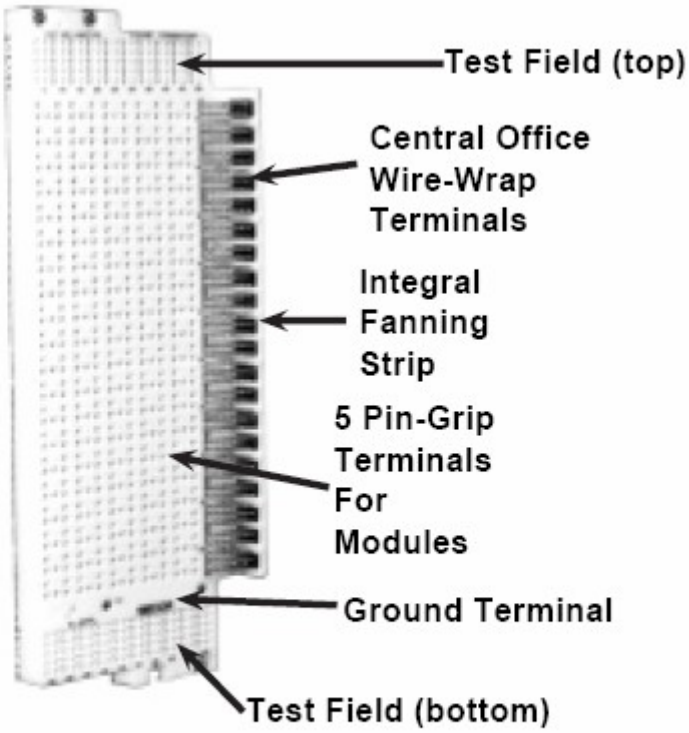

Figure 1 — C(G)-310 Main Frame Connector

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1. General

1.1 The C(G)-310 connector (Figure 1) is a 100-pair unit used for terminating outside plant (OP) cables in central office where current and voltage protection is required.

Note: *The connector can be used without protection if only cable termination is desired.*

1.2 Two types of installation procedures are provided in the following paragraphs. The first procedure addresses stubbed connectors; the second addresses stubless connectors.

2. Description

2.1 The C(G)–310 connector consists of a connector base designed for installation on a main distributing frame (MDF) and protector modules that plug into the base. The C(G)–310 connector provides features for testing, identification of incoming circuits, and disconnection of outside cable pairs in addition to current and voltage protection through the use of various types of protector modules. The 100-pair capacity connector is available with or without a cable stub.

2.2 The C(G)–310 connector is available with tin-alloy-plated protector receptacles.

3. Precautions

3.1 Store the C(G)–310 connector and modules in a dry location. Do not leave the units on the loading docks or in outside locations where they

may be exposed to the weather. When unpacking the connector from its shipping carton, use care so as not to damage the connectors or stub.

Caution: To avoid damage–do not bend the cable stub in a short radius.

Note: Do not remove the connector from its protective carton until it is ready for installation on the frame.

3.2 If protector modules have been installed in the connector, they should remain in the detent position. It is not necessary to remove the protector modules before installing the connector on the frame.

4. Installing Stubbed Connectors

4.1 Prior to installing the C(G)–310 connector, open the cable entrance slots or ferrules in the floor in accordance with local practices. (For overhead cable, follow the instructions given in Section 6 for Changing Stub Position.) If there are fanning strips on the frame vertical, remove them. The C(G)–310 connector fanning strip is an integral part of the connector panel. Mark the cable number and pair count of each connector stub cable and attach to the stub cable prior to placing it through the floor to the vault.

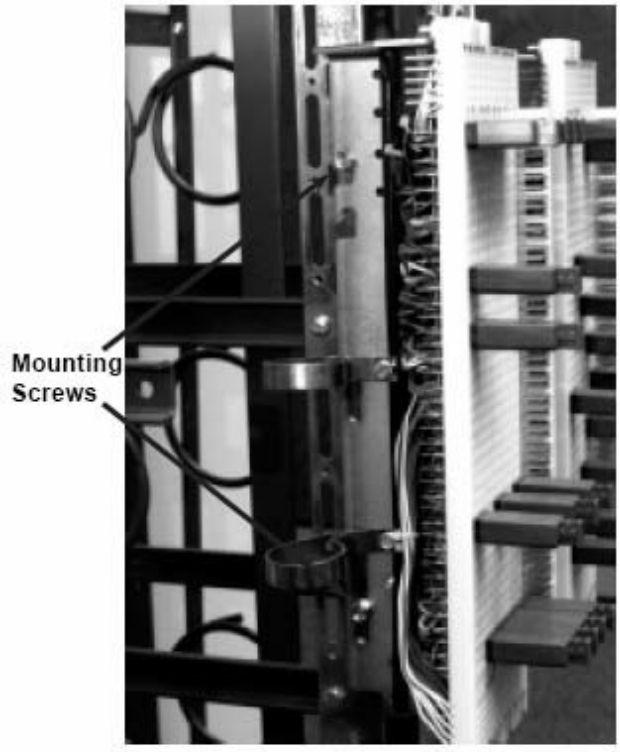
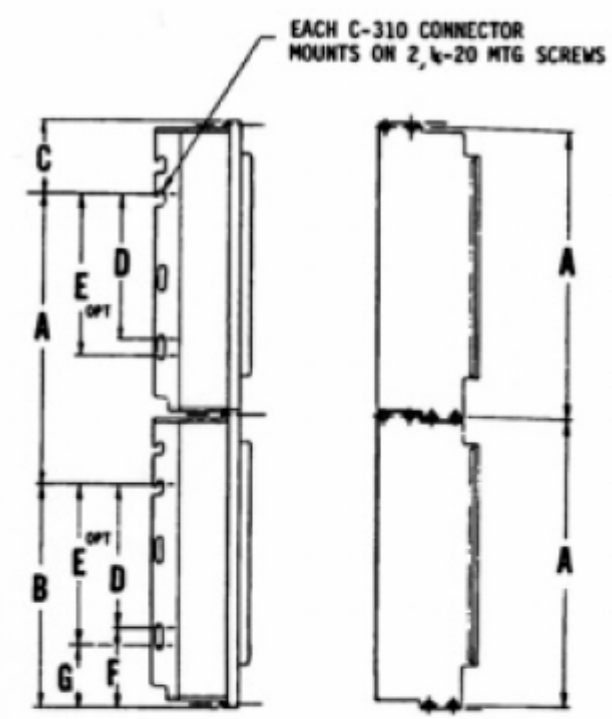


Figure 2 — Mounting C(G)-310 Connector

4.2 Remove the connector from the shipping carton and route the stub cable into the cable vault from in front of the vertical side of the distributing frame. Remove any cable twist that might be present.

