

SERVICE

2682- AND 2683-TYPE TELEPHONE SETS

CONNECTIONS AND MAINTENANCE

1. GENERAL

1.01 This section contains information for 2682AA (MD), 2682AAM (MD), or 2682AAMS1 (18-button) and 2683AA (MD), 2683AAM (MD), or 2683AAMS1 (30-button) TOUCH-TONE® dial, CALL DIRECTOR® type telephone sets.

1.02 This section is reissued to:

- Add information on the 2682AAMS1 and 2683AAMS1 telephone sets
- Update Fig. 3, 4, and 5
- Show the 2682 and 2683HAAM sets MD
- Add the new 840364376 polarity guard (D-181006 Kit of Parts)

1.03 These sets (Fig. 1, 2, 3, and 4) provide headset or handset operation.

1.04 ♦The 2682AAMS1 and 2683AAMS1 (S coded) sets have a new line switch and headset jack. The line switch opens both the tip and ring side of the line. The headset jack is redesigned to operate in conjunction with the new line switch (Fig. 3, and Fig. 4, Note 13).♦

1.05 They may be used for 2- or 4-wire service on 1A1, 1A2, 6A, or 6B key telephone systems. The 3-type (MD) speakerphone can provide both 2- or 4-wire service per SD-69542-01. The 4A speakerphone may also be used; refer to paragraph 2.07.♦

1.06 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 2682- and 2683-type sets can be equipped with a 635A5C (5 line pickup and hold) or 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 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. See Table A for connections. 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.

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),

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SECTION 502-612-425

Brown (Line 4), Slate (Line 5, Cutoff Key, or Transmitter), and White (Line 6).

2.04 Sets may be equipped for internal speakerphone by the addition of a 679A (MD) transmitter in the 3rd (2682AA) or 5th (2683AA) module. Figure 5 and Table B show wiring of sets with speakerphone when transmitter is internal using a 55-type (MD) control unit.♦

Note: In addition to any normal conversion for speakerphone S coded sets must have the two (G) TIP leads on terminal (1) moved to terminal 12. On 3-type (MD) speakerphone applications *only*, the insulated and stored (BL-Y) lead must be connected to terminal 13 of terminal board.

2.05 To add speakerphone to telephone sets equipped for 4-wire service, a modified 55B (MD) control unit and J53041D, L1 control unit must be provided. Refer to Section 512-620-487.

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 C). Refer to Section 512-620-450 for complete connections to speakerphone.

2.07 ♦A 4A speakerphone system can also be connected to the 2682- and 2683-type telephone sets. Refer to Section 512-730-460 for both 2- and/or 4-wire station connections.♦

2.08 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.

2.09 The 2682- and 2683-type telephone sets are factory-equipped with a KS-20419L1 (10 volt ac only) buzzer.

2.10 ♦The hold key in the first module is used for normal hold functions or if required *I*

Hold. An additional hold key can be installed in the second key module location for **Priority Hold**. The D-180411 Kit of Parts consisting of a 635A5C key, two contact strip assemblies, and a pink plug assembly must be ordered separately for **Priority Hold**.

(a) Install as follows.

- (1) Unplug and remove existing 635G5C key from second module.
- (2) Install contact strips and associated leads if applicable (see note).

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.

(3) Place the pink plug assembly from the kit of parts into the hold position on the 635A5C key. Insulate and store the white set plug. Place remaining set plugs into their proper positions on the key.

(4) Make the necessary wiring connections and modifications as shown in Fig. 6.♦

2.11 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 a 819040338 (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 (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).

2.12 When a polarity guard is required with these sets, install a 819041971 (P-90D197) (MD) or 840364376 guard assembly as shown in Table E. Polarity guards should be installed only when authorized by local instructions to eliminate the affect of battery and ground reversals encountered in end-to-end signaling.

Note: The *current 840364376 polarity guard* and instruction sheet comes in the D-181006 Kit of Parts.

2.13 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 2682- and 2683-type telephone sets.

3.03 If headset transmission is too loud or inadequate the 241-type amplifier should be replaced.

Note: If headset transmission is too loud, check connections to the amplifier to insure that the headset 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.

