

## SEPARATELY MOUNTED KEYS, ILLUMINATED PUSHBUTTON 6040, 6041, 6050, AND 6051 TYPES IDENTIFICATION, INSTALLATION, AND CONNECTIONS

### 1. GENERAL

1.01 6040-, 6041-, 6050-, and 6051-type keys connected to a single line telephone set provides for the key features of a multibutton telephone set and connects the single line station to any one of a number of lines.

1.02 This section is reissued to:

- Change Table B to add current color faceplate mats
- Change Table D to add coordinated color faceplate mats
- Show (-59), (-61), and (-64) colors for 397A and 398A key mountings; 6040 and 6041E, G, H, and J keys; and 6050 and 6051A, B, and C keys MD

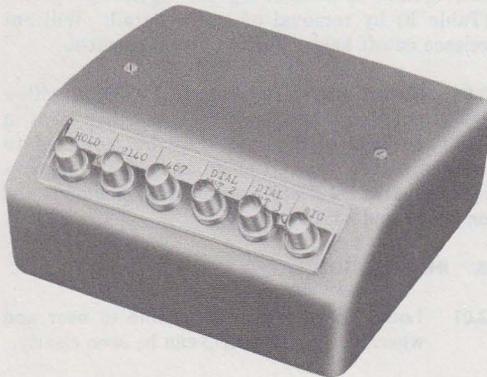


Fig. 1—6040-Type Key



Fig. 2—6050-Type Key

### 2. IDENTIFICATION

#### Purpose

2.01 These keys are used in conjunction with a single line telephone set to furnish station control features in 1A, 1A1, 1A2, and 6A KTS.

#### Ordering Guide

2.02 Refer to Tables A through E.

#### Design Features

2.03 Choice of location when installing:

- Top of desk or table using mounting cord.
- Fastened to side of desk, table, or wall using connector cable or inside wiring cable.

2.04 Key buttons are equipped to illuminate the individual buttons and their associated designation areas.

**TABLE A**  
**SEPARATELY MOUNTED KEYS**

KEY (NOTE 1)	MTG CORD OR CONN CABLE	KEY MOUNTING	KEY UNIT
6040A† 6041A†	D40A*		589H
6040B† 6041B†	D40A*		589J†
6040C† 6041C†	D37A*		589K†
6040D† 6041D†	D20G		589L
6041E			589M
6040G 6041G	D50N-87		636A
6040H 6041H	D50S-87		636B
6040J 6041J	D50T-87		589AJ
6040K 6041K	D20H-87		589AN
6050A 6050B 6050C	A25A Conn Ca or D50P cord	397A (Table B)	599A 598A 599B (Note 2)
6051A 6051B 6051C	A50A, B25C or B50B Conn Cable	398A (Table B)	599A-598A 598A-598A 599B-598A (Note 2)

\*For maintenance purposes, replace with D42A.

†MD.

- Notes:**
1. Add color suffix to key code. (Refer to Table D).
  2. 598 and 599 keys are electrically identical and respectively interchangeable with the 656 and 657 keys of the same letter code.

◆ **TABLE B** ◆

**FACEPLATE MATS FOR 6050- AND  
6051-TYPE KEYS**

COLOR (SEE NOTE)	397A KEY MTG 6050-TYPE KEY	398A KEY MTG 6051-TYPE KEY MTG
Silver	P-83G978	P-87G078
Gold	P-83G979	P-87G079

*Note:* Refer to Table D for color suffix of coordinated color faceplate mats.

- 2.05** Pickup buttons convertible to signaling or intercom options (Table E).

#### Operating Features

- 2.06 *Hold or Release Key:*** Nonlocking, releases any locked pickup key. Does not release cutoff keys. Can be illuminated in 6050-type and 6040G, 6041G, 6040J, and 6041J keys.

- 2.07 *Pickup:*** Locking, when depressed, releases any other pickup keys. Some pickup keys convertible to nonlocking for signaling options (Table E) by removal of screw detail. Will not release cutoff keys. Buttons are illuminated.

- 2.08 *Cutoff Key:*** Turnbutton, locking in either position. Does not release other keys in 6040- or 6041-type keys. Can be modified to release locked keys in 6050- and 6051-type keys by removal of P-12E819 bushing. Button illuminated on 6050C and 6051C keys only.

#### 3. INSTALLATION

- 3.01** Locate keys where accessible to user and where designation strip can be seen clearly.
- 3.02** Unless otherwise instructed, block unused buttons with P-12A858 blocking rings.
- 3.03** When installing keys provide a means of identifying the key code for future installation

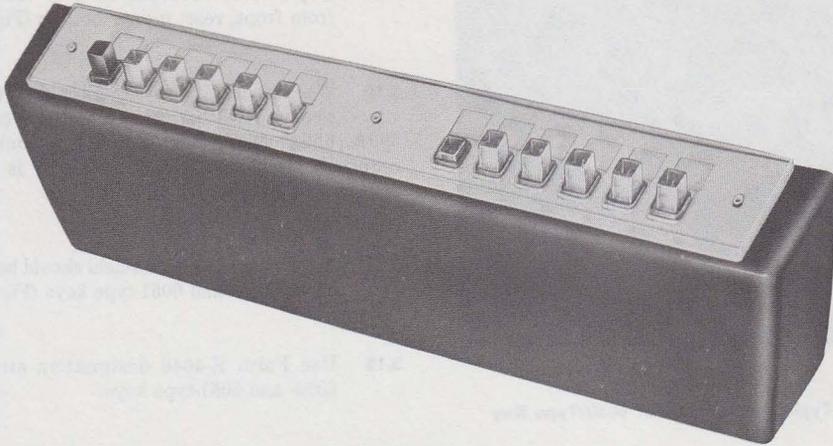


Fig. 3—6051-Type Key

or repair visits. Stencil or mark key code on base assembly or inside housing.

#### 6040- and 6041-Type Keys

**3.04** Use Form E-4227 designation cards for both 6040- and 6041-type keys.

**3.05** *6040-Type Keys* are equipped with mounting cord for connection to key cable. Designed to be installed unattached on desk or table top.

**3.06** Install KS-8035 friction pads (order separately) to base of 6040-type keys when the key is installed on a desk or table top. The friction pads prevent the key from sliding or marring the surface.

**3.07** *6041-Type Keys* may be mounted to wall or other vertical surface. The key cable and telephone wiring are connected directly to the terminal strip (Fig. 6).

#### 6050- and 6051-Type Keys

**3.08** May be attached to a wall, desk or other vertical surface. Mounting may be on the left or right side of desk or table by turning key unit 180 degrees within key mounting, as necessary.



Fig. 4—Typical Installation of 6041-Type Key

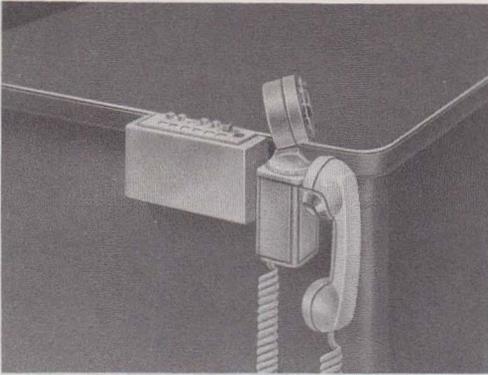


Fig. 5—Typical Installation of 6050-Type Key

- 3.09 Key can be mounted so that cable enters from front, rear, top, or bottom (Fig. 7).
- 3.10 When necessary to assemble 6051-type key, remove latch bar tension spring from second 598A, 656A, 599A, or 657A key, as only one is required. A P-11E229 link assembly is required to connect the two latch bars together.
- 3.11 A P-24E753 insulator shield should be installed on all 6050- and 6051-type keys (Fig. 8).
- 3.12 Use Form E-4646 designation strips with 6050- and 6051-type keys.

