

TELEPHONE SETS—632 AND 1632 TYPES

CONNECTIONS

1. GENERAL

1.01 This section covers connections for various service-feature arrangements of 632- and 1632-type telephone sets. It includes terminal board connections in the set, mounting cord and connector cable conductors, as well as their associated plugs and connectors.

1.02 This section is reissued to show even-count color codes for the 632-type telephone sets.

1.03 The 632- and 1632-type telephone sets are limited use (18-button) rotary and TOUCH-TONE dial sets respectively. They can be used with 1A1, 1A2, and 6A telephone system line circuits or equivalent. They are equipped with a D94A (MD) or a D94B (even-count) mounting cord which prevents use with 1A telephone system circuits.

1.04 For connections to 1A1, 1A2, or 6A line and signal circuits, see appropriate section covering these key telephone systems.

1.05 For connections to 1A1, or 3A speaker-phone systems, see appropriate sections covering these systems.

2. APPLICATION

2.01 The 6-line pickup 598A key can not be used in place of a 599A or B key in the left module because mounting cord pairs do not provide for line lamp and lead control in the 6-pickup key position.

2.02 The 599B turnbutton key may be used for cutoff control. It must be supplemented in most cases by an auxiliary relay, such as 227A or 17B KTU, to provide more contacts for multiple switching purposes. (See Table B.)

2.03 The 12-button 617A signaling key may be used for pushbutton signaling purposes and can be associated with either second or third key modular units. The key is wired to provide a common ground which can serve two working groups when dissimilar voltage or circuit connections are required (Fig. 5).

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Fig. 2 — 598A Key

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TABLE A
TELEPHONE SET CODES
AND MODULE ARRANGEMENTS

Telephone Set		Set Equipped With					
		Left Module		2nd Module		3rd Module	
Type	Code	Key	Fig.	Key	Fig.	Key	Fig.
632 and 1632	1	599A	1	598A	2	105B	
	2					598A	
	3					661A	4
	4					617A	6
	5					661A	4
	6	599B	3	598A	2	105B	
	7					598A	2
	8					661A	4
	11					599A	1
	12						
	13	599B	3	598A	2		

Note: Key identification:
 105B — apparatus blank.
 598A — Six pickup keys.
 599A — five pickup keys and hold key.
 599B — turnbutton key, four pickup keys, hold key.
 617A — twelve signal keys.
 661A — used with 1A1 speakerphone (MD).
 667 Type — used with 3A speakerphone.

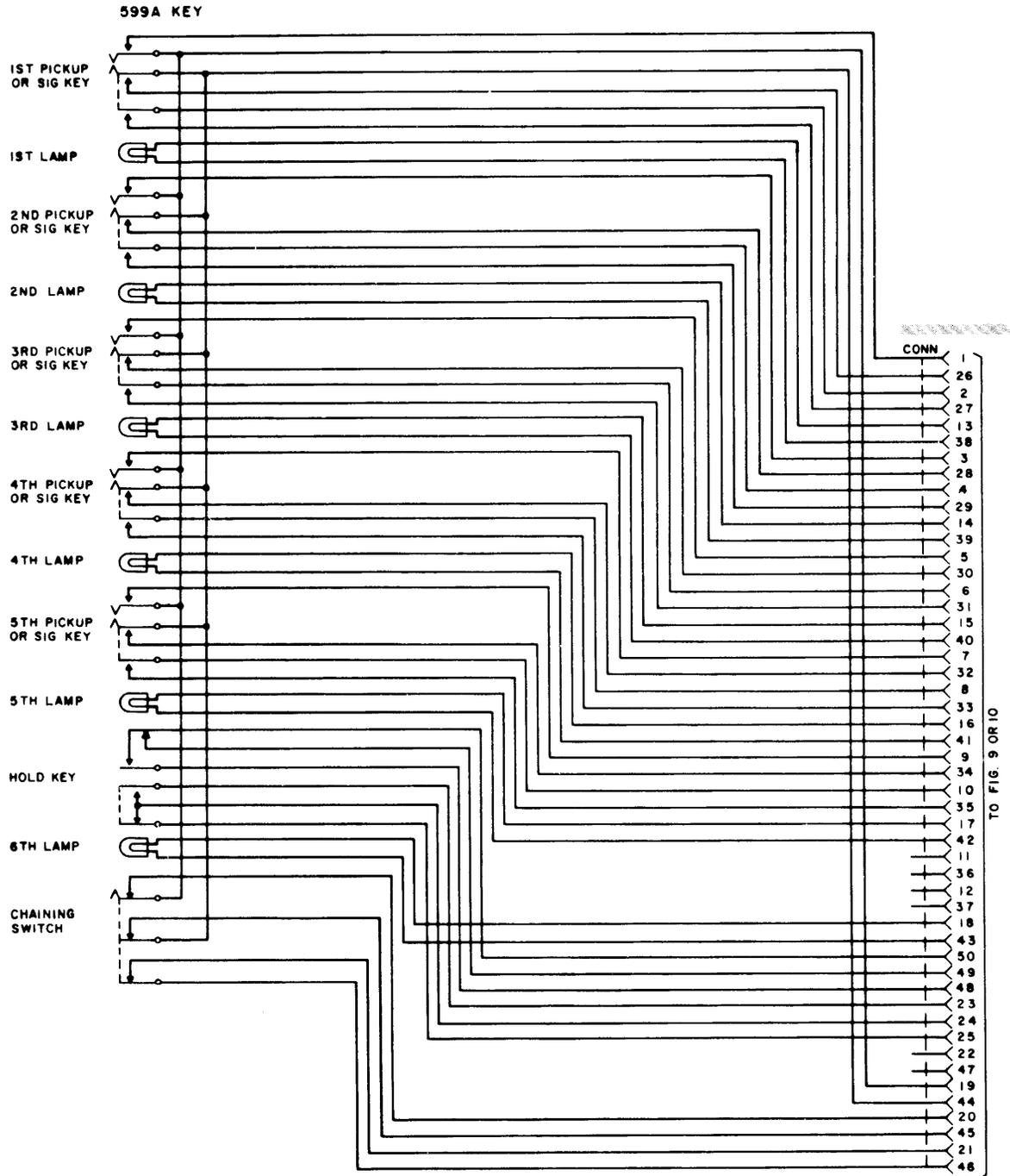


Fig. 1 - 599A Key

TABLE B

**PICKUP-SIGNALING CONVERSION OF KEYS
FROM LOCKING TO NONLOCKING OPERATION**

(See Notes and Change Leads as Follows)

No. of Pickup Keys	No. of Signal Keys Converted From Pickup Keys			No. of Private and Intercom Lines With Common Signal Keys	Key Leads and Terminals of Key Units Involved						
	599A Key	599B Key	598A Key		BK	BR-G	BR-W	R-BL	G-BL	S-BR	*
6					A	A	A	A	A	A	
5			1		A	A	A	A	A	S	
4	1		2		A	A	A	A	S	S	
3	2	1	3		A	A	A	S	S	S	
2	3	2	4		A	A	S	S	S	S	
1	4	3	5		A	S	S	S	S	S	
			6		S	S	S	S	S	S	
5			1	2	A	A	A	†	†	†	SG
5			1	3	A	A	†	†	†	†	SG
5			1	4	A	†	†	†	†	†	SG
5			1	5	†	†	†	†	†	†	SG

Note 1: All key positions are arranged in the shop as pickup positions. To convert a key position from pickup to signaling, remove the P-12A892 screw detail entirely from the plunger at the key position to be converted. Store the removed screws in the base of the telephone set; use friction tape to hold in place.

Note 2: When arrangement for a common signaling key for several private or intercommunicating lines is used, the sixth key of any supplementary key unit is converted to nonlocking and used as the signaling key. The signaling ground from the apparatus cabinet is directed to the S or S1 lead of the lines to be signaled. The automatic cutoff feature of the 1A1 key telephone system cannot be used on a line connected to the common signaling key.

Note 3: When signaling keys are to be provided on any supplementary key unit, the spade tipped leads associated with pickup keys to be used as signaling keys shall be connected to the S terminals associated with the supplementary key unit involved. These S terminals shall be strapped to the SG terminal of TB 1.

Note 4: The ringer shall be connected without the capacitor for private, common, or intercommunicating line signals as required.

* O-BK lead on pin 37 in the second and third key units (Fig. 3 and 4) shall be connected to the signaling ground at the apparatus cabinet.

† When common signaling is required, use a D-161488 connector, or equivalent, to group key leads.

