

## SERVICE

### 2630DA, 2630DAM, 2631DA, AND 2631DAM TELEPHONE SETS

#### CONNECTIONS AND MAINTENANCE

##### 1. GENERAL

**1.01** This section contains information for the 2630DA (MD) or 2630DAM (18-button) and 2631DA (MD) or 2631DAM (30-button) (Fig. 1 and 2) telephone sets. These sets may be equipped with different modular key arrangements. The telephone sets will accommodate 635-type or 658A keys, 76A lamp sockets, and/or a 679A (MD) internal transmitter.

**1.02** This section is reissued to:

- Show 2630DA and 2631DA telephone sets MD
- Show 3-type speakerphone components MD
- Show 533K Diode (Station Busy Lamp Diode) Fig. 6 and 7 replacing KS-15724L1 Diode
- Revise Fig. 1, 2, 3, and 4 to update information.

##### 2. CONNECTIONS

**2.01** The 2630- and 2631-type sets are equipped with a 635A5C (5-line pickup and hold) or a 635AD5C (4-line pickup, cutoff, and hold) key in the first module position. Contact strip assemblies [required with sets equipped with a D120K (MD) or D200S (MD) mounting cord] 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 a D120M or D200AA mounting cord or sets equipped with a modified D120K or D200S mounting cord.

**2.02** The 2630DAM and 2631DAM modular telephone sets are similar to the 2630DA or 2631DA, respectively, except the modular G15A handset with its associated H4DU cord and 616E jack assembly are used in place of the hard wired G3A-type handset.

**2.03** Because of the physical arrangement of the 635-type key, the contact strips do not extend to the chaining switch. This requires a second tip and ring conductor to each module (except the last). See Fig. 3, Sheets 1 through 5.

**2.04** The line conductors of the mounting cords for these sets terminate in individual plugs on a per line basis and are connected to the rear of the keys. This permits rearrangement of line appearances either in the set or at the key equipment distribution point.

**2.05** These sets can be used with 1A, 1A1, 1A2, or 6A KTS. Refer to Table A or B for key modular arrangements.

**2.06** Refer to Table C for connections when 635AD5C cut off key is used in first module.

**2.07** All line pickup key positions are convertible to signaling or common signaling arrangements by removing the 812857738 (P-28E773) detail from key positions involved and making the necessary wiring changes per Table D.

**2.08** A KS-20419L1 (10 volt ac only) buzzer is factory-installed for use as a second audible signal, when required. This arrangement uses (S-Y)

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and (Y-S) mounting cord conductors from (O) binder in the second module (Fig. 3).

**2.09** These sets may be used with either the 3-type (MD) or 4A speakerphone systems.

**2.10** Sets may be equipped for 3-type (MD) speakerphone by the addition of a 679A (MD) transmitter in the 3rd (2630-type) or 5th (2631-type) module (Fig. 4). Refer to Section 512-620-440 for necessary wiring changes and connections. Wiring of sets with speakerphone and necessary field modifications are shown in Fig. 4 and Table D.

**2.11** When the 3-type speakerphone 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.

**2.12** To retain the maximum number of keys in the CALL DIRECTOR telephone sets and still have 3-type speakerphone feature, a 666A (MD) or 666B(MD) transmitter and 760A(MD) loudspeaker may be installed as adjuncts to the telephone set. Spare leads and hold key lamp leads from the first module are used to supply the external speakerphone function. When control unit and telephone set are at same location, an auxiliary mounting cord (D1OR) may be used. Refer to Section 512-620-440 for complete connections to 3-type speakerphone.

**2.13** Refer to Section 512-730-400 for connections to the 4A speakerphone system.

**2.14** The hold key in the first module is used as regular hold and 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. Install as follows:

- (1) Assemble kit of parts by inserting contact strips into new 635A5C key. Install pink plug furnished with kit in 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 D200S mounting cord.

- (2) Disconnect all mounting cord plugs and the two contact strip leads [sets equipped with D120K (MD) or D200S (MD) mounting cord] from the key in the second module. Remove key and replace with 635A5C key from kit.

- (3) Rerminate contact strip leads and connect mounting cord plugs with exception of white plug which is insulated and stored.

- (4) Rearrange wiring per Fig. 5.

**2.15** When required, these sets may be equipped with a polarity guard. Polarity guards should be installed only when specified by local instructions for end-to-end signaling purposes when battery and ground reversals are encountered. An 819041971 (P-90D197) guard assembly must be ordered separately and connected as shown in Table E.

