

## REFERENCE

### 2712B AND 2712BM TELEPHONE SETS

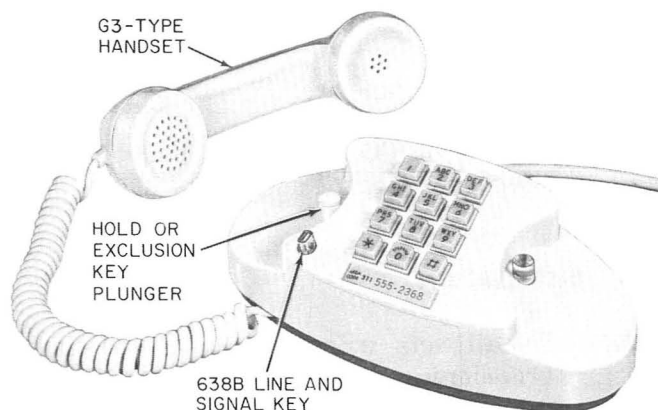


Fig. 1—2712B Telephone Set

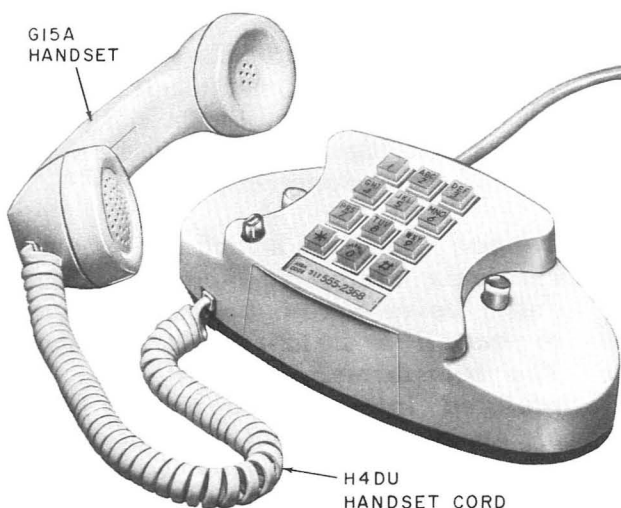


Fig. 2—2712BM Telephone Set

#### 1. GENERAL

1.01 This section contains identification, installation, maintenance, and connection information for the 2712B and 2712BM telephone sets.

1.02 This section is reissued to:

- Add D14S-87 mounting cord
- Revise Fig. 3 and 5
- Revise Tables A, B, C, D, and E
- Add Fig. 4, 8, 10, 12, and 14
- Add Tables F, G, and H.

#### 2. IDENTIFICATION

##### Ordering Guide

##### 2.01 Telephone Set:

Set, Telephone, 2712B-\*

Set, Telephone, 2712BM-\* (Modular)

##### 2.02 Replaceable Components:

- Cord, Mounting, D14L or D14R-87 (2712B)
- ♦Cord, Mounting, D14S-87 (2712BM)♦
- Cord, Handset, H4CJ-\* (2712B)
- Cord, Handset, H4DU-\* (2712BM)
- Dial, 35E4A or 35AD4A
- Key, 638E (line and signal key)
- KS-19240L2 or L3 Dial Lamp Socket †
- KS-19387L1 Dial Lamp
- 812558039 (P-25E803) Number Card Retainer
- 812655728 (P-26E572) Exclusion Key (Hold)

#### NOTICE

Not for use or disclosure outside the  
Bell System except under written agreement

- Housing and Plunger Assembly, Table A
- Blank, Apparatus, 124A‡
- Set, Hand, G15A\* (2712BM)
- Set, Hand, G3-Type\*

\* Add color suffix, Table A.

† Available as D-179919 Kit of Parts (containing dial lamp, socket, and installation instructions)

‡ Available in gray (-61) only.

**2.03 Associated Apparatus or Equipment (ordered separately):**

- Cord, Handset, H4DU-\* (2712BM)
- Cord, Mounting, D14S-87 (2712BM)‡
- Transformer, 2012A (dial light)
- Ringer, E1-Type (when required)

**2.04 Optional Apparatus or Equipment (ordered separately):**

- D-180229 Kit of Parts (polarity guard) consists of:

819040544 (P-90D054) guard assembly

812651644 (P-26E164) retainer

814313920 (P-43A392) screw

**Design Features**

**2.05** The 2712B (nonmodular, Fig. 1) and the 2712BM (modular, Fig. 2) telephone sets are both equipped with a 638E key for line selection and signaling.

**2.06** The 2712B is also equipped with a D14L or D14R-87 mounting cord, G3-type handset, and H4CJ handset cord. ‡The 2712BM is equipped with a D14S-87 mounting cord and G15A handset. The H4DU handset cord must be ordered separately.‡

**2.07** A hold or exclusion key, on one line only, is included and is operated by raising the left line switch plunger.

**2.08** A concealed lamp illuminates the dial when the handset is removed. This lamp also serves as a night light under control of a slide switch located in the base at rear of set.

