

SERVICE

563HB TELEPHONE SETS

1. GENERAL

1.01 This section provides maintenance and connection information for the 563HB telephone set equipped with headset jacks and rotary dial for use with optional operators headset. Connection information was formerly found in Section 502-525-403 which will be canceled.

2. MAINTENANCE

Replaceable Components

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

2.02 Maintenance of handsets, dials, and ringers is outlined in sections covering these components.

Removing and Replacing Housing

2.03 Sets without exclusion:

- (a) To remove housing, loosen captive screws in base of set. Lift housing up and toward front of set.
- (2) To replace housing, guide lower front of housing over pushbuttons, align housing with base of set, and gently press housing into place. Tighten captive screws in base of set.

2.04 Sets with exclusion:

- (1) To remove housing, pull up exclusion plunger to its operated position, loosen captive screws in base of set, and lift housing up and toward the front of set.
- (2) To replace housing, guide lower front portion of housing over pushbuttons, align housing with base of set, and gently press housing in place.

(3) Depress exclusion plunger. With slight pressure it should snap into its unoperated position.

(4) Operate exclusion plunger several times to insure proper operation. Tighten captive screws in base of set.

Exclusion Switch

2.05 Perform no field maintenance on exclusion switch and plunger other than cleaning contacts with a 265C tool.

2.06 Replace set or exclusion switch assembly if any of the following exclusion switch requirements cannot be met:

- (a) Exclusion plunger should remain in the operated position when pulled up to the full extent of its stroke.
- (b) The plunger should return to the fully depressed position when handset is replaced.
- (c) With housing removed, normally closed contacts of the exclusion switch should have perceptible follow when operated manually.
- (d) With housing removed, open contacts of the exclusion switch should have minimum separation of 1/64-inch; gauge by eye.

Mounting Cords

2.07 Cords designed for use with 636A key assemblies, feature slotted wafer sections for each line appearance. This allows easy rearrangement of lines to pickup buttons.



No field maintenance should be performed on the plug of plug-ended mounting cords.

Lamps and Pushbuttons

2.08 Replace cracked pushbuttons or collars. Remove accumulated dirt or film from lamps, collars, and pushbuttons with a water dampened cloth. **DO NOT USE SOLVENTS OF ANY KIND.** If cleaning does not correct binding of pushbuttons, replace button and collar assembly.

2.09 To replace defective lamp:

- (1) Lift lamp from socket with KS-6320 orange stick.
- (2) Align lamp contact surfaces when placing new lamp in socket.

2.10 The button and collar assembly should be carefully aligned to avoid interference with removal or replacement of housing.

636-Type Keys

2.11 Field maintenance of these keys consists of cleaning contacts with a 265C tool or adjusting with a 363 tool.

2.12 Contact follow and separation is obtained by using a 363 tool at a point adjacent to contact spring pile-up. When adjusting springs:

- (a) There should be a minimum spring clearance of 1/64-inch between contact springs and those parts of the key which do not make contact with springs.
- (b) Normally open contacts should make with perceptible follow on locking keys before key plunger assumes locked position.

2.13 Replace set if the following requirements cannot be met:

- (a) When depressed locking plunger should, on its downstroke, release any previously locked plunger.
- (b) When any pushbutton plunger is released from its operated position, it should return with a snap to its nonoperated position.

(c) An operated key plunger should not release during downstroke of hold button.

(d) An operated key plunger should release from its operated position on the upstroke of the hold button.

241A Amplifier

2.14 Used in telephone sets with headset jacks to amplify the output of the headset transmitter. **NO FIELD MAINTENANCE SHOULD BE ATTEMPTED ON 241A AMPLIFIER.** See Note 10, Fig 1.

2.15 Replace a 241A amplifier if it is suspected of being defective (as evidenced by poor or no transmission).

Handsets

2.16 When special conditions exist the G1AR or G3AR may be replaced by the following:

- (a) G6AR (MD) or G6B handset for impaired hearing.
- (b) G7AR handset for weak speech.
- (c) G8A or G8B handset for noisy locations.

3. CONNECTIONS

3.01 These sets are factory-wired for use with 1A1 or 1A2 key telephone system line circuits; they can be modified for use with 1A key telephone systems as shown in Fig. 4 and 5. The sets are equipped with a 241-type amplifier providing headset operation. A 52- or 53-type headset must be ordered separately.