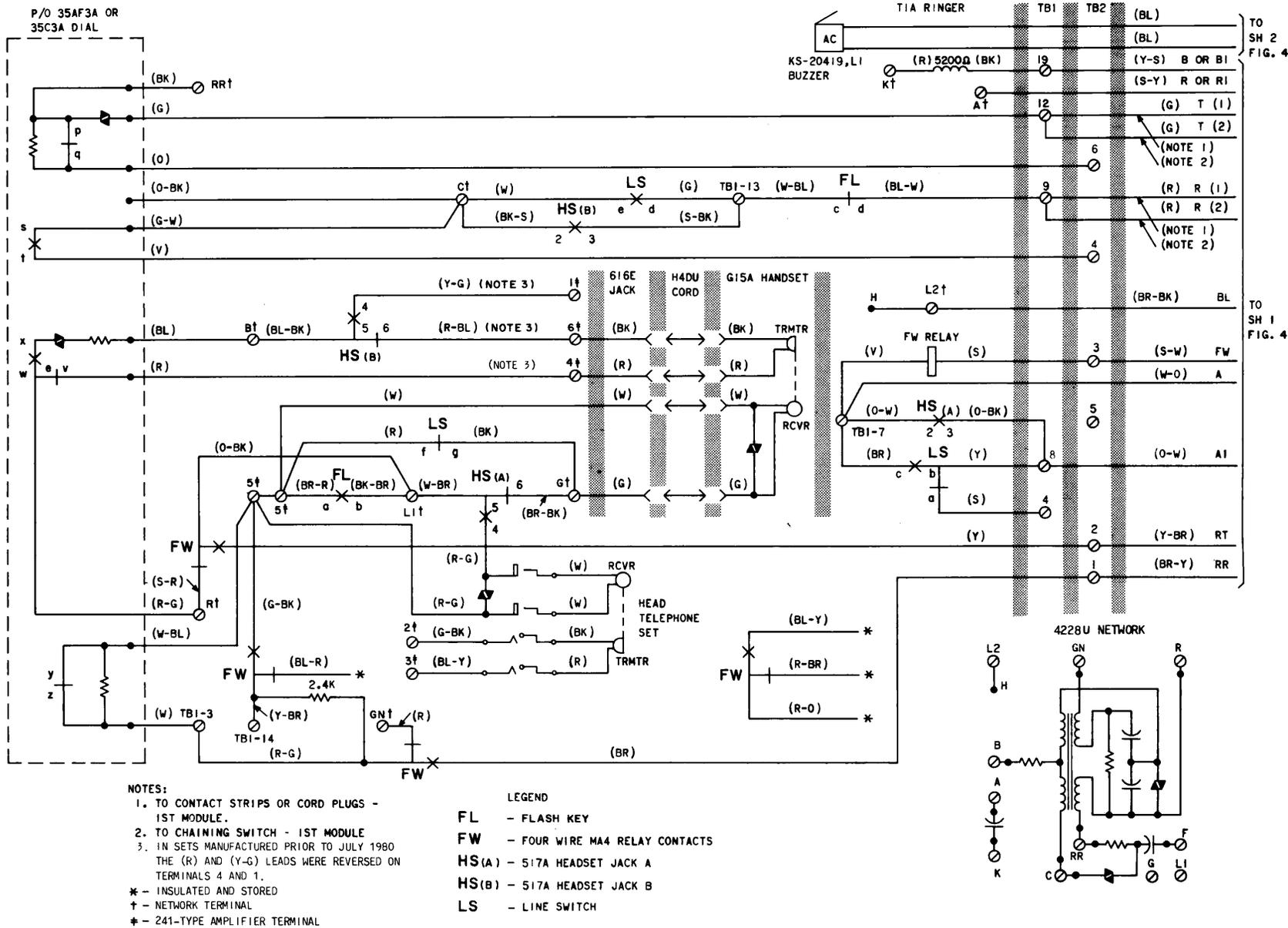


Fig. 2—2682AAM and 2683AAM Telephone Set, Connections

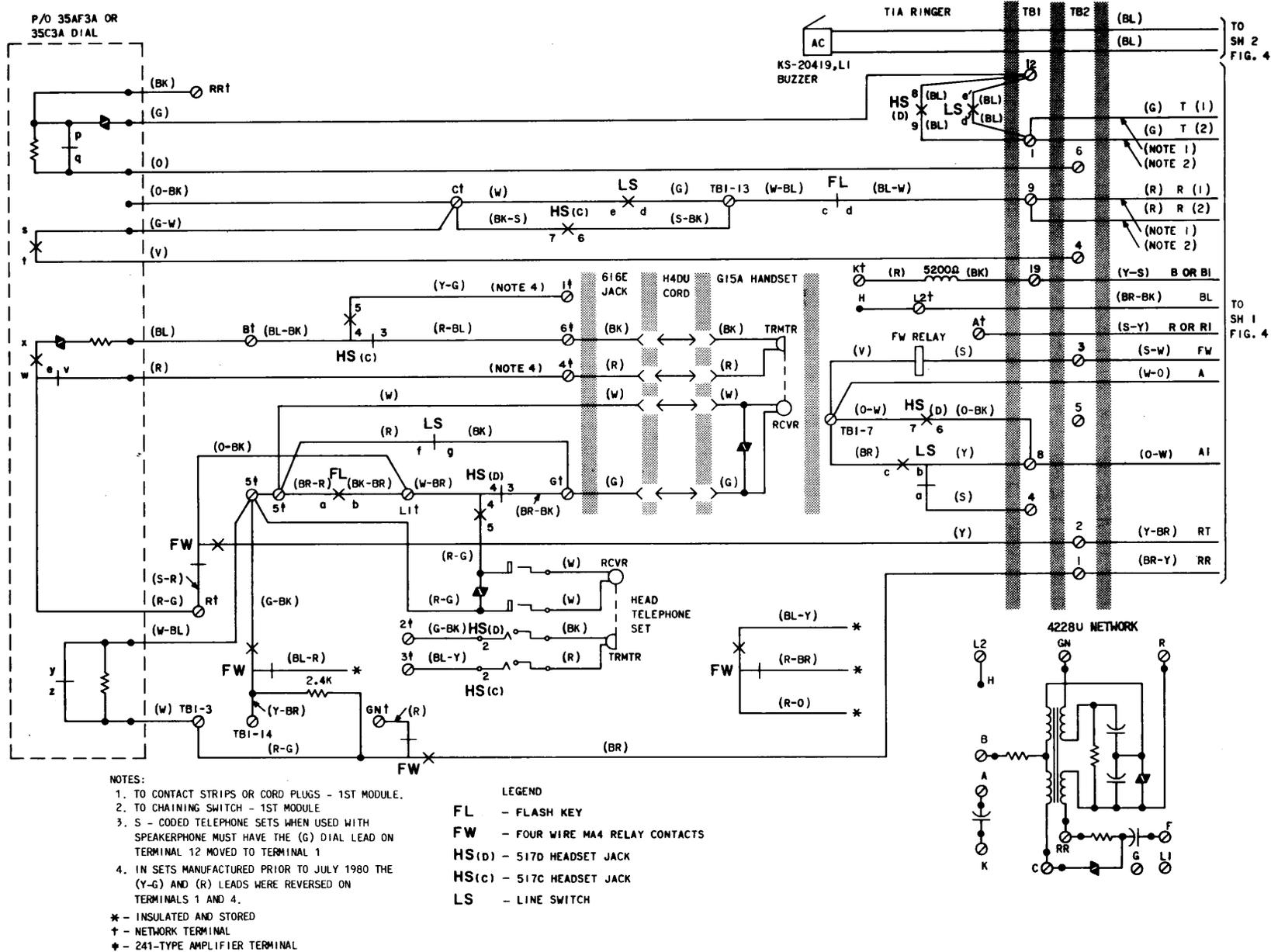


