

TELEPHONE SETS—831- AND 2831-TYPE IDENTIFICATION, INSTALLATION, CONNECTIONS, AND MAINTENANCE

1. GENERAL

1.01 This section is reissued to:

- Add 831C and 2831C telephone sets
- Add 831C and 2831C telephone set bases
- Show 831CT and 2831CT telephone sets rated MD
- Show 831CT and 2831CT telephone set bases rated MD
- Add 832A housing
- Add 35AF3A dial
- Include information for ringer biasing spring adjustment

2. IDENTIFICATION

Purpose

2.01 The 831-(rotary) and 2831-(TOUCH-TONE® dial) type telephone sets are obtainable as modular or complete desk-type, 20-button, key telephone sets equipped to provide standard key system features.

Application

2.02 Used with central office, PBX or intercommunicating line circuits in 1A1, 1A2, or 6A key telephone systems (KTS). These sets are not for use with 1A KTS.

2.03 The 831- and 2831-type telephone sets may be used with 3- or 4-type speakerphone.



The limited number of mounting cord conductors can place a restriction on using these telephone sets with 3-type speakerphone (see 3.03).

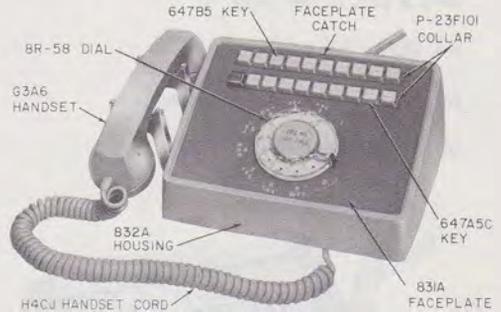


Fig. 1—831C Telephone Set, Assembled



Fig. 2—2831CT (MD) Telephone Set, Assembled

Ordering Guide

2.04 The 831- and 2831-type telephone set (Fig. 1 and 2) can be ordered as modular (831C or 2831C telephone set bases) (Fig. 3 and 4) or completely assembled (831C-* or 2831C-*) telephone sets. To order a complete telephone set, list as follows:

- ♦Set, Telephone, 831C-*♦

- ♦Set, Telephone, 2831C-♦

The telephone set consists of the following:

- (a) 831C or 2831C telephone set base e/w (D100L-87) satin silver mounting cord (the cord is part of the base)
- (b) 832A-* housing
- (c) 831A-* or 2831A-* faceplate
- (d) G3A6-* handset



Fig. 3—831C Telephone Set Base

To order the modular telephone set, the appropriate coded apparatus listed as modular items in the Ordering Guide must be ordered and installed separately in addition to the telephone set base (831C or 2831C) (Fig. 6).

Order telephone set base as follows:

- ♦Set, Telephone Base, 831C♦
- ♦Set, Telephone Base, 2831C♦

The 831C and 2831C telephone set base consists of the following:

- (a) P1B ringer
- (b) 647A5C key

- (c) 647B5 key (keys e/w collars)
- (d) P-23F096 terminal board assembly
- (e) 8R-58 dial (831C)
- (f) ♦35AF3A♦ dial (2831C)
- (g) 425E or 4228A network (831C)
- (h) 425K of 4228B network (2831C)
- (i) KS-20419L1 buzzer
- (j) D100L-87 mounting cord

2.05 Modular Items (order separately):

- ♦Housing, 832A-*♦
- Plate, Face, 831A-* (831C telephone set base)
- Plate, Face, 2831A-* (2831C telephone set base)
- Set, Hand, ♦G3A6-*♦

*Complete code by adding color suffix from Table A.

2.06 Optional Components (order separately):

- P-90D170 Polarity Guard (optional for 2831-type set)
- KS-15724L1 Diode (for use with station busy lamp)
- KS-8109L2 Buzzer
- Dial, 8C-58 (for 831-type set used with speakerphone)

2.07 Replaceable Components:

- Ringer, P1A or P1B
- Dial, 8R-58 (831-type telephone set)
- Dial, ♦35AF3A♦ or 35C3A (2831-type telephone set)
- Key, 647A5C

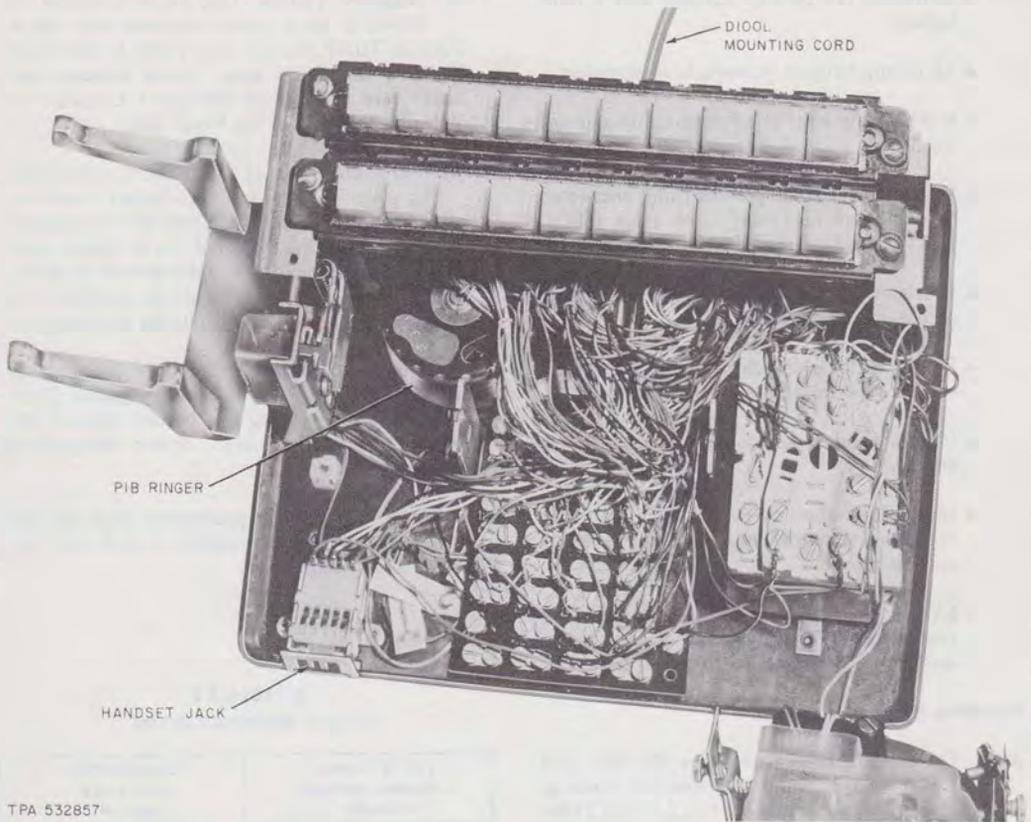


Fig. 4—2831CT (MD) Telephone Set, Dial Removed

- Key, 647B5
- Lamp, 51A
- P-90D207 Cord Assembly—831B1M (MD) and 2831B1M (MD)
- P-90D230 Cord Assembly—831B1M (MD) and 2831B1M (MD)
- P-23F101 Collar
- P-23F096 Terminal Board Assembly
- P-22F438 Resonator Assembly
- P-23F156 Contact Strip Assembly
- P-23F157 Contact Strip Assembly
- KS-20419L1 Buzzer
- Mounting, Cord, D100L-87

2.08 A subscriber instruction booklet (SIB-2446) is shipped loose with the telephone set and should be left with the customer.

