basic Requirements Item List
BRT	Bearing Report Type
C ²	Command and Control
C ² IU	Command and Control Interface Unit
C ² JU	Command and Control JTIDS Unit
C ³ CM	Command, Control, and Communications Countermeasures
CAINS	Carrier Aircraft Inertial Navigation System
CANTCO	Cannot Comply
CANTPRO	Cannot Process
CAP	Combat Air Patrol
CAS	Close Air Support
CASBDA	Close Air Support Battle Damage Assessment
CCB	Configuration Control Board
CDR	Chemical Downwind Report
CDS	Combat Direction System
CFF	Call for Fire
CHA	Chemical Hazard Area
CI	Configuration Item
CJCSI	Chairman of the Joint Chiefs of Staff Instruction
CJCSM	Chairman of the Joint Chiefs of Staff Manual
CM	Countermeasures
	or
COM	Configuration Management
COMM	Center of Mass
COMSEC	Communication
CQ	Communications Security
CRC	Communications Quality
C/S/A	Control and Reporting Center
CSMA	Combatant Command/Service/Agency
CSS	Carrier Sense Multiple Access
CSS	Central Security Service
CTIL	Combat Service Support
CUCV	Commanders Tracked Item List
CVLL	Commercial Utility Cargo Vehicle
CW	Cryptovariable Logical Label
DA	Combat Warfare
DASC	Damage Assessment
DED	Direct Air Support Center
DF	Data Element Dictionary
DFI	Direction Finding
DI	Data Field Identifier
DISA	Data Item
DLA	Defense Information Systems Agency
DLRP	Data Link Address
DM	Data Link Reference Point
DMTD	Data Mile
DOD	Digital Message Transfer Device
DOP	Department of Defense
DTG	Degree of Protection
DUI	Date-Time-Group
EA	Data Use Identifier
	Electronic Attack

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EC	Electronic Combat
ECM	Electronic Countermeasures
ECCM	Electronic Counter-Countermeasures
EF	Element Filtered
EIRN	Entity Identification Reference Number
ELINT	Electronic Intelligence
EMCON	Emission Control
EMG IND	Emergency Indicator
ENV	Environment
EOB	Electronic Order of Battle
EOM	End of Mission
EOT	End of Transmission
EP	Electronic Protection or Estimated Position
EPLRS	Enhanced Position Location Reporting System
EPW	Enemy Prisoner of War
ES	Electronic Warfare Support
ETE	End-To-End
EW	Electronic Warfare
EWAC	Electronic Warfare Action Value
EWC	Electronic Warfare Coordinator
EWS	Electronic Warfare Surveillance
EX IND	Exercise Indicator
F/B	Fix or Bearing
F/FR	Frequency/Frequency Range
F/R IND	Frequency Range Indicator
FAC	Forward Air Controller
FACP	Forward Air Control Party
FAD	Functional Area Designator
FAPES	Force Augmentation Planning and Execution System
FASCAM	Family of Scatterable Mines
FATDS	Field Artillery Tactical Data Systems
FBCB2	Force XXI Battle Command Brigade and Below
FCE	Fire Control Element
FCR	Fire Control Radar
FDD	First Digitized Division
FDS	Fire Direction System
FEBA	Forward Edge of the Battle Area
FI	Filter Indicator
FIFO	First In First Out
FJU	Forwarding JTIDS Unit
FJUA	Forwarding JTIDS Unit A (between Links 11 and 16)
FJUAB	Forwarding JTIDS Unit AB (between Links 11, 11B, and 16)
FJUABG	Forwarding JTIDS Unit ABG (between Link 11, 11B, Generic Data Links and Link 16)
FJUAG	Forwarding JTIDS Unit AG (between Link 11, Generic Data Links and Link 16)
FJUB	Forwarding JTIDS Unit B (between Links 11B and 16)
FJUBG	Forwarding JTIDS Unit BG (between Link 11B, Generic Data Links and Link 16)

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FJUG	Forwarding JTIDS Unit G (between Generic Data Links and Link 16)
FLIR	Forward Looking Infrared Radar
FLOT	Forward Line of Own Troops
FM	Frequency Multiplier
FMF	Fixed Message Formats
FO	Forward Observer
FOS	Forward Observer System
FPF	Final Protective Fire
FPI	Field Presence Indicator
FPU	Forwarding Participating Unit
FRAGO	Fragmentary Order
FRI	Field Recurrence Indicator
FRQ ML	Frequency Multiplier
FRQ1	Frequency, 1
FRQ2	Frequency, 2
FRU	Forwarding Reporting Unit
FSCL	Fire Support Coordination Line
FT	Feet or Foot
FT IND	Force Tell Indicator
FU	Fire Unit
FVU	Forwarding VMF Unit
FVUJ	Forwarding VMF Unit J (between VMF and Link 16)
FWDA	Friendly Weapon Danger Area
G/VLLD	Ground/Vehicular Laser Locator Designator
GAMO	Ground and Amphibious Military Operations
GCCS	Global Command and Control System
GMT	Greenwich Mean Time
GPI	Group Presence Indicator
GPS	Global Positioning System
GRI	Group Recurrence Indicator
GU	Generic Unit
HAVCO	Have Complied
HD SW	Height/Depth Switch
HELO	Helicopter
HIMARS	High Mobility Artillery Rocket System
HMMWV	High Mobility Multipurpose Wheeled Vehicle
HUMINT	Human Intelligence
IADB	Inter-American Defense Board
ICP	Interface Change Proposal
ID	Identity/Identification
ID AMP	Identity Amplification
IDB	Integrated Database
IER	Information Exchange Requirement
IFF/SIF	Identification Friend or Foe/Selective Identification Feature
IJMS	Interim Joint Tactical Information Distribution System (JTIDS) Message Specification
IND	Indicator
IOP	Interface Operating Procedures
IP	Internet Protocol
IR	Infrared
ISN	Initial Slot Number

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ISO	International Standards Organization
IT	Information Technology
IU	Interface Unit
JCS	Joint Chiefs of Staff
JCSE	Joint Communications Staff Element
JCS Pub	Joint Chiefs of Staff Publication
JDAM	Joint Direct Attack Munition
JINTACCS	Joint Interoperability of Tactical Command and Control Systems
JMTOP	Joint Multi-Tactical Data Link (TDL) Operating Procedures
JOC	Joint Operational Commander
JOPES	Joint Operation Planning and Execution System
JRE	Joint Range Extension
JRE JU	Joint Range Extension JTIDS Unit
JREU	Joint Range Extension Unit
JSOW	Joint Stand-Off Weapon
JTAGS	Joint Tactical Ground Station
JTAO	Joint Tactical Air Operations
JTB	Joint Transportation Board
JTC	Joint Technical Command
JTIDS	Joint Tactical Information Distribution System
JU	JTIDS/MIDS Unit
JVIDS	Joint Visually Integrated Display System
KG	Kilogram
KIA	Killed In Action
KILO	Kilometer
KPH	Kilometers Per Hour
LAAD	Low Altitude Air Defense
LAN	Local Area Network
LAT/LONG	Latitude/Longitude
LC	Landing Craft
LCH CAP	Launch Capability
LDN PLT	Land Platform
LED	Law Enforcement Detachments
LOB	Line of Bearing
LOS	Line of Sight
LRP	Launch Reference Point
LSB	Least Significant Bit
LWR	Laser Warning Receiver
MA	Machine Acknowledgment
MAD	Mission Assignment Discrete
MCMV	Mine Countermeasures Maritime Vessel
MDR	Message Directed Relay
MEDEVAC	Medical Evacuation
MEZ	Missile Engagement Zone
MGB	Main Gear Box
MIA	Missing in Action
MIDS	Multifunctional Information Distribution System
MIIDS	Military Intelligence Integrated Data System
MIL	Military
MIJI	Meaconing, Intrusion, Jamming, and Interference
MIL-STD	Military Standard
MIN IMP	Minimum Implementation

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MLI	Message Length Indicator
MLRS	Multiple Launch Rocket System
MOP	Memorandum of Policy
MOPP	Mission Oriented Protective Posture
MOS	Military Occupational Specialty
MPC	Message Processing Center
MR	Machine Receipt
MS	Message Start
MSB	Most Significant Bit
MSD	Minimum Safe Distance
MSEC	Message Security
MSG	Message or Multisource Group
MSL	Mean Sea Level
MTO	Message to Observer
MTS	Marine Tactical Systems
MTST	Maneuvering Target Statistical Tracker
M4 IND	Mode IV Indicator
NA	Not Applicable
NATO	North Atlantic Treaty Organization
NBC	Nuclear, Biological, and Chemical
NC	Navigation Controller
NCA	National Command Authorities
NCS	Network Control Station
NES	Net Entry Signal
NGF	Naval Gun Fire
NIMA	National Imagery and Mapping Agency
NMS	Network Monitoring Station
NON C ² JU	Non Command and Control JTIDS Unit
NON EW C ²	Non Electronic Warfare Command and Control JTIDS Unit
NOTACK	No Attack
NORAD	North American Aerospace Defense Command
NPG	Network Participation Group
NPS IND	Network Participation Status Indicator
NRT	Nonreal-Time
NS	No Statement
NSA	National Security Agency
NSFS	Naval Surface Fire Support
NTR	Network Time Reference
NU	Not Used
OA	Operator Acknowledgment
OCC	Operational Contingency Constraint
ODCSOPS	Office of the Deputy Chief of Staff for Operations
OM	Original Message
OPFAC	Operational Facility
OPLAN	Operations Plan
OPNL CDR	Operational Commander
OPORD	Operations Order
OSI	Open Systems Interconnection
OTAR	Over-the-Air Rekeying
PAD	Precision Aircraft Direction
PADS	Position Area Determinant System

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PCS	Personal Communication System
PG	Participation Group
PGC	Participation Group Community
PIM	Payload Interface Module
	or
	Position and Intended Movement
PLL	Prescribed Load List
PLR	Polarization
PLV	Platoon Leader Vehicle
POL	Petroleum, Oils, Lubricants
POW	Prisoner of War
PPLI	Precise Participant Location and Identification
PR	Position Reference
PRF	Pulse Repetition Frequency
PRI	Pulse Repetition Interval
PRI AMP	Primary Identity Amplification
PT	Point
PU	Participating Unit
Q _{ar}	Relative Azimuth Quality
Q _{pg}	Geodetic Position Quality
Q _{pr}	Relative Position Quality
Q _t	Time Quality
R ²	Reporting Responsibility
R/C	Receipt/Compliance
RDF	Radio Direction Finding
REDCON	Readiness Condition
REF	Reference
REL NAV	Relative Navigation
RF	Radio Frequency
RI	Relay Transmission Indicator
ROTA	Release Other Than Attack
R/P	Reference Position
RPV	Remotely Piloted Vehicle
RRN	Recurrence Rate Number
RS	Radio Set
R-S	Reed-Solomon
RTT	Round-Trip-Timing
RU	Reporting Unit
RV	Response Value
RWR	Radar Warning Receiver
S/A	Service/Agency
SA	Situational Awareness
SADARM	Search and Destroy Armor
SADL	Situation Awareness Data Link
SAI NUM	Slot Assignment Index Number
SAM	Surface-to-Air Missile
SAR	Search and Rescue
SCC	Serial Communication Channel
	or
	System Coordinate Center
SCP	Survey Control Point
S/C SW	Square/Circle Switch
SDU	Secure Data Unit
SEAD	Suppression of Enemy Air Defenses

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SI	Scale Indicator
SID	Status Information Discrete
SIF	Selective Identification Feature
SIGINT	Signal Intelligence
SIM	Simulation
SINCGARS	Single Channel Ground and Airborne Radio System
SIP	SINCGARS Improvement Program
SIS	Special Information System
SNDL	Standard Navy Distribution List
SORTS	Status of Resources and Training System
SPC PLT	Space Platform
SPI	Special Processing Indicator
SPU	Secondary Power Unit
SRI	Standing Request for Information
SSA	Surface-to-Surface Artillery
SSM	Surface-to-Surface Missile
STAR	Station Array
STDL (16)	Satellite Tactical Data Link (16)
STN	Source Track Number
STR	Strength
SU	Support Unit
SUB PLT	Subsurface Platform
SUR PLT	Surface Platform
SVCS	Switched Virtual Circuits
SW	Switch
TACAN	Tactical Air Navigation
TACC	Tactical Air Control Center (USAF, USN) or Tactical Air Command Center (USMC)
TACMS	Tactical Missile System
TACS	Tactical Air Control System
TACS/TADS	Tactical Air Control System/Tactical Air Defense System
TADIL	Tactical Digital Information Link
TAOC	Tactical Air Operations Center
TAR	Tactical Air Request
TBD	To Be Determined
TDA	Table of Distribution and Allowance
TDL	Tactical Data Link
TDMA	Time Division Multiple Access
TDS	Tactical Data System
TGB	Tail Gear Box
THAAD	Theater High Altitude Area Defense
THM	Thermal Homing Munitions
TIDP-TE	Technical Interface Design Plan - Test Edition
TIME FCT	Time Function
TN	Track Number
TOA	Time of Arrival
TO&E	Table of Organization and Equipment
TOR	Terms of Reference
TOT	Time on Target
TPQ	Target Position Quality
TPT	Troop Proficiency Trainer
TPU	Target Position Update
TQ	Track Quality
T/R	Transmit/Receive

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TR	Type Report
TRANSEC	Transmission Security
TRF	Time Report Function
TRKD VEH	Tracked Vehicle
UHF	Ultra High Frequency
UIC	Unit Identification Code
UME	Unformatted Message Element
UPS	Universal Polar Stereographic
URN	Unit Reference Number
USAF	United States Air Force
USELMNORAD	US Element, North American Aerospace Defense Command
USMC	United States Marine Corps
USN	United States Navy
USS	User Source Synchronization
UTC	Universal Time Coordinate
UTM	Universal Transverse Mercator
UTR	Unit Task Reorganization
VMF	Variable Message Format
VU	VMF Unit
WAN	Wide Area Network
W/ES	Weapon Engagement Status
WES	Weapon Engagement Status
WGS-84	World Geodetic System-84
WIA	Wounded In Action
WILCO	Will Comply
WTR MDE	Wartime Reserve Mode
XML	Extensible Markup Language
XML-VMF	Extensible Markup Language - Variable Message Format

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D-A.1.2 TERMS AND DEFINITIONS

This section provides the terms and definitions used in this appendix.

<u>Term</u>	<u>Definition</u>
Acknowledge	The act of notifying a unit transmitting a message that the message has been received as a valid message. (MIL-STD-6011)
Active Synchronization	A procedure used by a JTIDS/MIDS terminal to effect and maintain fine synchronization with system time based on the Round-Trip-Timing (RTT) process.
Address	A number applied to an Interface Unit to associate information and directives with interface units or tracks for both digital and voice communications. (Derived from MIL-STD-6011)
Air Support Operations (ASO)	Air Operations in support of friendly forces, to include action against enemy surface and ground assets exclusive of air-to-air operations.
Architecture	The timing structure of the system. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Association	The automatic or manual establishment of a relationship between two or more tracks when the information on them is deemed to pertain to the same contact.
Automatic Acknowledgment	A machine verification function whereby a terminal that receives a message addressed to it retransmits a copy of that message back to the source during a later time slot, verifying the receipt of the original message. (System Segment Specification for JTIDS/MIDS Class 2 Terminal).

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Bit	A binary digit. In the binary system of numbering, each digit can only have one of two values (0 or 1). (Derived from ACP 167E)
Close Air Support (CAS)	Air action by fixed and rotary-wing aircraft against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces.
Coarse Synchronization	The state of synchronization with system time that allows a terminal to receive and process messages and to achieve fine synchronization. (System Segment Specification for JTIDS/MIDS Class 2 Terminal).
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)
Command and Control JTIDS Unit(C ² JU)	A JU with command and control (C ²) capability.
Common Track	A track on which an IU holds locally derived positional information, and the IU has correlated the track to a remotely reported track. (MIL-STD-6011)
Common Tracking	The process of sharing a common track number and shifting reporting responsibility between IUs.
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)

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Concurrent Operations	The process of communicating on two, or more, digital data links at the same time, as a participant. The concurrent operating unit exchanges with these links all information held in its local data base, but remote information is not forwarded. Protocols of each link are adhered to by the concurrent operating unit. The local data base of a concurrent operating unit is the normal assimilation of data by that unit and includes local sensor data, local operator inputs, and data received and accepted into the local database from a data link, e.g., ID or IFF/SIF data.
Contention Access Mode	A transmit access mode in which a given time slot block is assigned to more than one JU. Each JU will transmit at a specified rate in the time slot block by selecting time slots for transmission pseudorandomly.
Control	The near real-time direction of weapons systems and supporting platforms for the accomplishment of assigned missions.
Correlation	The determination that a system track or local sensor track data report represents the same object or point as another track and/or the process of combining two such tracks/data under one track number.
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) The Link 16 data element is the Data Use Identifier (DUI).
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.

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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

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).

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)

Data Source

A unit to which data can be addressed and from which data can be identified as to source, e.g., all IUs. (MIL-STD-6011)

Data Symbol

A general term for representing both information symbols and parity symbols in aggregate. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

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.

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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. When a DUI is designated as the contents of a JTIDS message field, the DUI name is the field name, and the data items employed by the DUI are (subject to any implementation or message restrictions) the data items which may be conveyed in that field.

Decorrelation

(1) The determination that locally held track data for a given track number does not represent the same object or point as a track data being received in a remote track report for the same track number.
(MIL-STD-6011)

(2) The process of establishing a new track number for a local track when a remote track report with the same track number as the local track is determined to represent a different object. (MIL-STD-6011)

Dedicated Access Mode

A transmit access mode in which time slots are assigned to an individual unit for that unit's exclusive use.

Default Condition

The state automatically assumed by a terminal's hardware or software in the absence of an input directing otherwise.

Digital Message Transfer Device (DMTD)

A portable data terminal device with limited message generation and processing capability. DMTDs are used for remote access to automated C4I systems and to other DMTDs. The environment encompasses point-to-point, point-to-multipoint, relay and broadcast transfer of information over data communications links.
(MIL-STD-188-220)

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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)
Drop Track	An indication from the unit having reporting responsibility for a particular track that the unit will no longer report it. Other units holding an interest in that track may continue to report it. (Derived from Joint Pub 1-02)
Dual Designation	The same track is being reported by two or more units using two or more different track numbers. (MIL-STD-6011)
Duplicate Track Number	The same track number used by two or more units for two or more different tracks. (MIL-STD-6011)
Dynamic Network Management	Management of the network by active participation of a network manager in response to changing needs during operations, typically by use of Network Management messages.
Electronic Attack (EA)	Actions taken to prevent or reduce an enemy's effective use of the electromagnetic spectrum. EA includes electronic jamming, and electronic deception including manipulative deception, simulative deceptive and imitative deception. (Derived from Joint Pub 1-02) (corresponds to the term Electronic Countermeasures (ECM) used in NATO operations)

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Electronic Protection (EP)	Actions taken to ensure effective friendly use of the electromagnetic spectrum despite the enemy's use of EW. (Derived from Joint Pub 1-02) (corresponds to the term Electronic Counter-Countermeasures (ECCM) used in NATO operations)
Electronic Warfare (EW)	Actions involving the use of electromagnetic energy to determine, exploit, reduce, or prevent hostile use of the electromagnetic spectrum, and actions retaining friendly use of the electromagnetic spectrum. There are three divisions within EW: EA, EP, and ES. (Derived from Joint Pub 1-02)
Electronic Warfare Support (ES)	Actions taken to search for, intercept, locate, record, and analyze radiated electromagnetic energy for the purpose of exploiting such radiations in support of military operations. Thus, ES provides a source of EW information required to conduct EA, EP, threat detection, warning, avoidance, target acquisition, and homing. (Derived from Joint Pub 1-02) (corresponds to the term Electronic Warfare Support Measures (ESM) used in NATO operations)
Emergency Track	A track in a condition that requires immediate action or assistance; namely, an aircraft with an emergency situation or a distressed vessel. (Derived from MIL-STD-6011)
Engagement Status	The current relationship between a weapon system and a target. (Derived from MIL-STD-6011)
Environment	The environment in which the associated track is operating; e.g., air, surface, subsurface.

