BTS CROSS-CONNECTING TERMINAL DESCRIPTION AND INSTALLATION

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1. GENERAL

1.01 BTS terminal assemblies are stubless cross-connect units using screw type binding posts installed on multiple terminal boards. These boards have short cable ends to which the entering cables are spliced after being brought into the closure. BTS units are intended for ground level mounting on concrete pads. This terminal is not to be used as a local distribution terminal.

1.02 This section is reissued to add procedures for the 1500 and 1800 cross-connect units.

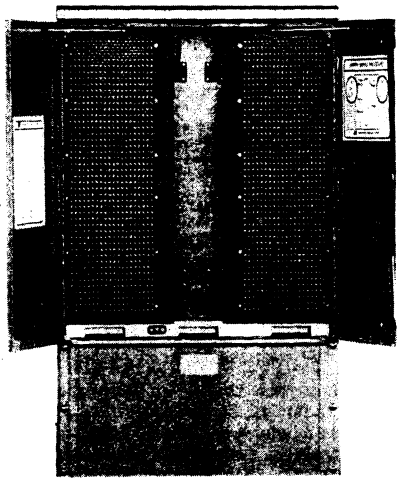


FIGURE 1

1.02 PHYSICAL DESCRIPTION (See Figure 1) — BTS cabinets are made in two basic sections — the upper shell and the ground line base —both of which are painted light grey-green. The upper shell is a welded aluminum construction with wide opening doors giving access to the terminal boards. Door latches are opened by a 216 tool an can be secured by a standard padlock for additional security. Access to the splicing area is provided through the rear removable cover. The ground line base is made from zinc coated steel and contains removable covers which gives access to the entering cables for blocking, grounding, and splicing. Approximate size and weights of the BTS units are given in Table A.

1.03 The terminal boards carry miniature screw type binding posts to which the terminal ends are twisted and soldered. These connections are sealed by putting the backs of the boards with urethane. Binding post pairs are factory numbered in horizontal sequence with pair #1 in the upper left corner of the left hand terminal board.

1.04 As is normal for other units of this kind, engineering plans should specify an unobstrusive location for the BTS. However, consideration should also be given to accessibility for maintenance visits and to reasonable protection from damage by vehicles. Clear space around the wall should be about 5 feet front and rear and 5 feet on each side. This will allow a craftperson to work comfortably in the unit, open and close doors, remove and replace covers, etc.

2. INSTALLATION

2.01 When placing cable, pull a sufficient length such that it is extending above ground level as shown in Table B and figure 2. When bringing a duct or cable through the pad mounting frame, keep the duct or cable as far to the rear of the unit as possible. This will provide clearance between the cable and ground bar.

NOTE: When it is necessary to make a temporary installation by mounting the unit on stakes instead of a concrete pad, see Paragraph 7.03.

NOTICE
Not for use or disclosure outside Indiana Bell
except under written agreement.

UNIT PAIR COUNT	CABINET SIZE (INCHES) HEIGHT	WIDTH	DEPTH	TERMINAL BOARD LOCATION	SPLICING AREA LOCATION	APPROX. SHIPPING WEIGHT (LBS)
200-400	46	17	13	FRONT	REAR	190
600	39	29	13	FRONT	REAR	216
900	48	29	13	FRONT	REAR	200
1200	58	29	13	FRONT	REAR	305
1500	58	45	13	FRONT	REAR	425
1800	58	45	13	FRONT	REAR	450

TABLE A

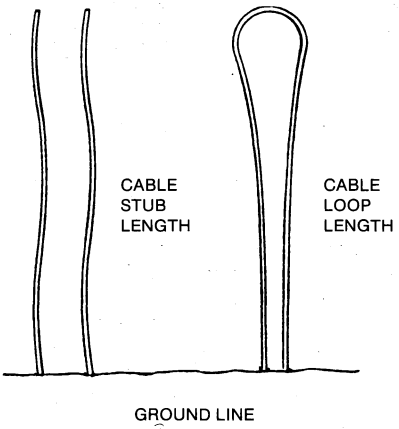
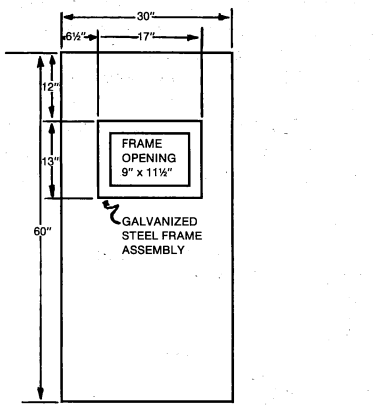


