

CONNECTORS/PROTECTOR UNITS
308-TYPE

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1. GENERAL

1.1 Scope of Section

1.11 This section only covers the installation of 308A2 through 308E-2 Connector/Protector Units which mount on the eight foot high, low profile double sided protector frame (LPDSPF) ED-97755-70.

1.111 The 308A-2(24 GA) and 308B-2(22 GA) Connectors have Outside Plant (OSP) cable stubs that head downward toward the cable vault. The 308C-2(24 GA) and 308D-2(22GA) have (OSP) cable stubs that head upward toward the overhead cable racks. The 308E-2 Connector does not have a (OSP) cable attached.

1.112 These connectors provide a higher termination density than is available with the 302-type connectors mounted on the (LPDSPF). These 308-type connectors are to be used only on the (LPDSPF) ED-97755-70. Use on other protector frames may create cable congestion and have not been approved by the Bell Telephone Laboratories (BTL).

1.113 These connectors have been ordered by some Operating Companies in advance of standardization on various "F" specifications. However, they will be available as standard codes sometime during the Fourth Quarter of 1980 or First Quarter of 1981.

1.114 At the present time, there is no test shoe available for the Electronic Lead Verification Set (ELVS) to check cable lead continuity. However, a proto-type is being manufactured and should be available sometime during the First Quarter of 1981.

1.115 The 308 type connector terminals have not yet been approved for Solderless Wrap Connecting (SWC). However, they are the same terminals used on the 302 type connectors, therefore, they will be approved for terminating 22 through 26 gauge tinned wire.

1.2 Precautions

1.21 Precautions to be taken against personal injury, equipment damage and service interruptions are covered in Handbook 0 and are to be observed at all times.

1.22 Double sided protector frames are considered to be somewhat of a congested area. Therefore, extreme care should be taken when dropping the cables into the frame to avoid damaging the connectors. Also exercise care to avoid scratches and cuts when working on the connectors after they have been opened into the wiring position.

1.3 Tools and Supplies

1.31 Tools

1.311 There are no special tools required for wiring these 308 Connectors. The Installers 168 Kit, tie wrap fastening tools, wire wrapping tools, and skinning tools listed in this handbook, Sections 205, 311, and 300 are sufficient for this instruction.

1.32 Supplies

The supplies required for the installation of these connectors are:

R-2916	Twine
R-4265	Nylon Cable Ties
RM-583101	Sheet Fiber
R-3428	Gray PVC Tape

2. CABLE ENTRY2.1 Protector Frame

2.11 Cables should be run into the protector frame in the normal manner according to the cable running list (cable tags). They should then be laid as flat as possible against the transverse arms in a sequence which feeds the connectors top-down avoiding cable crosses wherever possible. Secure the cables in place using R-2916 approved twine or nylon cable ties applied according to Handbook 8, Section 340 and this handbook, Section 205.

2.2 Connector Unit

2.21 These connector units were intended to be served by individual (100) pair cables. However, we feel that cable engineers will utilize the largest possible size cable to serve any given protector frame vertical. Therefore, two methods of bringing the cable leads into the connector will have to be employed.

2.211 Method A: When one (100) pair cable serves one 308 Connector Unit, the following procedure should be used:

- a) There are two quick-release screws located on the right side (front) of the unit. Open this hinged type connector by simply turning the screws 1/4 turn in a counter-clockwise direction. The unit will open slightly more than 90° into a wiring position.

NOTE: The connector does not lock open into the wiring position. Therefore, use a twine band or cable tie to temporarily hold the unit open.

- b) At the top side of the connector or the cables should be secured to the transverse arm. Arc the cable serving the unit in toward the inside edge of the "T" bracket located between the two quick-release screws.

- c) Make sure the cable arc stays within the confines of the unit. Make a butt mark approximately 1/2" above the top edge of the "T" bracket.

- d) Butt the cable at this mark and strip off the sheathing. Make sure the cable leads reach the farthest termination point and cut-off the excess cable slack.

- e) Using R-2916 Twine, secure the cable to the inside of the "T" bracket using a "Chicago" or "Kansas City" stitch.