**2.16** For station busy lamp feature with 3-type (MD) or 4A speakerphone system, refer to Fig. 6 and 7, respectively.

### 3. MAINTENANCE

**3.01** Maintenance of these sets should be limited to replacement of items available through regular supply channels. Refer to the reference Section 502-603-100 for 2630DA (MD), 2630DAM, 2631DA (MD), and 2631DAM telephone sets.

**3.02** Maintenance of components of these sets such as dials, ringers, etc. is covered in sections pertaining to the particular component. Maintenance information common to CALL DIRECTOR sets can be found in Section 502-600-100.

**3.03** ***Do not use solvents to clean plastic parts of these sets.*** Use a damp cloth only. If discolored, replace part.

**TABLE A**  
**1A, 1A1, AND 1A2 CONVERSION—2630DA (MD) OR 2630DAM TELEPHONE SET**

KEY MODULE ARRANGEMENT	LEAD											
	HOLD KEY				CHAINING 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	Y
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	26	5	15	26	11	26	11	21	18

\* Insulated and stored.

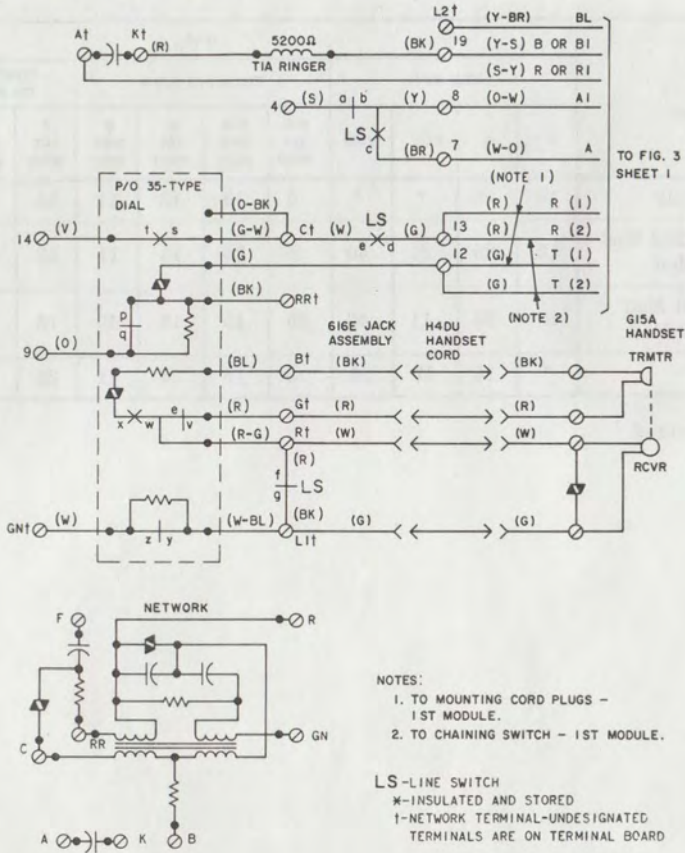


Fig. 1—2630DAM and 2631DAM Telephone Set, Connections

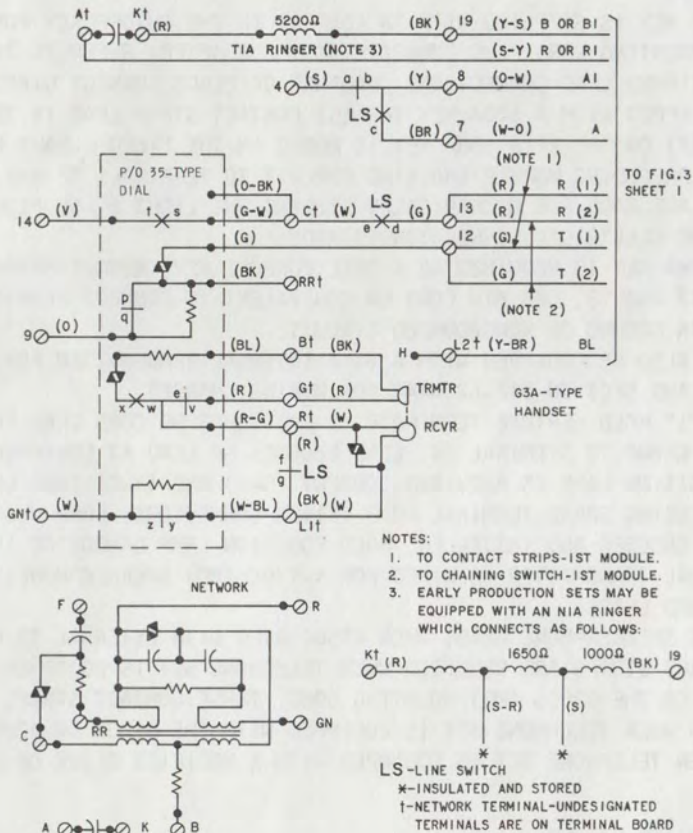


Fig. 2—2630DA (MD) and 2631DA (MD) Telephone Set, Connections

## NOTES FOR FIG. 3:

1. THE 635AD5C KEY IS SUPPLIED WITH AN ADAPTER IN THE CUTOFF KEY POSITION. THE SLATE MOUNTING CORD PLUG CONNECTS TO THE ADAPTER. REFER TO TABLE C FOR SPADE-TIPPED LEAD CONNECTIONS. 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 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 M1W CORD OR EQUIVALENT TO CONNECT TERMINAL 17 TO A DISSIMILAR GROUND OR NONGROUNDED CIRCUIT.
5. MODULE MAY ALSO BE EQUIPPED WITH A 679A INTERNAL TRANSMITTER FOR SPEAKERPHONE. SEE FIG. 4 AND SECTION 512-620-440 FOR WIRING CHANGES.
6. TO SUPPLY "I" HOLD FEATURE TERMINATE (Y-BR) MOUNTING CORD LEAD FROM (O) BINDER GROUP TO 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 TERMINAL 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 (MD) SPEAKERPHONE USING MOUNTING CORD LEADS.
8. 3-TYPE (MD) 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.

