SHEET INDEX

CONTENTS	SHEET NO.	ISSUE NO. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
SHEET INDEX SHEET INDEX NOTES SUPPORTING INFORMATION	A1	1																			
APPARATUS INDEX LEAD INDEX	A2	1																			
LEAD INDEX (CONT) OPTION INDEX	A3	1																			
FS 1 - TELEPHONE TRANSMISSION CIRCUIT FOR ROTARY DIAL	B1	1																			
FS 2 - TELEPHONE TRANSMISSION CIRCUIT FOR TOUCH-TONE DIAL	B2	1																			
FS 3 - TRANSMISSION CIRCUIT FOR CORD AND KEYS	B3	1																			
FS 4 - 'A' LEAD AND SIGNAL CONTROL	B4	1																			
FS 5 - TRANSMISSION AND 'A' LEAD CIRCUIT FOR CHAINING SWITCH 18-BUTTON SET FS 6 - TRANSMISSION AND 'A' LEAD CIRCUIT FOR CHAINING SWITCH 30-BUTTON SET	B5	1																			
FS 7 - LAMP CIRCUIT FS 8 - RINGER CIRCUIT FS 9 - BUZZER CIRCUIT FS 10 - ROTARY DIAL OFF NORMAL CONTROL	B6	1																			
FS 11 - PB AND S1 LEADS FS 12 - AUXILIARY LAMP CIRCUIT	B7	1																			
FS 13 - SIGNALING KEY CIRCUIT FS 14 - POLARITY GUARD CONNECTIONS	B8	1																			
FS 15 - STATION BUSY LAMP CIRCUIT FS 16 - SUPPLEMENTARY HOLD CIRCUIT	B9	1																			
FS 17 - 2- AND 4- WIRE SPEAKERPHONE CONNECTIONS	B10	1																			
FS 18 - CUT-OFF KEY CIRCUIT	B11	1																			
FS 19 - PUSH-TO-TALK HANDSET	B12	1																			
APP FIG. 1 & 2 AND PART OF APP FIG. 3	C1	1																			
PART OF APP FIG. 3	C2	1																			
APP FIG. 4 AND 5	C3	1																			
APP FIG. 6,7,8,9,10,11,12 AND 13	C4	1																			
CIRCUIT NOTES	D1	1																			
EQUIPMENT NOTES INFORMATION NOTES	D2	1																			
CIRCUIT REQUIREMENTS	F1	1																			

DWG ISSUE	CD ISSUE	DATE ISSUED	DRAWN	APPD
1	1	11/17/72	GDI CHH	G.R.T. G.E.S. A.F.R.

SUPPORTING INFORMATION

CATEGORY	NO.
REQUIREMENTS	A-243118
CONNECTING DIAGRAM	A-243119, A-243155
ASSEMBLY	A-243157, A-243158
BELL SYSTEM PRACTICES	502-000-010 502-601-101 502-603-101 502-610-412 502-612-425

SHEET INDEX NOTES

1. **WHEN CHANGES ARE MADE IN THIS DRAWING, ONLY THOSE SHEETS AFFECTED WILL BE REISSUED.**
2. **THIS SHEET INDEX WILL BE REISSUED AND BROUGHT UP TO DATE EACH TIME ANY SHEET OF THE DRAWING IS REISSUED, OR A NEW SHEET IS ADDED.**
3. **THE ISSUE NUMBER ASSIGNED TO A CHANGED OR NEW SHEET WILL BE THE SAME ISSUE NUMBER AS THAT OF THE SHEET INDEX.**
4. **SHEETS THAT ARE NOT CHANGED WILL RETAIN THEIR EXISTING ISSUE NUMBER.**
5. **THE LAST ISSUE NUMBER OF THE SHEET INDEX IS RECOGNIZED AS THE LATEST ISSUE NUMBER OF THE DRAWING AS A WHOLE.**