Fig. 3—2682AAMS1 and 2683AAMS1 Telephone Set, Connections

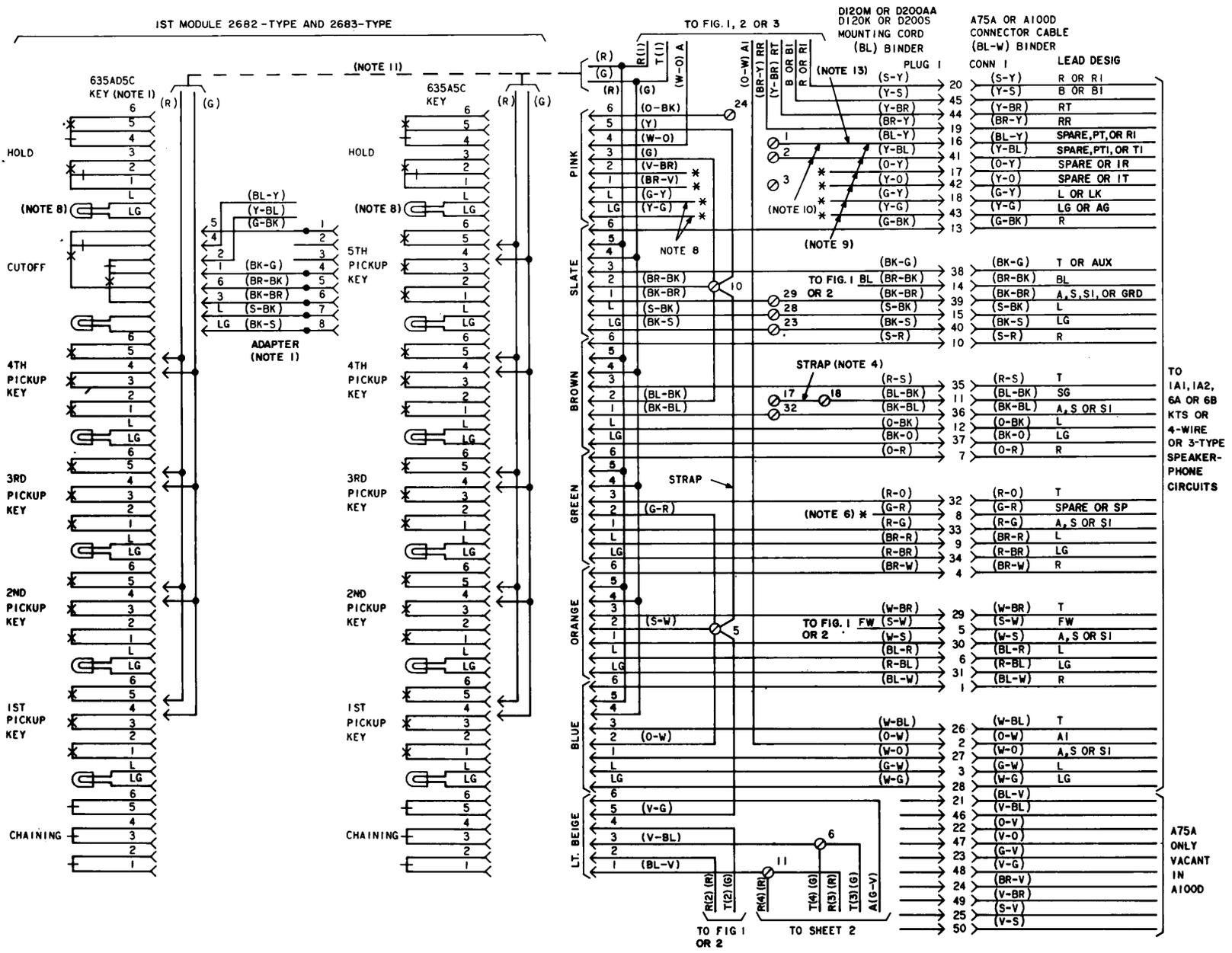


Fig. 4—Module Arrangements, Cord and Cable Connections (Sheet 1 of 5)

