

REFERENCE

2702D, 2702DM, 2713B, AND 2713BM TELEPHONE SETS

1. GENERAL

1.01 This section contains identification, installation, maintenance, and connection information for the 2702D (MD), 2702DM (MD), 2713B (MD), and 2713BM telephone sets.

1.02 This section is reissued to:

- Revise Fig. 17 (modular connection of 281A adapter)
- Add Fig. 18 (modular connection E1CM ringer)

2. DESCRIPTION

2.01 The 2702D or 2702DM telephone set (Fig. 1 or 2) is equipped with a message waiting lamp and is intended for PBX use.

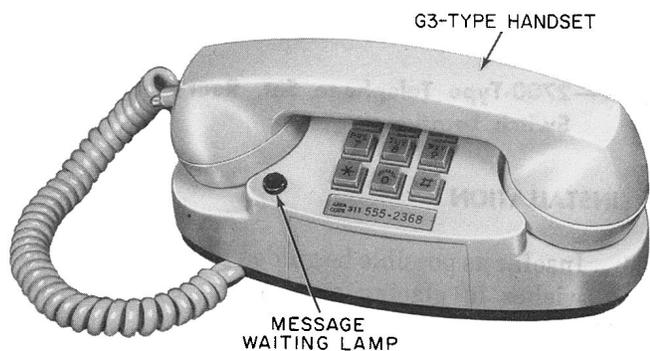


Fig. 1—2702D Telephone Set

2.02 The 2713B or 2713BM telephone set (Fig. 3) is equipped with 2-line pickup with hold on either line (CO lines, nonkey system).



Fig. 2—2702DM Telephone Set

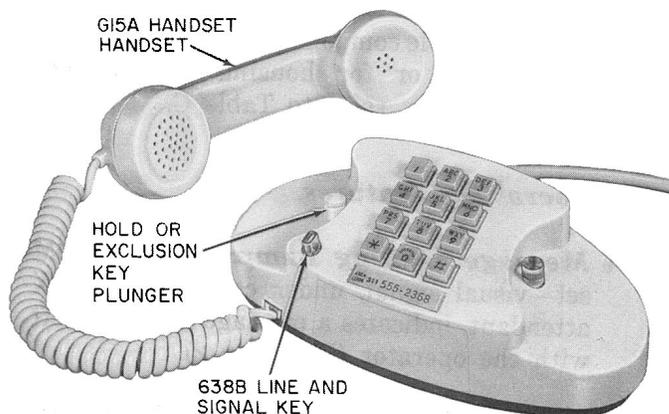


Fig. 3—2713B Telephone Set

Ordering Guide

2.03 Basic Telephone Sets:

- Set, Telephone, 2713BM-* (modular)

*Add appropriate color suffix.

NOTICE

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

TABLE A
TELEPHONE SET FEATURES

TELEPHONE SET	DIAL/NIGHT LAMP	MESSAGE WAITING LAMP	RINGER VOLUME/OFF-CONTROL	CO AND 1A KEY TELEPHONE SYSTEM LINES		SIGNALING
				INDIVIDUAL OR 2-PARTY FLAT RATE SERVICE	2-LINE PICKUP WITH HOLD (CO LINES ONLY)	
2702D, DM	•	•	•	•		
2702B, BM	•		*	•	•	†

* Not equipped with internal ringer.

†Optional features:

- (1) 2713B: Change mounting cord to provide signal leads.
- (2) 2713BM: Due to insufficient mounting cord leads, the dial light transformer leads or leads from the 2nd line must be used.

2.04 These telephone sets are available in all standard colors.

2.05 For replaceable component information, refer to Table B, or for housing and plunger assembly information, refer to Table C.

2.06 *Operating Features.*

- **Message Waiting Lamp:** 2702D or DM set—visual signal, under control of a PBX attendant, indicates a message has been left with the operator (Fig. 1 or 2).
- **Line and Signal Key:** 2713B or BM set—permits line selection by turning, signaling by depressing (Fig. 3 and 6).
- **Hold Key Plunger:** 2713B or BM set—provides for mechanical hold on either or both nonselected CO line (Fig. 3).
- **Night Light Switch:** allows dial lamp to be operated at reduced intensity (dial lamp illuminates dial at full intensity with handset off-hook) (Fig. 4).
- **Ringer Volume Control:** provides manual control of ringer volume on 2702D or DM sets (Fig. 5).

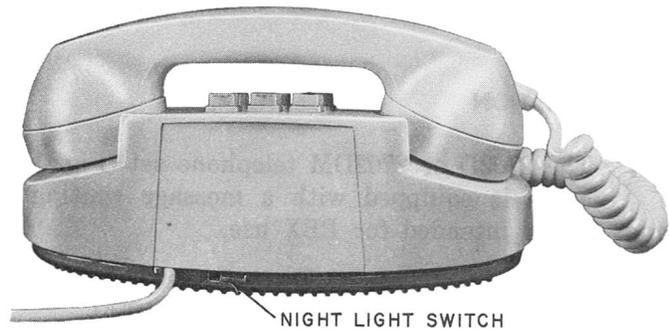


Fig. 4—2700-Type Telephone Set, Rear—Night Light Switch Location

3. INSTALLATION

3.01 Insofar as possible be guided by the customer's wishes in placing apparatus. Consider the following.

- Safety for yourself, customer, and maintenance personnel.
- Availability of power outlet for dial lamp transformer.
- Location of telephone to provide adequate ringer coverage of area.
- General appearance of installation.

TABLE B
ORDERING GUIDE

REPLACEABLE COMPONENTS	TELEPHONE SET			
	2702D	2702DM	2713B	2713BM
Cord, Handset	H4CJ*	H4DU-*	H4CJ-*	H4DU-*
Cord, Mtg.	D4BT-29	D4BU-29	D6AF-87(MD) D6AP-87	D4BU
Dial	35AD4A	35AD4A	35AD4A	35AD4A
Housing and Plunger Assembly	Table C	Table C	Table C	Table C
Key, Line	—	—	638F	638F
Lamp, Dial†	KS-19387L1	KS-19387L1	KS-19387L1	KS-19387L1
Socket, Dial Lamp†	KS-19240L2	KS-19240L2	KS-192040L2	KS-19240L2
Lamp, Message Waiting	KS-16893L1	KS-16893L1	—	—
Transformer (Dial Lamp)	2012A or C	2012A or C	2012A or C	2012A or C
Retainer, Number Card	812558039 (P-25E803)	812558039 (P-25E803)	812558039 (P-25E803)	812558039 (P-25E803)
Ringer	M1A or P1A	M1A or P1A	External E1- Type (If Required)	External E1- Type (If Required)
Set Hand	G3A-*	G15A-*	G3A-*	G15A-*
Kit of Parts (Polarity Guard)‡	D-180229	D-180229	D-180229	D-180229

* Add appropriate color suffix.

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

‡ Optional and consist of the following:

- 819040544 (P-90D054) Guard Assembly
- 812166759 (P-21F675) Terminal Board Assembly
- 812651644 (P-26E164) Retainer
- 814313920 (P-43A392) Screw

3.02 Select a 105-120 volt ac receptacle on a circuit not controlled by a switch for dial lamp transformer. A 2A clamp is available to secure the 2012A transformer to the service outlet. Current model transformers utilize folded blade prongs to secure the transformer to the service outlet. For multiplied dial lamp sets, see section covering station transformers for selection information.

Danger: Securely attach 2A or similar retaining clamp to ac outlet using outlet cover screw before attempting to install 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

TABLE C

HOUSING AND PLUNGER ASSEMBLY

COLOR	TELEPHONE SET			
	2702D	2713B	2702DM	2713BM
Black	818580037 (P-85H003)	818449035 (P-84D903)	840705016	840701759
Ivory	818580508 (P-85H050)	818449506 (P-84D950)	840705024	840701767
Green	818580516 (P-85H051)	818449514 (P-84D951)	840705032	840701775
Red	818580532 (P-85H053)	818449530 (P-84D953)	840705040	840701783
Yellow	818580565 (P-85H056)	818449563 (P-84D956)	840705057	840701791
White	818580581 (P-85H058)	818449589 (P-84D958)	840705065	840701809
Rose Pink	818580599 (P-85H059)	818449597 (P-84D959)	840705073	840701817
Lt. Beige	818580607 (P-85H060)	818449605 (P-84D960)	840705081	840701825
Aqua Blue	818580623 (P-85H062)	818449621 (P-84D962)	840705099	840701833

remove the clamp. Do not use 2A or similar retaining clamp on outlets where center mounting screw holds the duplex outlet in the box.

Caution: 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** Install these sets in accordance with standard practices for desk-type telephone sets.