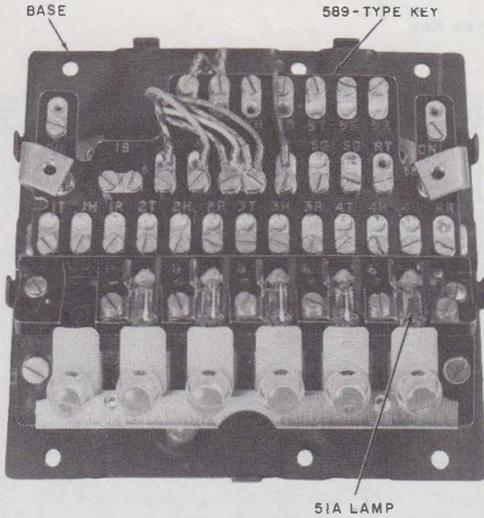


Fig. 6—6041-Type Key, Internal View

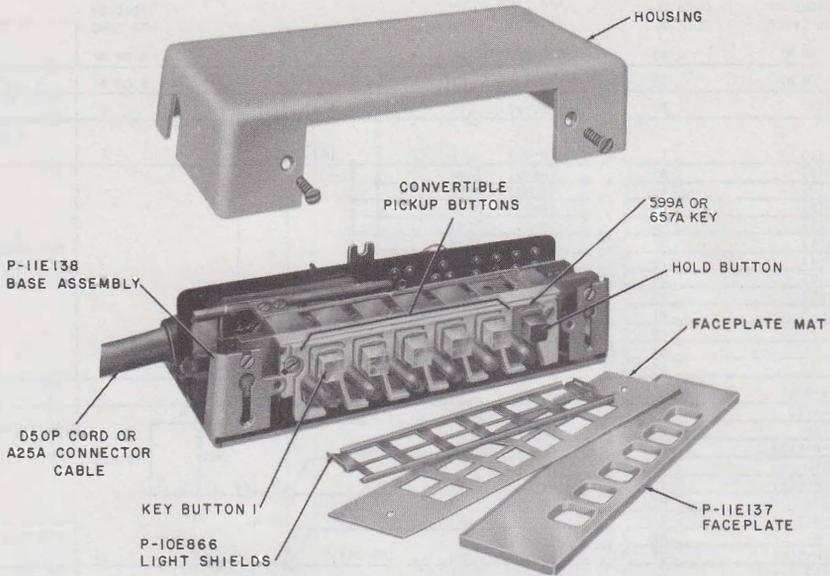


Fig. 7—6050A Key

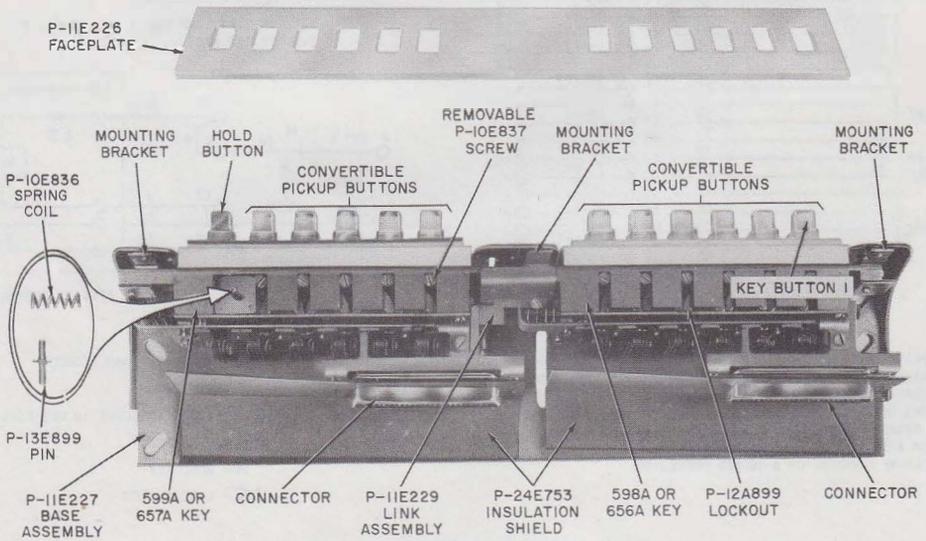
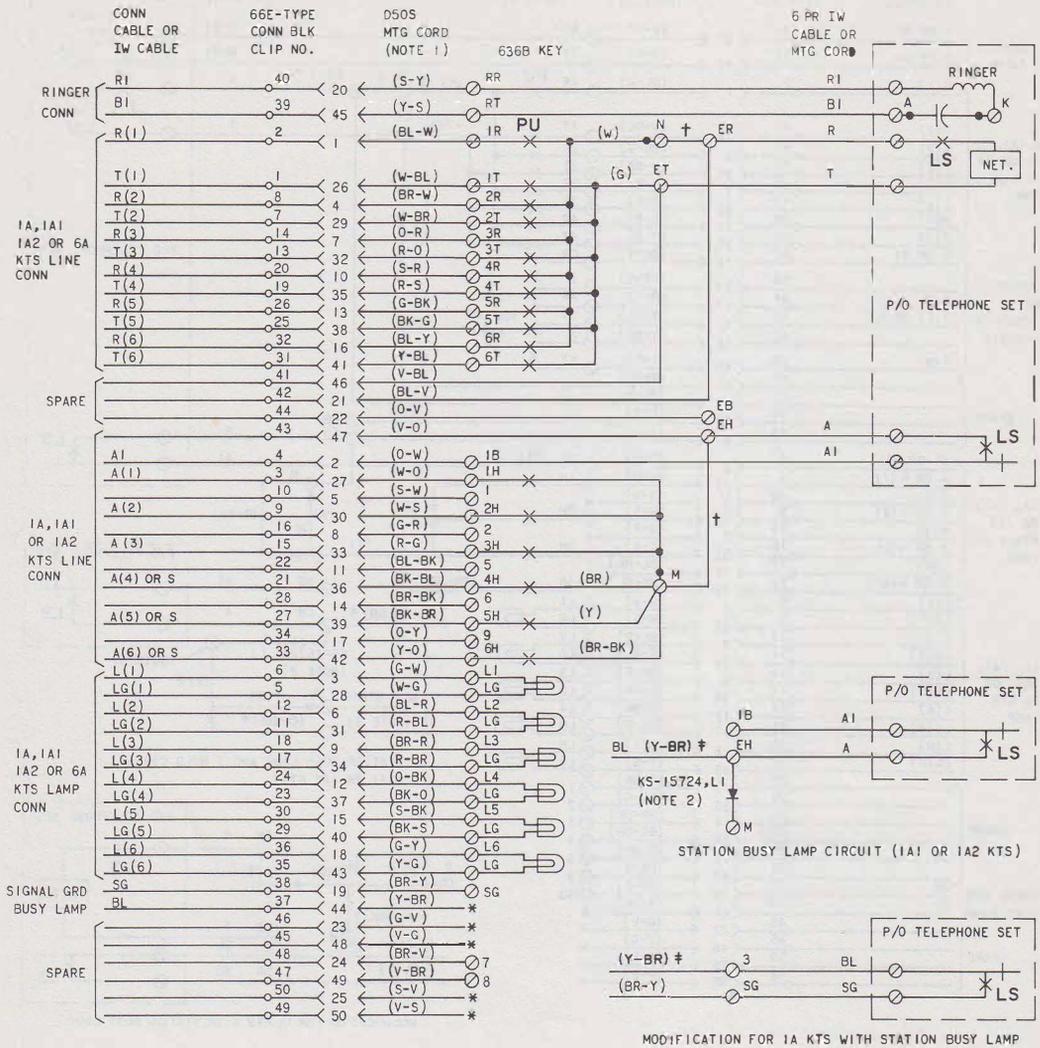


Fig. 8—6051A Key





NOTES:  
 1. CONNECTIONS SHOWN FOR 6040H USING 66E-TYPE CONNECTING BLOCK.  
 MOUNTING CORD MAY BE PLUGGED DIRECTLY INTO CONNECTOR CABLE.  
 IF 6041H KEY IS USED, TERMINATE IW CABLE ON KEY TERMINAL BOARD.  
 COLORS OF IW CABLE, CONNECTOR CABLE, AND MOUNTING CORD ARE THE SAME  
 2. ORDER AND INSTALL SEPARATELY.