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Epoch	A 12.8-minute time interval consisting of 98,304 time slot intervals, each of 7.8125 milliseconds duration. The time slots in each epoch are organized into three sets (A, B, or C) of 32, 768 time slots each. There are 112.5 epochs in a 24 hour period. (Derived from System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Error Correction Encoding	The JTIDS forward error correction encoding function that utilizes Reed-Solomon encoding of data. See Reed-Solomon Code. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Error Detection Encoding	An encoding process that allows the detection of a residual message error condition after the error correction function (Reed-Solomon) is executed. The process generates a 12-bit parity code for each block of 225 bits, using a (237, 225) polynomial generator function. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Extended Range	The longer of two range options for a JTIDS/MIDS terminal, providing a line-of-sight range capability of 0-500 nautical miles with respect to the allocated propagation for message transmission. (Derived from System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Field Presence Indicator (FPI)	A one bit field used to indicate the presence or absence of the following field.
Field Recurrence Indicator (FRI)	A one bit field used to indicate the repeatability of a field.
Fine Synchronization	The state of synchronization with system time that allows a terminal to transmit messages. A terminal may utilize a passive or an active synchronization procedure to achieve fine synchronization. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

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Fixed Word Format (FWF)	A 70-bit structure consisting of a formalized arrangement of predefined fields of fixed length and sequence.
Fixed Word Format Message	A J-Series message utilizing fixed word format (FWF). An FWF message is started by an initial word which may be then followed by one or more extension and/or continuation words.
Force Tell	The process whereby data that are being inhibited by a filter are allowed to be transmitted or received. (CJCSM 6120.01)
Forwarding JTIDS Unit (FJU)	A JU that translates and forwards data among IUs using J-series messages and M-Series messages. An FJU is either an FJUA, FJUB, or FJUAB.
Forwarding JTIDS Unit A (FJUA)	A JU communicating on both Link 11 and Link 16 while forwarding information between Link 11 and Link 16 participants.
Forwarding JTIDS Unit ABG (FJUABG)	A unit communicating on Link 16, Link 11, Link 11B, and a Generic Data Link while forwarding information among Link 16, Link 11, Link 11B, and Generic Data Link Participants.
Forwarding JTIDS Unit AG (FJUAG)	A unit communicating on Link 16, Link 11, and a Generic Data Link while forwarding information among Link 16, Link 11, and Generic Data Link Participants.
Forwarding JTIDS Unit B (FJUB)	A JU communicating on both Link 11B and Link 16 while forwarding information between Link 11B and Link 16 participants.
Forwarding JTIDS Unit BG (FJUBG)	A unit communicating on Link 16, Link 11B, and a Generic Data Link while forwarding information among Link 16, Link 11B, and Generic Data Link Participants.

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Forwarding JTIDS Unit AB (FJUAB)	A JU communicating on Link 16, Link 11, and Link 11B while forwarding information among Link 16, Link 11, and Link 11B participants.
Forwarding JTIDS Unit G (FJUG)	A unit communicating on both Link 16 and a Generic Data Link while forwarding information between Link 16 and Generic Data Link Participants.
Forwarding Participating Unit (FPU)	A PU that is forwarding data between Link 11 and one or more RUs.
Forwarding Reporting Unit (FRU)	An RU that is forwarding data between two or more RUs.
Forwarding VMF Unit (FVU)	A VU that translates and forwards data using K-Series messages, J-Series messages, and other TDL Message formats.
Forwarding VMF Unit J (FVUJ)	A VU that translates between K-Series messages and J-Series messages while forwarding information between VUs and JUs.
Free Text Message	Bit-oriented messages whose information bits may be used to represent digitized voice, teletype and other forms of free text information. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Geodetic Position Quality (Q_{pg})	A measure of the quality of a JTIDS/MIDS terminal's geodetic position reported in the terminal's Position and Status Reports. Geodetic Position Quality is reported as an integer from 0-15 where the higher numbers correspond to the higher qualities, i.e., lower errors in position. (System Segment Specification for JTIDS Class 2 Terminal)

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Generic Unit (GU)	A C ² or nonC ² unit, operating on a data link (excepting Link 11/11B) that does not utilize a JTIDS/MIDS compliant system, and the protocols, conventions, and fixed word message formats defined by the MIL-STD-6016. GUs also include JUs forwarded onto data links other than Link 11/11B.
Group Presence Indicator (GPI)	A one bit field used to indicate the presence or absence of the following group.
Group Recurrence Indicator (GRI)	A one bit field used to indicate the repeatability of a group.
Handover	The passing of control authority of an aircraft or other air vehicle from one control agency to another control agency. Handover action is complete when the receiving controller acknowledges assumption of control authority. (Derived from MIL-STD-6011)
Header (Message)	The leading bits of each message are coded as a (16, 7) Reed-Solomon code-word that provides 35 bits of information and 45 bits of associated forward error correction code. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Information Symbol	A 5-bit data element comprising both information and error detection code (inner parity) bits, or a combination of both. The information bits may represent either Reed-Solomon generated information or non-error-coded information. (System Segment Specification for JTIDS Class 2 Terminal)
Initial Entry	The procedure by which a subscriber terminal becomes a system participant initially and may achieve coarse synchronization with system time. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

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Initial Entry JTIDS Unit (IEJU)	Any JTIDS/MIDS unit that transmits the Initial Entry message in the appropriate time slot.
Initial Slot Number (ISN)	The number assigned to the first time slot in a block of time slots relative to the beginning of an epoch.
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)
Interface	A boundary or point common to two or more similar or dissimilar command and control systems, subsystems, or other entities against which or at which necessary information flow takes place. (Joint Pub 1-02)
Interface Operating Procedures (IOP)	A document used to provide a functional understanding of data exchange on a Tactical Data Link (TDL) and to describe operator initiated actions and their effect on the exchange of data.
Interface Unit (IU)	A JU, PU, or RU communicating directly or indirectly (i.e., identified as a data source) on the interface.
Interleaving	A pattern of orienting the data symbols of a message for transmission, applicable to Modes 1 and 2. A fixed interleaving pattern is used for Mode 4. (System Segment Specification for JTIDS Class 2 Terminal)
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)

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(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.

Jam Strobe

A line projecting from a jammed radar on the approximate azimuth of the jamming source. (MIL-STD-6011)

Joint

Connotes activities, operations, organization, etc., in which elements of more than one Service of the same nation participate. (Joint Pub 1-02)

Joint Range Extension

A multi-Service concept for extending the range of nets exchanging tactical data beyond the range of tactical communications terminals used for these nets, and providing alternatives for the transfer of this data within local areas.

Joint Range Extension Unit

A unit connected directly on a JRE link and not forwarding or communicating on a Link 16 network.

Joint Range Extension
JTIDS Unit

A unit communicating directly on Link 16 and on a JRE link, but not forwarding between the two (concurrent operations).

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JTIDS

Joint Tactical Information Distribution System. The JTIDS/MIDS is a joint-service system which provides an Integrated Communications, Navigation, and Identification (ICNI) capability. The JTIDS/MIDS provides a reliable, secure, jam resistant, high-capacity, ICNI capability through the use of direct-sequence, spread-spectrum, frequency-hopping, and error detection and correction techniques. (Derived from System Segment Specification for JTIDS/MIDS Class 2 Terminal)

JTIDS/MIDS Net

One of 128 time-division structures comprising a JTIDS/MIDS network. Each net consists of a continuous stream of time intervals (time slots) with 98,304 time slots per 12.8-minute epoch, during which digital data whose signal characteristics are determined by a cryptographic variable in conjunction with a unique net number are distributed.

JTIDS/MIDS Network

The JTIDS/MIDS structure (usable only with Mode 1 communications) having a total usable capacity of 98,304 time slots per epoch per net and 128 nets. All nets are synchronized so that each time slot of each net is time-coincident with the corresponding time slot (same set and number) of every other net.

The signal characteristics of all data distributed within a specified multinetted structure are determined by a cryptographic variable in conjunction with a set of net numbers that define the structure.

JTIDS/MIDS Unit (JU)

A unit communicating directly on Link 16.

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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.
Local Data	Data derived from organic sensors and/or the IU's own capabilities to process, analyze, and classify track data, including data received from a remote source on a local track and accepted into the IU's database.
Local Track	A track established within an interface unit based on local positional data. Amplifying data associated with the track may be derived locally, from supporting units, or from data links. (MIL-STD-6011)
Machine Receipt	See Automatic Acknowledgement.
Mandatory Field	A field which shall contain data with each transmission of the message.
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.

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Minimum Implementation

The statement of minimum data exchange requirements that must be implemented by Service/Agency systems participating on the Joint Tactical Data Link (TDL) 16 Interface to ensure the continued flow of information. This is defined in terms of requirements that must be met at seven different levels: Functional, Related Function, Message, Related Message, Word, DE, and DI.

Minimum Information Exchange Requirements

Those categories of information that must be exchanged between operational facilities in order to provide commanders with essential information for decision making.

Mode 1 Communications

Mode 1 JTIDS/MIDS transmissions consist of a sequence of wide-band transmission symbol packets (single pulse, 13-microsecond packets and double-pulse, 26-microsecond packets), the pulses of which are formed by continuous phase shift modulation (CPSM) of the carrier frequency. The signal processing required to transform base-band data to the JTIDS signal waveforms for transmission includes base-band data encryption, forward error correction encoding, error detection encoding, cyclic code shift keying (CCSK) encoding, data symbol interleaving, and the selection of a variable start time.

Mode 2 Communications

Mode 2 JTIDS/MIDS transmissions are identical to Mode 1, except that Mode 2 operates in the narrow-band mode.

Mode 4 Communications

Mode 4 JTIDS/MIDS transmissions have signal waveform characteristics identical to Mode 2, except that Mode 4 does not employ base-band data encryption signal processing.

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Naval Surface Fire Support (NSFS)	Fire provided by Navy surface gun, missile, and electronic warfare systems in support of a unit or units tasked with achieving the commander's objectives. (Joint Pub 1-02)
Navigation Controller	The Navigation Controller establishes the origin and North orientation of the U, V relative grid for the Relative Navigation function. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Needline Participation Group	A unique list of netted subscribers compiled without regard to the specific messages they exchange with each other. This list is a means of transmitting any message to a common set of users.
Nested Group	Any group within a group.
Net	See "JTIDS/MIDS Net."
Net Number	A 7-bit code that identifies each net as a decimal number (0 through 127). (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Network	See "JTIDS/MIDS Network."
Network Management Concepts	A set of operational concepts that deals with the allocation and assignment of JTIDS/MIDS resources and functions to satisfy user requirements.
Network Management Function	An action or activity affecting the relationships, actions, or activities of the various elements of the network.
Network Management Tools	The procedures employed by a network manager to ensure effective and efficient use of the JTIDS/MIDS message transmission capacity.
Network Manager	A JTIDS/MIDS unit that is designated to employ the required tools to allocate, assign, and manage the JTIDS/MIDS network resources.

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Network Participation Group	A unique list of applicable messages used to support an agreed-upon technical function without regard to subscriber identities. This list is a means of transmitting a common set of messages to all interested users.
Network Time Reference (NTR)	A subscriber terminal that is assigned as the reference for system time for each synchronized netted system. The NTR terminal's clock time is never updated by system information and is the reference to which all other terminals synchronize their own clocks. There is only one NTR.
Noncommand and Control JTIDS Unit (nonC ² JU)	A JU without command and control capability.
Normal Mode	The standard mode of terminal operation with respect to receipt and transmission of messages. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Normal Range	The shorter of two range options for a JTIDS/MIDS terminal, providing a line-of-sight coverage capability of 0-300 nautical miles with respect to the allocated propagation for message transmission. (Derived from System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Optional Field	A field which is not designated as a mandatory field. An optional VMF field shall be preceded by an FPI or be nested within a group which includes a GPI.
Order	A communications which is written, oral, or by signal, that conveys instructions from a superior to a subordinate. (DOD IADB) In a broad sense, the terms "order" and "command" are synonymous. However, an order implies discretion as to the details of execution whereas a command does not. (Joint Pub 1-02)

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Pairing	The establishment of an operational relationship (other than an engagement) between a friendly track and another track or point.
Parity Symbol	A 5-bit error-correction code data element generated by the Reed-Solomon encoding process. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Participating Unit (PU)	A unit communicating directly on Link 11. (MIL-STD-6011)
Participation Group Community (PGC)	The set of JUs assigned to participate as transmitters and/or receivers in the corresponding participation group.
Participation Group Pool	One or more time slot blocks assigned to a given participation group to satisfy participation group needs, priorities, and functional characteristics.
Passive Synchronization	A procedure used by a terminal to effect and maintain fine synchronization with system time by passive observations of Position and Status messages transmitted by other terminals. The synchronizing terminal is not required to transmit any information. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Perimeter Engagement	The unit is initiating multiple simultaneous engagements with no capability to perform independent kill assessment. However, W/ES values of Firing and Engagement Broken will be automatically transmitted for each missile/target pair.

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Polling Mode	A mode of terminal operation whereby the terminal can receive messages but does not transmit any fixed format messages except to transmit automatic message acknowledgments, RTT interrogations, or other messages in response to special interrogations. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Pool	One or more time slot blocks that can be used to satisfy a particular functional requirement or the total JTIDS/MIDS capacity that can be divided into pools to satisfy all functional requirements.
Position Reference	One or more JUs designated as a network reference. Such a JU has maintained a geodetic position accuracy of 50 feet, one sigma (standard deviation) over a long period of time.
Precise Participant Location and Identification	The Link 16 function that provides network participation status, identification, and position of JUs, PUs, and RUs, on the Link 16 interface.
Primary User	A subscriber terminal that utilizes the active synchronization (RTT) procedure and serves as a high-quality source for synchronization by the general Relative Navigation community. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Pulse (JTIDS/MIDS)	A 6.4-microsecond burst of carrier frequency continuous phase shift modulated at a 5-megabit-per-second rate by the transmission symbol. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Purge	Removal from database in response to internal system criteria.

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Radio Relaying	A function for extending radio coverage based on time delay relaying where a message received during one time slot is subsequently retransmitted in another time slot. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Radio Silence Mode	A mode of terminal operation where the terminal receives but does not transmit fixed word format or variable message format messages. (Derived from System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Receive Block	A time slot block assigned for message reception.
Receipt/Compliance	The acknowledgment of a message and/ or an indication of intent to respond to a message, either by machine acknowledgment or operator action.
Recurrence Rate	The total number of time slots per epoch assigned (or deleted) in a single time block assignment, specified as an integer, $R = 0$ to 15 where 2 = the number of time slots. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Recurrence Rate Number (RNN)	An integer R , $0 < R < 15$, where 2^R is the recurrence rate of the block assignment.
Reed-Solomon Code	As applied to JTIDS/MIDS, a forward error correction encoding scheme using a 32-ary cyclic block code in the class of generalized Bose-Chaudhuri-Hocquenghem (BCH) codes where the basic block codeword is a (31, 15)codeword, i.e., 31 5-bit data symbols per codeword, of which 15 are information symbols and 16 are parity symbols. Message headers are (16,7) codewords which are shortened (31,15) codewords where 7 are information symbols and 9 are parity symbols. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

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Relative Azimuth Quality (Q_{ar})	A measure of the quality of a terminal's estimate of the orientation of the U,V grid with respect to grid North. Relative Azimuth Quality is reported in the terminal's Position and Status Reports as an integer from 0-7, where the higher numbers correspond to the higher qualities, i.e., lower errors in angular orientation. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Relative Common Grid	A rectilinear planar grid tangent to the Earth surface at the grid origin whose coordinates are U, V Cartesian coordinates, where the V-axis is the North-South axis and the U-axis is the East-West axis. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Relative Navigation	A procedure used by a terminal to determine its position and velocity in a common reference coordinate system by passive observations of Position and Status messages transmitted by other terminals. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Relative Position Quality (Q_{pr})	A measure of the quality of a terminal's relative position with respect to the U, V relative grid. Relative Position Quality is reported in the terminal's Position and Status Reports as an integer from 0-15, where the higher qualities, i.e., less error in position. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Relay	An automatic function of the JTIDS/MIDS terminal that provides retransmission of received information to extend the range beyond line of sight.

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Relay Block	One to 64 time slot blocks assigned to independently specified nets for the relay of messages. The number of time slots selected for message reception must equal the number of time slots selected for message transmission. Each block is described by set (A, B, or C), a specific time slot in the block, and the recurrence rate.
Remote Data	Data derived from data link reports from another unit.
Remote Track	A track established within an interface unit based upon positional information derived from a data link report or reports. Amplifying data associated with the track may be derived locally, from supporting units, or from data links. (MIL-STD-6011)
Reporting Responsibility (R^2)	The requirement for the IU with the best positional data on a track to transmit track data on the interface.
Reporting Unit (RU)	A unit communicating on a point-to-point data link (e.g., Link 11B) which can be identified as a data source. (MIL-STD-6011)
Repromulgation	The rebroadcast of a specified message or messages. The re promulgation request field specifies the number of times the message should be relayed and the time slot in which it is to be broadcast.
Response Time End-to-End Response Time	The time from new information availability at the source JU to reception of the message at the destination JU.
JU Response Time	The time from new information availability at the JU to the transmission of the information on the link. This is defined for each message in the JTIDS TIDP-TE.

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Response Time Terminal Response Time	The time from new information availability at the terminal to the transmission of the information on the link. This time is part of the JU response time.
Round-Trip-Timing (RTT)	The process used by a JTIDS/MIDS terminal to directly determine the offset between its clock and that of another JTIDS/MIDS terminal. This is used to achieve and maintain fine synchronization and to improve the terminal's time quality. This process involves the exchange of RTT Interrogation and Reply Messages.
RTT Message	A short, 35-bit message used by the Active synchronization method, either an RTT Interrogation Message or RTT Reply Message. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Satellite Tactical Data Link (16) (STDL (16))	The STDL (16) system is a near real time tactical data link system which uses SHF satellite communications to provide a BLOS enhancement to Link 16 message communications.
Secondary User	The general category for the majority of system subscriber terminals. Secondary user terminals generally utilize the Passive synchronization procedures for synchronizing in the Relative Navigation community. (System Segment Specification for JTIDS/MIDS Class 2 Terminal) Secondary users may use RTT messages when improved time quality is needed to maintain position quality.
Situational Awareness Data Link (SADL)	SADL is a data link that enables aircraft to share and display flight information with other SADL-equipped aircraft and to share and display friendly position locations with the Army's Digitized Battlefield. SADL radios are production EPLRS radios with modified software and firmware.

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These modifications allow the SADL radios to interoperate with the EPLRS ground community or to operate independently in SADL-only air-to-air networks. SADL permits display of EPLRS-equipped friendly unit locations as well as the position and status of other SADL network members.

