NOTICE OF CHANGE

NOT MEASUREMENT SENSITIVE

MIL-STD-2500A
NOTICE 1
7 February 1997

DEPARTMENT OF DEFENSE
INTERFACE STANDARD

NATIONAL IMAGERY TRANSMISSION FORMAT (VERSION 2.0)
FOR THE NATIONAL IMAGERY TRANSMISSION FORMAT STANDARD

TO ALL HOLDERS OF MIL-STD-2500A:

1. THE FOLLOWING PAGES OF MIL-STD-2500A HAVE BEEN REVISED AND SUPERSEDE THE PAGES LISTED:

NEW PAGE	DATE	SUPERSEDED PAGE	DATE
cover	7 February 1997	cover	12 October 1994
ii	7 February 1997	ii	12 October 1994
53	7 February 1997	53	reprinted without change
54	7 February 1997	54	12 October 1994
55	7 February 1997	55	12 October 1994
56	7 February 1997	56	reprinted without change
59	7 February 1997	59	12 October 1994
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75	7 February 1997	75	reprinted without change
76	7 February 1997	76	12 October 1994
79	7 February 1997	79	reprinted without change
80	7 February 1997	80	12 October 1994
81	7 February 1997	81	reprinted without change
82	7 February 1997	82	12 October 1994
117	7 February 1997	117	12 October 1994
118	7 February 1997	118	12 October 1994
119	7 February 1997	119	12 October 1994
120	7 February 1997	120	12 October 1994
121	7 February 1997	121	12 October 1994
122	7 February 1997	122	12 October 1994
deleted	none	123	12 October 1994
DD1426	7 February 1997	DD1426	12 October 1994

AMSC N/A **AREA INST**

2. RETAIN THIS NOTICE AND INSERT BEFORE TABLE OF CONTENTS.

3. Holders of MIL-STD-2500A will verify that the page changes and additions indicated above have been entered. This notice page will be retained as a check sheet. This issuance, together with appended pages, is a separate publication. Each notice is to be retained by stocking points until the military standard is completely revised or canceled.

Custodians:

Army - SC

Navy - OM

Air Force - 90

Misc - DC4

Preparing Activity:

NIMA - MP

(Project INST-000202)

NOTE: The cover page of this standard has been changed for administrative reasons. There are no other changes to this document.

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MIL-STD-2500A
12 October 1994
SUPERSEDING
MIL-STD-2500
18 June 1993

DEPARTMENT OF DEFENSE INTERFACE STANDARD

NATIONAL IMAGERY TRANSMISSION FORMAT STANDARD (VERSION 2.0) FOR THE NATIONAL IMAGERY TRANSMISSION FORMAT STANDARD

AMSC N/A

AREA INST

SUPERSEDES COVER OF MIL-STD-2500A

FOREWORD

1. The National Imagery Transmission Format Standard (NITFS) is the standard for formatting digital imagery and imagery-related products and exchanging them among members of the Intelligence Community (IC) as defined by the Executive Order 12333, the Department of Defense (DOD), and other departments and agencies of the United States Government, as governed by Memoranda of Agreement (MOA) with those departments and agencies.

2. The NITFS Technical Board (NTB) developed this standard based upon currently available technical information.

3. The DOD and members of the Intelligence Community are committed to interoperability of systems used for formatting, transmitting, receiving, and processing imagery and imagery-related information. This standard describes the National Imagery Transmission Format (NITF) file format and establishes its application within the NITFS.

4. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to National Imagery and Mapping Agency, SEII, 14675 Lee Road, Chantilly, VA 20151-1715, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

SUPERSEDES page ii of MIL-STD-2500A.

TABLE IV(A). NITF image data mask subheader - Continued.

(R)= required, (O) = optional, and (C) = conditional

FIELD	NAME	SIZE	VALUE RANGE	TYPE
TMR0BND1	Transparent Pixel Mask Record 0, Band 1	4	Unsigned Integer; Offset in bytes from the beginning of Blocked Image Data to the first byte of block 0 of band 1; OxFFFFFFFF if the block does not contain transparent pixels	C
TMRnnBND1	Transparent Pixel Mask Record nn, Band 1	4	Unsigned Integer; Offset in bytes from the beginning of Blocked Image Data to the first byte of block nn of band 1; OxFFFFFFFF if the block does not contain transparent pixels	C
....				
TMR0BNDmm	Transparent Pixel Mask Record 0, Band mm	4	Unsigned Integer; Offset in bytes from the beginning of Blocked Image Data to the first byte of block 0 of band mm; OxFFFFFFFF if the block does not contain transparent pixels	C
....				

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TABLE IV(A). NITF image data mask subheader - Continued.

