MULTIBUTTON TELEPHONES

3-LINE, ROTARY DIAL, DESK TELEPHONES
GENERAL DESCRIPTION - SECTION 50-576-100, ISSUE 1
REPLACEMENT PARTS - SECTION 50-576-101, ISSUE 2
CIRCUIT LABELS - SECTION 50-576-102, ISSUE 3

3-LINE, PUSHBUTTON DIAL, DESK TELEPHONES
GENERAL DESCRIPTION - SECTION 50-576-103, ISSUE 2
REPLACEMENT PARTS - SECTION 50-576-104, ISSUE 2
CIRCUIT LABELS - SECTION 50-576-105, ISSUE 3

6-BUTTON, ROTARY DIAL, KEY TELEPHONES
GENERAL DESCRIPTION - SECTION 50-565-100, ISSUE 1
REPLACEMENT PARTS - SECTION 50-565-101, ISSUE 2
CIRCUIT LABELS - SECTION 50-565-102, ISSUE 3

6-BUTTON, PUSHBUTTON DIAL, KEY TELEPHONES
GENERAL DESCRIPTION - SECTION 50-565-103, ISSUE 1
REPLACEMENT PARTS - SECTION 50-565-104, ISSUE 2
CIRCUIT LABELS - SECTION 50-565-105, ISSUE 2

10-BUTTON, ROTARY DIAL, DESK TELEPHONES
GENERAL DESCRIPTION - SECTION 50-830-100, ISSUE 1
REPLACEMENT PARTS - SECTION 50-830-101, ISSUE 2
CIRCUIT LABELS - SECTION 50-830-102, ISSUE 2

10-BUTTON, PUSHBUTTON DIAL, DESK TELEPHONES
GENERAL DESCRIPTION - SECTION 50-830-103, ISSUE 1
REPLACEMENT PARTS - SECTION 50-830-104, ISSUE 2
CIRCUIT LABELS - SECTION 50-830-105, ISSUE 2

20-BUTTON, ROTARY DIAL, DESK TELEPHONES
GENERAL DESCRIPTION - SECTION 50-831-100, ISSUE 1
REPLACEMENT PARTS - SECTION 50-831-101, ISSUE 2
CIRCUIT LABELS - SECTION 50-831-102, ISSUE 2

20-BUTTON, PUSHBUTTON DIAL, DESK TELEPHONES
GENERAL DESCRIPTION - SECTION 50-831-103, ISSUE 1
REPLACEMENT PARTS - SECTION 50-831-104, ISSUE 2
CIRCUIT LABELS - SECTION 50-831-105, ISSUE 2

10-BUTTON, ROTARY DIAL, DESK TELEPHONES WITH BUSY LAMP FIELD
GENERAL DESCRIPTION - SECTION 50-835-100, ISSUE 1
REPLACEMENT PARTS - SECTION 50-835-101, ISSUE 2
CIRCUIT LABELS - SECTION 50-835-102, ISSUE 2

10-BUTTON, PUSHBUTTON DIAL, DESK TELEPHONES WITH BUSY LAMP FIELD
GENERAL DESCRIPTION - SECTION 50-835-103, ISSUE 1
REPLACEMENT PARTS - SECTION 50-835-104, ISSUE 2
CIRCUIT LABELS - SECTION 50-835-105, ISSUE 2

10-BUTTON, ROTARY DIAL, WALL TELEPHONES
GENERAL DESCRIPTION - SECTION 50-854-100, ISSUE 1
REPLACEMENT PARTS - SECTION 50-854-101, ISSUE 2
CIRCUIT LABELS - SECTION 50-854-102, ISSUE 2

10-BUTTON, PUSHBUTTON DIAL, WALL TELEPHONES
GENERAL DESCRIPTION - SECTION 50-854-103, ISSUE 1
REPLACEMENT PARTS - SECTION 50-854-104, ISSUE 2
CIRCUIT LABELS - SECTION 50-854-105, ISSUE 2

30-BUTTON, ROTARY DIAL, DESK TELEPHONES
GENERAL DESCRIPTION - SECTION 50-861-100, ISSUE 1
REPLACEMENT PARTS - SECTION 50-861-101, ISSUE 2
CIRCUIT LABELS - SECTION 50-861-102, ISSUE 2

30-BUTTON, PUSHBUTTON DIAL, DESK TELEPHONES
GENERAL DESCRIPTION - SECTION 50-861-103, ISSUE 1
REPLACEMENT PARTS - SECTION 50-861-104, ISSUE 2
CIRCUIT LABELS - SECTION 50-861-105, ISSUE 2

10-BUTTON, ROTARY DIAL, DESK TELEPHONES WITH BUILT-IN CALL ANNOUNCER
GENERAL DESCRIPTION - SECTION 50-870-100, ISSUE 1
REPLACEMENT PARTS - SECTION 50-870-101, ISSUE 2
CIRCUIT LABELS - SECTION 50-870-102, ISSUE 2

10-BUTTON, PUSHBUTTON DIAL, DESK TELEPHONES WITH BUILT-IN CALL ANNOUNCER
GENERAL DESCRIPTION - SECTION 50-870-103, ISSUE 1
REPLACEMENT PARTS - SECTION 50-870-104, ISSUE 2
CIRCUIT LABELS - SECTION 50-870-105, ISSUE 2

20-BUTTON, ROTARY DIAL, DESK TELEPHONES WITH BUILT-IN CALL ANNOUNCER
GENERAL DESCRIPTION - SECTION 50-871-100, ISSUE 1
REPLACEMENT PARTS - SECTION 50-871-101, ISSUE 2
CIRCUIT LABELS - SECTION 50-871-102, ISSUE 2

20-BUTTON, PUSHBUTTON DIAL, DESK TELEPHONES WITH BUILT-IN CALL ANNOUNCER
GENERAL DESCRIPTION - SECTION 50-871-103, ISSUE 1
REPLACEMENT PARTS - SECTION 50-871-104, ISSUE 2
CIRCUIT LABELS - SECTION 50-871-105, ISSUE 2

20-BUTTON, PUSHBUTTON DIAL, DESK TELEPHONES

REPLACEMENT PARTS

1. GENERAL

1.01 This document covers the 20-button, pushbutton dial, desk telephone. (See Figure 1.) An exploded-view drawing of the telephone with major assembly groups (see Figure 2) and a replacement parts list (see Table A) are included.

1.02 This section is reissued to reflect changes in the 20-button, pushbutton dial, desk telephone and to incorporate the changes listed in the Telephone Apparatus Practices Change Notice, Section 11-510-100. Whenever this section is reissued, reason for reissue will be listed in this paragraph.

1.03 For additional information on description and installation of the telephones, refer to Section 50-831-103. The circuit labels appear in Section 50-831-105. Related documents of the ITT Telephone Apparatus Practices Manual provide information on components.

1.04 The Model 2831 desk telephones are 20-button, pushbutton dial, anti-sidetone type units that operate efficiently over a wide range of loop resistances and line impedances. These telephones are designed for use with key telephone systems, such as the ITT 1A2 System, where several telephones have access to the same lines, CO trunks, or intercom lines.

1.05 The Model 2831 desk telephones are identified by a code number stamped in ink on the bottom of the base plate. Refer to Section 50-831-103 of the ITT Telephone Apparatus Practices Manual for ordering information and for an explanation of each code number.

AW 82-368

Figure 1: 20-Button, Pushbutton Dial, Desk Telephone

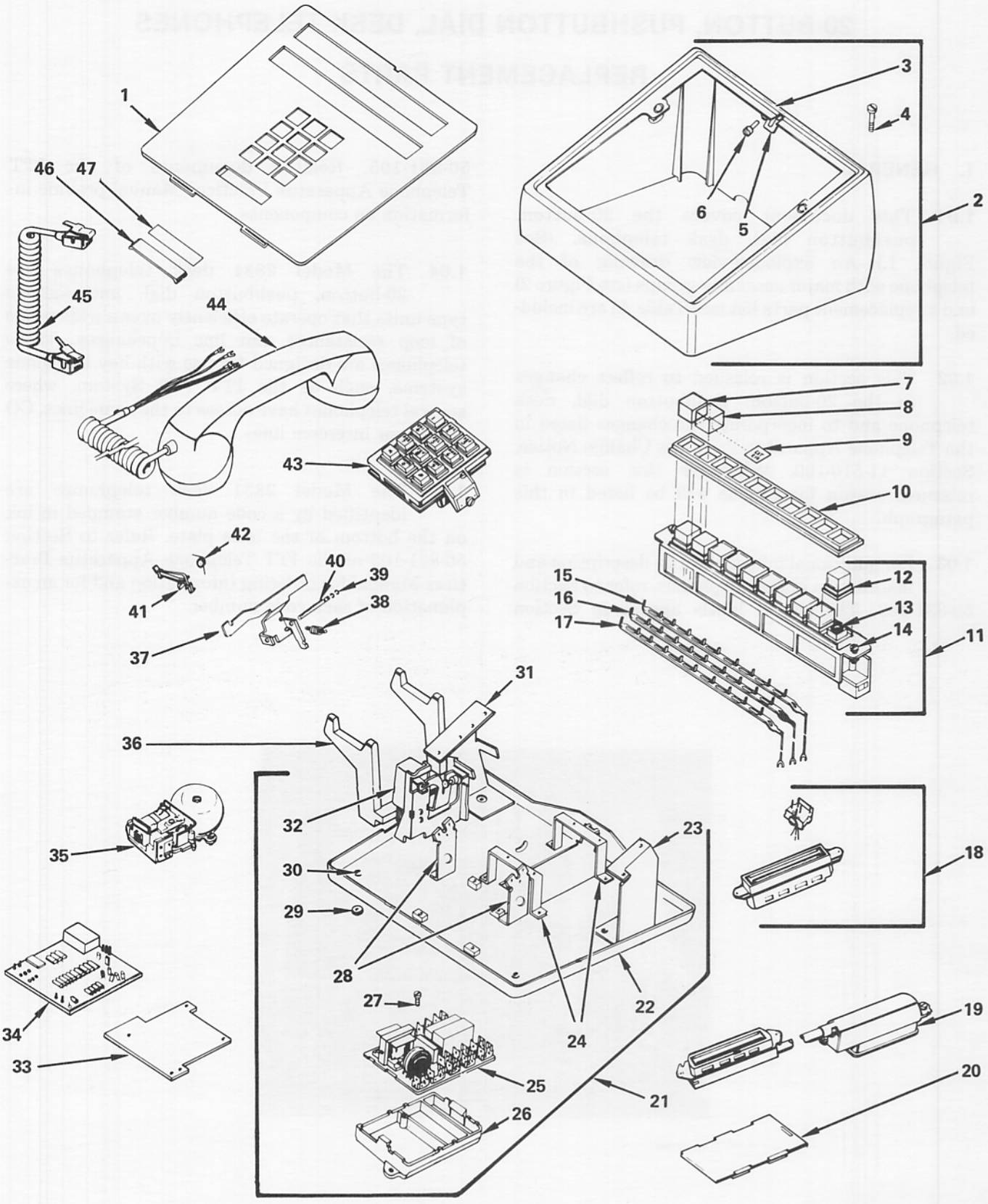


Figure 2: 20-Button, Pushbutton Dial, Desk Telephone, Exploded View

TABLE A

REPLACEMENT PARTS LIST

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED		
		20-Button, Pushbutton Dial, Desk Telephone	2831/42	2831/46	2831/76
1	181103-***	Faceplate	1	–	–
1	181686-***	Faceplate	–	1	1
2	181102-0**	Housing Assembly	1	1	1
2	187906-0**	Housing Assembly, Full-Modular	1	1	1
3	181104-0**	Housing	1	1	1
3	187922-0**	Housing, Full-Modular	1	1	1
4	095992-102	Screw, Housing	2	2	2
5	181100-101	Spring, Latch	1	1	1
6	181289-101	Screw, Latch Spring	1	1	1
7	181131-102	Cap, Red	1	1	1
8	181131-101	Cap, Clear	19	19	19
9	181281-101	Tab, Designation (Strip Of 12)	2	2	2
10	181287-101	Collar, Key Strip	2	2	2
11	181137-101	Key Assembly (9 Lines With Hold)	1	1	1
11	181137-102	Key Assembly (10 Lines)	1	1	–
11	182661-101	Key Assembly (10 Lines)	–	–	1
12	181122-101	Button	20	20	20
13	000051-00A	Lamp	19	19	19
14	095992-102	Screw	4	4	4
15	181292-101	Strip, Contact (GN Wire)	2	2	2
16	181292-102	Strip, Contact (RD Wire)	2	2	2
17	181292-105	Strip, Contact (SL Wire)	1	1	1
18	181154-101	Cord, Internal	1	1	1
18	181155-101	Cord, Internal	1	1	–
18	182662-101	Cord, Internal	–	–	1
19	184355-102	Cord, Mounting (100-Conductor)	1	1	1
20	181290-101	Slide	1	1	1
21	181250-102	Base Assembly	1	1	1
22	181141-101	Plate, Base	1	1	1
23	181253-101	Bracket, Key Right	1	1	1
24	181255-101	Bracket, Plug	2	2	2
25	181427-102	PC Network (# 183070-102)[1]	1	1	1
26	182175-101	Spacer, Network	1	1	1
27	096407-103	Screw, Network Mounting	1	1	1
28	181254-102	Bracket, Dial	2	2	2
29	182337-101	Foot	4	4	4
30	082486-102	Rivet, Foot	4	4	4
31	181150-102	Left Bracket Assembly	1	1	1
	185619-101	Left Trip Bracket Assembly	1	1	1
	181252-101	Bracket, Key Left	1	1	1
	185618-101	Bracket, Trip	1	1	1
32	181260-101	Cradle Switch Assembly[1]	1	1	1
33	181298-102	Terminal Board	1	1	1

TABLE A

REPLACEMENT PARTS LIST (Cont)

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED		
		20-Button, Pushbutton Dial, Desk Telephone	**2831/42**	**2831/46**	**2831/76**
34	182386-101	PC Board (Exclusion)	–	–	1
35	000148-DBA	Ringer[1]	1	1	1
36	183105-102	Switch Hook Assembly	1	1	1
	182900-101	Cradle, Switch Hook	1	1	1
	181145-101	Screw, Switch Hook Cradle	3	3	3
	185494-101	Operating Arm Assembly	1	1	1
	185487-101	Arm, Operating	1	1	1
	075307-104	Spring, Cradle Return	1	1	1
	181282-101	Shaft, Pivot	1	1	1
	073538-110	Ring, Retainer	1	1	1
37	185488-101	Arm, Latch	1	1	1
38	181151-101	Spring, Latch Arm	1	1	1
39	073538-110	Ring, Retainer	2	2	2
40	181152-101	Pin, Pivot	1	1	1
41	185486-101	Arm, Trip	1	1	1
42	185485-101	Spring, Torsion	1	1	1
43	004600-0PG	Dial Assembly, Pushbutton Digital, Metropolitan (Letters And Numerals)[1,2]	1	1	1
43	003600-0PG	Dial Assembly, Pushbutton Tel-Touch, Metropolitan (Letters And Numerals)[1,4]	1	1	1
43	004600-0PD	Dial Assembly, Pushbutton Digital, Regular (Numerals Only)[1,3]	1	1	1
43	003600-0PD	Dial Assembly, Pushbutton Tel-Touch, Regular (Numerals Only)[1,4]	1	1	1
44	0065**-0C2	Handset Assembly, Nonmodular[1]	1	1	1
44	0065**-0M2	Handset Assembly, Modular[1]	1	1	1
45	9018**-072	Cord, Handset, Modular	1	1	1
46	087514-101	Retainer, Number Card	1	1	1
47	087513-101	Card, Number	1	1	1

TABLE A

REPLACEMENT PARTS LIST (Cont)

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED		
		20-Button, Pushbutton Dial, Desk Telephone	**2831/42**	**2831/46**	**2831/76**
47	087513-102	Card, Number, Strip Of 6 (Not Shown)[5]	–	–	–
	600152-611 -001	Jack Assembly, Handset Cord, Modular (Not Shown)	1	1	1
	182990-105	Insulator Assembly, Modular (Not Shown)	1	1	1
	181973-101	Pushbutton, Operator Recall (Not Shown)	–	1	–
	181971-101	Pushbutton, Exclusion Release (Not Shown)	–	–	1
	187944-101	Nameplate, ITT (Not Shown)	1	1	1

AW 84-827

NOTES:

1 Refer to Component Parts Section of this manual for Assembly Parts List.
2 The 004600-0PG dial replaces the 003600-0PG dial.
3 The 004600-0PD dial replaces the 003600-0PD dial.
4 These products have been discontinued, but are included to provide a source of information for telephones still in service.
5 This product must be ordered separately.
** Substitute 2-digit color code when ordering.
*** Substitute 3-digit color code when ordering faceplate.

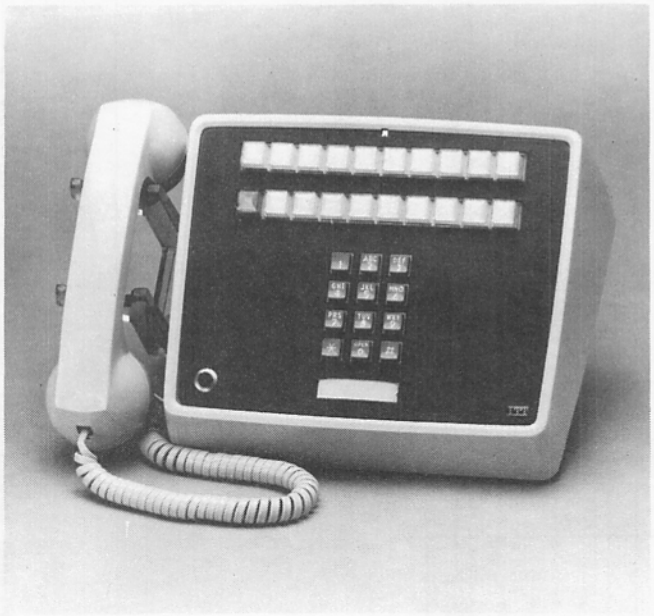
CODE	COLOR	CODE	COLOR	CODE	COLOR	CODE	COLOR
101	Charcoal	104	Light Gray	107	Cocoa Brown	110	Clear
102	Light Green	105	Burnt Orange	108	Harvest Gold	111	Woodgrain
103	Muted Beige	106	Light Ash	109	Cherry Red		

20-BUTTON, PUSHBUTTON DIAL, DESK TELEPHONES

CIRCUIT LABELS

1. GENERAL

1.01 This document covers the 20-button, pushbutton dial, desk telephones. (See Figure 1.) Circuit labels for different models of 20-button, pushbutton dial, desk telephones are included. (See Table A.)



AW 86-348

Figure 1: 20-Button, Pushbutton Dial, Desk Telephone

1.02 This section is reissued to provide the latest issue of circuit labels for the following 20-button, pushbutton dial, desk telephones:

(a) Model 2831, Types 42 and 46

(b) Model 2831, Type 76

1.03 For additional information on description and and installation of the telephones, refer to Section 50-831-103. A replacement parts list and an exploded-view drawing for the telephones are contained in Section 50-831-104. Related documents of the ITT Telephone Apparatus Practices Manual provide information on components.

1.04 The Model 2831 desk telephones are identified by a code number stamped in ink on the bottom of the base plate. Refer to Section 50-831-103 of the Telephone Apparatus Practices Manual for ordering information and for an explanation of each code number.

1.05 The Model 2831 desk telephones are 20-button, pushbutton dial, anti-sidetone type units that operate efficiently over a wide range of loop resistances and line impedances. These telephones are designed for use with key telephone systems, such as the ITT 1A2 System, where several telephones have access to the same lines, CO trunks, or intercom lines.

TABLE A

LIST OF CIRCUIT LABELS

MODEL NO	TYPE NO	FIGURE NO
2831	42, 46	2
2831	76	3

AW 86-399

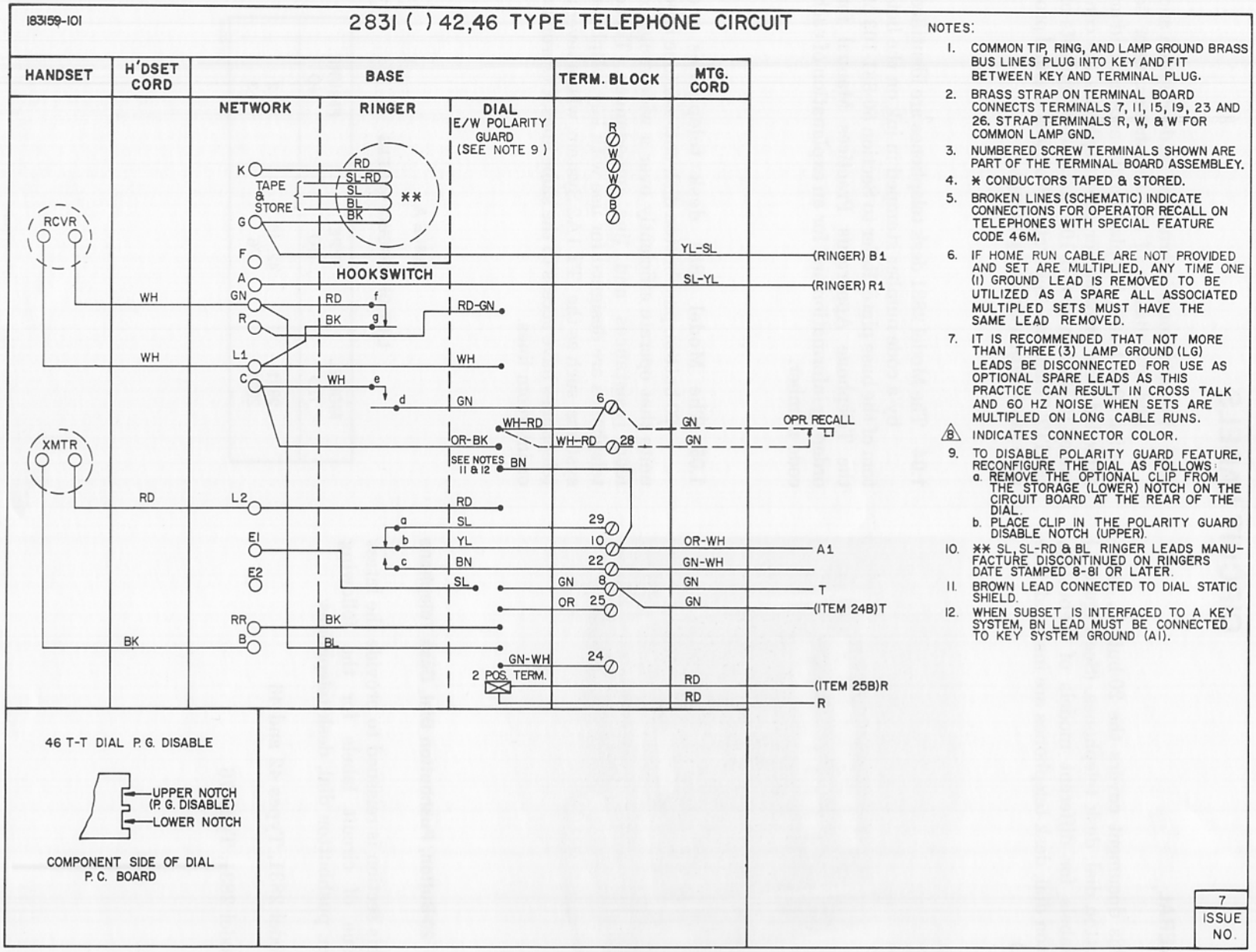


Figure 2: Circuit Label, Model 2831 Types 42, 46 (Sheet 1 of 2)

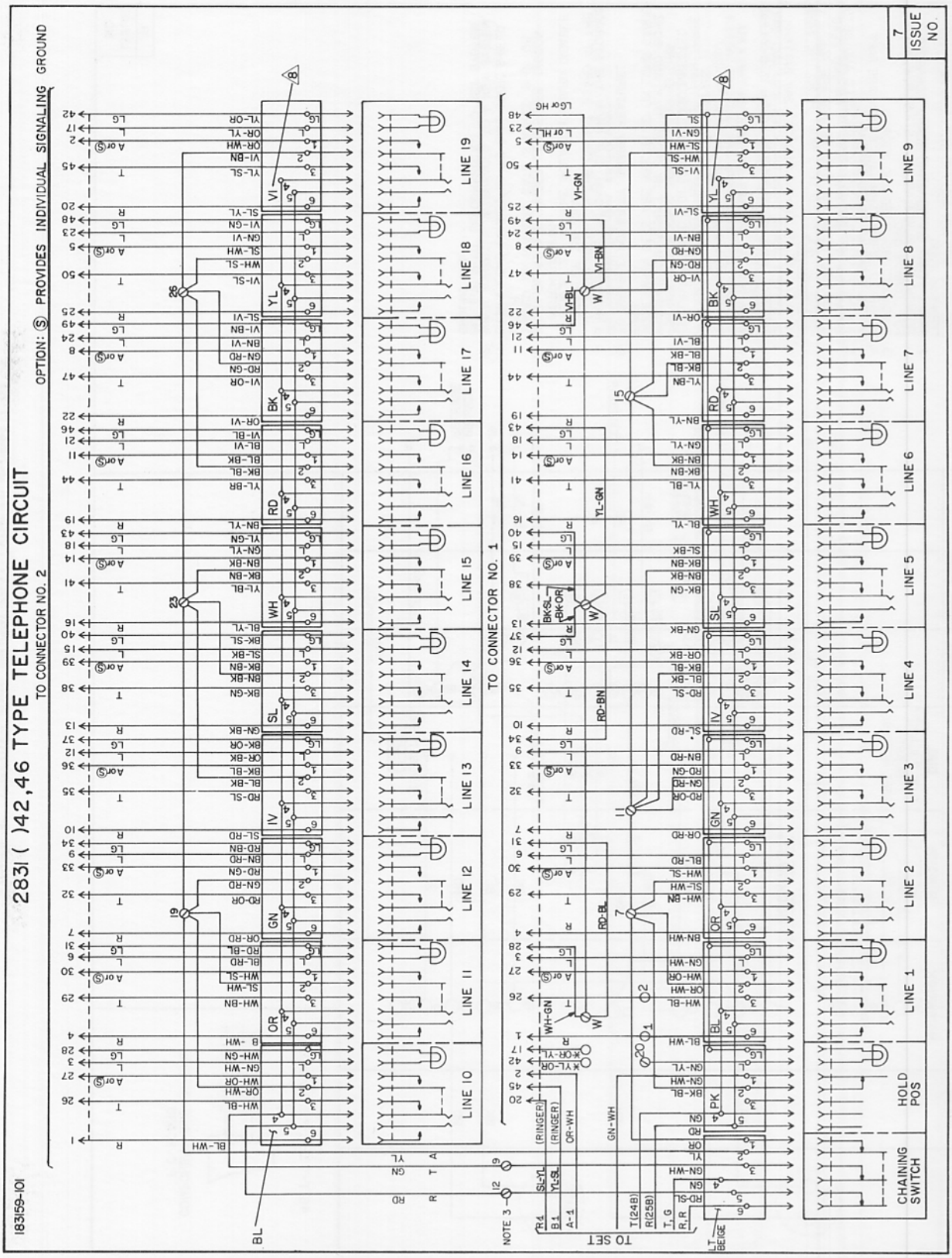


Figure 2: Circuit Label, Model 2831 Types 42, 46 (Sheet 2 of 2)

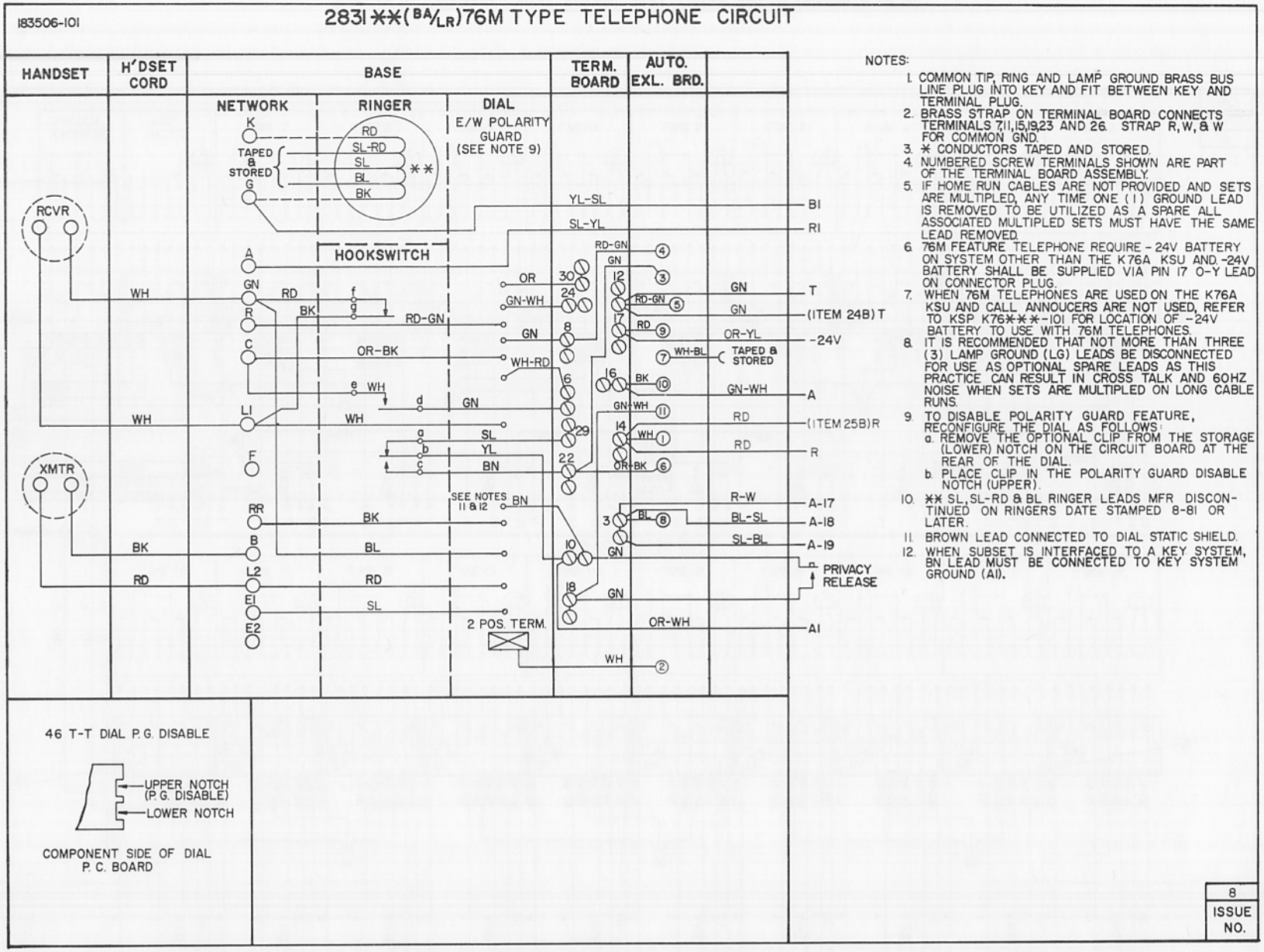


Figure 3: Circuit Label, Model 2831 Type 76 (Sheet 1 of 2)

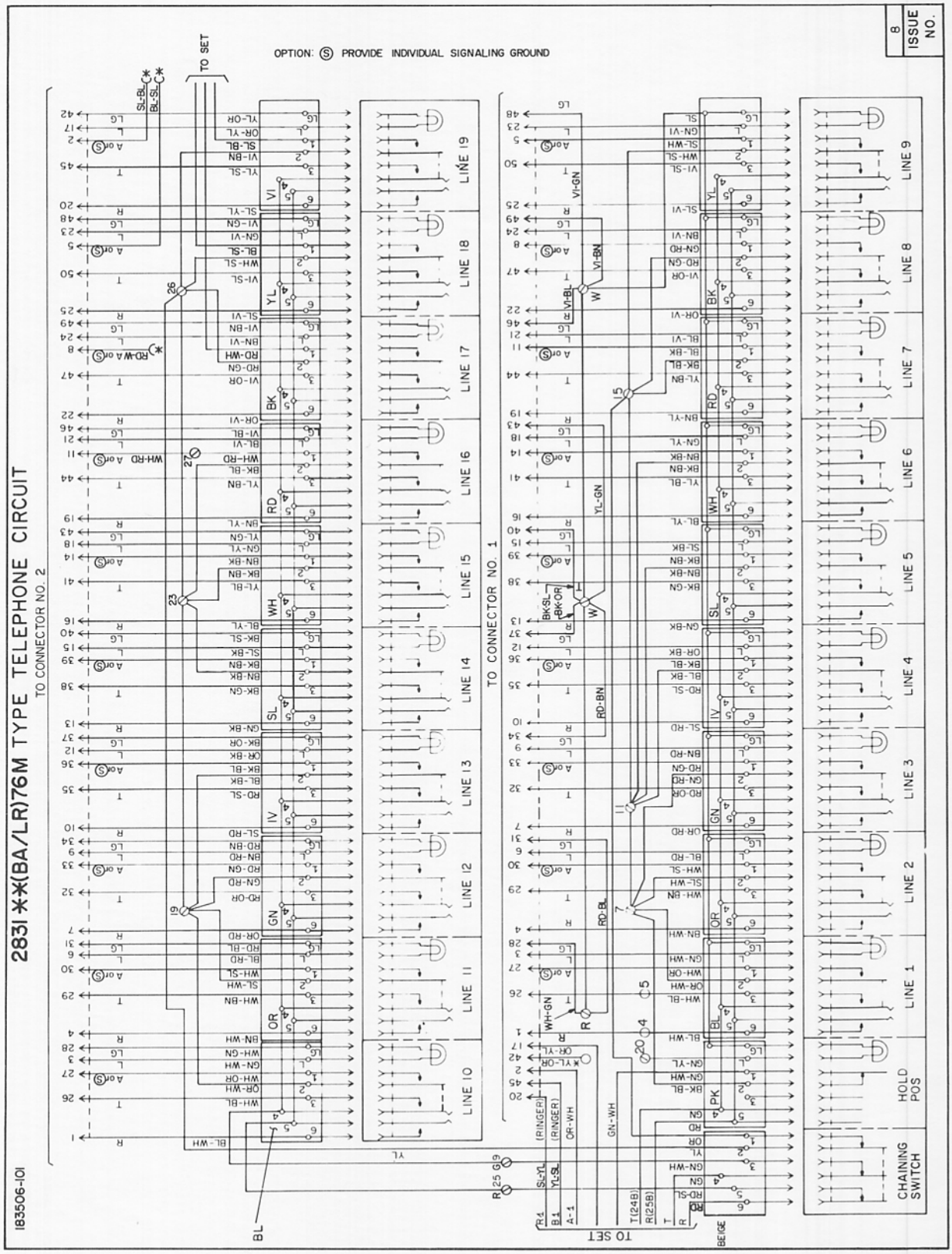


Figure 3: Circuit Label, Model 2831 Type 76 (Sheet 2 of 2)

10-BUTTON, ROTARY DIAL, DESK TELEPHONES WITH BUSY LAMP FIELD GENERAL DESCRIPTION

CONTENTS PAGE

1. GENERAL DESCRIPTION 1
MODEL 835** ( ) 42 2
MODEL 835** ( ) 46 3
MODEL 835** ( ) 76 3
2. INSTALLATION 3
3. MAINTENANCE 3
4. SPEAKERPHONE 3
5. BUTTON CONVERSIONS 3
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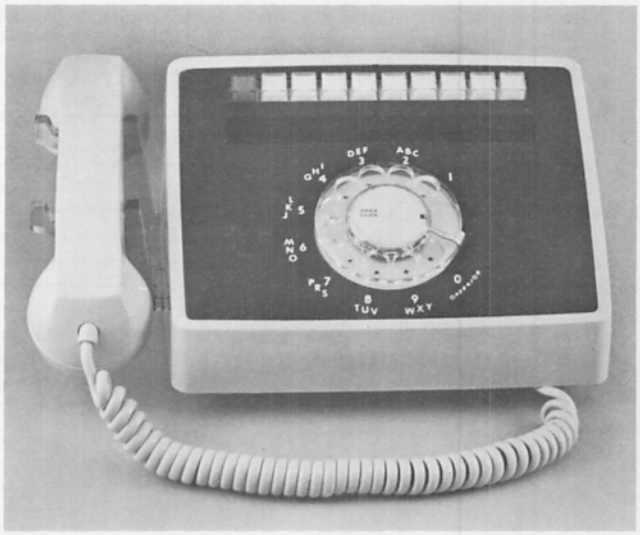
8. GROUNDING PUSHBUTTON 5
9. DISABLING HOOKSWITCH RESTORATION 5
10. CONNECTING 174B CALL ANNOUNCER 7
11. BUSY LAMP FIELD 7



AW 82-369

Figure 1: 10-Button, Rotary Dial, Desk Telephone W/BLF

1. GENERAL DESCRIPTION

1.01 This document covers the 10-button, rotary dial, desk telephone with the busy lamp field. (See Figure 1.) A general description plus information peculiar to 10-button, rotary dial, desk telephones with the busy lamp field is included.