Design Features

- Modular set

- 20-button (19 pickup buttons and a hold button)
- All pickup buttons convertible to signaling
- Hold button can be illuminated (lamp not furnished)
- KS-20419L1 buzzer provided and connected to dedicated mounting cord leads (831C, 2831C(MD), 831B1M(MD), and 2831BM(MD))
- Provisions for mounting KS-8109L2 buzzer on basepan
- Provisions for adding polarity guard assembly to 2831-type telephone set (optional)
- Plug-in handset and mounting cords (early version only)
- Limited number of mounting cord leads restricts number of optional features which may be provided.
- ♦ An access hole is provided in the P1-type ringer for ringer biasing spring adjustment. Refer to Section 501-259-101.♦

Operating Features

2.09 The operating features for the 831- and 2831-type telephone sets are the same as all standard key telephone sets and CALL-DIRECTOR® type telephone sets.

3. INSTALLATION

3.01 Assemble the required modular items to the 831- and 2831-type telephone set base as follows:

- (a) **Handset:** ♦ Connect spade-tipped handset cord leads to network as shown in Fig. 9. Install J Hook stayband in slot in front lip of basepan just to the left of cord entrance hole.♦
- (b) **Housing:** Place the housing over the telephone set so the front bottom edge of the housing makes contact with front of the base. Slowly lower the rear edge of the housing until it seats properly on the base. Tighten the two captive screws.

(c) **Number Cards:** Use Form E-5002-A or E-5002-B as a station number card for a TOUCH-TONE station and Form E-4203-G or E-4204-G for rotary sets. Insert number card under card retainer of the 2831A faceplate or under fingerwheel of the 8-type dial.

(d) **Faceplate:** Insure the P-23F101 collars are in place on the keys. To install faceplate, place the tabs into slots in front of the faceplate opening in the housing and lower slowly over the dial and key collars until almost in place. Use a KS-16750 type releaser or equivalent to release the faceplate catch and seat the faceplate.

(e) **Designation Tabs:** The 647-type key uses Form E-5837 Key Button Designation Tabs. To install, squeeze top and bottom sides of the cap to remove from key. Insert designation tab and replace cap.

Note: On current production keys the cap must be properly oriented to lock cap into the associated button.

♦ TABLE A ♦
COLOR ORDERING GUIDE

TEL SET CORD, HOUSING, HANDSET COLOR		COORDINATED FACEPLATE COLOR	
Black	-03	Charcoal	-70
Ivory	-50	Muted Ivory	-80
Green	-51	Light Green	-71
Red	-53	Muted Red	-69
Yellow	-56	Light Yellow	-72
White	-58	Light Gray	-73
Light Beige	-60	Muted Beige	-75
Aqua Blue	-62	Muted Blue	-76

3.02 Individual signaling may be provided by converting a locking key button to nonlocking. Remove the P-28E773 locking pin from the button to be converted.

3.03 When providing 3-type speakerphone with the 831- and 2831-type telephone sets and the speakerphone leads are connected to the telephone set through the D100L mounting cord

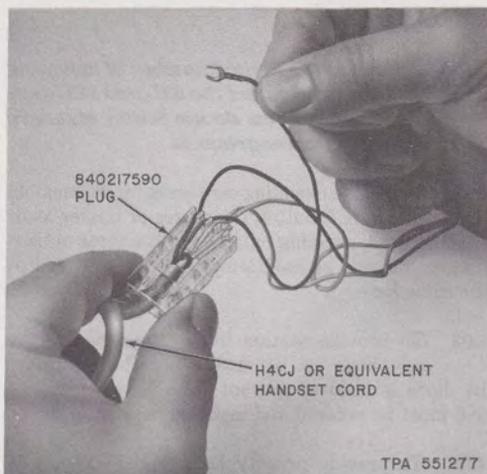


Fig. 5—Installing Spade-Tipped Handset Cords

the use of two pick-up buttons on the 647A5C key must be sacrificed (Table F).

3.04 To provide the maximum key features plus the 3-type speakerphone feature install the 55-type control unit at the same location as the telephone set and connect the speakerphone leads to the telephone set using an auxiliary mounting cord (see Fig. 7, option X).

3.05 If 4-type speakerphone is provided the 223A adapter is used to interconnect the 4A speakerphone system (680A transmitter, 108A loudspeaker set, and 85B1 power unit).

3.06 For connections to the 3- or 4-type speakerphone system, refer to the appropriate section Division 512.

3.07 When adding speakerphone to 831-type telephone sets; the 8R dial must be replaced by an 8C dial (order separately) to provide the additional off-normal contacts required for speakerphone connection.

3.06 The 831C and 2831C telephone set bases are equipped with a KS-20419L1 (10 volt AC only) buzzer mounted on the basepan on the left-hand side of dial (Fig. 6). The buzzer leads are connected to (O-Y) and (Y-O) mounting cord leads. Plastic

screw grommets and mounting screws are provided to install a KS-8109L2 buzzer, if required. The 831A1M (MD) and 2831A1M (MD) telephone sets are not factory equipped with a buzzer but either type buzzer may be ordered and installed separately.

3.09 *Polarity Guard (2831-type only)* should be used only when specified by local instructions for end-to-end signaling installations where battery and ground reversals may be encountered. A P-90D170 polarity guard assembly may be installed on the right key bracket (Fig. 8) with screw provided. Connections for polarity guard assembly are shown in Table D.

TABLE B

STATION BUSY LAMP CONNECTIONS

LEAD	OPERATION
Hold Key (G-W)	Remove from terminal 22 and connect to 16
KS-15724L1 Diode (Ordered Separately) Mtg Cord (Y-O) (Note)	Connect as shown 

- 831C, 2831C; 831CT (MD), 2831CT (MD); 831B1M (MD), 2831B1M (MD); and 831A1M (MD), 2831A1M (MD) early version
- 831A1M (MD) or 2831A1M (MD) early version

Note: Use spare mounting cord lead if (Y-O) lead is used to provide other options.

3.10 Operational tests of all features should be made to insure proper operation and customer satisfaction.

3.11 Where conditions warrant, G3A6 or G12A handset can be replaced with other types as follows:

- For impaired hearing—G6-type

- For weak speech—G7-type
- For noisy location—G8-type or D-180413

Refer to Division 501 for connections of these handsets. When either of these handsets is used, an H4CJ or equivalent handset cord must be used. See 3.12.

3.12 Installing Spade-Tipped Handset Cords in Early Production Sets (Fig. 5) Equipped With G12A Handset: To install spade-tipped handset cord (H4CJ or equivalent) remove P-376819 J Hook Stayband from the cord. Cut back and remove cord sheath to stayband marks. Thread spade-tipped conductors through plug 840217590 (spade tips must be bent to clear cord entrance). Pull cord until about 1/4-inch of cord sheath is in the central cavity of the plug. Separate the conductors into two groups and tie an overhand knot, pulling the knot to the cord sheath. Pull cord from plug until strain relief position is attained by knot entering sheath and resting against plug. Feed spade-tipped conductors straight through jack P-22F620 and connect to proper terminals. Insert plug in jack.