ISSUE

1K03

STATION SYSTEMS

KEY TELEPHONE SYSTEM NO. 1A1,1A2 OR 6A

682AA,683AA,2682AA,2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

FOR USE WITH 2- AND 4- WIRE LINES
ARRANGED FOR DIAL PULSE OR TOUCH-TONE (R) CALLING AND "A" LEAD CONTROL

AT&TCO
STANDARD

SD-69641-01-A1
22 SHEETS

BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE 3S

PRINTED IN U.S.A. HANDBOOK DWG

APPARATUS INDEX

DESIG	LOCATION FS	APP FIG.	EQPT
RELAYS			
FW	4B2	1,2	

DESIG	LOCATION FS	APP FIG.	EQPT
ADAPTER			
-	11B2	12	

DESIG	LOCATION FS	APP FIG.	EQPT
AMPLIFIER			
AMPL	1D2 2F2	3	

DESIG	LOCATION FS	APP FIG.	EQPT
BUZZER			
-	6E3 6F3	6	

DESIG	LOCATION FS	APP FIG.	EQPT
CONNECTOR-JACK			
A B	SEE APP FIG.	3	

DESIG	LOCATION FS	APP FIG.	EQPT
CORD			
-	SEE APP FIG.	4, 5	

DESIG	LOCATION FS	APP FIG.	EQPT
DIAL			
ON ON1 ROTARY PLS TOUCH-TONE	SEE APP FIG.	1 2	

DESIG	LOCATION FS	APP FIG.	EQPT
HANDSET			
RCVR	1F3, 2F3, 12B2	3 3 13	
XMTR	1C2, 2E2, 12A2	3 3 13	

DESIG	LOCATION FS	APP FIG.	EQPT
KEY			
FL OTHER	SEE APP FIG.	3 3,8,12	

DESIG	LOCATION FS	APP FIG.	EQPT
LAMP SOCKET			
-	7C2	7	

DESIG	LOCATION FS	APP FIG.	EQPT
NETWORK			
NET.	SEE APP FIG.	3	

DESIG	LOCATION FS	APP FIG.	EQPT
RINGER			
-	6D3	3	

DESIG	LOCATION FS	APP FIG.	EQPT
SWITCH			
LS	SEE APP FIG.	3	

DESIG	LOCATION FS	APP FIG.	EQPT
TERMINAL BOARD			
TB1 TB2	SEE APP FIG.	3	

DESIG	LOCATION FS	APP FIG.	EQPT
VARISTOR			
RV	1E2, 2G2	3	

LEAD INDEX

DESIG	LOCATION FS	CAD
2-WIRE LINE		
A	4A0, 4B1, 4E0	
A1	10C1	
B OR B1	6D0	
L	6A0, 6B0	
LG	6A0, 6B0	
R	3A0, 3D0	
R OR R1	6D0	
T	3A0, 3D0	

DESIG	LOCATION FS	CAD
4-WIRE LINE		
A	4A0 4B1, 4E0	
A1	10C1	
B OR B1	6D0	
FW	4C0, 10C1	
L	6A0, 6B0	
LG	6A0, 6B0	
P3	6G0, 10B1	
P4	6G0	
PT	12A0	
PT1	12B0	
R	3A0, 3D0	
R OR R1	5D0	
RR	1C0, 2D0	
RT	1C0, 2D0	
T	3A0, 3D0	

DESIG	LOCATION FS	CAD
55B CONTROL UNIT		
A1	10E1	
B-B1	10E1	
F1	10E1	
M1	10D1	
M2	10D1	
P1	10E1	
R-R1	10E1	
S	10D1	

DRAWING ISSUE

ISSUE

APPARATUS INDEX
LEAD INDEX

682AA,683AA,2682AA,2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

SD-69641-01-A2

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 3S

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LEAD INDEX (CONT)

DESIG	LOCATION FS	LOCATION CAD
AUXILIARY UNIT		
A1	10D1	
AG	10D1	
IR	10D1	
IT	10B1	
LK	10D1	
P4-ON	10B1	
R1	10A1	
RR	10B1	
RT	10B1	
T1	10A1	

