

REFERENCE

701B AND 702B TELEPHONE SETS

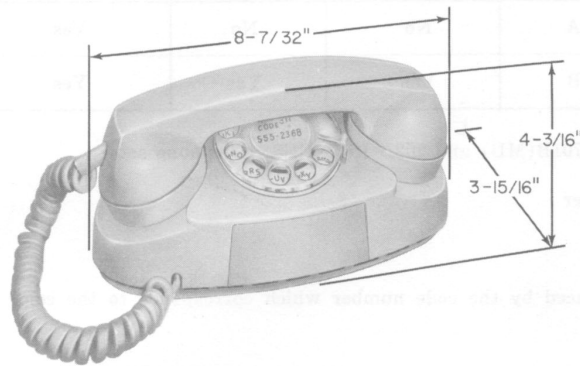


Fig. 1—700-Type Telephone Set

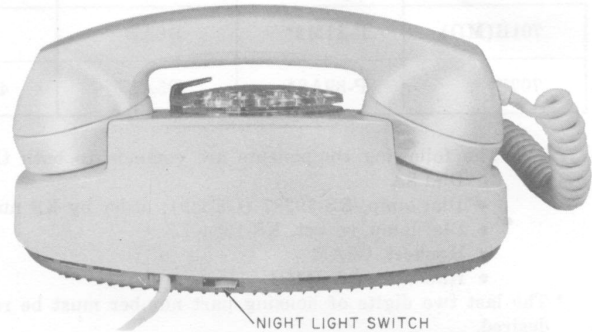


Fig. 2—700-Type Telephone Set, Rear View

1. GENERAL

1.01 This section provides identification, installation, maintenance, and connection information for 701B (MD) and 702B telephone sets previously contained in Sections 502-710-400 and 502-710-403 which are hereby canceled.

2. IDENTIFICATION

2.01 These sets are equipped with a concealed lamp which 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 (Fig. 2).

2.02 Table A lists the major components of 701B (MD) and 702B PRINCESS® telephone sets.

2.03 These sets are available in standard telephone colors. Refer to Section 500-120-100 for promoted and nonpromoted colors.

2.04 The 701B (MD) telephone set is not equipped with an internal ringer. When a ringer is required, an E1- or F1-type external ringer may be used. With either ringer, individual line, or 2-party flat rate service is available. Internal

wiring changes must be made when other services are required.

2.05 701B (MD) telephone sets may be used with the following services:

- 4-party selective and 8-party semiselective service
- 1A1 and 1A2 key telephone systems

2.06 The 702B telephone sets (Fig. 3) are similar to the 701B (MD) which it replaces, except that an internal ringer (M1A) is provided.

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 transformer.
- Location of telephone set so ringer volume is adequate for area.
- General appearance of installation.

TABLE A

## COMPONENTS AND FEATURES OF THE 701B(MD) AND 702B TELEPHONE SETS

TYPE SET	HOUSING	MOUNTING CORD	NETWORK	INTERNAL RINGING	3-TYPE SPEAKER-PHONE	USED WITH 1A, 1A1, 1A2 KTS
701B(MD)	P-81M2*	D6AB	495A	No	No	Yes
702B	P-89A8*	D5AK	4010B	Yes	Yes	Yes

**Note:** The following components are common to both the 701B(MD) and 702B PRINCESS telephone sets:

- Dial 8A
- Dial lamp, KS-19387 (GE259); order by KS number
- Dial lamp, socket, KS-19240L2
- Handset, G3AR
- Handset cord, H4CJ

\* The last two digits of housing part number must be replaced by the code number which corresponds to the color desired.

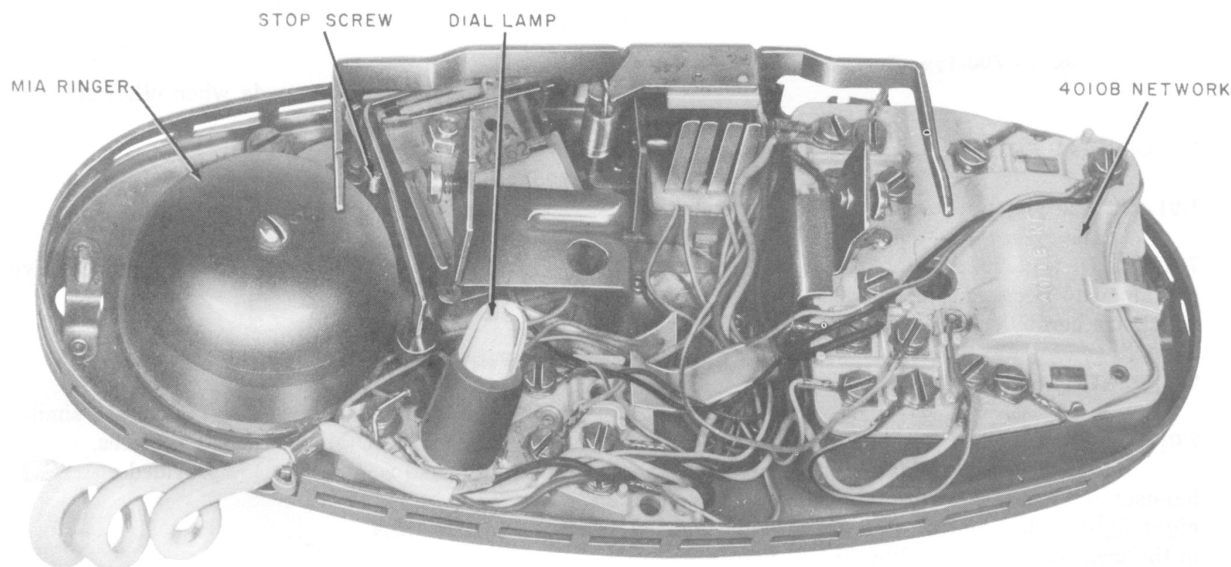


Fig. 3—702-Type Telephone Set, Dial and Housing Removed

**Dial Light Transformer**

**3.02** Select a 105-120 volt AC receptacle on a circuit not controlled by a switch. A 2012A transformer should be used with each telephone set. Current model transformers utilize folded-blade prongs to secure the transformer to the service

outlet. For multiple installations, see section covering station transformers.

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

**Ringer**

**3.04** When an external ringer is required, install an E1-type with each 701B (MD) telephone set (Fig. 4).

**3.05** When no ringer is used, the mounting cord of a telephone set should be terminated on a connecting block or plug.

**Inductors**

**3.06** A 1610A or 1635A inductor must be installed in the base of the 701B (MD) telephone set when ringer is not used and tip party identification is required.

**3.07** Install the 1610A inductor (ordered separately) as follows:

- (1) Remove housing from telephone set.

- (2) Loosen dial and mounting cord stay hook, lay aside.

- (3) Install inductor as shown in Fig. 5 and 6.

- (4) Insert wedge in position (Fig. 6).

- (5) Connect inductor between terminals B of network and 3 of terminal board.