(R)= required, (O) = optional, and (C) = conditional

FIELD	NAME	SIZE	VALUE RANGE	TYPE
TMRnnBNDmm	Transparent Pixel Mask Record nn, Band mm	4	Unsigned Integer; Offset in bytes from the beginning of Blocked Image Data to the first byte of block nn of band mm; OxFFFFFFFF if the block does not contain transparent pixels	C

* The length of the TPXCD field is the next highest number of bytes which can contain the number of bits identified in the TPXCDLNTH field, to a maximum of two bytes. For example, a TPXCDLNTH value of 12 would be stored in a TPXCD field of two bytes.

TABLE IV(B). NITF image data mask subheader fields.

IMDATOFF	This field is included if the IC value equals NM, M0, M3, or M4. It identifies the offset from the beginning of the Image Data Mask Subheader to the first byte of the blocked image data. This offset, when used in combination with the offsets provided in the BMR fields, can provide random access to any recorded image block in any image band.
BMRLNTH	This field is included if the IC value equals NM, M0, M3, or M4. It identifies the length of each Block Mask Record in bytes. The total length of the Block Mask Records is equal to BMRLNTH x NBPR x NBPC x NBANDS. If all of the image blocks are recorded, this value is set to 0, and the conditional BMR fields are not recorded/transmitted. If this field is present, but coded as 0, then a transparent pixel mask is included.

TABLE IV(B). NITF image data mask subheader fields - Continued.

TMRLNTH	This field is included if the IC value equals NM, M0, M3, or M4. It identifies the length of each Transparent Pixel Mask Record in bytes. The total length of the Transparent Pixel Mask Records is equal to TMRLNTH x NBPR x NBPC x NBANDS. If none of the image blocks contain transparent pixels, this value is set to 0, and the conditional TMR fields are not recorded/transmitted. For IC value of M3, the value is set to 0. If this field is present, but coded as 0, then a Block Mask is included.
TPXCDLNTH	This field is included if the IC value equals NM, M0, M3, or M4. It identifies the length in bits of the Transparent Output Pixel Code. If coded as 0, then no transparent pixels are present, and the TPXCD field is not recorded. For IC value of M3, the value is set to 0.
TPXCD	This field is included if the IC value equals NM, M0, or M4, and TPXCDLNTH is not 0. It contains the output pixel code that represents a transparent pixel in the image. This value is unique within the image, and allows the user to identify transparent pixels. The transparent pixel output code length is determined by TPXCDLNTH, but the value is stored in a maximum of two bytes. If the number of bits used by TPXCD is less than the number of bits available for storage, the value shall be justified in accordance with the PJUST field in the image subheader.
BMR0BND1	This field shall contain the first Block Mask Record of band 1. It is recorded/transmitted only if the BMRLNTH field is not 0. The field shall contain an offset in bytes from the beginning of the Blocked Image Data to the first byte of block 0 of band 1 (this value should be 0) if block 0 is recorded/transmitted, or 0xFFFFFFFF if block 0 of band 1 is not recorded/transmitted in the image data.

TABLE IV(B). NITF image data mask subheader fields - Continued.

BMR0BND1	This field shall contain the nnth Block Mask Record of band 1. It is recorded/transmitted only if the BMRLNTH field is not 0. The field shall contain an offset in bytes from the beginning of the blocked Image Data to the first byte of block nn of band 1 if block nn is recorded/transmitted, or 0xFFFFFFFF if block nn of band 1 is not recorded/transmitted in the image data. The number of BMR records for this band is NBPR x NBPC.
BMR0BNDmm	This field shall contain the first Block Mask Record of band mm. It is recorded/transmitted only if the BMRLNTH field is not 0. The field shall contain an offset in bytes from the beginning of the Blocked Image Data to the first byte of block 0 of band mm if block 0 is recorded/transmitted, or 0xFFFFFFFF if block 0 of band mm is not recorded/transmitted in the image data.
BMRnnBNDmm	This field shall contain the nnth Block Mask Record of band mm. It is recorded/transmitted only if the BMRLNTH field is not 0. The field shall contain an offset in bytes from the beginning of the Blocked Image Data to the first byte of block nn of band mm if block nn of band mm is not recorded/transmitted in the image data. The number of BMR records for this band is NBPR x NBPC.
TMR0BND1	This field shall contain the first Transparent Pixel Mask Record for band 1. It is recorded/transmitted only if the TMRLNTH field is not 0. The field shall contain an offset in bytes from the beginning of the blocked Image Data to the first byte of block 0 of and 1 if block-contains transparent pixels, or 0xFFFFFFFF to indicate that this block does not contain transparent pixels.

