

BUILDING TERMINALS

RISER AND DISTRIBUTION

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(b) *Distribution Terminals (Satellite Closet):*
 Provide terminating facilities for key telephone service, station and CO/PBX lines fed by distribution cables from riser terminals.

1.03 *These terminals have both outside plant and station terminations, therefore they are referred to as "interface" terminals. The design of these terminals should be a coordinated effort of both the Outside Plant and Station groups. The number of backboards required at each terminal is determined by the floor area to be served. Refer to Section AG54.250.*

1.04 The objectives of the construction methods outlined in this section are as follows:

1. GENERAL

1.01 This section covers the description and installation of colored backboards for terminating cables at riser and distribution terminals in commercial buildings. Additional information is outlined in Section 518-300-100 and Section AG54.250.

1.02 These terminals are defined as follows:

- (a) *Riser Terminals or Apparatus Closet:*
 Provide a location on each floor where riser cables terminate for further distribution on that floor.

- (a) To provide a standard method for construction of terminals.
- (b) To permanently tie down all pairs entering and leaving all terminals.
- (c) To promote good housekeeping which will:
 - (1) Facilitate work at the terminal
 - (2) Reduce maintenance expense.

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2. EQUIPMENT

2.01 The following equipment is used for terminating outside plant cables in riser and distribution terminals located in a closet or in a customer furnished flush-mounted cabinet or a cabinet provided by the operating company.

(a) **66M1-50 Connecting Block** (Fig. 1). This 50 pair connecting block consists of a molded

fire-retardant plastic block containing 100 standard quick-clip connectors of the two-terminal variety, arranged in two columns of 50 clips. One two-terminal clip is capable of bridging two separate conductors together. The approximate dimensions are 10 inches long, 2-1/8 inches across the fanning strips, 1-1/4 inches high, and 3-3/8 inches across the mounting feet.

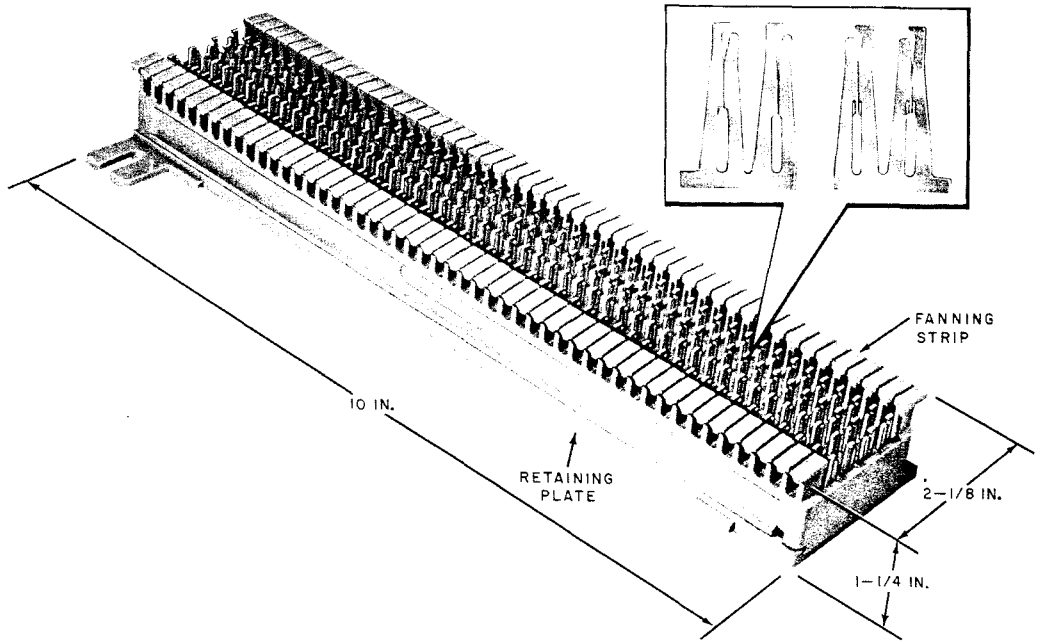


Fig. 1—66M1-50 Connecting Block

(b) **89B Bracket** (Fig. 2) consists of a molded fire-retardant plastic designed to accommodate a 66M1-50 Connecting Block with snap-on, snap-off latches. It spaces the connecting block approximately 1-1/2 inches from the mounting surface providing a channel large enough for eight 25-pair inside wiring cables behind the block. The approximate

dimensions are 10 inches long by 1-7/8 inches (from the bottom of the feet to the top of the snaps) by 3-3/8 inches across the mounting feet. The location of the feet on the 89B Bracket are in the same relative position as the feet on the 66M1-50 Connecting Block.

