

## TELEPHONE SETS

### 2684- AND 2685-TYPE

#### 1. GENERAL

1.01 This section contains identification, installation, connections, and maintenance information for the 2684- and 2685-type telephone sets. These sets are 18- and 30-button, respectively, CALL DIRECTOR® telephone sets which are intended solely for use with specially engineered lines—*not for general telephone use.*

1.02 This section is reissued to:

- Add 2684AM- and 2685AM-type (modular) telephone sets
- Show 2684A- and 2685A-type telephone sets MD
- Add 656A, 657A, and 657B keys
- Show 697A headset adjunct MD
- Show 3B speakerphone system MD
- Add Comcode numbers

Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

1.03 The 2684AM- and 2685AM-type modular telephone sets replace the 2684A-(MD) and 2685A-(MD) type telephone sets, respectively.

#### 2. IDENTIFICATION

##### ORDERING GUIDE

2.01 Order as follows:

- Set, Telephone, 2684AM-\* (18-button set)
- Set, Telephone, 2685AM-\* (30-button set)



Fig. 1—2685AM1 Telephone Set

**Note:** Complete telephone set identification for ordering purposes by adding code numbers for key module arrangement from Table B and color desired from Table A (example: 2684AM7-58).

##### (a) Replaceable Common Components:

- Blank, Apparatus, 105B (see Table B)
- Dial, 35AF3A
- Lamp, 51A
- 812655595 (P-26E559) Relay Assembly
- Ringer, T1A
- Set, Hand, G3Y-\* (2684A- or 2685A-type)
- Set, Hand, G15Y-\* (2684AM- or 2685AM-type)
- 819040122 (P-90D012) Guard Assembly.

##### (b) Replaceable Specific Components:

- Cord, Mounting, D120C-\* (2684-type sets)

#### NOTICE

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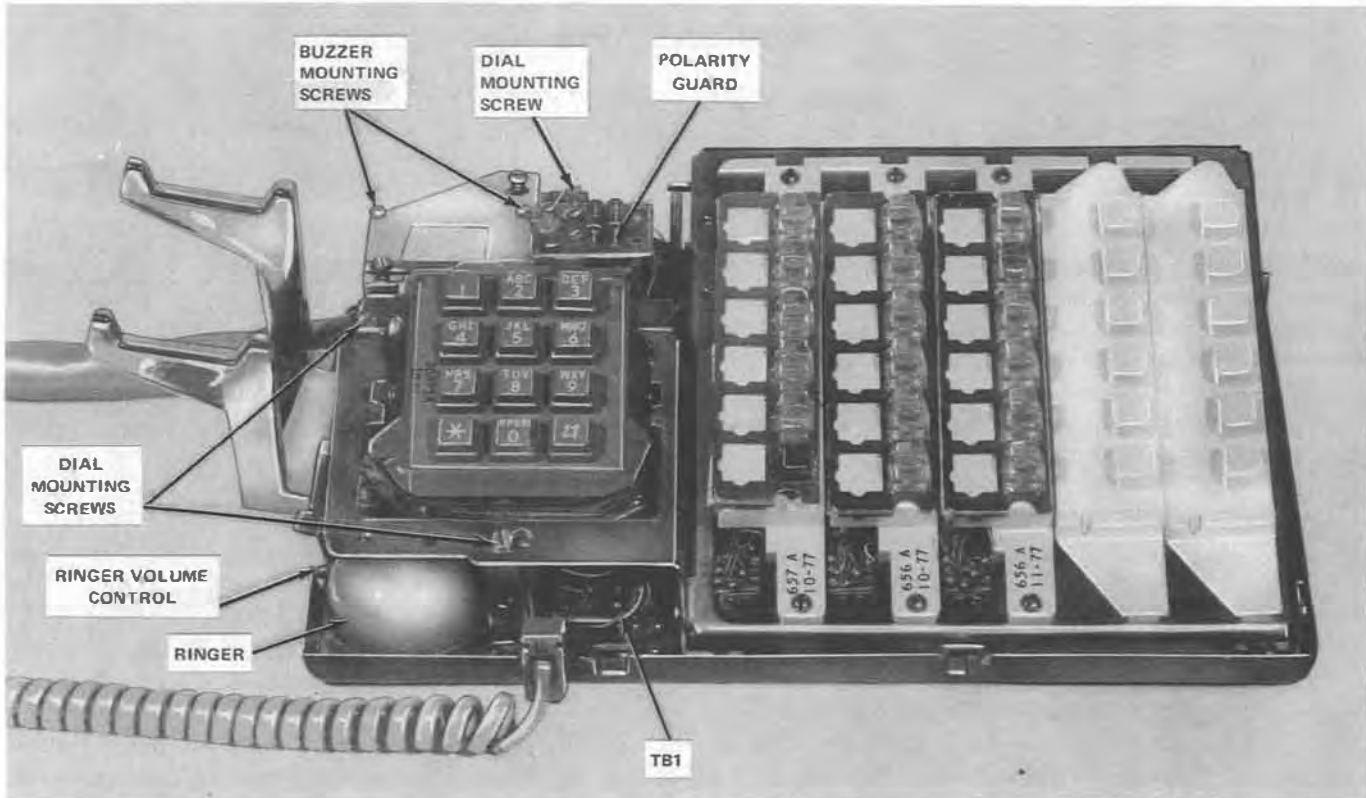


Fig. 2—2685AM1 Telephone Set, Housing Removed

- Cord, Mounting, D200F-\* (2865-type sets)
- Housing (2684A- and 2685A-type sets) Table C
- Housing (2684AM and 2865AM-type sets) Table D
- Key
- Bezel
- Faceplate
- Mat, Paper

Tables B, E, F, and G

(c) **Replaceable Optional Components:**

- Buzzer, KS-8109L2 (ac or de)
- Buzzer, KS-20419L1 (10 volt ac only)
- Loudspeaker, 760A (MD)

- Unit, Control, 55B (MD)
- Unit, Control, J-53041D

See Note

(d) **Loose Parts Furnished with Set:**

- Subscriber Instruction Booklet (SIB 2473)
- 811218585 (P-12A858) Blocking Ring
- 814151290 (P-44E129) Designation Strip
- 814451308 (P-44E130) Designation Strip (sets equipped with 617A key)
- Paper Mat (gold and silver; see Tables E and F)

\* Add color code from Table A.

**Note:** The 55B control unit is required with sets for 3B (MD) speakerphone use on two wire circuits. The 55B and J-53041D control unit are required with sets for 3B speakerphone

use on 4-wire circuits. Connections for 4A speakerphone system must be engineered locally. Refer to SD-69923-01 and Section 512-730-460 for Reference.

## COLOR

**2.02** These CALL DIRECTOR telephone sets are available in standard telephone set colors with coordinated color paper mats. One gold mat and one silver mat is shipped loose with each set (Tables E and F).

TABLE A  
COORDINATED COLOR SCHEME

| TELEPHONE SET, CORD, HOUSING, AND HANDSET |      | PAPER MAT COORDINATED COLOR |      |
|-------------------------------------------|------|-----------------------------|------|
| COLOR                                     | CODE | COLOR                       | CODE |
| Black                                     | -03  | Charcoal                    | -70  |
| Green                                     | -51  | Lt. Green                   | -71  |
| Red                                       | -53  | Muted Red                   | -69  |
| Yellow                                    | -56  | Lt. Yellow                  | -72  |
| White                                     | -58  | Lt. Gray                    | -73  |
| Lt. Beige                                 | -60  | Muted Beige                 | -75  |
| Lt. Gray                                  | -61  | Charcoal                    | -70  |
| Aqua Blue                                 | -62  | Muted Blue                  | -76  |
|                                           |      | Silver                      | -78  |
|                                           |      | Gold                        | -79  |

## DESIGN FEATURES

**2.03** These sets have the following design features:

- Removable faceplate and mat
- Pushbutton key positions convertible to signaling
- 6 transfer line switch
- 2- or 4-wire operation

- Polarity guard for end-to-end signaling capability
- 18- and 30-line capacity
- Optional headset adjunct.

## APPLICATION

**2.04** These sets are intended for:

- Specially engineered line circuits of 1A1, 1A2, or 6A key telephone systems having 2- or 4-wire capability per SD-69581-01
- Standard 3B (MD) speakerphone for 2-wire line circuits (2684A- and 2685A-type)
- 3B speakerphone modified for 4-wire line circuits (2684A- and 2685A-type)

## 3. INSTALLATION

**3.01 *Planning:*** When installing the 2684- or 2685-type telephone set and its optional services, consider the following:

- Safety for yourself, customer, and maintenance personnel
- Distance between apparatus and associated equipment
- Space requirements
- General appearance of installation

**3.02 *Installing the Set:***

- Remove housing with faceplate and mat by loosening two screws at rear of set
- Install key units as necessary and make connections of key leads
- Stamp key designation strips and install under lamp strip
- Assure connections are correct and tight, and reassemble set
- Connect plug-ended mounting cord to appropriate connector cable

TABLE B

## TELEPHONE SET CODES AND MODULE ARRANGEMENTS (NOTE)

| TELEPHONE SET              |       | SET EQUIPPED WITH |            |            |            |            |              |
|----------------------------|-------|-------------------|------------|------------|------------|------------|--------------|
| TYPE                       | CODE† | LEFT MODULE       | 2ND MODULE | 3RD MODULE | 4TH MODULE | 5TH MODULE |              |
| 2684A (MD)<br>or<br>2684AM | 1     | 657A              | 656A       | 105B       |            |            |              |
|                            | 2     |                   |            | 656A       |            |            |              |
|                            | 4     |                   |            | 617A       |            |            |              |
|                            | 6     |                   |            | 105B       |            |            |              |
|                            | 7     | 657B              |            | 656A       |            |            |              |
|                            | 9     | 656A              |            | 105B       |            |            |              |
|                            | 10    |                   |            | 656A       |            |            |              |
|                            | 11*   | 657A              |            | 617A       |            |            | 667B<br>(MD) |
|                            | 12*   |                   |            |            |            |            |              |
|                            | 13*   | 657B              |            | 656A       |            |            | 59A          |
|                            | 14    | 657A              |            |            |            |            |              |
|                            | 15    | 657B              |            |            |            |            |              |
| 2685A (MD)<br>or<br>2685AM | 1     | 657A              | 656A       | 656A       | 105B       | 105B       |              |
|                            | 2     |                   |            |            | 656A       | 656A       |              |
|                            | 3     |                   |            |            |            | 617A       |              |
|                            | 4     |                   |            |            |            | 617A       |              |
|                            | 5     |                   |            |            | 657B       | 59A        |              |
|                            | 9     |                   |            |            |            | 105B       | 105B         |
|                            | 10    | 656A              |            |            |            |            |              |
|                            | 11    | 656A              |            |            | 656A       |            |              |
|                            | 12    |                   |            |            | 656A       |            |              |
|                            | 13    |                   |            |            | 105B       |            |              |
|                            | 14    | 657A              |            |            | 105B       |            |              |
|                            | 15    |                   |            |            | 656A       |            |              |
|                            | 16*   |                   |            |            | 105B       |            |              |
|                            | 17*   | 657A              |            |            | 656A       | 667B       |              |
|                            | 18*   |                   |            |            | 617A       | (MD)       |              |
| 19                         | 656A  |                   | 59A        |            |            |            |              |

Note: The 656- and 657-type keys are electrically the same as and are interchangeable with the 598- and 599-type keys, refer to Section 512-230-100.