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interleaved by pixel or by block. For "band interleaved by pixel" the n*N bits of the entire pixel vector are stored pixel-by-pixel in the same left to right, top to bottom pixel order as described in 5.5.2.2.2.1. The n*N bits for a single pixel are stored successively in this order: the N bits of the first band followed by the N bits of the second band and so forth, ending with the N bits of the last band. Each block shall be zero-filled to the byte boundary. The field IMODE in the image subheader shall be set to P for this storage option. See the field Pixel Value Type (PVTYPE) description in table IV for the specification of the bit representation of pixel values for each band.

5.5.2.2.2.2.3 Band interleaved by block. The ordering mechanism for this case stores the pixels in a block sequential order where each block is stored contiguously, starting with the upper left block and proceeding first left to right across rows of blocks, one row of blocks after the other, top to bottom. Within each block, the multiple band image data can be stored in one of two ways, either interleaved by pixel or by block. For "band interleaved by block" the data from each band is stored starting with the first band, one after the other until the last band is stored. Each block shall be zero-filled to the next byte boundary. The field IMODE in the image subheader shall be set to S for this storage option. This case is only valid for images with more than one block. (For single block images, this case collapses to the "band sequential" case where IMODE is set to B.) See the field Pixel Value Type (PVTYPE) description in table IV for the specification of the bit representation of pixel values for each band.

TABLE V. Security control markings.

CODEWORD	DIGRAPH
NOCONTRACT	NC
ORCON	OR
PROPIN	PI
WNINTEL	WI
LIMDIS	DS
ATOMAL	AL
COSMIC	CS
CNWDI	CN
CRYPTO	CR
FOUO	FO
FORM REST DATA	RD
SIOP	SH
SIOP/ESI	SE
COPYRIGHT	PX
EFTO	TX
LIM OFF USE (UNCLA)	LU
NONCOMPARTMENT	NT
NOFORN	NF
PERSONAL DATA	IN
SAO	SA
SAO-1	SL
SAO-2	HA
SAO-3	HB
SAO-SI-2	SK
SAO-SI-3	HC
SAO-SI-4	HD
SPECIAL CONTROL	SC
SPECIAL INTEL	SI
SI-1	SN
WARNING NOTICE- SEC CLAS IS BASED ON THE FACT OF EXISTENCE AND AVAIL OF THIS GRAPHICS	WN

NOTE: NO CONTRACT, WNINTEL, and NOFORN security control markings will only be used through 1999.

5.6 Symbol data type. The symbol data field is used in the NITF to store a two-dimensional graphical symbol represented as a bit-map, as an NITF-defined object, or as a Computer Graphics Metafile (CGM). A symbol may be black and white, gray scale, or color. Examples of symbols are circles, ellipses, rectangles, arrows, lines, triangles, logos, unit designators, object designators (ships, aircraft), and special characters. A symbol is stored as a distinct unit in the NITF file allowing it to be manipulated and displayed nondestructively relative to the images, labels, and other symbols in the file.

TABLE XII. NITF label subheader fields - Continued.

LXSHDL	This field shall contain the length of bytes of the sum of the following two fields (LXSOFL + LXSHD). This length is three plus the sum of the lengths of all the controlled tagged record extensions (see 5.9) appearing in the LXSHD field. A value of zero shall mean that no controlled tagged record extensions are included in the label subheader. If a controlled tagged record extension is too long to fit in the LXSHD field, it shall be put in a data extension segment (see 5.9).
LXSOFL	If present, this field shall contain "000" if the tagged record extensions in LXSHD do not overflow into a DES, or shall contain the sequence number in the file of the DES into which they do overflow. This field shall be omitted if the field LXSHDL contains zero.
LXSHD	If present, this field shall contain controlled tagged record extension (see 5.9) approved and under configuration management by the NTB. The length of this field shall be the length specified by the field LXSHDL, less the length (3) of LXSOFL. Controlled tagged record extensions in this field for a label shall contain information pertaining specifically to the label. Controlled tagged record extensions shall appear one after the other in this field with no intervening bytes. The first byte of this field shall be the first byte of the first controlled tagged record extension appearing in the field. The last byte of this field shall be the last byte of the last controlled tagged record extension to appear in the field. This field shall be omitted if the field LXSHDL contains zero.