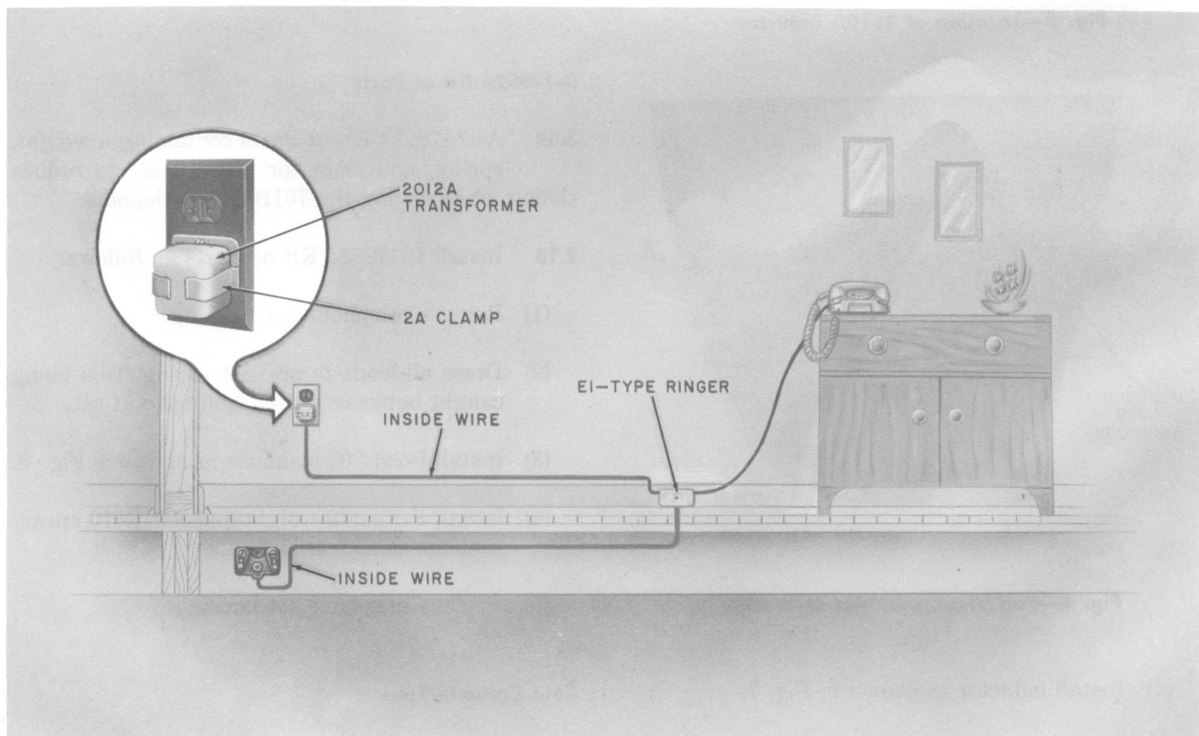
- (6) Replace mounting cord stay hook, dial, and housing.

**3.08** Install the 1635A inductor (ordered separately) as follows:

- (1) Remove housing from telephone set.

- (2) Loosen dial and lay it aside.

- (3) Remove screw from left dial mounting bracket.



**Fig. 4—Typical Installation of 701B (MD) Telephone Set**

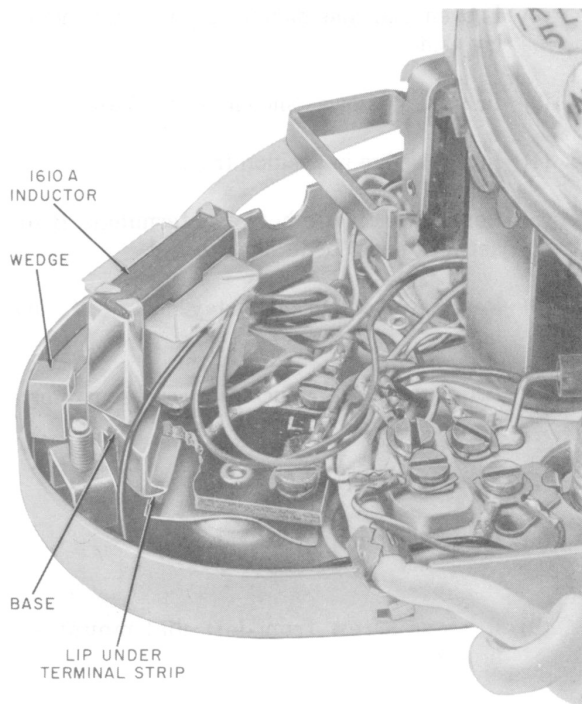


Fig. 5—Location of 1610A Inductor

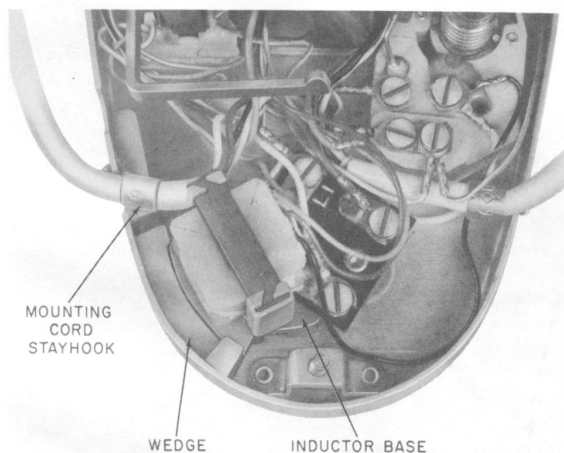


Fig. 6—Top View, Location of Wedge

- (4) Install inductor as shown in Fig. 7.
- (5) Replace screw in dial mounting bracket.
- (6) Connect inductor between terminals B of network and 3 of terminal board.

- (7) Replace dial and housing.

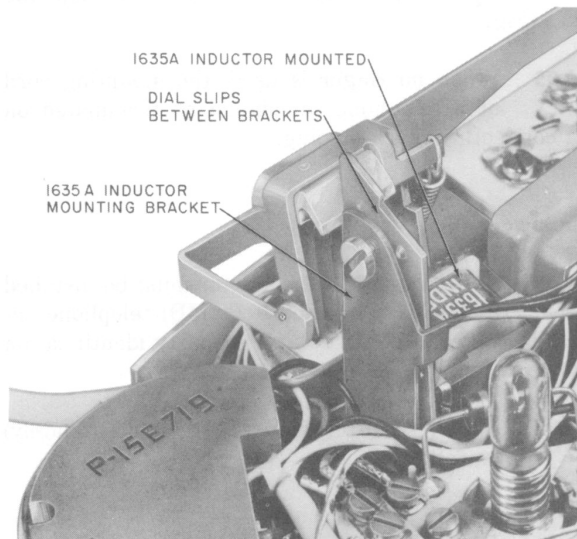


Fig. 7—1635A Inductor Mounted in 701B (MD) Telephone Set

#### D-179924 Kit of Parts

**3.09** A D-179924 Kit of Parts containing a weight, spring, and insulator is available to reduce sliding while dialing the 701B (MD) telephone.

**3.10** Install D-179924 Kit of Parts as follows:

- (1) Remove telephone set housing.
- (2) Dress all leads to prevent wiring from being caught between weight and base of set.
- (3) Install P-25E307 insulator as shown in Fig. 8.
- (4) Install P-15E719 weight and P-24E510 spring retainer as shown in Fig. 9.
- (5) Replace telephone set housing.

#### Cold-Cathode Tube

**3.11** If 4-party selective or 8-party semiselective service is desired, a 425A or 426A cold-cathode tube may be ordered and installed in the base of

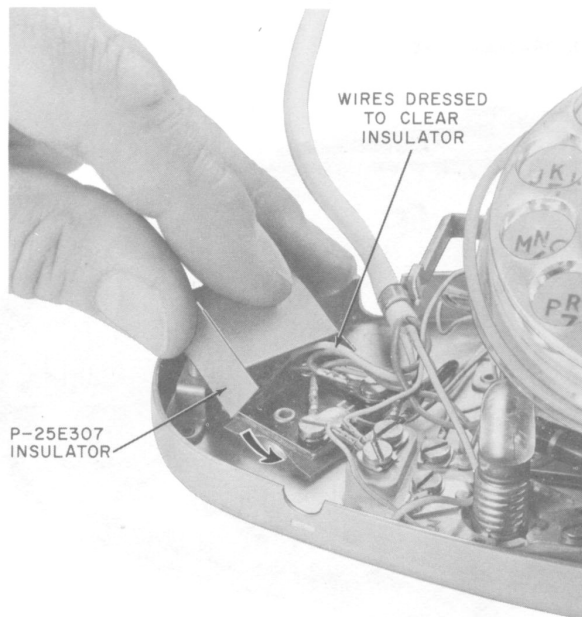


Fig. 8—Placing Insulator Over Terminal

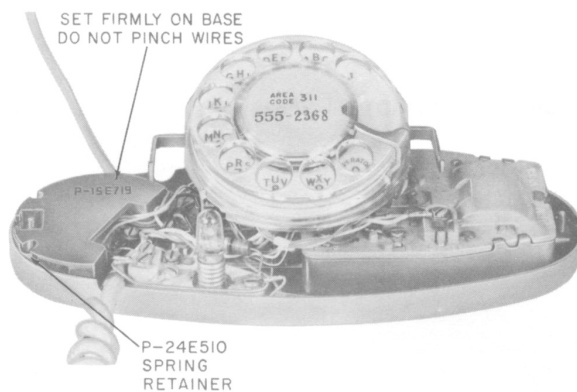


Fig. 9—Location of P-24E510 Spring Retainer and P-15E719 Weight

701B (MD) or 702B telephone sets as follows (Fig. 10):

- (1) Remove telephone set housing.
- (2) Remove dial.
- (3) Remove and discard the mounting screw furnished as part of the electron tube.
- (4) Install and connect tube as shown in Fig. 15 and Table E for 701B (MD) or Fig. 19 for 702B telephone set.
- (5) Replace dial and housing.

