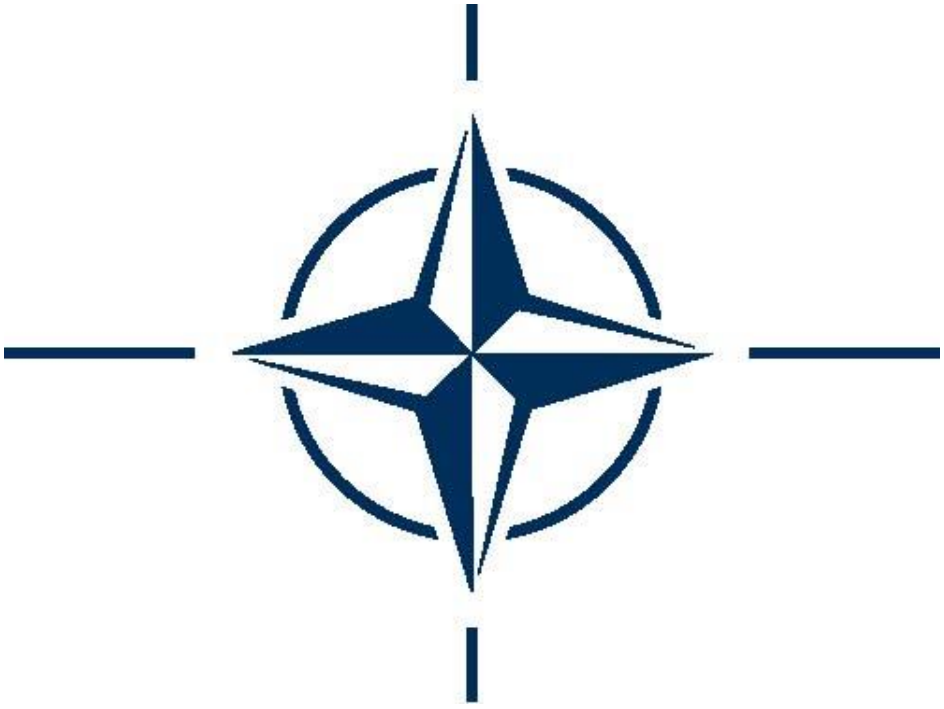
NATO STANDARD

ATDLP-6.16
VOLUME II

STANDARDS FOR DATA FORWARDING BETWEEN TACTICAL DATA SYSTEMS EMPLOYING LINK 22 AND TACTICAL DATA SYSTEMS EMPLOYING LINK 16

Edition B Version 1
MAY 2021



NORTH ATLANTIC TREATY ORGANIZATION

ALLIED TACTICAL DATA LINK PUBLICATION

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NATO LETTER OF PROMULGATION

21 May 2021

1. The enclosed Allied TACTICAL DATA LINK Publication ATDLP-6.16, Volume II, Edition B, Version 1, STANDARDS FOR DATA FORWARDING BETWEEN TACTICAL DATA SYSTEMS EMPLOYING LINK 22 AND TACTICAL DATA SYSTEMS EMPLOYING LINK 16, which has been approved by the nations in the Consultation, Command, and Control Board (C3B), is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 5616.

2. ATDLP-6.16, Volume II, Edition B, Version 1, is effective upon receipt.

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4. This publication shall be handled in accordance with C-M(2002)60.

Zoltán GULYÁS
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RECORD OF RESERVATIONS

CHAPTER	RECORD OF RESERVATION BY NATIONS

Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.

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RECORD OF SPECIFIC RESERVATIONS

[nation]	[detail of reservation]

Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.

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STANDARDS FOR DATA FORWARDING

BETWEEN

TACTICAL DATA SYSTEMS EMPLOYING DIGITAL DATA LINK 22

AND TACTICAL DATA SYSTEMS EMPLOYING LINK 16

ANNEXES

A. Data Link Characteristics.

B. Data Forwarding Specification.

RELATED DOCUMENTS

ATDLP-5.16(B)(1)	-	Tactical Data Exchange - Link 16.
ATDLP-5.22(B)(1)	-	Tactical Data Exchange - Link 22.
ATDLP-1.75(B)(1)	-	Technical Characteristics of the Multi-Functional Information Distribution System (MIDS).
ATDLP-7.33(B)(1)	-	Multi-Link Standard Operating Procedures For Tactical Data Systems Employing Link 16, Link 11, Link 11B, IJMS, Link1, Link 4, And ATDL-1
ATDLP-6.16(B)(1) Volume 1	-	Standards for Data Forwarding Between Tactical Data Systems Employing Link 16 and Tactical Data Systems Employing Link 11/11B.
ATDLP-6.16(B)(1) Volume 3	-	Standards for Data Forwarding Between Tactical Data Systems Employing Link 22 and Tactical Data Systems Employing Link 11/11B.
ATDLP-6.16(B)(1) Volume 4	-	Standards for Data Forwarding Between Tactical Data Systems Employing Link 16 and Tactical Data Systems Employing JREAP.

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OBJECT

1. The aim of this Agreement is to provide specifications for data forwarding between tactical data systems employing NATO Digital Data Link 22 and tactical data systems employing Link 16 to achieve and maintain a high degree of interoperability between these systems.

AGREEMENT

2. Participating nations agree that the specifications contained in Annex B to this Agreement shall govern data forwarding between tactical data systems employing NATO Link 22 and tactical data systems employing Link 16. These specifications will not preclude the alternate means of handling air defense information via RATT, voice, CW, etc., when necessary.

3. The implementation of the ATDLP shall be deemed to indicate an undertaking by the nation or Strategic Command (SC) concerned:

a. to operate transmission/reception and data terminal equipment in accordance with the specifications contained in Annex B;

b. to not transmit data without the capability of receiving and translating, where applicable, the associated data required to support the transmissions; and

c. to have the capability to reject any message or field combination for which it has no use.

4. Participating nations agree that the failure or degradation of the computer program of any system due to the receipt of data shall be considered the fault of the receiving system. A system must protect itself against any data it cannot use.

5. Participating nations agree that the continued operation of a facility or a unit's tactical data system shall not be dependent upon the receipt of any message or field from another unit/facility.

6. Participating nations agree that it is not intended that this ATDLP specify any minimum implementation of the data links. If translation or

conversion is intended to be implemented, this document specifies the way it is to be done.

IMPLEMENTATION OF THE AGREEMENT

7. This ATDLP is considered to be implemented when a nation or SC is able to forward information between tactical data systems employing NATO Link 22 and tactical data systems employing Link 16 as described in Annex B of this STANAG.

TERMS AND DEFINITIONS

8. A list of acronyms and their definitions is included in Annex B.

DESCRIPTION OF ANNEXES

9. ATDLP-6.16 Volume 2 contains reference to two annexes:

a. Annex A - Data Link Characteristics. This annex contains a brief description of the general, technical, procedural and message characteristics of Link 22 and Link 16. Message descriptions are limited to those on each link that are translatable in the data forwarding process.

b. Annex B - Data Forwarding Specification. This annex contains a detailed description of the data forwarding rules that must be followed, the message translation requirements that must be met, and the data element translations that must be implemented, in order to provide operationally effective data forwarding between the links.

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ANNEX A - DATA LINK CHARACTERISTICS

CHAPTER 1

1 LINK 16 DATA LINK CHARACTERISTICS

This chapter briefly describes the characteristics of Link 16.

1.1 CHARACTERISTICS

The following paragraphs give the general, technical and message characteristics of Link 16.

1.1.1 General Characteristics

Link 16 is a secure, ECM resistant data link which provides for communications, data exchange, relative navigation and identification for application to tactical operations. The link will be used for distribution and exchange of real-time/near real-time and nonreal-time tactical data. The data will be transmitted in one of two ways: formatted in accordance with ATDLP-5.16 or unformatted as digital voice or alphanumeric text. Link 16 is an interface design standard that incorporates J-Series message standards (formats and user protocols), specific communications media, Time Division Multiple Access (TDMA) architecture, specific communications protocols and procedures to fulfil the operational requirement to exchange tactical data (including voice and teletype) between specified tactical systems.

1.1.2 Technical Characteristics

The following relationship has been established between ATDLP-5.16 and ATDLP-1.75. ATDLP-5.16 is intended to define a specification for Link 16 to include message standards, data link protocols and network management procedures. It is the governing document with respect to MIDS network management, messages, and protocols. ATDLP-1.75 is intended to provide a detailed technical specification for MIDS terminals, specify how the network management messages and protocols of ATDLP-5.16 are implemented in the MIDS terminals and explain how these terminals will interoperate technically. ATDLP-1.75 is the governing document for MIDS terminal design.

1.1.3 Message Characteristics

J-Series messages are functionally oriented with variable length strings of 75-bit words. A message is started by an initial word; it may then be followed by extension words to transmit logically associated data field groupings that are longer than can be accommodated by the initial word. The extension words may be followed by continuation words which supply supplemental information normally transmitted on an infrequent basis; (see ATDLP-5.16, Annex B, paragraph 2.3). There may be multiple J-Series messages varying in function within a time slot. However, each message shall reside and be capable of complete interpretation within a single time slot.

1.2 MESSAGE DESCRIPTION

The following message descriptions include only those J-Series messages from ATDLP-5.16 that are translatable to F-Series messages in the data forwarding process.

a. J2.0 Indirect Interface Unit (IU) PPLI Message. Used to provide Link 22 Unit/Link 11 Unit/Link 11B/Generic Unit information on the Link 16 network when network participation status, identification and positional information is forwarded from Link 11, Link 11B or Link 22.

b. J2.2 Air PPLI Message. Used to provide all JUs information about airborne JUs on the Link 16 network. It is used by airborne JUs to provide network participation status, identification, positional information and relative navigation information.

c. J2.3 Surface PPLI Message. Used to provide all JUs information about surface JUs on the Link 16 network. It is used by surface JUs to provide network participation status, identification, positional information, and relative navigation information.

d. J2.4 Subsurface PPLI Message. Used to provide all JUs information about subsurface JUs on the Link 16 network. It is used by subsurface JUs to provide network participation status,

identification, positional information, and relative navigation information.

e. J2.5 Land Point PPLI Message. Used to provide all JUs with information about the stationary ground JUs on the Link 16 network. It is used by stationary ground JUs to provide network participation status, identification, positional information and relative navigation information.

f. J2.6 Land Track PPLI Message. Used to provide all JUs with information about mobile ground JUs on the Link 16 network. It is used by mobile ground JUs to provide network participation status, identification, positional information, and relative navigation information.

g. J3.0 Reference Point Message. Used to exchange tactical information about geographic references.

h. J3.1 Emergency Point Message. Used to provide the location and type of emergency that requires search and rescue.

i. J3.2 Air Track Message. Used to exchange information on air tracks.

j. J3.3 Surface Track Message. Used to exchange information on surface tracks.

k. J3.4 Subsurface Track Message. Used to exchange information on subsurface tracks.

l. J3.5 Land Point/Track Message. Used to exchange tactical surveillance information on land points and tracks.

m. J3.6 Space Track Message. Used to exchange information on space and ballistic missile tracks.

n. J3.7 Electronic Warfare Product Information Message. Provides the means to exchange tactically significant information that has been derived from electromagnetic sources.

o. J5.4 Acoustic Bearing/Range Message. Used to report acoustic bearing and range of subsurface contacts.

p. J6.0 Track/Point Amplification Message. Used to exchange Track/Point Amplification information, to include threat information, within the interface.

q. J6.1 Personnel Recovery Amplification Message. Used to exchange amplifying information concerning CSAR and other situations involving personnel recovery.

r. J7.0 Track Management Message. Used to transmit information necessary to effect management actions on tracks being reported within the interface. Management actions include dropping tracks, reporting environment/category and identity conflicts, changing identity and/or environment/category, changing alert status, and changing strength.

s. J7.1 Data Update Request Message. Used to request tactical information that has been locally generated by units participating within the interface.

t. J7.2 Correlation Message. Used to resolve a dual designation problem by identifying one track to be retained and another to be dropped.

u. J7.3 Pointer Message. Used to transmit a geographic position to an addressed unit within the interface.

v. J7.4 Track Identifier Message. Used to transmit special identification numbers associated with the Reference TN.

w. J7.5 IFF/SIF Management Message. Used to transmit IFF/SIF information or a special code on a referenced track. Provisions are available to obtain the most current information by exchanging, clearing, or updating IFF/SIF data between units within the interface.

x. J7.6 Filter Management Message. Used to report filter definitions, filter descriptions, and filter deletions. Filter definition reports describe the filter parameters requested to be implemented. Filter description reports indicate the filter parameters currently implemented by

a system. Filter delete reports are requests to cancel currently implemented filters.

y. J7.7 Association Message. Used to transmit information, on two or more TNs, that have been automatically or manually associated when the information is deemed to pertain to the same contact. When a determination is made that the above relationship no longer exists, there is a provision for terminating this information association.

z. J8.1 Mission Correlator Change Message. Used to add, delete or change the mission correlator on a specific aircraft or flight of aircraft.

aa. J9.0 Command Message. Provides the means to transmit threat warning conditions, alert states and weapons condition orders, to direct weapon system engagement for air defense/air support, and to direct antisubmarine warfare (ASW) operations.

bb. J9.1 Engagement Coordination Message. Provides the means for two or more elements to coordinate engagements in order to conduct more efficient engagements and to reduce the probability of wasted resources.

cc. J10.2 Engagement Status Message. Provides the status of an engagement between the Reference TN and the Target TN.

dd. J10.3 Handover Message. Used to transfer control of aircraft and remotely piloted vehicles/missiles between controlling units.

ee. J10.5 Controlling Unit Report Message. Used to identify the JU that is controlling the track and to provide the mission correlator and/or voice call sign if applicable.

ff. J10.6 Pairing Message. Provides a means to indicate a pairing (not engagement status) between a friendly track and another track or point.

gg. J12.4 Controlling Unit Change Message. Used to provide new control agency information to an aircraft prior to handoff to the new control agency. It is also used by a tactical aircraft to initiate control procedures with a new controlling unit or to effect a change of controlling

unit in response to a Controlling Unit Change Order or by a C^2 JU to initiate control by own unit.

hh. J13.0 Airfield Status Message. Used to report operational status of airfields, runways, and airfield facilities.

ii. J13.2 Air Platform and System Status Message. Provides the current status of an air platform to include ordnance load, fuel, operational status, and on-board systems' status.

jj. J13.3 Surface Platform and System Status Message. Provides the current status of a surface platform to include ordnance load, operational status, and on-board systems' status.

kk. J13.4 Subsurface Platform and System Status Message. Provides the current status of a subsurface platform to include operational status and on board systems' status.

ll. J13.5 Land Platform and System Status Message. Provides the current operational weapons and equipment status of a land platform.

mm. J14.0 Parametric Information Message. Provides the means to exchange parametric information that has been derived from electromagnetic sources.

nn. J14.2 EW Control/Coordination Message. Provides the means for EW participants to coordinate EW activities among one another.

oo. J15.0 Threat Warning Message. Provides the capability for threat warning to targeted friendly platforms to include threat type, threat posture, position/relative position, altitude and speed.

oo. J28.2(0) Text Message. Provides the capability to exchange alphanumeric free text messages.

1.3 TRACK NUMBER

The Link 16 track/address numbering scheme is specified in ATDLP-5.16 Annex B, paragraph 1.1.3 and is summarized below:

a. Track/Address Numbering. A track number (TN) is used to provide a common reference number for information and directives exchanged within the interface. The reference numbers are used for both digital and voice communications to denote all IUs and/or tactical information reports, e.g., tracks. For the purpose of TN assignment, tactical information reporting includes reference numbers assigned to all tracks, strobes, bearing lines, areas and points exchanged on the interface. When applied to an IU, such a number is termed an address; when applied to a point, it may be an address or TN, as appropriate. In the messages, the address is termed "Source TN" when used to identify the IU originating the data and is termed "Addressee TN" when used to identify the IU that is to receive the data.

b. Track Number/Address Allocation. The octal numbers 00001 - 00076 and 00100 - 00175 are allocated as addresses on Link 16 for Command and Control (C^2) JTIDS Units (JUs). NonC^2 and C^2JU addresses and TNs for the use of reporting tactical information are allocated from octal numbers 00200 - 07776 and 10000 - 77776. The octal number 77777 is reserved as the Network Manager dedicated address and is assigned in addition to the unit's JU address. The alphanumeric octal characters 0A000 - ZZ777 are reserved as TNs for exclusive use in reporting tactical information. The octal number 00000 is reserved as No Statement. The octal number 00176 is reserved as a pseudo-TN for forwarding data to Link 11/11B from Link 16 C^2 JUs with TNs greater than 00177 (octal) (see ATDLP-6.16 Volume 1, Annex B, paragraph 1.7.2). The octal number 00177 is reserved as the collective address; it is not assignable as a unit address. The octal numbers 00077 and 07777 are illegal for use on the interface.

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ANNEX A - DATA LINK CHARACTERISTICS

CHAPTER 2

2 LINK 22 DATA LINK CHARACTERISTICS

This chapter briefly describes the characteristics of Link 22.

2.1 CHARACTERISTICS

The following paragraphs give the general, technical and message characteristics of Link 22.

2.1.1 General Characteristics

Link 22 is a secure, ECM resistant NATO tactical data link conforming to interface standards which have been developed to fulfill the operational requirement to exchange data between tactical data systems (including operators) and to exchange necessary network management data. Link 22 incorporates F-Series message standards (formats and protocols), a Time Division Multiple Access (TDMA) architecture, specific communications media and protocols, and specific procedures. Annex A of ATDLP-5.22 gives a fuller description of the general characteristics of Link 22.

2.1.2 Technical Characteristics

The technical characteristics of Link 22, including the specification of the technical messages to be employed, are being developed by the NILE Program Management Office who will draft this paragraph in due course.

2.1.3 Message Characteristics

F-Series messages are functionally oriented with variable length strings of 72-bit words. Chapter II of Annex B to ATDLP-5.22 describes F-Series message construction, including the numerical list and title of the Link 22 words, and gives the applicability of the words to the various information exchange functions. Some Link 22 messages use the 70 information bits of the Link 16 J-Series design packed into an F-Series format; these messages are identified by the initials 'FJ' prior to the equivalent J-Series identifier. For example, the Link 16 J7.0 Track Management message is

identical to the most significant 70 bits of the Link 22 FJ7.0 Track Management message. Other Link 22 messages are unique and are identified by a number following the initial 'F'. In order to reduce the overhead at the start of each word, unique F-Series words have an unfamiliar and somewhat complicated numbering scheme; therefore, each word has been allocated a unique abbreviation and where possible this is appended to the word number in this document in order to improve reader comprehension. Table A-2-1 lists the number, the abbreviation and the title of each defined Link 22 message/word all of which, except the two marked with an asterisk, can be forwarded to Link 16. The use of each word is self explanatory but a full specification is contained in Annex B of ATDLP-5.22. Annex E of ATDLP-5.22 contains the Link 22 Data Element Dictionary (DED). It is worth noting that the great majority of Link 22 DFIs/DUIs are common with those of Link 16 and have the same numerical identification.