5.7.2 Label data. Labels are to be used to display ASCII characters overlaid on an image in a system's native text display mode. Requirements for expressing a label in a precise font and style and with elaborate backgrounds may be met by defining the label as a bit-mapped symbol. The data contained in each label in the file shall follow the corresponding label subheader without intervening bytes. The label shall be presented in the file as contiguous data with each ASCII character immediately following the other. The label data shall begin with the first, or the left-most character of the label text, followed by subsequent characters as read from left to right. For multiple line labels, a carriage return followed by a line feed shall be used to delimit lines in the label, where the first character of the next line shall follow the ASCII line feed character immediately and, when displayed, shall be placed immediately below the first character of the preceding line. The label data shall end with the last character of the label. No field delimiters or special characters shall be used to designate the end of the label data. If more than one label is in the file, the last character of the first label shall be followed by the first character of the second label subheader. Care should be taken to ensure that all label information fits within the limits of the images and symbols in the file to be displayed. This can be done by using accurate label size information in the appropriate label subheader fields.

5.8 Text data type. The text data field shall be used to store a file or item of text, such as a word processing file or document. Text items are intended to convey information about the image product contained in the NITF file.

5.8.1 Text data subheader. The text subheader is used to identify and supply the information about the text file necessary to read and display the text. The format for the text subheader is shown in table XIII. Descriptions of the subheader parameters follow in table XIV.

TABLE XIII. Text subheader.

(R) = required, (O) = optional, and (C) = conditional

FIELD	NAME	SIZE	VALUE RANGE	TYPE
TE	File Part Type	2	TE	R
TEXTID	Text ID	10	Alphanumeric	R
TXTDT	Text Date & Time	14	DDHHMMSSZMONYY	R
TXTITL	Text Title	80	Alphanumeric	O
TSCLAS	Text Security Classification	1	T, S, C, R, or U	R
TSCODE	Text Codewords	40	Alphanumeric	O
TSCTLH	Text Control and Handling	40	Alphanumeric	O
TSREL	Text Releasing Instructions	40	Alphanumeric	O
TSCAUT	Text Classification Authority	20	Alphanumeric	O
TSCTLN	Text Security Control Number	20	Alphanumeric	O
TSDWNG	Text Security Downgrade	6	Alphanumeric	O
TSDEVT	Text Downgrading Event	40	Alphanumeric	O
ESCRYP	Encryption	1	0=Not Encrypted 1=Encrypted	R
TXTFMT	Text Format	3	MTF, STA, OTH	R
TXSHDL	Extended Subheader Data Length	5	0-09677	R
TXSOFL	Extended Subheader Overflow	3	0-999	C
TXSHD	Extended Subheader Data	*	Alphanumeric	C

* As specified by the value in the TXSHDL field

TABLE XIV. NITF text subheader fields - Continued.

TXSHD	If present, this field shall contain controlled tagged record extensions (see 5.9) approved and under configuration management by the NTB. The length of this field shall be the length specified by the field TXSHDL, less the length (3) of TXSOFL. Controlled tagged record extensions in this field shall contain information pertaining specifically to the text. Controlled tagged record extensions shall appear one after the other in this field with no intervening bytes. The first byte of this field shall be the first byte of the first controlled tagged record extension appearing in the field. The last byte of this field shall be the last byte of the last controlled tagged record extension to appear in the field. This field shall be omitted if the field TXSHDL contains zero.

5.8.2 Text data. Text is used to display ASCII characters in a system's native mode. The data field containing a text item included in an NITF file shall follow the corresponding text subheader. The text data shall consist entirely of characters permitted by the text format specified in the subheader.

5.8.2.1 NITF ASCII data representation. The NITF ASCII format is composed of the following ASCII characters (all numbers are decimal: Line Feed (10), Form Feed (12), Carriage Return (13), and space (32) through tilde (126)). This set includes all of the alphanumeric characters as well as all commonly used punctuation characters. All lines within an NITF ASCII file shall be separated by carriage return/line feed pairs. For NITF ASCII, the text data shall be presented as a contiguous file with each permitted ASCII character immediately following the other. The text data shall begin with the first or left-most character of the text, followed by subsequent characters as read from left to right. A carriage return followed by a line feed shall be used to delimit lines in the text where the first character from the next line immediately follows the ASCII line feed character. The text data shall end with the last character of the text. No field delimiters or special characters shall be used to designate the end of the text data file. If more than one text item is included in an NITF file, the last character of the first text item shall be followed by the first character of the second text subheader.

5.9 Future expansion. Future expansion of the NITF is supported in two ways: (1) built-in mechanisms and procedures to allow immediate inclusion of user-determined and user-defined data characteristics and kinds of data without changing this standard, and (2) a collection of data fields called Reserved Extension Segments providing space within the file structure for entirely unspecified future purposes. Addition of further data characteristics beyond those specified in this standard is accomplished using the User Data (UDHD and UDID), Extended Header Data (XHD), and Extended Subheader Data (IXSHD, SXSHD, LXSHD, and TXSHD) fields. Use of these fields is described in 5.9.1.1 and 5.9.1.2. Addition of new kinds of data items is accomplished using Data Extension Segments defined in 5.9.1.3.1. Extensions of all types may be incorporated into the file while maintaining backward compatibility, since the byte count mechanisms provided allow applications developed prior to the addition of newly defined data, or to simply skip over extension fields they are not designed to interpret.