1.02 Whenever this section is reissued, reason for reissue will be listed in this paragraph.

1.03 For additional information, refer to Section 50-835-101, Replacement Parts, and to Section 50-835-102, Circuit Labels. For information on installation, maintenance, and components or equipment, consult related documents of the ITT Telephone Apparatus Practices Manual.

1.04 The Model 835 desk telephones are 10-button, rotary dial, antisidetone type units that operate efficiently over a wide range of loop resistances and line impedances. These telephones are designed for use with key telephone systems, such as the ITT 1A2 System, where several telephones have access to the same lines, CO trunks, or intercom lines. All models include a busy lamp field with lamps for 24 stations. Each telephone is equipped with a 100-conductor mounting cord terminated in two 50-pin (25-pair) Amphenol-type connectors. One connector is dedicated to the busy lamp field.

1.05 The Model 835 desk telephones are identified by a code number stamped in ink on the bottom of the base plate. Refer to ordering information in Table A for an explanation of each code number.

TABLE A

ORDERING INFORMATION – TELEPHONES

CODE NUMBERS

TELEPHONE CODE NUMBERS ARE FORMED IN SIX STEPS AS FOLLOWS:

835 15 O BA 42 M

(1) Type of Instrument (See Part 1)
(2) Color (See Part 2)
(3) Version (See Part 3)
(4) Ringer (See Part 4)
(5) Special Feature (See Part 5)
(6) Dial (See Part 6)

PART 1 TYPE OF INSTRUMENT

CODE	DESCRIPTION	COLOR OFFERED	VERSION OFFERED	RINGER OFFERED	FEATURE OFFERED	DIAL OFFERED
835	10-Button, Rotary Dial, Desk Telephone w/Busy Lamp Field	00, 05, 13, 15, 44, and 45 (Available On All Models)	O	BA, LR	42, 46, 76	M

REFER TO INDIVIDUAL UNIT DESCRIPTION FOR COMPLETE DESCRIPTION OF FEATURE COMBINATIONS

PART 2 COLORS		PART 3 VERSIONS		PART 4 RINGERS		PART 5 SPECIAL FEATURES		PART 6 DIALS	
CODE	COLORS	CODE	VERSIONS	CODE	RINGERS	CODE	SPECIAL FEATURES	CODE	DIALS
00	Black	O	Conventional	LR	Less Ringer	42	Equipped To Operate With External Speakerphone	M	Metropolitan (Letters & Numerals)
05	Moss Green								
13	Beige			BA	Straight Line	46	42 Combined With Operator Recall Button		
15	White								
44	Light Ash					76	42 Combined With Automatic Exculsion And Release Button		
45	Cocoa Brown								

AW 82-382

1.06 Nine pushbutton keys on the telephone are used for line, trunk, or intercom lines. The red key on the far left is used as a hold key and allows any selected line or trunk to be placed in a hold condition . All remaining keys may be used as line keys or may be wired as either intercom lines or signal keys.

1.07 A signal lamp beneath each of the nine line keys indicates status of the associated line. (See Table B.)

1.08 All 10-button desk telephones are equipped with a hookswitch restoration feature that restores any operated line key when the hookswitch is operated.

1.09 Variations in the Model 835 series telephones are briefly described below. Circuit label drawings for these models are contained in Section 50-835-102.

MODEL 835** ( ) 42

1.10 The Model 835** ( ) 42 is a standard 10-button, rotary dial, desk type, key telephone that includes a busy lamp field and is equipped to operate with an external speakerphone. A set of dial assembly contacts disconnects the handsfree speaker during dialing; also, hookswitch assembly contacts provide on/off control of the handsfree equipment.

TABLE B

LINE KEY SIGNALS

CONDITION	LAMP INDICATION
Idle	Lamp Extinguished
Busy	Lamp Lit
Hold	Lamp Winking
Call Incoming	Lamp Flashing

AW 81-96

MODEL 835** ( ) 46

1.11 The Model 835** ( ) 46 is the same as the Model 835** ( ) 42 with the addition of an operator recall button. This button, containing normally closed contacts, can be used to recall the operator if the hookswitch restoration feature is used.

MODEL 835** ( ) 76

1.12 The Model 835** ( ) 76 is the same as the Model 835** ( ) 42 with the addition of an automatic exclusion (privacy) circuit with a release button. This release button contains normally open contacts. Where this feature is used, all telephones in the key system must contain the exclusion circuit and a release button.

2. INSTALLATION

2.01 Since these telephones are equipped with a connector-terminated mounting cord, installation consists of inserting the connectors into the jacks at the station connecting block and pressing to engage. For specific wiring information, refer to the appropriate circuit label in Section 50-835-102. Cable connections for 10-button telephones with feature codes 42 and 46 are listed in Table C. Cable connections for 10-button telephones with feature code 76 that differ from those listed in Table C are listed in Table D. For general installation information and installation of repair parts, refer to the applicable section of the ITT Telephone Apparatus Practices Manual.

3. MAINTENANCE

3.01 For general maintenance information, refer to the maintenance section of the ITT Telephone Apparatus Practices Manual. For a pictorial view and parts list, refer to Section 50-835-101.

4. SPEAKERPHONE

4.01 An external speakerphone may be installed on 10-button telephones. Most speakerphones provide the following additional features:

(a) Handsfree telephone operation. (Handsfree talking and dialing.)

(b) On-hook dialing.

(c) Automatic switching from speakerphone to handset operation.

(d) Transmitter muting for private conversation.

(e) Visual indication when system is in use.

(f) Cutoff of common ringer or other signaling devices when desired.

5. BUTTON CONVERSIONS

5.01 Any line key may be converted to signaling mode by removing the slotted head pin from the plunger shank. The slotted head pin is removed by turning clockwise. (On earlier models of the 10-button telephone the pin is removed by turning counterclockwise.)

6. BUZZER INSTALLATION

6.01 A buzzer may be installed as the signaling device of a telephone receiving an intercom call. The buzzer may be either installed on the dial mounting bracket or mounted externally. For telephones with feature codes 42 and 46, buzzer leads must be connected to the OR-YL and YL-OR leads inside the telephone. These leads are spare and can be found taped and stored inside the telephone. For telephones with feature code 76, a lamp ground lead is used instead of the OR-YL lead (provided the proper station cross-connections are made). Buzzers selected for this use must operate at 18 VAC, 60 Hz. (See Figure 2.)

TABLE C

CABLE CONNECTIONS FOR 10-BUTTON

TELEPHONES

(FEATURE CODES 42 AND 46)

LINES 1 THROUGH 5				LINES 6 THROUGH 9			
TELEPHONE TERMINAL	LEAD COLOR	LEAD DESIG.	CONNECTOR TERMINAL	TELEPHONE TERMINAL	LEAD COLOR	LEAD DESIG.	CONNECTOR TERMINAL
Line 1 (Blue Plug)	WH-BL	T	26	Line 6 (White Plug)	YL-BL	T	41
	BL-WH	R	1		BL-YL	R	16
	WH-OR	A	27		BN-BK	A or S	14
	WH-GN	LG	28		YL-GN	LG	43
	GN-WH	L	3		GN-YL	L	18
Line 2 (Orange Plug)	WH-BN	T	29	Line 7 (Red Plug)	YL-BN	T	44
	BN-WH	R	4		BN-YL	R	19
	WH-SL	A or S	30		BL-BK	A or S	11
	RD-BL	LG	31		VI-BL	LG	46
	BL-RD	L	6		BL-VI	L	21
Line 3 (Green Plug)	RD-OR	T	32	Line 8 (Black Plug)	VI-OR	T	47
	OR-RD	R	7		OR-VI	R	22
	RD-GN	A or S	33		GN-RD	A or S	8
	RD-BN	LG	34		VI-BN	LG, P3 or 1R	49
	BN-RD	L	9		BN-VI	L, P4 or 1T	24
Line 4 (Ivory Plug)	RD-SL	T	35	Line 9 (Yellow Plug)	VI-SL	T	50
	SL-RD	R	10		SL-VI	R	25
	BK-BL	A or S	36		SL-WH	A or S	5
	BK-OR	LG	37		VI-GN	LG or T1	48
	OR-BK	L	12		GN-VI	L or R1	23
Line 5 (Slate Plug)	BK-GN	T	38	10	OR-WH	A1	2
	GN-BK	R	13	G	YL-SL	B or B1	45
	BK-BN	A or S	39	A	SL-YL	R or R1	20
	BK-SL	LG	40	15	YL-OR	BL, AG or Spare	42
	SL-BK	L	15	6	OR-YL	SG, LK or Spare	17

NOTES:

1. All lamp ground leads are common.
2. Lead designations P3, P4, LK, T1, R1, AG and A1 are for speakerphone connections.
3. The YL-OR and OR-YL leads are spare leads and are taped and stored inside the telephone.
4. The designation S indicates that the lead provides an individual signal ground.

AW 82-113

TABLE D

SPECIAL CABLE CONNECTIONS FOR

10-BUTTON TELEPHONES (FEATURE CODE 76)

TELEPHONE TERMINAL	LEAD COLOR	LEAD DESIG.	CONNECTOR TERMINAL
Line 6 (White Plug)	WH-RD	A or S	14
Line 7 (Red Plug)	RD-WH	A or S	11
Line 8 (Black Plug)	BL-SL	A or S	8
Line 9 (Yellow Plug)	SL-BL	A or S	5
17	OR-YL	-24 VDC	17

NOTE:

1. This table lists those connections that differ from the connections for feature codes 42 and 46 telephones shown in Table C.

AW 82-491

6.02 A buzzer may also be used in place of the ringer. A 105 VAC buzzer must be provided. The ringer leads are removed and replaced by the buzzer leads.

7. DESIGNATION TABS

7.01 Designation tabs are included with each telephone. These tabs are installed by removing the cap from each key, placing the tab in the cap, and reinstalling the cap. The caps are removed by squeezing the sides and lifting. Note that locking surfaces are located on each of the caps and keys. These locking surfaces must properly align when reinstalling.

8. GROUNDING PUSHBUTTON

8.01 Modifications are made to line 9 of the telephone if a grounding pushbutton is required. A grounding pushbutton is required in some PABX applications for transferring calls, originating calls during a power failure, or other special functions. To convert line 9 to a grounding pushbutton, the following modifications should be made:

(a) Modify button to non-locking operation by removing interlock pin from line 9 plunger.

(b) Ground is provided on the WH-SL (A1) lead by the key system. (No cross-connect is necessary for this lead.)

(c) Cross-connect from the SL-WH lead to the PABX connection for the desired function.

9. DISABLING HOOKSWITCH RESTORATION

9.01 The hookswitch restoration feature used in multibutton telephones allows a station user to preselect a line key and then remove the handset to initiate a call. When the handset is returned to the cradle or the hookswitch is operated (hookswitch flash), the line key will be restored. To disable the hookswitch restoration feature, the following steps are taken:

(a) Remove telephone faceplate.

(b) Remove plastic trip arm by pulling up at the point directly above its mounting shaft.

(c) Remove torsion spring by sliding it off the mounting shaft.

(d) Reinstall telephone faceplate.

9.02 To enable the hookswitch restoration feature, the following steps are taken: (See Figure 3.)

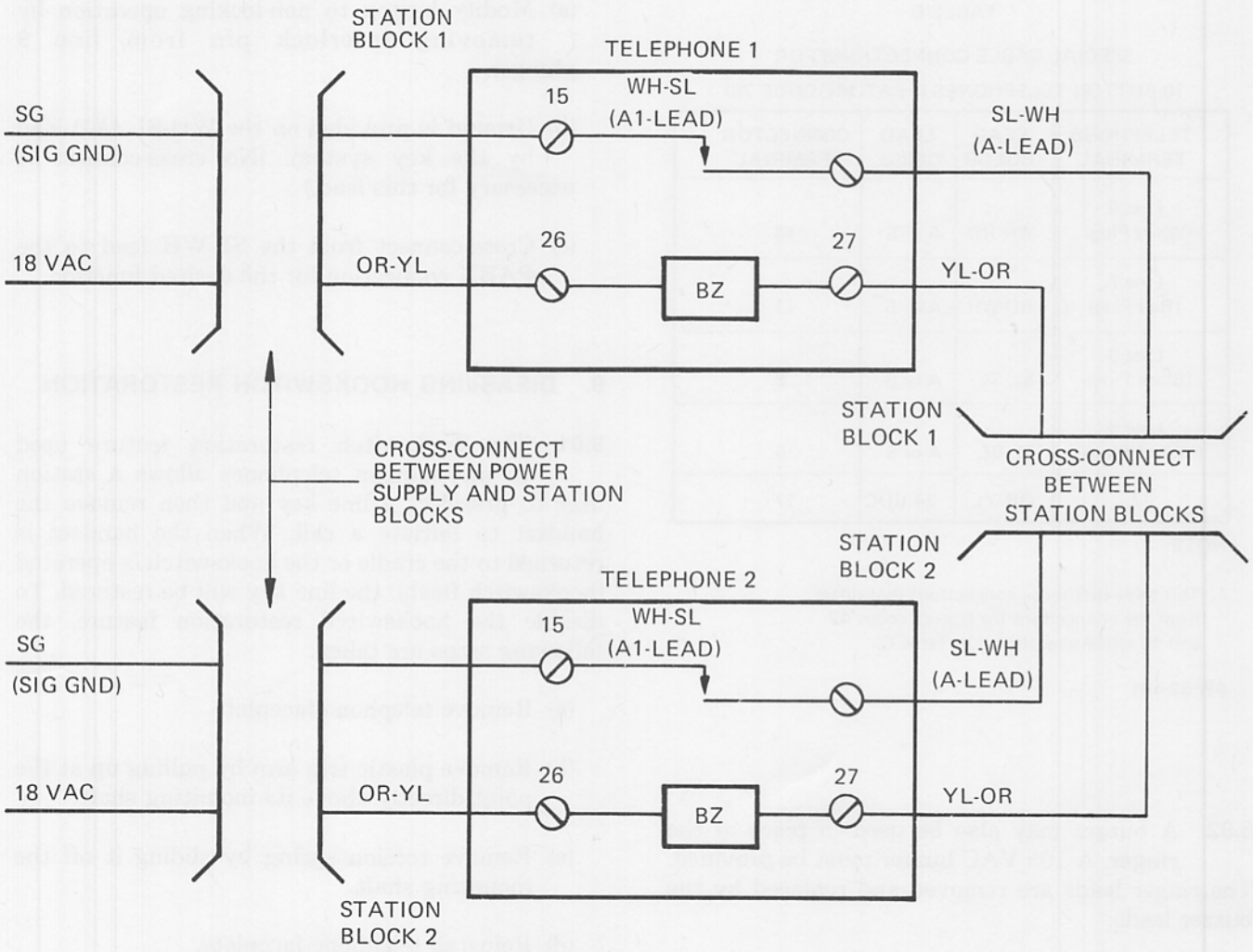
(a) Remove telephone faceplate.

(b) Install torsion spring by sliding it onto the mounting shaft and hooking one end between the mounting shaft and the hookswitch operating arm.

(c) Install plastic trip arm by placing the notch in the trip arm on the end of the torsion spring (opposite the end hooked behind the operating arm) and pressing the trip arm onto the mounting shaft.

(d) When the hookswitch is operated, the plastic trip arm should engage with the latch arm.

(e) Reinstall telephone faceplate.



NOTES:

1. THE ARRANGEMENT SHOWN IS USING LINE 9 OF A TELEPHONE WITH FEATURE CODES 42 AND 46 AS AN EXAMPLE. IF ANOTHER LINE IS USED, SUBSTITUTE THE APPROPRIATE A1 AND A-LEADS FOR THAT LINE.

2. IN THE 10-BUTTON TELEPHONE W/BLF, GROUND IS CONNECTED TO TERMINAL 15 (WH-SL LEAD). NO CROSS-CONNECT IS NECESSARY FOR THIS LEAD.

3. FOR TELEPHONES WITH FEATURE CODE 76, A LAMP GROUND LEAD IS USED INSTEAD OF THE OR-YL LEAD (PROVIDED THE PROPER STATION CROSS-CONNECTIONS ARE MADE).

AW 82-494

Figure 2: Circuit Diagram For Signal Buzzer

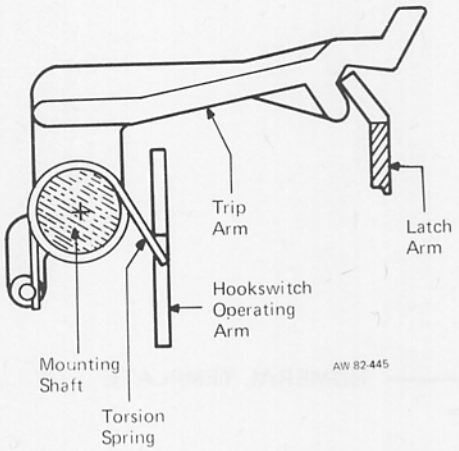


Figure 3: Installation of Trip Arm and Torsion Spring

9.03 Whenever the hookswitch restoration feature is disabled, it may become necessary to shorten or lengthen the spring connected to the operating arm to insure proper hookswitch operation. Proper operation requires the cradle to be fully depressed by the weight of the handset and return to the full up position when the handset is off-hook.

9.04 Earlier models of multibutton telephones may not provide the preselect function with the hookswitch restoration feature. These models include an adjustment screw on the latch arm rather than the plastic trip arm or torsion spring. To disable hookswitch restoration in these telephones, the following steps are taken:

(a) Remove telephone faceplate and housing.

(b) Turn the screw in the latch arm approximately five turns counterclockwise.

(c) Reinstall telephone faceplate and housing.

10. CONNECTING 174B CALL ANNOUNCER

10.01 A 174B call announcer is used to provide tone and voice signaling to, and handsfree answerback from, an intercom station. The 174B call announcer connects to 10-button telephones as follows:

(a) Connect BK (-24 VDC) lead of call announcer together with VI-BL lead of telephone to terminal 17 of terminal board.

(b) Connect YL (GND) lead of call announcer together with YL-OR lead of telephone to terminal 27 of terminal board.

(c) Connect RD (CA RST) lead of call announcer together with VI-BN lead of telephone to terminal 21 of terminal board.

(d) Connect GN (CA RT) lead of call announcer together with VI-GN lead of telephone to terminal 13 of terminal board. (The VI-GN lead must be moved from RR on network.)

11. BUSY LAMP FIELD

11.01 The busy lamp field used in connection with 10-button telephones provides lamps to indicate the status of up to 24 lines. This allows a visual inspection of the busy lamp field to determine those lines in use. All telephones to be monitored on the busy lamp field must be modified by installing two diodes within the telephone. (Refer to the appropriate circuit label in Section 50-835-102.)

11.02 Three numeral templates are provided with the busy lamp field. A fourth template is provided blank to allow any number desired to be indicated in the busy lamp field. (Refer to Table E for the busy lamp field leads associated with each of the numeral templates.)

11.03 Three components of the busy lamp field telephones are packed separately. The lamp separator, numeral template, and tinted plate must be assembled as follows: (See Figure 4.)

(a) Remove the telephone faceplate.

(b) Position the aluminum lamp separator as shown and install over the lamp strip.

(c) Loosen the two screws of the lamp strip.

(d) Select the appropriate numeral template and fold along dotted lines.

(e) Install the numeral template over the lamps and lamp separator and insert the slotted ends under the two screws of the lamp strip.

(f) Tighten the two screws of the lamp strip.

(g) Install telephone faceplate. (Not Shown)

(h) Insert the tinted plate in the display slot of the faceplate. (Not Shown)

TABLE E

BUSY LAMP FIELD LEADS

WIRE COLOR	AMPHENOL PIN. NO.	TEMPLATE #182161-101	TEMPLATE #182160-101	TEMPLATE #182159-101	WIRE COLOR	AMPHENOL PIN. NO.	TEMPLATE #182161-101	TEMPLATE #182160-101	TEMPLATE #182159-101
WH-BL BL-WH	26 1	18 VAC 12	18 VAC 32	18 VAC 44	BK-BN BN-BK	39 14	– 18	– 25	– 36
WH-OR OR-WH	27 2	– 24	– 34	– 47	BK-SL SL-BK	40 15	– 5	– 4	– 25
WH-GN GN-WH	28 3	– 11	– 31	– 43	YL-BL BL-YL	41 16	– 17	– 24	– 35
WH-BN BN-WH	29 4	– 23	– 33	– 46	YL-OR OR-YL	42 17	– 4	– 3	– 24
WH-SL SL-WH	30 5	– 10	– 9	– 42	YL-GN GN-YL	43 18	– 16	– 23	– 34
RD-BL BL-RD	31 6	– 22	– 29	– 45	YL-BN BN-YL	44 19	– 3	– 2	– 23
RD-OR OR-RD	32 7	– 9	– 8	– 29	YL-SL SL-YL	45 20	– 15	– 22	– 33
RD-GN GN-RD	33 8	– 21	– 28	– 39	VI-BL BL-VI	46 21	– 2	– 1	– 22
RD-BN BN-RD	34 9	– 8	– 7	– 28	VI-OR OR-VI	47 22	– 14	– 21	– 32
RD-SL SL-RD	35 10	– 20	– 27	– 38	VI-GN GN-VI	48 23	– 1	– 0	– 20
BK-BL BL-BK	36 11	– 7	– 6	– 27	VI-BN BN-VI	49 24	– 13	– 20	– 30
BK-OR OR-BK	37 12	– 19	– 26	– 37	VI-SL SL-VI	50 25	– –	– –	– –
BK-GN GN-BK	38 13	– 6	– 5	– 26					

AW 82-521

10-BUTTON, ROTARY DIAL, DESK TELEPHONES WITH BUSY LAMP FIELD REPLACEMENT PARTS

1. GENERAL

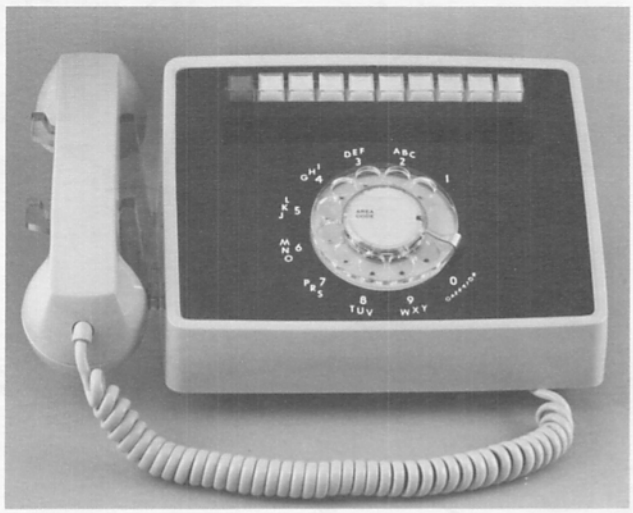
1.01 This document covers the 10-button, rotary dial, desk telephone with the busy lamp field. (See Figure 1.) An exploded-view drawing of the telephone with major assembly groups (see Figure 2) and a replacement parts list (see Table A) are included.

1.02 This section is reissued to reflect changes in the 10-button, rotary dial, desk telephone with busy lamp field and to incorporate the changes listed in the Telephone Apparatus Practices Change Notice, Section 11-510-100. Whenever this section is reissued, reason for reissue will be listed in this paragraph.

1.03 For additional information on description and installation of the telephones, refer to Section 50-835-100. The circuit labels appear in Section 50-835-102. Related documents of the ITT Telephone Apparatus Practices Manual provide information on components.

1.04 The Model 835 desk telephones are 10-button, rotary dial, anti-sidetone type units that operate efficiently over a wide range of loop resistances and line impedances. These telephones are designed for use with key telephone systems, such as the ITT 1A2 System, where several telephones have access to the same lines, CO trunks, or intercom lines. All models include a busy lamp field with lamps for 24 stations. Each telephone is equipped with a 100-conductor mounting cord terminated in two 50-pin (25-pair) Amphenol-type connectors. One connector is dedicated to the busy lamp field.

1.05 The Model 835 desk telephones are identified by a code number stamped in ink on the bottom of the base plate. Refer to Section 50-835-100 of the ITT Telephone Apparatus Practices Manual for ordering information and for an explanation of each code number.



AW 82-369

Figure 1: 10-Button, Rotary Dial, Desk Telephone W/BLF

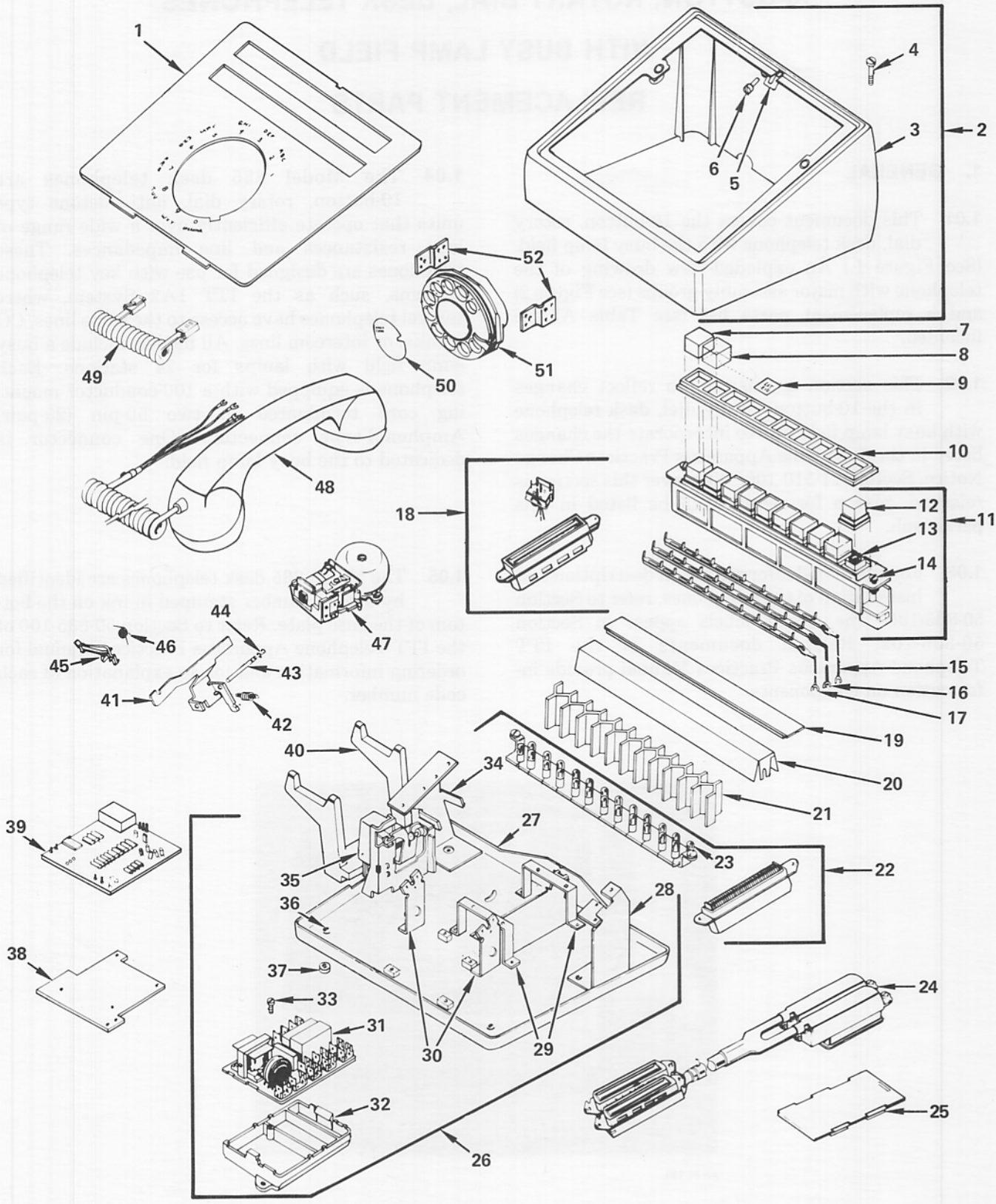


Figure 2: 10-Button, Rotary Dial, Desk Telephone W/BLF, Exploded View

TABLE A

REPLACEMENT PARTS LIST

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED		
		10-Button, Rotary Dial, Desk Telephone With Busy Lamp Field	**835/42**	**835/46**	**835/76**
1	181143-***	Faceplate	1	–	–
1	181688-***	Faceplate	–	1	1
2	181102-0**	Housing Assembly	1	1	1
2	187906-0**	Housing Assembly, Full-Modular	1	1	1
3	181104-0**	Housing	1	1	1
3	187922-0**	Housing, Full-Modular	1	1	1
4	095992-102	Screw, Housing	2	2	2
5	181100-101	Spring, Latch	1	1	1
6	181289-101	Screw, Latch Spring	1	1	1
7	181131-102	Cap, Red	1	1	1
8	181131-101	Cap, Clear	9	9	9
9	181281-101	Tab, Key Designation (Strip Of 12)	1	1	1
10	181287-101	Collar, Key Strip	1	1	1
11	181137-104	Key Assembly	1	1	–
11	182552-102	Key Assembly	–	–	1
12	181122-101	Button	10	10	10
13	000051-00A	Lamp	9	9	9
14	095992-102	Screw	2	2	2
15	181292-101	Strip, Contact (GN Wire)	1	1	1
16	181292-102	Strip, Contact (RD Wire)	1	1	1
17	181292-105	Strip, Contact (SL Wire)	1	1	1
18	181154-101	Cord, Internal	1	1	–
18	182546-101	Cord, Internal	–	–	1
19	181767-101	Plate, Numeral (Tinted)	1	1	1
20	182757-101	Template, (Blank)	1	1	1
20	182159-101	Template, (#20-47)	1	1	1
20	182160-101	Template, (#0-9, 20-34)	1	1	1
20	182161-101	Template, (#1-24)	1	1	1
21	181754-101	Separator, Lamp	1	1	1
22	181750-101	Busy Lamp Kit Assembly	1	1	1
23	181748-101	Lamp	24	24	24

TABLE A

REPLACEMENT PARTS LIST (Cont)

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED		
		10-Button, Rotary Dial, Desk Telephone With Busy Lamp Field	**835/42**	**835/46**	**835/76**
24	184355-102	Cord, Mounting (100-Conductor)	1	1	1
25	181290-101	Slide	1	1	1
26	181250-104	Base Assembly	1	1	1
27	181141-101	Plate, Base	1	1	1
28	181251-101	Bracket, Key Right	1	1	1
29	181255-101	Bracket, Plug	2	2	2
30	181254-102	Bracket, Dial	2	2	2
31	181427-101	PC Network (#183070-101)[1]	1	1	1
32	182175-101	Spacer, Network	1	1	1
33	096407-103	Screw, Network Mounting	1	1	1
34	181150-102	Left Bracket Assembly	1	1	1
	185619-101	Left Trip Bracket Assembly	1	1	1
	181252-101	Bracket, Key Left	1	1	1
	185618-101	Bracket, Trip	1	1	1
35	181260-101	Cradle Switch Assembly[1]	1	1	1
36	082486-102	Rivet, Foot	4	4	4
37	182337-101	Foot	4	4	4
38	181298-101	Terminal Board	1	1	1
39	182386-101	PC Board (Exclusion)	–	–	1
40	183105-102	Switch Hook Assembly	1	1	1
	182900-101	Cradle, Switch Hook	1	1	1
	181145-101	Screw, Switch Hook Cradle	3	3	3
	185494-101	Operating Arm Assembly	1	1	1
	185487-101	Arm, Operating	1	1	1
	075307-104	Spring, Cradle Return	1	1	1
	181282-101	Shaft, Pivot	1	1	1
	073538-110	Ring, Retainer	1	1	1
41	185488-101	Arm, Latch	1	1	1
42	181151-101	Spring, Latch Arm	1	1	1
43	181152-101	Pin, Pivot	1	1	1
44	073538-110	Ring, Retainer	2	2	2
45	185486-101	Arm, Trip	1	1	1
46	185485-101	Spring, Torsion	1	1	1
47	000148-DBA	Ringer[1]	1	1	1

TABLE A

REPLACEMENT PARTS LIST (Cont)

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED		
		10-Button, Rotary Dial, Desk Telephone With Busy Lamp Field	**835/42**	**835/46**	**835/76**
48 48	0065**-0C2 0065**-0M2	Handset Assembly, Nonmodular[1] Handset Assembly, Modular[1]	1 1	1 1	1 1
49	9018**-072	Cord, Handset, Modular	1	1	1
50	075415-101	Card, Number	1	1	1
51	003800-00H	Dial Assembly, Metropolitan (Letters And Numerals)[1]	1	1	1
52	181146-101	Bracket, Dial Adapter	2	2	2
	600152-611 -001	Jack Assembly, Handset Cord, Modular (Not Shown)	1	1	1
	182990-105	Insulator Assembly, Modular (Not Shown)	1	1	1
	181973-101	Pushbutton, Operator Recall (Not Shown)	–	1	–
	181971-101	Pushbutton, Exclusion Release (Not Shown)	–	–	1
	187944-101	Nameplate, ITT (Not Shown)	1	1	1

NOTES:

[1] Refer to Component Parts Section of this manual for Assembly Parts List.
** Substitute 2-digit color code when ordering.
*** Substitute 3-digit color code when ordering faceplate.

CODE	COLOR	CODE	COLOR	CODE	COLOR	CODE	COLOR
101	Charcoal	104	Light Gray	107	Cocoa Brown	110	Clear
102	Light Green	105	Burnt Orange	108	Harvest Gold	111	Woodgrain
103	Muted Beige	106	Light Ash	109	Cherry Red		

AW 84-768

10-BUTTON, ROTARY DIAL, DESK TELEPHONES WITH BUSY LAMP FIELD CIRCUIT LABELS

1. GENERAL

1.01 This document covers the 10-button, rotary dial, desk telephones with busy lamp field. (See Figure 1.) Circuit labels for 10-button, rotary dial, desk telephones with busy lamp field are included. (See Table A.)

AW 86-393

Figure 1: 10-Button, Rotary Dial, Desk Telephone W/BLF

1.02 This section is reissued to reflect changes in the 10-button, rotary dial, desk telephones with busy lamp field.

1.03 For additional information on description and installation of the telephones, refer to Section 50-835-100. A replacement parts list and an exploded-view drawing for the telephones are contained in Section 50-835-101. Related documents of the ITT Telephone Apparatus Practices Manual provide information on components.

1.04 The Model 835 desk telephones are identified by a code number stamped in ink on the bottom of the base plate. Refer to Section 50-835-100 of the ITT Telephone Apparatus Practices Manual for ordering information and for an explanation of each code number.

1.05 The Model 835 desk telephones are 10-button, rotary dial, anti-sidetone type units that operate efficiently over a wide range of loop resistances and line impedances. These telephones are designed for use with key telephone systems, such as the ITT 1A2 System, where several telephones have access to the same lines, CO trunks, or intercom lines. All models include a busy lamp field with lamps for 24 stations. Each telephone is equipped with a 100-conductor mounting cord terminated in two 50-pin (25-pair) Amphenol-type connectors. One connector is dedicated to the busy lamp field.