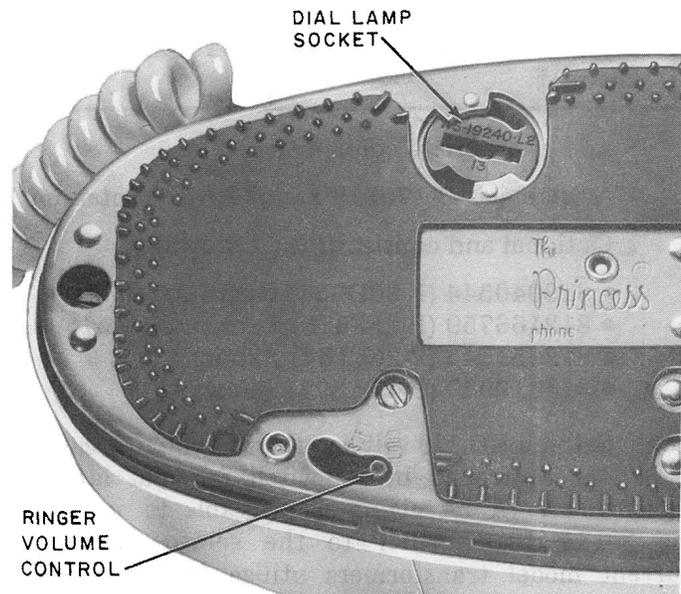


Fig. 5—2702D Telephone Set, Partial Bottom View

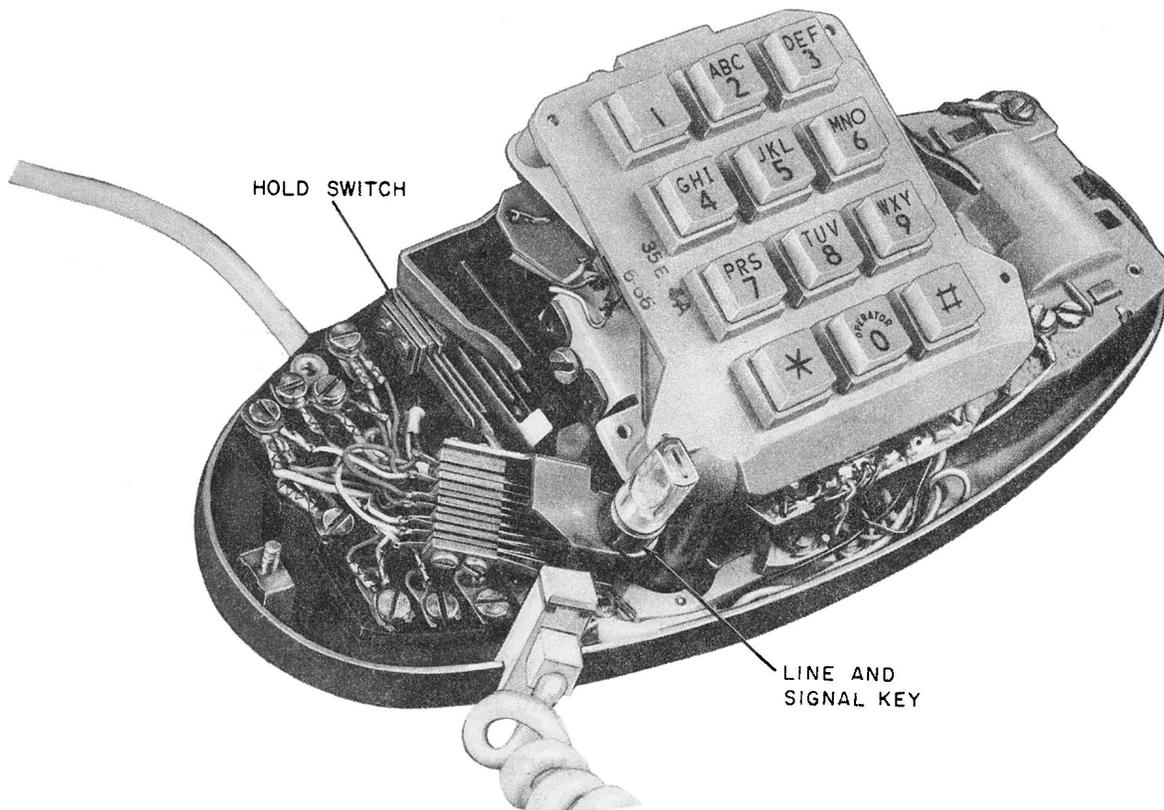


Fig. 6—2713BM Telephone Set, Housing Removed

3.04 External Ringer: Install an E1-type ringer, when required, for 2713B or BM telephone sets.

3.05 Polarity Guard (optional): Install polarity guard (D-180229 Kit of Parts) only when specified by local instructions for end-to-end signaling. Installation is as follows.

- (1) Remove housing; loosen dial mounting screws and move the dial to one side without disconnecting the dial leads.
- (2) Insert the 812651644 (P-26E164) retainer in left-hand dial mounting bracket (Fig. 7).
- (3) Insert tabs of 812166759 (P-21F675) terminal board into notches in right-hand dial mounting bracket and secure to retainer using 814313920 (P-43A392) screw.
- (4) Connect polarity guard in accordance with connections shown in Table D.

- (5) Reinstall dial on mounting bracket, securing the 819040544 (P-90D054) guard assembly mounting bracket under the right-hand dial mounting screw (Fig. 8).

- (6) Reinstall housing.

Note: The 812166759 (P-21F675) terminal board and 812651644 (P-26E164) retainer, furnished with D-180229 Kit of Parts, are not used in sets equipped with message waiting lamp (2702D or DM set). The 2702D or DM set has spare terminals 3 and 4 on the message waiting lamp terminal board to facilitate connecting the polarity guard (Fig. 9).

3.06 Operating Instructions (2713B or BM): If a call is received on one line and it is desired to hold a party on a line while transferring to the other line.

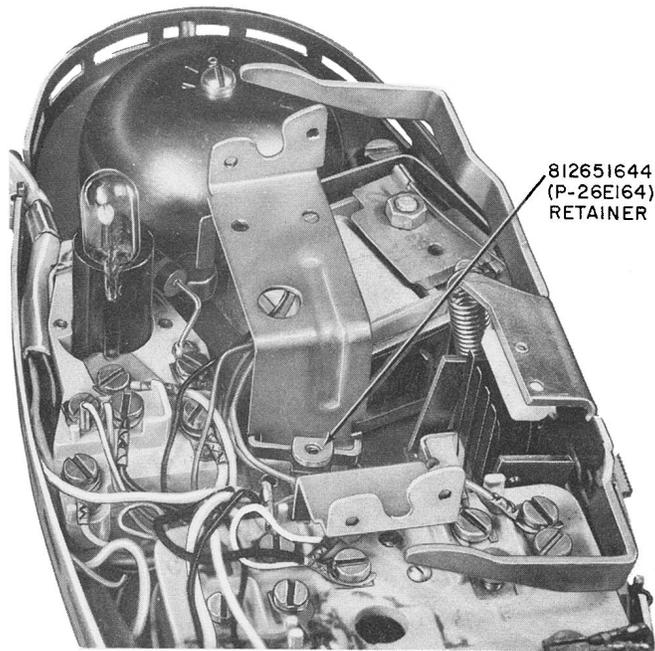


Fig. 7—Installing Terminal Board Retainer in PRINCESS Telephone Set

- (1) Lift the hold key (left line switch plunger) and turn the line key to pick up the second line.
- (2) When the call on the second line is completed, turn the line key back to the first line position and then depress the hold key.

Note: Failure to depress the hold key will automatically place a hold on the unused line preventing its being used for either incoming or outgoing calls. Reversal of this procedure (i.e. depressing the hold key before switching the line key back to the first line position) will disconnect the first line.

- (3) If the second line is to be picked up by an extension station, the hold key is left operated (lifted) until the extension is answered. After the extension handset is lifted, the hold key (first set) must be depressed to permit conversation path of the extension.
 - (4) The hold key is automatically returned to normal when the handset is replaced.
- 3.07** Jacks and plugs are available for portable installations of these telephone sets. Refer to appropriate section in Division 461 for selection.

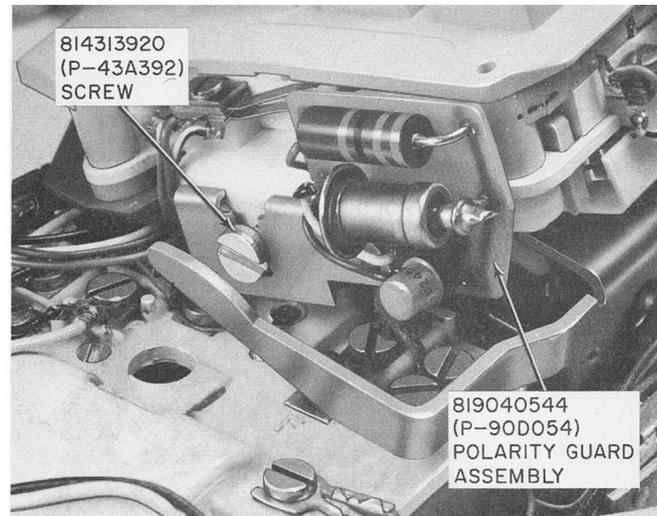


Fig. 8—Polarity Guard Mounted in PRINCESS Telephone Set

- 3.08** A 124A apparatus blank is available to insert into the rear notch when not filled.

4. MAINTENANCE

- 4.01** Maintenance of the 2700-type telephone sets is limited to replacing defective components.

- 4.02** Housings, handsets, and cords may be cleaned with a damp KS-2423 (or equivalent) cloth. **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 P-type ringer and/or 4228G network. Modify as follows.