5.9.1 Tagged record extensions. Variations of the same basic extension mechanism, tagged records, are used for all extensions except the Reserved Extension Segments, which will be discussed separately. There are three varieties of tagged record extensions: registered extensions, controlled extensions, and encapsulated extensions. Figure 9 illustrates the concepts and formatting descriptions in 5.9.1.1 through 5.9.1.3. Information about the definition, registration, and control of tagged record extensions (tags) used within NITF 2.0 files is provided in appendix B.

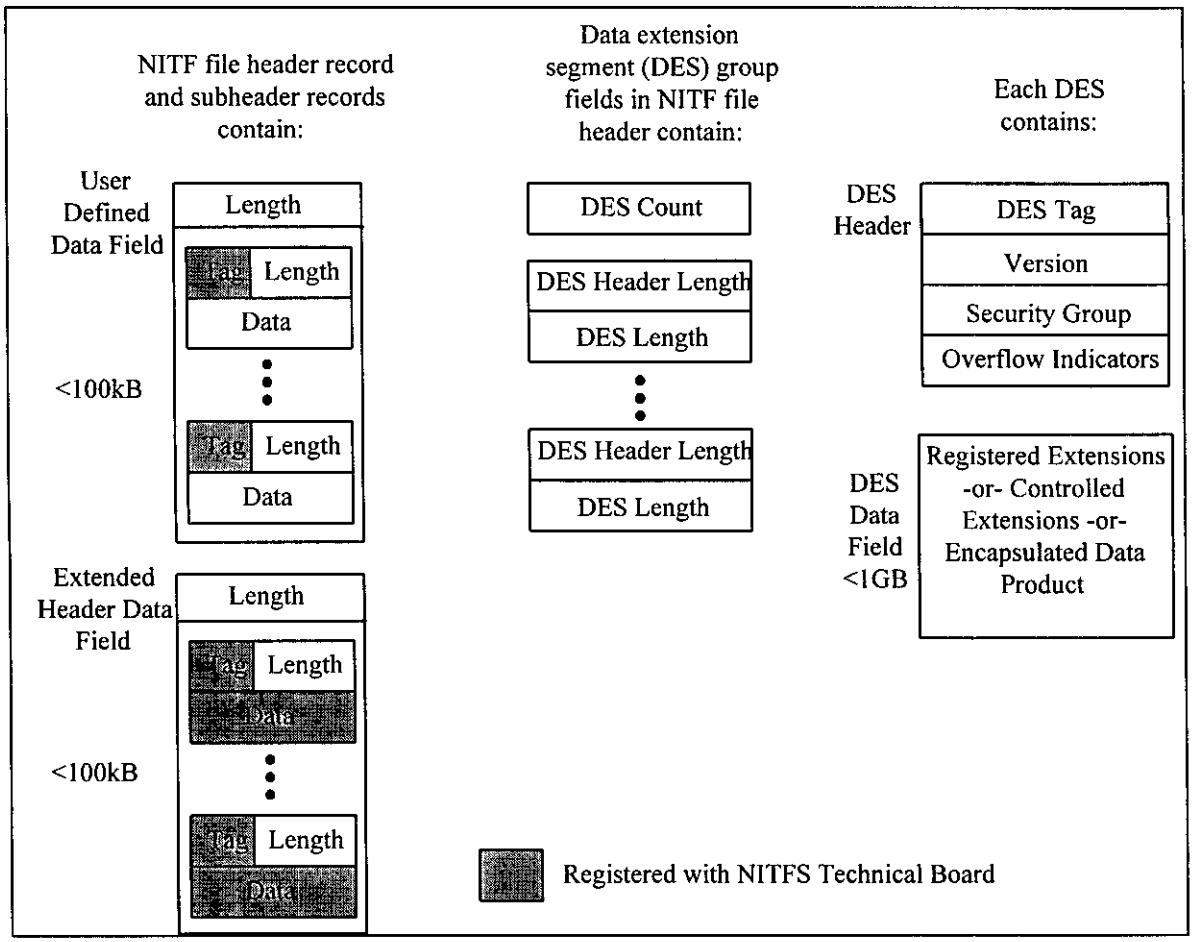

FIGURE 9. Tagged record and data extension segment formats.

