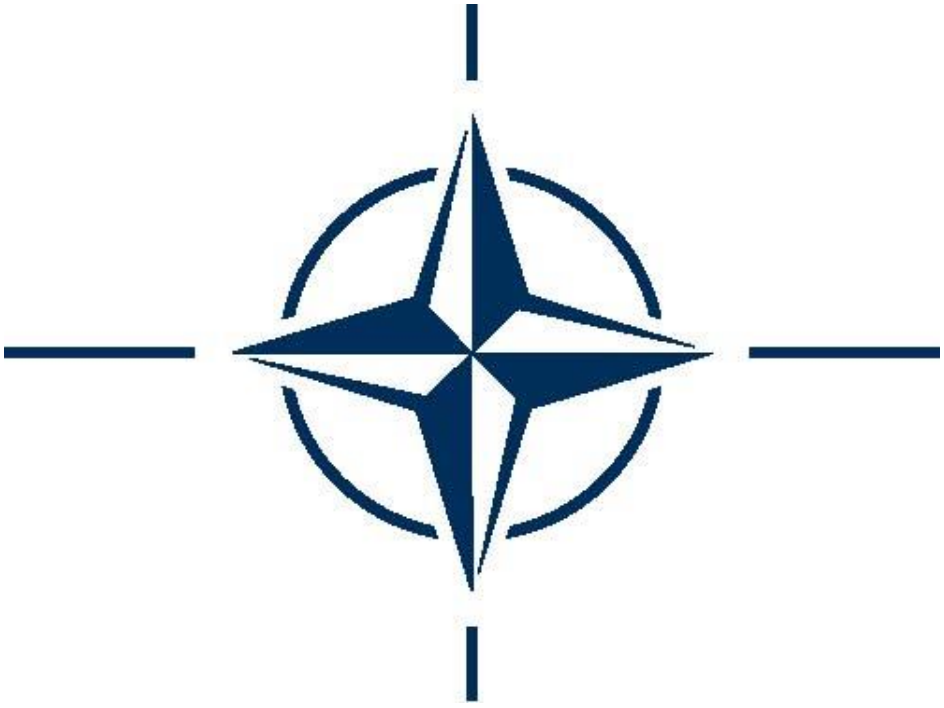
NATO STANDARD

ATDLP-6.01

STANDARDS FOR INTERFACE OF DATA LINKS 1, 11 AND 11B THROUGH A BUFFER

Edition A Version 1

SEPTEMBER 2016



NORTH ATLANTIC TREATY ORGANIZATION

ALLIED TACTICAL DATA LINK PUBLICATION

Published by the
NATO STANDARDIZATION OFFICE (NSO)

INTENTIONALLY BLANK

NORTH ATLANTIC TREATY ORGANIZATION (NATO)

NATO STANDARDIZATION OFFICE (NSO)

NATO LETTER OF PROMULGATION

29 September 2016

1. The enclosed Allied Tactical Data Link Publication ATDLP-6.01, Edition A, Version 1, STANDARDS FOR INTERFACE OF DATA LINKS 1, 11 AND 11B THROUGH A BUFFER, 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 5601.

2. ATDLP-6.01 is effective upon receipt.

3.

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

Edvardas MAZEIKIS,
Major General, LTUAR
Director NATO Standardization Office

INTENTIONALLY BLANK

RESERVED FOR NATIONAL LETTER OF PROMULGATION

INTENTIONALLY BLANK

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.	

INTENTIONALLY BLANK

RECORD OF SPECIFIC RESERVATIONS

[nation]	[detail of reservation]
SVK	The Slovak Republic has a capability for interface of data links LINK1 and LINK 11B through a buffer. Implementation of LINK 11 is not planned. The Air Force of the Armed Forces of the Slovak Republic will review the national response if the capability changes.

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.

INTENTIONALLY BLANK

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

LIST OF ANNEX B TABLES

LIST OF ANNEX B TABLES (continued)

LIST OF ANNEX B TABLES (continued)

INTENTIONALLY BLANK

CHAPTER 1 INTRODUCTION

1.1 ANNEXES

Annex A - Data Link Characteristics

Annex B - The Interface of Links 1, 11 and 11B

1.2 TERMS AND DEFINITIONS

The following Terms and Definitions are used for the purpose of this STANAG.

a. Buffer System Coordinate Centre (BSCC). A fixed geographic reference point relative to which the buffer reports its tactical data.

b. Buffer. A means used to interface data links that have different transmission characteristics and/or message formats.

INTENTIONALLY BLANK

ANNEX A

DATA LINK CHARACTERISTICS

1.1 LINK 1 (STANAG 5501). When the Link 1 procedures and message formats as implemented in NADGE varies from STANAG 5501 and ADatP-31, the Link 1 as implemented in NADGE and described in the NADGE Operational System documents (NDGX-101-IS, Link 1 Interface Specifications, NDGX-101-FD, Crosstell Procedures and AEGX-101-FD, AEGIS Crosstell Procedures) will be used.

1.1.1 General Characteristics. Link 1 is a point-to-point digital data link whose purpose is to enable the exchange of tactical air defence and control information in fixed message format, computer-to-computer, between appropriately equipped sites. Link 1 users are capable of operating at one or more of the following data rates; 600, 1200, or 2400 bits per second, or multiples thereof.

1.1.2 Technical Characteristics. The transmitted signal is a differential frequency shift keying (FSK) modulated serial bit stream in which a binary one is indicated by a change of frequency while a zero is indicated by no change of frequency. An idle condition consisting of a series of binary ones will be assumed when no information is being transmitted.

1.1.3 Procedural Characteristics. The transmission cycle is normally 10 seconds. The S.0 Test Message pair will be transmitted every 10 ± 1 seconds regardless of length of transmission cycle.

1.1.4 Message Characteristics.

1.1.4.1 The unit of information is the message frame. It contains 98 message bits divided into two messages (associated or not) each of which is divided into 7 message groups of 7 bits each.

1.1.4.2 In order to transmit a message frame certain bits are added to it. The transmission frame consists of 128 bits divided into 16 transmission groups of 8 bits each. These transmission groups are of three types: Start group (1), Data group (14) and Check group (1). A data group consists of a single fixed bit (Binary 1) followed by a message group of seven bits.

1.1.4.3 The message frame of 98 bits is comprised of two 49-bit messages, each consisting of a 6-bit label, including an association bit and 43 information bits, except the S.0 test message which, being made up of 7 identical bit patterns, uses the first six bits of the first pattern as the message label.

1.1.5 Link 1 Message Descriptions.

LINK 1 MESSAGES	
MESSAGE NUMBER	TITLE/DESCRIPTION
S.0	Test Message -
S.3	SIF Message - Transmits SIF, Mode C altitude and emergency data on tracks. It may be transmitted only as the latter part of an associated S.4/S.3 or S.8/S.3 message pair.
S.4	Basic Track Message - Transmits basic track data including track number (TN), data quality, and position. The S.4 may be used singly with no other messages associated or associated as S.4/S.3 or S.4/S.5 in the same transmission frame.
S.5	Expanded Track Message - Reports height, strength, identification, raid size, track dropping, X velocity, ID modifier, height staleness, Y velocity, traffic classification and simulation indicator. It may be transmitted only as the latter part of an associated S.4/S.5 or S.8/S.5 message pair.
S.6	Strobe Message - Reports strobe data including width, type, azimuth, site number, radar type, strobe number, elevation information, data age, source and simulation indicator. It may never be associated but may be transmitted with either a blank message, another S.6 message, or an S.4 or S.14 message.

LINK 1 MESSAGES	
MESSAGE NUMBER	TITLE/DESCRIPTION
S.8	Basic AEW Track Data Message - When a track, received from an AEW platform, qualifies only through a remote Volume of Operational Interest (VOI) to a NATO Air Defense Ground Environment (NADGE) site and the track is not associated by NATO Track Number (NTN) with a Ground Environment (GE) track in the GE track store, or if associated by NTN with a GE track in the GE track store but this track is currently being updated by crosstell messages from the remote site to which the Full NATO Airborne Early Warning Ground Integration Segment (NAEGIS) Site (FNS) is sending the AEW track, an S.8 message shall be formatted for crosstell instead of an S.4 message. The content and use of the S.8 message is identical to the S.4 message, except for the message label.
S.14	S.14 Management Message - Directs action in the management of data including change track number, change identity, acknowledgment of receipt of an order, exchange track data, and start and stop telling. It will eventually be used to report weapons assignment information.
S.15	S.15 Mode S Aircraft Address Message - Transmits the 24-bit aircraft-unique Mode S address on tracks. It may be transmitted as an S.15+ message to allow replacement of the redundant re-transmission of the S.4 message in an S.4+/S.3 pair.
S.16	S.16 Aircraft Callsign Message - Transmits the first/last four characters of the aircraft callsign and the source of the callsign. It will be transmitted only as an S.16+/S.16 message pair.
-	Blank Message - This message consists of all zeroes and is used to fill one transmission frame if there is only one single operational message left to be transmitted.

1.1.6 Track Number. The track number consists of 15-bits interpreted as five octal groups of 3-bits each. The first two octal digits reflect an alpha equivalent as follows:

0 = A	1 = E	2 = G	3 = H	4 = J	5 = K	6 = L	7 = M

Therefore, a complete track number consists of two alpha and three octal digits (e.g., KM345).

1.2 LINK 11 (STANAG 5511).

1.2.1 General Characteristics. Link 11 is an automatic HF/UHF data link exchanging picture compilation, command status and control information, using M-Series messages, a Roll Call protocol and either a parallel transmission (kineplex) frame (CLEW) or a single tone waveform (SLEW) characteristics at either 2250 or 1364 bits per second (for CLEW) or 2400 symbols per second (for SLEW).

1.2.2 Technical Characteristics. Information is conveyed by pulse phase-quadrature modulation. A group of 30 bits, simultaneously transmitted constitutes a frame, and the time used to transmit that frame is called a frame interval.

