

Asterix category 004 - Safety Net Messages

category: 004

edition: 1.12

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Preamble

Surveillance data exchange.

Description of standard data items

I004/000 - Message Type

Definition: This Data Item allows for a more convenient handling of the messages at the receiver side by further defining the type of transaction.

Structure:

- 8 bits [.]
- values:
 - 1: Alive Message (AM)
 - 2: Route Adherence Monitor Longitudinal Deviation (RAMLD)
 - 3: Route Adherence Monitor Heading Deviation (RAMHD)
 - 4: Minimum Safe Altitude Warning (MSAW)
 - 5: Area Proximity Warning (APW)
 - 6: Clearance Level Adherence Monitor (CLAM)
 - 7: Short Term Conflict Alert (STCA)
 - 8: Approach Path Monitor (APM)
 - 9: RIMCAS Arrival / Landing Monitor (ALM)
 - 10: RIMCAS Arrival / Departure Wrong Runway Alert (WRA)
 - 11: RIMCAS Arrival / Departure Opposite Traffic Alert (OTA)
 - 12: RIMCAS Departure Monitor (RDM)
 - 13: RIMCAS Runway / Taxiway Crossing Monitor (RCM)
 - 14: RIMCAS Taxiway Separation Monitor (TSM)
 - 15: RIMCAS Unauthorized Taxiway Movement Monitor(UTMM)
 - 16: RIMCAS Stop Bar Overrun Alert (SBOA)
 - 17: End Of Conflict (EOC)
 - 18: ACAS Resolution Advisory (ACASRA)
 - 19: Near Term Conflict Alert (NTCA)
 - 20: Downlinked Barometric Pressure Setting Monitor (DBPSM)
 - 21: Speed Adherence Monitor (SAM)
 - 22: Outside Controlled Airspace Tool (OCAT)
 - 23: Vertical Conflict Detection (VCD)
 - 24: Vertical Rate Adherence Monitor (VRAM)
 - 25: Cleared Heading Adherence Monitor (CHAM)
 - 26: Downlinked Selected Altitude Monitor (DSAM)
 - 27: Holding Adherence Monitor (HAM)
 - 28: Vertical Path Monitor (VPM)
 - 29: RIMCAS Taxiway Traffic Alert (TTA)
 - 30: RIMCAS Arrival/Departure Close Runway Alert (CRA)
 - 31: RIMCAS Arrival/Departure Aircraft Separation Monitor (ASM)
 - 32: RIMCAS ILS Area Violation Monitor (IAVM)
 - 33: Final Target Distance Indicator (FTD)
 - 34: Initial Target Distance Indicator (ITD)

35: Wake Vortex Indicator Infringement Alert (IIA)
 36: Sequence Warning (SQW)
 37: Catch Up Warning (CUW)
 38: Conflicting ATC Clearances (CATC)
 39: No ATC Clearance (NOCLR)
 40: Aircraft Not Moving despite ATC Clearance (NOMOV)
 41: Aircraft leaving/entering the aerodrome area without proper handover (NOH)
 42: Wrong Runway or Taxiway Type (WRTY)
 43: Stand Occupied (STOCC)
 44: Ongoing Alert (ONGOING)
 97: Lost Track Warning (LTW)
 98: Holding Volume Infringement (HVI)
 99: Airspace Infringement Warning (AIW)

Notes:

1. In applications where transactions of various types are exchanged, the Message Type Data Item facilitates the proper message handling at the receiver side.
2. All Message Type values are reserved for common standard use.
3. Message Types 33 to 37 have been designed for applications supporting the ATCO in the optimisation of separation during final approach. They provide information required to indicate to the ATCO the closest possible distance of a following aircraft in relation to a leading aircraft. This allows to make optimum use of the available runway capacity.
4. The list of items present for the 31 types of messages is defined in the following 4 tables. M stands for mandatory, O for optional, X for never present. :

| item | 001 | 002 | 003 | 004 | 005 | 006 | 007 | 008 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|
| I004/000 | M | M | M | M | M | M | M | M |
| I004/010 | M | M | M | M | M | M | M | M |
| I004/015 | O | O | O | O | O | O | O | O |
| I004/020 | M | M | M | M | M | M | M | M |
| I004/030 | X | M | M | M | M | M | M | M |
| I004/035 | X | X | X | X | X | X | M | X |
| I004/040 | X | M | M | M | M | M | M | M |
| I004/045 | X | O | O | O | O | O | O | O |
| I004/060 | M | X | X | X | X | X | X | X |
| I004/070 | X | X | X | O | O | X | O | X |
| I004/074 | X | M | X | X | X | X | X | X |
| I004/075 | X | X | M | X | X | X | X | M |
| I004/076 | X | X | X | X | X | O | X | O |
| I004/100 | X | X | X | X | M | X | X | O |
| I004/110 | X | O | O | O | O | O | O | O |
| I004/120 | X | X | X | M | M | X | M | X |
| I004/170 | X | O | O | O | O | O | O | O |
| I004/171 | X | X | X | X | X | X | O | X |
| I004/RE | O | O | O | O | O | O | O | O |

| item | 009 | 010 | 011 | 012 | 013 | 014 | 015 | 016 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|
| I004/000 | M | M | M | M | M | M | M | M |
| I004/010 | M | M | M | M | M | M | M | M |
| I004/015 | O | O | O | O | O | O | O | O |
| I004/020 | M | M | M | M | M | M | M | M |
| I004/030 | M | M | M | M | M | M | M | M |
| I004/035 | M | X | M | M | M | M | O | X |
| I004/040 | M | M | M | M | M | M | M | M |
| I004/045 | O | O | O | O | O | O | O | O |
| I004/060 | X | X | X | X | X | X | X | X |
| I004/070 | O | X | O | O | O | O | O | X |
| I004/074 | X | X | X | X | X | X | X | X |