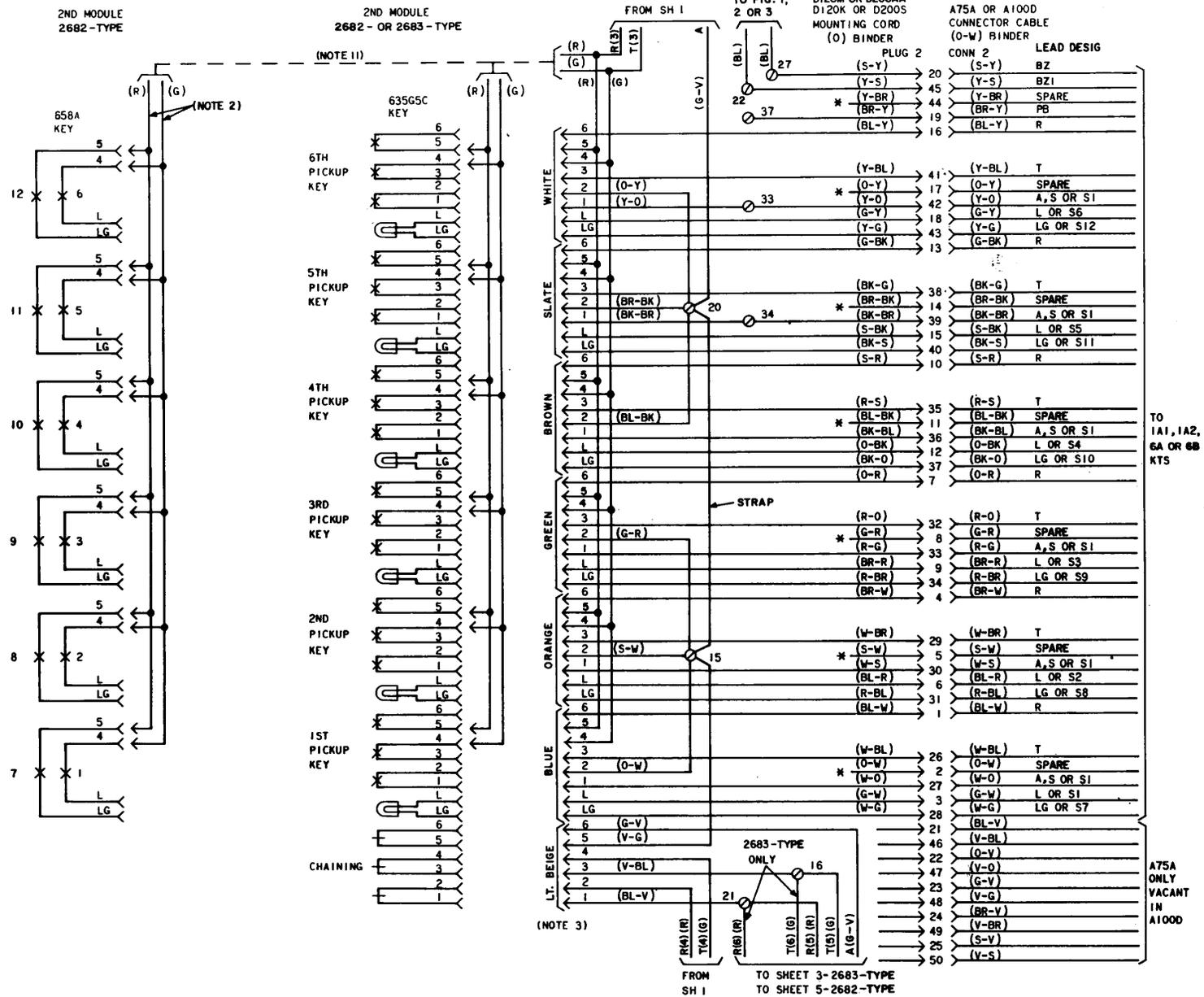


Fig. 4—Module Arrangements, Cord and Cable Connections (Sheet 2 of 5)

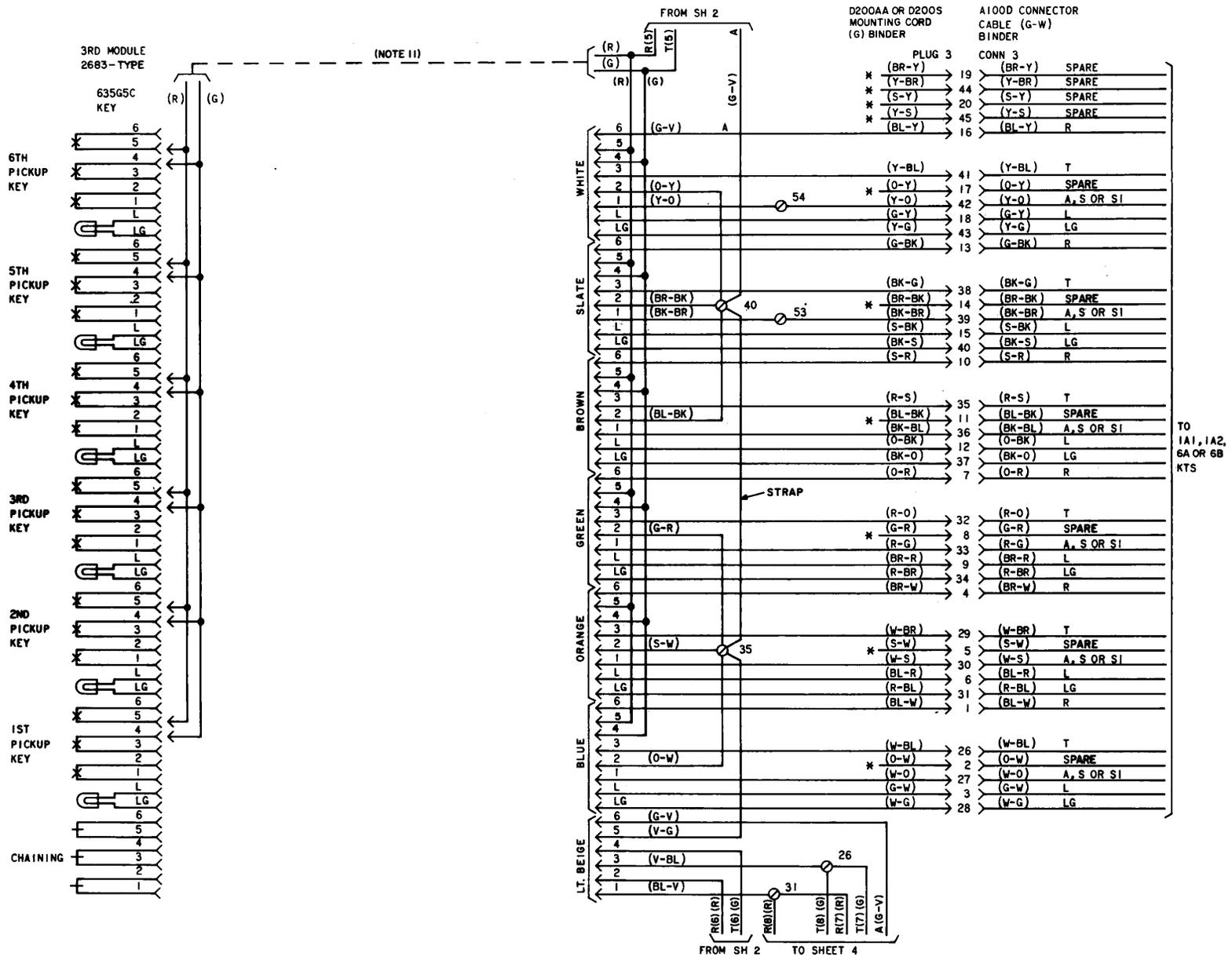


Fig. 4—Module Arrangements, Cord and Cable Connections (Sheet 3 of 5)