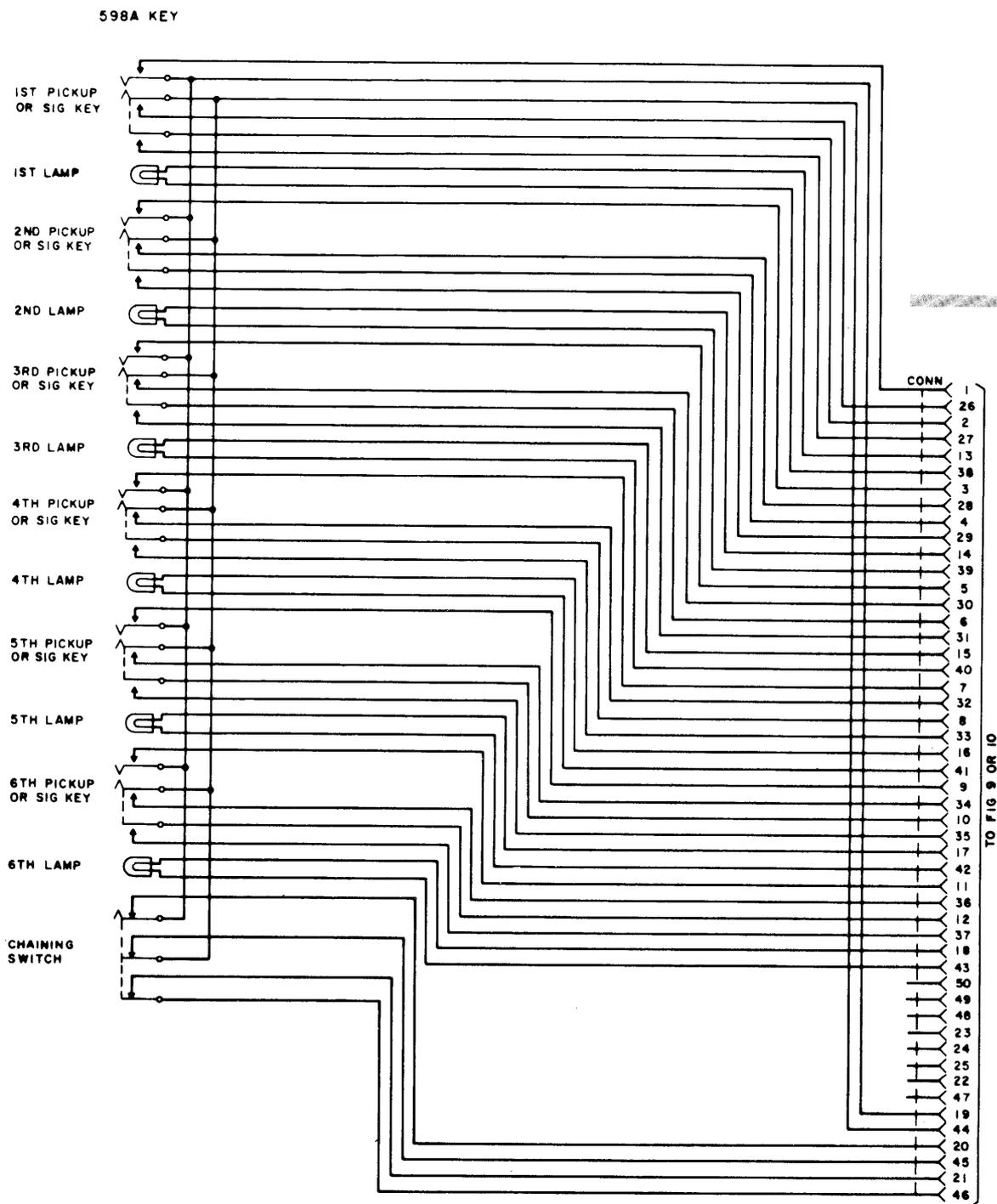


Fig. 2 - 598A Key

TABLE C
CONNECTION TABLE FOR
599B KEY (TURNKEY)

599B Key Cutoff Features	5th Pickup Key			Spade Tipped Lead
	R (R-W)	T (G-Y)	A (G-BL)	(G-BL)
Cutoff station buzzer or bell		To winding of aux relay		Ringer TB 4

Note 1: Where the turnbutton key is used to switch a multiconductor circuit, an auxiliary relay should be provided externally, in which case the leads of the station, buzzer, or bell are connected to the contacts of the relay.

Note 2: Connect battery on winding of auxiliary relay.