TABLE A-2-1. Link 22 Word Numbers, Abbreviations and Titles (Sheet 1 of 2)

MESSAGE/WORD NUMBER	ABBREVIATION	MESSAGE/WORD TITLE
F01.0-0	IFF	IFF
F01.0-1	STMIS	SURFACE TRACK SAM/SSM
F01.0-2	IFF MODE S/5 DATA	IFF MODE S ADDR/MODE 5 DATA
F01.0-3	MODE S ID	IFF MODE S ID
F01.4-0	B/R RESOLVE	ACOUSTIC BEARING/RANGE RESOLVED
F01.4-1	B/R AMBIG	ACOUSTIC BEARING/RANGE AMBIGUOUS
F01.5-0	B/R AMP	ACOUSTIC BEARING/RANGE AMPLIFICATION
F01.5-1	B/R SENS	ACOUSTIC BEARING/RANGE SENSOR
F01.5-2	B/R FREQ	ACOUSTIC BEARING/RANGE FREQUENCY
F01.5-3	B/R AMP1	ACOUSTIC BEARING/RANGE AMPLIFICATION 1
F01.6-0	BAS COM	BASIC COMMAND
F01.6-1	COM EXT1	COMMAND EXTENSION
F01.6-2	AIR COORD	AIR COORDINATION
F01.7-0	R/C	RESPONSE MESSAGE
F02.0-0	IND PLI AMP	INDIRECT PLI AMPLIFICATION
F02.0-1	IND PLI AMP CONT	INDIRECT PLI AMPLIFICATION CONTINUATION
F02.1-0	PLI IFF	PLI IFF
F02.2-0	AIR PLI CAS	AIR PLI COURSE AND SPEED
F02.2-1	AIR PLI AMC	AIR PLI ADDITIONAL MISSION COMPOSITION
F02.3-0	SUR PLI CAS	SURFACE PLI COURSE AND SPEED
F02.4-0	SUB PLI CAS	SUBSURFACE PLI COURSE AND SPEED
F02.4-1	SUB PLI AMC	SUBSURFACE PLI MISSION CORRELATOR
F02.5-0	LPT PLI CONT	LAND POINT PLI CONTINUATION
F02.6-0	LTR PLI CAS	LAND TRACK PLI COURSE AND SPEED
F02.6-1	LTR PLI AMC	LAND TRACK ADDITION MISSION CORRELATOR
F03.4-0*	ASW INFO	ASW CONTACT INFORMATION
F03.4-1*	ASW CONCONF	ASW CONTACT CONFIRMATION
F1-0	IND PLI POS	INDIRECT PLI POSITION
F1-1	PLI POS	PLI POSITION
F2	AIR POS	AIR TRACK POSITION
F3	SUR POS	SURFACE TRACK POSITION
F4-0	SUB POS	SUBSURFACE TRACK POSITION
F4-1	SUB CAS	SUBSURFACE TRACK COURSE AND SPEED
F5-0	AIR CAS	AIR TRACK COURSE AND SPEED
F5-1	SUR CAS	SURFACE TRACK COURSE AND SPEED
FJ3.0	REF POINT	REFERENCE POINT
FJ3.1	EMERG POINT	EMERGENCY POINT
FJ3.5	LAND PT/TRK	LAND POINT/TRACK
FJ3.6	SPACE TRCK	SPACE TRACK

TABLE A-2-1. Link 22 Word Numbers, Abbreviations and Titles (Sheet 2 of 2)

MESSAGE/WORD NUMBER	ABBREVIATION	MESSAGE/WORD TITLE
FJ3.7	EW PRODUCT	ELECTRONIC WARFARE PRODUCT
FJ6.0	AMPL	TRACK/POINT AMPLIFICATION
FJ6.1	PERS REC AMPL	PERSONNEL RECOVERY AMPLIFICATION
FJ7.0	TRACK MAN	TRACK MANAGEMENT
FJ7.1	DUR	DATA UPDATE REQUEST
FJ7.2	CORREL	CORRELATION
FJ7.3	POINTER	POINTER
FJ7.4	TRACK IDENT	TRACK IDENTIFIER
FJ7.5	IFF MAN	IFF/SIF MANAGEMENT
FJ7.6	FILTER	FILTER MANAGEMENT
FJ7.7	ASSOC	ASSOCIATION
FJ8.1	MSNCOR	MISSION CORRELATOR CHANGE
FJ9.1	ENG COORD	ENGAGEMENT COORDINATION
FJ10.2	WES	ENGAGEMENT STATUS CHANGE
FJ10.3	HANDOVER	HANDOVER
FJ10.5	CU REPORT	CONTROLLING UNIT REPORT
FJ10.6	PAIRING	PAIRING
FJ12.4	CON CHG	CONTROLLING UNIT CHANGE
FJ13.0	A/F STATUS	AIRFIELD STATUS
FJ13.2	AIR STATUS	AIR PLATFORM AND SYSTEM STATUS
FJ13.3	SUR STATUS	SURFACE PLATFORM AND SYSTEM STATUS
FJ13.4	SUB STATUS	SUBSURFACE PLATFORM AND SYSTEM STATUS
FJ13.5	LAND STATUS	LAND PLATFORM AND SYSTEM STATUS
FJ14.0	PARAM INFO	PARAMETRIC INFORMATION
FJ14.2	EW CONTROL	EW CONTROL/COORDINATION
FJ15.0	THREAT	THREAT WARNING
FJ28.2(0)	TEXT	TEXT MESSAGE

* = Cannot be forwarded to Link 16.

2.2 TRACK NUMBER

The Link 22 track/address numbering scheme is specified in paragraph 1.1.3 of Annex B to ATDLP-5.22. Essentially, the Link 22 TN scheme is the same as the Link 16 TN scheme using 15 bits for an address and 19 bits for a track number. All Link 22 units (referred to as NUs) will have a command and control (C^2) capability.

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GLOSSARY

AAW	Antiair Warfare
AC	Action Code
ACLS	Automatic Carrier Landing System
ACT	Action
AD	Air Defense
AGL	Above Ground Level
AIC	Air Intercept Control
ALS	Automatic Landing System
AOP	Area of Probability
ARM	Antiradiation Missile
ASW	Antisubmarine Warfare
ATC	Air Traffic Control
ATDL-1	Army Tactical Data Link 1
C^2	Command and Control
C^2 IU	Command and Control Interface Unit
C^2 JU	Command and Control MIDS Unit
C^3CM	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
DE	Data Element
DED	Data Element Dictionary
DF	Direction Finding
DFI	Data Field Identifier
DLA	Data Link Address
DLP	Data Link Processor
DLRP	Data Link Reference Point
DUI	Data Use Identifier
EC	Electronic Combat
ECM	Electronic Countermeasures
ECCM	Electronic Counter Countermeasures

GLOSSARY (continued)

EMCON	Emission Control
EMG IND	Emergency Indicator
EOB	Electronic Order of Battle
EOT	End of Transmission
EPM	Electronic Protection Measures
ESM	Electronic Warfare Support Measures
EW	Electronic Warfare
EWS	Electronic Warfare Surveillance
FAC	Forward Air Controller
FEBA	Forward Edge of the Battle Area
FIFO	First In First Out
FJU	Forwarding MIDS Unit (the letters following FJU indicate the other links involved; an FJUN is a unit forwarding between Links 16 and 22)
FLOT	Forward Line of Own Troops
FPU	Forwarding Participating Unit (to/from Link 11B)
FRU	Forwarding Reporting Unit (to/from Link 11B)
FSCL	Fire Support Coordination Line
FT IND	Force Tell Indicator
GMT	Greenwich Mean Time
GPS	Global Positioning System
GU	Generic Unit
HAVCO	Have Complied
HD SW	Height/Depth Switch
HUMINT	Human Intelligence
ID	Identity
ID AMP	Identity Amplification
IFF/SIF	Identification Friend or Foe/Selective Identification Feature
IHAWK	Improved HAWK
IOP	Interface Operating Procedure
ISN	Initial Slot Number
IU	Interface Unit
JU	MIDS Unit
LOB	Line of Bearing
LOS	Line of Sight
MDR	Message Directed Relay
MIDS	Multifunctional Information Distribution System
MLI	Message Length Indicator
MPC	Message Processing Center
MR	Machine Receipt

GLOSSARY (continued)

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
NECT	Network Entry Control Terminal
NES	Net Entry Signal
NPG	Network Participation Group
NPS IND	Network Participation Status Indicator
NRT	Nonreal-Time Track
NTR	Network Time Reference
NU	Link 22 Unit
OCC	Operational Contingency Constraints
OM	Original Message
OPNL CDR	Operational Commander
OTAR	Over-the-Air Rekeying
PAD	Precision Aircraft Direction
PG	Participation Group
PGC	Participation Group Community
PIM	Position and Intended Movement
PLI	Participant Location and Identification (Link 22)
PPLI	Precise Participant Location and Identification (Link 16)
PR	Position Reference
PRF	Pulse Repetition Frequency
PRI ID AMP	Primary Identity Amplification
PT	Point
PT AMP	Point Amplification
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
REF	Reference
REL NAV	Relative Navigation
RI	Relay Transmission Indicator

GLOSSARY (continued)

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
SAI NUM	Slot Assignment Index Number
SAM	Surface-to-Air Missile
SAR	Search and Rescue
SC	Strategic Command
SCC	System Coordinate Center
SDU	Secure Data Unit
SEAD	Suppression of Enemy Air Defense
SI	Scale Indicator
SIF	Selective Identification Feature
SIGINT	Signal Intelligence
SNC	System Network Controller
SIS	Special Information System
SPI	Special Processing Indicator
STANAG	Standardization Agreement
SU	Supporting Unit
SW	Switch
TACAN	Tactical Air Navigation
TACC	Tactical Air Control Center or Tactical Air Command Center
TAOC	Tactical Air Operations Center
TBD	To Be Determined
TDMA	Time Division Multiple Access
TDS	Tactical Data System
TN	Track Number
TOA	Time of Arrival
TQ	Track Quality
T/R	Transmit/Receive
TRANSEC	Transmission Security
UHF	Ultra High Frequency
UME	Unformatted Message Element
UPS	Universal Polar Stereographic
USS	User Source Synchronization
UTM	Universal Transverse Mercator

GLOSSARY (continued)

W/ES	Weapon Engagement Status
WILCO	Will Comply

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ANNEX B - DATA FORWARDING SPECIFICATION

CHAPTER 1

1 DATA FORWARDING RULES

This chapter describes the general forwarding rules for the exchange of data between Link 16 and Link 22. The rules for forwarding data between Link 11/11B and Link 22 are provided in Volume 3 of ATDLP-6.16.

1.1 GENERAL

The general rules governing the exchange of data on an interface which includes at least some Link 16 and Link 22 units are given below.

1.1.1 The Multi-Link Interface

The multi-link 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 be supported by information exchange via digital data links, e.g., Links 11, 11B, 16 and 22. 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.

1.1.2 Purpose of ATDLP-6.16 Volume 2

The purpose of ATDLP-6.16 Volume 2 is to specify the rules, protocols, and translations required when forwarding data between Link 16 and Link 22. Data forwarding is the process of receiving data on one digital data link and outputting the data, using proper format and link protocols, to the other digital data link. In the process, forwardable data received on one link, translated when required (see paragraph 1.2), are transmitted in an appropriate message(s) on the other link. Data forwarding is accomplished by the selected Forwarding JTIDS/MIDS Unit Link 22 (FJUN) simultaneously participating on Link 16 and Link 22. 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 data or the forwarded message(s). Applicable data elements within the received data are translated, where required by this volume, to the appropriate data elements in the corresponding transmitted messages. All systems that forward data between Link 16 and Link 22 must adhere to this volume of ATDLP-6.16. In the course of implementing Link 22, it is recognized that some systems may use internal system translations 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 shall adhere to the guidance of this volume to ensure that the closest possible relationship of data elements and data element interpretation will be maintained among all users of the data.

1.1.3 Forwarding Requirements

A forwarding requirement exists between Link 22 and other links. This volume covers only the forwarding between Link 16 and Link 22. Data forwarding shall be accomplished by the specifically selected units simultaneously participating on both links.

1.1.4 Forwarding Considerations

The Link 16/Link 22 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 timing requirements of the destination link.

c. Be used with minimal changes to existing digital data link protocols and message formats.

1.1.5 Design Considerations

It is not the intent of this volume to specify the design or architecture of the FJUN. Inevitably, data forwarding will involve additional processing by the FJUN; it is important to be able to distinguish in this volume between what is expected of the FJUN processing, protocols and

procedures as opposed to that of the host system of the unit designated to perform the data forwarding function. Where 'FJUN' is used alone, it refers to the forwarding process; 'FJUN host' refers to the host system. For example, an FJUN shall forward data between Link 16 and Link 22 as required by this volume; some or all of that data may be used within the FJUN host or, because of the FJUN host implementation, may be discarded. Where the FJUN host is the source of the data, for example when it has R^2 for a track, the data shall be transmitted on both Link 16 and Link 22 in accordance with the respective ATDLPs (ATDLP-5.16 and ATDLP-5.22).

1.1.6 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 information held in its local data base on each link, 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 data base from a data link, e.g., ID or IFF/SIF data.

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1.2 DATA FORWARDING PROCESS

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

1.2.1 Overview

Because of the widely differing reporting rates on Link 16 and Link 22 of some types of data which are regularly updated, and because of the individual link requirements to report amplifying data (e.g., IFF/SIF data on tracks) at a different rate from the positional updates, it is necessary for the FJUN to retain certain data received on one link, updating it as fresh data is received so it can be used to generate the required message(s)/words on the other link. On the other hand, some messages will stimulate the transmission of equivalent data on the other link, i.e., one for one. Furthermore, Link 22 uses some unique messages/words but also emulates certain Link 16 words requiring nothing more for forwarding than the addition or subtraction of some overhead bits.

1.2.2 Message Translation

Message translation is the process by which a message received on one data link is transformed to the appropriate message required for transmission, in accordance with the transmit rules, 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. Chapter 2 of this volume provides the necessary translations for those messages to be forwarded between Link 16 and Link 22.

1.2.3 Message Equivalence

Link 16 messages and Link 22 messages contain at least one and a maximum of eight words. Link 16 words consist of 70 bits of data; Link 22 words consist of 72 bits of data. Some Link 22 messages are unique while others use 70 bits which duplicate the equivalent Link 16 word; 2 of the 72 bits in a Link 22 word are used to specify whether the word is unique or whether

it is a Link 16 word packed into a Link 22 format. These latter words are referred to as 'FJ' words and the label and sublabel of them are identical to their J-Series equivalent. Full details of the Link 16 and Link 22 word numbering conventions are contained in ATDLP-5.16 Annex B, Chapter 2 and ATDLP-5.22 Annex B, Chapter 2, Section 1, respectively.

1.2.4 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. This translation is done by equating data elements, converting data elements, and using special considerations for those to which equivalence and conversion do not apply. Chapter 3 of this volume provides the necessary data element translations for those data elements to be forwarded between Link 16 and Link 22.

1.2.4.1 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.

1.2.4.2 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 or transform coordinates. In some cases multiple data elements from one data link will relate to a single data element on another data link.

1.2.4.3 Special Considerations. There are data elements for which equivalence and conversion do not apply, and these require special consideration, 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, or (3) retaining and recalling from the forwarding system's data base information that is required by differing message formats on the varying links.

1.3 GENERAL FORWARDING RULES

These forwarding rules are established to standardize data forwarding between Link 16 and Link 22.

a. When data link networks are established, there shall be only one communication path in use at a time for data being forwarded to the destination link 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. The FJUN must be provided sufficient Link 16 and Link 22 time slots by the network manager to allow all required data from one link to be forwarded onto the other. Also, the FJUN must be a participant on those Link 16 network participation groups (NPGs) and at least one Link 22 network for which messages are being forwarded. See Annex A of ATDLP-5.22 for further details on Link 22 networks.

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

d. The FJUN shall have the capability to forward data for all translatable Link 22 messages, as required by this volume. The FJUN shall discard Link 22 messages that cannot be forwarded.

e. The FJUN shall use the same transmit rules to forward translated data that it would use to transmit locally originated data of the same type unless specified otherwise in this Annex. The FJUN shall resolve any differences in the transmit procedures of the various types of links that it interfaces with, as specified in Chapter 2. Where required, Chapter 2 specifies forwarding transmit rules.

f. The FJUN 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 interface unit (IU). Exceptions to this rule are:

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

(b) If the addressed message is either a J9.0 or an F01.6 with Command set to values 0-8, 23 or 30, the message may be forwarded as a system option.

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

(3) The received message is technically illegal or invalid as defined in ATDLP-5.16 and/or ATDLP-5.22 as is discussed in paragraph 2.5 of this annex.

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

(5) When the data are received from a Link 16/Link 22 concurrent operating unit.

g. Forwarding of the following information shall not be inhibited by any 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 to value 1.

(3) Commands.

(4) Engagement Status.

(5) Handovers.

(6) Controlling Unit Reports.

(7) Pairings.

(8) Track Management.

(9) EW Control/Coordination information.

h. When addressed messages require receipt/compliance, the FJUN shall transmit a machine receipt or appropriate CANTPRO to the message originator. Machine receipts shall not be forwarded.

i. The FJUN shall extrapolate positional data for real-time tracks, units, moving reference points, and moving fixes/AOPs to the time of transmission.

j. The FJUN shall maintain a list of IUs for which it holds data forwarding responsibility, including IUs which may not be active at that specific time.

k. Where translations specify "a single Fxx message shall be transmitted", this means a single message on each relevant Link 22 network comprising the super network and does not infer that only one transmission is made. Furthermore, to achieve the required reliability, the NCE may transmit the message more than once on the same network.

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1.4 ACTIVE/INACTIVE STATUS

An FJUN shall maintain the active status of each MIDS Unit (JU) on Link 16 and of each Link 22 Unit and shall maintain a list of those units for which the FJUN has forwarding responsibility. Only data from active sources shall be forwarded, except for the exceptions specified in paragraph 1.3f(1). Responses to Data Update Requests shall be as described in paragraph 1.8.6.

1.4.1 Link 22 to Link 16 Active Unit Indication

The active status of a Link 22 unit is determined by the receipt of a valid PLI message sequence with the Network Participation Status Indicator (NPS IND) set to value 1, or 6. The active status of a Link 11/11B unit, forwarded through Link 22, is determined by the receipt of a valid F1-0/F02.0-0 message sequence. An FJUN shall transmit a J2.0 message with the NPS IND set to No Statement on Link 16 at the specified update rate for each active forwarded Link 11/11B unit held. An FJUN shall transmit a J2.0 message with the NPS IND set to a values of 1, or 6 on Link 16 at the specified update rate for each message sequence for each active forwarded NU held.

1.4.2 Link 16 to Link 22 Active Unit Indication

The active status of a Link 16 unit is determined by the receipt of a J2-Series message with the NPS IND set to a value of 1, 4, 5, or 6. The active status of a Link 11/11B unit, forwarded through Link 16, is determined by the receipt of a valid J2.0 message with the NPS IND set to No Statement. An FJUN shall transmit the appropriate PLI message on Link 22 at the specified update rate for each message sequence for each active forwarded unit held.

1.4.3 Link 22 to Link 16 Inactive Unit Indication

The FJUN shall transmit a J7.0 Drop Track message and cease reporting data on a unit that becomes inactive on Link 22. A Link 22 Unit shall be considered as inactive by the FJUN if:

a. A PLI series message is not received for a unit on Link 22 for 60 seconds or the time shown for the R^2 quiescence period in the PLI Update Requirements table of the relevant Transmit/Receive rules, whichever is the greater. These tables are located in ATDLP-5.22 Annex B Chapter II Section 3; or,

b. A PLI series message is received from a unit on Link 22 with the Network Participation Status Indicator (NPS IND) set to any value other than 1 or 6.

1.4.4 Link 16 to Link 22 Inactive Unit Indication

The FJUN shall transmit an FJ7.0 Drop Track message and cease reporting data on a unit that becomes inactive on Link 16. A MIDS Unit (JU) shall be considered as inactive by the FJUN if:

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

b. A J2-Series message is received with the Network Participation Status Indicator (NPS IND) set to any value other than 1, 4, 5, or 6.

1.5 LINK UNIQUE FORWARDING RULES

Due to the different methods of identifying data source, unique protocols are required for Link 16 and Link 22.

1.5.1 Forwarding of Data on Link 16

When forwarding data from Link 22 to Link 16, the FJUN shall identify the source of all data. This is done by setting the Track Number, Source, which is located in the header of the Link 16 message, to the address of the Link 22 unit whose data are being forwarded. The System Network Controller (SNC) reports the Source TN (15 bits) of reported data to the Data Link Processor (DLP) who inserts that address into the Link 16 time slot Header message.

1.5.2 Forwarding of Data on Link 22

When forwarding data from Link 16 to Link 22, the FJUN shall identify the source of all data. This is done by setting the Track Number, Source, which is located in the header of the Link 22 message, to the address of the Link 16 unit whose data are being forwarded.

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1.6 DATA FORWARDING OF INFORMATION REQUIRING SPECIAL PROCESSING

An FJUN shall adhere to all current constraints concerning the handling of data requiring special processing.

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1.7 NONC^2 JU PRECISE PARTICIPANT LOCATION AND IDENTIFICATION DATA FORWARDING

Forwarding of Precise Participant Location and Identification (PPLI) message data promulgates the location and identification of all nonC^2 MIDS units. NonC^2 JU PPLI messages indicating active network participation status are forwarded onto Link 22 in an F1-1 PLI message. If no PPLI data have been received from a nonC^2 JU for 60 seconds, a Drop Track message shall be transmitted by the FJUN on Link 22. Also, if a PPLI message indicating that the nonC^2 JU is inactive has been received, a Drop Track message shall be transmitted by the FJUN on Link 22. The JU is then eligible for normal surveillance reporting responsibility rules. Upon receipt of a PPLI message indicating that the nonC^2 JU has returned to active status, the FJUN again shall resume transmission of the F1-1 PLI messages on the nonC^2 JU.

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1.8 DATA FORWARDING MANAGEMENT

The rules governing the forwarding of various types of data are given in the following paragraphs.

