852A, 852AM, 2852A, AND 2852AM TELEPHONE SETS
IDENTIFICATION, INSTALLATION, CONNECTIONS, AND MAINTENANCE

1. GENERAL

1.01 This section contains information for the 852A (MD), 852AM (rotary dial) and 2852A (MD), 2852AM (TOUCH-TONE® dial) telephone sets.

1.02 This section is reissued to:

- Show new plastic terminal board and a new plastic network mounting (Fig. 4, 5, and 6)

- Add new 840364376 polarity guard (D-181006 Kit of Parts)

- Show the 819041971 polarity guard MD.

2. IDENTIFICATION

A. Purpose

2.01 The 852- and 2852-type (Fig. 1) telephone sets are wall-mounted, 10-button, key telephone sets equipped to provide standard key system features.

B. Application

2.02 Used with central office, PBX, or intercommunicating line circuits in 1A1, 1A2, 6A, or ◆6B◆ key telephone systems (KTS). These sets are not designed for use with 1A KTS.

2.03 The 852- and 2852-type telephone sets may be used with the 4A speakerphone system.

C. Ordering Guide

2.04 To order a complete telephone set, list as follows:

- Set, Telephone, 852AM-* (modular)

- Set, Telephone, 2852AM-* (modular).

Fig. 1—2852-Type Telephone Set

2.05 *Optional Components (order separately):*

- 533K diode or equivalent (for use with station busy lamp or dial restriction)

Note: For additional information on dial restriction, refer to Section 500-155-100.

- 840364376 Polarity Guard order as D-181006 Kit of Parts

*Complete code by adding color suffix from Table A.

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TABLE A

COLOR ORDERING GUIDE

HOUSING, CORDS, AND HANDSET		COORDINATED COLOR	
COLOR	SUFFIX	COLOR	SUFFIX
Black	—03	Charcoal	—70
Ivory	—50	Muted Ivory	—80
Green	—51	Light Green	—71
Red	—53	Muted Red	—69
Yellow	—56	Light Yellow	—72
White	—58	Light Gray	—73
Light Beige	—60	Muted Beige	—75
Aqua Blue	—62	Muted Blue	—76

- KS-8109L2 Buzzer (mounting provided for one buzzer)

- KS-20419L1 Buzzer (mounting provided for one additional buzzer)

- Dial, 8CA-58 (for 852-type set used with speakerphone) replaces 8C-58 dial. Set is factory equipped with 8RA-58 dial.

2.06 Replaceable Components:

- Housing, 852A-*

- Faceplate, 852A-* (852-type telephone set) replaces 851A-* (MD) faceplate

- Faceplate, 2852A-* (2852-type telephone set) replaces 2851A-* (MD) faceplate

- Cord, Handset, H4DU-* (852AM and 2852AM)

- Set, Hand, G3A6-* [852A (MD) and 2852A (MD)]

- Set, Hand, G15A-* (852AM and 2852AM)

- Ringer, P1B or P3C

- Dial, 8CA-58 replaces 8C-58 and current 8RA-58 dial when 852-type set is used with speakerphone.

- Dial, 35AF3A (2852-type telephone set)

- Key, 652A5

- Lamp, 51A

- ◆Base, Set, Telephone, 852AM (Rotary Dial)

- Base, Set, Telephone, 2852AM (TOUCH-TONE Dial)◆

- 812264380 (P-22F438) Resonator Assembly

- 812361012 (P-23F101) Collar

- KS-20419L1 Buzzer

- 840155618 Clip, Retainer.

2.07 Design Features:

- 10-button (9-line pickup and hold)

- All pickup buttons convertible to signaling

- Hold key can be illuminated (lamp not furnished)

- Telephone set termination by means of connector (Fig. 2, 3)

- KS-20419L1 buzzer provided and connected to dedicated connector pins

- Provisions for mounting one KS-8109L2 buzzer or one additional KS-20419L1 buzzer on chassis assembly

- Provisions for adding polarity guard assembly to 2852-type telephone set (optional)

- An access hole is provided in the P-type ringer for biasing spring adjustment. Refer to Section 501-259-101.

Limited number of connector leads restricts number of optional features which may be simultaneously provided.

D. Operating Features

2.08 The operating features for the 852- and 2852-type telephone sets are the same as standard 6-button key telephone sets and CALL-DIRECTOR® type telephone sets.
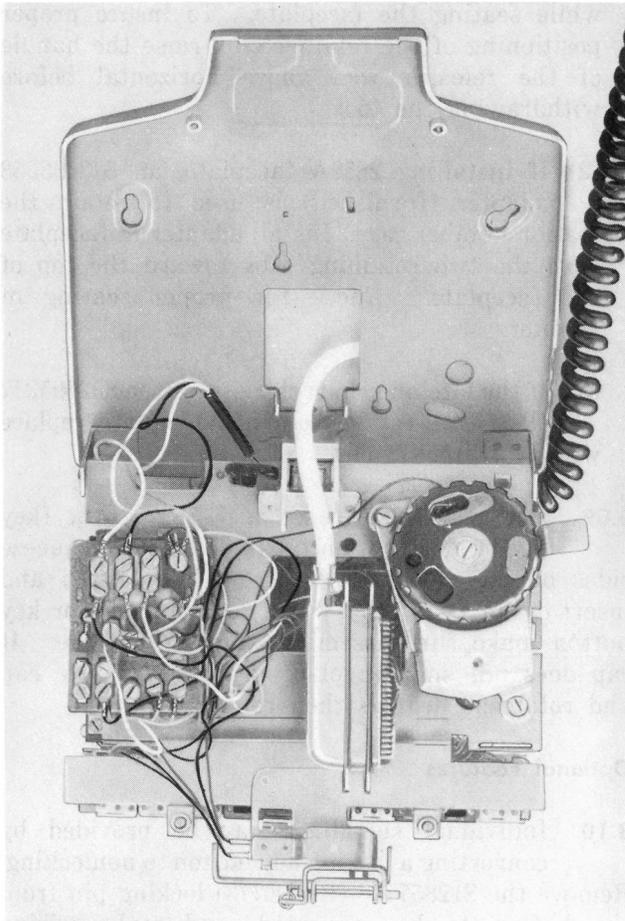
Fig. 2—852- or 2852-Type (Early Version) Telephone
Set with Hinged Chassis Lowered

Fig. 3—852AM or 2852AM (Later Version) Telephone
Set with Hinged Chassis Lowered

3. INSTALLATION

3.01 When mounting the 852- or 2852-type
telephone set, select a location which provides
at least 6 inches of clearance on all sides to permit
removal of the handset and for maintenance.

