CHAPTER VI
TRANSMITTAL OF DATA

6.100 Section 1: **Purpose and Scope.**

6.106.1 Purpose and Scope. This chapter provides the instructions and guidance for preparation of data for transmission.

6.200 Section '2: **Telecommunication Procedures of AUTODIN Transmission.**

6.210 AUTODIN Header. Each message will be preceded by a standard AUTODIN Header commensurate with the type of data and media used to transmit.

6.220 **Content Indicator Code (CIC).** Each message being input for processing into the DIDS Data Bank will contain the Content Indicator Code IHFG or DHFG in the communication header for card messages using the DIDS Fixed Length Record Formats or IHFS or DHFS for messages using the DIDS Variable Length Record Formats. Messages output from the DLSC Data Bank will be formatted with a content indicator code DHFL for both Fixed Length Record Formats and Variable Length Record Formats.

6.300 Section 3: **Magnetic Tape Conventions.**

6.310 Configuration of Magnetic Tapes. In order for DLSC to process a magnetic tape, the tape must be compatible with DLSC'S computer capabilities. For efficiency of processing, it is necessary to establish blocking factor conventions for Fixed and Variable Length Records. Modes of tapes acceptable to DLSC are 7 Track, 9 Track: Non-return to Zero-Change on One (NRZI) and'9 Track: Phase Encoded, as follows:

6.310.17 **Track (DIDS** 64 Character Subset Mode).

FORMAT	DENSITY	PARITY	BLOCKING FACTOR	LABELS
VARIABLE	800	EVEN	6000 CHARS/BLOCK MAX	STANDARD
VARIABLE	800	EVEN	1600 CHARS/BLOCK MAX	STANDARD
VARIABLE	556	EVEN	6000 CHARS/BLOCK MAX	STANDARD
VARIABLE	556	EVEN	1600 CHARS/BLOCK MAX	STANDARD
VARIABLE	200	EVEN	6000 CHARS/BLOCK MAX	STANDARD
VARIABLE	200	EVEN	1600 CHARS/BLOCK MAX	STANDARD
FIXED	800	EVEN	1600 CHARS (80x20) BLOCK	STANDARD
FIXED	556	EVEN	1600 CHARS (80x20) BLOCK	STANDARD
FIXED	200	EVEN	1600 CHARS (80x20) BLOCK	STANDARD
FIXED	800	EVEN	80 CHARS/BLOCK	NO LABELS
FIXED	556	EVEN	80 CHARS/BLOCK	NO LABELS
FIXED	200	EVEN	80 CHARS/BLOCK	NO LABELS

6.310.29 **Track - Nonreturn to Zero-Change on One (NRZI)** (ASCII Standard).

FORMAT	DENSITY	PARITY	BLOCKING FACTOR	LABELS
VARIABLE	800	ODD	6000 CHARS/BLOCK MAX	STANDARD
VARIABLE	800	ODD	1600 CHARS/BLOCK MAX	STANDARD
FIXED	800	ODD	1600 CHARS (80x20) BLOCK	STANDARD

6.310.39 **Track - Phase Encoded** (ASCII Standard).

FORMAT	DENSITY	PARITY	BLOCKING FACTOR	LABELS
VARIABLE	1600	ODD	6000 CHARS/BLOCK MAX	STANDARD
VARIABLE	1600	ODD	1600 CHARS/BLOCK MAX	STANDARD
FIXED	1600	ODD	600 CHARS (80x20) BLOCK	STANDARD

6.310.49 Track - Nonreturn to Zero-Change on One (NRZI) (EBCDIC).

FORMAT	DENSITY	PARITY	BLOCKING FACTOR	LABELS
VARIABLE	800	ODD	6000 CHARS/BLOCK MAX	**STANDARD**
VARIABLE	800,	ODD	1600 CHARS/BLOCK MAX	**STANDARD**
FIXED	800	ODD	1600 CHARS (80x20) BLOCK	**STANDARD**

6.310.59 **Track. - Phase. Encoded** (EBCDIC).

FORMAT	DENSITY	PARITY	BLOCKING FACTOR	LABELS
VARIABLE	1600	ODD	6000 CHARS/BLOCK MAX	**STANDARD**
VARIABLE	1600	ODD	1600 CHARS/BLOCK MAX	**STANDARD**
FIXED	1600	ODD	1600 CHARS (80x20) BLOCK	**STANDARD**

NOTE: EBCDIC described in paragraphs 6.310.4 and 6.310.5 is for contractor use only.