\* - INSULATED AND STORED  
 † - ADD STRAP  
 ‡ - LEADS INVOLVED IN MODIFICATION  
 PU - PICKUP KEY  
 LS - LINE SWITCH

Fig. 10—6040H or 6041H Key, Connections

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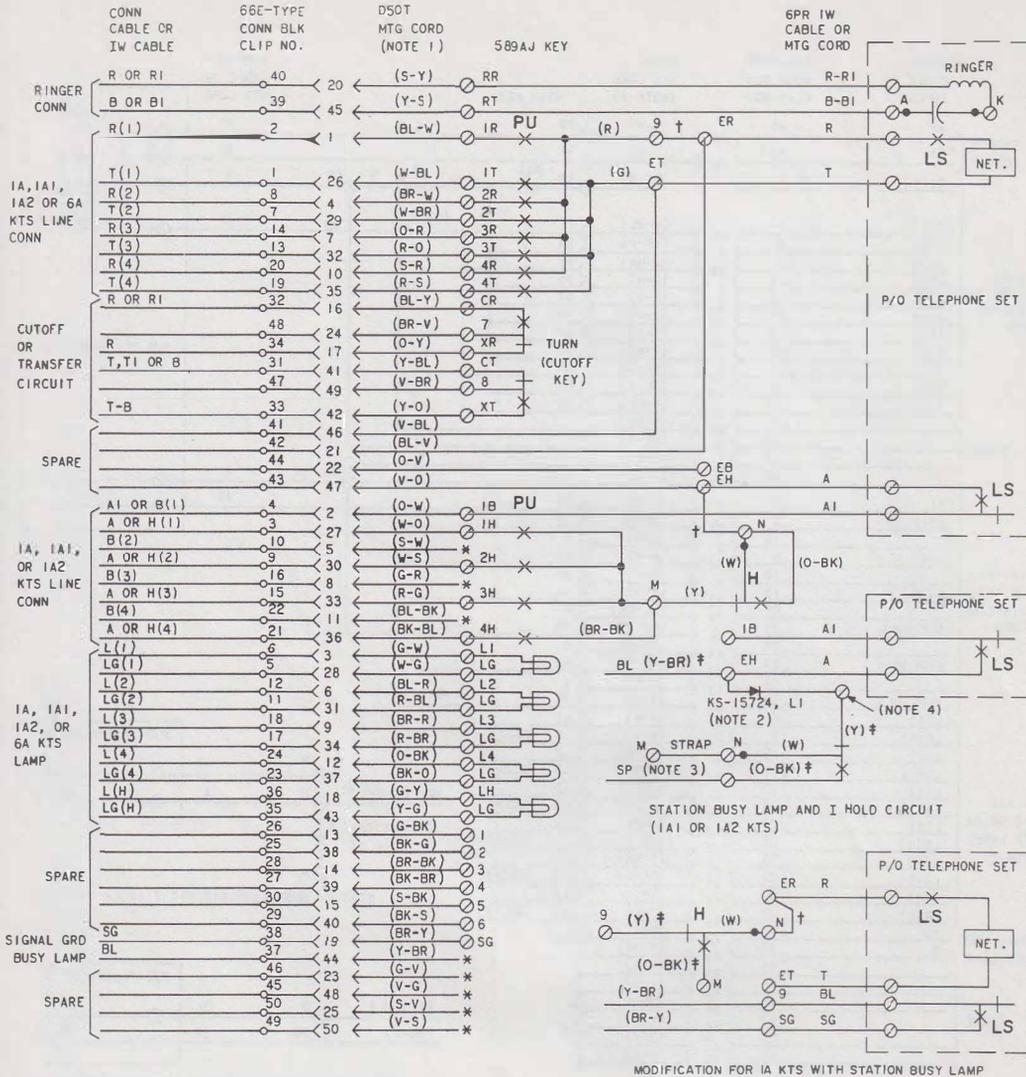


Fig. 11—6040J or 6041J Key, Connections

- NOTES:
1. CONNECTIONS SHOWN FOR 6040J USING 66E-TYPE CONNECTING BLOCK. MOUNTING CORD MAY BE PLUGGED DIRECTLY INTO CONNECTOR CABLE. IF 6041J KEY IS USED, TERMINATE IW CABLE ON KEY TERMINAL BOARD. COLORS OF IW CABLE, CONNECTOR CABLE, AND MOUNTING CORD ARE THE SAME.
  2. ORDER AND INSTALL SEPARATELY.
  3. USE SPARE TERMINAL AND CONDUCTOR FOR SP LEAD (I HOLD).
  4. USE SPARE TERMINAL OR D-161488 CONNECTOR.

- \* - INSULATED AND STORED
- † - ADD STRAP
- ‡ - LEADS INVOLVED IN MODIFICATION
- PU - PICKUP KEY
- H - HOLD KEY
- LS - LINE SWITCH