- (1) Using diagonal side cutters, clip off a portion of the **plunger-well snap-tabs**, which interfere with the P-type ringer and/or network, as shown in Fig. 10.

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.

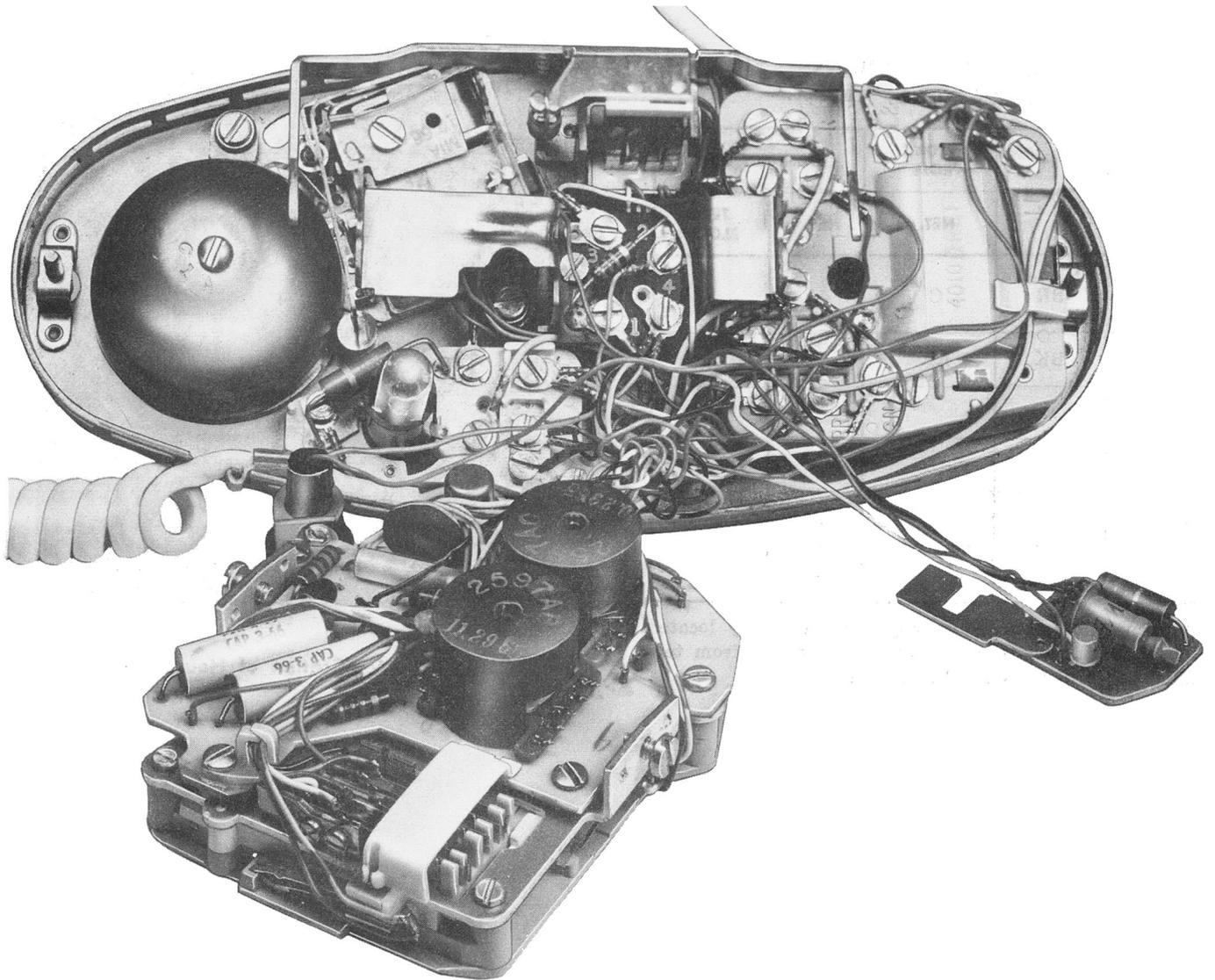


Fig. 9—812166759 (P-21F675) Terminal Board Installed in 2702D Telephone Set

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 for the 4228-type network. Housings identified by an embossed "NP" 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.

TABLE D
TELEPHONE SET POLARITY
GUARD CONNECTIONS
(D-180229 KIT OF PARTS)

WIRE OR LEAD	COLOR	REMOVE FROM	CONNECT TO	
		NET.	NET.	TERM BLOCK*
Line Switch	BR	C		4
Dial	BK	RR		3
D-180229 Polarity Guard	R			3
	BK			4
	G		RR	
	W		C	

* Component of message waiting lamp assembly located between dial mounting brackets. Use screws from terminal board in D-180229 Kit of Parts.

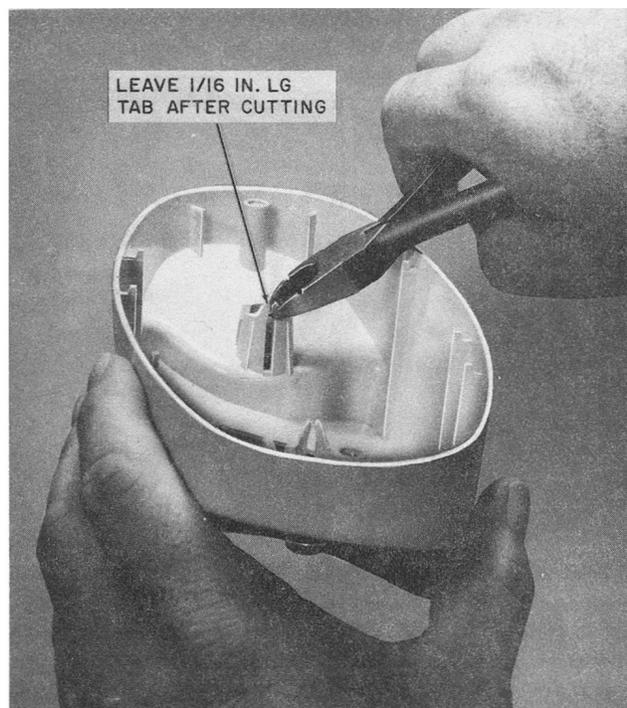
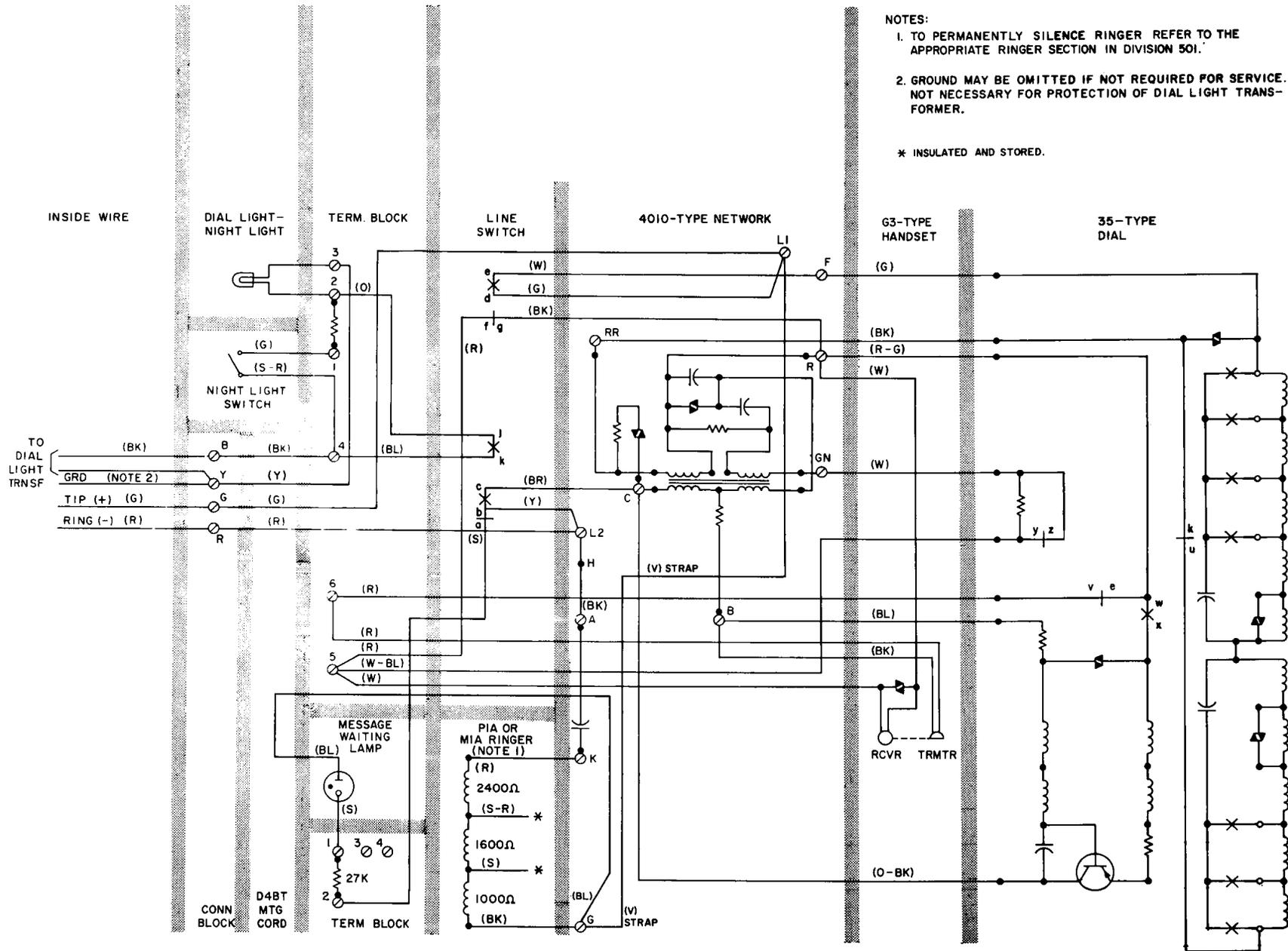


