BELL SYSTEM PRACTICES
Outside Plant Construction and Maintenance

SECTION G61.124.2
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AT&TCo Standard

TERMINALS
INSTALLATION OF INSIDE DISTRIBUTION TERMINALS FOR PIC CABLE

Contents **Page**

1. GENERAL

1.01 This section covers the installation of inside distribution terminals for use with polyethylene insulated conductor cable. The new terminals contain a ready-access feature which permits terminating the house cable pairs directly on the binding posts of connecting blocks. This arrangement eliminates the splicing of terminal stubs into the house cable.

1.02 The cable is looped through intermediate terminals and dead-ended in end terminals. In either case the pairs are terminated as specified on the detailed plans and the other pairs are readily available for future rearrangements.

1.03 Careful handling of the PIC conductors is required to avoid knicking or cutting the insulation.

1.04 Cable pairs are terminated between insulation crushing washers without cutting or removing the insulation. Electrical connection is made by tightening the nut with a 216B tool and crushing the insulation on the conductor.

1.05 The distribution terminal shall be placed prior to the placing of the house cable. The necessary amount of slack shall be provided in the cable pairs for use in the terminal.

2. EQUIPPING TERMINALS

2.01 The connecting blocks are essentially G type binding post chambers except there is no cable stub and they are not filled with compound. The binding posts are equipped with insulation crushing washers and fanning strips are provided on both sides. The following sizes of blocks are available:

F 53011	11 pair unit
F 53012	16 " "
F 53005	26 " "
F 52980	51 " "

2.02 The connecting blocks are mounted in GC type cable terminal boxes or H type cable terminal sections as shown in the following chart. The blocks can also be mounted in other housings or closets as provided by the building owner. Where the H type section is used the connecting blocks should be mounted on a wooden backboard.

LOOPED CABLE

Pairs Terminated	Vertically Mounted			Horizontally Mounted		
	Block	Housing	Figure	Block	Housing	Figure
11	1 — F 53011	GC52	3	1 — F 53011	GC52	1
16	1 — F 53012	GC52	3	1 — F 53012	GC52	1
25	1 — F 53011	GC 102	4	1 — F 53005	GC102	1
	1 — F 53012					
50	2 — F 53005	H102	4			
75	1 — F 52980	H202	4			
	1 — F 53005					
100	2 — F 52980	H202	4			

DEAD-ENDED CABLE

Pairs Terminated	Vertically Mounted			Horizontally Mounted		
	Block	Housing	Figure	Block	Housing	Figure
11	1 — F 53011	GC52	5	1 — F 53011	GC52	2
16	1 — F 53012	GC52	5	1 — F 53012	GC52	2
25	1 — F 53005	GC52	5	1 — F 53005	GC52	2
50	1 — F 52980	GC102	5	1 — F 52980	GC102	2
75	1 — F 52980	H102	6			
	1 — F 53005					
100	2 — F 52980	H102	6			