TABLE C
I HOLD CONNECTIONS (NOTE)

LEAD	REMOVE FROM	CONNECT TO
Hold Key	(G-W)	22
	(BK-BL)	7
SP Lead — Use (Y-O)* or spare mounting cord conductor		13

Note: For additional information see SD-69530-01

*(Y-O) lead may be used unless connected for other options

Note: On later version of the telephone set base, a notch is provided on front lip of base pan for J Hook Stayband of nonmodular type cords.

4. CONNECTIONS



Due to the limited number of mounting cord conductors the 831- and 2831-type telephone sets do not follow standard wiring arrangements.

- 4.01** To provide mounting cord leads for illuminating the **HOLD** button the ringer or buzzer leads must be used, meaning only two of the three options (ringer, buzzer, or hold lamp) may be provided at the same time.
- 4.02** To provide station busy lamp, modify the telephone set per Table B. The KS-15724, L1 diode is used to prevent false busy indications and must be ordered and installed separately.
- 4.03** To provide priority hold (I HOLD) modify the telephone set for Table C.
- 4.04** To provide individual signaling; modify the telephone set by converting the proper button(s) and make wiring changes per Table E. The keys and their associated cord assembly are adaptable for individual signaling but not for common signaling.
- 4.05** To provide 3-type speakerphone leads in the D100L or D100J-87 mounting cord the buzzer leads along with the lamp and lamp ground leads from the last two pickup buttons of the 647A5C key must be used. See Table F for connections.
- 4.06** Connections in Table G are used when the control unit is located close to the telephone set and a D10R mounting cord is used as an auxiliary cord for connecting the speakerphone leads to the telephone set. With this arrangement the transmitter and loudspeaker may connect directly to the control unit.

5. MAINTENANCE

5.01 Maintenance of the 831- and 2831-type telephone set should be limited to checking for loose or broken connections and replacement of items listed under ordering guide as:

- Replaceable components

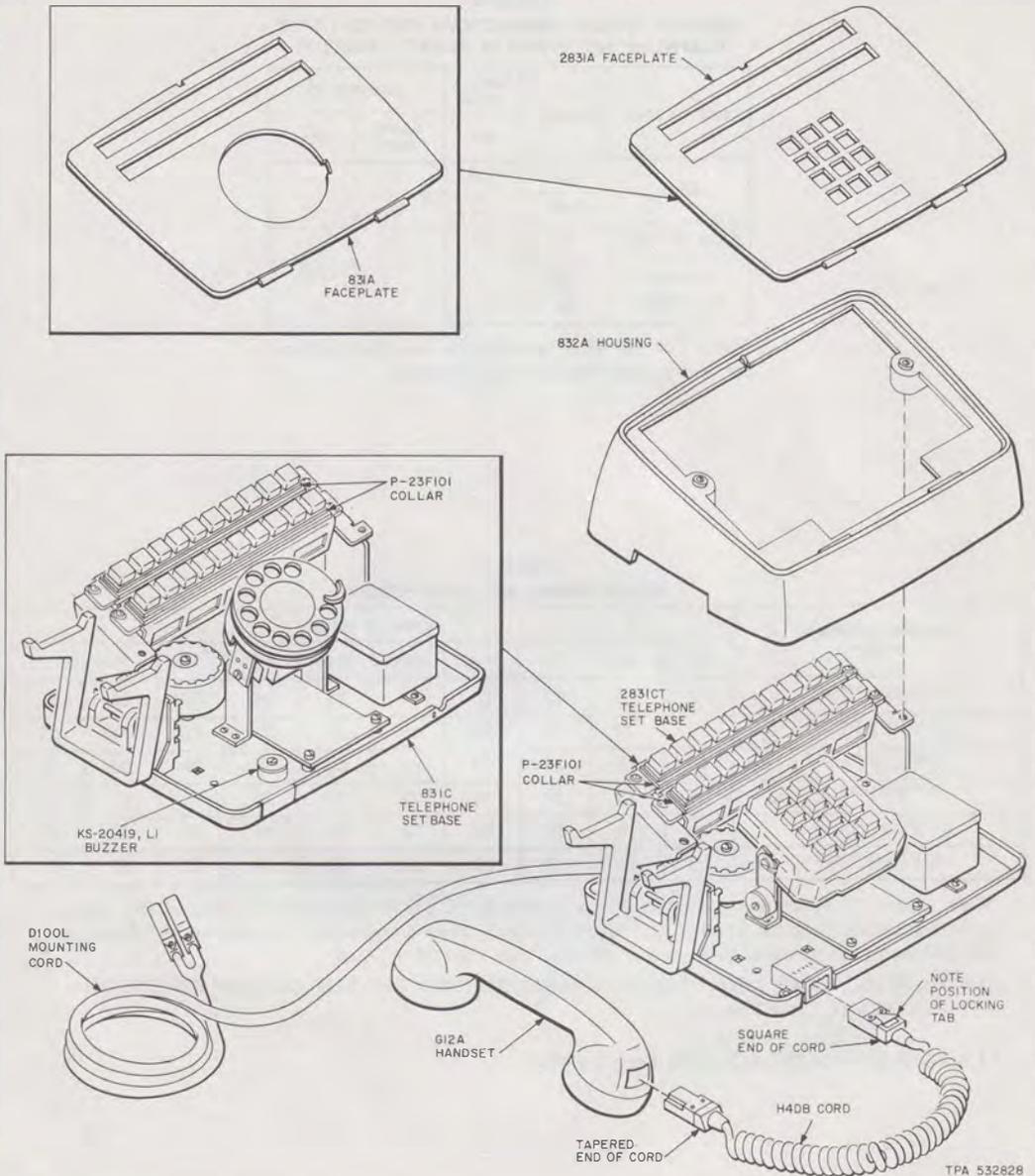


Fig. 6—Station Modular Arrangement, 831- and 2831-Type Telephone Sets

TABLE D
POLARITY GUARD CONNECTIONS FOR 2831-TYPE
TELEPHONE SET (P-90D170 GUARD ASSEMBLY)

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

Note: For use when specified by local instructions for end-to-end signaling installations.

TABLE E
PICKUP-SIGNAL KEY CONVERSION

CONVERSION OPTION (NOTE)	647B5 KEY LEADS									
	O-W	S-W	G-R	BL-BK	BR-BK	BK-BR	BK-BL	R-G	W-S	V-BR
PPPPPPPPP	19	19	19	23	23	23	26	26	26	26
PPPPPPPPPS	19	19	19	23	23	23	26	26	26	27
PPPPPPPPSS	19	19	19	23	23	23	26	26	27	27
PPPPPPSSSS	19	19	19	23	23	23	26	27	27	27
PPPPSSSSSS	19	19	19	23	23	23	27	27	27	27
PPPPSSSSSS	19	19	19	23	23	27	27	27	27	27

Note: Move (O-Y) mounting cord lead from terminal 12 (6) to terminal 27. Beyond five signal conversions strap terminal 27 to 28 and move the signal leads consecutively to terminal 28. Example: (BR-BK) lead from terminal 23 to 28 then (BL-BK) lead from 23 to 28 etc.