Fig. 10—Modification of Housing



NOTES:
 1. TO PERMANENTLY SILENCE RINGER REFER TO THE APPROPRIATE RINGER SECTION IN DIVISION 501.
 2. GROUND MAY BE OMITTED IF NOT REQUIRED FOR SERVICE. NOT NECESSARY FOR PROTECTION OF DIAL LIGHT TRANSFORMER.
 * INSULATED AND STORED.

Fig. 11—2702D Telephone Set, Equipped With 4010D Network, Connections Using D4BT Mounting Cord

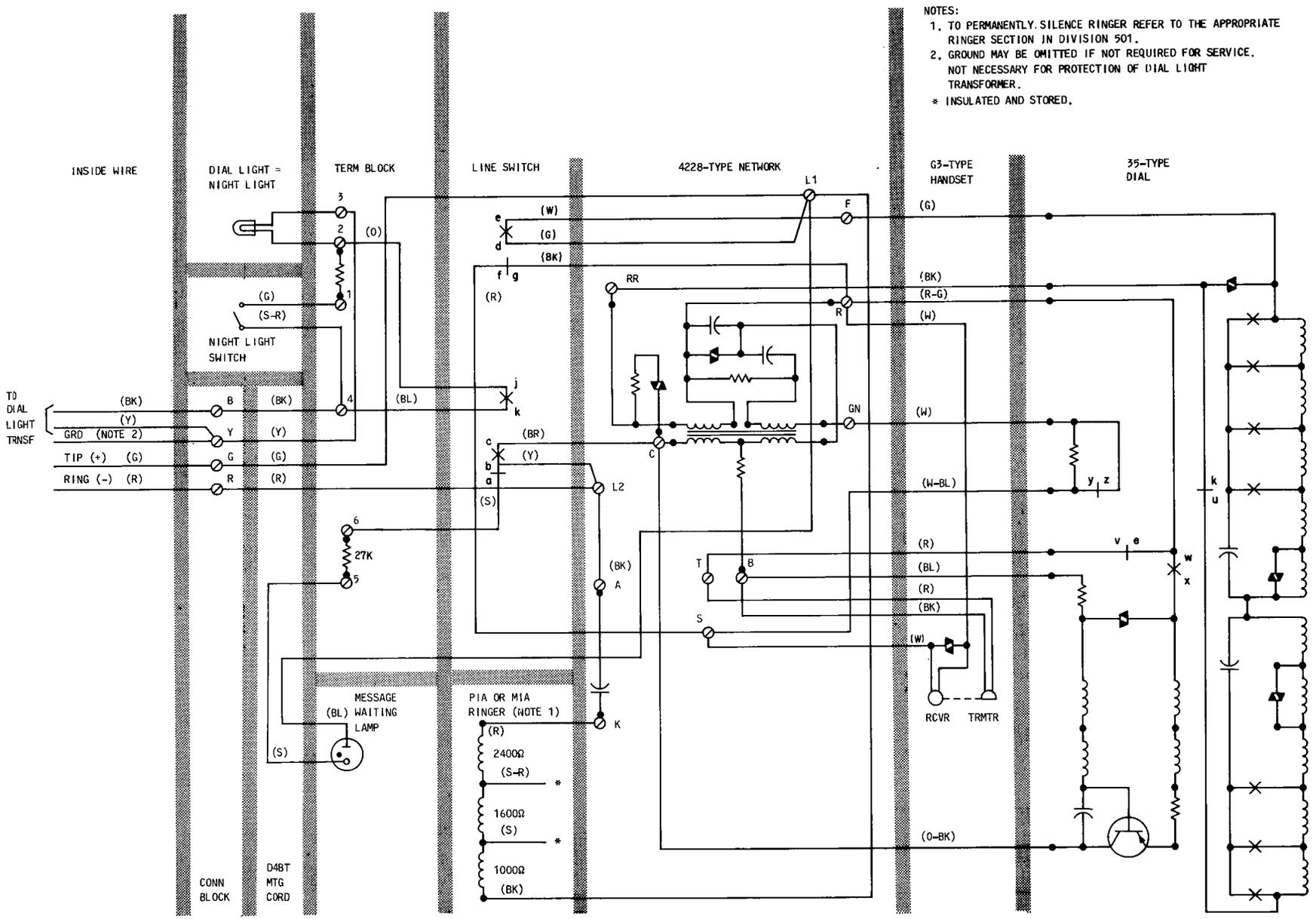


Fig. 12—2702D Telephone Set, Equipped With 4228G Network, Connections Using D4BT Mounting Cord

SECTION 502-703-103

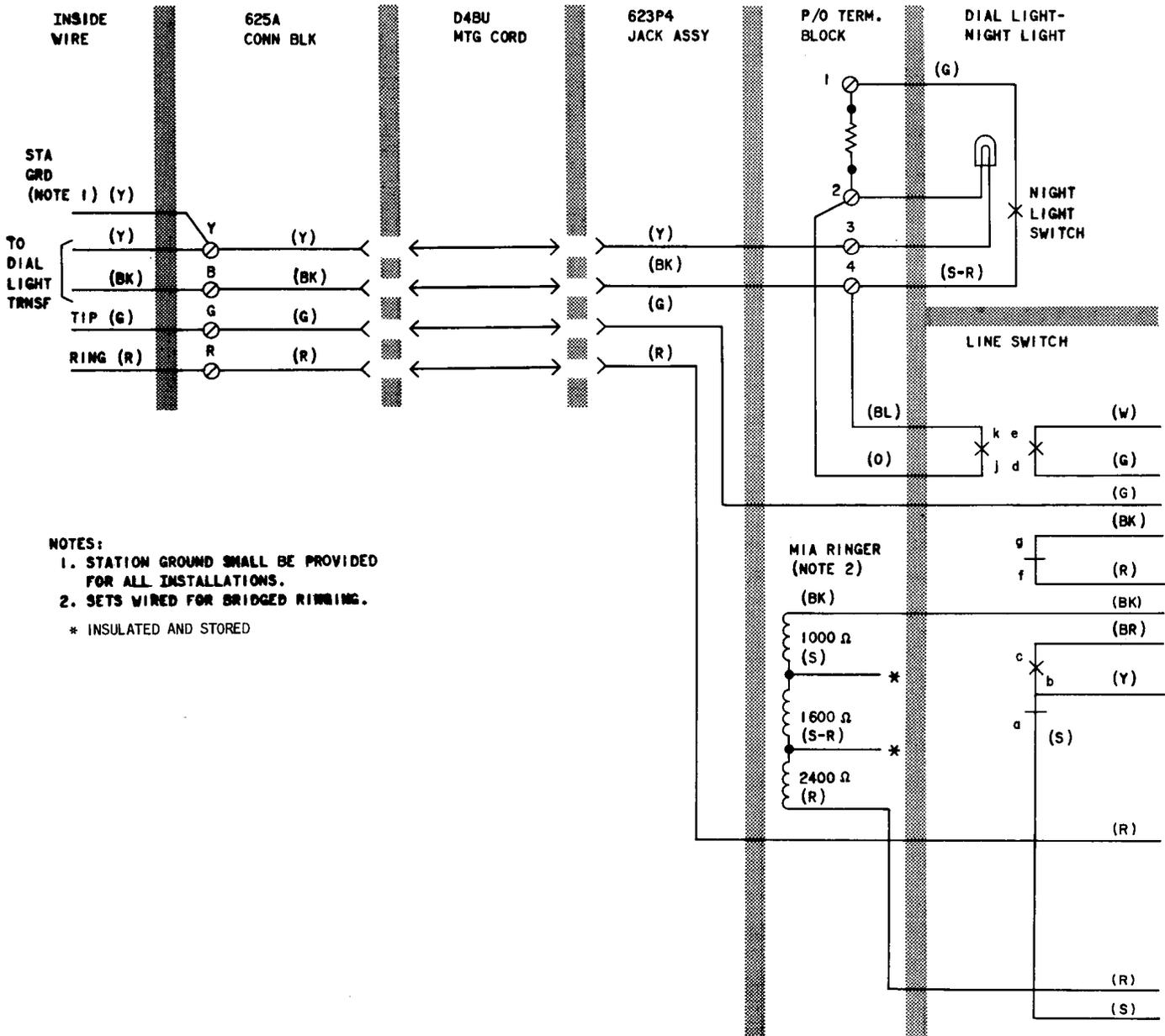


Fig. 13—2702DM Telephone Set, Equipped With 4010D Network, Connections (Sheet 1 of 2)