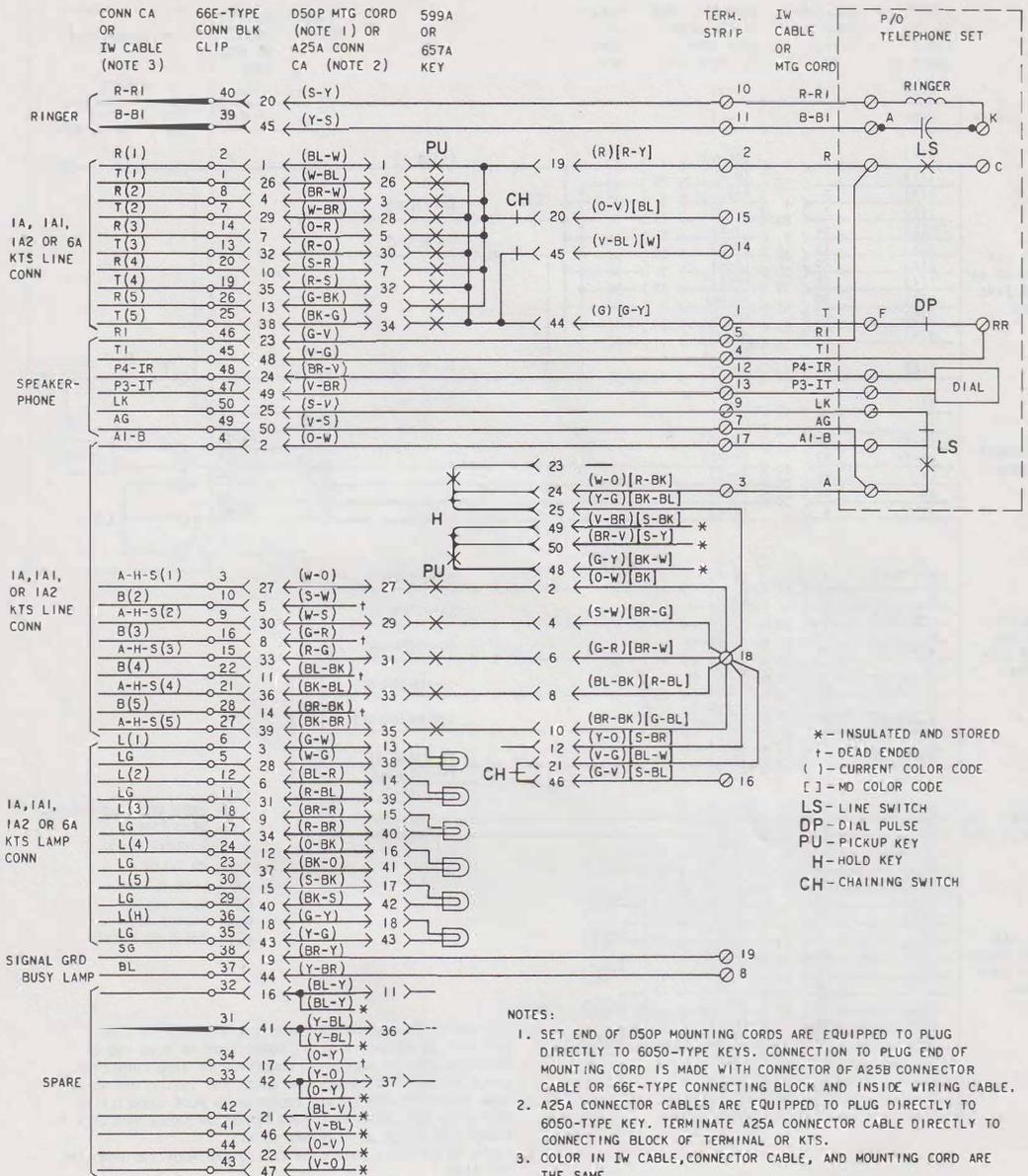


Fig. 12—6050A Key, Connections



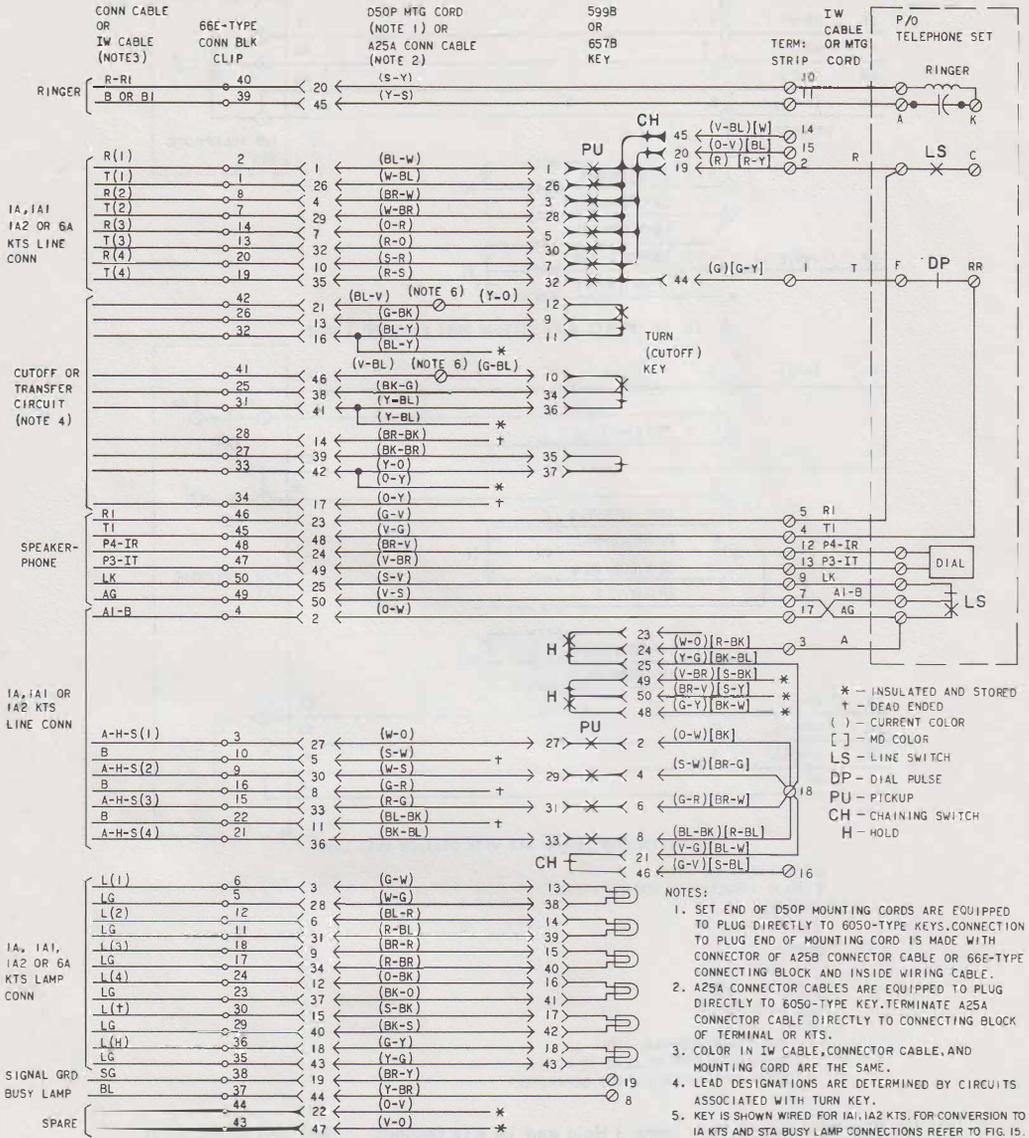
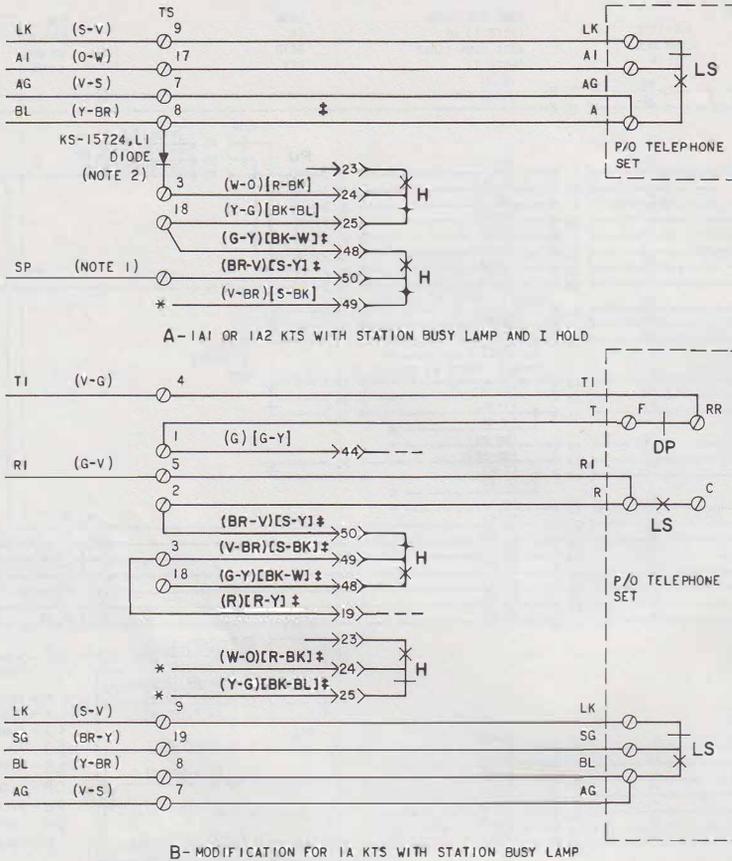


Fig. 14—6050C Key, Connections

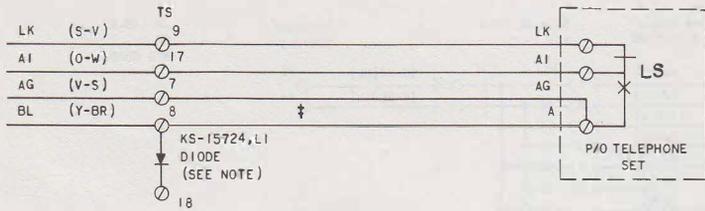


\* INSULATED AND STORED  
 ‡ LEADS INVOLVED IN MODIFICATION  
 ( ) CURRENT COLOR  
 [ ] MD COLOR

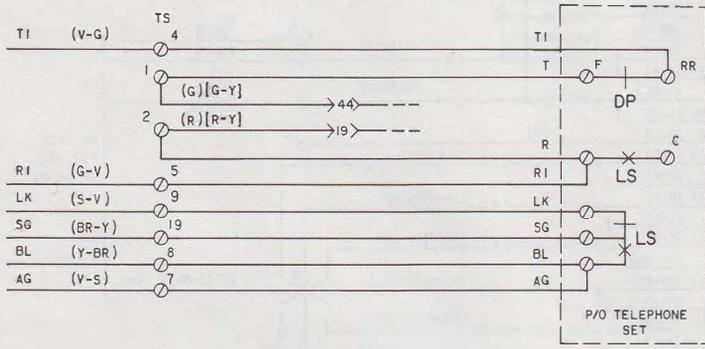
LEGEND:  
 H- HOLD  
 DP- DIAL PULSE  
 LS- LINE SWITCH

NOTES:  
 1. USE SPARE TERMINAL AND CONDUCTORS FOR SP LEAD (I HOLD)  
 2. ORDER AND INSTALL DIODE SEPARATELY

**Fig. 15—Station Busy Lamp, I Hold and 1A KTS Options—6050A and 6050C Keys**



A. IA1 OR IA2 KTS WITH STATION BUSY LAMP



B. IA KTS WITH STATION BUSY LAMP

- ( ) CURRENT COLOR
- [ ] MD COLOR
- LS—LINE SWITCH
- DP—DIAL PULSE

NOTE:  
ORDER AND INSTALL KS-15724, LI DIODE SEPARATELY.