1.2.3 Procedural Characteristics. There are three main modes of operating Link 11 and several possible variations of each one. Not all units will have the capability to operate in all these modes.

1.2.3.1 Roll Call. This is the mode of operation with the Data Net Control Station (DNCS) interrogating each Participating Unit (PU) in sequence and the PUs transmitting their data in response to this call. There are three subtypes of this method.

1.2.3.1.1 Full Roll Call. When all units are active on the net and pickets respond to each call from the DNCS with appropriate data.

1.2.3.1.2 Partial Roll Call. When some units are switched to Radio Silence and, although interrogated by the DNCS each cycle, do not respond. Should a unit observing Radio Silence in this way need to make a report on the link, then the unit will switch to become an Active Picket and pass its data at the next cycle when interrogated. The unit can return to Radio Silence on completion of passing this information.

1.2.3.1.3 Roll Call Broadcast. When all units other than the DNCS are in silence. The DNCS transmits all its eligible data on the net and other PUs are interrogated sequentially but do not respond. Any unit in Radio Silence having data to report does so as in paragraph 1.2.3.1.2 above.

1.2.3.2 Broadcast. In this mode of operation, the DNCS broadcasts its data continuously to all other units. Other PUs are in Radio Silence, are not interrogated, and have no capability to report information on the link. If the DNCS has no data to report, then only preamble start and stop codes will be sent.

1.2.3.3 Silence. In this mode all units are in Radio Silence. Should a unit need to initiate a report, then it will do so by making a single transmission (Short Broadcast) to all units.

1.2.4 Message Characteristics. Data messages consist of two frames each, in successive frame intervals, with Frame A being followed by Frame B. Each frame consists of 24 information bits and 6 error detection and correction bits.

1.2.5 Link 11 Message Descriptions.

LINK 11 MESSAGES	
MESSAGE NUMBER	TITLE/DESCRIPTION
M.1	Data Reference Position Message - Reports the address of the originator and the origin of the coordinates (system coordinate center relative to the data link reference point) for the messages which immediately follow.
M.81	Data Reference Position Amplifying Message - Reports amplifying information on a preceding M.1, including PU/RU address, helicopter carrying, height/depth, velocity, originator environment/category, unit type, missile unit, and scale indication.
M.2	Air Track Position Message - Reports the track number, identity, primary ID amplification, track quality, scale indication and position of an air track.
M.82	Air Track Position Amplifying Message - Reports the track number, height and height source, velocity/time, size, and amplification of identity of the air track reported in the preceding M.2.
M.3	Surface Track Position Message - Reports the track number, identity, primary ID amplification, track quality, scale indication and position of a surface track.

LINK 11 MESSAGES	
MESSAGE NUMBER	TITLE/DESCRIPTION
M.83	Surface Track Position Amplifying Message - Reports the track number, unit capability, current mission, velocity/time, size, helicopter carrying, and amplification of identity of the surface track reported in the preceding M.3.
M.4A	ASW Primary Message - Reports the nature of the ASW contact, i.e., track number, identity, nature of the ASW contact (i.e., sub-surfaced or surfaced track, DATUM or ASW tactical point), real-time/non-real-time status, scale indication and position of the ASW contact.
M.84A	ASW Amplifying Message - Provides a means of amplifying a preceding M.4A Primary Message.
M.4B	ASW Secondary Message - Provides additional information concerning an ASW contact previously reported in an M.4A ASW Primary Message.
M.4C	ASW Primary Acoustic Message - Reports the track number identity, origin of a contact's bearing, the center of the contact's area of probability or the sonobuoy position and scale indication.
M.84C	ASW Primary Acoustic Amplifying Message - Reports a contact's bearing, the contact's area of probability of sonobuoy amplifying data.
M.4D	ASW Bearing Message - Reports the origin of ASW bearings, reported in the accompanying M.84D ASW Bearing Amplify Message, and other information related to the acquisition of the bearing.
M.84D	ASW Bearing Amplify Message - Reports amplifying data on ASW bearings.
M.5	Special Points Position Message - Reports the track number, scale indication, type, and position of a special point.
M.85	Special Points Amplifying Message - Reports the track number, "slaved" status, velocity/time, height/depth on the preceding M.5 Special Point.
M.6A	ECM Intercept Data Message - Reports parametric data for ECM Jam strobes.
M.6B	Electronic Support Measures Primary Message - Provides the basic data associated with an ESM fix or bearing.
M.86B	Electronic Support Measures Amplifying Message - Amplifies the ESM primary message and provides for exchange of the emitter number when available.

LINK 11 MESSAGES	
MESSAGE NUMBER	TITLE/DESCRIPTION
M.6C	Electronic Support Measures Parameter Message - Reports electronic parameters of a fix or bearing previously established by an M.6B.
M.86C	Electronic Support Measures Parameter Amplifying Message - Reports electronic parameters of a fix or bearing previously established by an M.6B and M.6C.
M.6D	Electronic Warfare Coordination and Control Message – Provides the capability to coordinate and control the Electronic Warfare efforts.
M.86D	Electronic Warfare Coordination and Control Amplifying Message – Reports additional parameters required when transmitting Action Codes 5 and 6
M.9A	Management Message (Information) - Provides for those management actions necessary to control the data exchange process and clarify the tactical plot such as Data Source/Simulated Track Report, Information Difference Report, Change Data Order, Data Update Request, Drop Track Report, Track Alert Report, Controlling Unit Report, and IFF Management Action.
M.9B	Management Message (Pairing/Association/Correlation) - Reports an association (not engagement status) between two friendly tracks or a friendly track and a special point, i.e., general pairing, strike pairing, rendezvous, RTB, CAP stationing, close air support, associated data and correlation.
M.9C	Management Message (Pointer) - Reports a geographic position (pointer) to an addressed unit.
M.9D	Link Monitor Message - Provides a means of reporting locally calculated values of link performance parameters or an end-of-transmission indicator for each Link 11 data report.
M.9E	Management Message (Supporting Information) - Voice Call Sign/Link 4 Address/Link 1 NTN/ATDL 1 TN/19-Bit TN) - Provides a means to indicate the call sign for an aircraft or point and a means to indicate the Link 4 Address, Voice Control Frequency, Link 4 Control Frequency, and Mission Number for a controlled aircraft. Additionally, the message provides a means to associate the octal Link 11/11B Track Number with a Link 1 NATO Track Number (NTN), an Army Tactical Data Link (ATDL)-1 Track Number, or a 19-Bit Track Number and to request the NTN or 19-Bit TN of an existing Link 11 track. It is mandatory for any interfacing unit (Link 11/11B to Link 1 forwarder) to be capable of transmitting and receiving the M.9E (AC=3 and 5) (SW=0) messages.

LINK 11 MESSAGES	
MESSAGE NUMBER	TITLE/DESCRIPTION
M.9F (AC=0)	Area of Probability Basic Message - Reports the track number and position of an Area of Probability (AOP).
M.89F (AC=0)	Area of Probability Basic Amplify Message - Provides a means of amplifying a preceding M.9F (AC=0) Area of Probability Basic Message.
M.9F (AC=1)	Area of Probability Secondary Message - Provides additional information concerning an AOP previously reported in an M.9F (AC=0)/M.89F (AC=0) Area of Probability Basic and Basic Amplify Message.
M.9G	Data Link Reference Point Position Message - Reports the latitude and longitude of the Data Link Reference Point (DLRP).
M.10A	Aircraft Control Message - Provides a means to transfer controlled aircraft between units or launch an aircraft which has been on alert.
M.11B	Aircraft Mission Status Message - Reports the overall status of an aircraft including fuel and weapon status, and aircraft type.
M.11C	ASW Aircraft Status Message - Reports the status of ASW aircraft.
M.11D	IFF/SIF Message - Reports IFF/SIF information on a track.
M.11F	IFF/SIF Mode S Message - Reports IFF/SIF Mode S information on an air track.
M.811F (0)&(1)	IFF/SIF Mode S Amplify Messages - Report IFF/SIF Mode S aircraft identification information.
M.11M	Track/Point Amplification Message - Reports nationality, general type and specific type as amplification on tracks which have been previously reported in the M.2, M.3, M.4, M.5 or M.6 message.
M.811M	Track/Point Amplification Amplify Message - Reports mission, current activity and other amplifying information related to M.11M EW/Intelligence Message.
M.12	National Message - Provides 31 sub-messages for exclusive use of individual national systems, and a timing message (M.12.31).
M.12.31	Timing Message - Provides a capability to establish time reference between systems, time tagging of data in other messages and a transmit counter for data link monitoring purposes.
M.14	Weapon/Engagement Status Message. Reports status of weapon systems (weapon inventory) or status of engagement.

LINK 11 MESSAGES	
MESSAGE NUMBER	TITLE/DESCRIPTION
M.15	Command Message - Provides the means to transmit general alerts, weapon condition orders, and to direct weapon system engagement.

1.2.6 Track Number. The track number consists of 12-bits interpreted as four octal groups of 3-bits each. For display and verbal communications, four octal digits are used. Track number 0000 (octal) is illegal. Track number 0077 (octal) is Spare. Track number 7777 (octal) is reserved for internal use and is illegal for use on the interface. Track numbers 0001-0076 (octal) are reserved for Participating Units (PUs), Airborne Participating Units (APUs), Forwarding PUs (FPUs), JTIDS Units (JUs), Forwarding JUs (FJUs) and selected Supporting Units (SUs). Track numbers 0100-0175 (octal) are reserved for Group Identifier Addresses, Commanders, and/or Reporting Units (RUs), FRUs, JUs, and FJUs. Track number 0176 (octal) is reserved as a Pseudo Source TN for forwarding data from Link 16 units (C^2 JUs) with TNs 0200 (octal) and above to Link 11. It is illegal for other uses. Track number 0177 (octal) is reserved for a collective address for all PUs, APUs, JUs, FJUs, FPUs, RUs and FRUs. Track numbers 0200-7776 (octal) are for tactical information. An interface unit may be reported as an air, surface, or subsurface track, or special point (PT=13) using its assigned address. An APU is an aircraft that is participating as a unit communicating directly on Link 11.