1.8.1 Participant Location and Identification (PLI) and Surveillance Data Forwarding

The forwarding of PLI and surveillance messages is subject to the following rules:

a. For various reasons two or more units may be reporting the same track to an FJUN. If an FJUN 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. FJUNs shall have the capability to generate required messages for PLI and surveillance reports in accordance with the procedures, protocols and transmit rules of the destination link. To do this, the FJUN shall retain and store all received data on each track required for proper transmission of the message(s) concerning that track. These data include the original report and all amplifying data received in subsequent updates and amplifying reports. Link 16 and Link 22 air PPLIs/PLIs and air and space surveillance reports are updated at the same rate on both links. Link 22 surface, subsurface, and land PLI and surveillance reports are updated less frequently than corresponding reports on Link 16. Because there are no reporting responsibility (R^2) rules for subsurface tracks, the different surveillance update rates do not cause the FJUN any problems. For other than subsurface track reports, however, the following rules apply:

(1) The FJUN shall not generate air PPLI/PLI or air and space surveillance reports on the destination data link unless a scheduled update is received on the source data link.

(2) The FJUN shall transmit surface, subsurface, and land PLI and surface and land surveillance updates on Link 16 as follows:

(a) The FJUN shall continue to extrapolate the position of the NU received in the last PLI message so that the latest computed position of the NU is transmitted at the required interval in the PPLI message on Link 16. These PPLI updates to Link 16 shall continue for two scheduled update cycles, allowing one missed PLI message for an NU. If a second scheduled PLI message is not received, the FJUN shall cease update reports on Link 16, allowing link protocols concerning surveillance reporting of inactive IUs specified in ATDLP-5.16 and ATDLP-5.22 to account for this situation.

(b) The FJUN shall continue to extrapolate the position of the track received in the last surface or land surveillance message so the latest computed position of the track is transmitted at the required interval in the corresponding Link 16 surveillance message. These updates to Link 16 shall continue for two scheduled Link 22 update cycles, allowing one missed periodic surveillance report from the Link 22 R^2 unit. If a second scheduled Link 22 periodic report is not received, the FJUN shall cease update reports and transmit a Drop Track report on Link 16.

(3) The FJUN shall inhibit transmission of periodic updates of surface, subsurface, and land PLIs to Link 22 unless the data received, except position, are different from those held in the FJUN data base. The parameters of positional change requiring transmission of a PLI/surveillance message are contained in ATDLP-5.22 in the transmit rules for the applicable messages.

c. Under some circumstances, for example when a track is being engaged, it may be desirable to report the track at a higher rate than normal. Link 22 provides for this function which is called High Update Rate (HUR) reporting; the scheme is explained in paragraph 1.4.4.17 of Chapter I of Annex B to ATDLP-5.22. Where Link 16 R^2 tracks are being forwarded and are specified for HUR, the FJUN shall continue to update the track based solely upon reception of the Link 16 surveillance report (i.e., the reporting of tracks on Link 22 shall be restricted to the rate at which the tracks being reported on Link 16 are received by the FJUN).

d. After a Drop Track message has been forwarded, data from each IU to subsequently report the track shall be forwarded at the next available opportunity.

1.8.2 Forwarding IFF/SIF Information

1.8.2.1 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 16 and Link 22. The unit with R^2 for a track reports any available IFF/SIF information. The FJUN forwards IFF/SIF information in a surveillance message or message sequence only when received from the R^2 unit.

1.8.2.2 Forwarding IFF/SIF Management Information. The IFF/SIF Management message (i.e., J7.5, FJ7.5) 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 FJUN to update IFF/SIF information stored for tracks that are being forwarded.

1.8.2.3 Forwarding Special Code Information. Special Code information shall be forwarded as received.

1.8.3 Forwarding Addressed Messages Having Receipt/Compliance

Forwarding addressed EW Control/Coordination, Command, Engagement Coordination, Handover, or Controlling Unit Change messages that involve Receipt/Compliance (R/C) requires special handling procedures by the FJUN. The FJUN inspects all addressed messages to ascertain if the addressee is a unit for which data are being forwarded. The FJUN shall respond with a Machine Receipt (MR) to either Original Messages (OM) or to F01.7 Response Messages as if it were the addressee for all messages which will be forwarded. The FJUN shall then forward the addressed message if the addressee is active. For exceptions to this rule, see paragraph 1.3f(1). The FJUN shall substitute data source indications appropriate to the link on which data are being forwarded. The FJUN assumes responsibility for redundant transmissions if an MR is not received. When an MR or other reply/response in lieu of an MR is received by the FJUN, forwarding responsibility for that specific addressed message is complete. The FJUN has no responsibility with respect to matching replies/responses to an OM except when a reply/response is received in lieu of an MR. The FJUN shall 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. The FJUN must ensure that commands are not redundantly forwarded to the

same addressee via more than one forwarding unit, owing to the R/C problems this would create.

1.8.4 Electronic Warfare (EW) Data Forwarding

The Link 16/22 EW data messages, J/FJ3.7 (EW Product Information) and J/FJ14.0 (EW Parametric Information), include many identical fields and are used for essentially the same purpose. The J/FJ14.0 has certain additional fields for reporting more detailed parametric information. The primary difference between the messages is that the J/FJ14.0 is used to exchange a great deal of raw, unevaluated data on the Link 16 EW NPG, whereas the J/FJ3.7 is used only to report selected evaluated data on the Surveillance NPG. In order to prevent overloading Link 22 and still provide for forwarding of parametric data and variable routing of NU data to the Link 16 Network when appropriate, FJUNs 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 Link 22 FJ14.2 messages shall be forwarded.

a. Link 16 to Link 22:

(1) All: Forward J3.7 and J14.0 messages as prescribed in Chapters 2 and 3. In this mode, the FJUN for the EW NPG must, as a minimum, receive the Surveillance NPG. The FJUN shall not forward any J14.0 message containing a Reference TN currently being reported on the Surveillance NPG except that if the J14.0 message includes a J14.0C4 word, the appropriate FJ14.0 message shall be generated on Link 22. If a J14.0 message is being forwarded, and a J3.7 message is subsequently received for that Reference TN, the FJUN shall discontinue forwarding the received J14.0 message unless it includes the J14.0C4 word, in which case only the appropriate FJ14.0 message shall be forwarded for the J14.0.

(2) J3.7 (and J14.0) messages are transmitted periodically every 48 seconds and when data change. FJ14.0 messages are transmitted only when data change. For this reason, the FJUN shall retain all received data on each reported EW bearing AOP, or fix required for proper transmissions of the message(s) concerning the Reference TN on the destination link. These data include the initial report of the Reference

TN and all subsequent updates with changed or additional information. To account for the update rate differences, the following rules apply:

(a) Upon receipt of a J3.7/J14.0 message, the FJUN shall check to determine if any data have changed. If none have, the message shall not be forwarded to Link 22. The parameters to determine if a positional change has occurred are contained in the transmit rules for FJ3.7/FJ14.0 messages contained in ATDLP-5.22 Annex B Chapter II Section 5.

(b) ECCM Coordination message: The J9.2 ECCM Coordination message has no comparable message in ATDLP-5.22. If received, the FJUN shall discard the message and transmit a J9.2 (CANTPRO) to the originator.

b. Link 22 to Link 16:

(1) All: Transmit all J3.7 and J14.0 messages resulting from translation of received Link 22 messages, as prescribed in Chapters 2 and 3, on the appropriate NPG.

(2) Parametric: Transmit only J14.0 messages resulting from received Link 22 messages. Do not transmit a J3.7 message resulting from the translation. In this mode, the Link 22 NUs data are integrated into the EW NPG data; they are released to the Surveillance NPG only after evaluation and selection by designated C^2 JUs, in the same manner as other J14.0 data.

(3) Upon receipt of a FJ3.7 or FJ14.0 message, the FJUN shall transmit the required J3.7 and/or J14.0 message(s). Where required, these shall be periodically updated as required by the protocols contained in ATDLP-5.16. If the Link 22 message concerns a moving fix or AOP (i.e., Course and Speed set to other than No Statement), the FJUN shall extrapolate the position and update the position of the Reference TN in each periodic report.

(4) The FJ14.2 message shall only be translated to a J14.2 message. The J9.2 message shall not be translated from the FJ14.2 message.

1.8.4A Ballistic Missile and BMD Operations Data Forwarding

The following rules are related specifically to the forwarding of ballistic missile surveillance and BMD Operations messages and are in addition to all general Data Forwarding Management rules as set out earlier in this paragraph.

In order to prevent overloading Link 22 and still provide for forwarding of ballistic missile surveillance data, the following rules are provided:

a. Link 16 to Link 22:

1. J3.6 message: Upon receipt of a J3.6 message with Significant Object Indicator = 0, 1, or 2 an FJ3.6 message is forwarded. Do not forward any J3.6 messages received with Significant Object Indicator = 3 or 4.

2. J7.1 message: Upon receipt of a J7.1 message Action value 1-4 an FJ7.1 message is forwarded. Do not forward any J7.1 messages received with Action value = 5.

3. J7.7 message: Upon receipt of a J7.7 message Action = 1, 2, or 3 an FJ7.7 message is forwarded. Do not forward any J7.7 messages received with Action = 3.

b. Link 22 to Link 16:

1. FJ3.6 message: Upon receipt of a FJ3.6 message, a J3.6 message is forwarded onto Surveillance NPG 7.

2. FJ7.1 message: Upon receipt of a FJ7.1 message, a J7.1 message is forwarded onto Surveillance NPG 7.

1.8.5 Weapons Coordination and Management (WC&M) Data Forwarding

The following rules are related specifically to the forwarding of WC&M messages and are in addition to all general Data Forwarding Management rules as set out earlier in this paragraph.

a. Link 22 to Link 16: FJ10.3 message: On receipt of an FJ10.3 message, if the addressee is a unit to whom data are being forwarded by this FJUN, the FJ10.3 message is forwarded. On receipt of an FJ10.3 Order or Response message (R/C = 0, 3, 4, 6), if the addressee is inactive, this FJ10.3 message is not forwarded and an F01.7 (CANTPRO) is transmitted.

b. Link 16 to Link 22: J10.3 message: On receipt of a J10.3, if the addressee is a unit to whom data are being forwarded by this FJUN, the J10.3 message is forwarded. On receipt of a J10.3 Order or Response message (R/C = 0, 3, 4, 6), if the addressee is inactive, this FJ10.3 message is not forwarded and a J10.3 (CANTPRO) is transmitted.

c. In order to ensure that commanders can be aware of commands originated by and addressed to IUs other than the commander's own unit, an FJUN may forward Command messages onto a link other than the one on which the addressed IU is active. Such forwarded commands are not subject to receipt/compliance procedures and, as a consequence, the FJUN shall not generate CANTPROs when a Machine Receipt has not been received.

d. The FJUN shall forward commands addressed to the Collective TN, 00177 (octal), even if the FJUN does not hold any unit active on the destination link.

e. Identical command messages addressed to the collective address shall be discarded if received within 45 seconds of the initial transmission.

1.8.6 Data Update Request

Data Update Requests are forwarded in accordance with this volume except:

a. When Track Number, Addressee is that of the FJUN, in which case the FJUN shall respond in accordance with the protocols of the data link on which the request originated, or

b. When Track Number, Addressee is that of a unit on the data link on which the request originated, in which case the FJUN shall discard the message.

1.8.7 Drop Track Report

An FJUN receiving a Drop Track report on a track for which it holds local sensor contact shall not forward the Drop Track report and shall transmit a track report on the track on both Link 16 and Link 22.

ANNEX B - DATA FORWARDING SPECIFICATION

CHAPTER 2

2 MESSAGE TRANSLATION REQUIREMENTS

Chapter 2 describes the message translation requirements when forwarding data from Link 16 to Link 22 and when forwarding data from Link 22 to Link 16; the detailed Data Element (DE) translations are given in Chapter 3. (Note: Throughout this chapter, the term message is used to include word, word sequence, and/or message sequence as appropriate.)

2.1 GENERAL

The format of this 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. Therefore:

a. Although Chapter 3 gives the DE translations, where required, Tables B-2-1, B-2-2, B-2-3 and B-2-4 have been provided to clarify that process. Tables B-2-1 and B-2-2 specify from which received words/messages the necessary data has been provided to prepare the message to be transmitted; for FJ messages and their J-Series equivalents, only the message number is given because the data elements are provided in identical words. Tables B-2-3 and B-2-4 show those messages which are not forwarded.

b. Table B-2-1 lists all the Link 22 words/messages capable of being transmitted by the FJUN as a result of receiving data from Link 16; against each word is shown the equivalent Link 16 word(s) necessary to supply at least one DE of the Link 22 word. If some of the Link 16 words shown have never been received, the appropriate word on Link 22 may be transmitted with some DEs set to their No Statement or default values. This is exactly the same situation where a unit operating on a single link is required to transmit a word or message when some of the data is not held locally.

c. Table B-2-2 is similar to Table B-2-1 but in reverse, i.e., it shows from which Link 22 words, the Link 16 DEs originate. Throughout this

table, any J-Series Extension or Continuation word must be preceded by its Initial word; often, the Initial and Extension words are transmitted together as a Basic word. See ATDLP-5.16 for details. The 'short titles' given are not official Link 16 terms but are shown for clarification.

d. Table B-2-3 lists those Link 22 messages which shall not be transmitted as a result of data received from Link 16 and which are not forwarded to Link 16.

e. Table B-2-4 lists those Link 16 words which shall be transmitted as a result of data received from Link 22 and which are not forwarded to Link 22.

f. The F6 EW Emergency word shall not be transmitted on Link 22 as a result of messages received from Link 16.

TABLE B-2-1. FJUN LINK 22 WORD/MESSAGE DATA ELEMENT SOURCE EXTRACTION TABLE (Sheet 1 of 2)

MESSAGE/WORD NUMBER	ABBREVIATION	LINK 16 MESSAGE/WORDS WHICH MAY BE REQUIRED TO SUPPLY DATA FOR AT LEAST ONE DATA ELEMENT
F01.0-0	IFF	J3.XI, J3.XC1[1]
F01.0-1	STMIS	J3.3C2
F01.0-2	IFF MODE S/5	J3.2C5, J3.3C5, J3.4C5
F01.0-3	MODE S ID	J3.2C4
F01.4-0	B/R RESOLVE	J5.4I, J5.4E0, J5.4C1
F01.4-1	B/R AMBIG	J5.4I, J5.4E0, J5.4C1
F01.5-0*	B/R AMP	J5.4I, J5.4C1, J5.4C2
F01.5-1*	B/R SENS	J5.4I, J5.4E0, J5.4C1, J5.4C2
F01.5-2	B/R FREQ	J5.4I, J5.4C1
F01.5-3	B/R AMP1	J5.4C2
F01.6-0	BAS COM	J9.0I, J9.0E0
F01.6-1*	COM EXT1	J9.0E0
F01.6-2*	AIR COORD	J9.0C1
F01.7-0	R/C	J9.0I, J9.0E0, J9.0C1 or J9.1I or J10.3I or J12.4I or J14.2I, J14.2E0
F02.0-0*	IND PLI AMP	J2.0I, J2.0E0, J2.0C1
F02.0-1	IND PLI AMP CONT	J2.0I, J2.0E0, J2.0C1
F02.1-0	PLI IFF	Header Word, J2.XC1[1]
F02.2-0*	AIR PLI CAS	J2.2I, J2.2E0, J2.2C1, J2.2C5
F02.2-1	AIR PLI AMC	Header Word, J2.2C5
F02.3-0	SUR PLI CAS	Header Word, J2.3I, J2.3E0, J2.3C1
F02.4-0	SUB PLI CAS	Header Word, J2.4I, J2.4E0, J2.4C1
F02.4-1	SUB PLI AMC	Header Word, J2.4I
F02.5-0	LPT PLI CONT	Header Word, J2.5I, J2.5E0, J2.5C1
F02.6-0	LTR PLI CAS	Header Word, J2.6I, J2.6E0, J2.6C1
F02.6-1	LTR PLI AMC	Header Word, J2.6I
F1-0	IND PLI POS	J2.0I, J2.0E0
F1-1	PLI POS	J2.XI[1], J2.XE0[1], J2.XC4[1]
F2	AIR POS	J3.2I, J3.2E0
F3	SUR POS	J3.3I, J3.3E0
F4-0	SUB POS	J3.4I, J3.4E0
F4-1*	SUB CAS	J3.4I, J3.4E0, J3.4C1
F5-0*	AIR CAS	J3.2I, J3.2E0, J3.2C1
F5-1*	SUR CAS	J3.3I, J3.3E0, J3.3C1
FJ3.0	REF PT	J3.0
FJ3.1	EMERG PT	J3.1
FJ3.5	LAND PT/TRK	J3.5
FJ3.6	SPACE TRCK	J3.6
FJ3.7	EW PRODUCT	J3.7
FJ6.0	AMPL	J6.0
FJ6.1	PERS REC AMPL	J6.1
FJ7.0	TRACK MAN	J7.0
FJ7.1	DUR	J7.1

TABLE B-2-1. FJUN LINK 22 WORD/MESSAGE DATA ELEMENT SOURCE EXTRACTION TABLE (Sheet 2 of 2)

MESSAGE/WORD NUMBER	ABBREVIATION	LINK 16 MESSAGE/WORDS WHICH MAY BE REQUIRED TO SUPPLY DATA FOR AT LEAST ONE DATA ELEMENT
FJ7.2	CORREL	J7.2
FJ7.3	POINTER	J7.3
FJ7.4	TRACK IDENT	J7.4
FJ7.5	IFF MAN	J7.5
FJ7.6	FILTER	J7.6
FJ7.7	ASSOC	J7.7
FJ8.1	MSNCOR	J8.1
FJ9.1	ENG COORD	J9.1
FJ10.2	WES	J10.2
FJ10.3	HANDOVER	J10.3
FJ10.5	CU REPORT	J10.5
FJ10.6	PAIRING	J10.6
FJ12.4	CON CHG	J12.4
FJ13.0	A/F STATUS	J13.0
FJ13.2	AIR STATUS	J13.2
FJ13.3	SUR STATUS	J13.3
FJ13.4	SUB STATUS	J13.4
FJ13.5	LAND STATUS	J13.5
FJ14.0	PARAM INFO	J14.0
FJ14.2	EW CONTROL	J14.2
FJ15.0	THREAT	J15.0
FJ28.2(0)	TEXT	J28.2(0)

Notes:
[1] = As appropriate to received Environment/Category.
[2] = Always transmitted as a pair.
* = Cannot be transmitted independently; see ATDLP-5.22.

TABLE B-2-2. FJUN LINK 16 WORD DATA ELEMENT SOURCE EXTRACTION TABLE
(Sheet 1 of 2)

MESSAGE/WORD NUMBER	SHORT TITLE	LINK 22 MESSAGE/WORDS WHICH MAY BE REQUIRED TO SUPPLY DATA FOR AT LEAST ONE DATA ELEMENT
J2.0I/J2.0E0[1]	IND PPLI	F1-0, F02.0-0, F02.0-1, F1-1, F02.2-0, F02.2-1, F02.1-0, F02.3-0, F02.4-0, F02.4-1, F02.5-0, F02.6-0, F02.6-1,
J2.0C1	IND PPLI AMP	F02.0-0, F02.0-1, F02.2-0, F02.2-1, F02.1-0, F02.3-0, F02.4-0, F02.4-1, F02.5-0, F02.6-0, F02.6-1,
J3.0	REFERENCE PT	FJ3.0
J3.1	EMERGENCY PT	FJ3.1
J3.2I/J3.2E0[1]	AIR TRACK	F2, F5-0
J3.2C1	AIR TRACK AMP	F5-0, F01.0-0
J3.2C4	AIR TRACK CONT4	F01.0-3
J3.2C5	AIR TRACK CONT5	F01.0-2
J3.3I/J3.3E0[1]	SUR TRACK	F3, F5-1
J3.3C1	SUR TRACK AMP	F5-1, F01.0-0
J3.3C2	SUR TRACK AMP	F01.0-1
J3.3C5	SUR TRACK CONT5	F01.0-2
J3.4I/J3.4E0[1]	JSUB TRACK	F4-0, F4-1
J3.4C1	SUB TRACK CONT1	F4-1, F01.0-0
J3.4C5	SUB TRACK CONT5	F01.0-2
J3.5	LAND PT/TRACK	FJ3.5
J3.6	SPACE TRACK	FJ3.6
J3.7	EW PRODUCT	FJ3.7
J5.4I[3]	ACOUSTIC	F01.4-0, F01.5-0, F01.5-1
J5.4E0[3]	ACOUSTIC AMP	F01.4-0, F01.5-1
J5.4C1[3]	ACOUSTIC AMP	F01.4-0, F01.5-0, F01.5-1, F01.5-2
J5.4C2[3]	ACOUSTIC AMP	F01.5-0, F01.5-1, F01.5-3
J5.4I[4]	ACOUSTIC	F01.4-1, F01.5-0, F01.5-1
J5.4E0[4]	ACOUSTIC AMP	F01.4-1, F01.5-1
J5.4C1[4]	ACOUSTIC AMP	F01.4-1, F01.5-0, F01.5-1, F01.5-2
J5.4C2[4]	ACOUSTIC AMP	F01.5-0, F01.5-1
J6.0	TRACK AMPLIFICATION	FJ6.0
J6.1	PERSONNEL RECOVERY AMPLIFICATION	FJ6.1
J7.0	TRACK MANAGEMENT	FJ7.0
J7.1	DUR	FJ7.1
J7.2	CORRELATION	FJ7.2
J7.3	POINTER	FJ7.3
J7.4	TRK IDENTIFIER	FJ7.4
J7.5	IFF MANAGEMENT	FJ7.5
J7.6	FILTER	FJ7.6
J7.7	ASSOCIATION	FJ7.7
J8.1	MSNCOR CHANGE	FJ8.1

Notes:
1 = Always sent as a pair.
3 = When bearing is resolved.
4 = When bearing is ambiguous.