3.02 These sets can be modified to provide station busy lamp indication when the handset is off-hook or the headset key is in the ON position with or without a line key button depressed (Fig. 2 through 5). Set design does not provide for installation of the optional P-90D033 station busy lamp circuit per SD-69580-01.

3.03 Line exclusion feature can be provided by installation of a D-179935 Kit of Parts (ordered separately).

3.04 The set ringer may be connected as a bridged ringer on any line if desired (Note 5, Fig. 1).

3.05 A KS-8109L2 (AC or DC) or KS-20419L1 (10 volt AC only) buzzer (ordered separately) may be installed for use as an auxiliary or common audible signal (Note 3, Fig. 1).

TABLE A
CONNECTIONS FOR LINE EXCLUSION KEY

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

* Connect to terminal of line being excluded.

† When other than Line 1 is excluded in a 1A key telephone system, remove the O-W mounting cord conductor from terminal 1B, insulate and store. Connect balance lead cord conductor of line involved to terminal 1B.

Note: To allow access to and operation of the exclusion switch plunger during headset operation, handset must be lifted and left off of its cradle. Returning handset to on-hook position cancels exclusion.

TABLE B
PICKUP-SIGNAL KEY CONVERSION

CONVERTIBLE KEY OPTIONS	KEY LEADS			
	Y-BR	BR	S-R	BR-BK
HPPPPP	M	M	M	X
HPPPPS	M	M	M	SG
HPPPSS	M	M	SG	X
HPPSSS	M	X	SG	X
HPPP*P*S*	M	X	5H	N†
HPP*P*P*S*	X	X	5H	N†

* These pickup key options use line switch or headset switch controlled ground through the common signal key and the S lead of the selected line to operate a common signal relay.

† For 1A KTS connect to terminal 1 (current production) or terminal 4 or 6 (early production). Obtain common signal ground through (Y) line switch lead connected to SG terminal.

Note 1: All convertible key positions are arranged in the factory as pickup positions. To convert a key position from pickup (locking) to signaling (nonlocking), remove the P-12A892 screw detail from plunger at the key position to be converted. Make necessary connection changes as shown in Table B. To convert a key position from nonlocking to locking, insert P-12A892 screw detail.

Note 2: When keys are converted for signaling, the S lead of key involved provides the signal circuit and SG lead provides the common signal ground.

