

TELEPHONE SETS—540 AND 560 SERIES CONNECTIONS

1. GENERAL

1.01 This section shows connections for the 540-type and some 560-type telephone sets. Connections for other sets of the 560-type are found in the point sections of this series.

1.02 This section is reissued to:

- (a) Add connections for the KS-8100-type buzzer to Fig. 1.
- (b) Add Table H which shows new D24D and D34B even-count plug ended cords. They are rated "A and M only" and are used for maintenance of existing sets only. Use the D24D cord with 544B and 545B sets and the D34B cord with the 564H set.

1.03 Associate drawing color with feature color for telephone sets.

1.04 For common circuit, notes, and connection information, use foldouts on pages 8 and 9 respectively.

1.05 Fig. 1 shows buzzer connections. When 7-type buzzer is used, the ringer must be removed and buzzer mounted on a 44B bracket. The H-type ringer provides a bracket for mounting KS-8100-type buzzer without removing the ringer from the set. Fig. 2 shows station busy lamp connections. Note addition of a KS-15724, L1 diode and a strap.

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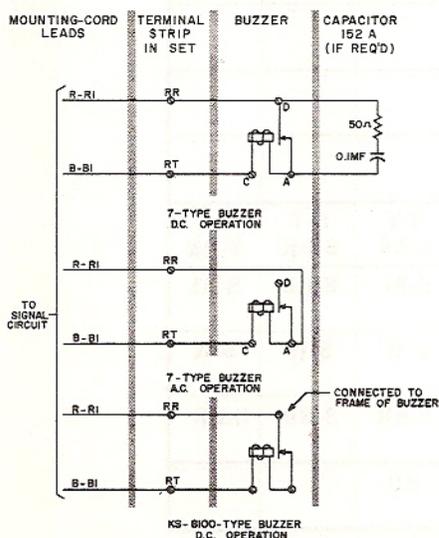


Fig. 1 — Buzzer Connections

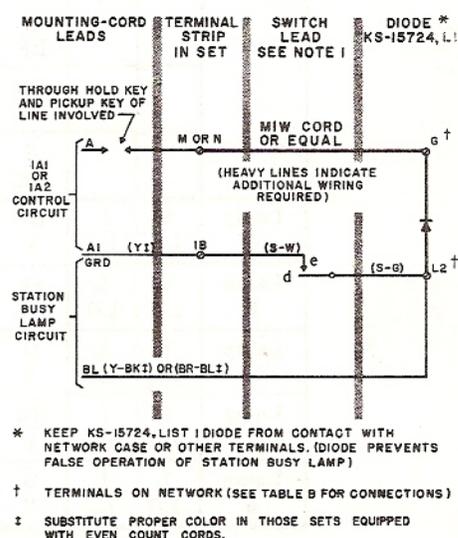


Fig. 2 — Station Busy Lamp Connections with 1A1 or 1A2 Key Telephone System

3. 540B AND 564B, C, AND D SETS

TABLE A
TERMINATIONS AT CONNECTING BLOCK

Ckt	Lead Desig		Key Cable	Conn Block		Mounting Cord Leads			
	1A	1A1 or 1A2		D Type	Term.	No.	540B	564B	564C
Line 1	R	R	BL	1	1	R	R	R	R
	T	T	W	2		G	G	G	G
Line 2	B	A1	O	4		Y	Y	Y	Y
	H	A	W	5		BK	BK	BK	BK
Line 3	R	R	G	6		BL	BL	BL	BL
	T	T	W	7		W	W	W	W
Line 4	B	—	BR	9		BR-R	BR-R	BR-R	BR-R
	H	A	W	10		BR-G	BR-G	BR-G	BR-G
Line 5	R	R	S	3		BR-Y	BR-Y	BR-Y	BR-Y
	T	T	W	8		BR-BK	BR-BK	BR-BK	BR-BK
Line 6	B	—	BL	1	2	BR-BL	BR-BL	BR-BL	BR-BL
	H	A	R	2		BR-W	BR-W	BR-W	BR-W
Line 7	R	R	O	4			R-G	R-G	R-G*
	T	T	R	5			R-Y	R-Y	R-Y*
Line 8	B	—	G	6			R-BK	R-BK	R-BK*
	H-S	A-S	R	7			R-BL	R-BL	R-BL
Line 9	R	R	BR	9			R-W		
	T	T	R	10			G-Y		
Line 10	B	—	S	3			G-BK		
	H-S	A-S	R	8			G-BL	G-BL	G-BL
Sig Grd	G	G	BL	1	3			G-W	G-W
			BK	2					
Ringer or Buz	R	R	O	4		Y-BL	Y-BL	Y-BL	Y-BL
	B	B	BK	5		Y-W	Y-W	Y-W	Y-W
			G	6					
			BK	7					
			BR	9					
			BK	10					
			S	3					
			BK	8					
Lamp 1	L	L	BL	1	4		S-Y	S-Y	S-Y
	LG	LG	Y	2†			S-BK	S-BK	S-BK
Lamp 2	L	L	O	4			S-BL	S-BL	S-BL
	LG	LG	Y	5†					
Lamp 3	L	L	G	6			S-W	S-W	S-W
	LG	LG	Y	7†					
Lamp 4	L	L	BR	9			S-BR	S-BR	S-BR*
	LG	LG	Y	10†					
Lamp 5	L	L	S	3			BR		
	LG	LG	Y	8†					

* Not used in set.