Module Identification  
 59A — Lamp Socket  
 105B — Apparatus Blank  
 656A — 6 Pickup Positions  
 657A — 5 Pickup and 1 Hold Position

657B — 1 Turnbutton, 4 Pickup, and  
 1 Hold Positions  
 617A — 12 Nonlocking Signal Keys  
 667B — Speakerphone Transmitter  
 Unit

\* These codes available in the 2684A- and 2685A-type telephone sets only.

† See Table A for color code.

TABLE C  
HOUSING ASSEMBLIES FOR 2684A- AND 2685A-TYPE  
TELEPHONE SETS

| TELEPHONE SET | HOUSING ASSEMBLY     |           |
|---------------|----------------------|-----------|
|               | NUMBER               | COLOR     |
| 2684A-Type    | 818430035 (P-84C003) | Black     |
|               | 818430514 (P-84C051) | Green     |
|               | 818430530 (P-84C053) | Red       |
|               | 818430563 (P-84C056) | Yellow    |
|               | 818430589 (P-84C058) | White     |
|               | 818430605 (P-84C060) | Lt. Beige |
|               | 818430621 (P-84C062) | Aqua Blue |
| 2685A-Type    | 818431033 (P-84C103) | Black     |
|               | 818431512 (P-84C151) | Green     |
|               | 818431538 (P-84C153) | Red       |
|               | 818431561 (P-84C156) | Yellow    |
|               | 818431587 (P-84C158) | White     |
|               | 818431603 (P-84C160) | Lt. Beige |
|               | 818431629 (P-84C162) | Aqua Blue |

- Remove faceplate and install number card in space provided below dial by removing paper covering adhesive area.

### 3.03 *Installing Optional Components:*

- To install 697A (MD) headset adjunct:
  - (1) Remove telephone set housing, faceplate, and mat by loosening two screws at rear of set.
  - (2) Place headset adjunct near telephone set assuring that headset jacks and foot switch are convenient to the user.
  - (3) Make necessary connections of D20J mounting cord from adjunct as outlined in Table I.
  - (4) Install set housing, faceplate, and mat.

- (5) Internal connections of the 697A subset are shown in Section 529-110-407.

- To install KS-8109L2 buzzer:

- (1) Remove telephone set housing, faceplate, and mat by loosening two screws at rear of set.
- (2) Remove two steel screws from the plastic buzzer mounting bracket provided at the dial mounting and install the buzzer using these screws. Buzzer must be insulated from the metal base of the set.
- (3) Make necessary wiring connections as shown in Fig. 10.
- (4) Install set housing, faceplate, and mat.

3.04 A KS-20419L1 miniature buzzer (6-10 volt ac) may be installed at any convenient location within the telephone set. Provide mounting screw as required or secure buzzer using an existing screw. Connect BZ and BZ1 mounting cord leads to (BL) buzzer leads at spare screw terminals or use D-141688 connectors. Refer to appropriate section in Division 501 for detailed information on KS-20419L1 buzzer.

4. CONNECTION INDEX



*No changes in wiring other than those specified in this practice shall be made.*

Table H—Connections For 667B(MD) Transmitter

Table I—Connections For 697A Subscriber Set, Headset Adjunct Unit

Table J—Conversion of Pickup Key to Signaling (Nonlocking)

Table K—Connections For 657B key (Turn Key)

Fig. 3—657A Key

Fig. 4—657B Key

Fig. 5—656A Key

Fig. 6—667B (MD) Transmitter

Fig. 7—617A Key

Fig. 8—59A Lamp Socket (Use 51A Lamps)

Fig. 9—Jack Assembly Connections for 2684AM- and 2685AM-Type Telephone Set Equipped With Modular Handset and Handset Cord

Fig. 10—2684- or 2685-Type Telephone Set, Connections

Fig. 11—Cord and Cable Connections

5. MAINTENANCE

5.01 Maintenance of 2684- and 2685-type telephone sets is limited to cleaning plastic surfaces, lubricating bearing surfaces of line switch, and replacing defective key units or components.

(a) **Cleaning:**

- Clean exterior plastic parts using water dampened KS-2423 cloth
- **Do not** use scouring cleansers on colored components as this may damage finish
- If cleaning does not result in desired appearance, replace component or entire set.

(b) **Lubricating:**

- Lubricate bearing surfaces of line switch assembly with KS-14774L1 lubricant when required.

(c) **Replacing Components:**

- Refer to sections covering keys, dials, handsets, cords, etc. for replacement of these components
- See Part 2, Ordering Guide, for replacement part numbers
- To replace modular key unit:
  - (1) Remove set housing, faceplate, and mat by loosening two screws in rear of set.
  - (2) Loosen screw on each side of key frame and raise frame to gain access to terminal boards.
  - (3) Disconnect spade-tipped leads of key unit to be removed, if required.
  - (4) Loosen captive screws securing key module to frame and lift key from frame and connector assembly.
  - (5) Install new key unit by reversing procedure (1) through (4).

**TABLE D**  
**HOUSING ASSEMBLIES FOR 2684AM- AND 2685AM-TYPE**  
**TELEPHONE SETS**

| TELEPHONE SET | HOUSING ASSEMBLY |           |
|---------------|------------------|-----------|
|               | HOUSING          | COLOR     |
| 2684AM-Type   | 840715304        | Black     |
|               | 840715262        | Green     |
|               | 840715312        | Red       |
|               | 840715320        | Yellow    |
|               | 840715270        | White     |
|               | 840715288        | Lt. Beige |
|               | 840715296        | Lt. Gray  |
|               | 840715338        | Aqua Blue |
| 2685AM-Type   | 840712327        | Black     |
|               | 840712335        | Green     |
|               | 840712343        | Red       |
|               | 840712350        | Yellow    |
|               | 840712368        | White     |
|               | 840712376        | Lt. Beige |
|               | 840712384        | Lt. Gray  |
|               | 840712392        | Aqua Blue |