Source Address	Specifies the Source Track Number of the Link 16 message.
Stacked Net	The coordinated use of specific blocks of time slots on different nets in a JTIDS/MIDS network by different communities of users.
Static Network Management	Management of the network in accordance with a preplanned scheme not subject to changes by a network manager during operations.
Subscriber	A participant in the use of the system, either actively (transmission of information) or passively (receiver of information only), or both. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Supporting Unit (SU)	A unit supporting an IU and providing data for the interface, but not identified as a data source. (Derived from MIL-STD-6011)
Symbol Packet	A signal element containing either one (single-pulse symbol packet) or two (double-pulse symbol packet) 6.4-microsecond pulses. The single-pulse packet (13 microseconds) consists of a 6.4-microsecond pulse followed by a 6.6-microsecond interval of dead time; the double pulse packet (26 microseconds) consists of two 6.4-microsecond pulses separated and followed by 6.6-microsecond interval of dead time. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

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Synchronization Preamble

Sixteen symbol packets that preface each transmitted message to allow for the detection of the beginning of each message and the subsequent decoding of the entire message.
(System Segment Specification for JTIDS/MIDS Class 2 Terminal)

Systematic Code

A code having the characteristic that each information block is encoded into a codeword comprised of "n" symbols in such a way that the first "k" symbols of the codeword are exactly the same as the information block and last "n-k" symbols of the codeword are redundant symbols which are functions of the information symbols. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

Tactical Command and Control

The exercise of authority and direction by a properly designated commander over assigned forces in the accomplishment of his mission. Tactical command and control functions are performed through an arrangement of personnel, equipment, communications, and procedures which are employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of his mission.
(Joint Pub 1-02)

Tactical Command and Control System

The facilities, equipment, communications, procedures, and personnel essential to Theater-Level and commanders Below-Theater-Level for planning, directing, and controlling operations of assigned and attached forces pursuant to the missions assigned and which provide for the conveyance and/or exchange of data and information from one person or force to another. (Joint Pub 1-02)

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Automated Tactical Command and Control System

A command and control system or part thereof which fully manipulates the movement of information from source to user without human intervention. (Automated execution of a decision without human intervention is not mandatory.) (Joint Pub 1-02)

Semiautomated Tactical Command and Control System

A machine-aided command and control system wherein human intervention is required in varying degrees to operate the system. (Joint Pub 1-02)

Manual Tactical Command and Control System

A command and control system that acquires, processes, and passes information generated by man at the source and is received, processed, and acted upon by manual means. (Joint Pub 1-02)

Tactical Digital Information Link (TADIL)

A JCS approved standardized communications link suitable for transmission of digital information. A data link is characterized by its standardized message formats and transmission characteristics.

TADIL A

A secure, netted data link utilizing parallel transmission frame characteristics and standard message formats at either 2250 or 1364 bits per second. Transmission characteristics and standards for Link 11 are set forth in MIL-STD-6011 and MIL-STD-188-203-1A.

TADIL B

A secure, point-to-point data link utilizing serial transmission frame characteristics and standard message formats at a basic speed of 600 or of 1200 bits per second. This data link interconnects tactical air defense and air control units. Transmission characteristics and standards for Link 11 are set forth in MIL-STD-6011 and MIL-STD-188-212. Message formats are the same for Link 11B and Link 11.

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TADIL C

A time division data transmission link between control station and controlled aircraft. It provides the capability for automatic transmission of orders, status, and other information. Data exchange is accomplished on a fully automatic link at 5000 bits per second, using serial transmission. Transmission characteristics and standards for Link 4A are set forth in MIL-STD-6004 and MIL-STD-188-203-3.

TADIL J

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.

Link 16 Interface

The tactical data exchange interface comprised of three basic components: participating JUs, the Link 16 Message Standard, and Voice Coordination Nets/Circuits. The interface may be connected via data forwarder(s) to a JTAC interface (i.e., Link 11 and/or Link 11B).

Link 16 Message

A functionally oriented, variable length string of one or more 70-bit words in either fixed word format or variable message format.

Technical Interface Concepts (TIC)

A document used to establish the conceptual foundation for the design, implementation, and test documentation for the general development of the Joint Chiefs of Staff (JCS) program for ensuring compatibility, interoperability, and operational effectiveness of tactical command and control operational facilities/systems. A TIC identifies:

(a) tactical command and control systems and operational facilities of the Services/Agencies.

(b) joint interface points, either manual or digital; and

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(c) inter-Service/Agency information to be exchanged among automated and manual tactical command and control systems.

Technical Interface Design Plan (TIDP)	An engineering implementation plan that specifies the technical standards required to achieve compatibility and interoperability as specified in the Technical Interface Concepts. The plan includes a comprehensive technical description of the operational interface, message implementation, methods, and rules for processing data between operational facilities and a final list of effective Service/Agency facilities/systems.
Terminal (JTIDS/MIDS)	The integrated equipment comprised of hardware, firmware, and software elements used as the means for participating as a system subscriber. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Test Mode	A mode of terminal operation whereby a terminal is required to transmit Test messages. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Time (System)	The time maintained by the terminal assigned as the Network Time Reference (NTR) to which all other participating terminals are synchronized. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Time (Terminal)	The estimate of time derived by a terminal as a result of executing either the active or a passive synchronization procedure. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

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Time Quality (Q_t)	A measure of the quality of a terminal's state of synchronization with system time reported in the terminal's Position and Status Report. Time Quality is reported as an integer from 0-15 where the higher numbers correspond to the higher levels of quality, i.e., lower errors in timing. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Time Refinement Symbols	Four transmission symbols added to each message after the synchronization preamble symbols to provide for measuring accurate time-of-arrival of messages. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Time Slot	A 7.8125-millisecond time interval during which messages may be transmitted. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Time Slot Assignment	The designation to the terminal of the specific time slot block in which it will transmit or receive messages.
Time Slot Block	A collection of time slots spaced uniformly in time over each epoch and belonging to a single time slot set. A block is defined by indexing time slot number (0 to 32,767), set (A, B, or C), and a recurrence rate number (0 to 15).
Time Slot Number	A 17-bit code that identifies each full time slot. The code consisting of a 2-bit set field (set A, B, or C) and a 15-bit slot field representing the decimal numbers zero to 32,767. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

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Time Slot Reallocation

A transmit access mode in which each Access Mode participant periodically assigns itself time slots from a shared pool of time slots. A participant assigns transmit time slots after transmitting a Time Slot Reallocation (TSR) message and receiving TSR messages from other participants.

Time Slot Reuse

A method to increase the JTIDS/MIDS network capacity by allowing more than one terminal to transmit in a single time slot on a single net number. This is appropriate for JUs in proximity to each other that have information to exchange; receivers will lock onto the message with the shortest time of arrival.

Time Slot Separation

The interval between time slots in an epoch assigned to a block expressed in terms of R ($R = RRN$), where the separation between time slots = $3 \times 2^{15-R}$.

Track

(1) The graphic and/or alphanumeric representation of an object, point, or bearing whose position and/or characteristics are collated from sensors and/or other data sources. (MIL-STD-6011)

(2) A collated set of data...associated with a track number for the purpose of representing the position and/or characteristics of a specific object, point, or bearing. (MIL-STD-6011)

Track Quality

A measure of the reliability of the positional information of a reported track.

Transmit Block

A time slot block assigned for the transmission of messages.

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Transmission Symbol	A 32-bit sequence, one of 32 possible sequences generated by cyclic code shift keying, having a direct correlation with a 5-bit data symbol for the purpose of direct sequence spectrum spreading. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Variable Message Format (VMF)	A message structure using predefined fields of fixed length employing internal syntax and a header extension. The internal syntax specifies the presence, absence, and recurrence of fields as selected by the user.
Variable Message Format Message	A Link 16 message utilizing variable message format.
Word Format	The type of Link 16 word construction. There are four such types: initial, extension, continuation, and variable message format.
XML - VMF Document	An XML compliant representation of a given VMF message format.
XML - VMF Mapping	The description of how an XML-VMF Document is derived from its respective VMF message format.

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INCH-POUND

MIL-STD-6020C

31 October 2013

Superseding

MIL-STD-6020B

30 September 2011

DEPARTMENT OF DEFENSE INTERFACE STANDARD

DATA FORWARDING BETWEEN TACTICAL DATA LINKS (TDLs)

APPENDIX E – LINK 16 TO LINK 16



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APPENDIX E

E.1 SCOPE

This appendix specifies the general forwarding rules for the exchange of Link 16 data over non-JTIDS/MIDS media (i.e., the Joint Range Extension (JRE) interface). This appendix is a mandatory part of this standard. The information contained herein is intended for compliance.

E.2 APPLICABLE DOCUMENTS

E.2.1 GENERAL

The documents listed in this section are specified in sections E.4, E.5, and E.6 of this appendix. This section does not include documents cited in other sections of this standard, recommended for additional information, or used for examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections E.4, E.5, and E.6 of this appendix, whether or not they are listed.

E.2.2 GOVERNMENT DOCUMENTSE.2.2.1 SPECIFICATIONS, STANDARDS, AND HANDBOOKS

The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the current issues of these documents are listed in the Department of Defense Index of Specifications and Standards (DoDISS).

STANDARDSDEPARTMENT OF DEFENSE

MIL-STD-3011 - Interoperability Standard for the Joint Range Extension Application Protocol

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

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(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

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E.3 DEFINITIONS

Applicable definitions are in Annex A (i.e., Glossary) of this appendix.

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E.4 JOINT RANGE EXTENSION

This section describes the general requirements for exchange of digital data outside a Link 16 network. This alternative capability provides for connecting two or more Link 16 networks using a Joint Range Extension (JRE) link for forwarding between Link 16 networks. The JRE capability normally will be located at Command and Control (C^2) systems that have access to both Link 16 and alternate communications media (e.g., SATCOM, Fiber Optic, Land Line, or any combination of these or other communications networks). C^2 systems will have the capability to extend the Link 16 range beyond line-of-sight (BLOS) by using JRE to take advantage of available alternative communications media and protocols. Non C^2 systems also may use the JRE capability to exchange data when a Link 16 network is not available. Section 5 provides data forwarding rules between multiple Link 16 networks over the JRE interface.

E.4.1 JRE INTERFACES

The JRE interface is intended to provide improved information distribution by extending the range of Link 16 nets exchanging tactical information (J-series messages) BLOS. This section provides the general rules governing the exchange of J-Series messages using a JRE link between Link 16 networks (with Forwarding JTIDS Units Generic (FJUGs) configured for JRE); between a Link 16 network and a non-network participant (with an FJUG and a host with a JRE capability but not using a JTIDS terminal (JREU)); between non-Link 16 network participants (JREUs); or any combination of these. There can also be a host that operates simultaneously on a Link 16 network on one side and a JRE link on the other side (and possibly other links) without direct forwarding of J-Series messages between the two (a JRE JU performing concurrent operations). Other configurations and combinations are also possible, such as using multiple FJUGs to interconnect several Link 16 networks, a forwarding JREU that forwards J-Series messages between separate JRE links but not onto a Link 16 network, or other perturbations. The rules stated herein pertain to sending J-Series messages between hosts or JRE processors performing any of these separate or combination of functions.

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E.4.1.1 THE JRE INTERFACE BETWEEN LINK 16 NETWORKS

a. The JRE interface between Link 16 Networks enables the passing of J-Series messages using non-JTIDS/MIDS Media, as illustrated in Figure E.4-1. This interface requires an FJUG on each different Link 16 network that is capable of exchanging J-Series messages using the JRE application protocol (i.e., MIL-STD-3011). Use of the JRE application protocol (JREAP) provides for forwarding Link 16 data without altering the intent of the information exchanged. The FJUG forwards designated J-Series messages in accordance with the forwarding rules in Section 5. The J-Series messages are packaged and time tagged for latency and extrapolation purposes in accordance with the JREAP.

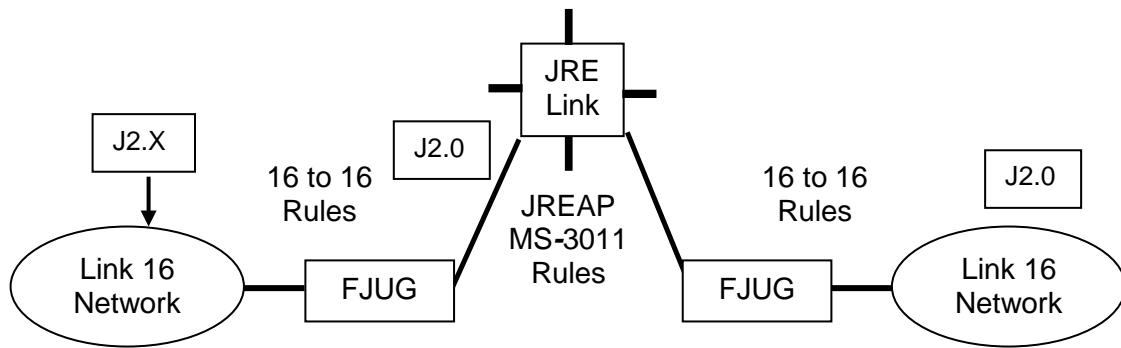


Figure E.4-1 JRE Interface Between Two Link 16 Networks

b. As an example, a J2.X is transmitted on a Link 16 network. It is received by an FJUG, translated to a J2.0 Indirect Interface Unit PPLI message, time tagged and packaged according to the JREAP and forwarded over a JRE link to another FJUG that unpackages, extrapolates, and transmits the J2.0 PPLI on another Link 16 network. Other J-Series messages are time tagged, packaged and forwarded without any translations, but are unpackaged, extrapolated if necessary, and passed to the JTIDS terminal on the final Link 16 network. Except for the change in PPLI message types and the filtering of selected messages, the J-Series message forwarding between two or more Link 16 networks is transparent to the networks and it appears as though the two networks are one.

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E.4.1.2 THE JRE INTERFACE BETWEEN A LINK 16 NETWORK AND JREU

a. The JRE interface between a Link 16 network and a JREU enables the passing of J-Series messages to a unit not on a Link 16 network using non-JTIDS/MIDS Media as illustrated in Figure E.4-2, as if it were part of the Link 16 network. This interface requires an FJUG on Link 16 that is also capable of exchanging J-Series messages using MIL-STD-3011 without altering the intent or usefulness of the information exchanged. The FJUG exchanges J-Series messages between its JTIDS terminal connected to the Link 16 network and the remote JREU connected via a JRE link using MIL-STD-3011. The FJUG forwards designated J-Series messages in accordance with the forwarding rules specified in Section 5. The J-Series messages are time tagged and packaged for forwarding over the JRE link in accordance with MIL-STD-3011.

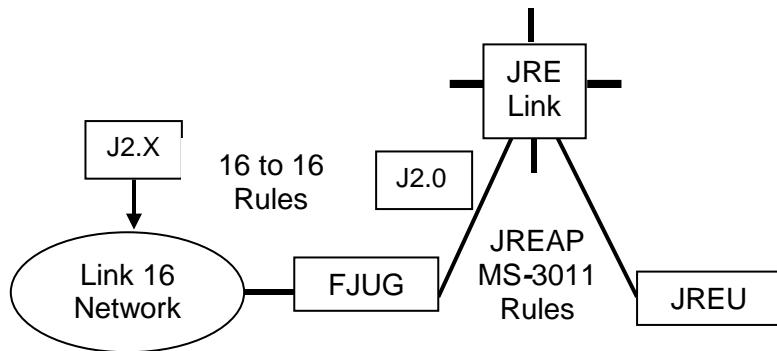


Figure E.4-2 JRE Interface Between a Link 16 Network and a JREU

b. As an example, a J2.X PPLI message received over the Link 16 network is translated to a J2.0 Indirect Interface Unit PPLI message by the FJUG, time tagged, and forwarded over the JRE link to the receiving JREU, which unpackages the message, performs any necessary extrapolation, and passes the J2.0 message to the host. The JREU would send the host's J2.0 PPLI over the JRE link to be forwarded by the FJUG onto the Link 16 network. Other J-Series messages do not require translation and are time tagged and forwarded using JREAP over the JRE link. Those messages received by the JREU are unpackaged, extrapolated as appropriate, and presented to the host.

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Those received by the FJUG over the JRE link are unpackaged, extrapolated as appropriate, and forwarded onto the Link 16 network.

c. The JRE interface between a Link 16 network and a JREU commonly is used for the following capabilities:

(1) Reach-Back Connectivity. In this application, JRE will be used to connect a remote unit (e.g., joint task force command center) to a forward area of operations (Link 16 Network) for the exchange of J-Series messages.

(2) Reach-Forward Connectivity. In this application, a remote unit, such as a bomber transiting into the theater, will be connected to the Link 16 network in its area of operations using a JRE link.

(3) Operational Continuity. In this application a JREU (e.g., BLOS ground or surface unit) maintains connectivity with the Link 16 network via the JRE link to the FJUG when the direct connection is lost.

E.4.1.3 THE JREU TO JREU JRE INTERFACE

a. The JRE interface between two JREUs is the simplest case that enables the passing of J-Series messages using non-JTIDS/MIDS Media as illustrated in Figure E.4-3. The initiating JREU time tags, packages, and forwards designated J-Series messages in accordance with MIL-STD-3011. The receiving JREU unpackages, extrapolates the messages as appropriate, and passes it to its host.

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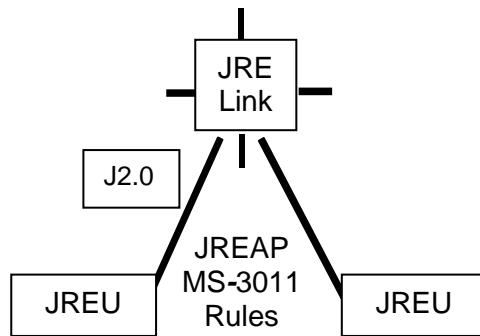


Figure E.4-3 JRE Interface Between Two JREUs

b. As an example, the JREUs pass their J2.0 PPLI messages between each other with no translation required, but the PPLI is extrapolated for the time it takes to pass over the JRE link.

E.4.1.4 THE CONCURRENT OPERATING UNIT JRE INTERFACE

This interface has several possible configurations, but as a minimum consists of a Tactical Data System communicating on a Link 16 network and on a JRE link at the same time (JREJ CIU), but not directly forwarding J-Series messages between the two. Another possible configuration could be an FJUG operating on a Link 16 network, as illustrated in Figure E.4-4, and other links where one or more links are not being forwarded between it and the Link 16 network (e.g., a member of a Navy Battle Group). The basic concurrent operating JREJ CIU exchanges information held in its local database, but J-Series messages are not forwarded to or from the Link 16 Network. The concurrent operating unit adheres to the protocols of each link. The local data base of a concurrent operating unit may contain the normal assimilation of data by that unit and may include local sensor data, local operator inputs, and data received and accepted into the local data base from the data links (e.g., ID or IFF/SIF data).

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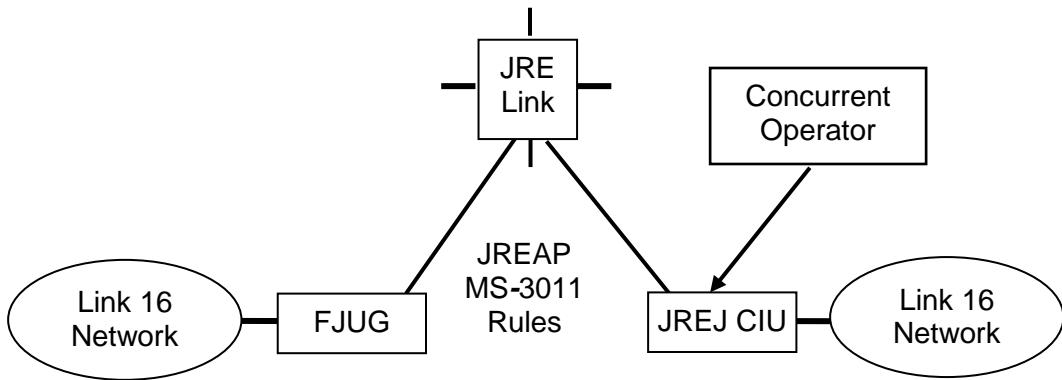


Figure E.4-4 JRE Interface with Concurrent Operations

E.4.2 PRECISE PARTICIPANT LOCATION AND IDENTIFICATION (PPLI)E.4.2.1 PPLI REPORTING BY JUS

Each JU shall transmit an appropriate J2 PPLI message on the PPLI Network Participation Group (NPG), in the specified access mode, at least once per time interval. The time interval is defined as the maximum time differential between PPLI reports that allows C² JUs to maintain other JUs with active status. The location of moving JUs shall be extrapolated to the time of transmission. To maintain an active status on a JU, at least one PPLI must be received every 40-60 seconds, or the JU will be considered inactive. In the latter case, C² JUs may delete the track or begin transmitting a surveillance track (based on own sensor data, or as a nonreal-time track). For surveillance purposes (see MIL-STD-6016), J2.x messages shall be transmitted periodically in accordance with the appropriate J2.x message Transmit Rules.

E.4.2.2 PPLI REPORTING OF FORWARDED IUS

An FJU shall transmit a J2.0 message on the PPLI NPG, using the specified access mode, at least once per time interval for each IU which is being forwarded. The time interval for the reporting of forwarded units shall be the same as specified in paragraph 4.2.1 above. The TN, Identity (ID), location, and amplifying information shall be identical to the latest

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information received from the forwarded unit on the other link. The location of moving forwarded units may be extrapolated to the time of transmission.