Fig. 16—Station Busy Lamp Option with IA1, IA2, or IA KTS—6050B Key

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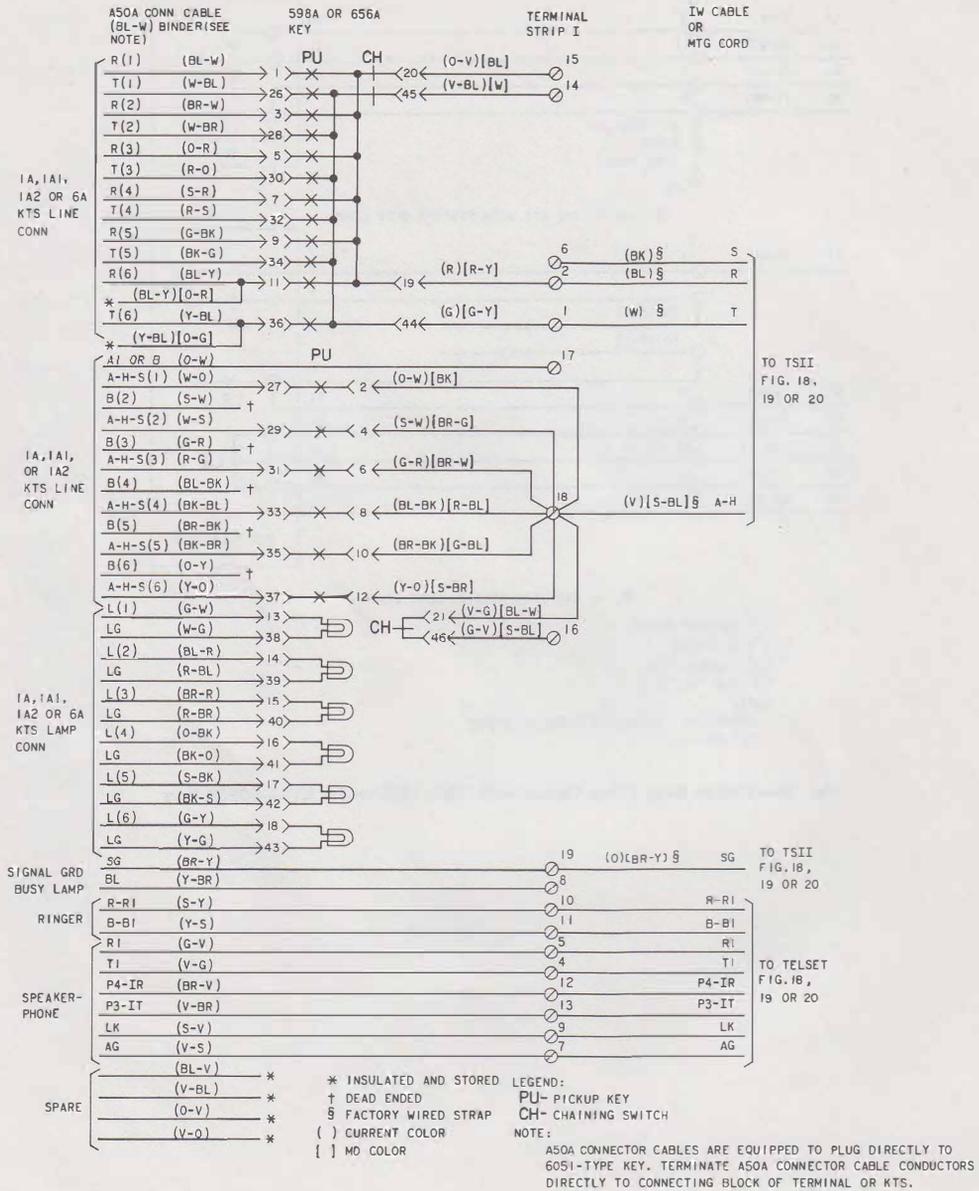


Fig. 17—6051A, 6051B, and 6051C Key Connections (First Key Module)

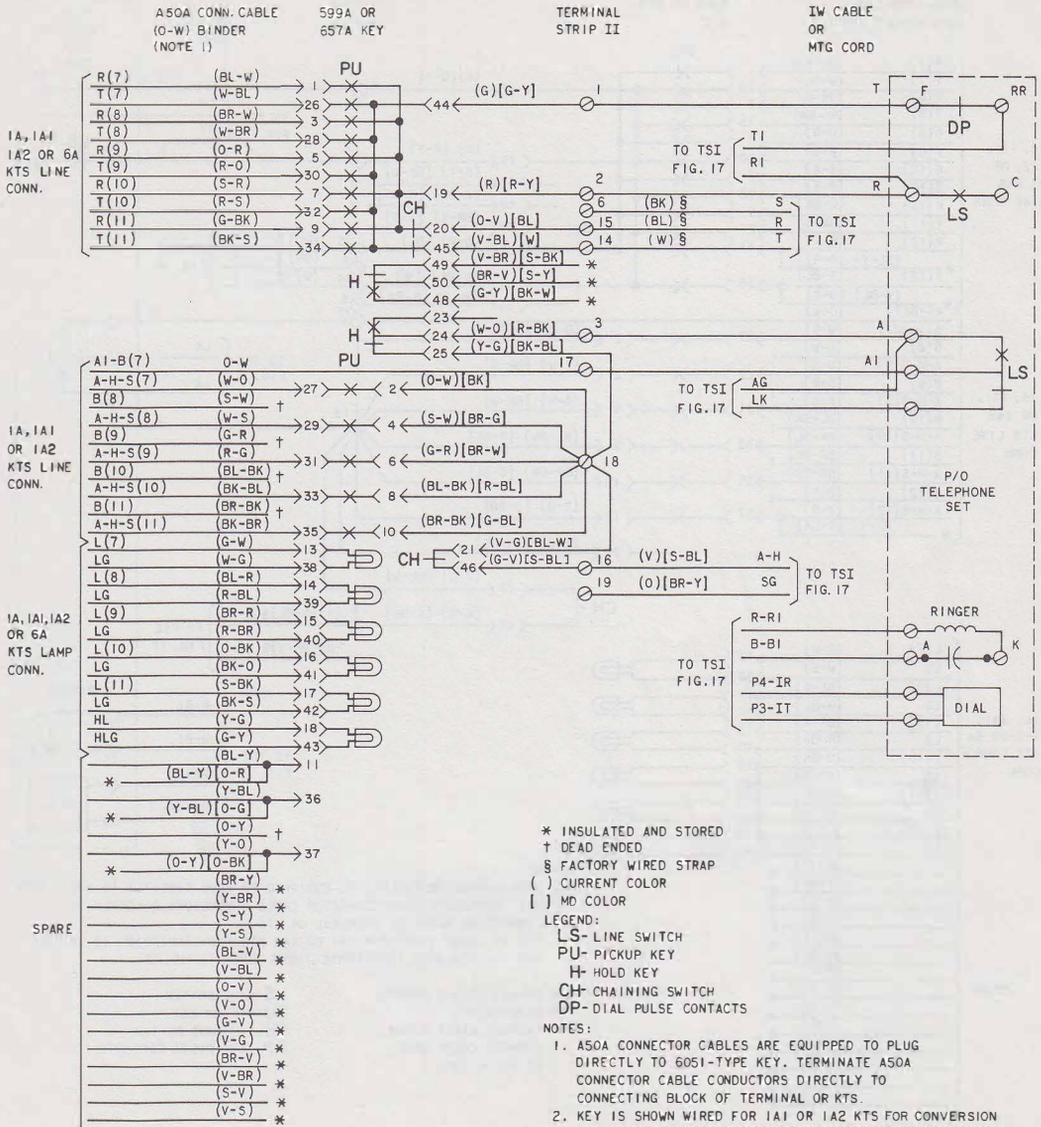


Fig. 18—6051A Key, Connections (Second Key Module)



