

## SERVICE

### 2630D AND 2631D TELEPHONE SETS

#### 1. GENERAL

**1.01** This section contains connection and maintenance information for 18- and 30-button general purpose CALL DIRECTOR® telephone sets equipped with 12-button TOUCH-TONE® dials.

**1.02** This section is reissued to:

- Add information on 657L key (Fig. 7)
- Show 599H key MD
- Remove information on 657H key which was never manufactured
- Include information on new 840157473 key contact insulator.

#### 2. CONNECTIONS

**2.01** Optional features, such as polarity guard for TOUCH-TONE dial, buzzer, and ♦599H (MD) or 657L key for supplementary hold, must be ordered separately and installed as required for customer service.



*Due to differing line circuit time-out functions, 1A2 system lines should not be mixed with 1A1 system line circuits within a CALL DIRECTOR® station. Line circuits of 1A and 1A1 or 1A2 KTS must not be connected to the same 6-button key module.*

**2.02** At the key telephone system, connector cable conductor termination for sets equipped with even-count color-coded mounting cords differ from those for sets equipped with MD color-coded cords. If 2630- or 2631-type telephone sets are used to replace MD telephone sets, it will be necessary to rearrange the connector cable leads at the key telephone system.



*Some spade-tipped conductors or mounting cord leads are insulated with tubing which should be cut off with electrician scissors or diagonal pliers. Other conductors are insulated with stiff plastic pockets. Pinch open the pocket to release the spade tips.*

**2.03** ♦The tip and ring leads of lines wired for supplementary hold feature can be run directly between the key telephone equipment and key telephone set. The A and lamp leads must be routed per SD-69530-01 and Division 518.♦

Supplementary hold can be furnished in either of the following arrangements:

- (a) ♦**Priority Hold:** Replace the 599- or 657-type key in the first module with a 599H (MD) or 657L key which is equipped with a second hold button and wire per Fig. 6 or 7 to transfer the A lead from ground to the SP lead (-24 volts).♦
- (b) **I Hold:** Wire present Hold key to transfer A lead from ground to the SP lead (-24 volts). Connect stored (BR-V) Hold lead from first module plug to any spare mounting cord lead using spare terminal or D-161488 connector.

**2.04** When a polarity guard is required with these sets, install a P-90D197 guard assembly and connect as shown in Table A.

**2.05** To convert a key position from pickup (locking) to signal (nonlocking) remove the P-10E837 screw detail from plunger at key position to be converted. Make the necessary wiring changes as shown in Table B. ♦Install key contact insulator (840157473) as required to insulate key contacts. Refer to Section 512-230-100 for installation procedures.♦

**2.06** A KS-8109 or KS-20419L1 buzzer may be installed when a second audible signal is required. Use spare leads located in second, third, or fourth module.

**3-Type Speakerphone**

**2.07** A 667-type speakerphone transmitter unit may be used in the third key position of an 18-button set or fifth key position of a 30-button set when internal speakerphone feature is required.

**2.08** To retain the maximum number of keys in these CALL DIRECTOR telephone sets and still have speakerphone feature, a 666A(MD) or 666B transmitter and 760A loudspeaker may be installed as adjuncts to the telephone set. Spare leads from the first module are used to supply the external speakerphone function (Table E).

Refer to Section 512-622-430 (2630-type) and Section 512-622-431 (2631-type) for complete connections to 3-type speakerphone.

**3. MAINTENANCE**

**3.01** Maintenance of handset, dials, ringers, and modular keys is outlined in sections covering these components located in Division 501 and 512.

**3.02** Refer to Section 502-600-100 for common installation and maintenance information for these CALL DIRECTOR telephone sets.

**TABLE A**  
**P-90D197 GUARD ASSEMBLY CONNECTIONS (Note)**

| WIRE OR LEAD   | COLOR | REMOVE FROM | CONNECT TO  |      |
|----------------|-------|-------------|-------------|------|
|                |       | NET.        | GUARD ASSY. | NET. |
| Dial           | BK    | RR          | T           |      |
|                | G-W   | C           | S           |      |
| Line Switch    | W     | C           | S           |      |
| Guard Assembly | G     |             |             | RR   |
|                | W     |             |             | C*   |

\* (O-BK) dial lead remains connected to C of network.