E.4.2.3 SELF REPORTING BY AN FJUG, JREJ CIU, OR JREU

a. Any FJUG, JREJ CIU, or JREU will report itself or its associated host using the J2.0 Indirect Interface Unit Precise Participant Location and Identification (PPLI) message on the JRE link.

b. FJUGs and JREJ CIUs report themselves using the J2.X PPLI message on the Link 16 network if not directly tied to a host system. When directly tied to a host system that is generating its own PPLI message, no additional PPLI is needed on the Link 16 network for the FJUG or JREJ CIU.

E.4.2.4 FORWARDING PPLI REPORTS ON JRE LINKS

a. J2.2 Air PPLI, J2.3 Surface PPLI, J2.4 Subsurface PPLI, J2.5 Land Point PPLI, and J2.6 Land Track PPLI messages received on Link 16, are forwarded by the FJUG in a J2.0 Indirect Interface Unit PPLI message over the JRE link. ERROR PRINTING PARAGRAPH TEXT: 4605 This command is not available.

b. In addition, the FJUG is responsible for forwarding all J2.0 Indirect Interface Unit PPLI messages received via a JRE link over the directly tied Link 16 network. ERROR PRINTING PARAGRAPH TEXT: 4605 This command is not available.

E.4.2.5 SPECIAL CONSIDERATIONS

Due to link architecture there are situations when a Link 16 participant can receive a J2.X PPLI report on Link 16 and a J2.0 Indirect Interface Unit PPLI report that came over a JRE link for the same unit. When this situation occurs, the Link 16 unit will accept the following PPLI reports directly from Link 16: J2.2 Air PPLI, J2.3 Surface PPLI, J2.4 Subsurface PPLI, J2.5 Land Point PPLI, and J2.6 Land Track PPLI. The Link 16 unit will discard the J2.0 Indirect Interface Unit PPLI messages for the same units.

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E.4.3 JRE SOURCE TRACK NUMBER FIELD

a. Link 16 uses a 15-bit Address number to identify Link 16 participants, but the JRE Source Track Number (STN) field in the JRE application protocol is a 16-bit field. (This adds flexibility to JRE for non-link 16 applications.) This field is used to identify the source of the information transmitted over the JRE link. When forwarding J-Series messages, the JRE STN field will use the 15-bit Link 16 Address assigned to it or its host with a 0 in the first bit position to identify the source.

b. Any host utilizing J-Series message fixed-word format communications, whether on a Link 16 network, or using JRE, must have a 15-bit Link 16 Unit Address in order to identify itself and report its position using the PPLI message. In the case where there is no associated host, as with a stand-alone FJUG, the JRE processor acting as the FJUG will have and use its own assigned Link 16 unit address for its JRE STN.

c. When a FJUG receives the 16-bit JRE STN over the JRE link with a 0 in the first bit, it will discard the first bit of the 16-bit JRE STN field and forward the associated Link 16 message using the 15-bit number as the Link 16 STN over the Link 16 network.

E.4.4 FORWARDING ADDRESSED MESSAGES HAVING RECEIPT/COMPLIANCE OVER THE JRE INTERFACE

Forwarding addressed J9.0 Command, J9.1 Engagement Coordination, J10.3 Handover, J12.0 Mission Assignment, J12.1 Vector, J12.4 Controlling Unit Change or J14.2 EW Control/Coordination messages that involve Receipt/Compliance (R/C) requires special handling procedures by the FJUG. The FJUG must maintain a connectivity list of all the JUs and JREUs it serves, enabling it to accept messages addressed to units for which it provides a connection over a JRE link. This allows the FJUG to accept messages addressed to these units and identify over which JRE link the message is forwarded. The FJUG that is forwarding messages from a Link 16 net requiring R/C between the message originator and the addressee will respond with a Machine Receipt (MR) on the Link 16 network to either the Original Messages (OM) or the Reply Message as if it were the addressee for

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those messages. The FJUG will forward the original message on the JRE link that provides the path to the addressee, using MIL-STD-3011 for the retransmission of messages. When an FJUG receives a message over the JRE link addressed to a JU on its associated Link 16 network, it will then forward the addressed messages as received. When the addressed unit on the Link 16 network fails to send a MR to an OM or the Reply message, the FJUG assumes responsibility in accordance with MIL-STD-6016 for the transmission of redundant messages. When a MR or other reply in lieu of a MR is received by the FJUG, forwarding responsibility for that specific addressed message is complete. The FJUG has no responsibility with respect to matching replies to an OM except when a reply is received in lieu of a MR. The FJUG shall not generate a CANTPRO response to the originator of an OM if the addressed unit is inactive or if the addressee fails to MR the forwarded message.

E.4.5 JRE FILTERS

a. JRE can be a multi-link node capable of exchanging tactical data simultaneously over multiple media (e.g., SATCOM, SIPRNET, and RF). When JRE is being used, the potential exists on a Link 16 network to receive the same track message both directly and forwarded from a JRE link. Other problems may arise due to the combining of messages from many remote sources. JRE provides checks for data loops and alerts the operator when a data loop is detected. It provides filtering that can be applied by the operator or network manager to each JRE link independently to address duplicate track reports, data looping, and other reporting related problems. It also checks for data latency and discards messages that have been in the JRE process longer than a specified time. This specified time is selectable by the network manager and generally is related to the update interval based on the label/sublabel of the message.

b. Some JRE links have limited throughput capacity and may experience link overloading and excessive latency. JRE filters can be applied separately or in combination to each JRE link to selectively reduce traffic of less importance or to reduce latency and data loss.

c. An FJUG shall implement all of the JRE filter types listed below on all of its JRE links to manage the transmission and receipt of J-Series

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messages. (Receipt filters are especially applicable for links where a multicast or broadcast mode is being used.) Each FJUG shall implement all transmission filter types listed below for forwarding onto a Link 16 network.

d. To facilitate flow control and selective message reduction over a JRE link to an FJUG or another JREU or JRE JU, a JREU or JREJ CIU shall implement all the transmit filter types in paragraph E.4.5.1 on each of its JRE links, with the exception of filters that only pertain to messages it does not implement.

E.4.5.1 JRE FILTER TYPES

The filter types are as follows:

a. Category/Identity. The JRE Category/Identity filter allows filter settings to be applied to PPLI (J2.0 by category) and Surveillance (J3.X) messages. For the Identity portion of the filter, the following settings are available:

- (1) Pending.
- (2) Unknown.
- (3) Assumed Friend.
- (4) Friend.
- (5) Neutral.
- (6) Suspect.
- (7) Hostile.

b. Label/Sublabel. The JRE Label/Sublabel filter allows filter settings to be applied to J-Series messages based on message type, as specified in the Label/Sublabel fields of the message.

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c. Point Type/Point Amplification. The JRE Point Type/Point Amplification filter allows filter settings to be applied to J3.0 Reference Point messages and the Point Amplifications for each Point Type.

- (1) Point Type 0 (Hazard).
- (2) Point Type 1 (Reference Point - General).
- (3) Point Type 2 (Station - General).
- (4) Point Type 3 (Station - Air).
- (5) Point Type 4 (Line).
- (6) Point Type 5 (Area - General).
- (7) Point Type 6 (Area - Hazard).
- (8) Point Type 7 (ASW).
- (9) Point Type 8 (ASW, 1).

d. Special Processing. The JRE Special Processing filter allows filter settings to be applied to data based on the Special Processing Indicator field in the J-Series messages.

e. Simulation. The JRE Simulation filter allows filter settings to be applied to data based on the Simulation Indicator field in the J-Series messages.

f. Geographic Area. The JRE Geographic filter may be applied to either a Category/Identity or Point Type/Point Amplification specifying the attributes of the Surveillance (J3.X) messages the filter applies. The JRE Geographic filter may have the settings of "filter", meaning the messages matching the filter setting will be excluded, or "exception to filter", meaning the receiving message matching the criteria shall be forwarded.

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Overlapping filters may be used and are processed in the order designated in the MIL-STD-3011 Filter Settings message.

(1) Ellipse-Rectangle. The JRE Ellipse-Rectangular filter contains fields for the latitude and longitude of the center of the filtered area, lengths of the major and minor axes, and the orientation of the major axis. A flag is used to specify if the filter is for a rectangle. This filter also contains minimum and maximum altitude filter settings.

(2) Closed Polygon. The JRE Closed Polygon filter contains a series of between 3 and 15 Latitude and Longitude fields that define an arbitrary area. The first coordinate listed acts as both the starting point and ending point for the perimeter of the polygon. Each pair of coordinates defines a line segment that is one of the vertices of the polygon. The Closed Polygon filter also contains minimum and maximum altitude filter settings.

g. Source Track Number. The JRE STN filter allows filter settings to be applied to one or a series of Link 16 STNs. All messages from these STNs, including the PPLI of the Source, shall be filtered from transmission on the selected JRE link.

h. J28.2(x). The JRE J28.2(x) filter allows filter settings to be applied to allow specific J28.2 messages to be sent over JRE (e.g., J28.2 (0) text messages).

i. Data Age. The JRE Data Age Filter controls the filtering of messages by label/sublabel that have latencies within the JRE forwarding process greater than a specified amount of time.

j. J3.6 Rocket. The J3.6 Rocket Filter is used to filter the reporting of Rockets in the J3.6 message. All Link 16 J3.6 messages containing the Space Specific Type (DFI 749/DUI 002) values of 2043 and 2044 shall be filtered from transmission on the designated link.

k. National Use Sub-sublabel. Used to set and report filter settings applied to the filtering of national use messages by sub-sublabel.

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1. Network Participation Group. The Network Participation Group filter allows filter settings to be applied to a Link 16 Network based on NPG and Source Link Designator, as specified in the X7.0 message.

E.4.5.2 JRE FILTER RULES

The filtering rules below apply to JRE:

a. The use of link filters shall be coordinated with all IUs to minimize track management problems. Coordination of filtering requests may be done by voice or other communications media.

b. Tracks are eligible for transmission on the link only if they are not inhibited from transmission by any of the transmission filters currently set. Transmit filters shall apply to tracks received prior to filter activation as well as to tracks received while the filter is active.

c. Filter overrides may be applied to individually designated JRE links to accommodate passing of certain critical messages that would otherwise be filtered.

(1) Force Tell. J-Series messages in which the Force Tell Indicator is set to 1 shall be forwarded when this filter override is set.

(2) Emergency. J-Series messages in which the Emergency Indicator is set to 1 shall be forwarded when this filter override is set.

(3) Command and Control. J-Series messages in which the C² Indicator is set to 1 shall be forwarded when this filter override is set.

E.4.6 Using Link Designators and Network Participation Groups (NPGs)

a. Multiple Link 16 Networks.

(1) With Link 16 Networks, certain messages may be transmitted on more than one Network Participation Group (MIL-STD-6016 TABLE V.0.1-2 Message to Network PG Applicability Table). For example, a J3.6 Space Track

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message could be transmitted on either NPG 7 or NPG 21 depending on the content of the information in the message. The host generating the information normally tells its JTIDS/MIDS terminal in which NPG to transmit the message. When transmitting these Link 16 messages over a JRE Link, their NPG assignment must be provided to support transmission onto another Link 16 Network. Figure E.4-5 shows the situation where Link 16 Network #1 and Link 16 Network #2 both contain NPG 7 and NPG 21. In this example, the FJUG #1 is required to populate the X7.0 Link 16 NPG Assignment message. FJUG #1 shall populate the Source Link Designator, Transmit Link Designation and Network Participation Group fields as follows.

(a) Populate the Source Link Designator field with the link designator that has been assigned to Link 16 Network #1 (from the OPTASKLINK).

(b) Populate the Transmit Link Designator field if the message is targeted specifically to Link 16 Network #2 (from the OPTASKLINK) or otherwise is set to value 0 (No Statement) indicating the message is not targeted to a specific Link 16 network.

(c) Populate the Network Participation Group field with the NPG that the message was received on.

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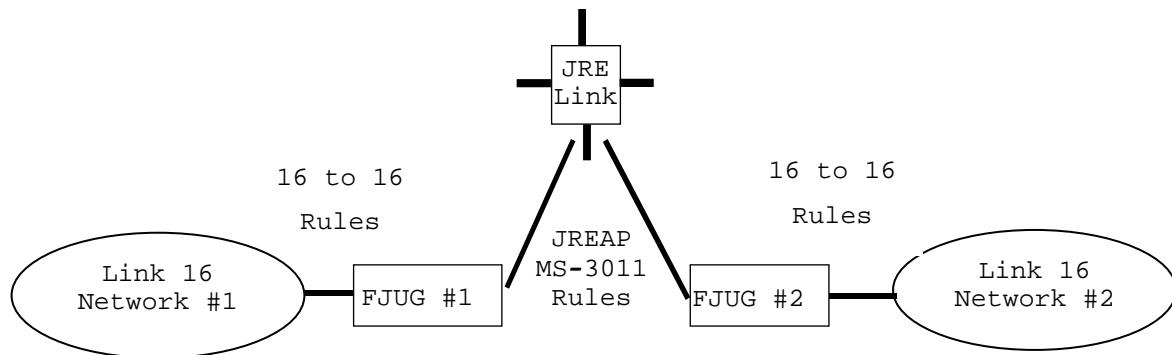


Figure E.4-5 JRE Interface Between Two Link 16 Networks

(2) FJUG #2 receives the X7.0 message and uses the Source Link Designator, Transmit Link Designator and Network Participation Group fields as follows.

(a) The Source Link Designator field is used to determine if the information from this network is to be sent on Link 16 Network #2 (from the OPTASKLINK).

(b) The Transmit Link Designator field, if set to the link designator for Link 16 Network #2 or set to value 0 (No Statement) tells FJUG #2 to transmit on Link 16 Network #2.

(c) The Network Participation Group field provides the NPG to which FJUG #2 is required to transmit the link 16 message, if Link 16 Network #2 contains the NPG. If the FJUG #2 terminal does not have time slots assigned for the specified NPG, it shall not transmit the message on any NPG for that message.

b. JRE to a Link 16 Network. A JREU enables the passing of J-Series messages to a unit on a Link 16 network using non-JTIDS/MIDS Media as illustrated in Figure E.4-6. The only difference to this processing from the processing in paragraph E.4.6(a) above, is that the Host System shall populate the Network Participation Group field. The JREU shall populate the

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Source Link Designator (Network #1) and the Transmit Link Designator (Network #2) fields if they have not been populated by the Host System.

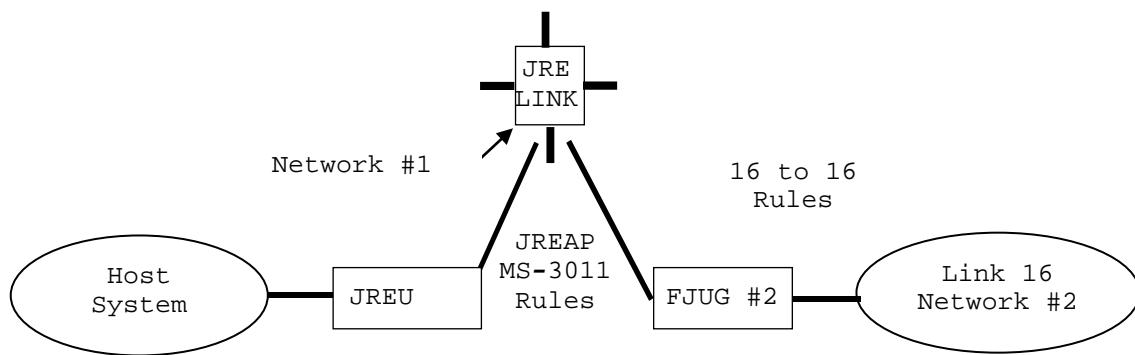


Figure E.4-6 JRE Interface to a Link 16 Network

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E.5 GENERAL REQUIREMENTS

E.5.1 DATA FORWARDING RULES

Sections 5 and 6 of this appendix specify the rules, protocols, and translations required when forwarding data between Link 16 and Link 16. In the process, J2.2 Air PPLI, J2.3 Surface PPLI, J2.4 Subsurface PPLI, J2.5 Land Point PPLI, and J2.6 Land Track PPLI messages received on Link 16, are forwarded in a J2.0 Indirect Interface Unit PPLI message on the JRE link. Data forwarding is accomplished by the selected FJUGs simultaneously participating on Link 16 and JRE links. The data that is forwarded is based on the message/data received and is neither dependent upon the local system data of the data forwarding unit, nor its implementation of the received messages.

E.5.1.1 FORWARDING REQUIREMENTS

A forwarding requirement exists between Link 16 and other tactical data links. This section covers only the forwarding between Link 16 and Link 16.

E.5.1.2 FORWARDING CONSIDERATIONS

The Link 16 to Link 16 forwarding rules and procedures are designed to:

- a. Ensure that data transmitted by the forwarding unit agree as closely as possible with the meaning of the data received for forwarding.
- b. Satisfy the Link 16 timing requirements.
- c. Consider any throughput limitations of the JRE interface media.
- d. Satisfy BLOS requirements for Link 16.
- e. Ensure that the JRE transfer of data is as transparent as possible to the interfacing Link 16 networks and indirect units.

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E.5.1.3 DESIGN CONSIDERATIONS

It is not the intent of this appendix to specify the design or architecture of the FJUG system. Inevitably, data forwarding will involve additional processing by the FJUG. This appendix does not attempt to distinguish between what is expected of the FJUG processing, protocols and procedures as opposed to that of the host system of the unit designated to perform the data forwarding function. Addition of a JRE capability to a Link 16 host does not change the way that host operates on Link 16. It will continue to operate on Link 16 as when JRE is not present, but for the JRE interface and forwarding between the two, it will have the additional responsibilities contained herein. No Link 16 changes are required for continued participation on Link 16.

ERROR PRINTING PARAGRAPH TEXT: 4605 This command is not available.

E.5.2 GENERAL FORWARDING RULES

These forwarding rules are established to standardize data forwarding for the exchange of J-Series messages over non-JTIDS/MIDS media.

a. When data link networks are established with multiple communications paths, data looping must be avoided. With JRE, a communication path is a combination of digital data links and interconnecting FJUG nodes that provides a path for information exchange. Functions and capabilities are specified in MIL-STD-3011 to prevent data looping when data is being received on more than one path.

b. With JRE, flexibility is present to have multiple communications paths with benefits such as providing a higher probability of data delivery with minimum latency under poor conditions, and providing an immediate backup for a link failure. Filters are used to control what goes over each link and a check is made to ensure duplicate messages are not transmitted on the Link 16 network that could lead to confusion and additional net loading.

c. The FJUG shall have the capability to forward all J-Series messages. The FJUG shall not forward J-Series messages that fall within a JRE filter for that link or network.

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d. The FJUG shall use the same Link 16 transmit rules to forward data received over a JRE link that a JU would use to transmit locally originated data of the same type.

e. The FJUG shall inhibit the forwarding of received data when:

(1) The filter criteria for the appropriate link prohibit forwarding the data (see paragraph E.4.5.2, JRE Filter Rules).

(2) Message data awaiting transmission is superceded by newer data. The message with the most current data shall replace the original message when the message compositions are identical. The message compositions are identical when both messages contain the same Link 16 message words, are from the same STN, and reference the same TN.

f. When an addressed message requiring receipt/compliance is addressed to a unit that is connected by a JRE link and is received over a Link 16 network, the FJUG responsible for forwarding that message shall transmit a machine receipt to the message originator. Machine receipts shall not be forwarded.

g. It is possible for a unit to receive both a line-of-sight (LOS) Link 16 transmission and a JRE forwarded transmission of the same message. However, JRE timing protocols ensure that time sensitive messages forwarded over a JRE link will not exceed the nominal update rate for that given message. Those that exceed the limit set by the data age filter, when used, shall be discarded. If both are received within the nominal update rate, since extrapolation has been applied to both when appropriate, entity positional variants will be transparent to the receiver.

h. J-Series messages are forwarded onto a Link 16 NPG according to message label/sublabel parameters set at the time of initialization.