† Strap common at connecting block.

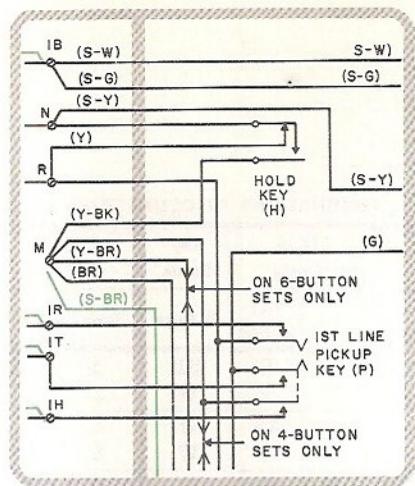


Fig. 3A - Wired for 1A

TABLE B

1A, 1A1, AND 1A2 CONVERSION

(All terminals are on terminal strip)

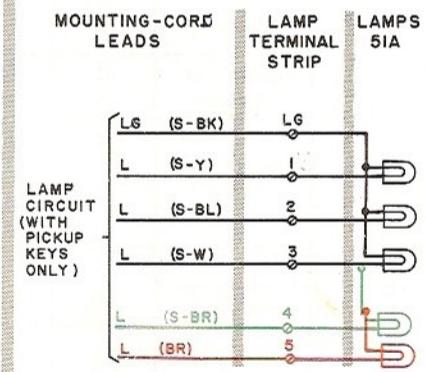
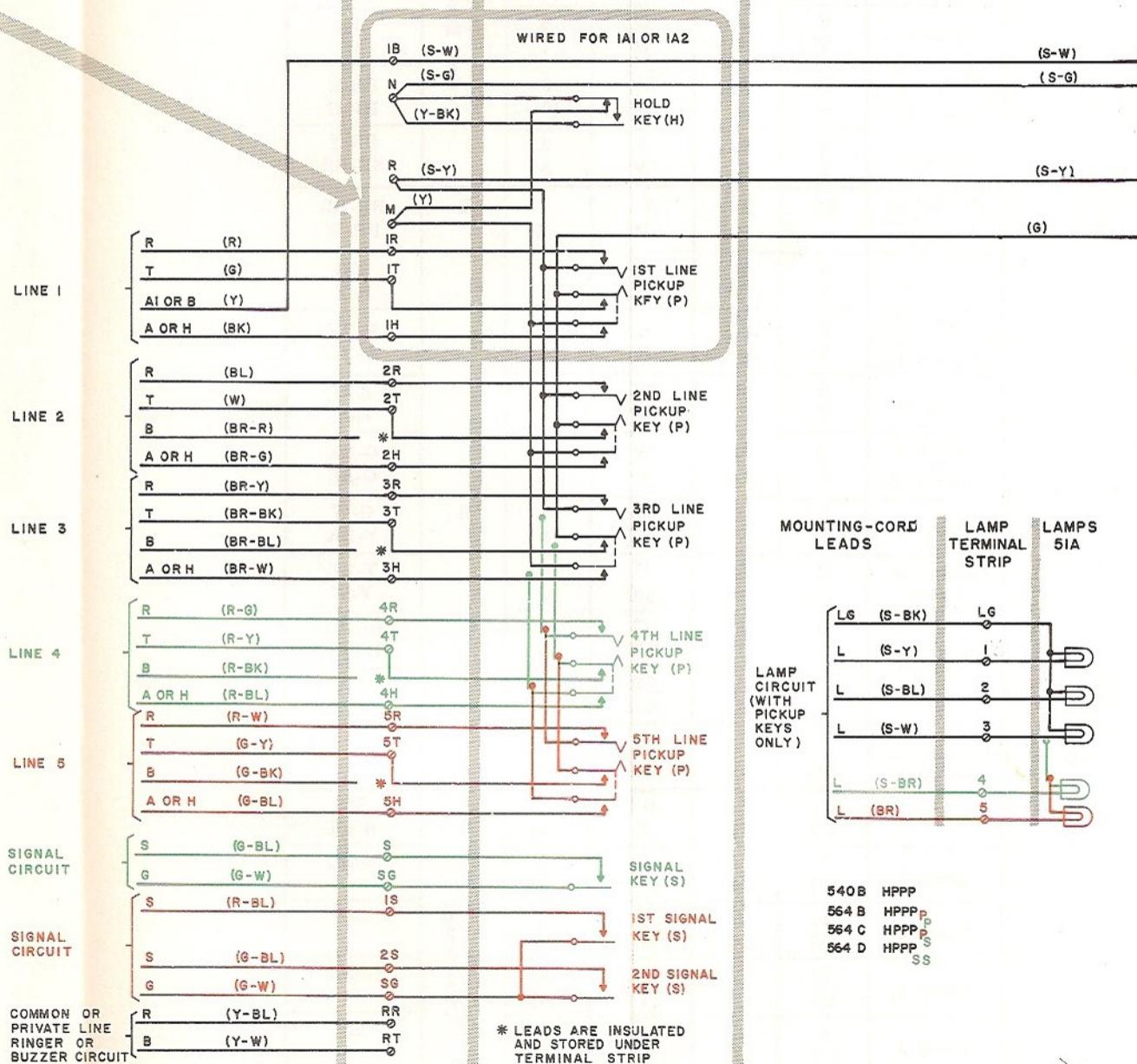
Key Tel Sys	Switch Leads		Hold Key Leads	
	S-G	S-Y	Y	Y-BK
1A	1B	N	R	M
1A1 or 1A2	N	R	M	N

