

SERVICE
630DA, 630DAM, 630DAMS1, 631DA, 631DAM, AND
631DAMS1 TELEPHONE SETS
CONNECTIONS

1. GENERAL

1.02 This section contains information on the 630DA (MD), 630DAM (MD), 630DAMS1 (18 button) and 631DA (MD), 631DAM (MD), 631DAMS1 (30 button) telephone sets. These sets may be equipped with different modular key arrangements. The telephone sets will accommodate 635-type keys, 658A keys, 76A lamp sockets, and/or a 679A (MD) transmitter.

1.02 This section is reissued to add 630DAMS1 and 631DAMS1 telephone sets.

1.03 The 630DAMS1 and 631DAMS1 telephone sets are similar to the 630DAM and 631DAM except for a new line switch assembly which breaks both tip and ring sides of the line instead of the ring side only.

2. CONNECTIONS

2.01 The 630- and 631-type sets are equipped with a 635A5C (5-line pickup and hold) or can have a 635AD5C (4-line pickup, cutoff, and hold) in the first module position. Contact strip assemblies [required with sets equipped with a D120K (MD) or D200S (MD) mounting cords] differ between the two keys. If ordered for field replacement, the 635AD5C is furnished with a piggy-back adapter in the cut off key position for storing the slate mounting cord plug associated with the fifth line. The necessary contact strip assemblies (840151039 and 840151047) will be shipped with the 635AD5C and will replace the 840151120 and 840151138 assemblies supplied with the 635A5C key.

Note: Contact strips are not required with sets equipped with D120M or D200AA mounting

cord or sets equipped with a modified D120K or modified D200S mounting cord.

2.02 Termination of the mounting cord conductors on a per line basis in individual plugs permits rearrangement of line appearances either in the set or at the key equipment distribution point. Current production sets are equipped with a satin-silver (-87) mounting cord.

2.03 Contact strips are not extended to the chaining circuit. This requires a second tip and ring conductor to each module (except last). See Fig. 4, sheets 1 through 5.

2.04 Telephone sets may be equipped for 3-type (MD) speakerphone system by adding associated apparatus to the telephone set as follows.



If the 630DAMS1 or 631DAMS1 telephone set is to be used with 3-type (MD) speakerphone system, move the two (G) tip leads from G to F of the network.

- (a) Replace 8R or 8RA dial with an 8CA dial
- (b) A 760A (MD) loudspeaker and 679A (MD) transmitter are used but one key position must be sacrificed. The 679A transmitter is installed in the last key position of the set.
- (c) When maximum key features and speakerphone are required, a 760A loudspeaker and 666A (MD) or 666B (MD) transmitter are connected to the telephone set.

2.05 Refer to Section 512-620-440 for necessary wiring changes and connections to the 55-type

NOTICE

Not for use or disclosure outside the
Bell System except under written agreement

control unit and connections between the control unit and the telephone set

2.06 When the 55-type (MD) control unit used with 3-type (MD) speakerphone system is located near the telephone set and an external transmitter is used, an auxiliary mounting cord must be used to connect the speakerphone features to the telephone set.

2.07 When the 3-type speakerphone system control unit is located near the telephone set and an internal transmitter (679A) is used, an A25B connector cable should be plugged into the last mounting cord plug and terminated on the control unit terminal board.

2.08 These telephone sets may be equipped for 4A speakerphone system by adding associated apparatus as follows.



If the 630DAMS1 or 631DAMS1 telephone set is to be used with 4A speakerphone system, move the two (G) tip leads from G to F of the network.

- (a) Replace 8R or 8RA dial with an 8CA dial.
 - (b) The 680AE transmitter, 108AA loudspeaker set, and 223D adapter are required.
 - (c) Refer to Section 512-730-400 for necessary wiring changes and connections.
- 2.09** All line pickup buttons are convertible from locking to nonlocking when used for signaling or common signaling arrangements. Remove the

812857738 (P-28E773) locking pin from button to be converted and make wiring changes per Table D.

2.10 The 630- and 631-type telephone sets are factory equipped with a KS-20419L1 (10 volt ac only) buzzer.

2.11 The Hold key in first module is used as regular hold or if required, **I Hold**. A second hold key is used for **Priority Hold**. When priority hold is to be furnished, a D-180411 Kit of Parts is required and installed as follows.

- (1) Assemble kit of parts by inserting contact strips (if required) into 635A5C key. Plug pink plug into hold position on key.

Note: Contact strips are not required with sets equipped with a D120M or D200AA mounting cord or sets equipped with a modified D120K or modified D200S mounting cord.

- (2) Disconnect all mounting cord plugs and the two contact strips leads [sets equipped with D120K (MD) or D200S (MD) mounting cord] from the second module, remove key and replace with 635A5C key.
- (3) Reterminate contact strip leads, if necessary, and connect mounting cord plugs with exception of white plug which is insulated and stored.
- (4) Rearranged wiring per Fig. 6.

2.12 Station busy lamp circuit with speakerphone is shown in Fig. 7 and 8. For additional information on busy lamp, refer to Section 502-110-100.