FIGURE 2

UNIT PAIR COUNT	STUB LENGTH MIN. (FEET)	LOOP LENGTH MIN. (FEET)
200-400	4.5′	4.5′
600	4.5′	4.5′
900	6.0′	5.7′
1200	7.8′	7.3′
1500	8.9′	7.5′
1800	8.0′	7.5′

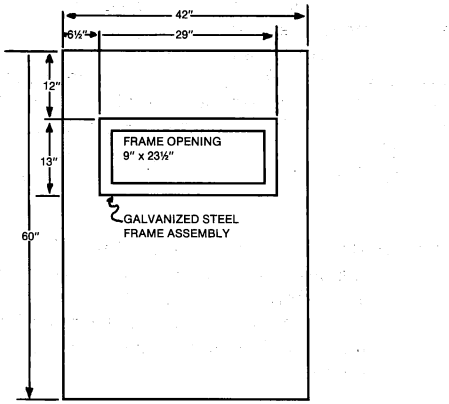
TABLE B

2.02 It is required that the BTS cross-connect be permanently mounted on a concrete pad. This pad can be constructed using the pad mount frame assembly (furnished with the unit) and cast in place. Use the pad mounting frame, as the frame guarantees the proper bolt center location for mounting the cabinet and improves leveling. A 5 inch thick pad reinforces with 2 inch square mesh is suggested. See Figures 3, 4, and 5 for correct size of pad for BTS terminal involved. Carefully excavate a hole approximately 12 inches deep centered on the cables or conduit (see Figure 5).



1410 NO
ACCTG. AREA
CONCRETE PAD FOR
BTS 200 & BTS 400

FIGURE 3



1410 NO
ACCTG. AREA
CONCRETE PAD FOR
BTS 600, BTS 900, BTS 1200

FIGURE 4

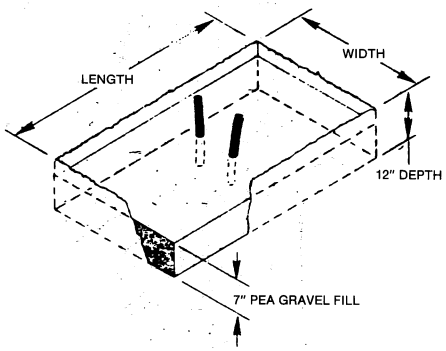
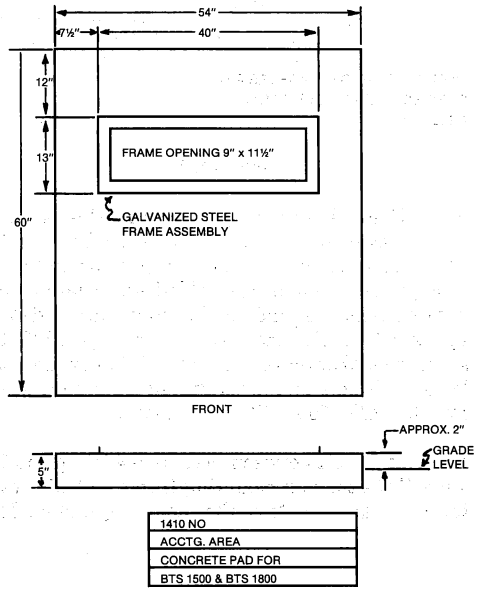


FIGURE 5



1410 NO
ACCTG. AREA
CONCRETE PAD FOR
BTS 1500 & BTS 1800

FIGURE 6

Set up forms as shown in Figure 7 and center the pad mounting frame assembly. Inspect to see that it was not bent out of shape during shipping or handling. Place reinforcing wire in the forms and pur concrete. Rap the pad mounting frame sharply several times to settle the concrete around bolts and sides. Strike off the concrete even with the top of the pad mount frame and establish a slope of 1/4 inch per foot.

CAUTION: Be sure the top surface of the pad mount frame and the mounting bolts are free of any concrete. Failure to do so may result in being unable to remove mounting nuts or in having an uneven surface for the unit.