831C, 2831C; 831CT (MD), 2831CT (MD); 831B1M (MD), 2831B1M (MD); and 831A1M (MD), 2831A1M (MD) Later Version

831A1M (MD) or 2831A1M (MD) Early Version

- Modular items

5.02 For maintenance of keys, buzzers, dials, speakerphone components, and polarity guard: refer to appropriate sections pertaining to these items.

Note: When installing or replacing the 647-type key for maintenance in the 831- and 2831-type key telephone set, the P-28E770 latch bar spring must be removed to prevent mechanical stress on the latch bar to pivot bar action. For information on removal procedures refer to Section 512-230-101.



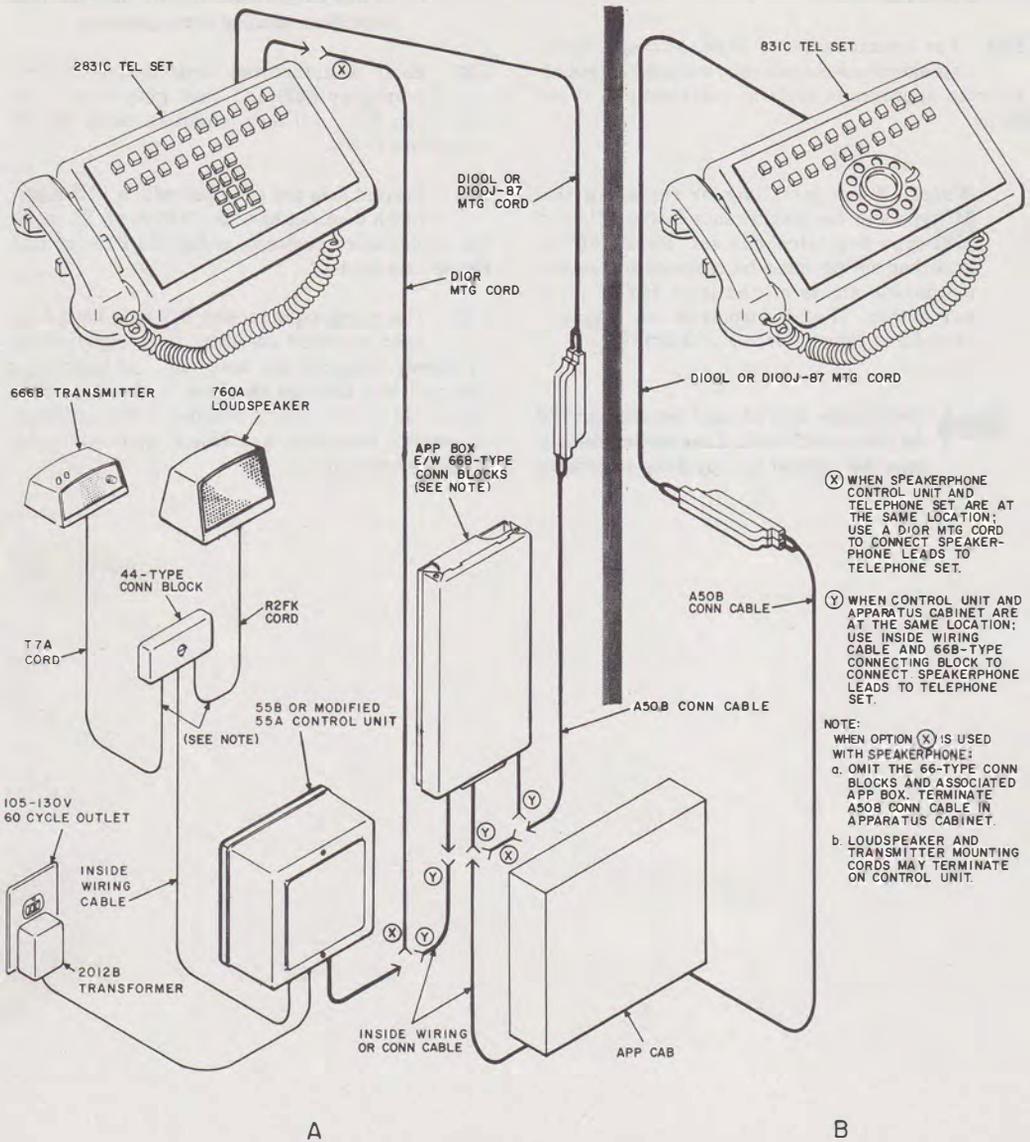
Telephone sets should not be carried by the switchhook. Line switch failure may be caused by applying excessive

strain to the switchhook and the line switch mounting arrangement.

5.03 Early manufactured cords in neutral light pearl-gray (-82) and dark gray-brown (-83) have been MD. All new mounting cords will be satin-silver (-87).

5.04 Current sets are equipped with a P1B ringer which does not have the S-R, S, or BL leads. For maintenance purposes, either the P1B or P1A ringer may be used.

5.05 The current production 647-type keys have been modified for easy lamp replacement by merely removing the lamp cap and inserting a 553-type tool through the hole in the top of the button. In early production models it was necessary to remove faceplate, key collar, and button for lamp replacement.



(X) WHEN SPEAKERPHONE CONTROL UNIT AND TELEPHONE SET ARE AT THE SAME LOCATION; USE A DIOR MTG CORD TO CONNECT SPEAKERPHONE LEADS TO TELEPHONE SET.

(Y) WHEN CONTROL UNIT AND APPARATUS CABINET ARE AT THE SAME LOCATION; USE INSIDE WIRING CABLE AND 66B-TYPE CONNECTING BLOCK TO CONNECT SPEAKERPHONE LEADS TO TELEPHONE SET.

NOTE:
 WHEN OPTION (X) IS USED WITH SPEAKERPHONE:
 a. OMIT THE 66-TYPE CONN BLOCKS AND ASSOCIATED APP BOX. TERMINATE A50B CONN CABLE IN APPARATUS CABINET.
 b. LOUDSPEAKER AND TRANSMITTER MOUNTING CORDS MAY TERMINATE ON CONTROL UNIT.

A B
 A-INSTALLATION OF TELEPHONE SET AND 3-TYPE SPEAKERPHONE COMPONENTS
 B-TELEPHONE SET INSTALLATION (WITHOUT 3-TYPE SPEAKERPHONE)

Fig. 7—Typical Installation Layouts for 20-Button Key Sets

TABLE F
3-TYPE SPEAKERPHONE CONNECTIONS (CONTROL UNIT AND APPARATUS CABINET AT SAME LOCATION)

LEAD DESIG	COLOR	REMOVE FROM TERM	CONNECT TO TERM
T1	V-G	5	25
R1	G-V	2	6
AG	Y-O	14 15	22
LK	O-Y	6	29
P3 or IT	V-BR	4	30
P4 or IR	BR-V	1	24
A1	O-W	—	10

Note: Add strap from terminal 25 to network terminal RR (831-type only).

