

**SERVICE**  
**682AA, 682AAM, 682AAMS, 683AA, 683AAM,**  
**AND 683AAMS TELEPHONE SETS**  
**CONNECTION AND MAINTENANCE**

**1. GENERAL**

**1.01** This section contains information on the 682AA (MD), 682AAM (MD), 682AAMS1 (18-button) and 683AA (MD), 683AAM (MD), 683AAMS1 (30-button) CALL DIRECTOR® telephone sets.

**1.02** This section is reissue to:

- Show 682AA, 682AAM, 683AA, and 683AAM sets MD
- Add information on 682AAMS1 and 683AAMS1 sets

**1.03** These sets (Fig. 1, 2, and 4) provide headset or handset operation.

**1.04** ♦ All four letter coded sets are now furnished from the factory in only the numerical code (1), and all other numerical code sets are rated (MD). Sets may be equipped with different modular key arrangements by ordering the appropriate 635-, 658-type key or 76A lamp socket. Refer to Section 502-601-101 for recommended layout arrangement of field-installed keys.

**1.05** The 682AAMS1 and 683AAMS1 sets are furnished equipped with a new line switch which breaks both the tip and ring side of the line instead of the ring side only.♦

**1.06** These sets may be used for 2- or 4-wire on 1A1, 1A2, 6A, or 6B key telephone systems. The 3-type (MD) speakerphone may be provided using the 2- or 4-wire speakerphone control circuit per SD-69542-01. For use with 4A speakerphone, refer to Section 512-730-460.

**1.07** The mounting cords of these telephone sets are equipped with individual plugs for making electrical connection to the receptacle blocks of the keys, lamp sockets, or transmitters. Current production sets are equipped with a satin-silver (-87) mounting cord.

**2. CONNECTIONS**

**2.01** The 682- and 683-type sets are equipped with a 635A5C (5 line pickup and hold) or 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) cord] differ between the two keys. If ordered for field replacement, the 635AD5C is furnished with a piggy-back adapter to which the slate mounting cord plug is connected. 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 cords.

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

**2.03** Lines on the telephone set can be transposed from one key position or key module to another by moving the 508-type plugs on the back of the keys. Mounting cord conductors are of sufficient length to allow for complete flexibility of the 508-type plugs.

**NOTICE**

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

## SECTION 502-610-412

**Note:** On initial installation the 508-type and 509A plugs should follow the same color sequence for each key module: Pink (Hold Button), Light Beige (Chaining Switch), Blue (Line 1), Orange (Line 2), Green (Line 3), Brown (Line 4), Slate (Line 5, Cutoff Key, or Transmitter), and White (Line 6).

**2.04** For use with 4A speakerphone, refer to Section 512-730-460.

**2.05** For 3-type (MD) speakerphone operation, a 679A (MD) transmitter may be installed in the 3rd (682-type) or 5th (683-type) module. Figure 5 and Table B show wiring of sets with speakerphone when transmitter is internal.

**Caution:** *Howling may result if speakerphone is turned on while headset is plugged in.*

**2.06** To retain the maximum number of keys in these CALL DIRECTOR telephone sets and still have speakerphone feature, a 666A (MD) or 666B (MD) transmitter and 760A (MD) 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 D). Refer to Section 512-620-450 for complete connections to speakerphone.

**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 A. Refer to Table C for ringer cutoff feature using 635AD5C key in first module.

**2.08** The 682- and 683-type telephone sets are equipped with a KS-20419L1 (10 volt AC only) buzzer.

**2.09** The Hold key in the first module is used as regular Hold, or if required ***I Hold***. A second Hold key is used for ***Priority Hold***. A D-180411 Kit of Parts (ordered separately) is required when ***Priority Hold*** is to be furnished. Install as follows:

- (1) Assemble kit of parts by connecting contact strips to 635A5C key. Plug pink plug (furnished with kit) 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 D200S mounting cord.

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

(3) Reterminate contact strip, if necessary, leads and connect mounting cord plugs with exception of white plug which is insulated and stored.

(4) Rearrange wiring per Fig. 6.

**2.10** Station busy lamp is furnished in these sets as follows:

- If all modules are equipped with keys, a D-180463 Kit of Parts consisting of an 819040338 or P-90D033 Printed Wiring Board Assembly and 840361836 plug assembly must be ordered. The plug assembly is used to provide the chaining function for the last key module (option X, Fig. 7)
- If all modules are not equipped with keys, only the 819040338 or P-90D033 Printed Wiring Board Assembly is required. The (O) lead is connected to the same terminal as the (G-V) chaining lead of the ***last equipped*** module (option Y, Fig. 7).