E.5.2.1 PRESERVATION OF TN, ORIGINATOR

For J-Series messages that require preservation of the STN, the JREAP packages the Link 16 STN with the message when it is forwarded over the JRE

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link, then extracts the Link 16 STN and reinserts it into the Link 16 header of the message as it is forwarded onto the Link 16 network. Since preserving the originating TN is not required for all Link 16 messages, the JRE's JTIDS primary TN may be used as the STN to pack those messages for Link 16 bandwidth preservation. Table E.5-1 below defines the specific Link 16 messages that require the original TN for forwarding on Link 16.

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TABLE E.5-1. Messages Requiring Originator TN Forwarding on Link 16

Message Number	Message Title	TN Required
J0.3	Time Slot Assignment	X
J0.4	Radio Relay Control	X
J0.6	Communications Control	X
J1.4	Communicant Status	X
J1.5	Net Control Initialization	X
J1.6	Needline PG Assignment	X
J2.0	Indirect Interface Unit PPLI	X
J3.0	Reference Point	X
J3.1	Emergency Point	X
J3.2	Air Track	X
J3.3	Surface Track	X
J3.4	Subsurface Track	X
J3.5	Land Point/Track	X
J3.6	Space Track	X
J3.7	EW Product Information	X
J5.4	Acoustic Bearing/Range	X
J6.0	Amplification	X
J7.0	Track Management	X
J7.2	Correlation	X
J7.3	Pointer	X
J7.4	Track Identifier	X
J7.5	IFF/SIF Management	X
J7.6	Filter Management	X
J7.7	Association	X
J8.0	Unit Designator	X
J9.0	Command	X
J9.1	Engagement Coordination	X
J9.2	ECCM Coordination	X
J10.2	Engagement Status	X
J10.3	Handover	X
J10.5	Controlling Unit Report	X
J10.6	Pairing	X
J12.0	Mission Assignment	X
J12.1	Vector	X
J12.2	Precision Aircraft Direction	X
J12.3	Flight Path	X
J12.4	Controlling Unit Change	X
J12.5	Target/Track Correlation	X
J12.6	Target Sorting	X
J13.0	Airfield Status	TN in message
J13.2	Air Platform/System Status	TN in message
J13.3	Surface Platform/System Status	TN in message
J13.4	Subsurface Platform/System Status	TN in message
J13.5	Land Platform/System Status	TN in message
J14.2	EW Control/Coordination	X
J28.2(0)	Text	X
J31.0	Over-the-Air Rekeying Management	X
J31.1	Over-the-Air Rekeying	X

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E.5.2.2 FORWARDING OF J-SERIES MESSAGES FROM A JRE LINK TO LINK 16 OR A HOST

a. The FJUG, JREJ CIU, and JREU shall extrapolate positional data for real-time tracks, moving units, moving reference points, and moving TN, Objectives at the time of transfer to the JTIDS terminal or host. This extrapolation shall be performed as specified in MIL-STD-3011 for the J-Series messages indicated in Table E.5-2 below.

TABLE E.5-2. Link 16 Messages to be Extrapolated

MESSAGE NO.	MESSAGE TITLE
J2.0	Indirect Interface Unit PPLI
J3.2 ¹	Air Track
J3.3 ¹	Surface Track
J3.4 ¹	Subsurface Track
J3.5 ¹	Land Point/Track
J12.0	Mission Assignment
J12.1 ²	Vector
J12.6	Target Sorting

Notes

¹ Non-real-time tracks (Track Quality (TQ) = 0) are not extrapolated.

² When the elapsed time exceeds 1 second, the "Time to Intercept" should be reduced by the elapsed time (in seconds). (If .5 or greater round up and if less than .5 round down).

b. When forwarding J-Series messages from a JRE link to a Link 16 network, the FJUG shall preserve the identity of the source of all J-Series messages that require STN preservation (Table E.5-1). This is done by setting the STN, located in the header of the Link 16 time slot, and Track Number, Source in the J2.0I word to the address of the Link 16 unit whose J-Series messages are being forwarded.

c. When forwarding J-Series messages from a JRE link to a host, the JREJ CIU or JREU will provide the STN to the host with the J-Series messages it generated.

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E.5.2.3 FORWARDING OF J-SERIES MESSAGES FROM LINK 16 TO A JRE LINK

a. The FJUG shall extrapolate positional data for real-time tracks, moving units, moving reference points, and moving TN, Objectives to the data valid time set in the JREAP header, as specified in MIL-STD-3011.

b. When forwarding J-Series messages from a Link 16 network to a JRE link, the FJUG shall forward all J-Series messages as received with the exception of extrapolation requirements and translation of all J2.2 Air PPLI, J2.3 Surface PPLI, J2.4 Subsurface PPLI, J2.5 Land Point PPLI, and J2.6 Land Track PPLI messages to J2.0 Indirect Interface Unit PPLI messages before forwarding to a JRE link.

E.5.3 DATA FORWARDING OF INFORMATION REQUIRING SPECIAL PROCESSING

An FJUG shall adhere to all current constraints concerning the handling of data requiring special processing.

E.5.4 FORWARDING J2.0 MESSAGESE.5.4.1 J2.0 MESSAGE SUMMARY AND PURPOSE

The J2.0 Indirect Interface Unit PPLI message is used to provide unit information on the Link 16 network when network participation status, identification, and positional information is forwarded from other links. For indirect interface units, the J2.0 message provides the Originator Environment (Surface, Subsurface, Land, Air), type of site (JU, PU, RU, GU, FPU/FRU), and Unit Type (e.g., Tactical Air Operation Center (TAOC), Message Processing Center (MPC), Control and Reporting Center (CRC), etc.). The Source TN field in the Header word that accompanies each J2.0 message will contain the TN associated with the forwarded unit.

E.5.4.2 J2.0 MESSAGE TRANSMIT RULES

a. The J2.0B Indirect Interface Unit PPLI basic message consists of the J2.0I Indirect Interface Unit PPLI initial word and the J2.0E0 Indirect Interface Unit PPLI extension word. The J2.0B basic message shall be

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transmitted by a Forwarding JTIDS/MIDS Unit when data received from an indirect interface unit indicate that the unit is active. The J2.0B message shall be transmitted periodically at a RRN = 6 (12 seconds, 8-20 second interval) or, when specified, at the access rate in the time slot assignment.

b. Applicable continuation words shall be transmitted in a J2.0I/J2.0E0/J2.0CX word sequence.

c. If no data exists for the continuation word, the J2.0B message shall be transmitted.

E.5.4.3 J2.0 MESSAGE RECEIVE RULES

When a J2.0 Indirect Interface Unit PPLI message is received with the same Source TN as held for a J2.2 Air PPLI, J2.3 Surface PPLI, J2.4 Subsurface PPLI, J2.5 Land Point PPLI, or J2.6 Land Track PPLI message, then the J2.0 Indirect Interface Unit PPLI message will be discarded.

E.5.4.4 FORWARDING THE J2.0 MESSAGE

The Source TN in the message header shall be the same as the Source TN in the J2.0 message. Only one J2.0 message shall be transmitted in a time slot.

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E.6 DETAILED REQUIREMENTS

E.6.1 MESSAGE TRANSLATION REQUIREMENTS

This section describes the message translation requirements when forwarding data from Link 16 to JRE. Data forwarding from JRE to Link 16 are one for one. Therefore no translation tables are provided. Detailed data element translations are given in Section 6.2 of this appendix.

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E.6.2 DATA ELEMENT TRANSLATION

This section provides the data element translations between Link 16 and JRE as required in Section 5 of this appendix.

E.6.2.1 DATA ELEMENT TRANSLATION TABLE DESCRIPTION

A table is provided for each translation from the J2.2 to J2.0, J2.3 to J2.0, J2.4 to J2.0, J2.5 to J2.0, and J2.6 to J2.0. All the tables are read from right to left. Following each table are notes referring to that table.

These tables are a data element by a data element depiction of the J2.0 message to be generated with an indication of the source of the data to be used in the data element. Note that no translation is provided for J2.0 to J2.0 since they are a one for one word, data element, and data item equivalent.

E.6.2.1.1 DATA ELEMENT TRANSLATION TABLE FORMAT

These tables are presented in the following format:

Table E.6-x. J2.0 Message Data Element Translation from J2.x									
J2.0			TRANSLATION				J2.x		
WORD	DATA ELEMENT	VALUE	REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES		

where;

J2.0 WORD = The J2.0 word being generated.

J2.0 DATA ELEMENT = List of all data elements contained in the J2.0 word being generated.

J2.0 VALUE = Decimal value of the data element being generated unless otherwise noted.

TRANSLATION REQUIRED = An indication of the translation activity that is required to determine the correct value of the data element.

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J2.x WORD = Identifies the J2.x word that contains the data element corresponding to the J2.0 data element.

J2.x DATA ELEMENT = Identifies the data element in the specified J2.x message that corresponds to the J2.0 data element.

J2.x VALUE = Decimal value of the data element in the J2.x message unless otherwise noted.

Notes = Reference to amplifying information that must be taken into consideration to complete the data element translation process. A note number with no prefix indicates a note that is specifically stated within the translation table.

E.6.2.1.2 DATA ELEMENT TRANSLATION TABLE ENTRIES

Within the translation tables the following entries are used:ERROR PRINTING PARAGRAPH TEXT: 4605 This command is not available.

AT = As translated.

NA = Not available in the other message series.

RX = All valid values as received.

CR = Conversion is required.

AR = As required by the formats and protocols of the link on which the message will be transmitted.

= = Data element and bit field equivalence.

E.6.2.2 DEFAULT CONDITIONS

When the message required for data element translation has not been received, the default condition will be NO STATEMENT if defined, or 0.

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APPENDIX E

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TABLE E.6-1. J2.0 Message Data Element Translation from the J2.2 Message (Sheet 1 of 4)

J2.0				J2.2		
WORD J2.0I	DATA ELEMENT	TRANSLATION		WORD J2.2I	DATA ELEMENT	VALUE NOTES
		VALUE	REQUIRED			
	Label, J-Series	2	None	J2.2I	Label, J-Series	2
	Sublabel, J-Series	CR	J2.2I		Sublabel, J-Series	2
	Message Length, Indicator	AR	None	NA	NA	NA
	Exercise Indicator	RX	=	J2.2I	Exercise Indicator	RX
	Bailout Indicator	RX	=	J2.2I	Bailout Indicator	RX
	Force Tell Indicator	RX	=	J2.2I	Force Tell Indicator	RX
	Emergency Indicator	RX	=	J2.2I	Emergency Indicator	RX
	Command and Control Indicator	RX	=	J2.2I	Command and Control Indicator	RX
	Simulation Indicator	RX	=	J2.2I	Simulation Indicator	RX
	Track Number, Source	RX	=	Header	Track Number, Source	RX
	Flight Leader Indicator	RX	=	J2.2I	Flight Leader Indicator	RX
	Mission Commander Indicator	RX	=	J2.2I	Mission Commander Indicator	RX
	Generic Unit Type	7	None	NA	NA	NA
	Altitude, 25 FT	RX	=	J2.2I	Altitude, 25 FT	RX
	Altitude Quality, GU	RX	=	J2.2I	Altitude Quality	RX
	Position Quality, GU	RX	=	J2.2I	Geodetic Position Quality	RX
	Site	4	None	NA	NA	NA
	Unit Type	AT	CR	J2.2C1	Air Platform	RX 1

TABLE E.6-1. J2.0 Message Data Element Translation from the J2.2 Message (Sheet 2 of 4)

J2.0					J2.2		
WORD J2.0I (Cont'd)	DATA ELEMENT Originator Environment	VALUE 3	REQUIRED CR	WORD J2.2I J2.2II	TRANSLATION		NOTES
					DATA ELEMENT	VALUE	
J2.0E0	Word Format	2	None	NA	NA	NA	
	Latitude 1, 0.0013 Minute	RX	=	J2.2E0	Latitude, 0.0013	RX	
	Longitude 1, 0.0013 Minute	RX	=	J2.2E0	Longitude, 0.0013	RX	
	Airborne Indicator	RX	=	J2.2I	Airborne Indicator	RX	
	Course	RX	=	J2.2E0	Course	RX	
	Speed	RX	=	J2.2E0	Speed	RX	
J2.0C1 E-34	Word Format	1	None	NA	NA	NA	
	Continuation Word Label	1	None	NA	NA	NA	
	Mode I Code	RX	=	J2.2C1	Mode I Code	RX	
	Mode II Code	RX	=	J2.2C1	Mode II Code	RX	
	Mode III Code	RX	=	J2.2C1	Mode III Code	RX	
	Elevation, 25 FT	2047	None	NA	NA	NA	
	Air Platform	RX	=	J2.2C1	Air Platform	RX	
	Air Activity	RX	=	J2.2C1	Air Activity	RX	
	Mission Correlator	RX	=	J2.2C5	Mission Correlator, 1	RX	
J2.0C2	Word Format	1	None	NA	NA	NA	
	Continuation Word Label	2	None	NA	NA	NA	
	Voice Frequency/Channel	RX	=	J2.2C2	Voice Frequency/Channel	RX	
	Voice Call Sign Indicator	RX	=	J2.2C2	Voice Call Sign Indicator	RX	

TABLE E.6-1. J2.0 Message Data Element Translation from the J2.2 Message (Sheet 3 of 4)

J2.0			J2.2		
<u>WORD</u>	<u>DATA ELEMENT</u>	<u>VALUE</u>	TRANSLATION		
			<u>REQUIRED</u>	<u>WORD</u>	<u>DATA ELEMENT</u>
J2.0C2 (Cont'd)	Voice Call Sign	RX	=	J2.2C2	Voice Call Sign
	Track Number, Flight Lead	RX	=	J2.2C5	Track Number, Flight Lead
	Control Channel	RX	=	J2.2C2	Control Channel
J2.0C3	Word Format	1	None	NA	NA
	Continuation Word Label	1	None	NA	NA
	Minute	63	None	NA	NA
	Second	63	None	NA	NA
	Millisecond	1023	None	NA	NA
	Position Time Quality	0	None	NA	NA
	Time Latency Indicator	0	None	NA	NA
	Latitude, LSBS 0.0003 Minute	16777216	None	NA	NA
	Longitude, LSBS 0.003 Minute	33554432	None	NA	NA
	Altitude, LSBS 1.5625 FT	131056	None	NA	NA
	Hour Tick	0	None	NA	NA
	Air Specific Type	0	None	NA	NA
	Surface Specific Type	0	None	NA	NA
	Subsurface Specific Type	0	None	NA	NA
	Land Specific Type	0	None	NA	NA
	Network Participation Status Indicator	RX	=	J2.2I	Network Participation Status Indicator

APPENDIX E

TABLE E.6-1. J2.0 Message Data Element Translation from the J2.2 Message
(Sheet 4 of 4)

NOTES

1. Unit Type is derived from Air Platform as follows.

<u>J2.0</u>	<u>J2.2</u>
<u>Unit Type</u>	<u>Air Platform</u>
0 - No Statement	0 - No Statement/Unknown
	48 - 62 - Undefined
	63 - Reset to NS/Unknown
	All others not listed below
1 - Patrol Aircraft	17 - Maritime Patrol Aircraft
	34 - Patrol
2 - Antisubmarine Warfare Aircraft	15 - Antisubmarine Warfare
3 - Airborne Early Warning (AEW)	16 - Airborne Early Warning And Control(AEW & C)
6 - Helicopter	27 - Helicopter 28 - Attack Helicopter 29 - Helicopter Gunship 30 - Antisubmarine Warfare Helicopter 31 - Mine Warfare Helicopter 32 - Transport Helicopter

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TABLE E.6-2. J2.0 Message Data Element Translation from the J2.3 Message (Sheet 1 of 4)

J2.0				J2.3		
WORD J2.0I	DATA ELEMENT	TRANSLATION		WORD	DATA ELEMENT	VALUE NOTES
		VALUE	REQUIRED			
	Label, J-Series	2	None	J2.3I	Label, J-Series	2
	Sublabel, J-Series	0	CR	J2.3I	Sublabel, J-Series	3
	Message Length, Indicator	AR	None	NA	NA	NA
	Exercise Indicator	RX	=	J2.3I	Exercise Indicator	RX
	Bailout Indicator	0	None	NA	NA	NA
	Force Tell Indicator	RX	=	J2.3I	Force Tell Indicator	RX
	Emergency Indicator	RX	=	J2.3I	Emergency Indicator	RX
	Command and Control Indicator	RX	=	J2.3I	Command and Control Indicator	RX
	Simulation Indicator	RX	=	J2.3I	Simulation Indicator	RX
	Track Number, Source	RX	=	Header	Track Number, Source	RX
	Flight Leader Indicator	0	None	NA	NA	NA
	Mission Commander Indicator	0	None	NA	NA	NA
	Generic Unit Type	7	None	NA	NA	NA
	Altitude, 25 FT	8191	None	NA	NA	NA
	Altitude Quality, GU	0	None	NA	NA	NA
	Position Quality, GU	RX	=	J2.3I	Geodetic Position Quality	RX
	Site	4	None	NA	NA	NA
	Unit Type	AT	CR	J2.3C1	Surface Platform	RX 1

TABLE E.6-2. J2.0 Message Data Element Translation from the J2.3 Message (Sheet 2 of 4)

J2.0					J2.3			
WORD J2.0I (Cont'd)	DATA ELEMENT Originator Environment	TRANSLATION			WORD J2.3I	DATA ELEMENT Label, J-Series Sublabel, J-Series	VALUE 0 CR NA	NOTES 2 3 NA
		VALUE 0	REQUIRED CR	WORD J2.3I				
J2.0E0	Word Format	2	None	NA	NA	NA	NA	NA
	Latitude 1, 0.0013 Minute	RX	=	J2.3E0	Latitude, 0.0013	Longitude, 0.0013	RX	RX
	Longitude 1, 0.0013 Minute	RX	=	J2.3E0	Longitude, 0.0013	Longitude, 0.0013	RX	RX
	Airborne Indicator	0	None	NA	NA	NA	NA	NA
	Course	RX	=	J2.3E0	Course	Course	RX	RX
	Speed	RX	=	J2.3E0	Speed	Speed	RX	RX
	Word Format	1	None	NA	NA	NA	NA	NA
	Continuation Word Label	1	None	NA	NA	NA	NA	NA
	Mode I Code	RX	=	J2.3C1	Mode I Code	Mode I Code	RX	RX
	Mode II Code	RX	=	J2.3C1	Mode II Code	Mode II Code	RX	RX
J2.0C1	Mode III Code	RX	=	J2.3C1	Mode III Code	Mode III Code	RX	RX
	Elevation, 25 FT	RX	=	J2.3I	Elevation, 25 FT	Elevation, 25 FT	RX	RX
	Surface Platform	RX	=	J2.3C1	Surface Platform	Surface Platform	RX	RX
	Surface Activity	RX	=	J2.3C1	Surface Activity	Surface Activity	RX	RX
	Mission Correlator	RX	=	J2.3I	Mission Correlator, 1	Mission Correlator, 1	RX	RX
	Word Format	1	None	NA	NA	NA	NA	NA
	Continuation Word Label	2	None	NA	NA	NA	NA	NA
	Voice Frequency/Channel	RX	=	J2.3C2	Voice Frequency/Channel	Voice Frequency/Channel	RX	RX
	Voice Call Sign Indicator	RX	=	J2.3C2	Voice Call Sign Indicator	Voice Call Sign Indicator	RX	RX

TABLE E.6-2. J2.0 Message Data Element Translation from the J2.3 Message (Sheet 3 of 4)