6.320 **Labels.** In order for DLSC to process or output a magnetic tape, the tape must be compatible with DLSC's computer capabilities. For DIDS traffic to and from DLSC there are two choices of label conventions available: (1) Standard labels; (2) No labels. Standard labels for DIDS must be compatible with ANSI X3.27, with the exception that the Volume Header, Header 1, and Header 2 are all mandatory for the DIDS processing system and must be present on all "labeled" tape submittals. Following is a brief outline of the necessary data elements in ANSI labels:

FILE FORMAT:

V	I		I			I	T	M	I		I		I		
O	R	HDR	R	H	D	R	R	A	A	R	DATA	R	DATA	R	DATA
L	G	1	G	2		G	P		R	G		G		G	
1							E		K						

6.400 Section 4: **DIDS Standard Subset Character Codes.**

6.400.1 DIDS 64 Character Subset. The 64 character ASCII (68) subset appearing in the following table has been designated for use in exchanging DIDS information.

6.400.2 **AUTODIN Traffic, 9 Track Tape and 7 Track Tape Exchange. AUTODIN** traffic and nine track tape exchange will conform to the 8-bit ASCII character representations. Seven track tape exchange will conform to the 6-bit representation associated with each character. Data exchange via punched cards will conform to the ASCII codes as outlined below.

6.400.3 **Exchange of DIDS Character Set.** Procedures shall be established to receive and transmit the DIDS Character Set via electrical, tape and card media. It is recognized that some 6-bit and 8-bit configurations will perform machine operations on certain equipment if not changed. It is also recognized that the graphic representation of certain bit configurations, are not common among various types of equipment. However, it is anticipated that the DIDS meaning of those bit configurations can be perpetuated by conversion and substitution of bit configurations and/or graphic characters appropriate for the equipment.

6.400.4 **Characters Used.** Only 58 of the 64 characters in the DIDS subset will be used initially. The unused characters in the following table are prefixed by a double asterisk (**).

6.400.5 **DIDS 64 Character Subset for Data Interchange.**

AMERICAN NATIONAL STANDARD CODE FOR INFORMATION INTERCHANGE (ASCII)					DIDS LANGUAGE MODE
CHARACTER SUBSET	9-TRACK TAPE & AUTODIN b8-b1	CARD CODE ZONE	CARD CODE NR	CHARACTER NAME	7-TRACK TAPE EXCHANGE b6-b1
SP(blank)	00100000	No	Punch	Space (Non-Printing)	010000
**!	0010000I	12	8-7	Exclamation Point	111111
,,	00100010		8-7	Quotation Marks	001111
#	001000I1		8-3	Number Sign	001011
$	00100100	11	8-3	Dollar Sign	101011
%	00100101	0	8-4	Percent	011100
&	00100110	12		Ampersand	110000
'	00100111		8-5	Apostrophe	101111
(	00101000	12	8-5	Opening Parenthesis	111101
)	00101001	11	8-5	Closing Parenthesis	101101
*	00101010	11	8-4	Asterisk	101100
+	00101011	12	8-6	Plus	111110
,	00101100	0	8-3	Comma	011011
	00101101	11		Hyphen (Minus)	100000
	00101110	12	8-3	Period (Decimal Point)	111011
/	00101111	0	1	Slant	010001
o	00110000		0		001010
1	00110001		1		000001
2	00110010		2		000010
3	00110011		3		000011
4	00110100		4		000100
5	00110101		5		000101
6	00110110		6		000110
7	00110111		7		000111
8	00111000		8		001000
9	00111001		9		001001
	00111010		8-2	Colon	001101
,	00111011	11	8-6	Semicolon	101110
**◄	00111100	12	8-4	Less Than	111100
=	00111101		8-6	Equals	001110
**►	00111110	0	8-6	Greater Than	011110
?	00111111	0	8-7	Question Mark	011111
@	01000000		8-4	Commercial At	001100
A	01000001	12	1		110001
B	01000010	12	2		110010
c	01000011	12	3		110011
D	01000100	12	4		110100
E	01000101	12	5		110101
F	01000110	12	6		110110
G	01000111	12	7		110111
H	01001000	12	8		111000

AMERICA-N NATIONAL STANDARD CODE
FOR INFORMATION INTERCHANGE (ASCII)

CHARACTER SUBSET	9-TRACK TAPE & AUTODIN b8-b1	CARD CODE ZONE	CARD CODE NR	CHARACTER NAME	DIDS LANGUAGE MODE 7-TRACK TAPE EXCHANGE b6-b1
I	01001001	12	9		111001
J	01001010	11	1		100001
K	01001011	11	2		100010
L	01001100	11	3		100011
M	01001101	11	4		100100
N	01001110	11	5		100101
O	01001111	11	6		100110
P	01010000	11	7		100111
Q	01010001	11	8		101000
R	01010010	11	9		101001
S	01010011	0	2		010010
T	01010100	0	3		010011
u	01010101	0	4		010100
V	01010110	0	5		010101
w	01010111	0	6		010110
x	01011000	0	7		010111
Y	01011001	0	8		011000
z	01011010	0	9		011001
**	01011100	0	8-2	Reverse Slant	011010
**	01011110	11	8-7	Circumflex	000000
** _	01011111	0	8-5	Underline	011101
{	01111011	12	0	Opening Brace	111010
}	01111101	11	0	Closing Brace	101010

** Not required in DIDS.