MOUNTING CORD
540B-D14D, 564B-D28A
564C-D25A, 564D-D25A

TERMINAL STRIP

KEY
540B-588A, 564B-589A
564C-589D, 564D-589E

FOR SETS
EQUIPPED WITH
SPEAKERPHONE
FEATURE



540B HPPP
564 B HPPP
564 C HPPP
564 D HPPP

Fig. 3 - Key Telephone Sets

TABLE C
TERMINATIONS AT CONNECTING BLOCK FOR 565A, G

Ckt	Lead Desig		Key Cable	Conn Block		Mounting Cord Leads				
	1A	1A1	D Type	Term.	No.	565A, 565G*				
Line 1	R	R	BL	1	1	R				
	T	T	W	2		G				
	—	A1	O	4		Y				
Line 2	—	A	W	5		BK				
	R	R	G	6		BL				
	T	T	W	7		W				
Lamp 6	L	L	BR	9		Block Nearest Cord Butt	BR-R			
Line 2	—	A	W	10			BR-G			
Line 3	R	R	S	3		2	BR-Y			
	T	T	W	8			BR-BK			
Sta Bsy Lp	BL	BL	BL	1	Block Nearest Cord Butt		BR-BL			
Line 3	—	A	R	2			BR-W			
Line 4	R	R	O	4	3		R-G			
	T	T	R	5			R-Y			
Line 6 & Sig	S	A-S	G	6			Block Nearest Cord Butt	R-BK		
Line 4 & Sig	S	A-S	R	7				R-BL		
Line 5	R	R	BR	9			4	R-W		
	T	T	R	10				G-Y		
Sig Grd	G	G	S	3		Block Nearest Cord Butt		G-BK		
Line 5 & Sig	S	A-S	R	8				G-BL		
Line 6	R	R	BL	1		3		G-W		
	T	T	BK	2				Y-BK		
Ringer or Buzzer	R	R	O	4	4			Y-BL		
	B	B	BK	5				Y-W		
Excluded Ckt	R	R	G	6				Place Straps	BK-BL	
	T	T	BK	7					BK-W	
	—	†	BR	9			BL-W‡			
Lamp 6	—	A	BK	10			Block Nearest Cord Butt		S	
	—	—	—	—					—	
Lamp 6	LG	LG	S	3			Place Straps		—	
	—	—	BK	8		—				
Lamp 1	L	L	BL	1		4			S-Y	
	LG	LG	Y	2§	S-BK					
Lamp 2	L	L	O	4	Place Straps				S-BL	
	LG	LG	Y	5§				—		
Lamp 3	L	L	G	6				Place Straps	S-W	
	LG	LG	Y	7§					—	
Lamp 4	L	L	BR	9					Place Straps	S-BR
	LG	LG	Y	10§						—
Lamp 5	L	L	S	3			Place Straps			BR
	LG	LG	Y	8§						—

* See Note 11.

† See Note 10.

‡ Not used in set.

§ Strap common at connecting block.

