

INSTALLATION

555 PBX

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|--|------|---|
| 1. GENERAL | 1 | 1.01 The general requirements and methods for installing the 555 PBX are covered in this section. |
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| 3. INSTALLATION | 1 | (a) To include wiring information on the grouping of two positions. |
| GROUPING MODIFICATION | 3 | (b) To include wiring and connection information for installing a TOUCH-TONE dial in place of the rotary dial. |
| MODIFICATION FOR TOUCH-TONE® CALLING | 6 | (c) To include wiring and connection information for installing both TOUCH-TONE and rotary dials. |
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| B. TOUCH-TONE Equipment Connections Using TOUCH-TONE Dial Only | 6 | 1.04 The preparation for installation of the PBX is found in Section 536-490-200. |
| C. TOUCH-TONE Equipment Connections Using Both Rotary and TOUCH-TONE Dials | 6 | 2. APPARATUS |
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| E. Cabling and Wiring | 8 | 2.02 Materials required for protecting the customer's premises or the equipment during installation. Plastic Duct Seal may be needed for filling the remaining hole in the floor when cables enter the PBX through the floor. |
| CORD CIRCUIT UNITS | 8 | 3. INSTALLATION |
| TRUNK JACK UNITS | 13 | 3.01 Unpack and assemble the PBX as near the selected location as possible. |
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3.03 A PBX located on an insulating material, such as a floor covered with rubber tile, etc, does not require the insulating strips mentioned in 3.02 though metal may be concealed under the insulating material. The fiber floor insulator washer furnished with the PBX provide insulation for the framework in these cases. See Fig. 1.

3.04 Dust sealing strips must be provided when insulating strips are installed. Install as shown in Fig. 2.

3.05 Fasten the PBX as shown in Fig. 1. The PBX should stand approximately level.

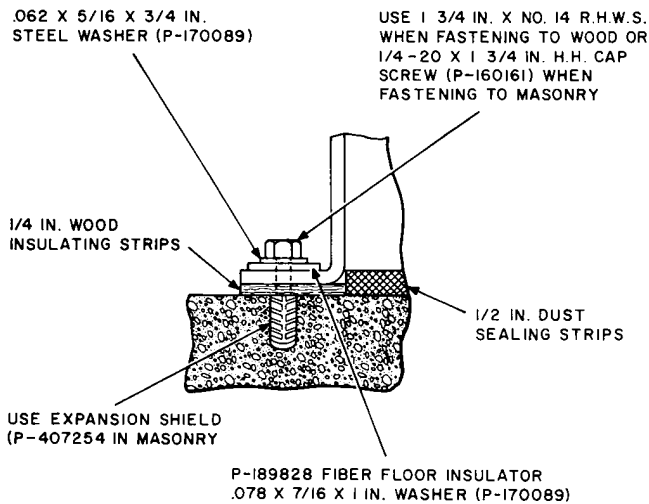


Fig. 1—Method of Fastening PBX

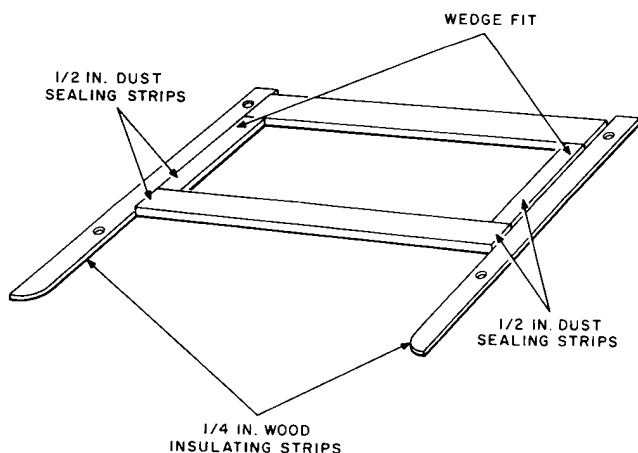


Fig. 2—Placement of Insulating and Dust Sealing Strips

Caution: Do not drill cement floors containing radiant heat to fasten the PBX. For installations of this type placing the PBX on a rubber mat or some other nonskid or adhesive material may be required to prevent the PBX from sliding.

3.06 If a two-position installation is to be installed, proceed as follows:

(a) **One side panel** must be modified as shown in Fig. 3 and used to separate the two positions.

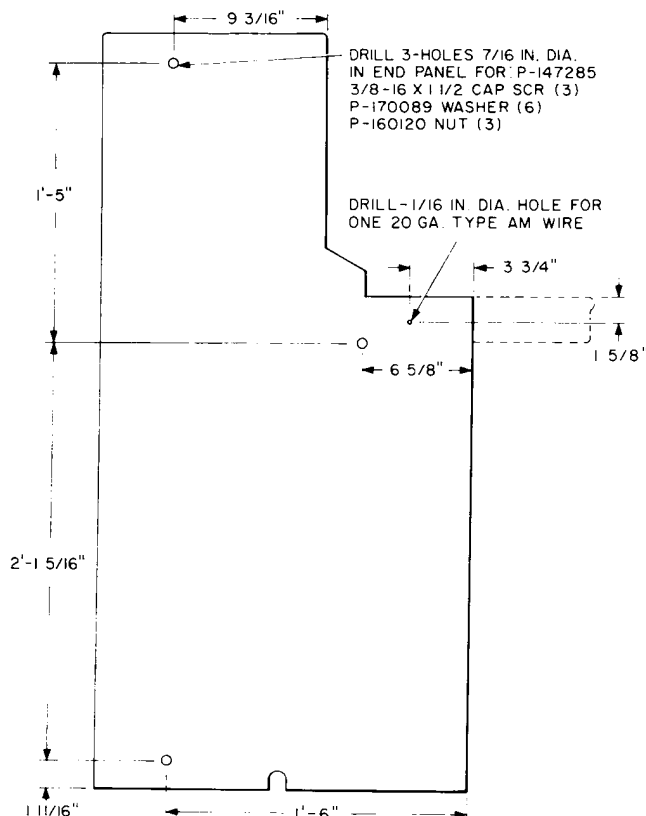


Fig. 3—Center Panel Modification Detail

(b) **To bolt the PBX together**, remove the casing mounting clips from the side of the position which is to be butted against the finished side of the modified panel being used as the separator, before aligning the positions. Align the positions and bolt them together using three 1-1/2 inch, 3/8 by 16 H.H. cap screws (P-147285); six washers (P-170089); and three nuts (P-160120) or equivalent.

- (c) **Cords 8-feet long** should be provided in the cord circuit units.
- (d) **When a second position is added to an existing position**, if the existing position is one of the earlier design (trunk designation strip located on the stile below the jack field) and the position being added is one of the later designs, it will be necessary to replace or modify the existing position. To modify the position in the field the items shown in Fig. 4 and a new roof section will be required.

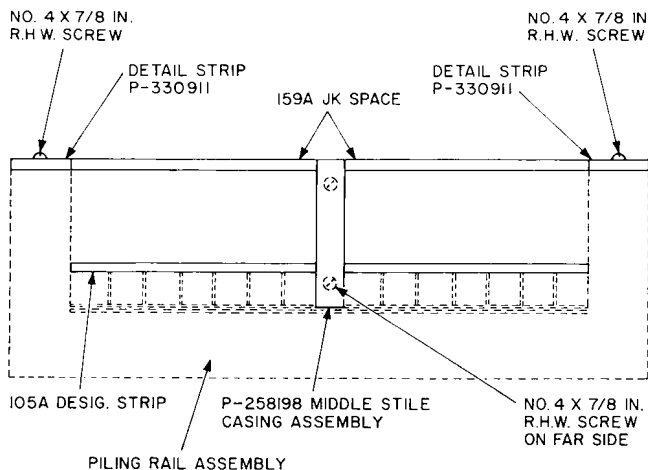


Fig. 4—Jack Field Modification Detail

- (e) ♦ Modification for grouping one position to another are made locally, in accordance with SD-66521-01, Fig. 1, 2, 3, 4, 5, 6, 9, and 10. The apparatus required to modify the telephone unit in position 2 is furnished in accordance with J59013D, List 2. J59013A, List 9 covers the common equipment for grouping the two positions. Apparatus for equipping cord units with long cords is furnished in J59013E, List 4 as shown in Fig. 12.♦
- (f) ♦ The circuit for grouping two positions, when provided, is under relay control. The removal of the attendants telephone set of position 2 from the telephone jacks groups the cords of position 2 to position 1. The attendants telephone set must be plugged into the jacks at position 1 for this action to take place. Position 1 is the control position.♦

GROUPING MODIFICATION

3.07 ♦ To modify position 1, J59013A-7, List 9 must be ordered. This order will supply one KS-8586, List 7 socket. ♦

3.08 ♦ To modify position 2, J59013D-3, List 2 must be ordered. This order will supply two relays (G1 and G2) and a KS-8585, List 13 plug (Fig. 5). ♦

♦ **TABLE A** ♦

| 6-PAIR CABLE | | SOCKET KS-8586, L7 PIN DESIG. |
|--------------|-------------|----------------------------------|
| COLOR | LEAD DESIG. | |
| W-BL | RT | 3 |
| BL-W | ZR | 1 |
| W-O | LT | 7 |
| O-W | LR | 5 |
| W-G | ZT | 4 |
| G-W | RR | 2 |
| W-BR | P | 8 |
| BR-W | BT | 6 |

3.09 ♦ Using the KS-8586, List 7 socket and a ten foot length of 6 pair "D" inside wiring cable, or equivalent, perform the following:

- Butt the 6 pair "D" inside wiring cable, or equivalent.
- Connect and solder the cable leads to the KS-8586, List 7 socket per Table A.
- Connect the KS-8586, List 7 socket to the KS-8585, List 13 plug at the top of telephone unit J59013D-3, List 2 in position 2. Run the 6 pair "D" inside wiring cable, or equivalent, following the local cable run in position 2 to position 1. Follow the local cable run up the left side (facing back) of position 1. Connect cable leads to the terminals on the left side of the 204A connector and solder per Table B.
- Run a single 20 BH gauge wire (R-G) from the make contact of the 226A telephone headset jacks (position 1) to the break contact of the 226A telephone headset jacks (position 2).♦

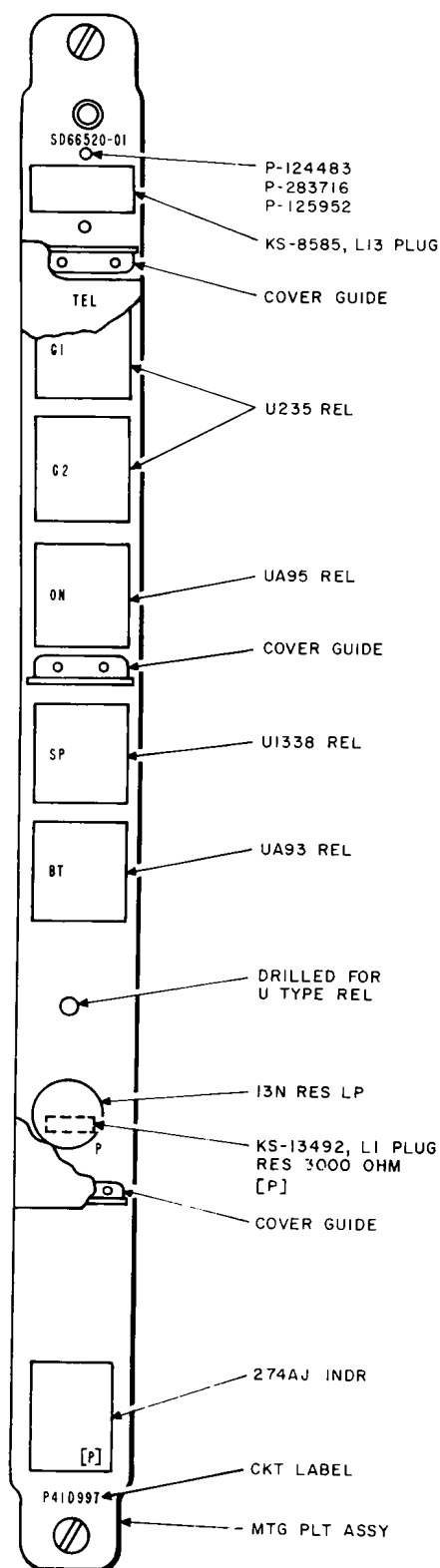


Fig. 5—Rear View-Attendant Telephone Unit

◆ Follow and tie to the local cable run in both positions.

(e) To group the buzzer and ring supply for two positions, run a 6 pair "D" inside wiring cable from the miscellaneous TS (position 1) to the miscellaneous TS (position 2). Butt the 6-pair cable at each terminal strip. Remove straps on these terminal strips as indicated, and connect and solder cable as follows:

- (1) On the miscellaneous TS (position 1) remove the straps between punching 5 and 6; 8 and 16; 37 and 38.
- (2) On the miscellaneous TS (position 2) remove the straps between punchings 1 and 2; 5 and 6; 8 and 16; 25 and 26; 28 and 32.
- (3) Connect the 6-pair cable at miscellaneous TS, position 1 and position 2 per Table C. ◆

◆ TABLE B ◆

| 6-PAIR CABLE | | 204A CONNECTOR PUNCHING |
|--------------|--------|-------------------------|
| COLOR | DESIG. | |
| W-BL | RT | 4 |
| BL-W | ZR | 7 |
| W-O | LT | 1 |
| O-W | LR | 3 |
| W-G | ZT | 6 |
| G-W | RR | 5 |
| W-BR | P | 8 |
| BR-W | BT | 10 |

Note: The 204A connector counts top to bottom, 1 to 15.

3.10 ◆ To modify position 2 for grouping, use the equipment ordered with J59013D-3, List 2. This includes the following:

- One KS-8585, List 13 plug
- Two U235 relays
- Two P-124483 screws ◆

◆ ● Two P-283716 lockwashers

◆ ● Two P-125952 nuts

◆ **TABLE C** ◆

| 6-PAIR CABLE COLOR | POSITION 1 | POSITION 2 |
|-----------------------|------------------------------|------------|
| | MISCELLANEOUS TERMINAL STRIP | |
| | PUNCHING | PUNCHING |
| W-BL | 8 | 12 |
| BL-W | 6 | 4 |
| W-O | 26 | 26 |
| O-W | 29 | 25 |
| W-G | 33 | 33 |
| G-W | 31 | 28 |
| W-BR | — | — |
| BR-W | 37 | 36 |

3.11 Mount the KS-8585, List 13 plug using the P-124483 screws, the P-283716 lockwashers, and the P-125952 nuts on the telephone unit of position 2, per Fig. 5. The U235 relays designated G1 and G2 mount immediately below the KS-8585, List 13 plug.

3.12 When factory wired, loops of wire are left at the G1 and G2 relay positions for connections for grouping. Connect wiring and solder the KS-8585, List 13 plug, G1 and G2 relays to the position 2 telephone unit as follows:

- (a) Using green wire (24BW) run and connect leads per Table D.
- (b) Connect 24BW wire, color as indicated to the following contacts and solder:
 - (1) ◆ R-BL lead to 2T of G1 relay from pin 1 of the 348A plug.
 - (2) R-BL lead to 3T of G1 relay from contact 2 of the SP relay.
 - (3) S lead to 5T of G1 relay from pin 8 of the 348A plug.

- (4) S lead to 6T of G1 relay from contact 3B of the ON relay.
- (5) R-G lead to 2B of G1 relay from pin 3 of the 348A plug.
- (6) R-G lead to 3B of G1 relay from pin 5 of the KS-8585, List 18 plug.
- (7) BL lead to 5B of G1 relay from pin 10 of the 348A plug.
- (8) BL lead to 6B of G1 relay from 5B of the BT relay.
- (9) R-W lead to 2T of G2 relay from pin 4 of the 348A plug.
- (10) R-W lead to 3T of G2 relay from 4T of the ON relay.
- (11) BR lead to 5T of G2 relay from pin 6 of the 348A plug.
- (12) BR lead to 6T of G2 relay from pin 8 of the KS-8585, List 18 plug.
- (13) BK lead to 7T of the G2 relay from terminal ground.
- (14) O lead to 2B of G2 relay from pin 5 of the 348A plug.
- (15) O lead to 3B of G2 relay from contact 1B of the SP relay.
- (16) W lead to 5B of G2 relay from pin 7 of the 348A plug.
- (17) W lead to 6B of G2 relay from contact 1T of the ON relay.
- (18) R lead to 9B of G1 relay from pin 12 of the 348A plug.
- (19) R lead to 9B of G1 relay to 9B of the G2 relay.
- (20) R lead to 9B of G2 relay from 7B of the SP relay.◆

♦ TABLE D ♦

| CONNECT BETWEEN | | |
|------------------------|------------------------|---------------------------------|
| CONTACT OF G1 RELAY | CONTACT OF G2 RELAY | PIN OF KS-8585, LIST 13 PLUG |
| 9T | 8T | 8 |
| 4T | | 7 |
| 1T | | 5 |
| 1B | | 6 |
| 4B | | 3 |
| | 1T | 3 |
| | 4T | 4 |
| | 1B | 2 |
| | 4B | 1 |

MODIFICATION FOR "TOUCH-TONE" CALLING

3.13 A TOUCH-TONE dial including associated equipment must be provided on a separate order basis for use at the attendant position. The TOUCH-TONE calling dial equipment consists of a dial, dial mounting, dial auxiliary unit, and miscellaneous hardware. The dial assembly consisting of a 35H3A dial and 50C dial mounting is installed on the surface of the keyshelf in the space normally occupied by the rotary dial. The dial auxiliary unit mounts directly on a telephone modular unit.

3.14 Conversion of the keyshelf and telephone unit for TOUCH-TONE dialing can be done either on the customer's premises or spare units can be converted in the shop and exchanged for the original ones at the customer's location.

A. TOUCH-TONE Equipment Installation**Removal of Rotary Dial and Installation of 50A Dial Mounting for TOUCH-TONE Dial**

3.15 Remove the front panel of the 555 switchboard and disconnect the KS-8586, List 31 dial and telephone socket from under the writing shelf

of the PBX. Remove the rotary dial, dial mounting, and connecting block. Cut the leads near the terminals of the connecting block and draw them through to the underside of the keyshelf.

3.16 Assemble the 50C dial mounting on the keyshelf (Fig. 6A) and screw the KS-19087, List 5 connector to it.

Installation of Dial Auxiliary Unit

3.17 Remove the telephone unit from the PBX and mount the dial auxiliary unit into the telephone unit as outlined in Fig. 7.