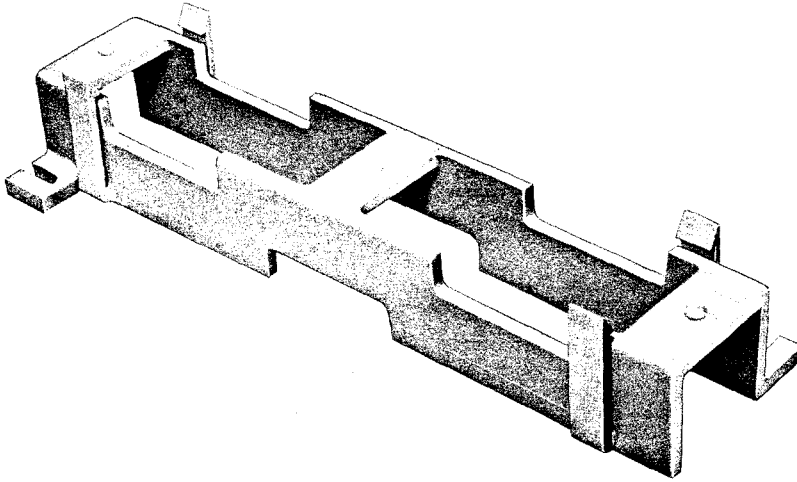


Fig. 2—89B Bracket

(c) **183A2 Backboard** (Fig. 3) is a *green* half module backboard factory-equipped with four 89B Brackets. It is used to terminate up to 200 pairs of outside plant entrance or riser cable

when 66M1-50 Connecting Block are placed on the brackets. It is 8-1/2 inches wide and 20 inches long.

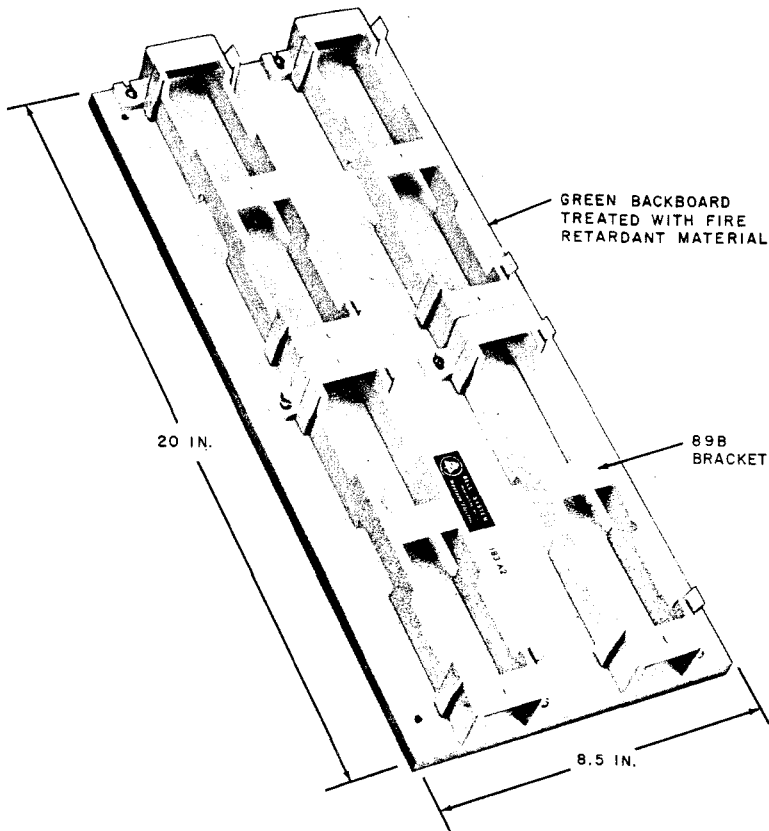


Fig. 3—183A2 Backboard (Green)

(d) **183B1 Backboard** (Fig. 4) is a *blue* full module backboard factory-equipped with eight 89B brackets. When equipped with eight 66MI-50 connecting blocks, it will terminate up to 400 pairs. These backboards are used in riser terminals for terminating station cables and outside plant building tie cables from the

riser terminal to the red backboard in the distribution terminal. These backboards are also used to terminate building tie cables between riser terminals and to terminate station cables in distribution terminals. The 183B1 backboard is 17 inches wide and 20 inches long.