**Application**

**2.09** For use on CO, PBX, or 1A1 and 1A2 key telephone system line circuits.

**3. INSTALLATION**

**3.01** Install sets using standard installation procedures.

**3.02 Dial Light Transformer:** Select a 105-120 volt ac receptacle that is on a circuit not controlled by a switch. A 2012A transformer should be used with each telephone set. A 2A clamp is available to secure this transformer to the service outlet. Current production transformers have folded blade prongs and the 2A clamp is not required. For multiple installations, see section covering station transformers.

***Danger: Securely attach 2A or similar retaining clamp to ac outlet using outlet cover screw before attempting to install a 2012-type transformer. The transformer and any other cord plugged into the ac outlet should always be unplugged completely from outlet before attempting to attach or remove the clamp. Do not use a 2A or similar retaining clamp on outlets where center mounting screw holds the duplex outlet in the box.***

***Warning: Do not connect more than one transformer to the same inside wiring pair.***



***For proper illumination of the dial, the wire run between transformer and telephone set should not exceed 250 feet of standard inside wire. Do not use a 25-foot mounting cord because the added resistance may result in decreased illumination.***



**3.03 Ringer:** When a ringer is required, install an E1-type. Refer to Section 501-251-100 covering E1-type ringers for connections.

**3.04 Polarity Guard:** An optional polarity guard (ordered separately) is available for use with these sets. It is intended for use when specified by local instructions for end-to-end signaling installations, refer to Table I for connections.

(a) Install D-180229 Kit of Parts (polarity guard) as follows:

- (1) Remove housing; loosen dial mounting screws and move the dial to one side without disconnecting the dial leads.
- (2) Insert the retainer in left-hand dial mounting bracket (Fig. 3).
- (3) Insert tabs of terminal board into notches in right-hand dial mounting bracket and secure to retainer Fig. 4.
- (4) Connect polarity board in accordance with Table I.
- (5) Reinstall dial on mounting bracket, securing the guard assembly mounting bracket under the right-hand dial mounting screw (Fig. 5).
- (6) Reinstall housing.

**3.05 Apparatus Blanks:** A 124A apparatus blank is available to insert into the rear notch when not filled. Refer to Section 501-110-100 for selection.

**3.06 Speakerphone:** May be used with the 2712B or 2712BM telephone set. Refer to Section 512-620-474 for 3-type or to Section 512-740-410 for 4A connection information.

#### 4. MAINTENANCE

**4.01** Maintenance of the 2700-series telephone sets is limited to replacing defective components and burnishing or adjusting switch contacts.