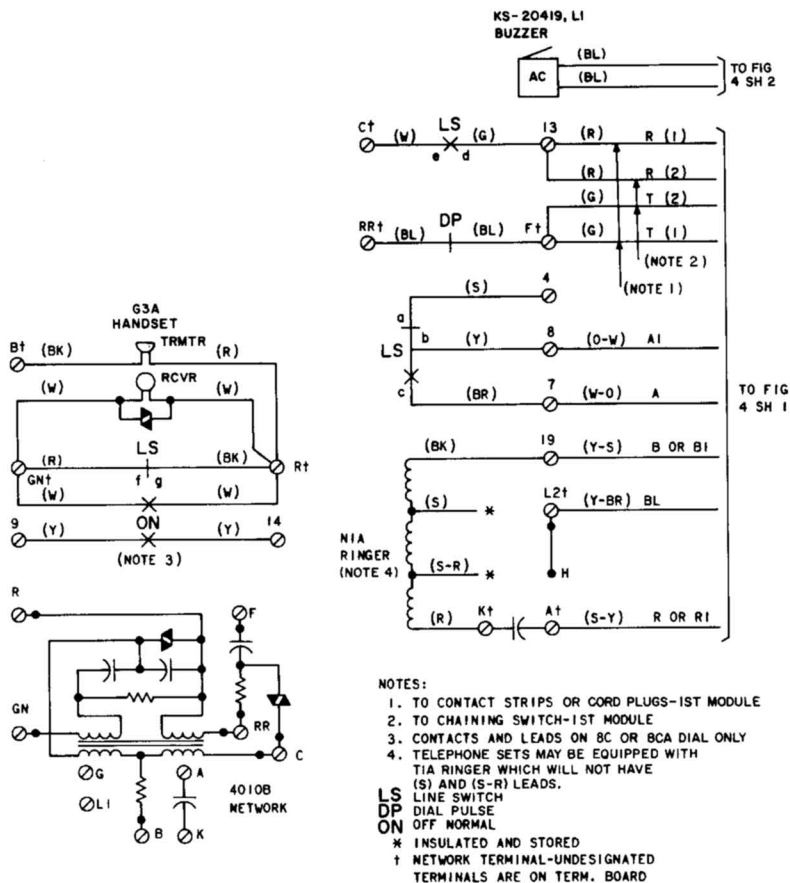


Fig. 1—630DA (MD) or 631DA (MD) Telephone Set Connections

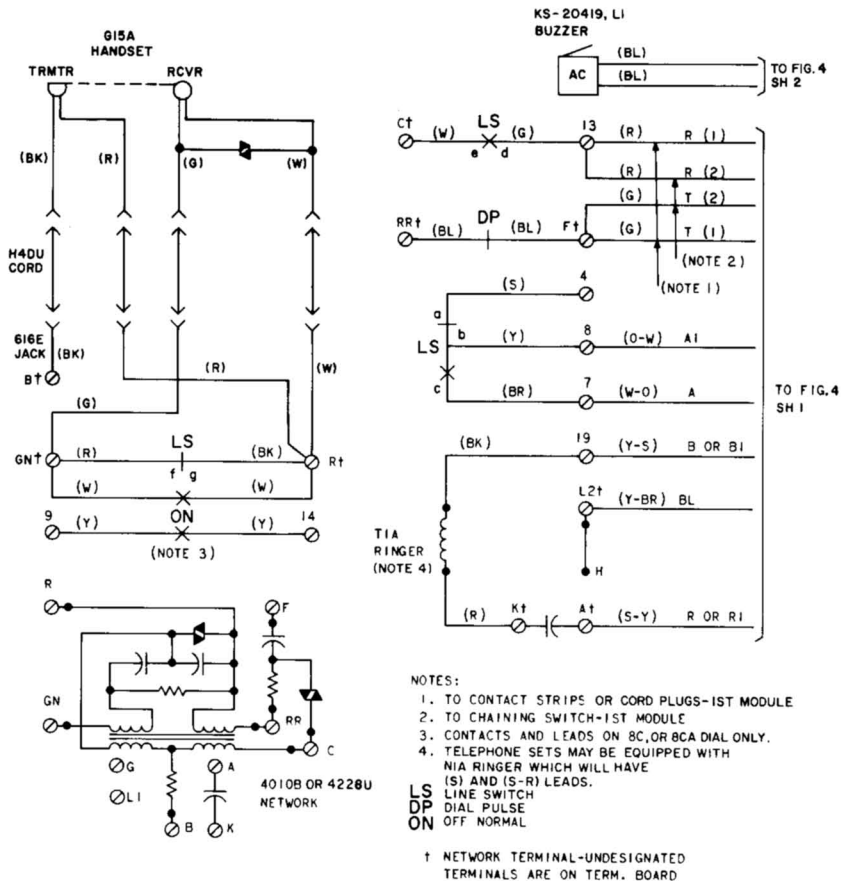


