

**SPEAKERPHONE SYSTEM—3-TYPE**  
**631-TYPE TELEPHONE SETS**  
**CONNECTIONS AND MAINTENANCE**

**1. GENERAL**

**1.01** This section covers modification and connection of the 631-type telephone set when used with the 3-type speakerphone system. Maintenance, limited to components installed in the set as a result of the modifications, is also covered.

**1.02** This section is reissued to:

- Add information on 631DA telephone set.
- Indicate 8R dial must be replaced with 8C when speakerphone is furnished.

**2. MODIFICATION**

**2.01** Codes -16, -17, and -18 of the 631-type telephone sets are factory wired for speakerphone. Other codes can be converted by installing a transmitter in the fifth module and replacing an 8R dial with an 8C dial, where required.

**631A (MD), 631B (MD), 631C (MD), and 631D Telephone Sets**

**2.02** Convert as follows:

- (a) Remove telephone set faceplate and housing.
- (b) Remove key unit or apparatus blank in right-hand module position (fifth module) and plug in a 667B transmitter (ordered separately).
- (c) Connect spade-tipped leads of transmitter as shown in Fig. 1 or 2 and Table A.
- (d) Install housing.
- (e) Install new faceplate and mat (ordered separately) in which cutouts for the transmitter are provided. Refer to the Reference section on 630-, 631-, and 632-type sets for ordering information.

**TABLE A**

**CONNECTIONS FOR 667-TYPE TRANSMITTER LEADS**

LEAD DESIG	TRANSMITTER		CONNECT TO*	
	667A (MD)	667B	631A 631B 631C TEL SETS	631D TEL SET
R1	O-R	BL-Y	1	2
T1	O-G	Y-BL	RR†	RR†
P3	O-W	Y-G	W‡	11
P4	O-BL	G-Y	BB‡	12
AG	O	O-Y	G†	5
A1	Y	O-V	4	1
LK	O-BK	Y-O	L1†	9

\*Terminals on telephone set terminal board except where otherwise noted.

†Terminals on network.

‡Terminals on dial.

**631DA Telephone Sets**

**2.03** Convert as follows:

- (a) Remove faceplate and housing.
- (b) Disconnect line plugs from key unit or apparatus blank in fifth module and remove key.
- (c) Install 679A transmitter in fifth module and connect slate plug to receptacle on rear of transmitter. Insulate and store balance of plugs.
- (d) Modify set per Fig. 3 and Table C.
- (e) Replace housing.

**TABLE B**  
**SPEAKERPHONE CONDUCTOR LOCATION IN**  
**TELEPHONE SET MOUNTING CORD**  
**631A, B, C, AND D TELEPHONE SETS**

LEAD DESIG	FIFTH MODULE PLUG*	D200A (MD) MTG CORD D200B (MD) MTG CORD		D200F MTG CORD	
		LEAD COLOR (BL BINDER)	PLUG V TERMINAL PIN	LEAD COLOR (S-W BINDER)	PLUG V TERMINAL PIN
R1	13	S-Y	13	G-W	3
T1	38	S-BK	38	W-G	28
P3	15	S-BR	15	BR-R	9
P4	40	BR	40	R-BR	34
AG	41	BK-W	41	BK-O	37
S	16	BK-BL	16	O-BK	12
M1	17	BL-W	17	S-BK	15
M2	42	S	42	BK-S	40
P1	14	S-BL	14	BL-R	6
F1	18	O-BL	18	G-Y	18
A1	37	O-BK	37	Y-O	42

\*Mates with 667-type transmitter plug

- (f) Install proper faceplate and mat. Refer to Reference section for ordering information.◆

**TABLE C**  
**SPEAKERPHONE MODIFICATION**  
**631DA TELEPHONE SET**

WIRE OR LEAD	COLOR	FROM	TO
Mounting Cord	Y-O	39	14
	O-Y	*	9
	BL-Y	44	13
	Y-BL	46	RR
	Y-G	43	7
Plug Strap	BR-BK	*	38
	BR-BK	30	38
679A Trmtr	S-V		4

\* Insulated and stored.