B. TOUCH-TONE Equipment Connections Using TOUCH-TONE Dial Only

3.18 To make connections for the TOUCH-TONE dial and auxiliary unit refer to Fig. 8.

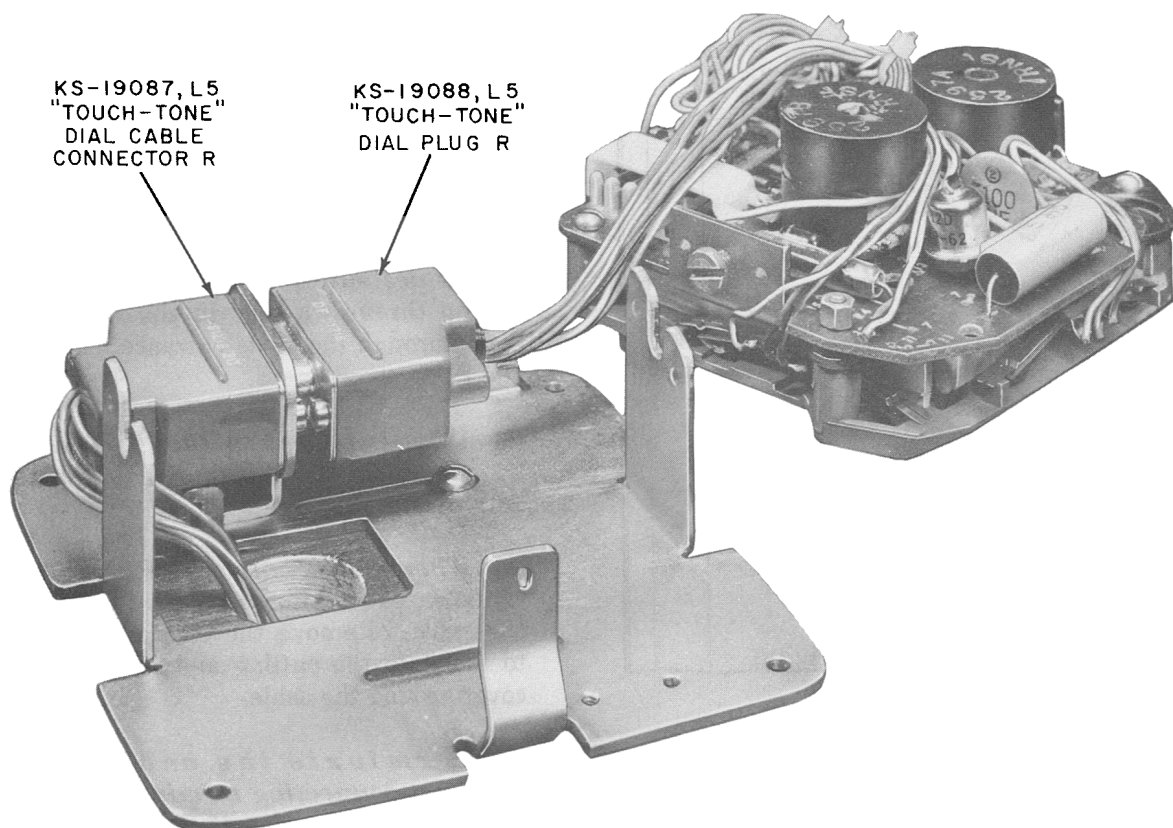
C. TOUCH-TONE Equipment Connections Using Both Rotary and TOUCH-TONE Dials

3.19 To make connections for adding the TOUCH-TONE dial and auxiliary unit to the existing rotary dial unit, refer to Fig. 9.

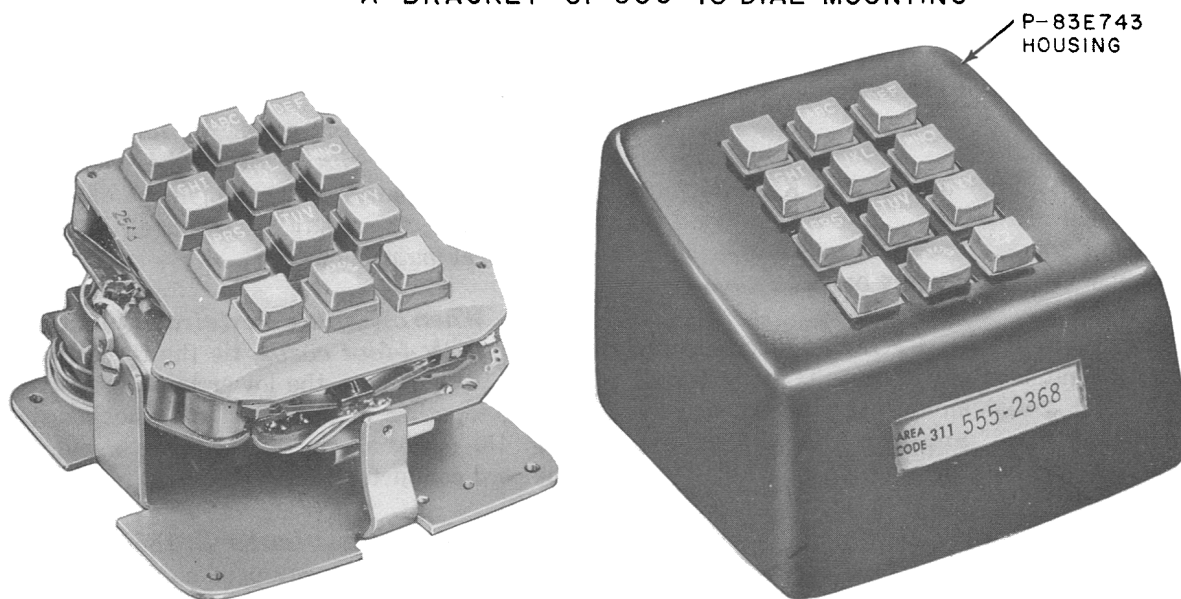
3.20 Where both the rotary and TOUCH-TONE dials are required, the TOUCH-TONE dial must be installed on the switchboard per local conditions and instructions.

Note: Refer to 3.21 to test before placing in service.

3.21 Before remounting the converted telephone unit in the PBX, connect the 348A plug from the telephone unit to the 204B connector in the rear of the switchboard. Using a KS-14510 V017 voltmeter, check the dc voltage between terminals 3 and 23 (Grd) of the TOUCH-TONE auxiliary unit with a TALK and DIAL key operated. The voltage measured at terminal 3 should be 7 to 9 volts positive. Finish mounting the unit and connect the KS-8586 dial and telephone socket from



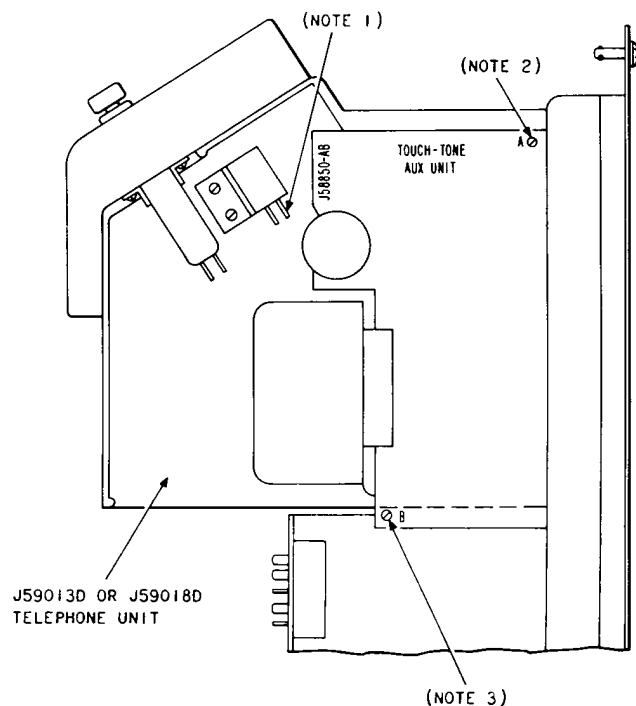
A-BRACKET OF 50C-43 DIAL MOUNTING



B-50C DIAL MOUNTING WITH A 35-TYPE DIAL (HOUSING REMOVED)

C-50C DIAL MOUNTING WITH A 35-TYPE DIAL

Fig. 6—50C Dial Mounting and Associated TOUCH-TONE Dial.



NOTES:

1. BEND VARISTOR TERMINALS TO CLEAR AUXILIARY UNIT.
2. AT "A" REMOVE NUT, WASHER AND CABLE CLAMP. MOUNT AND SECURE AUXILIARY UNIT USING LONGER SCREW IF REQUIRED.
3. AT "B" REMOVE NUT, WASHER AND SCREW. MOUNT AUXILIARY UNIT AND SECURE WITH 0.138 -32 X .500 IN. FHMS.

Fig. 7—Assembly of TOUCH-TONE Auxiliary Unit Into Telephone Unit of 555 PBX

the TOUCH-TONE dial unit to the KS-8585 plug on the telephone unit.

D. Installation of TOUCH-TONE Dial and Cover

3.22 Plug in the TOUCH-TONE dial connector and mount and secure the TOUCH-TONE dial to the $\nabla 50C \nabla$ dial mounting with the screws provided (Fig. 6B). Snap on the $\nabla P83E743 \nabla$ TOUCH-TONE dial housing (Fig. 6C).

E. Cabling and Wiring

3.23 *Cables and/or Wiring* carrying station lines, trunks, battery and ground, and generator to the PBX may be **terminated** in a **cross-connecting terminal** on **binding post chambers** or **connecting blocks** and **adapters** (see Fig. 10) or in the bottom rear of the PBX on a separate group of BB4B or 217B (Manufacture Discontinued) terminal strips. See Fig. 11 and 12.

