

SERVICE

1565HK TELEPHONE SETS

1. GENERAL

1.01 This section provides maintenance and connection information for the 1565HK (MD) telephone sets. Maintenance information was formerly found in Section 502-525-200. Connection information was formerly found in Section 502-525-426 which is hereby canceled.

2. MAINTENANCE

Replaceable Components

2.01 Field replaceable items are listed under ordering guide in the appropriate Reference section in Division 502.

Loose Card Retainers

2.02 The P-25E803 and P-269561 are nonadjustable card retainers. The P-25E785 (MD) card retainer is replaced by P-25E803.

2.03 If P-25E785 (MD) card retainer becomes so loose on the faceplate that the number card or designation strip slips, they can be tightened as follows:

- (1) Remove faceplate from set.
- (2) Remove card retainer from faceplate.
- (3) Bend the four arms of the retainer so that more pressure will be applied to the number card and designation strip. The bends should be made approximately 1/2-inch in from the tabs on the ends of the arms and in the opposite direction from the factory bent tabs.
- (4) Install the card retainer on the faceplate and insert the number card and designation strip.
- (5) Install faceplate on telephone set.

Note: If adjusting the arms of the retainer does not result in sufficient holding power, replace the card retainer.

Housing

2.04 When removing or replacing housing, guide lower front of housing over pushbuttons. On sets equipped with exclusion, pull exclusion plunger up to its operated position before removing housing. Plunger should also be in upper position when replacing housing. With housing in place, operate plunger several times to insure proper operation.

Lamps and Pushbuttons

2.05 Replace cracked pushbuttons or collar assemblies. Plastic parts may be cleaned with a water dampened cloth. **DO NOT USE SOLVENTS.** Lamps should be near associated pushbutton with contact surfaces aligned for maximum illumination.

2.06 To replace defective lamp:

- (1) Remove button and collar assembly.
- (2) Gently pry lamp from socket with KS-6320 orange stick.
- (3) Replace lamp, making sure that contact surface on lamp and socket meet.
- (4) Replace button and collar assembly.

Key—636-Type

2.07 Key contacts may be cleaned using a 265C tool, or adjusted using a 363 tool. When adjusting springs:

- (a) There should be a minimum clearance of 1/64-inch between contact springs and those parts of the key which do not make contact.

- (b) Normally open contacts should make with perceptible follow on locking keys before key plunger reaches locked position.

2.08 Replace key if the following requirements cannot be met:

- (a) Any locking plunger, when depressed, should on its downstroke release any previously locked plunger.
- (b) A locking key plunger should not release during downstroke of hold button but should release on the upstroke of the hold button.
- (c) When any nonlocking or converted locking plunger is released from its operated position, it should return with a snap to the unoperated position.

Dial

2.09 The 25Y3 (MD) or 25B3 (MD) dial will function only when the green lead is positive (+) and the orange-black lead is negative (-). If no tones are heard when a dial button is depressed, check line polarity.

2.10 Certain switching functions may require installation of a polarity guard to ensure proper battery polarity to the dial. Install guard as outlined in Reference section in Division 502.



Do not attempt repair of TOUCH-TONE® dials in the field.

Handsets

2.11 Where conditions warrant, the G3AR handset supplied with these sets can be replaced with other types as follows:

- For impaired hearing—G6-type
- For weak speech—G7A
- For noisy location—G8-type

Refer to Division 501 for connections of these handsets.

Faceplates

2.12 Releasing the faceplate clip permits removal of the faceplate. A P-29E574 charcoal faceplate was originally furnished with these sets. Later manufactured sets are equipped with a P-84G300 color-coordinated faceplate. Sets equipped with a 25Y3 (MD) dial can be converted from 10- to 12-button TOUCH-TONE operation by converting the dial and installing a P-86D700 color-coordinated, 12-opening faceplate. See 2.13 for dial conversion information. The P-84G300 and P-86D700 faceplates require the last two digits of the P-number to be changed to the coordinated color suffix.