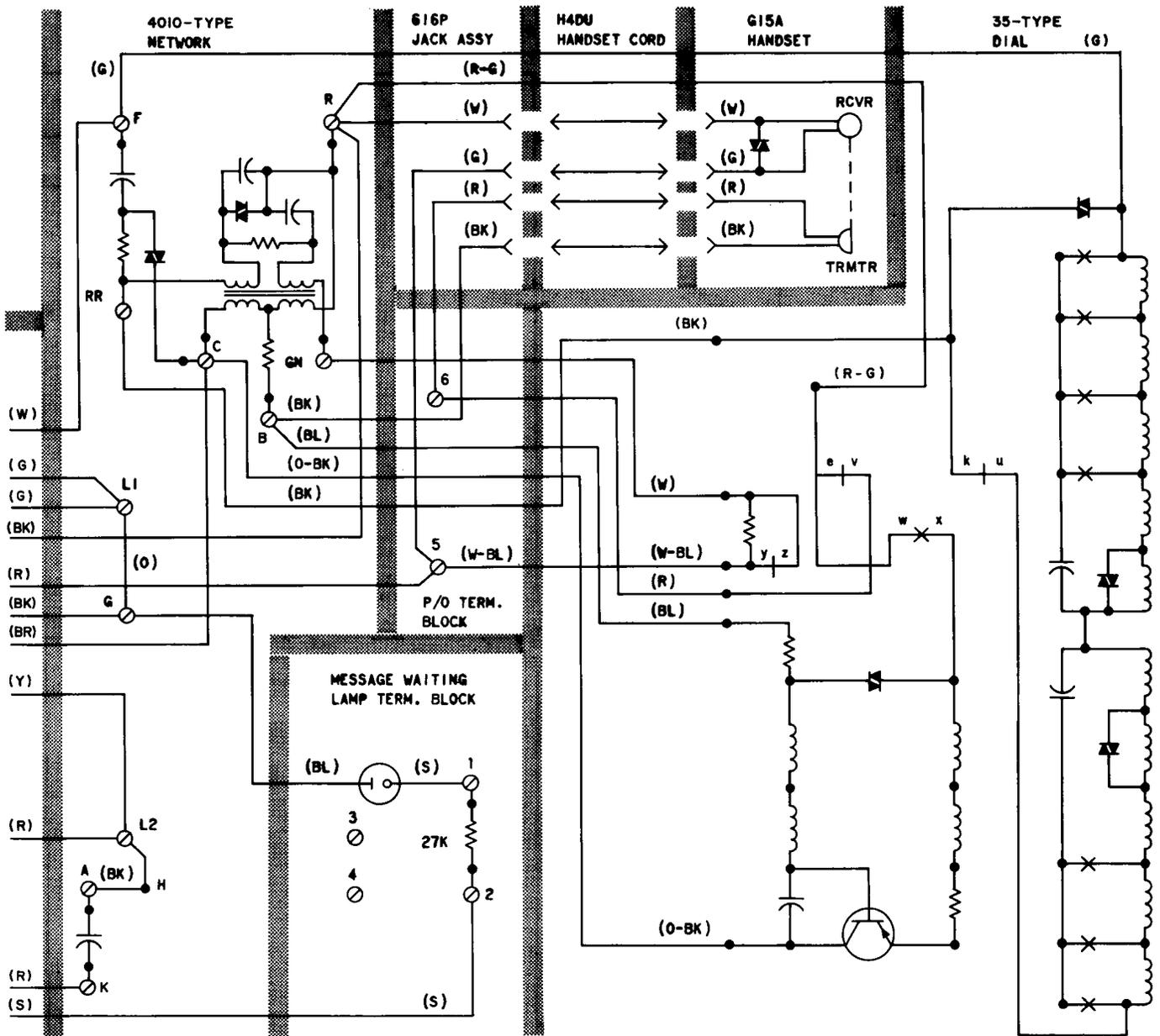
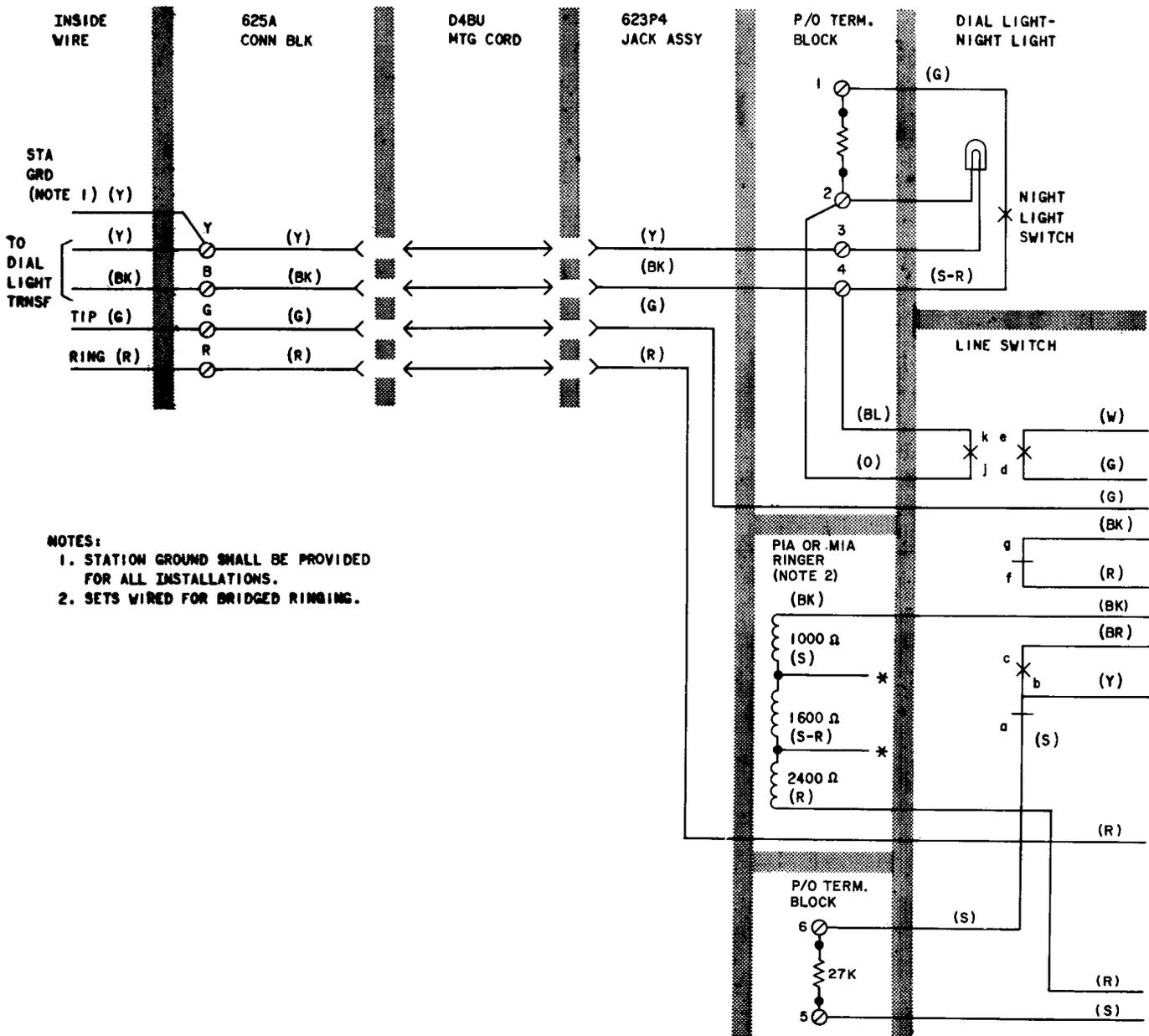


Fig. 13—2702DM Telephone Set, Equipped With 4010D Network, Connections (Sheet 2 of 2)

SECTION 502-703-103



NOTES:
 1. STATION GROUND SHALL BE PROVIDED FOR ALL INSTALLATIONS.
 2. SETS WIRED FOR BRIDGED RINGING.