4. 544A AND 565A, G SETS

TERMINATIONS AT CONNECTING BLOCK FOR 544A

Ckt	Lead Desig		Key Cable	Conn Block		Mtg Cord Leads				
	1A	1A1 or 1A2	D Type	Term.	No.	544A				
Line 1	R	R	BL	1	1	R				
	T	T	W	2		G				
	—	A1	O	4		Y				
Line 2	—	A	W	5		Block Nearest Cord Butt	BK			
	R	R	G	6			BL			
	T	T	W	7			W			
Line 2	—	—	BR	9			Block Nearest Cord Butt	BR-R*		
	—	A	W	10				BR-G		
Line 3	R	R	S	3				Block Nearest Cord Butt	BR-Y	
	T	T	W	8					BR-BK	
Line 3	—	—	BL	1	2				BR-BL*	
	—	A	R	2					BR-W	
Line 4 and Sig	R	R	O	4					Block Nearest Cord Butt	R-G
	T	T	R	5		R-Y				
Line 4 and Sig	—	—	G	6		Block Nearest Cord Butt				R-BK*
	S	A-S	R	7						R-BL
Line 4 and Sig	—	—	BR	9			Block Nearest Cord Butt			—
	—	—	R	10						—
Line 4 and Sig	—	—	S	3				Block Nearest Cord Butt		—
	—	—	R	8						—
Sig Grd	G	G	BL	1	3					G-W
	—	—	BK	2						—
Ringer or Buz	R	R	O	4					Block Nearest Cord Butt	Y-BL
	B	B	BK	5						Y-W
Ringer or Buz	—	—	G	6		Block Nearest Cord Butt				—
	—	—	BK	7						—
Ringer or Buz	—	—	BR	9			Block Nearest Cord Butt			—
	—	—	BK	10						—
Ringer or Buz	—	—	S	3				Block Nearest Cord Butt		—
	—	—	BK	8						—
Lamp 1	L	L	BL	1	4					S-Y
	LG	LG	Y	2†						S-BK
Lamp 2	L	L	O	4					Place Straps	S-BL
	LG	LG	Y	5†						—
Lamp 3	L	L	G	6		Place Straps				S-W
	LG	LG	Y	7†						—
Lamp 4	L	L	BR	9			Place Straps			S-BR
	LG	LG	Y	10†						—
Lamp 4	—	—	S	8				Place Straps		—
	—	—	Y	3†						—

* Not used in set.

† Strap common at connecting block.

←Table C

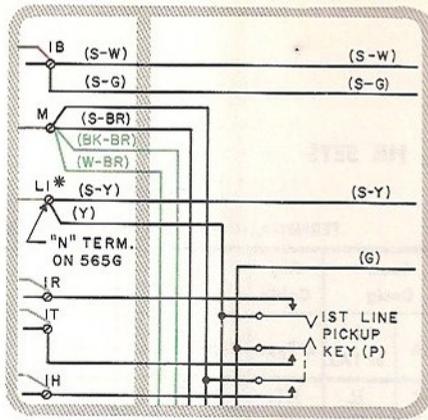


Fig. 4A - Wired for 1A

TABLE E
PICKUP-SIGNAL KEY CONVERSION
(See Notes 6 and 7)

Key Tel Set	Convertible Key Options	Key Leads		
		S-BR	BK-BR	W-BR
544A	PPPP	M		
	PPPS	SG		
565A and 565G	PPPPP	M	M	M
	PPPPS	M	M	SG
	PPPPSS	M	SG	SG
	PPSSS	SG	SG	SG