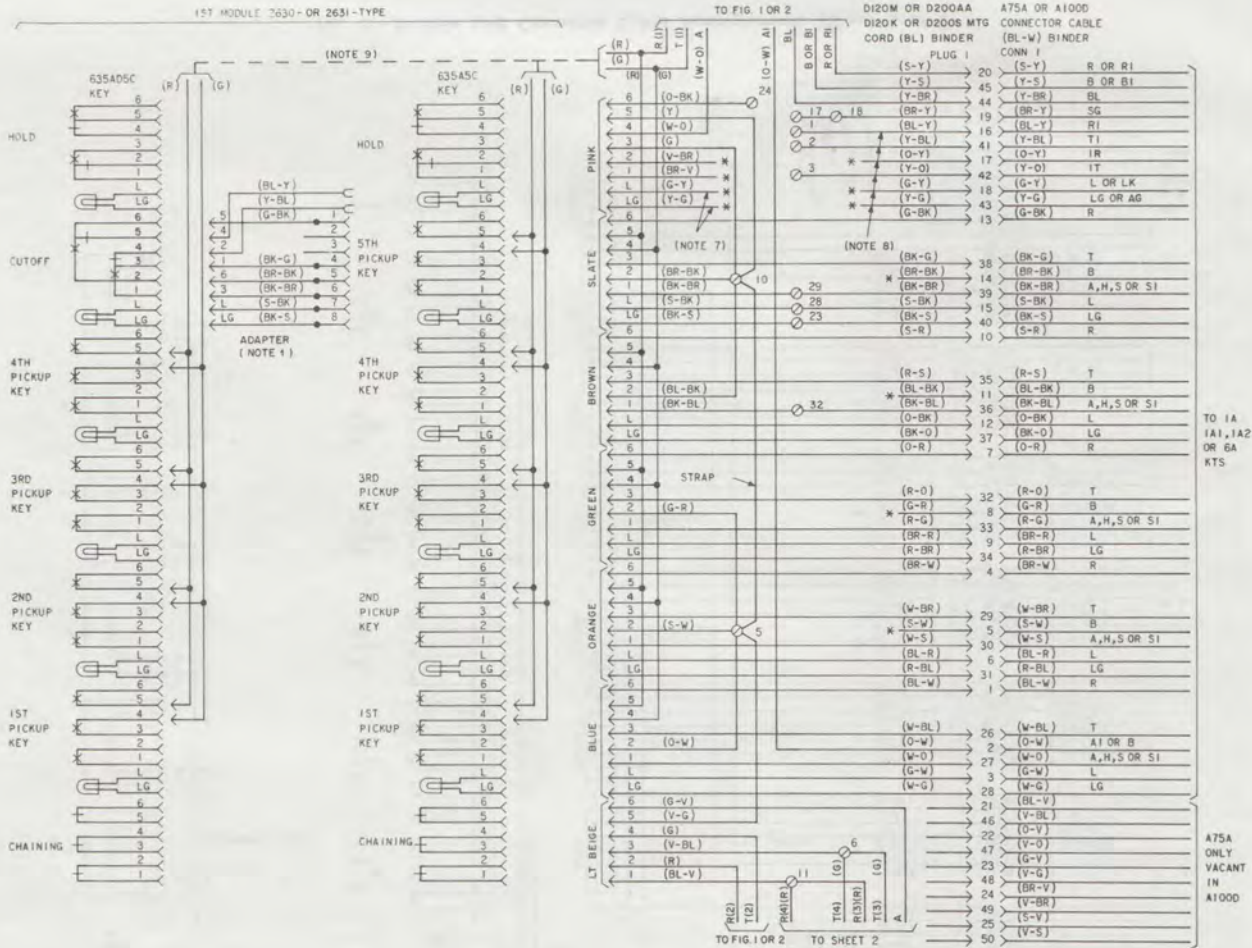


Fig. 3—Module and Connector Cable Arrangements (Sheet 1 of 5)