Fig. 14—2702DM Telephone Set, Equipped With 4228G Network, Connections (Sheet 1 of 2)

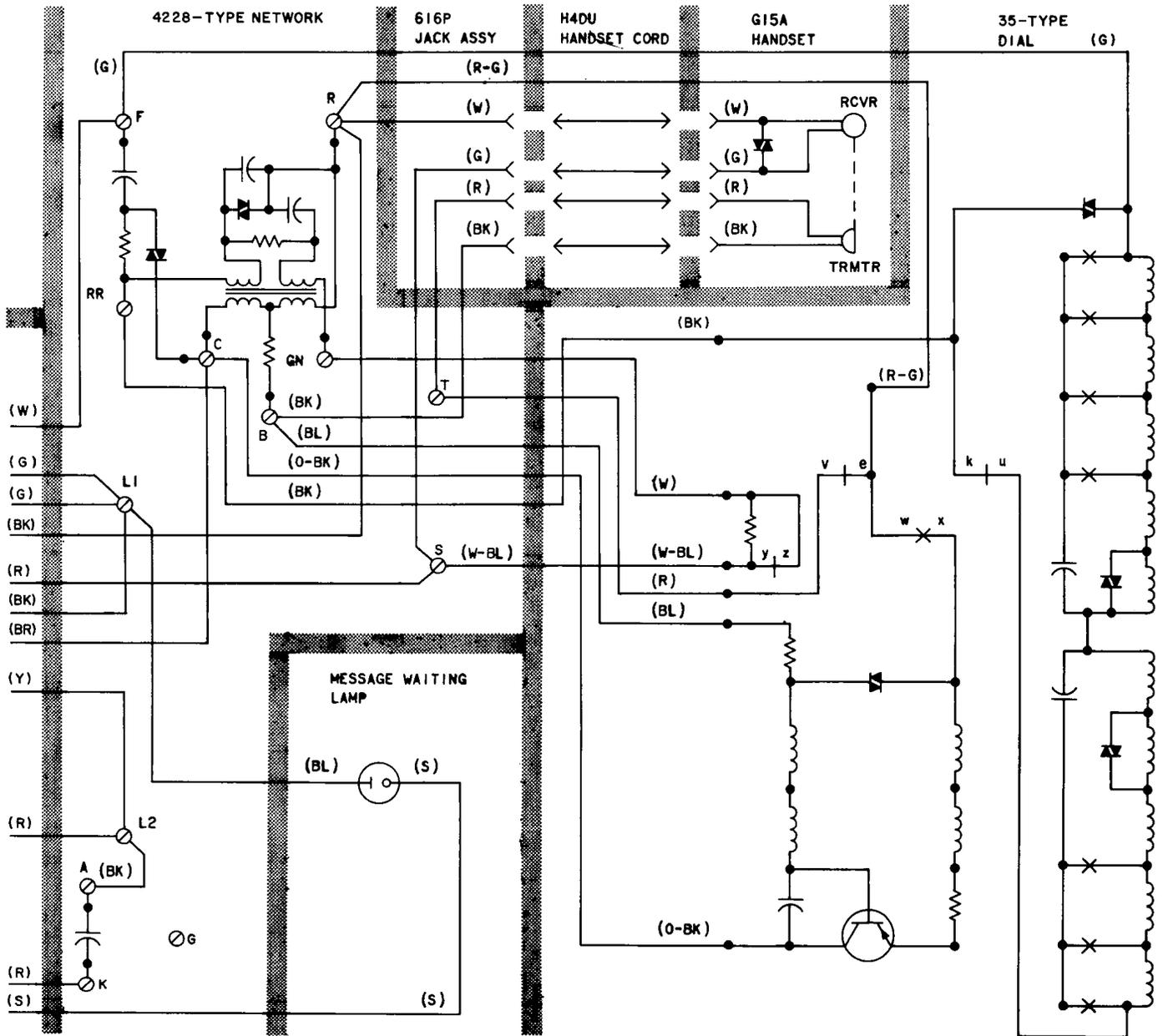


Fig. 14—2702DM Telephone Set, Equipped With 4228G Network, Connections (Sheet 2 of 2)

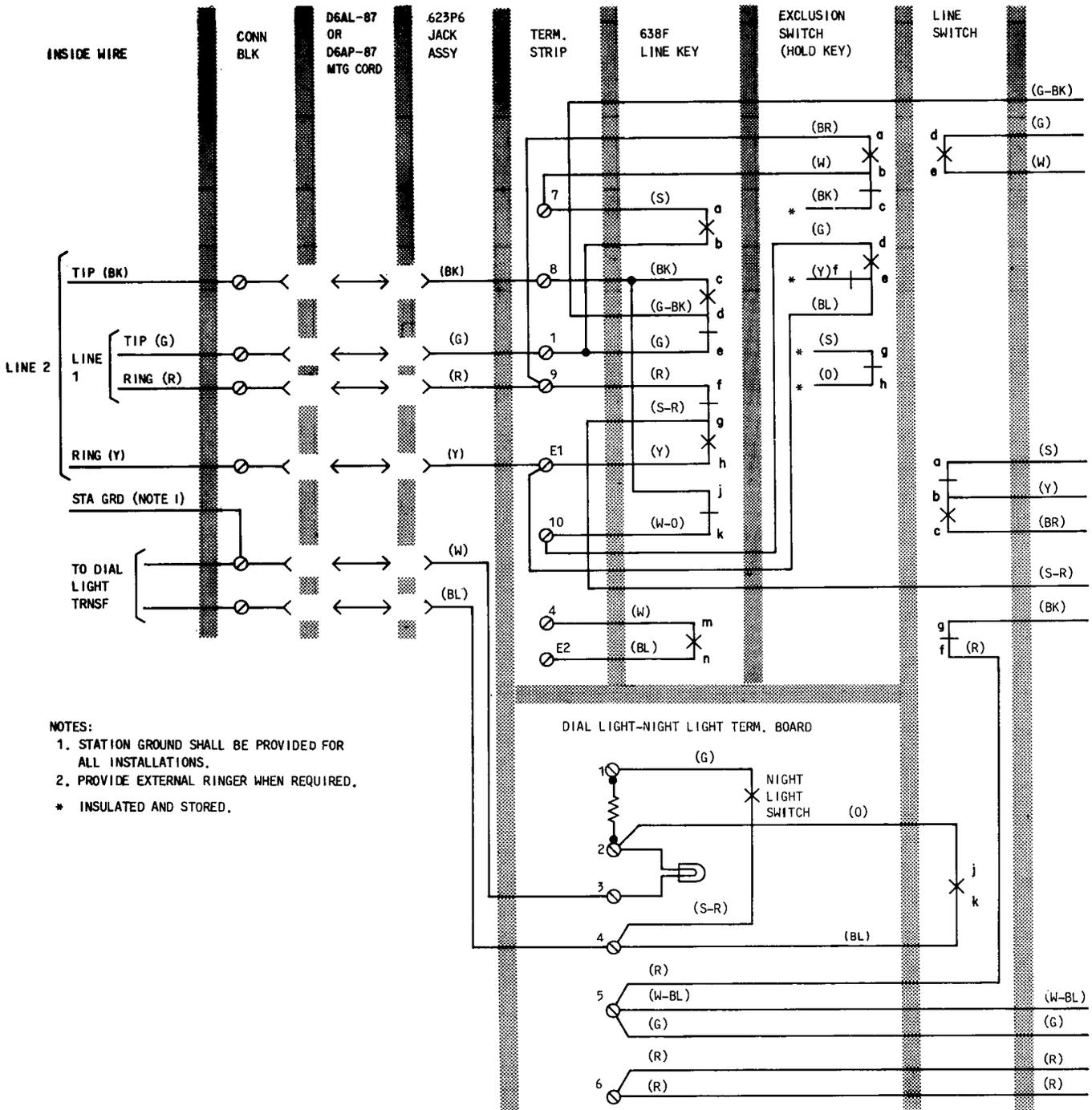


Fig. 16—2713BM (Early Version) Telephone Set, Connections (Sheet 1 of 2)