3.24 *Letter and Number* the fanning strips as shown in Fig. 10 using 1/8-inch or 3/16-inch rubber stamps in accordance with Section 460-560-201. When connecting blocks (having their ring binding post to the right and above the tip binding post) are used, transpose the designations for single leads.

3.25 *Cables entering the PBX* may be brought up through a hole in the floor under the PBX or through the cable entrance hole in the side of the PBX.

- (a) *When cables enter the PBX through the floor*, fill the remaining hole in the floor with Plastic Duct Seal.
- (b) *When cables enter the PBX through the side*, cut the fiber cover to fit snugly around the cable. Remove the end panel of the PBX to facilitate the cutting and fitting of the fibre cover around the cable.

3.26 *Terminate the cable from the cross-connecting terminal* on the terminal strips in the bottom rear of the PBX as shown in Table E and Fig. 13, 14, and in accordance with SD-66520-01.

CORD CIRCUIT UNITS

3.27 *The normal arrangement of the cord circuit units* in the PBX is shown in Table F. If less than a full complement of these units is provided, they may be respaced in accordance with local instructions.

3.28 *When installing cord circuit units equipped with 4-foot cords*, tie the three conductors, which terminate on the lower terminals of the cord block, together in one overhand knot as shown in Fig. 15. Care should be taken to avoid wedging the cord conductors between units.

3.29 *Apparatus blanks* (P-185039) should be provided in unequipped cord circuit positions.

3.30 *Options applying to the cord circuits* of the PBX in accordance with SD-66520-01 are as follows:

- (a) The cord circuits are wired at the shop for **through supervision**. To arrange the circuits for **nonthrough supervision** or

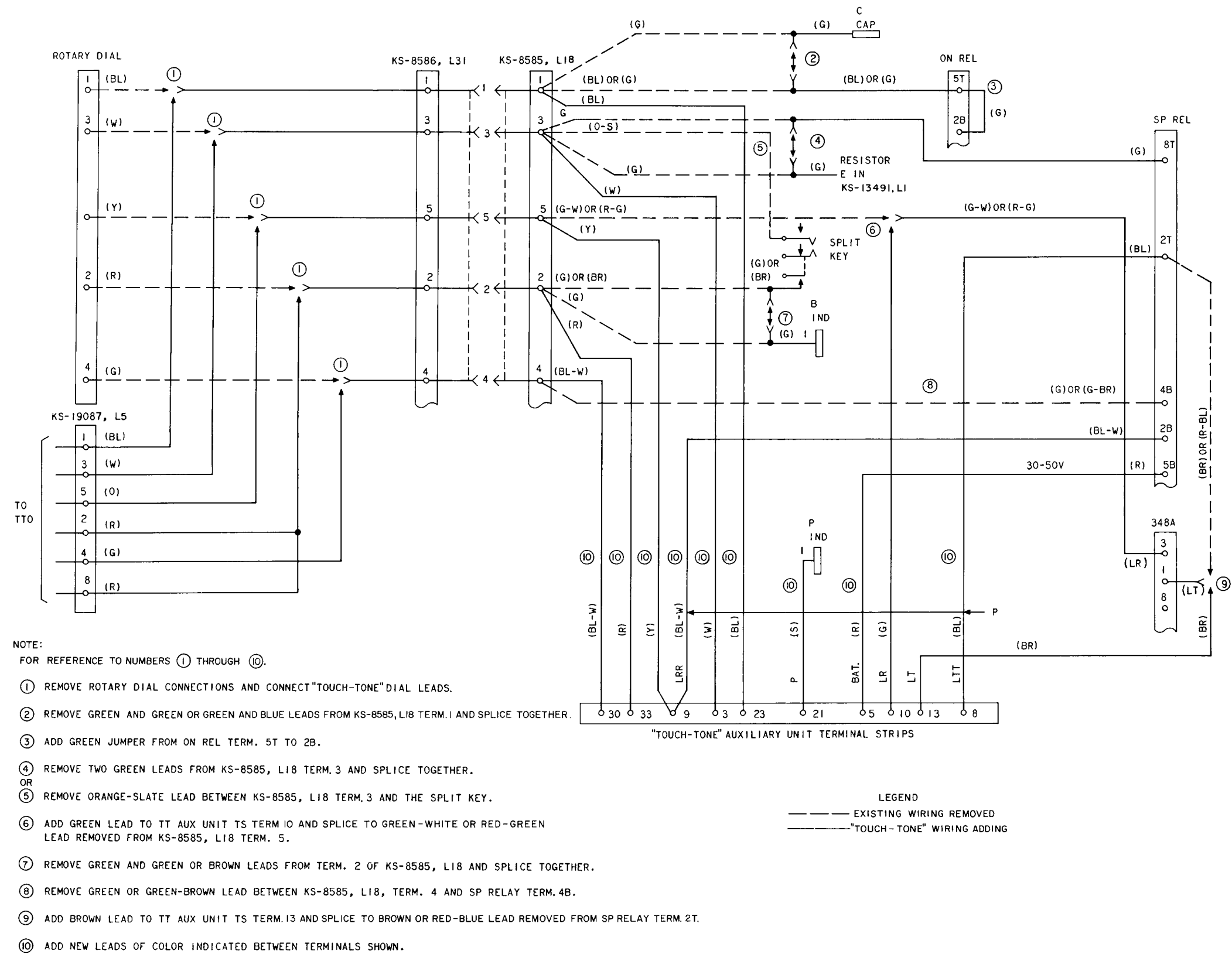


Fig. 8—TOUCH-TONE Equipment Connections for 555 PBX using only TOUCH-TONE Dial

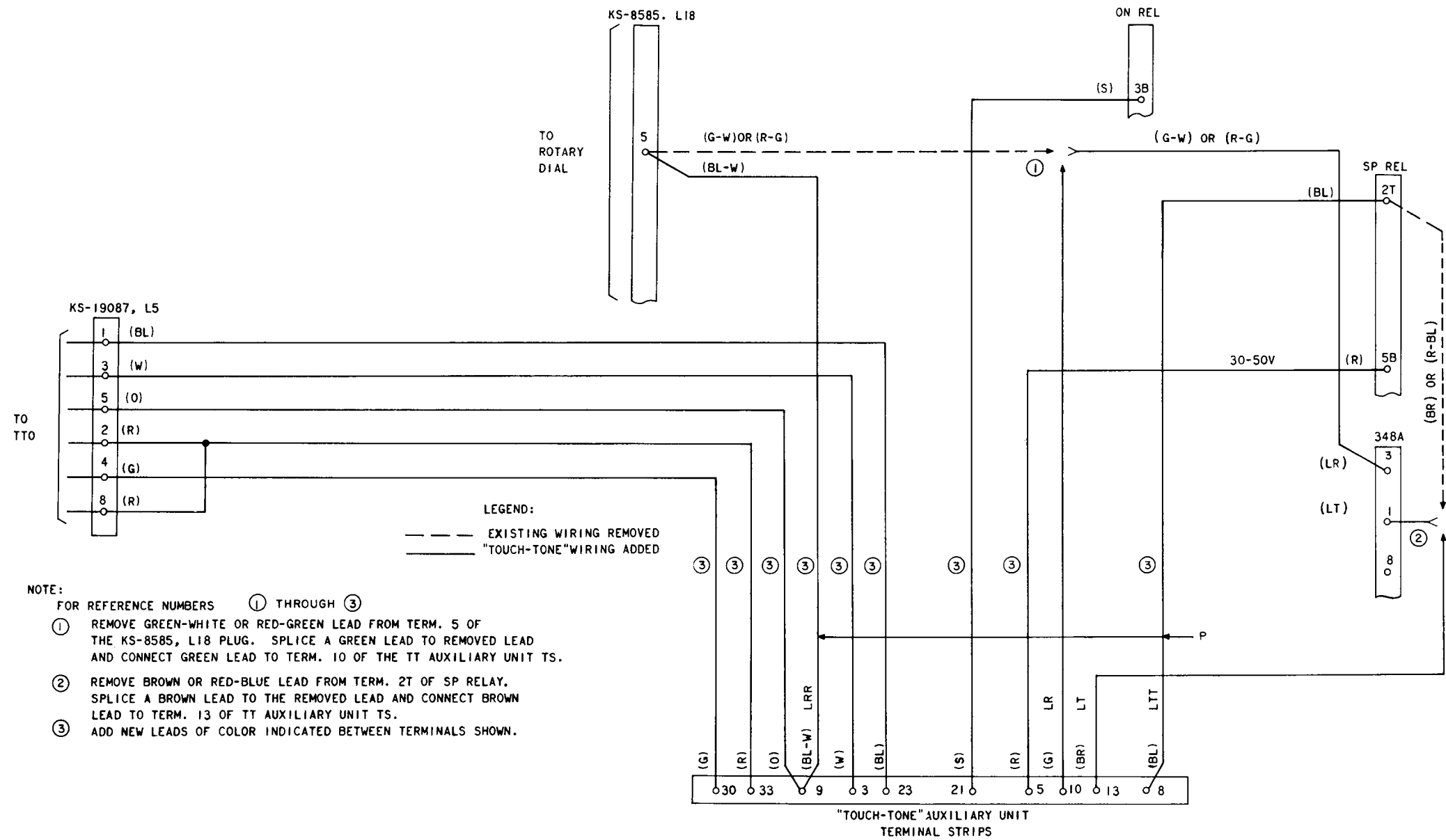


Fig. 9—TOUCH-TONE Equipment Connections for 555 PBX using Both Rotary and TOUCH-TONE Dials