Fig. 2—630DAM (MD) or 631DAM (MD) Telephone Set Connections

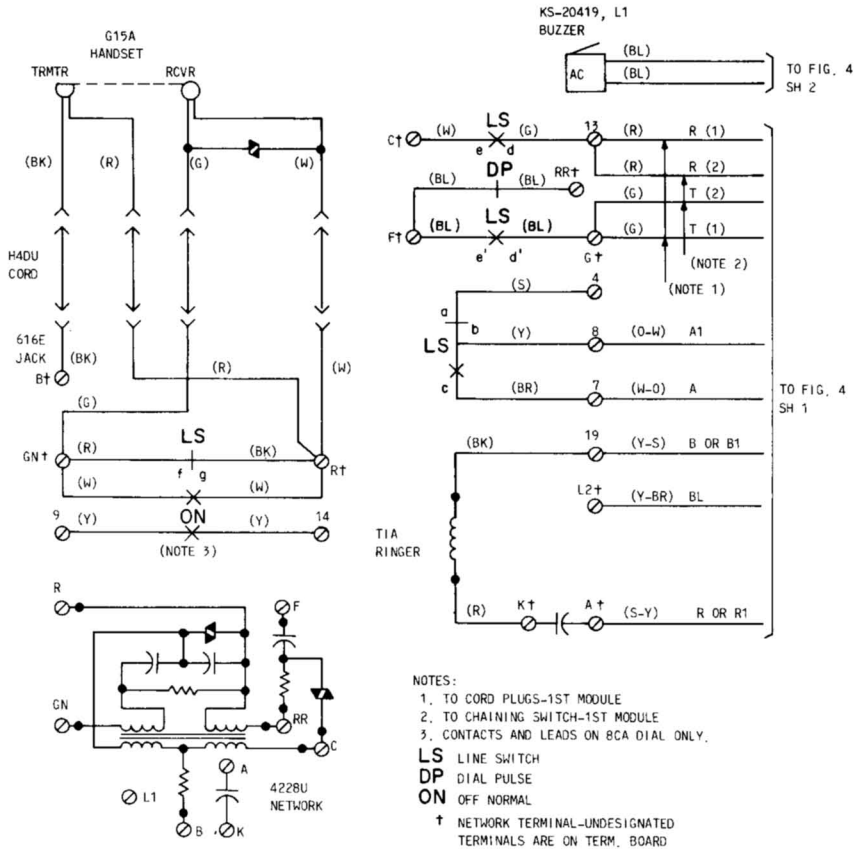