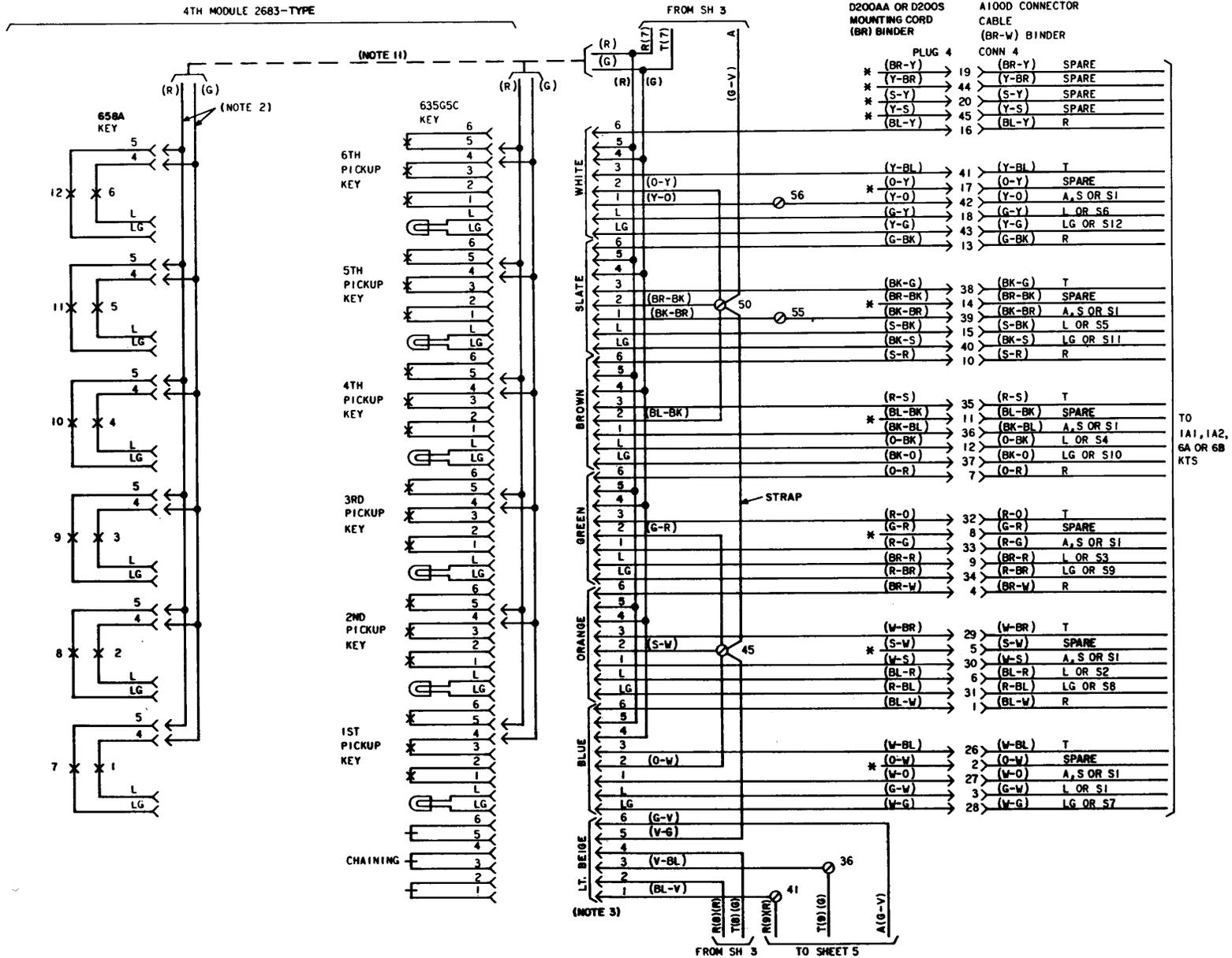


Fig. 4—Module Arrangements, Cord and Cable Connections (Sheet 4 of 5)

3RD MODULE 2682 - TYPE, 5TH MODULE 2683 - TYPE (NOTE 5)