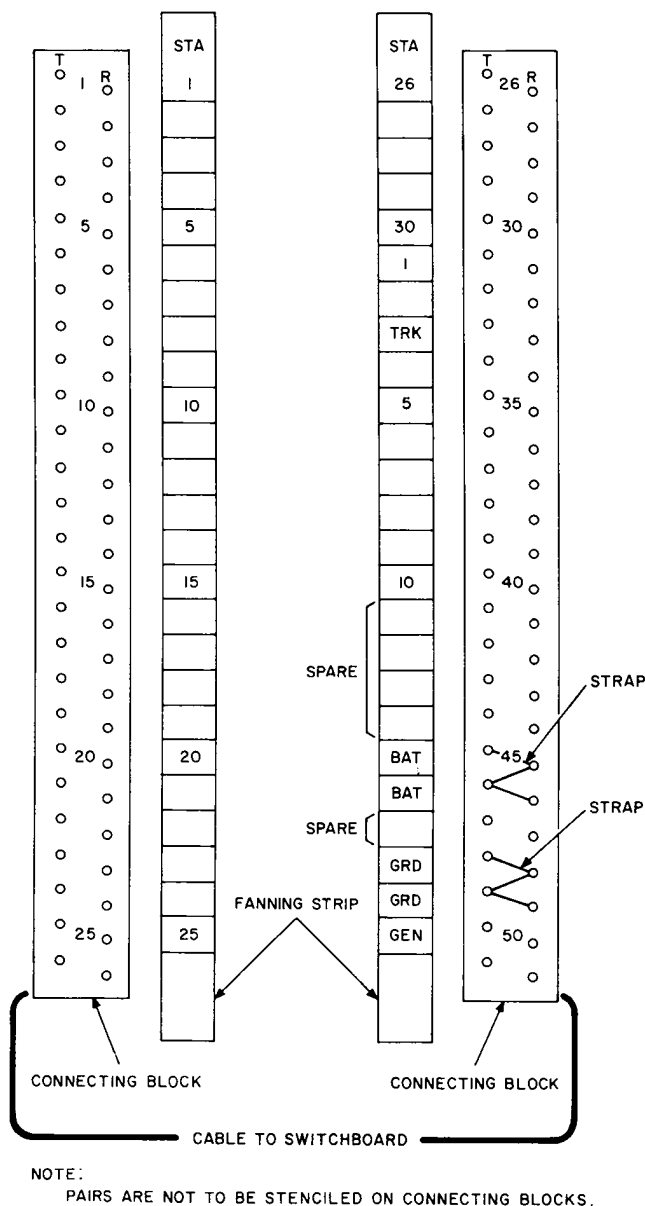


Fig. 10—Typical Arrangement of Cross-Connecting Terminal for 30-Line PBX

automatic discrimination rearrange or add wiring and equipment in accordance with SD-66520-01.

(b) *The holding bridge resistance* must be adjusted according to the central office loop resistance. A strap or straps may have to be removed from the terminals at the compensating resistor (A) in each cord circuit.

Note: In cord circuits containing an RB relay with contacts, the cord circuit options mentioned in (a) and (b) above are administered by insulating specific contacts of the RB relay in accordance with SD-66520-01. Plastic sleeves (P-32B860), placed over the contacts of the relay, are used to insulate these contacts. These sleeves are furnished with the PBX.

(c) *When the cable pair to any station exceeds 1000 feet*, including bridged taps, a capacitor (C) must be bridged across the winding of the cord supervisory relay of each cord circuit.

3.31 Cord Circuit hanger brackets (P-41F676)

are provided on later PBX to assist in the maintenance of cord circuit units. They are used to hold the cord while it is being repaired. These brackets and screws (P-353447) for mounting are shipped loose and must be mounted by the installer on the left-hand panel of the PBX where anchor nuts are provided for installing the brackets. See Fig. 16. When properly mounted, the brackets can be disengaged by lifting slightly and pulling outward, after which, it will hang freely inside the PBX. On PBX not equipped with anchor nuts, the brackets may be mounted using 5/8-inch No. 12 R.H. steel wood screws.

TRUNK JACK UNITS

3.32 *The normal arrangement of trunk jack units* in the PBX is shown in Table G.

3.33 Apparatus blanks (P-185038) should be provided in unequipped trunk position.

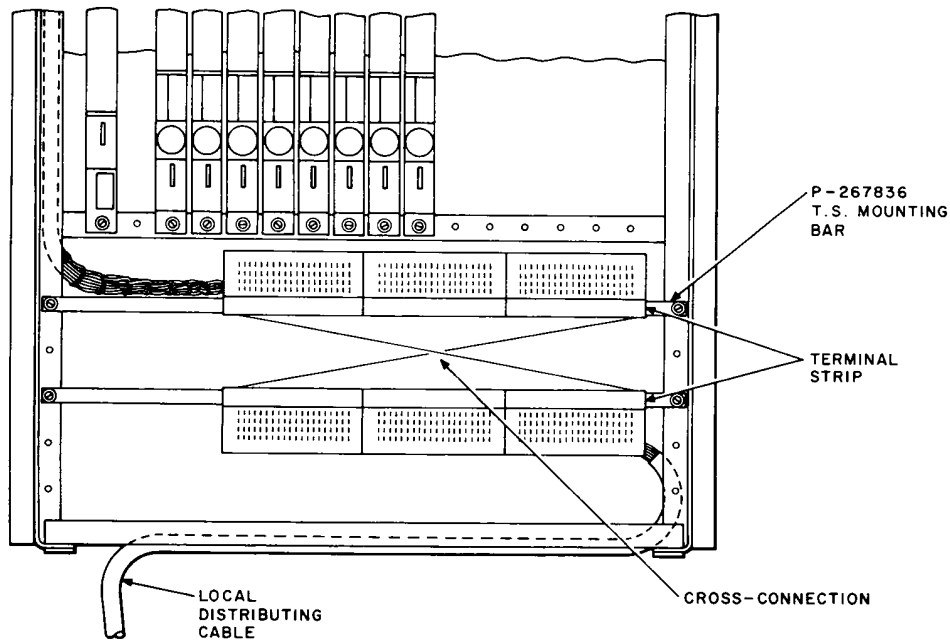


Fig. 11—Arrangement for Terminating Local Distributing Cables When No Cross-Connecting Terminal is Provided—Rear View

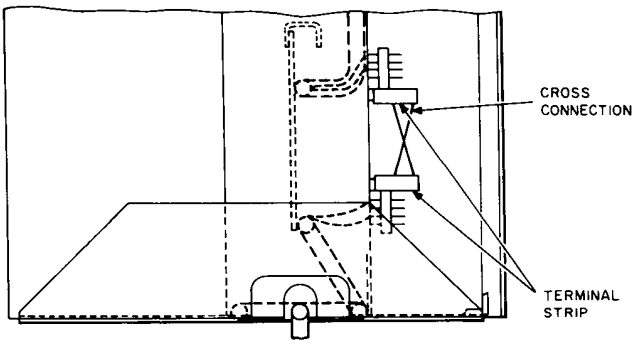


Fig. 12—Arrangement for Terminating Local Distribution Cables When No Cross-Connecting Terminal is Provided—Side View

TABLE E
TERMINATIONS

| TS IN REAR OF PBX | | CABLE PAIR | TERMINAL BOX DESIG |
|-------------------|-----------|------------|--------------------|
| DESIG | PCHG | | |
| STA | 1-30 | 1-30 | STA |
| TRK | 1-10 | 31-40 | TRK |
| MISC | 1-4 | 45 and 46 | BAT |
| | 45-48 | 48 and 49 | GRD |
| | 22 and 24 | 50 | GEN |

TABLE F
CORD CIRCUIT UNITS

| NUMBER OF CORDS | CORD UNIT POSITION NUMBER | | | | | | | | | | | | | | |
|-----------------------|---------------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 3 | | | | | | | R | S | R | | | | | | |
| 4 | | | | | | | R | S | R | S | | | | | |
| 5 | | | | | | S | R | S | R | S | | | | | |
| 6 | | | | | | S | R | S | R | S | R | | | | |
| 7 | | | | | R | S | R | S | R | S | R | | | | |
| 8 | | | | | R | S | R | S | R | S | R | S | | | |
| 9 | | | | S | R | S | R | S | R | S | R | S | | | |
| 10 | | | | S | R | S | R | S | R | S | R | S | R | | |
| 11 | | | R | S | R | S | R | S | R | S | R | S | R | | |
| 12 | | | R | S | R | S | R | S | R | S | R | S | R | S | |
| 13 | | S | R | S | R | S | R | S | R | S | R | S | R | S | |
| 14 | R | S | R | S | R | S | R | S | R | S | R | S | R | S | |
| 15 | R | S | R | S | R | S | R | S | R | S | R | S | R | S | R |