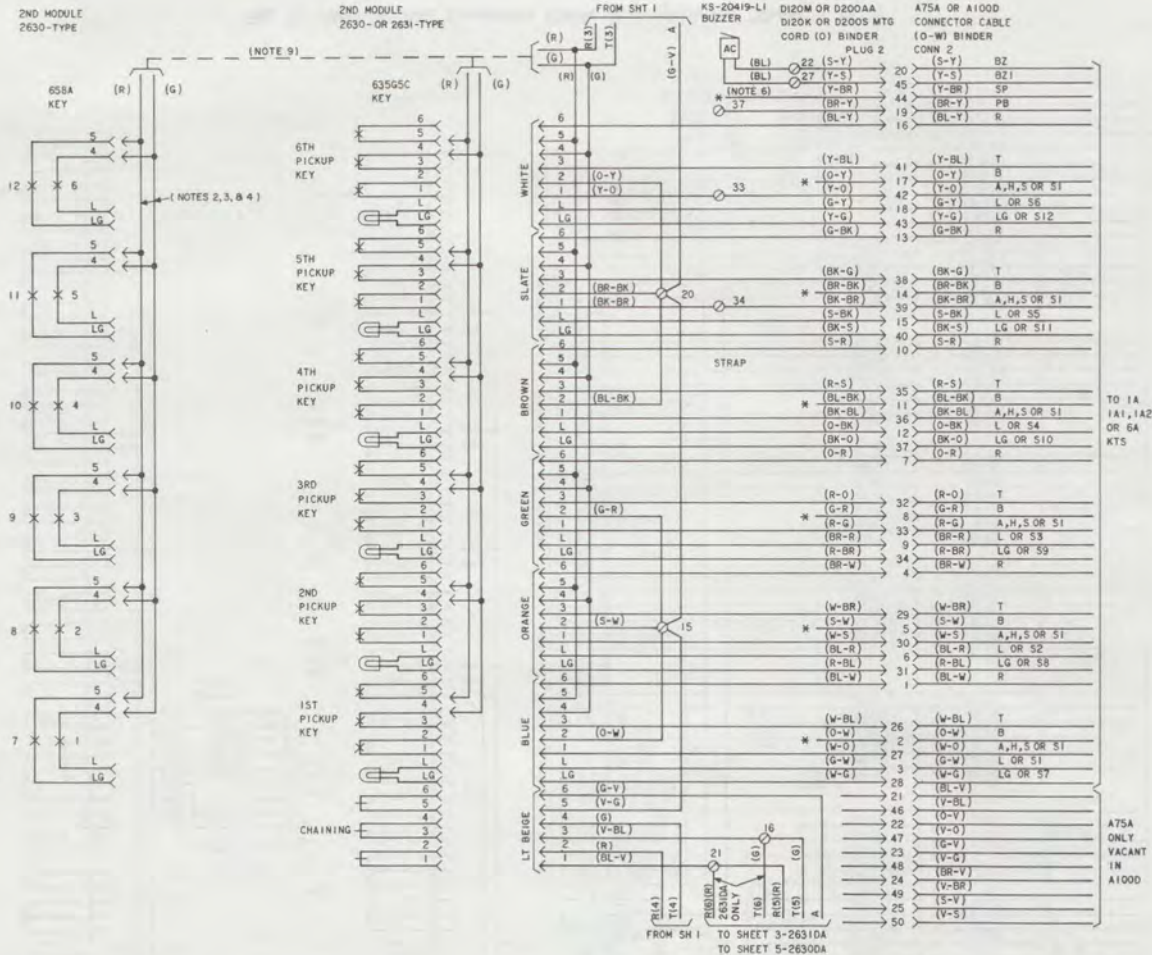
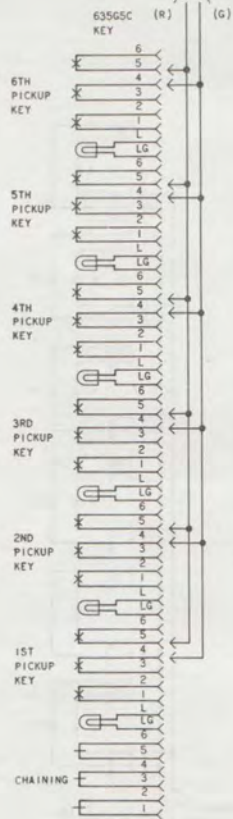