**2.11** The (BL-Y) and (Y-BL) leads in the first module can be used to provide a push-to-talk handset circuit. For additional information refer to SD-69641-01.

### 3. MAINTENANCE

**3.01** Maintenance of components of these sets such as dials, ringers, etc. is covered in sections pertaining to the particular component.

**3.02** Common installation and maintenance information for the 630, 1630, and 2630 series telephone sets found in Section 502-600-100 would also pertain to the 682- and 683-type telephone sets.

**3.03** If headset transmission is too loud or inadequate the 241A (MD) amplifier should be replaced with a 241B amplifier.

**Note:** If headset transmission is too loud check connections to the amplifier to insure

that the handset transmitter output is not being amplified.

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

**TABLE A**

**PICKUP-SIGNAL KEY CONVERSION  
3RD (682-TYPE) OR 5TH (683-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 (682-type) or 4th (683-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.

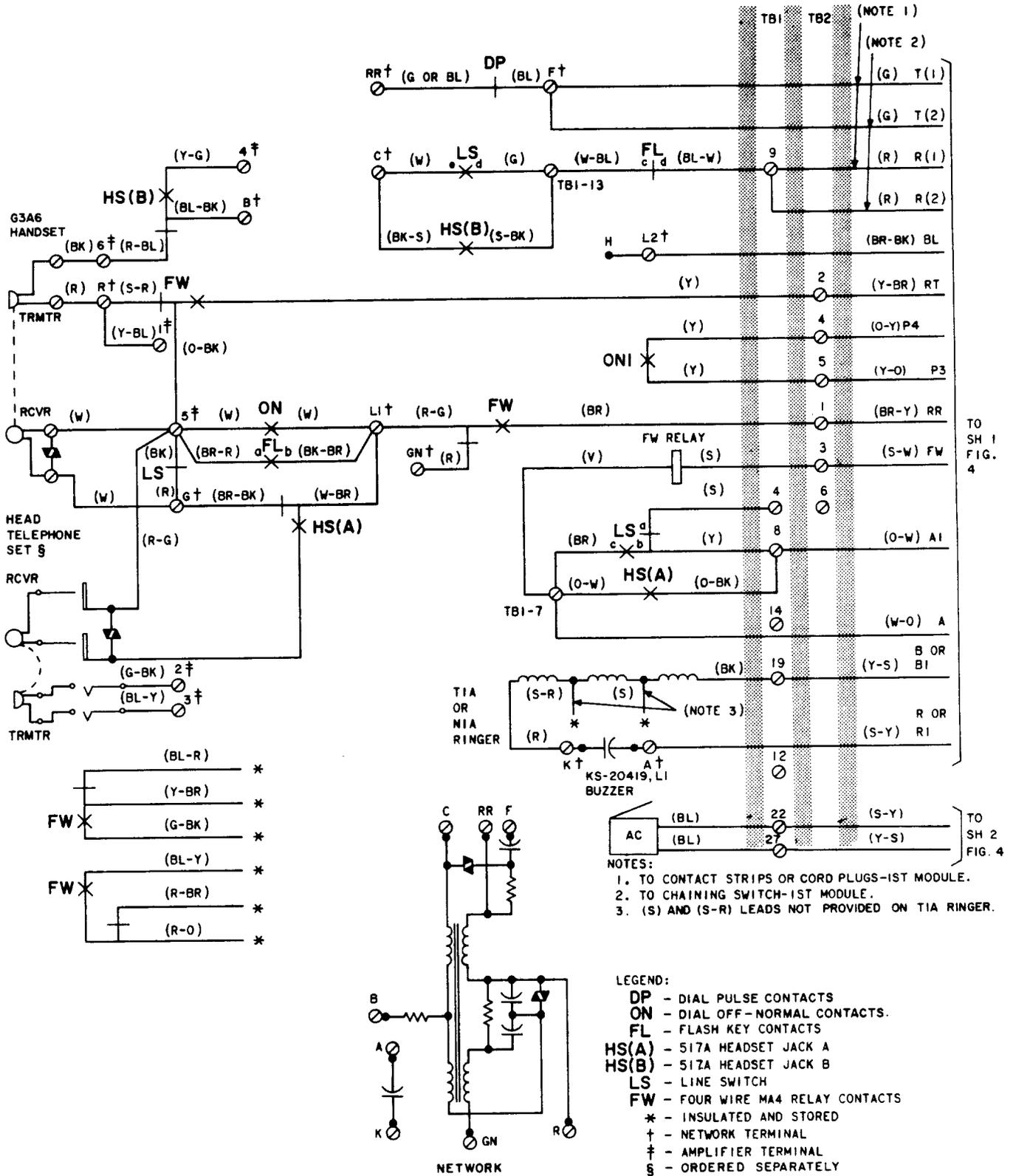


Fig. 1—682AA (MD) and 683AA (MD) Telephone Set, Connections