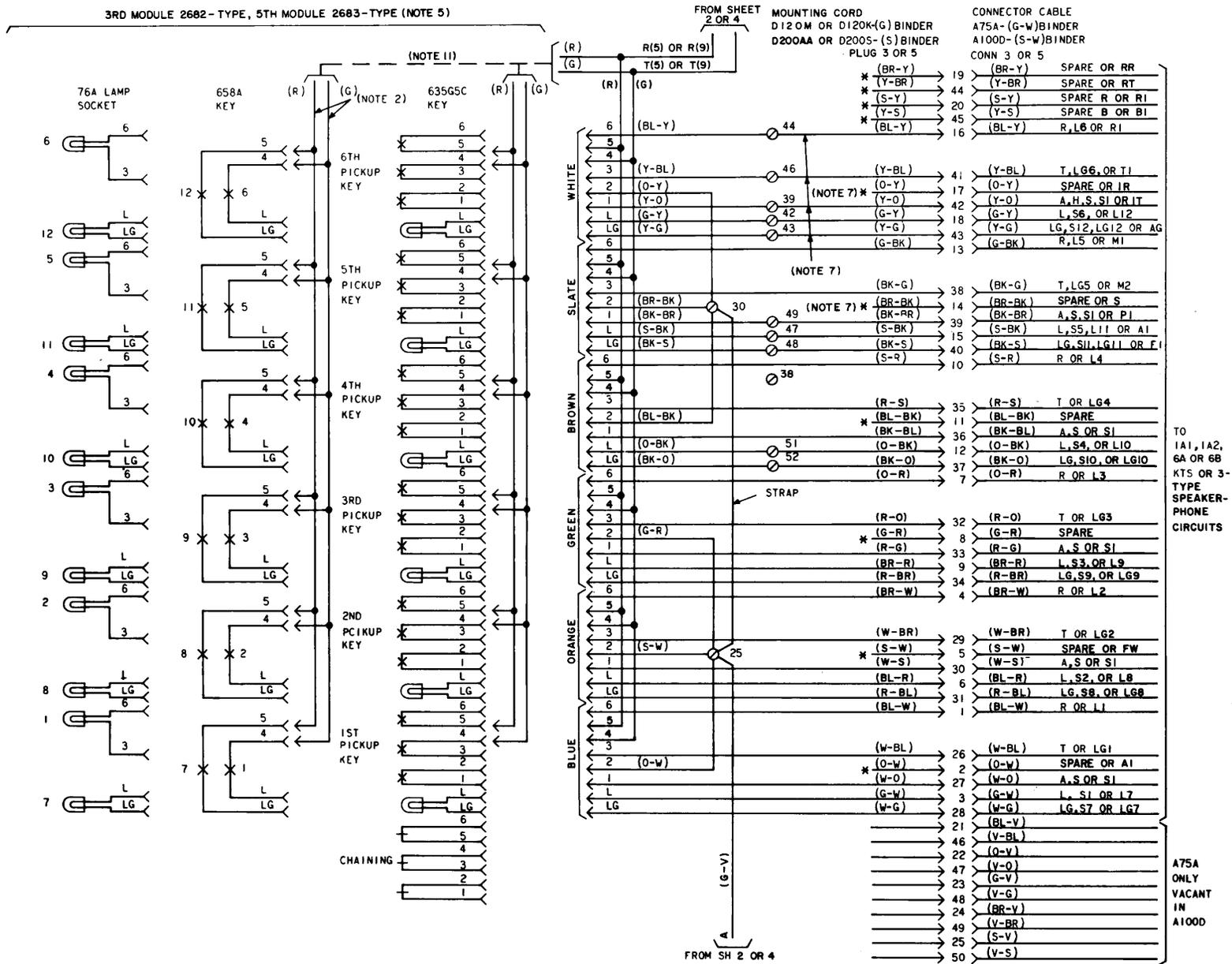


Fig. 4—Module Arrangements, Cord and Cable Connections (Sheet 5 of 5)

SECTION 502-612-425

NOTES FOR FIG. 4

1. THE 635AD5C KEY IS SUPPLIED WITH AN ADAPTER IN THE CUTOFF KEY POSITION. SLATE MOUNTING CORD PLUG IN (BL) BINDER CONNECTS TO THE ADAPTER. BALANCE OF PLUGS CONNECT DIRECTLY TO KEY. CONNECT (BL-Y) AND (Y-BL) ADAPTER LEADS TO TERMINAL 1 AND 2, RESPECTIVELY, ON S CODED TELEPHONES TERMINAL 1 IS USED FOR THE NEW LINE SWITCH. CONNECT THE (BL-Y) ADAPTER LEAD TO THE (BL-Y) MOUNTING CORD LEAD USING A SPARE TERMINAL OR A D161488 CONNECTOR.
2. IN SETS EQUIPPED WITH A 698A 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 698A KEY. NO ELECTRICAL CONNECTION IS MADE.
4. WHEN THE 698A 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 GROUND OTHER THAN SIGNAL GROUND.
5. MODULE MAY ALSO BE EQUIPPED WITH A 679A (MD) TRANSMITTER FOR INTERNAL SPEAKERPHONE. SEE FIG. 5 AND TABLE B.
6. TO SUPPLY "I" HOLD FEATURE, TERMINATE (G-R) MOUNTING CORD LEAD FROM FIRST MODULE ON TERMINAL 24. LEAD BECOMES SP LEAD AT EQUIPMENT.
7. REFER TO FIG. 5 FOR CONNECTIONS WHEN ASSOCIATED WITH 679A (MD) TRANSMITTER.
8. 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.
9. EXTERNAL SPEAKERPHONE LEADS. CONNECT SPEAKERPHONE LEADS PER TABLE C. WHEN THESE LEADS ARE USED FOR EXTERNAL SPEAKERPHONE THE HOLD KEY LAMP OR PUSH-TO-TALK HANDSET CANNOT BE PROVIDED.
10. PUSH-TO-TALK HANDSET CIRCUIT LEADS. WHEN THESE LEADS ARE USED FOR PUSH-TO-TALK HANDSET EXTERNAL SPEAKERPHONE CANNOT BE PROVIDED.
11. THESE CONTACT STRIPS ARE REQUIRED WHEN TELEPHONE SET IS EQUIPPED WITH THE D120K (MD) OR 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.
12. SCREW TERMINALS ARE LOCATED ON TERMINAL BOARD 1.
13. THE (BL-Y) LEAD ON TERMINAL 4 IS INSULATED AND STORED ON 2682AAMS1 AND 2683AAMS1 TELEPHONE SETS.