I004/075 X X X X X X X X
 I004/076 X X X X X X X X
 I004/100 M M M M M M M M
 I004/110 0 0 0 0 0 0 0 0
 I004/120 M M M M M 0 0 0
 I004/170 0 0 0 0 0 0 0 0
 I004/171 0 X 0 0 0 0 0 X
 I004/RE 0 0 0 0 0 0 0 0

item 017 018 019 020 021 022 023 024
 I004/000 M M M M M M M M
 I004/010 M M M M M M M M
 I004/015 0 0 0 0 0 0 0 0
 I004/020 M M M M M M M M
 I004/030 0 X M M M M M M
 I004/035 0 X M X X X M X
 I004/040 M M M M M M M M
 I004/045 0 0 0 0 0 0 0 0
 I004/060 X X X X X X X X
 I004/070 X 0 0 X X 0 0 X
 I004/074 X X X X X X X X
 I004/075 X X X X X X X X
 I004/076 X X X X X X X 0
 I004/100 X X X 0 0 M M 0
 I004/110 X X 0 0 0 0 0 0
 I004/120 X X 0 M 0 M M 0
 I004/170 X M 0 0 0 0 0 0
 I004/171 X 0 0 X X X 0 X
 I004/RE 0 M 0 0 0 0 0 0

item 025 026 027 028 029 030 031 032
 I004/000 M M M M M M M M
 I004/010 M M M M M M M M
 I004/015 0 0 0 0 0 0 0 0
 I004/020 M M M M M M M M
 I004/030 M M M M M M M M
 I004/035 X X X X 0 0 M 0
 I004/040 M M M M M M M M
 I004/045 0 0 0 0 0 0 0 0
 I004/060 X X X X X X X X
 I004/070 X X X X 0 0 0 0
 I004/074 X X 0 X 0 X X X
 I004/075 X X X X 0 X X X
 I004/076 X 0 0 0 0 X X X
 I004/100 0 0 0 0 0 0 0 0
 I004/110 0 0 0 0 0 0 0 0
 I004/120 0 0 0 X 0 0 0 0
 I004/170 0 0 0 0 0 0 0 0
 I004/171 X X X X 0 0 0 0
 I004/RE 0 0 0 0 0 0 0 0

item 033 034 035 036 037 038 039 040
 I004/000 M M M M M M M M
 I004/010 M M M M M M M M
 I004/015 0 0 0 0 0 0 0 0
 I004/020 M M M M M M M M
 I004/030 M M M M M M M M
 I004/035 M M M X 0 M X X
 I004/040 M M M M M M M M
 I004/045 0 0 0 0 0 0 0 0
 I004/060 X X X X X X X X

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I004/070 0 0 M X X X X X
I004/074 X X X X X X X X
I004/075 X X X X X X X X
I004/076 X X X X X X X X
I004/100 0 0 0 0 0 0 0 0
I004/110 X X X X X 0 0 0
I004/120 M M 0 X X M M M
I004/170 M M M M M 0 0 0
I004/171 M M M X M 0 X X
I004/RE 0 0 M 0 0 0 0 0