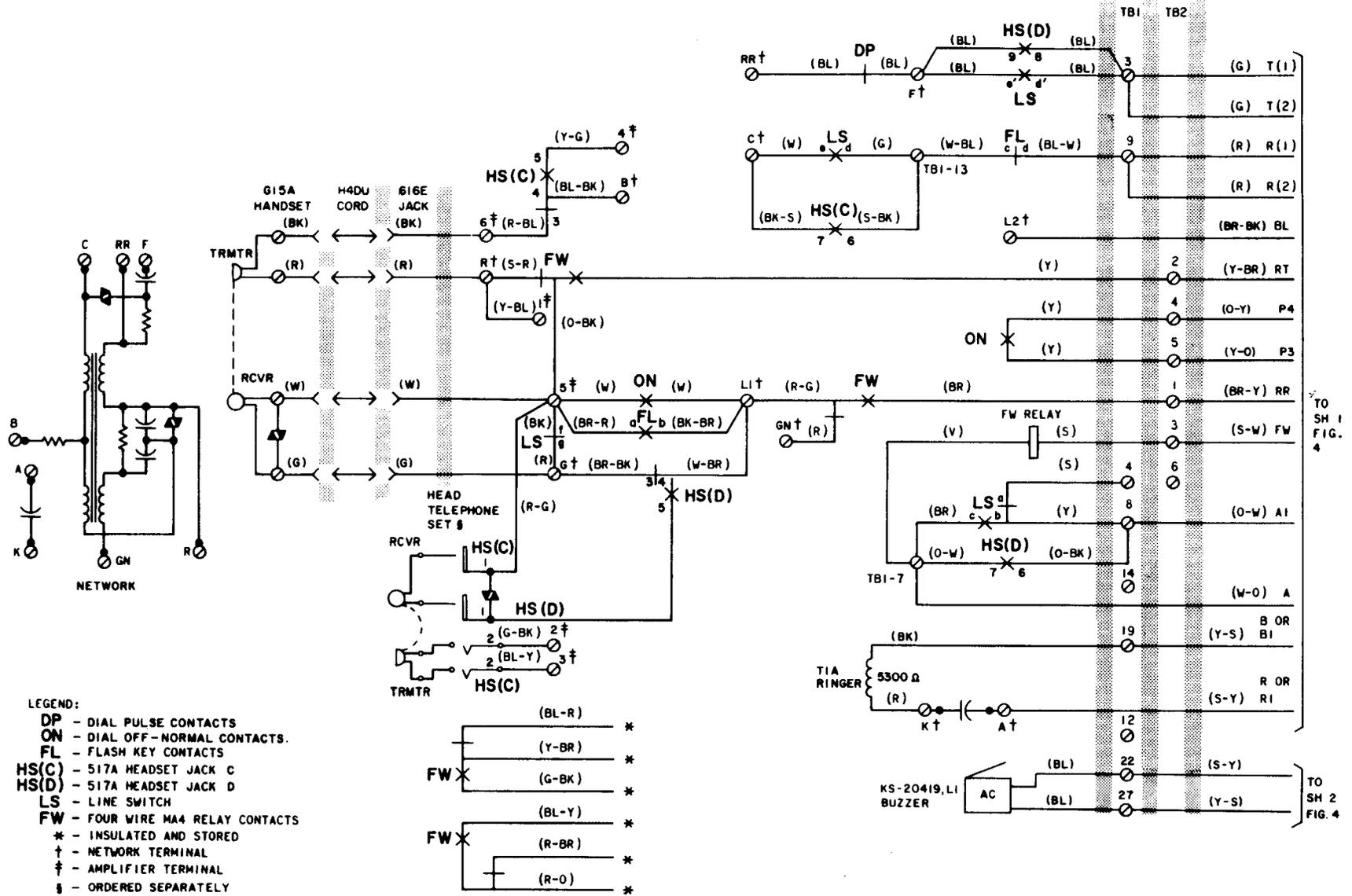


Fig. 3—682AAMS and 683AAMS Telephone Set, Connections

## 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 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 MIW CORD OR EQUIVALENT TO CONNECT TERMINAL 17 TO A GROUND OTHER THAN THE SIGNAL GROUND.
  5. MODULE MAY BE EQUIPPED WITH A 679A TRANSMITTER FOR SPEAKERPHONE. SEE FIG. 5 AND TABLE B.
  6. TO SUPPLY "J" HOLD FEATURE, TERMINATE (G-R) MOUNTING CORD LEAD FROM FIRST MODULE ON TERMINAL 24. LEAD BECOMES SP LEAD AT EQUIPMENT.
  7. IF HOLD KEY LAMP IS REQUIRED, CONNECT (G-Y) LAMP LEAD AND (Y-G) LAMP GROUND LEAD TO (G-Y) AND (Y-G) MOUNTING CORD (BL BINDER) LEADS RESPECTIVELY, USING SPARE TERMINAL OR D-161488 CONNECTOR. LAMP MUST BE SEPARATELY ORDERED AND INSTALLED.
  8. EXTERNAL SPEAKERPHONE LEADS. CONNECT MOUNTING CORD LEADS PER TABLE D. WHEN THESE LEADS ARE USED FOR EXTERNAL SPEAKERPHONE THE HOLD KEY LAMP OR PUSH-TO-TALK HANDSET CANNOT BE PROVIDED.
  9. PUSH-TO-TALK HANDSET CIRCUIT LEADS. WHEN THESE LEADS ARE USED FOR PUSH-TO-TALK HANDSET EXTERNAL SPEAKERPHONE CANNOT BE PROVIDED.
  10. 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.