TABLE B-2-2. FJUN LINK 16 WORD DATA ELEMENT SOURCE EXTRACTION TABLE
(Sheet 2 of 2)

MESSAGE/WORD NUMBER	SHORT TITLE	LINK 22 MESSAGE/WORDS WHICH MAY BE REQUIRED TO SUPPLY DATA FOR AT LEAST ONE DATA ELEMENT
J9.0I	COMMAND	F01.6-0, F01.7-0
J9.0E0	COMMAND AMP	F01.6-0, F01.6-1, F01.7-0
J9.0C1	COMMAND AMP	F01.6-2, F01.7-0
J9.1	ENGAGEMENT COORD	FJ9.1, F01.7-0
J10.2	ENGAGMENT STATUS	FJ10.2
J10.3	HANDOVER	FJ10.3, F01.7-0
J10.5	CU REPORT	FJ10.5
J10.6	PAIRING	FJ10.6
J12.4	CU CHANGE	FJ12.4, F01.7-0
J13.0	AIRFIELD STATUS	FJ13.0
J13.2	AIR STATUS	FJ13.2
J13.3	SUR STATUS	FJ13.3
J13.4	SUB STATUS	FJ13.4
J13.5	LAND STATUS	FJ13.5
J14.0	EW PARAMETRIC	FJ14.0
J14.2	EW CONT/COORD	F01.7-0, FJ14.2
J15.0	THREAT WARNING	FJ15.0
J28.2(0)	TEXT MESSAGE	FJ28.2(0)

TABLE B-2-3. LINK 22 WORDS NOT FORWARDED

LINK 22 MESSAGE	EXPLANATION AND REMARKS
F03.4-0	Used to report ASW contacts which have not been reported in an F01.4-0 or F01.4-1 word.
F03.4-1	Used to report that a unit holds an ASW contact which has been reported by another unit.

TABLE B-2-4. LINK 16 WORDS NOT FORWARDED

LINK 16 WORD(S)	EXPLANATION AND REMARKS
J0.X ALL	Communications messages
J1.X ALL	Net Control Station messages
J2.2C2/J2.2C3	Mission and Rel Nav words
J2.3C2/J2.3C3	Mission and Rel Nav words
J2.4C2/J2.4C3	Mission & Rel Nav words
J2.5C3/J2.5C6	Rel Nav & UTM/UPS Position words
J2.6C3/J2.6C6	Rel Nav & UTM/UPS Position words
J8.X ALL (except J8.1)	Unit Designator message
J9.2 ALL	ECCM Coordination message
J11.X ALL	NEW Control and Management messages
J12.X ALL (except J12.4)	Control messages (except J12.4 message)
J14.3 ALL	ECM Engagement Message
J16.0	Image Transfer message
J16.1	Route Change message
J16.2 through 7	US National
J17.X ALL	Miscellaneous messages
J28.X (except J28.2(0))	National Use messages (except J28.2(0) message)
J29.X ALL	National Use messages
J30.X ALL	National Use messages
J31.X ALL	OTAR messages
RTT-X ALL	Round Trip Timing messages

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2.2 DETAILED DESCRIPTION OF CONTENTS

The concept of data forwarding between Links 16 and 22 is one whereby the data received on one link is retained, separately from that of the host system, for the generation of like data on the destination link. Unless otherwise stated, the transmit rules and protocols of the destination link shall be used as though the data had been generated by the FJUN's host system.

2.2.1 Capability

The FJUN should be able to continue data forwarding even if its other functionalities of the combat system, e.g., sensors, weapons, etc., or even the host tactical data system (TDS), are not operating.

2.2.2 Message Translations

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. Where necessary, this chapter contains translations and notes that depict actions required by the FJUN for forwarding on one data link due to a particular message being received on the other or, as described in paragraph 1.8 because the rules specify that a message shall be transmitted on the specified link.

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2.3 GENERAL RETENTION RULES

The following general retention rules apply to all messages:

a. An FJUN shall retain the TN of all inactive NUs, PUs, RUs, C^2 JUs for whom data are normally forwarded.

b. An FJUN may purge all data on a track or point upon receipt of a drop track report on that track or point from the R^2 unit (see paragraph 1.8.7).

c. When a unit for whom the FJUN had been forwarding data is no longer an active source, the FJUN may purge all data previously received from that unit.

2.3.1 Data From Link 16

The FJUN may purge all data received from Link 16 on periodically updated data after the following minimum retention time:

a. If a positional update, test message or PPLI (direct or indirect) has not been received from a PU, RU, SU, or JU for 60 seconds (but shall retain the TN in accordance with paragraph 2.3a above).

b. If a real-time air or ballistic missile track has not been updated within 60 seconds.

c. If a real-time surface or subsurface track or land point or track has not been updated within 90 seconds.

d. If a nonreal-time air track has not been updated within 150 seconds.

e. If a nonreal-time ballistic missile track has not been updated within 3 minutes.

f. If a nonreal-time surface or subsurface track or land point or track has not been updated within 360 seconds.

g. If a reference point, line, or area defined by one FJ3.0 message has not been updated within 360 seconds.

h. If a line or area defined by more than one FJ3.0 message has not been updated within 40 minutes.

i. If an emergency point has not been updated within 60 seconds.

j. If EW surveillance data has not been updated within 150 seconds.

k. If ASW acoustic data has not been updated within 150 seconds.

2.3.2 Data From Link 22

The FJUN may purge all data received from Link 22 on periodically updated data after the following minimum retention time:

a. If a positional update, or PLI (direct or indirect) has not been received from a PU, RU, SU, or NU for at least the time shown in the R^2 Quiescence column of the relevant PLI message update requirements table of the PLI transmit/receive rules in Chapter II of Annex B to ATDLP-5.22 (but shall retain the TN in accordance with paragraph 2.3a above).

b. If a real-time air or ballistic missile track has not been updated within 60 seconds.

c. If a real-time surface or subsurface track, a land point or track, or EW surveillance data, or ASW acoustic data has not been updated within 5 minutes.

d. If a nonreal-time air track has not been updated for 3 minutes.

e. If a nonreal-time ballistic missile track has not been updated for 3 minutes.

f. If a nonreal-time surface or subsurface track, a land point or track, or EW surveillance data, or ASW acoustic data has not been updated for 6 minutes.

g. If a reference point, line, or area defined by one J3.0 message has not been updated within 5 minutes.

h. If a line or area defined by more than one J3.0 message has not been updated within 40 minutes.

i. If an emergency point has not been updated within 3 minutes.

2.3.3 Command Message

An FJUN shall retain a command message addressed to the collective address for 50 seconds after receipt of the message to be able to ensure that repeated transmissions are not forwarded.

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2.4 TRACK QUALITY (TQ)

TQ shall be transmitted as received in the latest update from the reporting responsibility unit for Reference TN that is stored in the FJUN data base and shall not be artificially increased or decreased by the FJUN. TQ shall not be decremented, but in the absence of any updates, data may be purged in accordance with the minimum retention times specified in paragraphs 2.3.1 and 2.3.2. See also paragraph 1.8.1b.

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2.5 TECHNICALLY ILLEGAL/INVALID MESSAGE DETERMINATION

The FJUN shall perform preliminary checks on all received translatable messages for both validity and legality as defined by the current editions of ATDLP-5.16 and ATDLP-5.22.

2.5.1 General

The FJUN shall evaluate received data for uncorrected errors on Link 16 and Link 22 and make decisions to forward or discard the data as described below. The forwarding function shall have the following provisions for routing messages between Link 16 and Link 22 as a result of link error detection and correction procedures.

a. J-Series and F-Series information shall be forwarded if it is received with no detected errors.

b. J-Series and F-Series information shall be forwarded if it is received with detected errors and the errors were corrected.

c. J-Series and F-Series information shall not be forwarded if it is received with uncorrectable errors.

2.5.2 Technically Illegal/Invalid Examples

The following are provided as examples of illegal/invalid messages 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, J2.4, J2.5, J2.6, J3.1, J3.2, J3.3, J3.4, J3.5, J5.4, and J13.0.

b. A message received with a bit field set to an "UNDEFINED" (as specified in paragraph 2.5.3), "NOT USED", or "ILLEGAL" value. This check may be limited to those fields that the FJUN translates to forward the received message.

c. A message which must be addressed to a specific unit with the TN, Addressee set to "NO STATEMENT" or "Collective Address".

d. Receipt of improper messages such as:

(1) On Link 22, any PLI or track report without the word containing the Reference TN or position of the reported entity.

(2) On Link 16:

(a) A message without an Initial word.

(b) A Continuation word followed by an Extension word.

e. A received Link 16 or Link 22 PPLI/PLI, EW, or surveillance message that does not include a position, i.e., either Latitude or 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, J3.5, J3.6, J3.7, J14.0, F01.5-1, F03.4-0, F1-0, F1-1, FJ3.0, FJ3.1, F2, F3, F4-0, F5, FJ3.5, FJ3.6, FJ3.7, FJ7.3 or FJ14.0 message.

f. The following Link 16 and Link 22 messages with Reference TN set to No Statement: J2.2, J2.3, J2.4, J2.5, J2.6 (Source TN in the Header word), J3.0, J3.1, J3.2, J3.3, J3.4, J3.5, J3.6, J3.7, J5.4, J6.0, J6.1, J7.0 (except ACT = 6), J7.1 (ACT = 1), J7.4, J7.5, J10.2, J10.3, J10.5, J10.6, J13.0, J13.2, J13.3, J13.4, J13.5, J14.0, J15.0, F01.0-0, F01.4-0, F01.4-1, F01.5-2, F03.4-3, F1-1 (Source TN), F2, F3, F4-0, F5, FJ3.0, FJ3.1, FJ3.5, FJ3.6, FJ3.7, FJ6.0, FJ6.1, FJ7.0 (except ACT = 6), FJ7.1 (ACT = 1), FJ7.4, FJ7.5, FJ10.2, FJ10.3, FJ10.5, FJ10.6, FJ13.0, FJ13.2, FJ13.3, FJ13.5, FJ14.0 and FJ15.0.

g. The following Link 16 and Link 22 messages with the indicated fields set to NO STATEMENT:

Link 16	Link 22
J3.7 (F/B = 2-5, 7) TN, Origin	FJ3.7(F/B = 2-5, 7) Bearing Origin
J14.0 (F/B = 2-5, 7) Bearing Origin	FJ14.0 (F/B = 2-5, 7) Bearing Origin
J3.7/J14.0 (F/B = 1) Area Major Axis, Area Minor Axis, or Square/Circle Switch	FJ3.7/FJ14.0 (F/B = 1) Area Major Axis, Area Minor Axis, or Square/Circle Switch

Link 16	Link 22
J3.7/J14.0 (F/B = 5) Frequency Fields	FJ3.7/FJ14.0 (F/B = 5) Frequency Fields

2.5.3 Undefined Data Items

a. Translatable messages containing fields set to an Undefined data item are not invalid unless the field is an essential field, as listed below. Undefined data items in other fields shall be forwarded as the received value if the field translates directly to the same DFI/DUI, or as the No Statement or default value if the field translates to a different DFI/DUI on the other link.

b. A message received with an essential field set to an Undefined data item shall be discarded with no further action by the FJUN. The essential fields are:

Link 16		Link 22	
Message	Field	Message	Field
J3.0	Point Type	FJ3.0	Point Type
J7.0	Action, Track Management	FJ7.0	Action, Track Management
J7.1	Action, Data Update Request	FJ7.1	Action, Data Update Request
J7.2	Action, Correlate	FJ7.2	Action, Correlate
J7.3	Action, Pointer	FJ7.3	Action, Pointer
J7.5	Action, IFF/SIF Management	FJ7.5	Action, IFF/SIF Management
J7.6	Action, Filter Management	FJ7.6	Action, Filter Management
J7.6	Filter Unit Type	FJ7.6	Filter Unit Type
J7.7	Action, Associate	FJ7.7	Action, Associate
J9.0	Command	FJ9.0	Command
J9.0	Receipt/Compliance	F01.6	Receipt/Compliance
		F01.7	Response Type Receipt/Compliance
J9.1	Engagement Coordination Action Value	FJ9.1	Engagement Coordination Action Value
J9.1	Receipt/Compliance	FJ9.1 F01.7	Receipt/Compliance Response Type Receipt/Compliance
J10.2	Engagement Status	FJ10.2	Engagement Status
J10.3	Request for Assume Control	FJ10.3	Request for Assume Control
J10.3	Receipt/Compliance	FJ10.3 F01.7	Receipt/Compliance Response Type Receipt/Compliance
J12.4	Control Change Indicator	FJ12.4	Control Change Indicator
J12.4	Receipt/Compliance	FJ12.4 F01.7	Receipt/Compliance Response Type Receipt/Compliance
J14.2	EW Action Value	FJ14.2	EW Action Value
J14.2	EW Action Value	FJ14.2	EW Action Value
J14.2	Receipt/Compliance	FJ14.2 F01.7	Receipt/Compliance Response Type Receipt/Compliance

TABLE B-2-5, J3.6 to FJ3.6 Message Translation Tree (Sheet 1 of 3)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. RECEIVED J3.6E1 SIGNIFICANT OBJECT INDICATOR SET TO VALUE 3 OR 4.	
	REQUIRED ACTION	
A B Z Z	A. DISCARD MESSAGE. B. FWD FJ3.6 MESSAGE. Z. END TRANSLATION.	

TABLE B-2-5, J3.6 to FJ3.6 Message Translation Tree (Sheet 2 of 3)

RELATED MESSAGES

RECEIVED LINK 16 MESSAGE	ALL POSSIBLE LINK 22 MESSAGES THAT MAY BE REQUIRED
J3.6	FJ3.6

TABLE B-2-5, J3.6 to FJ3.6 Message Translation Tree (Sheet 3 of 3)

FORWARDING TRANSMIT REQUIREMENTS

A FJ3.6 message shall be transmitted once for each J3.6 message received.

DATA RETENTION RULES

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

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TABLE B-2-6, J7.1 to FJ7.1 Message Translation Tree (Sheet 1 of 3)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. RECEIVED J7.1 ACTION, ASSOCIATION = 5.	
	REQUIRED ACTION	
A B Z Z	A. DISCARD MESSAGE. B. FWD FJ7.1 MESSAGE. Z. END TRANSLATION.	

TABLE B-2-6, J7.1 to FJ7.1 Message Translation Tree (Sheet 2 of 3)

RELATED MESSAGES

RECEIVED LINK 16 MESSAGE	ALL POSSIBLE LINK 22 MESSAGES THAT MAY BE REQUIRED
J7.1	FJ7.1

TABLE B-2-6, J7.1 to FJ7.1 Message Translation Tree (Sheet 3 of 3)

FORWARDING TRANSMIT REQUIREMENTS

A FJ7.1 message shall be transmitted once for each J7.1 message received.

DATA RETENTION RULES

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

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TABLE B-2-7, J7.7 to FJ7.7 Message Translation Tree (Sheet 1 of 3)

TEST NODE DIAGRAM	TEST NODE CONDITION	NOTES
	1. RECEIVED J7.7 ACTION, ASSOCIATION = 3.	
	REQUIRED ACTION	
A B Z Z	A. DISCARD MESSAGE. B. FWD FJ7.7 MESSAGE. Z. END TRANSLATION.	

TABLE B-2-7, J7.7 to FJ7.7 Message Translation Tree (Sheet 2 of 3)

RELATED MESSAGES

RECEIVED LINK 16 MESSAGE	ALL POSSIBLE LINK 22 MESSAGES THAT MAY BE REQUIRED
J7.7	FJ7.7

TABLE B-2-7, J7.7 to FJ7.7 Message Translation Tree (Sheet 3 of 3)

FORWARDING TRANSMIT REQUIREMENTS

A FJ7.7 message shall be transmitted once for each J7.7 message received.

DATA RETENTION RULES

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

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ANNEX B - DATA FORWARDING SPECIFICATION

CHAPTER 3

3 DATA ELEMENT TRANSLATION REQUIREMENTS

Chapter 3 describes the data element translation requirements when forwarding data from Link 16 to Link 22 and when forwarding data from Link 22 to Link 16.

3.1 GENERAL

This chapter provides the data element translations between Link 16 and Link 22 as required by the translation process in Chapter 2. Only those DEs which are not common to both J-Series and F-Series messages are shown in the tables. If a word is required to be transmitted and data for one or more of the data elements is not held by the FJUN, default values shall be transmitted in accordance with the protocols of the destination link.

3.1.1 Table Ordering

Several tables are provided; for translation trees to filter specific BMD functionality from Link 22, for translations from Link 22 to Link 16, and for translations from Link 16 to Link 22. The translation tables are read from right to left, as in Volume 1. Following each pair of tables are notes (in tabular form) referring to those tables.

3.1.1.1 Translation Trees. Three tables are provided for translation trees, depicting BMD messages from Link 16 to Link 22. These translation trees allow for filtering of specific BMD functionality reserved for Link 16 BMD engagements.

3.1.1.2 Link 22 to Link 16 Translation Tables. Two tables are provided for translation from Link 22 to Link 16. One table is ordered by Link 22 word number in ascending order of F words; within a word, data elements are ordered by DFI and, where necessary within the same DFI, by DUI, all in ascending order. The other table is ordered by Link 22 DFI, and DUI within the same DFI if required, all in ascending order.

3.1.1.3 Link 16 to Link 22 Translation Tables. Two tables are provided for translation from Link 16 to Link 22. One table is ordered by Link 16 message and word number in ascending order, Initial words followed by Extension words in ascending order followed by Continuation words in ascending order; within a word, data elements are ordered by DFI and, where necessary within the same DFI, by DUI, all in ascending order. The other table is ordered by Link 16 DFI, and DUI within the same DFI if required, all in ascending order.

3.2 DETAILED DESCRIPTION OF CONTENTS

Data Elements (DEs) and their FJ-Series equivalents that require special forwarding rules are shown in the Message Translation Tree Table B-2-5. Data Elements (DEs) that can be forwarded, except J-Series DEs and their FJ-Series equivalents, are depicted in the data element translation Tables B-3-1 through B-3-6. Apart from the NOTE column, which may contain notes concerning any part of the relevant row, it is important to note that the table is read in the same way as Chapter 3 of Volume 1, i.e., right to left.

3.2.A1 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.

3.2.A1.1 Basic Translation Criteria

The inputs to a message translation tree are messages received from either the Link 16 or Link 22 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.

3.2.A1.2 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.

3.2.A1.3 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. The action also may identify data that must be retained to satisfy the Link 22 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 Vol 1 Chapter 3.

3.2.A1.4 Notes

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

3.2.A2 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.

3.2.A3 Forwarding Transmit Requirements

The transmit requirements for those messages generated as a result of required actions comply with the protocols of the Link 16 and Link 22 links as appropriate.

3.2.A4 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 multilink 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 Vol 1 Chapter 2 after the Notes and Forwarding Transmit Requirements. General retention rules and minimum retention times for periodically transmitted messages are specified in the following paragraphs.

3.2.1 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.

3.2.1.1 Source

The SOURCE column is headed by LINK 16 or LINK 22 to indicate the source of the data; taken with the left hand column, DESTINATION, this shows in which direction the translation is being specified. Under the SOURCE column, appear one or more words of the source link containing the DFI/DUI for which the translation is being given.

3.2.1.2 DFI/DUI

The DFI and DUI columns contain the Data Field Identifier and the Data Use Identifier of the selected DE; there are two columns each for the source and destination links.