**Note:** For use when specified by local instructions for end-to-end signaling installations.

**TABLE B**  
**PICKUP-SIGNAL KEY CONVERSION (3RD OR 5TH MODULE)**

| CONVERSION<br>OPTIONS<br>(NOTES 1 AND 2) | 598A OR 656A KEY |     |     |       |       |     |     |
|------------------------------------------|------------------|-----|-----|-------|-------|-----|-----|
|                                          | O-W              | S-W | G-R | BL-BK | BR-BK | Y-O | O-Y |
| PPPPPP                                   | A-H              | A-H | A-H | A-H   | A-H   | A-H | G   |
| PPPPPS                                   | A-H              | A-H | A-H | A-H   | A-H   | SG  | G   |
| PPPPSS                                   | A-H              | A-H | A-H | A-H   | SG    | SG  | G   |
| PPPSSS                                   | A-H              | A-H | A-H | SG    | SG    | SG  | G   |
| PPSSSS                                   | A-H              | A-H | SG  | SG    | SG    | SG  | G   |
| PSSSSS                                   | A-H              | SG  | SG  | SG    | SG    | SG  | G   |
| SSSSSS                                   | SG               | SG  | SG  | SG    | SG    | SG  | G   |
| PPPP*P*S                                 | A-H              | A-H | A-H | C     | C     | 5   | C   |
| PPP*P*P*S                                | A-H              | A-H | C   | C     | C     | 5   | C   |
| PP*P*P*P*S                               | A-H              | C   | C   | C     | C     | 5   | C   |
| P*P*P*P*P*S                              | C                | C   | C   | C     | C     | 5   | C   |

**Notes:**

1. Convert buttons on right hand key module first.
  2. All key positions are arranged in the shop, as pickup positions. To convert to signaling (nonlocking), remove the screw detail P-10E837 from the plunger at the key position to be converted. Make the necessary connection changes as shown in Table B.
- \* These arrangements use line switch controlled ground for common signal key used with private or intercommunicating lines. Common signal should be used to operate a signal relay. Do not wire directly to a buzzer.

**TABLE C**  
**2630D AND 2631D TELEPHONE SETS — 1A, 1A1, AND 1A2 CONVERSIONS**

| KEY TELEPHONE SYSTEM<br>CENTRAL OFFICE OR<br>PBX LINE FEATURE                       |                      | LEADS      |            |     |             |            |                    |                   |                   |                   |                   |            |            |                |
|-------------------------------------------------------------------------------------|----------------------|------------|------------|-----|-------------|------------|--------------------|-------------------|-------------------|-------------------|-------------------|------------|------------|----------------|
|                                                                                     |                      | HOLD KEY   |            |     |             |            | CHAINING SWITCH    |                   |                   |                   |                   | STRAP      |            | LINE<br>SWITCH |
|                                                                                     |                      |            |            |     |             |            | 2630 AND 2631 SETS |                   |                   | 2631 SETS<br>ONLY |                   |            |            |                |
|                                                                                     |                      | Y-G        | G-Y        | V-O | BR-V        | V-BR       | V-G<br>1ST<br>KEY  | V-G<br>2ND<br>KEY | V-G<br>3RD<br>KEY | V-G<br>4TH<br>KEY | V-G<br>5TH<br>KEY | BL-V       | O-V        | BR             |
| 1A1 or 1A2 only (as furnished<br>by shop)                                           |                      | A-H<br>(I) | A-H<br>(I) | *   | *           | *          | A-H<br>(I)         | A-H<br>(II)       | A-H<br>(III)      | A-H<br>(IV)       | A-H<br>(V)        | R<br>(I)   | 1B<br>(VI) | †              |
| First key unit 1A1 or 1A2; re-<br>maining key units 1A                              |                      | A-H<br>(I) | §          | *   | 1†<br>(I)   | R<br>(II)  | §                  | A-H<br>(II)       | A-H<br>(III)      | A-H<br>(IV)       | A-H<br>(V)        | R<br>(I)   | 1B<br>(VI) | †              |
| First and second key units<br>1A1 or 1A2; remaining<br>key units 1A                 |                      | A-H<br>(I) | §          | *   | 1†<br>(II)  | R<br>(III) | A-H<br>(I)         | §                 | A-H<br>(III)      | A-H<br>(IV)       | A-H<br>(V)        | R<br>(I)   | 1B<br>(VI) | †              |
| First, second, and<br>third key units<br>1A1 or 1A2; re-<br>maining key units<br>1A | 2631<br>sets<br>only | A-H<br>(I) | §          | *   | 1†<br>(III) | R<br>(IV)  | A-H<br>(I)         | A-H<br>(II)       | §                 | A-H<br>(IV)       | A-H<br>(V)        | R<br>(I)   | 1B<br>(VI) | †              |
| First through fourth<br>key units 1A1 or<br>1A2; fifth key<br>unit 1A               |                      | A-H<br>(I) | §          | *   | 1†<br>(IV)  | R<br>(V)   | A-H<br>(I)         | A-H<br>(II)       | A-H<br>(III)      | X<br>(VI)         | A-H<br>(V)        | R<br>(I)   | 1B<br>(VI) | †              |
| 1A only (see connection<br>note 2, Fig. 2)                                          |                      | §          | A-H<br>(I) | *   | R1<br>(VI)  | R<br>(I)   | A-H<br>(I)         | A-H<br>(II)       | A-H<br>(III)      | A-H<br>(IV)       | A-H<br>(V)        | R1<br>(VI) | SG<br>(VI) | 6††            |