### 3. CONNECTIONS



*For proper operation of the 3-type speakerphone system, ground must be present on the A1-lead. Connect ground to the appropriate terminal on the telephone set or at the 55-type control unit.*

**3.01** ◆ Where required, ringer and buzzer operation can be interrupted through break contacts of the 55-type control unit to prevent pickup while using speakerphone.

**3.02** Connections are also shown for busy lamp controlled by speakerphone. Where it is desired to have the busy lamp controlled by speakerphone and line switch, refer to the Service section for the set involved.

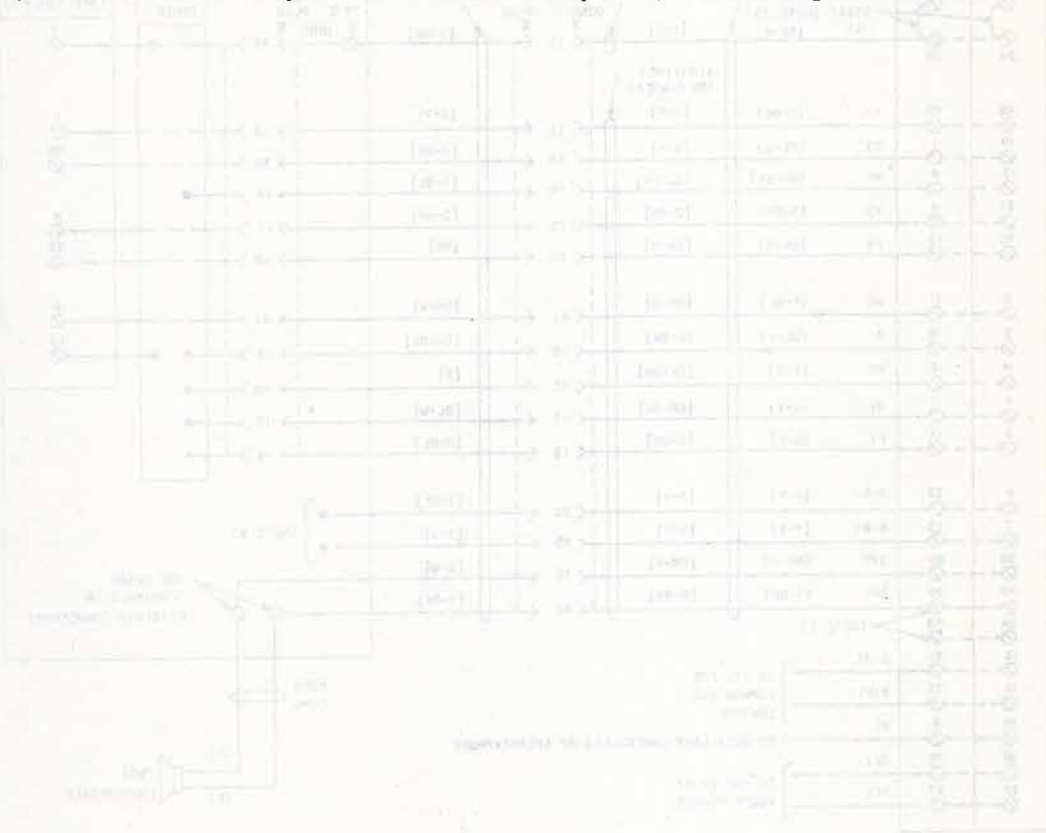
**3.03** Either the 55A or 55B control unit may be used with these sets. Connections to the 55A are the same whether or not the unit has been modified for TOUCH-TONE® service.◆