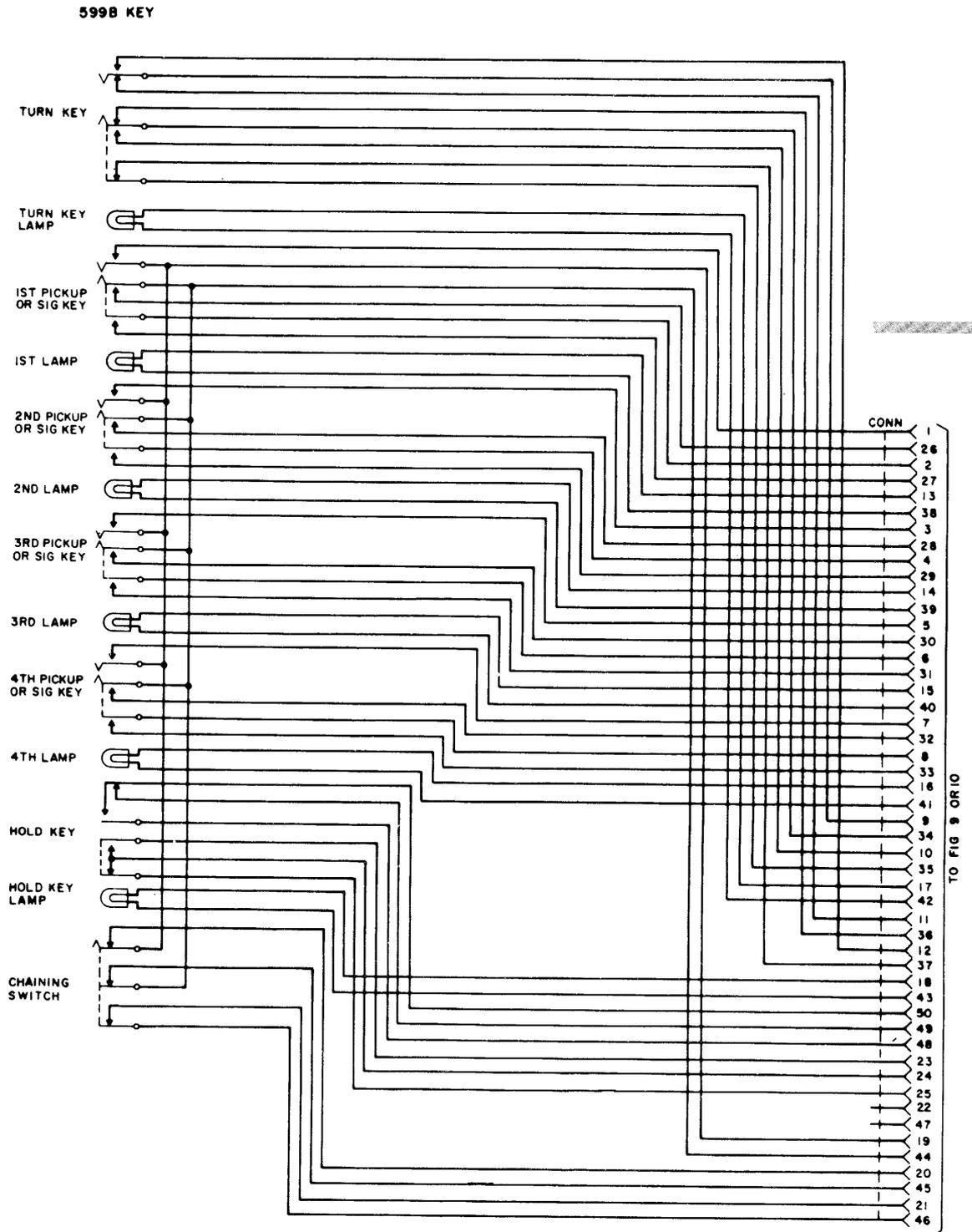


Fig. 3 - 599B Key

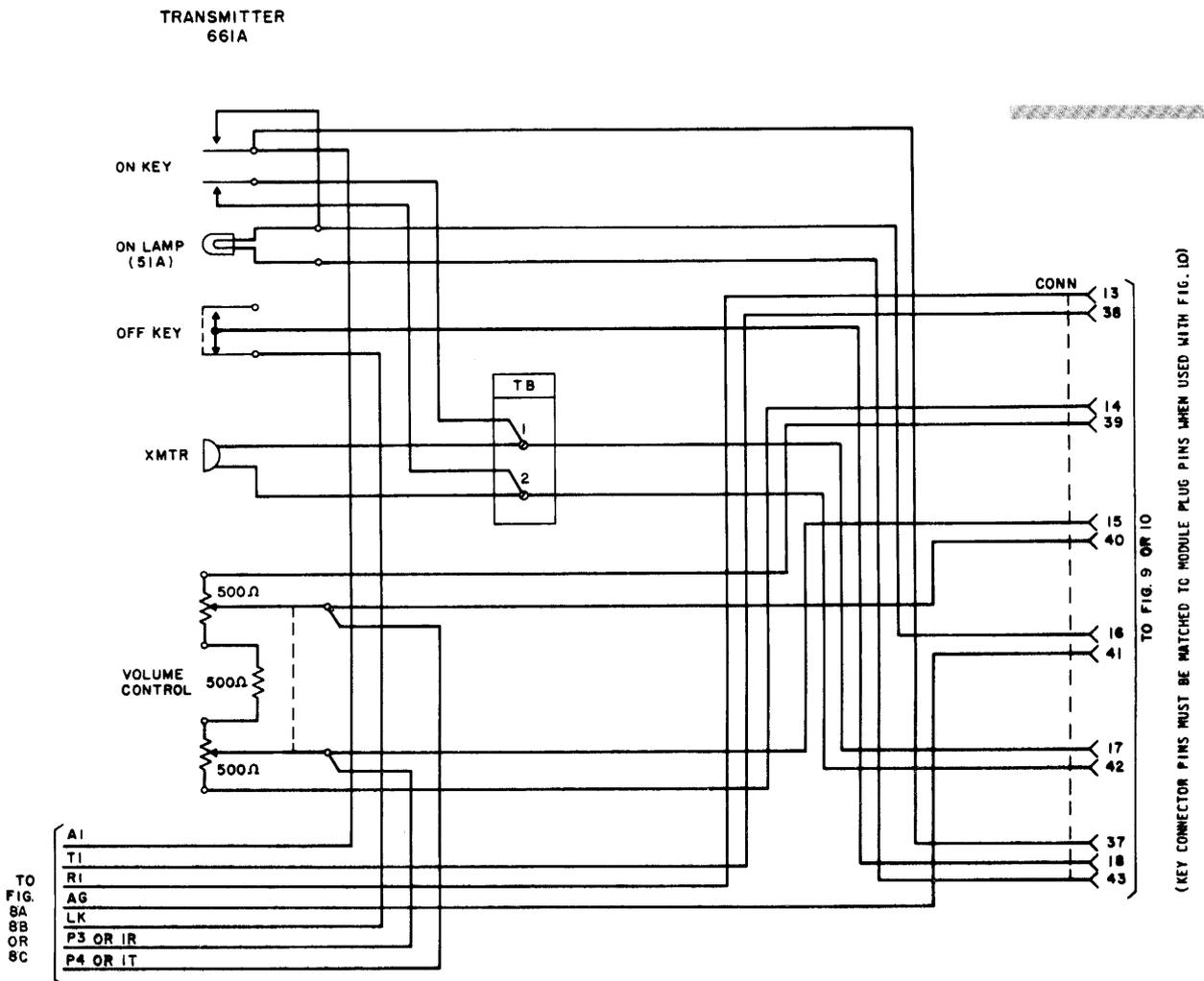


Fig. 4 – 661A Transmitter

TRANSMITTER
667 TYPE

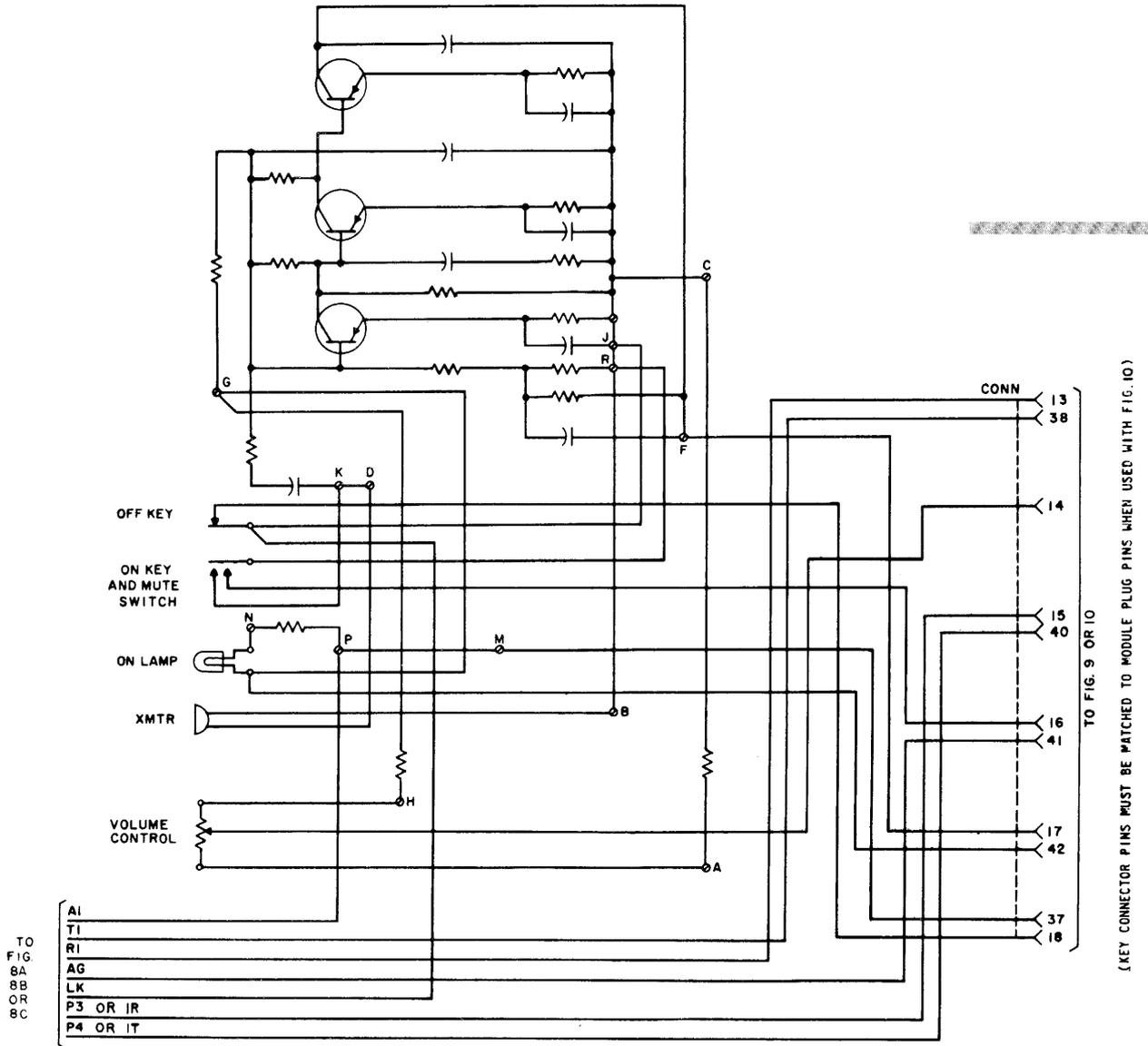


Fig. 5 — 667-Type Transmitter

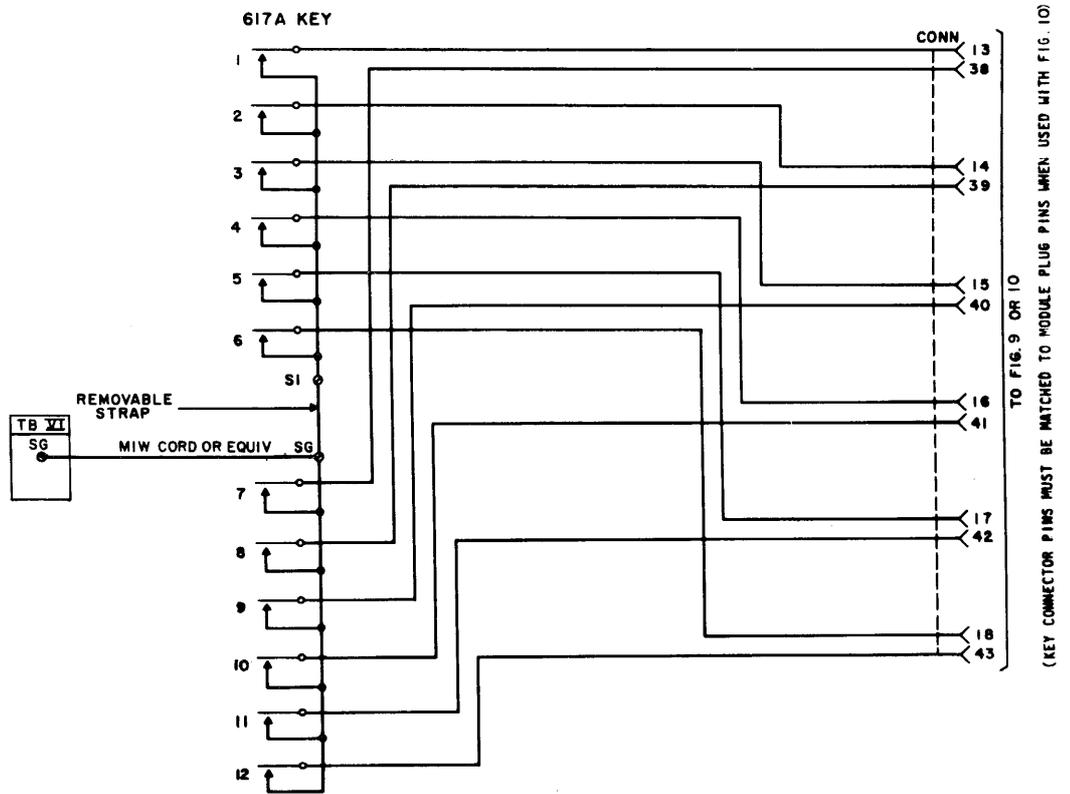


Fig. 6 - 617A Key

59A LAMP SOCKET (USE 51A LAMPS)