Note: Roman numerals in parentheses indicate terminal board designations.

\* Lead is spade tipped, insulated, and stored.

† BR lead connects to terminal 5 when station busy lamp circuit is not required or to terminal 6 of telephone set terminal board when station busy lamp is required.

‡ Disconnect, insulate and store R (BL-V) chaining lead.

§ Connect to terminal X of TBIV on 18-button sets or to terminal X of TBVI, on 30-button sets.

¶ Terminal on telephone set terminal board.

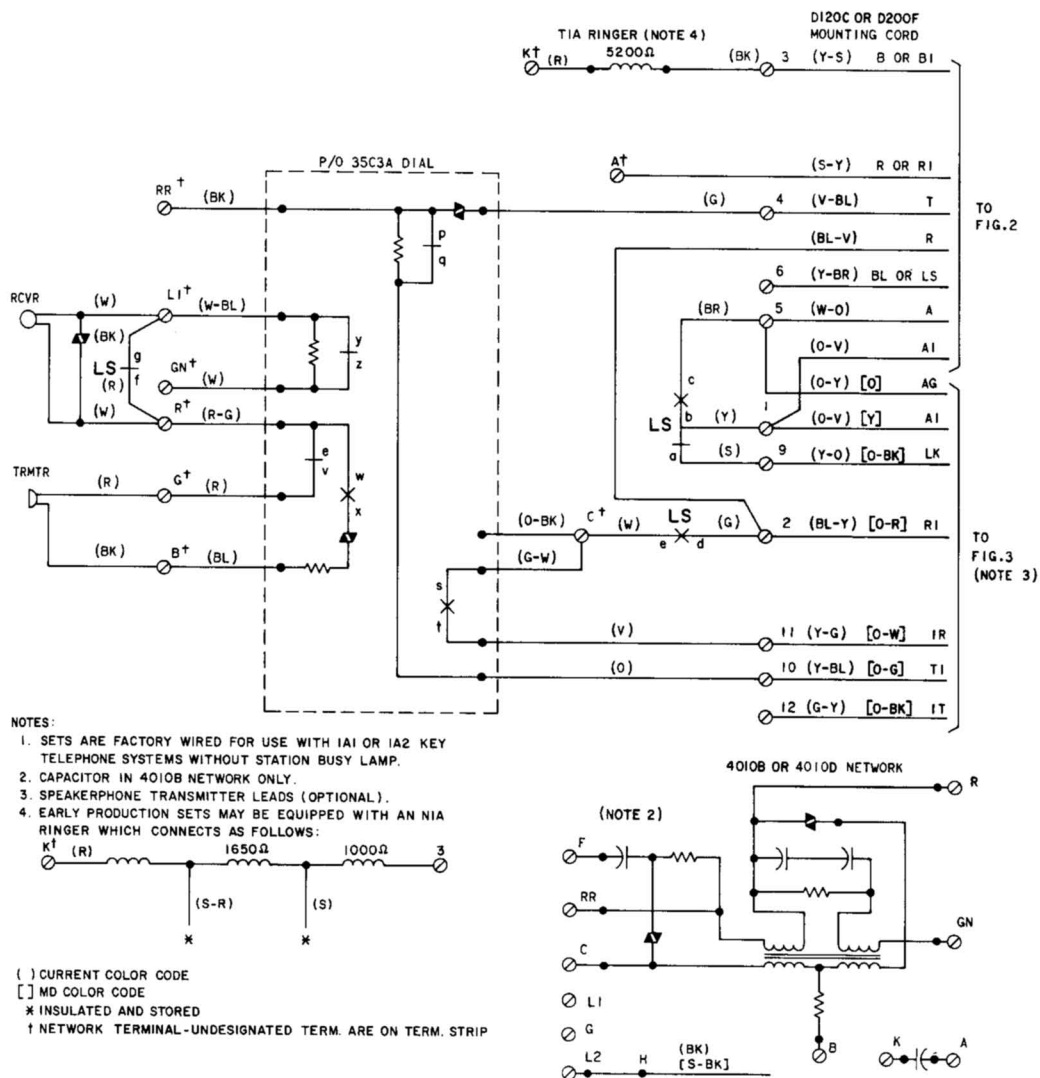


Fig. 1—2630D and 2631D Telephone Set, Connections

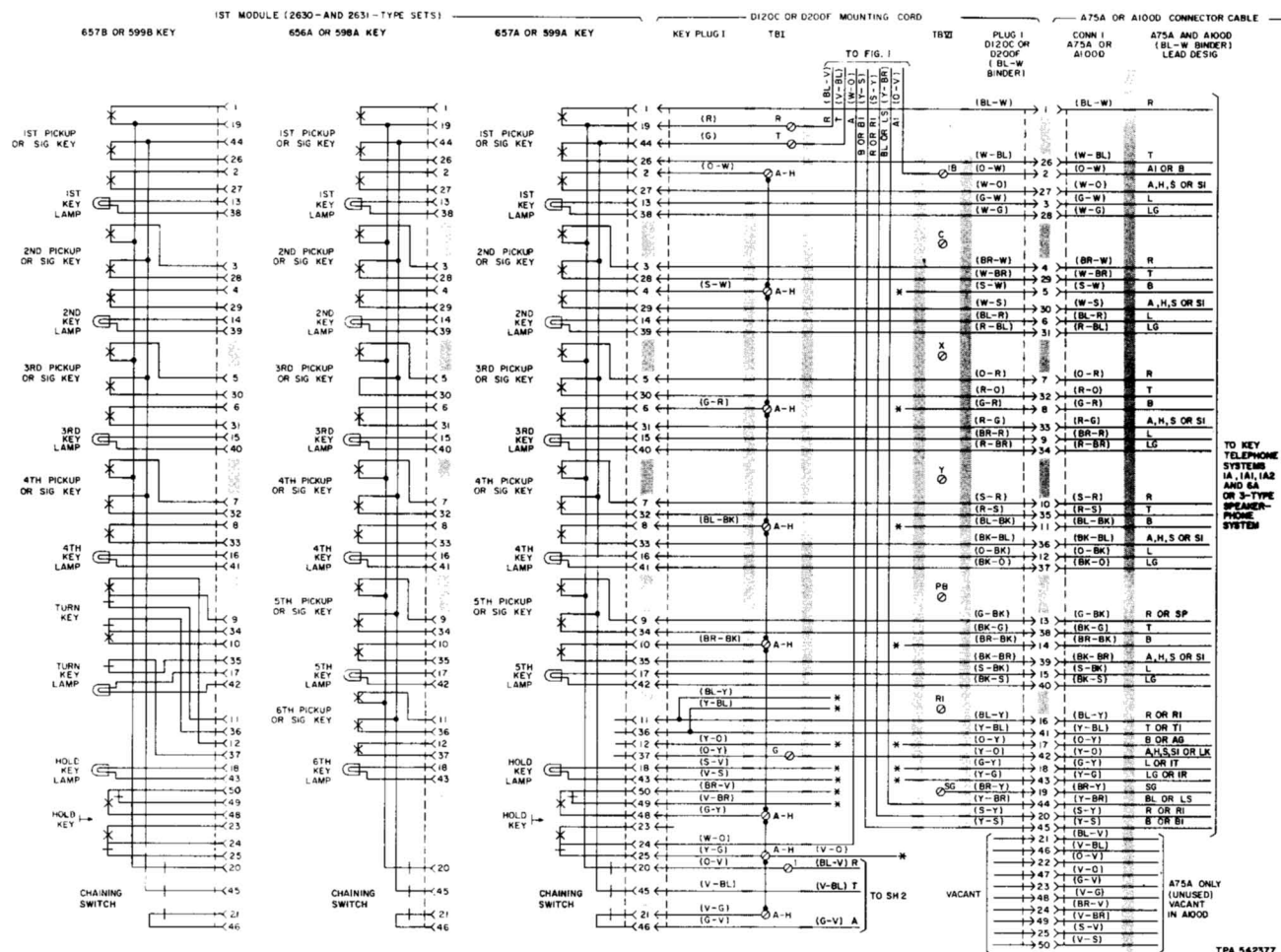


Fig. 2—Module Arrangements and Cord and Cable Connections for Sets Equipped With Even-Count Color-Coded Cords (Sheet 1 of 3)

# NOTES

1. WITH 599A OR 607A KEY IN FIRST MODULE; SPARE STRAP LEAD FROM KEY PLUG 1 AND MOUNTING CORD BINDER GROUP (BL-W) ARE INSULATED AND STORED AS SHOWN.