R — Red Cord

S — Slate Cord

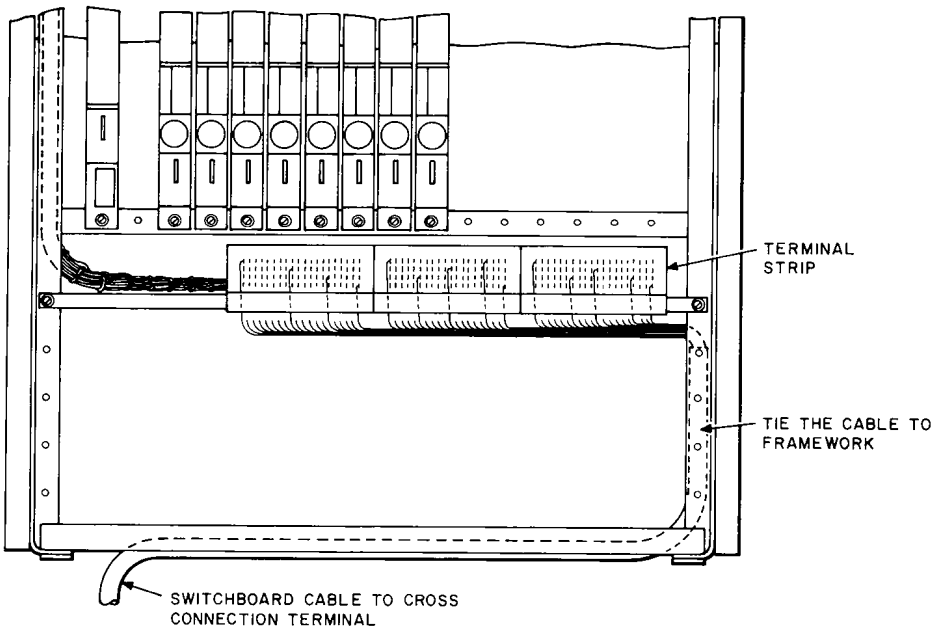


Fig. 13—Arrangement for Terminatng Switchboard Cable when Cross-Connecting Terminal is Provided—Rear View

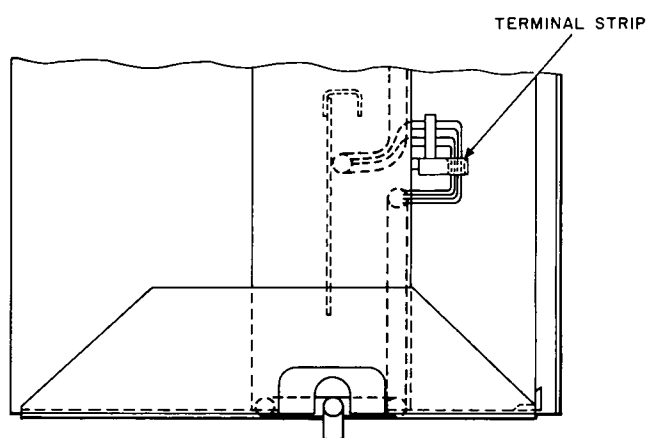


Fig. 14—Arrangement for Terminating Switchboard Cable When Cross-Connecting Terminal is Provided—Side View

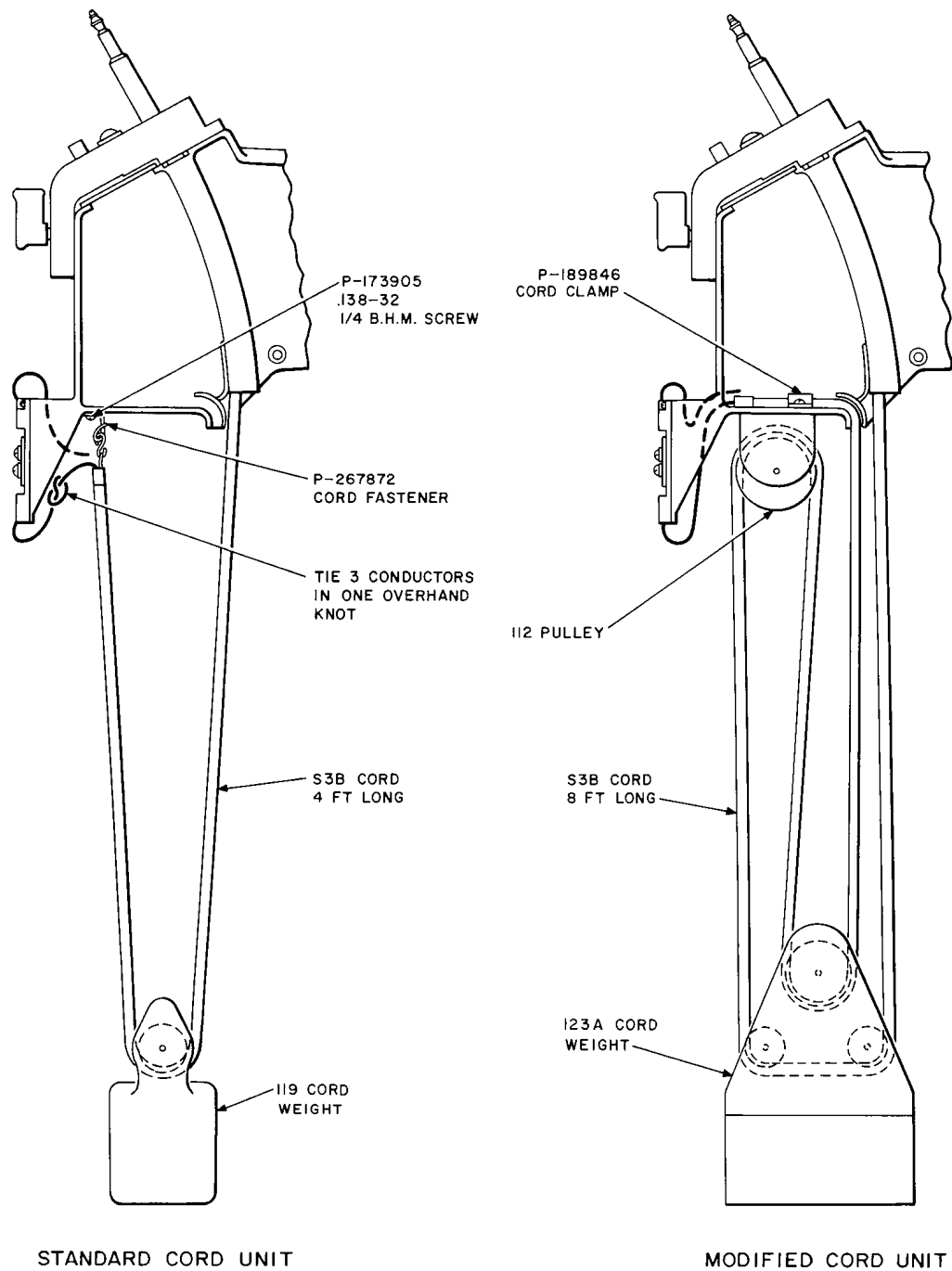


Fig. 15—Method of Installing Cords

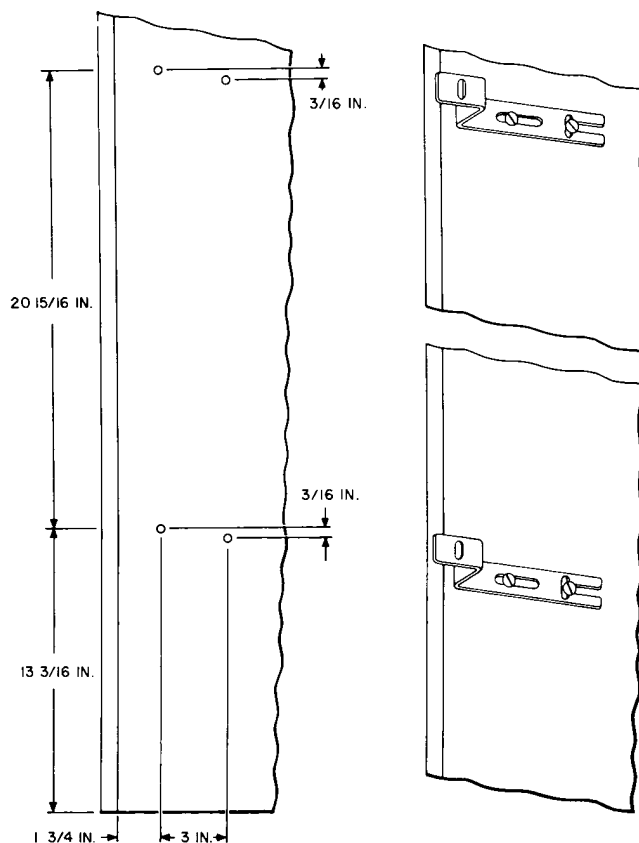


Fig. 16—Mounting of Cord Circuit Hanger Brackets

TABLE G
TRUNK JACK UNITS

| NUMBER OF TRUNKS | TRUNK POSITION NUMBER | | | | | | | | | | | | | |
|------------------------|-----------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 3 | | | | | | X | X | X | | | | | | |
| 4 | | | | | | X | X | X | X | | | | | |
| 5 | | | | | X | X | X | X | X | | | | | |
| 6 | | | | | X | X | X | X | X | X | | | | |
| 7 | | | | X | X | X | X | X | X | X | | | | |
| 8 | | | | X | X | X | X | X | X | X | X | | | |
| 9 | | | X | X | X | X | X | X | X | X | X | | | |
| 10 | | | X | X | X | X | X | X | X | X | X | X | | |
| 11 | | X | X | X | X | X | X | X | X | X | X | X | | |
| 12 | | X | X | X | X | X | X | X | X | X | X | X | X | |
| 13 | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 14 | X | X | X | X | X | X | X | X | X | X | X | X | X | X* |

* Position 14 shall be used only for a tie trunk or half a conference unit on any position equipped with a hand generator.