- f) Separate and identify each binder and then proceed to start fanning the cable leads according to the connecting document.

- g) There are (5) ground straps running vertically down the back of the connector. Fan the leads for each horizontal row under the first ground strap (closest to "T" bracket) and over the top of the others. This will retain the leads in each row.

- h) Skin and solderless wrap the cable leads according to the connecting document. Do not leave too much slack in the cable leads.

- i) It will not be necessary to sew the vertical form at the edge of the terminal field unless there is too much slack and the leads cannot be confined within the unit. If too much slack occurs, band the form as necessary to hold the leads and retain them within the unit.

- j) Cut the twine band or cable tie temporarily holding the unit open and remove.

k) Close the connector and secure it by turning the two quick-release screws 1/4 turn in a clockwise direction. Be sure the cable leads stay in place and the cable moves back toward the transverse arm with ease.

2.212 Method - B: When one large cable (200, 300 pair, etc.) serves two or more connector units, the following procedure should be used:

NOTE: The same steps used in Method-A should be followed except that when one cable serves several connector units, the cable sheathing will have to be removed at the top connector unit and loose wire cable forms will serve each individual unit. The following steps will only cover handling these loose wire forms.

a) After the cable(s) have been secured to the top transverse arm (entry into the frame) measure it out so it will reach and serve the farthest connector unit. Allow some additional length, and cut-off the excess slack.

b) Butt the cable approximately 1" below the top transverse arm of the first connector being served. Strip off the jacket and identify all the binder groups.

c) Starting at the butt location, break out the cable leads for the first (top) connector being served according to the connecting document.

d) Cut-off a length of R-2916 Twine and place a double strand band completely around the cable leads just below the butt mark. Secure one end of the twine and start sewing the leads for the first connector using 2" (maximum) stitch spacing.

NOTE: Nylon cable ties spaced 2" apart may be used as an option to the above, providing they are also spaced 2" (maximum) apart.

e) Protection is required between the "T" bracket and the cable leads. Therefore, either wrap the cable leads with a layer of gray sheet fiber or apply a half-lap layer of gray R-3428 Tape to the bracket or form prior to securing the cable leads.

f) As described in Method-A, arc the cable form into the inside of the "T" bracket being sure the form will be contained within the confines of the unit. Proceed to secure the protected form to the "T" bracket.

g) Proceed to fan and terminate the cable leads for the first connector according to Method-A.

h) Leads serving other connectors out of the same cable should be handled in the same manner. However, where the main form comes in contact with the transverse arm, it must be protected. A section of gray sheet fiber wrapped around the cable leads (form) at contact point will be sufficient. Secure the cable(s) to each transverse arm.

i) Place one double strand of twine, or a nylon cable tie on the vertical loose wire main form midpoint between each transverse arm. This band will retain the form and give it a neat workmanship appearance.

3. SPARE AND UNUSED LEADS

3.1 If there are spare or unused leads in a cable(s), measure them out to reach the farthest termination point the cable serves, cut-off excess slack, identify them, tube them, and secure the tube back up against the main form.

4. TERMINAL REPLACEMENT

4.1 General

4.11 If terminals are to be replaced on working circuits precaution shall be taken to avoid any service interruptions. Contact the Operating Company before starting any replacement procedures.

4.12 After the lines have been cleared to avoid interruptions, remove the lead(s) from each broken terminal and identify (tag) them. (See Figure 1.)

4.2 842-360-562 (T-R) Terminals:

a) Using a pair of long nose pliers, close the tangs of the terminal and then push the terminal stub forward about 1/8" toward the front side. If the terminal is broken off flush with the surface, use a sharp instrument placed on the edge of the terminal barrel and force it forward.

b) From the front side of the connector, grasp the terminal head with the long nose pliers and pull it out of place.

c) Properly orient the new terminal and insert it into the vacated terminal hole. Using the thumb, push it in as far as you can.

d) From the rear side, grasp the terminal near the base and pull it into position. To determine if the terminal is in the correct position, observe that the end of the terminal is aligned with the ends of the other terminals.

e) Insert a protector unit into the connector to temporarily hold the terminal in place.

f) Using a pair of long nose pliers, carefully spread the tangs of the terminal to lock it in place on the panel.

g) Reconnect the leads to the terminal. Solder the connection if sufficient lead length was not available to provide an approved solderless wrapped connection.

h) Remove the protector used to hold the terminal in place.