□ 831C, 2831C; 831CT(MD), 2831CT(MD); 831B1M(MD) 2831B1M(MD); and 831A1M(MD), 2831A1M(MD) Later Version

○ 831A1M (MD) or 2831A1M (MD) Early Version

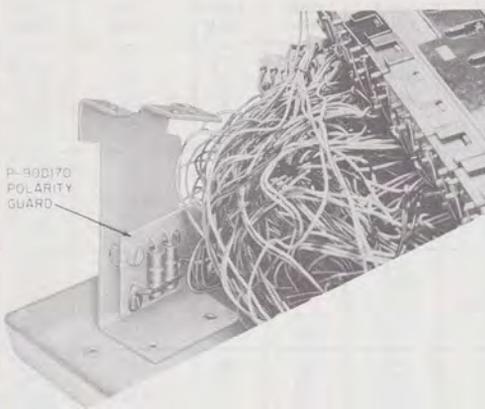


Fig. 8—2831-Type Telephone Set with P-90D170 Polarity Guard Installed

TABLE G
3-TYPE SPEAKERPHONE CONNECTIONS (USING AUXILIARY MOUNTING CORD)

LEAD DESIG	DIOR CORD COLOR	TEL SET TERM.
T1	W-BL	RR† (Note)
R1	BL-W	6
AG	W-O	22
LK	O-W	29
P3 or IT	W-G	30
P4 or IR	G-W	24
A1	W-BR	10

† Term. on network

Note: Terminal 25 in 2831-type sets. (O) dial lead should also terminate on 25.

TABLE H

CORD ASSEMBLY, MOUNTING CORD, AND CABLE CONDUCTOR ASSIGNMENT

D100L MTG CORD (TEL SET END) OR P-90D207 CORD ASSEMBLY*				D100J*, D100L MTG CORD (BLUE BINDER)				A508 CONN CABLE (BLUE BINDER)		
TEL SET TERM	LEAD COLOR	LEAD DESIG	PLUG TERM	CONN TERM	LEAD DESIG	LEAD COLOR	PLUG TERM	CONN TERM	LEAD DESIG	LEAD COLOR
Line 1 (Blue) Plug	BL-W	R	1	1	R	BL-W	1	1	R	BL-W
	W-BL	T	26	26	T	W-BL	26	26	T	W-BL
	W-O	A	27	27	A	W-O	27	27	A	W-O
	G-W	L	3	3	L	G-W	3	3	L	G-W
	W-G	LG	28	28	LG	W-G	28	28	LG	W-G
Line 2 (Orange) Plug	BR-W	R	4	4	R	BR-W	4	4	R	BR-W
	W-BR	T	29	29	T	W-BR	29	29	T	W-BR
	W-S	A or S	30	30	A or S	W-S	30	30	A or S	W-S
	BL-R	L	6	6	L	BL-R	6	6	L	BL-R
	R-BL	LG	31	31	LG	R-BL	31	31	LG	R-BL
Line 3 (Green) Plug	O-R	R	7	7	R	O-R	7	7	R	O-R
	R-O	T	32	32	T	R-O	32	32	T	R-O
	R-G	A or S	33	33	A or S	R-G	33	33	A or S	R-G
	BR-R	L	9	9	L	BR-R	9	9	L	BR-R
	R-BR	LG	34	34	LG	R-BR	34	34	LG	R-BR
Line 4 (Brown) Plug	S-R	R	10	10	R	S-R	10	10	R	S-R
	R-S	T	35	35	T	R-S	35	35	T	R-S
	BK-BL	A or S	36	36	A or S	BK-BL	36	36	A or S	BK-BL
	O-BK	L	12	12	L	O-BK	12	12	L	O-BK
	BK-O	LG	37	37	LG	BK-O	37	37	LG	BK-O
Line 5 (Slate) Plug	G-BK	R	13	13	R	G-BK	13	13	R	G-BK
	BK-G	T	38	38	T	BK-G	38	38	T	BK-G
	BK-BR	A or S	39	39	A or S	BK-BR	39	39	A or S	BK-BR
	S-BK	L	15	15	L	S-BK	15	15	L	S-BK
	BK-S	LG	40	40	LG	BK-S	40	40	LG	BK-S
Line 6 (White) Plug	BL-Y	R	16	16	R	BL-Y	16	16	R	BL-Y
	Y-BL	T	41	41	T	Y-BL	41	41	T	Y-BL
	BR-BK	A or S	14	14	A or S	BR-BK	14	14	A or S	BR-BK
	G-Y	L	18	18	L	G-Y	18	18	L	G-Y
	Y-G	LG	43	43	LG	Y-G	43	43	LG	Y-G
Line 7 (Red) Plug	BR-Y	R	19	19	R	BR-Y	19	19	R	BR-Y
	Y-BR	T	44	44	T	Y-BR	44	44	T	Y-BR
	BL-BK	A or S	11	11	A or S	BL-BK	11	11	A or S	BL-BK
	BL-V	L	21	21	L	BL-V	21	21	L	BL-V
	V-BL	LG	46	46	LG	V-BL	46	46	LG	V-BL
Line 8 (Black) Plug 1 4	O-V	R	22	22	R	O-V	22	22	R	O-V
	V-O	T	47	47	T	V-O	47	47	T	V-O
	G-R	A or S	8	8	A or S	G-R	8	8	A or S	G-R
	BR-V	L, P4 or IR	24	24	L, P4 or IR	BR-V	24	24	L, P4 or IR	BR-V
	V-BR	LG, P3 or IT	49	49	LG, P3 or IT	V-BR	49	49	LG, P3 or IT	V-BR
Line 9 (Yellow) Plug 2 5	S-V	R	25	25	R	S-V	25	25	R	S-V
	V-S	T	50	50	T	V-S	50	50	T	V-S
	S-W	A or S	5	5	A or S	S-W	5	5	A or S	S-W
	G-V	L or R1	23	23	L or R1	G-V	23	23	L or R1	G-V
	V-G	LG or T1	48	48	LG or T1	V-G	48	48	LG or T1	V-G
10 [6] 12	O-W	A1	2	2	A1	O-W	2	2	A1	O-W
	O-Y	SG, LK, or Spare	17	17	SG, LK, or Spare	O-Y	17	17	SG, LK, or Spare	O-Y
[15] 14 A G	Y-O	BL, AG, or Spare	42	42	BL, AG, or Spare	Y-O	42	42	BL, AG, or Spare	Y-O
	S-Y Y-S	R or R1 B or B1	20 45	20 45	R or R1 B or B1	S-Y Y-S	20 45	20 45	R or R1 B or B1	S-Y Y-S

[] Terminal or 831A1M (MD) or 2831A1M (MD) (early version) telephone sets.

* Required with 831A1M (MD) and 2831A1M (MD) or 831B1M (MD) and 2831B1M (MD).