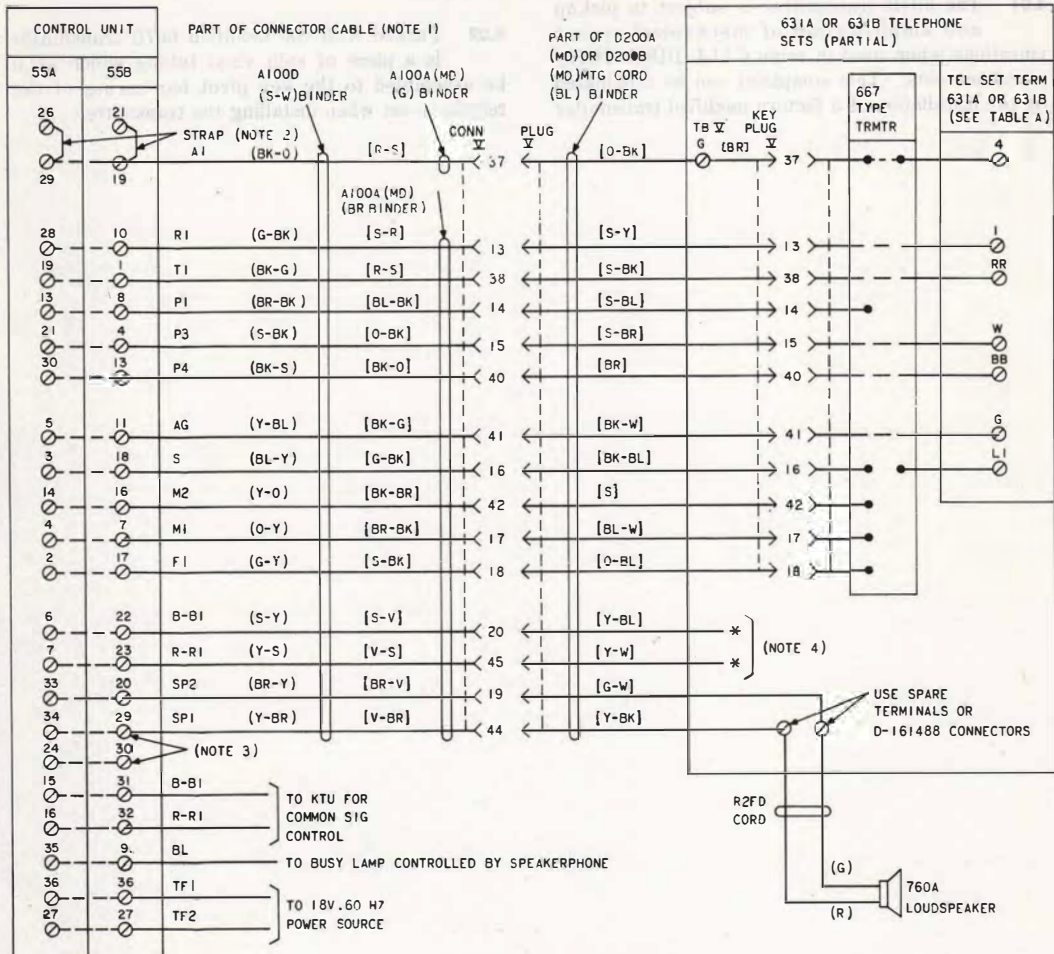
#### 4. MAINTENANCE

**4.01** The 667B transmitter is subject to pickup and amplification of mechanical spring vibrations when used in some CALL DIRECTOR® telephone sets. This complaint can be eliminated by the installation of a factory modified transmitter

ordered as follows: "Transmitter, 667B, Modified per D-180196."

**4.02** Packed with the modified 667B transmitter is a piece of split vinyl tubing which shall be assembled to the key pivot bar spring of the telephone set when installing the transmitter.