1.2.7 Pseudo Source Track Number 176 (octal). Track number 176 (octal) is reserved for use by the Link 16 to Link 11 Data Forwarder (FJU) as a Pseudo Source TN. Messages forwarded from Link 16 units with source addresses 0200 (octal) and above cannot be forwarded onto Link 11 using their actual address, because the Link 11 message structure does not support this large TN. The data from these units is forwarded under the Pseudo Source TN 176 (octal). All tracks being reported by any Link 16 unit with an address 0200 (octal) and above will be reported by the Pseudo Source TN 176 (octal) following its M.1/M.5 combination. TN 176 (octal) will appear to have Reporting Responsibility for all of these tracks.

1.3 LINK 11B (STANAG 5511). The following presents a summary of Link 11B.

1.3.1 General Characteristics. Link 11B is a point-to-point digital data link utilizing serial transmission frame characteristics and standard message formats at a basic speed of 600, 1200 or 2400 bits per second. The message formats are the same for Link 11B and Link 11.

1.3.2 Message Descriptions.

1.3.2.1 M.O Test Message. This message is unique to Link 11B. It provides a means of monitoring the status of a point-to-point data link. It is transmitted every 20 ± 1/2 seconds.

1.3.2.2 The following M.9A Management Messages are unique to Link 11B:

a. M.9A (AC=0) (SI=0)
b. M.9A (AC=3) (STI=0)
c. M.9A (AC=3) (STI=1) (TN not equal to 0)

1.3.2.3 All those Link 11 messages which are not transmitted on Link 11B are marked in Annex B, paragraph 2.2.1.4 with an asterisk (*).

1.3.2.4 All other messages are the same as used in Link 11.

ANNEX B

THE INTERFACE OF LINKS 1, 11 AND 11B

2.1 GENERAL

2.1.1 Buffer Program. The buffer program shall operate in such a manner that its stored data represents reality as closely as possible. In the buffer data base, tracks will be established, updated, and terminated in accordance with the source data link of the sending system. Any transfer of track data will be in accordance with the standards and rules of the receiving system and parametric translations (e.g. identification and coordinate translations) specified within this STANAG.

2.1.2 Voice Circuits. Digital information exchange will be supplemented by voice circuits. In addition, voice circuits will be established where possible for engineering purposes between interfacing systems.

2.2 INFORMATION EXCHANGE. The buffer shall have the capability of operating on Link 1, Link 11 and Link 11B.

2.2.1 Message Flow.

2.2.1.1 Track information arriving from Link 1 shall be forwarded on Link 11 and/or Link 11B.

2.2.1.2 Track information arriving from Link 11 shall be forwarded on Link 1 and/or Link 11B.

2.2.1.3 Track information arriving from Link 11B shall be forwarded on Link 11 and/or Link 1.

2.2.1.4 The buffer has the capability to receive and transmit the following messages:

LINK 1 MESSAGES TRANSMITTED BY THE BUFFER	
S.0	Test Message
S.3	SIF Message
S.4	Basic Track Message
S.5	Expanded Track Message
S.6	Strobe Message
S.8	Basic AEW Track Data Message
S.14	Management Message
S.15	Mode S Aircraft Address Message
S.16	Aircraft Callsign Message
-	Blank Message

LINK 11/11B MESSAGES TRANSMITTED BY THE BUFFER		
NOTE: All Link 11 messages in the following list that are marked with an asterisk (*) are not transmitted on Link 11B.		
	M.0	Test Message (Link 11B only)
	M.1	Data Reference Position Message
*	M.81	Data Reference Position Amplifying Message
	M.2	Air Track Position Message
	M.82	Air Track Position Amplifying Message
	M.3	Surface Track Position Message
	M.83	Surface Track Position Amplifying Message
	M.4A	ASW Primary Message
	M.84A	ASW Amplifying Message
*	M.4B	ASW Secondary Message
*	M.4C	ASW Primary Acoustic Message
*	M.84C	ASW Primary Acoustic Amplifying Message
*	M.4D	ASW Bearing Message
*	M.84D	ASW Bearing Amplify Message

LINK 11/11B MESSAGES TRANSMITTED BY THE BUFFER		
NOTE: All Link 11 messages in the following list that are marked with an asterisk (*) are not transmitted on Link 11B.		
	M.5	Special Points Position Message
	M.85	Special Points Amplifying Message
	M.6A	ECM Intercept Data Message
	M.6B	ESM Primary Message
	M.86B	ESM Amplifying Message
	M.6C	ESM Parametric Message
	M.86C	ESM Parametric Amplifying Message
*	M.6D	EW Coordination and Control Message
*	M.86D	EW Coordination and Control Amplifying Message
	M.9A	Management Message (Information)
	M.9B	Management Message (Pairing/Association/Correlation)
	M.9C	Management Message (Pointer)
	M.9D	Management Message (Link 11 Monitor)
	M.9E	Management Message (Supporting Information)
	M.9F	Area of Probability Message
	M.9G	Data Link Reference Point Position Message
	M.10A	Aircraft Control Message
	M.11B	Aircraft Mission Status Message
	M.11D	IFF/SIF Message
	M.11F	IFF/SIF Mode S Message
	M.811F(0)&(1)	IFF/SIF Mode S Amplify Message
	M.11M	Track/Point Amplification Message
	M.12.31	Timing Message
	M.14	Weapon/Engagement Status Message
	M.15	Command Message

The specific message formats, transmission rules and receipt interpretation for the messages are contained in the appropriate data link documents previously referenced.

2.2.2 Data Elements. The buffer computer program shall treat the received data elements in accordance with Tables B-1 through B-26 and compile the interpreted data into the appropriate parts of the buffer data base. This may include the translation of Link 1 into Link 11/11B values and vice versa in accordance with Tables B-27 through B-34. Subsequent messages to the interfaced links will be from the buffer data base and formatted and transmitted in accordance with the rules laid down in appropriate data link documents.

2.3 TRACK DATA STORAGE AND CONVERSIONS

2.3.1 Link 1, Link 11B and Link 11 Track Data Conversion.

2.3.2 Track Data Base. The buffer shall use all the received messages to make up and update the buffer data base. The data base shall contain a cross reference index of data exchanged between each data link.

2.3.3 Track Numbers.

2.3.3.1 The buffer will allocate NTNs to those tracks told in by Link 11/11B which are eligible for telling on Link 1. The buffer will allocate Link 11/11B Track Numbers to those tracks told in by Link 1 which are eligible for telling on Link 11/11B. If non-NTN tracks are initiated from Link 1 messages, the buffer will allocate a NTN from its block and inform the sending site of the change of number by S.14 message. For that purpose, two blocks of track numbers will be allocated to the buffer: one block of Link 11/11B Track Numbers and one block of NTNs.

2.3.3.2 The dual designation of the same track or the use of the same track number for two different tracks must be resolved by operating procedures.

2.3.4 Position (Coordinates). The buffer must:

Convert track position information from the respective reference planes of the participating systems relative to that of the Buffer System Coordinate Centre (BSCC).

Store positional data in X and Y coordinates in the stereo graphic plane of the buffer and relative to the BSCC.

2.3.5 Track Identity Translation. (See Tables B-27 and B-28)

2.3.5.1 The buffer must accept for (re)transmission to Link 11/11B as a minimum all IDs, PRI ID AMPS (with an ID AMP=0) and, additionally, the ID AMP values of ZOMBIE, X-RAY, FAKER and KILO.

2.3.5.2 The buffer stores the identities of both Link 1 and Link 11/11B. Changes to either identity depend on which unit has reporting responsibility (R^2) for the track. The following rules apply:

2.3.5.2.1 Identities received from Link 1:

a. When Link 1 has R^2, both Link 1 and Link 11/11B identities are updated and the new identity is transmitted on Link 11/11B the next time the track is updated.

b. When the Link 11/11B system has R^2, only the Link 1 identity is updated and all changes are reported to Link 11/11B in the appropriate message.

2.3.5.2.2 Identities received from Link 11/11B:

a. The Link 11/11B identity is updated and if this causes a change in Link 1 identity, a Change Identity message is transmitted on Link 1.

b. When the Link 11/11B system reports a more specific friendly identity than reported by Link 1 (and Link 1 has R^2), the Link 11/11B identity is retained for transmission on Link 11/11B.

2.3.5.3 Whenever a Link 1 ID stored by the buffer is changed by a message from Link 1, Link 11, or Link 11B, by following the rules in paragraphs 2.3.5.2.1 and 2.3.5.2.2, an S.14 Change ID message shall be transmitted over Link 1.

2.3.5.4 If the ID change is not agreeable to Link 1, Link 11 or Link 11B participants, the cognizant authorities will resolve the difference using appropriate procedures.

2.3.6 Strength/Size. The buffer will store Link 11/11B Size and Link 1 Strength values and will make the necessary translations in accordance with Tables B-29 and B-30.

2.3.7 Track Quality (TQ)/Data Quality (DQ).

2.3.7.1 In Link 11/11B a track quality value from 1 to 7 is associated with each real time track, depending on the estimated accuracy of the position report (predictability area). In Link 1, data quality is assigned one of four values, association being based on the time lapse since position update.

2.3.7.2 The buffer will store TQ on all tracks in the equivalent Link 11/11B values. When a track is being reported to the buffer on both Link 1 and Link 11/11B, the buffer will store:

2.3.7.2.1 The Link 11/11B TQ being received and

2.3.7.2.2 The Link 1 DQ translated into Link 11/11B TQ in accordance with Table B-31. (Refer to 2.5.3.2 below for track quality update). The buffer

will compare the two stored values to determine reporting responsibility on Link 11/11B. The buffer will use Table B-31 to translate Link 11/11B derived TQ for transmission on Link 1. The stored Link 1 DQ will be used for transmission on Link 11/11B.