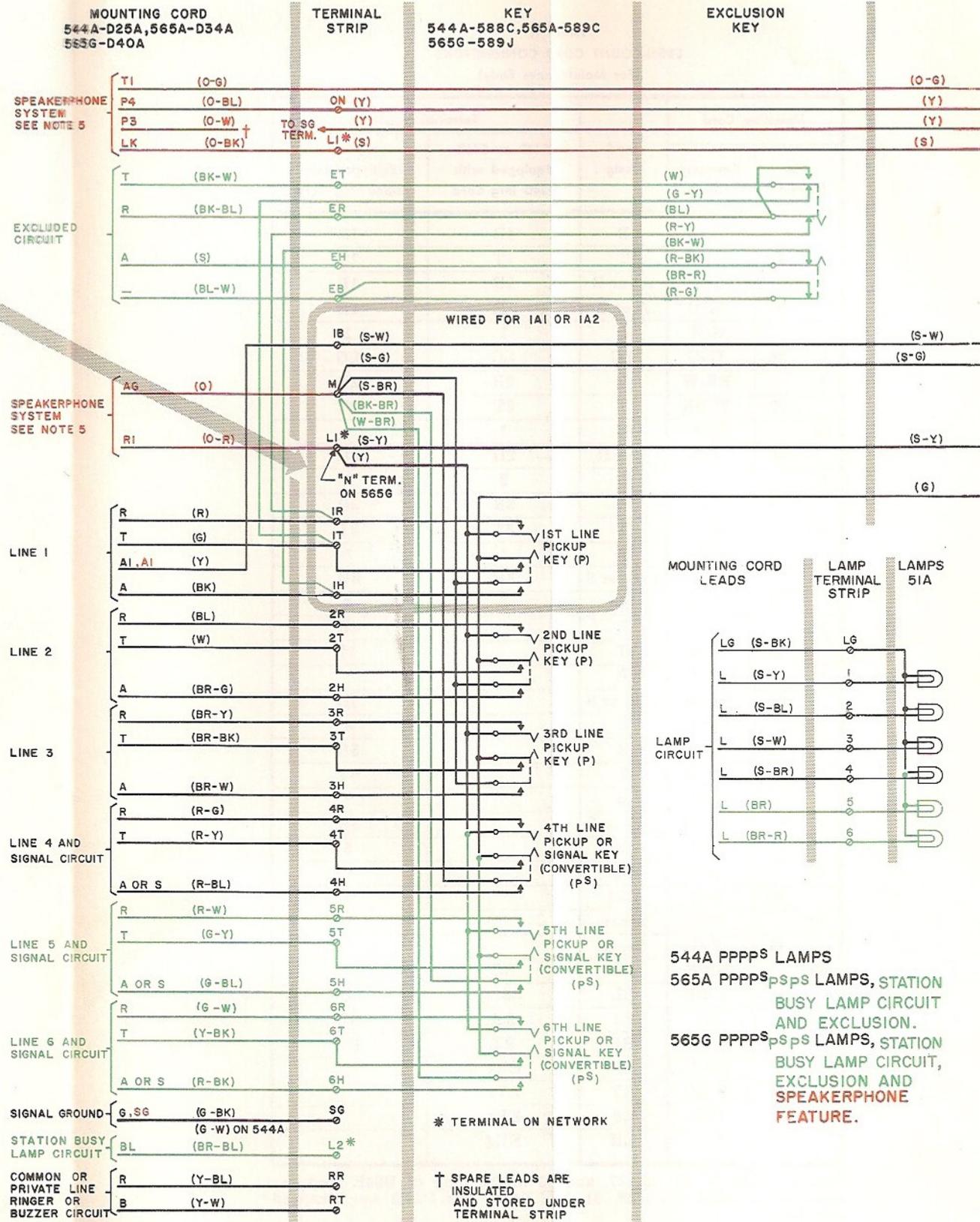
TABLE F
1A, 1A1, or 1A2 CONVERSION

Sta Bsy Lp Ckt	Key Tel Sys	Switch Leads		See Fig. 2	
		S-W	S-G	M1W Cord	Diode KS-15724, L1
No	1A	1B	1B		
	1A1 or 1A2	1B	M		
Yes	1A	SG	L2		
	1A1 or 1A2	1B	L2	G to M	G to L2

TABLE G
LINE EXCLUSION
(See Note 10)

Exclusion	Key Tel Sys	Exclusion Key Leads			
		R-Y	G-Y	BR-R	BK-W
On Any Line	1A	R*	T*	EB	EH
	1A1 or 1A2	R*	T*	EB	H*

* Terminal of line involved.



544A PPPPS LAMPS
565A PPPPS_pSPSS LAMPS, STATION BUSY LAMP CIRCUIT AND EXCLUSION.
565G PPPPS_pSPSS LAMPS, STATION BUSY LAMP CIRCUIT, EXCLUSION AND SPEAKERPHONE FEATURE.

Fig. 4 - Key Telephone Sets

Tables E, F, and G

TABLE H
EVEN-COUNT CORD CONNECTIONS
(For Maintenance Only)

Mounting Cord		Lead Desig	Terminal in Set	
Pin Numbers	Conductor Colors		544B or 545B Equipped with D24D Mtg Cord	564H Equipped with D34B Mtg Cord
1	BL-W	R	1R	1R
26	W-BL	T	1T	1T
2	O-W	A1 or B	1B	1B
27	W-O	A or H	1H	1H
3	G-W	L	1	1
28	W-G	LG	LG	LG
4	BR-W	R	2R	2R
29	W-BR	T	2T	2T
5	S-W	B	*	*
30	W-S	A or H	2H	2H
6	BL-R	L	2	2
7	O-R	R	3R	3R
32	R-O	T	3T	3T
8	G-R	B	*	*
33	R-G	A, H, or S	3H	3H
9	BR-R	L	3	3
10	S-R	R		4R
35	R-S	T		4T
11	BL-BK	B		*
36	BK-BL	A, H, or S		4H
12	O-BK	L		4
13	G-BK	R		5R
38	BK-G	T		5T
14	BR-BK	B		*
39	BK-BR	A, H, or S		5H
15	S-BK	L		5
17	O-Y	BZ		*
42	Y-O	BZ1		*
18	G-Y	Spare		*
43	Y-G	Spare		*
19	BR-Y	SG	SG	SG
44	Y-BR	BL	L2†‡	L2†
20	S-Y	R1	RR	RR
45	Y-S	B1	RT	RT
21	BL-V	ER	ER†	
46	V-BL	ET	ET†	
22	O-V	EB	EB†	
47	V-O	EH	EH†	

Note 1: Pins 28, 31, 34, 37, and 40 in the plug of D34B cord are strapped together. Pins 28, 31, and 34 in the D24D are strapped together.

* Insulated and stored.

† Terminal on network.

‡ Exclusion or busy lamp features are not provided in 544B set. However, terminate cords as shown.