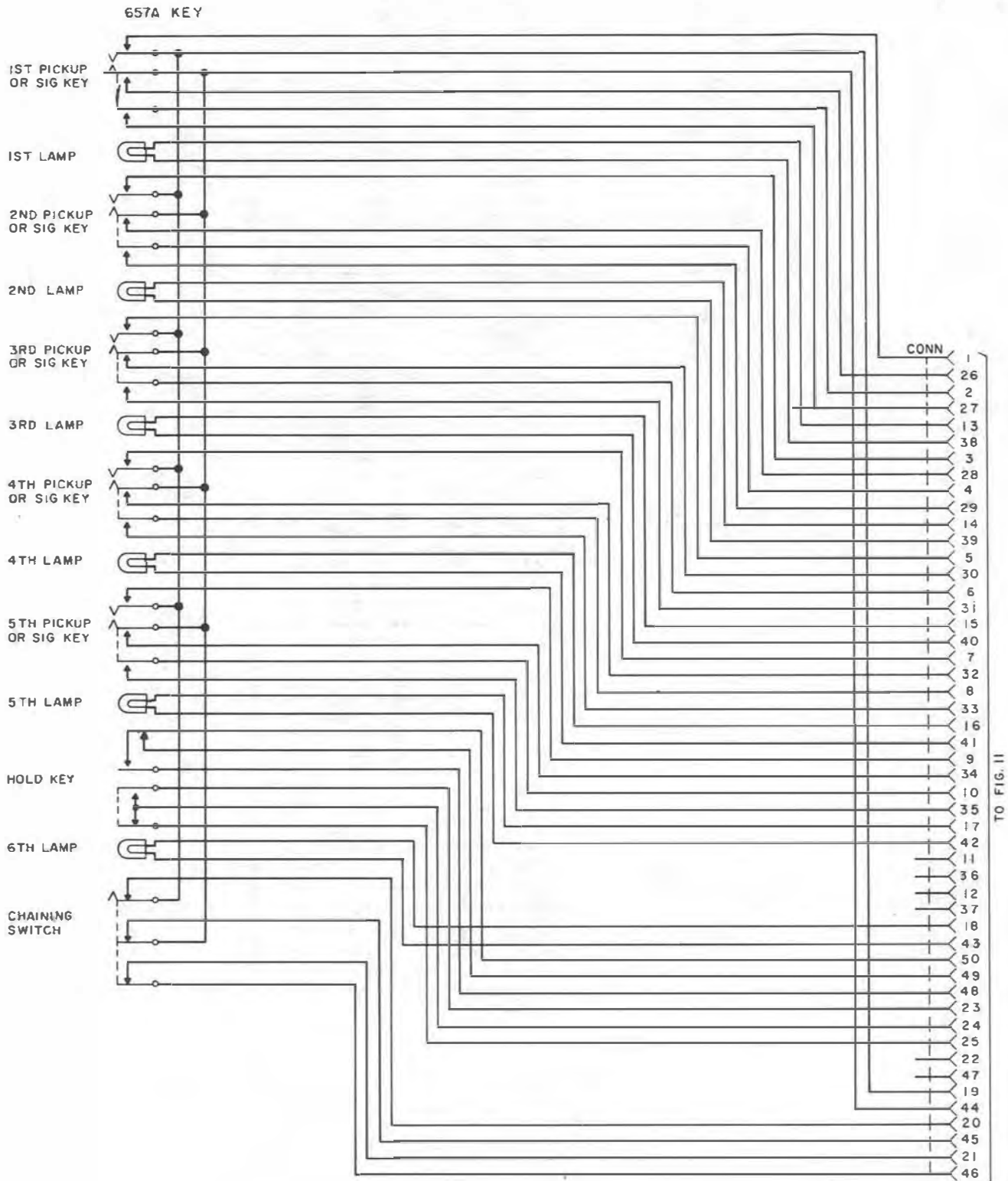


Fig. 3—657A Key



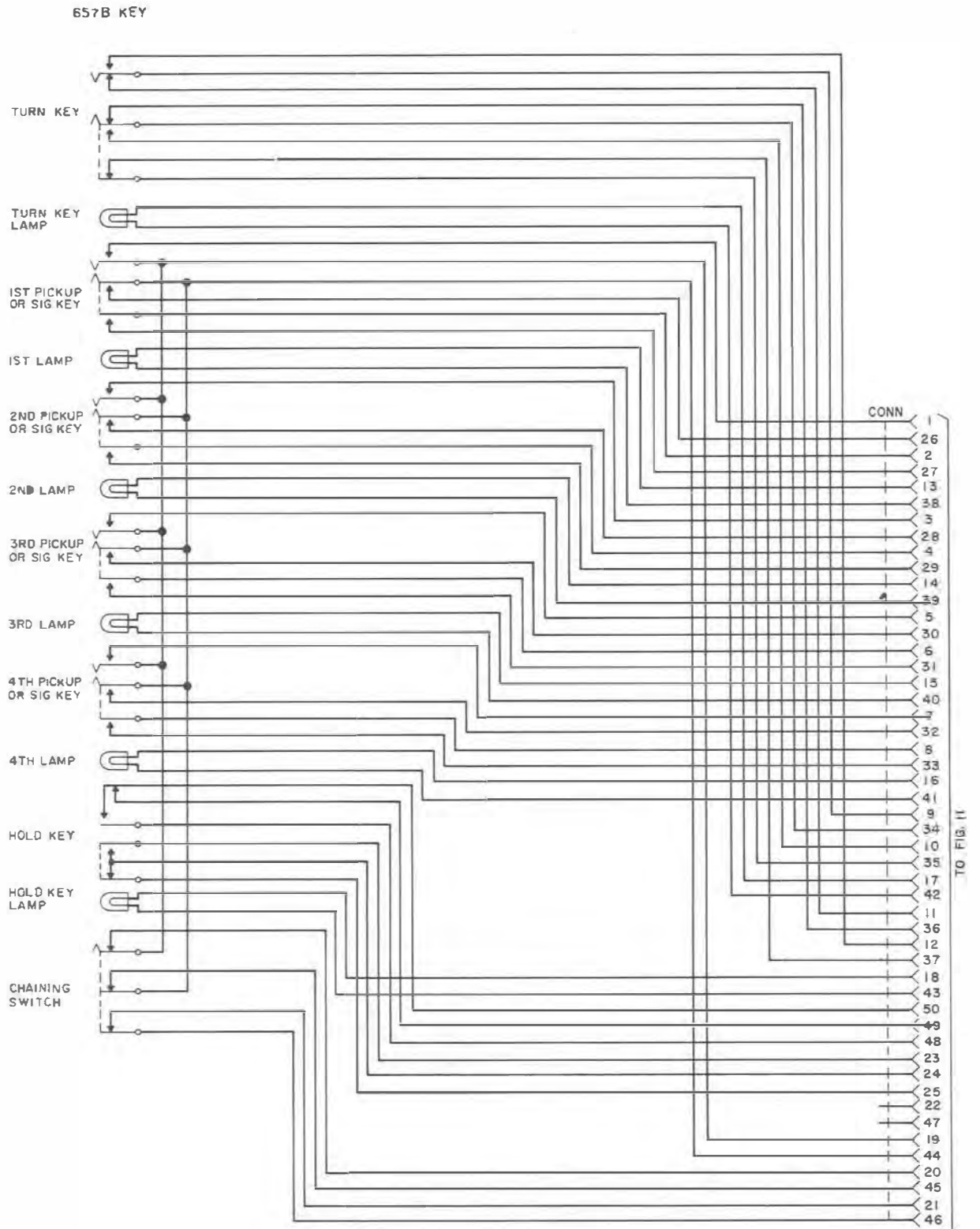


Fig. 4—657B Key

656A KEY

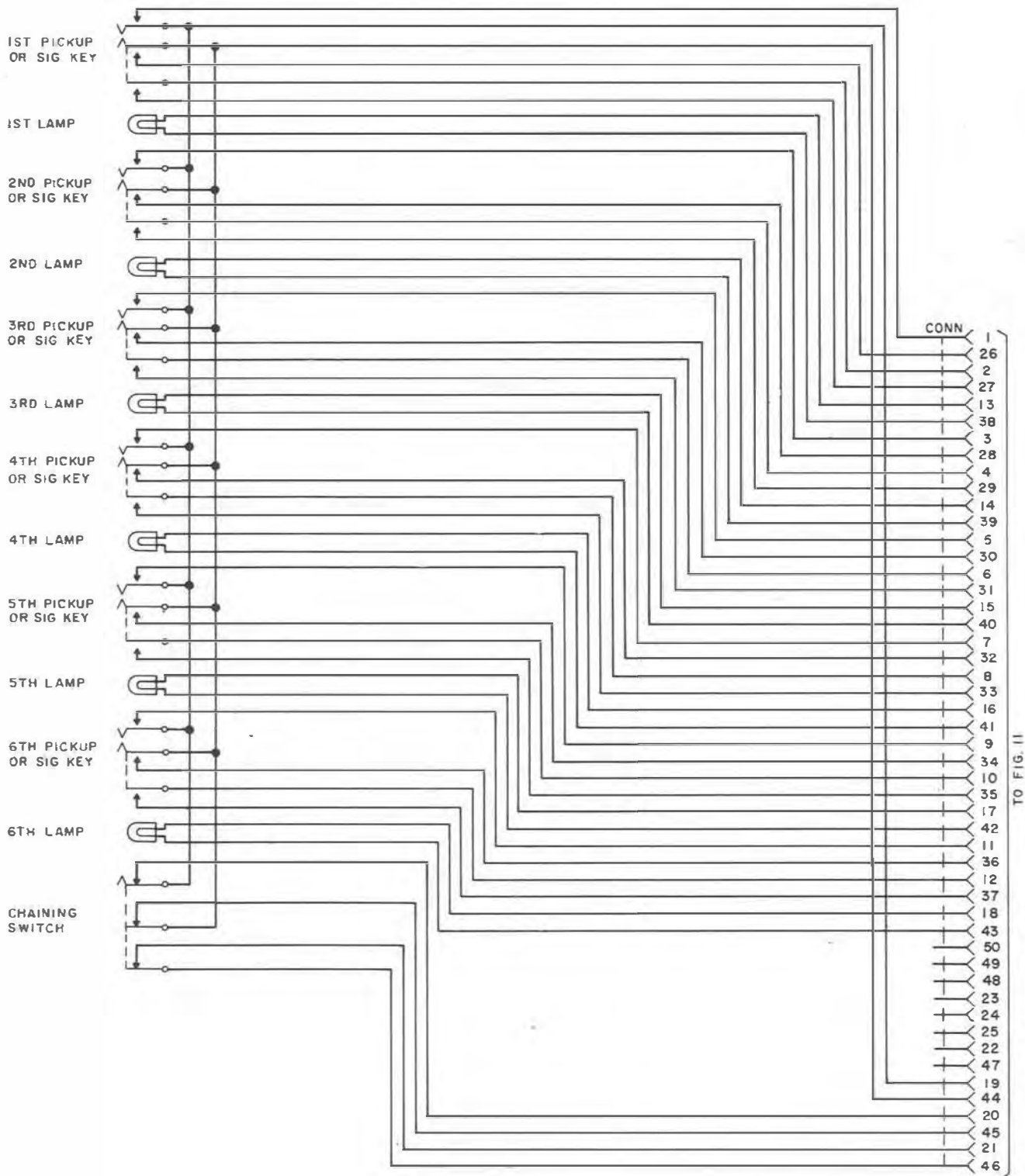
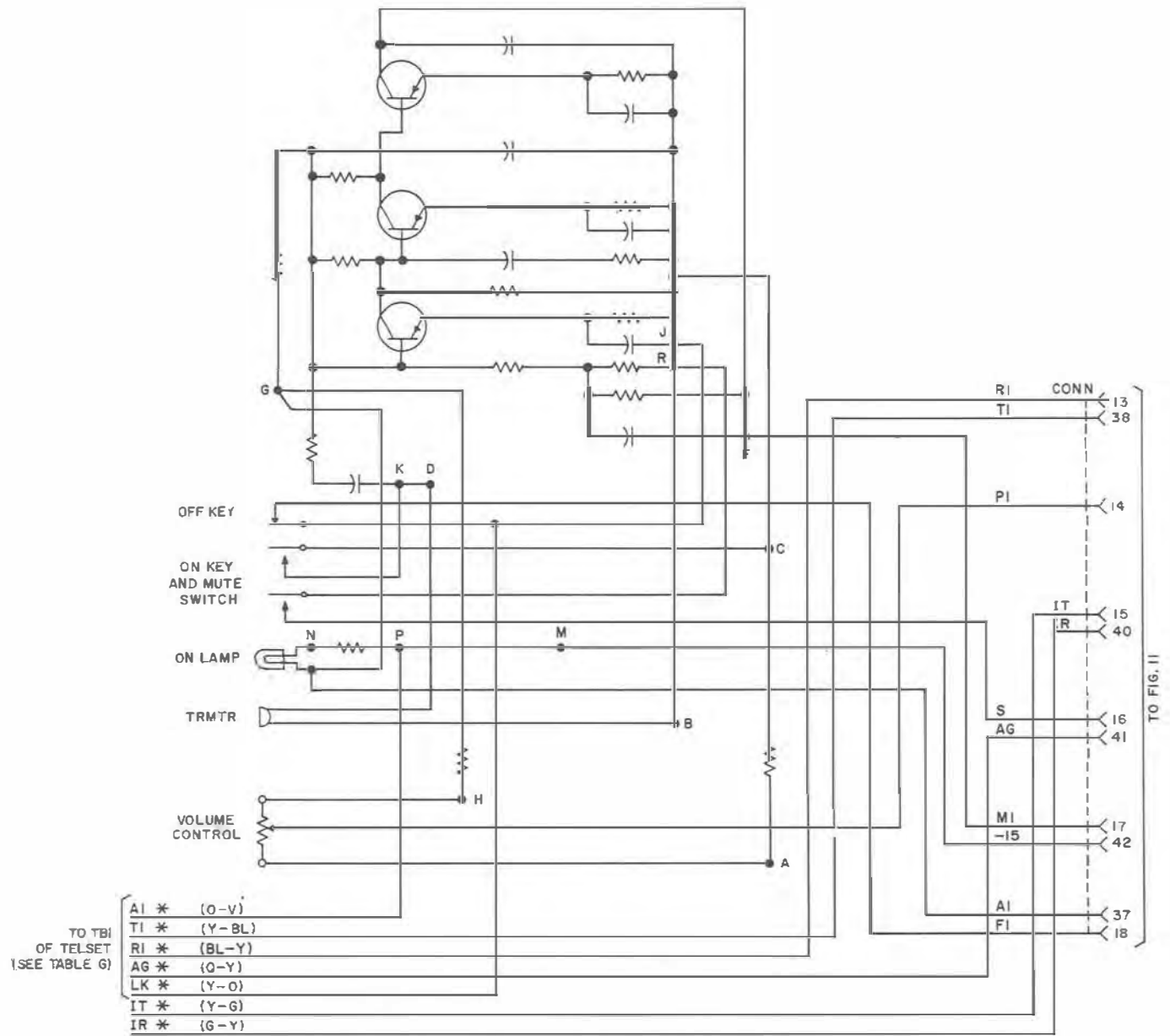


Fig. 5—656A Key

6678  
TRANSMITTER



\* LEADS ARE SPADE TIPPED AND OF SUFFICIENT LENGTH TO REACH TBI WHEN TRANSMITTER MODULE IS IN THE 5TH KEY POSITION OF 2695A-TYPE TELEPHONE SET.