DESIG	LOCATION FS	LOCATION CAD
BUZZER CONTROL CKT		
BZ	6E0, 6F0	
BZ1	6E0, 6F0	

DESIG	LOCATION FS	LOCATION CAD
DETECTOR CIRCUIT		
A	9G0	
L	9F0	

DESIG	LOCATION FS	LOCATION CAD
FLUTTER GENERATOR		
SP	9H0	

DESIG	LOCATION FS	LOCATION CAD
INTERCOM CKT		
PB	7A0	
S1	7A0	

DESIG	LOCATION FS	LOCATION CAD
KEY TELEPHONE SYSTEM POWER SUPPLY		
A1	4C0, 9D0, 9F0	
LG	9F0	
SG	8A4	

DESIG	LOCATION FS	LOCATION CAD
LAMP CONTROL CKT		
L	6A0, 6B0, 6C0	
L1-L12	7E0	
LG	6A0, 6B0, 6C0	

DESIG	LOCATION FS	LOCATION CAD
RINGER CONTROL CKT		
B OR B1	6D0	
R OR R1	6D0	

DESIG	LOCATION FS	LOCATION CAD
SIGNALING CONTROL CKT		
S	4A0, 4B1, 4E0	
S1	4A0, 4B1, 4E0	

DESIG	LOCATION FS	LOCATION CAD
SPEAKERPHONE CIRCUIT FOR 2- & 4- WIRE LINE		
FW	4B0	

DESIG	LOCATION FS	LOCATION CAD
STATION BUSY LAMP CIRCUIT		
BL	9A0	

OPTION INDEX

APP OR WRG	LOCATION FS	LOCATION APP FIG.	LOCATION CAD
1	1,10,10A3,10C3, 12A3	1	
2	2,14,10A3,10B3, 12A3	2	
3	1,2,3,4,5,6,7,8	3	
4	3,4,5,6,7	4	
5	3,4,5,6,7	5	
6	9	6	
7	12	7	
8	13	8	
9	15	9	
10	16	10	
11	17	11	
12	18	12	
13	19	13	
Z	3C2,3E2,4D4,4F4, 5B3,5D2,5E1,5E2		
Y	6E2,6E3		
X	6E2,6E3		
W	6E2,6F2		
V	8D1,8E2,8E3,8F2, 8G2,8G3		
T	8E2,8E3,8F2,8G2		
S	9D2		
R	9A2,9A3,9C5,9D3		
Q	9A2,9A3,9C5,9D3		
N	9A1,9A3,9C5,8D3		
M	9A1,9A3,9A5,9C4, 9D2		
K	9A1,9A3,9A4,9D2		
J	9G3,9G4		
G	9E2,9G3,9G4,9H3		
F	9E2,9F3,9G3,9G4, 9H2		
E	6G1,10A2,10C3, 10D1,10D3		
B	6G1,10A1,10D1, 10D2		
A	6G1		