#### Portable Installation

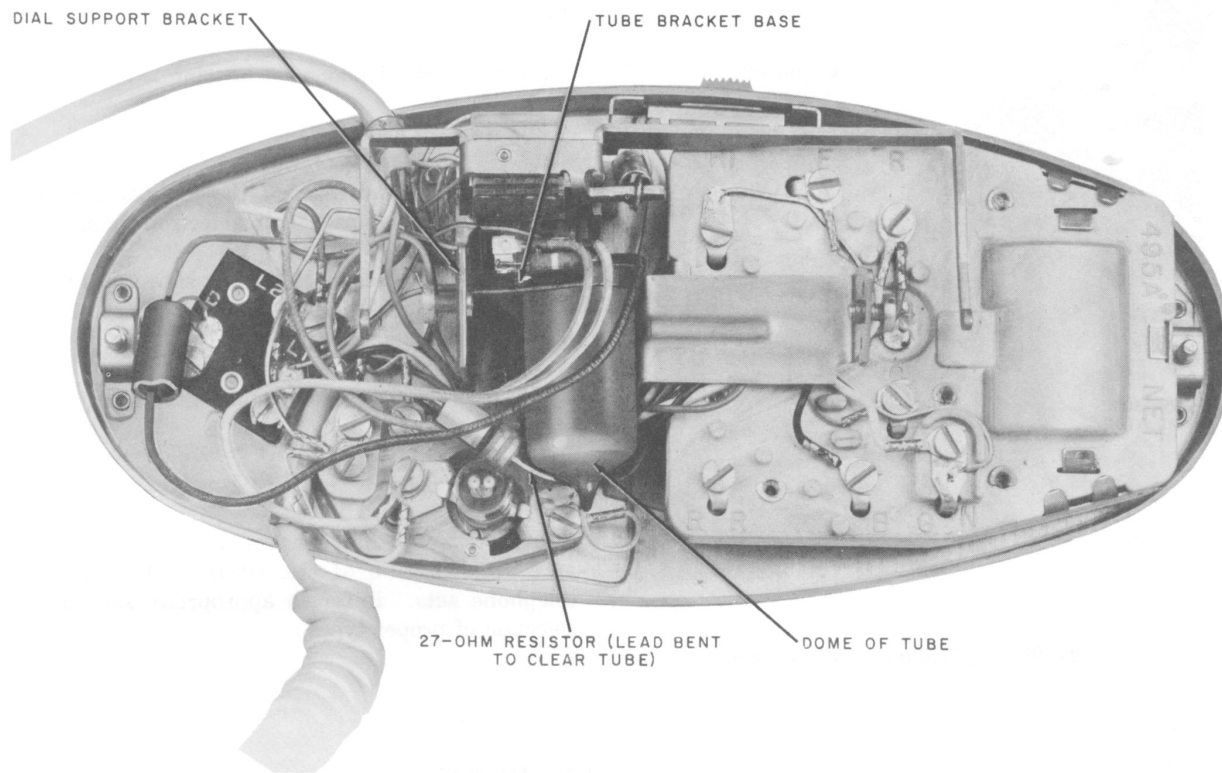
3.12 Jacks and plugs are available for portable installation of the 701B (MD) and 702B telephone sets. Refer to appropriate section for selection of proper types.

#### 4. MAINTENANCE

4.01 Maintenance of the 701B (MD) or 702B PRINCESS® telephone sets is limited to replacing defective components (Table A) and burnishing or adjusting line switch contacts.

4.02 Refer to sections covering dials, handsets, cords, ringers, networks, line keys, etc., for maintenance of these components.

4.03 Housings, dial plates, and handsets may be cleaned with a damp KS-2423 cloth. ***Do not use scouring cleaners on colored components as this may damage finish.***