Fig. 6—6678 (MD) Transmitter

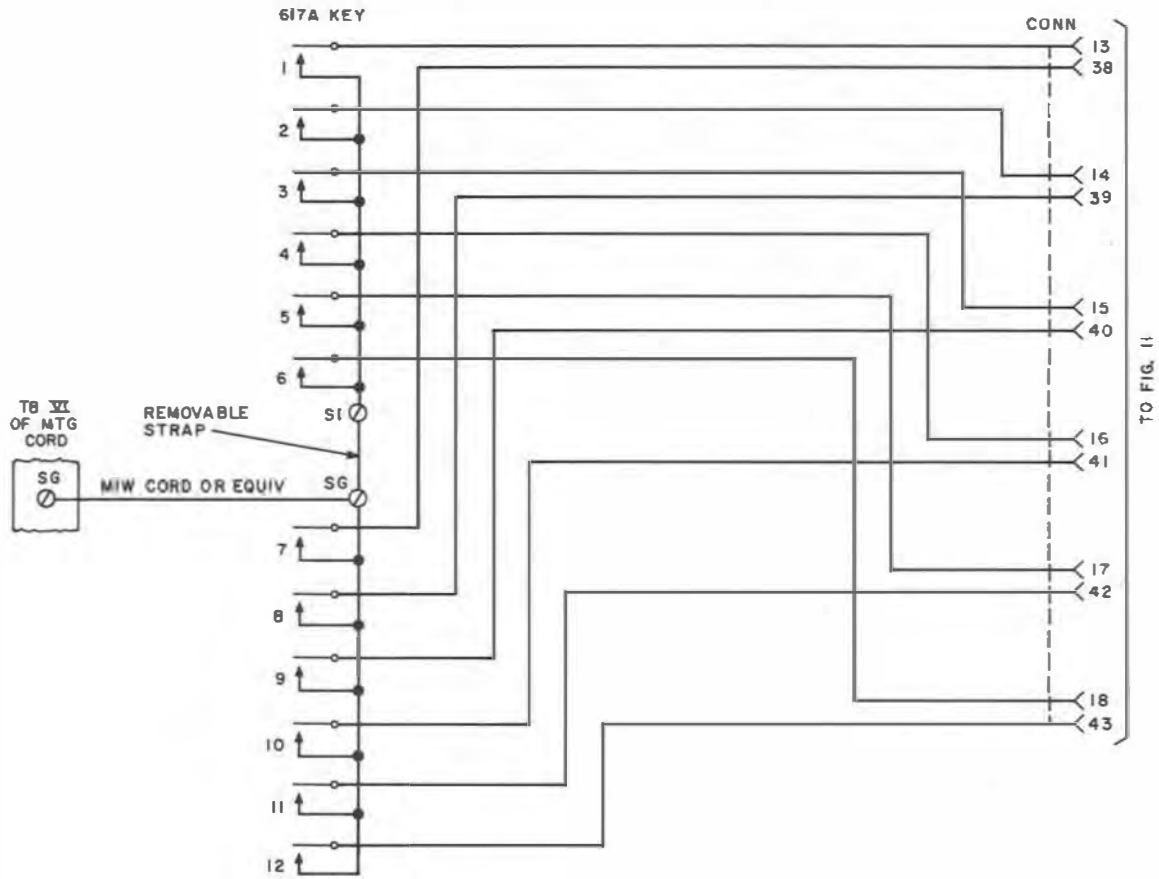


Fig. 7—617A Key

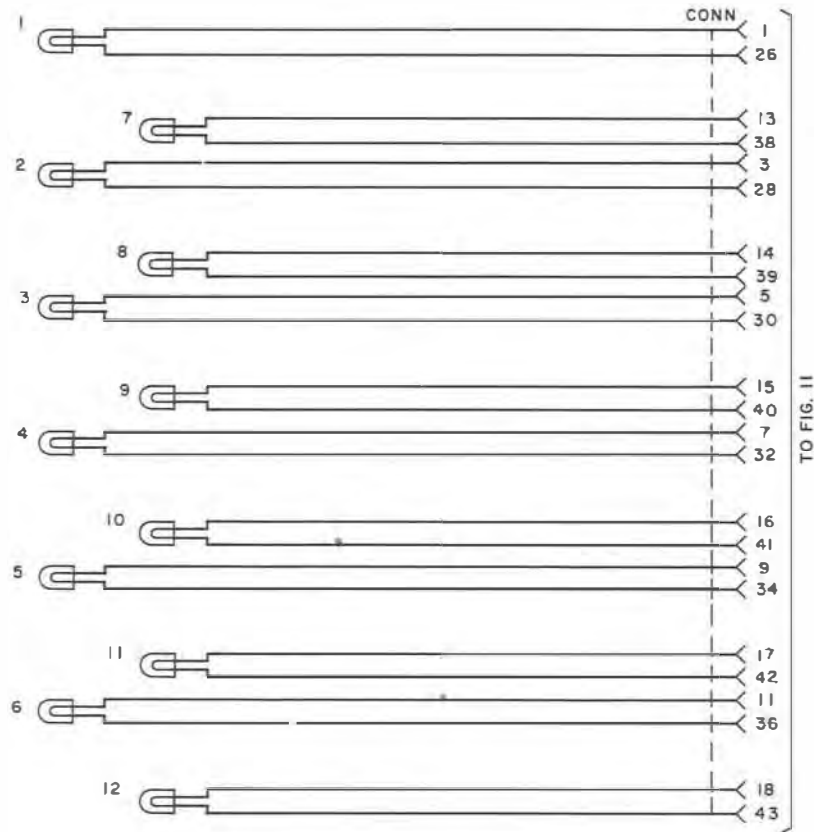


Fig. 8—59A Lamp Socket (use 51A Lamps)

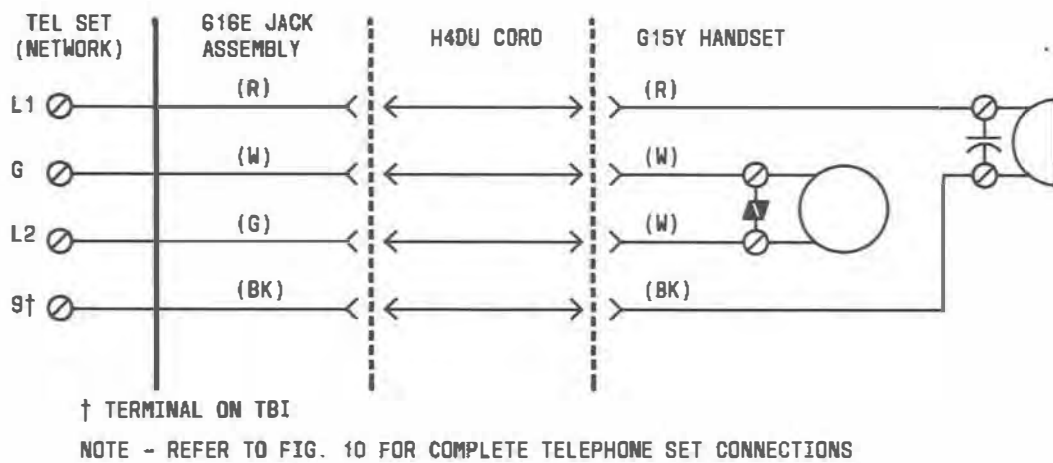


Fig. 9—Jack Assembly Connections for 2684AM- and 2685AM-type Telephone Set Equipped With Modular Handset and Handset Cord (Note)