**4.02** Housings, handsets, and cords may be cleaned with a damp KS-2423 (or equivalent) cloth.

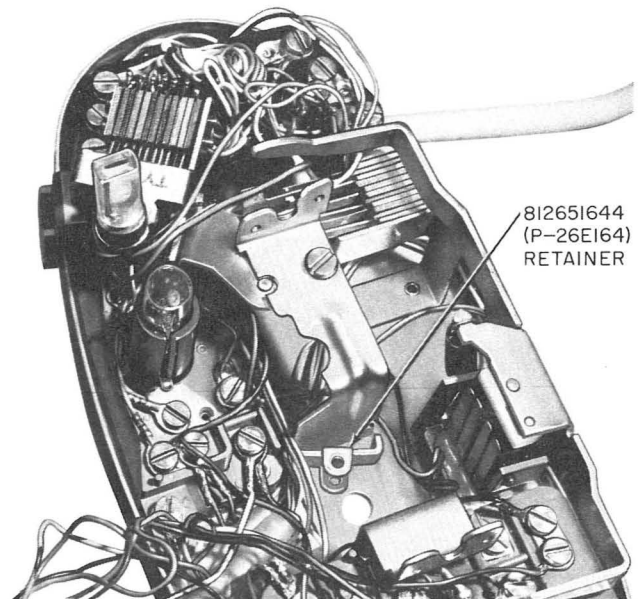


Fig. 3—Installing Terminal Board Retainer in PRINCESS® Telephone Set

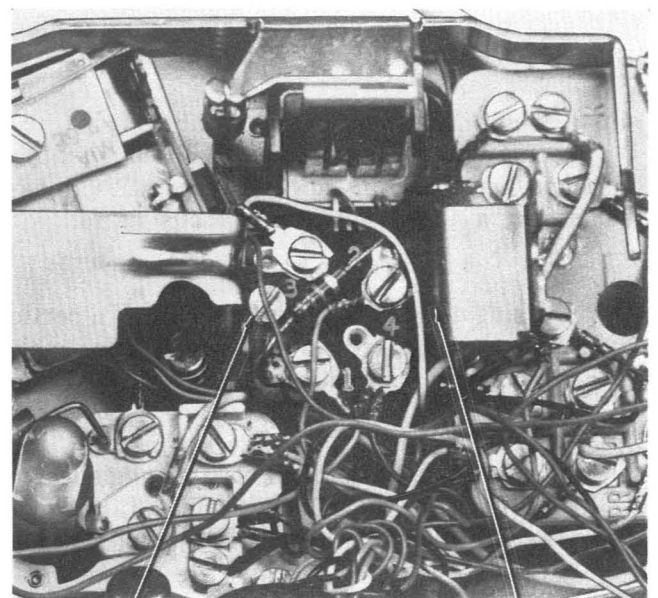


Fig. 4—Installing Terminal Board in PRINCESS Telephone Set

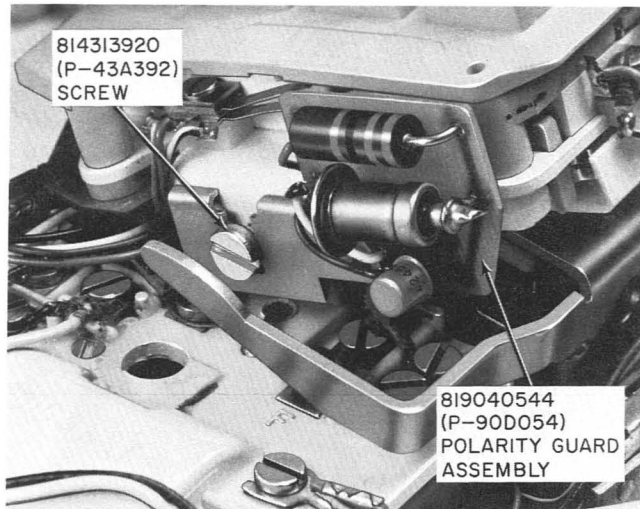


Fig. 5—Polarity Guard Mounted in PRINCESS Telephone Set

*Do not use scouring cleaners or volatile solvents as these may damage finish.*

4.03 Refer to sections covering dials, handsets, cords, ringers, etc., for maintenance of these components.

4.04 Those housings manufactured from 1970 through 1974 must be modified due to a clearance problem, if they are used with a base containing a 4228G network. Modify as follows:

- (1) Using diagonal side cutters, clip off a portion of the **plunger-well snap-tabs**, which interfere with the network, as shown in Fig. 6.

**Note:** Tabs should be cut at an angle leaving 1/16-inch at the plunger well. Tabs longer than 1/16-inch will cause the plunger to bind

when housing is installed. Tabs less than 1/16-inch will permit plunger to fall through.

4.05 Housings manufactured prior to 1970 have no tabs. Housings manufactured after 1974, identified by an embossed "N" inside the housing, do not require modification.

## 5. CONNECTIONS



*Without a polarity guard the TOUCH-TONE® dial will operate only with the orange-black dial lead connected to the negative (ring) side of the line and the green dial lead connected to the positive (tip) side.*

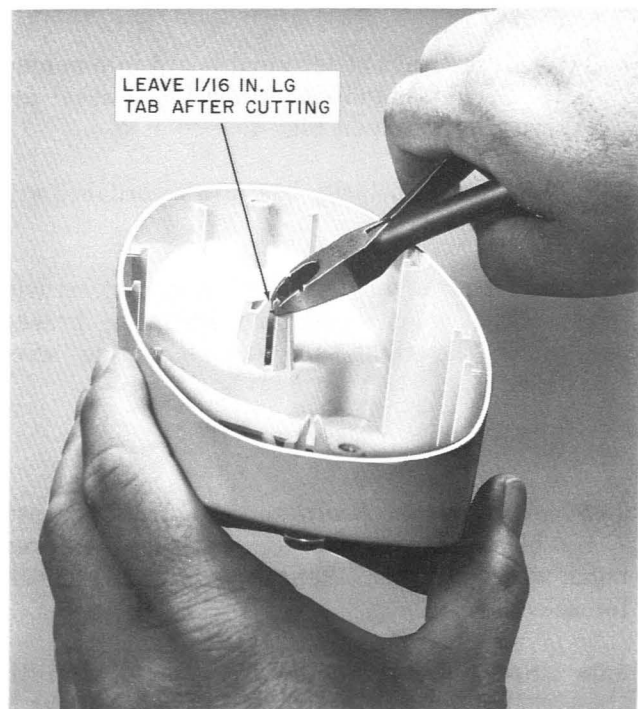
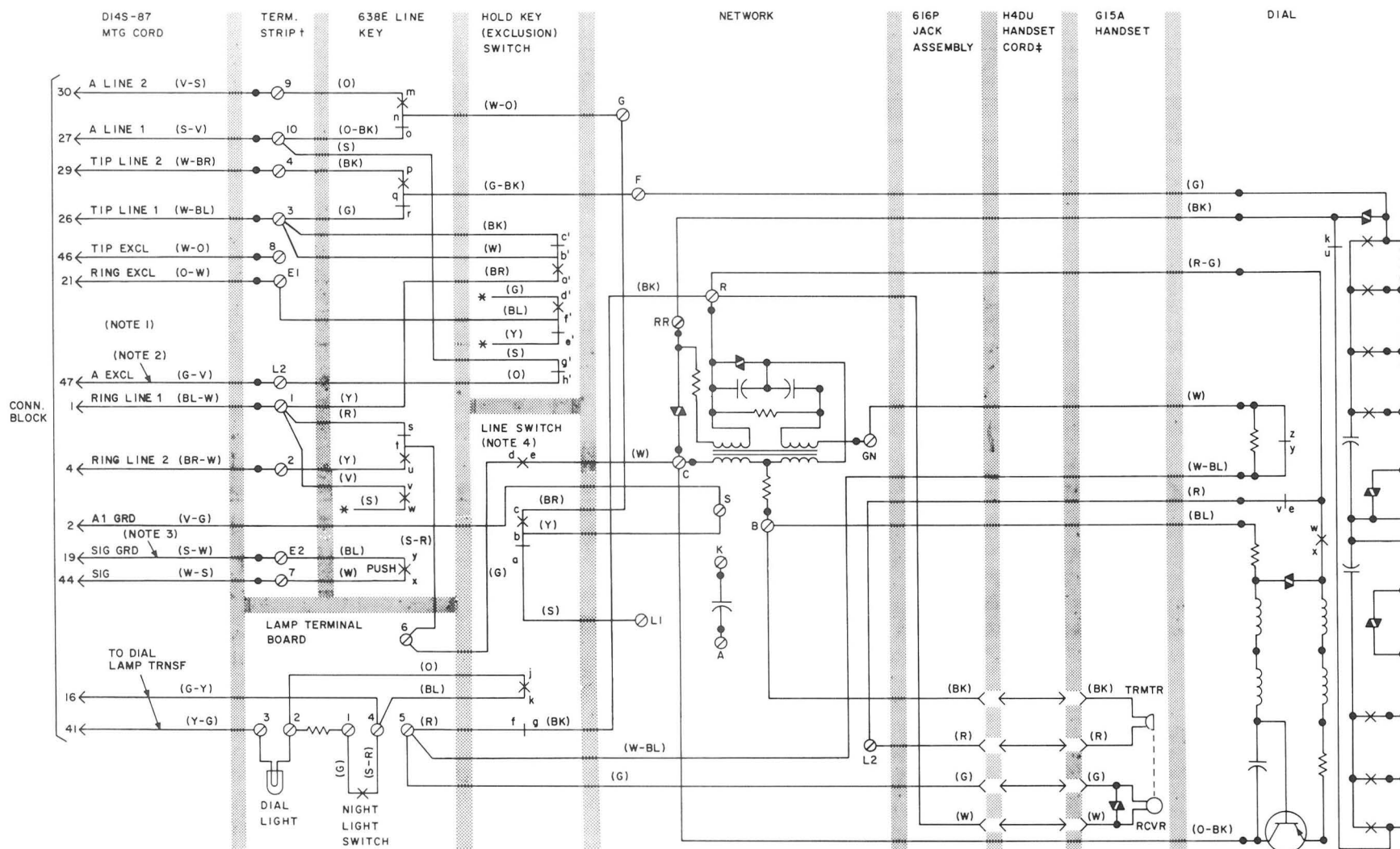