2.03 The following drawings cover typical installations of the new terminals.

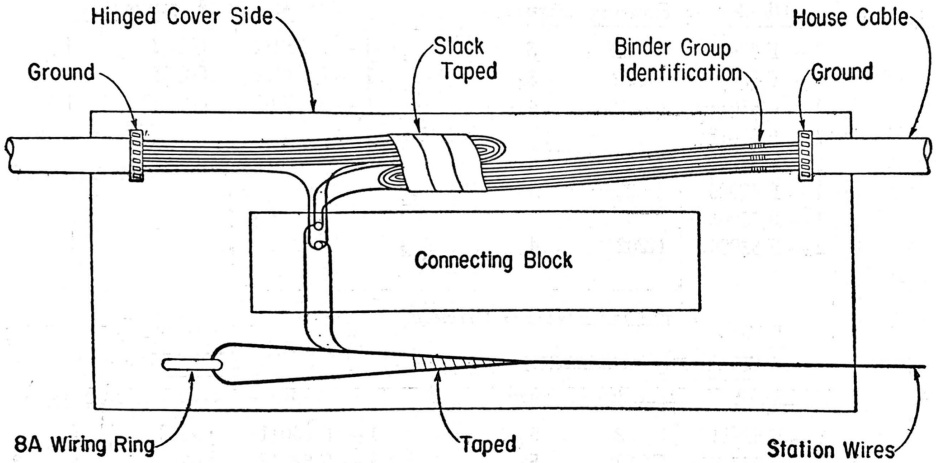


FIG. 1
HORIZONTALLY MOUNTED BOX
LOOPED CABLE

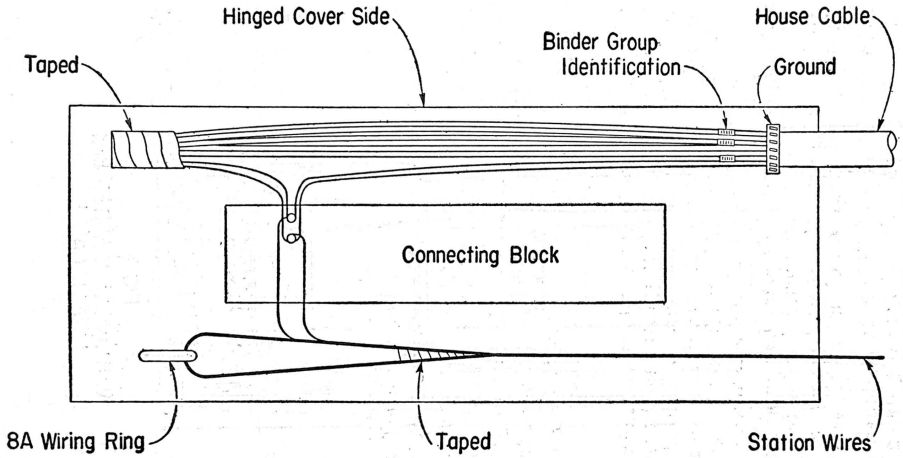


FIG. 2
HORIZONTALLY MOUNTED BOX
DEAD ENDED CABLE

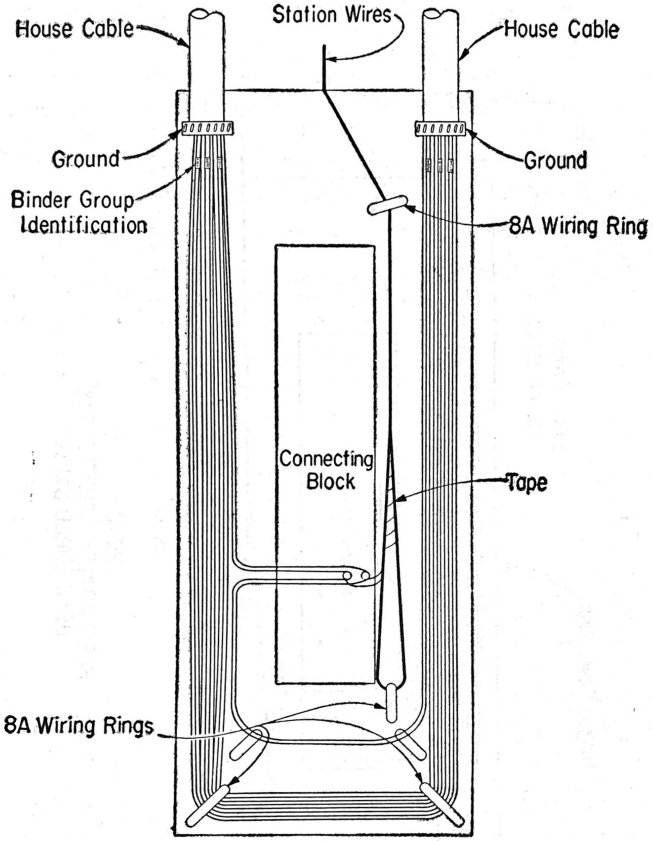


FIG 3
VERTICALLY MOUNTED BOX
LOOPED CABLE

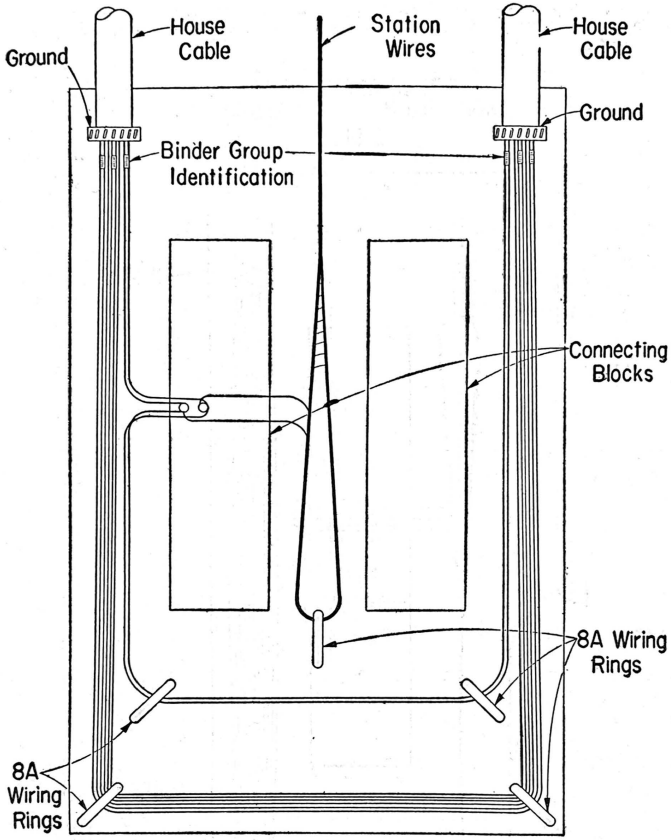


FIG. 4
VERTICALLY MOUNTED BOX
LOOPED CABLE

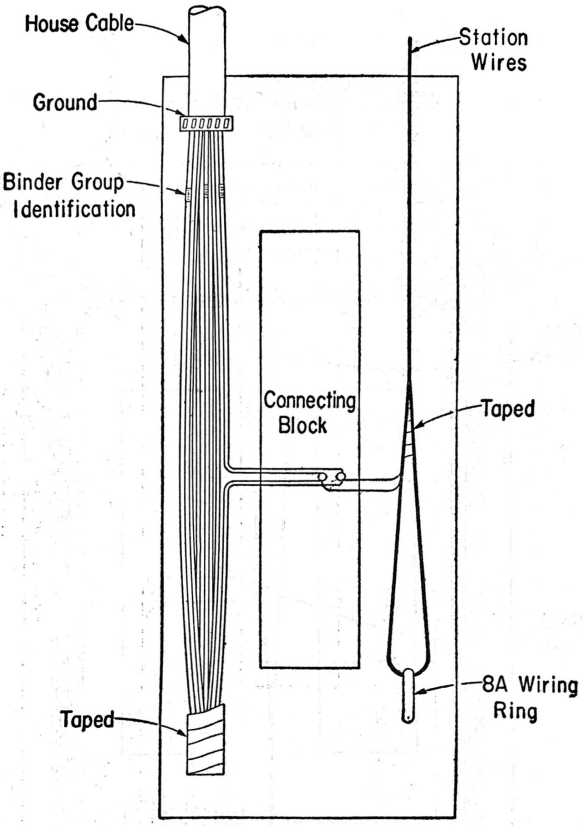


FIG. 5
VERTICALLY MOUNTED BOX
DEAD ENDED CABLE

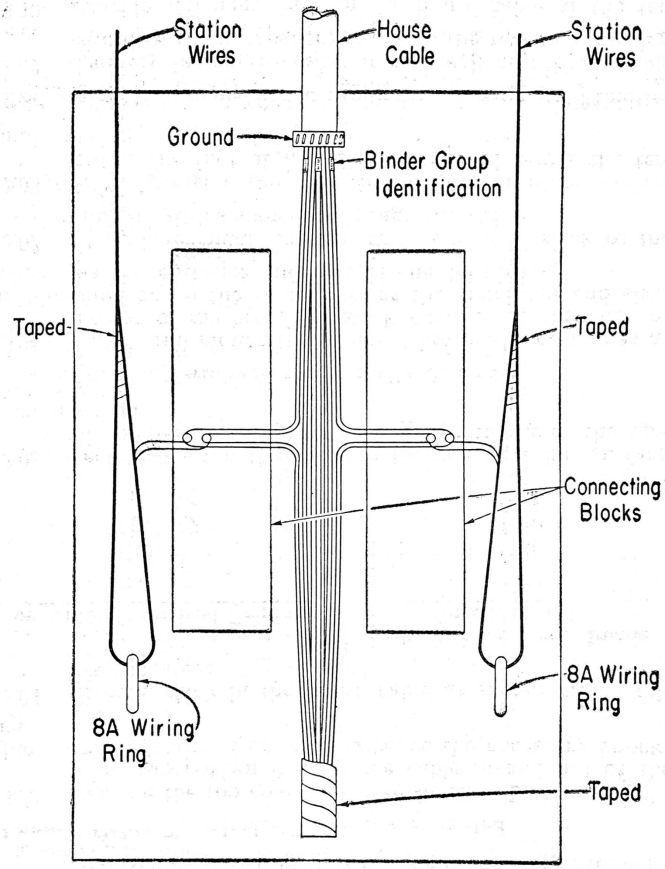


FIG. 6
VERTICALLY MOUNTED BOX
DEAD ENDED CABLE

3. PLACING OF HOUSE CABLES AND TERMINALS

General

3.01 Locate the cable run and terminal in accordance with detailed plans.

3.02 Fasten the proper size connecting blocks in the sections or boxes as shown in illustrations of typical terminals.

Looped Cable Terminals—Vertically Mounted

3.03 Remove the top cover and unfasten the bottom distributing rings when looping the cable in and out of the cable terminal section. For boxes, remove the necessary knockouts.

3.04 Provide slack in the house cable as shown in the following table:

Size of Box or Cable Terminal Section	Length of Loop Inside Terminal in Feet
GC 52	3′ 8″
GC 102	4′ 0″
H 102	5′ 6″
H 102	9′ 0″

3.05 Securely fasten the cable to the wall or other surface within two feet of where it enters and leaves the terminal housing.

Looped Cable Terminal—Horizontally Mounted

3.06 Locate and mount the terminal box with the hinges at the top of the box. The top knockouts on each end of the box shall be on the same level as the cable run and shall be used as the entrance and exit in the terminals.

3.07 At each terminal location leave a loop of slack of the same length as shown in Paragraph 3.04.

3.08 Securely fasten the cable to the wall or other surface within one foot of where it enters and leaves the terminal housing.

End Cable Terminal—Horizontally and Vertically Mounted

3.09 Securely fasten the cable to the wall or other surface within two feet of where it enters the terminal housing.

3.10 Provide sufficient slack in the house cable at the terminal to extend one foot past the bottom or end of the terminal.

4. PLACING HOUSE CABLE IN TERMINAL

4.01 Mark the sheath where it enters and leaves the terminal with two B paper tape markers, 3″ apart. The top marker should be even with the top of the box.

4.02 Remove the cable sheath and aluminum wrapper of the house cable only to the core wrapper between the inside markers or from the lower marker to the end of the cable. Remove the lower or inside markers.

5. PREPARATION OF SHEATH OPENING

5.01 Aero-seal clamps together with inner clamps are used to maintain the sheath continuity of the looped cable and for grounding the cable through the housing of the terminal. Cable ends in either looped or end terminals are prepared in the same manner.

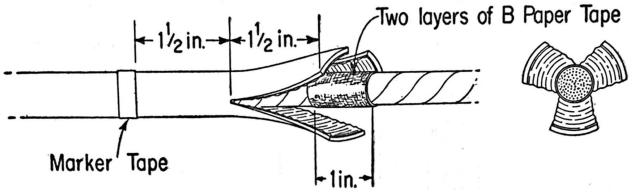
5.02 Ground the house cable to the metal of the box as follows:

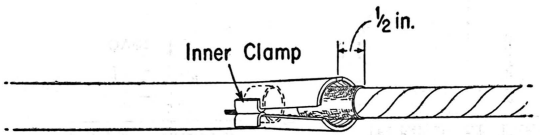
(a) Prepare tabs of approximately equal width by making longitudinal cuts through the polyethylene and metal layers to within 1-1/2″ of the tape marker.

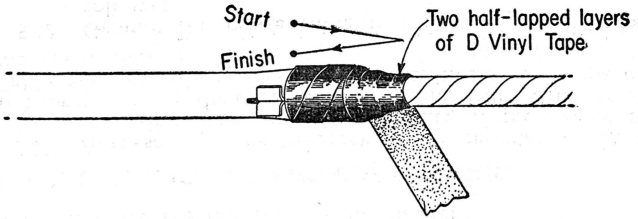
Cable Diameter	Number of Tabs Required
0 — 1″	3
1″ — 1.6″	4
over 1.6″	8

(b) Slip the inner sheath clamp under the tabs and tape the end of the cable as illustrated below.