TABLE H (Cont)

CORD ASSEMBLY, MOUNTING CORD, AND CABLE CONDUCTOR ASSIGNMENT

D100L MTG CORD (TEL SET END) OR P-90D230 CORD ASSEMBLY*				D100J*, D100L MTG CORD (ORANGE BINDER)				A50B CONN CABLE (ORANGE BINDER)		
TEL SET TERM	LEAD COLOR	LEAD DESIG	PLUG TERM	CONN TERM	LEAD DESIG	LEAD COLOR	PLUG TERM	CONN TERM	LEAD DESIG	LEAD COLOR
Line 10 (Blue) Plug	BL-W	R	1	1	R	BL-W	1	1	R	BL-W
	W-BL	T	26	26	T	W-BL	26	26	T	W-BL
	W-O	A	27	27	A	W-O	27	27	A	W-O
	G-W	L	3	3	L	G-W	3	3	L	G-W
	W-G	LG	28	28	LG	W-G	28	28	LG	W-G
Line 11 (Orange) Plug	BR-W	R	4	4	R	BR-W	4	4	R	BR-W
	W-BR	T	29	29	T	W-BR	29	29	T	W-BR
	W-S	A or S	30	30	A or S	W-S	30	30	A or S	W-S
	BL-R	L	6	6	L	BL-R	6	6	L	BL-R
	R-BL	LG	31	31	LG	R-BL	31	31	LG	R-BL
Line 12 (Green) Plug	O-R	R	7	7	R	O-R	7	7	R	O-R
	R-O	T	32	32	T	R-O	32	32	T	R-O
	R-G	A or S	33	33	A or S	R-G	33	33	A or S	R-G
	BR-R	L	9	9	L	BR-R	9	9	L	BR-R
	R-BR	LG	34	34	LG	R-BR	34	34	LG	R-BR
Line 13 (Brown) Plug	S-R	R	10	10	R	S-R	10	10	R	S-R
	R-S	T	35	35	T	R-S	35	35	T	R-S
	BK-BL	A or S	36	36	A or S	BK-BL	36	36	A or S	BK-BL
	O-BK	L	12	12	L	O-BK	12	12	L	O-BK
	BK-O	LG	37	37	LG	BK-O	37	37	LG	BK-O
Line 14 (Slate) Plug	G-BK	R	13	13	R	G-BK	13	13	R	G-BK
	BK-G	T	38	38	T	BK-G	38	38	T	BK-G
	BK-BR	A or S	39	39	A or S	BK-BR	39	39	A or S	BK-BR
	S-BK	L	15	15	L	S-BK	15	15	L	S-BK
	BK-S	LG	40	40	LG	BK-S	40	40	LG	BK-S
Line 15 (White) Plug	BL-Y	R	16	16	R	BL-Y	16	16	R	BL-Y
	Y-BL	T	41	41	T	Y-BL	41	41	T	Y-BL
	BR-BK	A or S	14	14	A or S	BR-BK	14	14	A or S	BR-BK
	G-Y	L	18	18	L	G-Y	18	18	L	G-Y
	Y-G	LG	43	43	LG	Y-G	43	43	LG	Y-G
Line 16 (Red) Plug	BR-Y	R	19	19	R	BR-Y	19	19	R	BR-Y
	Y-BR	T	44	44	T	Y-BR	44	44	T	Y-BR
	BL-BK	A or S	11	11	A or S	BL-BK	11	11	A or S	BL-BK
	BL-V	L	21	21	L	BL-V	21	21	L	BL-V
	V-BL	LG	46	46	LG	V-BL	46	46	LG	V-BL
Line 17 (Black) Plug	O-V	R	22	22	R	O-V	22	22	R	O-V
	V-O	T	47	47	T	V-O	47	47	T	V-O
	G-R	A or S	8	8	A or S	G-R	8	8	A or S	G-R
	BR-V	L	24	24	L	BR-V	24	24	L	BR-V
	V-BR	LG	49	49	LG	V-BR	49	49	LG	V-BR
Line 18 (Yellow) Plug	S-V	R	25	25	R	S-V	25	25	R	S-V
	V-S	T	50	50	T	V-S	50	50	T	V-S
	S-W	A or S	5	5	A or S	S-W	5	5	A or S	S-W
	G-V	L	23	23	L	G-V	23	23	L	G-V
	V-G	LG	48	48	LG	V-G	48	48	LG	V-G
Line 19 (Violet) Plug	S-Y	R	20	20	R	S-Y	20	20	R	S-Y
	Y-S	T	45	45	T	Y-S	45	45	T	Y-S
	O-W	A or S	2	2	A or S	O-W	2	2	A or S	O-W
	O-Y	L	17	17	L	O-Y	17	17	L	O-Y
	Y-O	LG	42	42	LG	Y-O	42	42	LG	Y-O

* Required with 831A1M (MD) and 2831A1M (MD) or 831B1M (MD) and 2831B1M (MD).

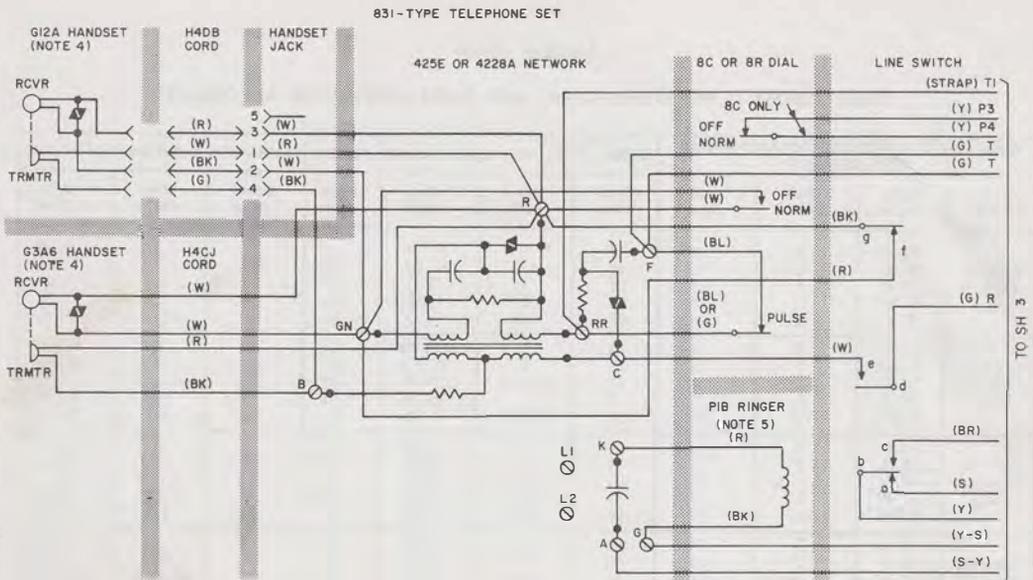


Fig. 9—831- and 2831-Type Telephone Set, Connections (Sheet 1 of 6)