3.02 Remove faceplate by using a KS-21107L1
releaser or equivalent in catch in bottom of
faceplate.

3.03 Remove housing by loosening two captive
screws under faceplate area.

3.04 To expose the mounting holes, the hinged
chassis assembly must be lowered by loosening
the captive screws holding the top of the chassis.
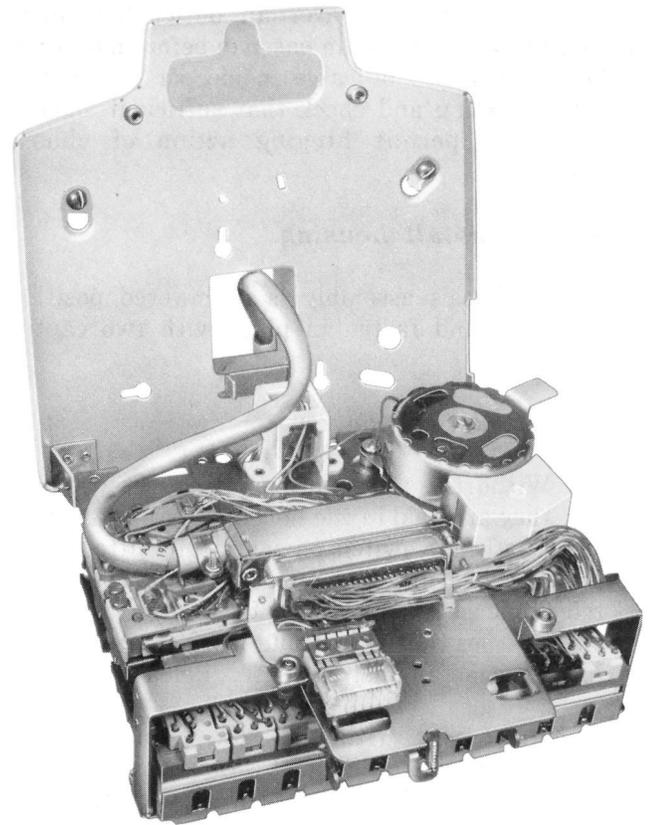Where desired, the chassis assembly can be removed

by springing the hinge brackets sufficiently to
clear the pins. The basepan can be mounted
directly to the wall using the keyhole slots, or
holes are provided for mounting over an electrical
outlet box.

> *Note:* On early versions, the set connector
> is mounted vertically on the chassis. If
> difficulties arise in keeping the connectors
> mated, either (1) remove the lower of the
> two set connector mounting bracket screws
> (accessible from front of chassis) and allow
> the connector and bracket assembly to float,
> or (2) secure connectors with a cable tie or
> other suitable restraint.

> *Caution: Avoid damage to wall or telephone
> set whenever chassis is in lowered position.*

3.05 Sets can be wired using a connector cable. When mounted over an outlet box, bring wiring through opening in basepan before mounting. Allow 6-10 inches of cable inside set for routing and terminating and check that sufficient slack is provided to permit hinging action of chassis assembly.

3.06 *To install housing.*

(1) If chassis assembly is in lowered position, raise and fasten in place with two captive screws.

(2) Install collar on key.

(3) Withdraw the two mounting screws until they are held in the housing by their threads. With both line switch plungers fully lifted, move the housing directly into position around the telephone set. Depress both plungers to their on-hook position. Continue moving the housing into position against the base. Release plungers.

Note: Sets with the new terminal board have housing alignment slots (Fig. 5). Care should be taken to insure proper alignment of the ribbed set cover with the terminal board slots when replacing set housing.

▶ *When installing an older housing on a telephone set base having the new plastic terminal board assembly, replace the left housing screw with one furnished with the telephone set base. Failure to replace this screw will result in the stripping out of the left mounting hole.*◀

(4) Fasten housing in place with two captive screws.

(5) Check complete operation of line switch.

3.07 Use a Form E-10360 or E-10364 as a station number card for rotary sets and Form E-10361 or E-10365 for a TOUCH-TONE station. Insert number card under fingerwheel of the 8-type dial or under card retainer of the 2852A faceplate.

3.08 *To install faceplate.*

(1) Insert tabs on faceplate into slots of housing. Use a KS-21107L1 releaser or equivalent to depress the tab of the faceplate retainer clip while seating the faceplate. To insure proper positioning of the retainer clip, raise the handle of the releaser well above horizontal before withdrawing the tool.

(2) If installing 2852A faceplate, an 840693253 adapter (furnished) is used to retain the station number card. Install adapter in faceplate with the two retaining tabs toward the top of the faceplate. Check for proper seating of adapter.

(3) If the latching characteristic of the 802695247 (P-269524) retainer clip is inadequate, replace with a 840155618 clip.

3.09 The 652A5 key uses a E-5837 form (key button designation tabs). To install, squeeze sides of cap to remove it from key button and insert designation tab. When replacing cap or key button make sure assembly snaps into place. If cap does not snap in place properly, remove cap and rotate 90 degrees then replace.

Optional Features

3.10 Individual signaling may be provided by converting a locking key button to nonlocking. Remove the 812857738 (P-28E773) locking pin from the button to be converted, and make wiring changes shown in Table E.

3.11 If 4A speakerphone is provided the 223A (MD) or 223D adapter is used to interconnect the 4A speakerphone system (transmitter, loudspeaker set, and power unit).

3.12 For connections to the 4A speakerphone system, refer to appropriate section in Division 512.

3.13 When adding speakerphone to 852-type telephone sets; the 8R or 8RA dial must be replaced by an 8CA dial (ordered separately) to provide the additional off-normal contacts required for speakerphone operation.