Fig. 6—Modification of Housing







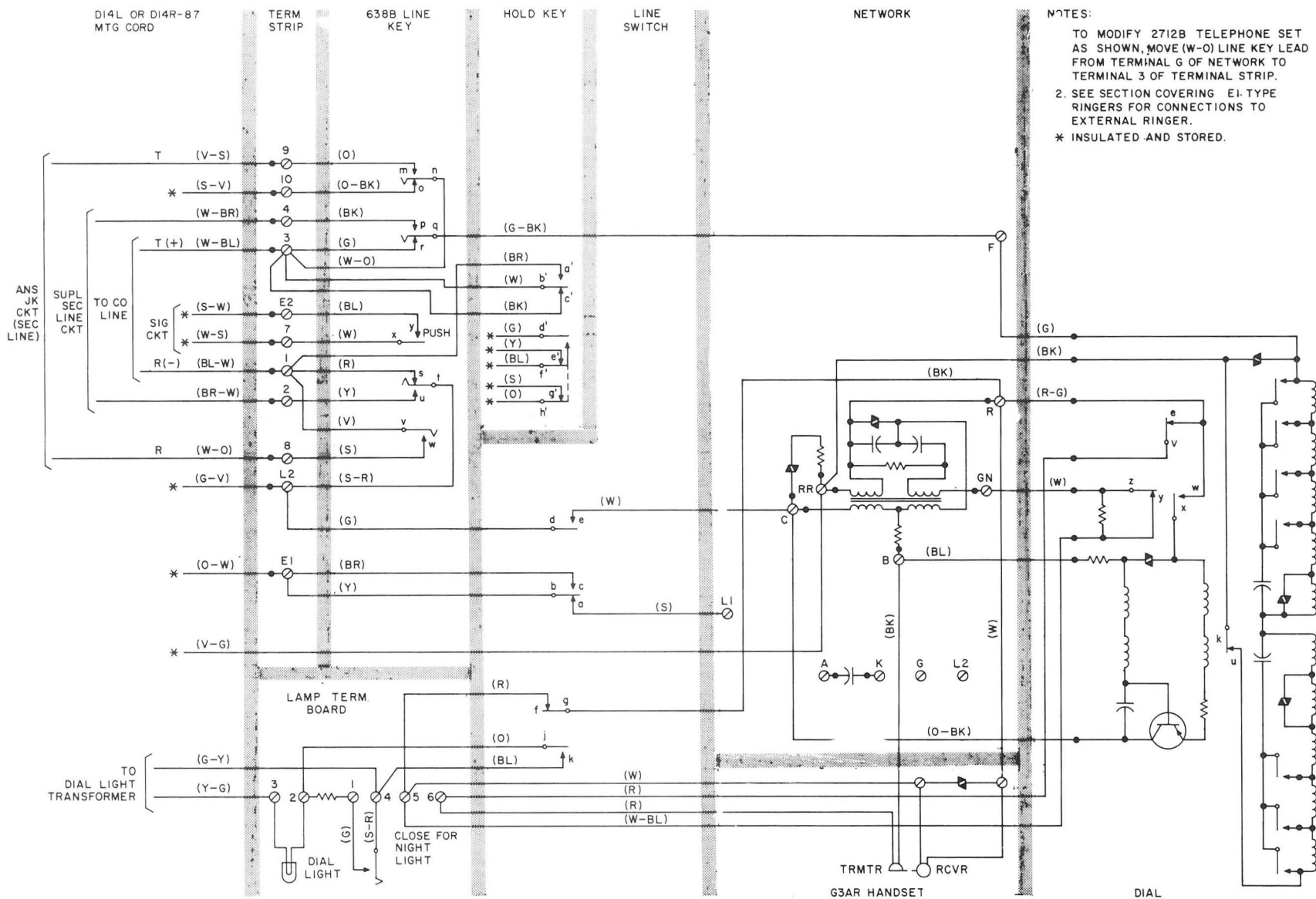
## NOTES:

1. THE 2712BM TELEPHONE SET IS INTENDED FOR USE WITH AN EXTERNAL RINGER. FOR RINGER CONNECTION SEE SECTION COVERING E1- TYPE RINGER.
2. PROVIDE A1 GROUND AT EXCLUDED STATION.
3. THIS GROUND WILL OPERATE BUZZERS OR RINGERS THAT REQUIRE DC. IF AC IS REQUIRED, USE THIS GROUND TO OPERATE AN AUXILIARY RELAY THAT CAN SUPPLY AC.

4. TO PREVENT FALSE HOLD CONDITION WHEN GOING ON-HOOK, THE TIP AND RING CONTACTS OF THE LINE SWITCH MUST BREAK BEFORE THE A AND A1 CONTACTS.

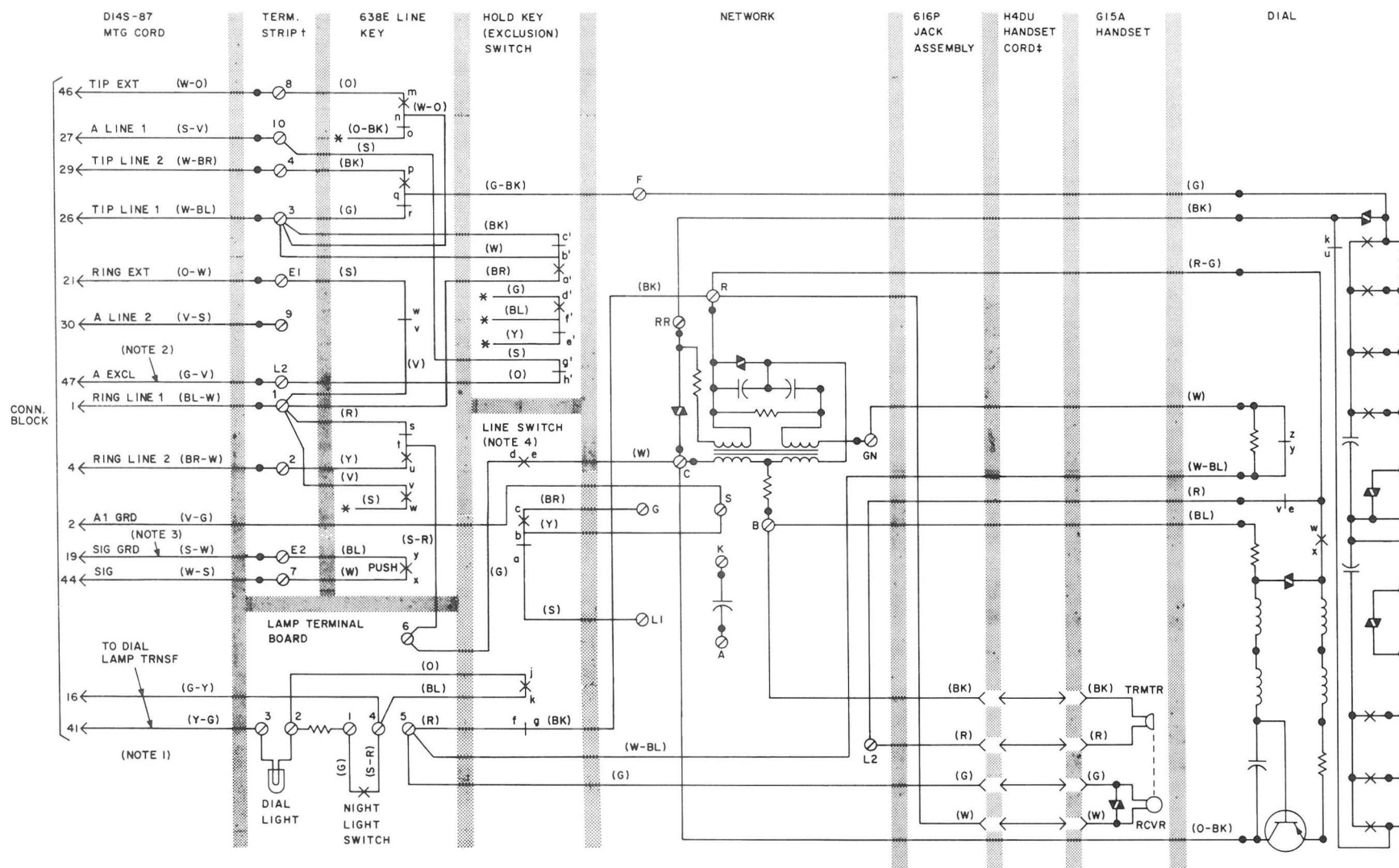
\* INSULATED AND STORED  
 † PART OF DI4S-87 MTG CORD  
 ‡ ORDERED SEPARATELY

Fig. 8—2712BM Telephone Set Connections, 2-Line Pickup with Hold on Line 1 (Nonkey System Use)



**Fig. 9—2712B Telephone Set Connections, 1-Line Pickup, Hold, and Secretarial Service**





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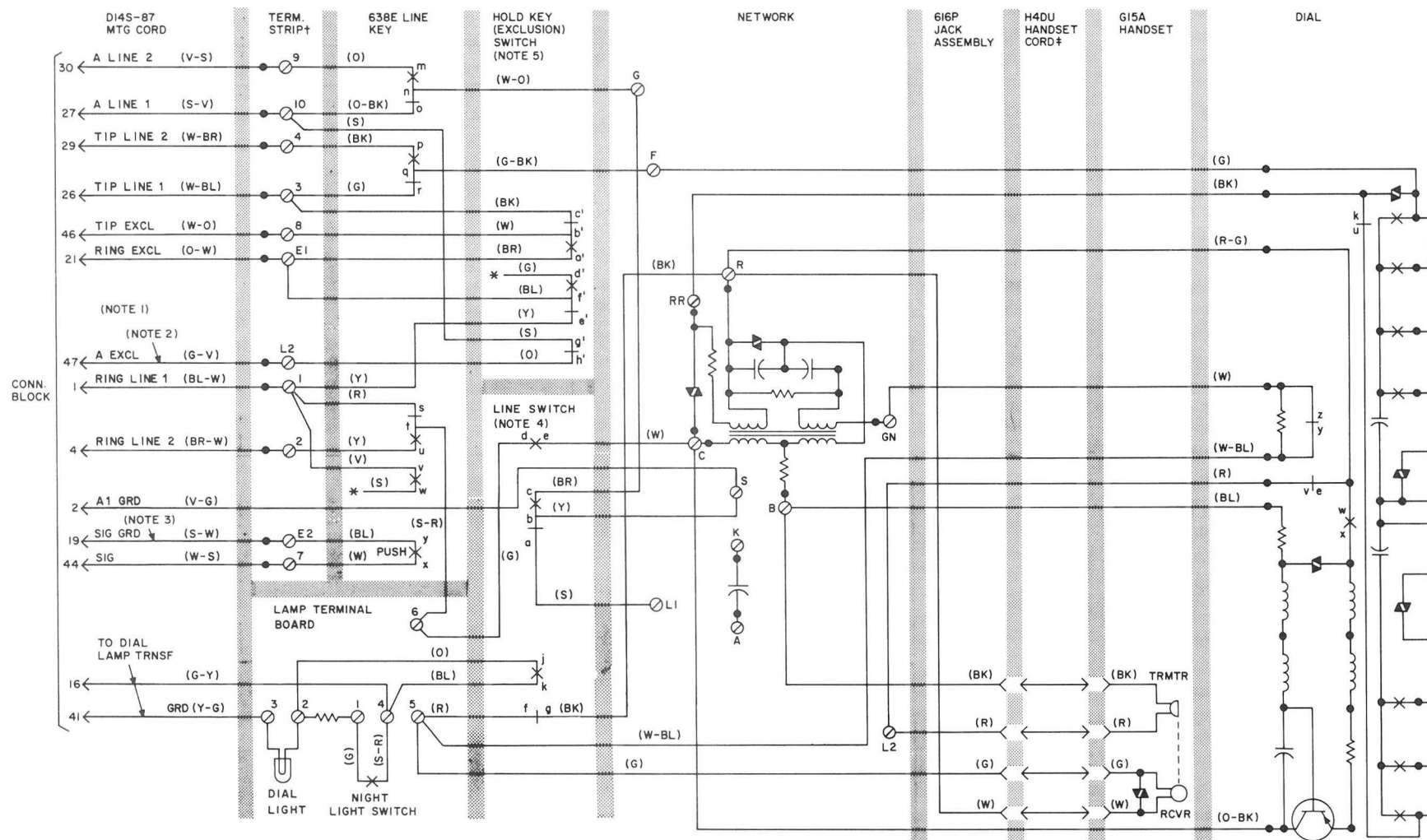
\* INSULATED AND STORED  
 † PART OF D14S-87 MTG CORD  
 ‡ ORDERED SEPARATELY

Fig. 10—2712BM Telephone Set Connections, 1-Line Pickup, Hold, and Secretarial Service





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2. PROVIDE A1 GROUND AT EXCLUDED STATION.
3. THIS GROUND WILL OPERATE BUZZERS OR RINGERS THAT REQUIRE DC. IF AC IS REQUIRED, USE THIS GROUND TO OPERATE AN AUXILIARY RELAY THAT CAN SUPPLY AC.

