

ARMY
NAVY
AIR FORCE

TM 11-5895-856-34-5
EE640-CA-MMI-050/E154 CPU
TO 31W2-2T-122-5

TECHNICAL MANUAL

DIRECT SUPPORT AND GENERAL SUPPORT
MAINTENANCE MANUAL
FOR
CENTRAL, MESSAGE SWITCHING, AUTOMATIC
AN/TYC-39(V)1
AND
CENTRAL OFFICE, TELEPHONE, AUTOMATIC
AN/TTC-39(V)2

AUTOMATIC DATA PROCESSING
ASSEMBLIES

DEPARTMENTS OF THE ARMY, NAVY, AND AIR FORCE

27 SEPTEMBER 1983

TECHNICAL MANUAL
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REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in back of this manual direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, New Jersey 07703.

For Air Force, submit AFTO Form 22 (Technical Order System Publication Improvement Report and Reply) in accordance with paragraph 6-5, Section VI, T.O. 00-5-1. Forward direct to prime ALC/MST.

For Navy, mail comments to the Commander, Naval Electronics Systems Command, ATTN: ELEX 8122, Washington, DC 20360.

In either case, a reply will be furnished direct to you.

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VOLUME 5 TM 11-5895-856-34-5

Card Cage Assembly, Central Processor Unit - L.H., Wire List, String (149012-800)

This volume is part of a 24-volume set covering the direct support and general support maintenance of the automatic data processing assemblies. This volume contains the string wire list for the left-hand card cage assembly of the central processor unit, drawing number 149012-800. Refer to volume 1 of this series (TM 11-5895-856-34-1) for an explanation of how to use this wire list as well as other lists contained in the set.

NOTE

The pages in volumes 2 through 24 of TM 11-5895-856-34 have been numbered in a special manner. Pages within these volumes are found by keying to two page identifiers: the drawing number and the page number. To find the page that you desire within the volume, follow the steps listed below:

1. Find the applicable wire run list in the table of contents and note the applicable drawing number.
2. Look through the pages of the volume until you find the particular drawing number of the wire run list that you seek. This will insure that you are in the correct wire run section.
3. Go through these pages until you find the page number you are looking for within this particular wire run list.

Remember, pages in the volumes cited above are found by keying to the drawing number applicable to a particular wire run list, as well as, a page number. Make sure you are on the correct page by checking both page identifiers.

**CARD CAGE ASSEMBLY, CENTRAL PROCESSOR UNIT
- LEFT HAND
STRING WIRE LIST
149012-800**

NOTES: UNLESS OTHERWISE SPECIFIED

1. REFERENCE TO SHEET 3 FOR DEFINITION OF FIELDS.
2. REFERENCE TO SHEET 4 FOR CONFIGURATIONS OF SHIELD AND WIRE TERMINATIONS.
3. REFERENCE TO SHEET 5 FOR WIRE CODE DEFINITIONS.
4. REFERENCE TO SHEET 6 FOR WIRE PARTS LIST.
5. ALL ABBREVIATIONS PER MIL-STD-12.
6. PARTS LIST FOR REFERENCE ONLY.