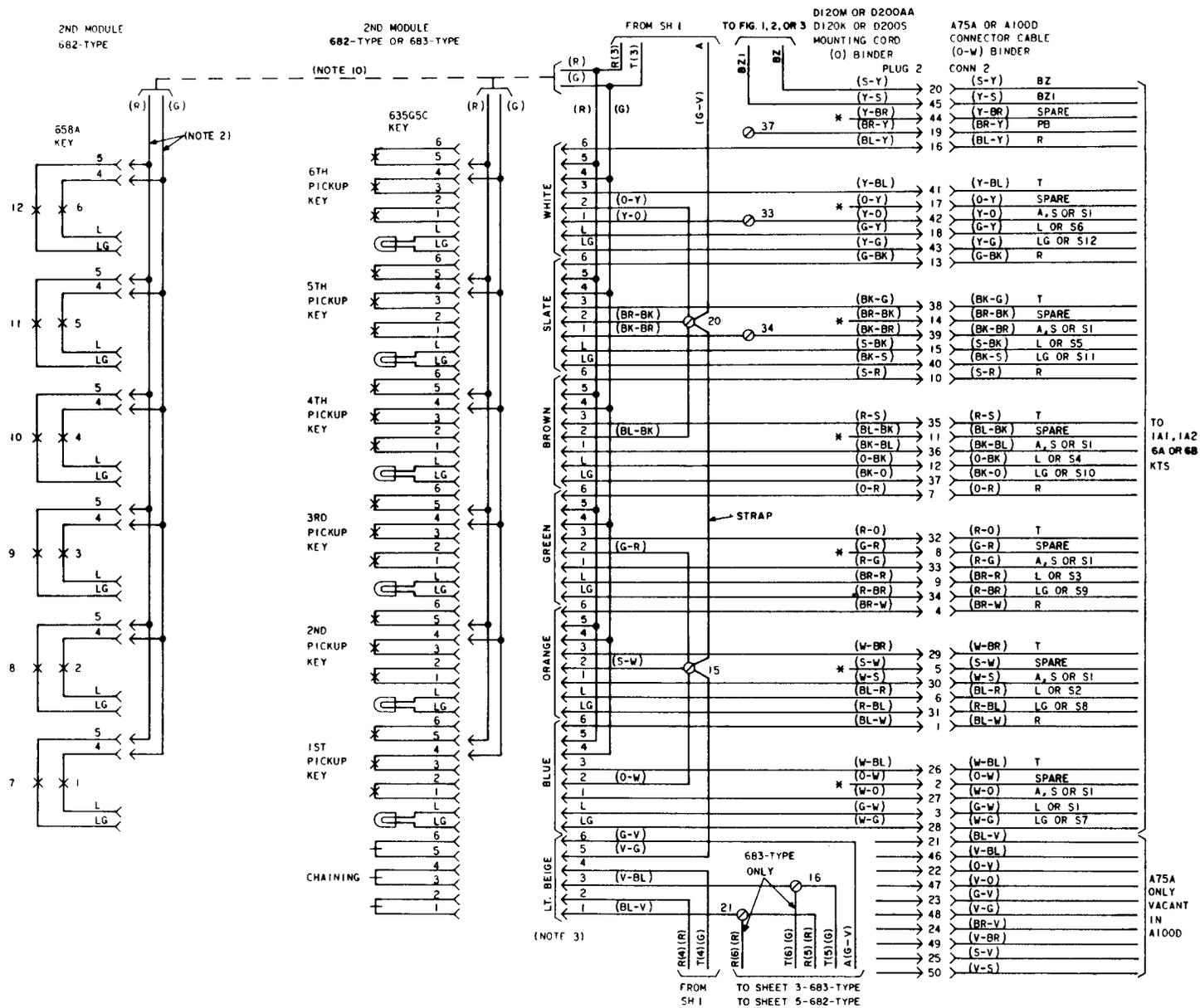


Fig. 4—Module Arrangements Cord and Cable Connections (Sheet 2 of 5)