J2.0			J2.3					
WORD J2.0C2 (Cont'd)	DATA ELEMENT Voice Call Sign	VALUE RX	TRANSLATION		WORD J2.3C2	DATA ELEMENT Voice Call Sign	VALUE RX	NOTES
			REQUIRED =	WORD J2.3C2				
	Track Number, Flight Lead	0	None	NA	NA		NA	
	Control Channel	RX	=	J2.3C2	Control Channel		RX	
J2.0C3	Word Format	1	None	NA	NA		NA	
	Continuation Word Label	1	None	NA	NA		NA	
	Minute	63	None	NA	NA		NA	
	Second	63	None	NA	NA		NA	
	Millisecond	1023	None	NA	NA		NA	
	Position Time Quality	0	None	NA	NA		NA	
	Time Latency Indicator	0	None	NA	NA		NA	
	Latitude, LSBS 0.0003 Minute	16777216	None	NA	NA		NA	
	Longitude, LSBS 0.003 Minute	33554432	None	NA	NA		NA	
	Altitude, LSBS 1.5625 FT	131056	None	NA	NA		NA	
	Hour Tick	0	None	NA	NA		NA	
	Air Specific Type	0	None	NA	NA		NA	
	Surface Specific Type	0	None	NA	NA		NA	
	Subsurface Specific Type	0	None	NA	NA		NA	
	Land Specific Type	0	None	NA	NA		NA	
	Network Participation Status Indicator	RX	=	J2.3I	Network Participation Status Indicator		RX	

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TABLE E.6-2. J2.0 Message Data Element Translation from the J2.3 Message
(Sheet 4 of 4)

NOTES

1. Unit Type is derived from Surface Platform as follows.

<u>J2.0</u>	<u>J2.3</u>
<u>Unit Type</u>	<u>Surface Platform</u>
0 - No Statement	0 - No Statement/Unknown
	35-62 - Undefined
	63 - Reset to NS/Unknown
	All others not listed below
2 - Aircraft Carrier (CV)	1 - Aircraft Carrier (CV)
3 - Cruiser (CRU)	2 - Battleship
	3 - Cruiser
4 - Destroyer (DD) / Antiair Warfare (AAW)	4 - Destroyer
7 - Fast Patrol Boat	6 - Fast Patrol Boat
8 - LHA/LHD	8 - LHA/LHD
9 - Amphibious Command Ship (LCC)	9 - Amphibious Assault Command Ship (LCC)
10 - Frigate	5 - Frigate
11 - Mine Warfare Vessel	14 - Mine Warfare Ship
12 - Auxiliary	13 - Auxiliary Ship

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TABLE E.6-3. J2.0 Message Data Element Translation from the J2.4 Message (Sheet 1 of 3)

J2.0				J2.4		
WORD J2.0I	DATA ELEMENT	TRANSLATION		WORD J2.4I	DATA ELEMENT	VALUE NOTES
		VALUE	REQUIRED			
	Label, J-Series	2	None	J2.4I	Label, J-Series	2
	Sublabel, J-Series	0	CR	J2.4I	Sublabel, J-Series	4
	Message Length, Indicator	AR	None	NA	NA	NA
	Exercise Indicator	RX	=	J2.4I	Exercise Indicator	RX
	Bailout Indicator	0	None	NA	NA	NA
	Force Tell Indicator	RX	=	J2.4I	Force Tell Indicator	RX
	Emergency Indicator	RX	=	J2.4I	Emergency Indicator	RX
	Command and Control Indicator	RX	=	J2.4I	Command and Control Indicator	RX
	Simulation Indicator	RX	=	J2.4I	Simulation Indicator	RX
	Track Number, Source	RX	=	Header	Track Number, Source	RX
	Flight Leader Indicator	0	None	NA	NA	NA
	Mission Commander Indicator	0	None	NA	NA	NA
	Generic Unit Type	7	None	NA	NA	NA
	Altitude, 25 FT	8191	None	NA	NA	NA
	Altitude Quality, GU	0	None	NA	NA	NA
	Position Quality, GU	RX	=	J2.4I	Geodetic Position Quality	RX
	Site	4	None	NA	NA	NA
	Unit Type	0	None	NA	NA	NA

TABLE E.6-3. J2.0 Message Data Element Translation from the J2.4 Message (Sheet 2 of 3)

J2.0				J2.4		
WORD J2.0I (Cont'd)	DATA ELEMENT Originator Environment	TRANSLATION		WORD J2.4I	DATA ELEMENT Label, J-Series Sublabel, J-Series	VALUE 2 NOTES 4
		VALUE 1	REQUIRED CR			
J2.0E0	Word Format	2	None	NA	NA	NA
	Latitude 1, 0.0013 Minute	RX	=	J2.4E0	Latitude, 0.0013	RX
	Longitude 1, 0.0013 Minute	RX	=	J2.4E0	Longitude, 0.0013	RX
	Airborne Indicator	0	None	NA	NA	NA
	Course	RX	=	J2.4E0	Course	RX
	Speed	RX	=	J2.4E0	Speed	RX
	Word Format	1	None	NA	NA	NA
	Continuation Word Label	1	None	NA	NA	NA
	Mode I Code	RX	=	J2.4C1	Mode I Code	RX
	Mode II Code	RX	=	J2.4C1	Mode II Code	RX
J2.0C1	Mode III Code	RX	=	J2.4C1	Mode III Code	RX
	Depth, 15 Meters	RX	=	J2.4I	Depth, 15 Meters	RX
	Depth Category	RX	=	J2.4I	Depth Category	RX
	Subsurface Platform	RX	=	J2.4C1	Subsurface Platform	RX
	Subsurface Activity	RX	=	J2.4C1	Subsurface Activity	RX
	Mission Correlator	RX	=	J2.4I	Mission Correlator, 1	RX
	Word Format	1	None	NA	NA	NA
	Continuation Word Label	2	None	NA	NA	NA
	Voice Frequency/Channel	RX	=	J2.4C2	Voice Frequency/Channel	RX

TABLE E.6-3. J2.0 Message Data Element Translation from the J2.4 Message (Sheet 3 of 3)

J2.0			J2.4					
WORD J2.0C2 (Cont'd)	DATA ELEMENT	VALUE	TRANSLATION		WORD J2.4C2	DATA ELEMENT	VALUE	NOTES
			REQUIRED	=				
	Voice Call Sign Indicator	RX				Voice Call Sign Indicator		
	Voice Call Sign	RX	=		J2.4C2	Voice Call Sign	RX	
	Track Number, Flight Lead	0	None		NA	NA		NA
	Control Channel	RX	=		J2.4C2	Control Channel	RX	
J2.0C3	Word Format	1	None		NA	NA		NA
	Continuation Word Label	1	None		NA	NA		NA
	Minute	63	None		NA	NA		NA
	Second	63	None		NA	NA		NA
	Millisecond	1023	None		NA	NA		NA
	Position Time Quality	0	None		NA	NA		NA
	Time Latency Indicator	0	None		NA	NA		NA
	Latitude, LSBS 0.0003 Minute	16777216	None		NA	NA		NA
	Longitude, LSBS 0.003 Minute	33554432	None		NA	NA		NA
	Altitude, LSBS 1.5625 FT	131056	None		NA	NA		NA
	Hour Tick	0	None		NA	NA		NA
	Air Specific Type	0	None		NA	NA		NA
	Surface Specific Type	0	None		NA	NA		NA
	Subsurface Specific Type	0	None		NA	NA		NA
	Land Specific Type	0	None		NA	NA		NA
	Network Participation Status Indicator	RX	=		J2.4I	Network Participation Status Indicator	RX	

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TABLE E.6-4. J2.0 Message Data Element Translation from the J2.5 Message (Sheet 1 of 5)

J2.0				J2.5			
WORD J2.0I	DATA ELEMENT	TRANSLATION		WORD	DATA ELEMENT	VALUE	NOTES
		VALUE	REQUIRED				
	Label, J-Series	2	None	J2.5I	Label, J-Serie	2	
	Sublabel, J-Series	0	CR	J2.5I	Sublabel, J-Series	5	
	Message Length, Indicator	AR	None	NA	NA	NA	
	Exercise Indicator	RX	=	J2.5I	Exercise Indicator	RX	
	Bailout Indicator	0	None	NA	NA	NA	
	Force Tell Indicator	RX	=	J2.5I	Force Tell Indicator	RX	
	Emergency Indicator	RX	=	J2.5I	Emergency Indicator	RX	
	Command and Control Indicator	RX	=	J2.5I	Command and Control Indicator	RX	
	Simulation Indicator	RX	=	J2.5I	Simulation Indicator	RX	
	Track Number, Source	RX	=	Header	Track Number, Source	RX	
	Flight Leader Indicator	0	None	NA	NA	NA	
	Mission Commander Indicator	0	None	NA	NA	NA	
	Generic Unit Type	7	None	NA	NA	NA	
	Altitude, 25 FT	8191	None	NA	NA	NA	
	Altitude Quality, GU	0	None	NA	NA	NA	
	Position Quality, GU	RX	=	J2.5I	Geodetic Position Quality	RX	
	Site	4	None	NA	NA	NA	
	Unit Type	AT	CR	J2.5C1	Land Platform	RX	1

TABLE E.6-4. J2.0 Message Data Element Translation from the J2.5 Message (Sheet 2 of 5)

J2.0					J2.5			
WORD	DATA ELEMENT	TRANSLATION			WORD	DATA ELEMENT	VALUE	NOTES
		VALUE	REQUIRED					
J2.0I (Cont'd)	Originator Environment	2	CR		J2.5I J2.5I	Label, J-Series Sublabel, J-Series	2 5	
J2.0E0	Word Format	2	None	NA	NA	NA	NA	
	Latitude 1, 0.0013 Minute	RX	=	J2.5I	Displaced Position Indicator	RX	2	
				J2.5E0 or J2.5C4	Latitude, 0.0013 Minute	RX		
	Longitude 1, 0.0013 Minute	RX	=	J2.5I	Latitude, 0.0103 Minute	RX		
				J2.5E0 or J2.5C4	Displaced Position Indicator	RX	2	
					Longitude, 0.0013 Minute	RX		
	Airborne Indicator	0	None	NA	Longitude, 0.0103 Minute	RX		
	Course	511	None	NA	NA	NA	NA	
	Speed	2047	None	NA	NA	NA	NA	
J2.0C1	Word Format	1	None	NA	NA	NA	NA	
	Continuation Word Label	1	None	NA	NA	NA	NA	
	Mode I Code	0	None	NA	NA	NA	NA	
	Mode II Code	0	None	NA	NA	NA	NA	
	Mode III Code	0	None	NA	NA	NA	NA	
	Elevation, 25 FT	RX	=	J2.5I	Elevation, 25 FT	RX		
	Land Platform	RX	=	J2.5C1	Land Platform	RX		
	Land Activity	RX	=	J2.5C1	Land Activity	RX		
	Mission Correlator	RX	=	J2.5I	Mission Correlator, 1	RX		

TABLE E.6-4. J2.0 Message Data Element Translation from the J2.5 Message (Sheet 3 of 5)

J2.0			J2.5					
WORD	DATA ELEMENT	VALUE	TRANSLATION		WORD	DATA ELEMENT	VALUE	NOTES
			REQUIRED	NA				
J2.0C2	Word Format	1	None	NA	NA	NA	NA	
	Continuation Word Label	2	None	NA	NA	NA	NA	
	Voice Frequency/Channel	RX	=		J2.5C2 Voice Frequency/Channel	RX		
	Voice Call Sign Indicator	RX	=		J2.5C2 Voice Call Sign Indicator	RX		
	Voice Call Sign	RX	=		J2.5C2 Voice Call Sign	RX		
	Track Number, Flight Lead	0	None	NA	NA	NA	NA	
	Control Channel	RX	=		J2.5C2 Control Channel	RX		
	Word Format	1	None	NA	NA	NA	NA	
	Continuation Word Label	1	None	NA	NA	NA	NA	
	Minute	63	None	NA	NA	NA	NA	
E-49	Second	63	None	NA	NA	NA	NA	
	Millisecond	1023	None	NA	NA	NA	NA	
	Position Time Quality	0	None	NA	NA	NA	NA	
	Time Latency Indicator	0	None	NA	NA	NA	NA	
	Latitude, LSBS 0.0003 Minute	16777216	None	NA	NA	NA	NA	
	Longitude, LSBS 0.003 Minute	33554432	None	NA	NA	NA	NA	
	Altitude, LSBS 1.5625 FT	131056	None	NA	NA	NA	NA	
	Hour Tick	0	None	NA	NA	NA	NA	
	Air Specific Type	0	None	NA	NA	NA	NA	
	Surface Specific Type	0	None	NA	NA	NA	NA	

TABLE E.6-4. J2.0 Message Data Element Translation from the J2.5 Message (Sheet 4 of 5)

J2.0			TRANSLATION			J2.5		
WORD J2.0C3 (Cont'd)	DATA ELEMENT	VALUE	REQUIRED	WORD	DATA ELEMENT	VALUE	NOTES	
	Subsurface Specific Type	0	None	NA	NA	NA		
	Land Specific Type	0	None	NA	NA	NA		
	Network Participation Status Indicator	RX	=	J2.5I	Network Participation Status Indicator	RX		

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TABLE E.6-4. J2.0 Message Data Element Translation from the J2.5 Message
(Sheet 5 of 5)

NOTES

1. Unit Type is derived from Land Platform as follows.

<u>J2.0</u>	<u>J2.5</u>
<u>Unit Type</u>	<u>Land Platform</u>
0 - No Statement	0 - No Statement/Unknown
	57-62 - Undefined
	63 - Reset to NS/Unknown
	All others not listed below
3 - TOC/MTOC/JMAST	41 - Maritime Headquarters
10 - AADCP	49 - Terminal High Altitude Area Defense (THAAD)
	50 - Joint Tactical Ground Station (JTACS)

2. The unit position is translated from the J2.5E0 if the Displaced Position Indicator is set to 0 and from the J2.5C4 if the Displaced Position Indicator is set to 1.

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TABLE E.6-5. J2.0 Message Data Element Translation from the J2.6 Message (Sheet 1 of 4)

J2.0				J2.6			
WORD J2.0I	DATA ELEMENT	TRANSLATION		WORD	DATA ELEMENT	VALUE	NOTES
		VALUE	REQUIRED				
	Label, J-Series	2	None	J2.6I	Label, J-Series	2	
	Sublabel, J-Series	0	CR	J2.6I	Sublabel, J-Series	6	
	Message Length, Indicator	AR	None	NA	NA	NA	
	Exercise Indicator	RX	=	J2.6I	Exercise Indicator	RX	
	Bailout Indicator	0	None	NA	NA	NA	
	Force Tell Indicator	RX	=	J2.6I	Force Tell Indicator	RX	
	Emergency Indicator	RX	=	J2.6I	Emergency Indicator	RX	
	Command and Control Indicator	RX	=	J2.6I	Command and Control Indicator	RX	
	Simulation Indicator	RX	=	J2.6I	Simulation Indicator	RX	
	Track Number, Source	RX	=	Header	Track Number, Source	RX	
	Flight Leader Indicator	0	None	NA	NA	NA	
	Mission Commander Indicator	0	None	NA	NA	NA	
	Generic Unit Type	7	None	NA	NA	NA	
	Altitude, 25 FT	8191	None	NA	NA	NA	
	Altitude Quality, GU	0	None	NA	NA	NA	
	Position Quality, GU	RX	=	J2.6I	Geodetic Position Quality	RX	
	Site	4	None	NA	NA	NA	
	Unit Type	AT	CR	J2.6C1	Land Platform	RX	1

TABLE E.6-5. J2.0 Message Data Element Translation from the J2.6 Message (Sheet 2 of 4)

J2.0				J2.6			
WORD J2.0I (Cont'd)	DATA ELEMENT Originator Environment	TRANSLATION		WORD J2.6I	DATA ELEMENT Label J-Series Sublabel, J-Series	VALUE 2	NOTES 6
		VALUE 2	REQUIRED CR				
J2.0E0	Word Format	2	None	NA	NA	NA	NA
	Latitude 1, 0.0013 Minute	RX	=	J2.6E0	Latitude, 0.0013	RX	
	Longitude 1, 0.0013 Minute	RX	=	J2.6E0	Longitude, 0.0013	RX	
	Airborne Indicator	0	None	NA	NA	NA	NA
	Course	RX	=	J2.6E0	Course	RX	
	Speed	RX	=	J2.6E0	Speed	RX	
J2.0C1	Word Format	1	None	NA	NA	NA	NA
	Continuation Word Label	1	None	NA	NA	NA	NA
	Mode I Code	0	None	NA	NA	NA	NA
	Mode II Code	0	None	NA	NA	NA	NA
	Mode III Code	0	None	NA	NA	NA	NA
	Elevation, 25 FT	RX	=	J2.6I	Elevation, 25 FT	RX	
	Land Platform	RX	=	J2.6C1	Land Platform	RX	
	Land Activity	RX	=	J2.6C1	Land Activity	RX	
	Mission Correlator	RX	=	J2.6I	Mission Correlator, 1	RX	
J2.0C2	Word Format	1	None	NA	NA	NA	NA
	Continuation Word Label	2	None	NA	NA	NA	NA
	Voice Frequency/Channel	RX	=	J2.6C1	Voice Frequency/Channel	RX	
	Voice Call Sign Indicator	RX	=	J2.6C1	Voice Call Sign Indicator	RX	

TABLE E.6-5. J2.0 Message Data Element Translation from the J2.6 Message (Sheet 3 of 4)

J2.0			J2.6					
WORD J2.0C2 (Cont'd)	DATA ELEMENT Voice Call Sign	VALUE RX	TRANSLATION		WORD J2.6C1	DATA ELEMENT Voice Call Sign	VALUE RX	NOTES
			REQUIRED =					
	Track Number, Flight Lead	0	None		NA	NA		NA
	Control Channel	RX	=		J2.6C1	Control Channel	RX	
J2.0C3	Word Format	1	None		NA	NA		NA
	Continuation Word Label	1	None		NA	NA		NA
	Minute	63	None		NA	NA		NA
	Second	63	None		NA	NA		NA
	Millisecond	1023	None		NA	NA		NA
	Position Time Quality	0	None		NA	NA		NA
	Time Latency Indicator	0	None		NA	NA		NA
	Latitude, LSBS 0.0003 Minute	16777216	None		NA	NA		NA
	Longitude, LSBS 0.003 Minute	33554432	None		NA	NA		NA
	Altitude, LSBS 1.5625 FT	131056	None		NA	NA		NA
	Hour Tick	0	None		NA	NA		NA
	Air Specific Type	0	None		NA	NA		NA
	Surface Specific Type	0	None		NA	NA		NA
	Subsurface Specific Type	0	None		NA	NA		NA
	Land Specific Type	0	None		NA	NA		NA
	Network Participation Status Indicator	RX	=		J2.6I	Network Participation Status Indicator	RX	

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TABLE E.6-5. J2.0 Message Data Element Translation from the J2.6 Message
(Sheet 4 of 4)

NOTES

1. Unit Type is derived from Land Platform as follows.

<u>J2.0</u>	<u>J2.6</u>
<u>Unit Type</u>	<u>Land Platform</u>
0 - No Statement	0 - No Statement/Unknown
	57-62 - Undefined
	63 - Reset to NS/Unknown
	All others not listed below
3 - TOC/MTOC/JMAST	41 - Maritime Headquarters
10 - AADCP	49 - Terminal High Altitude Area Defense (THAAD)
	50 - Joint Tactical Ground Station (JTAGS)

APPENDIX E

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GLOSSARY

E-A.1. DEFINITIONS

This chapter, in two subsections, contains Abbreviations, Acronyms, and Definition of Terms related to the exchange of Link 16 data over non-JTIDS/MIDS media.

E-A.1.1 ABBREVIATIONS AND ACRONYMS

This section defines the abbreviations and acronyms used in the appendix.