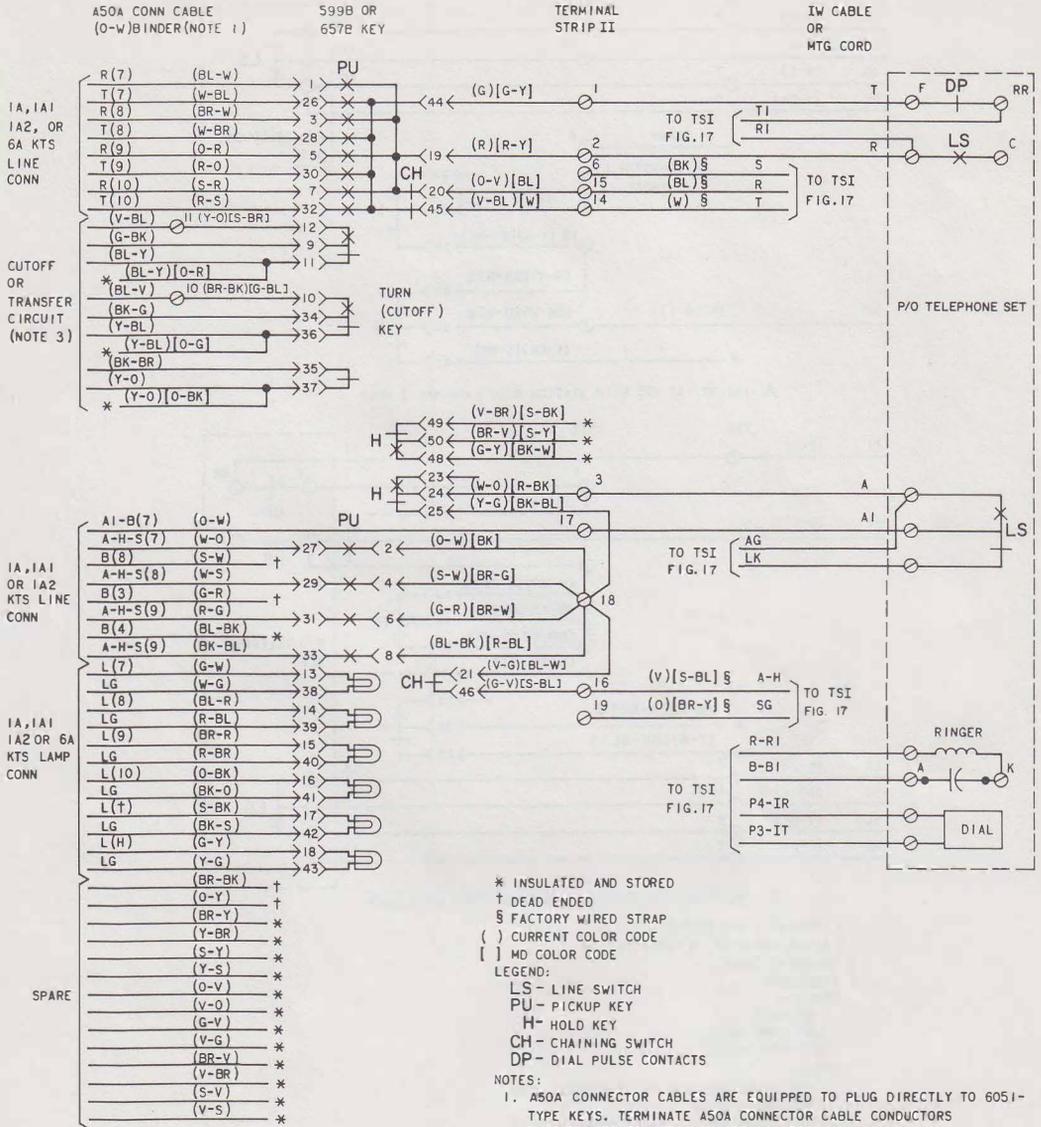
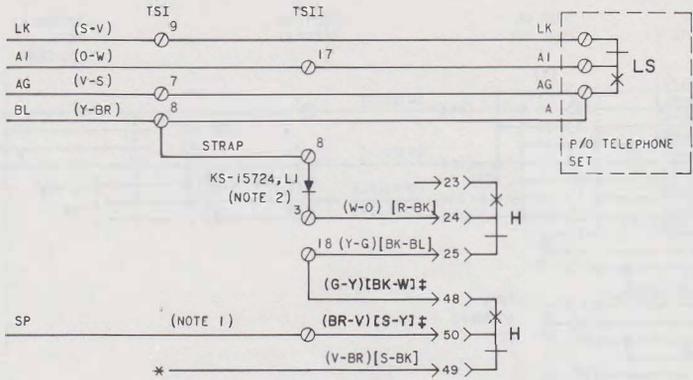
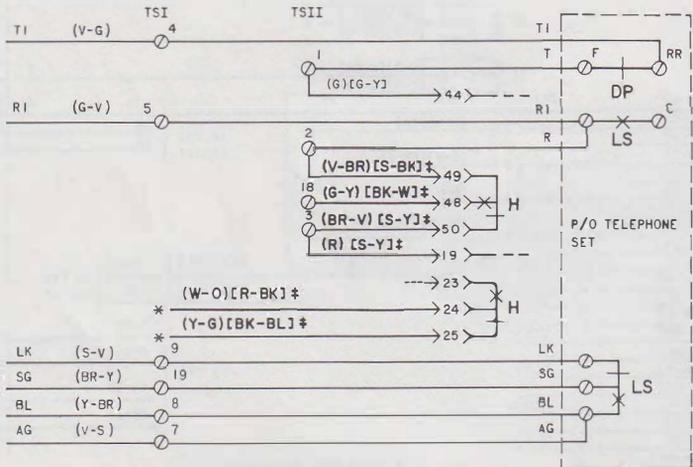


Fig. 20—6051C Key, Connections (Second Key Module)



A 1A1 OR 1A2 KTS WITH STATION BUSY LAMP AND I HOLD



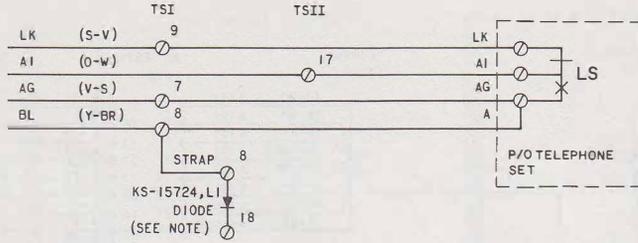
B - MODIFICATION FOR 1A KTS WITH STATION BUSY LAMP

- \* INSULATED AND STORED
- ‡ LEADS INVOLVED IN MODIFICATION
- ( ) CURRENT COLOR
- | ] MD COLOR

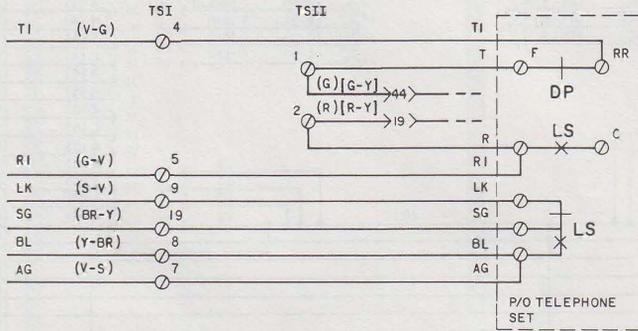
LEGEND:  
 H- HOLD  
 LS- LINE SWITCH  
 DP- DIAL PULSE

- NOTES:  
 1. USE SPARE TERMINAL AND CONDUCTORS FOR SP LEAD (I HOLD)  
 2. ORDER AND INSTALL DIODE SEPARATELY

Fig. 21—Station Busy Lamp, I Hold and 1A KTS Options—6051A and 6051C Keys



A. IA1 OR IA2 KTS WITH STATION BUSY LAMP



B. MODIFICATION FOR IA KTS WITH STATION BUSY LAMP

( ) CURRENT COLOR  
 [ ] MD COLOR  
 LEGEND:  
 LS LINE SWITCH  
 DP DIAL PULSE  
 NOTE:  
 ORDER AND INSTALL DIODE SEPARATELY.