5. 544B, 545B, 564H, 565B, HB SETS

TABLE I
TERMINATIONS AT CONNECTING BLOCK

Ckt	Lead Desig		Key Cable	Conn Block		Mounting Cord Leads			
	1A	1A1 or 1A2		D Type	Term.	No.	544B	545B	564H
Line 1	R	R	BL	1	1	R	R	R	R
	T	T	W	2		G	G	G	G
	B	A1	O	4		Y	Y	Y	Y
H	A	W	5	BK		BK	BK	BK	
Line 2	R	R	G	6		BL	BL	BL	BL
	T	T	W	7		W	W	W	W
Line 2 and Sig	B	—	BR	9		BR-R	BR-R	BR-R	BR-R
	H-S	A-S	W	10		BR-G	BR-G	BR-G	BR-G
Line 3	R	R	S	3		BR-Y	BR-Y	BR-Y	BR-Y
	T	T	W	8		BR-BK	BR-BK	BR-BK	BR-BK
Line 3 and Sig	B	—	BL	1	BR-BL	BR-BL	BR-BL	BR-BL	
	H-S	A-S	R	2	BR-W	BR-W	BR-W	BR-W	
Line 4	R	R	O	4			R-G	R-G	
	T	T	R	5			R-Y	R-Y	
	B	—	G	6			R-BK	R-BK	
Line 4 and Sig	H-S	A-S	R	7			R-BL	R-BL	
	R	R	BR	9			R-W	R-W	
Line 5	T	T	R	10			G-Y	G-Y	
	B	—	S	3			G-BK	G-BK	
Line 5 and Sig	H-S	A-S	R	8			G-BL	G-BL	
	Sig Grd	G	G	BL	1	3	G-W	G-W	G-W
Sta Bsy Lp	BL	BL	BK	2			Y-BK	Y-BK	
Ringer or Buz	R	R	O	4		Y-BL	Y-BL	Y-BL	
	B	B	BK	5		Y-W	Y-W	Y-W	
Excluded Ckt	R	R	G	6			BK-BL	BK-BL	
	T	T	BK	7			BK-W	BK-W	
	B	†	BR	9			BL-W	BL-W	
	H	A	BK	10			SL	SL	
			S	3					
		BK	8						
Lamp 1	L	L	BL	1	4	S-Y	S-Y	S-Y	S-Y
	LG	LG	Y	2‡		S-BK	S-BK	S-BK	S-BK
Lamp 2	L	L	O	4		S-BL	S-BL	S-BL	S-BL
	LG	LG	Y	5‡					
Lamp 3	L	L	G	6		S-W	S-W	S-W	S-W
	LG	LG	Y	7‡					
Lamp 4	L	L	BR	9				S-BR	S-BR
	LG	LG	Y	10‡					
Lamp 5	L	L	S	3				BR	BR
	LG	LG	Y	8‡					

* See Note 11.

† See Note 10.

‡ Strap common at connecting block.

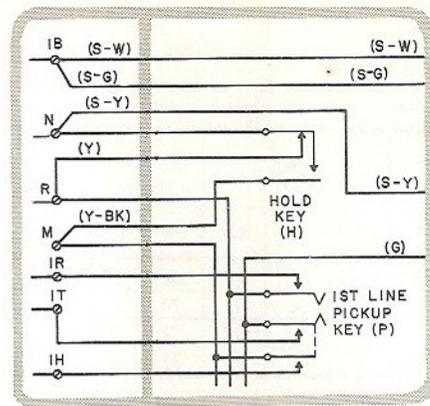


Fig. 5A - Wired for 1A

TABLE J

PICKUP-SIGNAL KEY CONVERSION
(See Notes 6 and 7)

Key Tel Set	Convertible Key Options	Key Leads			
		BR	Y-BR	S-BR	BK-BR
544B or 545B	HPPP	M			
	HPPS	SG			
564H, 565B, 565HB	HPPPPP	M	M	M	X
	HPPPS	M	M	M	SG
	HPPSS	M	M	SG	X
	HPPSSS	X	M	SG	X
	HPPP*P*S*	X	M	5H	SG
HPP*P*P*S*	X	X	5H	SG	

* See Note 8.