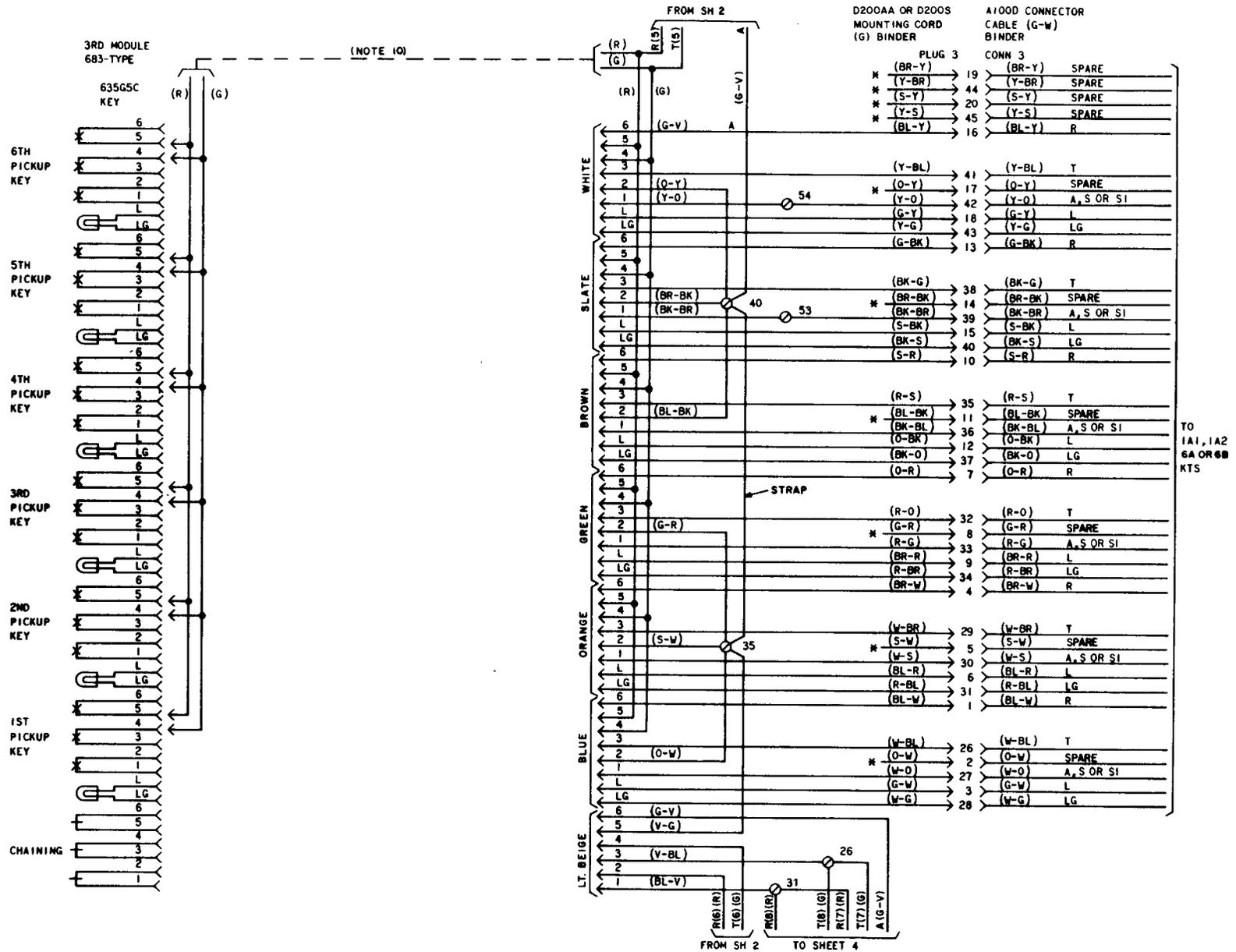
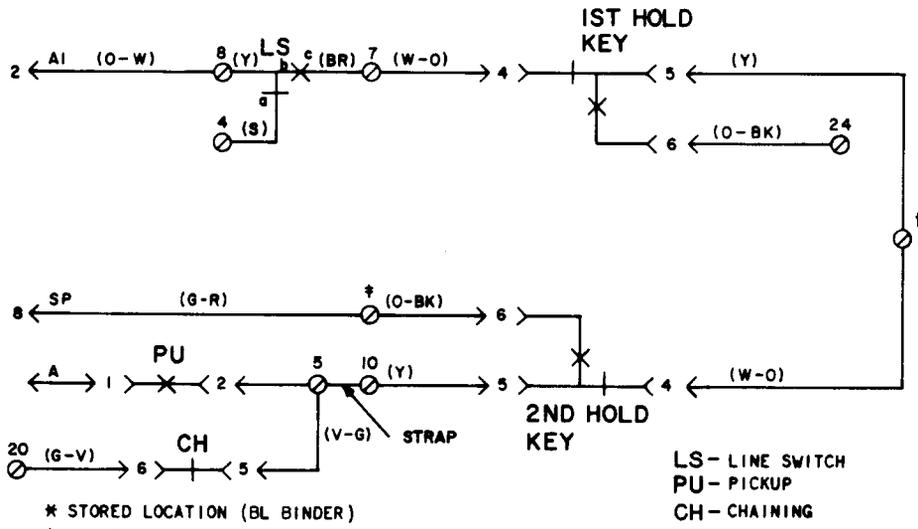