Fig. 22—Station Busy Lamp and IA KTS Options—6051B Key





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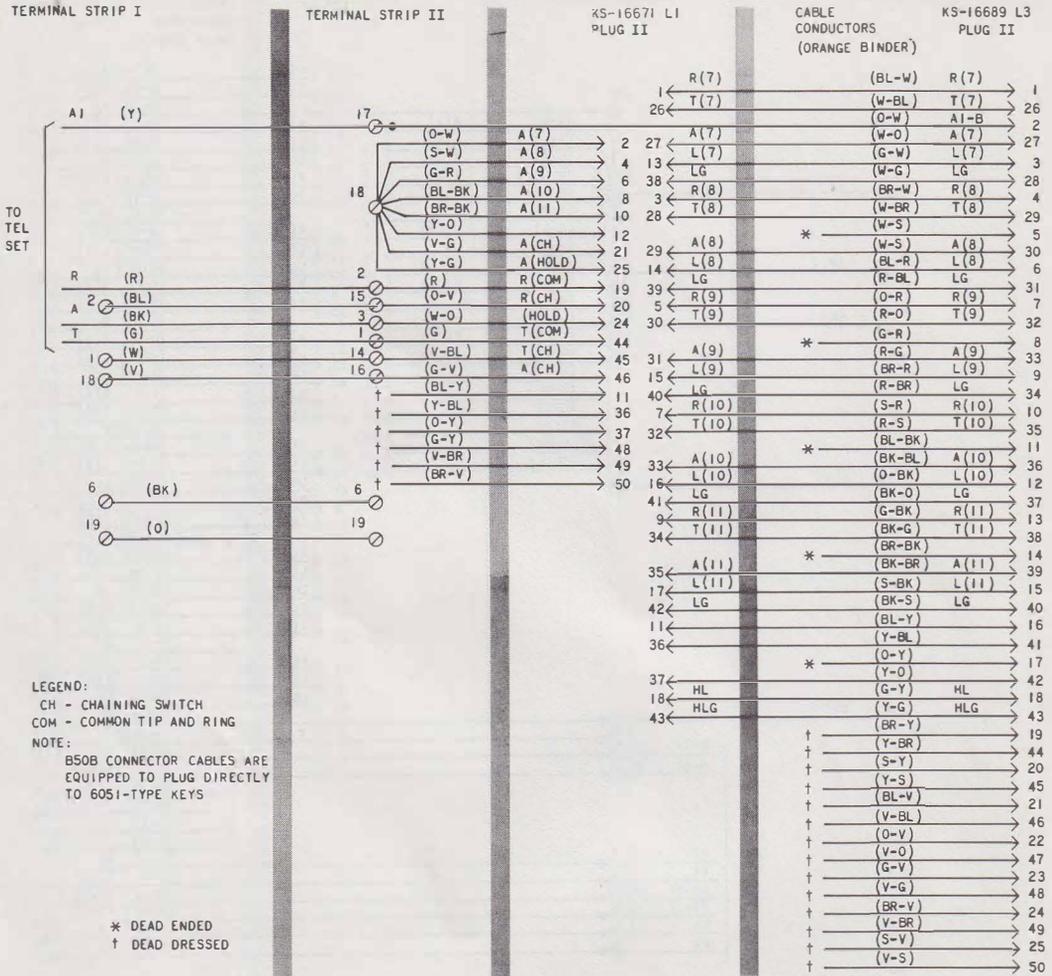


Fig. 25—B50B Connector Cable (Orange Binder) Connections to 6051-Type Key

TABLE C

## COVERS AND HOUSINGS FOR 6040-, 6041-, 6050-, AND 6051-TYPE KEYS

KEYS	COVERS*		HOUSING*	
6040A, 6041A, 6040B, 6041B 6040C, 6041C, 6040D, 6041D 6040G, 6041G, 6040H, 6041H 6040J, 6041J, 6040K, 6041K	P-81E600			
6041E		P-81H900		
6050A, 6050B, 6050C			P-81A000	
6051A, 6051B, 6051C				P-81E400

\*The last two digits of these part numbers shall correspond to color suffix [example: P-81E603 (Black) P-81E650 (Ivory) etc] Refer to Table D for colors.

◆ TABLE D ◆

COLOR ORDERING GUIDE FOR 6040-, 6041-,  
6050-, AND 6051-TYPE KEYS

COLOR	SUFFIX	COORDINATED COLOR FACEPLATE MATS		SUFFIX
		P-83G9-† (6050 KEY)	P-87G0-† (6051 KEY)	
Black	-03	Charcoal		-70
Ivory	-50	Muted Ivory		-80
Green	-51	Lt. Green		-71
Red*	-53	Muted Red		-69
Yellow*	-56	Lt. Yellow		-72
White	-58	Lt. Gray		-73
Lt. Beige	-60	Muted Beige		-75
Aqua Blue*	-62	Muted Blue		-76

\*Nonpromoted colors.

†Add coordinated color suffix.

**TABLE E**  
**KEY FEATURES**

KEY	FEATURES*	PRINCIPAL USE
6040A, 6041A 6040B, 6041B 6040C, 6041C	H P P P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P P P P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> H P P P P <sub>s</sub> C	1A, 1A1, 1A2, or 6A Key Telephone Systems
6040D, 6041D	H P P P P L	755 PBX (see SD-66507-01)
6041E	R P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> S <sub>P</sub> S <sub>P</sub>	No. 15 Automatic Call Distribution System
6040G, 6041G 6040H, 6041H 6040J, 6041J	H P P P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P P P P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> H P P P P <sub>s</sub> C	1A, 1A1, 1A2, or 6A Key Telephone Systems
6040K, 6041K	H P P P P L	755 PBX (see SD-66507-01)
6050A 6050B 6050C 6051A 6051B 6051C	H P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> H P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> C H P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub>   P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub>   P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> H P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> C   P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub> P <sub>s</sub>	1A, 1A1, 1A2, or 6A Key Telephone Systems

\*H-Hold, P-Pickup, S-Signal, C-Cutoff, L-Local, P<sub>s</sub> or S<sub>P</sub>-Convertible Pickup or Signal, R-Release.

TABLE F

LINE CONNECTIONS TO 6040A, 6040B, 6040C, KEYS WITH D40A (MD) AND  
D37A (MD) CORDS AND 6041A, 6041B, 6041C KEYS CABLE CONNECTED

CABLE COLOR	D40A MTG CORD			6040A-6041A† KEYS		6040B-6041B† KEYS		D37A MTG CORD			6040C-6041C† KEY		
	44A CONN BLK		CORD COLOR	LEAD DESIG	KEY TERM.	LEAD DESIG	KEY TERM.	44A CONN BLK		CORD COLOR	LEAD DESIG	KEY TERM.	
	NO.	TERM.						NO.	TERM.				
W-BL BL-W	2	1	G R	T R	1T 1R	T R	1T 1R	1	2	1	G R	T R	1T 1R
W-O O-W	5	4	BK Y	A or H A1 or B	1H 1B	A A1	1H 1B	1	5	4	BK Y	A or H A1 or B	1H 1B
W-G G-W	7	6	S-BK S-Y	LG L1	LG 1	LG L	LG 1	1	7	6	S-BK S-Y	LG L	LG 1
W-BR BR-W	10	9	W BL	T R	2T 2R	T R	2T 2R	1	10	9	W BL	T R	2T 2R
W-S S-W	8	3	BR-G BR-R	A or H B	2H *	A L(6)	2H 6	1	8	3	BR-G BR-R	A or H B	2H *
R-BL BL-R	2	1	S-BL	LG L2	2	LG L	2	1	2	1	S-BL	LG L	2
R-O O-R	5	4	BR-BK BR-Y	T R	3T 3R	T R	3T 3R	1	5	4	BR-BK BR-Y	T R	3T 3R
R-G G-R	7	6	BR-W BR-BL	A-H-S B	3H *	A G	3H SG	1	7	6	BR-W BR-BL	A or H B	3H *
R-BR BR-R	10	9	S-W	LG L3	3	LG L	3	1	10	9	S-W	LG L	3
R-S S-R	8	3	R-Y R-G	T R	4T 4R	T R	4T 4R	1	8	3	R-Y R-G	T R	4T 4R
BK-BL BL-BK	2	1	R-BL R-BK	A-H-S B	4H *	A A(6)	4H 6H	1	2	1	R-BL R-BK	A-H-S B	4H *
BK-O O-BK	5	4	S-BR	LG L4	4	LG L	4	1	5	4	S-BR	LG L	4
BK-G G-BK	7	6	G-Y R-W	T R	5T 5R	T R	5T 5R	1	7	6	S-G S-R	T1-B R1	CT CR
BK-BR BR-BK	10	9	G-BL G-BK	A-H-S B	5H *	A	5H	1	PLACE STRAP	Y-BK			* *
BK-S S-BK	8	3	BR	LG L5	5	LG L	5	1					* *
Y-BL BL-Y	PLACE STRAP							1		O-W O			* *
Y-O O-Y													
Y-G G-Y													
Y-BR BR-Y	2	1	Y-BK G-W	G	SG	T(6) R(6)	6T 6R	1	10	9	G-W	G	† SG
Y-S S-Y	5	4	Y-W Y-BL	B1 R1	RT RR	B R	RT RR	1	8	3	Y-W Y-BL	B1 R1	RT RR
V-BL BL-V	7	6	BK-W BK-BL		ET ER		ET ER	1	2	1	BK-W BK-BL		ET ER
V-O O-V	10	9	S BL-W		EH EB		EH EB	1	5	4	S BL-W		EH EB
V-G G-V							*	1	7	6	O-G O-R	T-B R	XT XR
V-BR BR-V	8	3	O-BL O-BK		ON ON1		ON *	1	10	9	O-BL O-BK		ON ON1
V-S S-V							*	1	8	3			