10- to 12-Button Dial Conversion

2.13 A kit of parts consisting of two buttons, two collars, and two compression springs is necessary to convert the 25Y3 (MD) 10-button TOUCH-TONE dial to a 12-button dial. D-180115 Kit of Parts is used for nonilluminated dials.

2.14 Install special service buttons as follows:

- (1) Remove adhesive plates covering the two special service button openings in the dial face.
- (2) Assemble a button and collar by slipping the collar over the gray end of the button so that the tangs of the collar face the white end of the button. The collar and button must be assembled so that tangs on collar match slots in dial opening. The tab on the button should be on the right side when looking at the face of the button.
- (3) Insert spring into hole in back of button.



Exercise care in handling button, collar, and spring assembly to prevent losing spring.

- (4) Hold the button, collar, and spring assembly between the thumb and forefinger and insert the assembly, spring first, straight into the dial coverplate cavity making sure the two tabs extending from the collar fit into the two recesses at the top and left sides of the cavity. The assembly must be inserted far enough so that the tangs on the collar snap and lock around

the projections in the sides of the dial coverplate cavities to hold the button assembly firmly.

- (5) The "*" button should be installed on the left side of the dial and the "#" button on the right side of the dial.

2.15 Remove special service buttons by inserting a KS-16750L2 releaser between the two tangs located on each side of the button assembly, starting on the side toward the "0" button first. Pry the assembly gently upwards exercising caution to prevent the compression spring from causing the button and collar to fly outward when released. Do not reuse the collar.

3. CONNECTIONS

3.01 These sets are factory-wired for 1A1 or 1A2 key telephone system (KTS) and 3-type speakerphone. The hold key position can be illuminated but the lamp is not furnished with the set.

3.02 These sets can be used with 1A KTS by modifying as shown in Fig. 3.

3.03 If speakerphone control unit is located near the telephone set, the necessary mounting cord conductors can be extended to the control unit by using a 149-type adapter or 66E-type connecting block. If control unit is located at key equipment, extend leads through a A25B connector cable or inside wiring cable. Speakerphone connections for the 1565-type (MD) telephone sets are shown in Division 512.

3.04 When a 1565HK (MD) telephone set is not used as a speakerphone set and is multiplied with any other set capable of furnishing speakerphone feature, speakerphone leads must be disconnected, insulated, and stored either at the telephone set (Note 4, Fig. 1), or at the multiplying point. If not disconnected, the speakerphone leads will provide

a common connection between the circuits of the multiplied telephone sets.

3.05 Exclusion can be added to these sets by installing a D-179935 Kit of Parts which must be ordered separately. Exclusion key can also be used to cutoff a ringer in set. Connect as shown in Table A.

3.06 A polarity guard is used when specified by local instruction for end-to-end signaling installation when battery and ground reversals may be encountered.