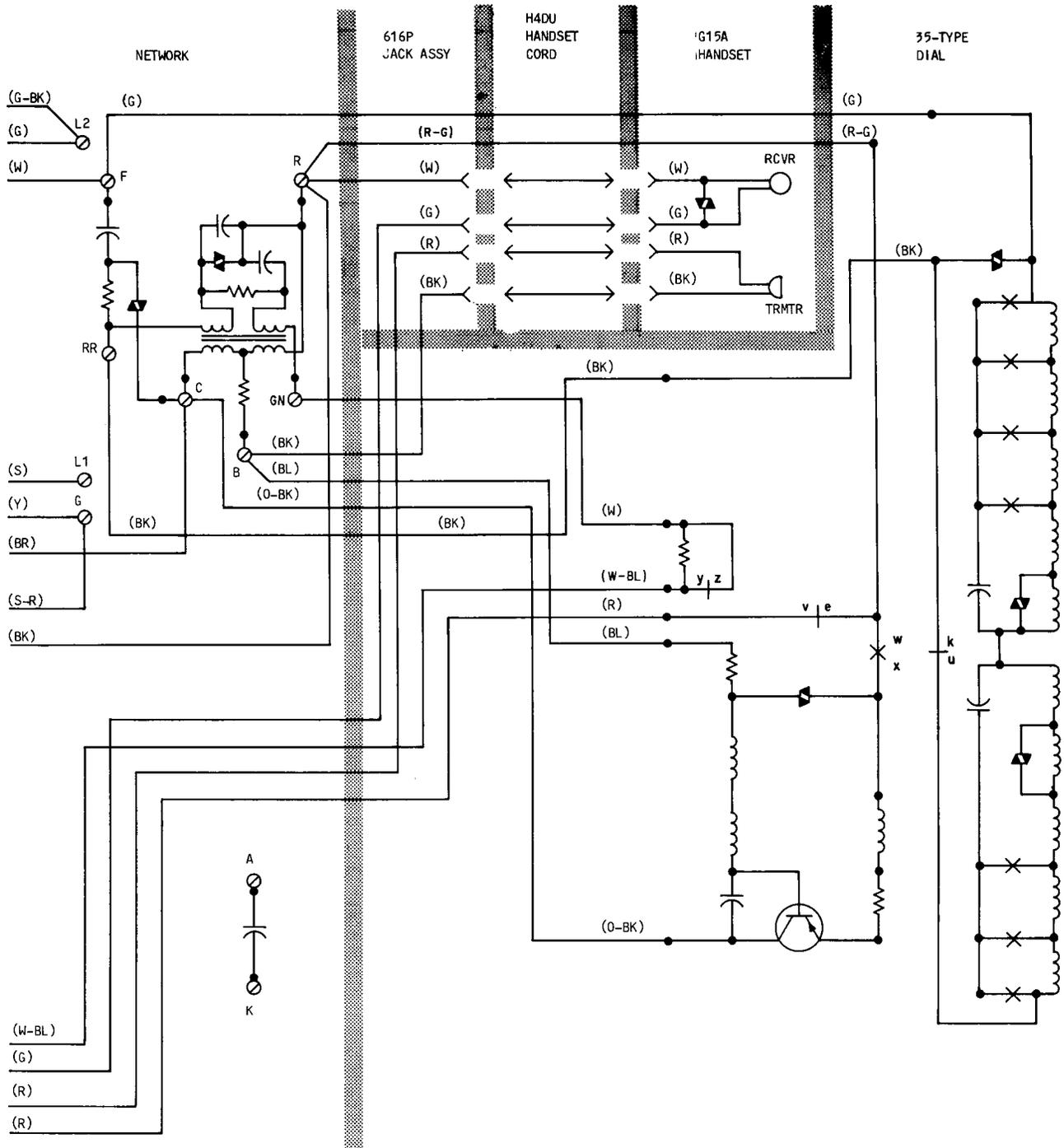
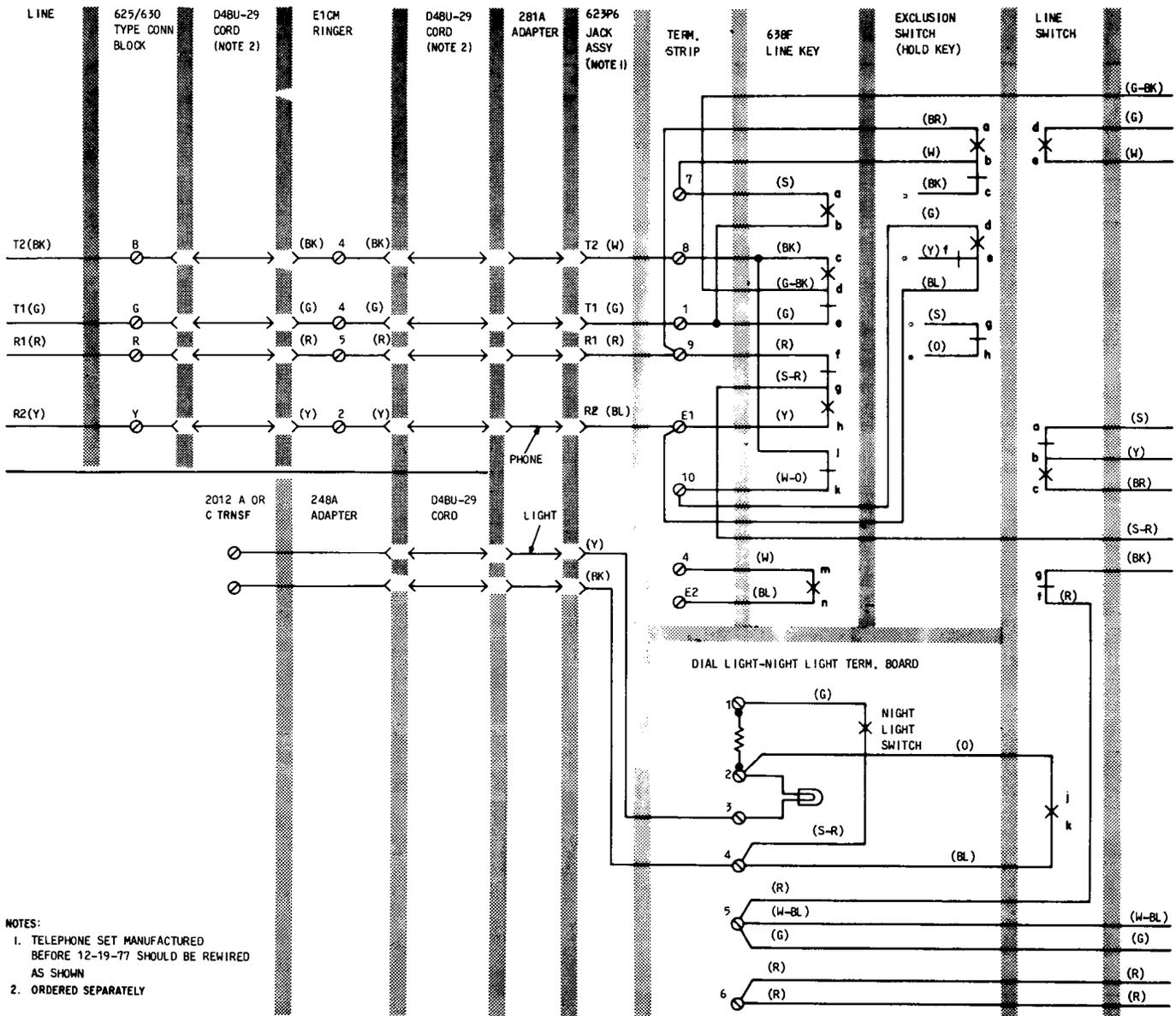


Fig. 16—2713BM (Early Version) Telephone Set, Connections (Sheet 2 of 2)

SECTION 502-703-103



- NOTES:
1. TELEPHONE SET MANUFACTURED BEFORE 12-19-77 SHOULD BE REWIRED AS SHOWN
 2. ORDERED SEPARATELY

Fig. 17—2713BM (Current Version) Telephone Set Using 281A Adapter (Sheet 1 of 2)