3.14 When a nonspeakerphone equipped 852- and 2852-type telephone set is bridged on the same cable with sets furnishing speakerphone features; certain leads must be disconnected, insulated, and stored to avoid interference with working circuits. The designation of leads to be

removed are as follows: (V-G), (G-V), (V-BR), (BR-V), (V-S), and (S-V). This procedure sacrifices use of the 8th and 9th pickup positions on all 10-button sets bridged with a set providing speakerphone.

3.15 The 852- and 2852-type telephone sets are equipped with a KS-20419L1 (10 volt ac only) buzzer mounted on the chassis. The buzzer leads are connected to (O-Y) and (Y-O) connector leads. The KS-20419L1 buzzer is mounted on an insulated bracket below the dial. It may be replaced by a KS-8109L2 (14-30V dc or ac) buzzer or an additional KS-20419L1 buzzer may be added.

3.16 *Polarity Guard* (2852-type only): Should be used only when specified by local instructions for end-to-end signaling installations where battery and ground reversals may be encountered. An 819041971 (P-90D197) (MD) or current 840364376 polarity guard (Fig. 5) may be installed. The current 840364376 polarity guard comes with an adhesive back. To install, remove the terminal board and dial as shown in Fig. 5. Remove the protective paper from the adhesive back and press guard firmly to chassis. Connect per Table D.

3.17 Operational tests of all features should be made to insure proper operation and customer satisfaction.

3.18 Where conditions warrant, the G3A6 or G15A handset supplied with the 852- or 2852-type telephone sets may be replaced with other types as follows:

- For impaired hearing — G6-type

- For weak speech — G7-type

- For noisy location — G8-type or D-180413.

Refer to Division 501 for connections of these handsets.

4. CONNECTIONS

Due to the limited number of conductors the 852- and 2852-type telephone sets do not follow standard wiring arrangements.

4.01 To provide connector leads for illuminating the HOLD button, the ringer or buzzer leads must be used, meaning only two of the three options (ringer, buzzer, or hold lamp) may be provided at the same time.

4.02 To provide station busy lamp, modify the telephone set per Table B using a 533K diode. The diode is used to prevent false busy signals, and must be ordered and installed separately.

4.03 To provide priority hold (I HOLD) modify the telephone set per Table C.

4.04 Polarity guard connections are shown in Table D.

4.05 To provide individual signaling, modify the telephone set by converting the proper button(s) and make wiring changes per Table E.

4.06 To provide 4A speakerphone connection, connect the M16C (MD) or M16H cord as shown in Table F.

5. MAINTENANCE

5.01 Maintenance replacement should be limited to the following:

- Complete telephone sets

- Optional items

- Replaceable components.

5.02 When necessary to remove housing, the faceplate must first be removed by using a KS-21107L1 releaser or equivalent in catch in bottom of faceplate. Housing can then be removed by loosening two captive screws under faceplate area.

5.03 When dial replacement is necessary in the 852-type telephone set, use an 8RA dial for nonspeakerphone sets and an 8CA dial for sets with speakerphone. On sets equipped with new plastic terminal board loosen terminal board mounting screw located adjacent to terminal 3 (Fig. 5). Then swing terminal board away to allow access to dial mounting screws. (On older sets, insert screwdriver between terminal board and network.) Remove dial by loosening mounting screws and springing dial brackets sufficiently to release dial from locating

pins. Transfer adapter brackets from dial being replaced to new dial.

5.04 Maintenance of the 35AF3A (TOUCH-TONE dial) dial is not recommended and the dial should be replaced when defective. Adapter brackets are not needed when replacing the TOUCH-TONE dial.

5.05 For maintenance of buzzers, dials, speakerphone components, and polarity guard, refer to appropriate sections pertaining to these items.

5.06 Access to the ringer is obtained by lowering the hinged chassis assembly. The ringer can be removed by loosening the two shouldered mounting screws.

5.07 The current production 652-type keys have been modified for easy lamp replacement by merely removing the lamp cap and inserting a 553-type tool through the hole in the top of the button. In early production keys it was necessary to remove faceplate, housing, key collar, and button for lamp replacement.
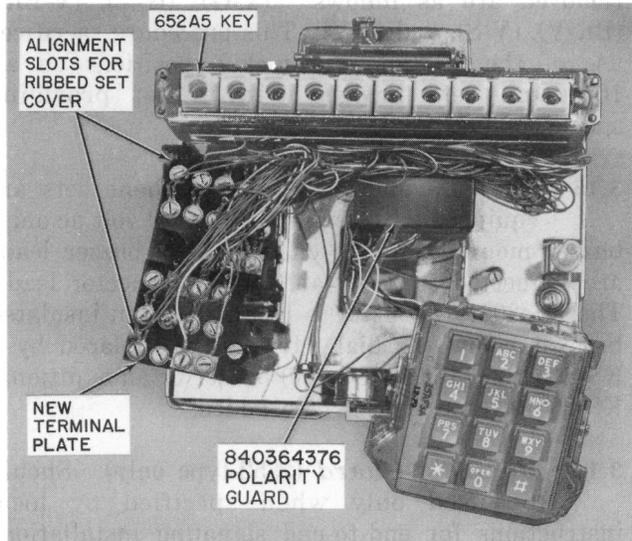

Fig. 5—▶Current 2852AM Telephone Set With Terminal Plate and Dial Moved Showing Location for New Polarity Guard◀
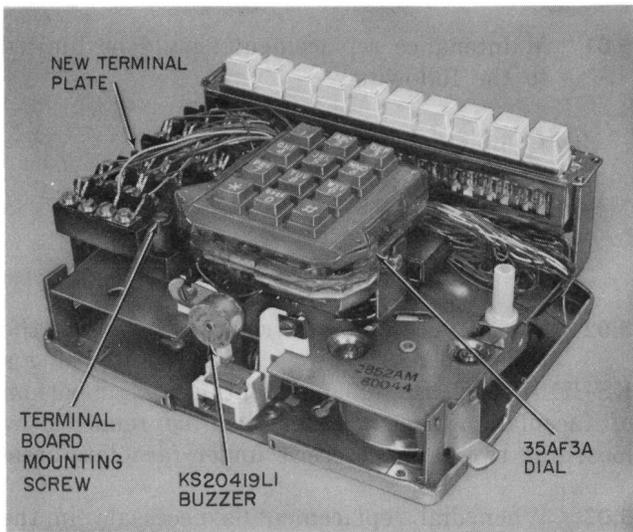