DRAWING ISSUE

ISSUE

LEAD INDEX (CONT)
OPTION INDEX

682AA,683AA,2682AA,2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

SD-69641-01-A3

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 3S

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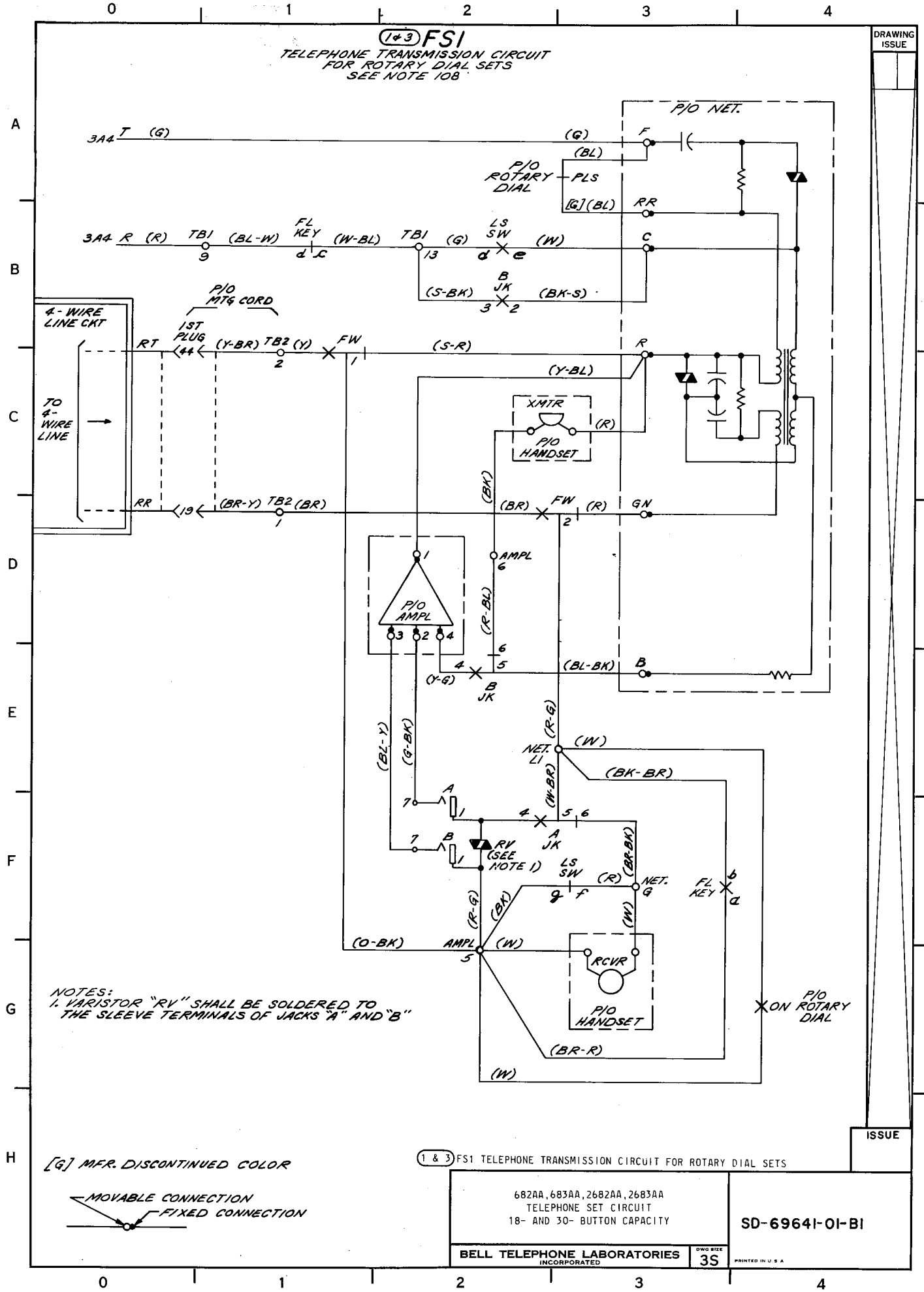
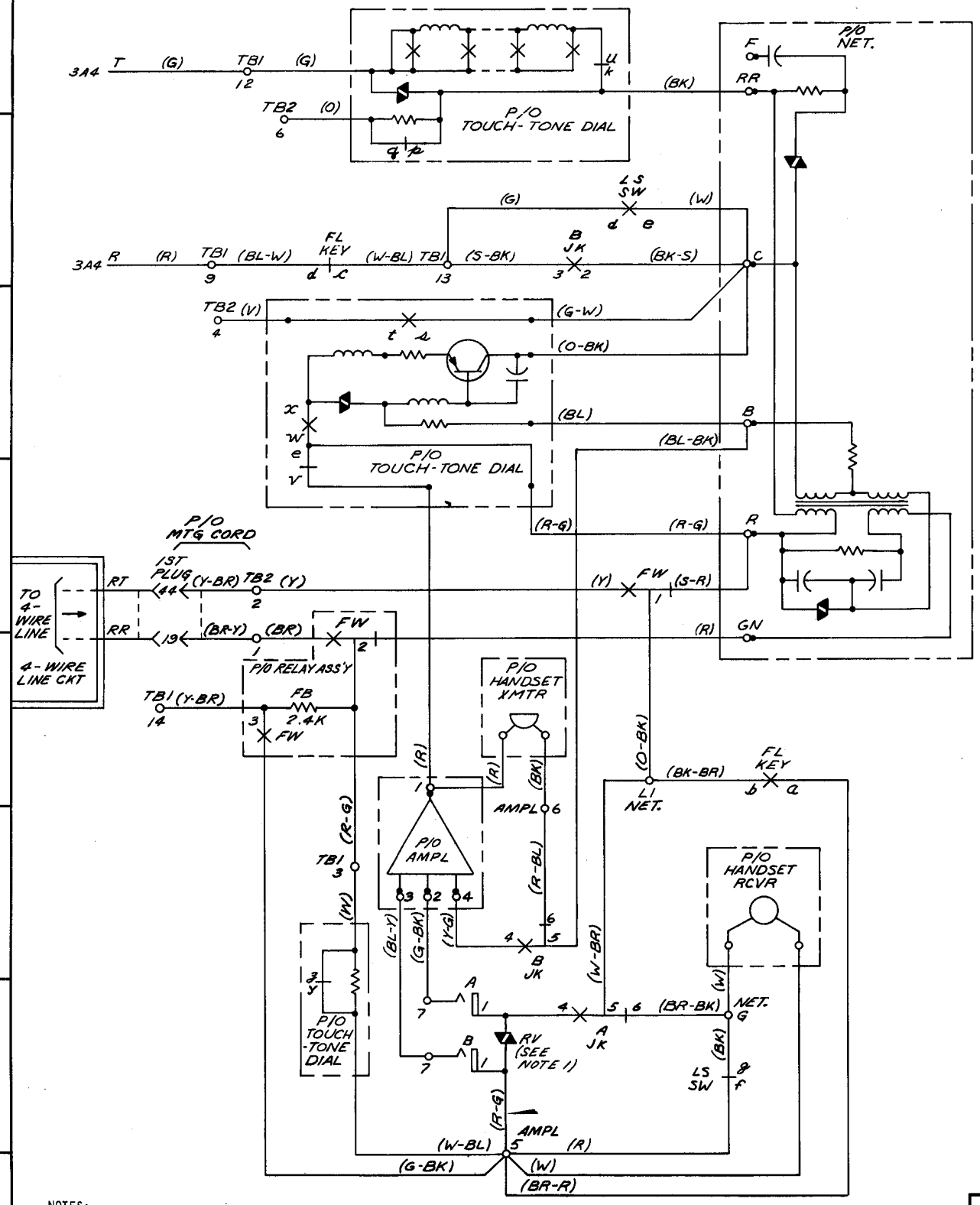