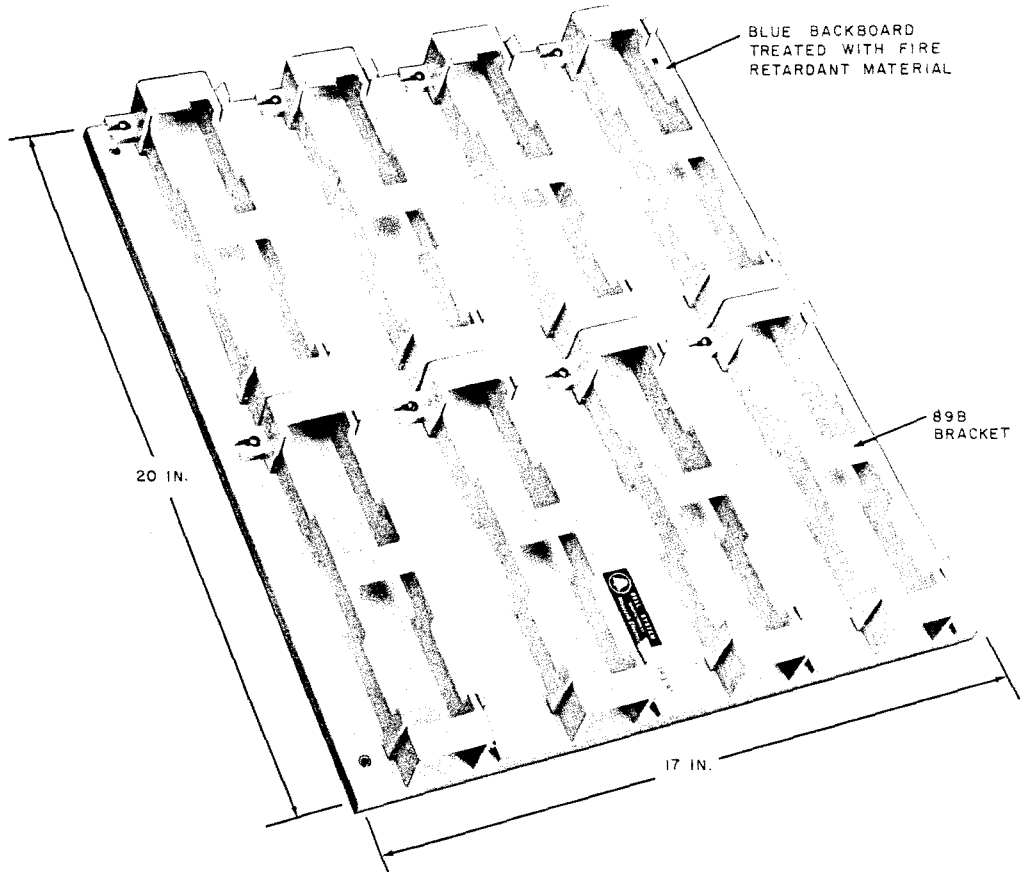


Fig. 4—183B1 Backboard (Blue)

(e) **184B1 Backboard** (Fig. 5) is a *red* full module backboard factory-equipped with four 66B4-25 connecting blocks for terminating 100 pairs. These backboards are used in riser terminals for terminating key telephone equipment

and in distribution terminals for terminating outside plant building tie cables from the riser terminal. The 184B1 backboard is 17 inches wide and 20 inches long.

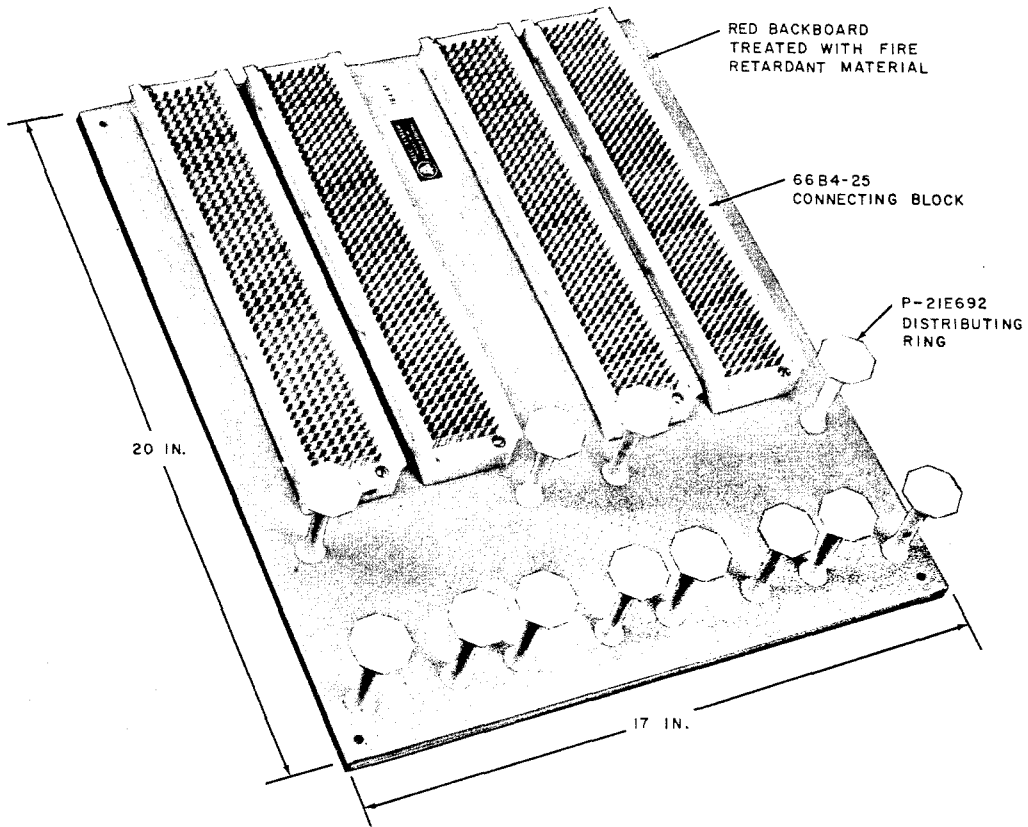


Fig. 5—184B1 Backboard (Red)

(f) **185A1 Backboard** (Fig. 6) is a **yellow** module backboard factory equipped with six distributing rings. It is used to mount connecting

blocks in the field to terminate auxiliary service and dial intercommunication lines. This backboard is 8-1/2 inches wide and 20 inches long.