Fig. 3—630DAMS1 or 631DAMS1 Telephone Set Connection

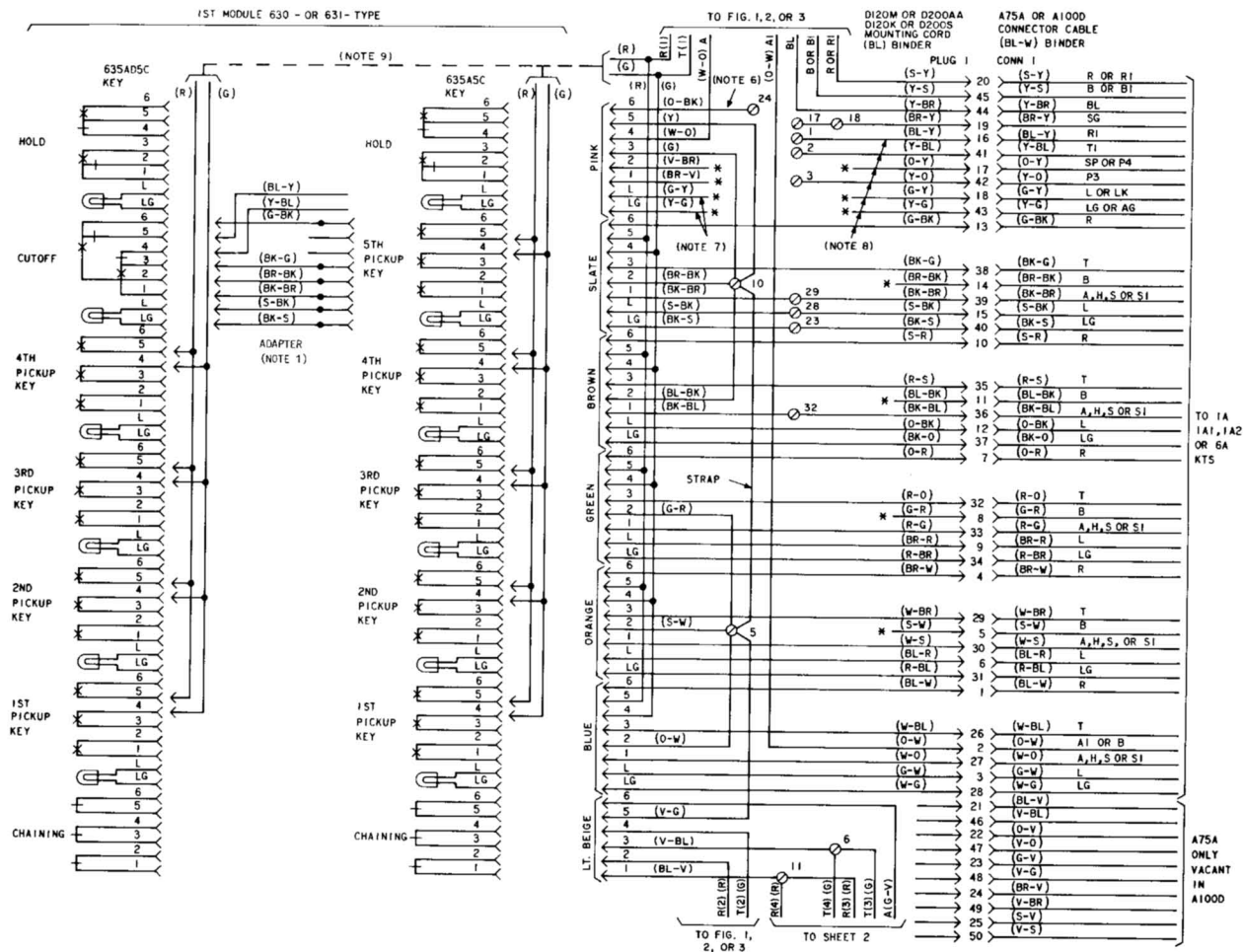
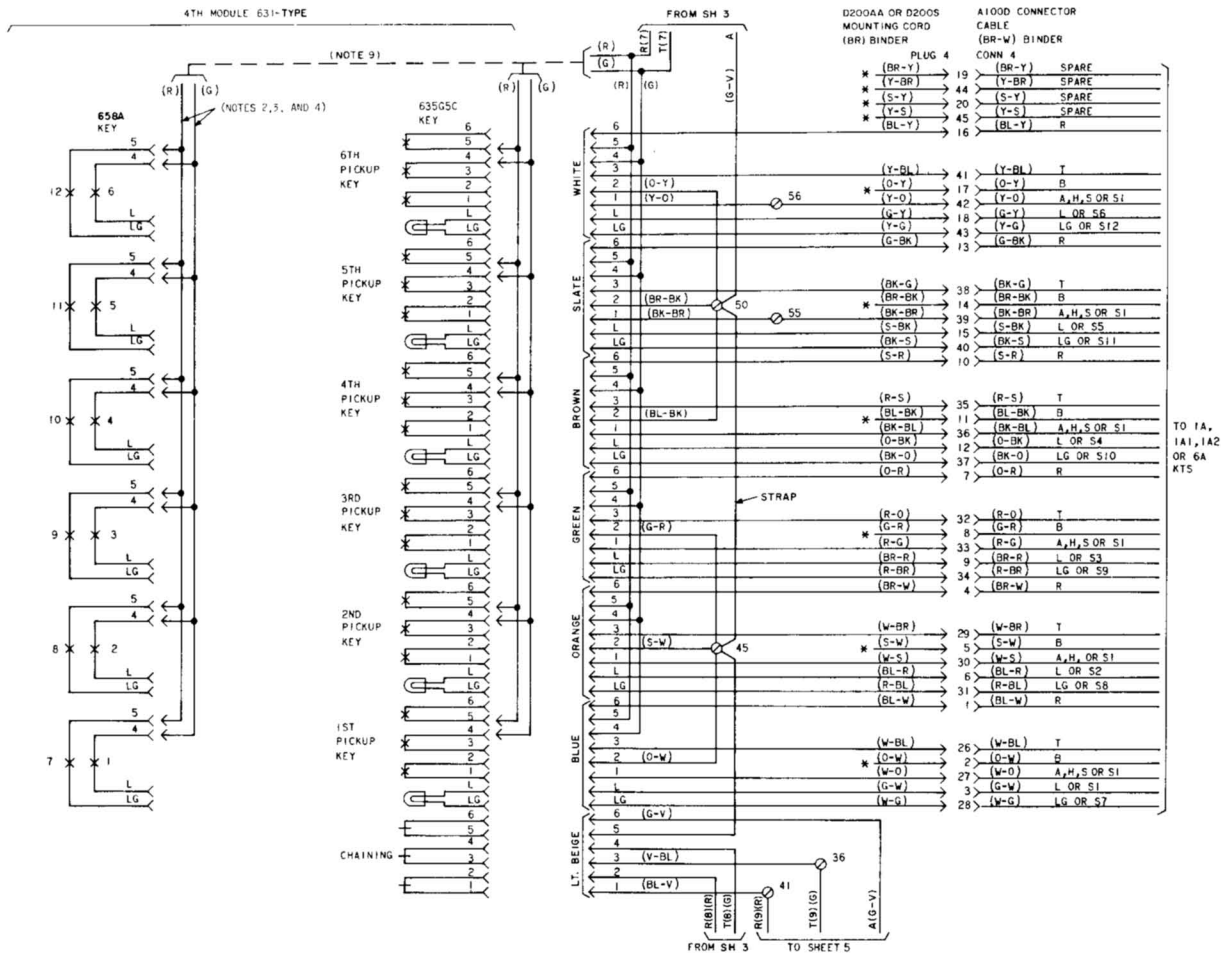