**Fig. 10—Location of Cold-Cathode Tube in 701B (MD) Telephone Set**

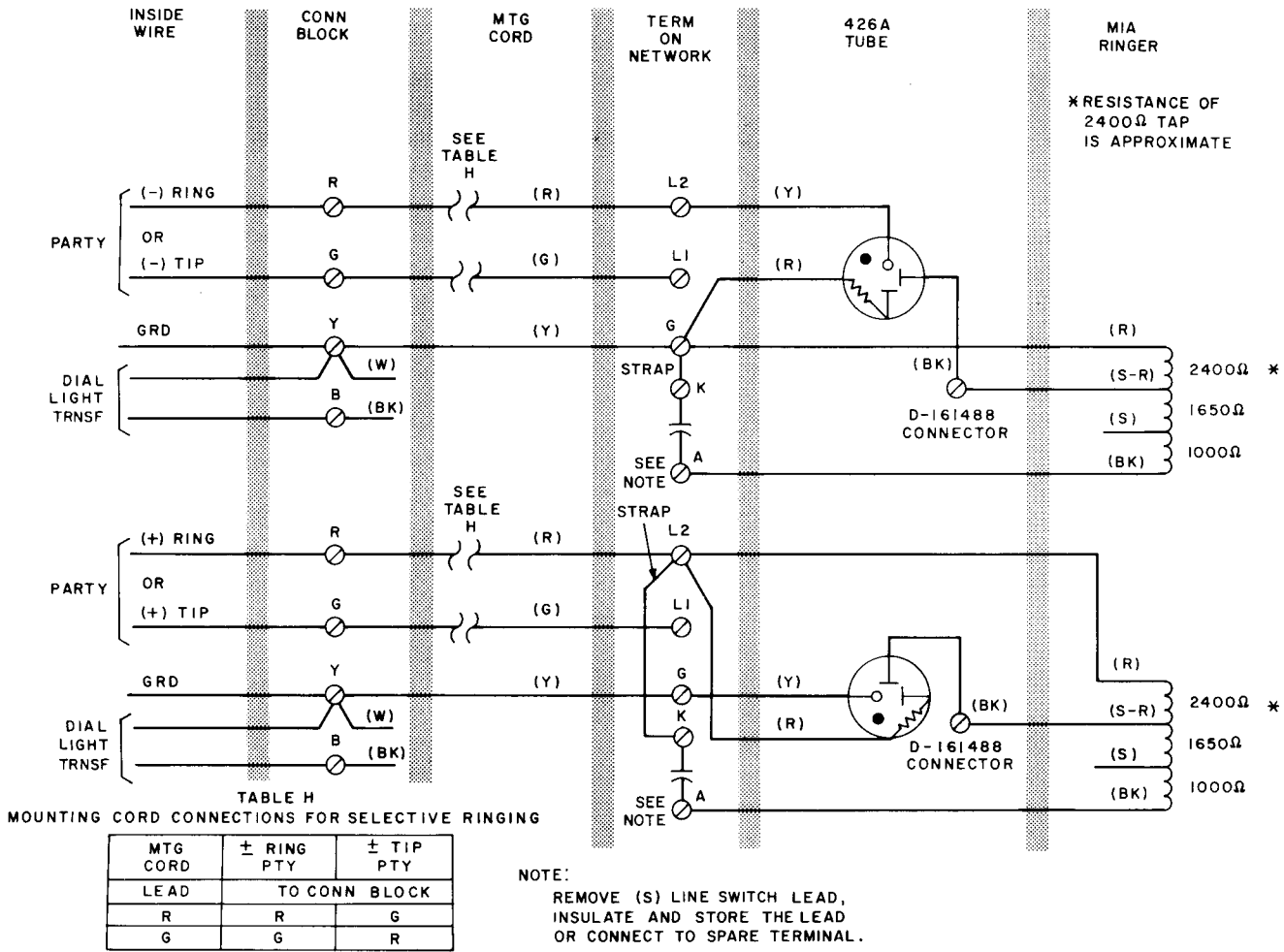


Fig. 19—702B Telephone Set With 426A Cold-Cathode Tube

TABLE B

## 701B(MD) TELEPHONE SET CONNECTIONS WITH INDUCTOR

WIRE OR LEAD		COLOR	INDIV OR BRIDGED	TIP PARTY ‡	TIP PARTY WITH IDENT GRD	
					1000Ω	2500Ω
Line Wire at Conn Block	Ring Tip Grd	R	R	R	R	R
		G	G	G	G	G
		Y	Y	Y	Y	Y
Trnsf Leads at Conn Block		Y BK	Y B	Y B	Y B	Y B
Mtg Cord at Conn Block		R	R	R	G	G
		G	G	G	R	R
		Y	Y	Y	Y	Y
		BL	B	B	B	B
		W	R	R	G	G
		BK	B	B	B	B
Mtg Cord at Set		R	L2	L2	L2	L2
		G	L1	L1	C†	C†
		Y	3	3	3	3
		BL	4	4	4	4
		W	D	D	D	D
		BK	4	4	4	4
Inductor Leads at Set		BK			3	3
		R			L1	*
		S			L1	L1
Line Switch		S-W	F†	F†	B†	B†
		S-BR	C†	C†	F†	F†
		S-G	L1†	L1	L1	L1

\* Insulate and store or connect to spare terminal.

† Terminal on network.

‡ For ring party service reverse (R) and (G) mounting cord leads at set.

**Notes:**

1. Connections include modifications to prevent false billing due to incomplete hang-up.
2. When connecting the D6AB mounting cord leads for tip party identifying ground use D-161488 connectors and M1W straps as required to extend conductor leads.

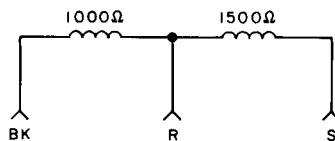


Fig. 12—Schematic For 1610A or 1635A Inductor



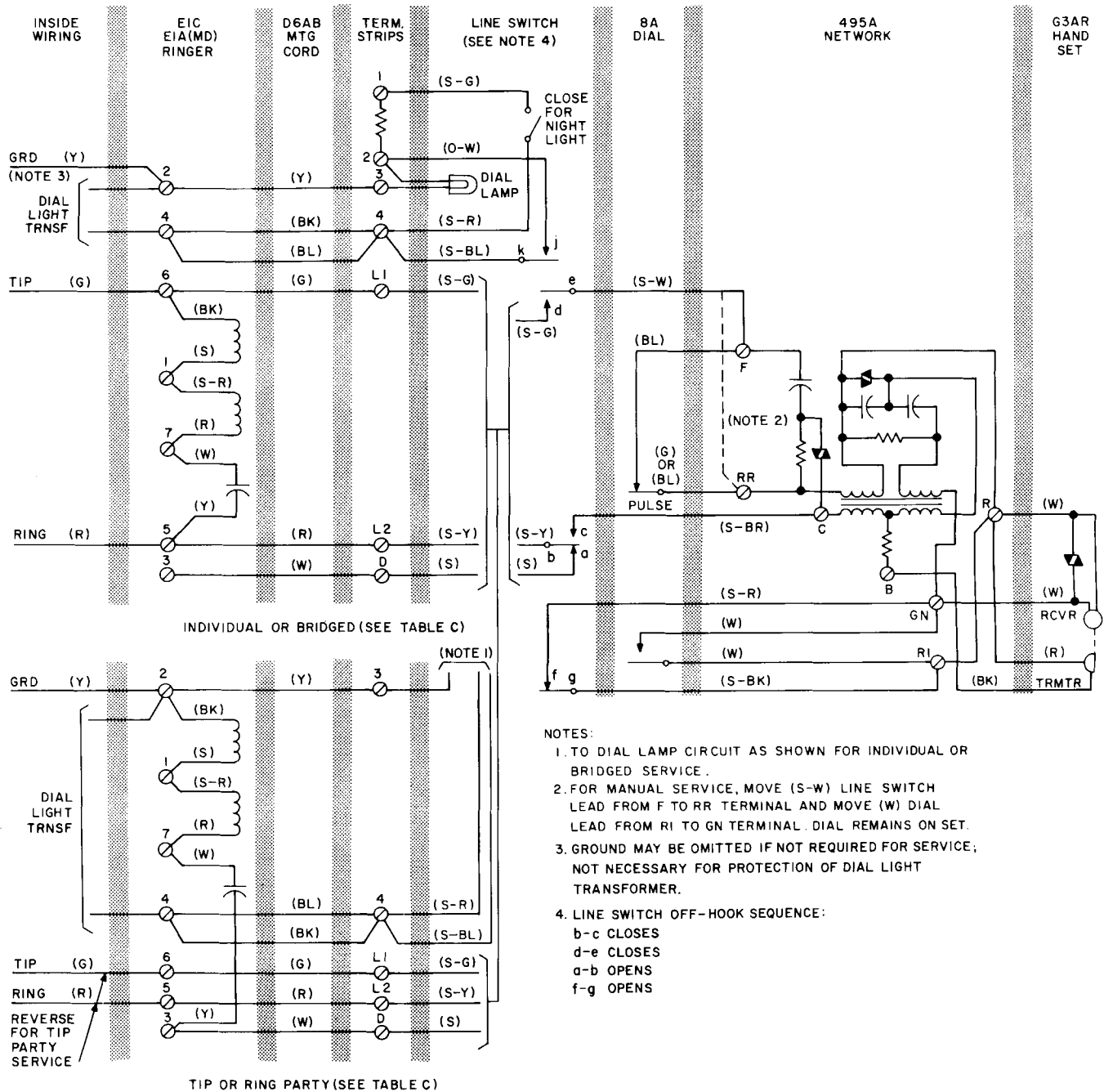


Fig. 13—701B (MD) Telephone Set With E1 Ringer, Connections For Bridged, Ring, or Tip Party Service