TABLE A

LIST OF CIRCUIT LABELS

MODEL NO	TYPE NO	FIGURE NO
835	42, 46	2
835	76	3

AW 86-426

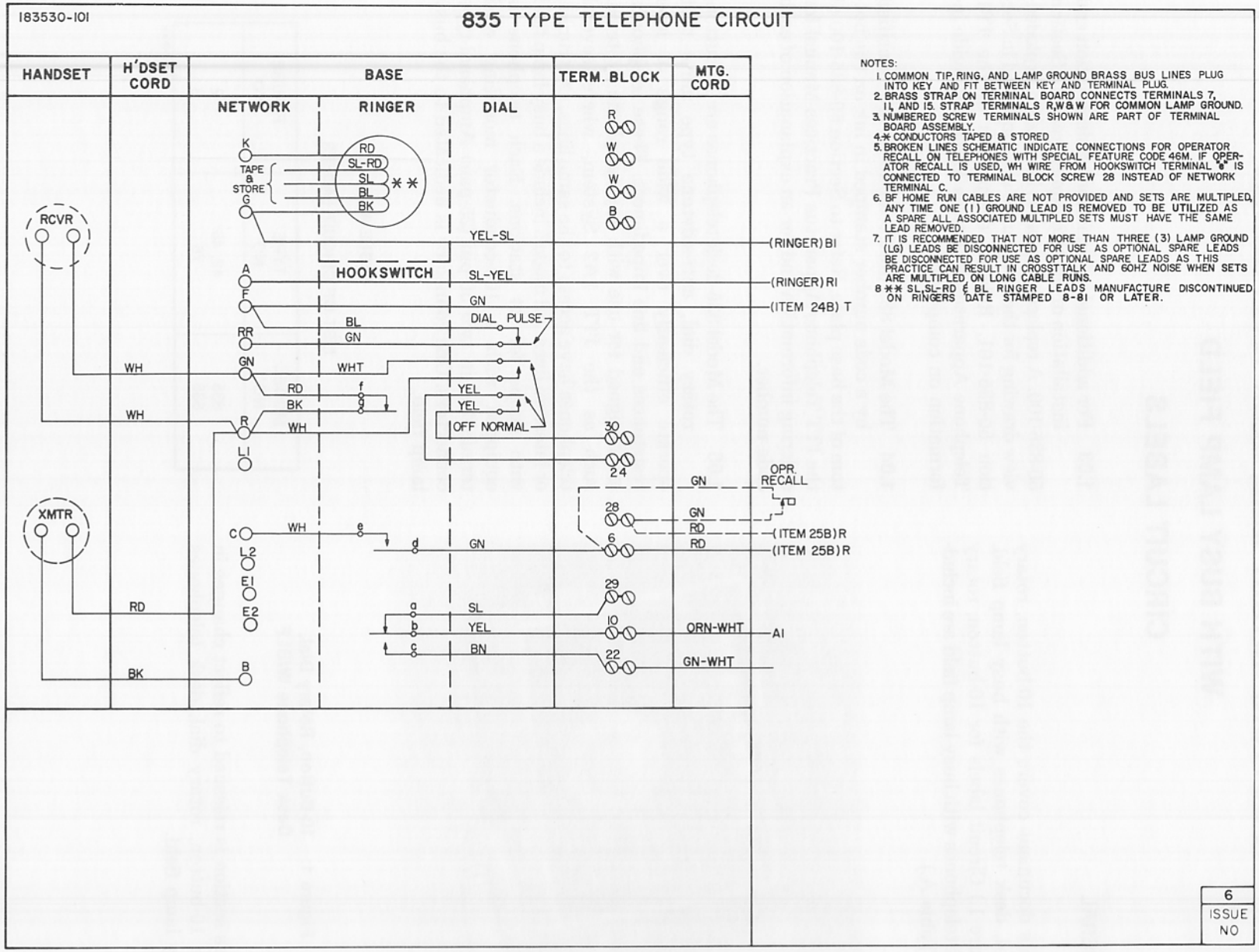


Figure 2: Circuit Label, Model 835 Types 42, 46 (Sheet 1 of 3)

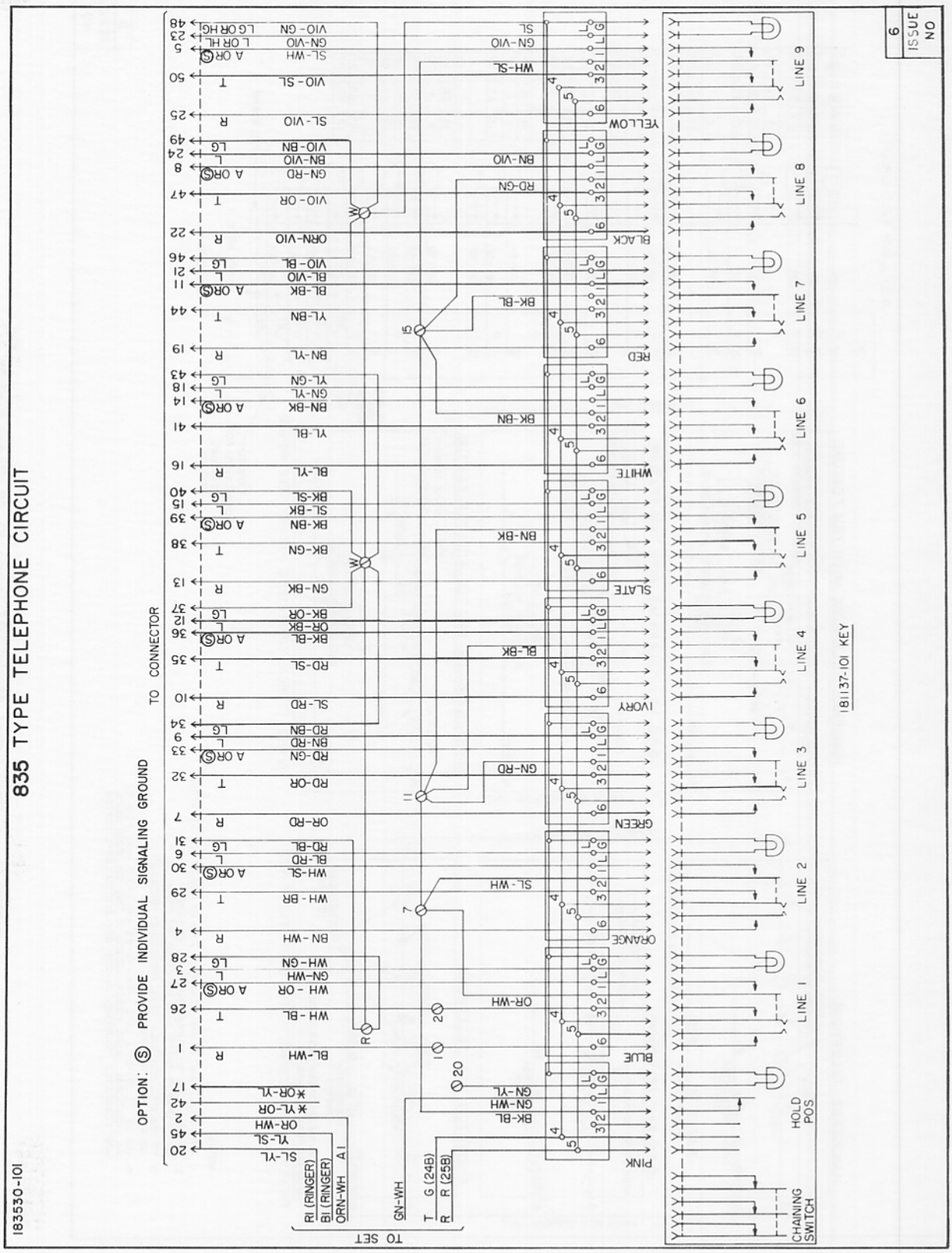


Figure 2: Circuit Label, Model 835 Types 42, 46 (Sheet 2 of 3)

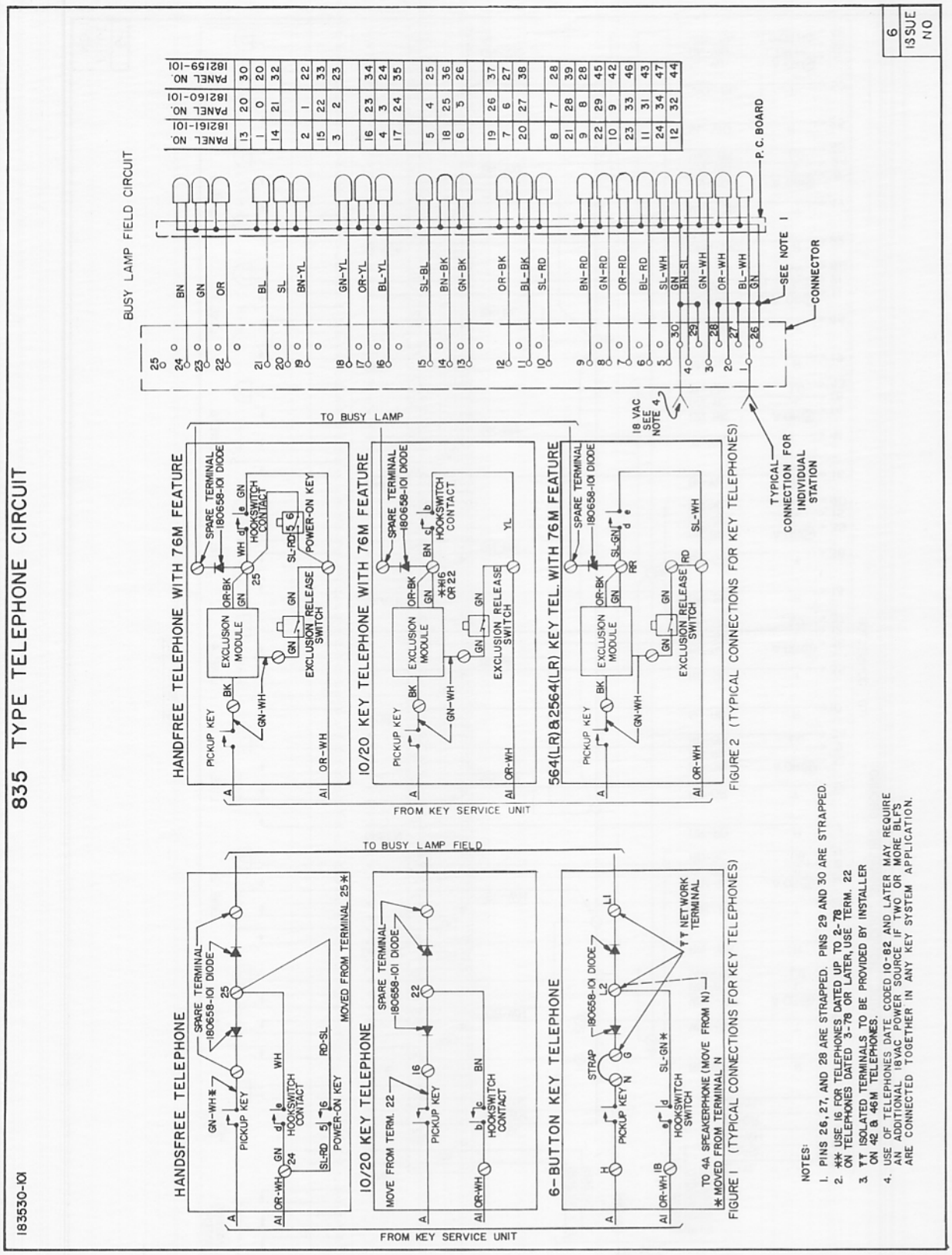


Figure 2: Circuit Label, Model 835 Types 42, 46 (Sheet 3 of 3)

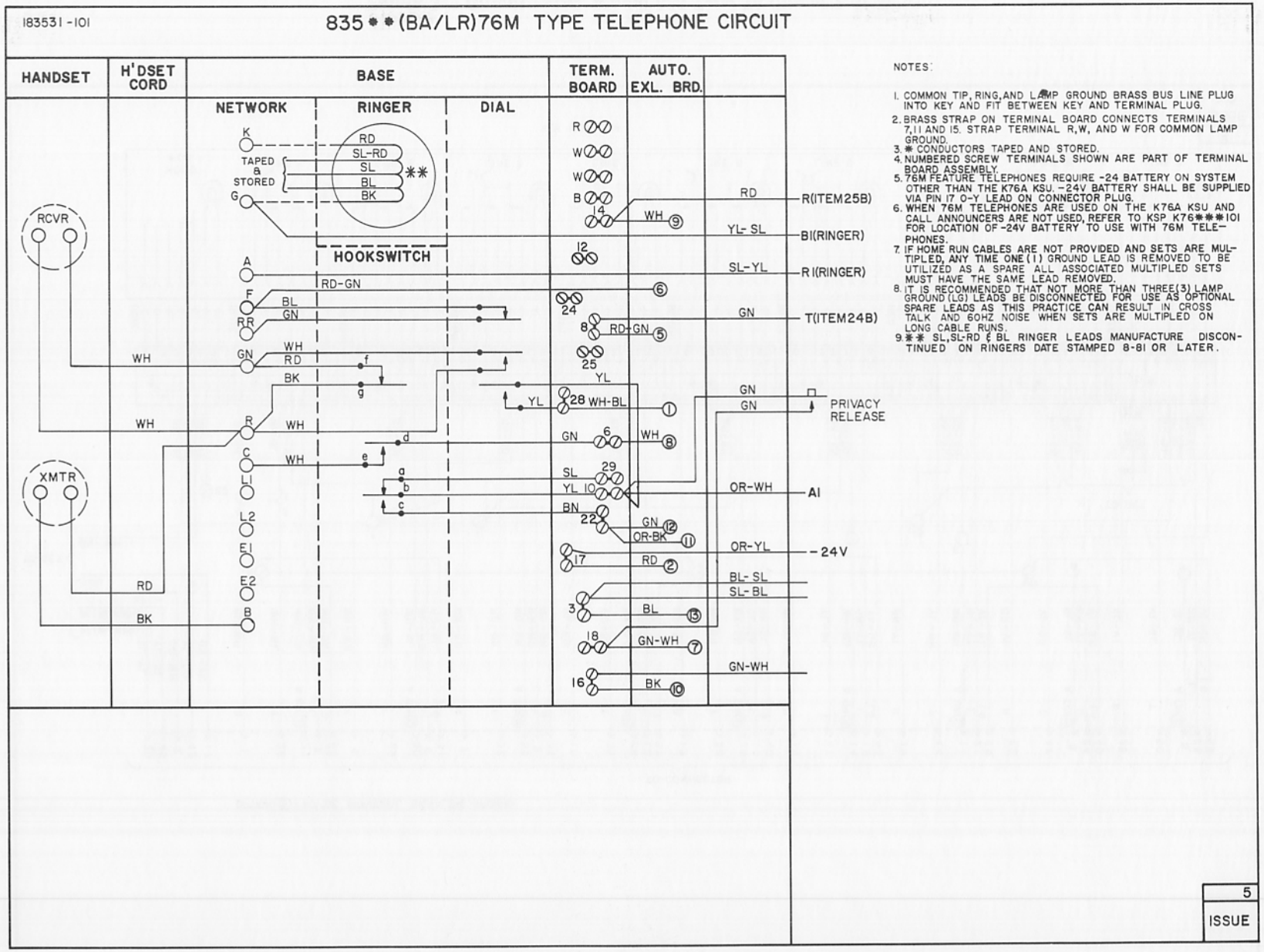


Figure 3: Circuit Label, Model 835 Type 76 (Sheet 1 of 3)

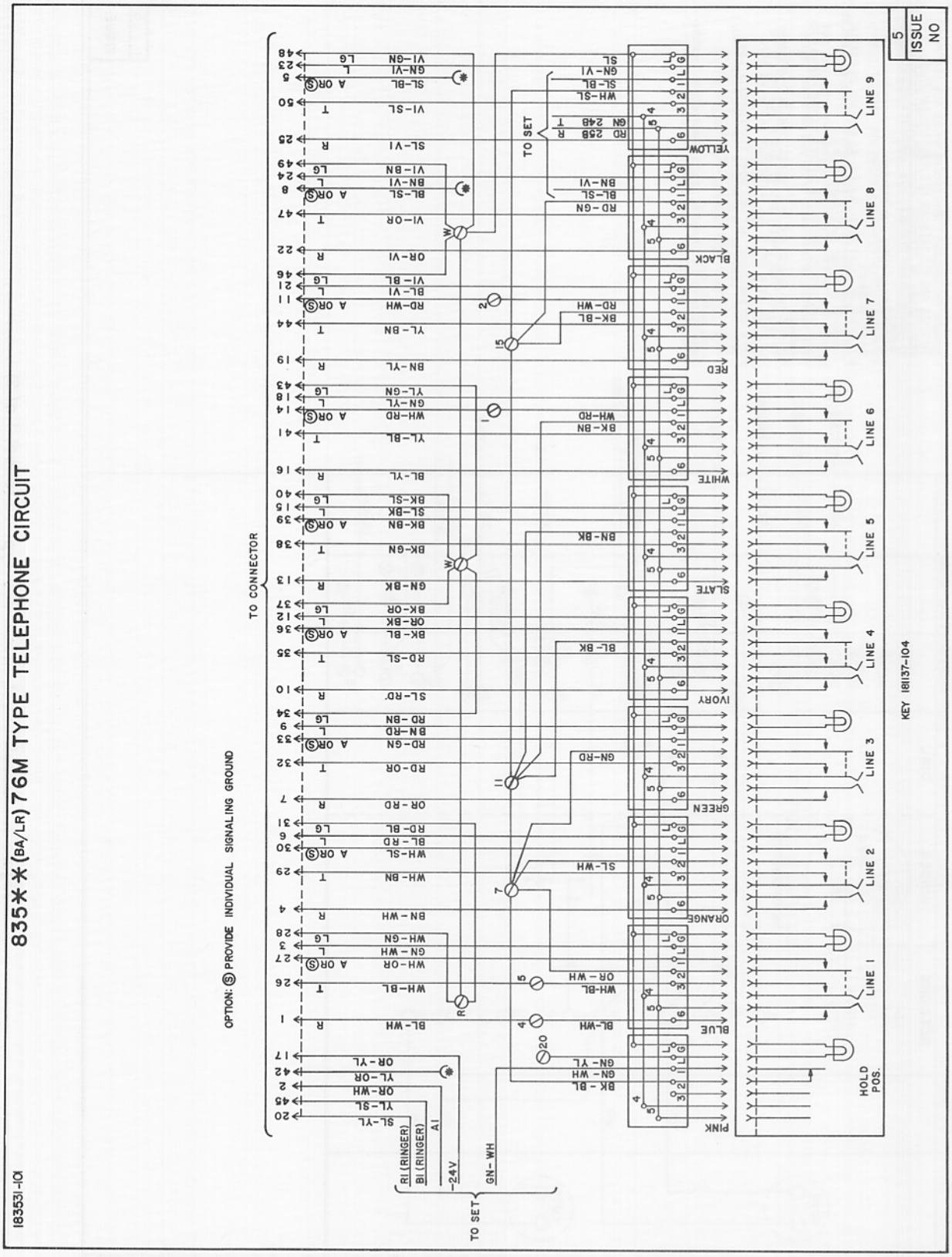


Figure 3: Circuit Label, Model 835 Type 76 (Sheet 2 of 3)

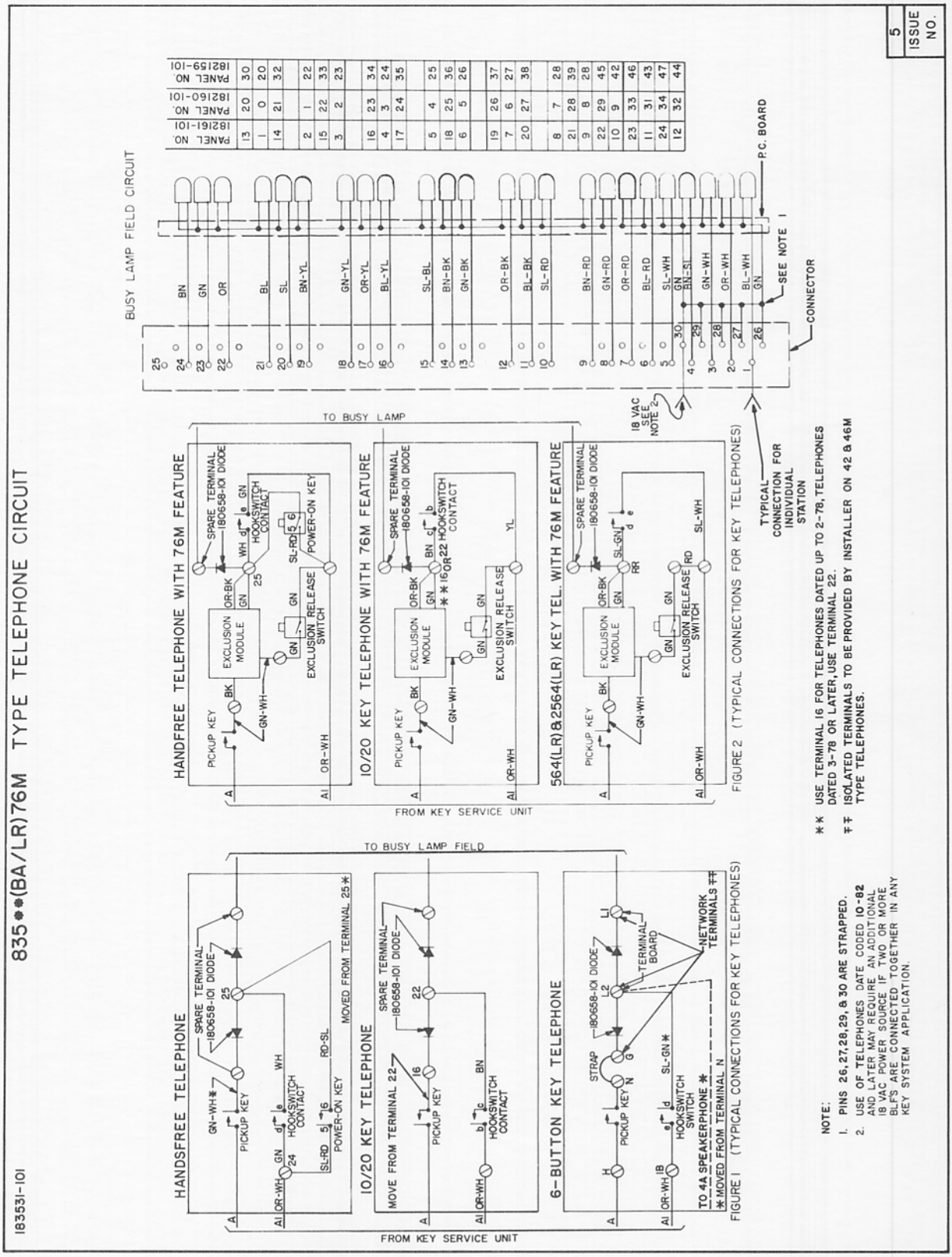


Figure 3: Circuit Label, Model 835 Type 76 (Sheet 3 of 3)

10-BUTTON, PUSHBUTTON DIAL, DESK TELEPHONES WITH BUSY LAMP FIELD GENERAL DESCRIPTION

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1. GENERAL DESCRIPTION 1
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MODEL 2835** ( ) 46 3
MODEL 2835** ( ) 76 3
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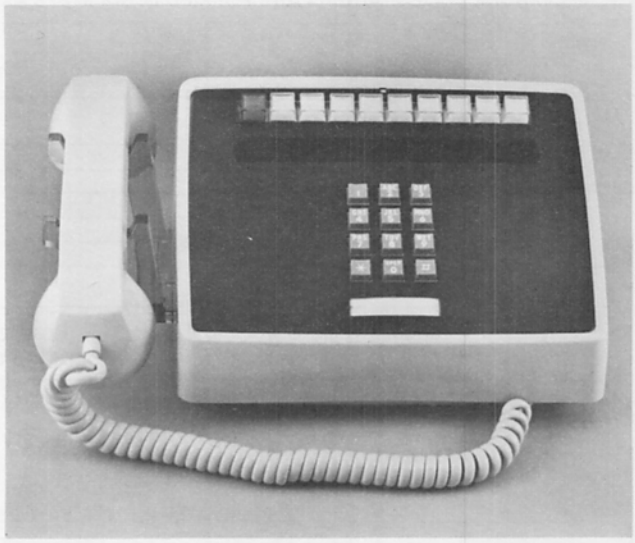
3. MAINTENANCE 3
4. SPEAKERPHONE 3
5. BUTTON CONVERSIONS 3
6. BUZZER INSTALLATION 3
7. DESIGNATION TABS 5
8. GROUNDING PUSHBUTTON 5
9. DISABLING HOOKSWITCH RESTORATION 5
10. CONNECTING 174B CALL ANNOUNCER 7
11. BUSY LAMP FIELD 7



AW 82-370

Figure 1: 10-Button, Pushbutton Dial, Desk Telephone

1. GENERAL DESCRIPTION

1.01 This document covers the 10-button, pushbutton dial, desk telephone with the busy lamp field. (See Figure 1.) A general description plus information peculiar to 10-button, pushbutton dial, desk telephones with the busy lamp field is included.

1.02 Whenever this section is reissued, reason for reissue will be listed in this paragraph.

1.03 For additional information, refer to Section 50-835-104, Replacement Parts, and to Section 50-835-105, Circuit Labels. For information on installation, maintenance, and components or equipment, consult related documents of the ITT Telephone Apparatus Practices Manual.

1.04 The Model 2835 desk telephones are 10-button, pushbutton dial, antisidetone type units that operate efficiently over a wide range of loop resistances and line impedances. These telephones are designed for use with key telephone systems, such as the ITT 1A2 System, where several telephones have access to the same lines, CO trunks, or intercom lines. All models include a busy lamp field with lamps for 24 stations. Each telephone is equipped with a 100-conductor mounting cord terminated in two 50-pin (25-pair) Amphenol-type connectors. One connector is dedicated to the busy lamp field.

1.05 The Model 2835 desk telephones are identified by a code number stamped in ink on the bottom of the base plate. Refer to ordering information in Table A for an explanation of each code number.

TABLE A

ORDERING INFORMATION – TELEPHONES

CODE NUMBERS

TELEPHONE CODE NUMBERS ARE FORMED IN SIX STEPS AS FOLLOWS:

2835 15 O BA 42 M

(1) Type of Instrument (See Part 1)
(2) Color (See Part 2)
(3) Version (See Part 3)
(4) Ringer (See Part 4)
(5) Special Feature (See Part 5)
(6) Dial (See Part 6)

PART 1 TYPE OF INSTRUMENT

CODE	DESCRIPTION	COLOR OFFERED	VERSION OFFERED	RINGER OFFERED	FEATURE OFFERED	DIAL OFFERED
2835	10-Button, Pushbutton Dial, Desk Telephone w/Busy Lamp Field	00, 05, 13, 15, 44, and 45 (Available On All Models)	O	BA, LR	42, 46, 76	M, R

REFER TO INDIVIDUAL UNIT DESCRIPTION FOR COMPLETE DESCRIPTION OF FEATURE COMBINATIONS

PART 2 COLORS		PART 3 VERSIONS		PART 4 RINGERS		PART 5 SPECIAL FEATURES		PART 6 DIALS	
CODE	COLORS	CODE	VERSIONS	CODE	RINGERS	CODE	SPECIAL FEATURES	CODE	DIALS
00	Black	O	Conventional	LR	Less Ringer	42	Equipped To Operate With External Speakerphone	M	Metropolitan (Letters & Numerals)
05	Moss Green								
13	Beige			BA	Straight Line	46	42 Combined With Operator Recall Button	R	Regular (Numerals Only)
15	White								
44	Light Ash					76	42 Combined With Automatic Exclusion And Release Button		
45	Cocoa Brown								

AW 82-383

1.06 Nine pushbutton keys on the telephone are used for line, trunk, or intercom lines. The red key on the far left is used as a hold key and allows any selected line or trunk to be placed in a hold condition . All remaining keys may be used as line keys or may be wired as either intercom lines or signal keys.

1.07 A signal lamp beneath each of the nine line keys indicates status of the associated line. (See Table B.)

1.08 All 10-button desk telephones are equipped with a hookswitch restoration feature that restores any operated line key when the hookswitch is operated.

1.09 Variations in the Model 2835 series telephones are briefly described below. Circuit label drawings for these models are contained in Section 50-835-105.

MODEL 2835** ( ) 42

1.10 The Model 2835** ( ) 42 is a standard 10-button, pushbutton dial, desk type, key telephone that includes a busy lamp field and is equipped to operate with an external speakerphone. A set of dial assembly contacts disconnects the handsfree speaker during dialing; also, hookswitch assembly contacts provide on/off control of the handsfree equipment.

TABLE B

LINE KEY SIGNALS

CONDITION	LAMP INDICATION
Idle	Lamp Extinguished
Busy	Lamp Lit
Hold	Lamp Winking
Call Incoming	Lamp Flashing

AW 81-96

MODEL 2835 ( ) 46**

1.11 The Model 2835** ( ) 46 is the same as the Model 2835** ( ) 42 with the addition of an operator recall button. This button, containing normally closed contacts, can be used to recall the operator if the hookswitch restoration feature is used.

MODEL 2835 ( ) 76**

1.12 The Model 2835** ( ) 76 is the same as the Model 2835** ( ) 42 with the addition of an automatic exclusion (privacy) circuit with a release button. This release button contains normally open contacts. Where this feature is used, all telephones in the key system must contain the exclusion circuit and a release button.

2. INSTALLATION

2.01 Since these telephones are equipped with a connector-terminated mounting cord, installation consists of inserting the connectors into the jacks at the station connecting block and pressing to engage. For specific wiring information, refer to the appropriate circuit label in Section 50-835-105. Cable connections for 10-button telephones with feature codes 42 and 46 are listed in Table C. Cable connections for 10-button telephones with feature code 76 that differ from those listed in Table C are listed in Table D. For general installation information and installation of repair parts, refer to the applicable section of the ITT Telephone Apparatus Practices Manual.

3. MAINTENANCE

3.01 For general maintenance information, refer to the maintenance section of the ITT Telephone Apparatus Practices Manual. For a pictorial view and parts list, refer to Section 50-835-104.

4. SPEAKERPHONE

4.01 An external speakerphone may be installed on 10-button telephones. Most speakerphones provide the following additional features:

(a) Handsfree telephone operation. (Handsfree talking and dialing.)

(b) On-hook dialing.

(c) Automatic switching from speakerphone to handset operation.

(d) Transmitter muting for private conversation.

(e) Visual indication when system is in use.

(f) Cutoff of common ringer or other signaling devices when desired.

5. BUTTON CONVERSIONS

5.01 Any line key may be converted to signaling mode by removing the slotted head pin from the plunger shank. The slotted head pin is removed by turning clockwise. (On earlier models of the 10-button telephone the pin is removed by turning counterclockwise.)

6. BUZZER INSTALLATION

6.01 A buzzer may be installed as the signaling device of a telephone receiving an intercom call. The buzzer may be either installed on the dial mounting bracket or mounted externally. For telephones with feature codes 42 and 46, buzzer leads must be connected to the OR-YL and YL-OR leads inside the telephone. These leads are spare and can be found taped and stored inside the telephone. For telephones with feature code 76, a lamp ground lead is used instead of the OR-YL lead (provided the proper station cross-connections are made). Buzzers selected for this use must operate at 18 VAC, 60 Hz. (See Feature 2.)

TABLE C

CABLE CONNECTIONS FOR 10-BUTTON

TELEPHONES

(FEATURE CODES 42 AND 46)

LINES 1 THROUGH 5				LINES 6 THROUGH 9			
TELEPHONE TERMINAL	LEAD COLOR	LEAD DESIG.	CONNECTOR TERMINAL	TELEPHONE TERMINAL	LEAD COLOR	LEAD DESIG.	CONNECTOR TERMINAL
Line 1 (Blue Plug)	WH-BL	T	26	Line 6 (White Plug)	YL-BL	T	41
	BL-WH	R	1		BL-YL	R	16
	WH-OR	A	27		BN-BK	A or S	14
	WH-GN	LG	28		YL-GN	LG	43
	GN-WH	L	3		GN-YL	L	18
Line 2 (Orange Plug)	WH-BN	T	29	Line 7 (Red Plug)	YL-BN	T	44
	BN-WH	R	4		BN-YL	R	19
	WH-SL	A or S	30		BL-BK	A or S	11
	RD-BL	LG	31		VI-BL	LG	46
	BL-RD	L	6		BL-VI	L	21
Line 3 (Green Plug)	RD-OR	T	32	Line 8 (Black Plug)	VI-OR	T	47
	OR-RD	R	7		OR-VI	R	22
	RD-GN	A or S	33		GN-RD	A or S	8
	RD-BN	LG	34		VI-BN	LG, P3 or 1R	49
	BN-RD	L	9		BN-VI	L, P4 or 1T	24
Line 4 (Ivory Plug)	RD-SL	T	35	Line 9 (Yellow Plug)	VI-SL	T	50
	SL-RD	R	10		SL-VI	R	25
	BK-BL	A or S	36		SL-WH	A or S	5
	BK-OR	LG	37		VI-GN	LG or T1	48
	OR-BK	L	12		GN-VI	L or R1	23
Line 5 (Slate Plug)	BK-GN	T	38	10	OR-WH	A1	2
	GN-BK	R	13	G	YL-SL	B or B1	45
	BK-BN	A or S	39	A	SL-YL	R or R1	20
	BK-SL	LG	40	15	YL-OR	BL, AG or Spare	42
	SL-BK	L	15	6	OR-YL	SG, LK or Spare	17

NOTES:

1. All lamp ground leads are common.
2. Lead designations P3, P4, LK, T1, R1, AG and A1 are for speakerphone connections.
3. The YL-OR and OR-YL leads are spare leads and are taped and stored inside the telephone.
4. The designation S indicates that the lead provides an individual signal ground.

AW 82-113

TABLE D

SPECIAL CABLE CONNECTIONS FOR

10-BUTTON TELEPHONES (FEATURE CODE 76)

TELEPHONE TERMINAL	LEAD COLOR	LEAD DESIG.	CONNECTOR TERMINAL
Line 6 (White Plug)	WH-RD	A or S	14
Line 7 (Red Plug)	RD-WH	A or S	11
Line 8 (Black Plug)	BL-SL	A or S	8
Line 9 (Yellow Plug)	SL-BL	A or S	5
17	OR-YL	-24 VDC	17

NOTE:

1. This table lists those connections that differ from the connections for feature codes 42 and 46 telephones shown in Table C.

AW 82-491

6.02 A buzzer may also be used in place of the ringer. A 105 VAC buzzer must be provided. The ringer leads are removed and replaced by the buzzer leads.

7. DESIGNATION TABS

7.01 Designation tabs are included with each telephone. These tabs are installed by removing the cap from each key, placing the tab in the cap, and reinstalling the cap. The caps are removed by squeezing the sides and lifting. Note that locking surfaces are located on each of the caps and keys. These locking surfaces must properly align when reinstalling.

8. GROUNDING PUSHBUTTON

8.01 Modifications are made to line 9 of the telephone if a grounding pushbutton is required. A grounding pushbutton is required in some PABX applications for transferring calls, originating calls during a power failure, or other special functions. To convert line 9 to a grounding pushbutton, the following modifications should be made:

(a) Modify button to non-locking operation by removing interlock pin from line 9 plunger.

(b) Ground is provided on the WH-SL (A1) lead by the key system. (No cross-connect is necessary for this lead.)

(c) Cross-connect from the SL-WH lead to the PABX connection for the desired function.

9. DISABLING HOOKSWITCH RESTORATION

9.01 The hookswitch restoration feature used in multibutton telephones allows a station user to preselect a line key and then remove the handset to initiate a call. When the handset is returned to the cradle or the hookswitch is operated (hookswitch flash), the line key will be restored. To disable the hookswitch restoration feature, the following steps are taken:

(a) Remove telephone faceplate.

(b) Remove plastic trip arm by pulling up at the point directly above its mounting shaft.

(c) Remove torsion spring by sliding it off the mounting shaft.

(d) Reinstall telephone faceplate.

9.02 To enable the hookswitch restoration feature, the following steps are taken: (See Figure 3.)

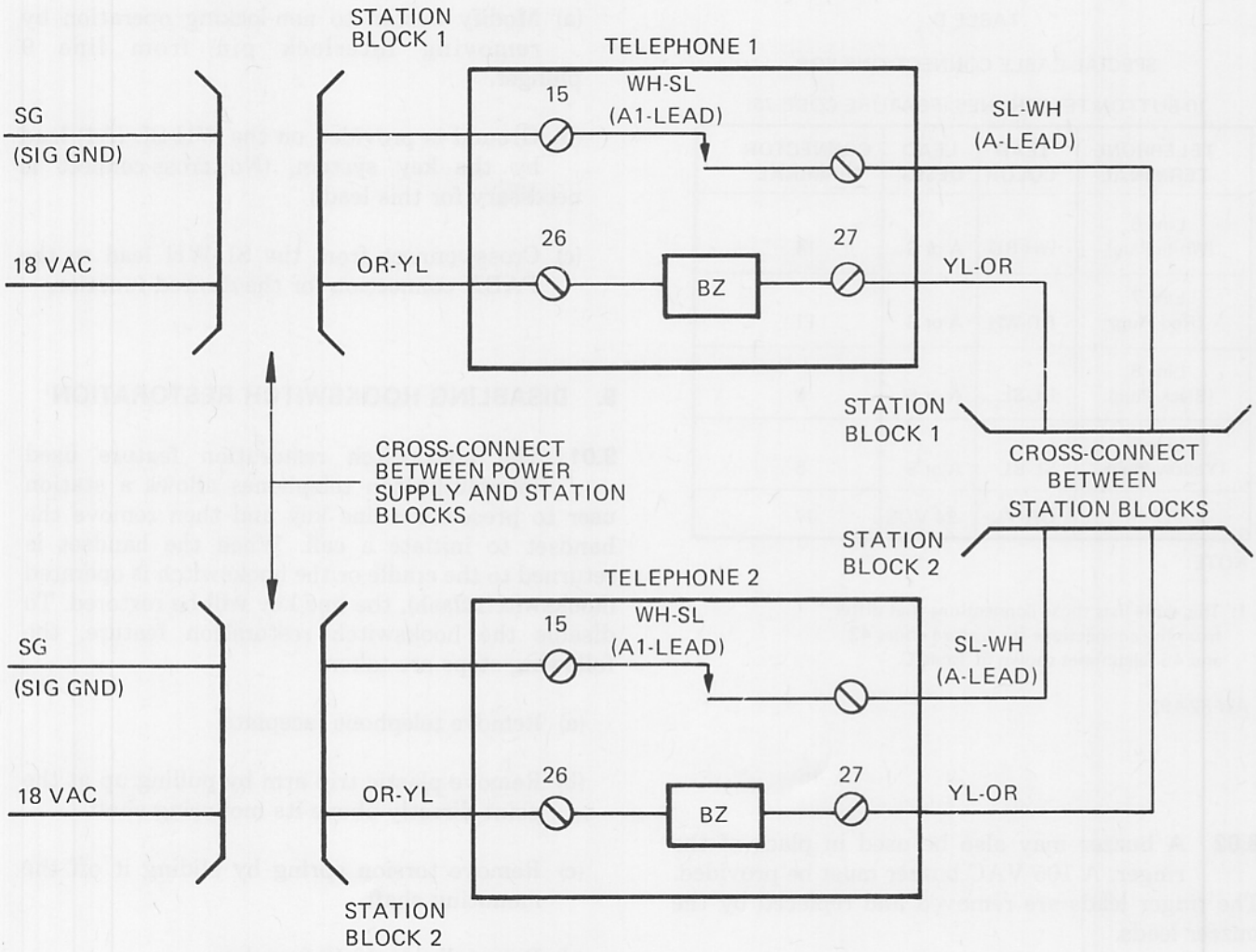
(a) Remove telephone faceplate.