3.2.1.3 Name

To assist with the readability of the tables, the DATA ELEMENT NAME column contains the name of the DE; there is one column each for the source and destination link.

3.2.1.4 Translation

The TRAN REQD column gives the annotation showing the translation requirements between the source DFI and DUI and the destination DFI and DUI. The list below shows the annotations used, together with their meaning.

NA = Not available in the other message series, or not applicable for translation.
CR = Conversion is required.

3.2.1.5 Destination

The heading of the DESTINATION column indicates whether the destination is Link 16 or Link 22; under this column is shown one or more Link 16 or Link 22 words respectively which contain the DFI and DUI, shown alongside, to which the translation from the source link DFI and DUI has been made.

3.2.1.6 Notes

The NOTE column is used to identify notes which are applicable to that particular translation requirement.

3.2.1.7 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.

3.3 TRANSLATION OF LABEL/SUBLABEL ETC

Both Link 16 and Link 22 words contain DEs which are used to specify the precise word e.g., Word Format, Number of Word, Label, Sublabel, etc. For the purposes of required translations between Link 16 and Link 22, in either direction, these DEs have been called 'overhead DEs'. The translations do not show any requirements for these overhead DEs. Non-overhead data is processed by the FJUN, when required, and stored in accordance with paragraph 2.2. The words required for transmission in accordance with Tables B-2-1 and B-2-2 shall have the correct overhead DEs inserted as specified by the protocols of the destination link.

3.3.1 Link 16 Message and Word Construction

Details of the Link 16 message and word construction are contained in Chapter 2 of Annex B to ATDLP-5.16, particularly paragraphs 2.1 through 2.8.

3.3.2 Link 22 Message and Word Construction

Details of the Link 22 message and word construction are contained in Section 1 of Chapter II of Annex B to ATDLP-5.22.

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TABLE B-3-1. Link 16 Message Data Element Translation from Link 22 (IN SOURCE WORD ORDER) (Sheet 1 of 3)

DESTINATION: Link 16				SOURCE: Link 22					
WORD	DFI	DUI	DATA ELEMENT NAME	TRAN REQD	DATA ELEMENT NAME	DFI	DUI	WORD	NOTE
J5.4E0	373	001	BEARING REPORT TYPE	CR				F01.4-0	36
J5.4I	792	001	HOUR	CR	TIME INDICATOR	1570	001	F01.4-0	14
J5.4I	797	004	MINUTE	CR	TIME INDICATOR	1570	001	F01.4-0	14
J5.4E0	373	001	BEARING REPORT TYPE	CR				F01.4-1	36
J5.4I	792	001	HOUR	CR	TIME INDICATOR	1570	001	F01.4-1	14
J5.4I	797	004	MINUTE	CR	TIME INDICATOR	1570	001	F01.4-1	14
				NA	SUBSURFACE SPECIFIC TYPE INDICATOR	267	005	F01.5-0	37
				NA	SUBSURFACE SPECIFIC TYPE	809	001	F01.5-0	
J5.4I	839	001	PPLI TRACK NUMBER AND IDENTITY INDICATOR	CR	PLI TN/ID INDICATOR	839	004	F01.5-0	30
				NA	TIME FUNCTION, ASW	1681	003	F01.5-1	14
				NA	SPECIAL PROCESSING INDICATOR	292	002	F01.5-2	
J5.4C2	769	009	TRACK NUMBER, ORIGIN	CR	TRACK NUMBER, ORIGIN	769	009	F01.5-3	
J9.0I	398	003	COMMAND	CR	COMMAND	398	004	F01.6-0	16
				NA	TRACK NUMBER, FRIENDLY WEAPON INDICATOR	1630	001	F01.6-0	
				NA	COMMAND, 1	1631	001	F01.6-0	16
				NA	HOUR	792	001	F01.6-1	
				NA	MINUTE	797	004	F01.6-1	
				NA	NUMBER OF MISSILES	1599	001	F01.6-1	
				NA	TIME DISCRETE	1659	002	F01.6-1	
J9.0I	392	008	RECEIPT/COMPLIANCE	CR	RECEIPT/COMPLIANCE	392	008	F01.7-0	31
J9.1I	392	008	RECEIPT/COMPLIANCE	CR	RECEIPT/COMPLIANCE	392	008	F01.7-0	31
J10.3I	392	008	RECEIPT/COMPLIANCE	CR	RECEIPT/COMPLIANCE	392	008	F01.7-0	31
J12.4I	392	008	RECEIPT/COMPLIANCE	CR	RECEIPT/COMPLIANCE	392	008	F01.7-0	31
J14.2I	392	008	RECEIPT/COMPLIANCE	CR	RECEIPT/COMPLIANCE	392	008	F01.7-0	31
				NA	RESPONSE TYPE	711	001	F01.7-0	31
				NA	CYCLIC REDUNDANCY CHECK, 16	712	001	F01.7-0	31
				NA	NUMBER OF WORDS RECEIVED IN OM	800	004	F01.7-0	31
J2.0I	365	033	ALTITUDE, 25 FT	CR	ALTITUDE (HEIGHT), 500 FT	365	038	F02.0-0	17
J2.0I	365	033	ALTITUDE, 25 FT	CR	ALTITUDE (HEIGHT), 31.25 FT	365	039	F02.0-0	18
J2.0C1	366	008	DEPTH, 15 METERS	CR	DEPTH	366	015	F02.0-0	40
				NA	HELICOPTER CARRYING	1562	001	F02.0-0	
				NA	MISSILE UNIT	1563	001	F02.0-0	
				NA	SCALE INDICATOR	1565	001	F02.0-0	17, 18, 19, 20

TABLE B-3-1. Link 16 Message Data Element Translation from Link 22 (IN SOURCE WORD ORDER) (Sheet 2 of 3)

DESTINATION: Link 16					SOURCE: Link 22				
WORD	DFI	DUI	DATA ELEMENT NAME	TRAN REQD	DATA ELEMENT NAME	DFI	DUI	WORD	NOTE
J2.0C1	1612	001	ELEVATION, 25 FT	CR	ELEVATION, 50 FT	1612	004	F02.0-0	19
J2.0C1	1612	001	ELEVATION, 25 FT	CR	ELEVATION, 25 FT, 2	1612	005	F02.0-0	20
J2.0I	275	001	ORIGINATOR ENVIRONMENT	CR	SUBLABEL, F-SERIES	271	008	F02.2-0	41
J2.0I	1719	001	SITE	CR				F02.2-0	42
J2.0I	1719	002	GENERIC UNIT TYPE	CR				F02.2-0	43
J2.0I	275	001	ORIGINATOR ENVIRONMENT	CR	SUBLABEL, F-SERIES	271	008	F02.3-0	41
J2.0I	1719	001	SITE	CR				F02.3-0	42
J2.0I	1719	002	GENERIC UNIT TYPE	CR				F02.3-0	43
J2.0E0	367	018	SPEED	CR	SPEED (SURFACE/LAND)	367	027	F02.3-0	21
J2.0I	275	001	ORIGINATOR ENVIRONMENT	CR	SUBLABEL, F-SERIES	271	008	F02.4-0	41
J2.0I	1719	001	SITE	CR				F02.4-0	42
J2.0I	1719	002	GENERIC UNIT TYPE	CR				F02.4-0	43
J2.0E0	367	018	SPEED	CR	SPEED, ASW	367	023	F02.4-0	22
J2.0I	275	001	ORIGINATOR ENVIRONMENT	CR	SUBLABEL, F-SERIES	271	008	F02.5-0	41
J2.0I	1719	001	SITE	CR				F02.5-0	42
J2.0I	1719	002	GENERIC UNIT TYPE	CR				F02.5-0	43
J2.0I	275	001	ORIGINATOR ENVIRONMENT	CR	SUBLABEL, F-SERIES	271	008	F02.6-0	41
J2.0I	1719	001	SITE	CR				F02.6-0	42
J2.0I	1719	002	GENERIC UNIT TYPE	CR				F02.6-0	43
J2.0E0	367	018	SPEED	CR	SPEED (SURFACE/LAND)	367	027	F02.6-0	21
HEADER	769	003	TRACK NUMBER, SOURCE	CR	LINK 11/LINK 11B TRACK NUMBER	269	016	F1-0	25
J2.0I	769	003	TRACK NUMBER, SOURCE	CR	LINK 11/LINK 11B TRACK NUMBER	269	016	F1-0	25
J2.0E0	281	018	LATITUDE 1, 0.0013 MINUTE	CR	LATITUDE, 0.0051 MINUTE	281	014	F1-0	7
J2.0E0	282	018	LONGITUDE 1, 0.0013 MINUTE	CR	LONGITUDE, 0.0051 MINUTE	282	014	F1-0	7
J2.0I	893	001	COMMAND AND CONTROL INDICATOR	CR				F1-0	7
J2.0E0	281	018	LATITUDE 1, 0.0013 MINUTE	CR	LATITUDE, 0.0412 MINUTE	281	016	F1-1	7,24
J2.0E0	281	018	LATITUDE 1, 0.0013 MINUTE	CR	LATITUDE, 0.0103 MINUTE LSB	281	029	F1-1	7,24
J2.0E0	282	018	LONGITUDE 1, 0.0013 MINUTE	CR	LONGITUDE, 0.0412 MINUTE	282	012	F1-1	7,24
J2.0E0	282	018	LONGITUDE 1, 0.0013 MINUTE	CR	LONGITUDE, 0.0103 MINUTE LSB	282	016	F1-1	7,24
				NA	LAT/LONG SCALE INDICATOR	1565	002	F1-1	24
				NA	NU/JU INDICATOR	1566	001	F1-1	
J3.2E0	281	014	LATITUDE, 0.0051 MINUTE	CR	LATITUDE, 0.0412 MINUTE	281	016	F2	7,24
J3.2E0	281	014	LATITUDE, 0.0051 MINUTE	CR	LATITUDE, 0.0103 MINUTE LSB	281	029	F2	7,24
J3.2E0	282	014	LONGITUDE, 0.0051 MINUTE	CR	LONGITUDE, 0.0412 MINUTE	282	012	F2	7,24
J3.2E0	282	014	LONGITUDE, 0.0051 MINUTE	CR	LONGITUDE, 0.0103 MINUTE LSB	282	016	F2	7,24
				NA	LAT/LONG SCALE INDICATOR	1565	002	F2	24
J3.3E0	281	014	LATITUDE, 0.0051 MINUTE	CR	LATITUDE, 0.0412 MINUTE	281	016	F3	7,24
J3.3E0	281	014	LATITUDE, 0.0051 MINUTE	CR	LATITUDE, 0.0103 MINUTE LSB	281	029	F3	7,24
J3.3E0	282	014	LONGITUDE, 0.0051 MINUTE	CR	LONGITUDE, 0.0412 MINUTE	282	012	F3	7,24
J3.3E0	282	014	LONGITUDE, 0.0051 MINUTE	CR	LONGITUDE, 0.0103 MINUTE LSB	282	016	F3	7,24
				NA	LAT/LONG SCALE INDICATOR	1565	002	F3	24
J3.4E0	281	014	LATITUDE, 0.0051 MINUTE	CR	LATITUDE, 0.0412 MINUTE	281	016	F4-0	7,24
J3.4E0	281	014	LATITUDE, 0.0051 MINUTE	CR	LATITUDE, 0.0103 MINUTE LSB	281	029	F4-0	7,24

TABLE B-3-1. Link 16 Message Data Element Translation from Link 22 (IN SOURCE WORD ORDER) (Sheet 3 of 3)

DESTINATION: Link 16					SOURCE: Link 22				
WORD	DFI	DUI	DATA ELEMENT NAME	TRAN REQD	DATA ELEMENT NAME	DFI	DUI	WORD	NOTE
J3.4E0	282	014	LONGITUDE, 0.0051 MINUTE	CR	LONGITUDE, 0.0412 MINUTE	282	012	F4-0	7,24
J3.4E0	282	014	LONGITUDE, 0.0051 MINUTE	CR	LONGITUDE, 0.0103 MINUTE LSB	282	016	F4-0	7,24
J3.4I	839	001	PPLI TRACK NUMBER AND IDENTITY INDICATOR	CR	PLI TN/ID INDICATOR	839	004	F4-0	30
				NA	LAT/LONG SCALE INDICATOR	1565	002	F4-0	24
				NA	SUBSURFACE SPECIFIC TYPE INDICATOR	267	005	F4-1	
				NA	DEPTH INDICATOR	366	016	F4-1	26
				NA	LAUNCH CAPABILITY/SENSOR SWITCH	1569	001	F4-1	27
				NA	SLOW UPDATE RATE INDICATOR	549	002	F5-0	
J3.2I	839	001	PPLI TRACK NUMBER AND IDENTITY INDICATOR	CR	PLI TN/ID INDICATOR	839	004	F5-0	30
				NA	ALTITUDE/TIME INDICATOR	1636	001	F5-0	28
J3.3E0	367	018	SPEED	CR	SPEED (SURFACE/LAND)	367	027	F5-1	21
J3.3I	839	001	PPLI TRACK NUMBER AND IDENTITY INDICATOR	CR	PLI TN/ID INDICATOR	839	004	F5-1	30
				NA	HUR REPORTS REQUEST INDICATOR	1675	010	FJ7.1	

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TABLE B-3-2. Link 16 Message Data Element Translation from Link 22 (IN SOURCE DATA ELEMENT ORDER)
(Sheet 1 of 3)

DESTINATION: Link 16					SOURCE: Link 22				
WORD	DFI	DUI	DATA ELEMENT NAME	TRAN REQD	DATA ELEMENT NAME	DFI	DUI	WORD	NOTE
J5.4E0	373	001	BEARING REPORT TYPE	CR				F01.4-0	36
J5.4E0	373	001	BEARING REPORT TYPE	CR				F01.4-1	36
J2.0I	1719	001	SITE	CR				F02.2-0	42
J2.0I	1719	001	SITE	CR				F02.3-0	42
J2.0I	1719	001	SITE	CR				F02.4-0	42
J2.0I	1719	001	SITE	CR				F02.5-0	42
J2.0I	1719	001	SITE	CR				F02.6-0	42
J2.0I	1719	002	GENERIC UNIT TYPE	CR				F02.2-0	43
J2.0I	1719	002	GENERIC UNIT TYPE	CR				F02.3-0	43
J2.0I	1719	002	GENERIC UNIT TYPE	CR				F02.4-0	43
J2.0I	1719	002	GENERIC UNIT TYPE	CR				F02.5-0	43
J2.0I	1719	002	GENERIC UNIT TYPE	CR				F02.6-0	43
J2.0I	893	001	COMMAND AND CONTROL INDICATOR	CR				F1-0	38
				NA	SUBSURFACE SPECIFIC TYPE INDICATOR	267	005	F01.5-0	37
				NA	SUBSURFACE SPECIFIC TYPE INDICATOR	267	005	F4-1	
HEADER	769	003	TRACK NUMBER, SOURCE	CR	LINK 11/LINK 11B TRACK NUMBER	269	016	F1-0	25
J2.0I	769	003	TRACK NUMBER, SOURCE	CR	LINK 11/LINK 11B TRACK NUMBER	269	016	F1-0	25
J2.0I	275	001	ORIGINATOR ENVIRONMENT	CR	SUBLABEL, F-SERIES	271	008	F02.2-0	41
J2.0I	275	001	ORIGINATOR ENVIRONMENT	CR	SUBLABEL, F-SERIES	271	008	F02.3-0	41
J2.0I	275	001	ORIGINATOR ENVIRONMENT	CR	SUBLABEL, F-SERIES	271	008	F02.4-0	41
J2.0I	275	001	ORIGINATOR ENVIRONMENT	CR	SUBLABEL, F-SERIES	271	008	F02.5-0	41
J2.0I	275	001	ORIGINATOR ENVIRONMENT	CR	SUBLABEL, F-SERIES	271	008	F02.6-0	41
J2.0E0	281	018	LATITUDE 1, 0.0013 MINUTE	CR	LATITUDE, 0.0051 MINUTE	281	014	F1-0	7
J2.0E0	281	018	LATITUDE 1, 0.0013 MINUTE	CR	LATITUDE, 0.0412 MINUTE	281	016	F1-0	7
J2.2E0	281	015	LATITUDE, 0.0013 MINUTE	CR	LATITUDE, 0.0412 MINUTE	281	016	F1-1	7,24
J2.3E0	281	015	LATITUDE, 0.0013 MINUTE	CR	LATITUDE, 0.0412 MINUTE	281	016	F1-1	7,24
J2.4E0	281	015	LATITUDE, 0.0013 MINUTE	CR	LATITUDE, 0.0412 MINUTE	281	016	F1-1	7,24
J2.5E0	281	015	LATITUDE, 0.0013 MINUTE	CR	LATITUDE, 0.0412 MINUTE	281	016	F1-1	7,24
J2.0E0	281	015	LATITUDE, 0.0013 MINUTE	CR	LATITUDE, 0.0412 MINUTE	281	016	F1-1	7,24
J3.2E0	281	014	LATITUDE, 0.0051 MINUTE	CR	LATITUDE, 0.0412 MINUTE	281	016	F2	7,24
J3.3E0	281	014	LATITUDE, 0.0051 MINUTE	CR	LATITUDE, 0.0412 MINUTE	281	016	F3	7,24
J3.4E0	281	014	LATITUDE, 0.0051 MINUTE	CR	LATITUDE, 0.0412 MINUTE	281	016	F4-0	7,24
J2.0E0	281	015	LATITUDE, 0.0013 MINUTE	CR	LATITUDE, 0.0103 MINUTE LSB	281	029	F1-1	7,24
J3.2E0	281	014	LATITUDE, 0.0051 MINUTE	CR	LATITUDE, 0.0103 MINUTE LSB	281	029	F2	7,24
J3.3E0	281	014	LATITUDE, 0.0051 MINUTE	CR	LATITUDE, 0.0103 MINUTE LSB	281	029	F3	7,24
J3.4E0	281	014	LATITUDE, 0.0051 MINUTE	CR	LATITUDE, 0.0103 MINUTE LSB	281	029	F4-0	7,24

TABLE B-3-2. Link 16 Message Data Element Translation from Link 22 (IN SOURCE DATA ELEMENT ORDER)
(Sheet 2 of 3)