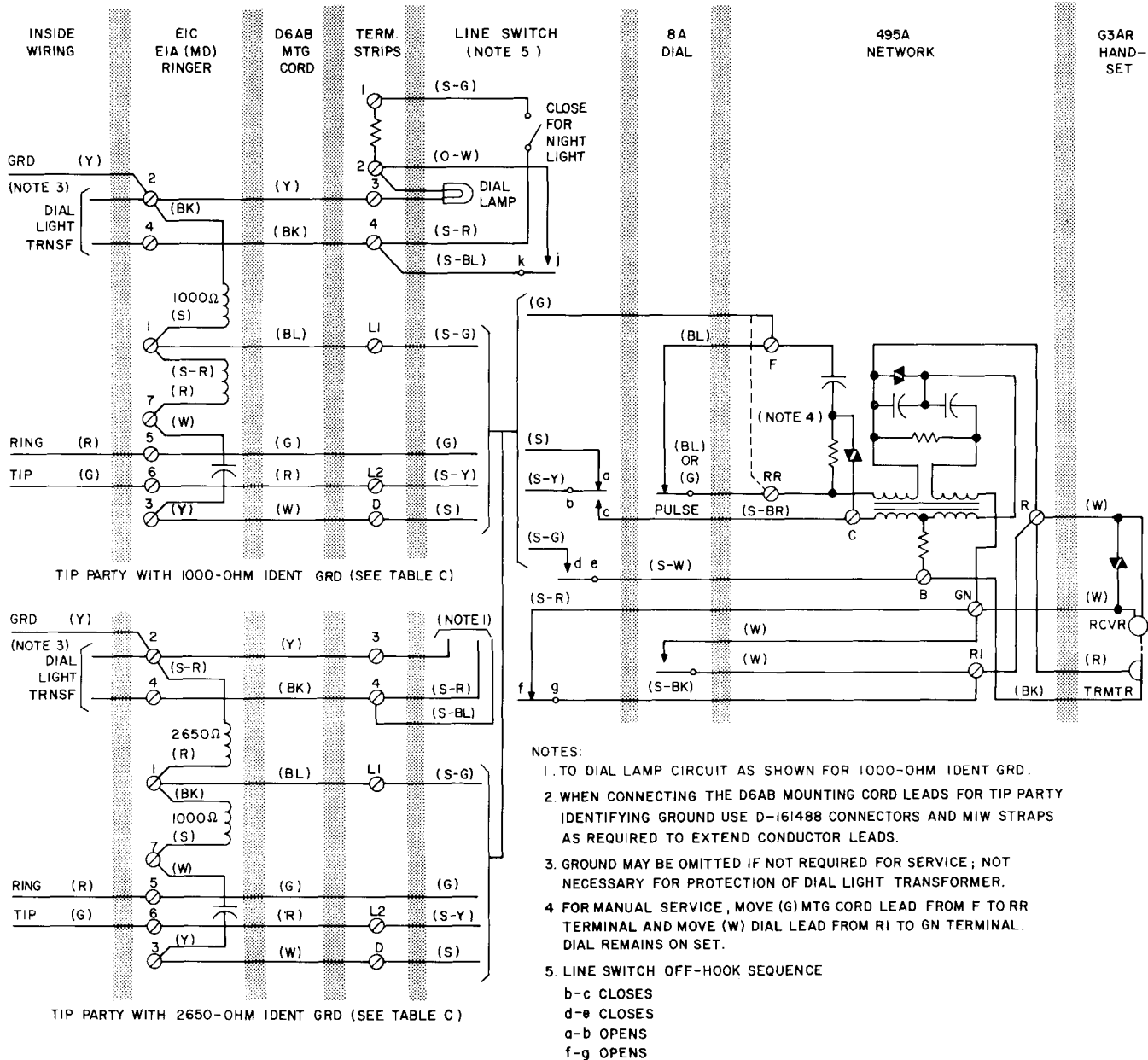


Fig. 14—701B (MD) Telephone Set With E1C or E1A (MD) Ringer, Connections for Tip Party Identification Ground

TABLE C

## 701B(MD) TELEPHONE SET CONNECTIONS WITH E1C OR E1A (MD) RINGER

WIRE OR LEAD		COLOR	INDIV OR BRIDGED	RING PARTY ↑	TIP PARTY WITH IDENT GRD	
					1000Ω	2650Ω
Line or Ringer	Ring Tip Grd	R	5	5	5	5
		G	6	6	6	6
		Y	2	2	2	2
Ringer		R	7	7	7	1
		S-R	1	1	1	2
		BK	6	2	2	1
		S	1	1	1	7
Capacitor in Ringer		W	7	7	7	7
		Y	5	3	3	3
Trnsf Leads		Y	2	2	2	2
		BK	4	4	4	4
Mtg Cord at Ringer		R	5	5	6	6
		G	6	6	5	5
		Y	2	2	2	2
		BL	4	4	1	1
		W	3	3	3	3
		BK	4	4	4	4
Mtg Cord at Set		R	L2	L2	L2	L2
		G	L1	L1	F*	F*
		Y	3	3	3	3
		BL	4	4	L1	L1
		W	D	D	D	D
		BK	4	4	4	4
Line Switch		S-BR	C*	C*	C*	C*
		S-G	L1	L1	L1	L1
		S-W	F*	F*	B*	B*

\* Terminal on network.

† For tip party service reverse (R) and (G) mounting cord leads at set.

TABLE D

## 701B (MD) TELEPHONE SET CONNECTIONS WITH F1A RINGER

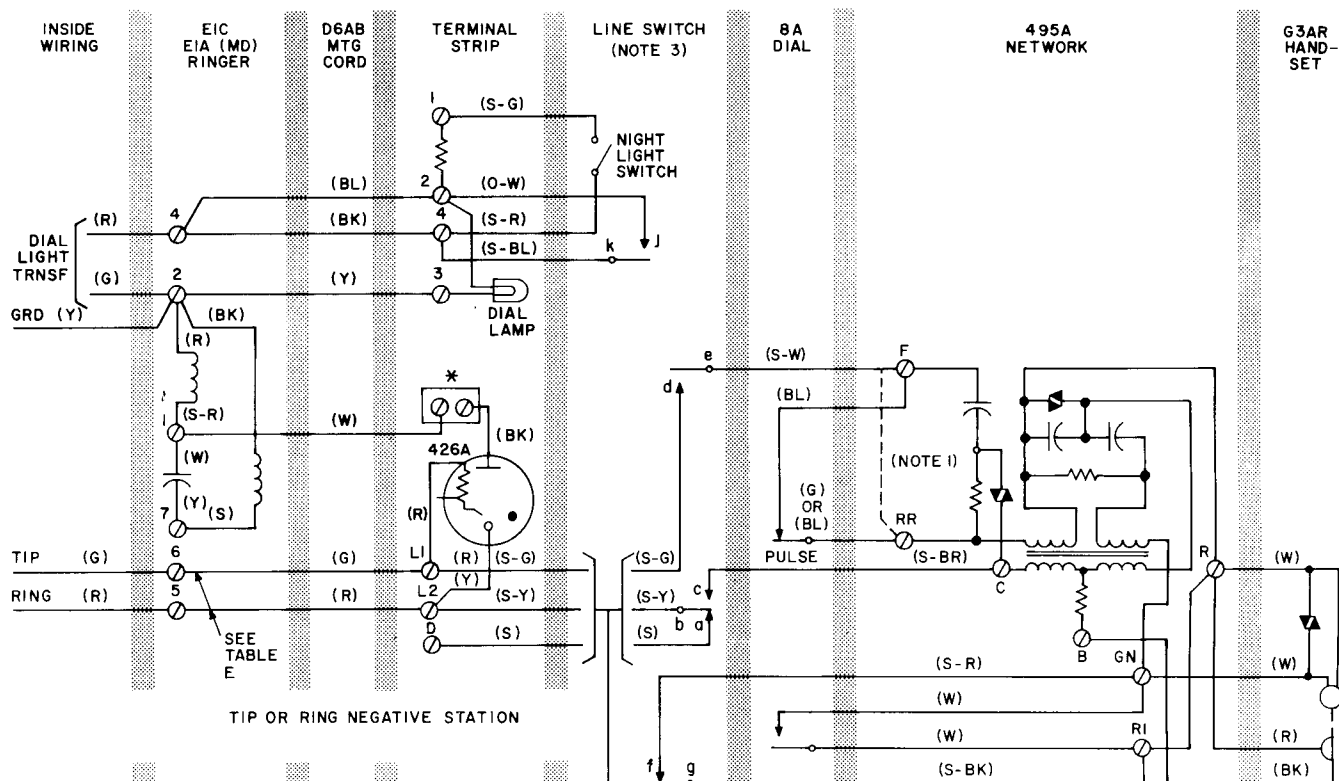
WIRE OR LEAD			COLOR	INDIVIDUAL OR BRIDGED	RING PARTY	TIP PARTY	TIP PARTY WITH IDENTIFYING GROUND (NOTE 2)	
							1000Ω	2650Ω
F1A Ringer Term.	Line	Ring	R	6	6	1	1	1
		Tip	G	4	1	6	5	5
		Grd	Y	1	4	4	4	4
	Ringer Coil		R	7	7	7	7	2
			S-R	2	2	2	2	4
			BK	4	4	4	4	2
			S	2	2	2	2	7
	Network Straps	G	BL	4	4	4	4	4
		A	R	7	7	7	7	7
		B	G	6	6	6	6	6
	Dial Light Trnsf		1	1	4	4	4	4
			2	3	3	3	3	3
	Mtg Cord		R	6	6	6	5	5
			G	4	1	1	1	1
			Y	1	4	4	4	4
			BL	3	3	3	2	2
			W	5	5	5	6	6
			BK	3	3	3	3	3
Set Term.	Mtg Cord		R	L2	L2	L2	L2	L2
			G	L1	L1	L1	C*	C*
			Y	3	3	3	3	3
			BL	4	4	4	L1	L1
			W	D	D	D	D	D
			BK	4	4	4	4	4
	Line Switch		S-BR	C*	C*	C*	F*	F*
			S-G	L1	L1	L1	L1	L1
			S-W	F*	F*	F*	B*	B*