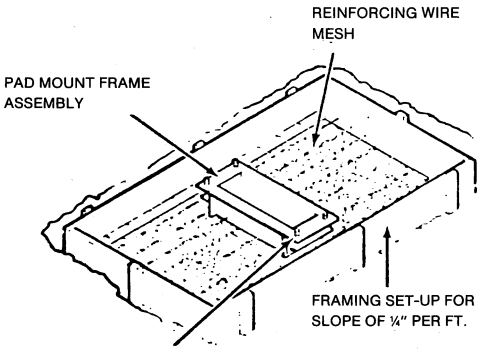


FIGURE 7

2.03 Use of Temporary Mounting Stakes—Two stakes are supplied with each BTS unit. They are intended for temporary mounting when final grade has not been established. **Locate cables** before positioning and driving stakes to avoid damaging cables. For the BTS 600 through 1200, the stakes should be driven vertically 29" apart until the lower bolt hole is approximately at ground level. For the BTS 1500-1800, 44.5" apart.

Excavate a hole between the stakes 4" deep and 13" wide. Take the pad mounting frame and slide over the cable and inside of the mounting stakes. This will provide proper anchoring when the pad is poured at a later date. Remove nuts from the four mounting bolts in the frame. Carefully remove the BTS cross-connect from shipping carton and stand upright. Open the doors and remove access covers (see Paragraph 3.01). Close doors and place covers where they will not be damaged. Remove the two lower bolts on each side of the unit (see Figure 8).

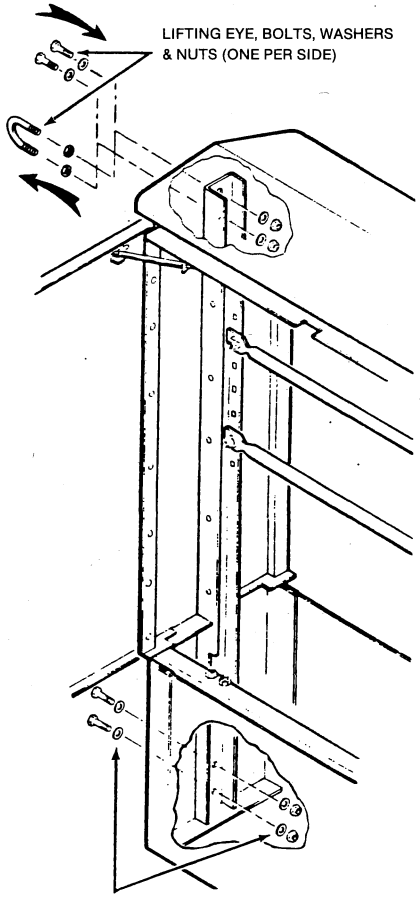


FIGURE 8

Attach hoist line to lifting eyes on the unit by use of sling straps. Carefully lift the unit and place between the stakes while guiding cables through back of unit.

Line up holes in the ground line cover and stakes and replace four bolts, washers, and nuts. Next, push mounting frame bolts up and attach the four nuts on inside of cabinet base. Remove lifting eyes as shown in Figure 8 and replace with the four stainless steel bolts, washers, and nuts provided. Coil cables inside of unit, replace access covers and close doors to secure unit until it can be spliced in.

2.04 BTS Cabinet Mounting on Pad — Clear top of frame of concrete and remove nuts and washers from frame bolts. Carefully remove BTS cross-connect from shipping carton and stand upright. Open doors and remove access covers. Close doors and place covers where they will not be damaged. Attach hoist to lifting eyes on the unit by use of slings. Carefully lift the unit and position on the concrete pad while guiding cables through back of unit. Replace and tighten nuts and washers. Remove lifting eyes as shown in Figure 8 and replace with the four stainless steel bolts, washers, and nuts provided. Coil cables inside the unit, replace access covers, and close doors to secure the unit until it can be spliced in.

3. CABINET OPERATION

3.01 Opening Cabinet — cabinet doors using a standard 7/16" terminal wrench (216 tool). Swing doors open until door stop drops in place. Lift up and remove the ground line front access cover. Place cover where it will not be damaged. Remove nuts and washers from rear cover attachment bolts as shown in Figure 9. Pull out on bottom edge of rear cover and remove it by allowing it to drop out from underneath the top lip of cabinet. Place rear cover where it will not be damaged. Lift up and remove rear ground line access cover.