(1&3) FS1
TELEPHONE TRANSMISSION CIRCUIT
FOR ROTARY DIAL SETS
SEE NOTE 1
DRAWING ISSUE
P/O NET.
3A4 T (G)
(G)
F
(BL)
P/O ROTARY DIAL
PLS
[G](BL)
RR
3A4 R (R) TBI 9 (BL-W) FL KEY d c (W-BL) TBI 13 (G) LS SW d e (W)
C
B JK 3 2
(S-BK)
(BK-S)
P/O MTG CORD
4-WIRE LINE CKT
1ST PLUG
RT 44 (Y-BR) TB2 2 (Y) FW 1 (S-R)
R
(Y-BL)
TO 4-WIRE LINE
XMTR
(R)
P/O HANDSET
RR 19 (BR-Y) TB2 1 (BR)
(BK)
(BR) FW 2 (R) GN
AMPL 6
P/O AMPL
1
3 2 4
(R-BL)
6 5
4
(Y-G)
B JK
(BL-BK)
B
(BL-Y)
(G-BK)
(R-G)
NET. LI
(W)
(BK-BR)
(W-BR)
A
7
1
4 5 6
A JK
7
B
1
RV (SEE NOTE 1)
LS SW
(R)
(BR-BK)
NET. G
FL KEY b a
g f
(R-G)
(BK)
(W)
(O-BK)
AMPL 5
(W)
RCVR
P/O HANDSET
(BR-R)
(W)
P/O ON ROTARY DIAL
NOTES:
1. VARISTOR "RV" SHALL BE SOLDERED TO THE SLEEVE TERMINALS OF JACKS "A" AND "B"
[G] MFR. DISCONTINUED COLOR
MOVABLE CONNECTION
FIXED CONNECTION
ISSUE
(1 & 3) FS1 TELEPHONE TRANSMISSION CIRCUIT FOR ROTARY DIAL SETS
682AA, 683AA, 2682AA, 2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY
SD-69641-01-BI
BELL TELEPHONE LABORATORIES INCORPORATED
DWG SIZE 3S
PRINTED IN U.S.A.