2. WITH 599B OR 607B KEY IN FIRST MODULE; (BR-BK) LEAD MUST BE REMOVED FROM A-H OF TB1, INSULATED AND STORED.

3. WITH 599A OR 606A KEY IN FIRST MODULE; CONNECT (V-O) STRAP FROM A-H OF TB1 TO TERMINAL 5 ON TELEPHONE SET TERMINAL BOARD. CONNECT (Y-O) AND (BR-BK) LEADS FROM KEY PLUG 1 TO A-H OF TB1.

4. TO EXTEND LAMP LEADS CONNECT (S-V) AND (V-S) KEY PLUG LEADS TO (O-V) AND (Y-S) MOUNTING CORDS LEADS RESPECTIVELY USING SPARE TERMINALS OR O-6488B CONNECTORS.

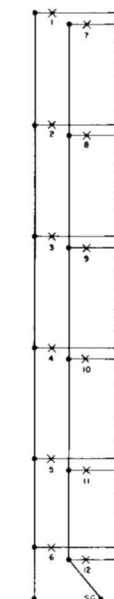
5. FOR USE WITH 1A KEY SYSTEM ONLY, MOVE A (O-V) STRAP FROM 1B TO 5G ON TB2L AND MAKE CONVERSION SHOWN IN TABLE C.

6. FOR ADD-ON CONFERENCE CONTROL IN THE 6A KEY TELEPHONE SYSTEM, CONNECT (BR-Y) MOUNTING CORD LEAD (O-W BINDER GROUP) TO TB2L-PB. ALSO REMOVE COMMON LEAD OF ADD-ON CONFERENCE BUTTON (CONNECTED TO SIGNALING) FROM A-H TERMINAL AND CONNECT TO PB. THE 617A KEY MAY ALSO BE USED IN A SIMILAR MANNER. ALSO SEE NOTE 4.

7. WHEN THE 617A KEY IS REQUIRED AS A DUAL-PURPOSE KEY, THE BRASS STRAP BETWEEN THE 5I AND 5G TERMINALS OF THE KEY MAY BE REMOVED. USE MIN. CORD OR EQUIVALENT TO CONNECT 5I TERMINAL OF 617A KEY TO A DISSIMILAR GROUND OR A NONGROUNDED CIRCUIT.

8. INSULATED AND STORED  
9. DEAD END

617A KEY  
2ND MODULE  
(2630-TYPE SETS)  
4TH MODULE  
(2631-TYPE SETS)



606A OR 598A KEY  
2ND MODULE (2630-TYPE SETS)  
2ND, 3RD OR 4TH MODULE  
(2631-TYPE SETS)

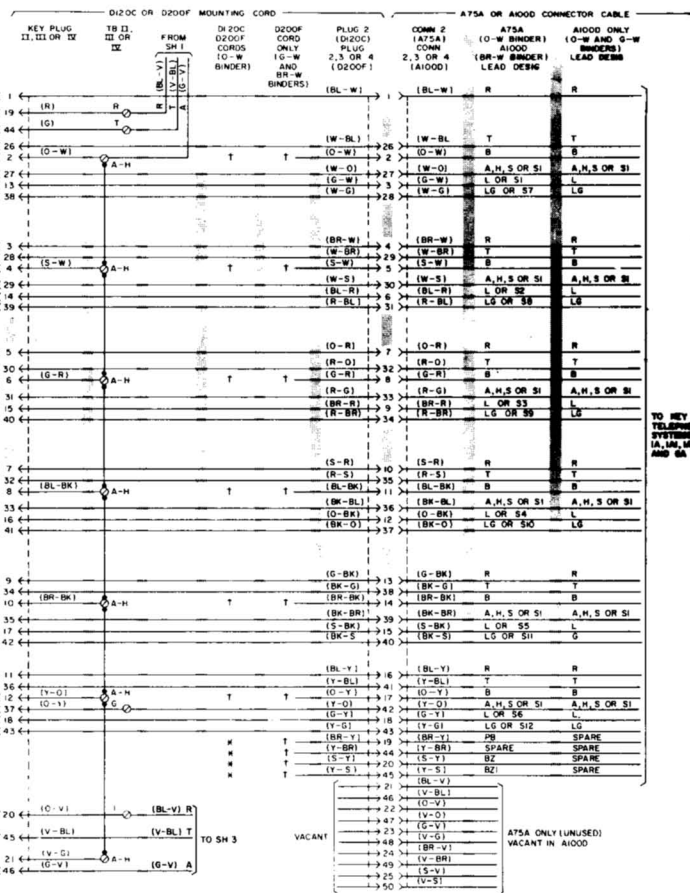
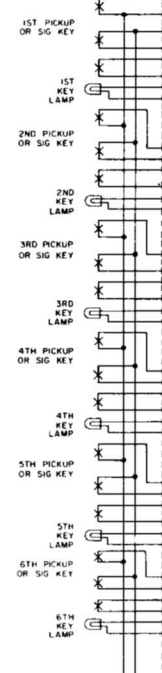