Fig. 3—Module and Connector Cable Arrangements (Sheet 2 of 5)



3RD MODULE  
2631-TYPE



(NOTE 9)



TO 1A,  
1A1, 1A2  
OR 6A  
KTS

Fig. 3—Module and Connector Cable Arrangements (Sheet 3 of 5)

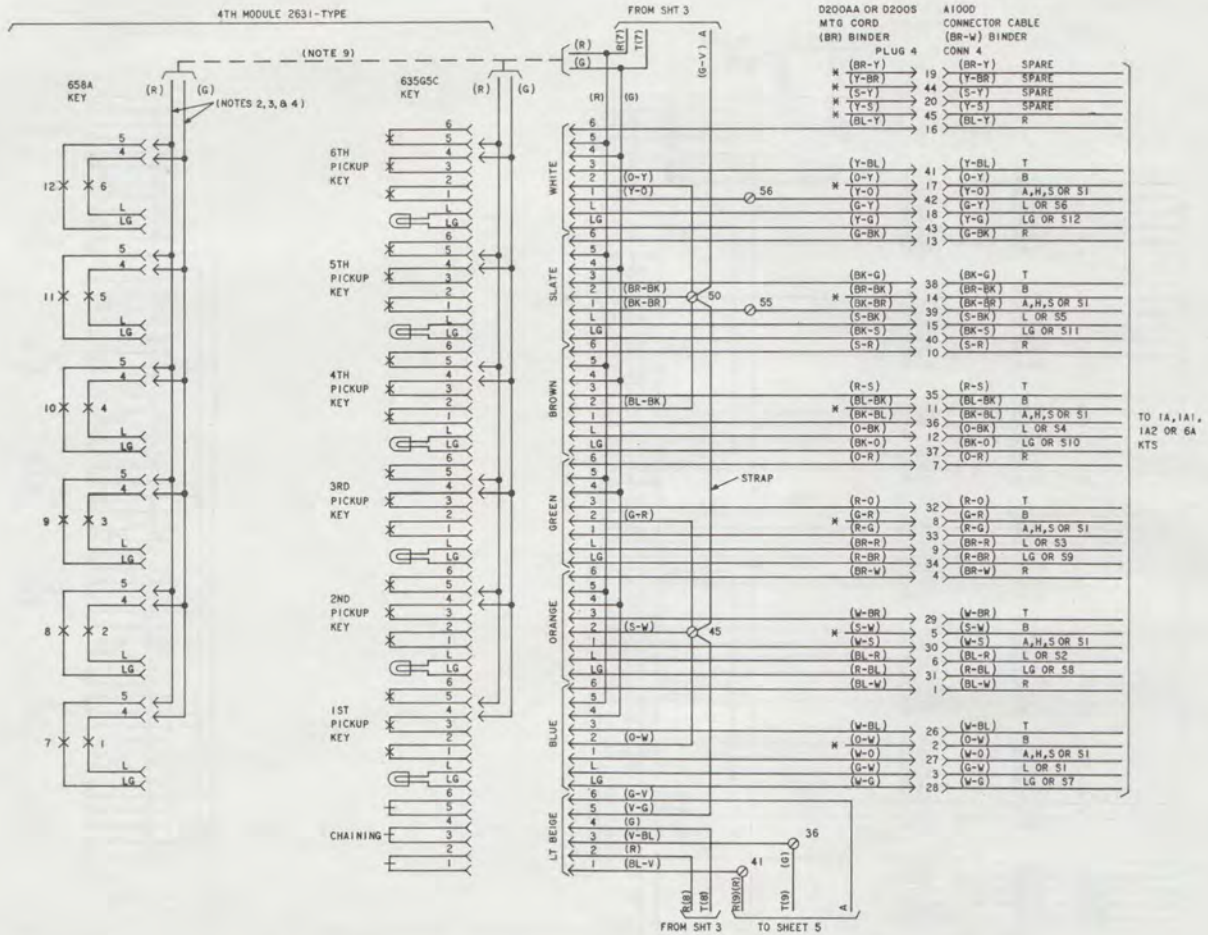


Fig. 3—Module and Connector Cable Arrangements (Sheet 4 of 5)