(2 & 3) **FS 2**

TELEPHONE TRANSMISSION CIRCUIT
FOR TOUCH-TONE DIAL SETS
SEE NOTE 108



NOTES:
1. VARISTOR "RV" SHALL BE SOLDERED TO THE SLEEVE TERMINALS OF JACKS "A" AND "B".

MOVABLE CONNECTION
FIXED CONNECTION

DRAWING ISSUE

ISSUE

(2 & 3) FS2 TELEPHONE TRANSMISSION CIRCUIT FOR TOUCH-TONE DIAL SETS

682AA, 683AA, 2682AA, 2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

SD-69641-01-B2

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 3S

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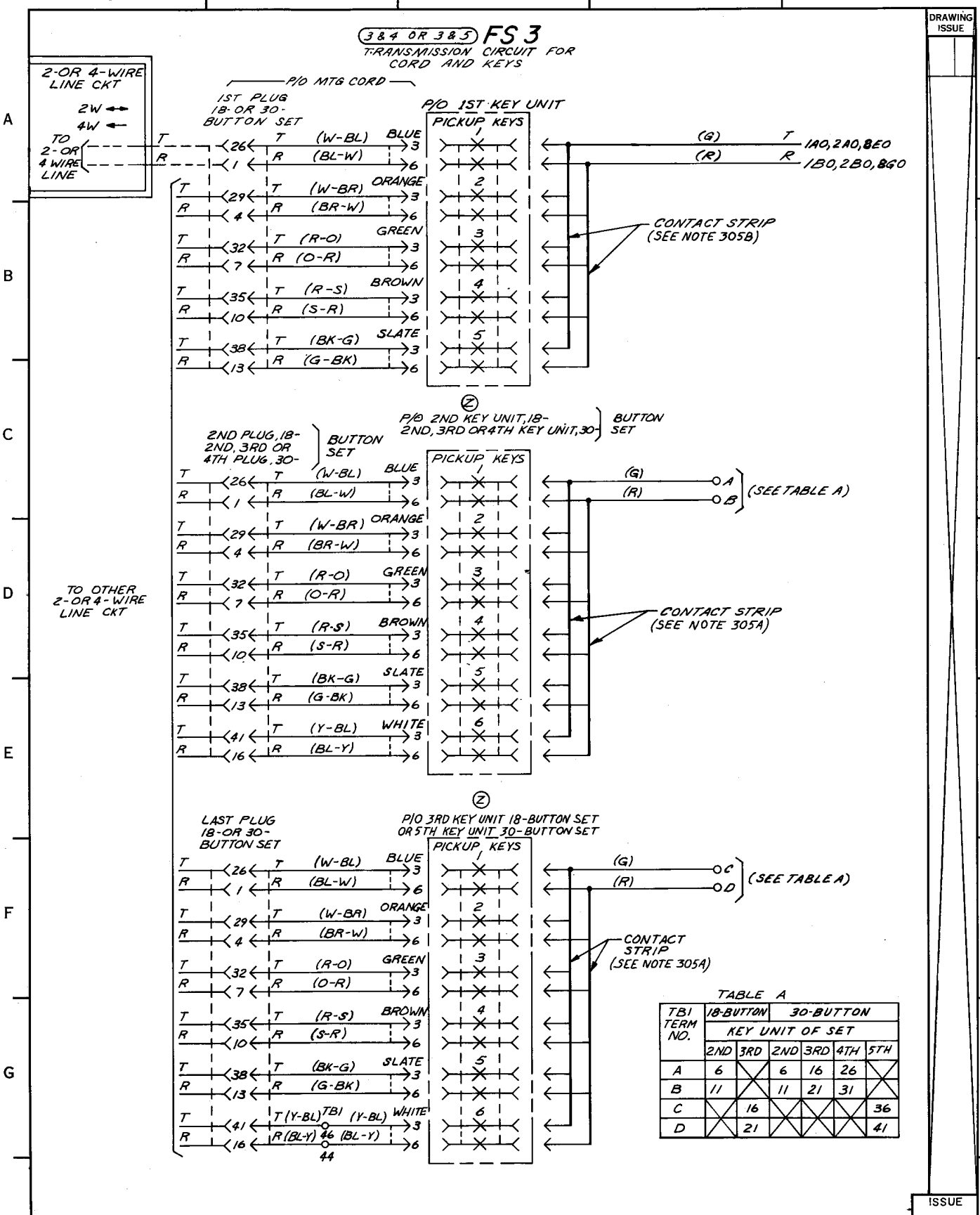