DESTINATION: Link 16				SOURCE: Link 22					
WORD	DFI	DUI	DATA ELEMENT NAME	TRAN REQD	DATA ELEMENT NAME	DFI	DUI	WORD	NOTE
J2.0E0	282	018	LONGITUDE 1, 0.0013 MINUTE	CR	LONGITUDE, 0.0412 MINUTE	282	012	F1-1	7
J2.2E0	282	015	LONGITUDE, 0.0013 MINUTE	CR	LONGITUDE, 0.0412 MINUTE	282	012	F1-1	7,24
J2.3E0	282	015	LONGITUDE, 0.0013 MINUTE	CR	LONGITUDE, 0.0412 MINUTE	282	012	F1-1	7,24
J2.4E0	282	015	LONGITUDE, 0.0013 MINUTE	CR	LONGITUDE, 0.0412 MINUTE	282	012	F1-1	7,24
J2.5E0	282	015	LONGITUDE, 0.0013 MINUTE	CR	LONGITUDE, 0.0412 MINUTE	282	012	F1-1	7,24
J2.6E0	282	015	LONGITUDE, 0.0013 MINUTE	CR	LONGITUDE, 0.0412 MINUTE	282	012	F1-1	7,24
J3.2E0	282	014	LONGITUDE, 0.0051 MINUTE	CR	LONGITUDE, 0.0412 MINUTE	282	012	F2	7,24
J3.3E0	282	014	LONGITUDE, 0.0051 MINUTE	CR	LONGITUDE, 0.0412 MINUTE	282	012	F3	7,24
J3.4E0	282	014	LONGITUDE, 0.0051 MINUTE	CR	LONGITUDE, 0.0412 MINUTE	282	012	F4-0	7,24
J2.0E0	282	018	LONGITUDE 1, 0.0013 MINUTE	CR	LONGITUDE, 0.0051 MINUTE	282	014	F1-0	7
J2.0E0	282	018	LONGITUDE 1, 0.0013 MINUTE	CR	LONGITUDE, 0.0103 MINUTE LSB	282	016	F1-1	7
J2.2E0	282	015	LONGITUDE, 0.0013 MINUTE	CR	LONGITUDE, 0.0103 MINUTE LSB	282	016	F1-1	7,24
J2.3E0	282	015	LONGITUDE, 0.0013 MINUTE	CR	LONGITUDE, 0.0103 MINUTE LSB	282	016	F1-1	7,24
J2.4E0	282	015	LONGITUDE, 0.0013 MINUTE	CR	LONGITUDE, 0.0103 MINUTE LSB	282	016	F1-1	7,24
J2.5E0	282	015	LONGITUDE, 0.0013 MINUTE	CR	LONGITUDE, 0.0103 MINUTE LSB	282	016	F1-1	7,24
J2.6E0	282	015	LONGITUDE, 0.0013 MINUTE	CR	LONGITUDE, 0.0103 MINUTE LSB	282	016	F1-1	7,24
J3.2E0	282	014	LONGITUDE, 0.0051 MINUTE	CR	LONGITUDE, 0.0103 MINUTE LSB	282	016	F2	7,24
J3.3E0	282	014	LONGITUDE, 0.0051 MINUTE	CR	LONGITUDE, 0.0103 MINUTE LSB	282	016	F3	7,24
J3.4E0	282	014	LONGITUDE, 0.0051 MINUTE	CR	LONGITUDE, 0.0103 MINUTE LSB	282	016	F4-0	7,24
				NA	SPECIAL PROCESSING INDICATOR	292	002	F01.5-2	
J2.0I	365	033	ALTITUDE, 25 FT	CR	ALTITUDE (HEIGHT), 500 FT	365	038	F02.0-0	17
J2.0I	365	033	ALTITUDE, 25 FT	CR	ALTITUDE (HEIGHT), 31.25 FT	365	039	F02.0-0	18
J2.0C1	366	008	DEPTH, 15 METERS	CR	DEPTH	366	015	F02.0-0	40
J3.4C1	366	008	DEPTH, 15 METERS	CR	DEPTH INDICATOR	366	016	F4-1	26
J2.0E0	367	018	SPEED	CR	SPEED, ASW	367	023	F02.4-0	22
J2.0E0	367	018	SPEED	CR	SPEED (SURFACE/LAND)	367	027	F02.3-0	21
J2.6E0	367	018	SPEED	CR	SPEED (SURFACE/LAND)	367	027	F02.6-0	21
J3.3E0	367	018	SPEED	CR	SPEED (SURFACE/LAND)	367	027	F5-1	21
J9.0I	392	008	RECEIPT/COMPLIANCE	CR	RECEIPT/COMPLIANCE	392	008	F01.7-0	31
J9.1I	392	008	RECEIPT/COMPLIANCE	CR	RECEIPT/COMPLIANCE	392	008	F01.7-0	31
J10.3I	392	008	RECEIPT/COMPLIANCE	CR	RECEIPT/COMPLIANCE	392	008	F01.7-0	31
J12.4I	392	008	RECEIPT/COMPLIANCE	CR	RECEIPT/COMPLIANCE	392	008	F01.7-0	31
J14.2I	392	008	RECEIPT/COMPLIANCE	CR	RECEIPT/COMPLIANCE	392	008	F01.7-0	31
J9.0I	398	003	COMMAND	CR	COMMAND	398	004	F01.6-0	16
				NA	SLOW UPDATE RATE INDICATOR	549	002	F5-0	
J5.4C2	769	009	TRACK NUMBER, ORIGIN	CR	TRACK NUMBER, ORIGIN	769	009	F01.5-3	
				NA	HOUR	792	001	F01.6-1	
				NA	MINUTE	797	004	F01.6-1	
				NA	SUBSURFACE SPECIFIC TYPE	809	001	F01.5-0	

TABLE B-3-2. Link 16 Message Data Element Translation from Link 22 (IN SOURCE DATA ELEMENT ORDER)
(Sheet 3 of 3)

DESTINATION: Link 16					SOURCE: Link 22				
WORD	DFI	DUI	DATA ELEMENT NAME	TRAN REQD	DATA ELEMENT NAME	DFI	DUI	WORD	NOTE
J5.4I	839	001	PPLI TRACK NUMBER AND IDENTITY INDICATOR	CR	PLI TN/ID INDICATOR	839	004	F01.5-0	30
J3.4I	839	001	PPLI TRACK NUMBER AND IDENTITY INDICATOR	CR	PLI TN/ID INDICATOR	839	004	F4-0	30
J3.2I	839	001	PPLI TRACK NUMBER AND IDENTITY INDICATOR	CR	PLI TN/ID INDICATOR	839	004	F5-0	30
J3.3I	839	001	PPLI TRACK NUMBER AND IDENTITY INDICATOR	CR	PLI TN/ID INDICATOR	839	004	F5-1	30
				NA	NUMBER OF WORDS RECEIVED IN OM	800	004	F01.7-0	31
				NA	HELICOPTER CARRYING	1562	001	F02.0-0	
				NA	MISSILE UNIT	1563	001	F02.0-0	
				NA	SCALE INDICATOR	1565	001	F02.0-0	17, 18, 19, 20
				NA	LAT/LONG SCALE INDICATOR	1565	002	F1-1	24
				NA	LAT/LONG SCALE INDICATOR	1565	002	F2	24
				NA	LAT/LONG SCALE INDICATOR	1565	002	F3	24
				NA	LAT/LONG SCALE INDICATOR	1565	002	F4-0	24
				NA	NU/JU INDICATOR	1566	001	F1-1	
				NA	LAUNCH CAPABILITY/SENSOR SWITCH	1569	001	F4-1	27
J5.4I	792	001	HOUR	CR	TIME INDICATOR	1570	001	F01.4-0	14
J5.4I	797	004	MINUTE	CR	TIME INDICATOR	1570	001	F01.4-0	14
J5.4I	792	001	HOUR	CR	TIME INDICATOR	1570	001	F01.4-1	14
J5.4I	797	004	MINUTE	CR	TIME INDICATOR	1570	001	F01.4-1	14
				NA	NUMBER OF MISSILES	1599	001	F01.6-1	
J2.0I	365	033	ALTITUDE, 25 FT	CR	ELEVATION, 25 FT	1612	001	F02.5-0	23
J2.0I	365	033	ALTITUDE, 25 FT	CR	ELEVATION, 25 FT	1612	001	F02.6-0	23
J2.0C1	1612	001	ELEVATION, 25 FT	CR	ELEVATION, 50 FT	1612	004	F02.0-0	19
J2.0C1	1612	001	ELEVATION, 25 FT	CR	ELEVATION, 25 FT, 2	1612	005	F02.0-0	20
				NA	TRACK NUMBER, FRIENDLY WEAPON INDICATOR	1630	001	F01.6-0	
				NA	COMMAND, 1	1631	001	F01.6-0	16
				NA	ALTITUDE/TIME INDICATOR	1636	001	F5-0	28
				NA	TIME DISCRETE	1659	002	F01.6-1	
				NA	TIME FUNCTION, ASW	1681	003	F01.5-1	14
				NA	HUR REPORTS REQUEST INDICATOR	1675	010	FJ7.1	

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TABLE B-3-3. Link 16 Message Data Element Translation from Link 22
(Sheet 1 of 7)

1. Not Used.

2. Not Used.

3. Not Used.

4. Not Used.

5. Not Used.

6. Not Used.

7. Latitude/Longitude. Conversions of these fields show how the received data converts to the same data transmitted on the destination link. In some cases extrapolation may be required and it is possible that the incoming data may have already been converted to the coordinates used by the FJUN. At the time of transmission on the destination link, the position held by the FJUN shall be converted to meet the protocols of the destination link.

a. To convert from Link 22 Latitude, 0.0412 Minute (DFI/DUI 281 016) to Link 16 Latitude, 0.0051 Minute (DFI/DUI 281 014), or from Link 22 Longitude, 0.0412 Minute (DFI/DUI 282 012) to Link 16 Longitude, 0.0051 Minute (DFI/DUI 282 014), three LSBs shall be added with value 000.

b. To convert from Link 22 Latitude, 0.0103 Minute LSB (DFI/DUI 281 029) to Link 16 Latitude, 0.0051 Minute (DFI/DUI 281 014), or from Link 22 Longitude, 0.0103 Minute LSB (DFI/DUI 282 016) to Link 16 Longitude, 0.0051 Minute (DFI/DUI 282 014), three LSBs shall be added with value 000.

c. To convert from Link 22 Latitude, 0.0412 Minute (DFI/DUI 281 016) to Link 16 Latitude, 0.0103 Minute (DFI/DUI 281 017), or from Link 22 Longitude, 0.0412 Minute (DFI/DUI 282 012) to Link 16 Longitude, 0.0103 Minute (DFI/DUI 282 013), two LSBs shall be added with value 00.

d. To convert from Link 22 Latitude, 0.0103 Minute LSB (DFI/DUI 281 029) to Link 16 Latitude, 0.0103 Minute (DFI/DUI 281 017), or from Link 22

TABLE B-3-3. Link 16 Message Data Element Translation from Link 22
(Sheet 2 of 7)

NOTES (Continued)

7. (Continued)

Longitude, 0.0103 Minute LSB (DFI/DUI 282 016) to Link 16 Longitude, 0.0103 Minute (DFI/DUI 282 013), two LSBs shall be added with value 00.

e. Not Used.

f. To convert from Link 22 Latitude, 0.0051 Minute (DFI/DUI 281 014) to Link 16 Latitude 1, 0.0013 Minute (DFI/DUI 281 018), or from Link 22 Longitude, 0.0051 Minute (DFI/DUI 282 014) to Link 16 Longitude 1, 0.0013 Minute (DFI/DUI 282 018), two LSBs shall be added with value 00.

g. To convert from Link 22 Latitude, 0.0412 Minute (DFI/DUI 281 016) to Link 16 Latitude, 0.0013 Minute (DFI/DUI 281 015), or from Link 22 Longitude, 0.0412 Minute (DFI/DUI 282 012) to Link 16 Longitude, 0.0013 Minute (DFI/DUI 282 015), five LSBs shall be added with value 00000.

h. To convert from Link 22 Latitude, 0.0103 Minute LSB (DFI/DUI 281 029) to Link 16 Latitude, 0.0013 Minute (DFI/DUI 281 015), or from Link 22 Longitude, 0.0103 Minute LSB (DFI/DUI 282 016) to Link 16 Longitude, 0.0013 Minute (DFI/DUI 282 015), five LSBs shall be added with value 00000.

8. Not Used.

9. Not Used.

10. Not Used.

11. Not Used.

12. Not Used.

13. Not Used.

TABLE B-3-3. Link 16 Message Data Element Translation from Link 22
(Sheet 3 of 7)

NOTES (Continued)

14. Translation of Time Indicator; or, Time Indicator and Time Function, ASW to Minute and Hour:

a. If the F01.4-X Time Indicator = 0, set J5.4I Minute and Hour to current time, truncated to the most recent whole minute. If the F01.4-X Time Indicator = 1 through 14, set J5.4I Minute and Hour to current time, truncated to the most recent whole minute, minus the number of minutes indicated by the Time Indicator.

b. If the F01.4-X Time Indicator = 15 and F01.5-1 Time Function, ASW ≠ 1, J5.4I Minute and Hour equate to F01.5-0 Minute and Hour. If Time Indicator = 15 and Time Function, ASW = 1, set J5.4I Minute and Hour to NO STATEMENT.

15. Not Used.

16. Translation of Link 22 Command (DFI/DUI 398 004) to Link 16 Command (DFI/DUI 398 003):

a. Command value 31 (NO STATEMENT) is only defined on Link 22 and undefined on Link 16.

b. If the Command value equals 31 (NO STATEMENT), the field Command, 1 (DFI/DUI 1631 001) specifies the interpretation of the word. The Command, 1 field specifies to start/stop High Update Rate, a parameter that does not have a counterpart in Link 16. Therefore the Command NO STATEMENT shall not be translated. However, the forwarder shall act in accordance with subparagraphs 1.8.1b and c in Chapter 1 of this annex.

17. DFI/DUI 365 038 Altitude (Height), 500 Ft is used when the F1-0 Originator Environment/Category = 3 (AIR) and F02.0-0 Scale Indicator = 0. The received Link 22 value is multiplied by 20 for transmission on Link 16; value 255 (NO STATEMENT) converts to value 8191 (ALTITUDE UNKNOWN) on Link 16.

TABLE B-3-3. Link 16 Message Data Element Translation from Link 22 (Sheet 4 of 7)

NOTES (Continued)

18. DFI/DUI 365 039 Altitude (Height), 31.25 Ft is used when the F1-0 Originator Environment/Category = 3 (AIR) and F02.0-0 Scale Indicator = 1. The received Link 22 value is multiplied by 1.25 and, where necessary, rounded up to the next higher integer. For example, value 37 (multiplied by 1.25 which is less than or equal to 46.25) is transmitted on Link 16 as value 47. Value 255 (NO STATEMENT) converts to value 8191 (ALTITUDE UNKNOWN) on Link 16.

19. DFI/DUI 1612 004 Elevation, 50 Ft (ELEV2) is used when the F1-0 Originator Environment/Category = 2 (LAND) and F02.0-0 Scale Indicator = 0. The received Link 22 value is doubled for transmission on Link 16; value 255 (NO STATEMENT) converts to value 2047 (ELEVATION UNKNOWN) on Link 16.

20. DFI/DUI 1612 005 Elevation, 25 Ft, 2 (ELEV2) is used when the F1-0 Originator Environment/Category = 2 (LAND) and F02.0-0 Scale Indicator = 1. The received Link 22 value is transmitted on Link 16; value 255 (NO STATEMENT) converts to value 2047 (ELEVATION UNKNOWN) on Link 16.

21. Link 16 Speed (DFI/DUI 367 018) is determined from Link 22 Speed (Surface/Land) (DFI/DUI 367 027) as follows:

Link 16	Link 22
SPEED	SPEED (SURFACE/LAND)
0-510 (0 THROUGH 1020 DATA MILES PER HOUR)	0-510 (0 THROUGH 1020 DATA MILES PER HOUR)
2047 (NO STATEMENT)	511 (NO STATEMENT)

22. The Link 22 received value less than 511 is divided by 4 and, where necessary, rounded up to the next higher integer. For example, Link 22 value 345 (345 divided by 4 = 86.25) is transmitted on Link 16 as value 87. Value 511 (NO STATEMENT) on Link 22 converts to value 2047 (NO STATEMENT) on Link 16.

23. The received Link 22 value is transmitted on Link 16; value 2047 (NO STATEMENT) converts to value 8191 (ALTITUDE UNKNOWN) on Link 16.

TABLE B-3-3. Link 16 Message Data Element Translation from Link 22
(Sheet 5 of 7)

NOTES (Continued)

24. The Lat/Long Scale Indicator determines which DUI of DFIs 281 and 282 is being received from Link 22 (see paragraph 1.3.3.3 of Chapter I of Annex B to ATDLP-5.22). Conversion is achieved as indicated in Note 7.

25. The received Link 22 value is transmitted on Link 16; values 127 through 255 (NO STATEMENT) convert to value 127 (NO STATEMENT) on Link 16. If the Link 11/Link 11B Track Number is set to No Statement, then the Track Number, Source in the F02.0-1 shall be transmitted.

26. If Depth Indicator = 0, J3.4C1 Depth, 15 Meters equates to F4-1 Depth, 15 Meters. If Depth Indicator = 1, J3.4C1 Depth Contact equates to F4-1 Depth Contact.

27. If the Launch Capability/Sensor Switch = 0, J3.4I Launch Capability equates to F4-1 Launch Capability. If the Launch Capability/Sensor Switch = 1, J3.4C1 Sensor equates to F4-1 Sensor.

28. If the Altitude/Time Indicator = 0, J3.2I Altitude, 25 Feet, equates to F5-0 Altitude, 25 Feet. If the Altitude/Time Indicator = 1, J3.2C1 Minute and Hour equate to F5-0 Minute and Hour.

29. Translation of Lock-On Indicator:

Link 16	Link 22
LOCK-ON	LOCK-ON INDICATOR
0 - NO STATEMENT	0 - NO STATEMENT
1 - LOCK-ON	1 - LOCK-ON

30. This Link 22 data element's DI values are equivalent to this Link 16 data element, although the DI Names are different.

31. F01.7 Response Message Processing. See paragraph 1.1.7 of Chapter I of Annex B to ATDLP-5.22 for a more detailed description. Only the F01.7 message Receipt/Compliance and Track Number, Addressee are forwarded, but the other fields are necessary for the FJUN to determine what J-Series message response needs to be generated.

TABLE B-3-3. Link 16 Message Data Element Translation from Link 22 (Sheet 6 of 7)

NOTES (Continued)

31. (Continued)

a. Receipt/Compliance. Although the same DFI/DUI is used in both Link 16 and Link 22, value 2 and some CANTPRO values are not used on Link 22. The F01.7 Response Message Receipt/Compliance will be any value considered a manual (e.g., WILCO) or an automatic response (e.g., CANTPRO).

b. The FJUN shall forward the F01.7 message as the appropriate J-Series message to which it is in response. To do this requires a translation of the Response Type which is as follows:

Link 16 MESSAGE	Link 22 RESPONSE TYPE
J14.2	0 - RESPONSE IS TO AN EW COORDINATION MESSAGE (FJ14.2)
J9.0	1 - RESPONSE IS TO A COMMAND MESSAGE (F01.6)
J10.3	2 - RESPONSE IS TO A HANDOVER MESSAGE (FJ10.3)
J9.1	3 - RESPONSE IS TO AN ENGAGEMENT COORDINATION MESSAGE (FJ9.1)
J12.4	4 - RESPONSE IS TO A CONTROLLING UNIT CHANGE MESSAGE (FJ12.4)

32. Not Used.

33. Not Used.

34. Not Used.

35. Not Used.

36. The J5.4I Bearing Report Type is set to 0 (BEARING AND RANGE) when the Link 22 Acoustic Bearing/Range message contains an F01.4-0 with an F01.5-0 word. The J5.4I Bearing Report Type is set to 1 (PASSIVE BEARING (AMBIGUOUS)) when the Link 22 Acoustic Bearing/Range message contains an F01.4-1 word without an F01.5-0 word. The J5.4I Bearing Report Type is set

TABLE B-3-3. Link 16 Message Data Element Translation from Link 22
(Sheet 7 of 7)

NOTES (Continued)

36. (Continued)

to 2 (PASSIVE BEARING (RESOLVED)) when the Link 22 Acoustic Bearing/Range message contains an F01.4-0 word without an F01.5-0 word. The J5.4I Bearing Report Type is set to 3 (RANGE ONLY) when the Link 22 Acoustic Bearing/Range message contains an F01.4-1 word with an F01.5-0 word.

37. This switch field for stacked fields needs to be evaluated to determine whether Specific Type or Platform/Platform Activity is present.

38. The Link 16 Command and Control Indicator is set to 1 when receiving an Indirect PLI Position report.

39. Not Used.

40. The received Link 22 value is transmitted on Link 16; values 127 through 255 (NO STATEMENT) convert to value 127 (NO STATEMENT) on Link 16.

41. The Link 16 J2.0I Originator Environment is determined by the Sublabel, F-Series field in the Link 22 F02.X-0.

Link 16 ORIGINATOR ENVIRONMENT	Link 22 SUBLABEL, F-SERIES
0 - SURFACE	3
1 - SUBSURFACE	4
2 - LAND	5 OR 6
3 - AIR	2
N/A	0, 1, 7

42. When the NU/JU Indicator = 0 (Data Originated from an NU), the J2.0I Site shall be set to value 7, GU. When the NU/JU Indicator = 1 (Data Originated from a JU), the J2.0I Site shall be set to value 4, JU.

43. When the NU/JU Indicator = 0 (Data Originated from an NU), the J2.0I Generic Unit Type shall be set to value 1, Link 22 Unit (NU). When the NU/JU Indicator = 1 (Data Originated from a JU), the J2.0I Generic Unit Type shall be set to value 0, No Statement.