(b) Install torsion spring by sliding it onto the mounting shaft and hooking one end between the mounting shaft and the hookswitch operating arm.

(c) Install plastic trip arm by placing the notch in the trip arm on the end of the torsion spring (opposite the end hooked behind the operating arm) and pressing the trip arm onto the mounting shaft.

(d) When the hookswitch is operated, the plastic trip arm should engage with the latch arm.

(e) Reinstall telephone faceplate.



NOTES:

1. THE ARRANGEMENT SHOWN IS USING LINE 9 OF A TELEPHONE WITH FEATURE CODES 42 AND 46 AS AN EXAMPLE. IF ANOTHER LINE IS USED, SUBSTITUTE THE APPROPRIATE A1 AND A-LEADS FOR THAT LINE.

2. IN THE 10-BUTTON TELEPHONE W/BLF, GROUND IS CONNECTED TO TERMINAL 15 (WH-SL LEAD). NO CROSS-CONNECT IS NECESSARY FOR THIS LEAD.

3. FOR TELEPHONES WITH FEATURE CODE 76, A LAMP GROUND LEAD IS USED INSTEAD OF THE OR-YL LEAD (PROVIDED THE PROPER STATION CROSS-CONNECTIONS ARE MADE).

AW 82-494

Figure 2: Circuit Diagram For Signal Buzzer

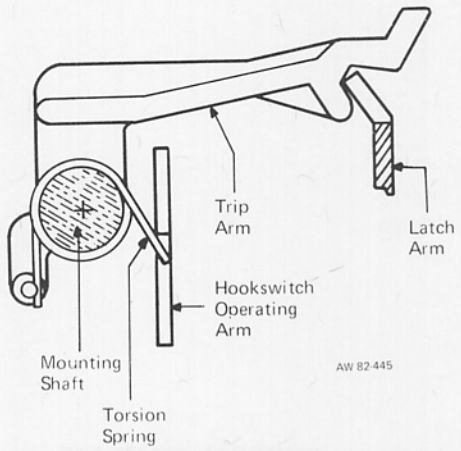


Figure 3: Installation of Trip Arm and Torsion Spring

9.03 Whenever the hookswitch restoration feature is disabled, it may become necessary to shorten or lengthen the spring connected to the operating arm to insure proper hookswitch operation. Proper operation requires the cradle to be fully depressed by the weight of the handset and return to the full up position when the handset is off-hook.

9.04 Earlier models of multibutton telephones may not provide the preselect function with the hookswitch restoration feature. These models include an adjustment screw on the latch arm rather than the plastic trip arm or torsion spring. To disable hookswitch restoration in these telephones, the following steps are taken:

(a) Remove telephone faceplate and housing.

(b) Turn the screw in the latch arm approximately five turns counterclockwise.

(c) Reinstall telephone faceplate and housing.

10. CONNECTING 174B CALL ANNOUNCER

10.01 A 174B call announcer is used to provide tone and voice signaling to, and handsfree answerback from, an intercom station. The 174B call announcer connects to 10-button telephones as follows:

(a) Connect BK (-24 VDC) lead of call announcer together with VI-BL lead of telephone to terminal 17 of terminal board.

(b) Connect YL (GND) lead of call announcer together with YL-OR lead of telephone to terminal 27 of terminal board.

(c) Connect RD (CA RST) lead of call announcer together with VI-BN lead of telephone to terminal 21 of terminal board.

(d) Connect GN (CA RT) lead of call announcer together with VI-GN lead of telephone to terminal 13 of terminal board. (The VI-GN lead must be moved from RR on the network.)

11. BUSY LAMP FIELD

11.01 The busy lamp field used in connection with 10-button telephones provides lamps to indicate the status of up to 24 lines. This allows a visual inspection of the busy lamp field to determine those lines in use. All telephones to be monitored on the busy lamp field must be modified by installing two diodes within the telephone. (Refer to the appropriate circuit label in Section 50-835-105.)

11.02 Three numeral templates are provided with the busy lamp field. A fourth template is provided blank to allow any number desired to be indicated in the busy lamp field. (Refer to Table E for the busy lamp field leads associated with each of the numeral templates.)

11.03 Three components of the busy lamp field telephone are packed separately. The lamp separator, numeral template, and tinted plate must be assembled as follows: (See Figure 4.)

(a) Remove the telephone faceplate.

(b) Position the aluminum lamp separator as shown and install over the lamp strip.

(c) Loosen the two screws of the lamp strip.

(d) Select the appropriate numeral template and fold along dotted lines.

(e) Install the numeral template over the lamps and lamp separator and insert the slotted ends under the two screws of the lamp strip.

(f) Tighten the two screws of the lamp strip.

(g) Install telephone faceplate. (Not Shown)

(h) Insert the tinted plate in the display slot of the faceplate. (Not Shown)

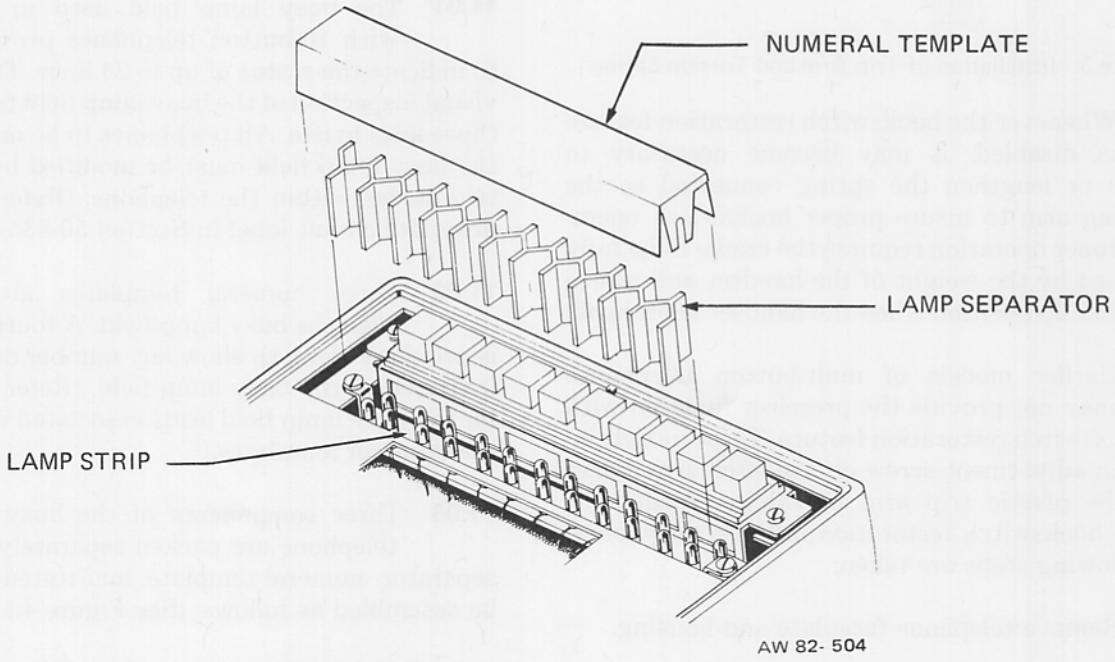


Figure 4: Installation of Lamp Separator and Numeral Template

TABLE E

BUSY LAMP FIELD LEADS

WIRE COLOR	AMPHENOL PIN. NO.	TEMPLATE #182161-101	TEMPLATE #182160-101	TEMPLATE #182159-101	WIRE COLOR	AMPHENOL PIN. NO.	TEMPLATE #182161-101	TEMPLATE =182160-101	TEMPLATE =182159-101
WH-BL BL-WH	26 1	18 VAC 12	18 VAC 32	18 VAC 44	BK-BN BN-BK	39 14	– 18	– 25	– 36
WH-OR OR-WH	27 2	– 24	– 34	– 47	BK-SL SL-BK	40 15	– 5	– 4	– 25
WH-GN GN-WH	28 3	– 11	– 31	– 43	YL-BL BL-YL	41 16	– 17	– 24	– 35
WH-BN BN-WH	29 4	– 23	– 33	– 46	YL-OR OR-YL	42 17	– 4	– 3	– 24
WH-SL SL-WH	30 5	– 10	– 9	– 42	YL-GN GN-YL	43 18	– 16	– 23	– 34
RD-BL BL-RD	31 6	– 22	– 29	– 45	YL-BN BN-YL	44 19	– 3	– 2	– 23
RD-OR OR-RD	32 7	– 9	– 8	– 29	YL-SL SL-YL	45 20	– 15	– 22	– 33
RD-GN GN-RD	33 8	– 21	– 28	– 39	VI-BL BL-VI	46 21	– 2	– 1	– 22
RD-BN BN-RD	34 9	– 8	– 7	– 28	VI-OR OR-VI	47 22	– 14	– 21	– 32
RD-SL SL-RD	35 10	– 20	– 27	– 38	VI-GN GN-VI	48 23	– 1	– 0	– 20
BK-BL BL-BK	36 11	– 7	– 6	– 27	VI-BN BN-VI	49 24	– 13	– 20	– 30
BK-OR OR-BK	37 12	– 19	– 26	– 37	VI-SL SL-VI	50 25	– –	– –	– –
BK-GN GN-BK	38 13	– 6	– 5	– 26					

AW 82-521

10-BUTTON, PUSHBUTTON DIAL, DESK TELEPHONES WITH BUSY LAMP FIELD REPLACEMENT PARTS

1. GENERAL

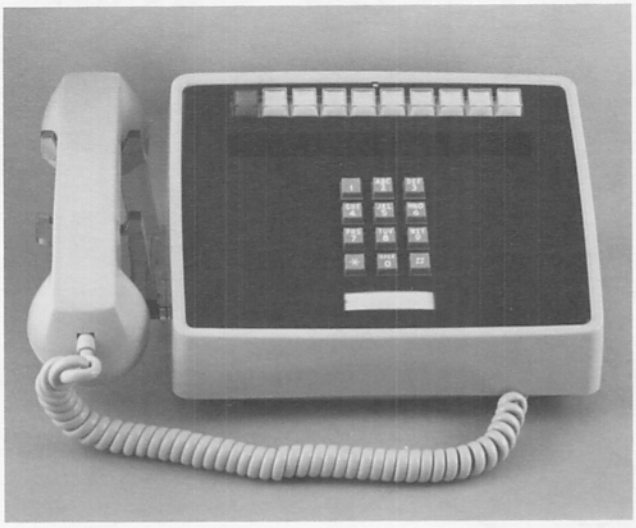
1.01 This document covers the 10-button, pushbutton dial, desk telephone with the busy lamp field. (See Figure 1.) An exploded-view drawing of the telephone with major assembly groups (see Figure 2) and a replacement parts list (see Table A) are included.

1.02 This section is reissued to reflect changes in the 10-button, pushbutton dial, desk telephone with busy lamp field and to incorporate the changes listed in the Telephone Apparatus Practices Change Notice, Section 11-510-100. Whenever this section is reissued, reason for reissue will be listed in this paragraph.

1.03 For additional information on description and installation of the telephones, refer to Section 50-835-103. The circuit labels appear in Section 50-835-105. Related documents of the ITT Telephone Apparatus Practices Manual provide information on components.

1.04 The Model 2835 desk telephones are 10-button, pushbutton dial, anti-sidetone type units that operate efficiently over a wide range of loop resistances and line impedances. These telephones are designed for use with key telephone systems, such as the ITT 1A2 System, where several telephones have access to the same lines, CO trunks, or intercom lines. All models include a busy lamp field with lamps for 24 stations. Each telephone is equipped with a 100-conductor mounting cord terminated in two 50-pin (25-pair) Amphenol-type connectors. One connector is dedicated to the busy lamp field.

1.05 The Model 2835 desk telephones are identified by a code number stamped in ink on the bottom of the base plate. Refer to Section 50-835-103 of the ITT Telephone Apparatus Practices Manual for ordering information and for an explanation of each code number.



AW 82-370

Figure 1: 10-Button, Pushbutton Dial, Desk Telephone W/BLF

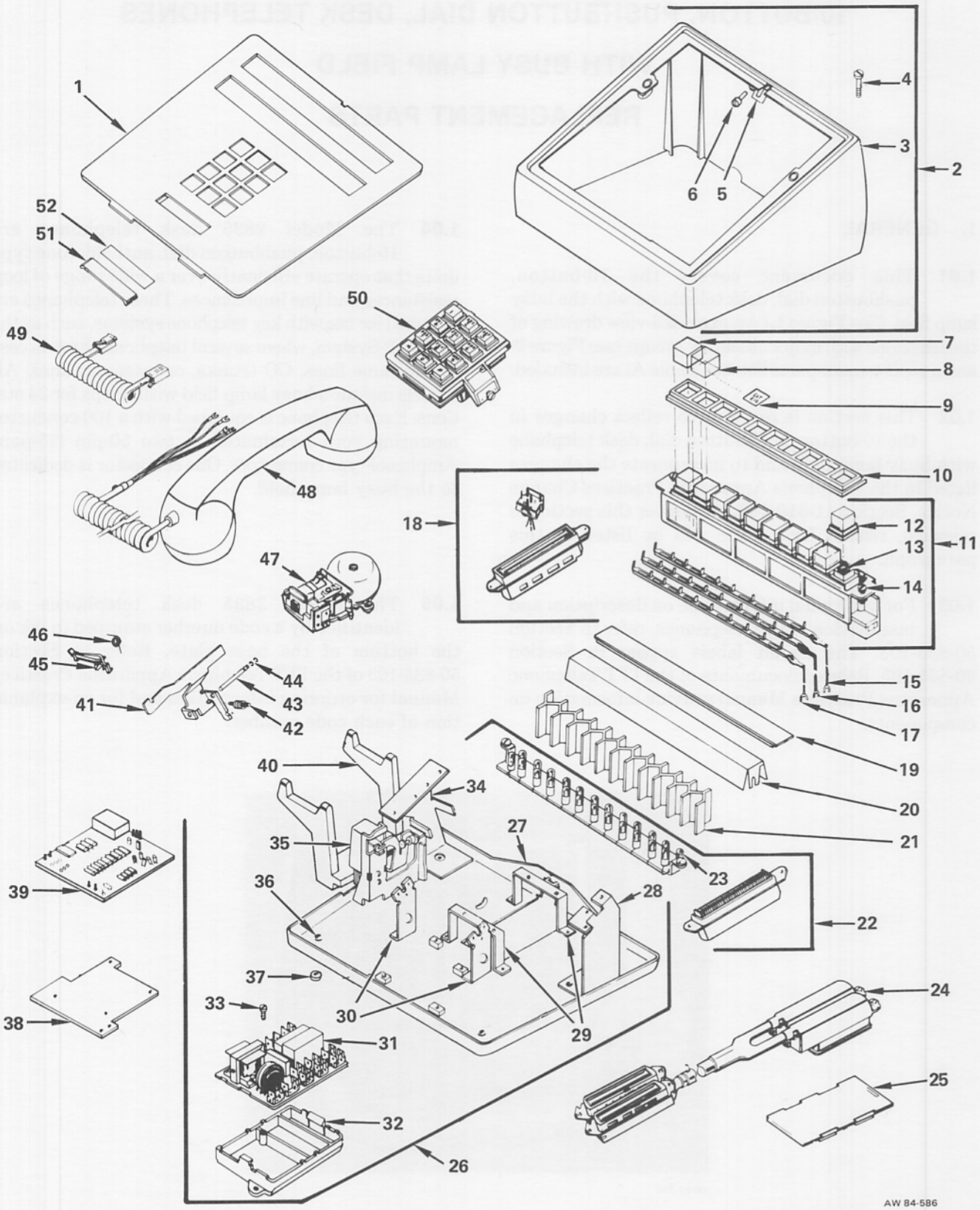


Figure 2: 10-Button, Pushbutton Dial, Desk Telephone W/BLF, Exploded View

TABLE A

REPLACEMENT PARTS LIST

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED		
		10-Button, Pushbutton Dial, Desk Telephone With Busy Lamp Field	**2835/42**	**2835/46**	**2835/76**
1	181103-***	Faceplate	1	–	–
1	181686-***	Faceplate	–	1	1
2	181102-0**	Housing Assembly	1	1	1
2	187906-0**	Housing Assembly, Full-Modular	1	1	1
3	181104-0**	Housing	1	1	1
3	187922-0**	Housing, Full-Modular	1	1	1
4	095992-102	Screw, Housing	2	2	2
5	181100-101	Spring, Latch	1	1	1
6	181289-101	Screw, Latch Spring	1	1	1
7	181131-102	Cap, Red	1	1	1
8	181131-101	Cap, Clear	9	9	9
9	181281-101	Tab, Key Designation (Strip Of 12)	1	1	1
10	181287-101	Collar, Key Strip	1	1	1
11	181137-104	Key Assembly	1	1	–
11	182552-102	Key Assembly	–	–	1
12	181122-101	Button	10	10	10
13	000051-00A	Lamp	9	9	9
14	095992-102	Screw	2	2	2
15	181292-101	Strip, Contact (GN Wire)	1	1	1
16	181292-102	Strip, Contact (RD Wire)	1	1	1
17	181292-105	Strip, Contact (SL Wire)	1	1	1
18	181154-101	Cord, Internal	1	1	–
18	182546-101	Cord, Internal	–	–	1
19	181767-101	Plate, Numeral (Tinted)	1	1	1
20	182757-101	Template, (Blank)	1	1	1
20	182159-101	Template, (#20-47)	1	1	1
20	182160-101	Template, (#0-9, 20-34)	1	1	1
20	182161-101	Template, (#1-24)	1	1	1
21	181754-101	Separator, Lamp	1	1	1

TABLE A

REPLACEMENT PARTS LIST (Cont)

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED		
		10-Button, Pushbutton Dial, Desk Telephone With Busy Lamp Field	**2835/42**	**2835/46**	**2835/76**
22	181750-101	Busy Lamp Kit Assembly	1	1	1
23	181748-101	Lamp	24	24	24
24	184355-102	Cord, Mounting (100-Conductor)	1	1	1
25	181290-101	Slide	1	1	1
26	181250-102	Base Assembly	1	1	1
27	181141-101	Plate, Base	1	1	1
28	181253-101	Bracket, Key Right	1	1	1
29	181255-101	Bracket, Plug	2	2	2
30	181254-102	Bracket, Dial	2	2	2
31	181427-102	PC Network (#183070-102)[1]	1	1	1
32	182175-101	Spacer, Network	1	1	1
33	096407-103	Screw, Network Mounting	1	1	1
34	181150-102	Left Bracket Assembly	1	1	1
	185619-101	Left Trip Bracket Assembly	1	1	1
	181252-101	Bracket, Key Left	1	1	1
	185618-101	Bracket, Trip	1	1	1
35	181260-101	Cradle Switch Assembly[1]	1	1	1
36	082486-102	Rivet, Foot	4	4	4
37	182337-101	Foot	4	4	4
38	181298-101	Terminal Board	1	1	1
39	182386-101	PC Board (Exclusion)	–	–	1
40	183105-102	Switch Hook Assembly	1	1	1
	182900-101	Cradle, Switch Hook	1	1	1
	181145-101	Screw, Switch Hook Cradle	3	3	3
	185494-101	Operating Arm Assembly	1	1	1
	185487-101	Arm, Operating	1	1	1
	075307-104	Spring, Cradle Return	1	1	1
	181282-101	Shaft, Pivot	1	1	1
	073538-110	Ring, Retainer	1	1	1
41	185488-101	Arm, Latch	1	1	1
42	181151-101	Spring, Latch Arm	1	1	1
43	181152-101	Pin, Pivot	1	1	1
44	073538-110	Ring, Retainer	2	2	2
45	185486-101	Arm, Trip	1	1	1

TABLE A

REPLACEMENT PARTS LIST (Cont)

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED		
		10-Button, Pushbutton Dial, Desk Telephone With Busy Lamp Field	**2835/42**	**2835/46**	**2835/76**
46	185485-101	Spring, Torsion	1	1	1
47	000148-DBA	Ringer[1]	1	1	1
48	0065**-0C2	Handset Assembly, Nonmodular[1]	1	1	1
48	0065**-0M2	Handset Assembly, Modular[1]	1	1	1
49	9018**-072	Cord, Handset, Modular	1	1	1
50	004600-0PG	Dial Assembly, Pushbutton Digital, Metropolitan (Letters And Numerals)[1,2]	1	1	1
50	003600-0PG	Dial Assembly, Pushbutton Tel-Touch, Metropolitan (Letters And Numerals)[1,3]	1	1	1
50	004600-0PD	Dial Assembly, Pushbutton Digital, Regular (Numerals Only)[1,4]	1	1	1
50	003600-0PD	Dial Assembly, Pushbutton Tel-Touch, Regular (Numerals Only)[1,3]	1	1	1
51	087514-101	Retainer, Number Card	1	1	1
52	087513-101	Card, Number	1	1	1
52	087513-102	Card, Number, Strip Of 6 (Not Shown)[5]	—	—	—
	600152-611 -001	Jack Assembly, Handset Cord, Modular (Not Shown)	1	1	1
	182990-105	Insulator Assembly, Modular (Not Shown)	1	1	1
	181973-101	Pushbutton, Operator Recall (Not Shown)	—	1	—
	181971-101	Pushbutton, Exclusion Release (Not Shown)	—	—	1
	187944-101	Nameplate, ITT (Not Shown)	1	1	1

AW 84-810

NOTES:

1. Refer to Component Parts Section of this manual for Assembly Parts List.
2. The 004600-0PG dial replaces the 003600-0PG dial.
3. These products have been discontinued, but are included to provide a source of information for telephones still in service.
4. The 004600-0PD dial replaces the 003600-0PD dial.
5. These products must be ordered separately.

** Substitute 2-digit color code when ordering.

*** Substitute 3-digit color code when ordering faceplate.

CODE	COLOR	CODE	COLOR	CODE	COLOR	CODE	COLOR
101	Charcoal	104	Light Gray	107	Cocoa Brown	110	Clear
102	Light Green	105	Burnt Orange	108	Harvest Gold	111	Woodgrain
103	Muted Beige	106	Light Ash	109	Cherry Red		

10-BUTTON, PUSHBUTTON DIAL, DESK TELEPHONES WITH BUSY LAMP FIELD CIRCUIT LABELS

1. GENERAL

1.01 This document covers the 10-button, pushbutton dial, desk telephones with busy lamp field. (See Figure 1.) Circuit labels for 10-button, pushbutton dial, desk telephones with busy lamp field are included. (See Table A.)

AW 86-349

Figure 1: 10-Button, Pushbutton Dial, Desk Telephone W/BLF

1.02 This section is reissued to provide the latest issue of circuit labels for the following 10-button, pushbutton dial, desk telephones with busy lamp fields:

(a) Model 2835, Types 42 and 46

(b) Model 2835, Type 76

1.03 For additional information on description and installation of the telephones, refer to Section 50-835-103. A replacement parts list and an exploded-view drawing for the telephones are contained in Section 50-835-104. Related documents of the ITT Telephone Apparatus Practices Manual provide information on components.

1.04 The Model 2835 desk telephones are identified by a code number stamped in ink on the bottom of the base plate. Refer to Section 50-835-103 of the ITT Telephone Apparatus Practices Manual for ordering information and for an explanation of each code number.

1.05 The Model 2835 desk telephones are 10-button, pushbutton dial, anti-sidetone type units that operate efficiently over a wide range of loop resistances and line impedances. These telephones are designed for use with key telephone systems, such as the ITT 1A2 System, where several telephones have access to the same lines, CO trunks, or intercom lines. All models include a busy lamp field with lamps for 24 stations. Each telephone is equipped with a 100-conductor mounting cord terminated in two 50-pin (25-pair) Amphenol-type connectors. One connector is dedicated to the busy lamp field.

TABLE A

LIST OF CIRCUIT LABELS

MODEL NO	TYPE NO	FIGURE NO
2835	42, 46	2
2835	76	3

AW 86-397

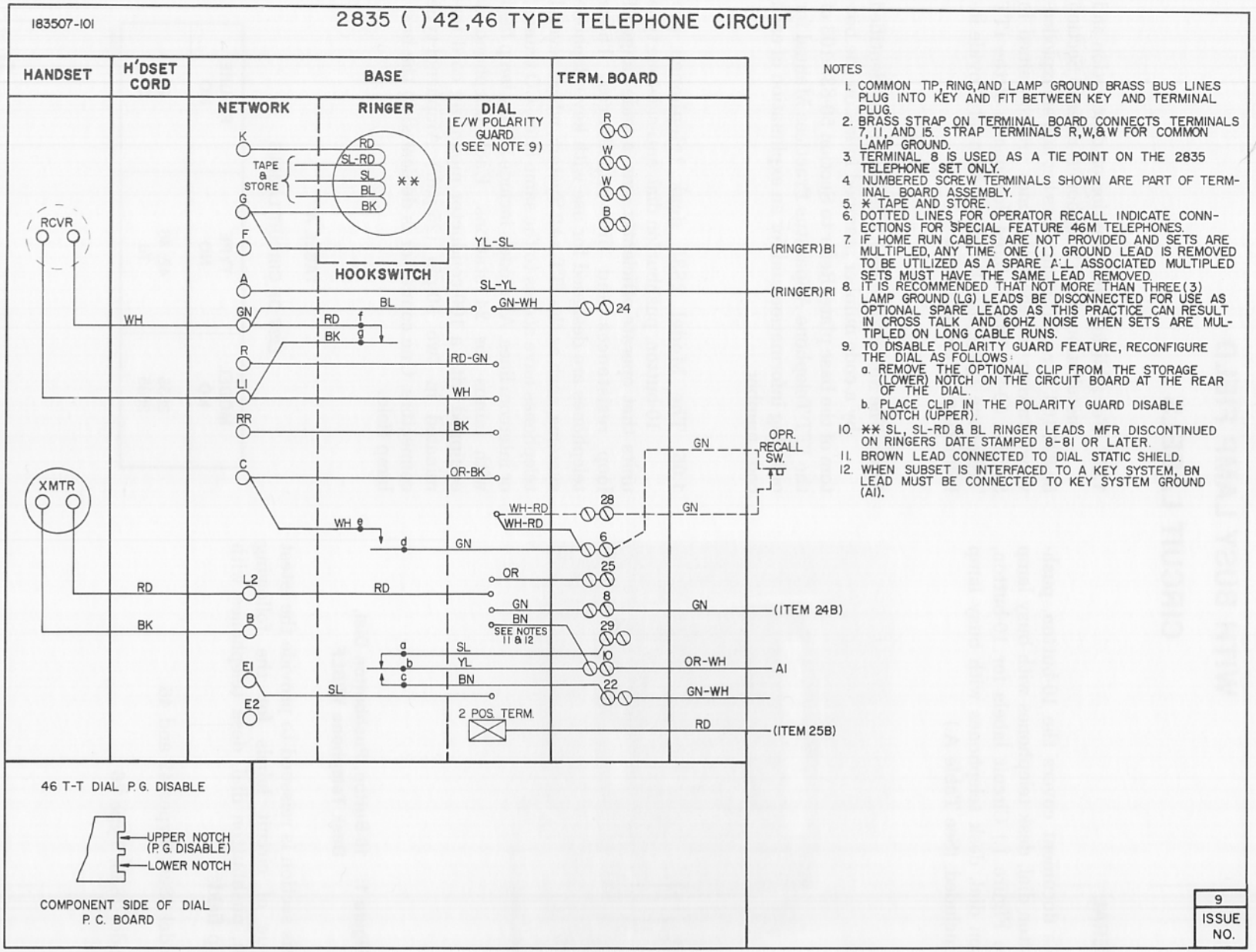


Figure 2: Circuit Label, Model 2835 Types 42, 46 (Sheet 1 of 3)

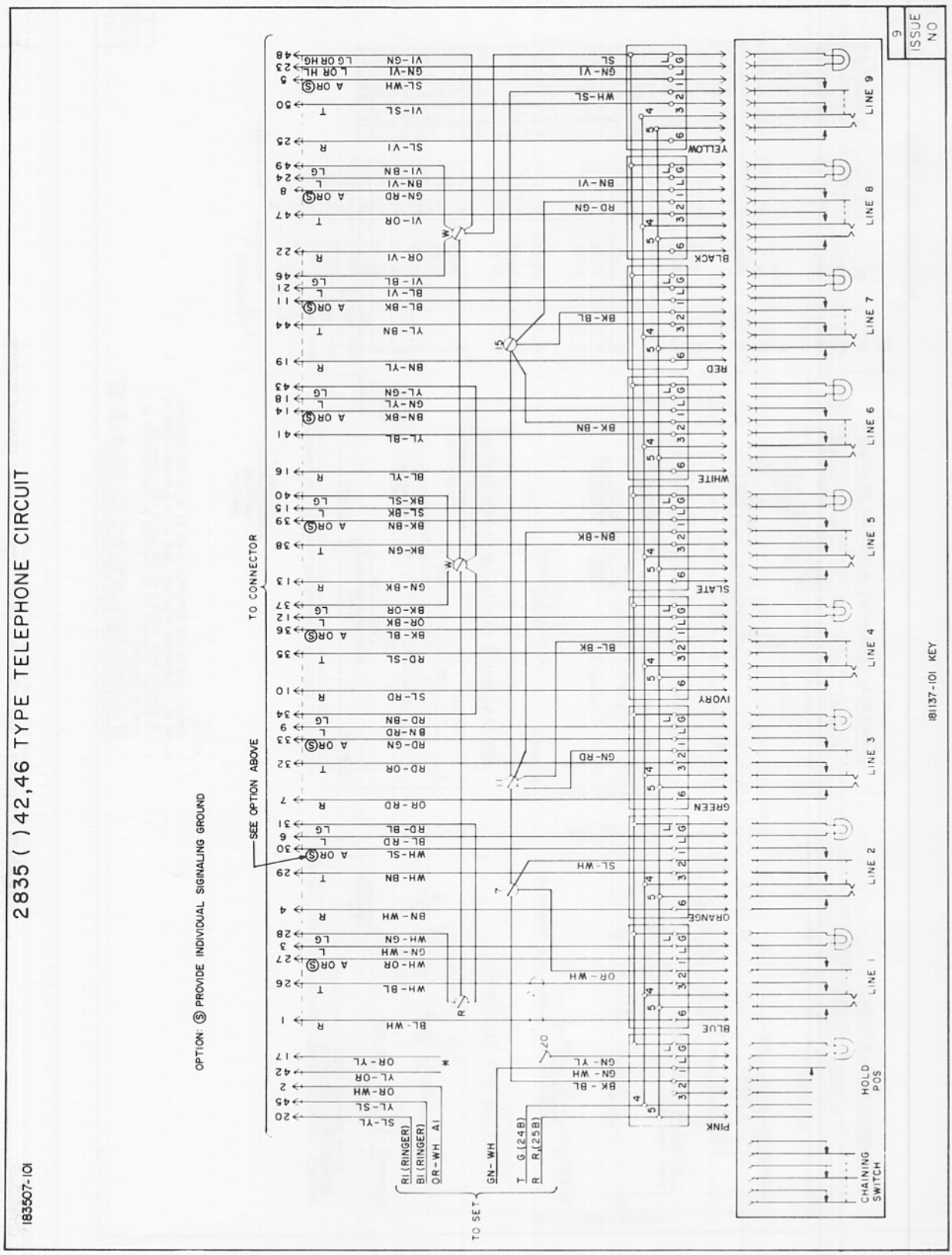


Figure 2: Circuit Label, Model 2835 Types 42, 46 (Sheet 2 of 3)

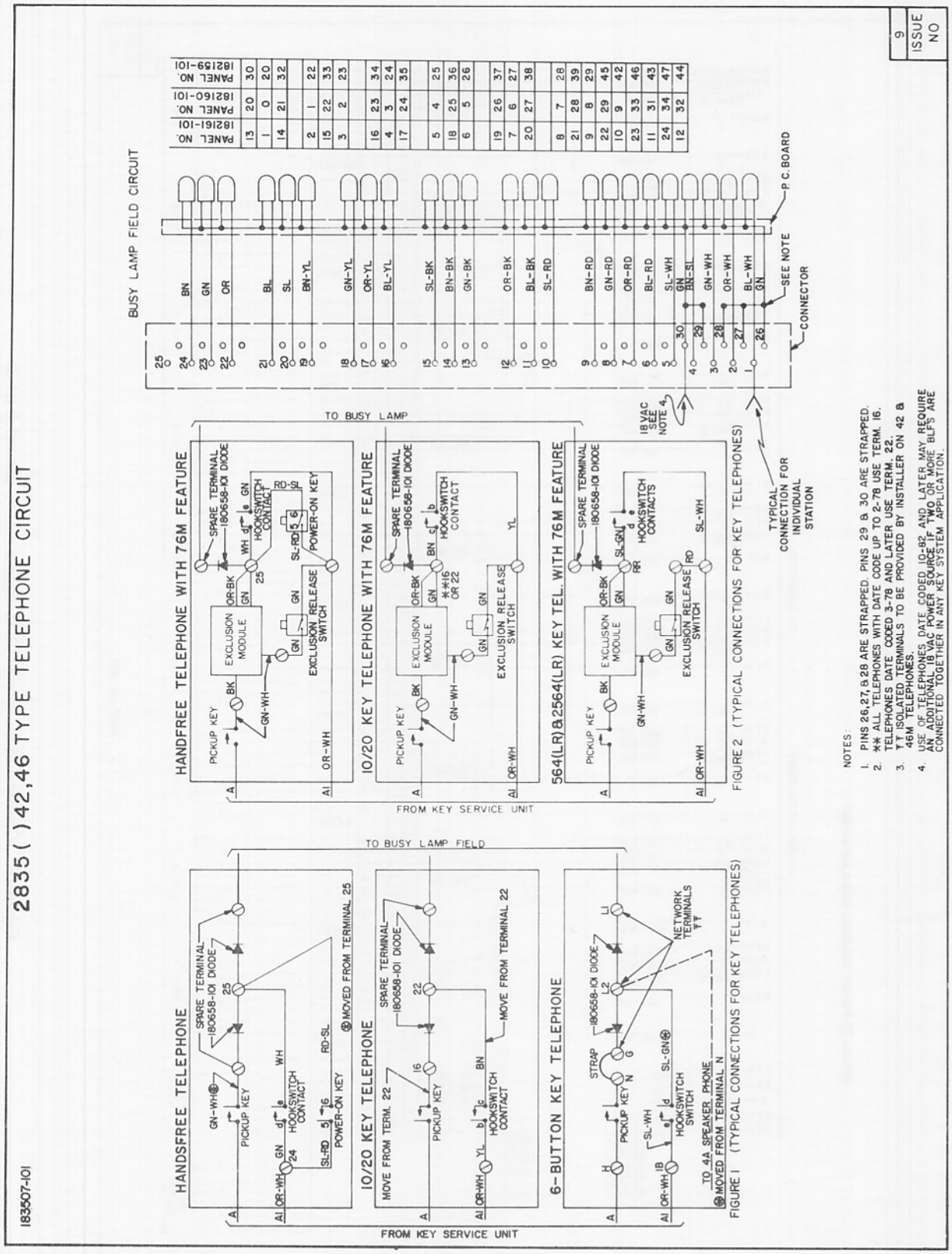


Figure 2: Circuit Label, Model 2835 Types 42, 46 (Sheet 3 of 3)

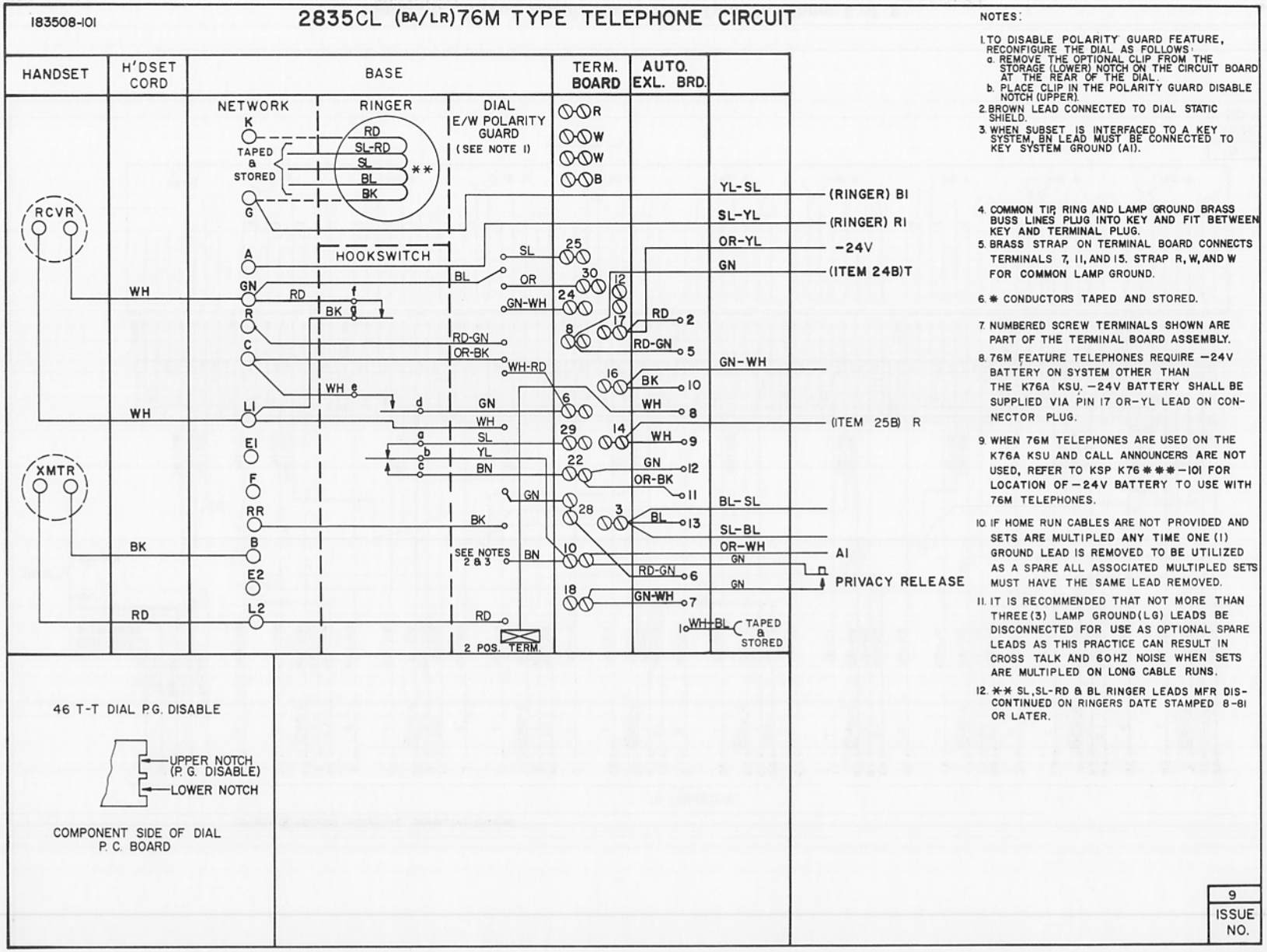


Figure 3: Circuit Label, Model 2835 Type 76 (Sheet 1 of 3)