Fig. 4—▶Current 2852AM Telephone Set With Cover Removed◀
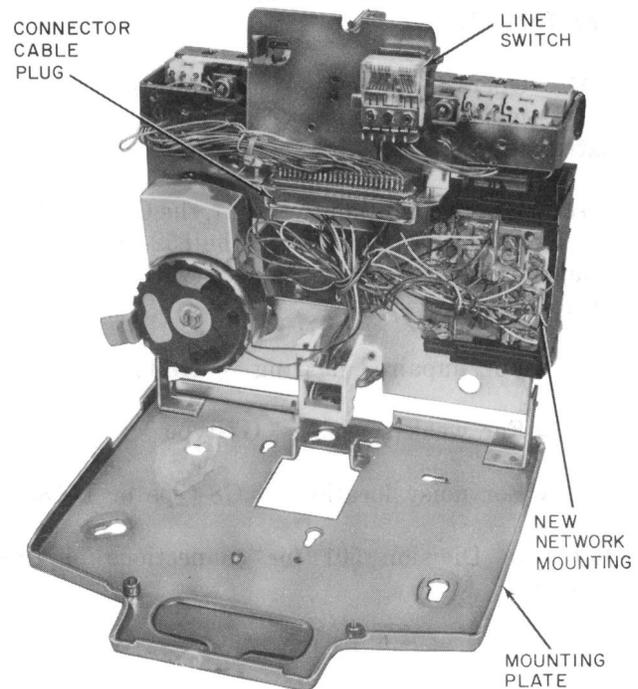
Fig. 6—▶Current 2852AM Telephone Set With Hinged Chassis Open Showing New Network Mounting◀

PART OF 652A5 KEY

HOLD

PINK 5 4 3 2 I L LG

BLUE 6 5 4 3 2 I L LG

ORANGE 6 5 4 3 2 I L LG

GREEN 6 5 4 3 2 I L LG

BROWN 6 5 4 3 2 I L LG

T
R
(BR)
(BL-BK)
STRAP

(O-BK) (BK-BL) (G-W) (G-Y) (Y-G) 11
16 17
(O-W) 12
(S-W) 9
(G-R)
STRAP
15

KS-20419, L I
BUZZER
(BL) 21
AC (BL)
20

BZ I, aL, OR AG (Y-O)
BZ, SG, OR LK (O-Y)
R (BL-W)
T (W-BL)
A (W-O)
L (G-W)
LG (W-G)
R (BR-W)
T (W-BR)
A OR S (W-S)
L (BL-R)
LG (R-BL)
R (O-R)
T (R-O)
A OR S (R-G)
L (BR-R)
LG (R-BR)
R (S-R)
T (R-S)
A OR S (BK-BL)
L (O-BK)
LG (BK-O)

42   17   I   26 27 3 28   4   29   30 6 31   7   32   33 9 34   10   35   36 12 37

PART OF CONNECTOR AND TERMINAL BOARD ASSEMBLY

Fig. 7—852- and 2852-Type Telephone Set, Connections (Sheet 1 of 6)

Fig. 7—852- and 2852-Type Telephone Set, Connections (Sheet 2 of 6)

852A TELEPHONE SET

Fig. 7—852- and 2852-Type Telephone Set, Connections (Sheet 3 of 6)

852AM TELEPHONE SET
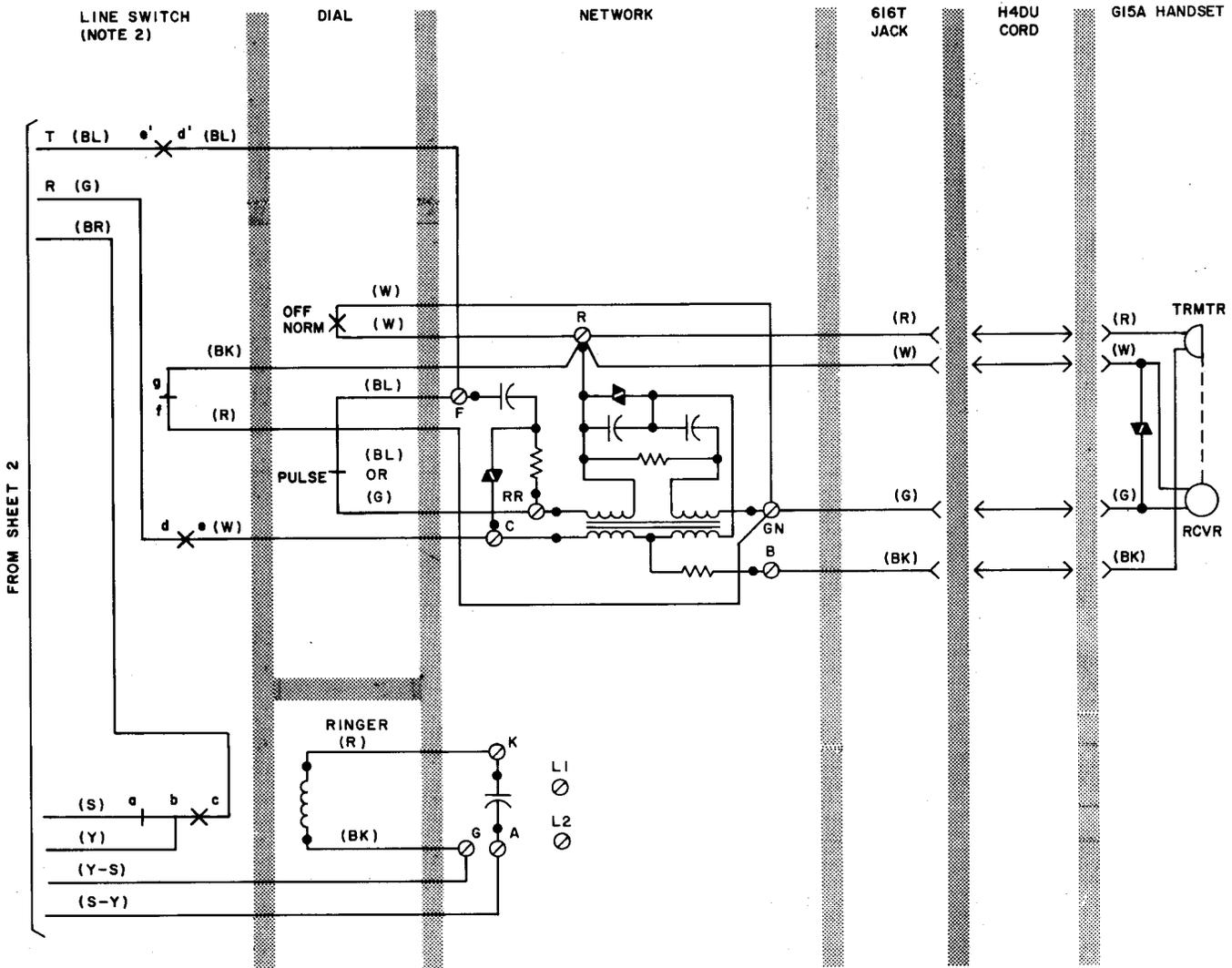
Fig. 7—852- and 2852-Type Telephone Set, Connections (Sheet 4 of 6)