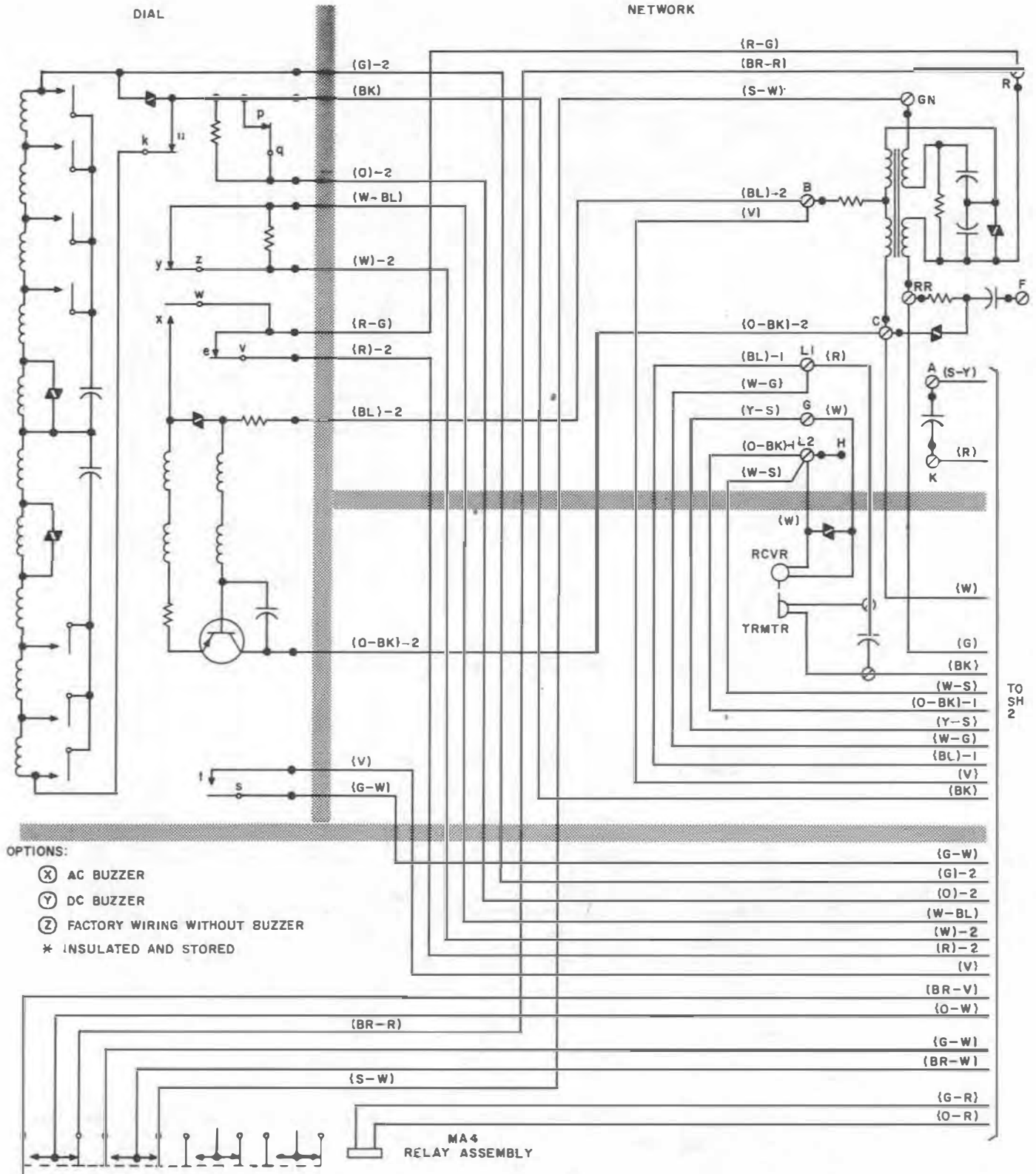


Fig. 10—2684- or 2685-Type Telephone Set, Connections (Sheet 1 of 2)

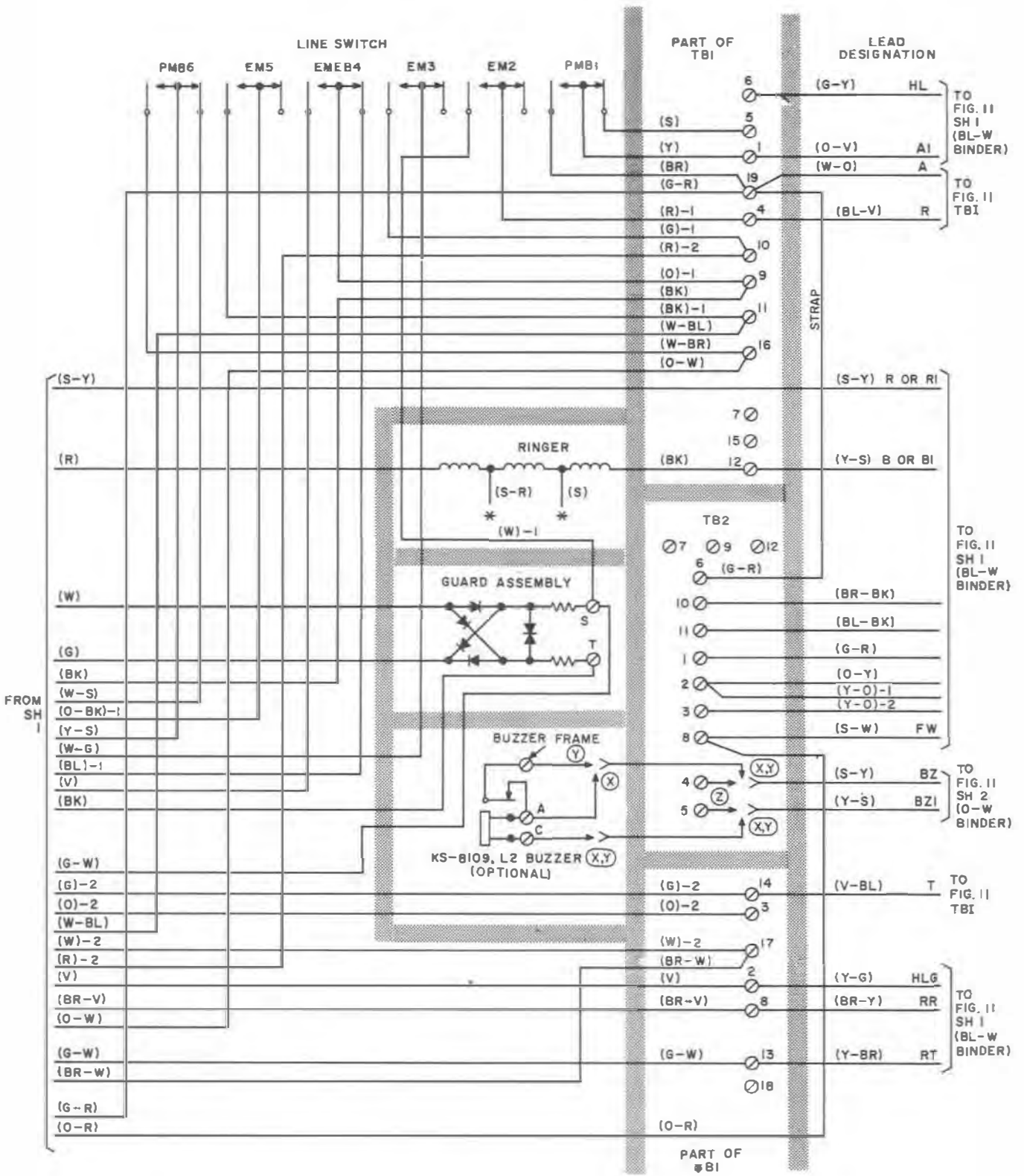


Fig. 10—2684- or 2865-Type Telephone Set, Connections (Sheet 2 of 2)

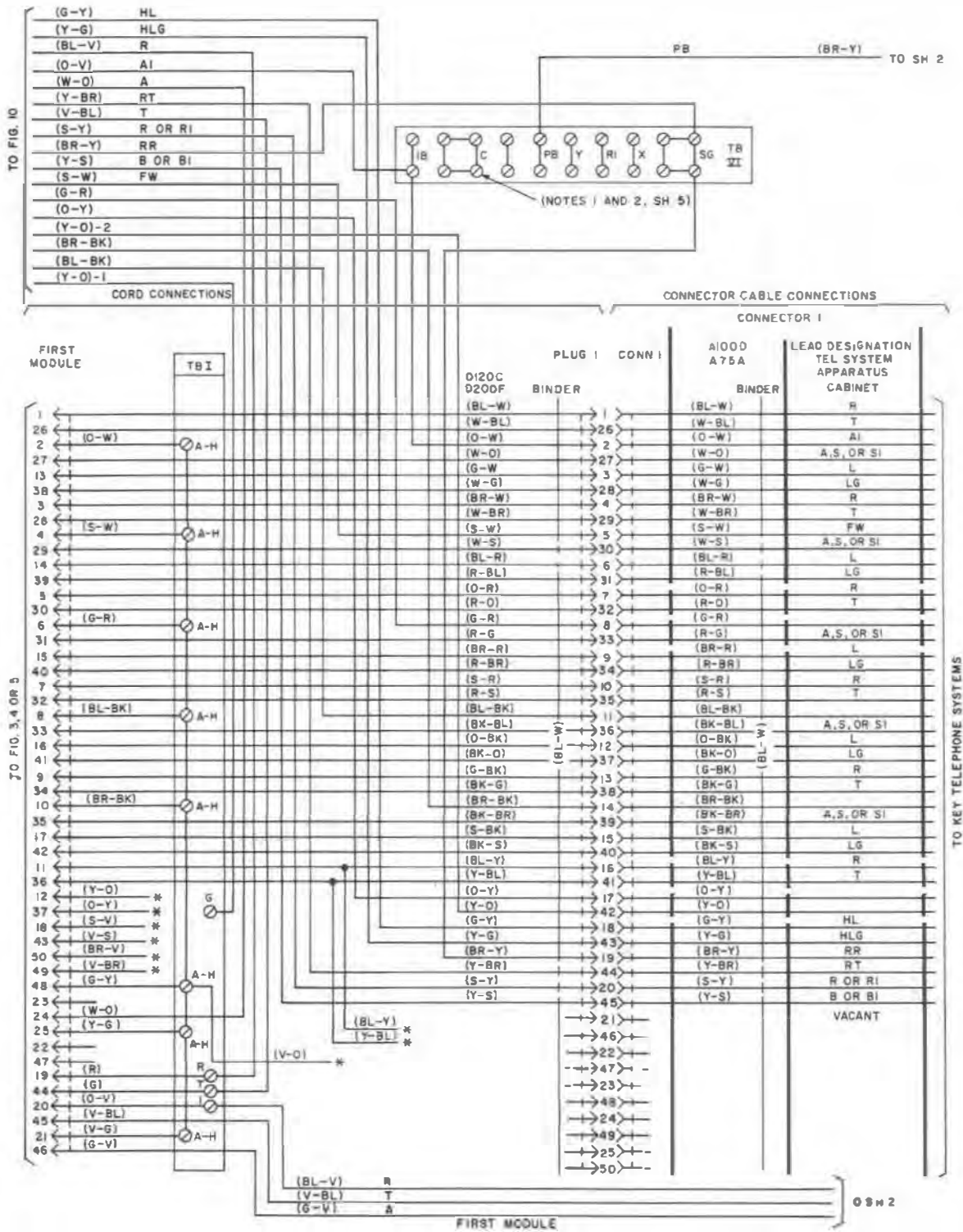


Fig. 11—Cord and Cable Connections (Sheet 1 of 5)