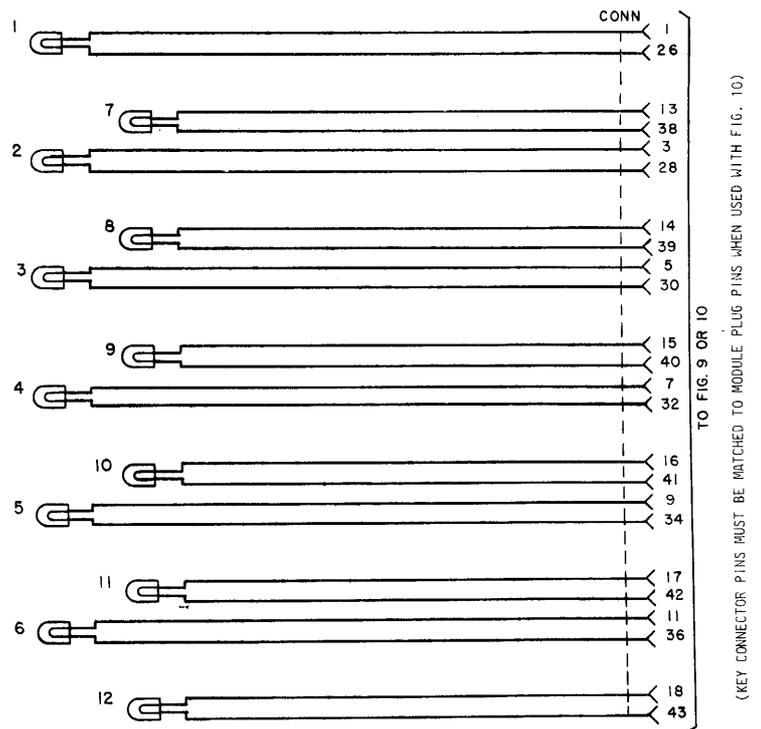


Fig. 7 — 59A Lamp Socket

NOTE 1: SETS ARE FACTORY WIRED WITH (Z) WIRING FOR USE WITH 1A1 OR 1A2 KEY TELEPHONE SYSTEMS WITHOUT STATION BUSY LAMPS.

NOTE 2: FOR 1A1 OR 1A2 KEY TELEPHONE SYSTEM WITH STATION BUSY LAMP, USE (Y) WIRING. (SEE FIG. 10)

- (B) DC BUZZER (KS-8100 TYPE OR EQUIVALENT)
 - (S) DC BUZZER (7-TYPE)
 - (T) AC BUZZER
 - (U) COMMON AUDIBLE WITH POWER FAILURE
 - (V) SPEAKERPHONE SYSTEM
 - (Y) STATION BUSY LAMP
 - (Z) 1A1 OR 1A2 KEY TELEPHONE SYSTEM WITHOUT STATION BUSY LAMP
- () INDICATES CURRENT COLOR CODE
[] INDICATES MD COLOR CODE

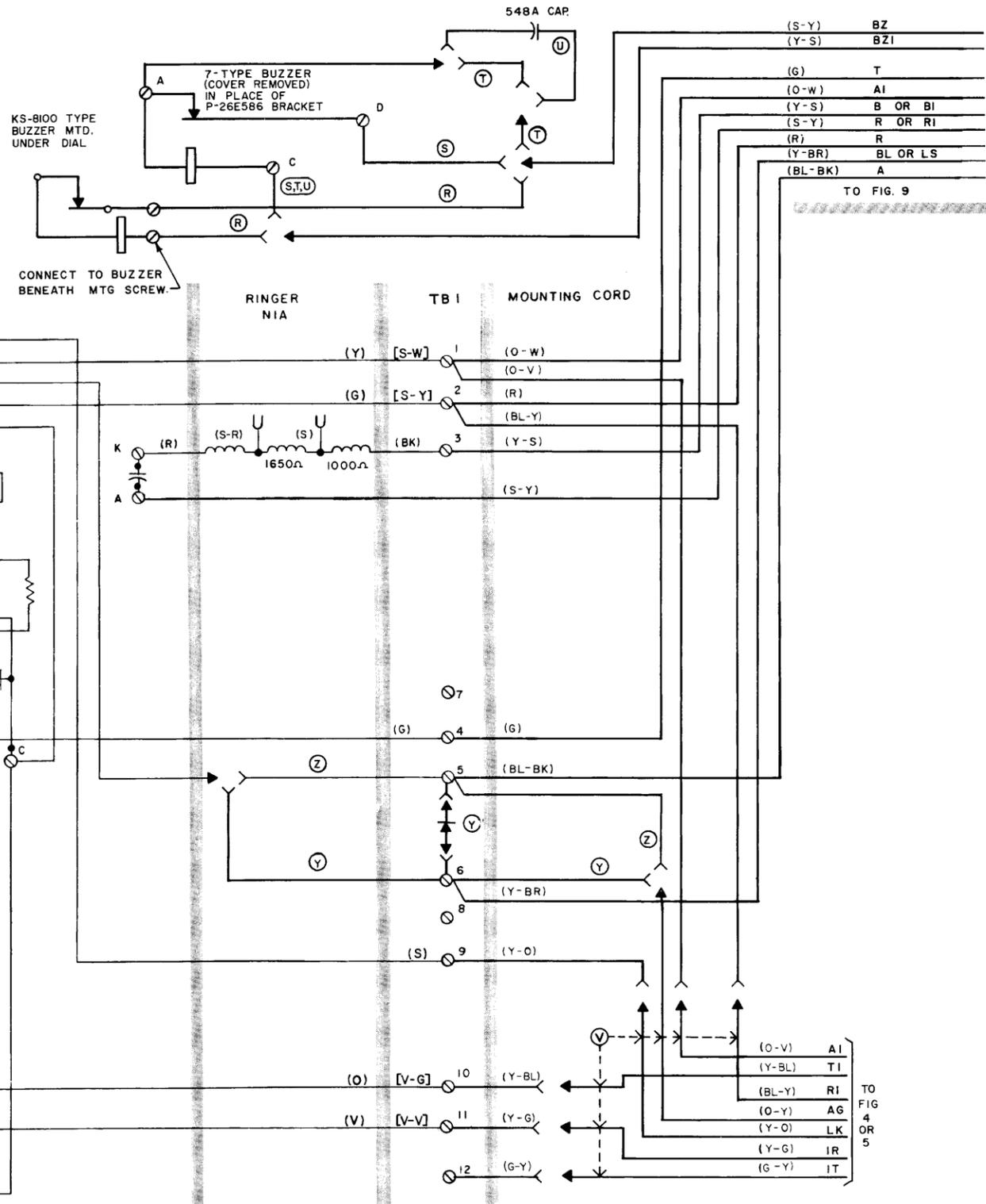


Fig. 8A-Telephone Set Circuit, TOUCH-TONE Dial

NOTE 1: SETS ARE FACTORY WIRED WITH ② WIRING FOR USE WITH 1A1 OR 1A2 KEY TELEPHONE SYSTEMS WITHOUT STATION BUSY LAMPS.

NOTE 2: FOR 1A1 OR 1A2 KEY TELEPHONE SYSTEM WITH STATION BUSY LAMP, USE ① WIRING. (SEE FIG. 10)

- Ⓡ DC BUZZER (KS-8100 TYPE OR EQUIVALENT)
- Ⓢ DC BUZZER (7-TYPE)
- Ⓣ AC BUZZER
- Ⓛ COMMON AUDIBLE WITH POWER FAILURE
- Ⓥ SPEAKERPHONE SYSTEM
- Ⓨ STATION BUSY LAMP
- ② 1A1 OR 1A2 KEY TELEPHONE SYSTEM WITHOUT STATION BUSY LAMP