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item 041 042 043 044 097 098 099
I004/000 M M M M M M M
I004/010 M M M M M M M
I004/015 0 0 0 0 0 0 0
I004/020 M M M M M M M
I004/030 M M M M M M M
I004/035 X X X 0 X X X
I004/040 M M M M M M M
I004/045 0 0 0 0 0 0 0
I004/060 X X X X X X X
I004/070 X X X X 0 0 0
I004/074 X X X X X X X
I004/075 X X X X X X X
I004/076 X X X X X X X
I004/100 0 M M M 0 0 0
I004/110 0 0 0 0 0 0 0
I004/120 M 0 X X 0 0 0
I004/170 0 0 0 0 0 0 0
I004/171 X X X X X X X
I004/RE 0 0 0 0 M 0 0

```

I004/010 - Data Source Identifier

Definition: Identification of the Safety Nets server sending the message.

Structure:

I004/010/SAC - System Area Code

- 8 bits [.]
- raw value

I004/010/SIC - System Identification Code

- 8 bits [.]
- raw value

Note:

- The up-to-date list of SACs is published on the EUROCONTROL Web Site (<http://www.eurocontrol.int/asterix>).

I004/015 - SDPS Identifier

Definition: Identification of the SDPS providing data to the safety nets server.

Structure:

Repetitive item, repetition factor 8 bits.

I004/015/SAC - System Area Code

- 8 bits [.]
- raw value

I004/015/SIC - System Identification Code

- 8 bits [.]
- raw value

Note: - The up-to-date list of SACs is published on the EUROCONTROL Web Site (<http://www.eurocontrol.int/asterix>).

I004/020 - Time of Message

Definition: Absolute time stamping of the message in the form of elapsed time since last midnight

Structure:

- 24 bits [.]
- unsigned quantity
- scaling factor: 1
- fractional bits: 7
- unit: "s"
- $\text{LSB} = 1/2^7 \text{ s} = 1/128 \text{ s} \approx 7.8125e - 3 \text{ s}$

I004/030 - Track Number 1

Definition: Identification of a track number related to conflict

Structure:

- 16 bits [.]
- raw value

Notes:

1. This is the track number of the first track involved in the conflict in case of an STCA or a RIMCA or the track involved in case of one of the other Safety Net functions.
2. This track number is distributed in this field exactly as it was received from the Radar Processor Unit (identified by I004/015) and its range is depending on the range used by that unit.
3. In case of Message Type = 33 (Final Target Distance Indicator - FTD) this represents the Track Number of the following aircraft.
4. In case of Message Type = 34 (Initial Target Distance Indicator - ITD) this represents the Track Number of the following aircraft.
5. In case of Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this represents the track number of the following aircraft.
6. In case of Message Type = 37 (Catch-Up Warning - CUW) this represents the track number of the following aircraft (i.e. the one catching up).

I004/035 - Track Number 2

Definition: Together with I004/030, this item defines the track pair in conflict.

Structure:

- 16 bits [.]

- raw value

Notes:

1. This is the track number of the second track involved in the conflict in case of an STCA, a RIMCA, a NTCA, a VCD or in message types 33 to 35 and 37.
2. For the other Safety Net functions, this item is not used.
3. This track number is distributed in this field exactly as it was received from the Radar Processor Unit and its range is depending on the range used by that unit.
4. In case of Message Type = 33 (Final Target Distance Indicator - FTD) this represents the Track Number of the leading aircraft
5. In case of Message Type = 34 (Initial Target Distance Indicator - ITD) this represents the Track Number of the leading aircraft.
6. In case of Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this represents the track number of the leading aircraft.
7. In case of Message Type = 37 (Catch-Up Warning - CUW) this represents the track number of the leading aircraft.
8. In case of Message Type = 38 (Conflicting ATC Clearances - CATC) this represents the track number of the aircraft to which the first ATC Clearance was issued.

I004/040 - Alert Identifier

Definition: Identification of an alert (Alert number)

Structure:

- 16 bits [.]
- raw value

Notes:

1. This item is the Alert Identification of the conflict in the system
2. This number shall be assigned, by the Safety Net Server, for instance incrementally to every new alert and restart on zero after reaching the maximum value (65535)

I004/045 - Alert Status

Definition: Information concerning status of the alert

Structure:

I004/045/(spare)

- 4 bits [. . .]

I004/045/STAT - Status of the Alert

- 3 bits [. .]
- raw value

I004/045/(spare)

- 1 bit [.]

I004/060 - Safety Net Function and System Status

Definition: Status of the Safety Nets functions handled by the system

Structure:

Extended item.

I004/060/MRVA

- 1 bit [.]
- values:
 - 0: Default
 - 1: MRVA function

I004/060/RAMLD

- 1 bit [.]
- values:
 - 0: Default
 - 1: RAMLD function

I004/060/RAMHD

- 1 bit [.]
- values:
 - 0: Default
 - 1: RAMHD function

I004/060/MSAW

- 1 bit [.]
- values:
 - 0: Default
 - 1: MSAW function

I004/060/APW

- 1 bit [.]
- values:
 - 0: Default
 - 1: APW function

I004/060/CLAM

- 1 bit [.]
- values:
 - 0: Default
 - 1: CLAM function

I004/060/STCA

- 1 bit [.]
- values:
 - 0: Default
 - 1: STCA function

(FX)

- extension bit

- 0: End of data item
- 1: Extension into next extent

I004/060/APM

- 1 bit [.]
- values:
 - 0: Default
 - 1: APM function

I004/060/RIMCA

- 1 bit [.]
- values:
 - 0: Default
 - 1: RIMCA function

I004/060/ACASRA

- 1 bit [.]
- values:
 - 0: Default
 - 1: ACAS RA function

I004/060/NTCA

- 1 bit [.]
- values:
 - 0: Default
 - 1: NTCA function

I004/060/DG

- 1 bit [.]
- values:
 - 0: Default
 - 1: System degraded

I004/060/OF

- 1 bit [.]
- values:
 - 0: Default
 - 1: Overflow error

I004/060/OL

- 1 bit [.]
- values:
 - 0: Default
 - 1: Overload error

(FX)

- extension bit
 - 0: End of data item
 - 1: Extension into next extent

I004/060/AIW

- 1 bit [.]
- values:
 - 0: Default
 - 1: AIW function

I004/060/PAIW

- 1 bit [.]
- values:
 - 0: Default
 - 1: PAIW function

I004/060/OCAT

- 1 bit [.]
- values:
 - 0: Default
 - 1: OCAT function

I004/060/SAM

- 1 bit [.]
- values:
 - 0: Default
 - 1: SAM function

I004/060/VCD

- 1 bit [.]
- values:
 - 0: Default
 - 1: VCD function

I004/060/CHAM

- 1 bit [.]
- values:
 - 0: Default
 - 1: CHAM function

I004/060/DSAM

- 1 bit [.]
- values:
 - 0: Default
 - 1: DSAM function

(FX)

- extension bit
 - 0: End of data item
 - 1: Extension into next extent

I004/060/DBPSMARR

- 1 bit [.]
- values:

- 0: Default
- 1: DBPSM ARR sub-function

I004/060/DBPSMDEP

- 1 bit [.]
- values:
 - 0: Default
 - 1: DBPSM DEP sub-function

I004/060/DBPSMTL

- 1 bit [.]
- values:
 - 0: Default
 - 1: DBPSM TL sub-function

I004/060/VRAMCRM

- 1 bit [.]
- values:
 - 0: Default
 - 1: VRAM CRM sub-function

I004/060/VRAMVTM

- 1 bit [.]
- values:
 - 0: Default
 - 1: VRAM VTM sub-function

I004/060/VRAMVRM

- 1 bit [.]
- values:
 - 0: Default
 - 1: VRAM VRM sub-function

I004/060/HAMHD

- 1 bit [.]
- values:
 - 0: Default
 - 1: HAM HD sub-function

(FX)

- extension bit
 - 0: End of data item
 - 1: Extension into next extent

I004/060/HAMRD

- 1 bit [.]
- values:
 - 0: Default
 - 1: HAM RD sub-function

I004/060/HAMVD

- 1 bit [.]
- values:
 - 0: Default
 - 1: HAM VD sub-function

I004/060/HVI

- 1 bit [.]
- values:
 - 0: Default
 - 1: HVI function

I004/060/LTW

- 1 bit [.]
- values:
 - 0: Default
 - 1: LTW function

I004/060/VPM

- 1 bit [.]
- values:
 - 0: Default
 - 1: VPM function

I004/060/TTA

- 1 bit [.]
- values:
 - 0: Default
 - 1: TTA function

I004/060/CRA

- 1 bit [.]
- values:
 - 0: Default
 - 1: CRA function

(FX)

- extension bit
 - 0: End of data item
 - 1: Extension into next extent

I004/060/ASM

- 1 bit [.]
- values:
 - 0: Default
 - 1: ASM sub-function

I004/060/IAVM

- 1 bit [.]
- values:

- 0: Default
- 1: IAVM sub-function

I004/060/FTD

- 1 bit [.]
- values:
 - 0: Default
 - 1: FTD Function

I004/060/ITD

- 1 bit [.]
- values:
 - 0: Default
 - 1: ITD function

I004/060/IIA

- 1 bit [.]
- values:
 - 0: Default
 - 1: IIA function

I004/060/SQW

- 1 bit [.]
- values:
 - 0: Default
 - 1: SQW function

I004/060/CUW

- 1 bit [.]
- values:
 - 0: Default
 - 1: CUW function

(FX)

- extension bit
 - 0: End of data item
 - 1: Extension into next extent

I004/060/CATC

- 1 bit [.]
- values:
 - 0: Default
 - 1: CATC function

I004/060/NOCLR

- 1 bit [.]
- values:
 - 0: Default
 - 1: NOCLR sub-function

I004/060/NOMOV

- 1 bit [.]
- values:
 - 0: Default
 - 1: NOMOV Function

I004/060/NOH

- 1 bit [.]
- values:
 - 0: Default
 - 1: NOH function

I004/060/WRTY

- 1 bit [.]
- values:
 - 0: Default
 - 1: WRTY function

I004/060/STOCC

- 1 bit [.]
- values:
 - 0: Default
 - 1: STOCC function

I004/060/ONGOING

- 1 bit [.]
- values:
 - 0: Default
 - 1: ONGOING function

(FX)

- extension bit
 - 0: End of data item
 - 1: Extension into next extent

Notes:

1. This item only sent in “alive messages” to describe the status of the Safety Net functions, handled by the system
2. Value 0 means either that the function is not managed by the system or has failed.
3. Value 1 means that the function is managed by the system and is running well
4. “Overflow” is defined as a situation where the number of alerts in the system has exceeded the threshold for safe operation. Potential prioritization of the alerts may lead to a loss of information.
5. “Overload” is defined as a system status in which the number of alerts does not allow for a reliable performance. A correct calculation and transmission cannot be guaranteed.
6. “System degraded” means that information from one or more sensors is lost.

I004/070 - Conflict Timing and Separation

Definition: Information on Timing and Aircraft Separation

Structure:

Compound item (FX)

I004/070/TC - Time to Conflict

Time remaining to actual conflict situation

- 24 bits [.....]
- unsigned quantity
- scaling factor: 1
- fractional bits: 7
- unit: "s"
- $\text{LSB} = 1/2^7 \text{ s} = 1/128 \text{ s} \approx 7.8125e - 3 \text{ s}$

I004/070/TCA - Time to Closest Approach

Time to closest proximity between entities in conflict

- 24 bits [.....]
- unsigned quantity
- scaling factor: 1
- fractional bits: 7
- unit: "s"
- $\text{LSB} = 1/2^7 \text{ s} = 1/128 \text{ s} \approx 7.8125e - 3 \text{ s}$

I004/070/CHS - Current Horizontal Separation

Current horizontal separation

- 24 bits [.....]
- unsigned quantity
- scaling factor: 1
- fractional bits: 1
- unit: "m"
- $\text{LSB} = 1/2^1 \text{ m} = 1/2 \text{ m} \approx 0.5 \text{ m}$

I004/070/MHS - Estimated Minimum Horizontal Separation

Estimated minimum horizontal separation.

- 16 bits [.....]
- unsigned quantity
- scaling factor: 1
- fractional bits: 1
- unit: "m"
- $\text{LSB} = 1/2^1 \text{ m} = 1/2 \text{ m} \approx 0.5 \text{ m}$

I004/070/CVS - Current Vertical Separation

Current vertical separation

- 16 bits [.....]
- unsigned quantity
- scaling factor: 25
- fractional bits: 0
- unit: "ft"
- $\text{LSB} = 25 \text{ ft}$

I004/070/MVS - Estimated Minimum Vertical Separation

Estimated Minimum Vertical Separation

- 16 bits [.....]

- unsigned quantity
- scaling factor: 25
- fractional bits: 0
- unit: "ft"
- LSB = 25 ft

I004/074 - Longitudinal Deviation

Definition: Longitudinal deviation for Route Adherence Monitoring, in two's complement.

Structure:

- 16 bits [.]
- signed quantity
- scaling factor: 32
- fractional bits: 0
- unit: "m"
- LSB = 32 m

Note:

- Longitudinal deviation will be positive if the aircraft is ahead of its planned position. Longitudinal deviation will be negative if the aircraft is behind its planned position.

I004/075 - Transversal Distance Deviation

Definition: Transversal distance deviation for Route Adherence Monitoring, in two's complement.

Structure:

- 24 bits [.]
- signed quantity
- scaling factor: 1
- fractional bits: 1
- unit: "m"
- $LSB = 1/2^1 \text{ m} = 1/2 \text{ m} \approx 0.5 \text{ m}$

Note:

- Deviation to the right of the track will be coded as a positive value. Deviation to the left of the track will be coded as a negative value

I004/076 - Vertical Deviation

Definition: Vertical Deviation from planned altitude, in two's complement

Structure:

- 16 bits [.]
- signed quantity
- scaling factor: 25
- fractional bits: 0
- unit: "ft"
- LSB = 25 ft

Note:

- Positive value if aircraft is above planned altitude Negative value if aircraft is below planned altitude

I004/100 - Area Definition