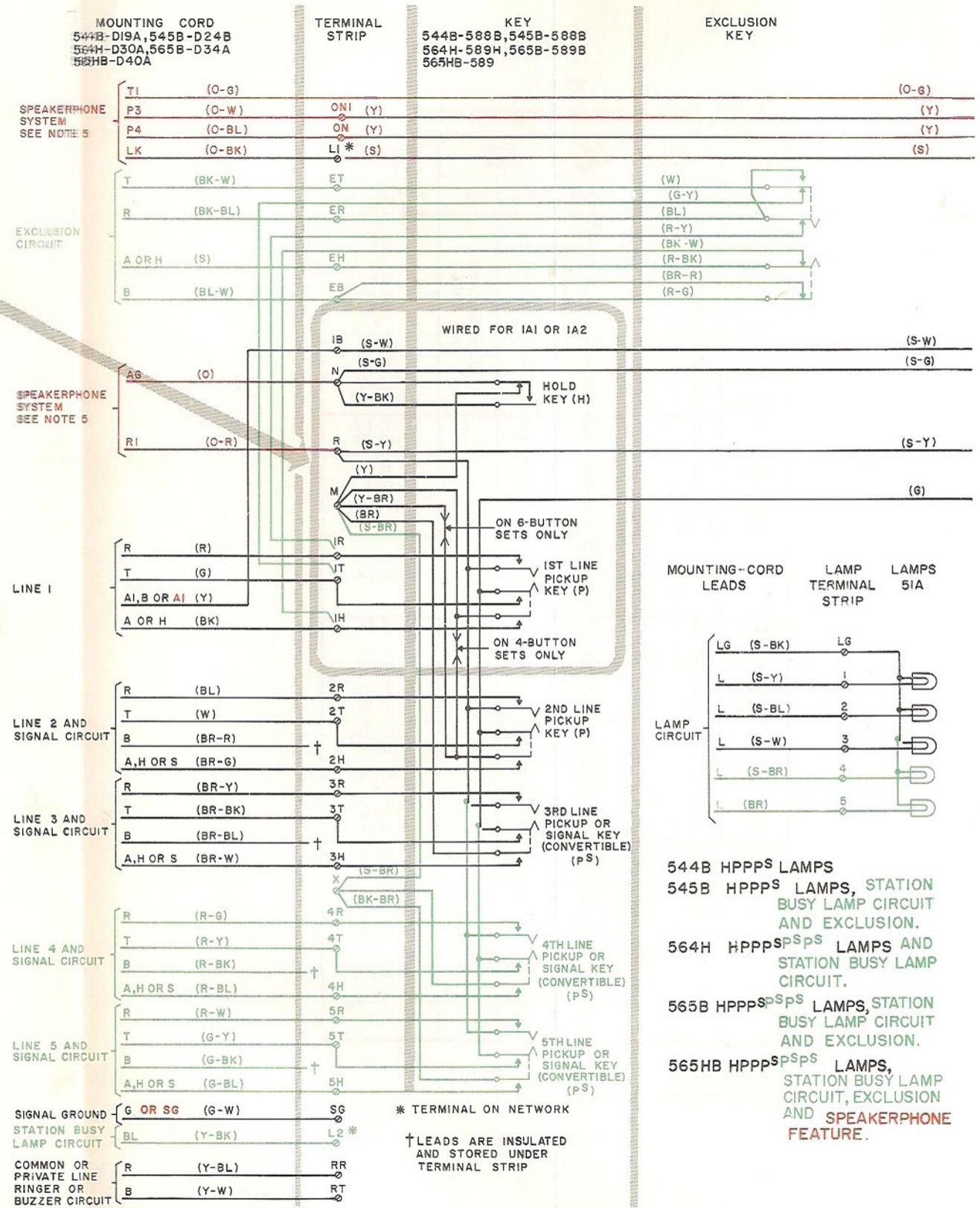
TABLE K
1A, 1A1, or 1A2 CONVERSION
(R terminal on terminal strip)

Sta Bsy Lp Ckt	Key Tel Sys	Switch Leads			Hold Key Leads		See Fig. 2	
		S-W	S-G	S-Y	Y	Y-BK	M1W Cord	Diode KS-15724, L1
No	1A	1B	1B	N	R	M		
	1A1 or 1A2	1B	N	R	M	N		
Yes	1A	SG	L2	N	R	M		
	1A1 or 1A2	1B	L2	R	M	N	G to N	G to L2

TABLE L
LINE EXCLUSION
(See Note 10)

Exclusion	Key Tel Sys	Exclusion Key Leads			
		R-Y	G-Y	BR-R	BK-W
On Any Line	1A	R*	T*	1B†	H*
	1A1 or 1A2	R*	T*	EB	H*

* Terminal of line involved.
† See Note 9.



MOUNTING-CORD LEADS

LAMP CIRCUIT

544B HPPPS LAMPS
545B HPPPS LAMPS, STATION BUSY LAMP CIRCUIT AND EXCLUSION.
564H HPPPS^{SpS} LAMPS AND STATION BUSY LAMP CIRCUIT.
565B HPPPS^{SpS} LAMPS, STATION BUSY LAMP CIRCUIT AND EXCLUSION.
565HB HPPPS^{SpS} LAMPS, STATION BUSY LAMP CIRCUIT, EXCLUSION AND SPEAKERPHONE FEATURE.

Fig. 5 - Key Telephone Sets

6. 565E AND L SETS

TABLE M
TERMINATIONS AT CONNECTING BLOCK

Ckt	Lead Desig		Key Cable	Conn Block		Mounting Cord Leads				
	1A	1A1 or 1A2	D Type	Term.	No.	565E, 565L*				
Line 1	R	R	BL	1	1	R				
	T	T	W	2		G				
Line 2	B	A1	O	4		Block Nearest Cord Butt	Y			
	H	A	W	5			BK			
Line 3	R	R	G	6			2	BL		
	T	T	W	7				W		
Line 4 and Sig	B	—	BR	9				3	BR-R	
	H	A	W	10					BR-G	
Sig Grd	R	R	S	3					4	BR-Y
	T	T	W	8						BR-BK
Sta Bsy Lp	B	—	BL	1	Place Straps					BR-BL
	H	A	R	2						BR-W
Ringer or Buz	R	R	O	4		5				R-G
	B	B	BK	5						R-Y
Excluded Ckt	B	—	G	6			6			R-BK
	H	A	R	7						R-BL
Cutoff Ckt	R	R	BR	9				7		
	T	T	BK	10						
Lamp 1	R	R	S	3					8	
	T	T	BK	8						
Lamp 2	L	L	BL	1	9					G-W
	LG	LG	Y	2†						Y-BK
Lamp 3	L	L	O	4		10				Y-BL
	LG	LG	Y	5‡						Y-W
Lamp 4	L	L	G	6			11			BK-BL
	LG	LG	Y	7‡						BK-W
Lamp 5	L	L	BR	9				12		BL-W
	LG	LG	Y	10‡						S
Lamp 6	L	L	S	3					13	S-R
	LG	LG	Y	8‡						S-G
Lamp 7	L	L	S	3	14					S-Y
	LG	LG	Y	8‡						S-BK
Lamp 8	L	L	O	4		15				S-BL
	LG	LG	Y	5‡						S-W
Lamp 9	L	L	G	6			16			S-W
	LG	LG	Y	7‡						S-BR
Lamp 10	L	L	BR	9				17		
	LG	LG	Y	10‡						
Lamp 11	L	L	S	3					18	
	LG	LG	Y	8‡						