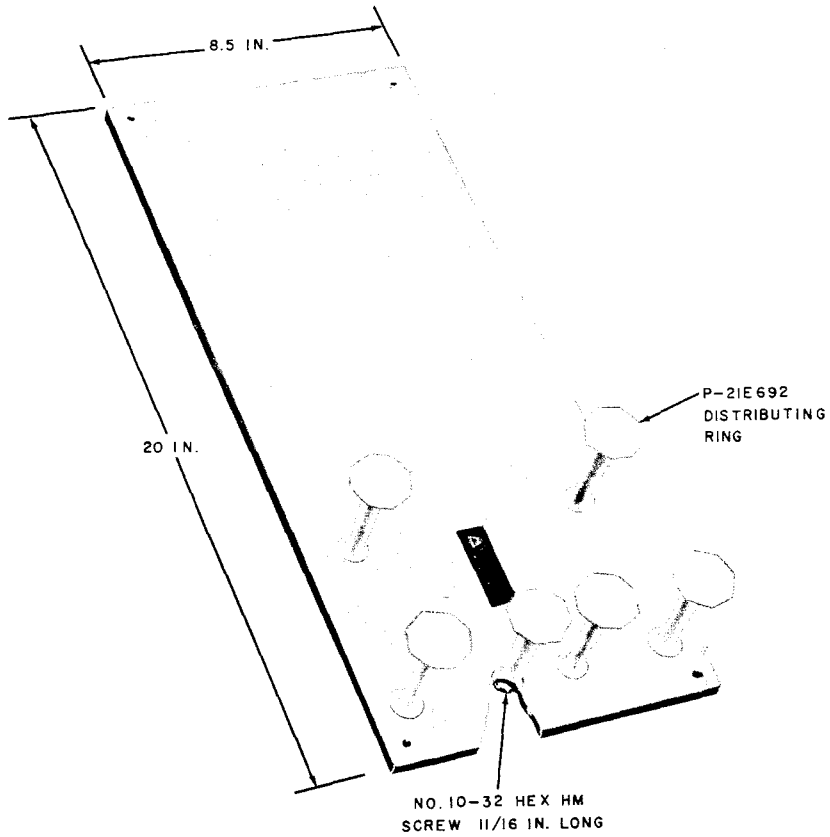


Fig. 6—185A1 Backboard (Yellow)

(g) **183A1 Backboard** is a *blue* half module backboard factory equipped with four 89B Brackets. It has the capacity to terminate up to eight 25 pair cables connected to key telephone sets when four 66M1-50 Connecting Blocks are placed on the brackets.

(h) **183A2 Adapter** (Fig. 7) is a single quick-clip connector of the 2-terminal variety designed to stack on top of the connecting block when additional terminals are required.

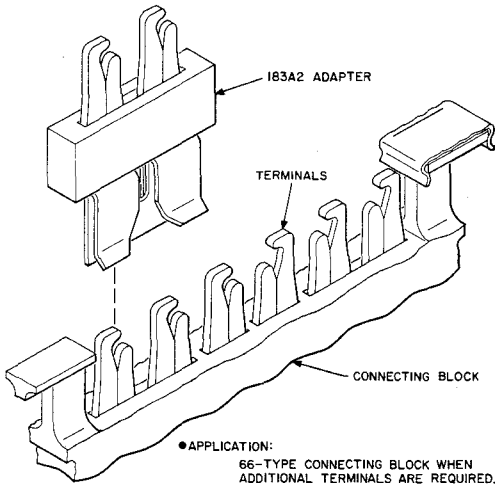


Fig. 7—183A2 Adapter

2.02 The following equipment is required for constructing riser and distribution terminals at locations where closets or flush-mounted wall cabinets are not available.

(a) **H303 Cable Terminal Section** is a sheet metal housing consisting of a lift-out type door. The top and bottom assemblies contain

an identical arrangement of knockouts for the entering cable. These cable terminal sections are described in Section 631-400-101.

(b) **82B Backboard** is a wood mounting board made of 3/4-inch plywood. These backboards are used in the H303 Cable Terminal section for mounting modules to construct distribution terminals.

3. LOCATION

3.01 Normally, closets or flush-mounted cabinets are provided by the builder for installation of riser and distribution terminals at locations agreed upon by telephone company personnel, architect, and builder, however, if no closet or flush-mounted cabinet is available, use the following as a guide for determining a suitable location.

- (a) As near as practical to the cable entrance to the floor
- (b) Where it will avoid flammable material or where it will not be in the vicinity of easily ignitable gases and dust.
- (c) Where it will be least conspicuous
- (d) Where it will not project in a hazardous manner
- (e) Where good lighting conditions exist
- (f) Where it will be accessible without the use of a ladder
- (g) Where it will be possible to work in the terminal without blocking a passageway

- (h) Where it will not be subjected to severe moisture under normal conditions
- (i) Where it will not be subjected to high temperature such as occurs near radiators, uncovered steam pipes, etc
- (j) To avoid electric light and power circuits and electrical equipment. Refer to Section 627-610-205 for minimum clearances.
- (k) Where it will not be damaged by moving machinery, hoists, doors, and shutters, or by materials handled on loading platforms, etc
- (l) On a firm mounting surface

- (m) Where it will be accessible to telephone workmen at all times.