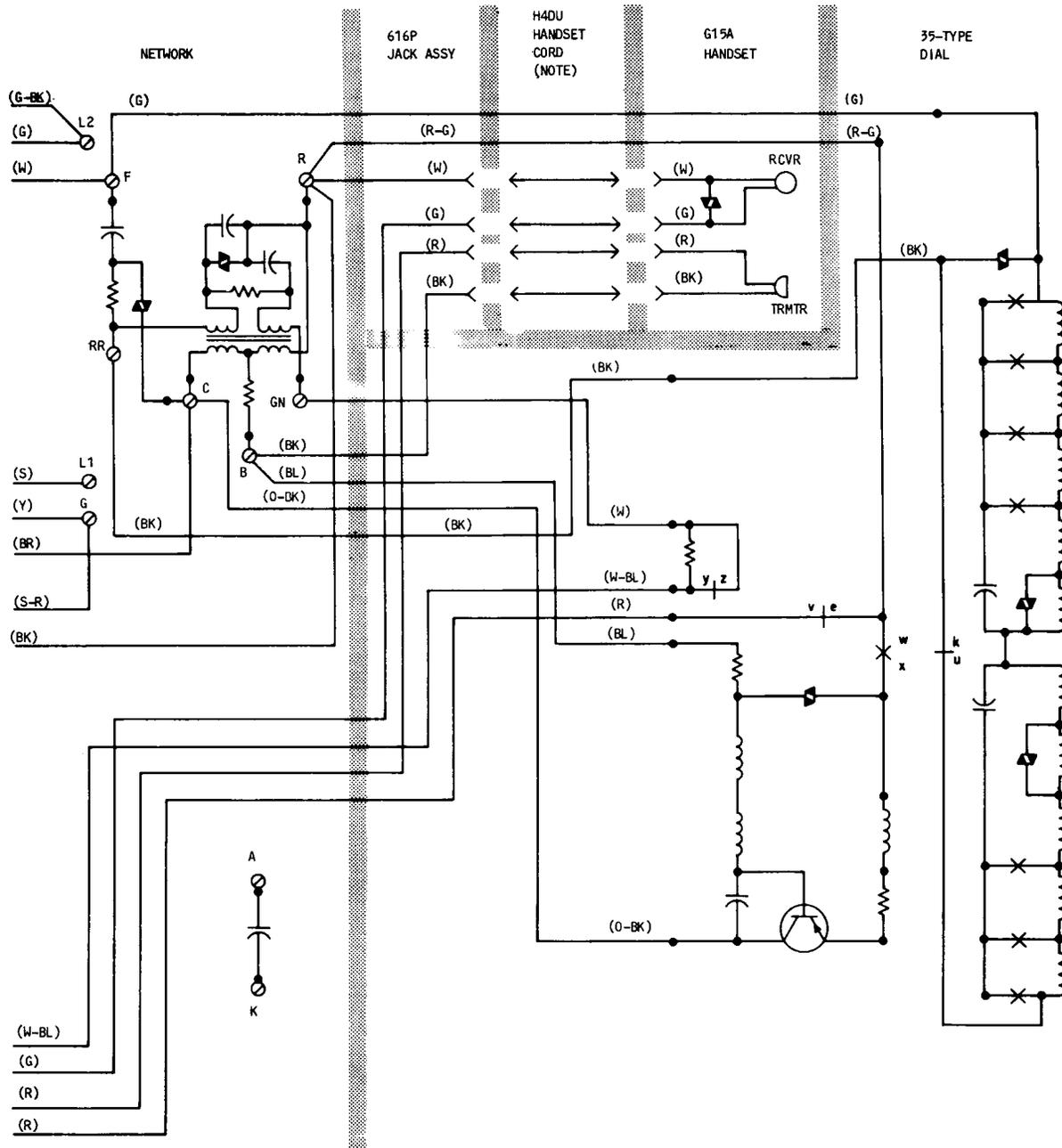
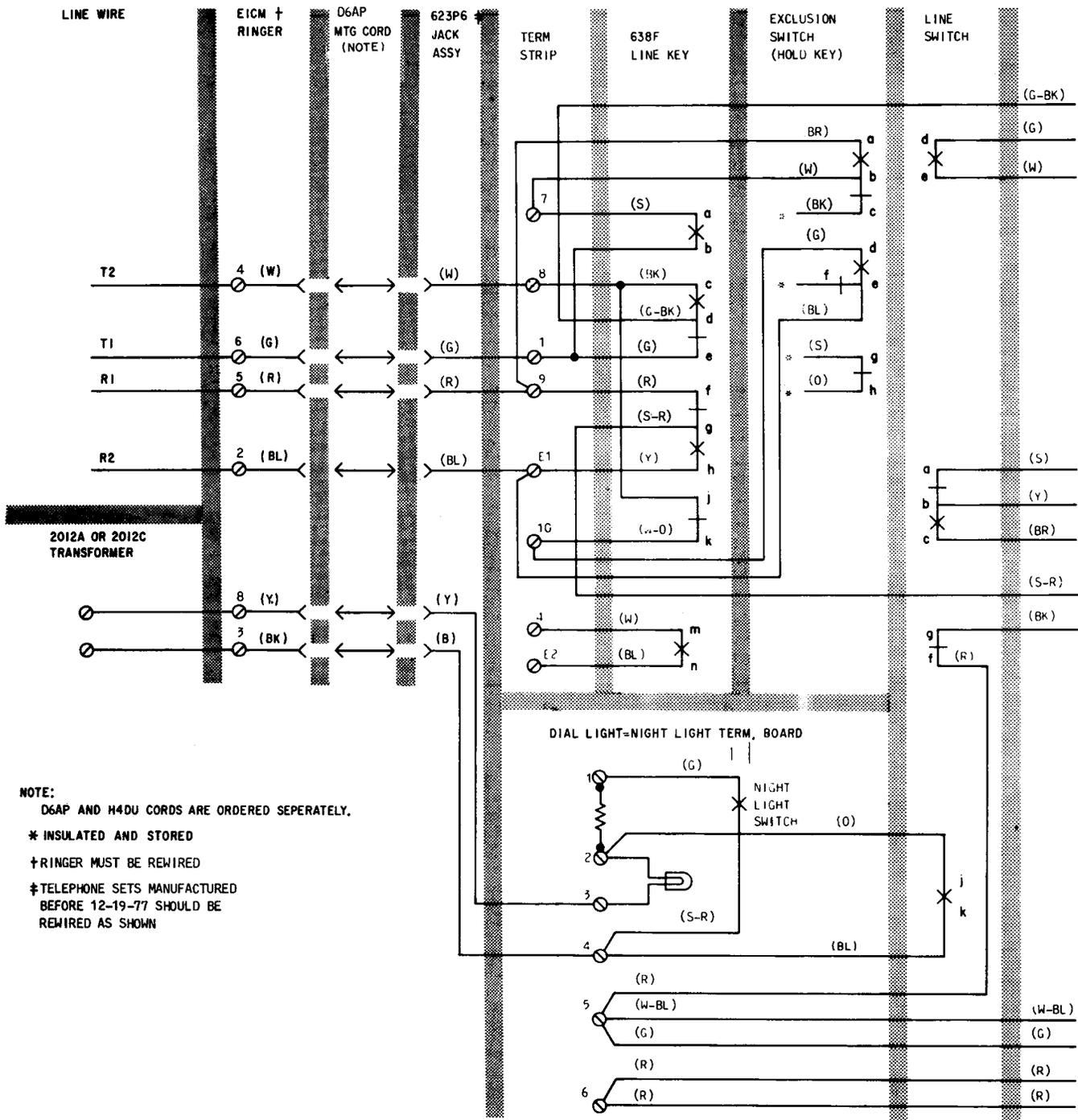


Fig. 17—2713BM (Current Version) Telephone Set Using 281A Adapter (Sheet 2 of 2)

SECTION 502-703-103



NOTE:
 † RINGER MUST BE REWIRED
 ‡ TELEPHONE SETS MANUFACTURED BEFORE 12-19-77 SHOULD BE REWIRED AS SHOWN

Fig. 18—2713BM (Current Version) Telephone Set Using E1CM Ringer (Sheet 1 of 2)

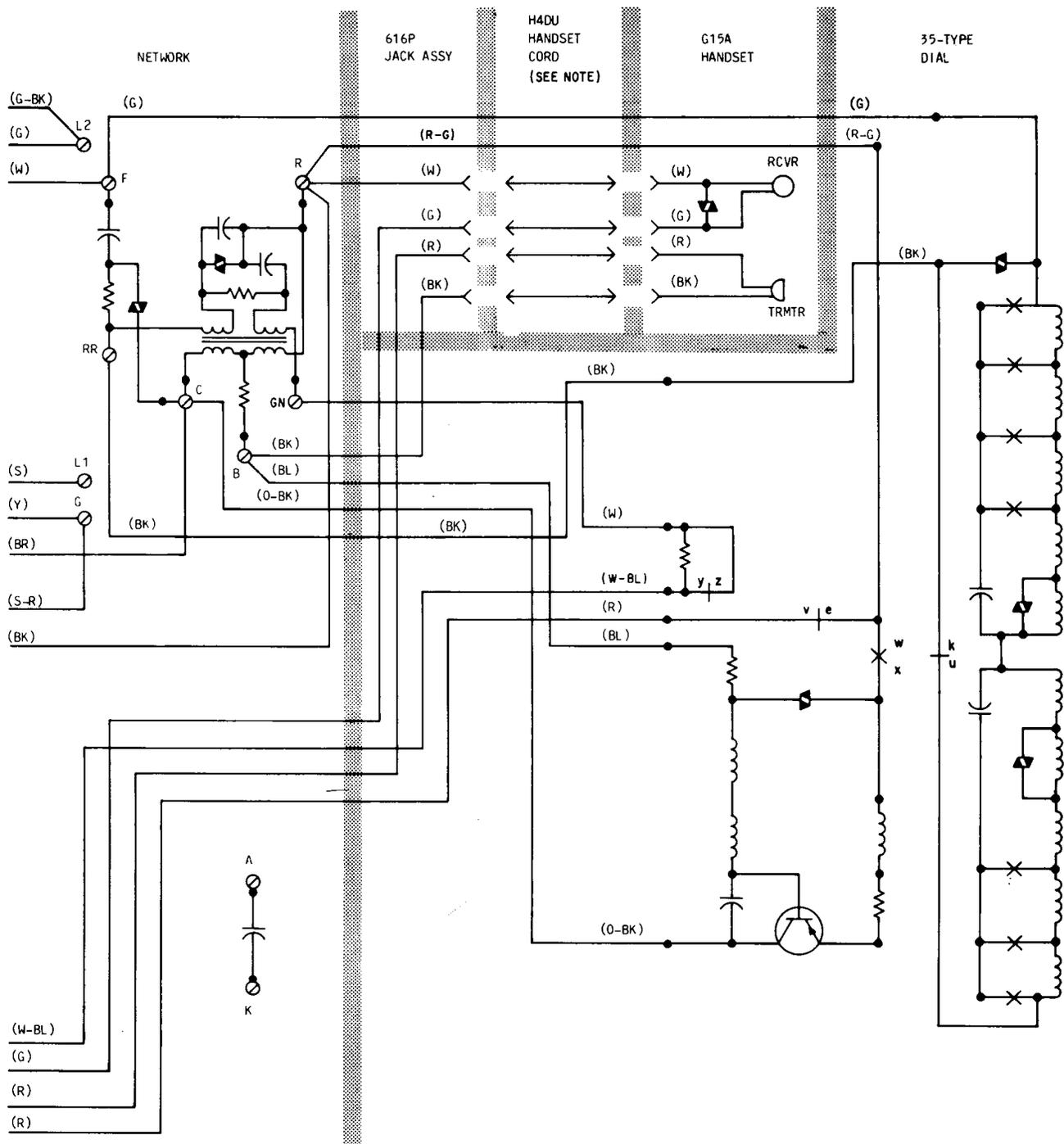


Fig. 18—2713BM (Current Version) Telephone Set Using E1CM Ringer (Sheet 2 of 2)