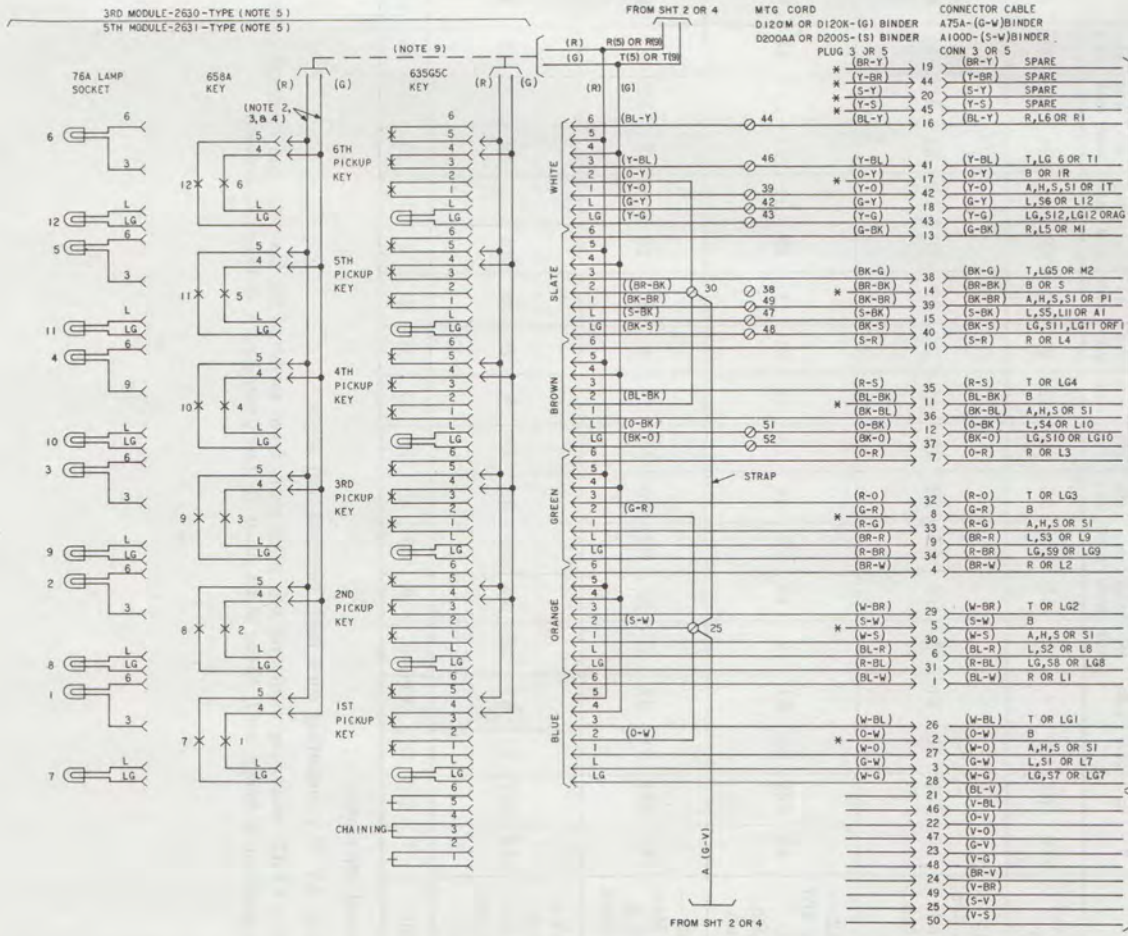


Fig. 3—Module and Connector Cable Arrangements (Sheet 5 of 5)