4. EQUIPPING RISER TERMINAL CLOSET

4.01 The 183A2 Backboard (green) is used to terminate outside plant lines. The *minimum* number of *green* backboards required at each riser terminal location is two, one mounted above the other as follows (Fig. 8):

- (a) Mount the lower backboard with the bottom edge 12 inches off the floor and the left edge at a predetermined mark.
- (b) Mount the second backboard with the bottom butted against the top of the lower backboard.

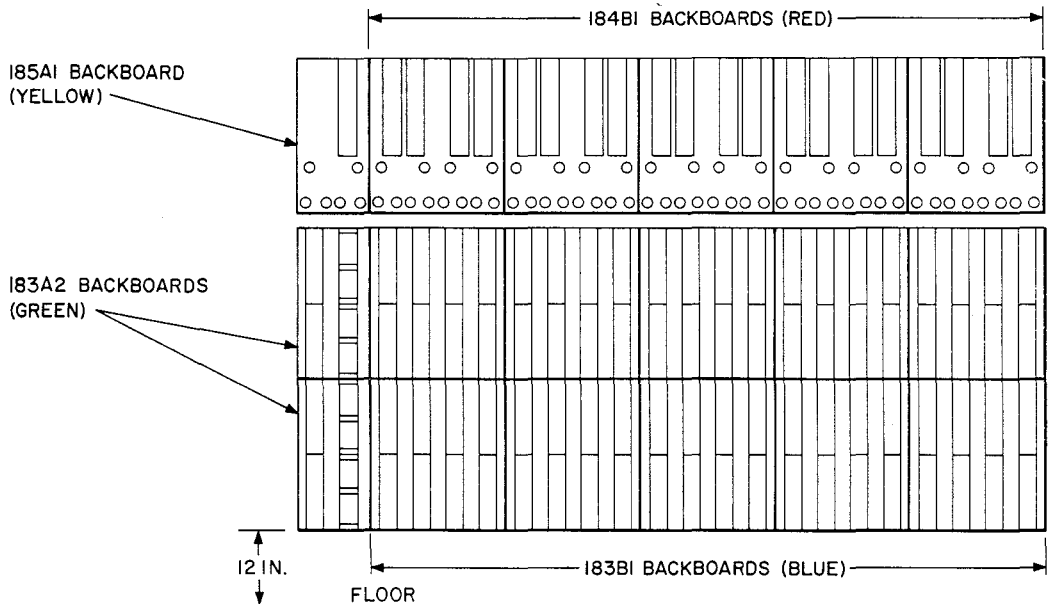


Fig. 8—Basic Layout of Backboard in Riser Terminal

4.02 The number of 183B1 Backboards (blue) required in a riser terminal is determined by the floor area served (refer to AG54.250). These backboards are mounted 12 inches off the floor and two backboards high as shown in Fig. 8 for terminating station cables.

4.03 Basic line service from a riser terminal to a distribution terminal requires a building tie cable between the two terminals (Fig. 9). This cable will terminate on 183B1 Backboards (blue) installed in the riser terminal adjacent to the 183A2 Backboards (green) as shown in Fig. 9.

4.04 Key features from one riser terminal to a second riser terminal requires a building tie cable between the two terminals. This cable will terminate on 183B1 Backboards (blue) installed in both locations as shown in Fig. 9.

4.05 Auxiliary service and dial intercommunication lines are terminated on a 185A1 Backboard

(yellow) mounted directly above the 183A2 Backboard (green) on the left-hand side of the terminal as shown in Fig. 9.

4.06 Key telephone equipment cables terminate on 184B1 Backboards (red) mounted above the 183B1 Backboards (blue) as shown in Fig. 9.

5. EQUIPPING DISTRIBUTION TERMINAL CLOSET

5.01 Building tie cables from riser terminals which carry basic line service to distribution terminals as shown in Fig. 9 shall be terminated on the 184B1 Backboard (red). These backboards are to be installed in the distribution terminal as shown in Fig. 9 or 10.

5.02 The 183B1 Backboard (blue) installed in a distribution terminal as shown in Fig. 9 or 10 are for terminating the station cables.