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TABLE B-3-4. Link 22 Message Data Element Translation from Link 16 (IN SOURCE WORD ORDER) (Sheet 1 of 4)

DESTINATION: Link 22					SOURCE: Link 16				
WORD	DFI	DUI	DATA ELEMENT NAME	TRAN REQD	DATA ELEMENT NAME	DFI	DUI	WORD	NOTE
F1-0	269	016	LINK 11/LINK 11B TRACK NUMBER	CR	TRACK NUMBER, SOURCE	769	003	HEADER	24
F02.0-0	1565	001	SCALE INDICATOR	CR	ALTITUDE, 25 FT	365	033	J2.0I	1
				NA	ALTITUDE QUALITY, GU	283	005	J2.0I	
				NA	POSITION QUALITY, GU	283	006	J2.0I	
F1-0	281	014	LATITUDE, 0.0051 MINUTE	CR	LATITUDE 1, 0.0013 MINUTE	281	018	J2.0E0	2
F1-0	282	014	LONGITUDE, 0.0051 MINUTE	CR	LONGITUDE 1, 0.0013 MINUTE	282	018	J2.0E0	2
F1-0	281	014	LATITUDE, 0.0051 MINUTE	CR	LATITUDE, LSBS, 0.0003 MINUTE	281	019	J2.0C3	2
F1-0	282	014	LONGITUDE, 0.0051 MINUTE	CR	LONGITUDE, LSBS, 0.0003 MINUTE	282	019	J2.0C3	2
F02.0-0	1612	004	ELEVATION, 50 FT	CR	ELEVATION, 25 FT	1612	001	J2.0C1	1
F02.0-0	1612	005	ELEVATION, 25 FT, 2	CR	ELEVATION, 25 FT	1612	001	J2.0C1	1
F1-1	1566	001	NU/JU INDICATOR	CR				J2.2I	25
				NA	RTT REPLY STATUS INDICATOR	274	001	J2.2I	
				NA	TIME QUALITY	279	001	J2.2I	
				NA	GEODETIC POSITION QUALITY	283	001	J2.2I	
				NA	ALTITUDE QUALITY	283	002	J2.2I	
F1-1	281	016	LATITUDE, 0.0412 MINUTE	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.2E0	2
F1-1	281	029	LATITUDE, 0.0103 MINUTE LSB	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.2E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.2E0	4
F1-1	282	012	LONGITUDE, 0.0412 MINUTE	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.2E0	2
F1-1	282	016	LONGITUDE, 0.0103 MINUTE LSB	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.2E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.2E0	4
F1-1	1566	001	NU/JU INDICATOR	CR				J2.3I	25
				NA	RTT REPLY STATUS INDICATOR	274	001	J2.3I	
				NA	TIME QUALITY	279	001	J2.3I	
				NA	GEODETIC POSITION QUALITY	283	001	J2.3I	
				NA	ELEVATION QUALITY	283	003	J2.3I	
				NA	STRENGTH	386	013	J2.3I	
				NA	ELEVATION, 25 FT	1612	001	J2.3I	
F1-1	281	016	LATITUDE, 0.0412 MINUTE	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.3E0	2
F1-1	281	029	LATITUDE, 0.0103 MINUTE LSB	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.3E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.3E0	4
F1-1	282	012	LONGITUDE, 0.0412 MINUTE	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.3E0	2
F1-1	282	016	LONGITUDE, 0.0103 MINUTE LSB	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.3E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.3E0	4
F02.3-0	367	027	SPEED (SURFACE/LAND)	CR	SPEED	367	018	J2.3E0	5
F1-1	1566	001	NU/JU INDICATOR	CR				J2.4I	25
				NA	RTT REPLY STATUS INDICATOR	274	001	J2.4I	
				NA	TIME QUALITY	279	001	J2.4I	
				NA	GEODETIC POSITION QUALITY	283	001	J2.4I	
				NA	DEPTH QUALITY	283	004	J2.4I	
F1-1	281	016	LATITUDE, 0.0412 MINUTE	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.4E0	2
F1-1	281	029	LATITUDE, 0.0103 MINUTE LSB	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.4E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.4E0	4

TABLE B-3-4. Link 22 Message Data Element Translation from Link 16 (IN SOURCE WORD ORDER) (Sheet 2 of 4)

DESTINATION: Link 22					SOURCE: Link 16				
WORD	DFI	DUI	DATA ELEMENT NAME	TRAN REQD	DATA ELEMENT NAME	DFI	DUI	WORD	NOTE
F1-1	282	012	LONGITUDE, 0.0412 MINUTE	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.4E0	2
F1-1	282	016	LONGITUDE, 0.0103 MINUTE LSB	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.4E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.4E0	4
F02.4-0	367	023	SPEED, ASW	CR	SPEED	367	018	J2.4E0	6
F1-1	1566	001	NU/JU INDICATOR	CR				J2.5I	25
				NA	RTT REPLY STATUS INDICATOR	274	001	J2.5I	
				NA	TIME QUALITY	279	001	J2.5I	
				NA	GEODETIC POSITION QUALITY	283	001	J2.5I	
				NA	ELEVATION QUALITY	283	003	J2.5I	
				NA	STRENGTH	386	013	J2.5I	
				NA	DISPLACED POSITION INDICATOR	1619	001	J2.5I	26
F1-1	281	016	LATITUDE, 0.0412 MINUTE	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.5E0	2
F1-1	281	029	LATITUDE, 0.0103 MINUTE LSB	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.5E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.5E0	4
F1-1	282	012	LONGITUDE, 0.0412 MINUTE	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.5E0	2
F1-1	282	016	LONGITUDE, 0.0103 MINUTE LSB	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.5E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.5E0	4
				NA	VOICE CALL SIGN	264	001	J2.5C1	
				NA	CONTROL CHANNEL	348	006	J2.5C1	
				NA	VOICE FREQUENCY/CHANNEL	417	016	J2.5C1	
				NA	ACTIVE RELAY INDICATOR, VOICE CHANNEL	1571	003	J2.5C1	
				NA	ACTIVE RELAY INDICATOR, CONTROL CHANNEL	1571	004	J2.5C1	
				NA	VOICE CALL SIGN INDICATOR	1717	001	J2.5C1	
F1-1	281	016	LATITUDE, 0.0412 MINUTE	CR	LATITUDE, 0.0103 MINUTE	281	017	J2.5C4	2
F1-1	281	029	LATITUDE, 0.0103 MINUTE LSB	CR	LATITUDE, 0.0103 MINUTE	281	017	J2.5C4	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LATITUDE, 0.0103 MINUTE	281	017	J2.5C4	4
F1-1	282	012	LONGITUDE, 0.0412 MINUTE	CR	LONGITUDE, 0.0103 MINUTE	282	013	J2.5C4	2
F1-1	282	016	LONGITUDE, 0.0103 MINUTE LSB	CR	LONGITUDE, 0.0103 MINUTE	282	013	J2.5C4	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LONGITUDE, 0.0103 MINUTE	282	013	J2.5C4	4
F1-1	1566	001	NU/JU INDICATOR	CR				J2.6I	25
				NA	RTT REPLY STATUS INDICATOR	274	001	J2.6I	
				NA	TIME QUALITY	279	001	J2.6I	
				NA	GEODETIC POSITION QUALITY	283	001	J2.6I	
				NA	ELEVATION QUALITY	283	003	J2.6I	
				NA	STRENGTH	386	013	J2.6I	
F1-1	281	016	LATITUDE, 0.0412 MINUTE	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.6E0	2
F1-1	281	029	LATITUDE, 0.0103 MINUTE LSB	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.6E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.6E0	4
F1-1	282	012	LONGITUDE, 0.0412 MINUTE	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.6E0	2
F1-1	282	016	LONGITUDE, 0.0103 MINUTE LSB	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.6E0	2

TABLE B-3-4. Link 22 Message Data Element Translation from Link 16 (IN SOURCE WORD ORDER) (Sheet 3 of 4)

DESTINATION: Link 22					SOURCE: Link 16				
WORD	DFI	DUI	DATA ELEMENT NAME	TRAN REQD	DATA ELEMENT NAME	DFI	DUI	WORD	NOTE
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.6E0	4
F02.6-0	367	027	SPEED (SURFACE/LAND)	CR	SPEED	367	018	J2.6E0	5
				NA	VOICE CALL SIGN	264	001	J2.6C1	
				NA	CONTROL CHANNEL	348	006	J2.6C1	
				NA	VOICE FREQUENCY/CHANNEL	417	016	J2.6C1	
				NA	ACTIVE RELAY INDICATOR, VOICE CHANNEL	1571	003	J2.6C1	
				NA	ACTIVE RELAY INDICATOR, CONTROL CHANNEL	1571	004	J2.6C1	
				NA	VOICE CALL SIGN INDICATOR	1717	001	J2.6C1	
F5-0	1636	001	ALTITUDE/TIME INDICATOR	CR	ALTITUDE, 25 FT	365	033	J3.2I	7
F5-0	839	004	PLI TN/ID INDICATOR	CR	PPLI TRACK NUMBER AND IDENTITY INDICATOR	839	001	J3.2I	27
F2	281	016	LATITUDE, 0.0412 MINUTE	CR	LATITUDE, 0.0051 MINUTE	281	014	J3.2E0	2
F2	281	029	LATITUDE, 0.0103 MINUTE LSB	CR	LATITUDE, 0.0051 MINUTE	281	014	J3.2E0	2
F2	1565	002	LAT/LONG SCALE INDICATOR	CR	LATITUDE, 0.0051 MINUTE	281	014	J3.2E0	4
F2	282	012	LONGITUDE, 0.0412 MINUTE	CR	LONGITUDE, 0.0051 MINUTE	282	014	J3.2E0	2
F2	282	016	LONGITUDE, 0.0103 MINUTE LSB	CR	LONGITUDE, 0.0051 MINUTE	282	014	J3.2E0	2
F2	1565	002	LAT/LONG SCALE INDICATOR	CR	LONGITUDE, 0.0051 MINUTE	282	014	J3.2E0	4
F5-0	1636	001	ALTITUDE/TIME INDICATOR	CR	HOUR	792	001	J3.2C1	7
F5-0	1636	001	ALTITUDE/TIME INDICATOR	CR	MINUTE	797	004	J3.2C1	7
F5-0	839	004	PLI TN/ID INDICATOR	CR	PPLI TRACK NUMBER AND IDENTITY INDICATOR	839	001	J3.3I	27
F3	281	016	LATITUDE, 0.0412 MINUTE	CR	LATITUDE, 0.0051 MINUTE	281	014	J3.3E0	2
F3	281	029	LATITUDE, 0.0103 MINUTE LSB	CR	LATITUDE, 0.0051 MINUTE	281	014	J3.3E0	2
F3	1565	002	LAT/LONG SCALE INDICATOR	CR	LATITUDE, 0.0051 MINUTE	281	014	J3.3E0	4
F3	282	012	LONGITUDE, 0.0412 MINUTE	CR	LONGITUDE, 0.0051 MINUTE	282	014	J3.3E0	2
F3	282	016	LONGITUDE, 0.0103 MINUTE LSB	CR	LONGITUDE, 0.0051 MINUTE	282	014	J3.3E0	2
F3	1565	002	LAT/LONG SCALE INDICATOR	CR	LONGITUDE, 0.0051 MINUTE	282	014	J3.3E0	4
F5-1	367	027	SPEED (SURFACE/LAND)	CR	SPEED	367	018	J3.3E0	5
F4-0	839	004	PLI TN/ID INDICATOR	CR	PPLI TRACK NUMBER AND IDENTITY INDICATOR	839	001	J3.4I	27
F4-1	267	005	SUBSURFACE SPECIFIC TYPE INDICATOR	CR	SUBSURFACE PLATFORM	1797	003	J3.4I	7
F4-1	267	005	SUBSURFACE SPECIFIC TYPE INDICATOR	CR	SUBSURFACE ACTIVITY	1798	003	J3.4I	7
F4-1	1569	001	LAUNCH CAPABILITY/SENSOR SWITCH	CR	LAUNCH CAPABILITY	1973	001	J3.4I	7
F4-0	281	016	LATITUDE, 0.0412 MINUTE	CR	LATITUDE, 0.0051 MINUTE	281	014	J3.4E0	2
F4-0	281	029	LATITUDE, 0.0103 MINUTE LSB	CR	LATITUDE, 0.0051 MINUTE	281	014	J3.4E0	2
F4-0	1565	002	LAT/LONG SCALE INDICATOR	CR	LATITUDE, 0.0051 MINUTE	281	014	J3.4E0	4

TABLE B-3-4. Link 22 Message Data Element Translation from Link 16 (IN SOURCE WORD ORDER) (Sheet 4 of 4)

DESTINATION: Link 22					SOURCE: Link 16				
WORD	DFI	DUI	DATA ELEMENT NAME	TRAN REQD	DATA ELEMENT NAME	DFI	DUI	WORD	NOTE
F4-0	282	012	LONGITUDE, 0.0412 MINUTE	CR	LONGITUDE, 0.0051 MINUTE	282	014	J3.4E0	2
F4-0	282	016	LONGITUDE, 0.0103 MINUTE LSB	CR	LONGITUDE, 0.0051 MINUTE	282	014	J3.4E0	2
F4-0	1565	002	LAT/LONG SCALE INDICATOR	CR	LONGITUDE, 0.0051 MINUTE	282	014	J3.4E0	4
F4-1	1569	001	LAUNCH CAPABILITY/SENSOR SWITCH	CR	SENSOR	359	001	J3.4C1	7
F4-1	366	016	DEPTH INDICATOR	CR	DEPTH, 15 METERS	366	008	J3.4C1	7
F4-1	366	016	DEPTH INDICATOR	CR	DEPTH CONTACT	366	014	J3.4C1	7
F01.4-0	1570	001	TIME INDICATOR	CR	HOUR	792	001	J5.4I	13
F01.4-1	1570	001	TIME INDICATOR	CR	HOUR	792	001	J5.4I	13
F01.5-0	792	001	HOUR	CR	HOUR	792	001	J5.4I	13
F01.4-0	1570	001	TIME INDICATOR	CR	MINUTE	797	004	J5.4I	13
F01.4-1	1570	001	TIME INDICATOR	CR	MINUTE	797	004	J5.4I	13
F01.5-0	797	004	MINUTE	CR	MINUTE	797	004	J5.4I	13
F01.5-0	839	004	PLI TN/ID INDICATOR	CR	PPLI TRACK NUMBER AND IDENTITY INDICATOR	839	001	J5.4I	27
F01.5-0	267	005	SUBSURFACE SPECIFIC TYPE INDICATOR	CR	SUBSURFACE PLATFORM	1797	003	J5.4I	7
F01.4-0	372	021	BEARING 1, ASW	CR	BEARING REPORT TYPE	373	001	J5.4E0	14
F01.4-1	372	021	BEARING 1, ASW	CR	BEARING REPORT TYPE	373	001	J5.4E0	14
F01.4-1	372	022	BEARING 2, ASW	CR	BEARING REPORT TYPE	373	001	J5.4E0	14
F01.5-0	267	005	SUBSURFACE SPECIFIC TYPE INDICATOR	CR	SUBSURFACE ACTIVITY	1798	003	J5.4C2	7
F01.7-0	711	001	RESPONSE TYPE	CR	RECEIPT/COMPLIANCE	392	008	J9.0I	29
F01.6-0	398	004	COMMAND	CR	COMMAND	398	003	J9.0I	15
				NA	RECURRENCE RATE, RECEIPT/ COMPLIANCE	444	025	J9.0I	
F01.7-0	711	001	RESPONSE TYPE	CR	RECEIPT/COMPLIANCE	392	008	J9.1I	29
F01.7-0	711	001	RESPONSE TYPE	CR	RECEIPT/COMPLIANCE	392	008	J10.3I	29
F01.7-0	711	001	RESPONSE TYPE	CR	RECEIPT/COMPLIANCE	392	008	J12.4I	29
F01.7-0	711	001	RESPONSE TYPE	CR	RECEIPT/COMPLIANCE	392	008	J14.2I	29
				NA	RECURRENCE RATE, RECEIPT/ COMPLIANCE	444	025	J14.2I	

TABLE B-3-5. Link 22 Message Data Element Translation from Link 16 (IN SOURCE DATA ELEMENT ORDER)
(Sheet 1 of 4)

DESTINATION: Link 22					SOURCE: Link 16				
WORD	DFI	DUI	DATA ELEMENT NAME	TRAN REQD	DATA ELEMENT NAME	DFI	DUI	WORD	NOTE
F1-1	1566	001	NU/JU INDICATOR	CR				J2.2I	25
F1-1	1566	001	NU/JU INDICATOR	CR				J2.3I	25
F1-1	1566	001	NU/JU INDICATOR	CR				J2.4I	25
F1-1	1566	001	NU/JU INDICATOR	CR				J2.5I	25
F1-1	1566	001	NU/JU INDICATOR	CR				J2.6I	25
				NA	VOICE CALL SIGN	264	001	J2.5C1	
				NA	VOICE CALL SIGN	264	001	J2.6C1	
				NA	RTT REPLY STATUS INDICATOR	274	001	J2.2I	
				NA	RTT REPLY STATUS INDICATOR	274	001	J2.3I	
				NA	RTT REPLY STATUS INDICATOR	274	001	J2.4I	
				NA	RTT REPLY STATUS INDICATOR	274	001	J2.5I	
				NA	RTT REPLY STATUS INDICATOR	274	001	J2.6I	
				NA	TIME QUALITY	279	001	J2.2I	
				NA	TIME QUALITY	279	001	J2.3I	
				NA	TIME QUALITY	279	001	J2.4I	
				NA	TIME QUALITY	279	001	J2.5I	
				NA	TIME QUALITY	279	001	J2.6I	
F2	281	016	LATITUDE, 0.0412 MINUTE	CR	LATITUDE, 0.0051 MINUTE	281	014	J3.2E0	2
F2	281	029	LATITUDE, 0.0103 MINUTE LSB	CR	LATITUDE, 0.0051 MINUTE	281	014	J3.2E0	2
F2	1565	002	LAT/LONG SCALE INDICATOR	CR	LATITUDE, 0.0051 MINUTE	281	014	J3.2E0	4
F3	281	016	LATITUDE, 0.0412 MINUTE	CR	LATITUDE, 0.0051 MINUTE	281	014	J3.3E0	2
F3	281	029	LATITUDE, 0.0103 MINUTE LSB	CR	LATITUDE, 0.0051 MINUTE	281	014	J3.3E0	2
F3	1565	002	LAT/LONG SCALE INDICATOR	CR	LATITUDE, 0.0051 MINUTE	281	014	J3.3E0	4
F4-0	281	016	LATITUDE, 0.0412 MINUTE	CR	LATITUDE, 0.0051 MINUTE	281	014	J3.4E0	2
F4-0	281	029	LATITUDE, 0.0103 MINUTE LSB	CR	LATITUDE, 0.0051 MINUTE	281	014	J3.4E0	2
F4-0	1565	002	LAT/LONG SCALE INDICATOR	CR	LATITUDE, 0.0051 MINUTE	281	014	J3.4E0	4
F1-0	282	014	LONGITUDE, 0.0051 MINUTE	CR	LONGITUDE 1, 0.0013 MINUTE	282	018	J2.0E0	2
F1-1	281	016	LATITUDE, 0.0412 MINUTE	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.2E0	2
F1-1	281	029	LATITUDE, 0.0103 MINUTE LSB	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.2E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.2E0	4
F1-1	281	016	LATITUDE, 0.0412 MINUTE	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.3E0	2
F1-1	281	029	LATITUDE, 0.0103 MINUTE LSB	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.3E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.3E0	4
F1-1	281	016	LATITUDE, 0.0412 MINUTE	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.4E0	2
F1-1	281	029	LATITUDE, 0.0103 MINUTE LSB	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.4E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.4E0	4
F1-1	281	016	LATITUDE, 0.0412 MINUTE	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.5E0	2
F1-1	281	029	LATITUDE, 0.0103 MINUTE LSB	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.5E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.5E0	4
F1-1	281	016	LATITUDE, 0.0412 MINUTE	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.6E0	2
F1-1	281	029	LATITUDE, 0.0103 MINUTE LSB	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.6E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LATITUDE, 0.0013 MINUTE	281	015	J2.6E0	4
F1-0	281	014	LATITUDE, 0.0051 MINUTE	CR	LATITUDE, 0.0103 MINUTE	281	017	J2.0E0	2

TABLE B-3-5. Link 22 Message Data Element Translation from Link 16 (IN SOURCE DATA ELEMENT ORDER)
(Sheet 2 of 4)