2.3.8 SIF Modes. The SIF Modes 1, 2, 3 Codes, Mode 4 Indicator and Mode S data will be stored in the buffer data base and will be transferred where appropriate in accordance with the appropriate transmission rules using S.3, M.9A (AC=9), M.11D and M.11F/M.811F messages. The buffer shall modify IFF/SIF information in its data base as appropriate to coincide with an M.9A (AC=9) IFF/SIF Clear Message received on Link 11/11B. The IFF/SIF information subsequently forwarded shall reflect this change until modified by the unit with Reporting Responsibility (R^2). M.11D Special Codes are not translated.

2.3.9 Engagement Status. The Link 1 and Link 11/11B data exchange requirements for engagement status are not the same. The following rules will apply:

2.3.9.1 Link 11/11B to Link 1. In order to transmit engagement status from Link 11/11B to Link 1 participants, the buffer must be capable of interpreting Link 11/11B interceptor and target engagement status message values and translating the appropriate interceptor and target information into Link 1 messages in accordance with Table B-32.

2.3.9.2 Link 1 to Link 11/11B. In order to transmit engagement status from Link 1 to Link 11/11B participants, the buffer must be capable of interpreting Link 1 interceptor and target engagement status message values and translating the appropriate information into Link 11/11B messages in accordance with Table B-33. This will require the buffer to establish and maintain the relationship between the interceptor and the target in the appropriate Link 11/11B engagement status message.

2.3.10 Environment/Category and Type. These fields in the M.81 message indicate the environment and specific type of the Link 11/11B PU/FPU. APU

types will be converted to Link 1 Identity of Friendly. The APU will be transmitted onto Link 1 in an S.8 message. The buffer will transmit the M.1/M.81, (ENV/CAT=2-Land) (TY=1-TAOC, 2-TACC, 4-Buffer Centre, 5-CRC, or 6-CRP) or M.1/M.5 with the M.5 Point field set to value 13 = Site and the Point Amplification field set to a value of 1 = FPU.

2.3.11 Data Base Capacity. The data base capacity of the buffers is dependent upon the system acting as the buffer. However it must meet minimum requirements based upon its location, mission, operational considerations, and the number and types of centres with which it is connected. Data required to satisfy the message transmission requirements for the buffer shall be maintained in the buffer track data base on each track handled by the buffer.

2.3.12 Simulated Tracks. Link 11/11B interface units are permitted to originate and report tracks, points, or bearings to the interface when such reports do not represent real (live) objects as determined by sensor returns or observation (Simulated Tracks). Simulated track reports may be transmitted concurrent with reports of live tracks, provided the Simulation Track Report M.9A (AC=0) (SI=1) message is used to identify simulated tracks. The M.9A (AC=0) (SI=1) message must precede each simulated track report (e.g., M.2 or M.2/M.82) transmitted on Link 11. The M.9A (AC=0) (SI=1) message precedes the initial track report on Link 11B until the track report is acknowledged. The Simulation Indicator (SI) must be set to value 1, but the remaining fields need not be set. The Simulation Indicator (SI) is required for reception to preclude interpretation of simulated data as actual data.

2.4 MESSAGE/DATA HANDLING PROCEDURES.

2.4.1 General Message Processing. Messages received and processed by the buffer will be used to create and/or update data base entries. The data contained in the data base will be used when building messages for transmission.

2.4.1.1 Buffer Transmission on Link 1.

2.4.1.1.1 The buffer shall transmit an S.0/S.0 Test Message every 10 seconds ± 1 second.

2.4.1.1.2 In the absence of circuit saturation, the track transmission cycle shall be 10 seconds.

2.4.1.1.3 Tracks will be reported in accordance with the provisions of paragraphs 2.4.1.5.1 and 2.4.1.6 below.

2.4.1.2 Buffer Transmission on Link 11.

2.4.1.2.1 The buffer shall transmit the position of the BSCC in its M.1.

2.4.1.2.2 The buffer shall transmit the position of Link 11B units and Link 1 sites in an M.1/M.5.

2.4.1.2.3 Tracks shall be reported on the net if they satisfy the provisions of paragraphs 2.4.1.5.1 and 2.4.1.6 below.

2.4.1.2.4 Additional transmission rules are set forth in STANAG 5511.

2.4.1.1 Buffer Transmission on Link 11B. The buffer shall transmit on Link 11B in accordance with the transmission rules specified in STANAG 5511, Volume II.

2.4.1.4 Reception on Link 1.

2.4.1.4.1 The buffer will check to ensure that the interval between S.0/S.0 Test Messages is not less than 9 seconds or greater than 11 seconds.

2.4.1.4.2 The buffer shall require a valid S.4/S.5 or S.8/S.5 message pair on a new track before the track is entered into the data base.

2.4.1.4.3 All messages will be checked for errors and processed as laid down in paragraph 2.5.2, Error Detection.

2.4.1.5 Reception on Link 11.

2.4.1.5.1 The buffer must receive a valid PU TN in the M.1 before it will accept any other Link 11 messages for processing. Valid track numbers are described in Annex A, paragraph 1.2.6.

2.4.1.5.2 All messages will be checked for errors and processed as laid down in paragraph 2.5.2, Error Detection.

2.4.1.6 Reception on Link 11B. The buffer must receive a valid RU TN during the Link 11B initialization process before it will accept any Link 11B messages for processing. Valid track numbers are described in Annex A, paragraph 1.2.6.

2.4.2 Track Reporting. All track reports from the buffer are subjected to the telling criteria/procedures established for a given link. All tracks received by the buffer from Link 11/11B are eligible to be told to all Link 1 and all other Link 11B sites connected to the buffer. All tracks received by the buffer from Link 1, for which the buffer can then take reporting responsibility, will be reported on Link 11/11B; also these tracks are eligible to be told to all other Link 1 sites connected to the buffer.

2.4.3 Track Correlation. Correlation of sensor reports of local with remote data and of other track information is the responsibility of the operators in the Link 1 and Link 11B sites and Link 11 PUs.

2.4.4 Processing of Track Management Information. Track Management messages will be processed as follows:

2.4.4.1 Management messages which provide for the changing of track number and for the interchanging of track data will be used to change the data in the buffer previously derived from Link 1.

2.4.4.2 The buffer will make the checks listed below to determine if Track Dropping messages qualify for transmission.

2.4.4.2.1 Link 1 to Link 11/11B. When a Drop Track Indicator is received on a track from a Link 1 unit, transmission of data on that track to the sending unit will be inhibited. If the track is being reported by another Link 1 unit, no further action is required. If the track is not being reported by another Link 1 unit, one of the following actions is required:

a. When the buffer has reporting responsibility for the track on Link 11 or Link 11B, an M.9A (Drop Track Report) is transmitted on Link 11/11B.

b. If another Link 11 or Link 11B unit is reporting the track, no action is required.

2.4.4.2.2 Link 11 or Link 11B to Link 1. When an M.9A (Drop Track Report) is received from Link 11 or Link 11B, one of the following actions is required:

a. If the buffer is receiving data on the track from a Link 1 unit, the normal rules for assuming reporting responsibility are applied.

b. If the buffer is not receiving data on the track from any Link 1 unit, is not transmitting data on the track to any Link 1 unit, and does not receive a track report from Link 11 or Link 11B within 90 seconds, the system will generate an operator alert.

c. If the buffer is currently reporting the track on Link 1 and fresh data is not received within 90 seconds, the system will generate an operator alert.

2.5 OTHER PROCESSING.

2.5.1 Track Filtering. The buffer programme will have the capability to apply various filter conditions on its stored tracks (Table B-34) based on data link specifications, pre-programmed criteria, digital filter messages, and manual inputs. Each track received by the buffer shall be checked for eligibility for storage and each track shall be checked for eligibility for transmission against the specified filter conditions in effect at the time. Filtering on each link shall be done independently of the other.

2.5.1.1 Geographic Filters. These filters will be used to define areas of interest for the participants on the link employing the filter. Tracks within the area defined by a filter will be stored and/or reported automatically by the buffer on the appropriate link(s).

2.5.1.2 Geographic Override Filters. These filters will be used to allow particular tracks to override the limits established by the geographic filters for a link.

2.5.1.3 Identity Filters. These filters will be used to limit by identity the number of tracks reported in the area defined by the geographic filters.

2.5.1.4 Track Number Filters. The buffer programme shall have the capability of inhibiting the transmission on Link 1 of tracks by track number.

2.5.1.5 SIM/LIVE Crosstell Mode Filters. The buffer program shall compare every track's SIM/LIVE status to the crosstell mode of a connected Link 1 site. Only those tracks whose SIM/LIVE status matches the SIM/LIVE crosstell mode of the site are eligible for further on-tell processing. Overall Link 11 simulation filters will be permitted that are not constrained to the filtering rules for live tracks. Track alerts shall not force simulated tracks through an overall simulation filter. A Link 11

simulation filter shall be set if any interface unit does not implement the M.9A (AC=0) (SI=1) to protect against misinterpretation of simulated tracks.

2.5.2 Error Detection. The buffer shall check all incoming messages and shall process only messages with correct parity, format and sequence.

2.5.3 Track Maintenance.

2.5.3.1 Each track position reported on a link shall be extrapolated to the time of transmission using its stored velocity (if received).

2.5.3.2 Track quality will be reviewed periodically. If no update has been received from a link in the last 20-second interval, the corresponding track quality will be decremented by one. When both track qualities have reached one (see paragraph 2.3.7.2) the buffer will cease reporting the track.