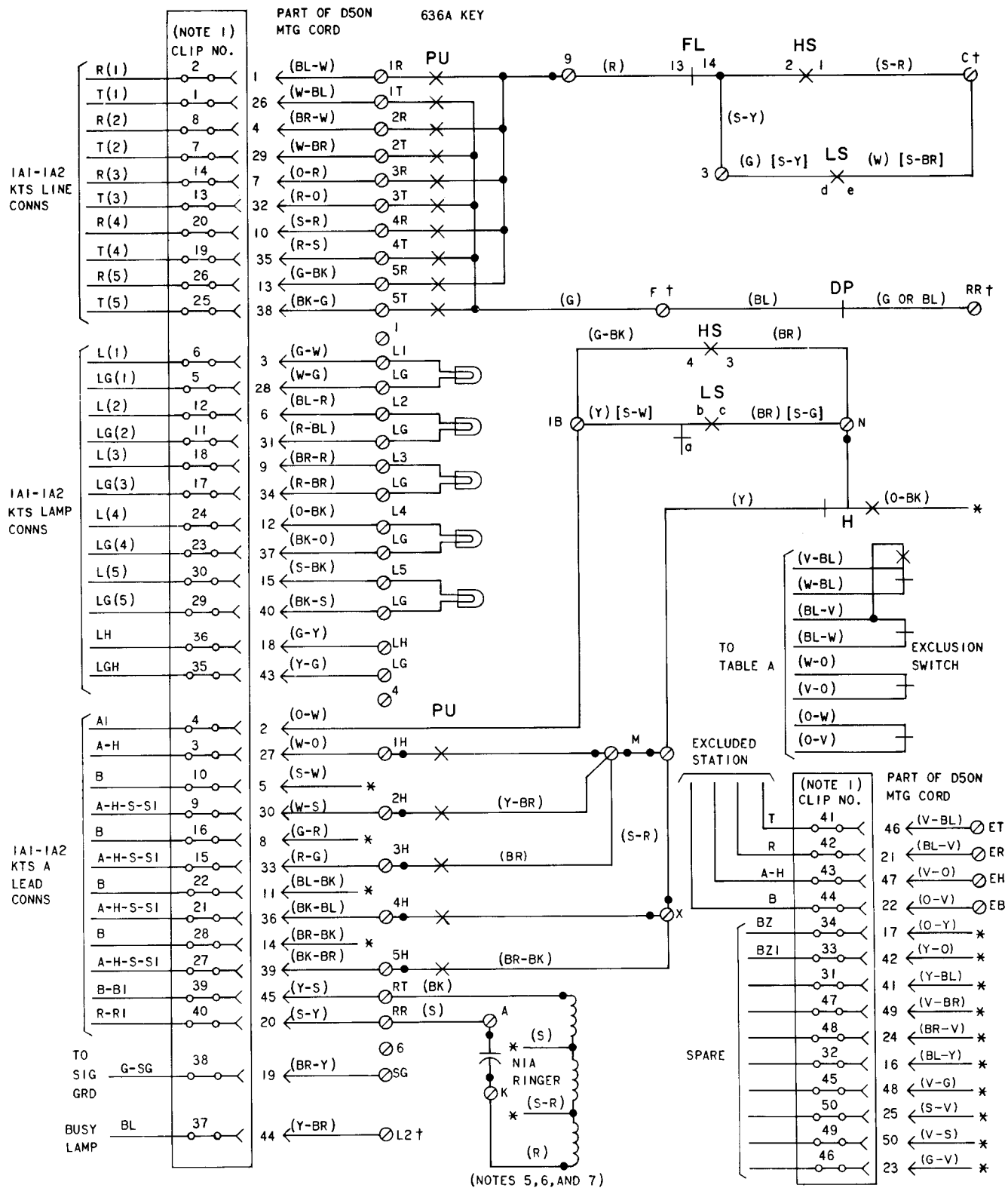
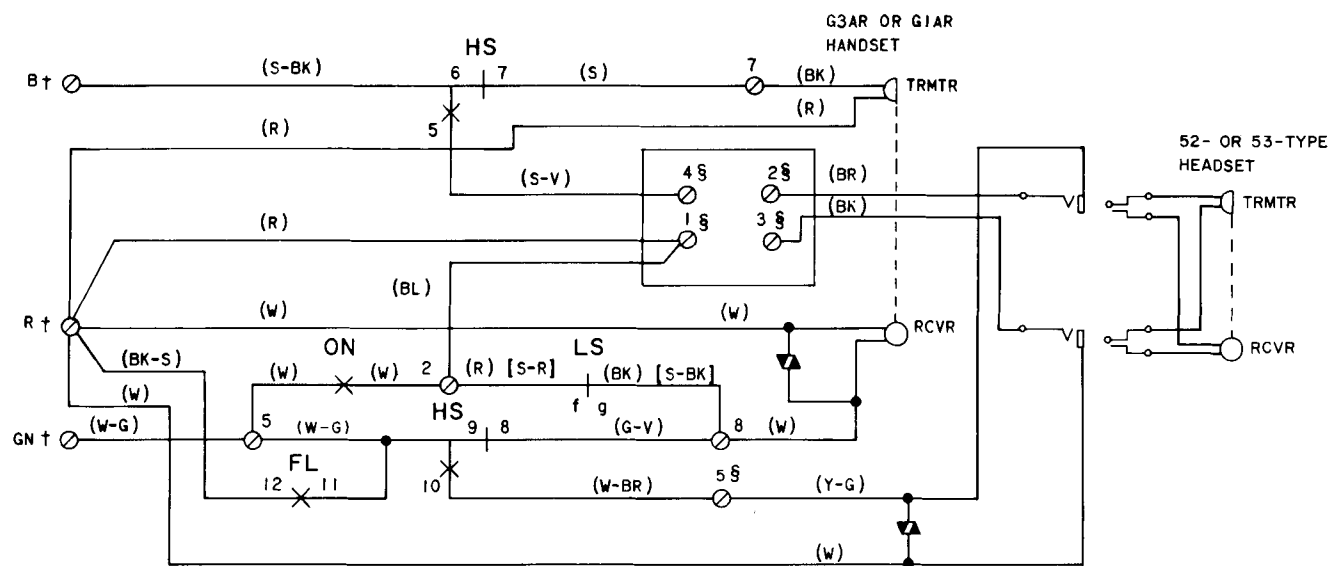
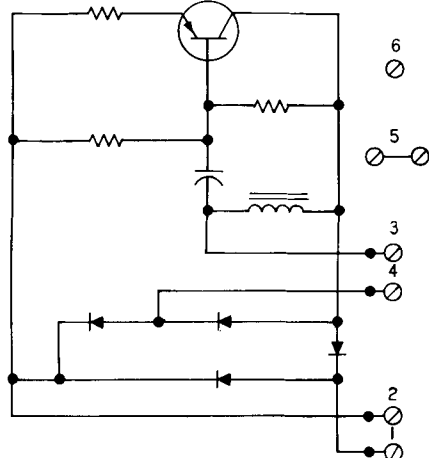
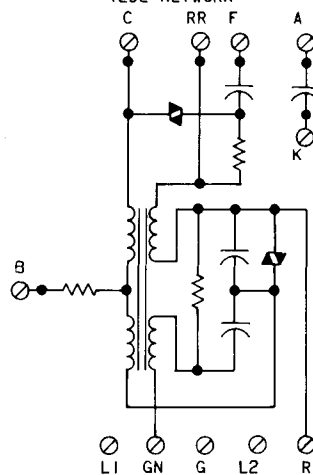