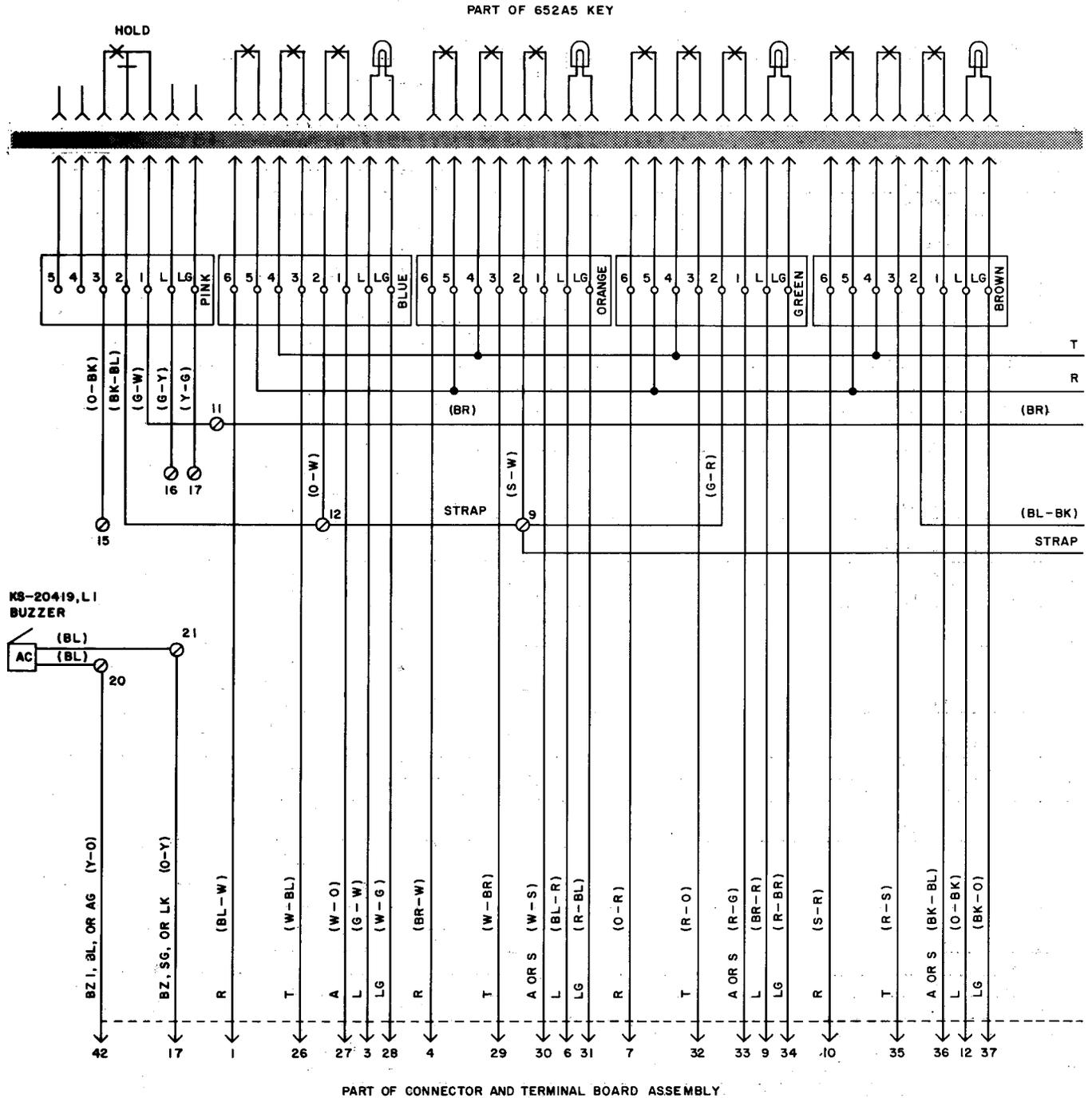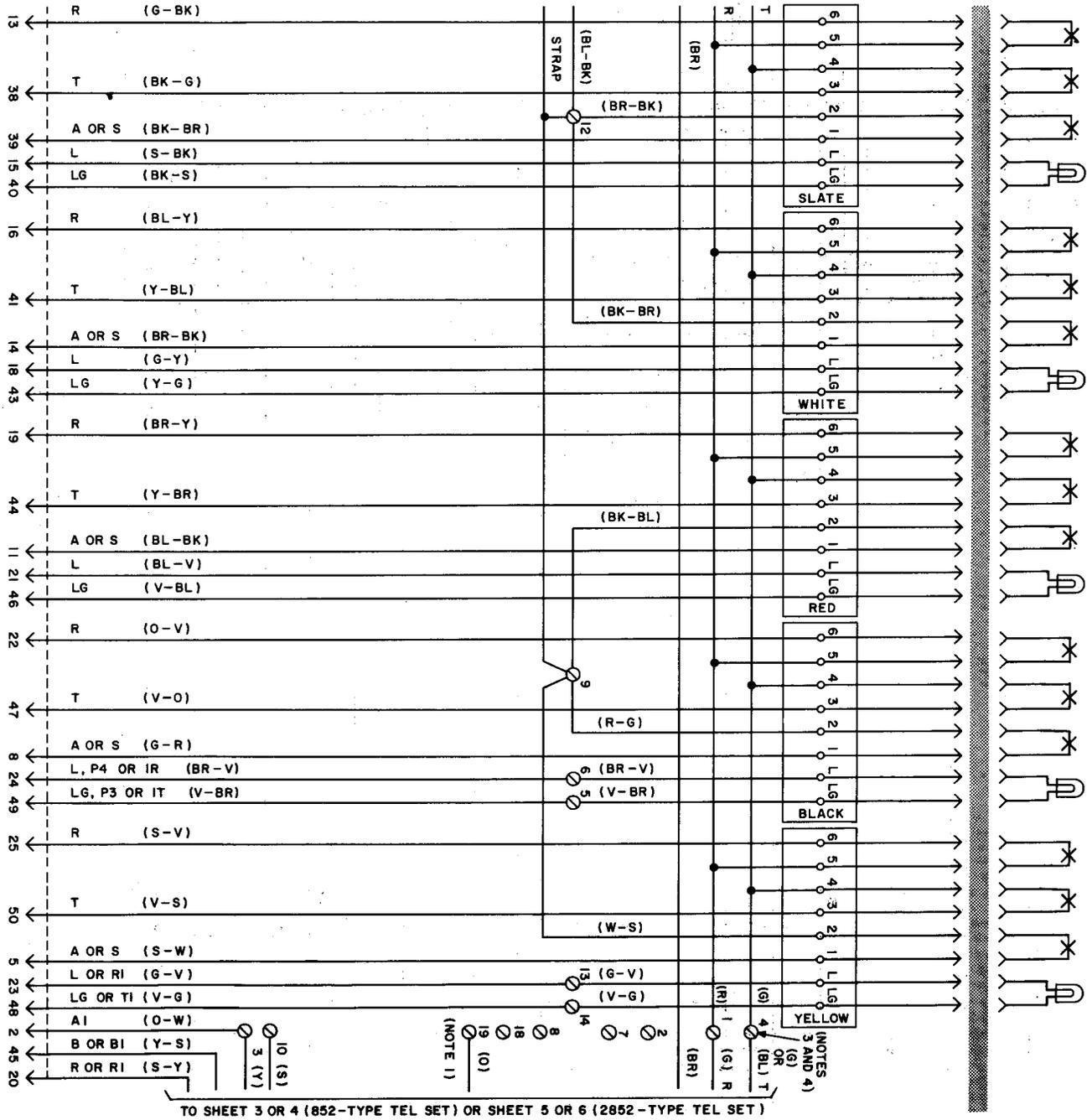Fig. 7—852- and 2852-Type Telephone Set, Connections (Sheet 5 of 6)
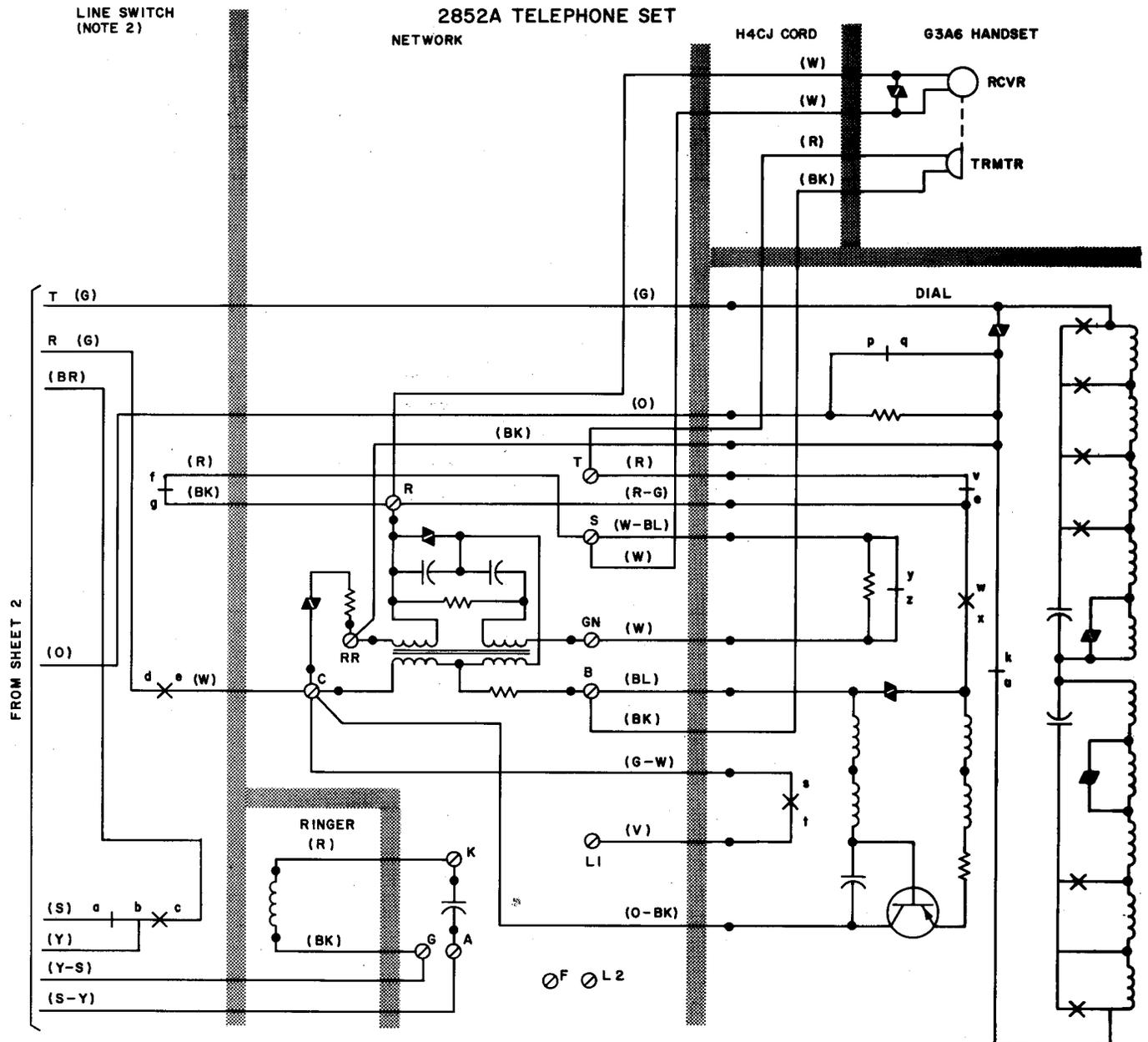
Fig. 7—852- and 2852-Type Telephone Set, Connections (Sheet 6 of 6)
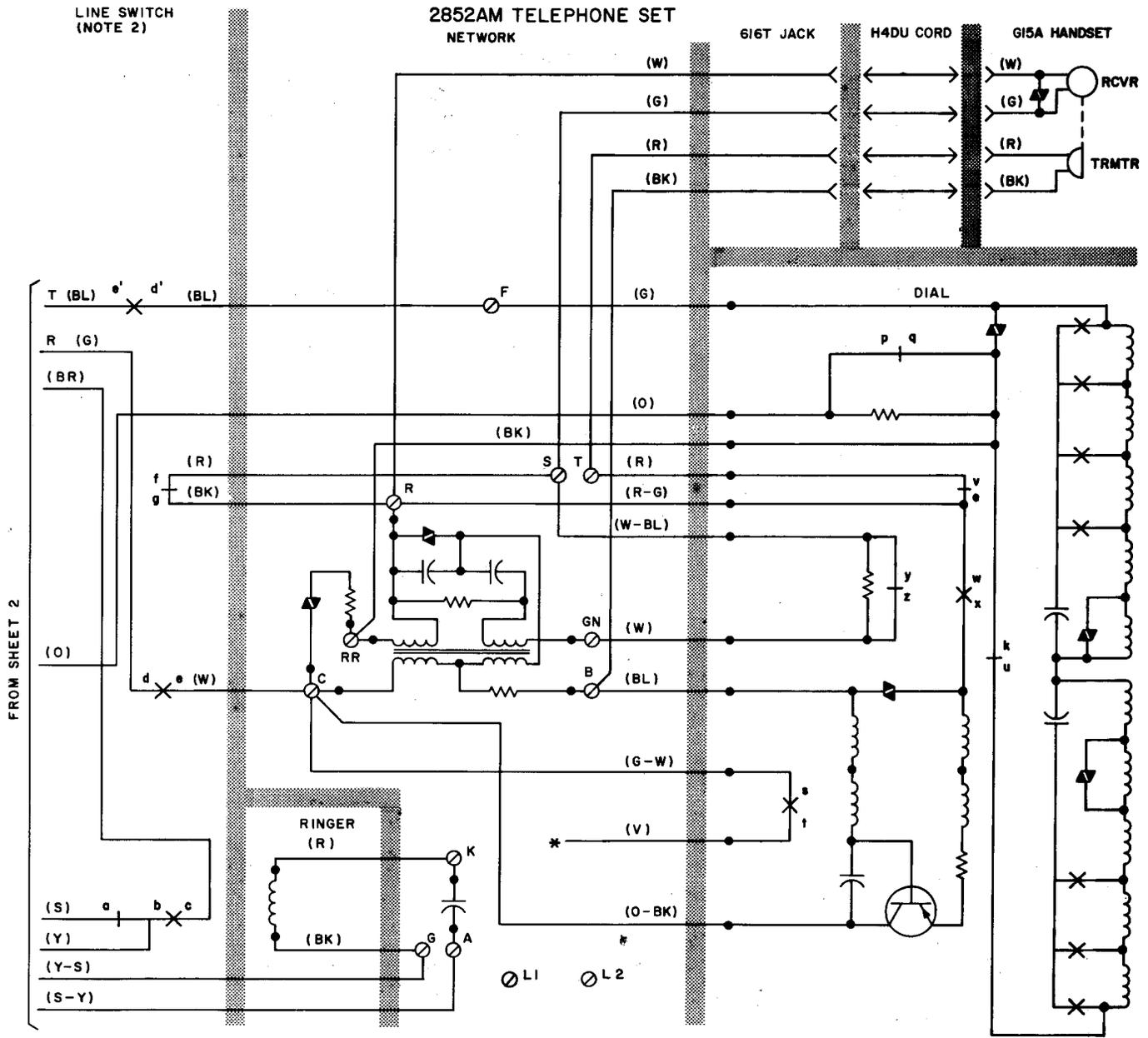
NOTES:
1. TERMINAL 19 IS A SPARE TERMINAL IN THE 852-TYPE TELEPHONE SET.
2. TO PREVENT FALSE HOLD CONDITION WHEN GOING ON-HOOK THE TIP AND RING CONTACTS
   OF THE LINE SWITCH MUST BREAK BEFORE A LEAD CONTACTS BREAK. FIELD ADJUSTMENT OF LINE SWITCH IS NOT RECOMMENDED.
3. LEADS SHOWN ON TERMINAL 4 WERE ON TERMINAL 2 IN 852AM OR 2852AM SETS MANUFACTURED BEFORE 3-4-77.
4. 852A AND 2852A SETS DO NOT HAVE A NEW LINE SWITCH [IDENTIFIED BY TWO (BL) LEADS] AND HAVE A (G)
   TIP LEAD AND A (G) LEAD FROM F OF THE NETWORK CONNECTED TO TERMINAL 2.
* INSULATED AND STORED