Definition: Name of the area involved in a Safety Net alarm

Structure:

Compound item (FX)

I004/100/AN - *Area Name*

Name of the area involved in a Safety Net alarm. Characters 1-8 (coded on 6 bits each) defining the name of the area. Coding rules are provided in [3]Section 3.1.2.9"

- 48 bits [... 48 bits ...]
- ICAO string (6-bits per character)

I004/100/CAN - *Crossing Area Name*

Name of Crossing Area Involved in RIMCA. Each octet is an ASCII character defining the name of the crossing area involved in a runway/taxiway crossing alert (message type 013)

- 56 bits [... 56 bits ...]
- Ascii string (8-bits per character)

I004/100/RT1 - *Runway/Taxiway Designator 1*

Designator of Runway/Taxiway 1 Involved in a RIMCA Each octet is an ASCII character defining the runway designator

- 56 bits [... 56 bits ...]
- Ascii string (8-bits per character)

I004/100/RT2 - *Runway/Taxiway Designator 2*

Designator of Runway/Taxiway 2 Involved in a RIMCA Each octet is an ASCII character defining the runway designator

- 56 bits [... 56 bits ...]
- Ascii string (8-bits per character)

I004/100/SB - *Stop Bar Designator*

Designator of Stop-Bar Involved in RIMCA Each octet is an ASCII character defining the stop-bar involved in a stop-bar crossed alert (message type 016)

- 56 bits [... 56 bits ...]
- Ascii string (8-bits per character)

I004/100/G - *Gate Designator*

Gate Designator (in 7 characters) of the approaching aircraft in a RIMCA or a STOCC message, Each octet is an ASCII character defining the gate for the approaching aircraft

- 56 bits [... 56 bits ...]
- Ascii string (8-bits per character)

Notes:

1. The area name is always left adjusted. If needed, the remaining characters are filled with space character.
2. The name of the crossing area is always left adjusted. If needed, the remaining characters are filled with space characters.
3. The runway designator is always left adjusted. If needed, the remaining characters are filled with space characters. The runway is encoded as follows: Location indicator, runway direction, left or right. Example: EGLL09L means London Heathrow (EGLL), Runway 09 (direction 090 degrees) left runway

4. The runway designator is always left adjusted. If needed, the remaining characters are filled with space characters. The runway is encoded as follows: Location indicator, runway direction, left or right. Example: EGLL09L means London Heathrow (EGLL), Runway 09 (direction 090 degrees) left runway
5. The stop-bar designator is always left adjusted. If needed, the remaining characters are filled with space characters.
6. The gate designator is always left adjusted. If needed, the remaining characters are filled with space character.

I004/110 - FDPS Sector Control Identification

Definition: Identification of a list of FDPS Sector Control Positions in charge of the involved targets, as provided by the FDPS

Structure:

Repetitive item, repetition factor 8 bits.

I004/110/CEN

Centre identification code

- 8 bits [.]
- raw value

I004/110/POS

Control position identification code

- 8 bits [.]
- raw value

Note:

- The Centre identification code and the Control position identification code must be defined between the communication partners.

I004/120 - Conflict Characteristics

Definition: Description of the Conflict Properties

Structure:

Compound item (FX)

I004/120/CN - Conflict Nature

Nature of the conflict expressed by a set of properties

Extended item.

I004/120/CN/MAS - Conflict Location in Military Airspace

- 1 bit [.]
- values:
 - 0: Conflict not predicted to occur in military airspace
 - 1: Conflict predicted to occur in military airspace

I004/120/CN/CAS - Conflict Location in Civil Airspace

- 1 bit [.]
- values:
 - 0: Conflict not predicted to occur in civil airspace
 - 1: Conflict predicted to occur in civil airspace

I004/120/CN/FLD - Fast Lateral Divergence

- 1 bit [.]
- values:
 - 0: Aircraft are not fast diverging laterally at current time
 - 1: Aircraft are fast diverging laterally at current time

I004/120/CN/FVD - *Fast Vertical Divergence*

- 1 bit [.]
- values:
 - 0: Aircraft are not fast diverging vertically at current time
 - 1: Aircraft are fast diverging vertically at current time

I004/120/CN/TYPE - *Type of Separation Infringement*

- 1 bit [.]
- values:
 - 0: Minor separation infringement
 - 1: Major separation infringement

I004/120/CN/CROSS - *Crossing Test*

- 1 bit [.]
- values:
 - 0: Aircraft have not crossed at starting time of conflict
 - 1: Aircraft have crossed at starting time of conflict

I004/120/CN/DIV - *Divergence Test*

- 1 bit [.]
- values:
 - 0: Aircraft are not diverging at starting time of conflict
 - 1: Aircraft are diverging at starting time of conflict

(FX)

- extension bit
 - 0: End of data item
 - 1: Extension into next extent

I004/120/CN/RRC - *Runway/Runway Crossing in RIMCAS*

- 1 bit [.]
- values:
 - 0: Default
 - 1: Runway/Runway Crossing

I004/120/CN/RTC - *Runway/Taxiway Crossing in RIMCAS*

- 1 bit [.]
- values:
 - 0: Default
 - 1: Runway/Taxiway Crossing

I004/120/CN/MRVA

- 1 bit [.]
- values:
 - 0: Default
 - 1: Msg Type 4 (MSAW) indicates MRVA

I004/120/CN/VRAMCRM

- 1 bit [.]
- values:
 - 0: Default
 - 1: Msg Type 25 (VRAM) indicates CRM

I004/120/CN/VRAMVRM

- 1 bit [.]

- values:
 - 0: Default
 - 1: Msg Type 25 (VRAM) indicates VRM

I004/120/CN/VRAMVTM

- 1 bit [.]
- values:
 - 0: Default
 - 1: Msg Type 25 (VRAM) indicates VTM

I004/120/CN/HAMHD

- 1 bit [.]
- values:
 - 0: Default
 - 1: Msg Type 29 (HAM) indicates HD

(FX)

- extension bit
 - 0: End of data item
 - 1: Extension into next extent

I004/120/CN/HAMRD

- 1 bit [.]
- values:
 - 0: Default
 - 1: Msg Type 29 (HAM) indicates RD

I004/120/CN/HAMVD

- 1 bit [.]
- values:
 - 0: Default
 - 1: Msg Type 29 (HAM) indicates VD

I004/120/CN/DBPSMARR

- 1 bit [.]
- values:
 - 0: Default
 - 1: Msg Type 20 (DBPSM) indicates ARR

I004/120/CN/DBPSMDEP

- 1 bit [.]
- values:
 - 0: Default
 - 1: Msg Type 20 (DBPSM) indicates DEP

I004/120/CN/DBPSMTL

- 1 bit [.]
- values:
 - 0: Default
 - 1: Msg Type 20 (DBPSM) indicates above TL

I004/120/CN/AIW

- 1 bit [.]
- values:
 - 0: Default
 - 1: Msg Type 99 (AIW) indicates pAIW Alert