Fig. 4—Module and Connector Cable Arrangements (Sheet 1 of 5)





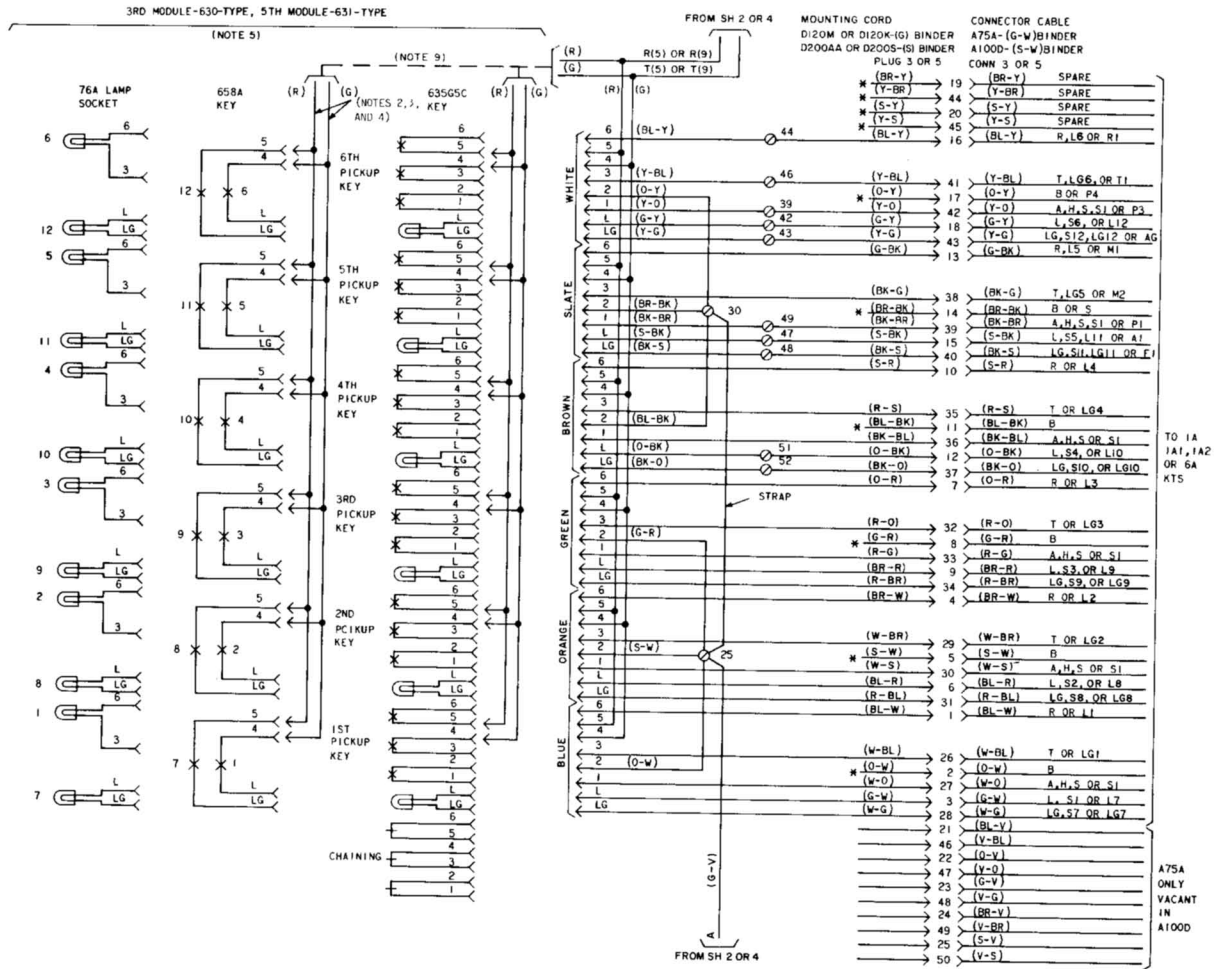


Fig. 4—Module and Connector Cable Arrangements (Sheet 5 of 5)

NOTES FOR FIG. 4:

1. THE 635AD5C KEY IS SUPPLIED WITH AN ADAPTER IN THE CUTOFF KEY POSITION. THE SLATE MOUNTING CORD PLUG CONNECTS TO THE ADAPTER. BALANCE OF PLUGS CONNECT DIRECTLY TO KEY.
 2. IN SETS EQUIPPED WITH A 658A KEY, THE (G) CONTACT STRIP LEAD IS TERMINATED ON 17 AND (R) ON 18. IF A 658A KEY IS ADDED IN THE FIELD, LEADS MUST BE MOVED FROM PRECEDING MODULE CHAINING CIRCUIT TO TERMINALS 17 AND 18.
 3. PROVISIONS ARE MADE FOR MECHANICALLY STORING THE LIGHT BEIGE CHAINING PLUG ON THE 658A KEY. NO ELECTRICAL CONNECTION IS MADE.
 4. WHEN THE 658A KEY IS REQUIRED AS A DUAL PURPOSE KEY, REMOVE STRAP BETWEEN TERMINALS 17 AND 18. USE MIW CORD OR EQUIVALENT TO CONNECT TERMINAL 17 TO A DISSIMILAR GROUND OR NONGROUNDED CIRCUIT.
 5. MODULE MAY ALSO BE EQUIPPED WITH A 679A TRANSMITTER FOR 3-TYPE SPEAKERPHONE. SEE FIG. 5.
 6. TO SUPPLY "I" HOLD FEATURE, TERMINATE (O-Y) MOUNTING CORD LEAD FROM (BL) BINDER ON TERMINAL 24. LEAD BECOMES SP LEAD AT EQUIPMENT.
 7. IF HOLD POSITION LAMP IS REQUIRED CONNECT (G-Y) AND (Y-G) LAMP LEADS TO SPARE PAIR USING SPARE TERMINALS OR D-161488 CONNECTORS. LAMP MUST BE SEPARATELY ORDERED AND INSTALLED. HOLD POSITION LAMP CANNOT BE ILLUMINATED WHEN EXTERNAL TRANSMITTER IS WIRED FOR 3-TYPE SPEAKERPHONE USING MOUNTING CORD LEADS.
 8. 3-TYPE SPEAKERPHONE LEADS WHEN ASSOCIATED WITH EXTERNAL TRANSMITTER.
 9. THESE CONTACT STRIPS ARE REQUIRED WHEN TELEPHONE SET IS EQUIPPED WITH THE D120K (MD) OR THE D200S (MD) MOUNTING CORD. THESE CONTACT STRIPS SHOULD NOT BE USED WHEN TELEPHONE SET IS EQUIPPED WITH THE D120M OR D200AA MOUNTING CORD OR WHEN TELEPHONE SET IS EQUIPPED WITH A MODIFIED D120K OR D200S MOUNTING CORD.
- * INSULATED AND STORED.