DESTINATION: Link 22					SOURCE: Link 16				
WORD	DFI	DUI	DATA ELEMENT NAME	TRAN REQD	DATA ELEMENT NAME	DFI	DUI	WORD	NOTE
F1-1	281	016	LATITUDE, 0.0412 MINUTE	CR	LATITUDE, 0.0103 MINUTE	281	017	J2.5C4	2
F1-1	281	029	LATITUDE, 0.0103 MINUTE LSB	CR	LATITUDE, 0.0103 MINUTE	281	017	J2.5C4	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LATITUDE, 0.0103 MINUTE	281	017	J2.5C4	4
F1-0	281	014	LATITUDE, 0.0051 MINUTE	CR	LATITUDE, LSBS, 0.0003 MINUTE	281	019	J2.0C3	2
F1-0	282	014	LONGITUDE, 0.0051 MINUTE	CR	LONGITUDE, 0.0103 MINUTE	282	013	J2.0E0	2
F1-1	282	012	LONGITUDE, 0.0412 MINUTE	CR	LONGITUDE, 0.0103 MINUTE	282	013	J2.5C4	2
F1-1	282	016	LONGITUDE, 0.0103 MINUTE LSB	CR	LONGITUDE, 0.0103 MINUTE	282	013	J2.5C4	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LONGITUDE, 0.0103 MINUTE	282	013	J2.5C4	4
F2	282	012	LONGITUDE, 0.0412 MINUTE	CR	LONGITUDE, 0.0051 MINUTE	282	014	J3.2E0	2
F2	282	016	LONGITUDE, 0.0103 MINUTE LSB	CR	LONGITUDE, 0.0051 MINUTE	282	014	J3.2E0	2
F2	1565	002	LAT/LONG SCALE INDICATOR	CR	LONGITUDE, 0.0051 MINUTE	282	014	J3.2E0	4
F3	282	012	LONGITUDE, 0.0412 MINUTE	CR	LONGITUDE, 0.0051 MINUTE	282	014	J3.3E0	2
F3	282	016	LONGITUDE, 0.0103 MINUTE LSB	CR	LONGITUDE, 0.0051 MINUTE	282	014	J3.3E0	2
F3	1565	002	LAT/LONG SCALE INDICATOR	CR	LONGITUDE, 0.0051 MINUTE	282	014	J3.3E0	4
F4-0	282	012	LONGITUDE, 0.0412 MINUTE	CR	LONGITUDE, 0.0051 MINUTE	282	014	J3.4E0	2
F4-0	282	016	LONGITUDE, 0.0103 MINUTE LSB	CR	LONGITUDE, 0.0051 MINUTE	282	014	J3.4E0	2
F4-0	1565	002	LAT/LONG SCALE INDICATOR	CR	LONGITUDE, 0.0051 MINUTE	282	014	J3.4E0	4
F1-1	282	012	LONGITUDE, 0.0412 MINUTE	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.2E0	2
F1-1	282	016	LONGITUDE, 0.0103 MINUTE LSB	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.2E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.2E0	4
F1-1	282	012	LONGITUDE, 0.0412 MINUTE	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.3E0	2
F1-1	282	016	LONGITUDE, 0.0103 MINUTE LSB	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.3E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.3E0	4
F1-1	282	012	LONGITUDE, 0.0412 MINUTE	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.4E0	2
F1-1	282	016	LONGITUDE, 0.0103 MINUTE LSB	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.4E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.4E0	4
F1-1	282	012	LONGITUDE, 0.0412 MINUTE	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.5E0	2
F1-1	282	016	LONGITUDE, 0.0103 MINUTE LSB	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.5E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.5E0	4
F1-1	282	012	LONGITUDE, 0.0412 MINUTE	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.6E0	2
F1-1	282	016	LONGITUDE, 0.0103 MINUTE LSB	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.6E0	2
F1-1	1565	002	LAT/LONG SCALE INDICATOR	CR	LONGITUDE, 0.0013 MINUTE	282	015	J2.6E0	4
F1-0	282	014	LONGITUDE, 0.0051 MINUTE	CR	LONGITUDE, LSBS, 0.0003 MINUTE	282	019	J2.0C3	2
				NA	GEODETIC POSITION QUALITY	283	001	J2.2I	
				NA	GEODETIC POSITION QUALITY	283	001	J2.3I	
				NA	GEODETIC POSITION QUALITY	283	001	J2.4I	
				NA	GEODETIC POSITION QUALITY	283	001	J2.5I	
				NA	GEODETIC POSITION QUALITY	283	001	J2.6I	
				NA	ALTITUDE QUALITY	283	002	J2.2I	
				NA	ELEVATION QUALITY	283	003	J2.3I	
				NA	ELEVATION QUALITY	283	003	J2.5I	
				NA	ELEVATION QUALITY	283	003	J2.6I	
				NA	DEPTH QUALITY	283	004	J2.4I	

TABLE B-3-5. Link 22 Message Data Element Translation from Link 16 (IN SOURCE DATA ELEMENT ORDER)
(Sheet 3 of 4)

DESTINATION: Link 22					SOURCE: Link 16				
WORD	DFI	DUI	DATA ELEMENT NAME	TRAN REQD	DATA ELEMENT NAME	DFI	DUI	WORD	NOTE
				NA	ALTITUDE QUALITY, GU	283	005	J2.0I	
				NA	POSITION QUALITY, GU	283	006	J2.0I	
				NA	CONTROL CHANNEL	348	006	J2.5C1	
				NA	CONTROL CHANNEL	348	006	J2.6C1	
F4-1	1569	001	LAUNCH CAPABILITY/SENSOR SWITCH	CR	SENSOR	359	001	J3.4C1	7
F02.0-0	1565	001	SCALE INDICATOR	CR	ALTITUDE, 25 FT	365	033	J2.0I	1
F5-0	1636	001	ALTITUDE/TIME INDICATOR	CR	ALTITUDE, 25 FT	365	033	J3.2I	7
F4-1	366	016	DEPTH INDICATOR	CR	DEPTH, 15 METERS	366	008	J3.4C1	7
F4-1	366	016	DEPTH INDICATOR	CR	DEPTH CONTACT	366	014	J3.4C1	7
F02.3-0	367	027	SPEED (SURFACE/LAND)	CR	SPEED	367	018	J2.3E0	5
F02.4-0	367	023	SPEED, ASW	CR	SPEED	367	018	J2.4E0	6
F02.6-0	367	027	SPEED (SURFACE/LAND)	CR	SPEED	367	018	J2.6E0	5
F5-1	367	027	SPEED (SURFACE/LAND)	CR	SPEED	367	018	J3.3E0	5
F01.4-0	372	021	BEARING 1, ASW	CR	BEARING REPORT TYPE	373	001	J5.4E0	14
F01.4-1	372	021	BEARING 1, ASW	CR	BEARING REPORT TYPE	373	001	J5.4E0	14
F01.4-1	372	022	BEARING 2, ASW	CR	BEARING REPORT TYPE	373	001	J5.4E0	14
				NA	STRENGTH	386	013	J2.3I	
				NA	STRENGTH	386	013	J2.5I	
				NA	STRENGTH	386	013	J2.6I	
F01.7-0	711	001	RESPONSE TYPE	CR	RECEIPT/COMPLIANCE	392	008	J9.0I	29
F01.7-0	711	001	RESPONSE TYPE	CR	RECEIPT/COMPLIANCE	392	008	J9.1I	29
F01.7-0	711	001	RESPONSE TYPE	CR	RECEIPT/COMPLIANCE	392	008	J10.3I	29
F01.7-0	711	001	RESPONSE TYPE	CR	RECEIPT/COMPLIANCE	392	008	J12.4I	29
F01.7-0	711	001	RESPONSE TYPE	CR	RECEIPT/COMPLIANCE	392	008	J14.2I	29
F01.6-0	398	004	COMMAND	CR	COMMAND	398	003	J9.0I	15
				NA	VOICE FREQUENCY/CHANNEL	417	016	J2.5C1	
				NA	VOICE FREQUENCY/CHANNEL	417	016	J2.6C1	
				NA	RECURRENCE RATE, RECEIPT/ COMPLIANCE	444	025	J9.0I	
F1-0	269	016	LINK 11/LINK 11B TRACK NUMBER	CR	TRACK NUMBER, SOURCE	769	003	HEADER	24
F5-0	1636	001	ALTITUDE/TIME INDICATOR	CR	HOUR	792	001	J3.2C1	7
F01.4-0	1570	001	TIME INDICATOR	CR	HOUR	792	001	J5.4I	13
F01.4-1	1570	001	TIME INDICATOR	CR	HOUR	792	001	J5.4I	13
F01.5-0	792	001	HOUR	CR	HOUR	792	001	J5.4I	13
F01.5-1			HOUR	CR	HOUR	792	001	J5.4I	
F5-0	1636	001	ALTITUDE/TIME INDICATOR	CR	MINUTE	797	004	J3.2C1	7
F01.4-0	1570	001	TIME INDICATOR	CR	MINUTE	797	004	J5.4I	13
F01.4-1	1570	001	TIME INDICATOR	CR	MINUTE	797	004	J5.4I	13
F01.5-0	797	004	MINUTE	CR	MINUTE	797	004	J5.4I	13
F5-0	839	004	PLI TN/ID INDICATOR	CR	PPLI TRACK NUMBER AND IDENTITY INDICATOR	839	001	J3.2I	27

TABLE B-3-5. Link 22 Message Data Element Translation from Link 16 (IN SOURCE DATA ELEMENT ORDER)
(Sheet 4 of 4)

DESTINATION: Link 22				TRAN	SOURCE: Link 16				
WORD	DFI	DUI	DATA ELEMENT NAME	REQD	DATA ELEMENT NAME	DFI	DUI	WORD	NOTE
F5-0	839	004	PLI TN/ID INDICATOR	CR	PPLI TRACK NUMBER AND IDENTITY INDICATOR	839	001	J3.3I	27
F4-0	839	004	PLI TN/ID INDICATOR	CR	PPLI TRACK NUMBER AND IDENTITY INDICATOR	839	001	J3.4I	27
F01.5-0	839	004	PLI TN/ID INDICATOR	CR	PPLI TRACK NUMBER AND IDENTITY INDICATOR	839	001	J5.4I	27
				NA	ACTIVE RELAY INDICATOR, VOICE CHANNEL	1571	003	J2.5C1	
				NA	ACTIVE RELAY INDICATOR, VOICE CHANNEL	1571	003	J2.6C1	
				NA	ACTIVE RELAY INDICATOR, CONTROL CHANNEL	1571	004	J2.5C1	
				NA	ACTIVE RELAY INDICATOR, CONTROL CHANNEL	1571	004	J2.6C1	
F02.0-0	1612	004	ELEVATION, 50 FT	CR	ELEVATION, 25 FT	1612	001	J2.0C1	1
F02.0-0	1612	005	ELEVATION, 25 FT, 2	CR	ELEVATION, 25 FT	1612	001	J2.0C1	1
				NA	ELEVATION, 25 FT	1612	001	J2.3I	
				NA	DISPLACED POSITION INDICATOR	1619	001	J2.5I	26
				NA	VOICE CALL SIGN INDICATOR	1717	001	J2.5C1	
				NA	VOICE CALL SIGN INDICATOR	1717	001	J2.6C1	
F4-1	267	005	SUBSURFACE SPECIFIC TYPE INDICATOR	CR	SUBSURFACE PLATFORM	1797	003	J3.4I	7
F01.5-0	267	005	SUBSURFACE SPECIFIC TYPE INDICATOR	CR	SUBSURFACE PLATFORM	1797	003	J5.4I	7
F4-1	267	005	SUBSURFACE SPECIFIC TYPE INDICATOR	CR	SUBSURFACE ACTIVITY	1798	003	J3.4I	7
F01.5-0	267	005	SUBSURFACE SPECIFIC TYPE INDICATOR	CR	SUBSURFACE ACTIVITY	1798	003	J5.4C2	7
F4-1	1569	001	LAUNCH CAPABILITY/SENSOR SWITCH	CR	LAUNCH CAPABILITY	1973	001	J3.4I	7

TABLE B-3-6. Link 22 Message Data Element Translation from Link 16
(Sheet 1 of 6)

1. The J2.0I Originator Environment/Category (ENV/CAT) determines whether DFI 1612 or 365 is used.

a. If ENV/CAT = 2 (LAND), DFI 1612 is used.

1) For elevations equal to or less than 6,350 feet, the received Link 16 value is transmitted on Link 22 using DFI/DUI 1612 005 Elevation, 25 Ft, 2 (ELEV2) and F02.0-0 Scale Indicator = 1.

2) For elevations greater than 6350 and less than or equal to 12,700 feet, DFI/DUI 1612 004 Elevation, 50 Ft (ELEV2) is used and F02.0-0 Scale Indicator = 0. The received Link 16 value is halved and translations which result in one half increment will be rounded up to the next higher increment and transmitted on Link 22.

3) Received elevations greater than 12,700 feet shall be forwarded as NO STATEMENT.

b. If ENV/CAT = 3 (AIR), DFI 365 is used, DUI 039 is used to convert altitudes equal to or less than 7,937.5 feet and Scale Indicator shall be set to 1. Otherwise, Scale Indicator shall be set to 1 and DUI 038 is used to convert altitudes greater than 7,937.5 feet and equal to or less than 127,000 feet.

c. For DFI 1612 or 365, NO STATEMENT is represented by value 255.

2. Latitude/Longitude. Conversions of these fields show how the received data converts to the same data transmitted on the destination link. In some cases extrapolation may be required and it is possible that the incoming data may have already been converted to the coordinates used by the FJUN. At the time of transmission on the destination link, the position held by the FJUN shall be converted to meet the protocols of the destination link.

a. To convert from Link 16 Latitude, 0.0051 Minute (DFI/DUI 281 014) to Link 22 Latitude, 0.0412 Minute (DFI/DUI 281 016), or from Link 16 Longitude, 0.0051 Minute (DFI/DUI 282 014) to Link 22 Longitude, 0.0412 Minute (DFI/DUI 282 012), three LSBs shall be truncated.

TABLE B-3-6. Link 22 Message Data Element Translation from Link 16
(Sheet 2 of 6)

NOTES (Continued)

2. (Continued)

b. To convert from Link 16 Latitude, 0.0051 Minute (DFI/DUI 281 014) to Link 22 Latitude, 0.0103 Minute LSB (DFI/DUI 281 029), or from Link 16 Longitude, 0.0051 Minute (DFI/DUI 282 014) to Link 22 Longitude, 0.0103 Minute LSB (DFI/DUI 282 016), three LSBs shall be truncated.

c. Not Used.

d. To convert from Link 16 Latitude, 0.0103 Minute (DFI/DUI 281 017) to Link 22 Latitude, 0.0051 Minute (DFI/DUI 281 014), or from Link 16 Longitude, 0.0103 Minute (DFI/DUI 282/013) to Link 22 Longitude, 0.0051 Minute (DFI/DUI 282 014), one LSB shall be added with value 0.

e. To convert from Link 16 Latitude, 0.0013 Minute (DFI/DUI 281 015) to Link 22 Latitude, 0.0412 Minute (DFI/DUI 281 016), or from Link 16 Longitude, 0.0013 Minute (DFI/DUI 282 015) to Link 22 Longitude, 0.0412 Minute (DFI/DUI 282 012), five LSBs shall be truncated.

f. To convert from Link 16 Latitude, 0.0013 Minute (DFI/DUI 281 015) to Link 22 Latitude, 0.0103 Minute LSB (DFI/DUI 281 029), or from Link 16 Longitude, 0.0013 Minute (DFI/DUI 282 015) to Link 22 Longitude, 0.0103 Minute LSB (DFI/DUI 282 016), five LSBs shall be truncated.

g. To convert from Link 16 Latitude 1, 0.0013 Minute (DFI/DUI 281 NEW 015) to Link 22 Latitude, 0.0051 Minute LSB (DFI/DUI 281 014), or from Link 16 Longitude 1, 0.0013 Minute (DFI/DUI 282 NEW 015) to Link 22 Longitude, 0.0051 Minute LSB (DFI/DUI 282 014), two LSBs shall be truncated.

h. If the J2.0C3 word is present, then convert from Link 16 Latitude, 0.0103 Minute (DFI/DUI 281 017) and Latitude, LSBS, 0.0003 Minute (DFI/DUI 281 019) to Link 22 Latitude, 0.0051 Minute (DFI/DUI 281 014), or from Link 16 Longitude, 0.0103 Minute (DFI/DUI 282 013) and Longitude LSBS, (DFI/DUI 282 014), round to nearest value.

TABLE B-3-6. Link 22 Message Data Element Translation from Link 16
(Sheet 3 of 6)

NOTES (Continued)

3. Not Used.

4. The LAT/LONG Scale Indicator (LLS IND) shall be set as appropriate in accordance with the Position Reporting Transmission Rules for the message being forwarded, and the Latitude and Longitude fields required for Link 22 with the LLS IND setting shall be converted in accordance with Note 2.

5. Link 22 Speed (Surface/Land) (DFI/DUI 367 027) is determined from Link 16 Speed (DFI/DUI 367 018) as follows:

Link 22 SPEED (SURFACE/LAND)	Link 16 SPEED
0-510 - 0 THROUGH 1020 DATA MILES PER HOUR	0-510 - 0 THROUGH 1022 DATA MILES PER HOUR
511 - NO STATEMENT	511-2046 - 1022 THROUGH 4092 DATA MILES PER HOUR
	2047 - NO STATEMENT

6. Link 16 values greater than 127 convert to Link 22 Speed, ASW (DFI/DUI 367 023) value 510. Values equal to or less than 127 are converted by multiplying the received value by 4. NO STATEMENT is value 2047 on Link 16 and converts to value 511 on Link 22.

7. In each of these cases, the indicated Indicator or Switch field shall be set appropriately, and the other appropriate Link 22 field(s) which translate from the same Link 16 field(s) equate to the received Link 16 field(s).

8. Not Used.

9. Not Used.

10. Not Used.

11. Not Used.

12. Not Used.

TABLE B-3-6. Link 22 Message Data Element Translation from Link 16
(Sheet 4 of 6)

NOTES (Continued)

13. If Bearing Report Type (BRT) = 1 and Minute and Hour are received as non-NS, F01.4-1 Time Indicator shall be set to value 15 and F01.5-2 Minute and Hour equate to J5.4I Minute and Hour. If BRT not equal to 1 and Minute and Hour are received as non-NS, F01.4-0 Time Indicator shall be set to value 15 and F01.5-0 Minute and Hour equate to J5.4I Minute and Hour. If Minute and Hour are received as other than non-NS, F01.4-0 or F01.4-1 Time Indicator and F01.5-0 and F01.5-2 Minute and Hour, if transmitted, shall be set to NO STATEMENT.

14. If BRT = 1, F01.4-1 Bearing 1, ASW and Bearing 2, ASW equate to J5.4E0 Bearing 1, ASW and J5.4C2 Bearing 2, ASW, respectively, and the F01.4-0 message shall not be transmitted. If BRT ≠ 1, F01.4-0 Bearing 1, ASW equates to J5.4E0 Bearing 1, ASW, and the F01.4-1 message shall not be transmitted. If BRT = 3, Bearing 1, ASW and Bearing 2, ASW shall be set to value 0 and Bearing Accuracy shall be set to No Statement.

15. Translation of Link 16 Command (DFI/DUI 398 003) to Link 22 Command (DFI/DUI 398 004):

The Command value 28 (PRIORITY KILL) and 29 (ATTACK TARGET COMPLEX) are only defined on Link 16. There are no Link 22 equivalents. If the FJUN receives Command value 28 or 29 on Link 16 with the R/C field set to value 0, a CANTPRO Response shall be sent.

16. Not Used.

17. Not Used.

18. Not Used.

19. Not Used.

20. Not Used.

21. Not Used.

TABLE B-3-6. Link 22 Message Data Element Translation from Link 16
(Sheet 5 of 6)

NOTES (Continued)

22. Not Used.

23. Not Used.

24. The received Link 16 binary value is transmitted on Link 22 with three MSBs truncated if MSBs equal 000; otherwise, ...

25. The FJUN shall set the NU/JU Indicator to 1 (JU).

26. The Displaced Position Indicator determines whether the J2.5E0 word or J2.5C4 word Latitude/Longitude data elements are translated.

27. This Link 16 data element's DI values are equivalent to this Link 22 data element, although the DI Names are different.

28. Not Used.

29. F01.7 Response Message Processing. See paragraph 1.1.7 of Chapter I of Annex B to ATDLP-5.22 for a more detailed description. The FJUN shall forward the F01.7 Response message when the Link 16 message R/C is a value corresponding to a response (i.e., not an OM - R/C=0, 1 or 5).

a. Receipt/Compliance. Although the same DFI/DUI is used in both Link 16 and Link 22, value 2 and some CANTPRO values are not used on Link 22. The F01.7 Response Message Receipt/Compliance will be any value considered a manual (e.g., WILCO) or an automatic response (e.g., CANTPRO).

b. The Link 22 Response Type is determined from the Link 16 message received:

Link 22 RESPONSE TYPE	Link 16 MESSAGE
0 - RESPONSE IS TO AN EW COORDINATION MESSAGE (FJ14.2)	J14.2
1 - RESPONSE IS TO A COMMAND MESSAGE (F01.6)	J9.0
2 - RESPONSE IS TO A HANDOVER MESSAGE (FJ10.3)	J10.3

TABLE B-3-6. Link 22 Message Data Element Translation from Link 16
(Sheet 6 of 6)

NOTES (Continued)

29. (Continued)

3 - RESPONSE IS TO AN ENGAGEMENT COORDINATION MESSAGE (FJ9.1)	J9.1
4 - RESPONSE IS TO A CONTROLLING UNIT CHANGE MESSAGE (FJ12.4)	J12.4

c. The FJUN needs to determine other F01.7 data elements from the received message and retain this information in order to match responses to original messages.

30. Not Used.