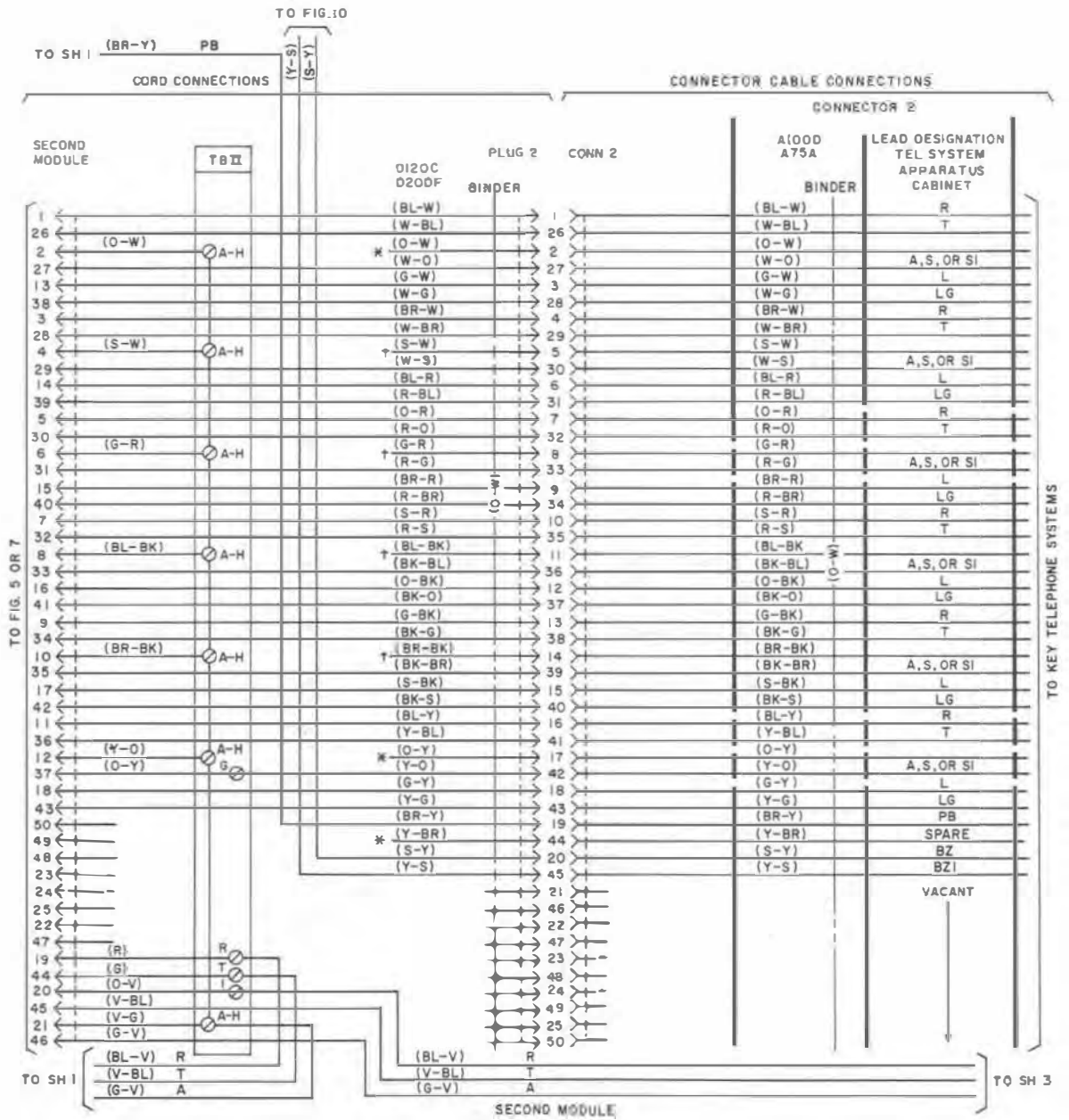


Fig. 11—Cord and Cable Connections (Sheet 2 of 5)

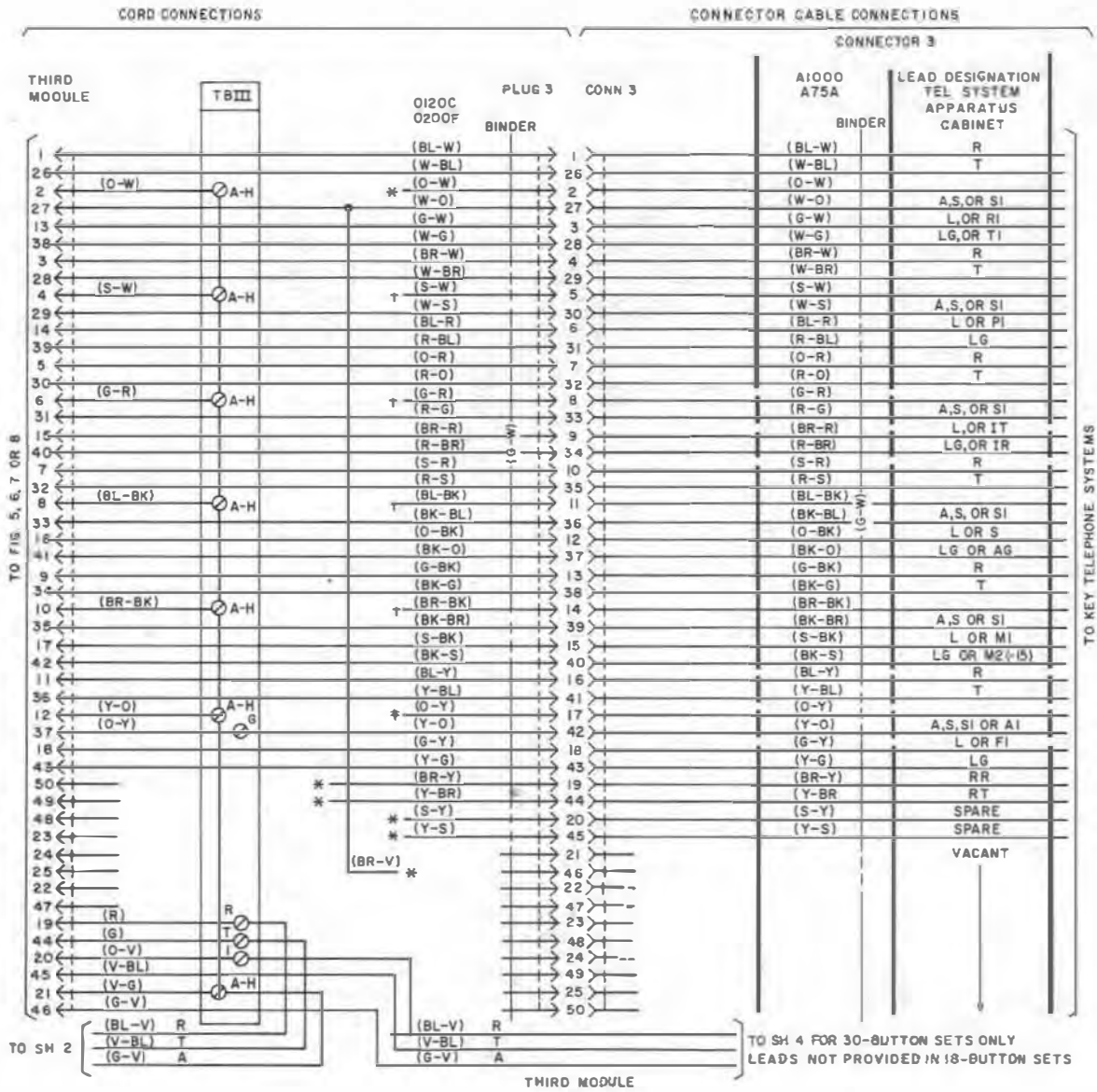


Fig. 11—Cord and Cable Connections (Sheet 3 of 5)

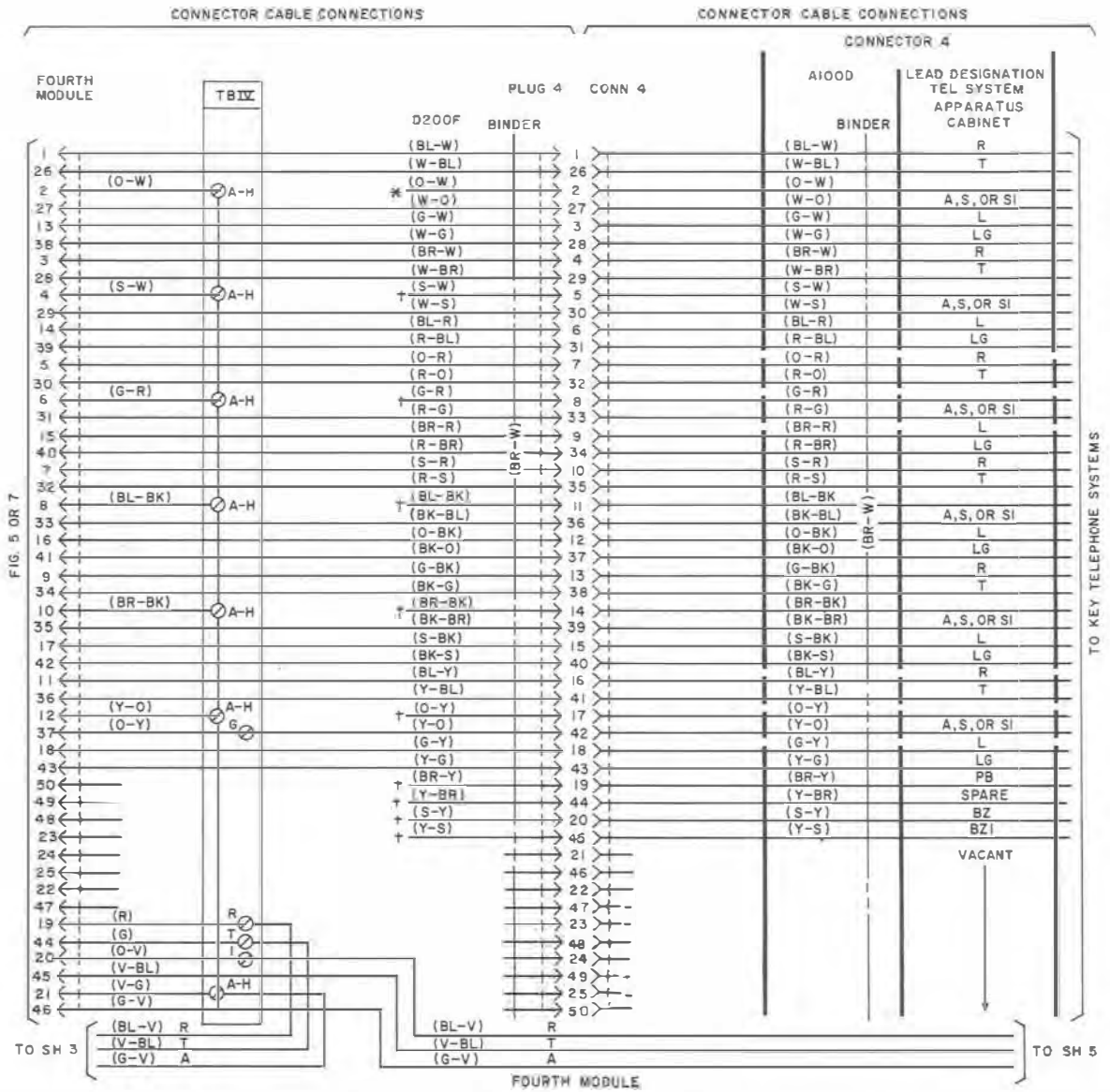
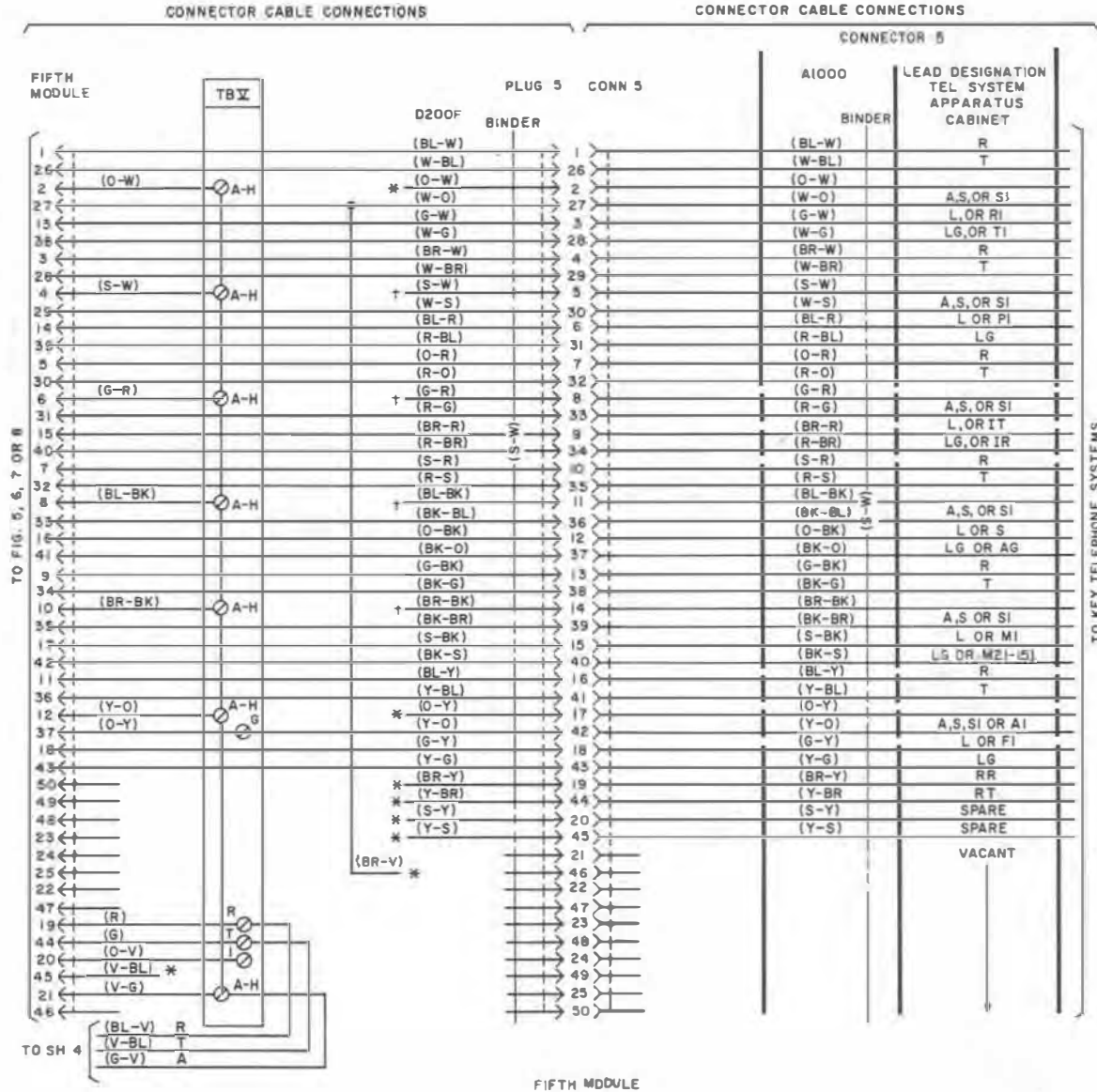