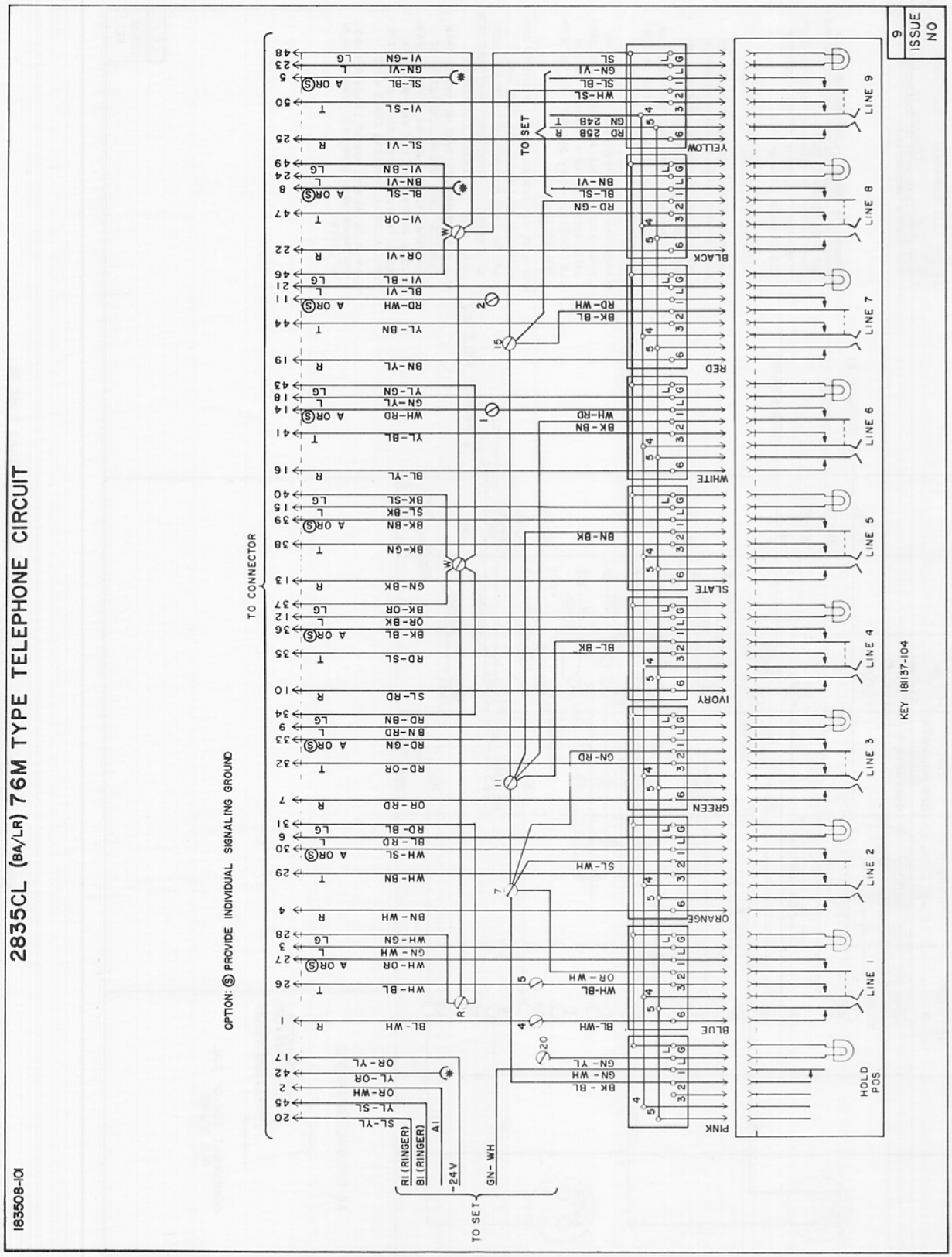


Figure 3: Circuit Label, Model 2835 Type 76 (Sheet 2 of 3)

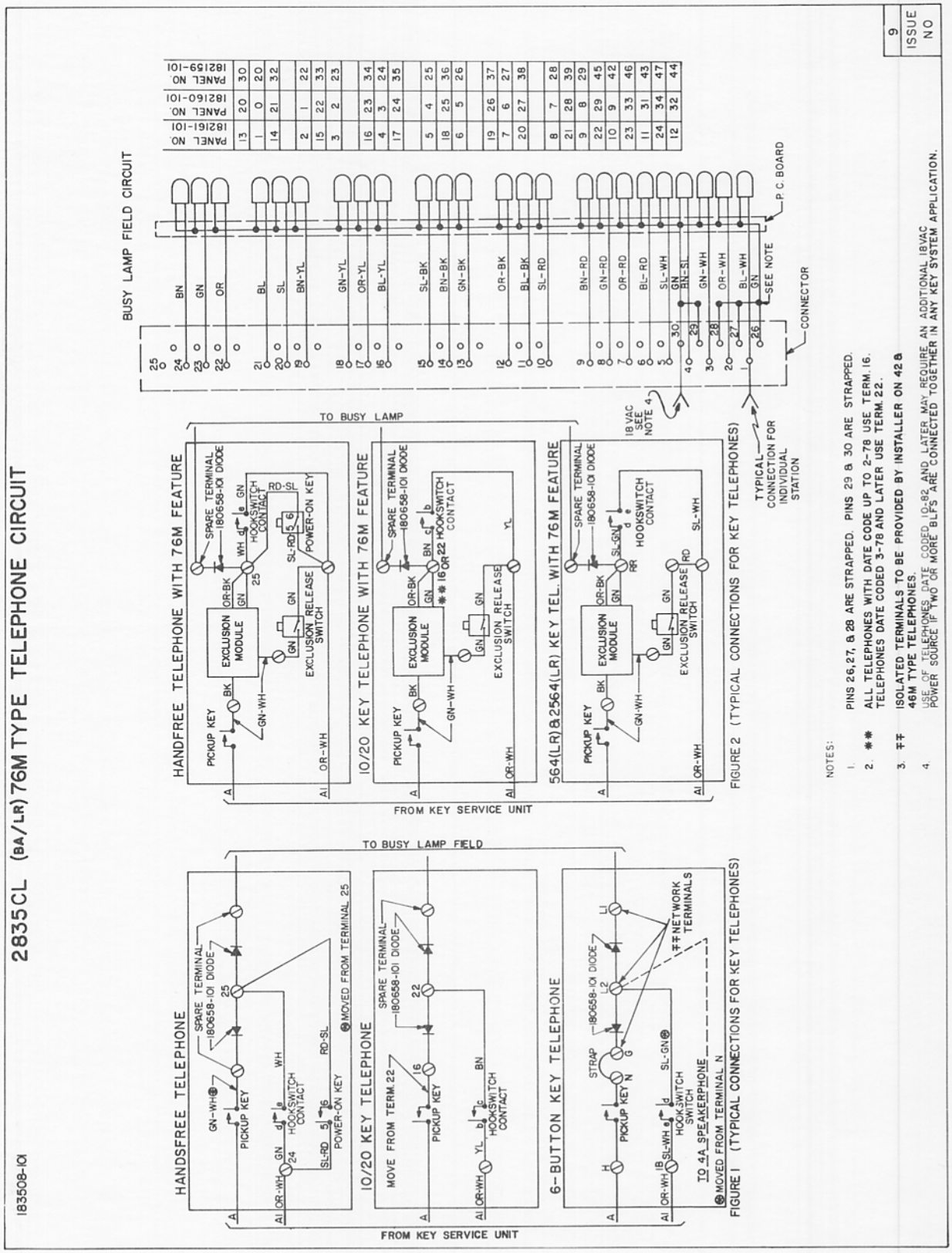
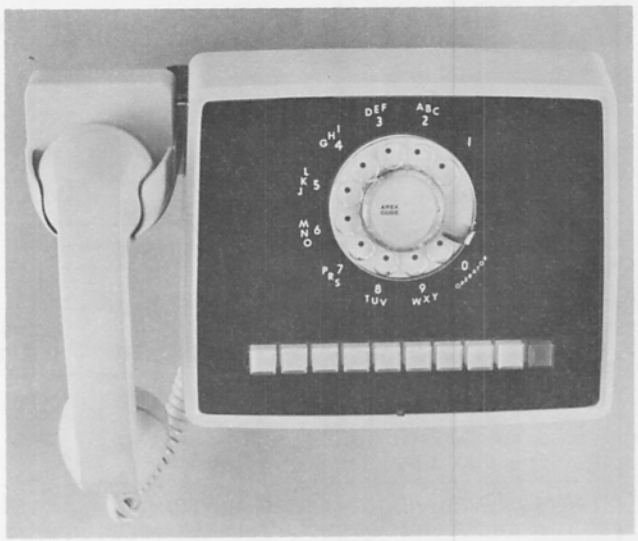


Figure 3: Circuit Label, Model 2835 Type 76 (Sheet 3 of 3)

10-BUTTON, ROTARY DIAL, WALL TELEPHONES
GENERAL DESCRIPTION

CONTENTS PAGE

1. GENERAL DESCRIPTION 1
MODEL 854** ( ) 42 2
MODEL 854** ( ) 76 2
2. INSTALLATION 2
3. MAINTENANCE 3
4. SPEAKERPHONE 3
5. BUTTON CONVERSIONS 3
6. BUZZER INSTALLATION 3
7. DESIGNATION TABS 3
8. GROUNDING PUSHBUTTON 3
9. CONNECTING 174B CALL ANNOUNCER 5
10. BUSY LAMP CONNECTIONS 5



AW 82-362

Figure 1: 10-Button, Rotary Dial, Wall Telephone

1. GENERAL DESCRIPTION

1.01 This document covers the 10-button, rotary dial, wall telephone. (See Figure 1.) A general description plus information peculiar to 10-button, rotary dial, wall telephones is included.

1.02 Whenever this section is reissued, reason for reissue will be listed in this paragraph.

1.03 For additional information, refer to Section 50-854-101, Replacement Parts, and to Section 50-854-102, Circuit Labels. For information on installation, maintenance, and components or equipment, consult related documents of the ITT Telephone Apparatus Practices Manual.

1.04 The Model 854 wall telephones are 10-button, rotary dial, antisidetone type units that operate efficiently over a wide range of loop resistances and line impedances. These telephones are designed for use with key telephone systems, such as the ITT 1A2 System, where several telephones have access to the same lines, CO trunks, or intercom lines. All models are equipped with a mounting cord terminated in an Amphenol-type connector.

1.05 The Model 854 wall telephones are identified by a code number stamped in ink on the bottom of the base plate. Refer to ordering information in Table A for an explanation of each code number.

1.06 Nine pushbutton keys on the telephone are used for line, trunk, or intercom lines. The red key on the far right is used as a hold key and allows any selected line or trunk to be placed in a hold condition. All remaining keys may be used as line keys or may be wired as either intercom lines or signal keys.

TABLE A

ORDERING INFORMATION – TELEPHONES

CODE NUMBERS

TELEPHONE CODE NUMBERS ARE FORMED IN SIX STEPS AS FOLLOWS:

854 15 O BA 42 M

(1) Type of Instrument (See Part 1)
(2) Color (See Part 2)
(3) Version (See Part 3)
(4) Ringer (See Part 4)
(5) Special Feature (See Part 5)
(6) Dial (See Part 6)

PART 1 TYPE OF INSTRUMENT

CODE	DESCRIPTION	COLOR OFFERED	VERSION OFFERED	RINGER OFFERED	FEATURE OFFERED	DIAL OFFERED
854	10-Button, Rotary Dial, Wall Telephone	00, 05, 13, 15, 44, and 45 (Available On All Models)	O	BA, LR	42, 76	M

REFER TO INDIVIDUAL UNIT DESCRIPTION FOR COMPLETE DESCRIPTION OF FEATURE COMBINATIONS

PART 2 COLORS		PART 3 VERSIONS		PART 4 RINGERS		PART 5 SPECIAL FEATURES		PART 6 DIALS	
CODE	COLORS	CODE	VERSIONS	CODE	RINGERS	CODE	SPECIAL FEATURES	CODE	DIALS
00	Black	O	Conventional	LR	Less Ringer	42	Equipped To Operate With External Speakerphone	M	Metropolitan (Letters & Numerals)
05	Moss Green								
13	Beige			BA	Straight Line	76	42 Combined With Automatic Exclusion And Release Button		
15	White								
44	Light Ash								
45	Cocoa Brown								

AW 82-395

1.07 A signal lamp beneath each of the nine line keys indicates status of the associated line. (See Table B.)

1.08 Variations in the Model 854 series telephones are briefly described below. Circuit label drawings for these models are contained in Section 50-854-102.

MODEL 854** ( ) 42

1.09 The Model 854** ( ) 42 is a standard 10-button, rotary dial, wall type, key telephone equipped to operate with an external speakerphone. A set of contacts in the dial assembly disconnects the handsfree speaker during dialing; also, contacts in the hookswitch assembly provides on/off control of the handsfree equipment. The Model 854** ( ) 42 is equipped with a 50-conductor mounting cord fitted with a 50-pin (25-pair) male connector.

MODEL 854** ( ) 76

1.10 The Model 854** ( ) 76 is the same as the Model 854** ( ) 42 with the addition of an automatic exclusion (privacy) circuit with a release button. This release button contains normally open contacts. Where this feature is used, all telephones in the key system must contain the exclusion circuit and a release button.

2. INSTALLATION

2.01 Since these telephones are equipped with a connector-terminated mounting cord, installation consists of inserting the connector into the jack at the station connecting block and pressing to engage. For specific wiring installation information, refer to the appropriate circuit label in Section 50-854-102. Cable connections for 10-button telephones with feature code 42 are listed in Table C.

TABLE B

LINE KEY SIGNALS

CONDITION	LAMP INDICATION
Idle	Lamp Extinguished
Busy	Lamp Lit
Hold	Lamp Winking
Call Incoming	Lamp Flashing

AW 81-96

Cable connections for 10-button telephones with feature code 76 that differ from those listed in Table C are listed in Table D. For general installation information and installation of repair parts, refer to the applicable section of the ITT Telephone Apparatus Practices Manual.

3. MAINTENANCE

3.01 For general maintenance information, refer to the maintenance section of the ITT Telephone Apparatus Practices Manual. For a pictorial view and parts list, refer to Section 50-854-101.

4. SPEAKERPHONE

4.01 An external speakerphone may be installed on 10-button telephones. Most speakerphones provide the following additional features:

(a) Handsfree telephone operation. (Handsfree talking and dialing.)

(b) On-hook dialing.

(c) Automatic switching from speakerphone to handset operation.

(d) Transmitter muting for private conversation.

(e) Visual indication when system is in use.

(f) Cutoff of common ringer or other signaling devices when desired.

5. BUTTON CONVERSIONS

5.01 Any line key may be converted to signaling mode by removing the slotted head pin from the plunger shank. The slotted head pin is removed by turning clockwise. (On earlier models of the 10-button telephone the pin is removed by turning counterclockwise.)

6. BUZZER INSTALLATION

6.01 A buzzer may be installed as the signaling device of a telephone receiving an intercom call. The buzzer may be either installed on the dial mounting bracket or mounted externally. For telephones with feature code 42, buzzer leads must be connected to the OR-YL and YL-OR leads inside the telephone. These leads are spare and can be found taped and stored inside the telephone. For telephones with feature code 76, a lamp ground lead is used instead of the OR-YL lead (provided the proper station cross-connections are made). Buzzers selected for this use must operate at 18 VAC, 60 Hz. (See Figure 2.)

6.02 A buzzer may also be used in place of the ringer. A 105 VAC buzzer must be provided. The ringer leads are removed and replaced by the buzzer leads.

7. DESIGNATION TABS

7.01 Designation tabs are included with each telephone. These tabs are installed by removing the cap from each key, placing the tab in the cap, and reinstalling the cap. The caps are removed by squeezing the sides and lifting. Note that locking surfaces are located on each of the caps and keys. These locking surfaces must properly align when reinstalling.

8. GROUNDING PUSHBUTTON

8.01 Modifications are made to line 9 of the telephone if a grounding pushbutton is required. A grounding pushbutton is required in some PABX applications for transferring calls, originating calls during a power failure, or other special functions. To convert line 9 to a grounding pushbutton, the following modifications should be made:

TABLE C

CABLE CONNECTIONS FOR 10-BUTTON

TELEPHONES

(FEATURE CODE 42)

LINES 1 THROUGH 5				LINES 6 THROUGH 9			
TELEPHONE TERMINAL	LEAD COLOR	LEAD DESIG.	CONNECTOR TERMINAL	TELEPHONE TERMINAL	LEAD COLOR	LEAD DESIG.	CONNECTOR TERMINAL
Line 1 (Blue Plug)	WH-BL	T	26	Line 6 (White Plug)	YL-BL	T	41
	BL-WH	R	1		BL-YL	R	16
	WH-OR	A	27		BN-BK	A or S	14
	WH-GN	LG	28		YL-GN	LG	43
	GN-WH	L	3		GN-YL	L	18
Line 2 (Orange Plug)	WH-BN	T	29	Line 7 (Red Plug)	YL-BN	T	44
	BN-WH	R	4		BN-YL	R	19
	WH-SL	A or S	30		BL-BK	A or S	11
	RD-BL	LG	31		VI-BL	LG	46
	BL-RD	L	6		BL-VI	L	21
Line 3 (Green Plug)	RD-OR	T	32	Line 8 (Black Plug)	VI-OR	T	47
	OR-RD	R	7		OR-VI	R	22
	RD-GN	A or S	33		GN-RD	A or S	8
	RD-BN	LG	34		VI-BN	LG, P3 or 1R	49
	BN-RD	L	9		BN-VI	L, P4 or 1T	24
Line 4 (Ivory Plug)	RD-SL	T	35	Line 9 (Yellow Plug)	VI-SL	T	50
	SL-RD	R	10		SL-VI	R	25
	BK-BL	A or S	36		SL-WH	A or S	5
	BK-OR	LG	37		VI-GN	LG or T1	48
	OR-BK	L	12		GN-VI	L or R1	23
Line 5 (Slate Plug)	BK-GN	T	38	10	OR-WH	A1	2
	GN-BK	R	13	G	YL-SL	B or B1	45
	BK-BN	A or S	39	A	SL-YL	R or R1	20
	BK-SL	LG	40	15	YL-OR	BL, AG or Spare	42
	SL-BK	L	15	6	OR-YL	SG, LK or Spare	17

NOTES:

1. All lamp ground leads are common.
2. Lead designations P3, P4, LK, T1, R1, AG and A1 are for speakerphone connections.
3. The YL-OR and OR-YL leads are spare leads and are taped and stored inside the telephone.
4. The designation S indicates that the lead provides an individual signal ground.

AW 82-517

TABLE D

SPECIAL CABLE CONNECTIONS FOR

10-BUTTON TELEPHONES (FEATURE CODE 76)

TELEPHONE TERMINAL	LEAD COLOR	LEAD DESIG.	CONNECTOR TERMINAL
Line 6 (White Plug)	WH-RD	A or S	14
Line 7 (Red Plug)	RD-WH	A or S	11
Line 8 (Black Plug)	BL-SL	A or S	8
Line 9 (Yellow Plug)	SL-BL	A or S	5
17	OR-YL	-24 VDC	17

NOTE:

1. This table lists those connections that differ from the connections for feature code 42 telephones shown in Table C.

AW 82-518

(a) Modify button to non-locking operation by removing the interlock pin from line 9 plunger.

(b) Ground is provided on the WH-SL (A1) lead by the key system. (No cross-connect is necessary for this lead.)

(c) Cross-connect from the SL-WH lead to the PABX connection for the desired function.

9. CONNECTING 174B CALL ANNOUNCER

9.01 A 174B call announcer is used to provide tone and voice signaling to, and handsfree answerback from, an intercom station. The 174B call announcer connects to 10-button telephones as follows:

(a) Connect BK (-24 VDC) lead of call announcer, together with VI-BL lead of telephone, to terminal 17 of terminal board.

(b) Connect YL (GND) lead of call announcer, together with YL-OR lead of telephone, to terminal 27 of terminal board.

(c) Connect RD (CA RST) lead of call announcer, together with VI-BN lead of telephone, to terminal 21 of terminal board.

(d) Connect GN (CA RT) lead of call announcer, together with VI-GN lead of telephone, to terminal 13 of terminal board. (The VI-GN lead must be moved from RR on network.)

10. BUSY LAMP CONNECTIONS

10.01 Busy lamp connections may vary depending on the type of key system being used. Modifications for the 10-button wall telephones with feature code 42 should be as follows: (Refer to Figure 3.)

(a) Remove GN-WH lead from terminal 22 and connect to terminal 16 on the telephone terminal board.

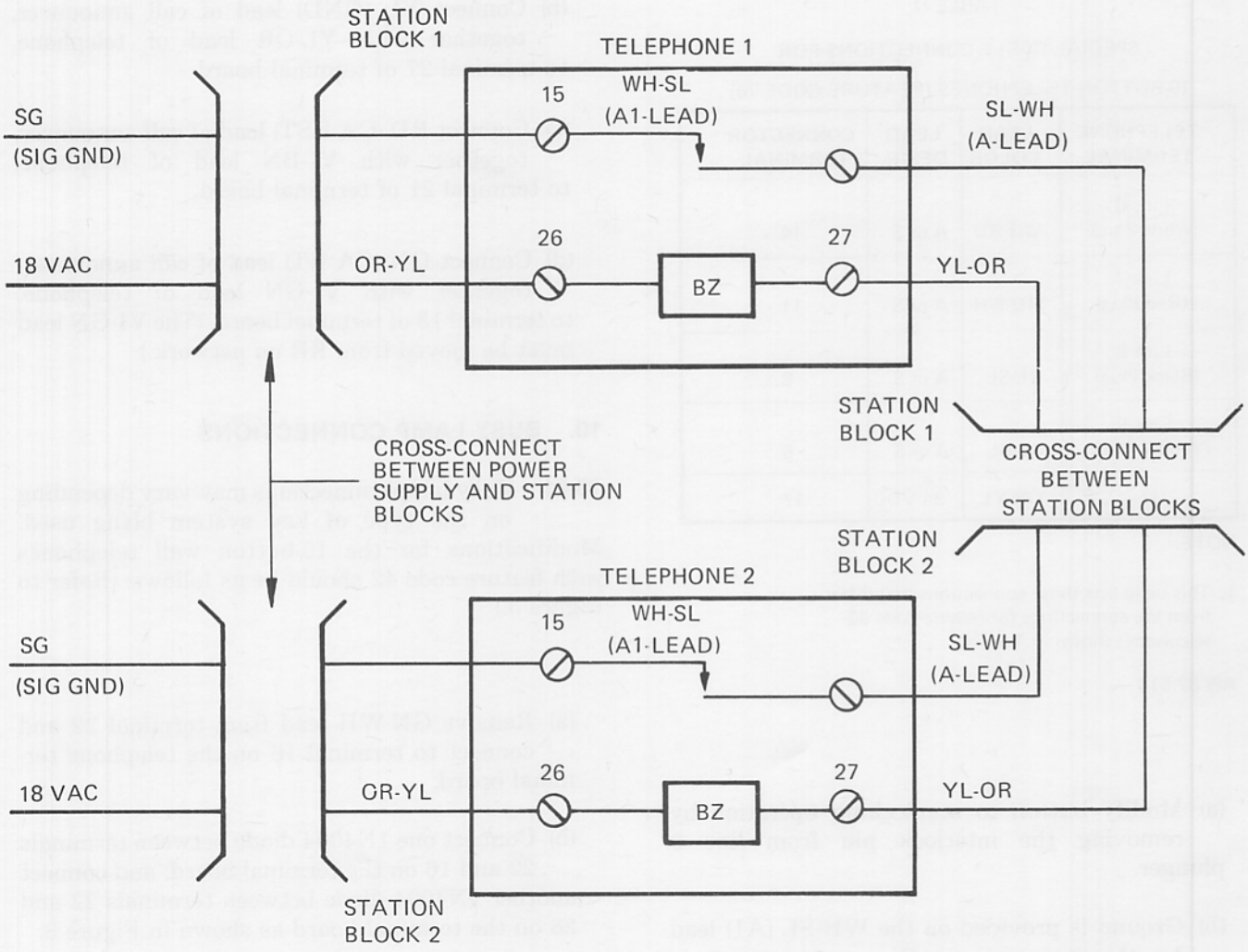
(b) Connect one 1N4004 diode between terminals 22 and 16 on the terminal board, and connect another 1N4004 diode between terminals 22 and 28 on the terminal board as shown in Figure 3.

(c) Connect OR-YL mounting cord lead to terminal 28 of terminal board.

10.02 Modifications for the 10-button wall telephones with feature code 76 should be as follows: (Refer to Figure 4.)

(a) Connect one 1N4004 diode from terminal 22 to terminal 28 on telephone terminal board as shown in Figure 4.

(b) Connect any "LG" lamp ground lead to terminal 28 on the telephone terminal board. (Proper station cross-connections must be made to allow the use of an LG lead.)



NOTES:

1. THE ARRANGEMENT SHOWN IS USING LINE 9 OF A TELEPHONE WITH FEATURE CODE 42 AS AN EXAMPLE. IF ANOTHER LINE IS USED, SUBSTITUTE THE APPROPRIATE A1 AND A-LEADS FOR THAT LINE.

2. IN THE 10-BUTTON TELEPHONE, GROUND IS CONNECTED TO TERMINAL 15 (WH-SL LEAD). NO CROSS-CONNECT IS NECESSARY FOR THIS LEAD.

3. FOR TELEPHONES WITH FEATURE CODE 76, A LAMP GROUND LEAD IS USED INSTEAD OF THE OR-YL LEAD (PROVIDED THE PROPER STATION CROSS-CONNECTIONS ARE MADE).

AW 82-497

Figure 2: Circuit Diagram For Signal Buzzer

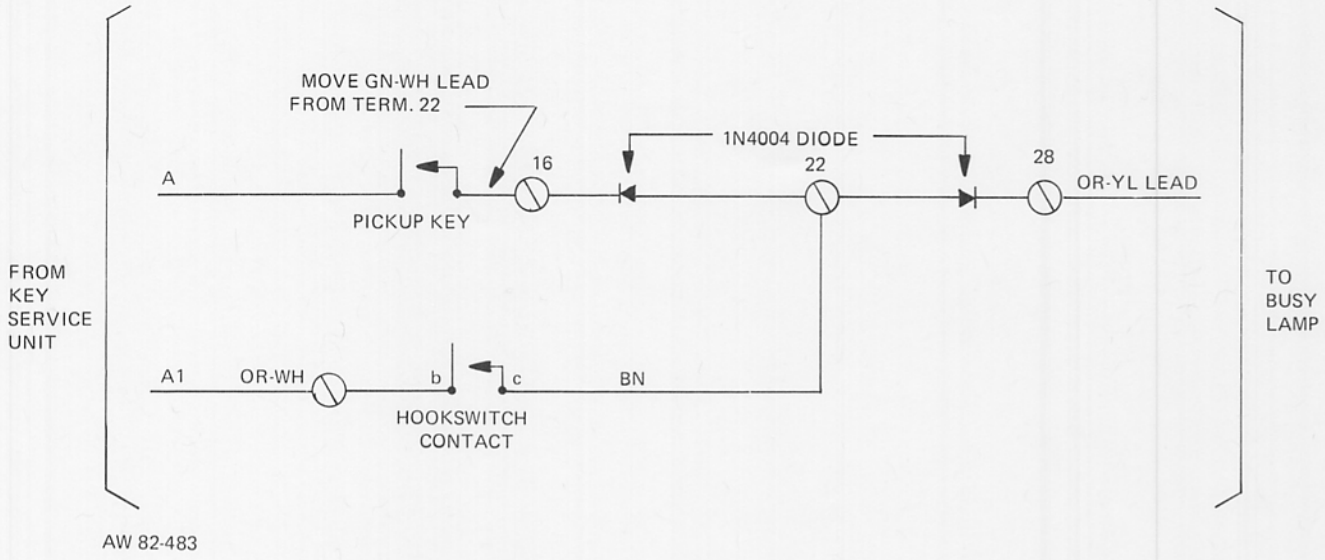


Figure 3: Busy Lamp Connections For 10-Button Telephones with Feature Code 42

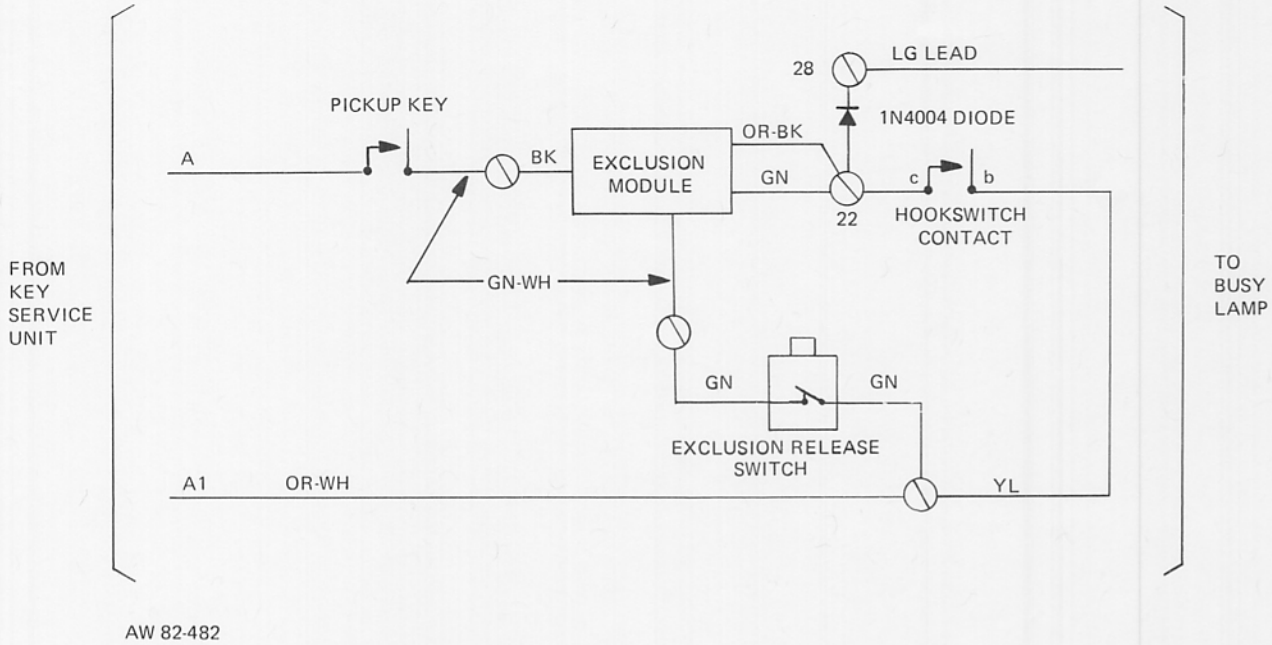


Figure 4: Busy Lamp Connections For 10-Button Telephones with Feature Code 76

10-BUTTON, ROTARY DIAL, WALL TELEPHONES

REPLACEMENT PARTS

1. GENERAL

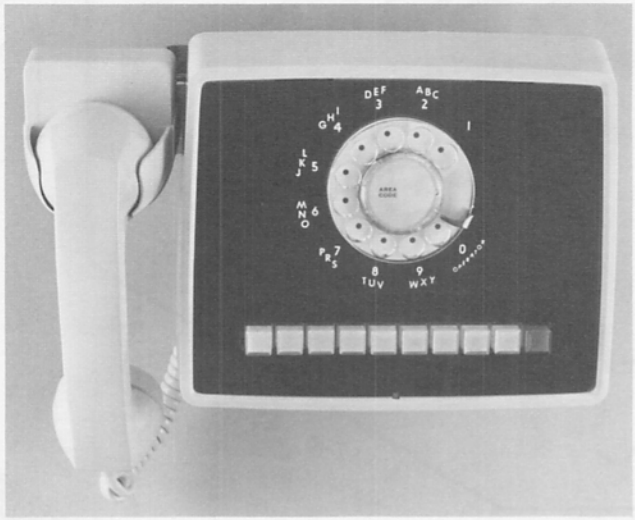
1.01 This document covers the 10-button, rotary dial, wall telephone. (See Figure 1.) An exploded-view drawing of the telephone with major assembly groups (see Figure 2) and a replacement parts list (see Table A) are included.

1.02 This section is reissued to reflect changes in the 10-button, rotary dial, wall telephone and to incorporate the changes listed in the Telephone Apparatus Practices Change Notice, Section 11-510-100. Whenever this section is reissued, reason for reissue will be listed in this paragraph.

1.03 For additional information on description and installation of the telephones, refer to Section 50-854-100. The circuit labels appear in Section 50-854-102. Related documents of the ITT Telephone Apparatus Practices Manual provide information on components.

1.04 The Model 854 wall telephones are 10-button, rotary dial, anti-sidetone type units that operate efficiently over a wide range of loop resistances and line impedances. These telephones are designed for use with key telephone systems, such as the ITT 1A2 System, where several telephones have access to the same lines, CO trunks, or intercom lines.

1.05 The Model 854 wall telephones are identified by a code number stamped in ink on the bottom of the base plate. Refer to Section 50-854-100 of the ITT Telephone Apparatus Practices Manual for ordering information and for an explanation of each code number.