2831-TYPE TELEPHONE SET

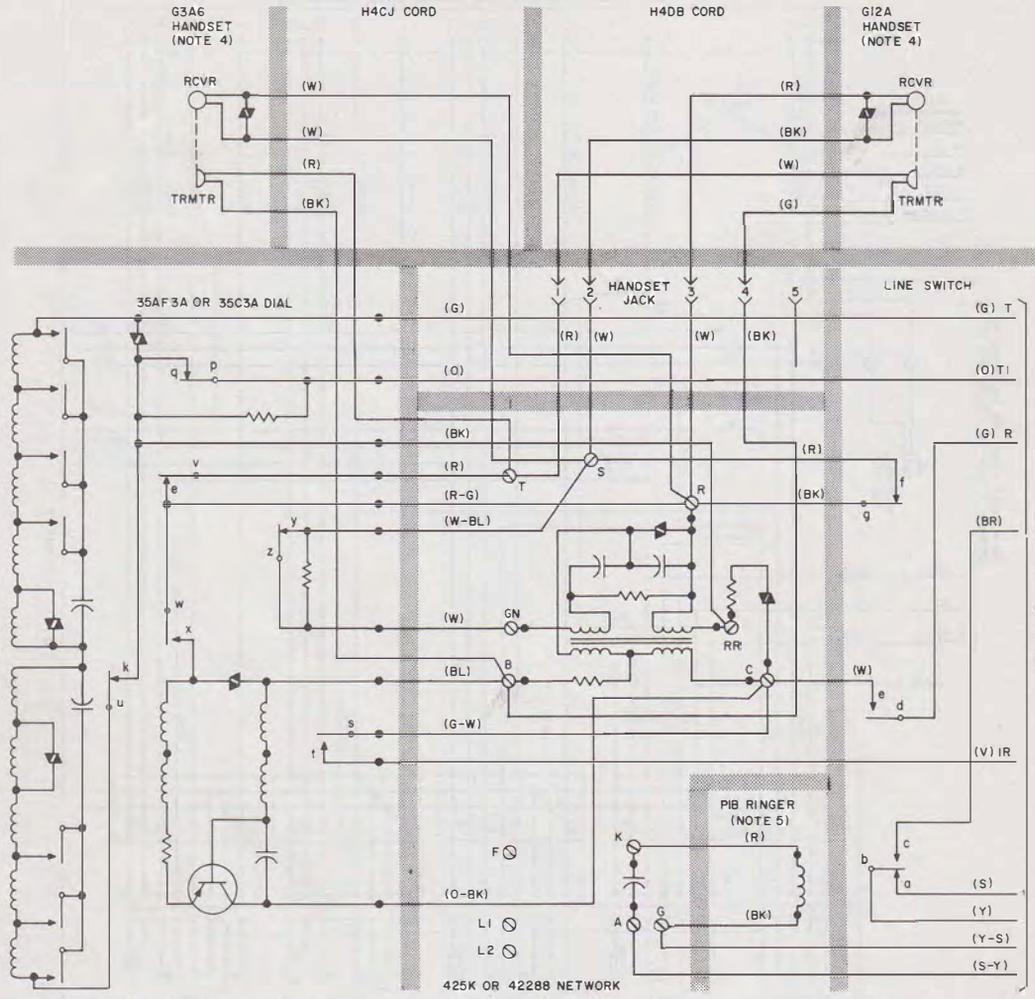


Fig. 9—831- and 2831-Type Telephone Set, Connections (Sheet 2 of 6)

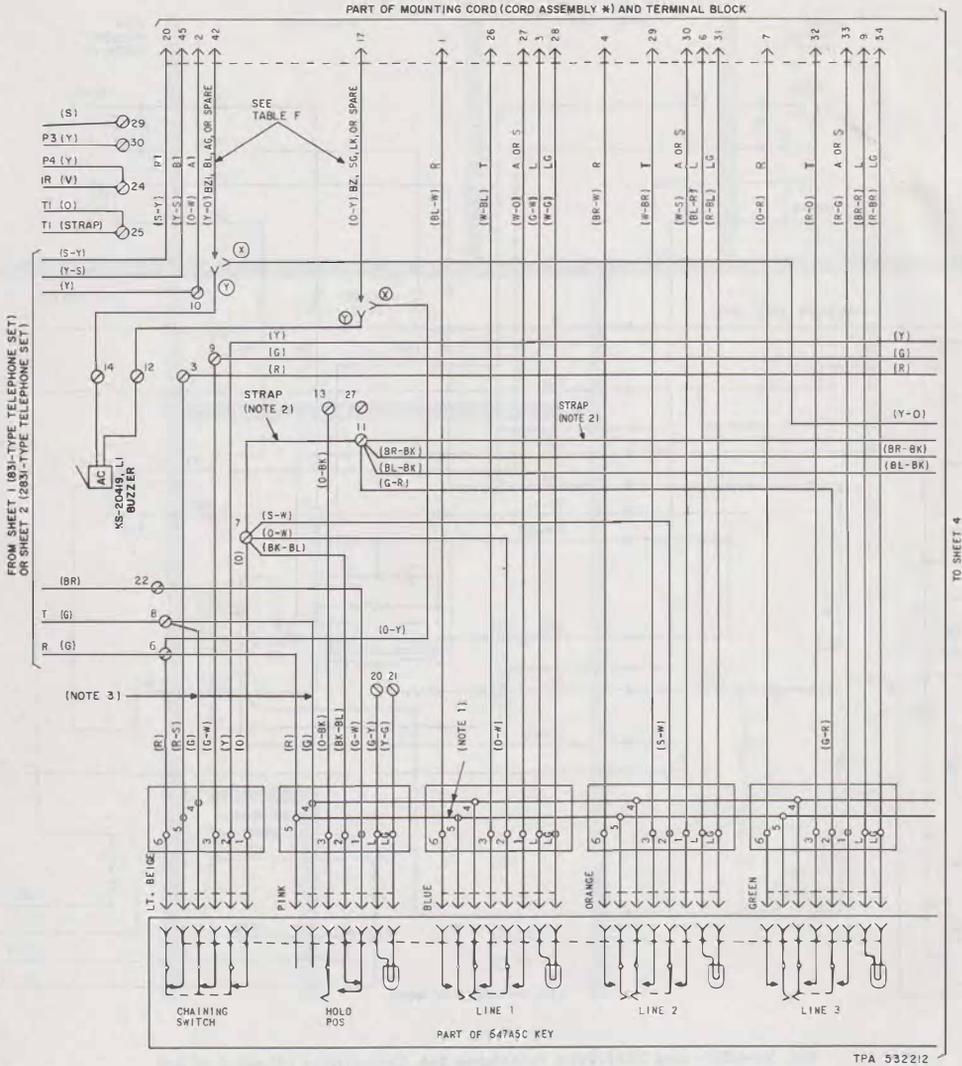


Fig. 9—831- and 2831-Type Telephone Set, Connections (Sheet 3 of 6)