\*Insulate and store.

†6041-type keys not provided with mounting cords, terminate cable conductors directly to key terminals.

TABLE G

**LINE CONNECTIONS TO 6040A, 6040B, 6040C, KEYS WITH D42A CORD  
AND 6041A, 6041B, 6041C KEYS CABLE CONNECTED**

CABLE AND MTG CORD (NOTE)		66E3 OR 66E4 CONN BLK TERMINAL		6040A-6041A† KEYS		6040B-6041B† KEYS		6040C-6041C† KEYS	
PIN NO.	CONDUCTOR COLOR			LEAD DESIG	KEY TERM.	LEAD DESIG	KEY TERM.	LEAD DESIG	KEY TERM.
26	1	W-BL BL-W	1 2	T R	1T 1R	T R	1T 1R	T R	1T 1R
27	2	W-O O-W	3 4	A or H A1 or B	1H 1B	A A1	1H 1B	A or H A1 or B	1H 1B
28	3	W-G G-W	5 6	LG L	LG 1	LG L	LG 1	LG L	LG 1
29	4	W-BR BR-W	7 8	T R	2T 2R	T R	2T 2R	T R	2T 2R
30	5	W-S S-W	9 10	A or H B	2H *	A B	2H *	A or H B	2H *
31	6	R-BL BL-R	11 12	LG L	2	LG L	2	LG L	2
32	7	R-O O-R	13 14	T R	3T 3R	T R	3T 3R	T R	3T 3R
33	8	R-G G-R	15 16	A or H B	3H *	A B	3H *	A or H B	3H *
34	9	R-BR BR-R	17 18	LG L	3	LG L	3	LG L	3
35	10	R-S S-R	19 20	T R	4T 4R	T R	4T 4R	T R	4T 4R
36	11	BK-BL BL-BK	21 22	A or H B	4H *	A B	4H *	A-H-S B	4H *
37	12	BK-O O-BK	23 24	LG L	4	LG L	4	LG L	4
38	13	BK-G G-BK	25 26	T R	5T 5R	T R	5T 5R	T-T1-B R-R1	CT CR
39	14	BK-BR BR-BK	27 28	A or H B	5H *	A	5H		* *
40	15	BK-S S-BK	29 30	LG L	5	LG L	5		* *
41	16	Y-BL BL-Y	31 32	* *	* *	T R	6T 6R		* *
42	17	Y-O O-Y	33 34						
43	18	Y-G G-Y	35 36						
44	19	Y-BR BR-Y	37 38	SIG GRD	* SG	L SG	6 SG	SIG GRD	SG
45	20	Y-S S-Y	39 40	B R	RT RR	B R	RT RR	B R	RT RR
46	21	V-BL BL-V	41 42		ET ER		ET ER		ET ER
47	22	V-O O-V	43 44		EH EB		EH EB		EH EB
48	23	V-G G-V	45 46		* *	A	6H		XT XR
49	24	V-BR BR-V	47 48		ON ON1		ON		ON ON1
50	25	V-S S-V	49 50		* *		* *		* *

\*Insulate and store.

†6041-type keys not provided with mounting cords, terminate cable conductors directly to key terminals.

**Note:** Pins 28, 31, 34, 37, 40, and 43 in the plug of D42A cord are strapped together.

TABLE H

PICKUP-SIGNAL KEY OPTIONS  
6040A, 6041A, 6040G, AND 6041G KEYS

CONVERSION OPTIONS	636A KEY LEADS			
	Y-BR	BR	S-R	BR-BK
HPPPPP (Note)	M	M	M	X
HPPPPS	M	M	M	SG
HPPSSS	M	M	SG	X
HPPSSS	M	X	SG	X
HPPPP*S*	M	M	5H	EH†
HPPP*P*S*	M	X	5H	EH†
HPP*P*P*S*	X	X	5H	EH†

TABLE I

PICKUP-SIGNAL KEY OPTIONS  
6040B, 6041B, 6040H, AND 6041H KEYS

CONVERSION OPTIONS	636B KEY LEADS		
	BR	Y	BR-BK
PPPPPP (Note)	M	M	M
PPPPPS	M	M	SG
PPPPSS	M	SG	SG
PPSSSS	SG	SG	SG
PPPPP*S*	M	6H	EH†
PPPP*P*S*	6H	6H	EH†

\*These arrangements use line switch controlled ground for common signal key used with private or intercommunicating lines. Common signal should be used to operate a common signal relay. Do not wire directly to a buzzer.

†Use A1 control lead for 1A1 or 1A2 KTS and SG lead for 1A KTS.

TABLE J

PICKUP-SIGNAL KEY OPTIONS  
6040C, 6041C, 6040J, AND 6041J KEYS

CONVERSION OPTIONS	589AJ KEY LEADS	
	(G)	[S-BR] OR (BR-BK)
HPPPPC (Note)	M	M
HPPPSC	M	SG

**Note:** To convert from pickup (locking) to signaling (nonlocking) remove the P-12A892 screw detail at the key position being converted.

( ) Current Color

[ ] MD Color

**TABLE K**  
**CUTOFF KEY OPTIONS— 6040C, 6041C, 6040J, AND 6041J KEYS**

CUTOFF	COM OR PVT LINE RINGER CIRCUIT		EXT STA OR EXT RINGER		LOCAL RINGER		CUTOFF KEY LEADS	
	R	B	R OR R1	T, T1, OR B	R	B	R-W OR BR	G-W OR Y-BR
Of local COM or PVT line ringer and transfer of local ringer	RR	RT	CR	CT	XR	XT	RR	RT
Of local line ringer and transfer of EXT STA or EXT ringer			XR	XT	CR	CT	R*	T*
EXT STA or EXT line ringer			CR	CT			R*	T*

\*Terminals of line involved.

**TABLE L**  
**PICKUP SIGNAL CONVERSION — 6050- AND 6051-TYPE KEYS**

KEY	CONVERSION OPTIONS (NOTE)	KEY LEADS					
		(O-W) [BK]	(S-W) [BR-G]	(G-R) [BR-W]	(BL-BK) [R-BL]	(BR-BK) [G-BL]	(Y-O) [S-BR]
599A	HPPPPP	18	18	18	18	18	*
	HPSSSS	18	19	19	19	19	*
598A	PPPPPP	18	18	18	18	18	18
	SSSSSS	19	19	19	19	19	19
599B	HPPPPC	18	18	18	18	*	*
	HPSSSC	18	19	19	19	*	*

\*Not a pickup key

( ) Current color

[ ] MD color

**Note:** A pickup key (locking) may be converted to signaling (nonlocking) by removing the P-10E837 screw detail from the plunger at the key position to be converted. The keys and their associated cords are readily adaptable for individual signaling but not for common signaling.