Fig. 1—563HB Telephone Set, Connections (Sheet 1 of 2)

241A AMPLIFIER SERIES II
(NOTE 10)

425E NETWORK

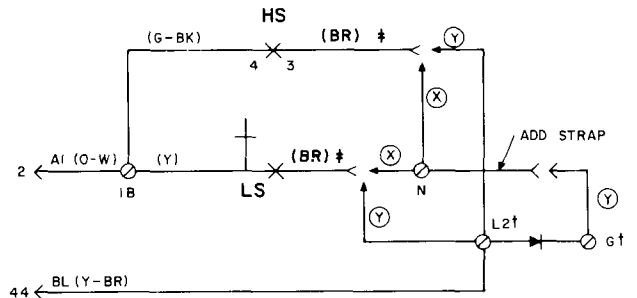


- PU - PICKUP KEY
 H - HOLD KEY
 LS - LINE SWITCH
 DP - DIAL PULSE CONTACTS
 ON - DIAL OFF-NORMAL CONTACTS
 HS - HEADSET ON-OFF KEY
 FL - FLASH KEY
 * INSULATED AND STORED
 † NETWORK TERMINAL-UNDESIGNATED
 TERMINALS ARE ON KEY TERMINAL
 BOARD
 § 241A AMPLIFIER TERMINAL
 () CURRENT COLOR CODE
 [] MD COLOR CODE

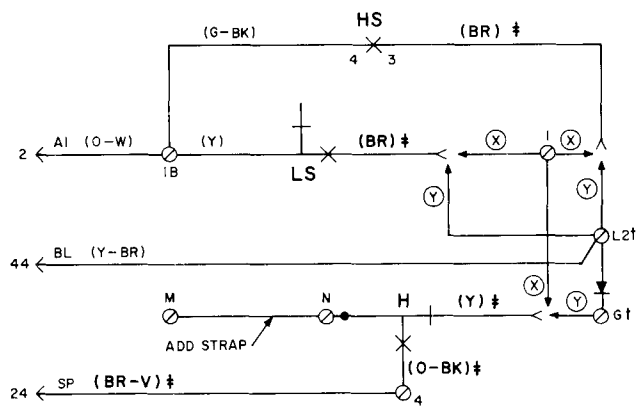
NOTES:

1. 66E-TYPE CONNECTING BLOCK SHOWN. MOUNTING CORD MAY BE PLUGGED DIRECTLY INTO CONNECTOR CABLE. CORD AND PIN NUMBERS FOR CONNECTOR CABLE ARE SAME AS MOUNTING CORD.
2. IN EARLY PRODUCTION SETS THE LINE SWITCH (BR) [S-G] AND 637A KEY (BR) LEADS WERE CONNECTED TO TERMINAL 6. TERMINAL 6 WAS CONNECTED TO TERMINAL N BY (O) STRAP LEAD.
3. AUXILIARY BUZZER MAY BE INSTALLED. USE SPARE LEADS AND TERMINALS TO CONNECT TO EQUIPMENT.
4. IF EXCLUSION FEATURE IS ADDED, CONNECT SWITCH LEADS PER TABLE A.
5. FOR BRIDGED RINGER ON ANY LINE CONNECT (R) RINGER LEAD TO K OF NETWORK AND (BK) RINGER LEAD TO TIP OF LINE INVOLVED. CONNECT (S) STRAP FROM A OF NETWORK TO RING OF LINE INVOLVED.
6. IF CAPACITOR IS NOT REQUIRED IN RINGER CIRCUIT, MOVE (R) RINGER LEAD TO A OF THE NETWORK.
7. TO SILENCE RINGER PERMANENTLY CONNECT (R) AND (BK) RINGER LEADS TO K OF NETWORK.
8. LINE SWITCH SEQUENCE - bc MAKES FIRST
de MAKES SECOND
fg BREAKS LAST
9. 637A KEY SEQUENCE - 3 AND 4 MAKES FIRST
1 AND 2 MAKES SECOND
10. IN EARLY PRODUCTION SETS, 241A AMPLIFIER MUST BE REPLACED WITH A SERIES II AMPLIFIER IF EXCLUSION FEATURE IS ADDED.