H78 STRING AND CONNECTOR LIST, DEFINITION OF FIELDS

1. **Record Number** - A unique Data Processing number which associates all information pertaining to a wire "FROM" Connector, "TO" Connector, Wire Code, etc. This number is the wire ID when that field is blank.
2. **Prefix** - An assembly alphanumeric to be used when a wire terminates in two assemblies. This number will be the reference designation as required by USAS Y32.16-1968.
3. **Connector** - Any type of terminating point, plug, receptacle, etc. Designations are in accordance with USAS Y32.16-1968.
4. **Pin** - Exact terminating point of the respective connector. Designations are unique:
 - A. SHXXXX indicates the junction of a shield and a pigtail, the four digits to the right are the wire identity of the shielded wire.
 - B. JCT indicates a common point of two or more shield pigtails.
 - C. Jacket: the terminology used when describing the line that defines the identification of a shielded wire.
5. **Sh Fg** - References a graphic representation showing how a shielded wire or coax is to be terminated. A number in this field indicates the level of automatic wire wrapping.
6. **Multi Group** - Associates wires of a group such as "twisted wire" or "shielded wire". Jacket, pigtails and center conductors will be shown as a common group.
7. **Wire Code** - A three-digit code for wire type and gage or bus bar.
8. **Wire Color** - Standard RETMA color code.
 - A. Base Stripe Tracer.
 - B. Stripe, Tracer 1 and Tracer 2 if the digit to the left is other than 9 and the two positions to the right are not blank and not equal. The Base Color is understood to be white.
9. **Wire Ident** - A number used for reference to differentiate one wire from another. This number will be used to identify the wire when specified in the wire list sleeve code field.
10. **Spc Inst** - A code which indicates that a wire must be given special attention as follows:
 - A. Direct routing, no service loops, no harnessing.
 - B. See general notes or instruction pages.
 - C. See general notes or instruction pages.
 - D. See general notes or instruction pages.
 - E. See general notes or instruction pages.
 - F. See signal description.
 - G. This connection does not go directly to the "TO" connector, but intersects a line going to the "TO" connector.
 - H. See special routing page.
 - I. Junction point for multilayer laminated board (MLB) connection.
 - J. Denotes a bus reference point.
 - K. Blank out "TO" connector and pin.
 - L. Will cause a signal name of three characters or less to be entered in the string list.
 - M. Will cause a record to be omitted from the string list. (This record will print in the connector list.)
 - N. Will suppress printing the wire identity in the harness string and double entry list.
 - P. Will cause the equation to be used as the signal name for sorting purposes only in the string list.

Drawing No.
149012-800
Rev. E, sheet 2

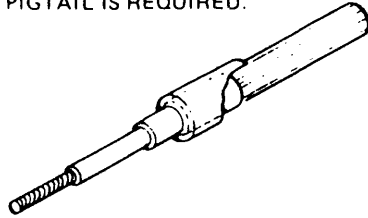
H78 STRING AND CONNECTOR LIST, DEFINITION OF FIELDS - Continued

- Q. Will cause an equation record to be omitted from logic listing.
- R. Will suppress printing the "FROM.TO" pin number in the string and connector lists.
- S. Do not move record number to the ident field for an ADD transaction in the harness string and double entry only.
(Use only when adding a file.)
- T. Twist wire code.
- U. Not available.
- V. See general notes or instruction pages.
- W. Fixed wire length submitted.
- X. Sequence of string is to be left as is.
- Y. See general notes or instruction pages.
- Z. Will suppress printing of the "FROM" pin.
- 10. **Misc** - Unless otherwise noted, the number 1 indicates a pre-wired connector.
- 11. **Signal** - An alphanumeric signal name, mnemonic where feasible, which identifies one specific function from another.
 SPP - Denotes an available termination.
 SPF - Denotes an unwired termination which has an assigned function.
 SPW - Denotes a non-functional wire which is terminated at one or both ends.
 SPO - Denotes a spare output of a circuit.
 DNW - Indicates that a termination may not be wired.
 SPA - Denotes an unassigned circuit, as one of a group on a printed circuit board.
 SPI - Denotes a spare input of a circuit.
 SPG - Denotes an unassigned logic gate, as one of a group on a printed circuit board.
 SPR - Denotes a spare resistor.
 SPD - Denotes an unassigned input diode of an assigned logic gate.
- 12. **Seq No.** - A number which, in conjunction with SIGNAL, allows a signal string to be consistently printed in a given order.
- 13. **Equation** - A mnemonic name assigned to each gate of an element.
- 14. **Term** - An "OR" function composed of one or more factors.
- 15. **Factor** - A specific input to a logical gate or active element.
- 16. **Ckt or Chip Type** - Denotes a specific circuit board type.
- 17. **Group** - Denotes a specific circuit on a printed circuit board.
- 18. **Load or Power Plane** - Denotes the current draw in milliamps by a specific circuit or voltage.
- 19. **AND Test Point** - Denotes the input test point for a specific circuit on a printed circuit board.
- 20. **OR Test Point** - Denotes the output test point for a specific circuit on a circuit board.
- 21. **Signal Description** - A written description or name of a signal or voltage.
- 22. **ECO No.** - A letter number combination to show the Engineering Change Order level of that particular wire list record.