AAW	Anti-Air Warfare
AC	Action/Action Code
ACK	Acknowledge
ACLS	Automatic Carrier Landing System
ACT	Action/Action Value
AD	Air Defense
AEW	Airborne Early Warning
AGL	Above Ground Level
AIC	Air Intercept Control
AJ	Antijam
ALS	Automatic Landing System
AOP	Area of Probability
AOR	Area of Responsibility
ARM	Antiradiation Missile
ASW	Antisubmarine Warfare
ATC	Air Traffic Control
ATDL-1	Army Tactical Data Link-1
BRT	Bearing Report Type
C ²	Command and Control
C ² IU	Command and Control Interface Unit
C ² JU	Command and Control JTIDS Unit
C ³ CM	Command, Control, and Communications Countermeasures
CAINS	Carrier Aircraft Inertial Navigation System
CANTCO	Cannot Comply
CANTPRO	Cannot Process
CAP	Combat Air Patrol
CAS	Close Air Support
CDS	Combat Direction System
CM	Countermeasures
COMSEC	Communications Security
CQ	Communications Quality
CRC	Control and Reporting Center
CVLL	Cryptovariable Logical Label
DF	Direction Finding

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DFI	Data Field Identifier
DI	Data Item
DLA	Data Link Address
DLRP	Data Link Reference Point
DM	Data Mile
DOD	Department of Defense
DUI	Data Use Identifier
EA	Electronic Attack
EC	Electronic Combat
ECCM	Electronic Counter-Countermeasures
EMCON	Emission Control
EMG IND	Emergency Indicator
ENV	Environment
EOB	Electronic Order of Battle
EOT	End of Transmission
EP	Electronic Protection or Estimated Position
EPLRS	Enhanced Position Location Reporting System
ES	Electronic Warfare Support
EW	Electronic Warfare
EWAC	Electronic Warfare Action Value
EWC	Electronic Warfare Coordinator
EWS	Electronic Warfare Surveillance
FAC	Forward Air Controller
F/B	Fix or Bearing
F/FR	Frequency/Frequency Range
FEBA	Forward Edge of the Battle Area
FI	Filter Indicator
FIFO	First In First Out
FJU	Forwarding JTIDS Unit
FJUA	Forwarding JTIDS Unit A (between Links 11 and 16)
FJUAB	Forwarding JTIDS Unit AB (between Links 11, 11B, and 16)
FJUABG	Forwarding JTIDS Unit ABG (between Link 11, 11B, Generic Data Links and Link 16)
FJUAG	Forwarding JTIDS Unit AG (between Link 11, Generic Data Links and Link 16)
FJUB	Forwarding JTIDS Unit B (between Links 11B and 16)
FJUBG	Forwarding JTIDS Unit BG (between Link 11B, Generic Data Links and Link 16)
FJUG	Forwarding JTIDS Unit G (between Generic Data Links and Link 16)
FLOT	Forward Line of Own Troops
FM	Frequency Multiplier
FPU	Forwarding Participating Unit
FRU	Forwarding Reporting Unit
FSCL	Fire Support Coordination Line
FT	Feet or Foot
FT IND	Force Tell Indicator
FWDA	Friendly Weapon Danger Area
GMT	Greenwich Mean Time
GPS	Global Positioning System
GU	Generic Unit
HAVCO	Have Complied
HD SW	Height/Depth Switch

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HUMINT	Human Intelligence
ICP	Interface Change Proposal
ID	Identity/Identification
ID AMP	Identity Amplification
IFF/SIF	Identification Friend or Foe/Selective Identification Feature
IND	Indicator
IOP	Interface Operating Procedures
ISN	Initial Slot Number
IU	Interface Unit
JCS	Joint Chiefs of Staff
JCS Pub	Joint Chiefs of Staff Publication
JOC	Joint Operational Commander
JRE	Joint Range Extension
JRE JU	Joint Range Extension JTIDS Unit
JREU	Joint Range Extension Unit
JTAO	Joint Tactical Air Operations
JTIDS	Joint Tactical Information Distribution System
JU	JTIDS/MIDS Unit
LOB	Line of Bearing
LOS	Line of Sight
MAD	Mission Assignment Discrete
MDR	Message Directed Relay
MEZ	Missile Engagement Zone
MIDS	Multifunctional Information Distribution System
MLI	Message Length Indicator
MOP	Memorandum of Policy
MPC	Message Processing Center
MR	Machine Receipt
MS	Message Start
MSEC	Message Security
MSL	Mean Sea Level
NA	Not Applicable
NATO	North Atlantic Treaty Organization
NC	Navigation Controller
NCS	Network Control Station
NES	Net Entry Signal
NON C ² JU	Non Command and Control JTIDS Unit
NON EW C ²	Non Electronic Warfare Command and Control JTIDS Unit
NOTACK	No Attack
NPG	Network Participation Group
NPS IND	Network Participation Status Indicator
NRT	Nonreal-Time
NS	No Statement
NTR	Network Time Reference
NU	Not Used
OCC	Operational Contingency Constraint
OM	Original Message
OPNL CDR	Operational Commander
OTAR	Over-the-Air Rekeying
PAD	Precision Aircraft Direction
PG	Participation Group

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PGC	Participation Group Community
PIM	Position and Intended Movement
PPLI	Precise Participant Location and Identification
PR	Position Reference
PRF	Pulse Repetition Frequency
PRI	Pulse Repetition Interval
PRI AMP	Primary Identity Amplification
PT	Point
PU	Participating Unit
Q_{ar}	Relative Azimuth Quality
Q_{pq}	Geodetic Position Quality
Q_{pr}	Relative Position Quality
Q_t	Time Quality
R^2	Reporting Responsibility
R/C	Receipt/Compliance
RDF	Radio Direction Finding
REF	Reference
REL NAV	Relative Navigation
RI	Relay Transmission Indicator
R/P	Reference Position
RPV	Remotely Piloted Vehicle
RRN	Recurrence Rate Number
R-S	Reed-Solomon
RTT	Round-Trip-Timing
RU	Reporting Unit
RV	Response Value
SADL	Situation Awareness Data Link
SAI NUM	Slot Assignment Index Number
SAM	Surface-to-Air Missile
SAR	Search and Rescue
SCC	System Coordinate Center
SDU	Secure Data Unit
SEAD	Suppression of Enemy Air Defenses
SI	Scale Indicator
SID	Status Information Discrete
SIF	Selective Identification Feature
SIGINT	Signal Intelligence
SIM	Simulation
SIS	Special Information System
SPI	Special Processing Indicator
STDL (16)	Satellite Tactical Data Link (16)
STN	Source Track Number
SU	Support Unit
SW	Switch
TACAN	Tactical Air Navigation
TACC	Tactical Air Control Center (USAF, USN) or Tactical Air Command Center (USMC)
TACS	Tactical Air Control System
TACS/TADS	Tactical Air Control System/Tactical Air Defense System
TADIL	Tactical Digital Information Link
TAOC	Tactical Air Operations Center
TBD	To Be Determined
TDL	Tactical Data Link
TDMA	Time Division Multiple Access

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TDS	Tactical Data System
THAAD	Theater High Altitude Area Defense
TIDP-TE	Technical Interface Design Plan - Test Edition
TN	Track Number
TOA	Time of Arrival
TPQ	Target Position Quality
TQ	Track Quality
T/R	Transmit/Receive
TR	Type Report
TRANSEC	Transmission Security
TRF	Time Report Function
UHF	Ultra High Frequency
UME	Unformatted Message Element
UPS	Universal Polar Stereographic
USAF	United States Air Force
USMC	United States Marine Corps
USN	United States Navy
USS	User Source Synchronization
UTM	Universal Transverse Mercator
W/ES	Weapon Engagement Status
WES	Weapon Engagement Status
WGS-84	World Geodetic System-84
WILCO	Will Comply

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E-A.1.2 TERMS, DEFINITIONS, AND CONVENTIONS

The following terms and conventions are used for the purpose of this appendix:

SHALL	indicates a procedure or capability is mandatory.
MAY	indicates a procedure or capability is optional.
WILL/IS/ARE	generally used descriptively for information purposes.

This subsection provides the terms and definitions used in this appendix.

<u>Term</u>	<u>Definition</u>
Acknowledge	The act of notifying a unit transmitting a message that the message has been received as a valid message. (MIL-STD-6011)
Active Synchronization	A procedure used by a JTIDS/MIDS terminal to effect and maintain fine synchronization with system time based on the Round-Trip-Timing (RTT) process.
Address	A number applied to an Interface Unit to associate information and directives with interface units or tracks for both digital and voice communications. (Derived from MIL-STD-6011)
Air Support Operations (ASO)	Air Operations in support of friendly forces, to include action against enemy surface and ground assets exclusive of air-to-air operations.
Architecture	The timing structure of the system. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Association	The automatic or manual establishment of a relationship between two or more tracks when the information on them is deemed to pertain to the same contact.

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Automatic Acknowledgment	A machine verification function whereby a terminal that receives a message addressed to it retransmits a copy of that message back to the source during a later time slot, verifying the receipt of the original message. (System Segment Specification for JTIDS/MIDS Class 2 Terminal).
Bit	A binary digit. In the binary system of numbering, each digit can only have one of two values (0 or 1). (Derived from ACP 167E)
Coarse Synchronization	The state of synchronization with system time that allows a terminal to receive and process messages and to achieve fine synchronization. (System Segment Specification for JTIDS/MIDS Class 2 Terminal).
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)
Command and Control JTIDS Unit(C ² JU)	A JU with command and control (C ²) capability.
Common Track	A track on which an IU holds locally derived positional information, and the IU has correlated the track to a remotely reported track. (MIL-STD-6011)
Common Tracking	The process of sharing a common track number and shifting reporting responsibility between IUs.
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)

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Concurrent Operations	The process of communicating on two, or more, digital data links at the same time, as a participant. The concurrent operating unit exchanges with these links all information held in its local data base, but remote information is not forwarded. Protocols of each link are adhered to by the concurrent operating unit. The local data base of a concurrent operating unit is the normal assimilation of data by that unit and includes local sensor data, local operator inputs, and data received and accepted into the local database from a data link, e.g., ID or IFF/SIF data.
Contention Access Mode	A transmit access mode in which a given time slot block is assigned to more than one JU. Each JU will transmit at a specified rate in the time slot block by selecting time slots for transmission pseudorandomly.
Control	The near real-time direction of weapons systems and supporting platforms for the accomplishment of assigned missions.
Correlation	The determination that a system track or local sensor track data report represents the same object or point as another track and/or the process of combining two such tracks/data under one track number.
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) The Link 16 data element is the Data Use Identifier (DUI).
Data Field Identifier (DFI) (JTIDS/MIDS)	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.

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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 (JTIDS/MIDS)

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).

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)

Data Source

A unit to which data can be addressed and from which data can be identified as to source, e.g., all IUs. (MIL-STD-6011)

Data Symbol

A general term for representing both information symbols and parity symbols in aggregate. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

Data Use Identifier (DUI) (JTIDS/MIDS)

A JTIDS/MIDS 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.

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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. When a DUI is designated as the contents of a JTIDS message field, the DUI name is the field name, and the data items employed by the DUI are (subject to any implementation or message restrictions) the data items which may be conveyed in that field.

Decorrelation

(1) The determination that locally held track data for a given track number does not represent the same object or point as a track data being received in a remote track report for the same track number. (MIL-STD-6011)

(2) The process of establishing a new track number for a local track when a remote track report with the same track number as the local track is determined to represent a different object. (MIL-STD-6011)

Dedicated Access Mode

A transmit access mode in which time slots are assigned to an individual unit for that unit's exclusive use.

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)

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	(3) Broadly speaking, any communication that initiates or governs action, conduct, or procedure. (Joint Pub 1-02)
Drop Track	An indication from the unit having reporting responsibility for a particular track that the unit will no longer report it. Other units holding an interest in that track may continue to report it. (Derived from Joint Pub 1-02)
Dual Designation	The same track is being reported by two or more units using two or more different track numbers. (MIL-STD-6011)
Duplicate Track Number	The same track number used by two or more units for two or more different tracks. (MIL-STD-6011)
Dynamic Network Management	Management of the network by active participation of a network manager in response to changing needs during operations, typically by use of Network Management messages.
Electronic Attack (EA)	Actions taken to prevent or reduce an enemy's effective use of the electromagnetic spectrum. EA includes electronic jamming, and electronic deception including manipulative deception, simulative deceptive and imitative deception. (Derived from Joint Pub 1-02) (corresponds to the term Electronic Countermeasures (ECM) used in NATO operations)
Electronic Protection (EP)	Actions taken to ensure effective friendly use of the electromagnetic spectrum despite the enemy's use of EW. (Derived from Joint Pub 1-02) (corresponds to the term Electronic Counter-Countermeasures (ECCM) used in NATO operations)

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Electronic Warfare (EW)	Actions involving the use of electromagnetic energy to determine, exploit, reduce, or prevent hostile use of the electromagnetic spectrum, and actions retaining friendly use of the electromagnetic spectrum. There are three divisions within EW: EA, EP, and ES. (Derived from Joint Pub 1-02)
Electronic Warfare Support (ES)	Actions taken to search for, intercept, locate, record, and analyze radiated electromagnetic energy for the purpose of exploiting such radiations in support of military operations. Thus, ES provides a source of EW information required to conduct EA, EP, threat detection, warning, avoidance, target acquisition, and homing. (Derived from Joint Pub 1-02) (corresponds to the term Electronic Warfare Support Measures (ESM) used in NATO operations)
Emergency Track	A track in a condition that requires immediate action or assistance; namely, an aircraft with an emergency situation or a distressed vessel. (Derived from MIL-STD-6011)
Engagement Status	The current relationship between a weapon system and a target. (Derived from MIL-STD-6011)
Environment	The environment in which the associated track is operating; e.g., air, surface, subsurface.
Epoch	A 12.8-minute time interval consisting of 98,304 time slot intervals, each of 7.8125 milliseconds duration. The time slots in each epoch are organized into three sets (A, B, or C) of 32,768 time slots each. There are 112.5 epochs in a 24 hour period. (Derived from System Segment Specification for JTIDS/MIDS Class 2 Terminal)

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Error Correction Encoding	The JTIDS forward error correction encoding function that utilizes Reed-Solomon encoding of data. See Reed-Solomon Code. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Error Detection Encoding	An encoding process that allows the detection of a residual message error condition after the error correction function (Reed-Solomon) is executed. The process generates a 12-bit parity code for each block of 225 bits, using a (237, 225) polynomial generator function. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Extended Range	The longer of two range options for a JTIDS/MIDS terminal, providing a line-of-sight range capability of 0-500 nautical miles with respect to the allocated propagation for message transmission. (Derived from System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Fine Synchronization	The state of synchronization with system time that allows a terminal to transmit messages. A terminal may utilize a passive or an active synchronization procedure to achieve fine synchronization. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Fixed Word Format (FWF)	A 70-bit structure consisting of a formalized arrangement of predefined fields of fixed length and sequence.
Fixed Word Format Message	A J-Series message utilizing fixed word format (FWF). An FWF message is started by an initial word which may be then followed by one or more extension and/or continuation words.
Force Tell	The process whereby data that are being inhibited by a filter are allowed to be transmitted or received. (CJCSM 6120.01)

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Forwarding JTIDS Unit (FJU)	A JU that translates and forwards data among IUs using J-series messages and M-Series messages. An FJU is either an FJUA, FJUB, or FJUAB.
Forwarding JTIDS Unit A (FJUA)	A JU communicating on both Link 11 and Link 16 while forwarding information between Link 11 and Link 16 participants.
Forwarding JTIDS Unit ABG (FJUABG)	A unit communicating on Link 16, Link 11, Link 11B, and a Generic Data Link while forwarding information among Link 16, Link 11, Link 11B, and Generic Data Link Participants.
Forwarding JTIDS Unit AG (FJUAG)	A unit communicating on Link 16, Link 11, and a Generic Data Link while forwarding information among Link 16, Link 11, and Generic Data Link Participants.
Forwarding JTIDS Unit B (FJUB)	A JU communicating on both Link 11B and Link 16 while forwarding information between Link 11B and Link 16 participants.
Forwarding JTIDS Unit BG (FJUBG)	A unit communicating on Link 16, Link 11B, and a Generic Data Link while forwarding information among Link 16, Link 11B, and Generic Data Link Participants.
Forwarding JTIDS Unit AB (FJUAB)	A JU communicating on Link 16, Link 11, and Link 11B while forwarding information among Link 16, Link 11, and Link 11B participants.
Forwarding JTIDS Unit G (FJUG)	A unit communicating on both Link 16 and a Generic Data Link while forwarding information between Link 16 and Generic Data Link Participants.
Forwarding Participating Unit (FPU)	A PU that is forwarding data between Link 11 and one or more RUs.
Forwarding Reporting Unit (FRU)	An RU that is forwarding data between two or more RUs.

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Free Text Message

Bit-oriented messages whose information bits may be used to represent digitized voice, teletype and other forms of free text information. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

Geodetic Position Quality (Q_{pg})

A measure of the quality of a JTIDS/MIDS terminal's geodetic position reported in the terminal's Position and Status Reports. Geodetic Position Quality is reported as an integer from 0-15 where the higher numbers correspond to the higher qualities, i.e., lower errors in position. (System Segment Specification for JTIDS Class 2 Terminal)

Generic Unit (GU)

A C² or nonC² unit, operating on a data link (excepting Link 11/11B) that does not utilize a JTIDS/MIDS compliant system, and the protocols, conventions, and fixed word message formats defined by the MIL-STD-6016. GUs also include JUs forwarded onto data links other than Link 11/11B.

Handover

The passing of control authority of an aircraft or other air vehicle from one control agency to another control agency. Handover action is complete when the receiving controller acknowledges assumption of control authority. (Derived from MIL-STD-6011)

Header (Message)

The leading bits of each message are coded as a (16, 7) Reed-Solomon code-word that provides 35 bits of information and 45 bits of associated forward error correction code. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

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Information Symbol	A 5-bit data element comprising both information and error detection code (inner parity) bits, or a combination of both. The information bits may represent either Reed-Solomon generated information or non-error-coded information. (System Segment Specification for JTIDS Class 2 Terminal)
Initial Entry	The procedure by which a subscriber terminal becomes a system participant initially and may achieve coarse synchronization with system time. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Initial Entry JTIDS Unit (IEJU)	Any JTIDS/MIDS unit that transmits the Initial Entry message in the appropriate time slot.
Initial Slot Number (ISN)	The number assigned to the first time slot in a block of time slots relative to the beginning of an epoch.
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)
Interface	A boundary or point common to two or more similar or dissimilar command and control systems, subsystems, or other entities against which or at which necessary information flow takes place. (Joint Pub 1-02)
Interface Operating Procedures (IOP)	A document used to provide a functional understanding of data exchange on a Tactical Data Link (TDL) and to describe operator initiated actions and their effect on the exchange of data.
Interface Unit (IU)	A JU, PU, or RU communicating directly or indirectly (i.e., identified as a data source) on the interface.

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Interleaving	A pattern of orienting the data symbols of a message for transmission, applicable to Modes 1 and 2. A fixed interleaving pattern is used for Mode 4. (System Segment Specification for JTIDS Class 2 Terminal)
Interoperability	<p>(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)</p> <p>(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)</p> <p>(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.</p>
Jam Strobe	A line projecting from a jammed radar on the approximate azimuth of the jamming source. (MIL-STD-6011)
Joint	Connote activities, operations, organization, etc., in which elements of more than one Service of the same nation participate. (Joint Pub 1-02)
Joint Range Extension	A multi-Service concept for extending the range of nets exchanging tactical data beyond the range of tactical communications terminals used for these nets, and providing alternatives for the transfer of this data within local areas.

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Joint Range Extension Unit	A unit connected directly on a JRE link and not forwarding or communicating on a Link 16 network.
Joint Range Extension JTIDS Unit	A unit communicating directly on Link 16 and on a JRE link, but not forwarding between the two (concurrent operations).
JTIDS	Joint Tactical Information Distribution System. The JTIDS/MIDS is a joint-service system which provides an Integrated Communications, Navigation, and Identification (ICNI) capability. The JTIDS/MIDS provides a reliable, secure, jam resistant, high-capacity, ICNI capability through the use of direct-sequence, spread-spectrum, frequency-hopping, and error detection and correction techniques. (Derived from System Segment Specification for JTIDS/MIDS Class 2 Terminal)
JTIDS/MIDS Net	One of 128 time-division structures comprising a JTIDS/MIDS network. Each net consists of a continuous stream of time intervals (time slots) with 98,304 time slots per 12.8-minute epoch, during which digital data whose signal characteristics are determined by a cryptographic variable in conjunction with a unique net number are distributed.
JTIDS/MIDS Network	The JTIDS/MIDS structure (usable only with Mode 1 communications) having a total usable capacity of 98,304 time slots per epoch per net and 128 nets. All nets are synchronized so that each time slot of each net is time-coincident with the corresponding time slot (same set and number) of every other net.
	The signal characteristics of all data distributed within a specified multinetted structure are determined by a cryptographic variable in conjunction with a set of net numbers that define the structure.