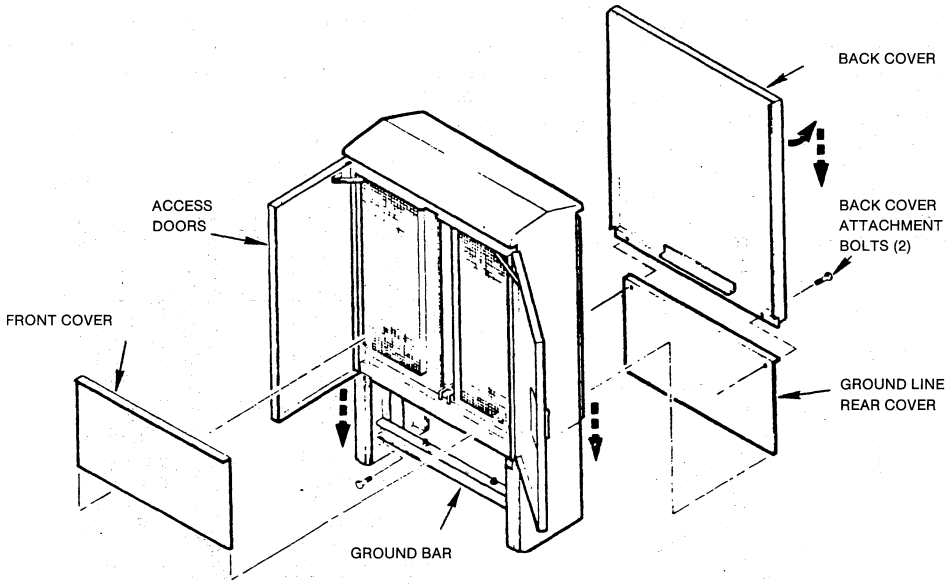


FIGURE 9

3.02 Closing Cabinet (see Figure 9) — Pick up the rear ground line access cover. Position with the flange on top pointing out and then slide into place. Pick up the rear cover and position it so that the flange with the attachment bolt holes down. Place the cover on the cabinet as shown in Figure 9 and slide it up under the cabinet top until the bottom is seated over the rear ground line cover flange. Line up holes and push in the cover attachment bolts. Hold the bolts in place with one hand and reach around the front and replace the nuts. Snug up nuts but do not over torque. Pick up the front ground line access cover. Position it with the flange on top pointing out and then slide it in place. Push door stops to release and close doors, left hand door first. Turn latch handle down until a click is heard and the handle cannot be returned to a horizontal position.

4. SPLICING PROCEDURE

4.01 Cable Preparation — Open cabinet per Paragraph 3.01. Remove ground bar by taking out one bolt in each end (see Figure 9). Using standard procedures, remove cable sheath to the point required for proper plugging and grounding. Install ground clamp and strap and then plug or block cable as required. After plug or block is poured, replace ground bar. Cable bonding strap may be terminated to studs on ground bar or to studs accessible from front of unit. Doing the latter would allow moving the grounds without having to get into the ground cover. By placing attachment bolts in proper position (see Figure 10), locate the two splicing bars to accommodate standard splicing procedures.