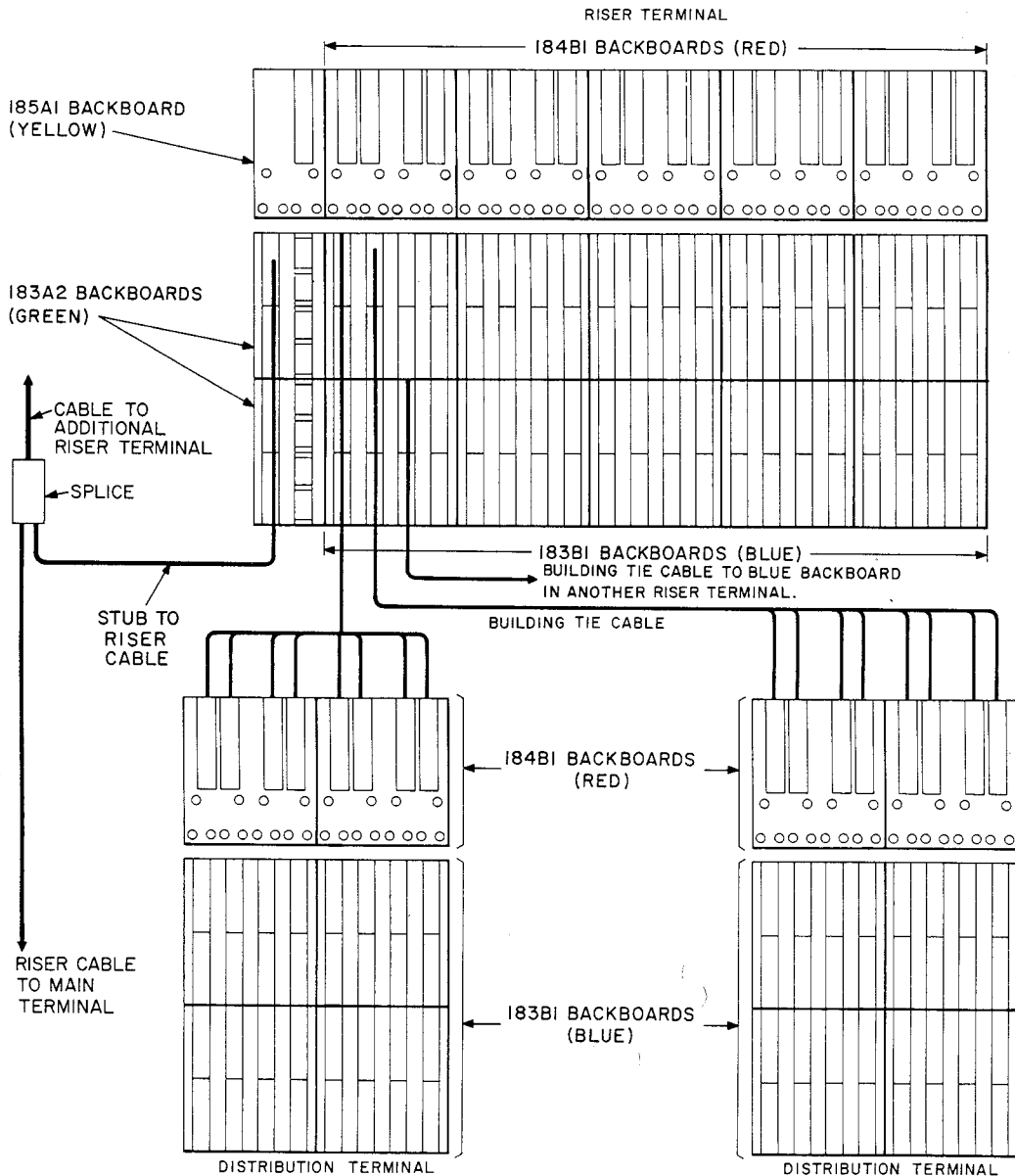


Fig. 9—Block Diagram Showing Riser Terminal Serving Two Distribution Terminals

6. CONSTRUCTING DISTRIBUTION TERMINALS AT LOCATIONS WHERE MECHANICAL PROTECTION IS REQUIRED

6.01 Mount two H303 Cable Terminal Sections on the wall as outlined in Section 631-400-101. The inside wiring rings will have to be removed from the top and bottom of the cable terminal sections to facilitate installation of backboards. Therefore due to the loss of mechanical strength in top and bottom assemblies, no more than two cable terminal sections should be mounted side by side.

6.02 Install two 82B Backboards in the cable terminal sections.

6.03 Mount a 184B1 Backboard (red) in the top of the cable terminal sections and 183B1 Backboard (blue) in the bottom as shown in Fig. 10.

7. TERMINATING OUTSIDE PLANT CABLES

7.01 When the building cable is a through cable, a 24-gauge PIC stub will have to be run from the through cable to the 66-type blocks.

7.02 Splice the PIC cable to the through cable and enclose the splice with a K and B Closure as outlined in Section 633-560-101.

7.03 Remove the required sheath from the stub cable and route the binder groups in the cabling channels of the 89B Bracket on the green backboard as shown in Fig. 11.