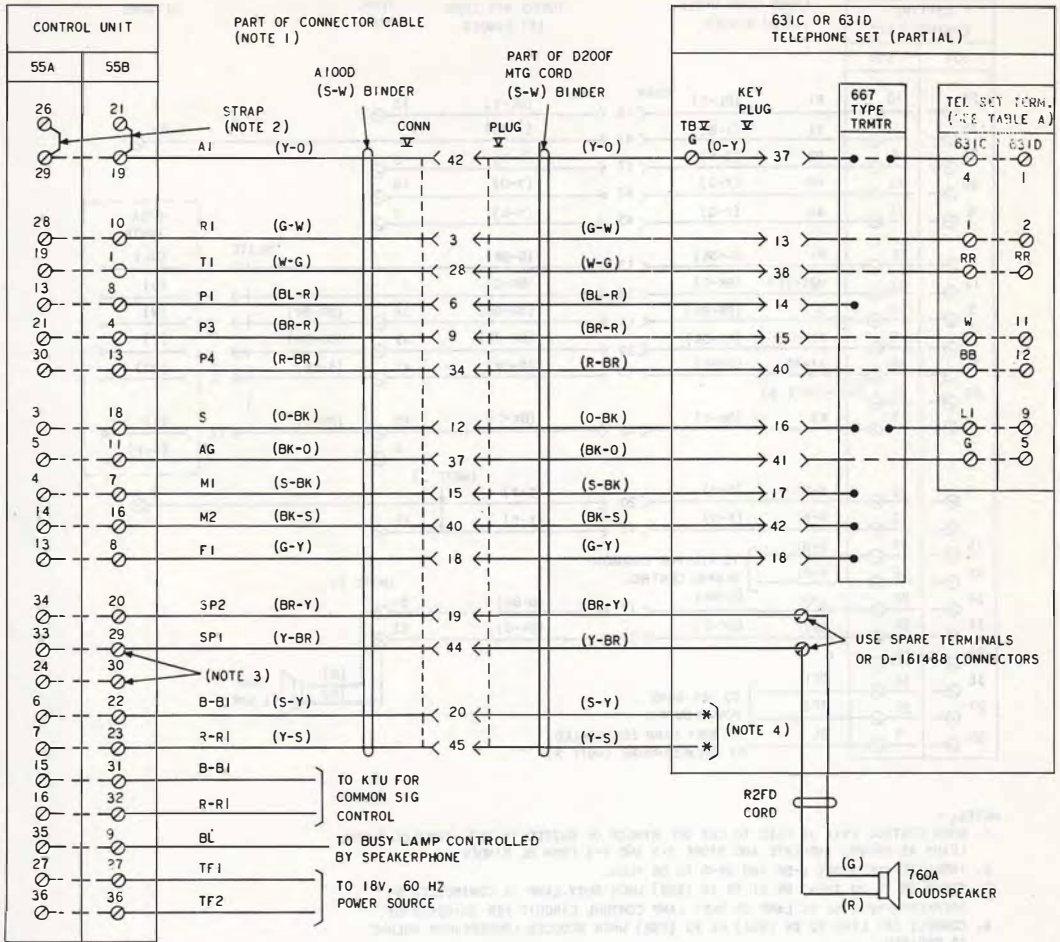


NOTES:

- IF CONTROL UNIT IS LOCATED AT KEY EQUIPMENT, EXTEND SPEAKERPHONE CONNECTIONS THROUGH APPROPRIATE LEADS IN (G) AND (BR) BINDER GROUP OF A100A (MD) OR (S-W) BINDER GROUP OF A100D CONNECTOR CABLE. FOR OTHER LOCATIONS, CONNECT TO CONTROL UNIT USING A25A CONNECTOR CABLE.
- ADD STRAP FOR STATION BUSY LAMP CONTROLLED BY SPEAKERPHONE.
- CONNECT SPI LEAD TO TERMINAL 30 (ON 55B) OR TERMINAL 24 (ON 55A) WHEN REDUCED LOUDSPEAKER VOLUME IS DESIRED.
- CONNECT [Y-BL] [Y-W] TO BUZZER OR RINGER (IN PLACE OF EXISTING LEADS) TO PROVIDE AUTOMATIC CUTOFF OF COMMON AUDIBLE SIGNAL DURING SPEAKERPHONE OPERATION.