4.3 Attach the C(G)–310 connectors to the left side of the distributing frame vertical mounting bar, beginning at the lower end of the frame (Figures 2 and 3). Use the 1/4-20 mounting screws furnished with the connectors. Place the top screw in the vertical mounting bar on the MDF. Hang the connector on this screw using the keyhole slot on the C(G)–310 mounting bracket. Now install the lower screw into the bracket and frame and tighten both screws.

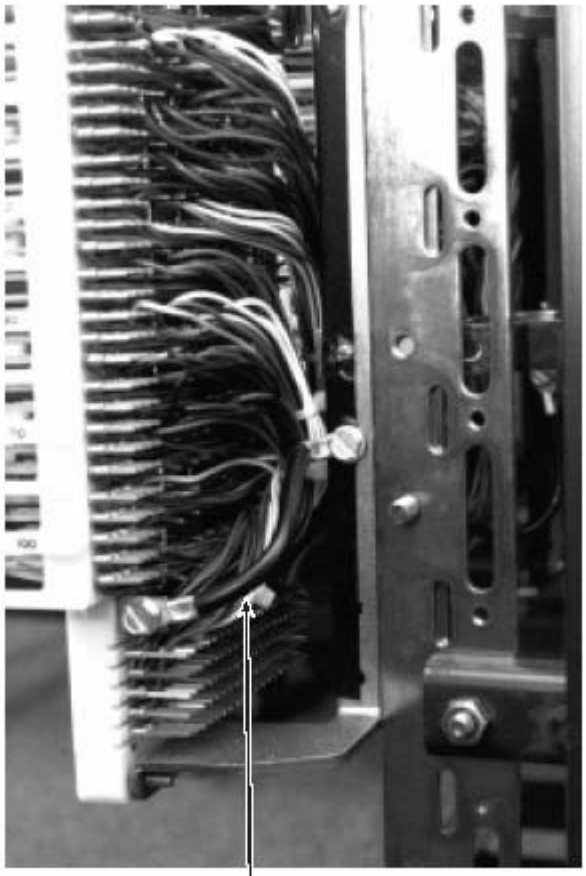


C-310 CONNECTOR MOUNTING DIMENSIONS		
DIMENSION	INCHES	MILLIMETERS
A	14.25	362.0
B	10.98	278.9
C	3.66	93.0
D	7.12	180.9
E	8.00	203.2
F	3.86	98.0
G	2.98	75.7

Figure 3 — C(G)-310 Connector Mounting Dimensions

5. Grounding

5.1 Three methods may be used to connect the C–310 connector to electrical ground. The connector ground wiring is terminated at a no. 10 ground screw terminal on the rear of the connector base (Figure 4). This ground screw is jumpered to the lower portion of the connector mounting bracket through a short (3-1/2-inch) ground strap. The grounding methods are described in the following paragraphs.



5.2 Basic grounding method: Use the 7 3/4-inch interconnector ground strap supplied with the unit to connect the 1/4-20 mounting screws on adjacent connectors (see I Basic, Figure 5). Repeat this procedure for each pair of connectors on the same vertical. Connect the bottom 1/4-20 mounting screw on the lowest connector to a 1/4-20 terminal on the main frame copper ground bar using the long (26 1/2- inch) ground strap.

5.3 Independent ground method: Use the interconnector ground strap (17 1/2 inches long) to connect the no. 10 ground screw terminals of each pair of adjacent connector bases on the same vertical (see II Independent, Figure 5). Connect the no. 10 ground screw ground terminal on the lowest connector to the 1/4-20 terminal on the main frame copper ground bar using the long (28-inch) ground strap.

5.4 Isolated ground method: Remove the short (3 1/2-inch) ground strap from the no. 10 screw ground terminal and the connector mounting bracket. Use the interconnector ground strap (17 1/2-inch) to connect the no. 10 screw ground terminals of each pair of adjacent connector bases on the same vertical (see III Isolated, Figure 5). Connect the no. 10 screw ground terminal on the lowest connector to the 1/4 -20 terminal on the main frame copper ground bar using the long (28-inch) ground strap.