Fig. 11—Cord and Cable Connections (Sheet 4 of 5)



CIRCUIT SYMBOLS:  
 \* INDICATES LEADS ARE SPADE TIPPED, INSULATED AND STORED.  
 † INDICATES LEADS ARE DEAD ENDED.  
 ‡ INDICATES LEADS ARE SPADE TIPPED, INSULATED, AND STORED IN THIRD MODULE OF 1B-BUTTON SETS AND DEAD ENDED IN 30-BUTTON SETS.

NOTES:  
 1. WHEN SIGNALING KEYS OTHER THAN THE 617A ARE PROVIDED, CONNECT THE SPADE-TIPPED LEADS ASSOCIATED WITH THE CONVERTED PICKUP KEYS TO THE SG TERMINAL ON TERMINAL BLOCK 6. IF ADDITIONAL TERMINALS ARE REQUIRED, PROVIDE AN MIW STRAP, OR EQUIVALENT, BETWEEN THE C OR S AND SG TERMINALS ON TERMINAL BLOCK 6.  
 2. WHEN MORE THAN FIVE PRIVATE AND INTERCOMMUNICATING LINES WITH COMMON SIGNAL KEY ARE REQUIRED PER TELEPHONE SET, AND WHERE THE 617A KEY IS NOT USED, STRAP TOGETHER C TERMINALS OF RESPECTIVE 6-BUTTON KEY UNITS REQUIRING COMMON SIGNALING FEATURE.  
 3. WITH 636A KEY IN FIRST MODULE CONNECT (Y-O) LEAD TO TB2-3, (S-V) LEAD TO TB1-3, (V-S) LEAD TO TB1-2, THESE SPADE-TIPPED LEADS ARE STORED IN 1ST MODULE. DISCONNECT, INSULATE, AND NO STORE (V) LEAD CONNECTED TO TB1-2.

Fig. 11—Cord and Cable Connections (Sheet 5 of 5)

TABLE E

MATS FOR 2684-TYPE TELEPHONE SETS

| TELEPHONE SET<br>2684-TYPE                           |           | MATS                 |             |                         |                         |
|------------------------------------------------------|-----------|----------------------|-------------|-------------------------|-------------------------|
| CODE                                                 | COLOR     | COORDINATED COLOR    |             | SILVER                  | GOLD                    |
| 1,<br>2,<br>4,<br>6,<br>7,<br>9,<br>10,<br>14,<br>15 | Black     | 818380701 (P-83H070) | Charcoal    | 818380784<br>(P-83H078) | 818380792<br>(P-83H079) |
|                                                      | Green     | 818380719 (P-83H071) | Lt. Green   |                         |                         |
|                                                      | Red       | 818380693 (P-83H069) | Muted Red   |                         |                         |
|                                                      | Yellow    | 818380727 (P-83H072) | Lt. Yellow  |                         |                         |
|                                                      | White     | 818380735 (P-83H073) | Lt. Gray    |                         |                         |
|                                                      | Lt. Beige | 818380750 (P-83H075) | Muted Beige |                         |                         |
|                                                      | Lt. Gray  | 818380701 (P-83H070) | Charcoal    |                         |                         |
|                                                      | Aqua Blue | 818380768 (P-83H076) | Muted Blue  |                         |                         |
| 11,<br>12,<br>13                                     | Black     | 818381709 (P-83H170) | Charcoal    | 818381782<br>(P-83H178) | 818381790<br>(P-83H179) |
|                                                      | Green     | 818381717 (P-83H171) | Lt. Green   |                         |                         |
|                                                      | Red       | 818381691 (P-83H169) | Muted Red   |                         |                         |
|                                                      | Yellow    | 818381725 (P-83H172) | Lt. Yellow  |                         |                         |
|                                                      | White     | 818381733 (P-83H173) | Lt. Gray    |                         |                         |
|                                                      | Lt. Beige | 818381758 (P-83H175) | Muted Beige |                         |                         |
|                                                      | Lt. Gray  | 818381709 (P-83H170) | Charcoal    |                         |                         |
|                                                      | Aqua Blue | 818381766 (P-83H176) | Muted Blue  |                         |                         |

TABLE F  
MATS FOR 2685-TYPE TELEPHONE SET

| TELEPHONE SET<br>2685-TYPE                                                       |                      | MATS                 |                      |                         |                         |
|----------------------------------------------------------------------------------|----------------------|----------------------|----------------------|-------------------------|-------------------------|
| CODE                                                                             | COLOR                | COORDINATED COLOR    |                      | SILVER                  | GOLD                    |
| 1,<br>2,<br>3,<br>4,<br>5,<br>9,<br>10,<br>11,<br>12,<br>13,<br>14,<br>15,<br>19 | Black                | 818480709 (P-84H070) | Charcoal             | 818480782<br>(P-84H078) | 818480790<br>(P-84H079) |
|                                                                                  | Green                | 818480717 (P-84H071) | Lt. Green            |                         |                         |
|                                                                                  | Red                  | 818480691 (P-84H069) | Muted Red            |                         |                         |
|                                                                                  | Yellow               | 818480725 (P-84H072) | Lt. Yellow           |                         |                         |
|                                                                                  | White                | 818480733 (P-84H073) | Lt. Gray             |                         |                         |
|                                                                                  | Lt. Beige            | 818480758 (P-84H075) | Muted Beige          |                         |                         |
|                                                                                  | Lt. Gray             | 818480709 (P-84H070) | Charcoal             |                         |                         |
|                                                                                  | Aqua Blue            | 818480766 (P-84H076) | Muted Blue           |                         |                         |
|                                                                                  | 16,<br>17,<br>18     | Black                | 818481707 (P-84H170) |                         |                         |
| Green                                                                            |                      | 818481715 (P-84H171) | Lt. Green            |                         |                         |
| Red                                                                              |                      | 818481699 (P-84H169) | Muted Red            |                         |                         |
| Yellow                                                                           |                      | 818481723 (P-84H172) | Lt. Yellow           |                         |                         |
| White                                                                            |                      | 818481731 (P-84H173) | Lt. Gray             |                         |                         |
| Lt. Beige                                                                        |                      | 818481756 (P-84H175) | Muted Beige          |                         |                         |
| Lt. Gray                                                                         |                      | 818481707 (P-84H170) | Charcoal             |                         |                         |
| Aqua Blue                                                                        | 818481764 (P-84H176) | Muted Blue           |                      |                         |                         |