* See Note 11.

† See Note 10.

‡ Strap common at connecting block.

PG-8A

TABLE N

1A, 1A1, or 1A2 CONVERSION
(R terminal on terminal strip)

Sta Bsy Lp Ckt	Key Tel Sys	Switch Leads			Hold Key Leads		See Fig. 2	
		S-W	S-G	S-Y	Y	Y-BK	M1W Cord	Diode KS-15724, L1
No	1A	1B	1B	N	R	M		
	1A1, 1A2	1B	N	R	M	N		
Yes	1A	SG	L2	N	R	M		
	1A1, 1A2	1B	L2	R	M	N	G to N	G to L2

TABLE O
PICKUP-SIGNAL KEY CONVERSION
(See Notes 6 and 7)

Convertible Key Options	Key Lead 5L-BR
HPPPPC	M
HPPPSC	SG

TABLE P
LINE EXCLUSION
(See Note 10)

Exclusion	Key Tel Sys	Exclusion Key Leads			
		R-Y	G-Y	BR-R	BK-W
On Any Line	1A	R*	T*	1B†	H*
	1A1, 1A2	R*	T*	EB	H*

* Terminal of line involved.

† See Note 9.

←Table M

TABLE S
RINGER OR BUZZER CONNECTIONS
(RR terminal on terminal strip)

Option	Ringer Leads				Buzzer Leads		
	R	BK	S	S-R	R	BK	
Bridged Ringer on any Line*			K	A			
Common or Private Line Ringer or Buzzer (See Note 3)	RR	RT	With Capacitor	K	A		
			Without Capacitor	A	A	RR	RT
Ringer Permanently Silenced†			K	A			

* Connect cable pair associated with the ringer leads to the desired line at distribution terminal or connect the mounting cord conductors associated with the ringer to the desired line at connecting block.

† Insulate and store cable conductor (associated with ringer) at distribution terminal or insulate and store mounting cord conductors (associated with the ringer) at connecting block when ringer is not used.

TABLE T
SET RINGER OR BUZZER CUT OFF BY EXCLUSION KEY
(RR terminal on terminal strip)

Option	Ringer Leads				Buzzer Leads		Exclusion Key Leads				
	R	BK	S	S-R	R	BK	R-Y	G-Y	BR-R	BK-W	
Bridged Ringer on any Line	ER	ET	K	A			R*	T*	EB	EH	
Common or Private Line Ringer or Buzzer (See Note 3)	ER	ET	With Capacitor	K	A			RR	RT	EB	EH
			Without Capacitor	A	A	ER	ET	RR	RT	EB	EH

* Terminal of line involved.

Note 1: S-W and S-G leads are reversed at switch assembly on key telephone sets 565G, H, and L.

Note 2: For manual service, replace dial with apparatus blank and transfer green key lead from F terminal to RR terminal on network.

Note 3: Connect ringer without capacitor on all common, private, or intercommunicating lines, unless otherwise specified.

Note 4: All ringers are factory wired; red lead is connected to RR terminal and black lead to RT terminal.

Note 5: Refer to section covering speakerphone system connections for key telephone set connections.

Note 6: Refer to section covering telephone sets 540, 560 types, identification and assembly of parts for mechanical conversion of keys.

Note 7: When using convertible keys for signaling, use S lead of keys involved for signal circuit and G lead for common signal ground.

Note 8: These pickup key options are used on private or intercommunicating lines with the signal key common to each line. The signal key will operate the signal circuit of each line when associated pickup key is depressed. Use S lead on 2nd, 3rd, or 4th pickup key as required, and G lead for common signal ground.

Note 9: When other than Line 1 is excluded, remove yellow mounting cord conductor from terminal 1B and insulate. Connect balance lead cord conductor of line involved to terminal 1B. Remove O-W lead in sets equipped with even-count cords.

Note 10: To advance A1 lead to excluded station, place strap at connecting block from terminal 4 of 1st block to terminal 9 of 3rd block.

Note 11: Individually insulate and store spare mounting cord leads at connecting block when speakerphone feature is not required.

Note 12: 540 and 560 series telephone sets are equipped with G-type hand sets. On sets equipped with 425B network, the handset may be replaced by a handset containing an amplifier such as the G6AR hand set for customers with impaired hearing or the G7AR for customers with impaired speech.