() INDICATES CURRENT COLOR CODE
 [] INDICATES MD COLOR CODE

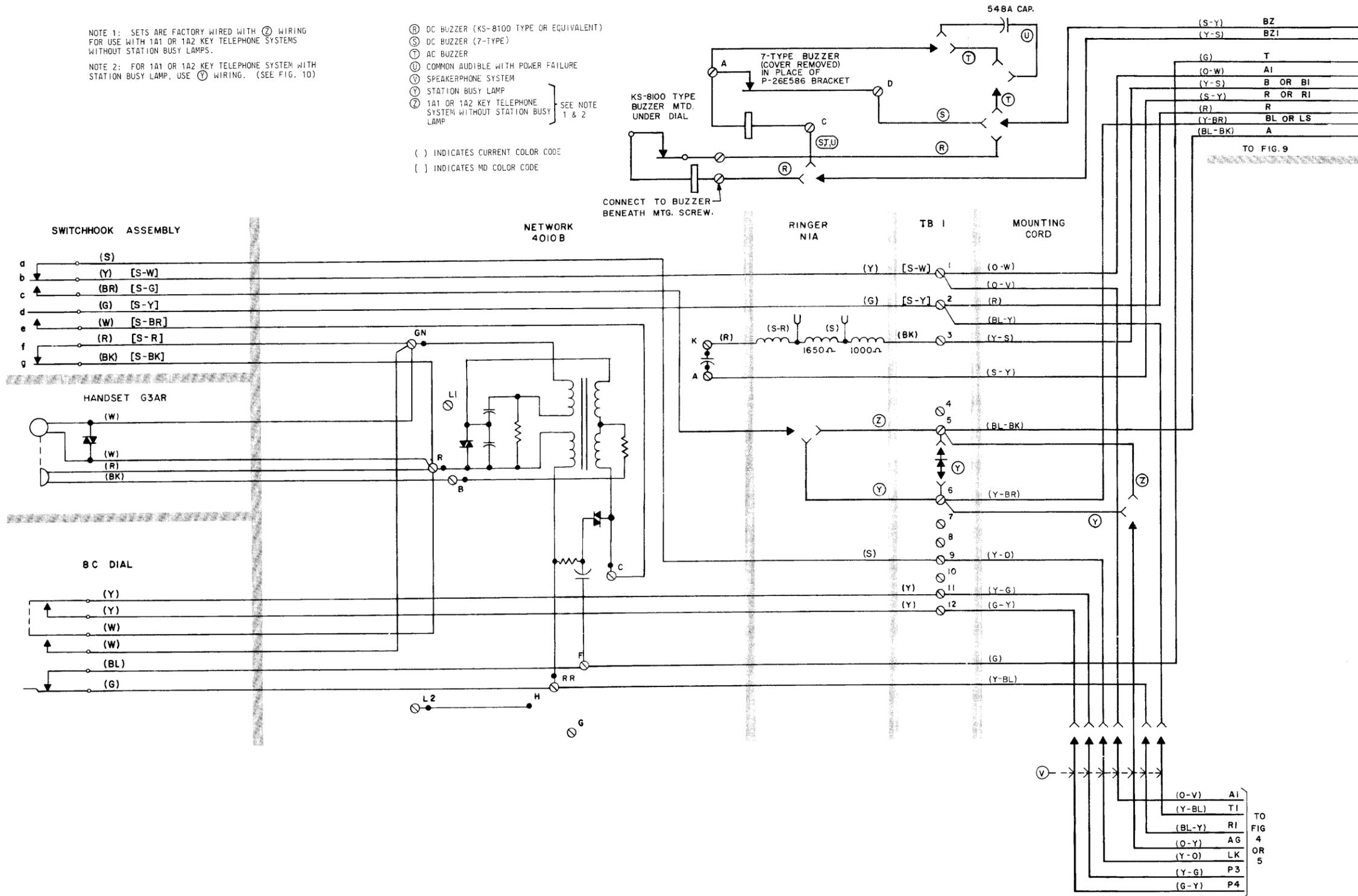


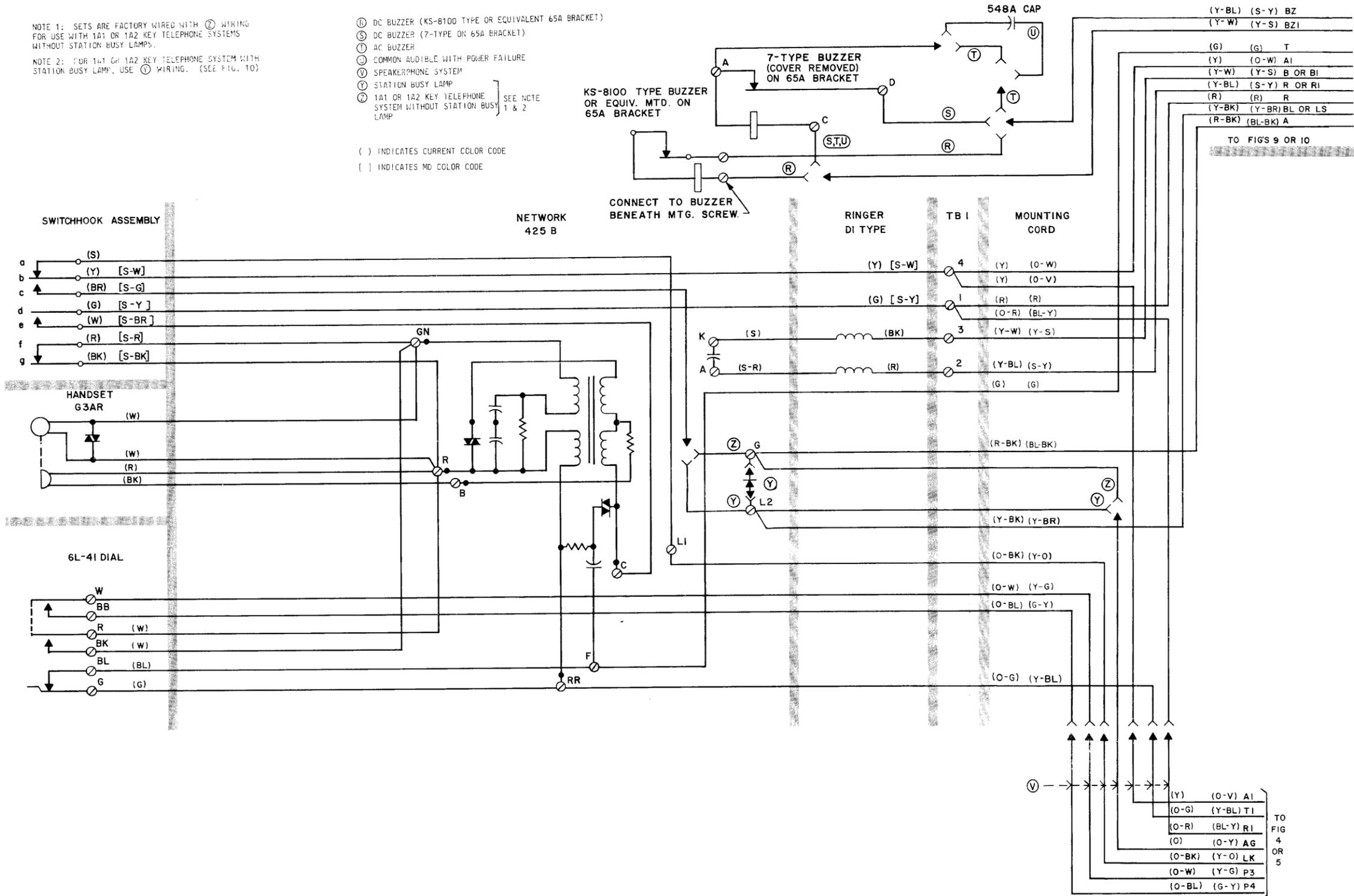
Fig. 8B-Telephone Set Circuit, 8C Dial

NOTE 1: SETS ARE FACTORY WIRED WITH ② WIRING FOR USE WITH 1A1 OR 1A2 KEY TELEPHONE SYSTEMS WITHOUT STATION BUSY LAMP.

NOTE 2: FOR 1A1 OR 1A2 KEY TELEPHONE SYSTEM WITH STATION BUSY LAMP, USE ① WIRING. (SEE FIG. 10)

- ① DC BUZZER (KS-8100 TYPE OR EQUIVALENT 65A BRACKET)
- ② DC BUZZER (7-TYPE OR 65A BRACKET)
- ③ AC BUZZER
- ④ COMMON AUDIBLE WITH POWER FAILURE
- ⑤ SPEAKERPHONE SYSTEM
- ⑥ STATION BUSY LAMP
- ⑦ 1A1 OR 1A2 KEY TELEPHONE SYSTEM WITHOUT STATION BUSY LAMP

() INDICATES CURRENT COLOR CODE
 [] INDICATES MD COLOR CODE



(Y-BL)	(S-Y)	BZ
(Y-W)	(Y-S)	BZ1
(G)	(G)	T
(Y)	(O-W)	A1
(Y-W)	(Y-S)	B OR B1
(Y-BL)	(S-Y)	R OR R1
(R)	(R)	R
(Y-BK)	(Y-BR)	BL OR LS
(R-BK)	(BL-BK)	A