POWER SUPPLY**A. Types**

3.34 The type of power plant or power supply used will depend upon local instructions. Table H and Table I list the sources from which power may be obtained.

**TABLE H
BATTERY SUPPLY**

| TYPE | DESCRIPTION | NOTES |
|----------------|---------------------------------|-------|
| Central Office | Supplied over cable pairs | 1 |
| Bldg Battery | Supplied over local cable pairs | |
| 101A | Battery reserve | |
| 101G | Batteryless | |
| KS-15668 | Batteryless | 2 |

Notes

1. When battery and ground are supplied from the central office over cable pairs, to minimize effects on PBX stations and to prevent possible electrolysis damage to sheath cables or underground pipes, use a metallic return for any grounds. A ground-return feeder arrangement should not be used unless authorized by specific local instruction.
2. When a KS-15668 rectifier having an output in excess of 28 volts and fused at 2 amperes is used to supply power to the PBX, a 1-1/3 ampere fuse must be placed in the battery lead to the auxiliary relay circuit in the PBX. See SD-66537-01.

TABLE I — GENERATOR SUPPLY

| TYPE | DESCRIPTION | NOTES |
|----------------|---------------------------|-------|
| Central Office | Supplied over cable pairs | |
| KS-5585 | Static Generator | |
| KS-5756 | Static Generator | |
| 107-Type | Frequency Generator | 1 |

Note

1. The 107-type frequency generator should not be used with the PBX if tie trunks are to be provided.

B. Terminating

3.35 *Fuses* for battery feeders as provided at the central office or at the building battery fuse panel are sufficient for a single position installation. Where these fuses are not readily accessible at all times, or at two-position installations, fuses must be provided in accordance with SD-66521-01.

3.36 *Check the battery and ringing feeders* for correct polarity before connecting them through to the PBX. At two-position installations the ringing, battery, and buzzer circuits shall be modified in accordance with SD-66521-01.

3.37 *Strap the battery feeders and grounds* at the cross-connecting terminals as follows:

- (a) Strap all the terminals of the battery (BAT) pairs together. See Fig. 10.
- (b) Strap all the terminals of the ground (GRD) pairs together. See Fig. 10.

3.38 *Terminate the battery and ringing supply feeders* in the cross-connecting terminal as shown in Fig. 10, and in the PBX on the terminal strip (MISC) as shown in Table E and in accordance with SD-66520-01.

MISCELLANEOUS EQUIPMENT

3.39 The following equipment must be ordered separately and installed locally in accordance with SD-66520-01 as required.

- (a) *Attendant Head Telephone Set*
- (b) *Attendant Handset:* When provided, a 9A handset hanger must be furnished for the handset. The hanger should be located at the left-hand side of the face of the switchboard. Screw bushings are provided in all boards to permit installation.
- (c) *Attendant Dial:* A 10- or 20-pps dial may be used with the PBX depending upon the type of trunks (central office, tie, etc) provided with the PBX and the central office or other PBX equipment in which these trunks are terminated. When the dial is not required, the 1 and 3, 4 and 5 leads from the dial and telephone set socket should be spliced by the installer.

(d) **Second Pair of Attendant Jacks**

(e) **Foot Switch**

(f) **Hand Generator:** When furnished, the cable socket for trunk position No. 14 may be used for tie trunk or conference circuit jacks only. Interference with the hand generator prevents use of position No. 14 for central office trunk units. At two-position installations equipped with hand generators, the generator in the left position must be provided with a P-31A795 folding handle.

(g) **Monitoring Key**

3.40 Circuit Label Paster: Check the number of the circuit label against the number stenciled on the framework before pasting the label on the upper half of the rear panel. Wiring information for miscellaneous circuits is also furnished on circuit labels which should be pasted on the lower half of the rear panel. These circuit labels are furnished separately for each installation.

3.41 Operating Instruction Card: Mounted centrally on the piling rail and normally shows the instructions for dial area. The card must be reversed when the PBX is installed in a manual area.

3.42 Plastic Bulletin Holder: See Section 534-500-201.

3.43 Miscellaneous Station Line and Trunk Circuits: See SD-66537-01.

3.44 Message Waiting Service: See SD-66520-01.

3.45 Multiple Night Connections: See SD-66520-01 and SD-66537-01.

3.46 Tie Trunk Units and Manual Conference Circuit Equipment: The trunks and manual conference circuit consists of two units, one a jack

unit containing jack, key, and lamp equipment and the other a relay or coil unit on a 2- by 23-inch mounting plate.

(a) **Types of Tie Trunks**

(1) Automatic tie trunk SD-66524-01.

(2) Ringdown tie trunk SD-66522-01.

(3) Tie trunk to dial-type PBX SD-66523-01.

(b) **Manual Conference Circuits SD-66531-01 and SD-65719-01**

(c) **Mounting Tie Trunks and Manual Conference Circuit**

(1) **In PBX:** The four 2- by 23-mounting plates may be installed in the bottom rear section of the PBX as shown in Fig. 17 except when this space is used as a cross-connecting point (3.28). The jack units are mounted above the piling rail and should be placed in position 10 to 14 of the trunk jack field. Each unit has a plug end and connection is made between units by means of an interconnecting cable.

(2) **Outside PBX:** The units may be set in an apparatus cabinet mounted on a wall or on a floor mounting stand near the switchboard. When the equipment is mounted outside the switchboard, or when its associated jack unit is mounted in a position other than in positions 10 to 14, a cable of a longer length than the standard interconnecting cable is required. The longer cable must be made up locally. Connect one KS-8586, List 29 socket and one KS-8586, List 30 socket in accordance with the circuit drawings.

4. TESTS AND INSPECTIONS

4.01 Make the tests and inspections required as covered in Section 536-550-230.

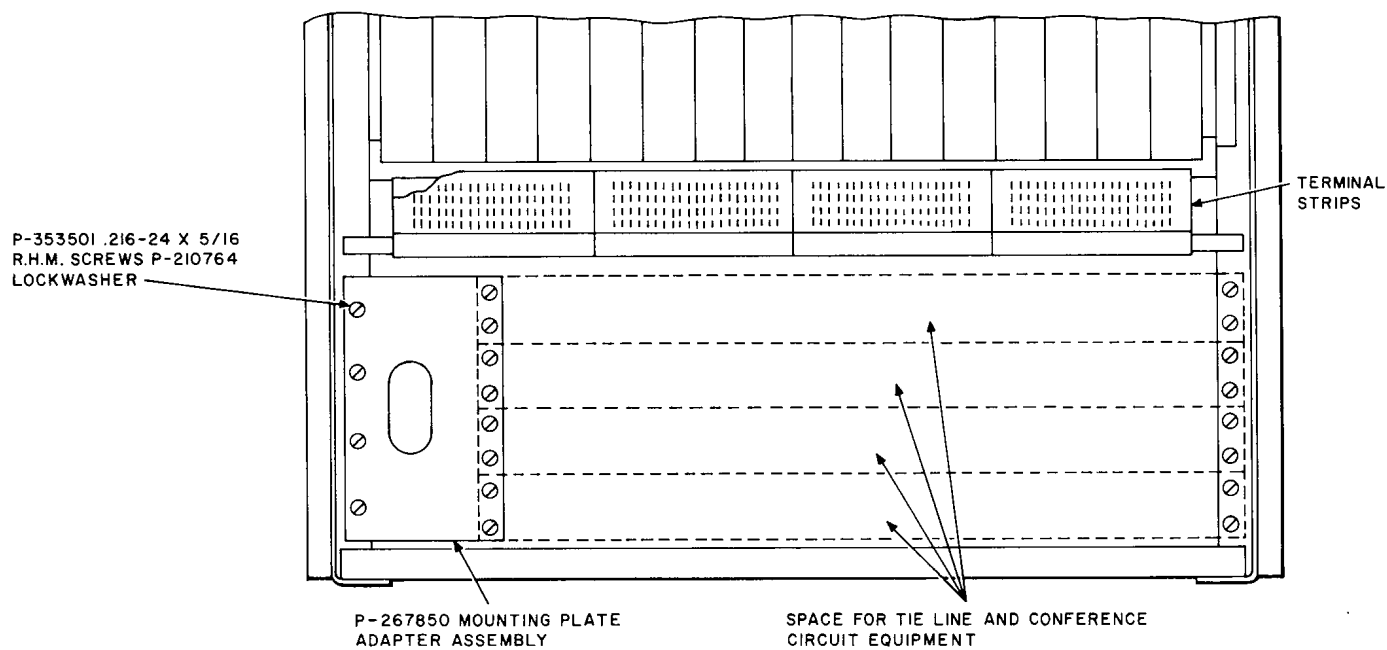


Fig. 17—Rear View—Mounting Detail for Tie Trunk and Manual Conference Circuit Equipment Units

**PRE-CABLED 60 LINE 555 PBX
FOR
AMPHENOL CONNECTION**

1. GENERAL

- 1.01** This Appendix tells how to Pre-cable the 555 PBX for amphenol connection.
- 1.02** This appendix provides identification, connections, and a list of material for a 60 line PBX with amphenol connection using a hundred pair cable or four 25 pair cables equipped with KS-16689,L3 plugs.

2. DESCRIPTION AND MATERIAL

- 2.01** Western Electric Co. will pre-cable the 60 line 555 PBX as shown in Figure 1.
- 2.02** The material required is shown in Table A.