**TABLE B**  
**1A, 1A1, AND 1A2 CONVERSION—2631DA (MD) OR 2631DAM TELEPHONE SET**

KEY MODULE ARRANGEMENT	LEAD																	
	HOLD KEY				CHAINING PLUG								CONTACT STRIP OR PLUG LEAD					LINE SW.
	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	Y
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. 1A — 5th Mod.	10	22‡	41	3†	5	15	35	22	13	11	21	31	13	11	21	31	3	8
1A1/1A2 — 1st, 2nd, 3rd Mod. 1A — 4th, 5th Mod.	10	22‡	31	3†	5	15	22	45	13	11	21	3	13	11	21	3	41	8
1A1/1A2 — 1st, 2nd Mod. 1A — 3rd, 4th, 5th Mod.	10	22‡	21	3†	5	22	35	45	13	11	3	31	13	11	3	31	41	8
1A1/1A2 — 1st Mod. 1A — 2nd, 3rd, 4th, 5th Mod.	10	22‡	11	3†	22	15	35	45	13	3	21	31	13	3	21	31	41	8
1A Only	*	10	13	3†	5	15	35	45	3	11	21	31	3	11	21	31	41	18

\* Insulated and stored.

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

‡ Remove (Y-G) mounting cord and key plug leads from terminal 22, insulate and store. If hold lamp position is being used, these leads must be terminated on a D-161488 connector.