TO FIGS 9 OR 10

(Y)	(O-V)	A1
(O-G)	(Y-BL)	T1
(O-R)	(BL-Y)	R1
(O)	(O-Y)	AG
(O-BK)	(Y-O)	LK
(O-W)	(Y-G)	P3
(O-BL)	(G-Y)	P4

TO FIG 4 OR 5

Fig. 8C—Telephone Set Circuit, 6L Dial

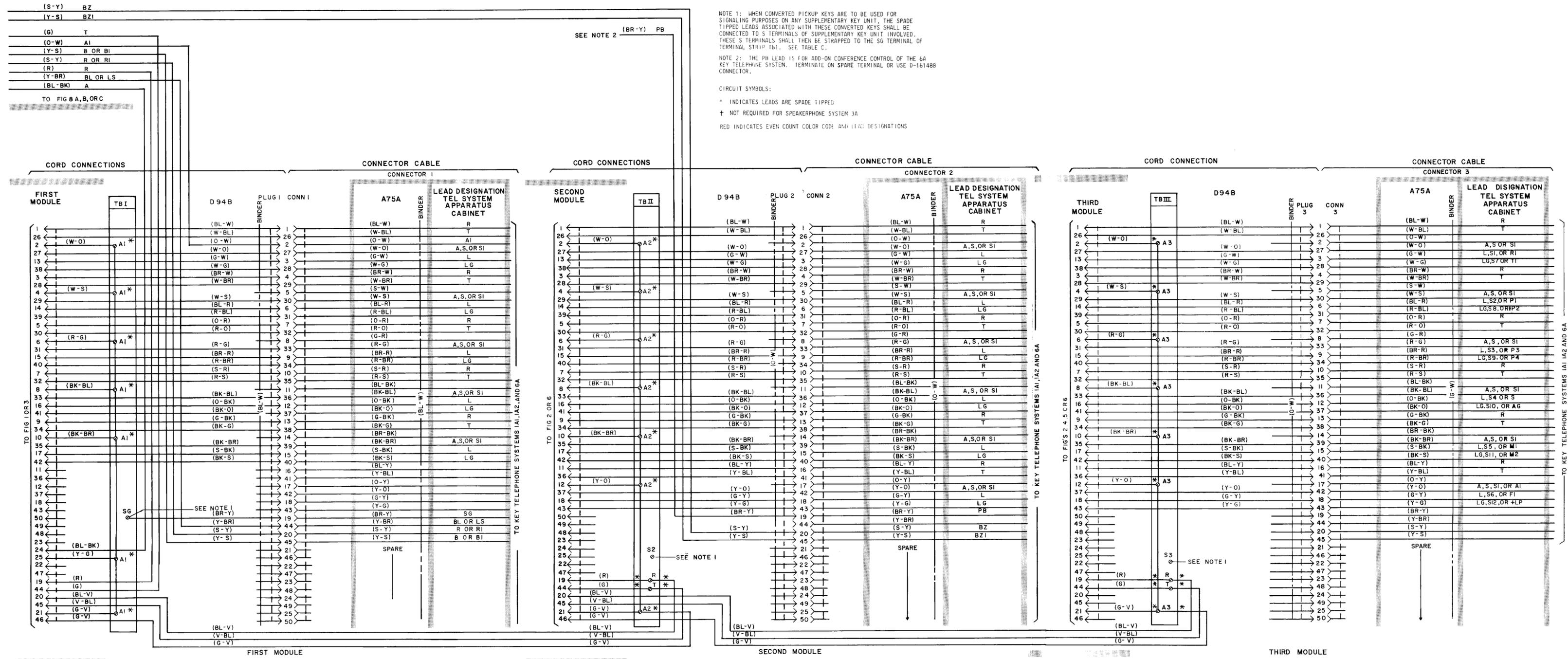


Fig. 9 - Cord and Cable Connections for 632- and 1632-Type Telephone Sets Equipped With Even-Count Color-Coded Cords

NOTE 1: SETS ARE FACTORY WIRED WITH ② WIRING FOR USE WITH 1A1 OR 1A2 KEY TELEPHONE SYSTEMS WITHOUT STATION BUSY LAMPS.

NOTE 2: FOR 1A1 OR 1A2 KEY TELEPHONE SYSTEM WITH STATION BUSY LAMP, USE ① WIRING. (SEE FIG. 10)

- Ⓡ DC BUZZER (KS-8100 TYPE OR EQUIVALENT)
- Ⓢ DC BUZZER (7-TYPE)
- Ⓣ AC BUZZER
- Ⓤ COMMON AUDIBLE WITH POWER FAILURE
- Ⓥ SPEAKERPHONE SYSTEM
- Ⓦ STATION BUSY LAMP
- Ⓧ 1A1 OR 1A2 KEY TELEPHONE SYSTEM WITHOUT STATION BUSY LAMP

() INDICATES CURRENT COLOR CODE
[] INDICATES MD COLOR CODE

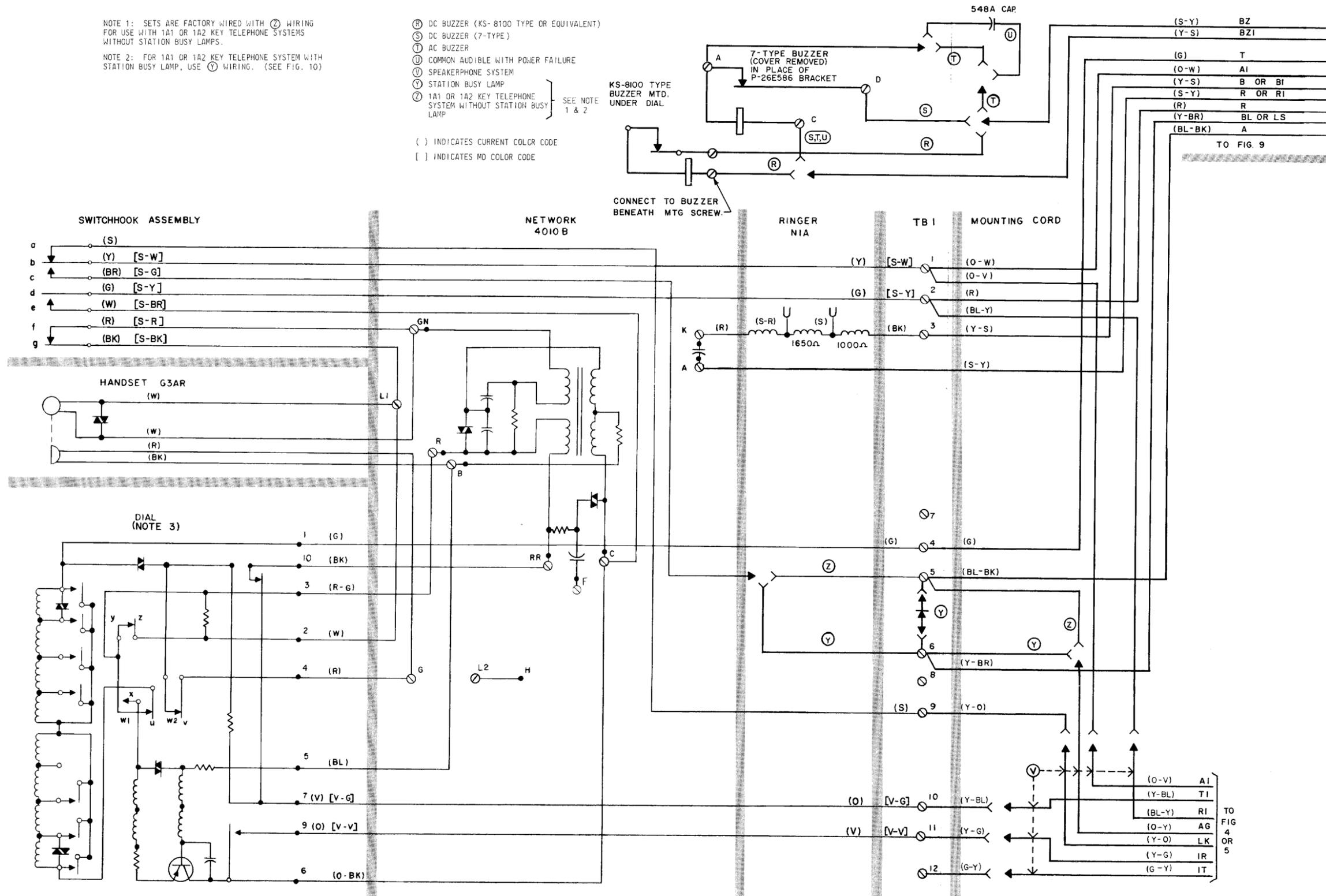


Fig. 8A-Telephone Set Circuit, TOUCH-TONE Dial

CONNECTIONS FOR FIRST KEY UNIT

Connection For	D94A Mounting Cord (MD)		D94B Mounting Cord		A75A Connector Cable		Lead Designation	
	Pin No.	White Binder	Pin No.	Blue-White Binder	Pin No.	Blue Binder	Key Tel Systems 1A1, 1A2, 6A	
First Key Unit	1	R	1	BL-W	1	BL-W	R	
	26	G	26	W-BL	26	W-BL	T	
Tel Set	2*	Y	2*	O-W	2	O-W	A1	
	27	BK	27	W-O	27	W-O	A, S, or S1	
First Key Unit	13	S-Y	13	G-W	3	G-W	L	
	38	S-BK	38	W-G	28	W-G	LG	
	3	BL	3	BR-W	4	BR-W	R	
	28	W	28	W-BR	29	W-BR	T	
	4*	†	4*	†	5	S-W		
	29	BR-G	29	W-S	30	W-S	A, S, or S1	
	14	S-BL	14	BL-R	6	BL-R	L	
	39	S-W	39	R-BL	31	R-BL	LG	
	5	BR-Y	5	O-R	7	O-R	R	
	30	BR-BK	30	R-O	32	R-O	T	
	6*	†	6*	†	8	G-R		
	31	BR-W	31	R-G	33	R-G	A, S, or S1	
	15	S-BR	15	BR-R	9	BR-R	L	
	40	BR	40	R-BR	34	R-BR	LG	
	7	R-G	7	S-R	10	S-R	R	
	32	R-Y	32	R-S	35	R-S	T	
	8*	†	8*	†	11	BL-BK		
	33	R-BL	33	BK-BL	36	BK-BL	A, S, or S1	
	16	BK-BL	16	O-BK	12	O-BK	L	
	41	BK-W	41	BK-O	37	BK-O	LG	
	9	R-W	9	G-BK	13	G-BK	R	
	34	G-Y	34	BK-G	38	BK-G	T	
	10*	†	10*	†	14	BR-BK		
	35	G-BL	35	BK-BR	39	BK-BR	A, S, or S1	
	17	BL-W	17	S-BK	15	S-BK	L	
	42	S	42	BK-S	40	BK-S	LG	
	11	†	11	†	16	BL-Y	↑	
	36	†	36	†	41	Y-BL	VACANT	
	12	†	12	†	17	O-Y	↓	
	37	†	37	†	42	Y-O		
	18	†	18	†	18	G-Y		
	43	†	43	†	43	Y-G	↓	
	Tel Set	19	G-W	19	PR-Y	19	BR-Y	SG
		44	Y-BK	44	Y-BR	41	Y-BR	BL or LS
	First Key Unit	20	STRAP	20	S-Y	20	S-Y	R or R1
		45	STRAP	45	Y-S	45	Y-S	B or B1
		21*	†	21*	†	21	SPARE	VACANT
		46	STRAP	46	†	46		
		22	†	22	†	22		
		47	†	47	†	47		
		23	†	23	†	23		
		48	†	48	†	48		
		24	†	24	†	24		
		49	†	49	†	49		
		25*	†	25*	†	25		
		50	†	50	†	50		

* Spade tipped leads are connected to these pins in the set. See Fig. 9 or 10 for lead designation and color code.