5.9.1.1 Registered extensions. Each registered tagged record extension consists of three required fields. These fields are defined in tables XV and XVI. These extensions are user-defined, and only the six character RETAG field is registered with the NTB. The purpose of registering the tags is to avoid having two users use the same tag to mean different extensions. A sequence of registered tagged record extensions can appear in the NITF header User Defined Data field, UDHD, or any image subheader in its User Defined Image Data field, UDID. When the tagged record extension carries data associated with the file as a whole, it should appear in the UDHD field, if sufficient room is available. If the extension carries data associated with an image data item in the file, it should appear in the UDID field of that item's subheader, if sufficient room is available. A registered tagged record extension may appear in a Data Extension Segment (see 5.9.1.3 and subparagraphs) that is designated to contain registered tagged record extensions, but only if sufficient space is not available in the UDHD or a UDID, as appropriate. A registered tagged record extension shall be included in its entirety within the UDHD, a single UDID or the single DES selected to contain it. A registered tagged record extension may not "overflow" file fields.

TABLE XV. Registered tagged record extension format.

(R) = required, (O) = optional, and (C) conditional

FIELD	NAME	SIZE	VALUE RANGE	TYPE
RETAG	Unique extension type identifier	6	Alphanumeric	R
REL	Length of REDATA field	5	1 to 99988	R
REDATA	User-defined data	*	User-defined	R

* As indicated in REL field

TABLE XVI. Registered tagged record extension field descriptions.

FIELD	VALUE DEFINITIONS AND CONSTRAINTS
RETAG	This field shall contain a valid alphanumeric identifier properly registered with the NTB.
REL	This field shall contain the length in bytes of the data contained in REDATA. The Tagged record's length is 11 + REL.
REDATA	This field shall contain data of either binary or character data types defined by and formatted according to user specification. The length of this field shall not cause any other NITF field length limits to be exceeded, but is otherwise fully user-defined.

5.9.1.2 Controlled extensions. These extensions are defined and submitted to the NTB for approval by the NTB and, once accepted, are subject to configuration management by the NTB (see appendix B). The tagged record format for controlled extensions is identical to that for registered extensions (detailed in table XV and table XVI) except that the first two letters of each field identifier change from "RE" to "CE." The six character CETAG field and the structure of the CEDATA data field shall be registered and configuration controlled. A sequence of controlled tagged record extensions can appear in the XHD field of the NITF file header or in the IXSHD, SHSHD, LXSHD, or TXSHD field of a standard data type data item in the file. When the controlled tagged record extension carries data that is associated with the file as a whole, it should appear in the XHD field, if sufficient room is available. If the extension carries data associated with a data item in the file, it should appear in the IXSHD, SHSHD, LXSHD, or TXSHD field of that item's subheader, if sufficient room is available. A controlled tagged record extension may appear in a Data Extension Segment (see 5.9.1.3 and subparagraphs), which is designated to contain controlled tagged record extensions, but only if appropriate. A controlled tagged record extension shall be included in its entirety within the XHD, a single IXSHD, SHSHD, LXSHD, or TXSHD or the single DES selected to contain it. A single controlled tagged record extension may not "overflow" file fields.

5.9.1.3 Encapsulated extensions. These extensions are similar to the controlled extensions in that each has a tag, and in this case, the tag versions are registered with the NTB. Each encapsulated extension shall appear in its own Data Extension Segment (DES) and shall conform to the DES structure (see 5.9.1.3.1). There are two reserved tags: "Registered Extensions" and "Controlled Extensions." These tags are for use when a series of registered or controlled tagged record extensions is to appear in a DES (see 5.9.1.1 and 5.9.1.2) as "overflow" from the NITF file header or any subheader. Which header or subheader overflowed is indicated in the DESOFLOW and DESITEM field contents. Generally, the data in an encapsulated extension is user-defined. The data are anticipated to be defined typically by a specific version of a specific standard or product specification (which may or may not be under the control of the NTB). Encapsulated extensions allow the incorporation of data products in an NITF file to be disseminated along with an image. For example, Digital Terrain Elevation Data (DTED), Digital Feature Analysis Data (DFAD), or other DMA products could be distributed along with an image product to support analysis and interpretation of the image. Audio and video segments are additional examples of data that may be added to the NITF through the use of Data Extension Segments.

5.9.1.3.1 Data extension segment structure. The NITF header accommodates up to 999 DES. Each DES shall consist of a DES subheader and a DES data field (similar to the way a standard data type data item has a data field and an adjacent associated subheader). Within the Data Extension Segment Group in the NITF Header Record is found the number of DES in the file, the length of each DES subheader, and length of the DES data field, DESDATA. The field size specifications in the NITF file header allow each DES to be just less than one gigabyte in length. The DES subheader shall contain the fields defined in table XVII and table XVIII. The structure provided in the DES by the fields DESSHL, DESSHF, and DESDATA is intended to encourage the formation of DES along the lines of the standard data types in the NITF, in which a group of ASCII fields describing the data is followed by the data itself.