AW 82-362

Figure 1: 10-Button, Rotary Dial, Wall Telephone

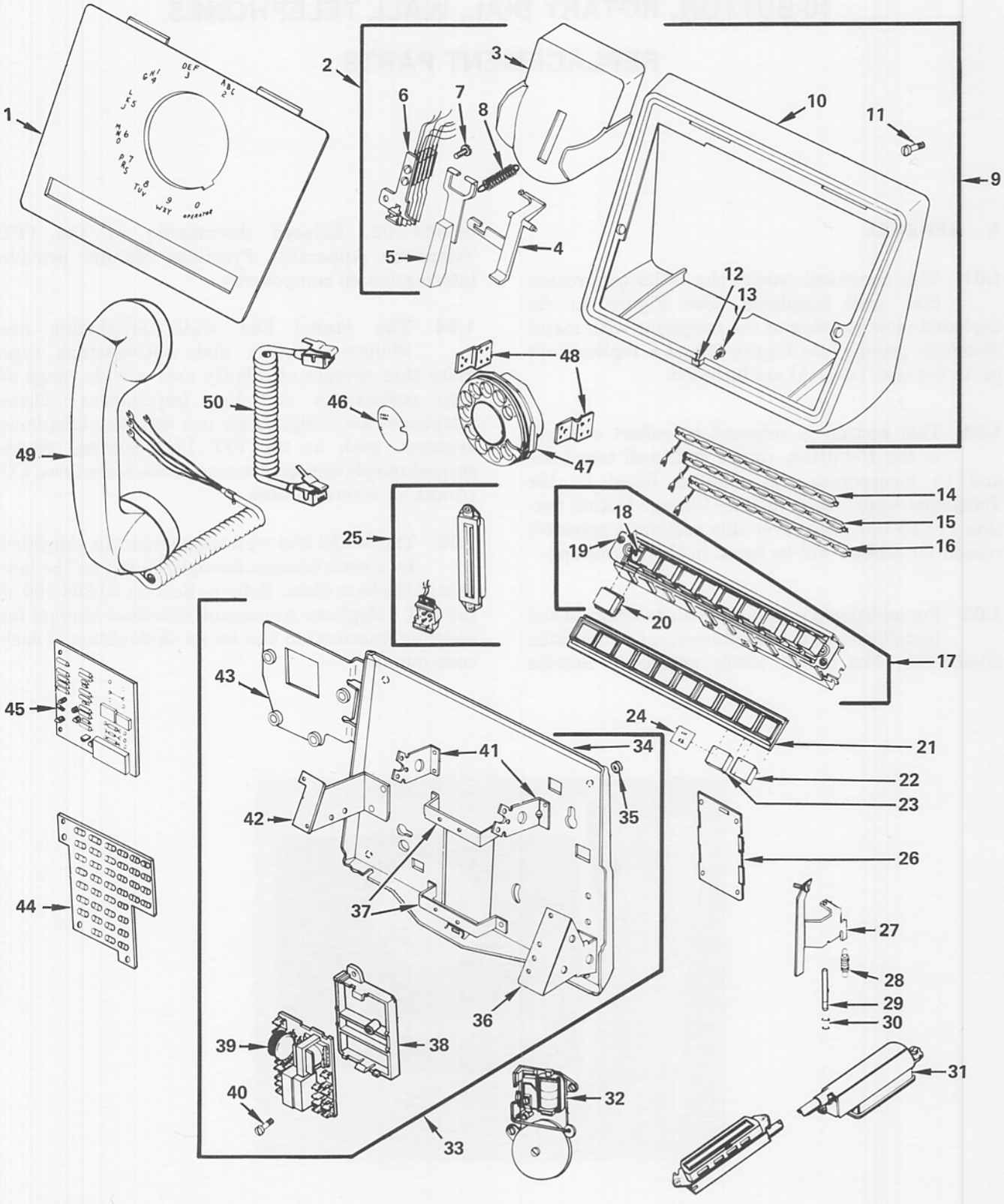


Figure 2: 10-Button, Rotary Dial, Wall Telephone, Exploded View

TABLE A

REPLACEMENT PARTS LIST

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED	
		10-Button, Rotary Dial, Wall Telephone	**854/42**	**854/76**
1	181132-***	Faceplate	1	–
1	182786-***	Faceplate	–	1
2	186177-0**	Hookswitch Cradle Assembly	1	1
3	186174-0**	Cradle, Hookswitch	1	1
4	186175-101	Arm, Pivot	1	1
5	088773-101	Plunger	1	1
6	186178-101	Cradle Switch Assembly[1]	1	1
7	096407-102	Screw	1	1
8	075307-102	Spring	1	1
9	181246-0**	Housing Assembly	1	1
9	187907-0**	Housing Assembly, Full-Modular	1	1
10	181106-0**	Housing	1	1
10	187921-0**	Housing, Full-Modular	1	1
11	095992-102	Screw, Housing	2	2
12	181100-101	Spring, Latch	1	1
13	181289-101	Screw, Latch Spring	1	1
14	181292-105	Strip, Contact (SL Wire)	1	1
15	181292-102	Strip, Contact (RD Wire)	1	1
16	181292-101	Strip, Contact (GN Wire)	1	1
17	181137-104	Key Assembly	1	–
17	182552-102	Key Assembly	–	1
18	000051-00A	Lamp	9	9
19	095992-102	Screw	2	2
20	181122-101	Button	10	10
21	181287-101	Collar, Key Strip	1	1
22	181131-102	Cap, Red	1	1
23	181131-101	Cap, Clear	9	9
24	181281-101	Tab, Key Designation (Strip Of 12)	1	1
25	181154-101	Cord, Internal	1	–
25	182546-101	Cord, Internal	–	1
26	181290-101	Slide	1	1
27	185488-101	Arm, Latch	1	1
28	181151-101	Spring, Latch Arm	1	1
29	181152-101	Pin, Pivot	1	1
30	073538-110	Ring, Retainer	2	2
31	184371-102	Cord, Mounting (50-Conductor)	1	1
32	000148-DBA	Ringer[1]	1	1

TABLE A

REPLACEMENT PARTS LIST (Cont)

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED	
		10-Button, Rotary Dial, Wall Telephone	**854/42**	**854/76**
33	181249-102	Base Assembly	1	1
34	181141-102	Plate, Base	1	1
35	075303-101	Grommet	4	4
36	181150-103	Bracket Assembly	1	1
	181252-101	Bracket, Key	1	1
37	181255-102	Bracket, Plug	2	2
38	182175-101	Spacer, Network	1	1
39	181427-101	PC Network (#183070-101)[1]	1	1
40	096407-103	Screw, Network Mounting	1	1
41	181254-102	Bracket, Dial	1	1
42	181251-101	Bracket, Key	1	1
43	181278-101	Bracket, Hookswitch Cradle	1	1
44	181298-101	Terminal Board	1	1
45	182691-101	PC Board (Exclusion)	–	1
46	075415-101	Card, Number	1	1
47	003800-00H	Dial Assembly, Metropolitan (Letters And Numerals)[1]	1	1
48	181146-101	Bracket, Dial Adapter	2	2
49	0065**-0C2	Handset Assembly, Nonmodular[1]	1	1
49	0065**-0M2	Handset Assembly, Modular[1]	1	1
50	9018**-072	Cord, Handset, Modular	1	1
	600152-611 -001	Jack Assembly, Handset Cord, Modular (Not Shown)	1	1
	182990-105	Insulator Assembly, Modular (Not Shown)	1	1
	181971-101	Pushbutton, Exclusion Release (Not Shown)	–	1
	187944-101	Nameplate, ITT (Not Shown)	1	1

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NOTES:

[1] Refer to Components Parts Section of this manual for Assembly Parts List.
** Substitute 2-digit color code when ordering.
*** Substitute 3-digit color code when ordering faceplate.

CODE	COLOR	CODE	COLOR	CODE	COLOR	CODE	COLOR
101	Charcoal	104	Light Gray	107	Cocoa Brown	110	Clear
102	Light Green	105	Burnt Orange	108	Harvest Gold	111	Woodgrain
103	Muted Beige	106	Light Ash	109	Cherry Red		

10-BUTTON, ROTARY DIAL, WALL TELEPHONES

CIRCUIT LABELS

1. GENERAL

1.01 This document covers the 10-button, rotary dial, wall telephones. (See Figure 1.) Circuit labels for 10-button, rotary dial, wall telephones are included. (See Table A.)

AW 86-391

Figure 1: 10-Button, Rotary Dial, Wall Telephone

1.02 This section is reissued to provide the latest issue of circuit labels for the following 10-button, rotary dial, wall telephones:

(a) Model 854, Type 42

(b) Model 854, Type 76

1.03 For additional information on description and installation of the telephones, refer to Section 50-854-100. A replacement parts list and an exploded-view drawing for the telephones are contained in Section 50-854-101. Related documents of the ITT Telephone Apparatus Practices Manual provide information on components.

1.04 The Model 854 wall telephones are identified by a code number stamped in ink on the bottom of the base plate. Refer to Section 50-854-100 of the ITT Telephone Apparatus Practices Manual for ordering information and for an explanation of each code number.

1.05 The Model 854 wall telephones are 10-button, rotary dial, anti-sidetone type units that operate efficiently over a wide range of loop resistances and line impedances. These telephones are designed for use with key telephone systems, such as the ITT 1A2 System, where several telephones have access to the same lines, CO trunks, or intercom lines.

TABLE A

LIST OF CIRCUIT LABELS

MODEL NO	TYPE NO	FIGURE NO
854	42	2
854	76	3

AW 86-396

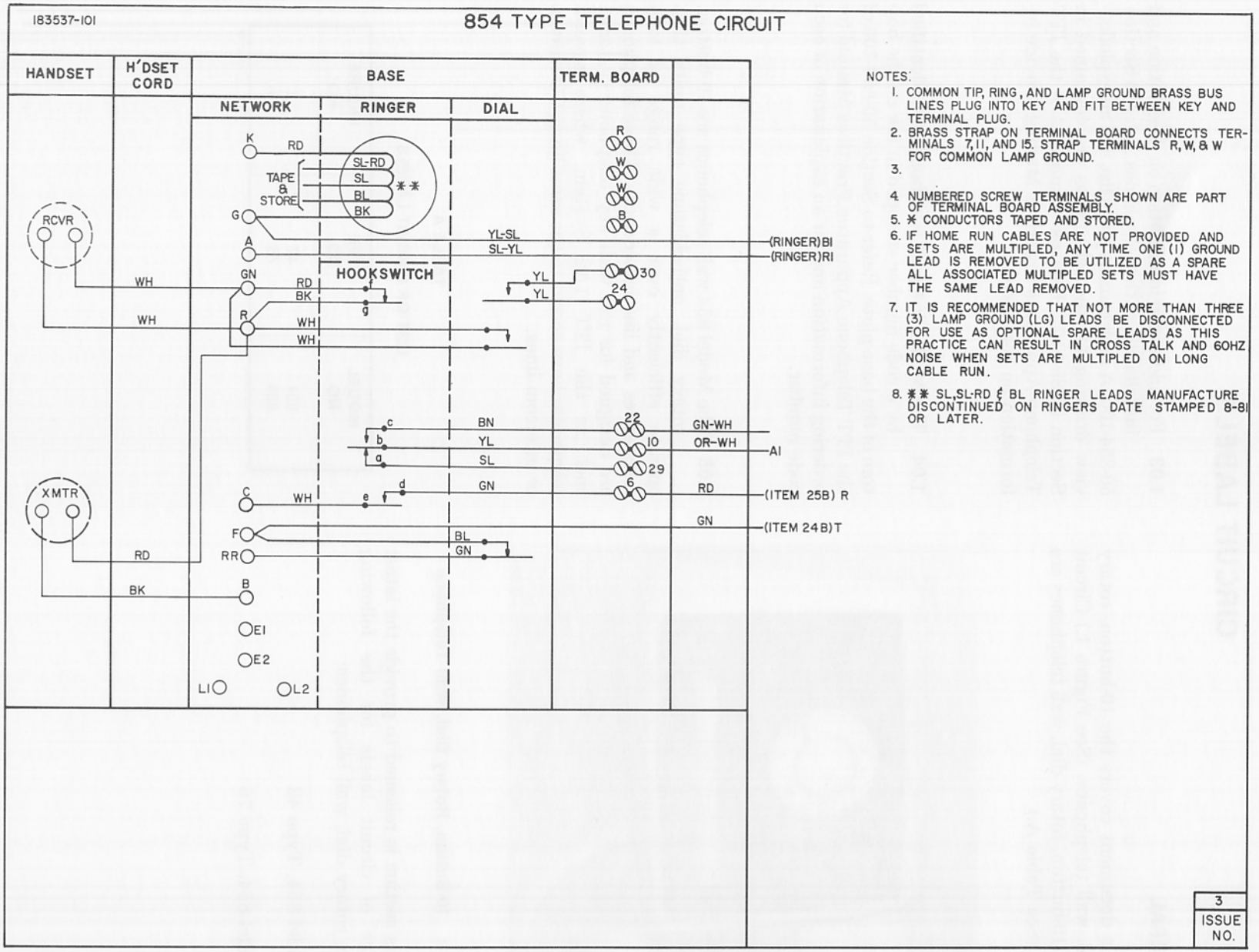

Figure 2: Circuit Label, Model 854 Type 42 (Sheet 1 of 2)

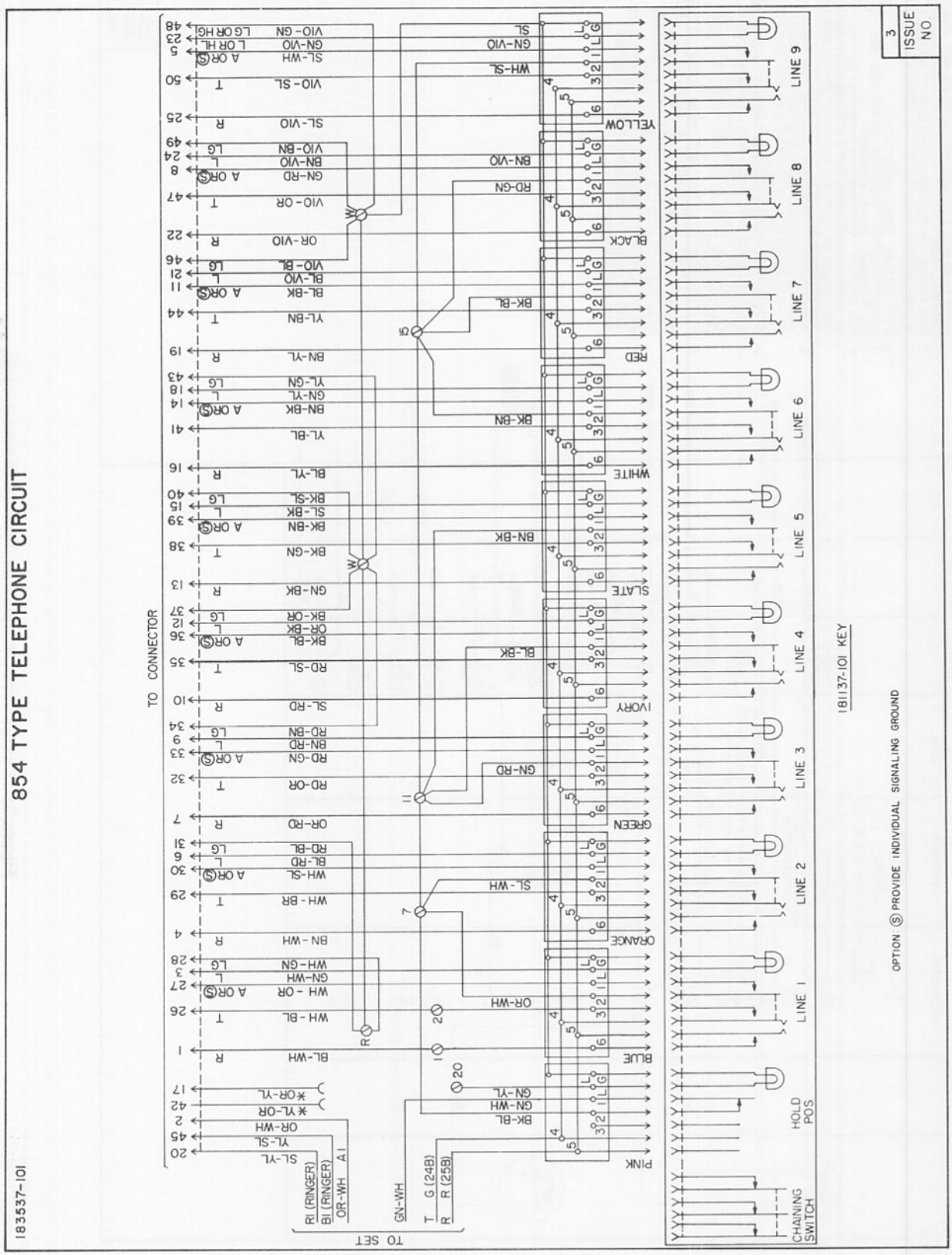

Figure 2: Circuit Label, Model 854 Type 42 (Sheet 2 of 2)

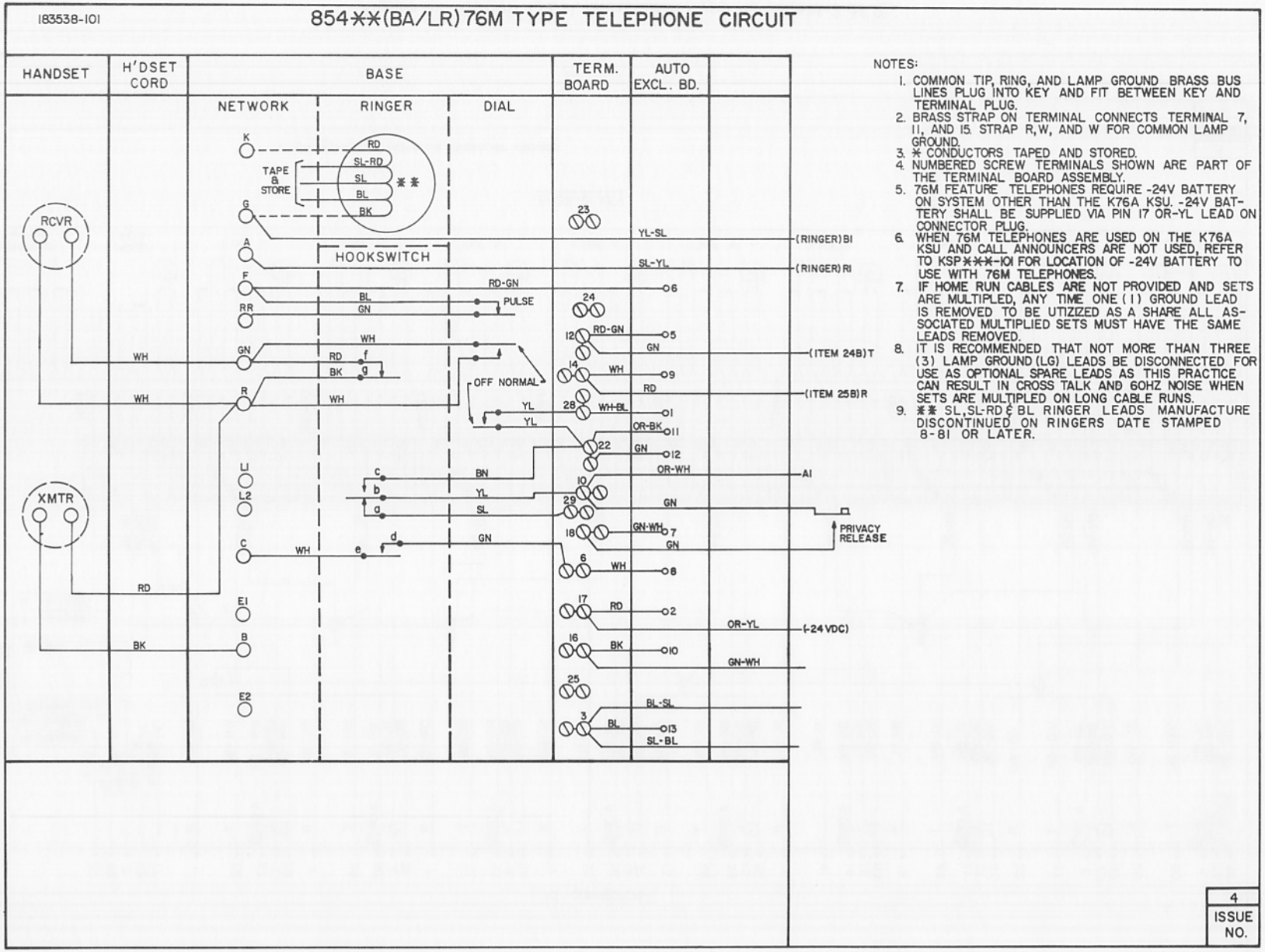

Figure 3: Circuit Label, Model 854 Type 76 (Sheet 1 of 2)

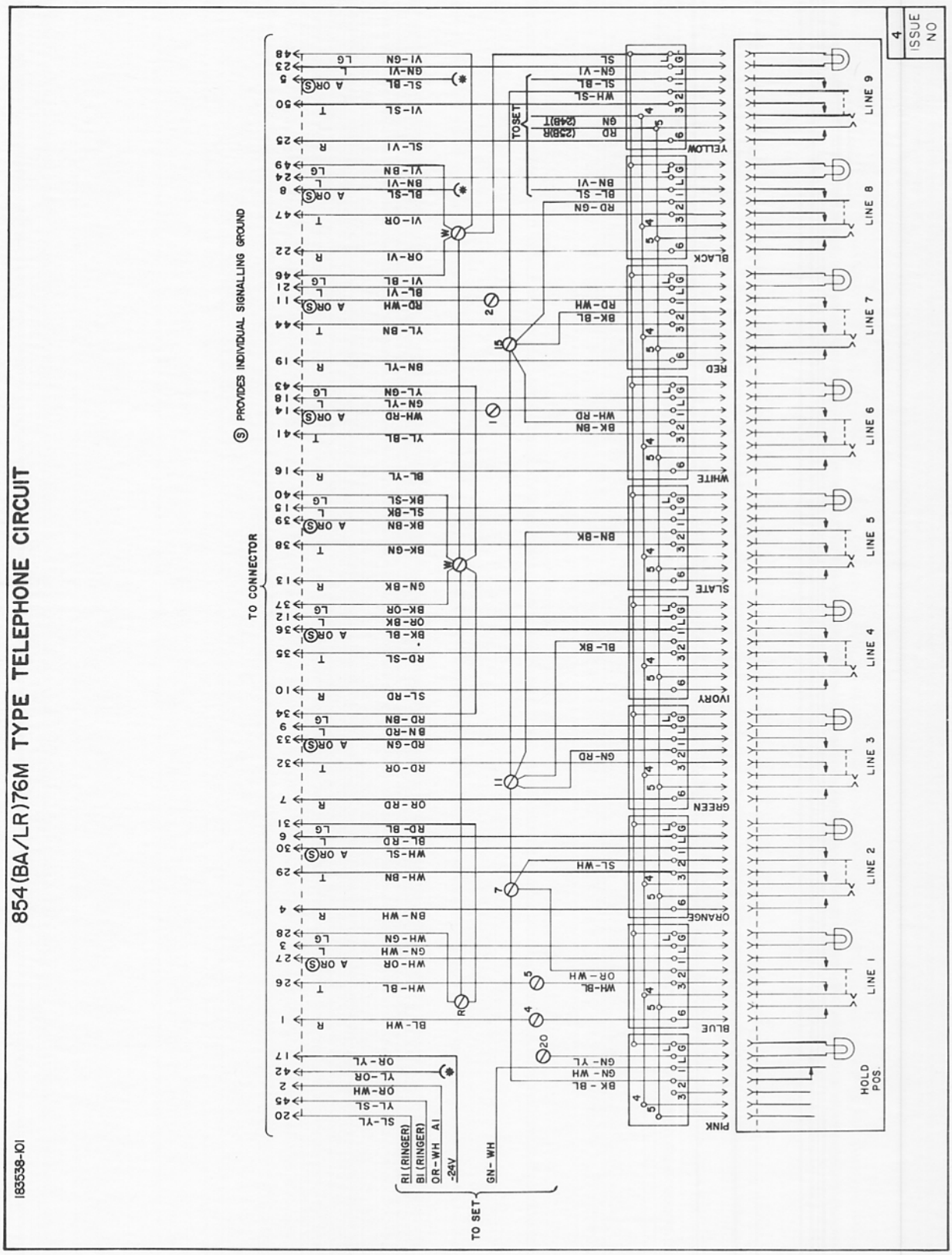

Figure 3: Circuit Label, Model 854 Type 76 (Sheet 2 of 2)

10-BUTTON, PUSHBUTTON DIAL, WALL TELEPHONES
GENERAL DESCRIPTION

CONTENTS PAGE

1. GENERAL DESCRIPTION 1
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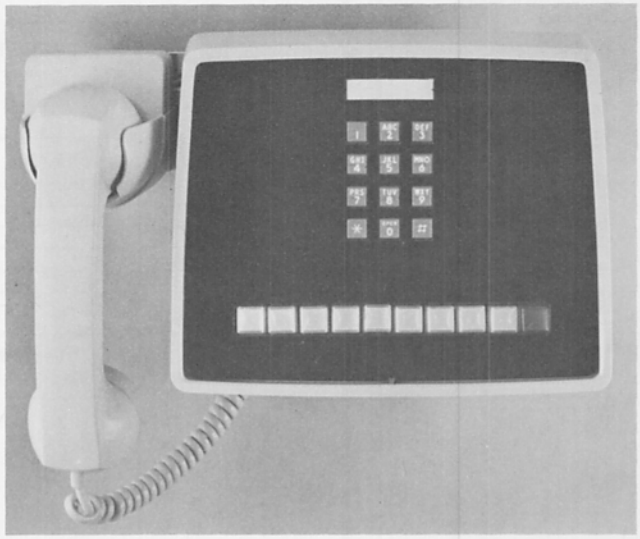
4. SPEAKERPHONE 3
5. BUTTON CONVERSIONS 3
6. BUZZER INSTALLATION 3
7. DESIGNATION TABS 3
8. GROUNDING PUSHBUTTON 3
9. CONNECTING 174B CALL ANNOUNCER 5
10. BUSY LAMP CONNECTIONS 5

1. GENERAL DESCRIPTION

1.01 This document covers the 10-button, pushbutton dial, wall telephone. (See Figure 1.) A general description plus information peculiar to 10-button, pushbutton dial, wall telephones is included.

1.02 Whenever this section is reissued, reason for reissue will be listed in this paragraph.

1.03 For additional information, refer to Section 50-854-104, Replacement Parts, and to Section 50-854-105, Circuit Labels. For information on installation, maintenance, and components or equipment, consult related documents of the ITT Telephone Apparatus Practices Manual.



AW 82-363

Figure 1: 10-Button, Pushbutton Dial, Wall Telephone

1.04 The Model 2854 wall telephones are 10-button, pushbutton dial, antisidetone type units that operate efficiently over a wide range of loop resistances and line impedances. These telephones are designed for use with key telephone systems, such as the ITT 1A2 System, where several telephones have access to the same lines, CO trunks, or intercom lines. All models are equipped with a mounting cord terminated in an Amphenol-type connector.

1.05 The Model 2854 wall telephones are identified by a code number stamped in ink on the bottom of the base plate. Refer to ordering information in Table A for an explanation of each code number.

1.06 Nine pushbutton keys on the telephone are used for line, trunk, or intercom lines. The red key on the far right is used as a hold key and allows any selected line or trunk to be placed in a hold condition. All remaining keys may be used as line keys or may be wired as either intercom lines or signal keys.

TABLE A

ORDERING INFORMATION – TELEPHONES

CODE NUMBERS

TELEPHONE CODE NUMBERS ARE FORMED IN SIX STEPS AS FOLLOWS:

2854 15 O BA 42 M

(1) Type of Instrument (See Part 1)
(2) Color (See Part 2)
(3) Version (See Part 3)
(4) Ringer (See Part 4)
(5) Special Feature (See Part 5)
(6) Dial (See Part 6)

PART 1 TYPE OF INSTRUMENT

CODE	DESCRIPTION	COLOR OFFERED	VERSION OFFERED	RINGER OFFERED	FEATURE OFFERED	DIAL OFFERED
2854	10-Button, Pushbutton Dial, Wall Telephone	00, 05, 13, 15, 44, and 45 (Available On All Models)	O	BA, LR	42, 76	M, R

REFER TO INDIVIDUAL UNIT DESCRIPTION FOR COMPLETE DESCRIPTION OF FEATURE COMBINATIONS

PART 2 COLORS		PART 3 VERSIONS		PART 4 RINGERS		PART 5 SPECIAL FEATURES		PART 6 DIALS	
CODE	COLORS	CODE	VERSIONS	CODE	RINGERS	CODE	SPECIAL FEATURES	CODE	DIALS
00	Black	O	Conventional	LR	Less Ringer	42	Equipped To Operate With External Speakerphone	M	Metropolitan (Letters & Numerals)
05	Moss Green								
13	Beige			BA	Straight Line	76	42 Combined With Automatic Exclusion And Release Button	R	Regular (Numerals Only)
15	White								
44	Light Ash								
45	Cocoa Brown								

AW 82-394

1.07 A signal lamp beneath each of the nine line keys indicates status of the associated line. (See Table B.)

1.08 Variations in the Model 2854 series telephones are briefly described below. Circuit label drawings for these models are contained in Section 50-854-105.

MODEL 2854** ( ) 42

1.09 The Model 2854** ( ) 42 is a standard 10-button, pushbutton dial, wall type, key telephone equipped to operate with an external speakerphone. A set of contacts in the dial assembly disconnects the handsfree speaker during dialing; also, contacts in the hookswitch assembly provide on/off control of the handsfree equipment. The Model 2854** ( ) 42 is equipped with a 50-conductor mounting cord fitted with a 50-pin (25-pair) male connector.

MODEL 2854** ( ) 76

1.10 The Model 2854** ( ) 76 is the same as the Model 2854** ( ) 42 with the addition of an automatic exclusion (privacy) circuit with a release button. This release button contains normally open contacts. Where this feature is used, all telephones in the key system must contain the exclusion circuit and a release button.

2. INSTALLATION

2.01 Since these telephones are equipped with a connector-terminated mounting cord, installation consists of inserting the connector into the jack at the station connecting block and pressing to engage. For specific wiring installation information, refer to the appropriate circuit label in Section 50-854-105. Cable connections for 10-button telephones with feature code 42 are listed in Table C. Cable connections for 10-button telephones with feature code 76 that differ from those listed in Table

TABLE B

LINE KEY SIGNALS

CONDITION	LAMP INDICATION
Idle	Lamp Extinguished
Busy	Lamp Lit
Hold	Lamp Winking
Call Incoming	Lamp Flashing

AW 81-96

C are listed in Table D. For general installation information and installation of repair parts, refer to the applicable section of the ITT Telephone Apparatus Practices Manual.

3. MAINTENANCE

3.01 For general maintenance information, refer to the maintenance section of the ITT Telephone Apparatus Practices Manual. For a pictorial view and parts list, refer to Section 50-854-104.

4. SPEAKERPHONE

4.01 An external speakerphone may be installed on 10-button telephones. Most speakerphones provide the following additional features:

(a) Handsfree telephone operation. (Handsfree talking and dialing.)

(b) On-hook dialing.

(c) Automatic switching from speakerphone to handset operation.

(d) Transmitter muting for private conversation.

(e) Visual indication when system is in use.

(f) Cutoff of common ringer or other signaling devices when desired.

5. BUTTON CONVERSIONS

5.01 Any line key may be converted to signaling mode by removing the slotted head pin from the plunger shank. The slotted head pin is removed by turning clockwise. (On earlier models of the 10-button telephone the pin is removed by turning counterclockwise.)

6. BUZZER INSTALLATION

6.01 A buzzer may be installed as the signaling device of a telephone receiving an intercom call. The buzzer may be either installed on the dial mounting bracket or mounted externally. For telephones with feature code 42, buzzer leads must be connected to the OR-YL and YL-OR leads inside the telephone. These leads are spare and can be found taped and stored inside the telephone. For telephones with feature code 76, a lamp ground lead is used instead of the OR-YL lead (provided the proper station cross-connections are made). Buzzers selected for this use must operate at 18 VAC, 60 Hz. (See Figure 2.)

6.02 A buzzer may also be used in place of the ringer. A 105 VAC buzzer must be provided. The ringer leads are removed and replaced by the buzzer leads.

7. DESIGNATION TABS

7.01 Designation tabs are included with each telephone. These tabs are installed by removing the cap from each key, placing the tab in the cap, and reinstalling the cap. The caps are removed by squeezing the sides and lifting. Note that locking surfaces are located on each of the caps and keys. These locking surfaces must properly align when reinstalling.

8. GROUNDING PUSHBUTTON

8.01 Modifications are made to line 9 of the telephone if a grounding pushbutton is required. A grounding pushbutton is required in some PABX applications for transferring calls, originating calls during a power failure, or other special functions. To convert line 9 to a grounding pushbutton, the following modifications should be made:

TABLE C

CABLE CONNECTIONS FOR 10-BUTTON

TELEPHONES

(FEATURE CODE 42)

LINES 1 THROUGH 5				LINES 6 THROUGH 9			
TELEPHONE TERMINAL	LEAD COLOR	LEAD DESIG.	CONNECTOR TERMINAL	TELEPHONE TERMINAL	LEAD COLOR	LEAD DESIG.	CONNECTOR TERMINAL
Line 1 (Blue Plug)	WH-BL	T	26	Line 6 (White Plug)	YL-BL	T	41
	BL-WH	R	1		BL-YL	R	16
	WH-OR	A	27		BN-BK	A or S	14
	WH-GN	LG	28		YL-GN	LG	43
	GN-WH	L	3		GN-YL	L	18
Line 2 (Orange Plug)	WH-BN	T	29	Line 7 (Red Plug)	YL-BN	T	44
	BN-WH	R	4		BN-YL	R	19
	WH-SL	A or S	30		BL-BK	A or S	11
	RD-BL	LG	31		VI-BL	LG	46
	BL-RD	L	6		BL-VI	L	21
Line 3 (Green Plug)	RD-OR	T	32	Line 8 (Black Plug)	VI-OR	T	47
	OR-RD	R	7		OR-VI	R	22
	RD-GN	A or S	33		GN-RD	A or S	8
	RD-BN	LG	34		VI-BN	LG, P3 or 1R	49
	BN-RD	L	9		BN-VI	L, P4 or 1T	24
Line 4 (Ivory Plug)	RD-SL	T	35	Line 9 (Yellow Plug)	VI-SL	T	50
	SL-RD	R	10		SL-VI	R	25
	BK-BL	A or S	36		SL-WH	A or S	5
	BK-OR	LG	37		VI-GN	LG or T1	48
	OR-BK	L	12		GN-VI	L or R1	23
Line 5 (Slate Plug)	BK-GN	T	38	10	OR-WH	A1	2
	GN-BK	R	13	G	YL-SL	B or B1	45
	BK-BN	A or S	39	A	SL-YL	R or R1	20
	BK-SL	LG	40	15	YL-OR	BL, AG or Spare	42
	SL-BK	L	15	6	OR-YL	SG, LK or Spare	17

NOTES:

1. All lamp ground leads are common.
2. Lead designations P3, P4, LK, T1, R1, AG and A1 are for speakerphone connections.
3. The YL-OR and OR-YL leads are spare leads and are taped and stored inside the telephone.
4. The designation S indicates that the lead provides an individual signal ground.

AW 82-517

TABLE D

SPECIAL CABLE CONNECTIONS FOR

10-BUTTON TELEPHONES (FEATURE CODE 76)

TELEPHONE TERMINAL	LEAD COLOR	LEAD DESIG.	CONNECTOR TERMINAL
Line 6 (White Plug)	WH-RD	A or S	14
Line 7 (Red Plug)	RD-WH	A or S	11
Line 8 (Black Plug)	BL-SL	A or S	8
Line 9 (Yellow Plug)	SL-BL	A or S	5
17	OR-YL	-24 VDC	17

NOTE:

1. This table lists those connections that differ from the connections for feature code 42 telephones shown in Table C.

AW 82-518

Modify button to non-locking operation by removing the interlock pin from line 9 plunger.

(b) Ground is provided on the WH-SL (A1) lead by the key system. (No cross-connect is necessary for this lead.)

(c) Cross-connect from the SL-WH lead to the PABX connection for the desired function.

9. CONNECTING 174B CALL ANNOUNCER

9.01 A 174B call announcer is used to provide tone and voice signaling to, and handsfree answerback from, an intercom station. The 174B call announcer connects to 10-button telephones as follows:

(a) Connect BK (-24 VDC) lead of call announcer, together with VI-BL lead of telephone, to terminal 17 of terminal board.

(b) Connect YL (GND) lead of call announcer, together with YL-OR lead of telephone, to terminal 27 of terminal board.

(c) Connect RD (CA RST) lead of call announcer, together with VI-BN lead of telephone, to terminal 21 of the terminal board.

(d) Connect GN (CA RT) lead of call announcer, together with VI-GN lead of telephone, to terminal 13 of terminal board. (The VI-GN lead must be moved from RR on network.)

10. BUSY LAMP CONNECTIONS

10.01 Busy lamp connections may vary depending on the type of key system being used. Modifications for the 10-button wall telephones with feature code 42 should be as follows: (Refer to Figure 3.)

(a) Remove GN-WH lead from terminal 22 and connect to terminal 16 on the telephone terminal board.

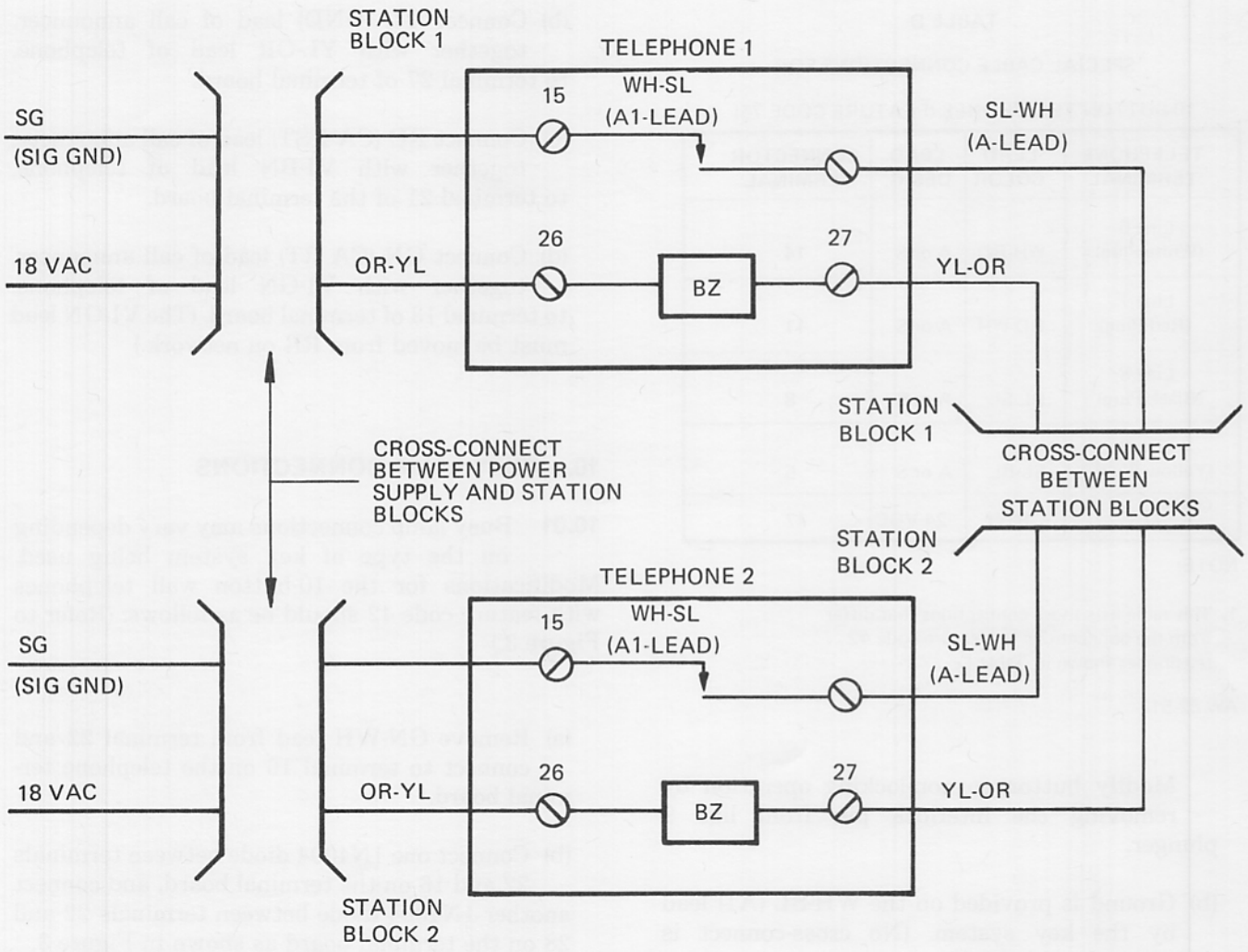
(b) Connect one 1N4004 diode between terminals 22 and 16 on the terminal board, and connect another 1N4004 diode between terminals 22 and 28 on the terminal board as shown in Figure 3.