† Leads are cut dead at butt.

‡ Not required on 3A speakerphone system.

§ PB lead is for add-on conference in 6A key telephone system.

TABLE D
CONNECTIONS FOR MODULAR KEY UNITS

CONNECTIONS FOR SECOND KEY UNIT

Connection For	D94A Mounting Cord (MD)		D94B Mounting Cord		A75A Connector Cable		Lead Designation	
	Pin No.	Red Binder	Pin No.	Orange-White Binder	Pin No.	Orange Binder	Key Tel Systems 1A1, 1A2, 6A	
Second Key Unit	1	R	1	BL-W	1	BL-W	R	
	26	G	26	W-BL	26	W-BL	T	
	2*	†	2*	†	2	O-W		
	27	BK	27	W-O	27	W-O	A, S, or S1	
	13	S-Y	13	G-W	3	G-W	L	
	38	S-BK	38	W-G	28	W-G	LG	
	3	BL	3	BR-W	4	BR-W	R	
	28	W	28	W-BR	29	W-BR	T	
	4*	†	4*	†	5	S-W		
	29	BR-G	29	W-S	30	W-S	A, S, or S1	
	14	S-BL	14	BL-R	6	BL-R	L	
	39	S-W	39	R-BL	31	R-BL	LG	
	5	BR-Y	5	O-R	7	O-R	R	
	30	BR-BK	30	R-O	32	R-O	T	
	6*	†	6*	†	8	G-R		
	31	BR-W	31	R-G	33	R-G	A, S, or S1	
	15	S-BR	15	BR-R	9	BR-R	L	
	40	BR	40	R-BR	34	R-BR	LG	
	7	R-G	7	S-R	10	S-R	R	
	32	R-Y	32	R-S	35	R-S	T	
	8*	†	8*	†	11	BL-BK		
	33	R-BL	33	BK-BL	36	BK-BL	A, S, or S1	
	16	BK-BL	16	O-BK	12	O-BK	L	
	41	BK-W	41	BK-O	37	BK-O	LG	
	9	R-W	9	G-BK	13	G-BK	R	
	34	G-Y	34	BK-G	38	BK-G	T	
	10*	†	10*	†	14	BR-BK		
	35	G-BL	35	BK-BR	39	BK-BR	A, S, or S1	
	17	BL-W	17	S-BK	15	S-BK	L	
	42	S	42	BK-S	40	BK-S	LG	
	11	†	11	†	16	BL-Y	R	
	36	†	36	†	41	Y-BL	T	
	12	†	12	†	17	O-Y		
	37	†	37	†	42	Y-O		
	18	†	18	†	18	G-Y		
	43	†	43	†	43	Y-G		
	PB Lead § AC or DC Buzzer	19*	G-W	19*	BR-Y	19	BR-Y	PB§
		44*	SPARE	44*	Y-BR	44	Y-BR	
	First Key Unit	20	STRAP	20	S-Y	20	S-Y	BZ
		45	STRAP	45	Y-S	45	Y-S	BZ1
		21*	†	21*	†	21	SPARE	VACANT
		46	STRAP	46	†	46		
		22	VACANT	22	†	22		
		47	†	47	†	47		
		23	†	23	†	23		
		48	†	48	†	48		
		24	†	24	†	24		
		49	†	49	†	49		
		25	†	25	†	25		
		50	†	50	†	50		

CONNECTIONS FOR THIRD KEY UNIT

Connection For	D94A Mounting Cord (MD)		D94B Mounting Cord		A75A Connector Cable		Lead Designation
	Pin No.	Black Binder	Pin No.	Green-White Binder	Pin No.	Green Binder	Key Tel Systems 1A1, 1A2, 6A
Third Key Unit	1	R	1	BL-W	1	BL-W	R
	26	G	26	W-BL	26	W-BL	T
	2*	BK	2*	†	2	O-W	
	27	†	27	W-O	27	W-O	A, S, or S1
	13	S-Y	13	G-W	3	G-W	L, S1, or R1
	38	S-BK	38	W-G	28	W-G	LG, S7, or T1
	3	BL	3	BR-W	4	BR-W	R
	28	W	28	W-BR	29	W-BR	T
	4*	†	4*	†	5	S-W	
	29	BR-G	29	W-S	30	W-S	A, S, or S1
	14	S-BL	14	BL-R	6	BL-R	L, S2, or P1
	39	S-W	39	R-BL	31	R-BL	LG, S8, or †P2
	5	BR-Y	5	O-R	7	O-R	R
	30	BR-BK	30	R-O	32	R-O	T
	6*	†	6*	†	8	G-R	
	31	BR-W	31	R-G	33	R-G	A, S, or S1
	15	S-W	15	BR-R	9	BR-R	L, S3, or P3
	40	S-BR	40	R-BR	34	R-BR	LG, S9, or P4
	7	R-G	7	S-R	10	S-R	R
	32	R-Y	32	R-S	35	R-S	T
	8*	†	8*	†	11	BL-BK	
	33	R-BL	33	BK-BL	36	BK-BL	A, S, or S1
	16	BK-BL	16	O-BK	12	O-BK	L, S4, or S
	41	BK-W	41	BK-O	37	BK-O	LG, S10, or AG
	9	R-W	9	G-BK	13	G-BK	R
	34	G-Y	34	BK-G	38	BK-G	T
	10*	†	10*	†	14	BR-BK	
	35	G-BL	35	BK-BR	39	BK-BR	A, S, or S1
	17	BL-W	17	S-BK	15	S-BK	L, S5, or M1
	42	S	42	BK-S	40	BK-S	LG, S11, or M2
	11	O-R	11	BL-Y	16	BL-Y	R
	36	O-G	36	Y-BL	41	Y-BL	T
	12*	†	12*	†	17	O-Y	
	37	O-BK	37	Y-O	42	Y-O	A, S, or S1
	18	O-BL	18	G-Y	18	G-Y	L, S6, or F1
	43	O-W	43	Y-G	43	Y-G	LG, S12, or †LP
	19*	†	19*	†	19	BR-Y	VACANT
	44*	†	44*	†	44	Y-BR	
	20	†	20	†	20	S-Y	
	45	†	45	†	45	Y-S	
	21*	†	21*	†	21	SPARE	
	46	VACANT	46	†	46		
	22	†	22	†	22		
	47	†	47	†	47		
	23	†	23	†	23		
	48	†	48	†	48		
	24	†	24	†	24		
	49	†	49	†	49		
	25	†	25	†	25		
	50	†	50	†	50		

NOTE 1: SETS ARE FACTORY WIRED WITH ② WIRING FOR USE WITH 1A1 OR 1A2 KEY TELEPHONE SYSTEMS WITHOUT STATION BUSY LAMPS.

NOTE 2: FOR 1A1 OR 1A2 KEY TELEPHONE SYSTEM WITH STATION BUSY LAMP, USE ① WIRING. (SEE FIG. 10)

- Ⓟ DC BUZZER (KS-8100 TYPE OR EQUIVALENT)
- Ⓢ DC BUZZER (7-TYPE)
- Ⓛ AC BUZZER
- Ⓞ COMMON AUDIBLE WITH POWER FAILURE
- Ⓜ SPEAKERPHONE SYSTEM
- Ⓝ STATION BUSY LAMP
- ② 1A1 OR 1A2 KEY TELEPHONE SYSTEM WITHOUT STATION BUSY LAMP