APPENDIX B
TAGGED RECORD EXTENSIONS

B.1 SCOPE

B.1.1 Scope. This appendix contains information about the definition, registration, and control of tagged record extensions (tags) used within NITF 2.0 files. The three varieties of tagged record extensions include: registered extensions, controlled extensions, and encapsulated extensions. This appendix is a mandatory part of the standard. The information contained herein is intended for compliance.

B.2 APPLICABLE DOCUMENTS

NIMA/xxxxxxx - NITFS Tagged Record Extensions Register.

Implementors and acquiring agencies should contact the NTB Registrar to identify the current issue(s) of the tagged record extensions and associated documentation applicable to their specific requirements. Otherwise, the documents listed in section 2 of this standard apply to this appendix.

The NITFS Tagged Record Extensions Register is maintained as a World Wide Web on-line document. Access can be obtained through the following Universal Resource Locators (URLs):

http://jitc-emh.army.mil/nitf/nitf.htm
http://www.cio.nima.mil/NITFS/
http://www-ismc.itsi.disa.mil
http://www-ismc.itsi.disa.mil/ntb/ntb.html

B.3 DEFINITIONS

B.3.1 Acronyms used in this appendix. The acronyms in section 3 of this standard apply to this appendix. Additional acronyms that apply to this appendix are:

a. RE - Registered

b. RETAG - Registered Extension unique extension type identifier

c. CE - Controlled Extension

d. CETAG - Controlled Extension Tag

e. DES - Data Extension Segment

f. DESTAG - Data Extension Segment Tag

g. RES - Reserved Extension Segment

h. RESTAG - Reserved Extension Segment Tag

B.3.2 Definitions used in this standard. The definitions in section 3 of this standard apply to this appendix. Additional definitions that apply to this appendix are:

B.3.2.1 Registered Extension. Those tagged record extensions for which the extension type identifier (six character RETAG field) and the user-defined data (REDATA field) structure is registered with the NTB. The user-defined data (REDATA field) structure is not controlled by the NTB.

B.3.2.2 Controlled Extension. Those tagged record extensions which are submitted for approval by the NTB and are then maintained under formal configuration management control. Both the extension type identifier (six character CETAG field) and the user-defined data (CEDATA field) structure is under configuration management control.

B.3.2.3 Data Extension Segment. A type of encapsulated extension with sub-header and data fields structured similarly to the standard data types in the NITF (e.g. image, label, symbol, text). The extension type identifier (25 character DESTAG field), the version (two character DESVER field), and the full underlying structure is under configuration management control as registered with the NTB.

B.3.2.4 Reserved Extension Segment. A type of encapsulated extension reserved for future use once defined within the NITFS.

B.4 GENERAL REQUIREMENTS

B.4.1 Registration. All tagged record extensions shall be registered with the Imagery Standards Management Committee's (ISMC) NITFS Technical Board (NTB) before use within NITF 2.0 files.

B.4.2 Registrar. The National Imagery and Mapping Agency (NIMA) is the designated registrar. The Joint Interoperability Test Command (JITC) serves as the executive agent to NIMA for oversight of registration activities and maintenance of the register. The contact information for the NTB registrar is:

National Imagery and Mapping Agency
ATTN: SEI
14675 Lee Road
Chantilly, VA 20151-1715
(703) 808-0888

Commander, Joint Interoperability Test Command
ATTN: NITFS Certification Test Facility
Building 57305
Fort Huachuca, AZ 85616-7020
(520) 538-5458

B.4.3 Registration Submissions. Submissions for registering tagged record extensions shall include the following:

a. Identification of the submitting organization and point of contact for the submission.

b. Identification of the preparing organization and point of contact for the preparing activity.

c. Purpose and general description of the proposed tag(s).

d. Rationale and justification for including the submission within the NITFS.

e. Copy of the documentation defining the tagged record extension to be registered.

f. For RE only, analysis and rationale describing how use of the proposed RE will not adversely impact community use of the standardized features defined within the NITFS.

B.4.4 Configuration Management. The NIMA registrar exercises configuration management control of the register. The register identifies the approved issue(s) and version(s) of tagged record extensions and associated specifications and documentation allowed for use within NITFS. Although another agency may be the proponent, author, and/or configuration manager of tagged record extension specifications and documentation, only those issue(s) and version(s) identified and authorized in the register managed by NIMA are allowed for use within NITFS.