4. TO PREVENT FALSE HOLD CONDITION WHEN GOING ON-HOOK, THE TIP AND RING CONTACTS OF THE LINE SWITCH MUST BREAK BEFORE THE A AND A1 CONTACTS.
5. TO PROVIDE EXCLUSION ON LINE 2 MOVE (BK), (Y), AND (S) EXCLUSION KEY LEADS TO TERMINALS 4, 2, AND 9 RESPECTIVELY.

\* INSULATED AND STORED  
 † PART OF D14S-87 MTG CORD  
 ‡ ORDERED SEPARATELY

Fig. 12—2712BM Telephone Set Connections, 2-Line Pickup, Exclusion on Line 1, and Signaling (Used with 1A1 or 1A2 KTS)†





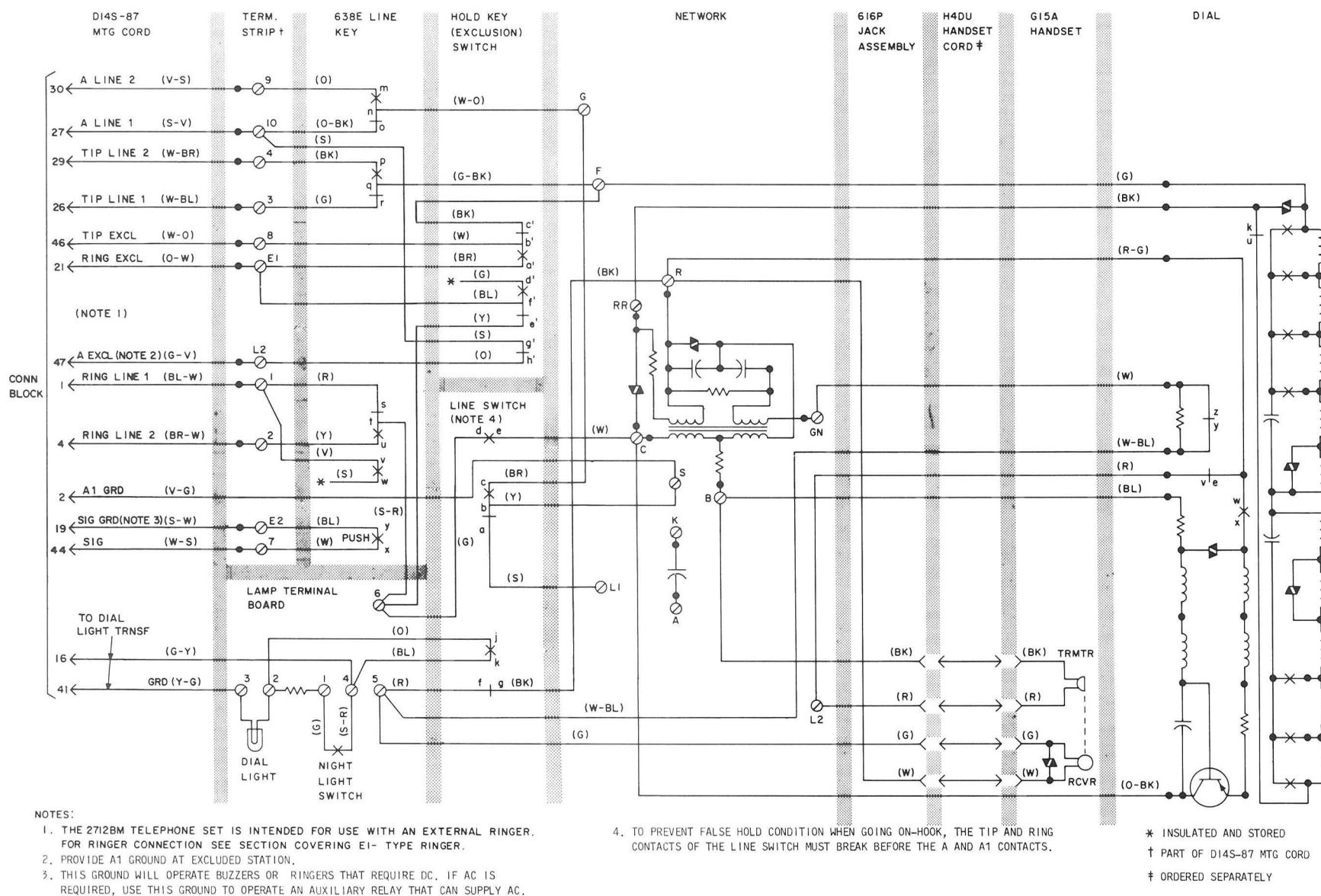


Fig. 14—2712BM Telephone Set Connections, 2-Line Pickup, Cutoff Feature for Extension Station or Extension Line Ringer