I004/120/CN/(spare)

- 1 bit [.]

- extension bit
 - 0: End of data item
 - 1: Extension into next extent

Severity classification of the conflict

- 4 bits [...]
- raw value

- 3 bits [...]
- raw value

- 1 bit [.]
- values:
 - 0: LOW
 - 1: HIGH

- 8 bits [.]
- unsigned quantity
- scaling factor: 1
- fractional bits: 1
- unit: "%"
- $\text{LSB} = 1/2^1 \% = 1/2 \% \approx 0.5 \%$

- 24 bits [.....]
- unsigned quantity
- scaling factor: 1
- fractional bits: 7
- unit: "s"
- $\text{LSB} = 1/2^7 \text{ s} = 1/128 \text{ s} \approx 7.8125e-3 \text{ s}$

Compound item (FX)

I004/170/AI1 - Aircraft Identifier (in 7 Characters) of Aircraft 1 Involved in the Conflict

- 56 bits [... 56 bits ...]
- Ascii string (8-bits per character)

I004/170/M31 - Mode 3/A Code Aircraft 1

I004/170/M31/(spare)

- 4 bits [...]

I004/170/M31/MODE3A - Mode-3/A Code (Converted Into Octal Representation) of Aircraft 1 Involved in the Conflict

- 12 bits [...]
- Octal string (3-bits per digit)

I004/170/CPW - Predicted Conflict Position Target 1 in WGS-84 Coordinates

I004/170/CPW/LAT - In WGS-84 in Two's Complement

- 32 bits [...]
- signed quantity
- scaling factor: 180
- fractional bits: 25
- unit: "°"
- $\text{LSB} = 180/2^{25} \text{ °} = 180/33554432 \text{ °} \approx 5.364418029785156e - 6 \text{ °}$
- value $\geq -90 \text{ °}$
- value $\leq 90 \text{ °}$

I004/170/CPW/LON - In WGS-84 in Two's Complement

- 32 bits [...]
- signed quantity
- scaling factor: 180
- fractional bits: 25
- unit: "°"
- $\text{LSB} = 180/2^{25} \text{ °} = 180/33554432 \text{ °} \approx 5.364418029785156e - 6 \text{ °}$
- value $\geq -180 \text{ °}$
- value $< 180 \text{ °}$

I004/170/CPW/ALT - Altitude of Predicted Conflict

- 16 bits [...]
- signed quantity
- scaling factor: 25
- fractional bits: 0
- unit: "ft"
- $\text{LSB} = 25 \text{ ft}$
- value $\geq -1500 \text{ ft}$
- value $\leq 150000 \text{ ft}$

I004/170/CPC - Predicted Conflict Position for the Aircraft 1 Involved in the Conflict

I004/170/CPC/X - Starting X-position of the Conflict

- 24 bits [...]
- signed quantity
- scaling factor: 1
- fractional bits: 1
- unit: "m"
- $\text{LSB} = 1/2^1 \text{ m} = 1/2 \text{ m} \approx 0.5 \text{ m}$

I004/170/CPC/Y - Starting Y-position of the Conflict

- 24 bits [...]
- signed quantity
- scaling factor: 1

- fractional bits: 1
- unit: "m"
- $\text{LSB} = 1/2^1 \text{ m} = 1/2 \text{ m} \approx 0.5 \text{ m}$

I004/170/CPC/Z - *Starting Z-position of the Conflict*

- 16 bits [.....]
- signed quantity
- scaling factor: 25
- fractional bits: 0
- unit: "ft"
- $\text{LSB} = 25 \text{ ft}$
- value $\geq -1500 \text{ ft}$
- value $\leq 150000 \text{ ft}$

I004/170/TT1 - *Time to Runway Threshold for First Approaching Aircraft in a RIMCA*

- 24 bits [.....]
- unsigned quantity
- scaling factor: 1
- fractional bits: 7
- unit: "s"
- $\text{LSB} = 1/2^7 \text{ s} = 1/128 \text{ s} \approx 7.8125e - 3 \text{ s}$

I004/170/DT1 - *Distance to Runway Threshold for Aircraft 1 Involved in a RIMCA*

- 16 bits [.....]
- unsigned quantity
- scaling factor: 1
- fractional bits: 1
- unit: "m"
- $\text{LSB} = 1/2^1 \text{ m} = 1/2 \text{ m} \approx 0.5 \text{ m}$

I004/170/AC1 - *Characteristics of Aircraft 1 Involved in the Conflict*

Extended item.

I004/170/AC1/GATOAT - *Identification of Conflict Categories Definition Table*

- 2 bits [..]
- values:
 - 0: Unknown
 - 1: General Air Traffic
 - 2: Operational Air Traffic
 - 3: Not applicable

I004/170/AC1/FR1FR2 - *Flight Rules*

- 2 bits [..]
- values:
 - 0: Instrument Flight Rules
 - 1: Visual Flight rules
 - 2: Not applicable
 - 3: Controlled Visual Flight Rules

I004/170/AC1/RVSM

- 2 bits [..]
- values:
 - 0: Unknown
 - 1: Approved
 - 2: Exempt
 - 3: Not Approved

I004/170/AC1/HPR

- 1 bit [.]
- values:
 - 0: Normal Priority Flight
 - 1: High Priority Flight

(FX)

- extension bit
 - 0: End of data item
 - 1: Extension into next extent

I004/170/AC1/CDM - *Climbing/Descending Mode*

- 2 bits [..]
- values:
 - 0: Maintaining
 - 1: Climbing
 - 2: Descending
 - 3: Invalid

I004/170/AC1/PRI

- 1 bit [.]
- values:
 - 0: Non primary target
 - 1: Primary target

I004/170/AC1/GV

- 1 bit [.]
- values:
 - 0: Default
 - 1: Ground Vehicle

I004/170/AC1/(spare)

- 3 bits [...]

(FX)

- extension bit
 - 0: End of data item
 - 1: Extension into next extent

I004/170/MS1 - *Aircraft Identification Downloaded from Aircraft 1 Involved in the Conflict If Equipped with a Mode-S Transponder*

- 48 bits [... 48 bits ...]
- Ascii string (8-bits per character)

I004/170/FP1 - *Number of the Flight Plan Correlated to Aircraft 1 Involved in the Conflict*

I004/170/FP1/(spare)

- 5 bits [.....]

I004/170/FP1/NBR

- 27 bits [.....]
- unsigned quantity
- scaling factor: 1
- fractional bits: 0
- LSB = 1
- value ≥ 0
- value ≤ 99999999

I004/170/CF1 - *Cleared Flight Level for Aircraft 1 Involved in the Conflict*

- 16 bits [.]
- unsigned quantity
- scaling factor: 1
- fractional bits: 2
- unit: "FL"
- $LSB = 1/2^2 FL = 1/4 FL \approx 0.25 FL$

Notes:

1. The aircraft identifier is always left adjusted. If needed, the remaining characters are filled with space character.
2. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the aircraft identifier of the following aircraft.
3. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the aircraft identifier of the following aircraft.
4. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the aircraft identifier of the following aircraft.
5. For Message Type = 37 (Catch-Up Warning - CUW) this contains the aircraft identifier of the following aircraft (i.e. the one catching up).
6. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Mode 3/A Code of the following aircraft.
7. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Mode 3/A Code of the following aircraft.
8. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Mode 3/A Code of the following aircraft.
9. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Mode 3/A code of the following aircraft (i.e. the one catching up).
10. Altitude expressed in two's complement.
11. For Message Type = 33 (Final Target Distance Indicator - FTD) this data item contains the position (in WGS-84) of the Separation Indicator presented to the ATCO. In this case bits 16/1 are meaningless.