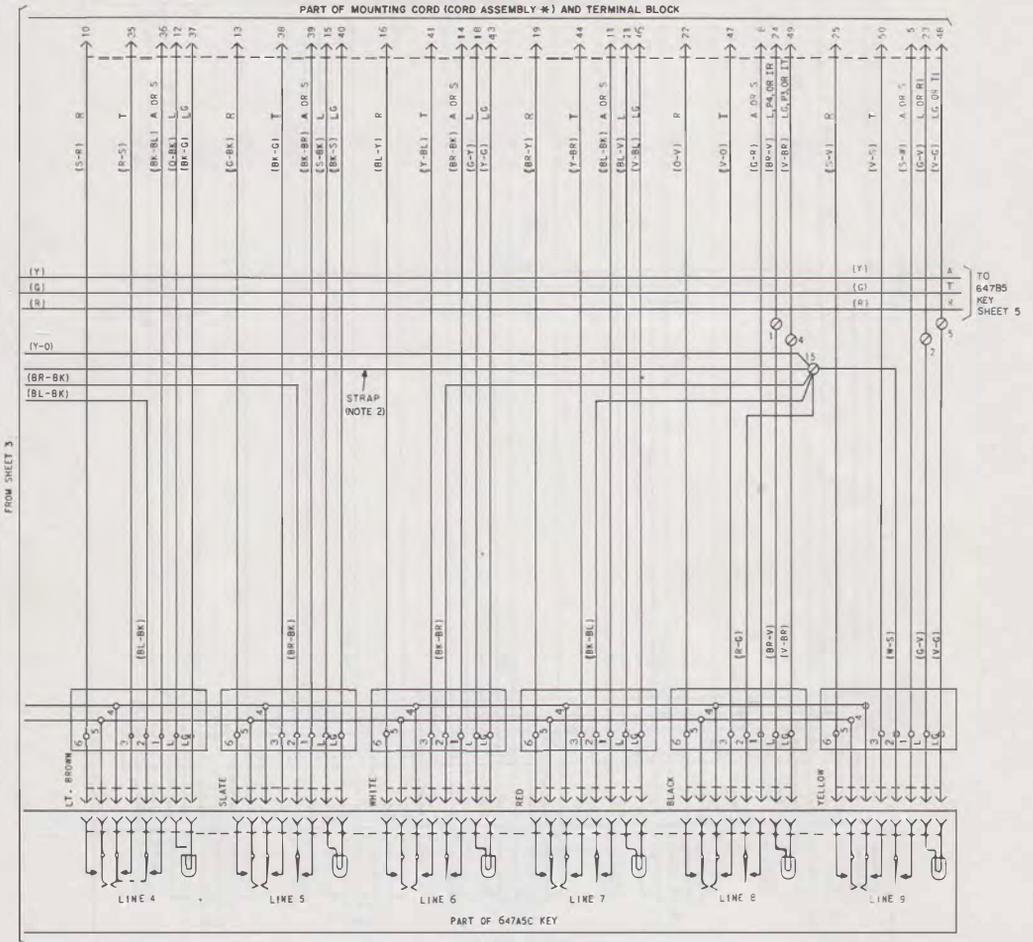


Fig. 9—831- and 2831-Type Telephone Set, Connections (Sheet 4 of 6)

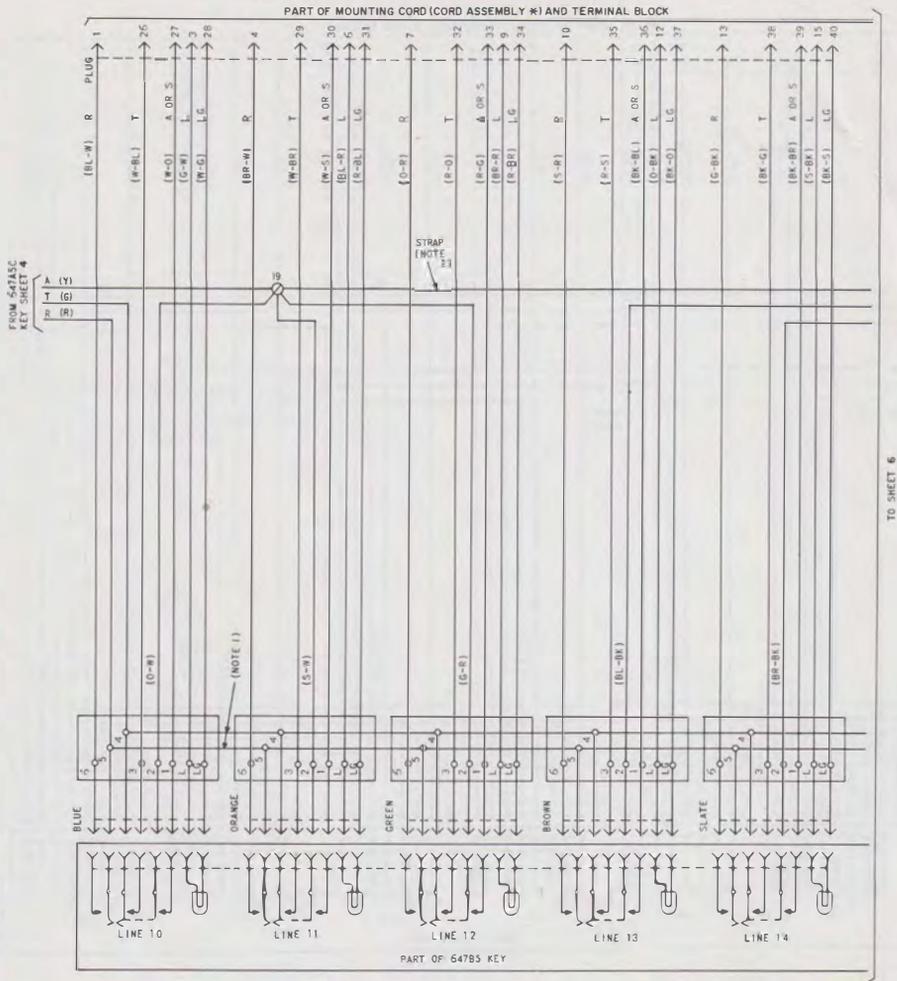


Fig. 9—831- and 2831-Type Telephone Set, Connections (Sheet 5 of 6)

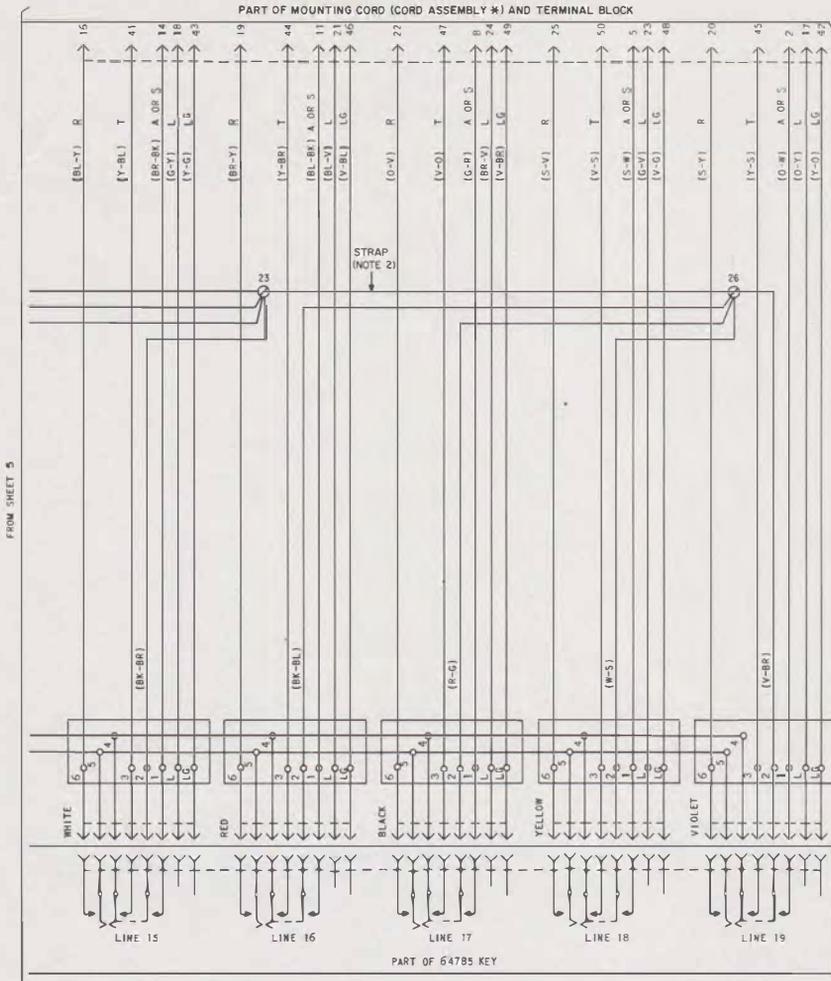


Fig. 9—831- and 2831-Type Telephone Set, Connections (Sheet 6 of 6)