Drawing No.
149012-800
Rev. E, sheet 3

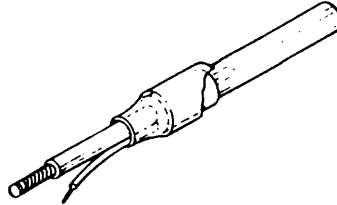
SHIELD FIGURE A

SHIELD TERMINATION FOR SHIELDED,
SINGLE AND MULTIPLE CONDUCTORS,
NO PIGTAIL IS REQUIRED.



SHIELD FIGURE B

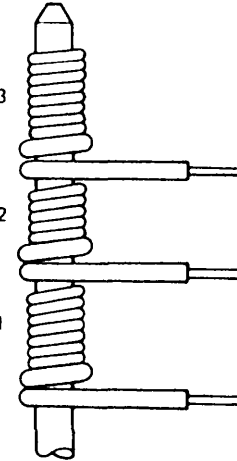
SHIELD TERMINATION FOR SHIELDED,
SINGLE AND MULTIPLE CONDUCTORS,
FRONT PIGTAIL IS REQUIRED.



SHIELD FIGURE NO. 3

SHIELD FIGURE NO. 2

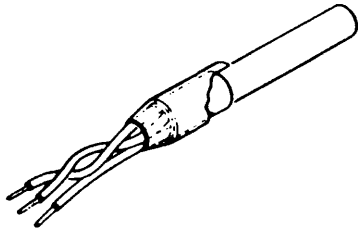
SHIELD FIGURE NO. 1



SHIELD FIGURE NUMBER
INDICATES LEVEL OF WIRE WRAP

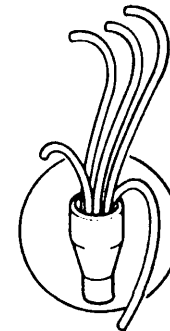
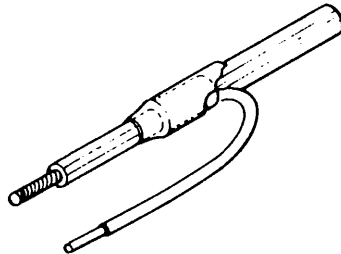
SHIELD FIGURE G

SHIELDED CABLE TERMINATION WITH DRAIN WIRE



SHIELD FIGURE C

SHIELD TERMINATION FOR SHIELDED,
SINGLE AND MULTIPLE CONDUCTORS,
A REAR PIGTAIL IS REQUIRED.

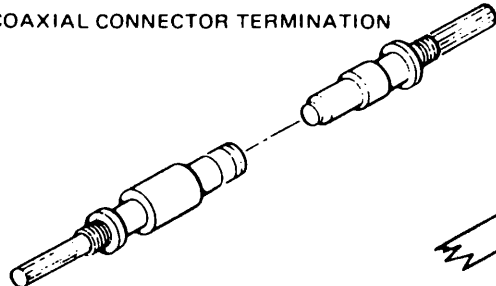


SHIELD FIGURE X

SHIELDED WIRE
PIGTAILS—HYBRID

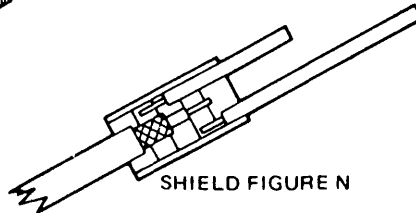
SHIELD FIGURE Z

COAXIAL CONNECTOR TERMINATION



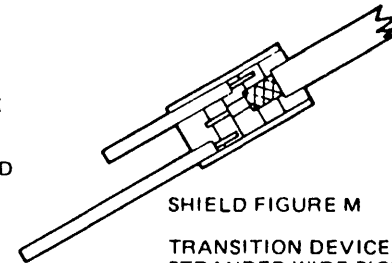
SHIELD FIGURE N

TRANSITION DEVICE WITH
SOLID WIRE PIGTAILS



SHIELD FIGURE M

TRANSITION DEVICE WITH
STRANDED WIRE PIGTAILS



WIRE CODE DEFINITION

Type	Description	AWG
1 = Polyvinylidene Fluoride (PVF) (Kynar)	1 = Buss Wire	A = 32
2 = Teflon ET	2 = High Voltage	B = 30
3 = Teflon E	3 =	C = 28
4 = Teflon EE	4 =	D = 26
5 = Fluorinated Ethylene Propylene (FEP), Type K	5 = Integral Lead	E = 24
6 = FEP, Type KT	6 = Auto Wire Wrap	F = 22
7 = Special Condition	7 =	G = 20
8 = Polyvinyl Chloride (PVC) with Nylon Jacket, Type D	8 =	H = 18
9 = MIL-W-81044/12	9 =	I = 16
0 = Buss or Integral	0 = Special	J = 14
A = PVC without Jacket, Type B	A = Single Stranded	K = 12
B = PVC with Jacket	B = Single Solid	L = 10
C = MIL-W-22759/1	C = Single Shielded	M = 8
D = MIL-W-5086/1	D = Tw Pr, Stranded	N = 6
E = MIL-W-5086/2	E = Tw Pr, Solid	P = 4