Fig. 2—Module Arrangements and Cord and Cable Connections for Sets Equipped With Even-Count Color-Coded Cords (Sheet 2 of 3)





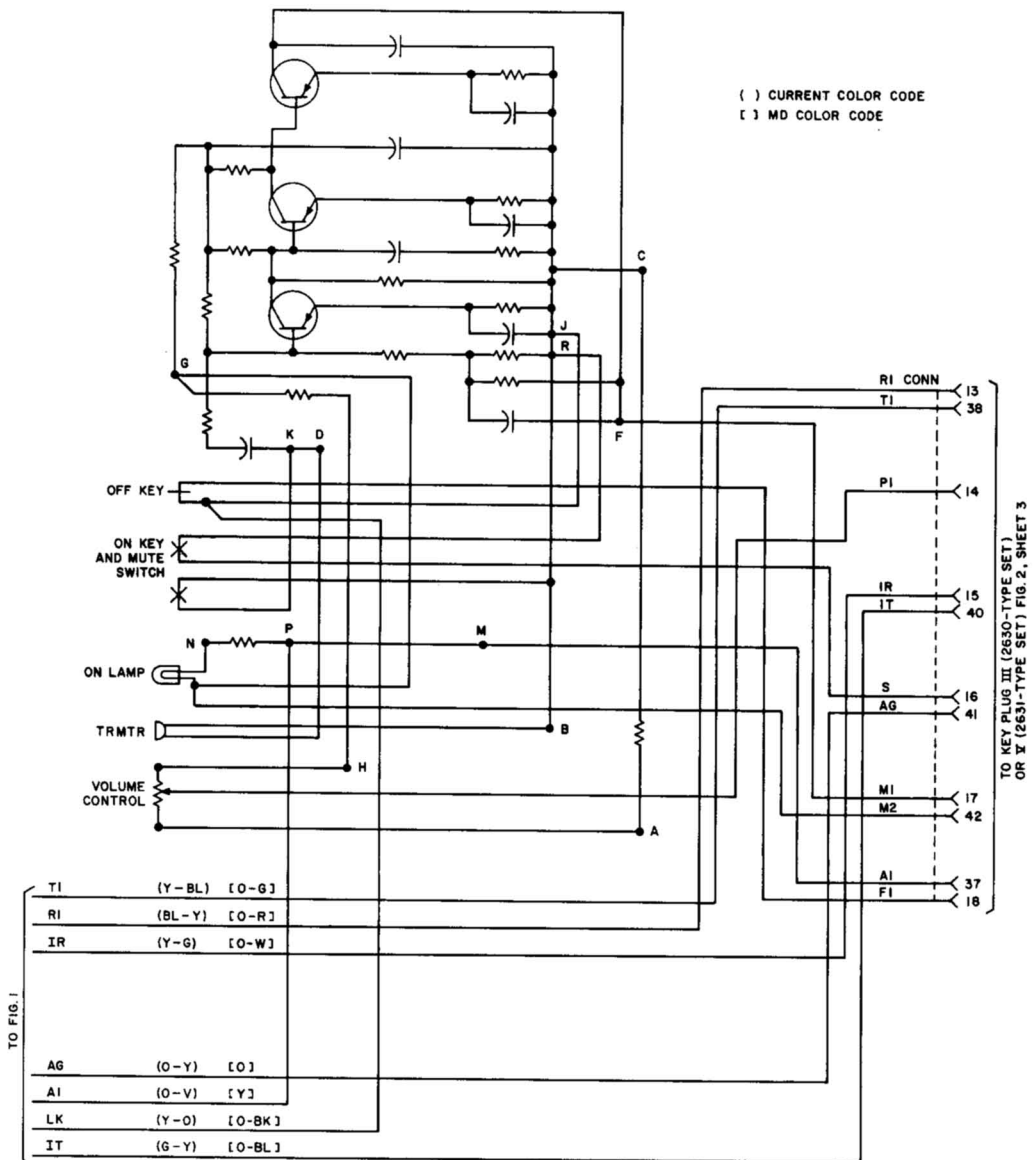


Fig. 3—667-Type Transmitter

**TABLE D**  
**CONNECTIONS FOR 599B OR 657B KEY (TURN KEY)**

| FEATURE                                                | FIRST MODULE LEADS                           |       |       |                          |                               |       |              |                          |                                           |                               |
|--------------------------------------------------------|----------------------------------------------|-------|-------|--------------------------|-------------------------------|-------|--------------|--------------------------|-------------------------------------------|-------------------------------|
|                                                        | 5TH PICKUP<br>KEY POSITION                   |       |       |                          | 6TH PICKUP<br>KEY POSITION    |       |              |                          | STORED                                    |                               |
|                                                        | R                                            | T     | A     | A-H                      | R                             | T     | A            | A-H                      |                                           |                               |
| Even-count color code                                  | G-BK                                         | BK-G  | BK-BR | BR-BK                    | BL-Y                          | Y-BL  | O-Y<br>Y-O   | Y-O                      | BL-Y                                      | Y-BL                          |
| Cord pin numbers                                       | 9-13                                         | 34-38 | 35-39 | 10-AH                    | 11-16                         | 36-41 | 37-G<br>G-42 | 12-†                     | 11-†                                      | 36-†                          |
| Cutoff station on 1A1<br>or 1A2 system                 | To equip.                                    |       |       | Insulate<br>and<br>Store | To ext sta                    |       |              | Insulate and Store       |                                           |                               |
| Cutoff station on 1A<br>system without<br>hold feature | To<br>equip.                                 |       |       | Insulate<br>and<br>Store | To<br>ext sta                 |       |              | Insulate and Store       |                                           |                               |
| Cutoff station on 1A<br>system with hold<br>feature    | To aux<br>relay to<br>cutoff<br>T, R, B, & H |       |       | SG<br>TBVI               |                               |       |              | SG<br>TB VI              | Insulate<br>and Store                     |                               |
| Cutoff ext ringer<br>or buzzer                         | To<br>equip.                                 |       |       | Insulate<br>and<br>Store | To ext<br>ringer<br>or buzzer |       |              | Insulate and Store       |                                           |                               |