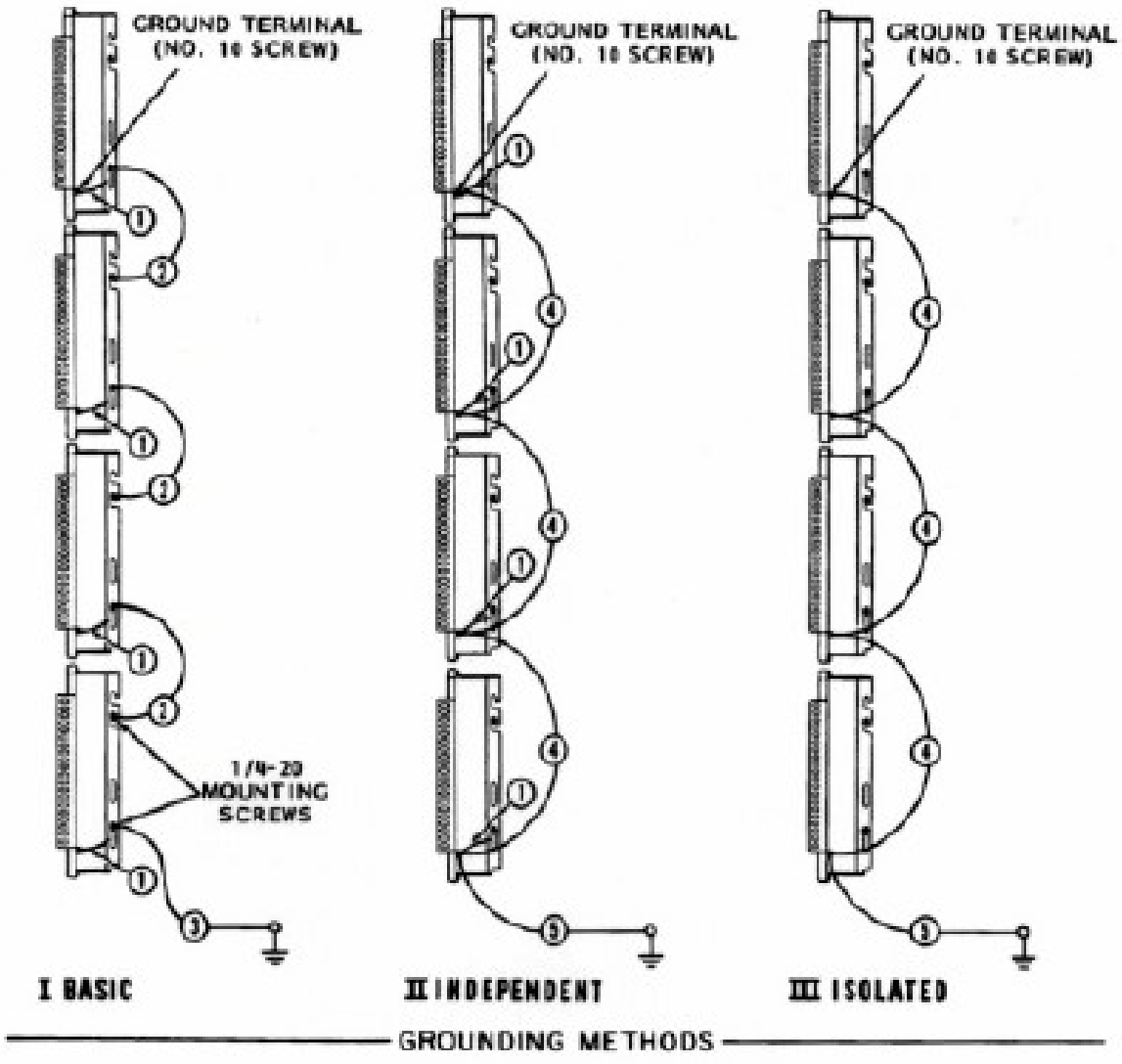
Note: The long ground straps, 26 1/2-inch and 28-inch, and the interconnector ground strap, 17 1/2-inch, are accessory items and must be ordered separately.

5.5 Tighten all mounting screws after all of the connectors and ground straps are placed in position on the vertical mounting bar.

5.6 The clamps on the pressure plug of the connector stub should be carefully bent to the vertical mounting bar, so the stub cable will be out of the way for future work at the frame (Figure 6).

5.7 The stub cables of all connectors on a vertical mounting bar should be neatly arranged against the transverse arms of the frame. Lash the stub to these transverse arms in a neat manner.

5.8 Close the cable entrance slots, or ferrules, in the floor, in accordance with local instructions.



Legend

① SHORT GROUND STRAP, 3 1/2-inch (88.9 mm), No. 10 AWG (Supplied)

② INTERCONNECTOR GROUND STRAP, 7 3/4-inch (196.9 mm). No. 6 AWG (Supplied)

③ LONG GROUND STRAP, 26 1/2-inch (673.1 mm), No. 6 AWG, PART NO.023-2466 (Not supplied)

④ INTERCONNECTOR GROUND STRAP, 17 1/2-inch (444.5 mm), No. 6 AWG, PART NO.689-0951 (Not supplied)

⑤ LONG GROUND STRAP, 28-inch (711.2 mm), No. 6 AWG, PART NO.689-0955 (Not supplied)

NOTES:

1. An alternative grounding procedure must be considered for the frame and cable shield when the isolated grounding method (III) is used.
2. All ground straps are No. 6 AWG, except the short ground strap, which is No. 10 AWG.

Figure 5 — C(G)-310 Connector Grounding Methods

6. Changing Stub Position

6.1 The cable stub may be turned 180 degrees (Figure 6). Handle the cable very carefully to avoid breaking wires. Be sure that enough clearance is available for the molded end of the cable stub above the top of the connector base before using this method.

6.1.2 Remove cable clamps from pressure plug and mounting bar.

6.1.3 Turn cable stub 180 degrees.

6.1.4 Reinstall cable clamps in the alternate holes provided.

6.2 Splice the cable stub to the entrance cable. The cable is wired with standard cable wire color coding. Cable pairs can be matched to the central office jumper field as shown in Table 1.