2.5.4 Reporting Airborne PUs. The buffer will establish an air track on receipt of an APU via an M.1/M.81 (ENV/CAT=3) from Link 11 or via an M.5 (PT/PT AMP=13/6) from Link 11B. The buffer will report APUs on Link 1 with a DQ of 0. If no valid M.1 message is received for 60 seconds, on Link 11, or a M.9A (AC=4) Drop Track Report Message is received for the APU from Link 11B, or no valid M.0 Test Message is received for 60 seconds from the directly tied Link 11B unit, the buffer will cease reporting the APU.

2.5.5 Reporting Airborne GUs. The buffer will establish an air track on receipt of a Airborne GU via an M.5 (PT/PT AMP=13/7)/M.85 (Height/Depth Switch=0, Height=Non-Zero value) from Link 11B. The buffer will report Airborne GUs on Link 1 with a DQ of 0. If a M.9A (AC=4) Drop Track message is received for the Airborne GU from Link 11B, or no valid M.0 Test Message is received for 60 seconds from the directly tied Link 11B unit, the buffer will cease reporting the Airborne GU.

2.6 TRACK REPORTING AND UPDATING.

2.6.1 Link 1. Tracks are reported and updated based on:

- Transmission cycle
- Track transmission priorities
- Message priorities
- Filter criteria (geographic, identification, etc.)
- Track quality
- Manual action

Note: The detailed procedures and transmission rules are contained in NADGE documents NDGX-101-FD and AEGX-101-FD. The buffer programme shall transmit on Link 1 only those tracks held by the buffer for which no Link 1 reports are being received over that link.

2.6.2 Link 11/11B. Reporting and update procedures are contained in STANAG 5511.

2.7 TABLES.

2.7.1 Interpretation Key for Conversion Tables within this Document.

R	Receive	Buffer receives and interprets data element.
DM	Discard Message	Buffer discards entire message for conversion on receipt of data element.
NP	Not Processed	Buffer does not process data element.
NT	Not translated	The buffer does not convert the entire message on receipt of this data element value.

2.7.2 Translation Rules. All relevant translation rules for Link 11/Link 1 interface in these tables are also applicable to the Link 11B/Link 1 interface.

TABLE B-1. LINK 11/11B M.1 DATA REFERENCE POSITION MESSAGE

DATA ELEMENT TRANSFER TO LINK 1

LINK 11/11B		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Number (MN)	0001	R	1	
Reference/Position Indicator (R/P)	0	R	1	
	1	R	1	
Special Processing Indicator (SPI)	1	DM	2	
	0	R		
Spare	All	NP		
Delta Latitude	All	R		
Participating Unit (PU)/ Reporting Unit (RU) Address	001-076, 100-176 (octal)	R		
	All others	DM		
Delta Longitude	All	R		
Note 1: Buffer utilizes M.1 data to establish the System Coordinate Centre (SCC) for an RU in order to relate following positional messages and to display the PU at the buffer.				
Note 2: When the SPI bit is set to 1 all the following data up to the reception of the next M.1 message with the SPI bit set to 0 shall be inhibited from data forwarding on a non-secure link.				

TABLE B-2. LINK 11 M.81 DATA REFERENCE POSITION AMPLIFYING MESSAGE DATA ELEMENT TRANSFER TO LINK 1

LINK 11		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Number (MN)	1000	R	3	
PU/RU Address	See M.1	R	4	
Spare	All	NP		
Helicopter Carrying (HC)	All	NP		
Spare	All	NP		
Height/Depth	All	R	5	
X-Velocity Component	All	R		
Y-Velocity Component	All	R		
Originator Environment/ Category (ENV/CAT) = 0	0	NT		
Unit Type (TY)	0-11	NT		
	12-15	NP		
Originator Environment/ Category (ENV/CAT) = 1	1	NT		
Unit Type (TY)	0	NT		
	1-15	NP		
Originator Environment/ Category (ENV/CAT) = 2	2	NT		
Unit Type (TY)	0-11	NT		
	12-15	NP		
Originator Environment/ Category (ENV/CAT) = 3	3	R	6	
Unit Type (TY)	0-6	R	6	
	7-15	NP		
Missile Unit (MU)	All	NP		
Scale Indicator (SI)	All	R		
Note 3: Buffer interprets M.81 for Airborne PUs (ENV/CAT=3) only.				
Note 4: Must be same as in preceding M.1.				
Note 5: Interpreted in accordance with Scale Indicator (SI).				

LINK 11		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Number (MN)	1000	R	3	
Note 6: For possible transmission on Link 1. Buffer translates TY into Link 1 Identification of Friendly.				

TABLE B-3. LINK 11/11B M.2 AIR TRACK POSITION MESSAGE

DATA ELEMENT TRANSFER TO LINK 1

LINK 11/11B		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Number (MN)	0010	R		
Track Number (TN)	0000, 0077, 0176, 0177, 7777 (octal)	DM		
	All others	R		
Identity (ID)	All	R	7	Send S.14 when Link 1 identity is changed
Primary Identity Amplify (PRI ID AMP)	All	R	7	
Scale Indicator (SI)	All	R	8	
Track Quality (TQ)	0	NT		
	All others	R	9	
X Co-ordinate	All	R		
Y Co-ordinate	All	R		
Note 7: For possible transmission on Link 1 and information difference resolution, see Table B-27.				
Note 8: Required to interpret the X and Y Co-ordinates in the M.2 message and the X and Y Velocity and Height in the M.82 message.				
Note 9: For possible transmission on Link 1. Translation is in accordance with Table B-31.				

TABLE B-4. LINK 11/11B M.82 AIR TRACK POSITION AMPLIFYING MESSAGE DATA ELEMENT TRANSFER TO LINK 1

LINK 11/11B		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Number (MN)	1000	R		
Track Number (TN)	See M.2	R	10	
Height	All	R		Send S.5 when Link 1 Height changes from 0 or No Statement to Non-Zero
X-Velocity Component	All	R		Send S.5 when change exceeds Link 1 threshold
Y-Velocity Component	All	R		
Time	All	NT		
Spare	All	NP		
Switch (SW)	0	R		
	1	DM		
Size (SZ)	All	R	11	Send S.5 when Link 1 Strength has changed
Identity Amplification/ Mission (ID AMP)	All	R	7	Send S.14 when Link 1 Identity or ID Modifier is changed
Height/Source (HS)	All	NP		
Note 10: Must be same as in preceding M.2.				
Note 11: For possible transmission on Link 1. Translation is in accordance with Table B-29.				

TABLE B-5. LINK 11/11B M.9A (AC=0) DATA SOURCE/SIMULATED TRACK REPORT MESSAGE DATA ELEMENT TRANSFER TO LINK 1

LINK 11/11B		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Number (MN)	1001	R		
Label	0000	R		
Action set to:	0	R		
Environment/Category (ENV/CAT)	All	NP		
Acknowledge Indicator (AI)	All	R	12	
Identity (ID)	All	NP		
Primary Identity Amplify (PRI ID AMP)	All	NP		
Identity Amplification/ Mission (ID AMP)	All	NP		
Simulation Indicator (SI)	0	R	12 and 13	
	1	R	13	
Track Number (TN)	0000, 0077, 0176, 0177, 7777 (octal)	DM		
	All others	R		
PU/RU Address/Source	001-076, 100-176 (octal)	R		
	All others	DM		
Status Indicator (STI)	All	NP		
Special Processing Indicator (SPI)	0	R		
	1	DM	14	
Spare	All	NP		
Note 12: Link 11B only.				
Note 13: See paragraph 2.3.12. The M.9A (AC=0) (SI=0) is not transmitted on Link 11.				
Note 14: DM following track message sequence.				

TABLE B-6. LINK 11/11B M.9A (AC=1) INFORMATION DIFFERENCE REPORT MESSAGE AND M.9A (AC=2) CHANGE DATA ORDER MESSAGE

DATA ELEMENT TRANSFER TO LINK 1

LINK 11/11B		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Number (MN)	1001	R		
Label	0000	R		
Action set to:	1 or 2	R		
Environment/Category (ENV/CAT)	All	R	15	
Spare	All	NP		
Identity (ID)	All	R	7	Send S.14 when Link 1 Identity or ID Modifier is changed
Primary Identity Amplify (PRI ID AMP)	All	R		
Identity Amplification/ Mission (ID AMP)	All	R		
Spare	All	NP		
Track Number (TN)	See AC=0			
PU/RU Address/Source	See AC=0			
Status Indicator (STI)	All	NP		
Special Processing Indicator (SPI)	All	NP		
Spare	All	NP		
Note 7: For possible transmission on Link 1 and information difference resolution, see Table B-27.				
Note 15: If ENV/CAT change has been received, and the buffer does not have reporting responsibility, clear the data base without sending a Drop Track Report message.				

TABLE B-7. LINK 11/11B M.9A (AC=4) DROP TRACK REPORT MESSAGE DATA ELEMENT TRANSFER TO LINK 1

LINK 11/11B		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Number (MN)	1001	R		
Label	0000	R		
Action set to:	4	R		Set Link 11 TQ to "0"
Environment/Category (ENV/CAT)	All	NP		
Spare	All	NP		
Identity (ID)	All	NP		
Primary Identity Amplify (PRI ID AMP)	All	NP		
Identity Amplification/ Mission (ID AMP)	All	NP		
Spare	All	NP		
Track Number (TN)	See AC=0			
PU/RU Address/Source	See AC=0			
Status Indicator	All	NP		
Special Processing Indicator (SPI)	All	NP		
Spare	All	NP		

TABLE B-8. LINK 11/11B M.9A (AC=5) TRACK ALERT REPORT MESSAGE AND M.9A (AC=7) TERMINATE TRACK ALERT MESSAGE DATA ELEMENT TRANSFER TO LINK 1

LINK 11/11B		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Number (MN)	1001	R		
Label	0000	R		
Action set to:	5 and 7	R		
Environment/Category (ENV/CAT)	All	NP		
Spare	All	NP		
Identity (ID)	All	NP		
Primary Identity Amplify (PRI ID AMP)	All	NP		
Identity Amplification/ Mission (ID AMP)	All	NP		
Spare	All	NP		
Track Number (TN)	See AC=0			
PU/RU Address/Source	See AC=0			
Status Indicator (STI)	0	R		Send S.3
	1	R		
Special Processing Indicator (SPI)	All	NP		
Spare	All	NP		

TABLE B-9. LINK 11/11B M.9A (AC=9) IFF/SIF MANAGEMENT REPORT MESSAGE DATA ELEMENT TRANSFER TO LINK 1

LINK 11/11B		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Number (MN)	1001	R		
Label	0000	R		
Action set to:	9	R		
Mode 1/2/3/4 Code	All	R		
Track Number (TN)	See AC=0			
PU/RU Address/Source	See AC=0			
IFF/SIF Action Code (ISAC) set to:	0	R		
With				
Mode Indicator (MI) set to:	0,1,2,3,4,6	R		
	All others	NT		
IFF/SIF Action Code (ISAC) set to:	1	R		
With				
Mode Indicator (MI) set to:	1,2,3,4,6	R	16	
	All others	NT		
Spare	All	NP		
Note 16: Send S.3 Request Message.				