12. For Message Type = 34 (Initial Target Distance Indicator - ITD) this data item contains the position (in WGS-84) of the Separation Indicator presented to the ATCO. In this case bits 16/1 are meaningless.
13. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this data item contains the position (in WGS-84) of the Separation Indicator presented to the ATCO. In this case bits 16/1 are meaningless.
14. For Message Type = 37 (Catch-Up Warning - CUW) this contains the position (in WGS-84) of the Separation Indicator presented to the ATCO. In this case bits 16/1 are meaningless.
15. Two's complement fixed-point format.
16. For Message Type = 33 (Final Target Distance Indicator - FTD) this data item contains the position (in Cartesian Coordinates) of the Separation Indicator presented to the ATCO. In this case bits 16/1 are meaningless.
17. For Message Type = 34 (Initial Target Distance Indicator - ITD) this data item contains the position (in Cartesian Coordinates) of the Separation Indicator presented to the ATCO. In this case bits 16/1 are meaningless.
18. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this data item contains the position (in Cartesian Coordinates) of the Separation Indicator presented to the ATCO. In this case bits 16/1 are meaningless.
19. For Message Type = 37 (Catch-Up Warning - CUW) this data item contains the position (in Cartesian Coordinates) of the Separation Indicator presented to the ATCO. In this case bits 16/1 are meaningless.
20. Time to Threshold expressed in Two's Complement
21. For Message Type = 33 (Final Target Distance Indicator - FTD) and for Message Type = 34 (Initial Target Distance Indicator - FTD) this data item contains the additional gap in spacing between two approaching aircraft as manually inserted by the ATCO. This could be used, for example, to increase the spacing between approaching aircraft in order to generate sufficient spacing to clear a departing aircraft.

22. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Aircraft Characteristics of the following aircraft.
23. For Message Type = 34 (Initial Target Distance Indicator - FTD) this contains the Aircraft Characteristics of the following aircraft.
24. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Aircraft Characteristics of the following aircraft.
25. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Aircraft Characteristics of the following aircraft.
26. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Mode-S Identifier of the following aircraft.
27. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Mode-S Identifier of the following aircraft.
28. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Mode-S Identifier of the following aircraft.
29. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Mode-S Identifier of the following aircraft.
30. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Flight Plan Number of the following aircraft.
31. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Flight Plan Number of the following aircraft.
32. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Flight Plan Number of the following aircraft.
33. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Flight Plan Number of the following aircraft.
34. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Cleared Flight Level of the following aircraft.
35. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Cleared Flight Level of the following aircraft.
36. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Cleared Flight Level of the following aircraft.
37. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Cleared Flight Level of the following aircraft.

I004/171 - Aircraft Identification and Characteristics 2

Definition: Identification & Characteristics of Aircraft 2 Involved in the Conflict.

Structure:

Compound item (FX)

I004/171/AI2 - *Aircraft Identifier (in 7 Characters) of Aircraft 2 Involved in the Conflict*

- 56 bits [... 56 bits ...]
- Ascii string (8-bits per character)

I004/171/M32 - *Mode 3/A Code Aircraft 2*

I004/171/M32/(spare)

- 4 bits [...]

I004/171/M32/MODE3A - *Mode-3/A Code (Converted Into Octal Representation) of Aircraft 2 Involved in the Conflict*

- 12 bits [...]
- Octal string (3-bits per digit)

I004/171/CPW - *Predicted Conflict Position Target 2 in WGS-84 Coordinates*

I004/171/CPW/LAT - *In WGS-84 in Two's Complement*

- 32 bits [...]

- signed quantity
- scaling factor: 180
- fractional bits: 25
- unit: "°"
- $\text{LSB} = 180/2^{25} \text{ °} = 180/33554432 \text{ °} \approx 5.364418029785156e - 6 \text{ °}$
- value $\geq -90 \text{ °}$
- value $\leq 90 \text{ °}$

I004/171/CPW/LON - *In WGS-84 in Two's Complement*

- 32 bits [.....]
- signed quantity
- scaling factor: 180
- fractional bits: 25
- unit: "°"
- $\text{LSB} = 180/2^{25} \text{ °} = 180/33554432 \text{ °} \approx 5.364418029785156e - 6 \text{ °}$
- value $\geq -180 \text{ °}$
- value $< 180 \text{ °}$

I004/171/CPW/ALT - *Altitude of Predicted Conflict*

- 16 bits [.....]
- signed quantity
- scaling factor: 25
- fractional bits: 0
- unit: "ft"
- $\text{LSB} = 25 \text{ ft}$
- value $\geq -1500 \text{ ft}$
- value $\leq 150000 \text{ ft}$

I004/171/CPL - *Predicted Conflict Position for the Aircraft 2 Involved in the Conflict*

I004/171/CPL/X - *Starting X-position of the Conflict*

- 24 bits [.....]
- signed quantity
- scaling factor: 1
- fractional bits: 1
- unit: "m"
- $\text{LSB} = 1/2^1 \text{ m} = 1/2 \text{ m} \approx 0.5 \text{ m}$

I004/171/CPL/Y - *Starting Y-position of the Conflict*

- 24 bits [.....]
- signed quantity
- scaling factor: 1
- fractional bits: 1
- unit: "m"
- $\text{LSB} = 1/2^1 \text{ m} = 1/2 \text{ m} \approx 0.5 \text{ m}$

I004/171/CPL/Z - *Starting Z-position of the Conflict*

- 16 bits [.....]
- signed quantity
- scaling factor: 25
- fractional bits: 0
- unit: "ft"
- $\text{LSB} = 25 \text{ ft}$
- value $\geq -1500 \text{ ft}$
- value $\leq 150000 \text{ ft}$

I004/171/TT2 - *Time to Runway Threshold for Second Approaching Aircraft in a RIMCA*

- 24 bits [.....]
- unsigned quantity
- scaling factor: 1