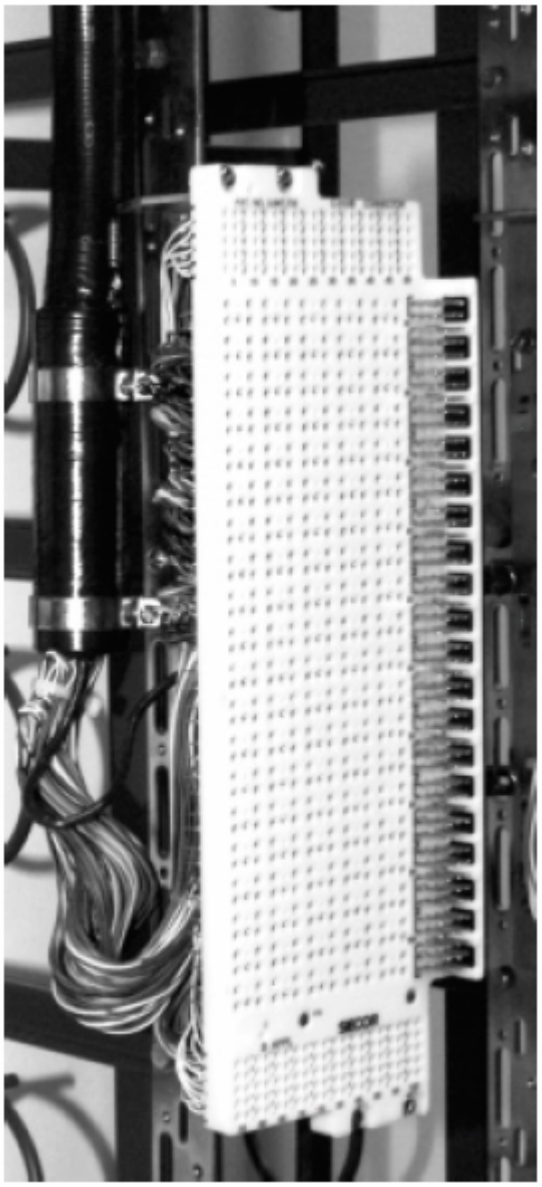


Figure 6 — Positioning Cable Stub

Cable Pair Group	Binder Color	Cable Pair Sub Group	Tip Wire Color	Ring Wire Color (For each tip wire color)
1-25	Blue	1 - 5	White	1st wire - Blue
		6 - 10	Red	2nd wire - Orange
		11 - 15	Black	3rd wire - Green
		16 - 20	Yellow	4th wire - Brown
		21 - 25	Violet	5th wire - Slate
26-50	Orange	26 - 30	White	1st wire - Blue
		31 - 35	Red	2nd wire - Orange
		36 - 40	Black	3rd wire - Green
		41 - 45	Yellow	4th wire - Brown
		46 - 50	Violet	5th wire - Slate
51-75	Green	51 - 55	White	1st wire - Blue
		56 - 60	Red	2nd wire - Orange
		61 - 65	Black	3rd wire - Green
		66 - 70	Yellow	4th wire - Brown
		71 - 75	Violet	5th wire - Slate
76-100	Brown	76 - 80	White	1st wire - Blue
		81 - 85	Red	2nd wire - Orange
		86 - 90	Black	3rd wire - Green
		91 - 95	Yellow	4th wire - Brown
		96 - 100	Violet	5th wire - Slate

Table 1 — Cable Pair Color Codes

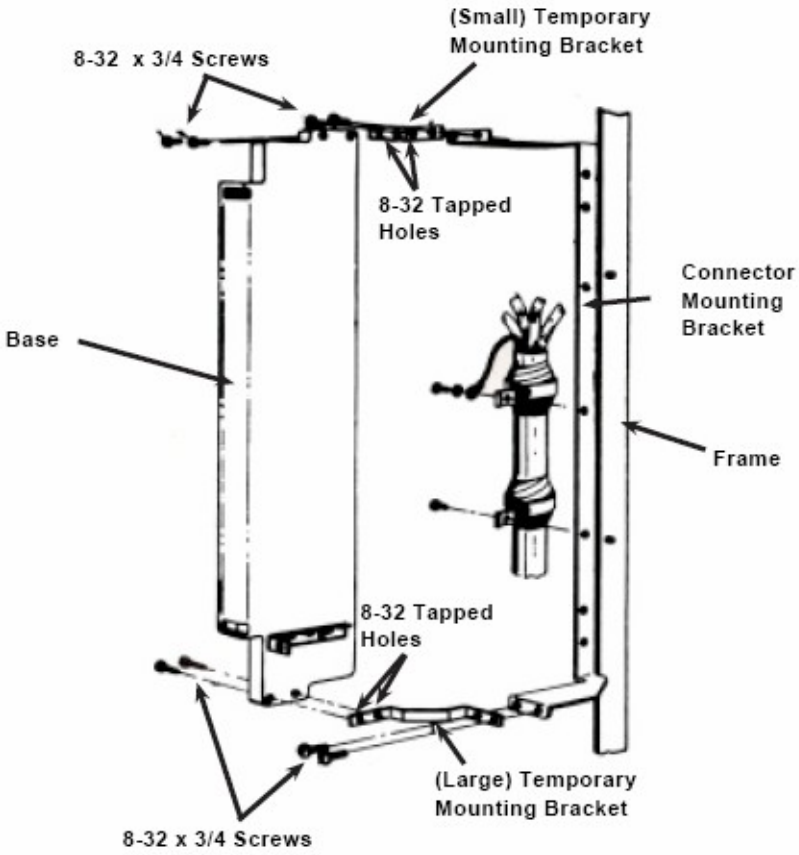


Figure 7 – C(G)-310 Connector on Temporary Mounting Brackets

7. Installing Stubless Connectors

7.1 Attach the C–310 connectors to the left side of the distributing frame vertical mounting bar, beginning at the lower end of the frame (Figures 2 and 3). Use the 1/4-20 mounting screws furnished with the connectors. Place the top screw in the vertical mounting bar on the MDF. Hang the connector on this screw using the keyhole slot on the C–310 mounting bracket. Now install the lower screw into the bracket and frame and tighten both screws.

7.2 Temporary Mounting

7.2.1 Remove the four (4) 8-32 screws holding the plastic base to the mounting bracket (Figure 7). Set the base aside and save screws.

7.2.2 Mount the temporary mounting brackets to the mounting bracket on the frame by using the four (4) 8-32 screws provided. Use the small temporary mounting bracket on top and the large temporary mounting bracket on bottom (Figure 7).