TABLE B-10. LINK 11/11B M.11D IFF/SIF MESSAGE

DATA ELEMENT TRANSFER TO LINK 1

LINK 11/11B		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Number (MN)	1011	R		
Label	0011	R		
Track Number (TN)	0000, 0077, 0176, 0177, 7777 (octal)	DM		
	All other	R		
Switch (SW)	All	R	17	
Mode 4 Indicator	All	NP		
Type Report	0	R		
	1	DM	18	
Type Report=0, Switch=0				
Mode 2 Code	All	R		Send S.3 when IFF/SIF Code is changed
Spare	All	NP		
Mode 1 Code	All	R		Send S.3 when IFF/SIF Code is changed
Type Report=0, Switch=1				
Mode 2 Code	All	R		Send S.3 when IFF/SIF Code is changed
Mode 3 Code	All	R		Send S.3 when IFF/SIF Code is changed
Type Report=1, Switch=0				
Special Code	All	DM	18	
Spare	All	NP		
Type Report=1, Switch=1 is Illegal				
Note 17: Required to interpret as Mode 1 or Mode 3.				

Note 18: Special Codes not translated.

TABLE B-11. LINK 11/11B M.11F IFF/SIF MODE S MESSAGE
DATA ELEMENT TRANSFER TO LINK 1

LINK 11/11B		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Number (MN)	1011	R		
Label	0101	R		
Track Number (TN)	0000, 0077, 0176, 0177, 7777 (octal)	DM		
	All other	R		
Aircraft Address	All	R		Send S.15 when Aircraft Address is changed.

TABLE B-12. LINK 11/11B M.811F(0) IFF/SIF MODE S AMPLIFY, 1 MESSAGE
DATA ELEMENT TRANSFER TO LINK 1

LINK 11/11B		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Number (MN)	1000	R		
Sub Label	0	R		
Aircraft ID, 1	All	R		Send S.16+ when Aircraft ID is changed.

TABLE B-13. LINK 11/11B M.811F(1) IFF/SIF MODE S AMPLIFY, 2 MESSAGE DATA ELEMENT TRANSFER TO LINK 1

LINK 11/11B		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Number (MN)	1000	R		
Sub Label	1	R		
Aircraft ID, 2	All	R		Send S.16 when Aircraft ID is changed.

TABLE B-14. LINK 11/11B M.14 WEAPON/ENGAGEMENT STATUS MESSAGE DATA ELEMENT TRANSFER TO LINK 1

LINK 11/11B		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Number (MN)	1110	R		Send S.14
Weapon/Engagement Status (W/ES)	0 and 1	NT		
	2-10	R	19	
	11-15	DM		
Weapon Type (WT)	0,1, and 3	R	20	
	2 and 4-13	NT		
	14-15	DM		
Weapon Range (WR)	All	NP		
Number of Systems (NOS)	All	NP		
Warhead (WH)	All	NP		
PU/RU Source	001-076, 100-176 (octal)	NT		
	All other	DM		
TN-Friend	0000, 0077, 0176, 0177, 7777 (octal)	DM		
	All other	R	20	
TN-Target	0200-7776 (octal)	R		
	All others	DM		
Hot Inventory (HI)	0-127	NT		
Cold Inventory (CI)	0-31	NT		
Note 19: Interpretation and translation in accordance with Table B-32.				
Note 20: The TN-Friend field is interpreted for Weapon Type of 3. For Weapon Type of 1, the TN-Friend is NP.				

TABLE B-15. LINK 1 S.0 TEST MESSAGE DATA ELEMENT TRANSFER TO LINK 11/11B

LINK 1		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Label	101110	R	21	
Test Pattern	0101110	R	21	
Note 21: See paragraph 2.4.1.4. No impact on Link 11/11B.				

TABLE B-16. LINK 1 S.3 IFF/SIF MESSAGE

DATA ELEMENT TRANSFER TO LINK 11/11B

LINK 1		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Label	010011	R		
Spare	All	NP		
SIF Mode 3/A Code	All	R	22	Send M.11D or M.9A (AC=9)
SIF Request/Reply Indicator	010	R	23	
	100	R		
	All others	DM		
Emergency Indicator	0	R		Send M.9A (AC=7) (STI=0) if M.9A (AC=5) (STI=0) has been transmitted
	1	R		Send M.9A (AC=5) (STI=0)
SIF Mode Presence Indicator	All	R		
Emergency Validation Indicator	All	R	24	
Spare	All	NP		
SIF Mode 1 Code	All	R	22	Send M.11D or M.9A (AC=9)
Spare	All	NP		
SIF Mode 2 Code	All	R	22	Send M.11D or M.9A (AC=9)
Note 22: Interpreted in accordance with SIF Mode Presence Indicator.				
Note 23: This value is not transmitted by NADGE or UKADGE, according to				
Note 24: Must be confirmed by operator switch action.				

TABLE B-17. LINK 1 S.4 BASIC TRACK DATA MESSAGE

DATA ELEMENT TRANSFER TO LINK 11/11B

LINK 1		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Label	010001	R		
	110001	R		
Track Number	All	R		
Track/Data Quality	All	R	25	
Track Position X-Component	All	R		
Track Position Y-Component	All	R		
Note 25: Translation in accordance with Table B-31.				

TABLE B-18. LINK 1 S.5 AMPLIFYING TRACK DATA MESSAGE

DATA ELEMENT TRANSFER TO LINK 11/11B

LINK 1		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Label	010010	R		
Track Altitude	All	R		
Track Strength/ Flight Size	All	R	26	
Track Identification	0001, 0011, 0111, 1101, 1111	DM		
	All others	R	27	
Special Use (2-bits)				
NADGE/UKADGE				
Mass Raid Size	All	NP		
Altitude Staleness	All	NP		
STRIDA				
Altitude Staleness	All	NP		
ID Amplification	All	NP		
SADA				
Altitude Staleness	All	NP		
Track Simulation Indicator	0	R		
	1	R	28	
Track Drop Indicator	0	R		
	1	R	29	
Air Traffic Class Indicator	All	NP		
Track Velocity X-Component	All	R		
Target Allocation/ Weapon Assignment Status	All	R	30	Send M.14 in accordance with Table B-33
Special Use (3-bits)	See Special Use (2-bits)			
Track Velocity Y-Component	All	R		

TABLE B-18. LINK 1 S.5 AMPLIFYING TRACK DATA MESSAGE DATA ELEMENT TRANSFER TO LINK 11/11B (Cont)
Note 26: Translation in accordance with Table B-30 for possible transmission.
Note 27: NP on subsequent receipts. Translation in accordance with Table B-28 for possible transmission.
Note 28: This track shall not be transmitted onto Link 11 if any unit on Link 11 cannot process the M.9A (AC=0, SI=1) message. When transmitted onto Link 11, each track report (M.2 and/or M.2/M.82) shall be preceded by the M.9A (AC=0, SI=1) at every transmission opportunity. When transmitted onto Link 11B, the protocol for M.9A (AC=0) messages and required acknowledgments shall be followed without regard to the SI value.
Note 29: See paragraph 2.4.4.2.1.
Note 30: NP on subsequent receipts. Translation in accordance with Table B-33.

TABLE B-19. LINK 1 S.8 AND S.8+ BASIC AEW TRACK DATA MESSAGE

DATA ELEMENT TRANSFER TO LINK 11/11B

LINK 1		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Label	010101	R		
	110101	R		
NATO Track Number	All	R		
Track/Data Quality	All	R	31	
Track Position X-Component	All	R		
Track Position Y-Component	All	R		
Note 31: Translation in accordance with Table B-31.				