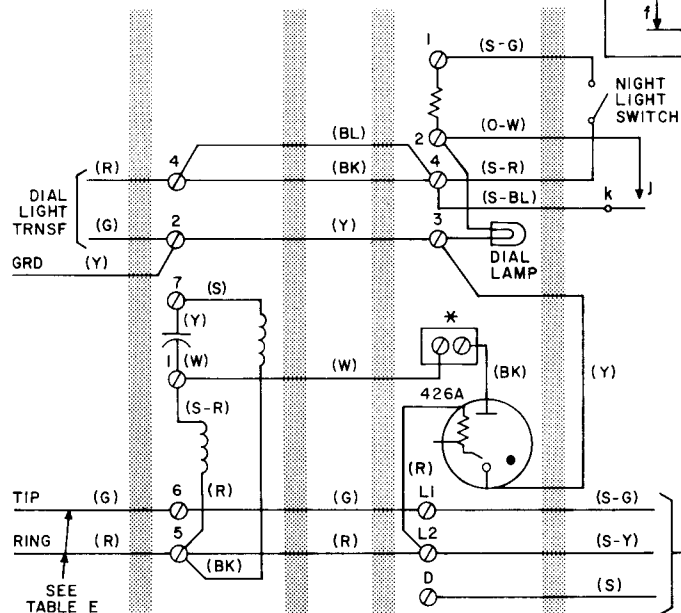
*The F1A ringer is not intended to be used with 4-party selective or 8-party semiselective service, or any other service where code ringing would not be distinguishable in CHIME position. For schematic drawing and maintenance information on F1A ringer, see section on the F1A ringer.*

- Notes:**
1. Ringer wired at factory for individual or bridged, ring, and tip party service.
  2. Connections include modification to prevent false billing due to incomplete hangup.
  3. When connecting the D6AB mounting cord leads for tip party identifying ground use D-161488 connectors and M1W straps as required to extend conductor leads.

\* Terminals on network of telephone set.



TIP OR RING NEGATIVE STATION



TIP OR RING POSITIVE STATION

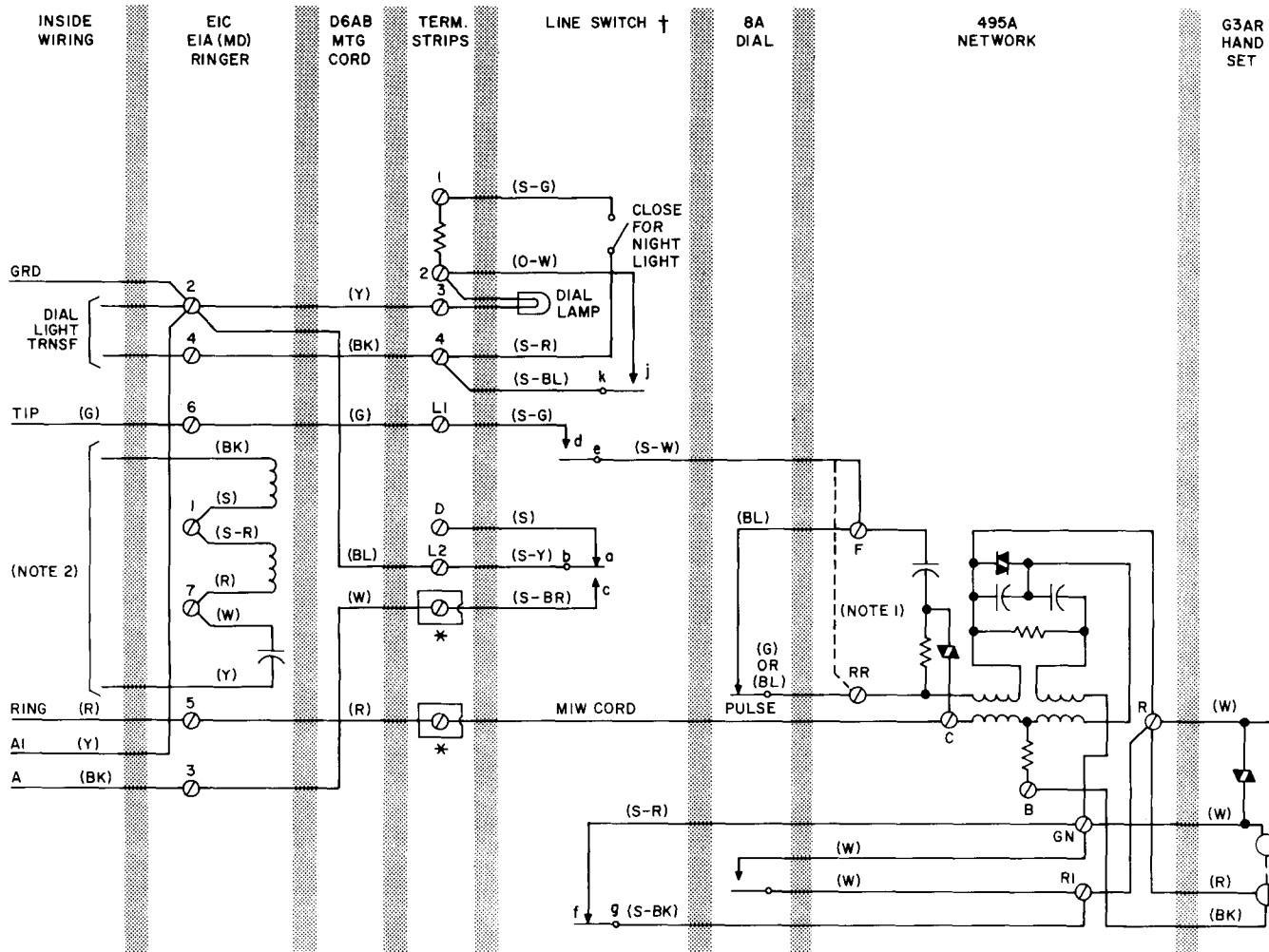
## NOTES:

1. FOR MANUAL SERVICE MOVE (S-W) LINE SWITCH LEAD FROM F TO RR TERMINAL. DIAL LEAD FROM RI TO GN TERMINAL. DIAL REMAINS ON SET.
  2. FOR NEGATIVE STATIONS IN OFFICES WITHOUT ANI, (R) LEAD FROM 426A TUBE MAY BE CONNECTED TO (G) IF RINGER OPERATION IS MARGINAL.
  3. LINE SWITCH OFF HOOK SEQUENCE:  
     b c CLOSES                      a b OPENS  
     d e CLOSES                      f g OPENS
- \* REMOVE W LEAD FROM D PUNCHING IN SET AND CONNECT TO BK TUBE LEAD USING D-161488 CONNECTOR.