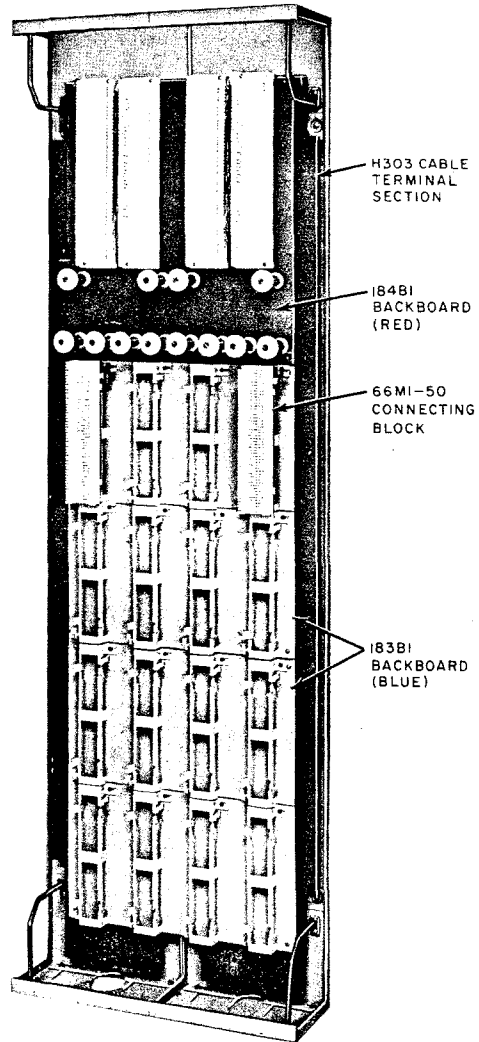


Fig. 10—Distribution Terminal Mounted in H303 Cable Terminal Section

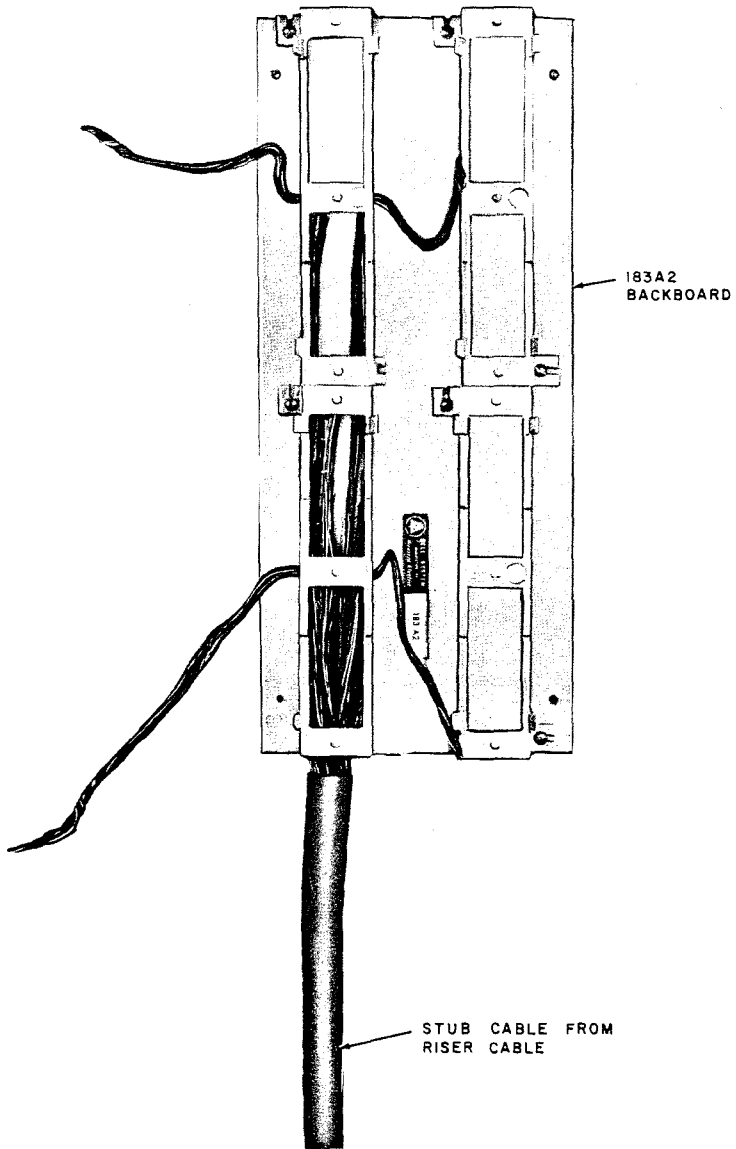


Fig. 11—Cable Binder Groups Placed Behind 89B Brackets

7.04 Install the required number of 66M1-50 Connecting Blocks on the 89B Brackets (Fig. 12).

7.05 Using a 714B Tool terminate the 25-pair binder groups on the 66M1-50 Connecting Blocks in color code sequence as outlined in Section 631-050-108.