Fig. 1—563HB Telephone Set, Connections (Sheet 2 of 2)



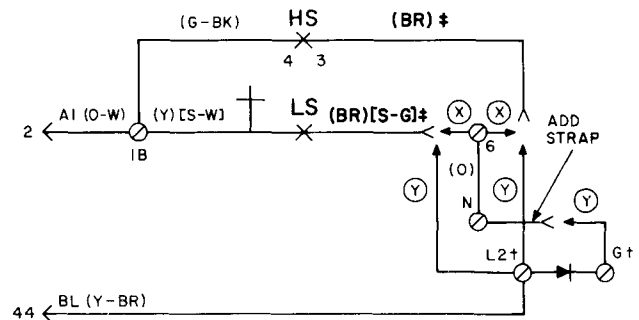
A. WITHOUT I HOLD



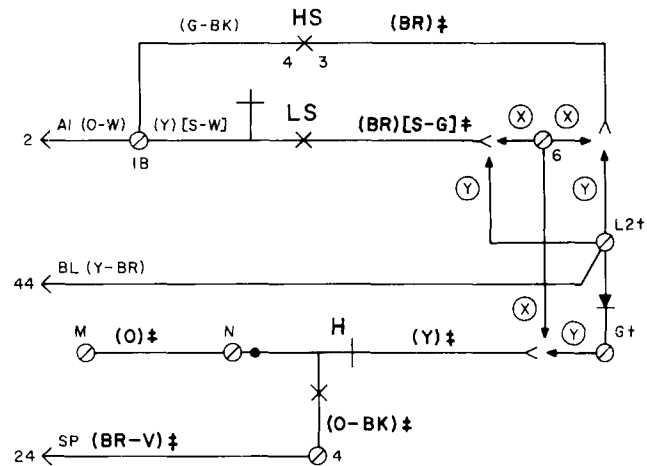
B. WITH I HOLD

- H—HOLD KEY
 HS—HEADSET ON-OFF KEY
 LS—LINE SWITCH
 (X) WITHOUT BUSY LAMP
 (Y) WITH BUSY LAMP, USE KS-15724, LI DIODE
 † NETWORK TERMINAL—UNDESIGNATED
 TERMINALS ARE ON KEY TERMINAL BOARD
 ‡ LEADS INVOLVED IN MODIFICATION

Fig. 2—Modifications for Station Busy Lamp and I Hold Feature for 1A1 or 1A2 Key Telephone System—Current Production Sets