**TABLE E**  
**4-PARTY SELECTIVE AND 8-PARTY**  
**SEMISELECTIVE SERVICE [701B (MD)]**

LOCATION	WIRE OR LEAD		COLOR	NEGATIVE STATIONS		POSITIVE STATIONS	
				1 & 5	2 & 6	3 & 7	4 & 8
Terminals on E1C or E1A (MD) Ringer	Line	Ring	R	5	6	5	6
		Tip	G	6	5	6	5
		Grd	Y	2	2	2	2
	Ringer Coil Leads		R	2	2	5	5
			S-R	1	1	1	1
			S	7	7	7	7
			BK	2	2	5	5
	Capacitor Leads		Y	7	7	7	7
			W	1	1	1	1
	Mtg Cord		R	5	5	5	5
			G	6	6	6	6
			W	1	1	1	1
			Y	2	2	2	2
			BL	4	4	4	4
			BK	4	4	4	4
	2012A or KS-16184 Trans		G	2	2	2	2
			R	4	4	4	4
Terminals in 701B Telephone Set	Mtg Cord		R	L2	L2	L2	L2
			G	L1	L1	L1	L1
			W	*	*	*	*
			Y	3	3	3	3
			BL	4	4	4	4
			BK	4	4	4	4
	426A Tube Leads		BK	*	*	*	*
			R	L1	L1	L2	L2
			Y	L2	L2	3	3

Fig. 15—701B (MD) Telephone Set With 426A Cold-Cathode Tube



NOTES:

1. FOR MANUAL SERVICE, MOVE (S-W) LINE SWITCH LEAD FROM F TO RR TERMINAL AND MOVE (W) DIAL LEAD FROM RI TO GN TERMINAL. DIAL REMAINS ON SET.
2. FOR INDIVIDUAL LINE RINGER, CONNECT BK TO TIP (6) AND Y CAPACITOR LEAD TO RING (5). FOR COMMON AUDIBLE RINGER, CONNECT TO SIGNAL LEADS FROM EQUIPMENT CABINET. USING D-161488 CONNECTORS.

\* CONNECT WITH D-161488 CONNECTOR.

+ LINE SWITCH OFF-HOOK SEQUENCE

bc CLOSES	de OPENS
ab CLOSES	fg OPENS

**Fig. 16—701B (MD) Telephone Set, Wired for 1A1 and 1A2 Key Telephone System**

**TABLE F**  
**702B TELEPHONE SET LINE AND RINGER CONNECTIONS**

WIRE OR LEAD		INDIVIDUAL OR BRIDGED*	RING PARTY*	TIP PARTY		
				NO IDENT GRD	IDENTIFYING GROUND	
					1000 OHMS	2650 OHMS
Inside Wire at Conn Block	Ring	R	R	R	R	R
	Tip	G	G	G	G	G
	Grd	Y	Y	Y	Y	Y
Dial Light Transformer	1	Y	Y	Y	Y	Y
	2	B	B	B	B	B
Mtg Cord at Conn Block	(R)	R	R	G	G	G
	(G)	G	G	R	R	R
	(Y)	G	Y	Y	Y	Y
	(BK)	B	B	B	B	B
	(W)	Y	Y	Y	Y	Y
Mtg Cord at Set Terminals	(R)	L2	L2	L2	L2	L2
	(G)	L1	L1	F	F	F
	(Y)	G	G	G	G	G
	(BK)	4†	4†	4†	4†	4†
	(W)	3†	3†	3†	3†	3†
Ringer Leads	(R)	K	K	K	K	K
	(BK)	G	G	G	G	G
	(S)	‡	‡	‡	L1	‡
	(S-R)	‡	‡	‡	‡	L1
Line Switch	(W) [S-W]	F	F	B	B	B

\* Factory-wired for bridged or ring party.

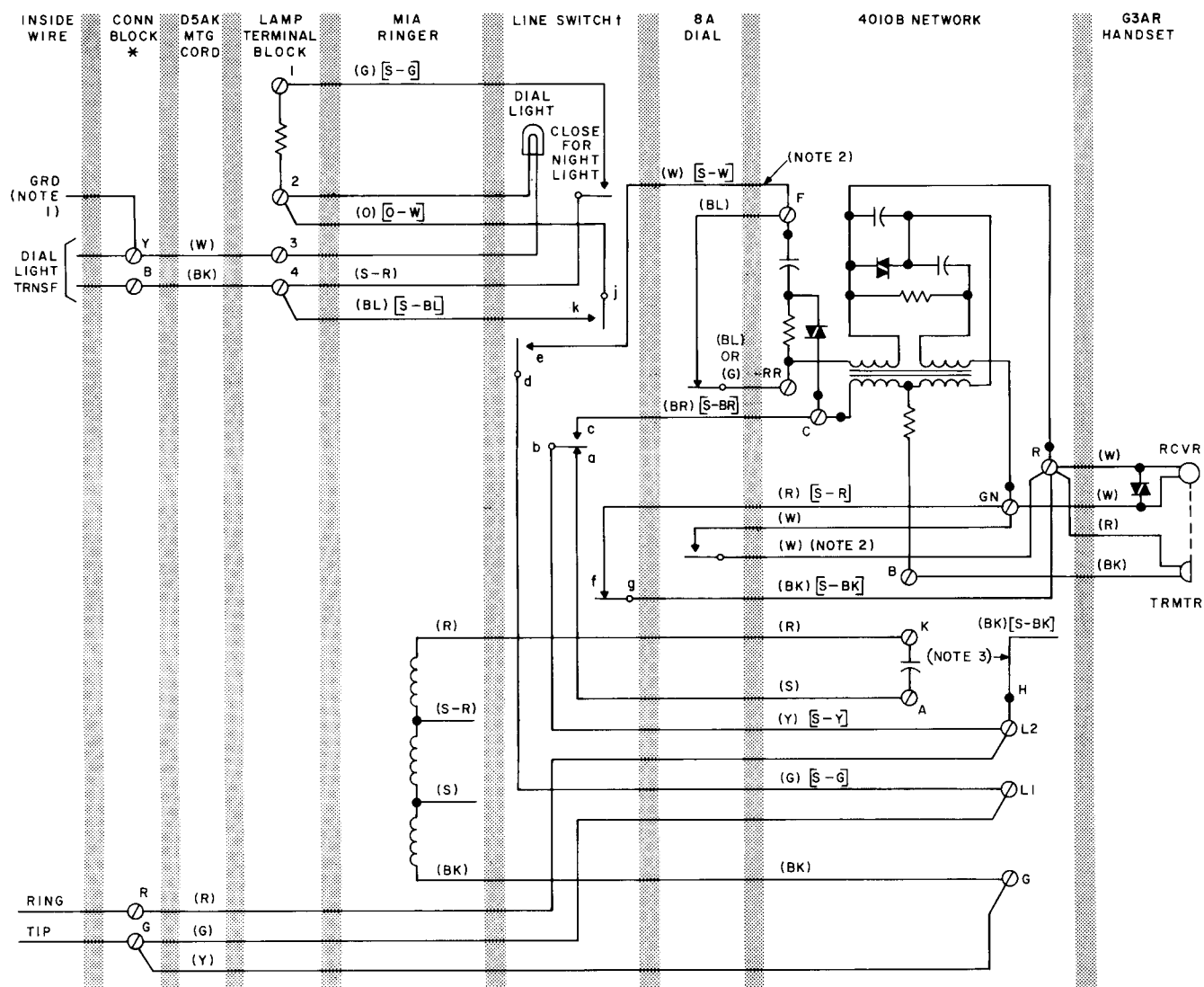
( ) Current color code.

† Terminals on lamp terminal block.

[ ] MD color code.

‡ Insulated and stored.

- Notes:** 1. If [S-BK] or (BK) from **H** on network to terminal **A** is connected; remove, insulate, and store for all classes of service in Table H.
2. To silence ringer permanently: For all classes of service except tip party identifying ground, connect (Y) mounting cord lead to R terminal at connecting block. For 1000Ω or 2650Ω identifying ground, disconnect (R) ringer lead from K, insulate and store or use spare terminal.



NOTES:

1. GROUND MAY BE OMITTED IF NOT REQUIRED FOR SERVICE; NOT REQUIRED FOR PROTECTION OF DIAL LIGHT TRANSFORMER.
2. FOR MANUAL SERVICE, MOVE (W) [S-W] LINE SWITCH LEAD FROM F TO RR TERMINAL AND MOVE (W) DIAL LEAD FROM R TO GN TERMINAL. THE DIAL REMAINS ON THE SET.
3. (BK) [S-BK] FROM H OF NETWORK IS INSULATED AND STORED.

\* JACKS AND PLUGS ARE AVAILABLE FOR PORTABLE INSTALLATION. REFER TO DIVISION 461 FOR SELECTION OF APPROPRIATE TYPES.

( ) CURRENT COLOR CODE.

[ ] MD COLOR CODE.