TABLE B-20. LINK 1 S.14 MANAGEMENT MESSAGE
(ORDER CODE = 0000, 1011, 1101, 1110, or 1111
DATA ELEMENT TRANSFER TO LINK 11/11B

LINK 1			BUFFER OPERATION		
DATA ELEMENT		VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Label		010111	R		
Order Originating Site Code (1-bit)		See Order Originating Site Code (4-bits)			
Message Type		00,01,10	R		
		11	DM		
Order Originating Site Code (4-bits)		All	NP		
Order Code (Set to value 0000, 1011, 1101, 1110, or 1111)		0000, 1011, 1101, 1110, or 1111	NP		
NATO Track Number "P" Field		All	NP		
Order Originating Site Code (2-bits)		See Order Originating Site Code (4-bits)			
NATO Track Number "Q" Field		All	NP		
Amplifying Data "A" Field	Track Basic Identification	All	NP		
	Target Allocation/ Weapon Assignment Status	All	NP		
	Spare	All	NP		

TABLE B-21. LINK 1 S.14 MANAGEMENT MESSAGE (ORDER CODE = 0001 OR 0010)

DATA ELEMENT TRANSFER TO LINK 11/11B

LINK 1			BUFFER OPERATION		
DATA ELEMENT		VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Label		010111	R		
Order Originating Site Code (1-bit)		See Order Originating Site Code (4-bits)			
Message Type		00, 01, 10	R		
		11	DM		
Order Originating Site Code (4-bits)		All	NP		
Order Code (Set to value 0001 or 0010)		0001	R		Send an M.9E message
		0010	R		Send two M.9E messages
NATO Track Number "P" Field		Non-NATO	DM		
		NATO	R		
Order Originating Site Code (2-bits)		See Order Originating Site Code (4-bits)			
NATO Track Number "Q" Field		Non-NATO	DM		
		NATO	R		
Amplifying Data "A" Field	Track Basic Identification	With "ORDER CODE" set to value 0001 or 0010, interpret bits 35-49 as "NATO TRACK NUMBER "Q" FIELD"			
	Target Allocation/ Weapon Assignment Status				
	Spare				

TABLE B-22. LINK 1 S.14 MANAGEMENT MESSAGE (ORDER CODE = 0011)

DATA ELEMENT TRANSFER TO LINK 11/11B

LINK 1			BUFFER OPERATION		
DATA ELEMENT		VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Label		010111	R		
Order Originating Site Code (1-bit)		See Order Originating Site Code (4-bits)			
Message Type		00, 01, 10	R		
		11	DM		
Order Originating Site Code (4-bits)		All	NP		
Order Code (Set to value 0011)		0011	R	32/33	Send M.14 message
NATO Track Number "P" Field		Non-NATO	R		
		NATO	R		
Order Originating Site Code (2-bits)		See Order Originating Site Code (4-bits)			
NATO Track Number "Q" Field		With "ORDER CODE" set to value 0011, interpret bits 35-49 as "AMPLIFYING DATA "A" FIELD"			
Amplifying Data "A" Field	Track Basic Identification	0001, 0011, 0111, 1101, and 1111	DM		
		All others	R	34	
	Target Allocation/ Weapon Assignment Status	All	R	35	Send M.14 message
	Spare	All			

TABLE B-22. LINK 1 S.14 MANAGEMENT MESSAGE (ORDER CODE = 0011)

DATA ELEMENT TRANSFER TO LINK 11/11B (Cont)

Note 32: If Track Basic Identification is changed, translate in accordance with Table B-28 for possible transmission.
Note 33: If Target Allocation/Weapon Assignment Status is changed, translate in accordance with Table B-33.
Note 34: Translate in accordance with Table B-28 for possible transmission.
Note 35: Translate in accordance with Table B-33.

TABLE B-23. LINK 1 S.14 MANAGEMENT MESSAGE
(ORDER CODE = 0100, 0101, 0111, 1001, OR 1010)
DATA ELEMENT TRANSFER TO LINK 11/11B

LINK 1		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Label	010111	R		
Order Originating Site Code (1-bit)	See Order Originating Site Code (4-bits)			
Message Type	00, 01, 10	R		
	11	DM		
Order Originating Site Code (4-bits)	All	NP		
Order Code (Set to values 0100, 0101, 0111, 1001, or 1010)	0100 or 0101	R	36	
	0111, 1001, or 1010	DM		
NATO Track Number "P" Field	Non-NATO	DM		
	NATO	R		
Order Originating Site Code (2-bits)	See Order Originating Site Code (4-bits)			
NATO Track Number "Q" Field	Non-NATO	DM		
	NATO	DM		
Amplifying Data "A" Field — Track Basic Identification	With "ORDER CODE" set to values 0100, 0101, 0111, 1001, and 1010 interpret bits 35-49 as "NATO TRACK NUMBER "Q" FIELD"			
Amplifying Data "A" Field — Target Allocation/ Weapon Assignment Status				
Amplifying Data "A" Field — Spare				
Note 36: No impact on Link 11/11B.				

TABLE B-24. LINK 1 S.14 MANAGEMENT MESSAGE

(ORDER CODE = 0110 OR 1000)

DATA ELEMENT TRANSFER TO LINK 11/11B

LINK 1			BUFFER OPERATION			
DATA ELEMENT			VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Label			010111	R		
Order Originating Site Code (1-bit)			See Order Originating Site Code (4-bits)			
Message Type			00, 01, 10	R		
			11	DM		
Order Originating Site Code (4-bits)			All	NP		
Order Code (Set to value 0110 or 1000)			0110 or 1000	R	36	
NATO Track Number "P" Field			Non-NATO	R		
			NATO	R		
Order Originating Site Code (2-bits)			See Order Originating Site Code (4-bits)			
	NATO Track Number "Q" Field		With "ORDER CODE" set to value 0110 or 1000 interpret bits 35-49 as "AMPLIFYING DATA "A" FIELD"			
	Amplifying Data "A" Field	Track Basic Identification	0001, 0011, 0111, 1001, 1011, 1101, and 1111	DM		
			All others	R		
		Target Allocation/ Weapon Assignment Status	All	DM		

		Spare	All	NP		

TABLE B-25. LINK 1 S.15 AND S.15+ MODE S AIRCRAFT ADDRESS MESSAGE DATA ELEMENT TRANSFER TO LINK 11/11B

LINK 1		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Label	011000	R		
	111000	R		
NATO Track Number	All	R		
Mode S Aircraft Address	All	R		Send M.11F/M.811F or M.9 (AC=9)
Spare	All	NP		

TABLE B-26. LINK 1 S.16+ AND S.16 AIRCRAFT CALLSIGN MESSAGE DATA ELEMENT TRANSFER TO LINK 11/11B

LINK 1		BUFFER OPERATION		
DATA ELEMENT	VALUES	INTERPRETATION	NOTE	UNIQUE ACTION
Message Label	011001	R		
NATO Track Number	All	R		
Aircraft Callsign Source	1	R		Send M.11F/M.811F or M.9 (AC=9)
	All others	DM		
Aircraft Callsign (Char 0 to 3)	All	R	37	
Message Label	111001	R		
Aircraft Callsign (Char 4 to 7)	All	R	37	
Spare	All	NP		
Note 37: The Aircraft Callsign fields consist of 48 bits divided into eight character groups of six bits. The first four character groups (0-3) are in the S.16+ message and correspond to the M.811F(0) message Aircraft ID, 1 field and the last four (4-7) character groups are in the S.16 message and correspond to the M.811F(1) message Aircraft ID, 2 field.				

TABLE B-27. LINK 11/11B TRACK IDENTITY TRANSLATION TO LINK 1
(SHEET 1 OF 3)

LINK 11			LINK 1
IDENTITY =VALUE	PRI ID AMP =VALUE	ID AMP/MISSION =VALUE	TRACK BASIC IDENTIFICATION
UNKNOWN=0	PENDING=0	NO STATEMENT=0	PENDING
UNKNOWN=0	UNKNOWN=1	NO STATEMENT=0	UNKNOWN
		BOMBER=2	UNKNOWN
		FIGHTER=3	UNKNOWN
		AEW/RECCE/EW/DECOY=4	UNKNOWN
		HELO/TRANSPORT=5	UNKNOWN
		MISSILE PLATFORM=6	UNKNOWN
		ZOMBIE/INTRUDER=7	ZOMBIE
UNKNOWN=0	ASSUMED FRIEND=2	NO STATEMENT=0	UNKNOWN
		BOMBER=2	UNKNOWN
		FIGHTER=3	UNKNOWN
		AEW/RECCE/EW/DECOY=4	UNKNOWN
		HELO/TRANSPORT=5	UNKNOWN
		MISSILE PLATFORM=6	UNKNOWN
UNKNOWN=0	SUSPECT=3	NO STATEMENT=0	XRAY
		DRONE-RPV=1	UNKNOWN
		BOMBER=2	XRAY
		FIGHTER=3	XRAY
		AEW/RECCE/EW/DECOY=4	XRAY
		HELO/TRANSPORT=5	XRAY
		MISSILE PLATFORM=6	XRAY
		XRAY/INTRUDER=7	XRAY

TABLE B-27. LINK 11/11B TRACK IDENTITY TRANSLATION TO LINK 1 (CONTINUED) (SHEET 2 OF 3)

LINK 11			LINK 1
IDENTITY =VALUE	PRI ID AMP =VALUE	ID AMP/MISSION =VALUE	TRACK BASIC IDENTIFICATION
FRIEND=1	GENERAL=0	NO STATEMENT=0	FRIENDLY
		NEUTRAL=1	FRIENDLY
		NON-MILITARY=2	FRIENDLY
		MISSILE=3	FRIENDLY
		RTB=4	FRIENDLY
		MIL TRAINING=5	FRIENDLY
		NEUTRALIZED FAKER=6	FRIENDLY
		NEUTRALIZED FAKER=6	FAKER (1)
		JOKER=7	FAKER
FRIEND=1	HELO=1	NO STATEMENT=0	FRIENDLY
		ASW=1	FRIENDLY
		SAR=2	FRIENDLY
		GUN SHIP=3	FRIENDLY
		RECON/RECCE=4	FRIENDLY
		LOGISTIC=5	FRIENDLY
		TROOP LIFT=6	FRIENDLY
		MEDEVAC=7	FRIENDLY
HOSTILE=2	NO STATEMENT=0	NO STATEMENT=0	HOSTILE
		MISSILE=1	HOSTILE
		BOMBER=2	HOSTILE
		FIGHTER=3	HOSTILE
		AEW/RECCE/EW/DECOY=4	HOSTILE
		HELO/TRANSPORT=5	HOSTILE
		MISSILE PLATFORM=6	HOSTILE
		JAMMER=7	HOSTILE JAMMER
Note (1): ID/AMP MISSION is translated in the equivalent ID Modifier (as depicted in Table B-33) for those sites implementing the "Neutralized Faker" capability.			