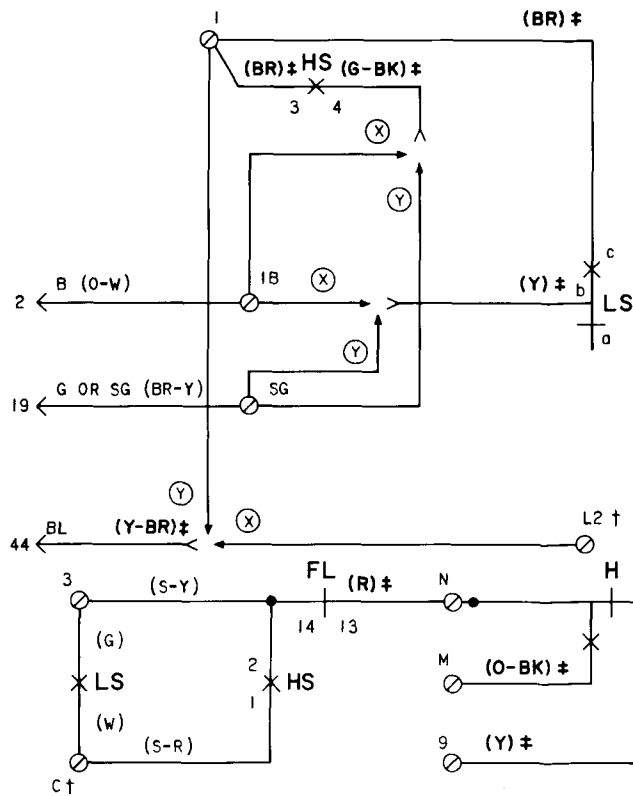
A. WITHOUT I HOLD



B. WITH I HOLD

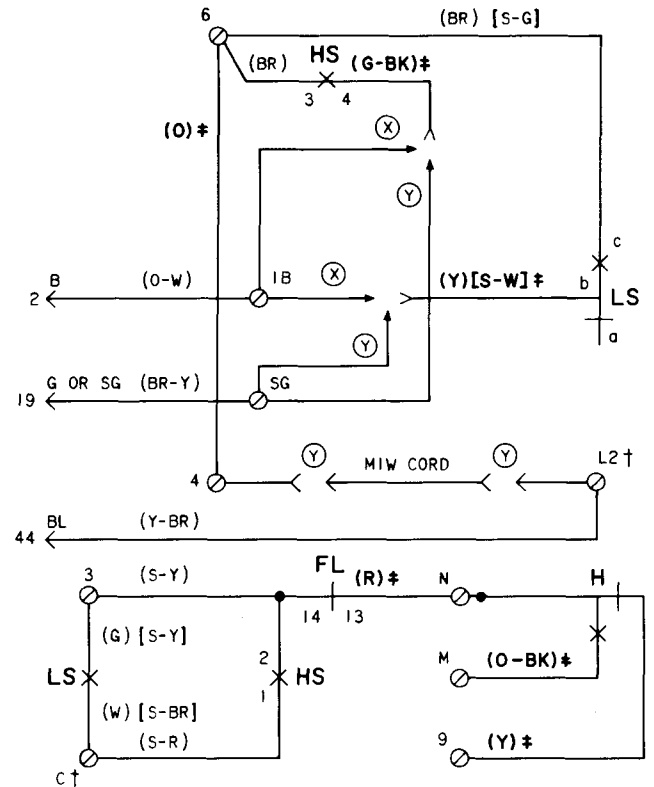
- H—HOLD KEY
 HS—HEADSET ON-OFF KEY
 LS—LINE SWITCH
 (X) WITHOUT BUSY LAMP
 (Y) WITH BUSY LAMP, USE KS-15724, LI DIODE
 † NETWORK TERMINAL—UNDESIGNATED
 TERMINALS ARE ON KEY TERMINAL BOARD.
 ‡ LEADS INVOLVED IN MODIFICATION
 () —CURRENT COLOR CODE
 [] —MD COLOR CODE

Fig. 3—Modifications for Station Busy Lamp and I Hold Feature for 1A1 or 1A2 Key Telephone System—Early Production Sets [Equipped with (O) Strap Between Terminal 6 and N]



H—HOLD KEY
 FL—FLASH KEY
 HS—HEADSET ON-OFF KEY
 LS—LINE SWITCH
 (X)—WITHOUT BUSY LAMP
 (Y)—WITH BUSY LAMP
 †—NETWORK TERMINAL, UNDESIGNATED
 TERMINALS ARE ON KEY TERMINAL BOARD
 ‡—LEADS INVOLVED IN MODIFICATION

Fig. 4—563HB Telephone Set—Current Production Sets Wired for 1A Key Telephone System, With or Without Busy Lamp



H—HOLD KEY
 FL—FLASH KEY
 HS—HEADSET ON-OFF KEY
 LS—LINE SWITCH
 (X)—WITHOUT BUSY LAMP
 (Y)—WITH BUSY LAMP
 †—NETWORK TERMINAL, UNDESIGNATED TERMINALS
 ARE ON KEY TERMINAL BOARD.
 ‡—LEADS INVOLVED IN MODIFICATION.
 ()—CURRENT COLOR CODE
 []—MD COLOR CODE

Fig. 5—563HB Telephone Set—Early Production Sets [Equipment With (0) Strap Between Terminal 6 and N] Wired for 1A Key Telephone System, With or Without Busy Lamp