\* INSULATED AND STORED  
 ( ) CURRENT COLOR CODE  
 [ ] MD COLOR CODE

Fig. 1—631A and 631B Telephone Sets, Connections

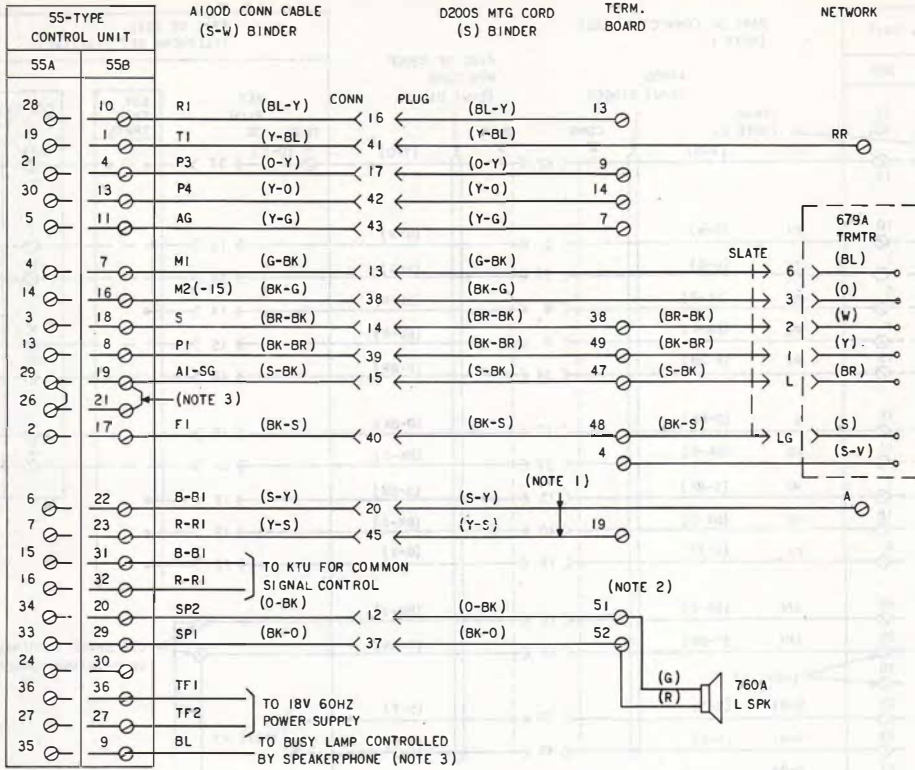


NOTES:

1. IF CONTROL UNIT IS LOCATED AT KEY EQUIPMENT, USE (S-W) BINDER GROUP OF A100D CONNECTOR CABLE FOR SPEAKERPHONE LEADS; FOR OTHER LOCATIONS, CONNECT TO CONTROL UNIT USING A25 - TYPE CONNECTOR CABLE.
2. ADD STRAP FOR STATION BUSY LAMP CONTROLLED BY SPEAKERPHONE.
3. CONNECT SP1 LEAD TO TERMINAL 30 (ON 55B) OR TERMINAL 24 (ON 55A) WHEN REDUCED LOUDSPEAKER VOLUME IS DESIRED.
4. CONNECT (S-Y) (Y-S) TO BUZZER OR RINGER (IN PLACE OF EXISTING LEADS) TO PROVIDE AUTOMATIC CUTOFF OF COMMON AUDIBLE SIGNAL DURING SPEAKERPHONE OPERATION.

\* INSULATED AND STORED

Fig. 2—631C and 631D Telephone Sets, Connections



NOTES:

1. WHEN CONTROL UNIT IS USED TO CUT OFF RINGER OR BUZZER IN SET, CONNECT THESE LEADS AS SHOWN, INSULATE AND STORE S-Y AND Y-S FROM BL BINDER.
2. INSULATE AND STORE O-BK AND BK-O TO BR PLUG.
3. STRAP 26 TO 29 (55A) OR 21 TO 19 (55B) WHEN BUSY LAMP IS CONTROLLED BY SPEAKERPHONE. USE DC LAMP OR BUSY LAMP CONTROL CIRCUIT PER SD-69403-01.
4. CONNECT SPI LEAD TO 24 (55A) OR 30 (55B) WHEN REDUCED LOUDSPEAKER VOLUME IS DESIRED.

Fig. 3—631DA Telephone Set, Connections