| Cutoff ringer in<br>set                                | To<br>equip.                                 |       |       | Insulate<br>and<br>Store |                               |       |              | Insulate<br>and<br>Store | 3†<br>Tel Set<br>Term.<br>Board<br>(Note) | A†<br>Net.<br>Term.<br>(Note) |
| Cutoff buzzer in<br>set                                | To<br>equip.                                 |       |       | Insulate<br>and<br>Store |                               |       |              | Insulate<br>and<br>Store | Buzzer* (Note)                            |                               |
|                                                        |                                              |       |       |                          |                               |       |              |                          | D                                         | C                             |
|                                                        |                                              |       |       |                          |                               |       |              |                          | A                                         | C                             |
| Monitoring                                             | To mon<br>equip.                             |       |       |                          |                               |       |              |                          | Cap.                                      | C                             |
|                                                        |                                              |       |       |                          |                               |       |              |                          | R<br>TB1                                  | T<br>TB1                      |

**Note:** The BL-Y and Y-BL connector cable leads should be insulated and stored at the equipment when the bridged spade tipped leads are used in set.

\* Insulate and store BZ and BZ1 leads to buzzer.

† Indicates leads are factory insulated and stored.

‡ Insulate and store the S-Y lead from terminal A of the network and the Y-S lead from terminal 3 of telephone set terminal board.

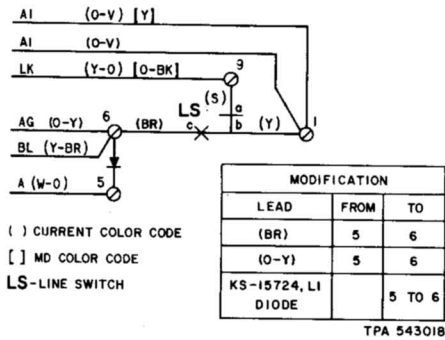


Fig. 4—Station Busy Lamp Circuit With Speakerphone

♦ TABLE E ♦

## CONNECTIONS FOR EXTERNAL SPEAKERPHONE

| WIRE OR LEAD               | COLOR | LEAD DESIG. | REMOVE FROM | CONN TO TELSET TERM. BD |
|----------------------------|-------|-------------|-------------|-------------------------|
| Mtg. Cord<br>(BL-W Binder) | BL-Y  | R1          | *           | 2                       |
|                            | Y-BL  | T1          | *           | 10                      |
|                            | O-Y   | AG          | *           | 5                       |
|                            | Y-O   | LK          | G           | 9                       |
|                            | Y-G   | IR          | *           | 11                      |
|                            | G-Y   | IT          | *           | 12                      |

\* Stored location.