4.3

814-648-622 (Ground) Terminals:

a) On the wiring side, use a soldering iron to remove all solder and release the ground strap from the terminal to be replaced.

b) Follow the procedures of 4.2 (a), (b), (c), (d), (e), and (f).

c) Reconnect the ground strap in the slot of the terminal with a soldering iron.

PRECAUTION: DO NOT APPLY TOO MUCH SOLDER TO THE GROUND TERMINAL. SOLDER CAN FLOW THROUGH THE TERMINAL AND SOLDER THE TEMPORARY PRO-TECTOR UNIT IN PLACE.

d) Remove the protector used to hold the terminal temporarily in place.

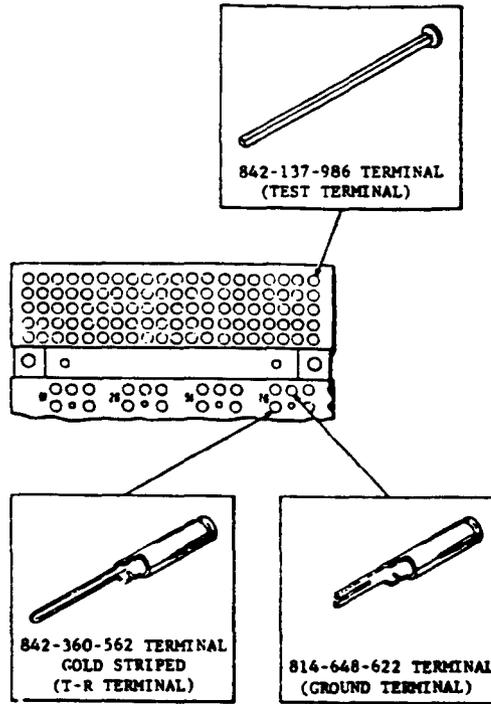
4.4

842-137-986 (Test) Terminals:

a) After the lead has been removed and tagged, use an orange stick or spudger to push the terminal out toward to front side.

b) Remove the terminal from the front side using a pair of long nose pliers, reinsert the new terminal in the vacated hole, and push it into position with the orange stick or spudger.

c) Reconnect the test lead according to Paragraph 4.2(g).



KP-0595

FIG. 1 308A2-E2, CONNECTOR
(PAR. 4.12)

5. VERIFICATION

5.1 The following is a brief statement of the requirement with the associated paragraph and figure.

VERIFICATION ITEM AND BRIEF STATEMENT		REFERENCE	
		PAR.	FIG.
5.011	Nylon cable ties used according to Handbook 8, Section 340 and Handbook 9, Section 205	2.11	
5.012	Cable confined to within the connector unit	2.211c	
5.013	Secure cable to connector "T" bracket	2.211e	
5.014	Vertical form of unit banded as necessary to retain leads within confines of connector	2.211i	

	VERIFICATION ITEM AND BRIEF STATEMENT	REFERENCE	
		PAR.	FIG.
5.015	Sew or band unjacked cable leads serving the individual connector units. (2" spacing maximum)	2.212d	
5.016	Cable lead protection required at "T" bracket	2.212e	
5.017	Cable form confined to within connector unit	2.212f	
5.018	Cable leads require protection when secured to transverse arm	2.212h	
5.019	Place band on form midpoint between transverse arms	2.212i	
5.020	Spare or unused leads tubed and banded back on main form	3.1	
5.021	Avoid service interruptions when replacing terminals on working circuits	4.11	
5.022	Solder unqualified (SW) connection when replacing leads on terminals	4.2g	

[Vertical line at side of paragraph indicates requirement

Engineering Planning Manager
(Installation)