(c) Connect OR-YL mounting cord lead to terminal 28 of terminal board.

10.02 Modifications for the 10-button wall telephones with feature code 76 should be as follows: (Refer to Figure 4.)

(a) Connect one 1N4004 diode from terminal 22 to terminal 28 on telephone terminal board as shown in Figure 4.

(b) Connect any "LG" lamp ground lead to terminal 28 on the telephone terminal board. (Proper station cross-connections must be made to allow the use of an LG lead.)



NOTES:

1. THE ARRANGEMENT SHOWN IS USING LINE 9 OF A TELEPHONE WITH FEATURE CODE 42 AS AN EXAMPLE. IF ANOTHER LINE IS USED, SUBSTITUTE THE APPROPRIATE A1 AND A-LEADS FOR THAT LINE.

2. IN THE 10-BUTTON TELEPHONE, GROUND IS CONNECTED TO TERMINAL 15 (WH-SL LEAD). NO CROSS-CONNECT IS NECESSARY FOR THIS LEAD.

3. FOR TELEPHONES WITH FEATURE CODE 76, A LAMP GROUND LEAD IS USED INSTEAD OF THE OR-YL LEAD (PROVIDED THE PROPER STATION CROSS-CONNECTIONS ARE MADE).

AW 82-497

Figure 2: Circuit Diagram For Signal Buzzer

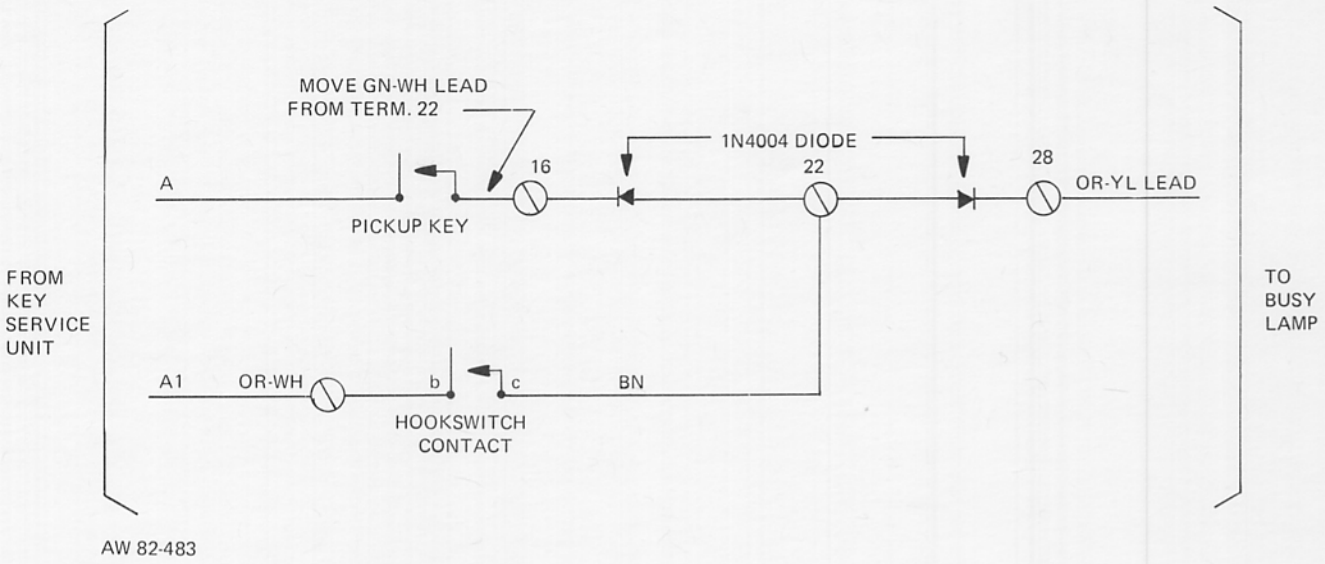


Figure 3: Busy Lamp Connections For 10-Button Telephones with Feature Code 42

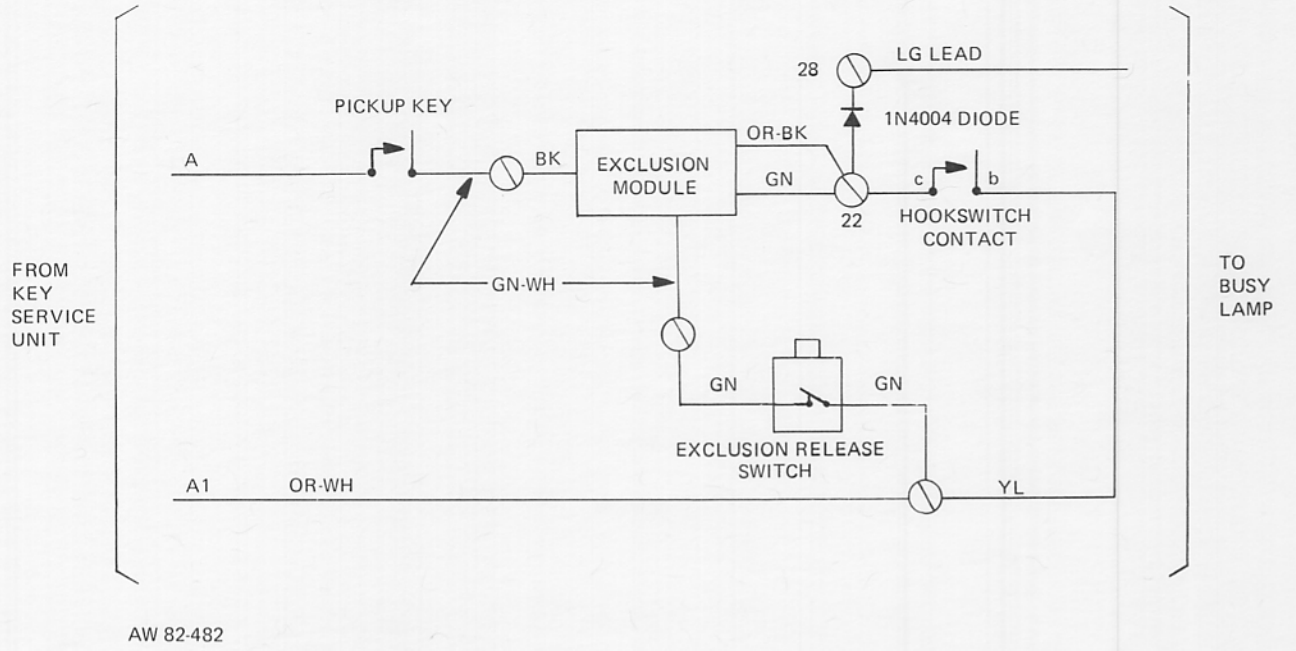


Figure 4: Busy Lamp Connections For 10-Button Telephones with Feature Code 76

10-BUTTON, PUSHBUTTON DIAL, WALL TELEPHONES

REPLACEMENT PARTS

1. GENERAL

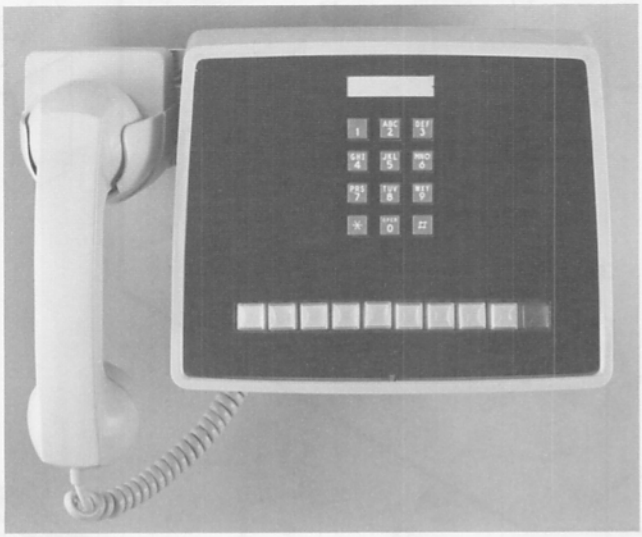
1.01 This document covers the 10-button, pushbutton dial, wall telephone. (See Figure 1.) An exploded-view drawing of the telephone with major assembly groups (see Figure 2) and a replacement parts list (see Table A) are included.

1.02 This section is reissued to reflect changes in the 10-button, pushbutton dial, wall telephone and to incorporate the changes listed in the Telephone Apparatus Practices Change Notice, Section 11-510-100. Whenever this section is reissued, reason for reissue will be listed in this paragraph.

1.03 For additional information on description and installation of the telephones, refer to Section 50-854-103. The circuit labels appear in Section 50-854-105. Related documents of the ITT Telephone Apparatus Practices Manual provide information on components.

1.04 The Model 2854 wall telephones are 10-button, pushbutton dial, anti-sidetone type units that operate efficiently over a wide range of loop resistances and line impedances. These telephones are designed for use with key telephone systems, such as the ITT 1A2 System, where several telephones have access to the same lines, CO trunks, or intercom lines.

1.05 The Model 2854 wall telephones are identified by a code number stamped in ink on the bottom of the base plate. Refer to Section 50-854-103 of the ITT Telephone Apparatus Practices Manual for ordering information and for an explanation of each code number.



AW 82-363

Figure 1: 10-Button, Pushbutton Dial, Wall Telephone

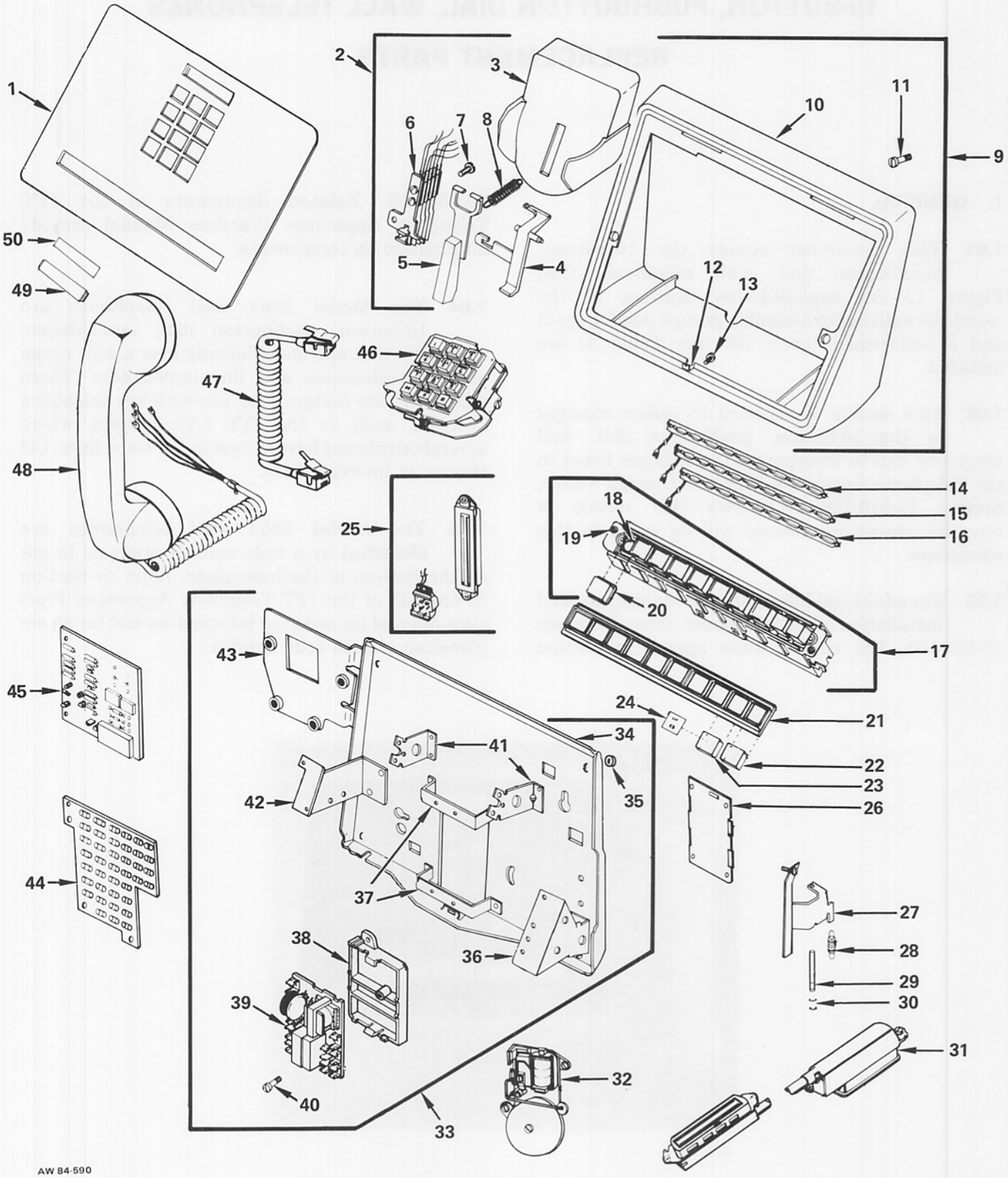


Figure 2: 10-Button, Pushbutton Dial, Wall Telephone, Exploded View

TABLE A

REPLACEMENT PARTS LIST

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED	
		10-Button, Pushbutton Dial, Wall Telephone	**2854/42**	**2854/76**
1	181142-***	Faceplate	1	–
1	181687-***	Faceplate	–	1
2	186177-0**	Hookswitch Cradle Assembly	1	1
3	186174-0**	Cradle, Hookswitch	1	1
4	186175-101	Arm, Pivot	1	1
5	088773-101	Plunger	1	1
6	186178-101	Cradle Switch Assembly[1]	1	1
7	096407-102	Screw	1	1
8	075307-102	Spring	1	1
9	181246-0**	Housing Assembly	1	1
9	187907-0**	Housing Assembly, Full-Modular	1	1
10	181106-0**	Housing	1	1
10	187921-0**	Housing, Full-Modular	1	1
11	095992-102	Screw, Housing	2	2
12	181100-101	Spring, Latch	1	1
13	181289-101	Screw, Latch Spring	1	1
14	181292-105	Strip, Contact (SL Wire)	1	1
15	181292-102	Strip, Contact (RD Wire)	1	1
16	181292-101	Strip, Contact (GN Wire)	1	1
17	181137-104	Key Assembly	1	–
17	182552-102	Key Assembly	–	1
18	000051-00A	Lamp	9	9
19	181108-101	Screw	2	2
20	181122-101	Button	10	10
21	181287-101	Collar, Key Strip	1	1
22	181131-102	Cap, Red	1	1
23	181131-101	Cap, Clear	9	9
24	181281-101	Tab, Key Designation (Strip Of 12)	1	1
25	181154-101	Cord, Internal	1	–
25	182546-101	Cord, Internal	–	1
26	181290-101	Slide	1	1
27	185488-101	Arm, Latch	1	1
28	181151-101	Spring, Latch Arm	1	1
29	181152-101	Pin, Pivot	1	1
30	073538-110	Ring, Retainer	2	2
31	184371-102	Cord, Mounting (50-Conductor)	1	1
32	000148-DBA	Ringer[1]	1	1

TABLE A

REPLACEMENT PARTS LIST (Cont)

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED	
		10-Button, Pushbutton Dial, Wall Telephone	**2854/42**	**2854/76**
33	181249-101	Base Assembly	1	1
34	181141-102	Plate, Base	1	1
35	075303-101	Grommet	4	4
36	181150-103	Key Bracket Assembly	1	1
	181252-101	Bracket, Key	1	1
37	181255-102	Bracket, Plug	2	2
38	182175-101	Spacer, Network	1	1
39	181427-102	PC Network (#183070-102)[1]	1	1
40	096407-103	Screw, Network Mounting	1	1
41	181258-101	Bracket, Dial	2	2
42	181251-101	Bracket, Key	1	1
43	181278-101	Bracket, Hookswitch Cradle	1	1
44	181298-101	Terminal Board	1	1
45	182691-101	PC Board (Exclusion)	–	1
46	004600-0PG	Dial Assembly, Pushbutton Digital, Metropolitan (Letters And Numerals)[1, 2]	1	1
46	003600-0PG	Dial Assembly, Pushbutton Tel-Touch, Metropolitan (Letters And Numerals)[1, 4]	1	1
46	004600-0PD	Dial Assembly, Pushbutton Digital, Regular (Numerals Only)[1, 3]	1	1
46	003600-0PD	Dial Assembly, Pushbutton Tel-Touch, Regular (Numerals Only)[1, 4]	1	1
47	9018**-072	Cord, Handset, Modular	1	1
48	0065**-0C2	Handset Assembly, Nonmodular[1]	1	1
48	0065**-0M2	Handset Assembly, Modular[1]	1	1
49	087514-101	Retainer, Number Card	1	1
50	087513-101	Card, Number	1	1
50	087513-102	Card, Number, Strip Of 6 (Not Shown)[5]	–	–

TABLE A

REPLACEMENT PARTS LIST (Cont)

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED	
		10-Button, Pushbutton Dial, Wall Telephone	**2854/42**	**2854/76**
	600152-611 -001	Jack Assembly, Handset Cord, Modular (Not Shown)	1	1
	182990-105	Insulator Assembly, Modular (Not Shown)	1	1
	181971-101	Pushbutton, Exclusion Release (Not Shown)	—	1
	187944-101	Nameplate, ITT (Not Shown)	1	1

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NOTES:

1 Refer to Component Parts Section of this manual for Assembly Parts List.
2 The 004600-0PG dial replaces the 003600-0PG dial.
3 The 004600-0PD dial replaces the 003600-0PD dial.
4 These products have been discontinued, but are included to provide a source of information for telephones still in service.
5 These products must be ordered separately.
** Substitute 2-digit color code when ordering.
*** Substitute 3-digit color code when ordering faceplate.

CODE	COLOR	CODE	COLOR	CODE	COLOR	CODE	COLOR
101	Charcoal	104	Light Gray	107	Cocoa Brown	110	Clear
102	Light Green	105	Burnt Orange	108	Harvest Gold	111	Woodgrain
103	Muted Beige	106	Light Ash	109	Cherry Red		

10-BUTTON, PUSHBUTTON DIAL, WALL TELEPHONES

CIRCUIT LABELS

1. GENERAL

1.01 This document covers the 10-button, pushbutton dial, wall telephones. (See Figure 1.) Circuit labels for 10-button, pushbutton dial, wall telephones are included. (See Table A.)

AW 86-394

Figure 1: 10-Button, Pushbutton Dial, Wall Telephone

1.02 This section is reissued to provide the latest issue of circuit labels for the following 10-button, pushbutton dial, wall telephones:

(a) Model 2854, Type 42

(b) Model 2854, Type 76

1.03 For additional information on description and installation of the telephones, refer to Section 50-854-103. A replacement parts list and an exploded-view drawing for the telephones are contained in Section 50-854-104. Related documents of the ITT Telephone Apparatus Practices Manual provide information on components.

1.04 The Model 2854 wall telephones are identified by a code number stamped in ink on the bottom of the base plate. Refer to Section 50-854-103 of the ITT Telephone Apparatus Practices Manual for ordering information and for an explanation of each code number.

1.05 The Model 2854 wall telephones are 10-button, pushbutton dial, anti-sidetone type units that operate efficiently over a wide range of loop resistances and line impedances. These telephones are designed for use with key telephone systems, such as the ITT 1A2 System, where several telephones have access to the same lines, CO trunks, or intercom lines.

TABLE A

LIST OF CIRCUIT LABELS

MODEL NO	TYPE NO	FIGURE NO
2854	42	2
2854	76	3

AW 86-395

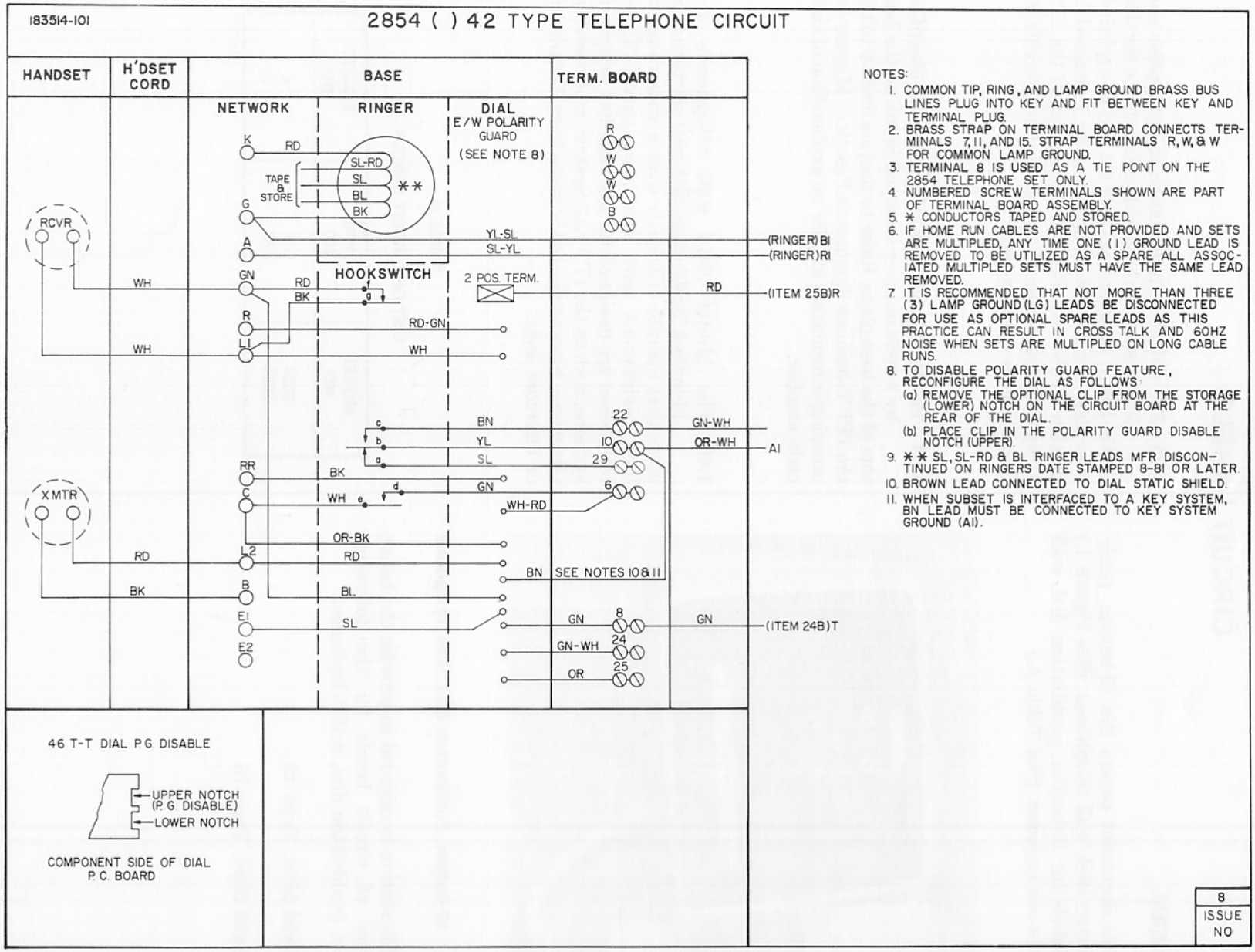

Figure 2: Circuit Label, Model 2854 Type 42 (Sheet 1 of 2)

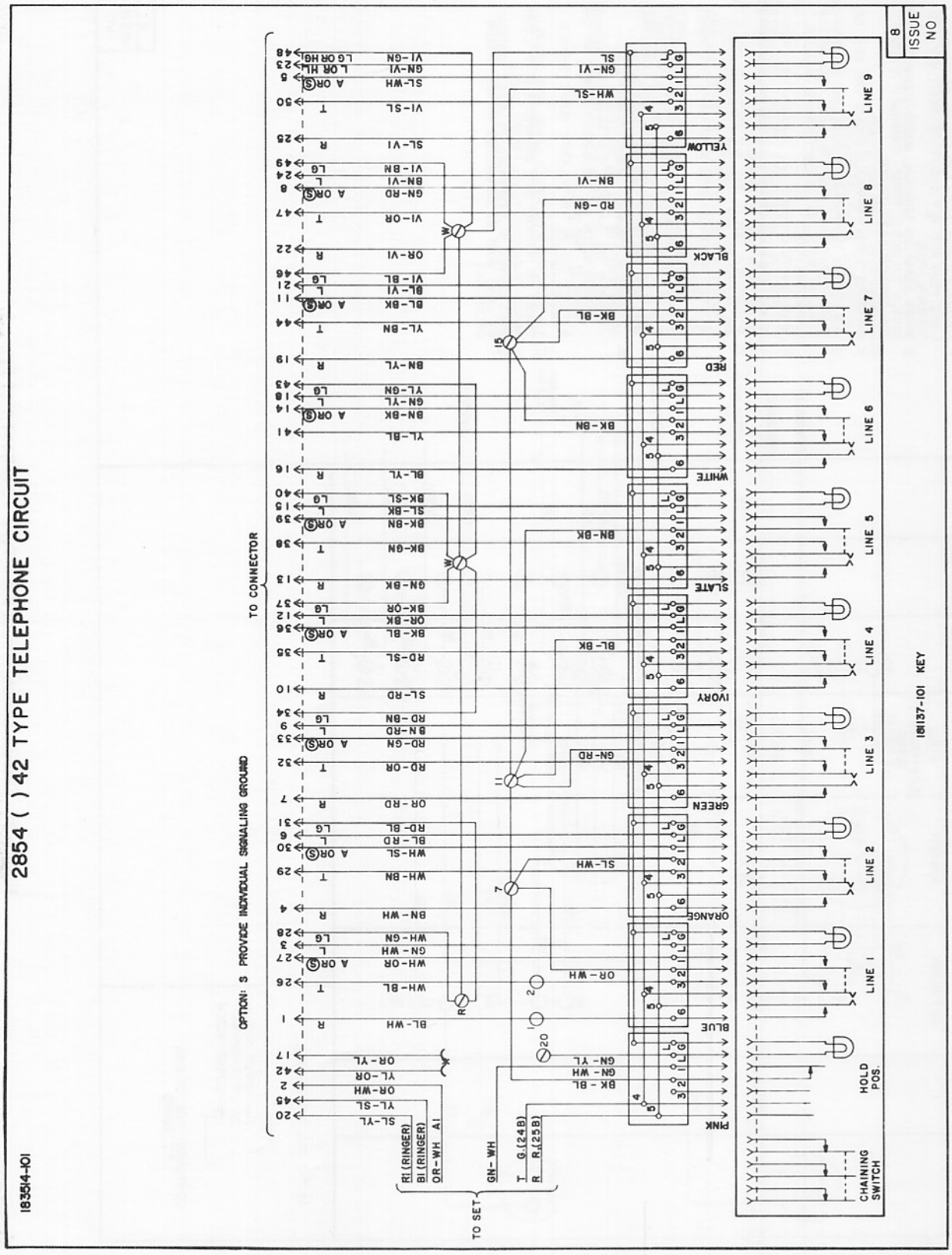

Figure 2: Circuit Label, Model 2854 Type 42 (Sheet 2 of 2)

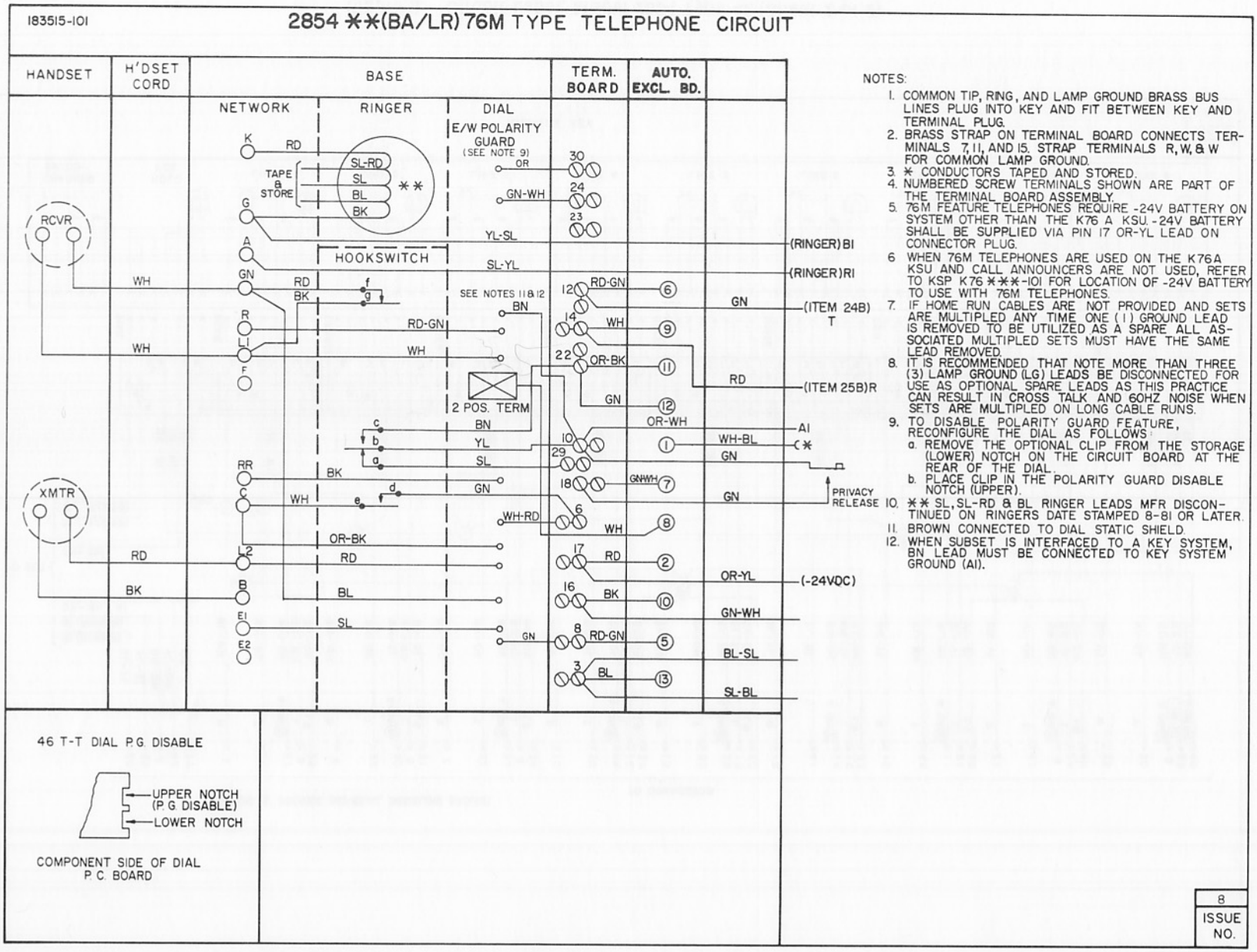

Figure 3: Circuit Label, Model 2854 Type 76 (Sheet 1 of 2)

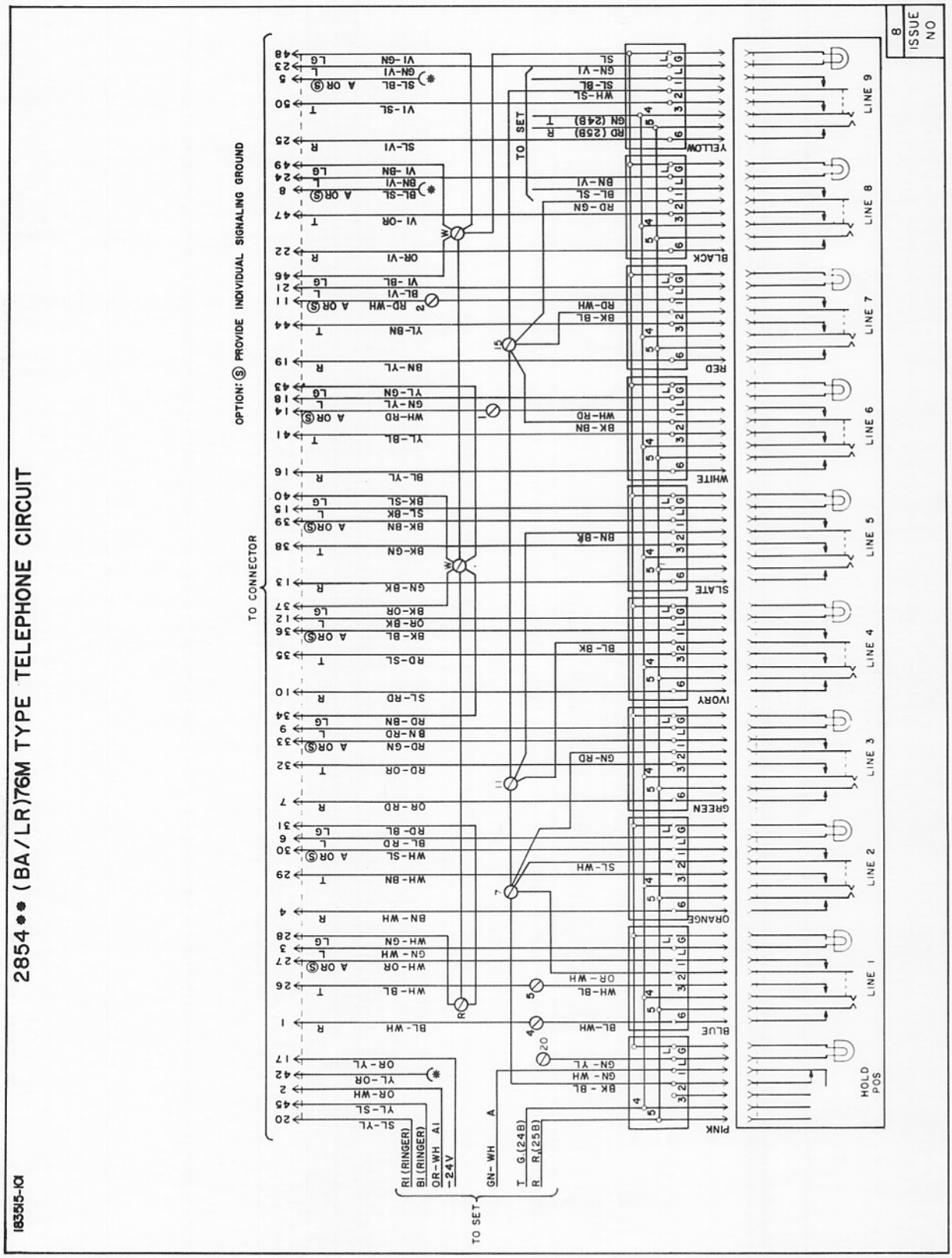

Figure 3: Circuit Label, Model 2854 Type 76 (Sheet 2 of 2)

30-BUTTON, ROTARY DIAL, DESK TELEPHONES
GENERAL DESCRIPTION

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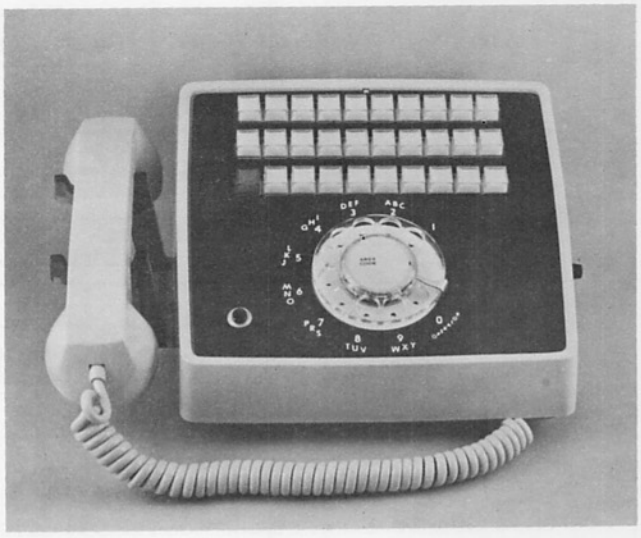


AW 82-468

Figure 1: 30-Button, Rotary Dial, Desk Telephone

1. GENERAL DESCRIPTION

1.01 This document covers the 30-button, rotary dial, desk telephone. (See Figure 1.) A general description plus information peculiar to 30-button, rotary dial, desk telephones is included.