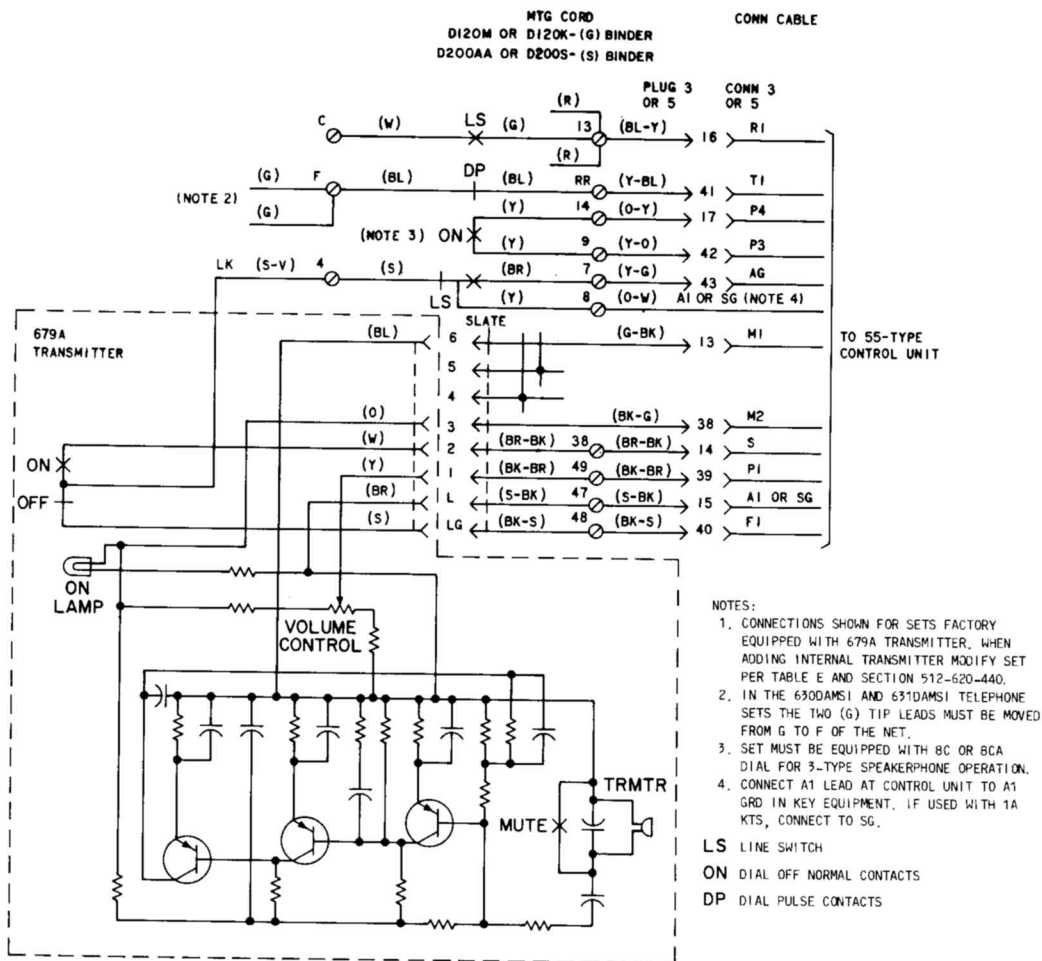
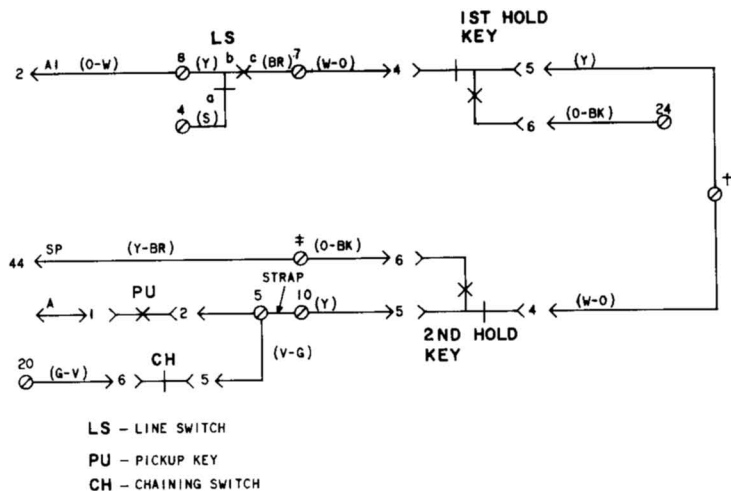


Fig. 5—3-Type (MD) Speakerphone System Connections Using Internal 679A (MD) Transmitter



| MODIFICATION | | |
|-------------------------------|------|--------------|
| WIRE OR LEAD | FROM | TO |
| 1ST HOLD KEY (Y) | 10 | † |
| 2ND HOLD KEY (O-BK) (Y) (W-O) | | ‡ 10 † |
| (Y-BR) | * | * |

- * STORED LOCATION, (O) BINDER GROUP IN MOUNTING CORD
- + CONNECT (Y) LEAD FROM 1ST HOLD KEY AND (W-O) LEAD OF 2ND HOLD KEY TO THE SAME SPARE TERMINAL OR D-161488 CONNECTOR.
- + CONNECT (O-BK) LEAD OF 2ND HOLD KEY AND (Y-BR) MOUNTING CORD LEAD (O) BINDER GROUP TO THE SAME SPARE TERMINAL OR D-161488 CONNECTOR

Fig. 6—Modifications for Priority Hold

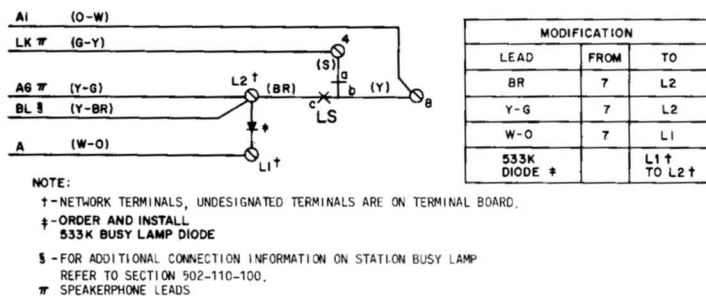


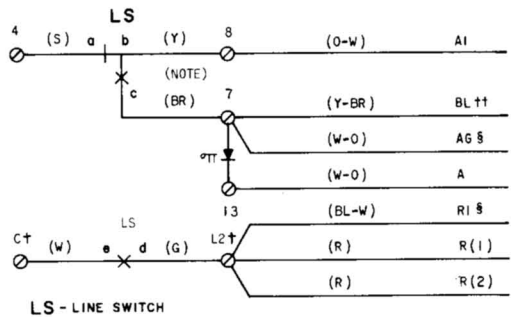
Fig. 7—Station Busy Lamp Circuit With 3-Type (MD) Speakerphone System