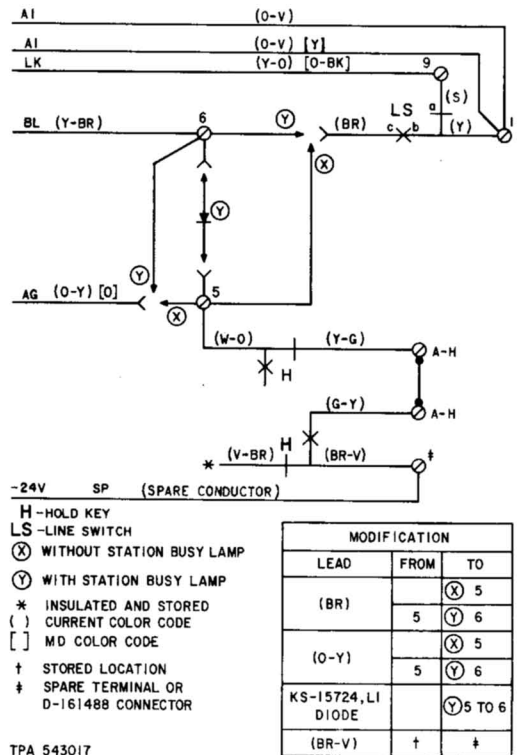


Fig. 5—I Hold Arrangement and Speakerphone (With or Without Station Busy Lamp Feature)

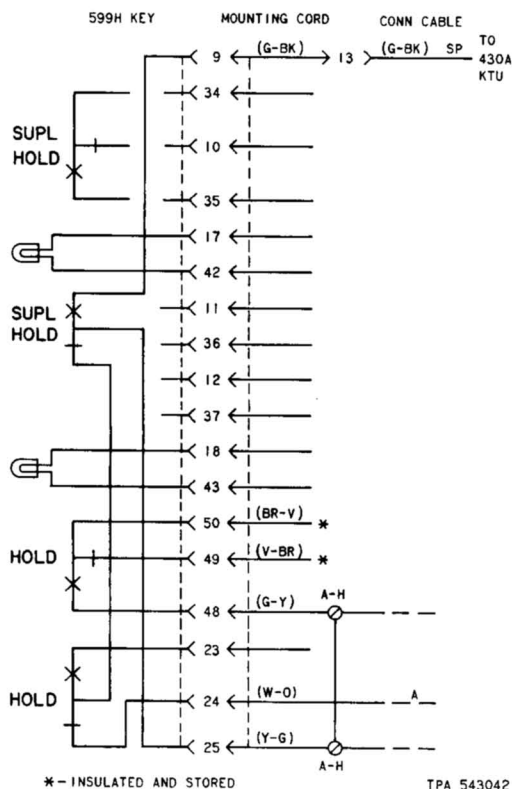


Fig. 6—Priority Hold, Using 599H (MD) Key

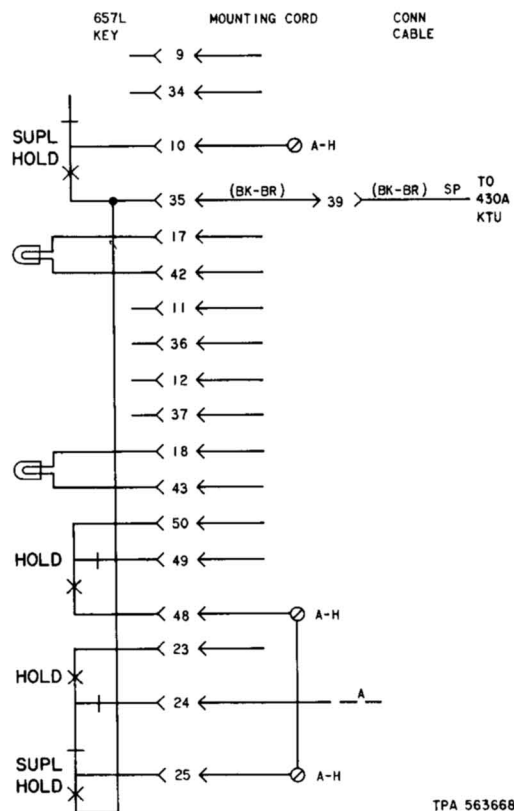


Fig. 7—Priority Hold, Using 657L Key