7.2.4 Attach plastic connector to temporary mounting bracket with the screws saved from step 7.2.1.

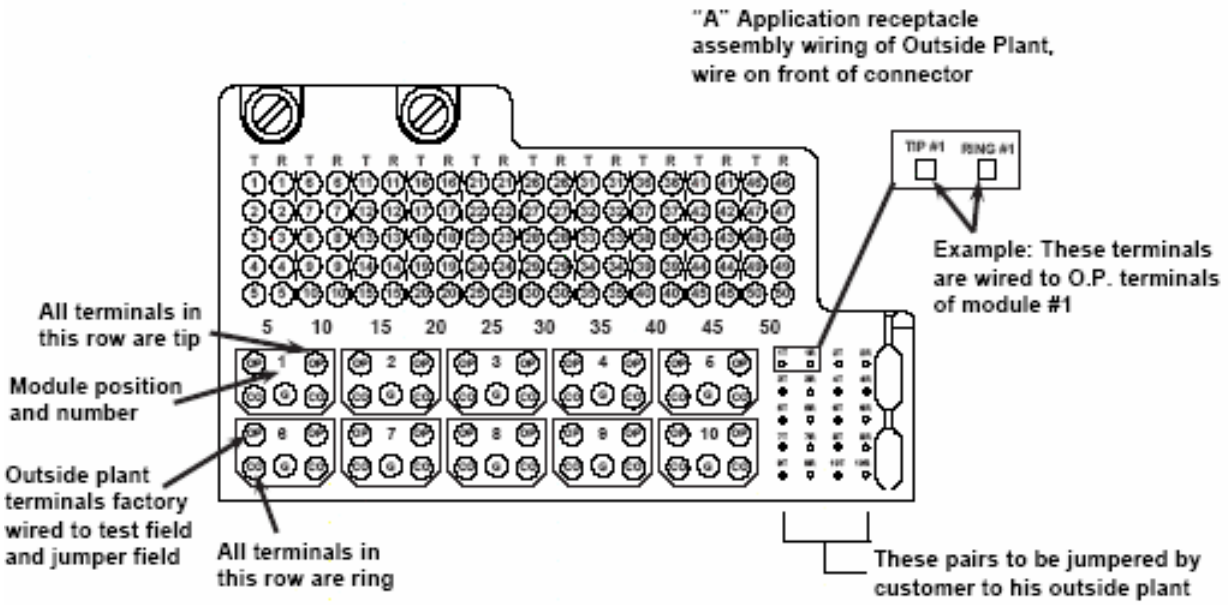
7.3. Wiring

7.3.1 Figure 8, “A” application, describes hard wiring central office equipment to connector central office terminals for outside plant cable cross-connected at a jumper field.

7.3.2 Figure 9, “B” application, describes central office equipment cross-connected at jumper field for outside plant cable hard wired at test field or to connector outside plant terminals.

7.3.3 Refer to the wiring diagram table (Figure 10) and Figure 11 to stub connector.

Figure 8
"A" Application
Central Office Equipment Hard Wired To Connector Central Office Terminals



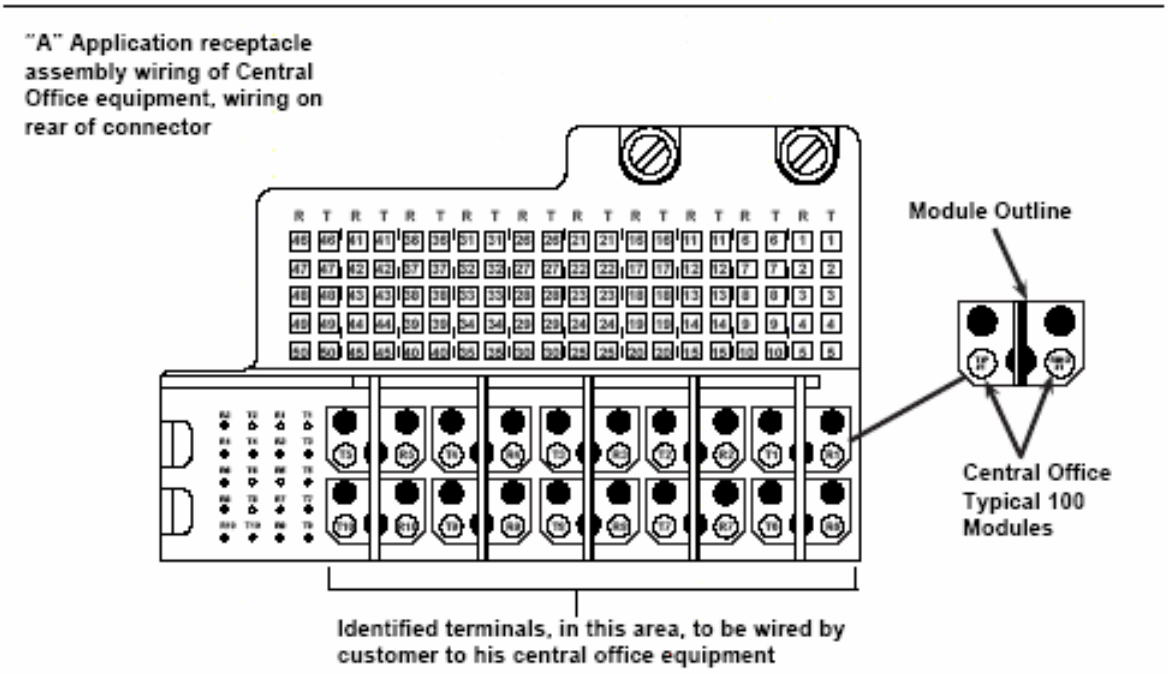
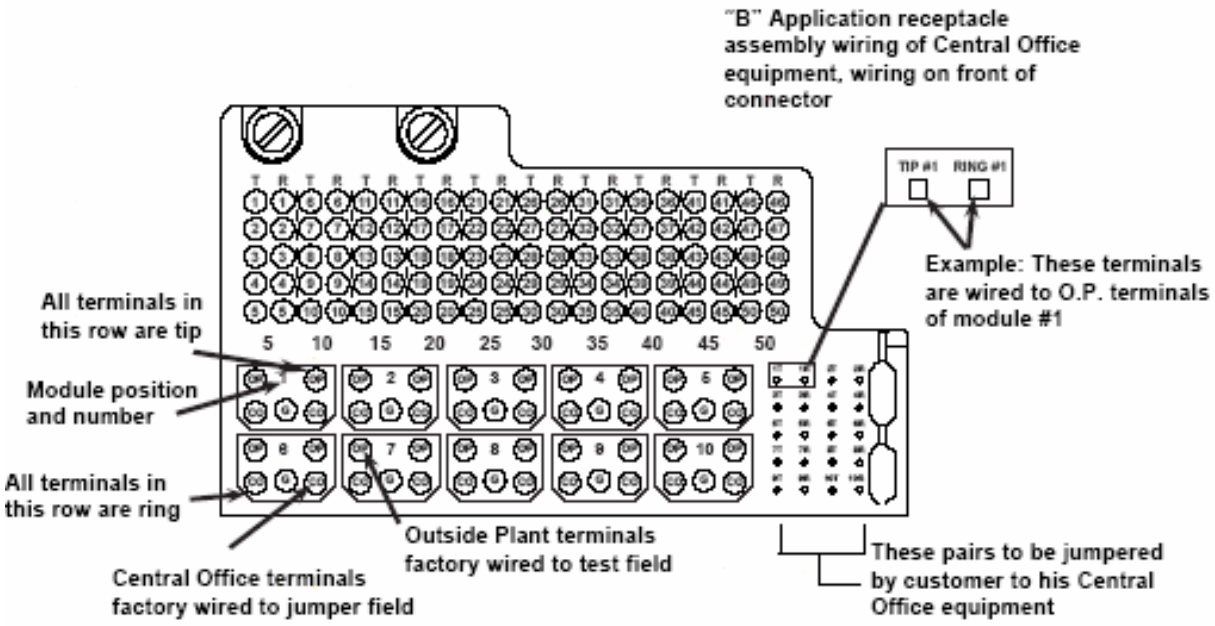
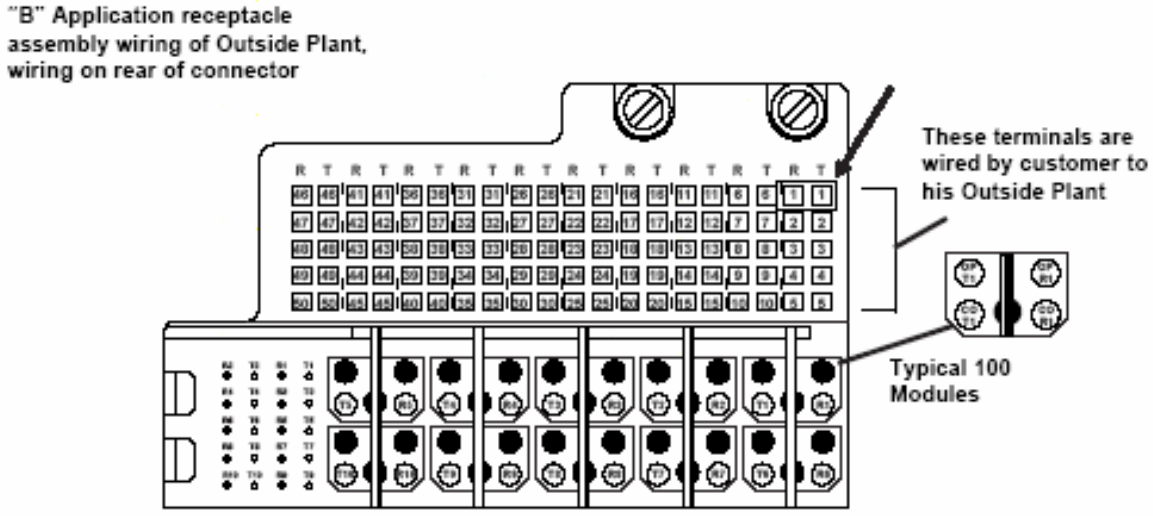