- fractional bits: 7
- unit: "s"
- $\text{LSB} = 1/2^7 \text{ s} = 1/128 \text{ s} \approx 7.8125e - 3 \text{ s}$

I004/171/DT2 - *Distance to Runway Threshold for Aircraft 2 Involved in a RIMCA*

- 16 bits [.]
- unsigned quantity
- scaling factor: 1
- fractional bits: 1
- unit: "m"
- $\text{LSB} = 1/2^1 \text{ m} = 1/2 \text{ m} \approx 0.5 \text{ m}$

I004/171/AC2 - *Characteristics of Aircraft 2 Involved in the Conflict*

Extended item.

I004/171/AC2/GATOAT - *Identification of Conflict Categories Definition Table*

- 2 bits [. .]
- values:
 - 0: Unknown
 - 1: General Air Traffic
 - 2: Operational Air Traffic
 - 3: Not applicable

I004/171/AC2/FR1FR2 - *Flight Rules*

- 2 bits [. .]
- values:
 - 0: Instrument Flight Rules
 - 1: Visual Flight rules
 - 2: Not applicable
 - 3: Controlled Visual Flight Rules

I004/171/AC2/RVSM

- 2 bits [. .]
- values:
 - 0: Unknown
 - 1: Approved
 - 2: Exempt
 - 3: Not Approved

I004/171/AC2/HPR

- 1 bit [.]
- values:
 - 0: Normal Priority Flight
 - 1: High Priority Flight

(FX)

- extension bit
 - 0: End of data item
 - 1: Extension into next extent

I004/171/AC2/CDM - *Climbing/Descending Mode*

- 2 bits [. .]
- values:
 - 0: Maintaining
 - 1: Climbing
 - 2: Descending
 - 3: Invalid

I004/171/AC2/PRI

- 1 bit [.]
- values:
 - 0: Non primary target
 - 1: Primary target

I004/171/AC2/GV

- 1 bit [.]
- values:
 - 0: Default
 - 1: Ground Vehicle

I004/171/AC2/(spare)

- 3 bits [...]

(FX)

- extension bit
 - 0: End of data item
 - 1: Extension into next extent

I004/171/MS2 - *Aircraft Identification Downloaded From Aircraft 2 Involved in the Conflict If Equipped With a Mode-S Transponder*

- 48 bits [... 48 bits ...]
- Ascii string (8-bits per character)

I004/171/FP2 - *Number of the Flight Plan Correlated to Aircraft 2 Involved in the Conflict*

I004/171/FP2/(spare)

- 5 bits [.....]

I004/171/FP2/NBR

- 27 bits [.....]
- unsigned quantity
- scaling factor: 1
- fractional bits: 0
- LSB = 1
- value ≥ 0
- value ≤ 99999999

I004/171/CF2 - *Cleared Flight Level for Aircraft 2 Involved in the Conflict*

- 16 bits [.....]
- unsigned quantity
- scaling factor: 1
- fractional bits: 2
- unit: "FL"
- $\text{LSB} = 1/2^2 \text{ FL} = 1/4 \text{ FL} \approx 0.25 \text{ FL}$

Notes:

1. The aircraft identifier is always left adjusted. If needed, the remaining characters are filled with space character.
2. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the aircraft identifier of the leading aircraft.
3. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the aircraft identifier of the leading aircraft.
4. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the aircraft identifier of the leading aircraft.
5. For Message Type = 37 (Catch-Up Warning - CUW) this contains the aircraft identifier of the leading aircraft.

6. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Mode 3/A Code of the leading aircraft.
7. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Mode 3/A Code of the leading aircraft.
8. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Mode 3/A Code of the leading aircraft.
9. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Mode 3/A code of the leading aircraft.
10. Altitude expressed in two's complement.
11. FTW's complement.
12. Time to Threshold expressed in Two's Complement
13. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Aircraft Characteristics of the leading aircraft.
14. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Aircraft Characteristics of the leading aircraft.
15. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Aircraft Characteristics of the leading aircraft.
16. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Aircraft Characteristics of the leading aircraft.
17. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Mode-S Identifier of the leading aircraft.
18. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Mode-S Identifier of the leading aircraft.
19. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Mode-S Identifier of the leading aircraft.
20. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Mode-S Identifier of the leading aircraft.
21. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Flight Plan Number of the leading aircraft.
22. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Flight Plan Number of the leading aircraft.
23. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Flight Plan Number of the leading aircraft.
24. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Flight Plan Number of the leading aircraft.
25. The value shall be within the range described by ICAO Annex 10
26. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Cleared Flight Level of the leading aircraft.
27. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Cleared Flight Level of the leading aircraft.
28. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Cleared Flight Level of the leading aircraft.
29. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Cleared Flight Level of the leading aircraft.

I004/RE - Reserved Expansion Field

Definition: Expansion

Structure:

Explicit item (RE)

I004/SP - Special Purpose Field

Definition: Special Purpose Field

Structure:

Explicit item (SP)

User Application Profile for Category 004

- (1) I004/010 - Data Source Identifier
- (2) I004/000 - Message Type
- (3) I004/015 - SDPS Identifier
- (4) I004/020 - Time of Message
- (5) I004/040 - Alert Identifier
- (6) I004/045 - Alert Status
- (7) I004/060 - Safety Net Function and System Status
- (FX) - Field extension indicator
- (8) I004/030 - Track Number 1
- (9) I004/170 - Aircraft Identification and Characteristics 1
- (10) I004/120 - Conflict Characteristics
- (11) I004/070 - Conflict Timing and Separation
- (12) I004/076 - Vertical Deviation
- (13) I004/074 - Longitudinal Deviation
- (14) I004/075 - Transversal Distance Deviation
- (FX) - Field extension indicator
- (15) I004/100 - Area Definition
- (16) I004/035 - Track Number 2
- (17) I004/171 - Aircraft Identification and Characteristics 2
- (18) I004/110 - FDPS Sector Control Identification
- (19) (spare)
- (20) I004/RE - Reserved Expansion Field
- (21) I004/SP - Special Purpose Field
- (FX) - Field extension indicator