3. CONNECTIONS

- 3.01** For connecting information see Table B.

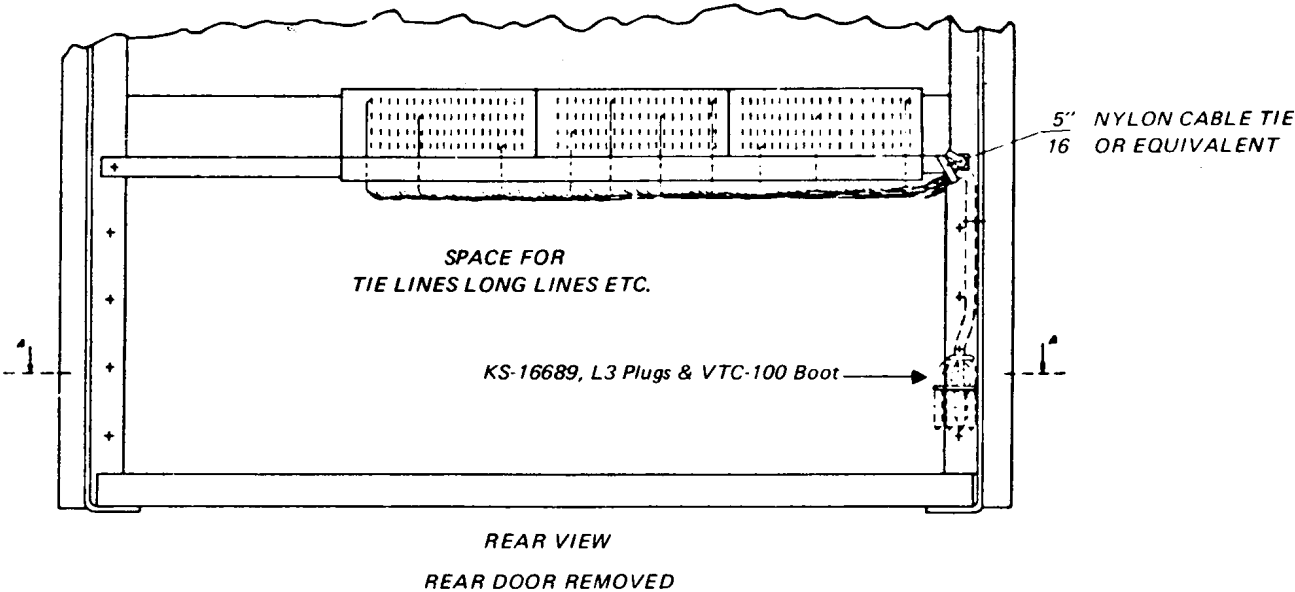


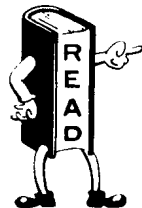
FIG. 1

TABLE A

| MATERIAL LIST | | | | |
|---------------|--------------------|---------------|--|---------|
| LIST | QTY PER LIST | CODE | DESCRIPTION | NOTE |
| 1 | 1 | AT-7441 | Inside Wiring Cable, Type D 4 Ft. 100 Pair | 1 & 2 * |
| 1 | 4 | KS-16689, L-3 | Amphenol Plug | |
| 1 | 2 | AT-6933 # 13 | Cable Clamp | |
| 1 | 2 | P-160793 | RHW Screw #12 x 1/2 In. | |
| 1 | 3 | KS-16904, L-1 | Dust Cover | |
| 1 | 1 | VTC-100 | Boot | |

NOTES

1- Terminate one end of the AT 7441 cable to the KS-16689, L3 plug and the other end to the terminal strip as shown in Table B.



- Where a surplus of short ended 25 pair cables with amphenols exist the 100 pair cable may be substituted by 4 short ended 25 pair cables with amphenol ends. When this method is used the amphenols should be numbered 1 through 4 to identify Binders. This would eliminate making up special 4 ft. 100 pair amphenol plugs.

2- Leave spare leads of sufficient length to reach any point on the terminal strip.

| CABLES | | BLUE BINDER (PLUG 1) | | | | | ORANGE BINDER (PLUG 2) | | | | | GREEN BINDER (PLUG 3) | | | | | BROWN BINDER (PLUG 4) | | | | |
|-------------|-----|----------------------|-------------|-------------|------|---------|------------------------|-------------|-------------|------|---------|-----------------------|-------------|-------------|------|---------|-----------------------|-------------|-------------|-------|---------|
| LEAD COLORS | | CKT | LEADS DESIG | STRIP DESIG | PCHG | PIN NO. | CKT | LEADS DESIG | STRIP DESIG | PCHG | PIN NO. | CKT | LEADS DESIG | STRIP DESIG | PCHG | PIN NO. | CKT | LEADS DESIG | STRIP DESIG | PCHG | PIN NO. |
| RING | TIP | | | | | | | | | | | | | | | | | | | | |
| B L | W | STA 1 | T&R | STA | 1 | 1, 26 | STA 26 | T&R | STA | 26 | 1, 26 | STA 51 | T&R | STA | 51 | 1, 26 | TRK 1 | T&R | TRK | 1 | 1, 26 |
| O | W | 2 | | | 2 | 2, 27 | 27 | | | 27 | 2, 27 | 52 | | | 52 | 2, 27 | 2 | | | 2 | 2, 27 |
| G | W | 3 | | | 3 | 3, 28 | 28 | | | 28 | 3, 28 | 53 | | | 53 | 3, 28 | 3 | | | 3 | 3, 28 |
| B R | W | 4 | | | 4 | 4, 29 | 29 | | | 29 | 4, 29 | 54 | | | 54 | 4, 29 | 4 | | | 4 | 4, 29 |
| S | W | 5 | | | 5 | 5, 30 | 30 | | | 30 | 5, 30 | 55 | | | 55 | 5, 30 | 5 | | | 5 | 5, 30 |
| B L | R | 6 | | | 6 | 6, 31 | 31 | | | 31 | 6, 31 | 56 | | | 56 | 6, 31 | 6 | | | 6 | 6, 31 |
| O | R | 7 | | | 7 | 7, 32 | 32 | | | 32 | 7, 32 | 57 | | | 57 | 7, 32 | 7 | | | 7 | 7, 32 |
| G | R | 8 | | | 8 | 8, 33 | 33 | | | 33 | 8, 33 | 58 | | | 58 | 8, 33 | 8 | | | 8 | 8, 33 |
| B R | R | 9 | | | 9 | 9, 34 | 34 | | | 34 | 9, 34 | 59 | | | 59 | 9, 34 | 9 | | | 9 | 9, 34 |
| S | R | 10 | | | 10 | 10, 35 | 35 | | | 35 | 10, 35 | 60 | | STA | 60 | 10, 35 | 10 | | | 10 | 10, 35 |
| B L | B K | 11 | | | 11 | 11, 36 | 36 | | | 36 | 11, 36 | | | | | 11, 36 | 11 | | | 11 | 11, 36 |
| O | B K | 12 | | | 12 | 12, 37 | 37 | | | 37 | 12, 37 | | | | | 12, 37 | 12 | | | 12 | 12, 37 |
| G | B K | 13 | | | 13 | 13, 38 | 38 | | | 38 | 13, 38 | | | | | 13, 38 | 13 | | | 13 | 13, 38 |
| B R | B K | 14 | | | 14 | 14, 39 | 39 | | | 39 | 14, 39 | | | | | 14, 39 | 14 | | | 14 | 14, 39 |
| S | B K | 15 | | | 15 | 15, 40 | 40 | | | 40 | 15, 40 | | | | | 15, 40 | | | | | 15, 40 |
| B L | Y | 16 | | | 16 | 16, 41 | 41 | | | 41 | 16, 41 | | SPARE | SPARE | | 16, 41 | SPARE | SPARE | SPARE | | 16, 41 |
| O | Y | 17 | | | 17 | 17, 42 | 42 | | | 42 | 17, 42 | | | | | 17, 42 | SPARE | | | | 17, 42 |
| G | Y | 18 | | | 18 | 18, 43 | 43 | | | 43 | 18, 43 | | | | | 18, 43 | | | | | 18, 43 |
| B R | Y | 19 | | | 19 | 19, 44 | 44 | | | 44 | 19, 44 | | | | | 19, 44 | BAT | B | MISC | 1-4 | 19, 44 |
| S | Y | 20 | | | 20 | 20, 45 | 45 | | | 45 | 20, 45 | | | | | 20, 45 | BAT | B | | 1-4 | 20, 45 |
| B L | V | 21 | | | 21 | 21, 46 | 46 | | | 46 | 21, 46 | | | | | 21, 46 | BAT | B | | 1-4 | 21, 46 |
| O | V | 22 | | | 22 | 22, 47 | 47 | | | 47 | 22, 47 | | | | | 22, 47 | GRD | GRD | | 45-48 | 22, 47 |
| G | V | 23 | | | 23 | 23, 48 | 48 | | | 48 | 23, 48 | | | | | 23, 48 | GRD | GRD | | 45-48 | 23, 48 |
| B R | V | 24 | | | 24 | 24, 49 | 49 | | | 49 | 24, 49 | | | | | 24, 49 | GRD | GRD | | 45-48 | 24, 49 |
| S | V | 25 | T&R | STA | 25 | 25, 50 | 50 | T&R | STA | 50 | 25, 50 | | | | | 25, 50 | GEN | GRD | | 22-24 | 25, 50 |

TERMINAL STRIP WIRING

TABLE B