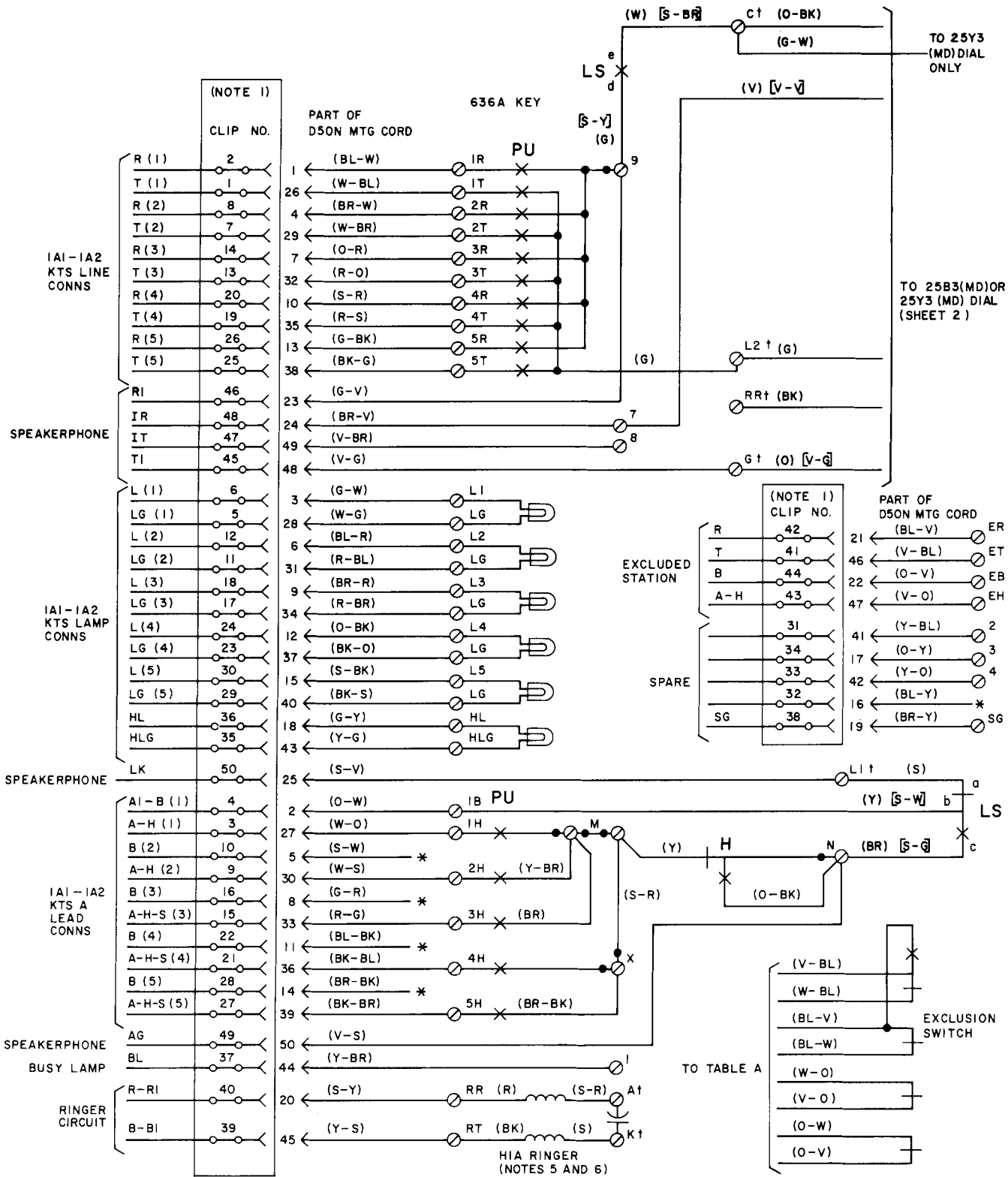
3.07 When polarity guard is required in these sets, install a P-90D052 guard assembly. Polarity guard cannot be used with sets having 25B3 (MD) dial if speakerphone is furnished. Connect guard as shown in Table C.

3.08 When additional terminating points are required for auxiliary services such as buzzers, bells, etc., a P-25E962 terminal strip assembly is available. Order separately and install as shown in Reference section in Division 502.