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JTIDS/MIDS Unit (JU)	A unit communicating directly on Link 16.
Local Data	Data derived from organic sensors and/or the IU's own capabilities to process, analyze, and classify track data, including data received from a remote source on a local track and accepted into the IU's database.
Local Track	A track established within an interface unit based on local positional data. Amplifying data associated with the track may be derived locally, from supporting units, or from data links. (MIL-STD-6011)
Machine Receipt	See Automatic Acknowledgement.
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.
Minimum Implementation	The statement of minimum data exchange requirements that must be implemented by Service/Agency systems participating on the Joint Tactical Data Link (TDL) 16 Interface to ensure the continued flow of information. This is defined in terms of requirements that must be met at seven different levels: Functional, Related Function, Message, Related Message, Word, DE, and DI.

APPENDIX E, ANNEX A

Minimum Information Exchange Requirements

Those categories of information that must be exchanged between operational facilities in order to provide commanders with essential information for decision making.

Mode 1 Communications

Mode 1 JTIDS/MIDS transmissions consist of a sequence of wide-band transmission symbol packets (single pulse, 13-microsecond packets and double-pulse, 26-microsecond packets), the pulses of which are formed by continuous phase shift modulation (CPSM) of the carrier frequency. The signal processing required to transform base-band data to the JTIDS signal waveforms for transmission includes base-band data encryption, forward error correction encoding, error detection encoding, cyclic code shift keying (CCSK) encoding, data symbol interleaving, and the selection of a variable start time.

Mode 2 Communications

Mode 2 JTIDS/MIDS transmissions are identical to Mode 1, except that Mode 2 operates in the narrow-band mode.

Mode 4 Communications

Mode 4 JTIDS/MIDS transmissions have signal waveform characteristics identical to Mode 2, except that Mode 4 does not employ base-band data encryption signal processing.

Navigation Controller

The Navigation Controller establishes the origin and North orientation of the U, V relative grid for the Relative Navigation function. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

Needline Participation Group

A unique list of netted subscribers compiled without regard to the specific messages they exchange with each other. This list is a means of transmitting any message to a common set of users.

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Net	See "JTIDS/MIDS Net."
Net Number	A 7-bit code that identifies each net as a decimal number (0 through 127). (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Network	See "JTIDS/MIDS Network."
Network Management Concepts	A set of operational concepts that deals with the allocation and assignment of JTIDS/MIDS resources and functions to satisfy user requirements.
Network Management Function	An action or activity affecting the relationships, actions, or activities of the various elements of the network.
Network Management Tools	The procedures employed by a network manager to ensure effective and efficient use of the JTIDS/MIDS message transmission capacity.
Network Manager	A JTIDS/MIDS unit that is designated to employ the required tools to allocate, assign, and manage the JTIDS/MIDS network resources.
Network Participation Group	A unique list of applicable messages used to support an agreed-upon technical function without regard to subscriber identities. This list is a means of transmitting a common set of messages to all interested users.
Network Time Reference (NTR)	A subscriber terminal that is assigned as the reference for system time for each synchronized netted system. The NTR terminal's clock time is never updated by system information and is the reference to which all other terminals synchronize their own clocks. There is only one NTR.
Noncommand and Control JTIDS Unit (nonC ² JU)	A JU without command and control capability.

APPENDIX E, ANNEX A

Normal Mode	The standard mode of terminal operation with respect to receipt and transmission of messages. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Normal Range	The shorter of two range options for a JTIDS/MIDS terminal, providing a line-of-sight coverage capability of 0-300 nautical miles with respect to the allocated propagation for message transmission. (Derived from System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Order	A communications which is written, oral, or by signal, that conveys instructions from a superior to a subordinate. (DOD IADB) In a broad sense, the terms "order" and "command" are synonymous. However, an order implies discretion as to the details of execution whereas a command does not. (Joint Pub 1-02)
Pairing	The establishment of an operational relationship (other than an engagement) between a friendly track and another track or point.
Parity Symbol	A 5-bit error-correction code data element generated by the Reed-Solomon encoding process. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Participating Unit (PU)	A unit communicating directly on Link 11. (MIL-STD-6011)
Participation Group Community (PGC)	The set of JUs assigned to participate as transmitters and/or receivers in the corresponding participation group.
Participation Group Pool	One or more time slot blocks assigned to a given participation group to satisfy participation group needs, priorities, and functional characteristics.

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Passive Synchronization	A procedure used by a terminal to effect and maintain fine synchronization with system time by passive observations of Position and Status messages transmitted by other terminals. The synchronizing terminal is not required to transmit any information. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Perimeter Engagement	The unit is initiating multiple simultaneous engagements with no capability to perform independent kill assessment. However, W/ES values of Firing and Engagement Broken will be automatically transmitted for each missile/target pair.
Polling Mode	A mode of terminal operation whereby the terminal can receive messages but does not transmit any fixed format messages except to transmit automatic message acknowledgments, RTT interrogations, or other messages in response to special interrogations. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Pool	One or more time slot blocks that can be used to satisfy a particular functional requirement or the total JTIDS/MIDS capacity that can be divided into pools to satisfy all functional requirements.
Position Reference	One or more JUs designated as a network reference. Such a JU has maintained a geodetic position accuracy of 50 feet, one sigma (standard deviation) over a long period of time.
Primary User	A subscriber terminal that utilizes the active synchronization (RTT) procedure and serves as a high-quality source for synchronization by the general Relative Navigation community. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

APPENDIX E, ANNEX A

Pulse (JTIDS/MIDS)	A 6.4-microsecond burst of carrier frequency continuous phase shift modulated at a 5-megabit-per-second rate by the transmission symbol. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Purge	Removal from database in response to internal system criteria.
Radio Relaying	A function for extending radio coverage based on time delay relaying where a message received during one time slot is subsequently retransmitted in another time slot. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Radio Silence Mode	A mode of terminal operation where the terminal receives but does not transmit fixed word format or variable message format messages. (Derived from System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Receive Block	A time slot block assigned for message reception.
Receipt/Compliance	The acknowledgment of a message and/ or an indication of intent to respond to a message, either by machine acknowledgment or operator action.
Recurrence Rate	The total number of time slots per epoch assigned (or deleted) in a single time block assignment, specified as an integer, $R = 0$ to 15 where 2 = the number of time slots. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Recurrence Rate Number (RNN)	An integer R , $0 < R < 15$, where 2^R is the recurrence rate of the block assignment.

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Reed-Solomon Code

As applied to JTIDS/MIDS, a forward error correction encoding scheme using a 32-ary cyclic block code in the class of generalized Bose-Chaudhuri-Hocquenghem (BCH) codes where the basic block codeword is a (31, 15)codeword, i.e., 31 5-bit data symbols per codeword, of which 15 are information symbols and 16 are parity symbols. Message headers are (16,7) codewords which are shortened (31,15) codewords where 7 are information symbols and 9 are parity symbols. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

Relative Azimuth Quality (Q_{ar})

A measure of the quality of a terminal's estimate of the orientation of the U,V grid with respect to grid North. Relative Azimuth Quality is reported in the terminal's Position and Status Reports as an integer from 0-7, where the higher numbers correspond to the higher qualities, i.e., lower errors in angular orientation. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

Relative Common Grid

A rectilinear planar grid tangent to the Earth surface at the grid origin whose coordinates are U, V Cartesian coordinates, where the V-axis is the North-South axis and the U-axis is the East-West axis. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

Relative Navigation

A procedure used by a terminal to determine its position and velocity in a common reference coordinate system by passive observations of Position and Status messages transmitted by other terminals. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

APPENDIX E, ANNEX A

Relative Position Quality (Q_{pr})	A measure of the quality of a terminal's relative position with respect to the U, V relative grid. Relative Position Quality is reported in the terminal's Position and Status Reports as an integer from 0-15, where the higher qualities, i.e., less error in position. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Relay	An automatic function of the JTIDS/MIDS terminal that provides retransmission of received information to extend the range beyond line of sight.
Relay Block	One to 64 time slot blocks assigned to independently specified nets for the relay of messages. The number of time slots selected for message reception must equal the number of time slots selected for message transmission. Each block is described by set (A, B, or C), a specific time slot in the block, and the recurrence rate.
Remote Data	Data derived from data link reports from another unit.
Remote Track	A track established within an interface unit based upon positional information derived from a data link report or reports. Amplifying data associated with the track may be derived locally, from supporting units, or from data links. (MIL-STD-6011)
Reporting Responsibility (R^2)	The requirement for the IU with the best positional data on a track to transmit track data on the interface.
Reporting Unit (RU)	A unit communicating on a point-to-point data link (e.g., Link 11B) which can be identified as a data source. (MIL-STD-6011)

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Repromulgation	The rebroadcast of a specified message or messages. The re promulgation request field specifies the number of times the message should be relayed and the time slot in which it is to be broadcast.
Response Time End-to-End Response Time	The time from new information availability at the source JU to reception of the message at the destination JU.
JU Response Time	The time from new information availability at the JU to the transmission of the information on the link. This is defined for each message in the JTIDS TIDP-TE.
Terminal Response Time	The time from new information availability at the terminal to the transmission of the information on the link. This time is part of the JU response time.
Round-Trip-Timing (RTT)	The process used by a JTIDS/MIDS terminal to directly determine the offset between its clock and that of another JTIDS/MIDS terminal. This is used to achieve and maintain fine synchronization and to improve the terminal's time quality. This process involves the exchange of RTT Interrogation and Reply Messages.
RTT Message	A short, 35-bit message used by the Active synchronization method, either an RTT Interrogation Message or RTT Reply Message. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Satellite Tactical Data Link (16) (STDL (16))	The STDL (16) system is a near real time tactical data link system which uses SHF satellite communications to provide a BLOS enhancement to Link 16 message communications.

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Secondary User	The general category for the majority of system subscriber terminals. Secondary user terminals generally utilize the Passive synchronization procedures for synchronizing in the Relative Navigation community. (System Segment Specification for JTIDS/MIDS Class 2 Terminal) Secondary users may use RTT messages when improved time quality is needed to maintain position quality.
Situational Awareness Data Link (SADL)	SADL is a data link that enables aircraft to share and display flight information with other SADL-equipped aircraft and to share and display friendly position locations with the Army's Digitized Battlefield. SADL radios are production EPLRS radios with modified software and firmware. These modifications allow the SADL radios to interoperate with the EPLRS ground community or to operate independently in SADL-only air-to-air networks. SADL permits display of EPLRS-equipped friendly unit locations as well as the position and status of other SADL network members.
Source Address	Specifies the Source Track Number of the Link 16 message.
Stacked Net	The coordinated use of specific blocks of time slots on different nets in a JTIDS/MIDS network by different communities of users.
Static Network Management	Management of the network in accordance with a preplanned scheme not subject to changes by a network manager during operations.
Subscriber	A participant in the use of the system, either actively (transmission of information) or passively (receiver of information only), or both. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

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Supporting Unit (SU)	A unit supporting an IU and providing data for the interface, but not identified as a data source. (Derived from MIL-STD-6011)
Symbol Packet	A signal element containing either one (single-pulse symbol packet) or two (double-pulse symbol packet) 6.4-microsecond pulses. The single-pulse packet (13 microseconds) consists of a 6.4-microsecond pulse followed by a 6.6-microsecond interval of dead time; the double pulse packet (26 microseconds) consists of two 6.4-microsecond pulses separated and followed by 6.6-microsecond interval of dead time. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Synchronization Preamble	Sixteen symbol packets that preface each transmitted message to allow for the detection of the beginning of each message and the subsequent decoding of the entire message. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Systematic Code	A code having the characteristic that each information block is encoded into a codeword comprised of "n" symbols in such a way that the first "k" symbols of the codeword are exactly the same as the information block and last "n-k" symbols of the codeword are redundant symbols which are functions of the information symbols. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

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Tactical Command and Control

The exercise of authority and direction by a properly designated commander over assigned forces in the accomplishment of his mission. Tactical command and control functions are performed through an arrangement of personnel, equipment, communications, and procedures which are employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of his mission. (Joint Pub 1-02)

Tactical Command and Control System

The facilities, equipment, communications, procedures, and personnel essential to Theater-Level and commanders Below-Theater-Level for planning, directing, and controlling operations of assigned and attached forces pursuant to the missions assigned and which provide for the conveyance and/or exchange of data and information from one person or force to another. (Joint Pub 1-02)

Automated Tactical Command and Control System

A command and control system or part thereof which fully manipulates the movement of information from source to user without human intervention. (Automated execution of a decision without human intervention is not mandatory.) (Joint Pub 1-02)

Semiautomated Tactical Command and Control System

A machine-aided command and control system wherein human intervention is required in varying degrees to operate the system. (Joint Pub 1-02)

Manual Tactical Command and Control System

A command and control system that acquires, processes, and passes information generated by man at the source and is received, processed, and acted upon by manual means. (Joint Pub 1-02)

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Tactical Digital Information Link
(TADIL)

A JCS approved standardized communications link suitable for transmission of digital information. A data link is characterized by its standardized message formats and transmission characteristics.

TADIL A

A secure, netted data link utilizing parallel transmission frame characteristics and standard message formats at either 2250 or 1364 bits per second. Transmission characteristics and standards for Link 11 are set forth in MIL-STD-6011 and MIL-STD-188-203-1A.

TADIL B

A secure, point-to-point data link utilizing serial transmission frame characteristics and standard message formats at a basic speed of 600 or of 1200 bits per second. This data link interconnects tactical air defense and air control units. Transmission characteristics and standards for Link 11 are set forth in MIL-STD-6011 and MIL-STD-188-212. Message formats are the same for Link 11B and Link 11.

TADIL C

A time division data transmission link between control station and controlled aircraft. It provides the capability for automatic transmission of orders, status, and other information. Data exchange is accomplished on a fully automatic link at 5000 bits per second, using serial transmission. Transmission characteristics and standards for Link 4A are set forth in MIL-STD-6004 and MIL-STD-188-203-3.

TADIL J

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.

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Link 16 Interface

The tactical data exchange interface comprised of three basic components: participating JUs, the Link 16 Message Standard, and Voice Coordination Nets/Circuits. The interface may be connected via data forwarder(s) to a JTAC interface (i.e., Link 11 and/or Link 11B).

Link 16 Message

A functionally oriented, variable length string of one or more 70-bit words in either fixed word format or variable message format.

Technical Interface Concepts (TIC)

A document used to establish the conceptual foundation for the design, implementation, and test documentation for the general development of the Joint Chiefs of Staff (JCS) program for ensuring compatibility, interoperability, and operational effectiveness of tactical command and control operational facilities/systems. A TIC identifies:

(a) tactical command and control systems and operational facilities of the Services/Agencies.

(b) joint interface points, either manual or digital; and

(c) inter-Service/Agency information to be exchanged among automated and manual tactical command and control systems.

Technical Interface Design Plan (TIDP)

An engineering implementation plan that specifies the technical standards required to achieve compatibility and interoperability as specified in the Technical Interface Concepts. The plan includes a comprehensive technical description of the operational interface, message implementation, methods, and rules for processing data between operational facilities and a final list of effective Service/Agency facilities/systems.

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Terminal (JTIDS/MIDS)	The integrated equipment comprised of hardware, firmware, and software elements used as the means for participating as a system subscriber. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Test Mode	A mode of terminal operation whereby a terminal is required to transmit Test messages. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Time (System)	The time maintained by the terminal assigned as the Network Time Reference (NTR) to which all other participating terminals are synchronized. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Time (Terminal)	The estimate of time derived by a terminal as a result of executing either the active or a passive synchronization procedure. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Time Quality (Q_t)	A measure of the quality of a terminal's state of synchronization with system time reported in the terminal's Position and Status Report. Time Quality is reported as an integer from 0-15 where the higher numbers correspond to the higher levels of quality, i.e., lower errors in timing. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Time Refinement Symbols	Four transmission symbols added to each message after the synchronization preamble symbols to provide for measuring accurate time-of-arrival of messages. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Time Slot	A 7.8125-millisecond time interval during which messages may be transmitted. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)

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Time Slot Assignment	The designation to the terminal of the specific time slot block in which it will transmit or receive messages.
Time Slot Block	A collection of time slots spaced uniformly in time over each epoch and belonging to a single time slot set. A block is defined by indexing time slot number (0 to 32,767), set (A, B, or C), and a recurrence rate number (0 to 15).
Time Slot Number	A 17-bit code that identifies each full time slot. The code consisting of a 2-bit set field (set A, B, or C) and a 15-bit slot field representing the decimal numbers zero to 32,767. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Time Slot Reallocation	A transmit access mode in which each Access Mode participant periodically assigns itself time slots from a shared pool of time slots. A participant assigns transmit time slots after transmitting a Time Slot Reallocation (TSR) message and receiving TSR messages from other participants.
Time Slot Reuse	A method to increase the JTIDS/MIDS network capacity by allowing more than one terminal to transmit in a single time slot on a single net number. This is appropriate for JUs in proximity to each other that have information to exchange; receivers will lock onto the message with the shortest time of arrival.
Time Slot Separation	The interval between time slots in an epoch assigned to a block expressed in terms of R (R = RRN), where the separation between time slots = $3 \times 2^{15-R}$.

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Track	(1) The graphic and/or alphanumeric representation of an object, point, or bearing whose position and/or characteristics are collated from sensors and/or other data sources. (MIL-STD-6011) (2) A collated set of data...associated with a track number for the purpose of representing the position and/or characteristics of a specific object, point, or bearing. (MIL-STD-6011)
Track Quality	A measure of the reliability of the positional information of a reported track.
Transmit Block	A time slot block assigned for the transmission of messages.
Transmission Symbol	A 32-bit sequence, one of 32 possible sequences generated by cyclic code shift keying, having a direct correlation with a 5-bit data symbol for the purpose of direct sequence spectrum spreading. (System Segment Specification for JTIDS/MIDS Class 2 Terminal)
Variable Message Format (VMF)	A message structure using predefined fields of fixed length employing internal syntax and a header extension. The internal syntax specifies the presence, absence, and recurrence of fields as selected by the user.
Variable Message Format Message	A Link 16 message utilizing variable message format.
Word Format	The type of Link 16 word construction. There are four such types: initial, extension, continuation, and variable message format.

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31 October 2013

Superseding

MIL-STD-6020B

30 September 2011

DEPARTMENT OF DEFENSE INTERFACE STANDARD

DATA FORWARDING BETWEEN TACTICAL DATA LINKS (TDLs)

APPENDIX F – IBS CMF AND LINK 16



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DEPARTMENT OF DEFENSE INTERFACE STANDARD

DATA FORWARDING BETWEEN TACTICAL DATA LINKS (TDLs)

APPENDIX G – IBS CMF AND VMF RESERVED FOR FUTURE DEVELOPMENT



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30 September 2011

DEPARTMENT OF DEFENSE INTERFACE STANDARD

DATA FORWARDING BETWEEN TACTICAL DATA LINKS (TDLs)

APPENDIX H – FROM IBS CMF TO LINK 22



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APPENDIX H

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INTERFACE CHANGE PROPOSALS

1. Interface Change Proposals (ICPs). Changes to this standard are prepared according to the specific procedures established by the Multi-TDL Configuration Control Board (CCB). Submission will be made directly to the appropriate service or agency CCB member organization for ultimate submission to DISA/EE21.

2. Questions and comments may be submitted to:

Director,
Defense Information Systems Agency (DISA)
Enterprise Engineering Directorate (EE)
Systems Engineering Division (EE2)
Tactical Standards Branch (EE21)
P.O. BOX 549
Ft Meade MD 20755-0549

CONCLUDING MATERIAL

Custodians:

Army - CR2
Navy - EC
Air Force - 44
NSA - NS

Preparing Activity

DISA - DC2
(INST-2014-001)

Reviewing Activities:

None

Civil Agency Coordination Activities:

None

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.