Cable Diameter	Clamp Number
0 — 1″	P18A727
1″ — 1.6″	P46A911
over 1.6″	P10C093







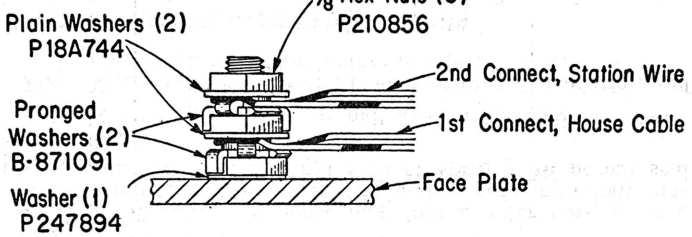
(c) Install the F-53087 G type ground clamp bracket in the terminal and fasten to the housing with a self-tapping screw. Locate the mounting hole for the ground clamp bracket 3″ from and on center line of knockout in the terminal housing.

(d) Place the aero-seal clamp around cable and bracket projection and position so that the inner clamp is directly under the aero-seal clamp. Tighten the clamp.

6. TERMINATING—HOUSE CABLE PAIRS

General

6.01 The following illustration indicates how the nuts, washers, and PIC conductors are arranged on the binding posts of the connecting blocks. The first connection is the house cable conductor and the second connection the station wire.



CONDUCTOR TERMINATIONS ON BINDING POST OF F-53011, F-53012, F-53005, & F-52980 CONNECTING BLOCKS

6.02 The conductors are terminated by forming a hair pin loop in the wire and laying this loop on the ridges of the pronged washer. The nut is then tightened with a 216 B tool to crush the insulation on the PIC conductor.

6.03 The loop in the conductor should not be pulled tight against the threads of the binding post as this might result in cutting of the smaller gauge conductors.

6.04 After house cable pairs are terminated add one pronged and plain washer and a nut to each binding post for terminating station wires. These nuts and washers are furnished with the connecting blocks.

6.05 Binder groups should be individually marked with either colored identification rings or insulated wire as outlined in G50.699.1. The rings or wire should match the color of the binder and for multicolor binders combinations of rings or wire should be used.

Looped Cable Terminals

6.06 In the vertically or horizontally mounted terminal boxes the designated house pairs are terminated by color code at the time of the initial installation.

6.07 In the vertically mounted terminal the slack containing the remaining pairs in the cable is looped through the terminal box as shown in Figs. 3 and 4.

6.08 In the horizontally mounted terminal the slack containing the remaining pairs in the cable is folded and taped and left in the upper portion of the box as shown in Fig. 1.

End Cable Terminals

6.09 The house pairs in an end terminal are run alongside the chambers or connecting blocks.

6.10 If the complete complement of the cable is not to be terminated, separate the designated cable count by color code from the remaining pairs.

6.11 The ends of the group of the pairs shall be cut 1/2" from the end of the box for clearance purposes. Insulate the conductor ends with a thorough coating of permo seal spray. Apply two coats at a 15-minute interval. After the second spraying has dried and the designated cable pairs are terminated cover the conductor bundle with two layers of vinyl tape as indicated in Fig. 5 or 6.

7. DISCONNECTION AND REUSE OF HOUSE PAIRS

7.01 Termination of the conductor was accomplished by squeezing the insulation which forced the conductor to break through and make electrical contact.

7.02 To disconnect a house pair, loosen outer nuts, remove conductor from around the binding post and repair ruptured insulation with D vinyl tape or spray with permo seal spray.

7.03 Reterminate and reuse pair as covered above.

7.04 When pair is not reused repair ruptured insulation and place with other conductors in taped bundle.

8. TERMINATING — STATION WIRES

8.01 Station wires can be terminated in the same manner as house cable pairs covered in Paragraphs 6.01 and 6.02.

8.02 The station wire in Figs. 1 - 6 are typical of a prewired building where quadded station wire is used. One pair of each quad is terminated and the other quad taped for future termination when required. The wire is looped through the wiring ring to provide sufficient slack for termination of the second pair.