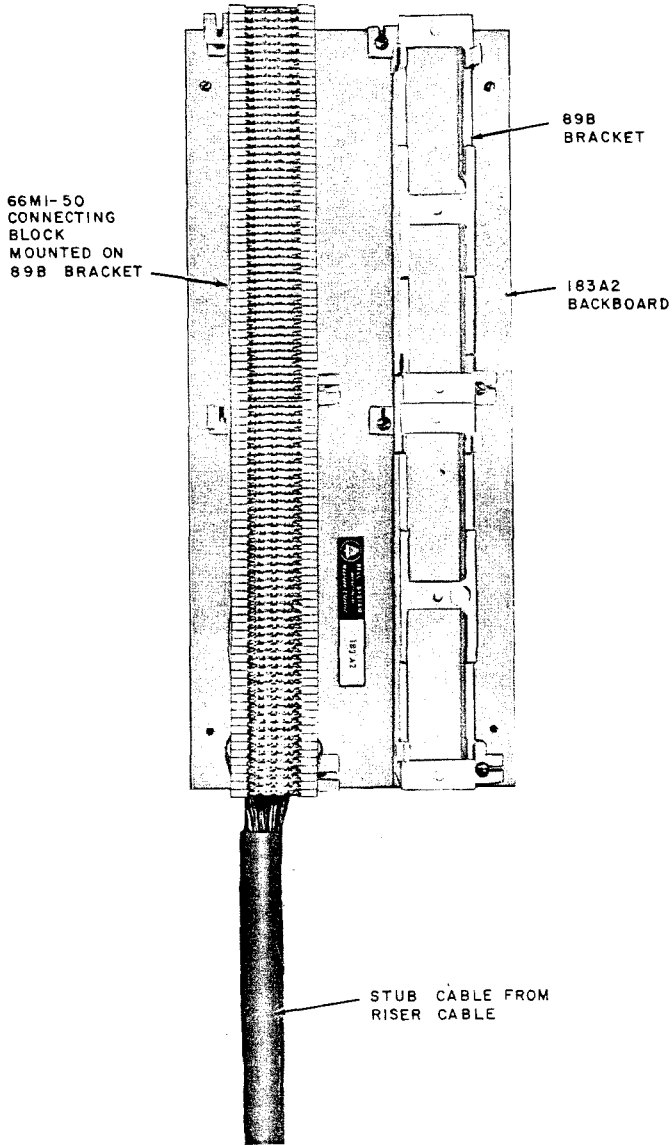


Fig. 12—Cable Pairs Terminated on 66 Type Connecting Block

7.06 When it is necessary to run a building tie cable from the riser terminal to a distribution terminal, building tie cable will have to be terminated on the blue backboard in the riser terminal as outlined in 7.03, 7.04, and 7.05.

7.07 The other end of the building tie cable will have to be terminated on the red backboard in the distribution terminal in color code sequence as outlined in Section 631-050-107.

7.08 A typical arrangement of modular backboards in a riser closet is illustrated in Fig. 13.

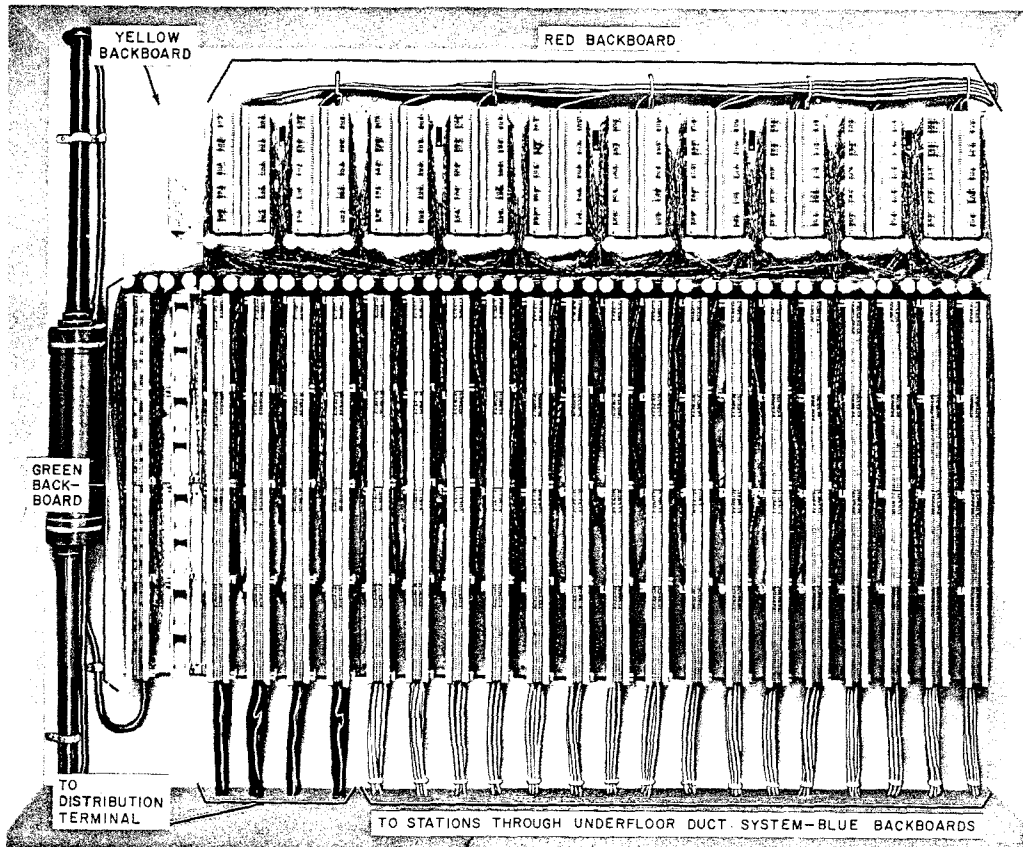


Fig. 13—Typical Arrangement of Modular Apparatus in Riser Closet