() INDICATES CURRENT COLOR CODE
 [] INDICATES MD COLOR CODE

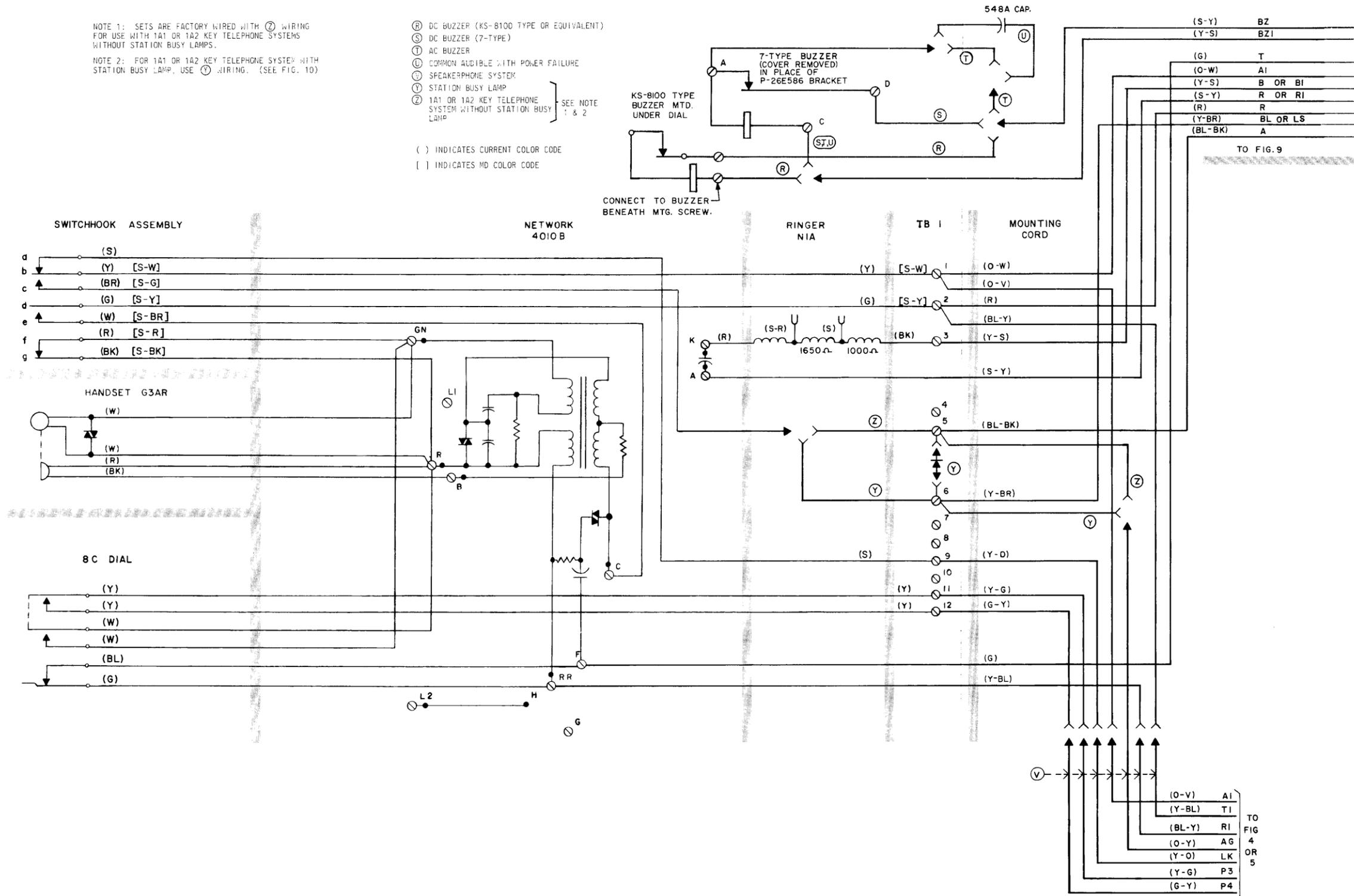


Fig. 8B-Telephone Set Circuit, 8C Dial

NOTE 1: SETS ARE FACTORY WIRED WITH (Z) WIRING FOR USE WITH 1A1 OR 1A2 KEY TELEPHONE SYSTEMS WITHOUT STATION BUSY LAMPS.

NOTE 2: FOR 1A1 OR 1A2 KEY TELEPHONE SYSTEM WITH STATION BUSY LAMP, USE (Y) WIRING. (SEE FIG. 10)

- (B) DC BUZZER (KS-8100 TYPE OR EQUIVALENT 65A BRACKET)
 - (S) DC BUZZER (7-TYPE ON 65A BRACKET)
 - (T) AC BUZZER
 - (U) COMMON AUDIBLE WITH POWER FAILURE
 - (V) SPEAKERPHONE SYSTEM
 - (Y) STATION BUSY LAMP
 - (Z) 1A1 OR 1A2 KEY TELEPHONE SYSTEM WITHOUT STATION BUSY LAMP
- SEE NOTE 1 & 2
- () INDICATES CURRENT COLOR CODE
[] INDICATES MD COLOR CODE

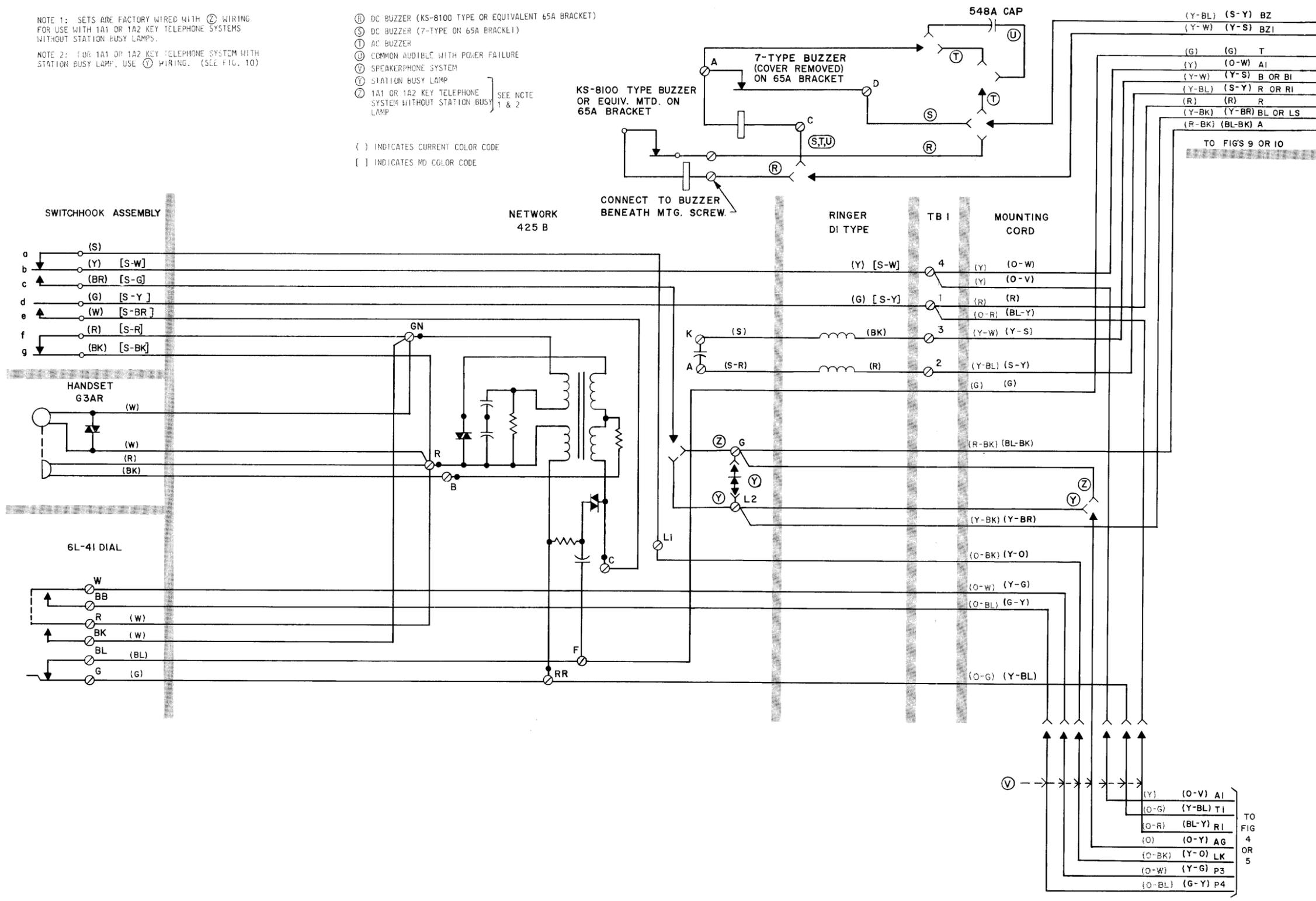
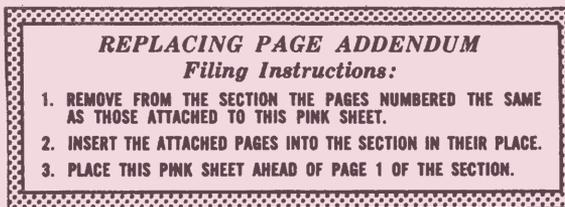


Fig. 8C—Telephone Set Circuit, 6L Dial



**TELEPHONE SETS
632 AND 1632 TYPES
CONNECTIONS**

I. GENERAL

1.001 This addendum supplements Section 502-630-402, Issue 3. The attached pages must be inserted in the section in accordance with the filing instructions above.

1.002 This addendum is reissued to show current:

- (1) Switchhook and dial lead colors, and common switch wiring changes on Fig. 8A, Page 12 .
- (2) Switchhook lead colors on Fig. 8B, Page 13.
- (3) Switchhook lead colors on Fig. 8C, Page 14.

Attached:

Page 12 dated March 1964, revised.
Page 13 dated March 1964, revised.
Page 14 dated March 1964, revised.