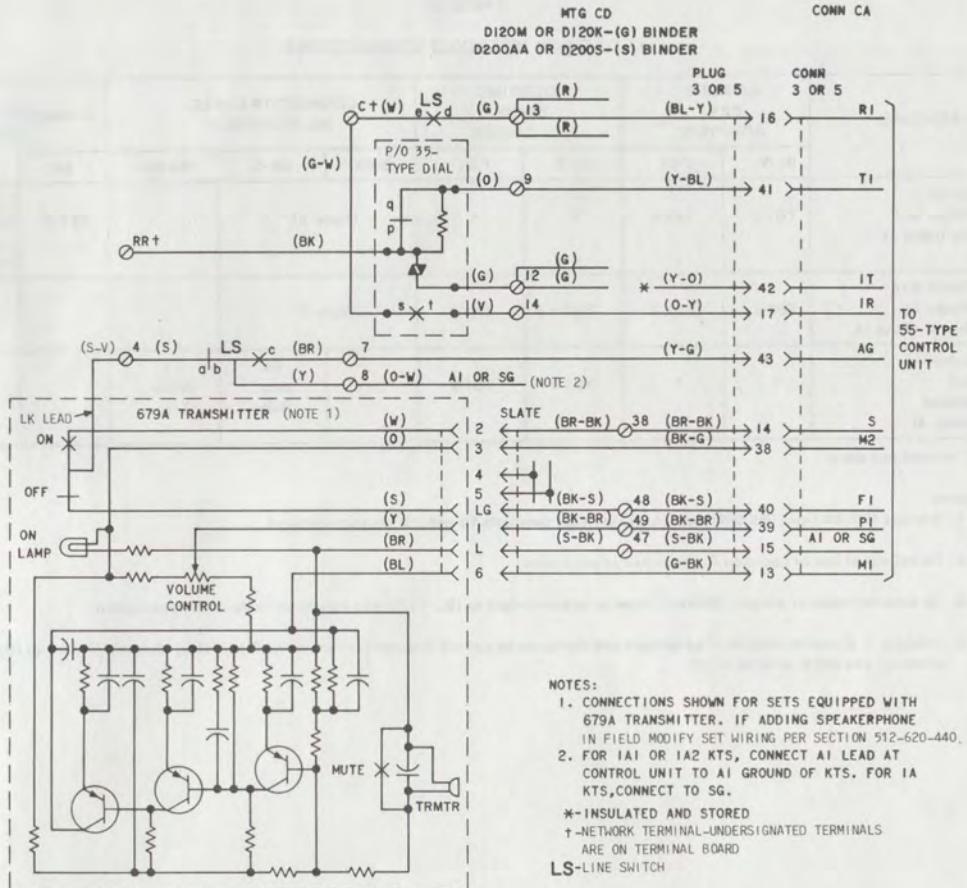


Fig. 4—3-Type (MD) Speakerphone Connections Using Internal 679A (MD) Transmitter

TABLE C

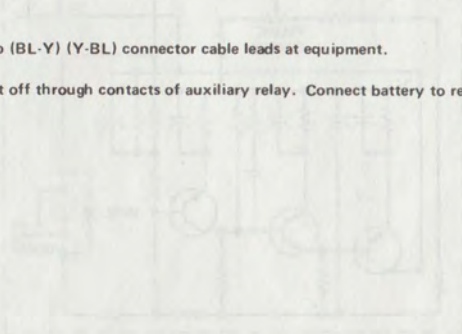
## CUT OFF KEY (635AD5C) CONNECTIONS

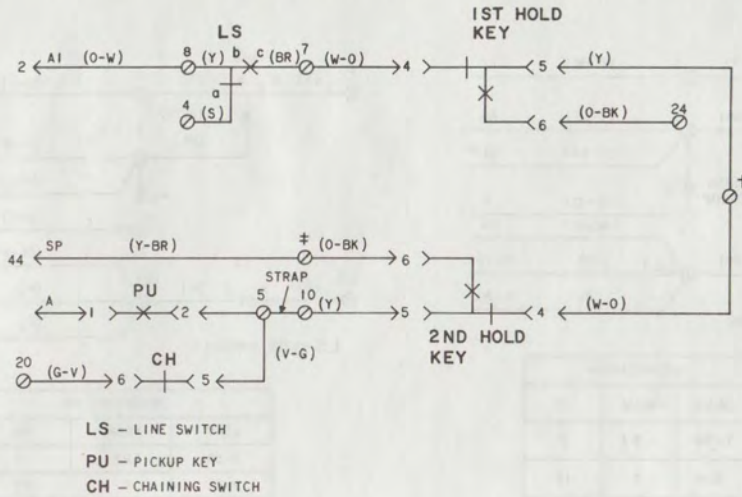
FEATURE	635AD5C KEY ADAPTER		MOUNTING CORD (BL) BINDER		CONNECTOR CABLE (BL-W) BINDER			RINGER	PLACE STRAP
	BL-Y	Y-BL	BL-Y	Y-BL	G-BK	BK-G	BK-BR	BK	
Cutoff Ringer in Set (Note 1)	TB1-1	TB1-2	*	*	(Note 2)			TB1-1	A (Net.) to TB1-2
Cutoff Ext Ringer or Buzzer (Note 1)	TB1-1	TB1-2	TB1-1	TB1-2	(Note 3)		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

\* 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.





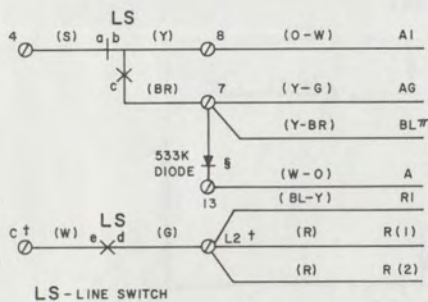
MODIFICATION		
WIRE OR LEAD	FROM	TO
1ST HOLD KEY (Y)	10	†
2ND HOLD KEY (O-BK)		‡
(Y)		10
(W-O)		†
(Y-BR)	*	‡

\* STORED LOCATION (O) BINDER GROUP

† 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.

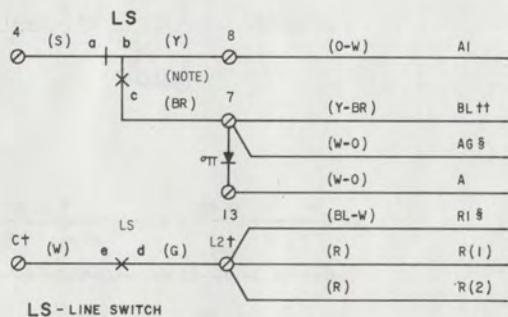
Fig. 5—Modifications for Priority Hold



MODIFICATION		
LEAD	FROM	TO
Y-BR	L2 †	7
W-O	7	13
533K DIODE		7 TO 13
G	13	L2 †
R ‡	13	L2 †
BL-Y	1	L2 †

- † NETWORK TERMINAL - UNDESIGNATED TERMINALS ARE ON TERMINAL BOARD
- ‡ MOVE BOTH (R) LEADS FROM TERMINAL 13 TO L2 OF NETWORK
- § ORDER AND INSTALL 533K BUSY LAMP DIODE
- ¶ USE "B" BATTERY SUPPLY FROM KTS IF AVAILABLE. DO NOT USE 10V AC LAMP BATTERY.

Fig. 6—Station Busy Lamp Circuit with 3-Type (MD) Speakerphone System



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
  - ¶ - ORDER AND INSTALL 533K BUSY LAMP DIODE
  - †† - USE "B" BATTERY SUPPLY FROM KTS IF AVAILABLE. DO NOT USE 10V AC LAMP BATTERY

Fig. 7—Station Busy Lamp Circuit with 4A Speakerphone System



**TABLE D**  
**PICKUP-SIGNAL KEY CONVERSION**  
**3RD (2630-TYPE) OR 5TH (2631-TYPE) MODULE**

NO. OF SIGNAL KEYS	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 (2630-type) or 4th (2631-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

## 819041971 OR 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.