* INSULATED AND STORED

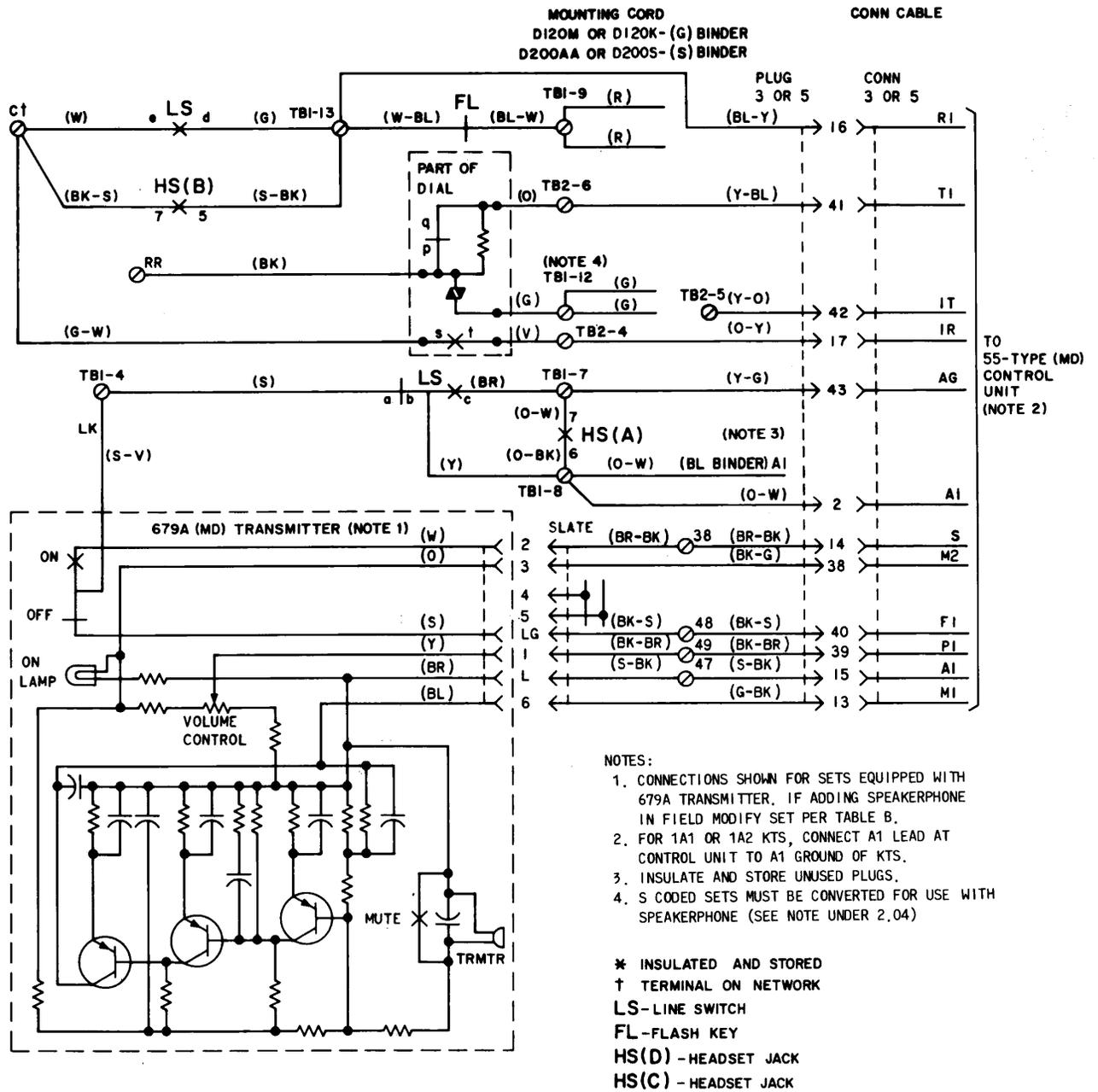


Fig. 5—Speakerphone Connections, Using Internal 679A (MD) Transmitter

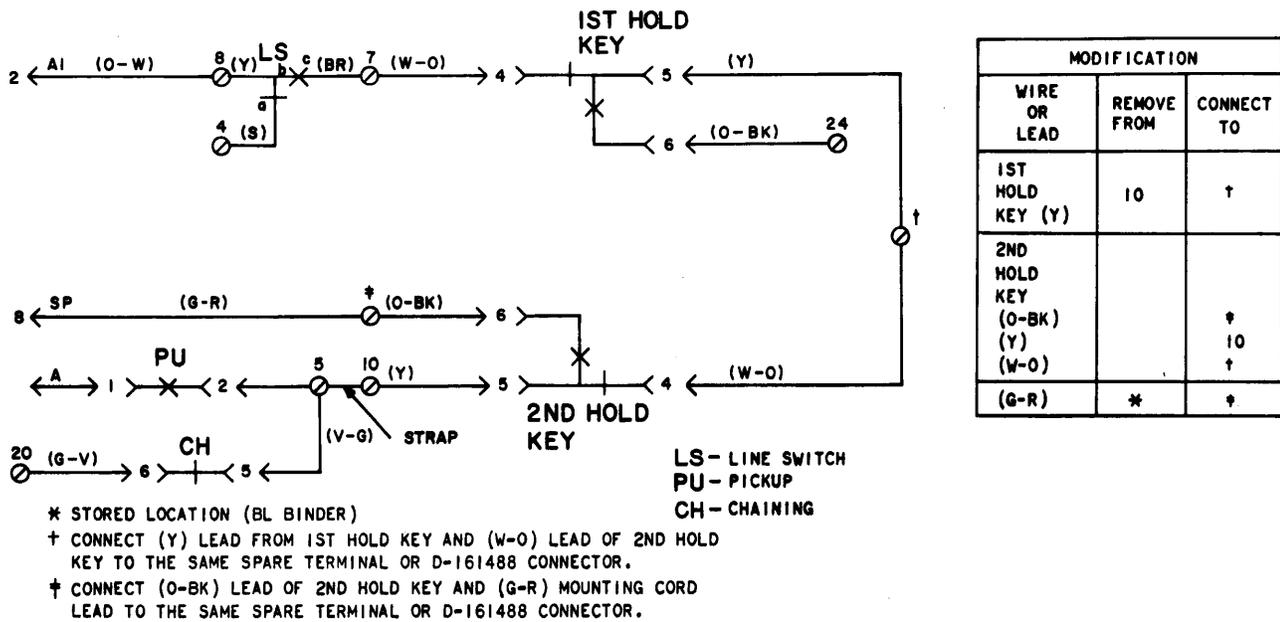


Fig. 6—Modification for Priority Hold

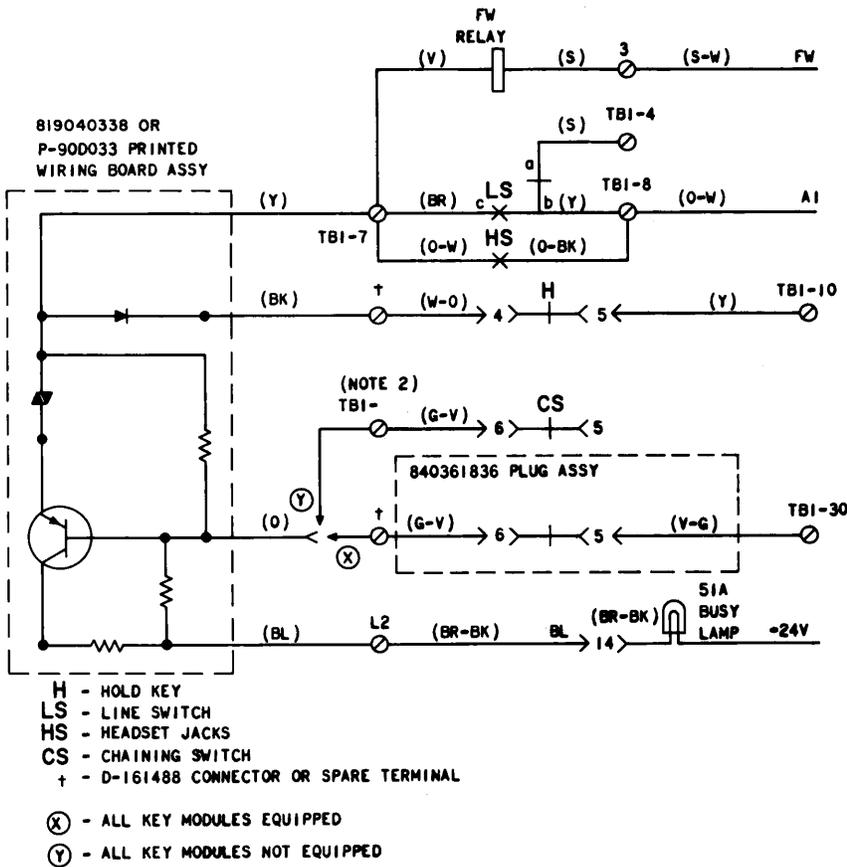
TABLE A
CUT OFF KEY (635AD5C) CONNECTIONS

FEATURE	635AD5C KEY ADAPTER		MOUNTING CORD (BL) BINDER		CONNECTOR CABLE (BL-W) BINDER			RINGER	PLACE STRAP
	BL-Y	Y-BL	BL-Y (Note 5)	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.
5. The 2682AAMS1 and 2683AAMS1 sets are shipped from the factory with the (BL-Y) mounting cord lead insulated and stored



MODIFICATION			
WIRE OR LEAD	COLOR	REMOVE FROM	CONNECT TO
A LEAD	W-0	TBI-7	NOTE 1
819040338 OR P-900033 PRINTED WIRING BOARD ASSEMBLY	BK Y BL		NOTE 1 TBI-7 L2
(X) OR (Y) OPTION	0		NOTE 2
840361836 PLUG ASSY	G-V		NOTE 2 TBI-30
(X) OPTION			

NOTES:

- CONNECT (W-0) A LEAD AND THE (BK) LEAD OF 819040338 OR P-900033 PRINTED WIRING BOARD TO THE SAME SPARE TERMINAL OR D-161488 CONNECTOR
- (X) OPTION - CONNECT (0) LEAD OF 819040338 OR P-900033 PRINTED WIRING BOARD AND (G-V) OF 840361836 PLUG ASSEMBLY TO THE SAME SPARE TERMINAL OR D-161488 CONNECTOR
- (Y) OPTION - CONNECT (0) LEAD OF 819040338 OR P-900033 PRINTED WIRING BOARD TO THE SAME TERMINAL AS THE (G-V) CHAINING LEAD OF THE LAST EQUIPPED MODULE AS FOLLOWS:

	18-BUTTON SET	30-BUTTON SET
LAST MODULE NOT EQUIPPED	TBI-30	TBI-30
LAST 2 MODULES NOT EQUIPPED	TBI-20	TBI-50
LAST 3 MODULES NOT EQUIPPED		TBI-40

Fig. 7—Station Busy Lamp Circuit

TABLE B

INTERNAL SPEAKERPHONE TRANSMITTER CONNECTIONS

(Note 4)

WIRE OR LEAD	COLOR	LEAD DESIG	REMOVE FROM	CONNECT TO
Mtg Cord (Notes 1 and 2)	Y-O	IT	TB1-39	TB2-5
	O-Y	IR	*	TB2-4
	BL-Y	R1	TB1-44	TB1-13
	Y-BL	T1	TB1-46	TB2-6
	Y-G	AG	TB1-43	TB1-7
	BR-BK	S	*	TB1-38
	O-W	A1	*	TB1-8
Mtg Cord (Note 3)	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	*