### ↑ LINE SWITCH OFF-HOOK SEQUENCE

b-c CLOSES

d-e CLOSES

a-b OPENS

f-q OPENS

**Fig. 17—702B Telephone Set, Factory Wiring**



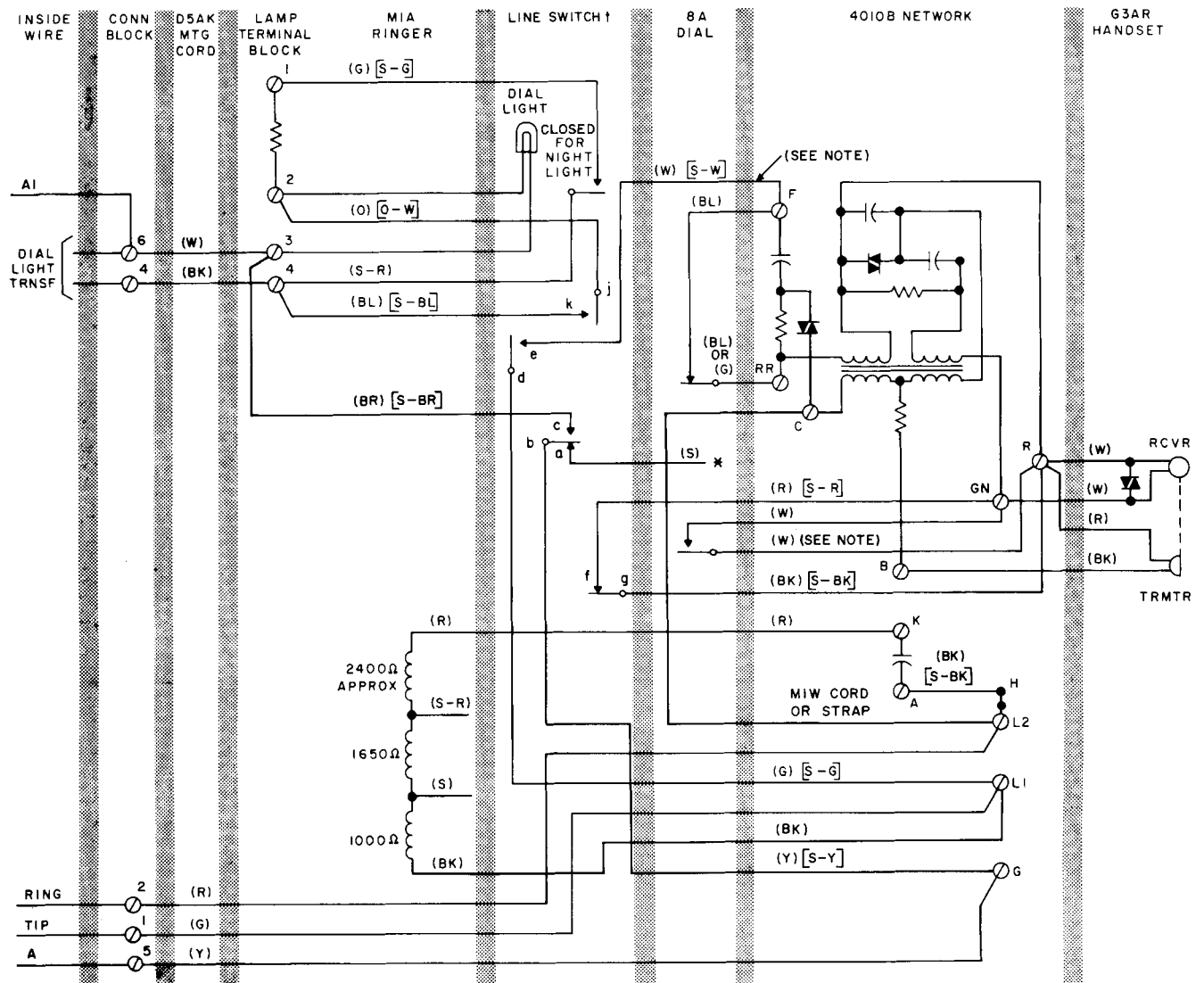


Fig. 18—702B Telephone Set Used With 1A1 and 1A2 Key Telephone Systems

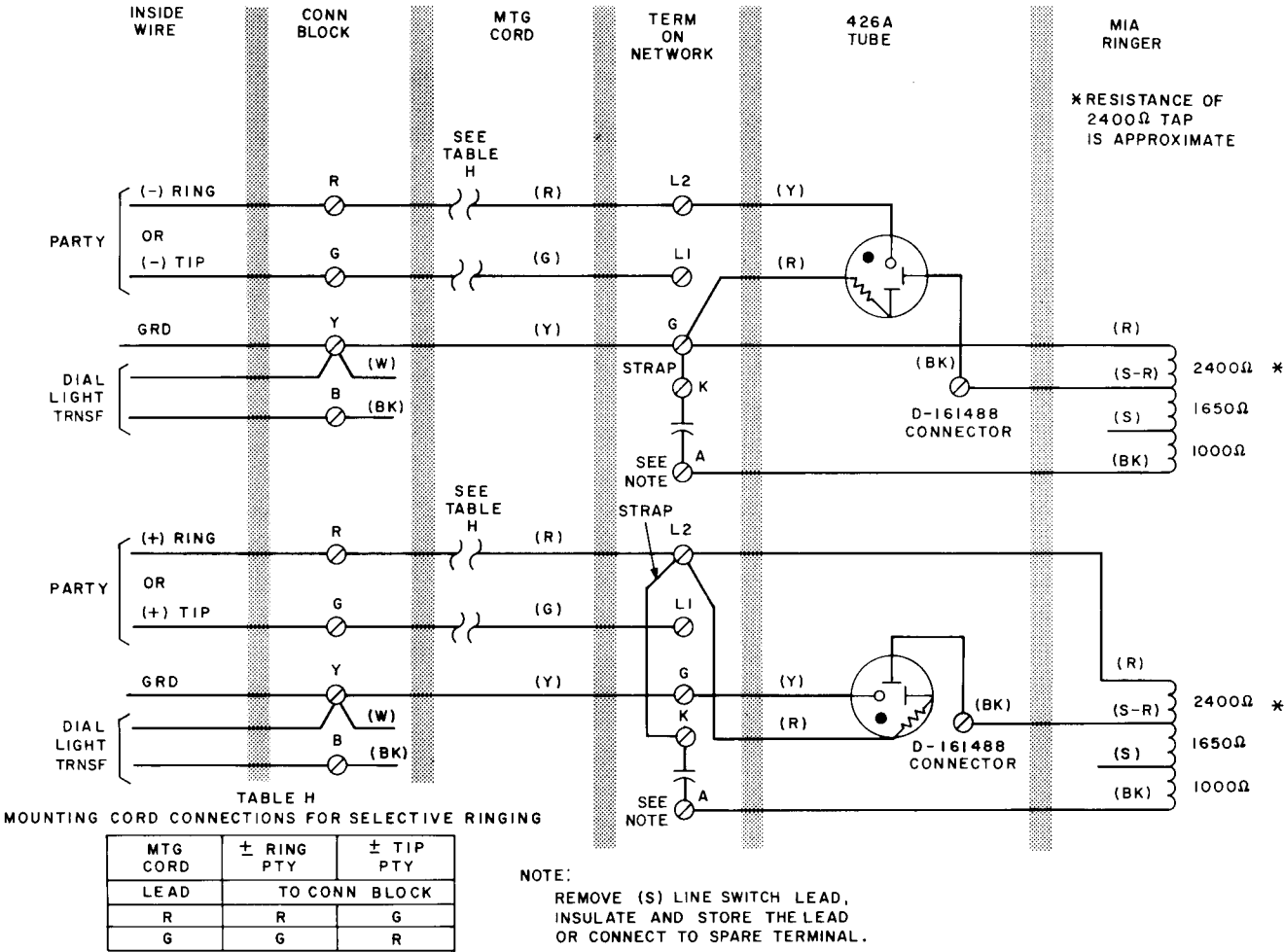


Fig. 19—702B Telephone Set With 426A Cold-Cathode Tube