WIRE CODE DEFINITION

Type	Description	AWG
*F = MIL-C-17/94 (formerly MIL-C-17/68)	F = Tw Pr, Shielded	R = 2
*G = 898008-2	G = Tw Tpl, Stranded	S = 1
*H = 898008-1	H = Tw Tpl, Solid	T = 0
*J = MIL-C-17/29	J = Tw Tpl, Shielded	U = 00
*K = MIL-C-17/30	K = Tw Quadr, Stranded	V = 000
*L = MIL-C-17/79	L = Tw Quadr, Solid	W = 0000
*M = MIL-C-17/74	M = Tw Quadr, Shielded	X = Coax
*N = MIL-C-17/86	N = Tw Six Conductor, Stranded	Y =
*P = MIL-C-17/28	P =	Z =
*R = 898008-4	R =	1 =
*S = MIL-C-17/6	S =	2 =
*T = 898059-0001	T =	3 =
U = 898017-1	U =	4 =
V = 898017-2	V =	5 =
W = 898007-1 thru -4	W = 70 Ohm Coax	6 =
X = 898004, Type B	X = 50 Ohm Coax	7 =
Y = 898004, Type D	Y = 75 Ohm Coax	8 =
*Z = MIL-C-17/94	Z = 95 Ohm Coax	9 = Spcl
*I = MIL-C-17/118		0 = Int Lead

NOTES: *1. Coax.

2. The word "BAR" in the Code Field indicates an electromechanical connection made possible by buss strips. Printed circuitry or power/ground planes will be coded "BUS" in the Code Field if required.

PARTS LIST					CONTRACT NUMBER	CODE IDENT 13973	PL 149012-800	REVISION F.	
TITLE CARD CAGE ASSY, CPU L.N. - WIRE LIST							SHEET 6		
ITEM NO.	FEET OF WIRE REQD	CODE IDENT	PART OR IDENTIFYING NUMBER	DRAWING OR DOCUMENT NUMBER	NOMENCLATURE OR DESCRIPTION	REF SYM	TIMES USED	WIRE CODE	LINE REV
1.			898041-0002		WIRE, ELEC, 250V, PVF INSUL 30 GAGE (WHITE)		4	1BB	
2.			898042-0004		WIRE, ELEC, 250V, PVF INSUL 26 GAGE (RED)		7	1BD	
3.			898042-0002		WIRE, ELEC, 250V, PVF INSUL 26 GAGE (WHITE)		2	1BD	
4.			898041-0023		CABLE, ELEC, TWISTED TWO CNDC, 250V, PVF INSUL 30 GAGE (BLACK, WHITE)		21	1EB	
5.			898042-0034		CABLE, ELEC, TWISTED TWO CNDC, 250V, PVF INSUL 26 GAGE (BLACK, RED)		11	1ED	
6.			898042-0023		CABLE, ELEC, TWISTED TWO CNDC, 250V, PVF INSUL 26 GAGE (BLACK, WHITE)		2	1ED	
7.			898041-0002		WIRE, ELEC, 250V, PVF INSUL 30 GAGE (WHITE)		10350	16B	
					(PARTS LIST FOR REFERENCE ONLY)				

DRAWING NUMBER 149012-800

TM 11-5895-856-34-5/EE640-CA-MMI-050/E154 CPU/TO 31W2-2T-122-5

UNIT ASSEMBLY NO. 149012

REV. E

INDEX

+05VCG

STRING

UNIT ASSEMBLY NAME CARD CAGE ASSY, CPU L.H.

FILE IDENT

T39B2CP1

DATE 09-03-82

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UNIT ASSEMBLY NAME CARD CAGE ASSY, CPU L.H.														T39B2CP1														09-03-82																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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