TABLE A

1A, 1A1, AND 1A2 CONVERSION - 630-TYPE TELEPHONE SET

| KEY MODULE ARRANGE- MENT | LEAD | | | | | | | | | | | |
|---|----------|----|------|------|-------------------|-------------------|-----------------|-----------------|-------------------------------|-----------------|-----------------|-------------|
| | HOLD KEY | | | | CHANNING PLUG | | | | CONTACT STRIP OR PLUG LEAD | | | LINE SW. |
| | Y | G | BR-V | V-BR | V-G 1ST MOD | V-G 2ND MOD | R 1ST MOD | R 2ND MOD | R 1ST MOD | R 2ND MOD | R 3RD MOD | |
| 1A1/1A2 Only | 10 | 10 | * | * | 5 | 15 | 13 | 11 | 13 | 11 | 21 | 8 |
| 1A1/1A2- 1st, 2nd Mod 1A-3rd Mod | 10 | 35 | 21 | 40 | 5 | 35 | 13 | 11 | 13 | 11 | 40 | 8 |
| 1A1/1A2- 1st Mod 1A-2nd, 3rd Mod | 10 | 35 | 11 | 40 | 35 | 15 | 13 | 40 | 13 | 40 | 21 | 8 |
| 1A Only | * | 10 | 13 | 40 | 5 | 15 | 40 | 11 | 40 | 11 | 21 | 18 |

* Insulated and stored.



| MODIFICATION | | |
|--------------|------|---------|
| LEAD | FROM | TO |
| Y-BR | L2 † | 7 |
| W-O | 7 | 13 |
| 533K DIODE | | 7 TO 13 |
| G | 13 | L2 † |
| R † | 13 | L2 † |
| BL-W § | 13 | L2 † |

NOTE:
FOR BUSY LAMP CONTROLLED BY SPEAKERPHONE ONLY, MOVE (BR) LINE SWITCH LEAD FROM TERMINAL 7 TO 13.
† - NETWORK TERMINAL, UNDESIGNATED TERMINALS ARE ON TERMINAL BOARD
‡ - MOVE BOTH (R) LEADS FROM TERMINAL 13 TO L2
§ - LEAD IN M16C (MD) OR M16H CORD
*TT- ORDER AND INSTALL 533K BUSY LAMP DIODE
††- FOR ADDITIONAL CONNECTION INFORMATION ON STATION BUSY LAMP REFER TO SECTION 502-110-100.

Fig. 8—Station Busy Lamp Circuit With 4A Speakerphone System

TABLE B
1A, 1A1, AND 1A2 CONVERSION - 631-TYPE TELEPHONE SET

| KEY MODULE ARRANGE- MENT | LEAD | | | | | | | | | | | | | | | | | | LINE SW. Y |
|---------------------------------------|----------|----|------|------|-------------------|-------------------|-------------------|-------------------|-----------------|-----------------|-----------------|-----------------|-------------------------------|-----------------|-----------------|-----------------|-----------------|----|----------------------|
| | HOLD KEY | | | | CHAINING PLUG | | | | | | | | CONTACT STRIP OR PLUG LEAD | | | | | | |
| | Y | G | BR-V | V-BR | V-G 1ST MOD | V-G 2ND MOD | V-G 3RD MOD | V-G 4TH MOD | R 1ST MOD | R 2ND MOD | R 3RD MOD | R 4TH MOD | R 1ST MOD | R 2ND MOD | R 3RD MOD | R 4TH MOD | R 5TH MOD | | |
| 1A1/1A2 Only | 10 | 10 | * | * | 5 | 15 | 35 | 45 | 13 | 11 | 21 | 31 | 13 | 11 | 21 | 31 | 41 | 8 | |
| 1A1/1A2- 1st, 2nd, 3rd, 4th Mod | 10 | 12 | 41 | 3† | 5 | 15 | 35 | 12 | 13 | 11 | 21 | 31 | 13 | 11 | 21 | 31 | 3 | 8 | |
| 1A-5th Mod | | | | | | | | | | | | | | | | | | | |
| 1A1/1A2- 1st, 2nd, 3rd Mod | 10 | 12 | 31 | 3† | 5 | 15 | 12 | 45 | 13 | 11 | 21 | 3 | 13 | 11 | 21 | 3 | 41 | 8 | |
| 1A-4th, 5th Mod | | | | | | | | | | | | | | | | | | | |
| 1A1/1A2-1st, 2nd, Mod | 10 | 12 | 21 | 3† | 5 | 12 | 35 | 45 | 13 | 11 | 3 | 31 | 13 | 11 | 3 | 31 | 41 | 8 | |
| 1A-3rd, 4th, 5th Mod | | | | | | | | | | | | | | | | | | | |
| 1A1/1A2- 1st Mod | 10 | 12 | 11 | 3† | 12 | 15 | 35 | 45 | 13 | 3 | 21 | 31 | 13 | 3 | 21 | 31 | 41 | 8 | |
| 1A-2nd, 3rd 4th, 5th Mod | | | | | | | | | | | | | | | | | | | |
| 1A Only | * | 10 | 13 | 37† | 5 | 15 | 35 | 45 | 37 | 11 | 21 | 31 | 37 | 11 | 21 | 31 | 41 | 18 | |

* Insulated and stored.

† Remove (BR-Y) mounting cord lead. Insulate and store.

‡ Remove (Y-O) mounting cord lead from terminal 3. Insulate and store.

TABLE C
CUT OFF KEY (635AD5C) CONNECTIONS

| FEATURE | 635AD5C KEY ADAPTER | | MOUNTING CORD (BL) BINDER | | CONNECTOR CABLE (BL-W) BINDER | | | RINGER | PLACE STRAP |
|--|---------------------------|-------|---------------------------------|-------|----------------------------------|---------------------|---------------------|--------|----------------------------|
| | BL-Y | Y-BL | BL-Y | Y-BL | G-BK | BK-G | BK-BR | BK | |
| Cutoff Ringer in Set (Note 1) | TB1-1 | TB1-2 | * | * | Note 2 | | | TB1-1 | A (Net.) to TB1-2 |
| Cutoff Ext Ringer or Buzzer (Note 1) | TB1-1 | TB1-2 | TB1-1 | TB1-2 | Note 3 | | | | |
| Cutoff Ext Station (Note 4) | * | * | TB1-1 | TB1-2 | | To Aux. Relay | To Relay Gr d | | |

* Insulate and store.