♦TABLE A♦

## HOUSING AND PLUNGER ASSEMBLY

COLOR	SUFFIX	TELEPHONE SET	
		2712B	2712BM
Black	—03	818449035 (P-84D903)	840701254
Ivory	—50	818449506 (P-84D950)	840701262
Green	—51	818449514 (P-84D951)	840701270
Red	—53	818449530 (P-84D953)	840701288
Yellow	—56	818449563 (P-84D956)	840701296
White	—58	818449589 (P-84D958)	840701304
Rose Pink	—59	818449597 (P-84D959)	840701312
Lt. Beige	—60	818449605 (P-84D960)	840701320
Aqua Blue	—62	818449613 (P-84D961)	840701338

♦TABLE B♦

MODIFICATION FOR EXCLUSION ON LINE 1  
(NONKEY TELEPHONE SYSTEM USE) (2712B)

WIRE OR LEAD	COLOR	REMOVE FROM	CONNECT TO
		TERM. STRIP	TERM. STRIP
Line Key	S	8	*
Line Switch	Y	E1	*
	BR	E1	*
Hold Key (Exclusion)	BR	1	E1
	W	3	8
	Y	*	1
	BL	*	E1

Note: Connect (W-O) and O-W) mounting cord leads to tip and ring, respectively, of excluded station at connecting block.

\* Insulate and store.

♦TABLE C♦

MODIFICATION FOR 1-LINE PICKUP, HOLD, AND  
SECRETARIAL SERVICE (2712B)

WIRE OR LEAD	COLOR	REMOVE FROM		CONNECT TO
		TERM. STRIP	NET	TERM. STRIP
Line Key	W-O		G	3

♦TABLE D♦

MODIFICATION FOR 2-LINE PICKUP, EXCLUSION  
ON LINE 1, AND SIGNALING  
(USED WITH 1A1 OR 1A2 KTS) (2712B)

WIRE OR LEAD	COLOR	REMOVE FROM		CONNECT TO	
		TERM. STRIP	NET.	TERM. STRIP	NET.
Line Key	S	8		*	
	W	7			L2
Exclusion Key	BR	1		E1	
	W	3		8	
	Y	*		1	
	BL	*		E1	
	S	*		10	
	O	*		7	
Line Switch	BR	E1			G
	Y	E1			L2
Mtg Cord	V-G		RR		L2

\* Insulate and store.

♦TABLE E♦

MODIFICATION FOR 2-LINE PICKUP, CUTOFF  
FEATURE FOR EXTENSION STATION OR  
EXTERNAL LINE RINGER (2712B)

WIRE OR LEAD	COLOR	REMOVE FROM	CONNECT TO	
		TERM. STRIP	TERM. STRIP	NET.
Line Key	W-O	G ‡	E1	
Hold Key	BR	1	*	
Line Switch	BR	E1	8	
Strap†			3	F

\* Insulate and store.

‡ Network terminal.

† M1W cord or equivalent.

♦ TABLE F ♦

MODIFICATION FOR 2-LINE PICKUP, HOLD ON  
LINE 1 (NONKEY SYSTEM) (2712BM)

WIRE OR LEAD	COLOR	REMOVE FROM	CONNECT TO
		TERM. STRIP	TERM. STRIP
Hold Key	W	8	3
	BR	E1	1
	Y	1	*

\* Insulate and store.

♦ TABLE G ♦

MODIFICATION FOR 1-LINE PICKUP,  
HOLD, AND SECRETARIAL  
SERVICE (2712BM)

WIRE OR LEAD	COLOR	REMOVE FROM		CONNECT TO
		TERM. STRIP	NET.	TERM. STRIP
Line Key	W-O		G	3
	O	9		L2
	O-BK	10		*
	S	*		E1
Hold Key	BR	E1		1
	W	8		3
	Y	1		*
	BL	E1		*

\* Insulate and store.

♦ TABLE H ♦

MODIFICATION FOR 1-LINE PICKUP,  
CUTOFF FEATURE FOR EXTENSION STATION  
OR EXTERNAL LINE RINGER (2712BM)

WIRE OR LEAD	COLOR	REMOVE FROM		CONNECT TO
		TERM. STRIP	NET.	TERM. STRIP
Line Key	W-O		G	10
	O	9		L2
	O-BK	10		*
	BK	4		8
	V	1		*
	R	1		*
	S-R	6		1
	Y	2		E1
Hold Key	Y	1		*
	BL	E1		*
	S	10		*
	O	L2		*
	BR	E1		*

\* Insulate and store.

♦ TABLE I ♦

MODIFICATION TO ADD D-180229 KIT OF PARTS  
(POLARITY GUARD ASSEMBLY)

WIRE OR LEAD	COLOR	REMOVE FROM	CONNECT TO	
		NET.	NET.	POLARITY GUARD TERM. BOARD
Dial	BK	RR		3
Line Switch	W	C		4
819040544 (P-90D054) Polarity Guard	R			3
	BK			4
	G		RR	
	W		C	