TABLE G

2684A AND 2685A-TYPE TELEPHONE SETS FACEPLATES  
AND BEZELS

| TELEPHONE SET | CODE   | FACEPLATE ASSEMBLY (NOTE 1) | FACEPLATE ONLY          | BEZEL ASSEMBLY (NOTE 2)             |
|---------------|--------|-----------------------------|-------------------------|-------------------------------------|
| 2684A         | 1      | 220A1-                      | 812166056<br>(P-21F605) | 814455085<br>(P-44E508)<br>(Note 2) |
|               | 2      |                             |                         |                                     |
|               | 4      | 220B1-                      | 812166064<br>(P-21F606) |                                     |
|               | 6      | 220A1-                      | 812166056<br>(P-21F605) |                                     |
|               | 7      |                             |                         |                                     |
|               | 9      |                             |                         |                                     |
|               | 10     |                             |                         |                                     |
|               | 11     | 220C1-                      | 812166072<br>(P-21F607) |                                     |
|               | 12     | 220D1-                      | 812166080<br>(P-21F608) |                                     |
|               | 13     | 220C1-                      | 812166072<br>(P-21F607) |                                     |
|               | 14     | 220J1-                      | 812166098<br>(P-21F609) |                                     |
|               | 15     |                             |                         |                                     |
|               | 2685A  | 1                           | 221A1-                  |                                     |
| 2             |        |                             |                         |                                     |
| 3             |        |                             |                         |                                     |
| 4             |        | 221B1-                      | 812166866<br>(P-21F686) |                                     |
| 5             |        | 221E1-                      | 812166890<br>(P-21F689) |                                     |
| 9             |        | 221F1-                      | 812166908<br>(P-21F690) |                                     |
| 10            |        | 221A1-                      | 812166858<br>(P-21F685) |                                     |
| 11            |        |                             |                         |                                     |
| 12            |        |                             |                         |                                     |
| 13            |        |                             |                         |                                     |
| 14            |        |                             |                         |                                     |
| 15            |        |                             |                         |                                     |
| 16            |        | 221C1-                      | 812166874<br>(P-21F687) |                                     |
| 17            |        |                             |                         |                                     |
| 18            |        | 221D1-                      | 812166882<br>(P-21F688) |                                     |
| 19            | 221F1- | 812166908<br>(P-21F690)     |                         |                                     |

**Note 1:** Faceplate assembly consists of faceplate and three paper mats: one color coordinated, one silver, and one gold.

**2:** Bezel assembly consists of 814455051 (P-44E505) upper bezel, 814455069 (P-44E506) lower bezel, 814455077 (P-44E507) bezel retainer, RM-712661 bezel clip, and RM-712662 bezel spring.

**TABLE H**  
**CONNECTIONS FOR 667B (MD) TRANSMITTER**

| 667B<br>TRANSMITTER | TB1<br>FIG. 10 |
|---------------------|----------------|
| G-Y                 | 6              |
| Y-G                 | 2              |
| Y-BL                | 3              |
| BL-Y                | 4              |
| Y-O                 | 5              |
| O-V                 | 1              |
| O-Y                 | 19             |

**Note:** When 3-type (MD) speakerphone is provided, disconnect, insulate, and store (S-V) and (V-S) key leads from terminals 2 and 6 of TB1.



**TABLE I**  
**CONNECTIONS FOR 697A SUBSCRIBER SET**  
**HEADSET ADJUNCT UNIT**

| WIRE OR LEAD                            | COLOR | REMOVE FROM |     |                 | CONNECT TO |     |     | INSULATE AND STORE |
|-----------------------------------------|-------|-------------|-----|-----------------|------------|-----|-----|--------------------|
|                                         |       | TB1         | NET | STORED LOCATION | TB1        | TB2 | NET |                    |
| Line Switch                             | G     | 10          |     |                 | 7          |     |     |                    |
|                                         | V     |             | B   |                 |            | 12  |     |                    |
| MA4 Relay                               | O-W   | 16          |     |                 | 18         |     |     |                    |
| Dial                                    | W-BL  | 11          |     |                 | 15         |     |     |                    |
| Set Mtg Cord                            | Y-BR* |             |     | •               |            | 7   |     |                    |
| D20J<br>Mounting Cord<br>of 697A Subset | BL-W  |             |     |                 |            | 7   |     |                    |
|                                         | W-BL  |             |     |                 | 1          |     |     |                    |
|                                         | O-W   |             |     |                 | 19         |     |     |                    |
|                                         | G-V   |             |     |                 | 4          |     |     |                    |
|                                         | V-G   |             |     |                 | 14         |     |     |                    |
|                                         | BR-W  |             |     |                 |            | 9   |     |                    |
|                                         | W-BR  |             |     |                 |            |     | C   |                    |
|                                         | BR-Y  |             |     |                 |            | 12  |     |                    |
|                                         | V-BL  |             |     |                 |            |     | B   |                    |
|                                         | BL-V  |             |     |                 | 10         |     |     |                    |
|                                         | Y-BR  |             |     |                 | 7          |     |     |                    |
|                                         | V-S   |             |     |                 | 15         |     |     |                    |
|                                         | G-R   |             |     |                 | 11         |     |     |                    |
|                                         | S-V   |             |     |                 | 18         |     |     |                    |
|                                         | R-G   |             |     |                 | 16         |     |     |                    |
|                                         | BR-V  |             |     |                 |            |     |     | •                  |
|                                         | V-BR  |             |     |                 |            |     |     | •                  |
|                                         | V-O   |             |     |                 |            |     |     | •                  |
| W-S                                     |       |             |     |                 |            |     | •   |                    |
| W-O                                     |       |             |     |                 |            |     | •   |                    |

\* From O-W binder group.

TABLE J

## CONVERSION OF PICKUP KEY TO SIGNALING (NONLOCKING)

| NO. OF KEYS REMAINING LINE PICKUP | NO. OF KEYS CONVERTED TO SIGNAL KEYS |               |               | NO. OF PRIVATE AND INTERCOM LINES WITH COM SIG KEYS | KEY LEAD TERMINATIONS |      |      |       |       |                   |                   |
|-----------------------------------|--------------------------------------|---------------|---------------|-----------------------------------------------------|-----------------------|------|------|-------|-------|-------------------|-------------------|
|                                   | 657A ORIG KEY                        | 657B ORIG KEY | 656A SUPL KEY |                                                     | O-W                   | S-W  | G-R  | BL-BK | BR-BK | Y-O SUPL KEY ONLY | O-Y SUPL KEY ONLY |
| 6                                 |                                      |               |               |                                                     | A-H*                  | A-H* | A-H* | A-H*  | A-H*  | A-H*              | G*                |
| 5                                 |                                      |               | 1             |                                                     | A-H*                  | A-H* | A-H* | A-H*  | A-H*  | C                 | G*                |
| 4                                 | 1                                    |               | 2             |                                                     | A-H*                  | A-H* | A-H* | A-H*  | C     | C                 | G*                |
| 3                                 | 2                                    | 1             | 3             |                                                     | A-H*                  | A-H* | A-H* | C     | C     | C                 | G*                |
| 2                                 | 3                                    | 2             | 4             |                                                     | A-H*                  | A-H* | C    | C     | C     | C                 | G*                |
| 1                                 | 4                                    | 3             | 5             |                                                     | A-H*                  | C    | C    | C     | C     | C                 | G*                |
|                                   |                                      |               | 6             |                                                     | C                     | C    | C    | C     | C     | C                 | G*                |
| 5                                 |                                      |               | 1             | 2                                                   | A-H*                  | A-H* | A-H* | C     | C     | C                 | G*                |
| 5                                 |                                      |               | 1             | 3                                                   | A-H*                  | A-H* | C    | C     | C     | C                 | G*                |
| 5                                 |                                      |               | 1             | 4                                                   | A-H*                  | C    | C    | C     | C     | C                 | G*                |
| 5                                 |                                      |               | 1             | 5                                                   | C                     | C    | C    | C     | C     | C                 | G*                |

\* On terminal board associated with key.

**Note 1:** To convert a key position from pickup to signaling, remove 811058379 (P-10E837) from plunger at key position to be converted.

**Note 2:** The sixth key of any supplementary key unit may be converted for use as a common signaling key on several private or intercommunicating lines. The signaling is directed to the S or S1 lead of the lines to be signaled. The 1A1 or 1A2 system automatic cutoff feature cannot be used on a line connected to the common signaling key.

**Note 3:** Provide an M1W strap or equivalent between the SG and C terminals on TBVI.

**TABLE K**  
**CONNECTIONS FOR 657B KEY (TURN KEY)**  
**(INSTALLED IN FIRST KEY MODULE POSITION)**

| FEATURE                                            | CONNECTOR CABLE LEADS AT EQUIP CABINET |                  |                   |                              |                  |                 | SPADE-TIPPED MOUNTING CORD LEADS IN SET |           |          |          |                   |
|----------------------------------------------------|----------------------------------------|------------------|-------------------|------------------------------|------------------|-----------------|-----------------------------------------|-----------|----------|----------|-------------------|
|                                                    | 5TH AND 6TH LINE PICKUP POSITION       |                  |                   |                              |                  |                 | BL-Y                                    | Y-BL      | O-Y      | Y-O      | BR-BK<br>(Note 1) |
|                                                    | R<br>5TH<br>G-BK                       | T<br>5TH<br>BK-G | A<br>5TH<br>BK-BR | R<br>6TH<br>BL-Y             | T<br>6TH<br>Y-BL | A<br>6TH<br>Y-O |                                         |           |          |          |                   |
| Cutoff Station on 1A1 or 1A2 KTS                   | To Equip                               |                  |                   | To Extension Station         |                  |                 | *                                       | *         | TBI<br>G | *        | *                 |
| Cutoff Station on 4-Wire Line (Aux Relay Required) | To Equip<br>GRD                        | To Aux<br>Relay  | *                 | *                            |                  |                 | *                                       | *         | *        | TBI<br>G | TBI<br>G          |
| Cutoff External Ringer or Buzzer                   | To Key Equip                           |                  | *                 | To External Ringer or Buzzer |                  | *               | *                                       | *         | *        | *        | *                 |
| Cutoff Ringer in Set                               | To Key Equip                           |                  | *                 | (Note 2)                     |                  | *               | TBI<br>12                               | Net.<br>A | *        | *        | *                 |
| Cutoff Buzzer in Set                               | AC                                     | To Key Equip     | *                 | (Note 2)                     |                  | *               | A                                       | C         | *        | *        | *                 |
|                                                    | DC                                     |                  |                   |                              |                  |                 | †                                       | C         |          |          |                   |
|                                                    | Common                                 |                  |                   |                              |                  |                 | Cap.‡                                   | C         |          |          |                   |
| Monitoring                                         | To Mon Equip                           |                  | *                 | *                            | *                | *               | TBI<br>R                                | TBI<br>T  | *        | *        | *                 |

\* Insulate and store.

† Connect to screw holding buzzer frame to bracket.

‡ Use network capacitor if available or 548A capacitor or equivalent (ordered separately).

Notes: 1 Disconnect BR-BK lead from A-H terminal of TBI.

2 Insulate the BL-Y and Y-BL connector cable conductors of the BL-W binder group at the apparatus cabinet when the BL-Y and Y-BL spade tipped leads in the set are used.