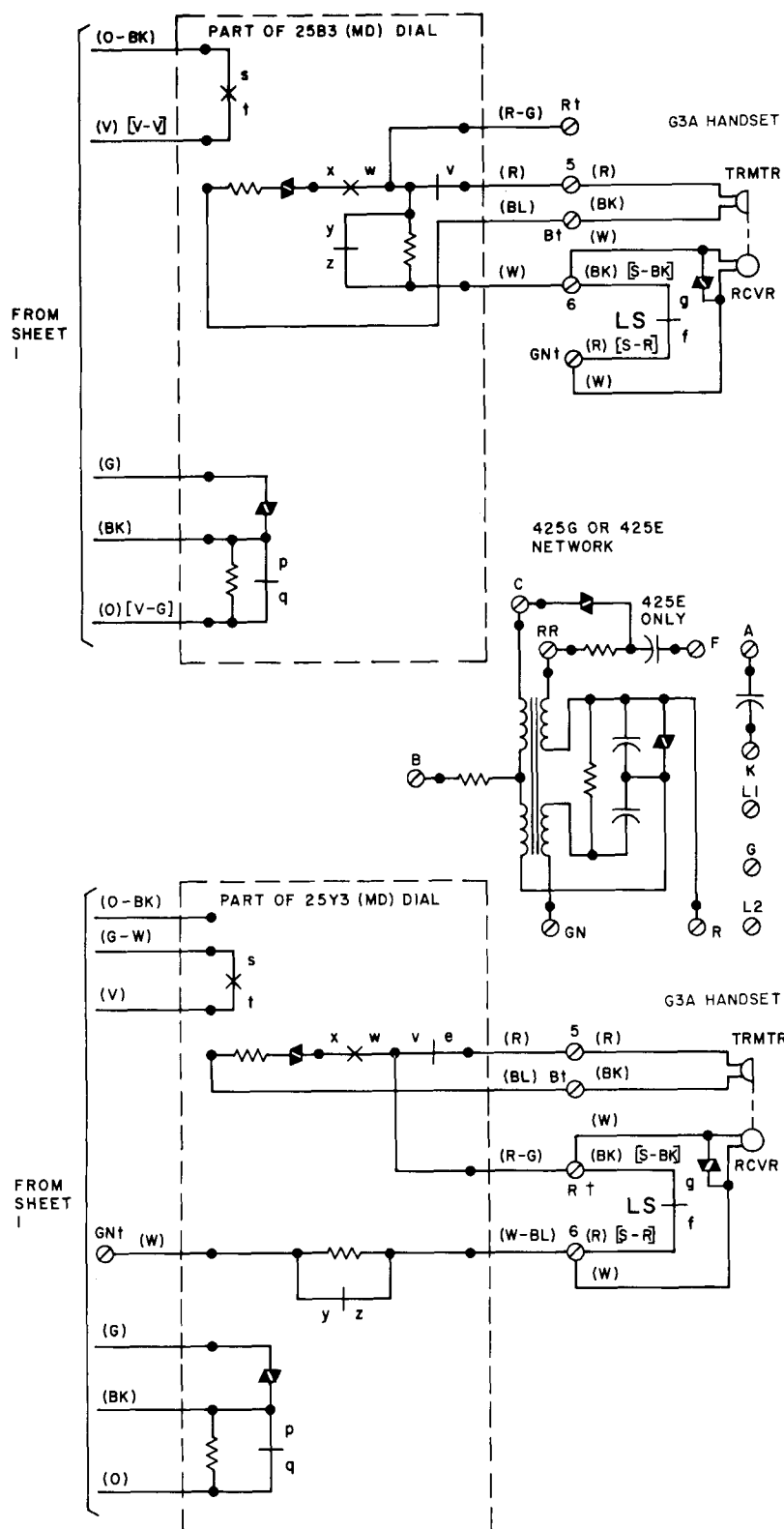
3.09 All convertible key positions are supplied as pickup keys. To convert from pickup (locking) to signaling (nonlocking) remove the P-12A892 screw detail from key position involved. Make necessary wiring changes as shown in Table B.

3.10 Common signaling can be provided as shown in Table B. Common signaling requires the use of a line switch controlled ground. The signal lead should terminate at a signal relay and not directly to a buzzer.

3.11 Sets are factory-wired with ringer leads connected to terminals RR and RT. Provision is made for ringer, buzzer, or both. If both ringer and buzzer are required, use spare leads or exclusion leads (if this feature is not provided). When power failure feature is provided in the KTS, ringer must be wired with capacitor in circuit.