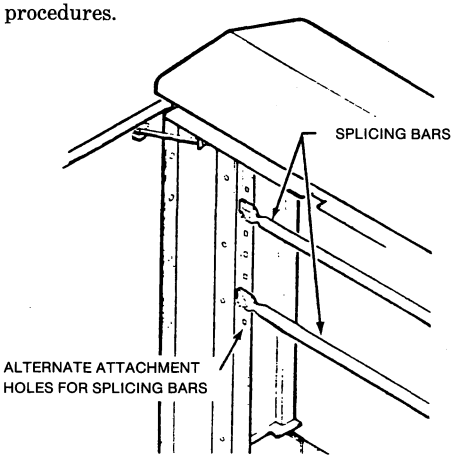


FIGURE 10

4.02 Splicing — The terminal pair enter the splicing area through ports above the top splicing bar in 25 pair binder groups. Each binder group is color coded with cable ties to correspond to the binding post numbers on the front of the terminal. The blue white binder group containing blue white pair No. 1 enters the splicing area in the upper right corner. The other binder groups enter in sequence from right to left. Terminal pair length is sufficient for fold back splicing. Place cable pairs over top splicing bar to allow splicing to proper terminal pairs per standard splicing procedures. Bring both terminal pairs and cable pairs to lower region of splicing chamber and trim to equal length and splice (see Figure 11). The majority of the splice should be contained in the deeper portions of the splice area. Pull the splice bundle back snuggly by running a ty-rap around the splice bundle and the tie down bracket provided on cabinet. Cable groups can be transferred from right to left or from left to right splicing area at either the top or bottom of splicing area by using the tie down brackets located in the intermediate regions of the splicing area. Place a spool of G cross-connect wire in holder provided. Close cabinet per Paragraph 3.02 when splicing is complete. Place warning decals on terminal. Place gravel in base flush with top of pad mount frame. Close cabinet per Paragraph 3.02 when complete.

NOTE: If express pairs are to be spliced through in the splicing chamber, the number of express pairs is limited to 600 pair (above the size of the terminal).

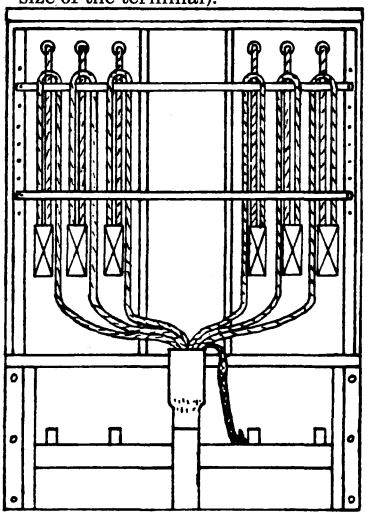


FIGURE 11 — SPLICING CHAMBER

5. JUMPER WIRING

5.01 General Information — Type "G" Cross Connect wire shall be used only. In the top front of the ground line cover, there is a provision made for mounting a spool of this wire. When a spool is mounted, the end of the wire is brought into the cross connecting area and secured into the cross connecting area and secured to one of the grounding studs located there. If the wire is resecured after each use, this allows the wire to be utilized without getting into the ground line base except for spool replacement.

Jumper wiring instructions are located on a decal on the inside of the door. A plant records decal, on which pair assignments can be recorded, is also located on the inside of the door. A "talk" block is located below the left terminal board. A test connector and conntion cord are attached to the door.

Red protective covers have been provided with each unit for identification and protection of special circuits. Keep extras on inside of cabinet.

Each binding post is consecutively numbered from No. 1 to the complete capacity of the unit.

5.02 Wiring — Open cabinet doors per Paragraph 3.01. Locate binding post pairs which are to be cross connected. Back off screws three to four turns.

Remove jumper wire ends from ground stud. Strip wire ends and place between the washers of one pair of binding posts. Tighten screws to secure jumper wires.

Cut jumper wire to the length necessary to reach the other binding post pair. Route wire as shown in Figure 12 to the other binding post pair.

Strip the jumper ends and place them between the washers on the other binding posts. Leave about 1/2" slack in the jumper wires — do not pull them tight. Tighten screws to secure jumper wires.

After completion of wiring, close cabinet doors per Paragraph 3.02.

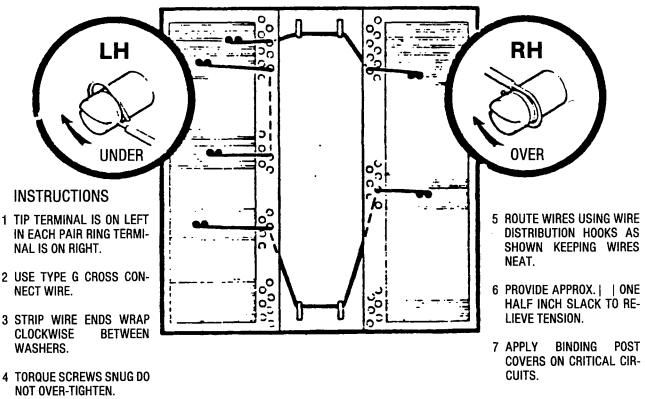


FIGURE 12