TABLE B-27. LINK 11/11B TRACK IDENTITY TRANSLATION TO LINK 1 (CONTINUED) (SHEET 3 OF 3)

LINK 11			LINK 1
IDENTITY =VALUE	PRI ID AMP =VALUE	ID AMP/MISSION =VALUE	TRACK BASIC IDENTIFICATION
FRIEND=3	SPECIAL MISSION=0	NO STATEMENT=0	FRIENDLY
		AEW/ARP/ABCCC=1	FRIENDLY
		SAR=2	FRIENDLY
		EW=3	FRIENDLY
		RECON/RECCE=4	FRIENDLY
		FAKER JAMMER=5	FAKER JAMMER
		FAKER=6	FAKER
		KILO=7	KILO
FRIEND=3	STRIKE/SUPPORT/ BOMBER=1	NO STATEMENT=0	FRIENDLY
		ASW=1	FRIENDLY
		TANKER (GENERAL)=2	FRIENDLY
		TANKER (BOOM)=3	FRIENDLY
		TANKER (DROGUE)=4	FRIENDLY
		CAS/DAS=5	FRIENDLY
		LOGISTIC=6	FRIENDLY
		INTERDICTION=7	FRIENDLY
FRIEND=3	INTERCEPTOR/ FIGHTER=2	NO STATEMENT=0	INTERCEPTOR
		UNAVAILABLE=1	INTERCEPTOR
		RESCAP=2	INTERCEPTOR
		CAP=3	INTERCEPTOR
		RTB=4	INTERCEPTOR
		DRONE/RPV=5	FRIENDLY

TABLE B-28. LINK 1 TRACK IDENTITY TRANSLATION TO LINK 11/11B

LINK 1	LINK 11		
TRACK BASIC IDENTIFICATION	IDENTITY =VALUE	PRI ID AMP =VALUE	ID AMP/MISSION=VALUE
PENDING	UNKNOWN=0	PENDING=0	NO STATEMENT=0
UNKNOWN	UNKNOWN=0	UNKNOWN=1	NO STATEMENT=0
INTERCEPTOR	FRIEND=3	INTERCEPTOR/FIGHTER=2	NO STATEMENT=0
KILO	FRIEND=3	SPECIAL MISSION=0	KILO=7
FRIENDLY	FRIEND=1	GENERAL=0	NO STATEMENT=0
FAKER	FRIEND=3	SPECIAL MISSION=0	FAKER=6
FAKER JAMMER	FRIEND=3	SPECIAL MISSION=0	FAKER JAMMER=5
FAKER (1)	FRIEND=1	GENERAL=0	NEUTRALIZED FAKER = 6
HOSTILE	HOSTILE=2	NO STATEMENT=0	NO STATEMENT=0
HOSTILE JAMMER	HOSTILE=2	NO STATEMENT=0	JAMMER=7
XRAY	UNKNOWN=0	SUSPECT=3	XRAY/INTRUDER=7
ZOMBIE	UNKNOWN=0	UNKNOWN=1	ZOMBIE/INTRUDER=7
Note (1): The equivalent to "ID AMP/MISSION" is contained in the Link 1 ID Modifier as depicted in Table B-33.			

TABLE B-29. LINK 11/11B SIZE TRANSLATION TO LINK 1 TRACK STRENGTH

LINK 11/11B SIZE		LINK 1 TRACK STRENGTH	
VALUE	MEANING	VALUE	MEANING
0	No Statement	0	No Statement
1	Single	2	One
2	2 to 7	5	Four to Seven`
3	8 or more	7	Many

TABLE B-30. LINK 1 TRACK STRENGTH TRANSLATION TO LINK 11/11B SIZE

LINK 1 TRACK STRENGTH		LINK 11/11B SIZE	
VALUE	MEANING	VALUE	MEANING
0	No Statement	0	No Statement
1	Not used	-	-
2	One	1	Single
3	Two	2	2 to 7
4	Three	2	2 to 7
5	4 to 7	2	2 to 7
6	8 to 12	3	8 or more
7	Many	3	8 or more

TABLE B-31. LINK 1 TRACK/DATA QUALITY TO LINK 11/11B TRACK QUALITY AND LINK 11/11B TRACK QUALITY TO LINK 1 TRACK/DATA QUALITY TRANSLATION

LINK 1 TO LINK 11/11B		LINK 11/11B TO LINK 1	
LINK 1	LINK 11/11B	LINK 11/11B	LINK 1
0	6	1	3
1	4	2	2
2	2	3	2
3	1	4	1
		5	1
		6	0
		7	0

TABLE B-32. LINK 11/11B WEAPON/ENGAGEMENT STATUS CONVERSION TO LINK 1

LINK 11/11B - M.14		BUFFER	LINK 1 - S.14		
WEAPON/ENGAGEMENT STATUS (W/ES)	WEAPON TYPE (WT)		TN-TARGET FROM M.14		TN-FRIEND FROM M.14
			NON-INTERCEPTOR	INTERCEPTOR	
2=WEAPON ASSIGNED	1=SURFACE-TO-AIR MISSILE (SAM)	R	UNAVAILABLE (NOTE 38)	ALLOCATED TO SAM	
3=TRACKING/LOCKED ON/READY TO FIRE	1=SAM	R	ALLOCATED TO SAM	ALLOCATED TO SAM	
4=FIRING	1=SAM	R	ALLOCATED TO SAM	ALLOCATED TO SAM	
6=PARTIALLY EFFECTIVE	1=SAM	R	ALLOCATED TO SAM	ALLOCATED TO SAM	
7=NOT EFFECTIVE	1=SAM	R	ALLOCATED TO SAM	ALLOCATED TO SAM	
9=HEADS UP	NOT USED	R			
10=ENGAGEMENT INTERRUPTED	1=SAM	R	ALLOCATED TO SAM	ALLOCATED TO SAM	
2=INVESTIGATING	3=INTERCEPTOR	R	ALLOCATED TO INTERCEPTOR	UNAVAILABLE (NOTE 38)	ASSIGNED AVAILABLE
3=NOT USED	3=INTERCEPTOR	R			
4=ENGAGING	3=INTERCEPTOR	R	ALLOCATED TO INTERCEPTOR	UNAVAILABLE (NOTE 38)	ASSIGNED AVAILABLE
6=PARTIALLY EFFECTIVE	3=INTERCEPTOR	R	ALLOCATED TO INTERCEPTOR	UNAVAILABLE (NOTE 38)	ASSIGNED AVAILABLE
7=NOT EFFECTIVE	3=INTERCEPTOR	R	ALLOCATED TO INTERCEPTOR	UNAVAILABLE (NOTE 38)	ASSIGNED AVAILABLE
9=HEADS UP	NOT USED	R			
10=ENGAGEMENT INTERRUPTED	3=INTERCEPTOR	R	ALLOCATED TO INTERCEPTOR	UNAVAILABLE (NOTE 38)	ASSIGNED AVAILABLE
5=EFFECTIVE	1=SAM	R	UNALLOCATED (NOTE 38.a)	UNAVAILABLE (NOTE 38)	UNASSIGNED AVAILABLE
8=ENGAGEMENT BROKEN	1=SAM	R	UNALLOCATED	UNAVAILABLE (NOTE 38)	UNASSIGNED AVAILABLE
5=EFFECTIVE	3=INTERCEPTOR	R	UNALLOCATED (NOTE 38.a)	UNAVAILABLE (NOTE 38)	UNASSIGNED AVAILABLE
8=ENGAGEMENT BROKEN	3=INTERCEPTOR	R	UNALLOCATED	UNAVAILABLE (NOTE 38)	UNASSIGNED AVAILABLE

TABLE B-32. LINK 11/11B WEAPON/ENGAGEMENT STATUS
CONVERSION TO LINK 1 (Cont)

General: a. TN-Target and TN-Friend in the "Link 1" columns refer to the corresponding terms in the Link 11/11B M.14 message. b. Both TN-Target and TN-Friend must be available in the buffer track store c. Weapon conflicts will not be resolved by the buffer.
Note 38: The status "Unavailable" will only be transmitted if a different status has not been established before. If a different status has been established, it shall remain unchanged.
Note 38.a: Or FAKER NEUTRALIZED if the target Track ID is FAKER, for those sites implementing this capability.

TABLE B-33. LINK 1 TARGET ALLOCATION/WEAPON ASSIGNMENT STATUS CONVERSION TO LINK 11/11B - RECEIPT OF A SINGLE S.14 MESSAGE

LINK 1 - S.14	BUFFER	LINK 11/11B - M.14		NOTES
TARGET ALLOCATION/ WEAPON ASSIGNMENT STATUS		WEAPON/ ENGAGEMENT STATUS (W/ES)	WEAPON TYPE (WT)	
ALLOCATED TO SAM	R	2	1	39 and 40
ALLOCATED TO INTERCEPTOR	R	2	3	39
UNALLOCATED	R	8	1 or 3	39 and 41
FAKER NEUTRALIZED	R	5	1 or 3	39, 41 and 42.a
ALL OTHERS	R			42
Note 39: TN-Friend will contain Buffer PU Number.				
Note 40: For Hostile (H), XRAY (X), Target=Faker (T), Unknown (U) Identities only. For other Identities, see note 41.				
Note 41: Weapon Type = 1: If a SAM engagement is terminated. Weapon Type = 3: If an interceptor engagement is terminated. If no engagement has been initiated, see note 41.				
Note 42: No M.14 message will be transmitted.				
Note 42.a: Perform ID AMP translation in accordance with Table B-28.				

TABLE B-34. FILTER IMPLEMENTATION WITH THE BUFFER PROGRAMME

Link	Filters Used on Transmit (Output) Side of Buffer	Filters Used on Receive (Input) Side of Buffer
Link 11/11B	Geographic Geographic Override Identification	Geographic Geographic Override Identification
Link 1 (Note 43)	Geographic Geographic Override Identification Track Number SIM/Live Crosstell Mode	
Note 43: There will be separate filter parameters for each Link 1 output from the buffer.		

ATDLP-6.01(A)(1)