**Fig. 1—1565HK Telephone Set, Factory-Wired for 1A1 or 1A2 KTS and 3-Type Speakerphone, Connections
(Sheet 1 of 2)**



NOTES:

1. 66E-TYPE CONNECTING BLOCK SHOWN. MOUNTING CORD MAY BE PLUGGED DIRECTLY INTO CONNECTOR CABLE. COLORS AND PIN NUMBERS FOR CONNECTOR CABLE ARE SAME AS MOUNTING CORD.
2. AUXILIARY BUZZER MAY BE INSTALLED. USE SPARE LEADS AND TERMINALS TO CONNECT TO EQUIPMENT.
3. IF EXCLUSION FEATURE IS ADDED, CONNECT SWITCH LEADS PER TABLE A.
4. DISCONNECT T1, R1, IT, IR, AG, AND LK LEADS WHEN SETS NOT EQUIPPED WITH SPEAKERPHONE ARE MULTIPLIED. DISCONNECT EITHER AT THE SET OR MULTIPLYING POINT.
5. FOR BRIDGED RINGER ON ANY LINE CONNECT (R) RINGER LEAD TO RING AND (BK) RINGER LEAD TO TIP OF LINE INVOLVED. CONNECT (S) RINGER LEAD TO K AND (S-R) RINGER LEAD TO A OF NETWORK.
6. IF CAPACITOR IS NOT REQUIRED IN RINGER CIRCUIT, MOVE (S) RINGER LEAD TO A OF NETWORK.
7. TO SILENCE RINGER PERMANENTLY CONNECT (R) AND (S-R) RINGER LEADS TO A OF NETWORK (BK) AND (S) RINGER LEADS TO K OF NETWORK.
8. LINE SWITCH SEQUENCE - bc MAKES FIRST bc MAKES BEFORE ab BREAKS de MAKES SECOND fg BREAKS LAST

PU - PICKUP KEY

H - HOLD KEY

LS - LINE SWITCH

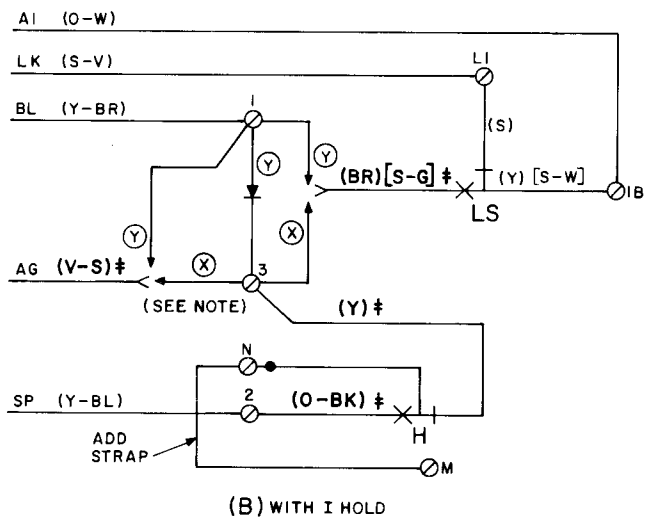
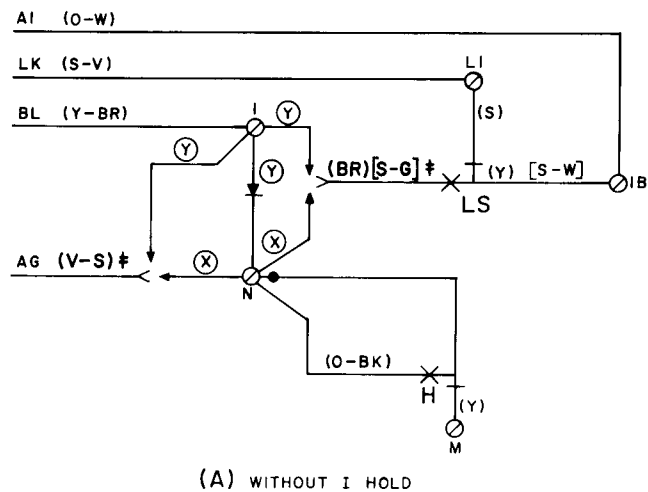
* - INSULATED AND STORED

† - NETWORK TERMINAL - UNDESIGNATED TERMINALS ARE ON KEY TERMINAL BOARD.