B.5 DETAILED REQUIREMENTS

B.5.1 Registered Extensions.

a. Only those RE accepted and registered by the NTB shall be used.

b. RE shall not be used nor submitted for registration if they adversely impact the utility of the standard features otherwise defined within the NITFS and its controlled extensions.

c. Nominated RE will be recorded in the 'Register' upon approval by the NTB. At that time, an RE expiration date (typically two years from registration) will be established by the NTB and recorded. Recorded expiration dates will be included as part of the NITFS Tagged Record Extensions Register on-line document. An RE(s) proponent may submit a request for registration renewal to the NTB, or a request for the RE(s) to become "Controlled," prior to expiration of the tag's registration. Otherwise, the RE(s) will be removed from the Register.

d. A sequence of REs may appear in the NITF header User Defined Header Data (UDHD) field or any image sub-header User Defined Image Data (UDID) field.

e. When the RE carries data that is associated with the file as a whole, it shall appear in the UDHD field. If the RE carries data associated with an image data item in the file, it shall appear in the UDID field of that specific image data item.

f. REs may appear in a "Registered Extensions" DES when sufficient space is not available in the appropriate UDHD or UDID fields.

g. Upon receipt of a file which contains REs, a NITFS compliant system shall at least ignore the REs and properly interpret the other legal components of the NITF file.

B.5.2 Controlled Extensions.

a. Only those CEs accepted and registered by the NTB shall be used.

b. sequence of CEs may appear in the Extended Header Data (EHD) field of the NITF file header, or in the Extended Sub-header Data field for any standard data type item in the file.

c. When the CE carries data that is associated with the file as a whole, it shall appear in the EHD field. If the CE carries data associated with a standard data item in the file, it shall appear in the Extended Sub-header Data field of that specific data item.

d. CEs may appear in a "Controlled Extensions" DES when sufficient space is not available in the appropriate EHD or Extended Sub-header Data fields.

e. Upon receipt of a file which contains CEs, a NITFS compliant system shall at least ignore the CEs and properly interpret the other legal components of the NITF file.

B.5.3 Data Extension Segments.

a. Only those DESs accepted and registered by the NTB shall be used.

b. Upon receipt of a file which contains DESs, a NITFS compliant system shall at least ignore the DES and properly interpret the other legal components of the NITF file.

B.5.3.1 "Registered Extensions" DES. This DES is used when a series of REs is to appear in a DES as "overflow" from the NITF file header or any sub-header. The format and use of the "Registered Extensions" DES is as described in paragraph 5.9.1.3.

B.5.3.2 "Controlled Extensions" DES. This DES is used when a series of CEs is to appear in a DES as "overflow" from the NITF file header or any sub-header. The format and use of the "Controlled Extensions" DES is as described in paragraph 5.9.1.3.

B.5.4 Reserved Extension Segments.

a. RESs are currently undefined and shall not be used.

b. Upon receipt of a file which contains RESs, a NITFS compliant system shall at least ignore the RESs and properly interpret the other legal components of the NITF file. (This requirement will ease future transition for use of RESs.)

CONCLUDING MATERIAL

Custodians:
Army - SC
Navy - OM
Air Force - 90
Misc - DC4

Review activities:
OASD - DO, IR
Army - TM2, IE, ET, AC, PT, SC1, SC2
Air force - 02, 13
DLA - DH
Misc - NS, DC7

Civil agency coordinating activities:
COM - NIST
DOE
EPA
GPO
HHS - NIH
DOI - BLM, GES, MIN
DOT - CGCT

Preparing activity:
Misc - MP

Agent:
Not applicable

(Project INST-0002)

SUPERSEDES PAGE 121 OF MIL-STD-2500A.

SUPERSEDES PAGE 122 OF MIL-STD-2500A.

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1,2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

I RECOMMEND A CHANGE:	1. DOCUMENT NUMBER **MIL-STD-2500A**	2. DOCUMENT DATE (YYMMDD) **941012**

3. DOCUMENT TITLE
NATIONAL IMAGERY TRANSMISSION FORMAT (VERSION 2.0)

4. NATURE OF CHANGE *(Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)*

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME *(Last, First, Middle Initial)*	b. ORGANIZATION	
c. ADDRESS *(Include Zip Code)*	d. TELEPHONE *(Include Area Code)* (1) Commercial (2) AUTOVON *(If applicable)*	7. DATE SUBMITTED *(YYMMDD)*

8. PREPARING ACTIVITY **NATIONAL IMAGERY AND MAPPING AGENCY (NIMA)**

a. NAME **SEI**	b. TELEPHONE *(Include Area Code)* (1) Commercial **(703) 808-0888** (2) AUTOVON
c. ADDRESS *(Include Zip Code)* **14675 Lee Road** **Chantilly, VA 20151-1715**	**IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:** Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466 Telephone (703) 756-2340 AUTOVON 289-2340