Slate Plug	BR-BK	STRAP	TB1-30	TB1-38
679A (MD) TRMTR	S-V	LK		TB1-4

*Insulated and stored.

†Network terminal.

Notes

1. Mounting cord conductors from (G) (2682-type) or (S) (2683-type) binder.
2. Connect the slate plug from the 3rd or 5th module to the 679A transmitter (Fig. 4). All other plugs in the module are insulated and stored.
3. 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 these leads disconnected. The corresponding leads in (G) binder (third module) or (S) binder (fifth module) must be connected.
4. Requires 679A (MD) transmitter in 3rd or 5th module.

TABLE C
CONNECTIONS FOR EXTERNAL 3-TYPE (MD)
SPEAKERPHONE TRANSMITTER

WIRE OR LEAD	COLOR	LEAD DESIG	RE- MOVE FROM	CON- NECT TO
Mtg Cord (BL) Binder	Y-O	IT	*	TB2-5
	O-Y	IR	*	TB2-4
	BL-Y	R1	1	TB1-13
	Y-BL	T1	2	TB2-6
	Y-G	AG	*	TB1-7
	G-Y	LK	*	TB1-4

*Stored location.

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

TABLE D
PICKUP-SIGNAL KEY CONVERSION
3RD (2682-TYPE) OR 5TH (2683-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 signal keys are required for private or intercom lines, convert keys in 2nd (2682-type) or 4th (2683-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 (MD) (P-90D197) (MD) AND 840364376
POLARITY GUARD CONNECTIONS

LEAD	COLOR	REMOVE FROM	CONNECT TO
Line Switch	W	C*	S†
Headset Jack	BK-S		
Dial	G-W	RR*	T†
	BK		
Polarity Guard	W		C*
	G		RR*

* Network terminal.

† Polarity guard terminal.

Notes:

- 1 Polarity guards shall be installed only when specified by local instructions for end-to-end signaling when battery and ground reversals may be encountered.
- 2 The polarity guard is located at the right and rear of the TOUCH-TONE dial.
3. The 840364376 polarity guard comes in the D-181006 Kit of Parts. It is to be installed on any surface having an area equivalent to the adhesive backing.