Figure 9
"B" Application

Central Office Equipment Cross-Connected At Jumper Field
Outside Plant Cable Hard Wired At Test Field Or To Connector Outside Plant Terminals





Orange

PR NO.	RING-TIP	PR NO.	RING-TIP	PR NO.	RING-TIP	PR NO.	RING-TIP	PR NO.	RING-TIP
46	BLUE-VIO	41	BLUE-YEL	36	BLUE-BLK	31	BLUE-RED	26	BLUE-WHT
47	OR-VIO	42	OR-YEL	37	OR-BLK	32	OR-RED	27	OR-WHT
48	GRN-VIO	43	GRN-YEL	38	GRN-BLK	33	GRN-RED	28	GRN-WHT
49	BRN-VIO	44	BRN-YEL	39	BRN-BLK	34	BRN-RED	29	BRN-WHT
50	SLATE-VIO	45	SLATE-YEL	40	SLATE-BLK	35	SLATE-RED	30	SLATE-WHT

Blue

PR NO.	RING-TIP	PR NO.	RING-TIP	PR NO.	RING-TIP	PR NO.	RING-TIP	PR NO.	RING-TIP
21	BLUE-VIO	16	BLUE-YEL	11	BLUE-BLK	6	BLUE-RED	1	BLUE-WHT
22	OR-VIO	17	OR-YEL	12	OR-BLK	7	OR-RED	2	OR-WHT
23	GRN-VIO	18	GRN-YEL	13	GRN-BLK	8	GRN-RED	3	GRN-WHT
24	BRN-VIO	19	BRN-YEL	14	BRN-BLK	9	BRN-RED	4	BRN-WHT
25	SLATE-VIO	20	SLATE-YEL	15	SLATE-BLK	10	SLATE-RED	5	SLATE-WHT

Brown

PR NO.	RING-TIP	PR NO.	RING-TIP	PR NO.	RING-TIP	PR NO.	RING-TIP	PR NO.	RING-TIP
96	BLUE-VIO	91	BLUE-YEL	86	BLUE-BLK	81	BLUE-RED	76	BLUE-WHT
97	OR-VIO	92	OR-YEL	87	OR-BLK	82	OR-RED	77	OR-WHT
98	GRN-VIO	93	GRN-YEL	88	GRN-BLK	83	GRN-RED	78	GRN-WHT
99	BRN-VIO	94	BRN-YEL	89	BRN-BLK	84	BRN-RED	79	BRN-WHT
100	SLATE-VIO	95	SLATE-YEL	90	SLATE-BLK	85	SLATE-RED	80	SLATE-WHT