() CURRENT COLOR CODE

[] MD COLOR CODE

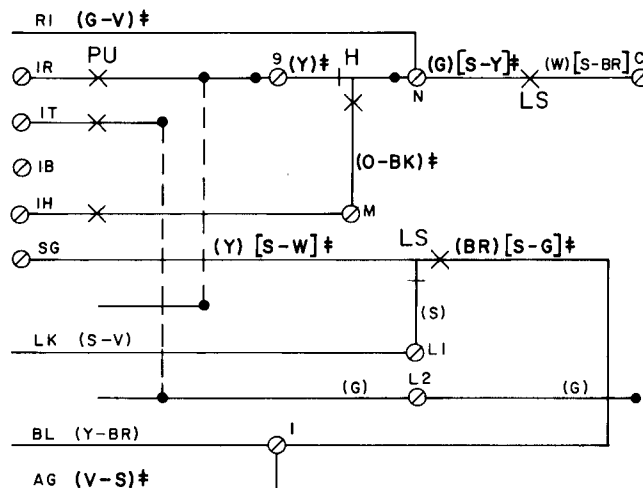
Fig. 1—1565HK Telephone Set, Factory-Wired for 1A1 or 1A2 KTS and 3-Type Speakerphone, Connections (Sheet 2 of 2)



NOTE:
REMOVE (O-Y) LEAD FROM
KEY TERMINAL 3, INSULATE
AND STORE.

LS—LINE SWITCH
H—HOLD KEY
X WITHOUT BUSY LAMP
Y WITH BUSY LAMP
() CURRENT COLOR CODE
[] MD COLOR CODE
‡ LEADS INVOLVED IN
MODIFICATION

Fig. 2—1A1 or 1A2 KTS—I Hold and/or Station Busy
Lamp Modification



LS— LINE SWITCH
H — HOLD KEY
() CURRENT COLOR CODE
[] MD COLOR CODE
‡ LEADS INVOLVED IN
MODIFICATION

Fig. 3—1565HK Telephone Set Converted for 1A
KTS—with or without Busy Lamp or
Speakerphone

TABLE A
EXCLUSION KEY CONNECTIONS

EXCLUSION	KEY TEL SYS	EXCLUSION KEY LEADS							
		BL-W	W-BL	O-W	W-O	V-BL	BL-V	V-O	O-V
On Any Line	1A	R*	T*	1B†	H*	ET	ER	EH	EB
	1A1 or 1A2	R*	T*	EB	H*	ET	ER	EH	EB

* Terminal of line involved.

† When other than line 1 is excluded on 1A KTS, disconnect, insulate, and store O-W mounting cord conductor from terminal 1B; connect balance lead conductor from line involved to 1B.

TABLE B
PICKUP-SIGNAL KEY CONVERSION

KEY TEL SET	CONVERSION OPTIONS	636A KEY LEADS			
		Y-BR	BR	S-R	BR-BK
1565HK	HPPPPP (Note)	M	M	M	X
	HPPPPS	M	M	M	SG
	HPPPSS	M	M	SG	X
	HPPSSS	M	X	SG	X
	HPPPP*S*	M	M	5H	†
	HPPP*P*S*	M	X	5H	†
	HPP*P*P*S*	X	X	5H	†

* 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.

† Connect to the same terminal as (BR) [S-G] line switch lead depending on option and KTS required.

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

TABLE C
POLARITY GUARD CONNECTIONS
(P-90D052 GUARD ASSEMBLY) SEE NOTES

LEAD		REMOVE FROM	CONNECT TO	
		NET.	NET.	POLARITY GUARD
Dial	BK G-W*	RR C		T S
Line Switch	(W) [S-BR]	C		S
Polarity Guard	G W		RR C	

* Sets with 25Y3 (MD) dial only.

() Current color code.

[] MD color code.

Notes 1: Polarity guard cannot be added to sets having 25B3 (MD) dial and connected for speakerphone.

2: Polarity guard mounts on right side of dial mounting bracket using the dial mounting screw.