1.02 Whenever this section is reissued, reason for reissue will be listed in this paragraph.

1.03 For additional information, refer to Section 50-861-101, Replacement Parts, and to Section 50-861-102, Circuit Labels. For information on installation, maintenance, and components or equipment, consult related documents of the ITT Telephone Apparatus Practices Manual.

1.04 The Model 861 desk telephones are 30-button, rotary dial, antisidetone type units that operate efficiently over a wide range of loop resistances and line impedances. These telephones are designed for use with key telephone systems, such as the ITT 1A2 System, where several telephones have access to the same lines, CO trunks, or intercom lines. All models are equipped with a mounting cord terminated in three Amphenol-type connectors.

1.05 The Model 861 desk telephones are identified by a code number stamped in ink on the bottom of the base plate. Refer to ordering information in Table A for an explanation of each code number.

1.06 Twenty-nine pushbutton keys on the telephone are used for line, trunk, or intercom lines. The red key on the far left is used as a hold key and allows any selected line or trunk to be placed in a hold condition. All remaining keys may be used as line keys or may be wired as either intercom lines or signal keys.

TABLE A

ORDERING INFORMATION – TELEPHONES

CODE NUMBERS

TELEPHONE CODE NUMBERS ARE FORMED IN SIX STEPS AS FOLLOWS:

861 15 O BA 56 M

(1) Type of Instrument (See Part 1)
(2) Color (See Part 2)
(3) Version (See Part 3)
(4) Ringer (See Part 4)
(5) Special Feature (See Part 5)
(6) Dial (See Part 6)

PART 1 TYPE OF INSTRUMENT

CODE	DESCRIPTION	COLOR OFFERED	VERSION OFFERED	RINGER OFFERED	FEATURE OFFERED	DIAL OFFERED
861	30-Button, Rotary Dial, Desk Telephone	00, 05, 13, 15, 44, And 45 (Available On All Models)	O	BA, LR	56, 76	M

REFER TO INDIVIDUAL UNIT DESCRIPTION FOR COMPLETE DESCRIPTION OF FEATURE COMBINATIONS

PART 2 COLORS		PART 3 VERSIONS		PART 4 RINGERS		PART 5 SPECIAL FEATURES		PART 6 DIALS	
CODE	COLORS	CODE	VERSIONS	CODE	RINGERS	CODE	SPECIAL FEATURES	CODE	DIALS
00 05 13 15 44 45	Black Moss Green Beige White Light Ash Cocoa Brown	O	Conventional	LR BA	Less Ringer Straight Line	56 76	Standard Telephone Equipped To Operate W/External Speakerphone (Includes Operator Recall Button, And Headset Jack W/Switch) Standard Telephone Equipped To Operate W/External Speakerphone (Includes Automatic Exclusion And Release Button, And Headset Jack W/Switch)	M	Metropolitan (Letters & Numerals)

AW 82-423

1.07 A signal lamp beneath each of the twenty-nine line keys indicates status of the associated line. (See Table B.)

1.08 All 30-button telephones are equipped with a hookswitch restoration feature that restores any operated line key when the hookswitch is operated. These telephones include an operator headset jack with an ON/OFF switch.

Note: When using the operator headset the hookswitch restoration feature must be disabled as shown in paragraph 9.

1.09 Variations in the Model 861 series telephones are briefly described below. Circuit label drawings for these models are contained in Section 50-861-102.

MODEL 861** ( ) 56

1.10 The Model 861** ( ) 56 is a standard 30-button, rotary dial, desk type, key telephone equipped to operate with an external speakerphone for handsfree operation. A set of contacts in the dial assembly disconnects the handsfree speaker during dialing; also, contacts in the hookswitch assembly provide ON/OFF control of the handsfree equipment. An operator recall button, containing normally closed contacts, is provided with this telephone to recall the operator if the hookswitch restoration feature is used. This model telephone also includes an operator headset jack with an ON/OFF switch. The Model 861** ( ) 56 is equipped with a 150-conductor mounting cord fitted with three 50-pin (25-pair) male connectors.

TABLE B

LINE KEY SIGNALS

CONDITION	LAMP INDICATION
Idle	Lamp Extinguished
Busy	Lamp Lit
Hold	Lamp Winking
Call Incoming	Lamp Flashing

AW 81-96

MODEL 861** ( ) 76

1.11 The Model 861** ( ) 76 is a standard 30-button, rotary dial, desk type, key telephone equipped to operate with an external speakerphone for handsfree operation. A set of contacts in the dial assembly disconnects the handsfree speaker during dialing; also, contacts in the hookswitch assembly provide ON/OFF control of the handsfree equipment. This telephone also has an automatic exclusion (privacy) circuit with a release button. This release button contains normally open contacts. Where this feature is used, all telephones in the key system must contain the exclusion circuit and a release button. Also included with this telephone is an operator headset jack with an ON/OFF switch. The Model 861 ** ( ) 76 is equipped with a 150-conductor mounting cord fitted with three 50-pin (25-pair) male connectors.

2. INSTALLATION

2.01 Since these telephones are equipped with a connector-terminated mounting cord, installation consists of inserting the connectors into the jacks at the station connecting block and pressing to engage. For specific wiring information, refer to the appropriate circuit label in Section 50-861-102. Cable connections for 30-button telephones with feature code 56 are listed in Table C. Cable connections for 30-button telephones with feature code 76 that differ from those listed in Table C are listed in Table D. For general installation information and installation of repair parts, refer to the applicable section of the ITT Telephone Apparatus Practices Manual.

3. MAINTENANCE

3.01 For general maintenance information, refer to the maintenance section of the ITT Telephone Apparatus Practices Manual. For a pictorial view and parts list, refer to Section 50-861-101.

4. BUTTON CONVERSIONS

4.01 Any line key may be converted to signaling mode by removing the slotted head pin from the plunger shank. The slotted head pin is removed by turning clockwise. (On earlier models of the 30-button telephone the pin is removed by turning counterclockwise.)

5. BUZZER INSTALLATION

5.01 A buzzer may be installed as the signaling device of a telephone receiving an intercom call. The buzzer may be either installed on the dial mounting bracket or mounted externally. For telephones with feature code 56, buzzer leads must be connected to the OR-YL and YL-OR leads inside the telephone. These leads are spare and can be found taped and stored inside the telephone. For telephones with feature code 76, a lamp ground lead is used instead of the OR-YL lead (provided the proper station cross-connections are made). Buzzers selected for this use must operate at 18 VAC, 60 Hz. (See Figure 2.)

5.02 A buzzer may also be used in place of the ringer. A 105 VAC buzzer must be provided. The ringer leads are removed and replaced by the buzzer leads.

6. DESIGNATION TABS

6.01 Designation tabs are included with each telephone. These tabs are installed by removing the cap from each key, placing the tab in the cap, and reinstalling the cap. The caps are removed by squeezing the sides and lifting. Note that locking surfaces are located on each of the caps and keys. These locking surfaces must properly align when reinstalling.

7. GROUNDING PUSHBUTTON

7.01 Modifications are made to line 9 of the telephone if a grounding pushbutton is required. A grounding pushbutton is required in some

TABLE C

CABLE CONNECTIONS FOR 30-BUTTON TELEPHONES (FEATURE CODE 56)

LINES 1 THROUGH 7				LINES 8, 9, AND 10 THROUGH 13 (OR 20 THROUGH 23)				LINES 14 THROUGH 19 (OR 24 THROUGH 29)			
TELEPHONE TERMINAL	LEAD COLOR	LEAD DESIG.	CONNECTOR TERMINAL	TELEPHONE TERMINAL	LEAD COLOR	LEAD DESIG.	CONNECTOR TERMINAL	TELEPHONE TERMINAL	LEAD COLOR	LEAD DESIG.	CONNECTOR TERMINAL
Line 1 (Blue Plug)	WH-BL	T	26	Line 8 (Black Plug)	VI-OR	T	47	Line 14 or 24 (Slate Plug)	BK-GN	T	38
	BL-WH	R	1		OR-VI	R	22		GN-BK	R	13
	WH-OR	A or S	27		GN-RD	A or S	8		BK-BN	A or S	39
	WH-GN	LG	28		VI-BN	LG	49		BK-SL	LG	40
	GN-WH	L	3		BN-VI	L	24		SL-BK	L	15
Line 2 (Orange Plug)	WH-BN	T	29	Line 9 (Yellow Plug)	VI-SL	T	50	Line 15 or 25 (White Plug)	YL-BL	T	41
	BN-WH	R	4		SL-VI	R	25		BL-YL	R	16
	WH-SL	A or S	30		SL-WH	A or S	5		BN-BK	A or S	14
	RD-BL	LG	31		VI-GN	LG or HG	48		YL-GN	LG	43
	BL-RD	L	6		GN-VI	L or HL	23		GN-YL	L	18
Line 3 (Green Plug)	RD-OR	T	32	15	OR-WH	A1	2	Line 16 or 26 (Red Plug)	YL-BN	T	44
	OR-RD	R	7	G	YL-SL	B1	45		BN-YL	R	19
	RD-GN	A or S	33	A	SL-YL	R1	20		BL-BK	A or S	11
	RD-BN	LG	34	15	YL-OR	Spare	42		VI-BL	LG	46
	BN-RD	L	9	6	OR-YL	Spare	17		BL-VI	L	21
Line 4 (Ivory Plug)	RD-SL	T	35	Line 10 or 20 (Blue Plug)	WH-BL	T	26	Line 17 or 27 (Black Plug)	VI-OR	T	47
	SL-RD	R	10		BL-WH	R	1		OR-VI	R	22
	BK-BL	A or S	36		WH-OR	A or S	27		GN-RD	A or S	8
	BK-OR	LG	37		WH-GN	LG	28		VI-BN	LG	49
	OR-BK	L	12		GN-WH	L	3		BN-VI	L	24
Line 5 (Slate Plug)	BK-GN	T	38	Line 11 or 21 (Orange Plug)	WH-BN	T	29	Line 18 or 28 (Yellow Plug)	VI-SL	T	50
	GN-BK	R	13		BN-WH	R	4		SL-VI	R	25
	BK-BN	A or S	39		WH-SL	A or S	30		SL-WH	A or S	5
	BK-SL	LG	40		RD-BL	LG	31		VI-GN	LG	48
	SL-BK	L	15		BL-RD	L	6		GN-VI	L	23
Line 6 (White Plug)	YL-BL	T	41	Line 12 or 22 (Green Plug)	RD-OR	T	32	Line 19 or 29 (Violet Plug)	YL-SL	T	45
	BL-YL	R	16		OR-RD	R	7		SL-YL	R	20
	BN-BK	A or S	14		RD-GN	A or S	33		OR-WH	A or S	2
	YL-GN	LG	43		RD-BN	LG	34		YL-OR	LG	42
	GN-YL	L	18		BN-RD	L	9		OR-YL	L	17
Line 7 (Red Plug)	YL-BN	T	44	Line 13 or 23 (Ivory Plug)	RD-SL	T	35				
	BN-YL	R	19		SL-RD	R	10				
	BL-BK	A or S	11		BK-BL	A or S	36				
	VI-BL	LG	46		BK-OR	LG	37				
	BL-VI	L	21		OR-BK	L	12				

NOTES:

1. All lamp ground leads are common.
2. The YL-OR and OR-YL leads are spare leads and are taped and stored inside the telephone.
3. The designation S indicates that the lead provides an individual signal ground.

AW 82-499

TABLE D

SPECIAL CABLE CONNECTIONS FOR

30-BUTTON TELEPHONES (FEATURE CODE 76)

TELEPHONE TERMINAL	LEAD COLOR	LEAD DESIG.	CONNECTOR TERMINAL
Line 26 (Red Plug)	WH-RD	A or S	11
Line 27 (Black Plug)	RD-WH	A or S	8
Line 28 (Yellow Plug)	BL-SL	A or S	5
Line 29 (Violet Plug)	SL-BL	A or S	2
17	OR-YL	-24 VDC	17

NOTE:

1. This table lists those connections that differ from the connections for feature code 56 telephones shown in Table C.

AW 82-515

PABX applications for transferring calls, originating calls during a power failure, or other special functions. To convert line 9 to a grounding pushbutton, the following modifications are made:

(a) Modify button to non-locking operation by removing interlock pin from the line 9 plunger.

(b) Ground is provided on the WH-SL (A1) lead by the key system. (No cross-connect is necessary for this lead.)

(c) Cross-connect from the SL-WH lead to the PABX connection for the desired function.

8. DISABLING HOOKSWITCH RESTORATION

8.01 The hookswitch restoration feature used in multibutton telephones allows a station user to preselect a line key and then remove the handset to initiate a call. When the handset is returned to the cradle or the hookswitch is operated (hookswitch flash), the line key will be restored. To disable the hookswitch restoration feature, the following steps are taken:

(a) Remove telephone faceplate.

(b) Remove plastic trip arm by pulling up at the point directly above its mounting shaft.

(c) Remove torsion spring by sliding it off the mounting shaft.

(d) Reinstall telephone faceplate.

8.02 To enable the hookswitch restoration feature, the following steps are taken: (See Figure 3.)

(a) Remove telephone faceplate.

(b) Install torsion spring by sliding it onto the mounting shaft and hooking one end between the mounting shaft and the hookswitch operating arm.

(c) Install plastic trip arm by placing the notch in the trip arm on the end of the torsion spring (opposite the end hooked behind the operating arm) and pressing the trip arm onto the mounting shaft.

(d) When the hookswitch is operated, the plastic trip arm should engage with the latch arm.

(e) Reinstall telephone faceplate.

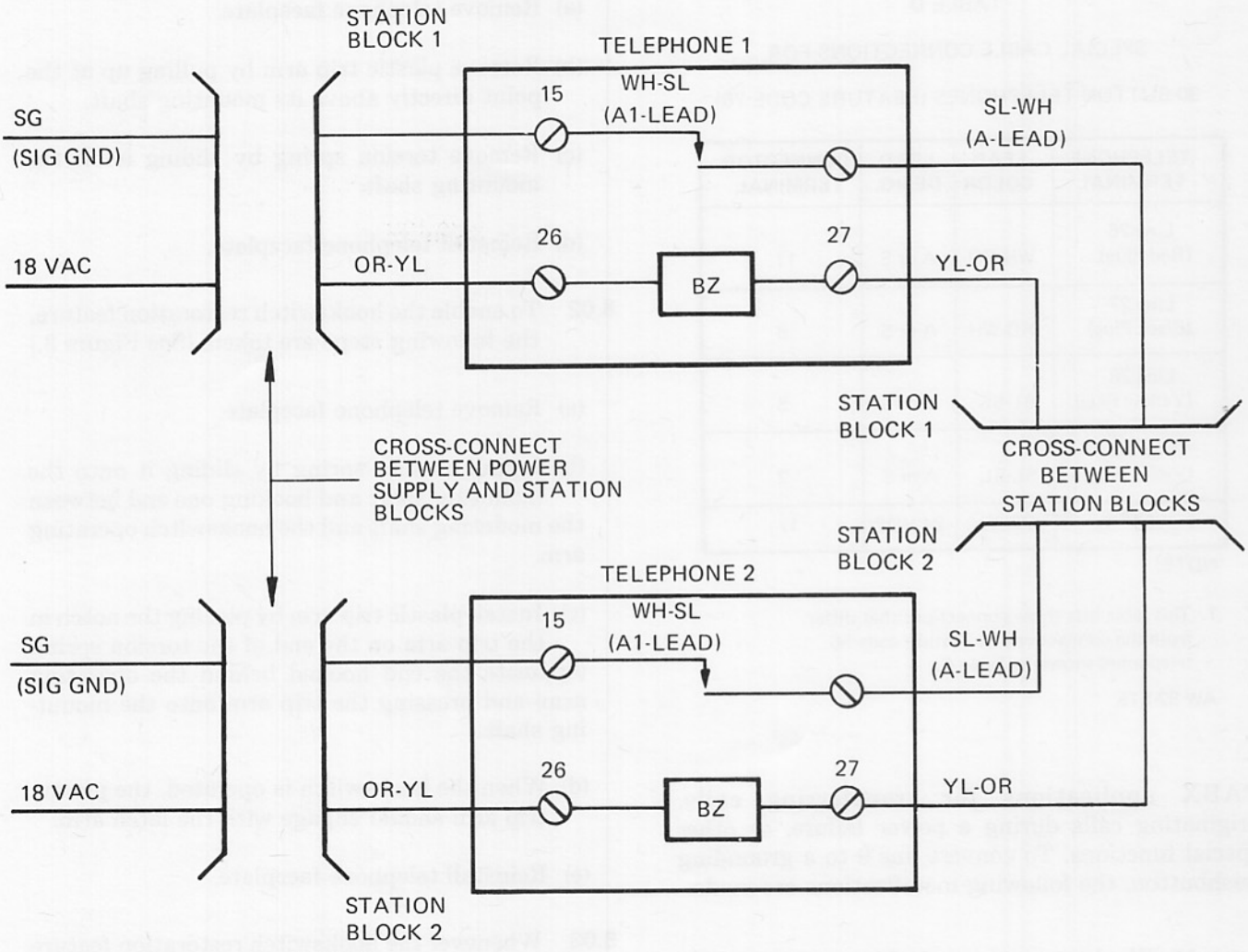
8.03 Whenever the hookswitch restoration feature is disabled, it may become necessary to shorten or lengthen the spring connected to the operating arm to insure proper hookswitch operation. Proper operation requires the cradle to be fully depressed by the weight of the handset and return to the full up position when the handset is off-hook.

8.04 Earlier models of multibutton telephones may not provide the preselect function with the hookswitch restoration feature. These models include an adjustment screw on the latch arm rather than the plastic trip arm or torsion spring. To disable hookswitch restoration in these telephones, the following steps are taken:

(a) Remove telephone faceplate and housing.

(b) Turn the screw in the latch arm approximately five turns counterclockwise.

(c) Reinstall telephone faceplate and housing.



NOTES:

1. THE ARRANGEMENT SHOWN IS USING LINE 9 OF A TELEPHONE WITH FEATURE CODE 56 AS AN EXAMPLE. IF ANOTHER LINE IS USED, SUBSTITUTE THE APPROPRIATE A1 AND A-LEADS FOR THAT LINE.
2. IN THE 30-BUTTON TELEPHONE, GROUND IS CONNECTED TO TERMINAL 15 (WH-SL LEAD). NO CROSS-CONNECT IS NECESSARY FOR THIS LEAD.
3. FOR TELEPHONES WITH FEATURE CODE 76, A LAMP GROUND LEAD IS USED INSTEAD OF THE OR-YL LEAD (PROVIDED THE PROPER STATION CROSS-CONNECTIONS ARE MADE).

AW 82-501

Figure 2: Circuit Diagram For Signal Buzzer

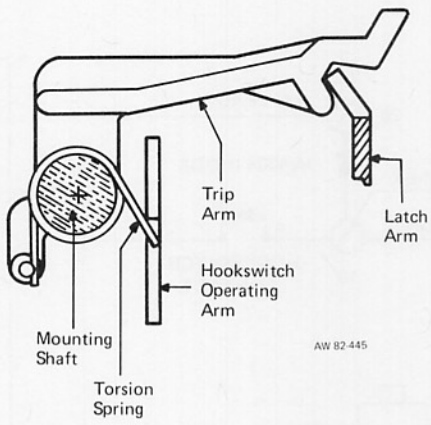


Figure 3: Installation of Trip Arm and Torsion Spring

9. BUSY LAMP CONNECTIONS

9.01 Busy lamp connections vary depending on the type of key system being used. Modifications for the 30-button telephones with feature code 56 should be as follows: (Refer to Figure 4.)

(a) Remove the GN-WH lead from terminal 13 and connect to terminal 35 on the telephone terminal board.

(b) Connect one 1N4004 diode between terminals 13 and 35 on the terminal board, and connect another 1N4004 diode between terminals 13 and 28 on the terminal board as shown in Figure 4.

(c) Connect OR-YL mounting cord lead to terminal 28 of terminal board.

9.02 Modifications for the 30-button telephones with feature code 76 should be as follows: (Refer to Figure 5.).

(a) Connect one 1N4004 diode from terminal 13 to terminal 28 on telephone terminal board as shown in Figure 5.

(b) Connect any "LG" lamp ground lead to terminal 28 on the telephone terminal board. (Proper station cross-connections must be made to allow the use of an LG lead.)

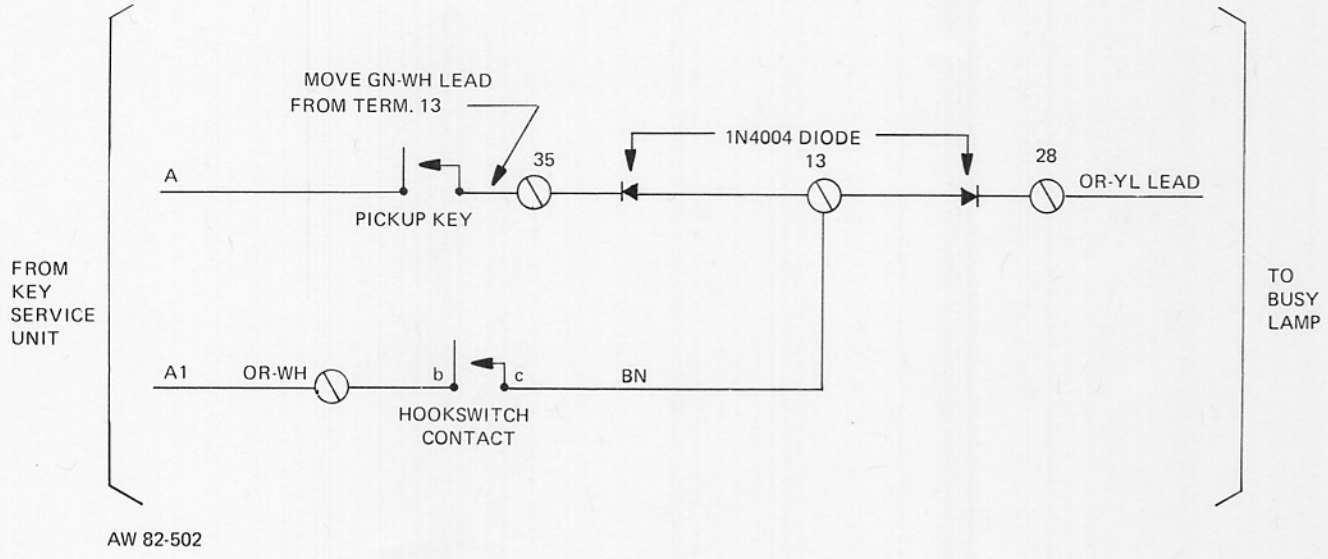


Figure 4: Busy Lamp Connections For 30-Button Telephones with Feature Code 56

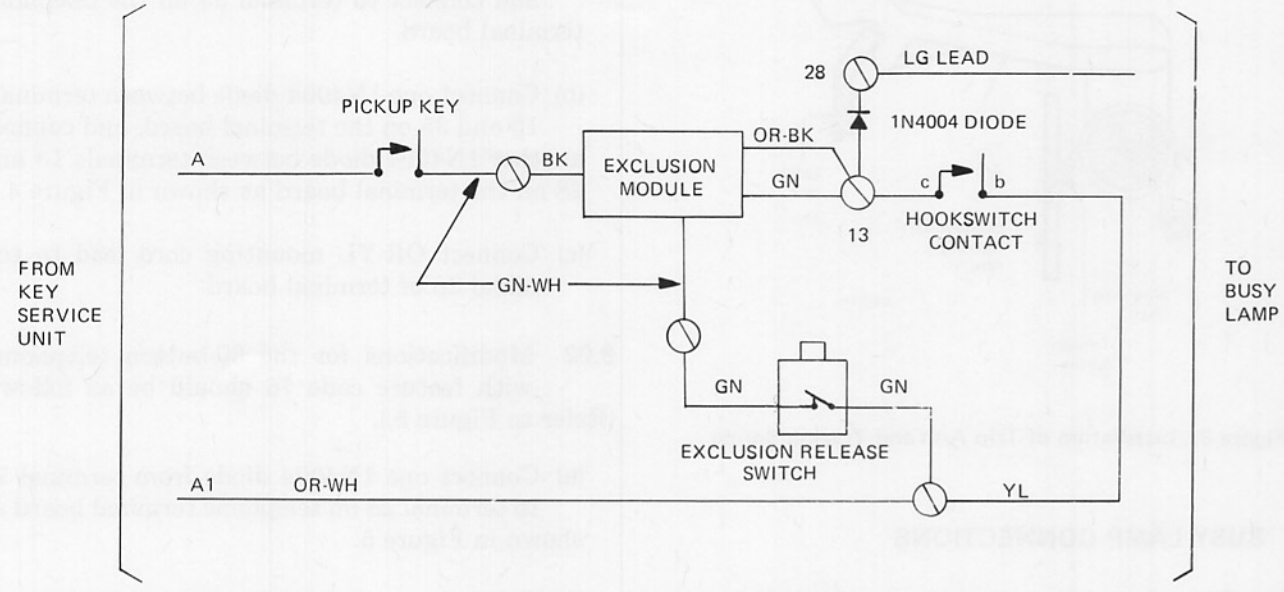


Figure 5: Busy Lamp Connections For 30-Button Telephones with Feature Code 76

30-BUTTON, ROTARY DIAL, DESK TELEPHONES

REPLACEMENT PARTS

1. GENERAL

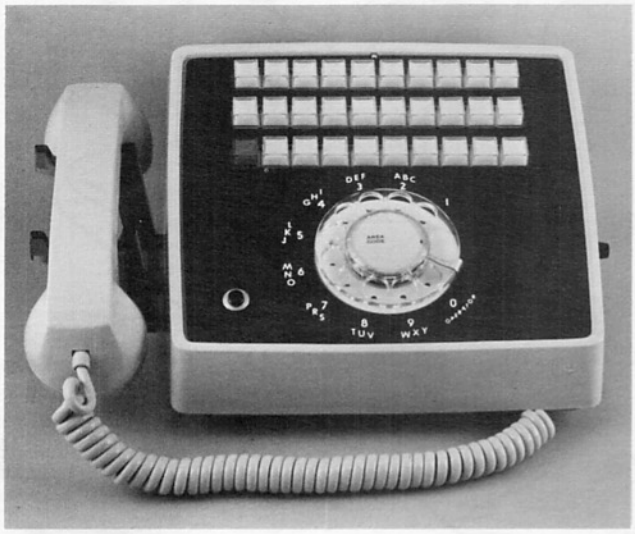
1.01 This document covers the 30-button, rotary dial, desk telephone. (See Figure 1.) An exploded-view drawing of the telephone with major assembly groups (see Figure 2) and a replacement parts list (see Table A) are included.

1.02 This section is reissued to reflect changes in the 30-button, rotary dial, desk telephone and to incorporate the changes listed in the Telephone Apparatus Practices Change Notice, Section 11-510-100. Whenever this section is reissued, reason for reissue will be listed in this paragraph.

1.03 For additional information on description and installation of the telephones refer to Section 50-861-100. The circuit labels appear in Section 50-861-102. Related documents of the ITT Telephone Apparatus Practices Manual provide information on components.

1.04 The Model 861 desk telephones are 30-button, rotary dial, anti-sidetone type units that operate efficiently over a wide range of loop resistances and line impedances. These telephones are designed for use with key telephone systems, such as the ITT 1A2 System, where several telephones have access to the same lines, CO trunks, or intercom lines.

1.05 The Model 861 desk telephones are identified by a code number stamped in ink on the bottom of the base plate. Refer to Section 50-861-100 of the ITT Telephone Apparatus Practices Manual for ordering information and for an explanation of each code number.



AW 82-468

Figure 1: 30-Button, Rotary Dial, Desk Telephone

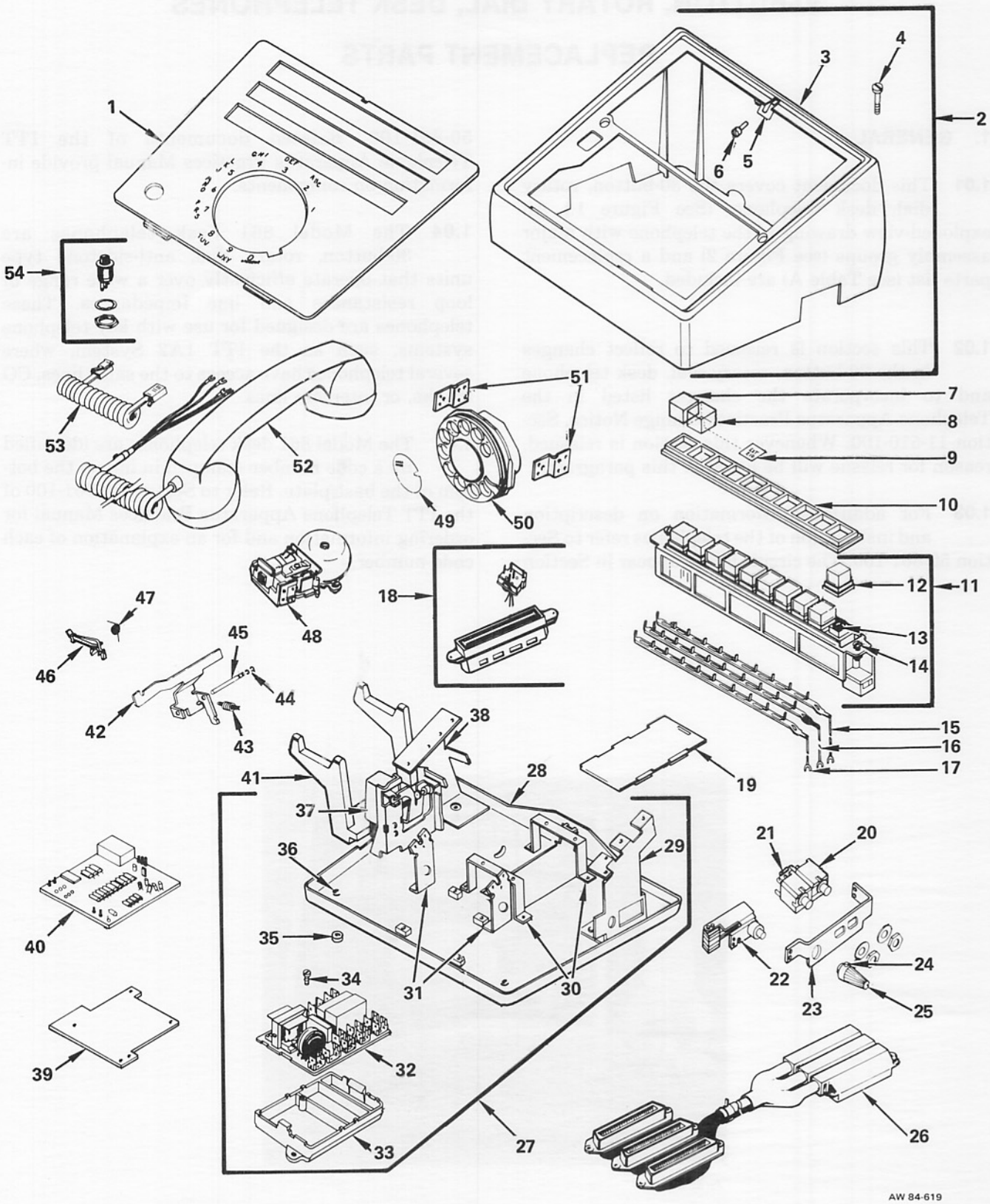


Figure 2: 30-Button, Rotary Dial, Desk Telephone, Exploded View

TABLE A

REPLACEMENT PARTS LIST

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED	
		30-Button, Rotary Dial, Desk Telephone	**861/56**	**861/76**
1	182154-***	Faceplate	1	1
2	182153-0**	Housing Assembly	1	1
2	187914-0**	Housing Assembly, Full-Modular	1	1
3	182152-0**	Housing	1	1
3	187923-0**	Housing, Full-Modular	1	1
4	095992-102	Screw, Housing	2	2
5	181100-101	Spring, Latch	1	1
6	181289-101	Screw, Latch Spring	1	1
7	181131-102	Cap, Red	1	1
8	181131-101	Cap, Clear	29	29
9	181281-101	Tab, Designation (Strip Of 12)	3	3
10	181287-101	Collar, Key Strip	3	3
11	181137-101	Key Assembly (9 Lines With Hold)	1	1
11	181137-102	Key Assembly (10 Lines)	1	–
11	181137-103	Key Assembly (10 Lines)	1	1
11	182661-101	Key Assembly (10 Lines)	–	1
12	181122-101	Button	30	30
13	000051-00A	Lamp	29	29
14	095992-102	Screw	6	6
15	181292-101	Strip, Contact (GN Wire)	3	3
16	181292-102	Strip, Contact (RD Wire)	3	3
17	181292-105	Strip, Contact (SL Wire)	1	1
18	181154-101	Cord, Internal	1	1
18	181155-101	Cord, Internal	2	1
18	182662-101	Cord, Internal	–	1
19	181997-101	Slide	1	1
20	181996-102	Jack, Headset	2	2
21	095655-101	Varistor	1	1
22	182144-101	Switch, Headset/Handset	1	1
23	181979-101	Bracket, Headset Jack	1	1
24	077046-102	Set Screw, Knob	1	1
25	084774-103	Knob, Headset/Handset Switch	1	1
26	184356-102	Cord, Mounting (150-Conductor)	1	1

TABLE A

REPLACEMENT PARTS LIST (Cont)

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED	
		30-Button, Rotary Dial, Desk Telephone	**861/56**	**861/76**
27	182146-102	Base Assembly	1	1
28	181991-101	Plate, Base	1	1
29	181993-101	Bracket, Key Right	1	1
30	181989-101	Bracket, Plug	2	2
31	181254-102	Bracket, Dial	2	2
32	181427-101	PC Network (#183070-101)[1]	1	1
33	182175-101	Spacer, Network	1	1
34	096407-103	Screw, Network Mounting	1	1
35	182337-101	Foot	4	4
36	082486-102	Rivet, Foot	4	4
37	181260-101	Cradle Switch Assembly[1]	1	1
38	186212-101	Left Bracket Assembly	1	1
	181992-101	Bracket, Key Left	1	1
	185618-101	Bracket, Trip	1	1
39	181986-101	Terminal Board	1	1
40	182691-101	PC Board (Exclusion)	–	1
41	183105-102	Switch Hook Assembly	1	1
	182900-101	Cradle, Switch Hook	1	1
	181145-101	Screw, Switch Hook Cradle	3	3
	185494-101	Operating Arm Assembly	1	1
	185487-101	Arm, Operating	1	1
	075307-104	Spring, Cradle Return	1	1
	181282-101	Shaft, Pivot	1	1
	073538-110	Ring, Retainer	1	1
42	186213-101	Arm, Latch	1	1
43	181151-102	Spring, Latch Arm	1	1
44	073538-110	Ring, Retainer	2	2
45	181995-101	Pin, Pivot	1	1
46	185486-101	Arm, Trip	1	1
47	185485-101	Spring, Torsion	1	1
48	000148-DBA	Ringer[1]	1	1
49	075415-101	Card, Number	1	1

TABLE A

REPLACEMENT PARTS LIST (Cont)

INDEX NO	PART NUMBER	DESCRIPTION	QUANTITY USED	
		30-Button, Rotary Dial, Desk Telephone	**861/56**	**861/76**
50	003800-00H	Dial Assembly, Metropolitan (Letters And Numerals)[1]	1	1
51	181146-101	Bracket, Dial Adapter	2	2
52 52	0065**-0C2 0065**-0M2	Handset Assembly, Nonmodular[1] Handset Assembly, Modular[1]	1 1	1 1
53	9018**-072	Cord, Handset, Modular	1	1
54 54	181973-101 181971-101	Pushbutton, Operator Recall Pushbutton, Exclusion Release	1 –	– 1
	182794-101	Nameplate, Headset/Handset Switch (Not Shown)	1	1
	600152-611 -001	Jack Assembly, Handset Cord, Modular (Not Shown)	1	1
	182990-105	Insulator Assembly, Modular (Not Shown)	1	1
	187944-101	Nameplate, ITT (Not Shown)	1	1

NOTES:

[1] Refer to Component Parts Section of this manual for Assembly Parts List.
** Substitute 2-digit color code when ordering.
*** Substitute 3-digit color code when ordering faceplate.

CODE	COLOR	CODE	COLOR	CODE	COLOR	CODE	COLOR
101	Charcoal	104	Light Gray	107	Cocoa Brown	110	Clear
102	Light Green	105	Burnt Orange	108	Harvest Gold	111	Woodgrain
103	Muted Beige	106	Light Ash	109	Cherry Red		

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