Green

PR NO.	RING-TIP	PR NO.	RING-TIP	PR NO.	RING-TIP	PR NO.	RING-TIP	PR NO.	RING-TIP
71	BLUE-VIO	66	BLUE-YEL	61	BLUE-BLK	56	BLUE-RED	51	BLUE-WHT
72	OR-VIO	67	OR-YEL	62	OR-BLK	57	OR-RED	52	OR-WHT
73	GRN-VIO	68	GRN-YEL	63	GRN-BLK	58	GRN-RED	53	GRN-WHT
74	BRN-VIO	69	BRN-YEL	64	BRN-BLK	59	BRN-RED	54	BRN-WHT
75	SLATE-VIO	70	SLATE-YEL	65	SLATE-BLK	60	SLATE-RED	55S	SLATE-WHT

Figure 10 –Wiring Diagram Table

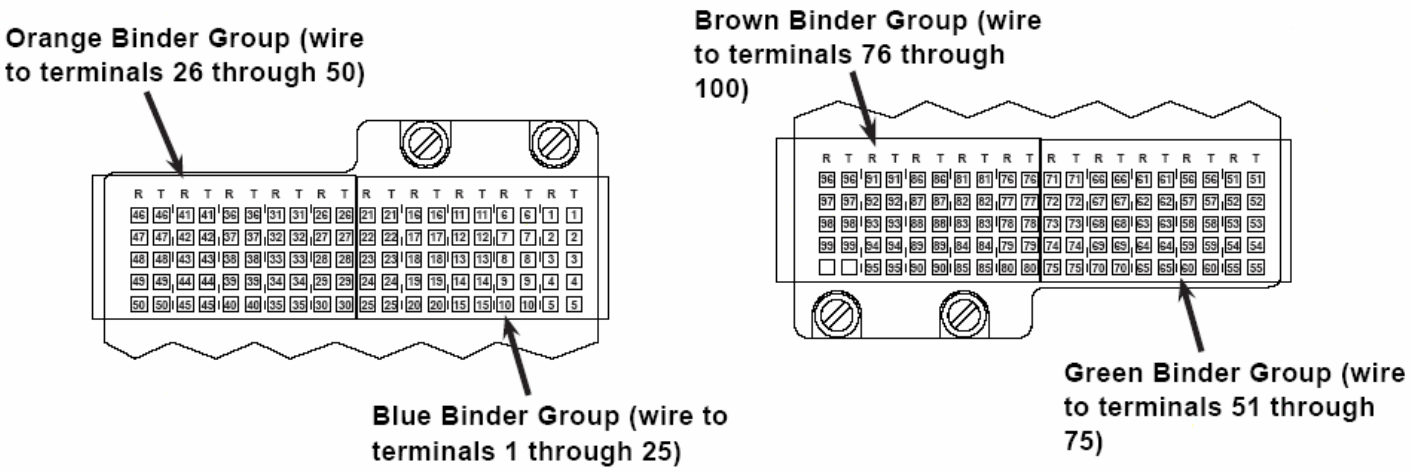


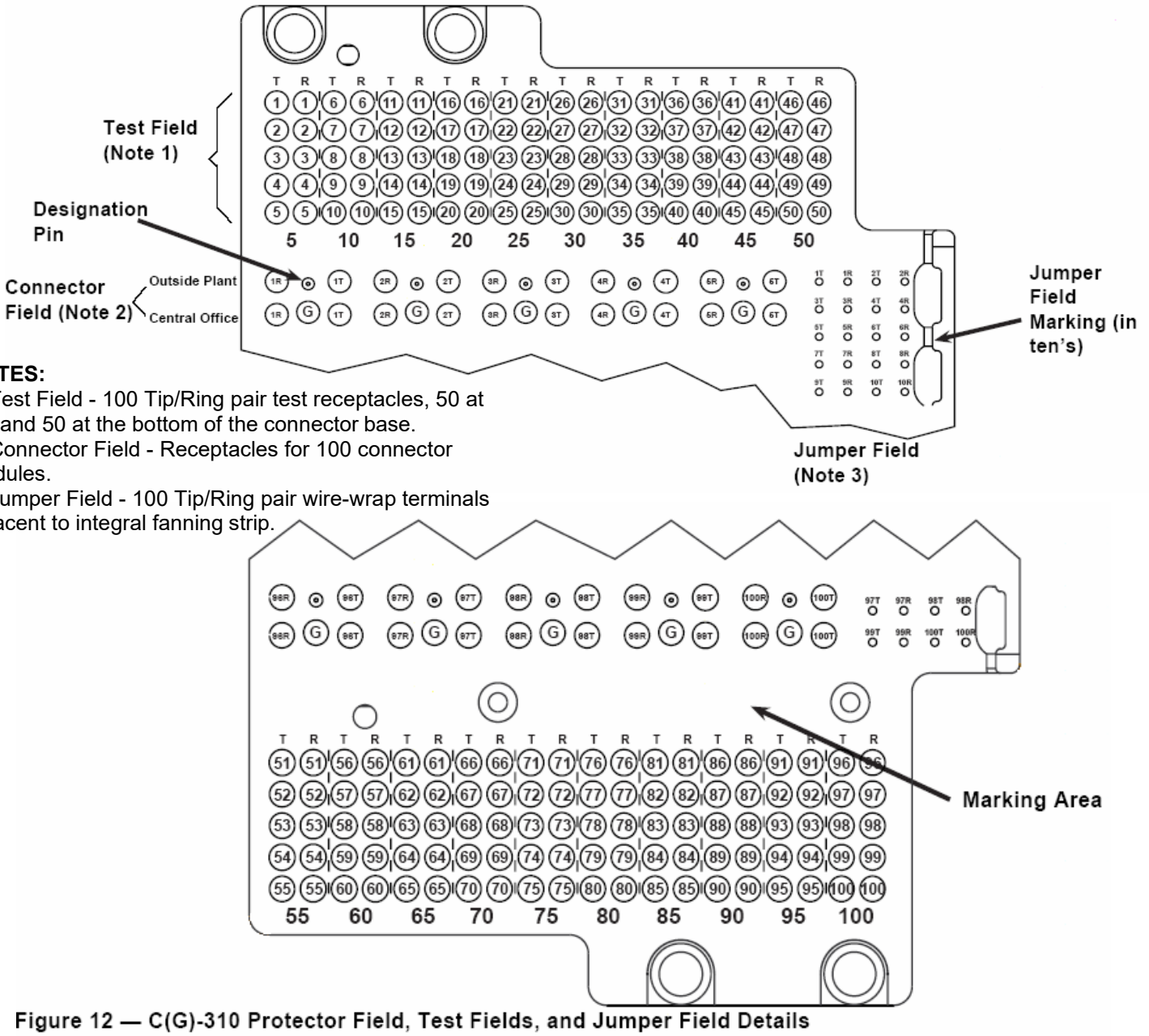
Figure 11 – Binder Group Detail

7.4 When wiring has been completed, remove the temporary mounting brackets and reassemble the connector base to its regular mounting bracket. Be sure to reconnect the short ground strap between the no. 10 screw ground terminal on the connector base, and the screw on the mounting bracket (Figure 4).