Notes:

1. Remove (BR-BK) and (BK-BR) slate plug leads from terminals 10 and 29, insulate and store.
2. To individual line or common ringer circuit at equipment.
3. To external ringer or buzzer. Connect ringer or buzzer circuit to (BL-Y) (Y-BL) connector cable leads at equipment.
4. Connect T, R, and A leads from equipment and station to be cut off through contacts of auxiliary relay. Connect battery to relay winding. Use 227B or 421A KTU.

TABLE D
PICKUP-SIGNAL KEY CONVERSION
3RD (630-TYPE) OR 5TH (631-TYPE) MODULE

| NO. OF SIGNAL KEYS (Note 2) | NO. OF PVT OR INTER- COM LINES (COM. SIG) NOTE 1 | KEY PLUG LEADS AND TERMINALS | | | | | | |
|--------------------------------------|--|------------------------------|-----|-----|-------|-------|-----|-----|
| | | O-W | S-W | G-R | BL-BK | BR-BK | O-Y | Y-O |
| 1 | | 25 | 25 | 25 | 30 | 30 | 18 | 39 |
| 2 | | 25 | 25 | 25 | 30 | 18 | 18 | 39 |
| 3 | | 25 | 25 | 25 | 18 | 18 | 18 | 39 |
| 4 | | 25 | 25 | 18 | 18 | 18 | 18 | 39 |
| 5 | | 25 | 18 | 18 | 18 | 18 | 18 | 39 |
| 6 | | 18 | 18 | 18 | 18 | 18 | 18 | 39 |
| | 2 | 25 | 25 | 25 | 39 | 39 | 30 | 39 |
| | 3 | 25 | 25 | 39 | 39 | 39 | 30 | 39 |
| | 4 | 25 | 39 | 39 | 39 | 39 | 30 | 39 |
| | 5 | 39 | 39 | 39 | 39 | 39 | 30 | 39 |

Notes:

- 1 When using converted 6th pickup button as common signaling key, remove, insulate and store (Y-O) mounting cord lead from terminal 39.
- 2 If more than six signal keys are required, replace 635G5C key with a 658A key. If more than five private or intercom lines are required, convert keys in 2nd (630-type) or 4th (631-type) module in same order. Connect plug leads to terminal 39 to utilize common signal key. If additional terminals are required, use any spare terminal and strap to 39.

♦ TABLE E ♦

**3-TYPE (MD) SPEAKERPHONE SYSTEM CONNECTIONS
USING INTERNAL TRANSMITTER (NOTES 1, 2, 4, AND 7)**

| WIRE OR LEAD | COLOR | LEAD DESIG | FROM | TO |
|----------------------|-------|---------------|------|------------|
| Mtg Cord (Note 3) | Y-BL | T1 | 46 | RR† |
| | BL-Y | R1 | 44 | 13 |
| | Y-O | P3 | 39 | 9 |
| | O-Y | P4 | * | 14 |
| | Y-G | AG | 43 | 7 (Note 6) |
| | BR-BK | S | * | 38 |
| Slate Key Plug | BR-BK | | 30 | |
| 679A TRMTR | S-V | LK | | 4 |

* Insulated and stored location.

† Terminal on network.

Note 1--Connections shown are used when transmitter is part of telephone set and speakerphone leads are connected through the mounting cord.

Note 2--When control unit is located near the telephone set an A25B connector cable may be plugged into the 3rd mounting cord plug (630-type) or 5th plug (631-type) and terminate on the control unit.

Note 3--Mounting cord conductors from (G) (630-type) or (S) (631-type) binder.

Note 4--Connect the slate plug from the 3rd or 5th module to the 679A transmitter (Fig. 5). All other plugs in the module are insulated and stored.

Note 5--Set intended for speakerphone use must be equipped with an 8C or 8CA dial for the second set of off-normal contacts (P3 and P4 leads).

Note 6--Connect to L2 on network if busy lamp is also furnished (Fig. 7)

Note 7--If 630DAMS1 or 631DAMS1 telephone set is used, move the two (G) tip leads from G to F of network.

♦TABLE F♦

EXTERNAL 3-TYPE (MD) SPEAKERPHONE
SYSTEM CONNECTIONS USING MOUNTING
CORD LEADS (NOTES 1 AND 2)

| COLOR | LEAD DESIG | FROM | TO |
|-------|---------------|------|------------|
| Y-BL | T1 | 2 | RR† |
| BL-Y | R1 | 1 | 13 |
| Y-O | P3 | 3 | 9 |
| O-Y | P4 | * | 14 |
| Y-G | AG | * | 7 (Note 3) |
| G-Y | LK | * | 4 |

* Insulated and stored.

† Network terminal.

Note 1. If the 630DAMS1 or 631DAMS1 telephone set is used move the two (G) tip leads from G to F of network.

Note 2. Connections shown are used when control unit and apparatus unit are at same location. Leads are in (BL) binder.

Note 3. Connect to L2 on network if busy lamp is also furnished (Fig. 7)

♦TABLE G♦

EXTERNAL 3-TYPE (MD) SPEAKERPHONE
SYSTEM CONNECTIONS USING AUXILIARY
CORD (NOTE 1 AND 2)

| D10R CORD | LEAD DESIG | TO |
|-----------|---------------|------------|
| W-BL | T1 | RR† |
| BL-W | R1 | 13 |
| W-O | AG | 7 (Note 3) |
| O-W | LK | 4 |
| W-G | P3 | 9 |
| G-W | P4 | 14 |
| W-BR | A1 | 8 |

† Network terminal.

Note 1. If the 630DAMS1 or 631DAMS1 telephone set is used move the two (G) leads from G to F of network.

Note 2. Connections shown are used when control unit and telephone set are at same location.

Note 3. Connect to L2 on network if busy lamp is also furnished.