Fig. 4—Module Arrangements Cord and Cable Connections (Sheet 3 of 5)









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

- \* STORED LOCATION (BL BINDER)
- † 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 (G-R) MOUNTING CORD LEAD TO THE SAME SPARE TERMINAL OR D-161488 CONNECTOR.

Fig. 6—Modifications for Priority Hold



TABLE B

**3-TYPE (MD) SPEAKERPHONE CONNECTIONS WHEN  
USING 679A (MD) TRANSMITTER**

WIRE OR LEAD	COLOR	LEAD DESIG	FROM	TO
Mounting Cord (Note 1)	Y-O	P3	TB1-39	TB2-5
	O-Y	P4	*	TB2-4
	BL-Y	R1	TB1-44	TB1-13
	Y-BL	T1	TB1-46	RR†
	Y-G	AG	TB1-43	TB1-7
	BR-BK	S	*	TB1-38
	O-W	A1	*	TB1-8
Mounting Cord (Note 2)	Y-O	P3	TB2-5	*
	O-Y	P4	TB2-4	*
	Y-BR	RT	TB2-2	*
	BR-Y	RR	TB2-1	*
	Y-S	B-B1	TB1-19	*
	S-Y	R-R1	A†	*
	S-W	FW	TB2-3	*
Plug Strap	BR-BK		TB1-30	TB1-38
679A TRMTR	S-V	LK		TB1-4

\* - Insulated and stored

† - Network terminal

Notes:

- 1 Mounting cord conductors from G (682-type) or S (683-type) binder.
- 2 These leads in the BL binder must be disconnected, insulated and stored when speakerphone is added in the field. Sets factory-wired for speakerphone will have leads disconnected. Corresponding leads in G or S binder must be connected.
- 3 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.

**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.

**TABLE D**

**3-TYPE (MD) SPEAKERPHONE CONNECTIONS WHEN  
USING EXTERNAL TRANSMITTER**

WIRE OR LEAD	COLOR	LEAD DESIG	FROM	TO
Mtg Cord (Blue Binder)	Y-BL	T1	TB1-2	RR†
	BL-Y	R1	TB1-1	TB1-13
	Y-O	P3		TB2-5
	O-Y	P4		TB2-4
	Y-G	AG	*	TB1-7
	G-Y	LK	*	TB1-4

\*Insulated and stored.

†Network terminal.

*Note:* Hold button may not be illuminated when (Y-G) and (G-Y) leads are used for speakerphone control leads.