7.5 After the connector has been stubbed, complete the installation by following the instructions for grounding, splicing, and changing stub positions given in Sections 5 and 6.

8. Marking and Jumpering

8.1 Test fields: Each connector panel test field is permanently pre-marked in black numbers in increments of five pairs (Figure 12). Each pair of test contacts has tip-left and ring-right. A space is provided immediately above the bottom test field to mark the cable number and pair count (Figure 12).



NOTES:

1. Test Field - 100 Tip/Ring pair test receptacles, 50 at top and 50 at the bottom of the connector base.
2. Connector Field - Receptacles for 100 connector modules.
3. Jumper Field - 100 Tip/Ring pair wire-wrap terminals adjacent to integral fanning strip.

Figure 12 — C(G)-310 Protector Field, Test Fields, and Jumper Field Details

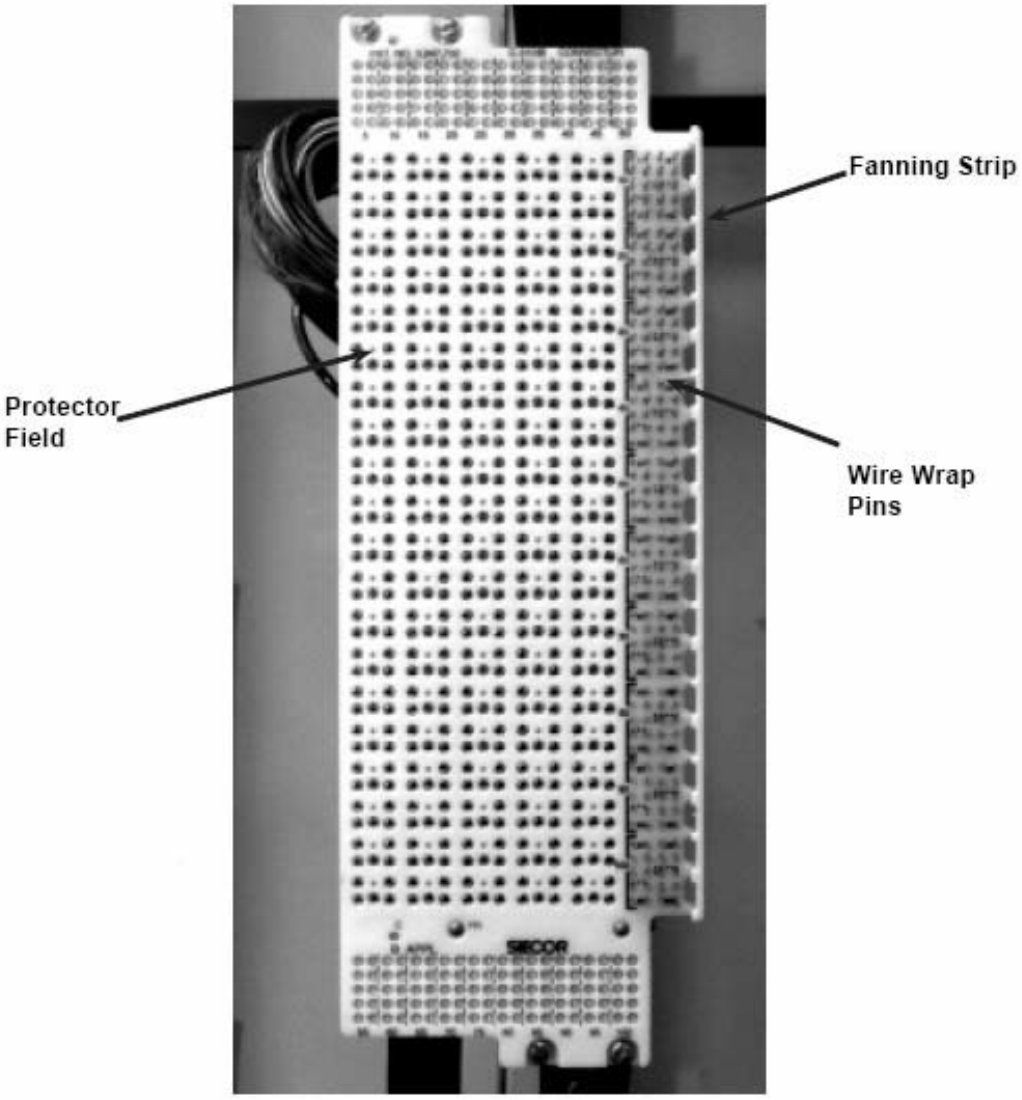


Figure 13 — Connecting Central Office Jumpers

8.2 Jumper field: The connector panel is permanently pre-marked in black numbers, with a vertical black dividing line, adjacent to every 10 pairs of wire-wrap terminals on the right face of the panel, to assist in quick pair identification when placing CO jumpers (Figure 12).

8.3 Fanning strip: The fanning strip with holes for entrance of the CO jumpers is on the front of the panel immediately to the right of the wire-wrap terminals. Each group of 10 cable pairs has two large fanning strip holes to facilitate access of the jumper wires from line terminal blocks to the connector wire-wrap terminals (Figure 13). The side of the fanning strip is also marked for 10 pairs.

8.4 Connection of Central Office to Outside Plant: All that is required to make the final connection is to push each protector module from the detent position to the fully inserted position. The outside plant and central office equipment are then connected.