♦ TABLE B ♦

STATION BUSY LAMP CONNECTIONS

LEAD	OPERATION
Hold Key (G-W)	Remove from terminal 11 and connect to 18
533K Diode or Equivalent	Connect as shown (Note 2) 18　　　　　　　11 ⊘———◄—⊘
Connector (Y-O) (Note 1)	Remove from 20 connect to 11

Note 1: Use spare connector lead if (Y-O) lead is used to provide other options.

Note 2: Negative end (end with band) of 533K dode or equivalent connects to terminal 18 and positive end to 11

♦TABLE D♦

840364376 OR 819041971 (P-90D197) (MD) POLARITY GUARD CONNECTIONS FOR 2852-TYPE TELEPHONE SETS (SEE NOTE)

WIRE OR LEAD	COLOR	REMOVE FROM	CONNECT TO	
		NET.	GUARD ASSY.	NET.
Dial	BK	RR	T	
	G-W	C	S	
Line Switch	W	C	S	
Guard Assembly	G			RR
	W			C

Note: For use when specified by local instructions for end-to-end signaling installations. The 840364376 polarity guard is part of the D-181006 Kit of Parts.

TABLE C
I HOLD CONNECTIONS

LEAD		REMOVE FROM	CONNECT TO
Hold Key	(G-W)	11	12
	(BK-BL)	12	11
SP lead—Use (Y-O) or spare connector conductor (see Note).		20	15

Note: (Y-O) lead may be used unless connected for other options.

TABLE E

PICKUP SIGNAL KEY CONVERSION

CONVERSION OPTION (NOTE)	652A5 KEY LEADS								
	O-W	S-W	G-R	BL-BK	BR-BK	BK-BR	BK-BL	R-G	W-S
HPPPPPPPP	12	9	9	12	12	12	9	9	9
HPPPPPPPS	12	9	9	12	12	12	9	9	7
HPPPPPPSS	12	9	9	12	12	12	9	7	7
HPPPPPSSS	12	9	9	12	12	12	7	7	7
HPPPPSSSS	12	9	9	12	12	7	7	7	7
HPPPSSSSS	12	9	9	12	7	7	7	7	7

Note: Move (O-Y) connector lead from terminal 21 to terminal 7. Beyond five signal conversions strap terminal 7 to 8 and move the signal leads consecutively to terminal 8. Example: (BL-BK) lead from terminal 12 to 8, then (G-R) from 9 to 8 etc.

♦ TABLE F ♦

4A SPEAKERPHONE CONNECTIONS
(NOTES 1 AND 2)

LEAD DESIG	M16C OR M16H CORD COLOR	TEL SET TERM.
T1	W-BL	(RR†) 19
R1	BL-W	1
AG	W-O	11
LK	O-W	10
P3 or IT	W-G	(¶) *
P4 or IR	G-W	(8) L1‡
A1	W-BR	3

Note 1: Replace 8R or 8RA dial with 8CA dial on 852-type telephone sets. Connect (Y) leads of 8CA dial to same terminal as P3 and P4 leads.

Note 2: For the 852AM or 2852AM set move the (G) tip lead from terminal 4 (terminal 2 in sets manufactured before 3-4-77) to F of network.

* Insulate and store.

† Terminal on network.

‡ L1 of network for 2852A set. For 2852AM set connect (G-W) of M16C or M16H cord and (V) dial lead to same spare terminal.

¶ Spare terminal or D-161488 connector.

○ 852-type Telephone Set

□ 2852-type Telephone Set

TABLE G
CONNECTOR AND CABLE CONDUCTOR ASSIGNMENT

CONNECTOR AND TERM. BOARD ASSY				A25B CONN CABLE		
TEL SET TERM	LEAD COLOR	LEAD DESIG	PLUG TERM	CONN TERM	LEAD DESIG	LEAD COLOR
Line 1 (Blue) Plug	BL-W W-BL W-O G-W W-G	R T A L LG	1 26 27 3 28	1 26 27 3 28	R T A L LG	BL-W W-BL W-O G-W W-G
Line 2 (Orange) Plug	BR-W W-BR W-S BL-R R-BL	R T A or S L LG	4 29 30 6 31	4 29 30 6 31	R T A or S L LG	BR-W W-BR W-S BL-R R-BL
Line 3 (Green) Plug	O-R R-O R-G BR-R R-BR	R T A or S L LG	7 32 33 9 34	7 32 33 9 34	R T A or S L LG	O-R R-O R-G BR-R R-BR
Line 4 (Brown) Plug	S-R R-S BK-BL O-BK BK-O	R T A or S L LG	10 35 36 12 37	10 35 36 12 37	R T A or S L LG	S-R R-S BK-BL O-BK BK-O
Line 5 (Slate) Plug	G-BK BK-G BK-BR S-BK BK-S	R T A or S L LG	13 38 39 15 40	13 38 39 15 40	R T A or S L LG	G-BK BK-G BK-BR S-BK BK-S
Line 6 (White) Plug	BL-Y Y-BL BR-BK G-Y Y-G	R T A or S L LG	16 41 14 18 43	16 41 14 18 43	R T A or S L LG	BL-Y Y-BL BR-BK G-Y Y-G
Line 7 (Red) Plug	BR-Y Y-BR BL-BK BL-V V-BL	R T A or S L LG	19 44 11 21 46	19 44 11 21 46	R T A or S L LG	BR-Y Y-BR BL-BK BL-V V-BL
Line 8 (Black) Plug 6 5	O-V V-O G-R BR-V V-BR	R T A or S L, P4 or IR LG, P3 or IT	22 47 8 24 49	22 47 8 24 49	R T A or S L, P4 or IR LG, P3 or IT	O-V V-O G-R BR-V V-BR
Line 9 (Yellow) Plug 13 14	S-V V-S S-W G-V V-G	R T A or S L or R1 LG or T1	25 50 5 23 48	25 50 5 23 48	R T A or S L or R1 LG or T1	S-V V-S S-W G-V V-G
3 21 20 A G	O-W O-Y Y-O S-Y Y-S	A1 BZ, SG, LK, or Spare BZ1, BL, AG, or Spare R or R1 B or B1	2 17 42 20 45	2 17 42 20 45	A1 BZ, SG, LK, or Spare BZ1, BL, AG, or Spare R or R1 B or B1	O-W O-Y Y-O S-Y Y-S