(3 & 4 OR 3 & 5) FS 3 TRANSMISSION CIRCUIT FOR CORD AND KEYS

682AA, 683AA, 2682AA, 2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

SD-69641-01-B3

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 3S

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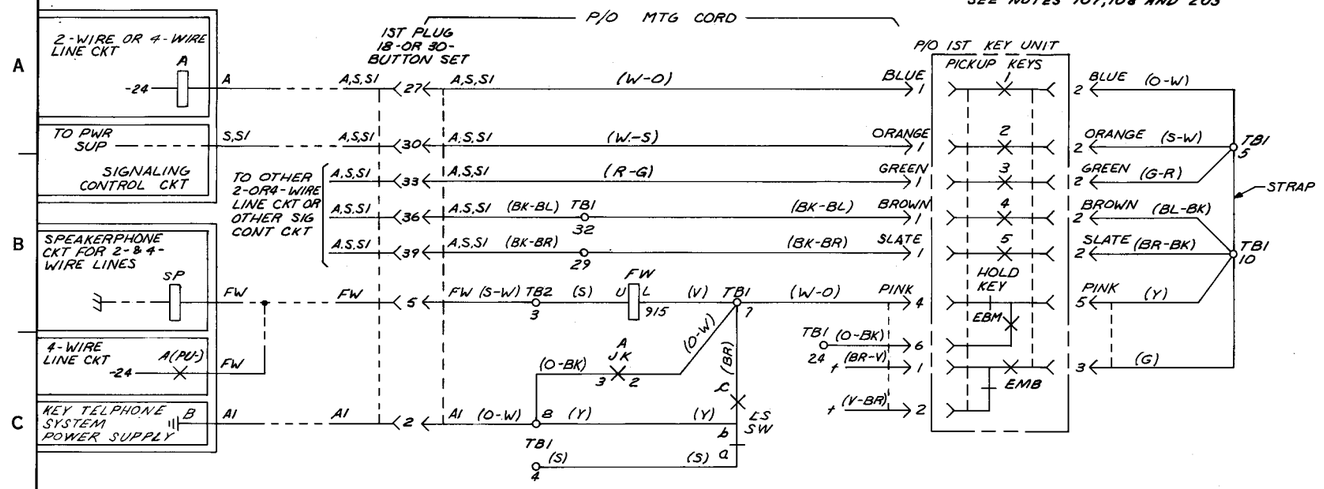
(3&4 OR 3&5) **FS 4**

'A' LEAD AND SIGNALING CONTROL
SEE NOTES 107, 108 AND 203

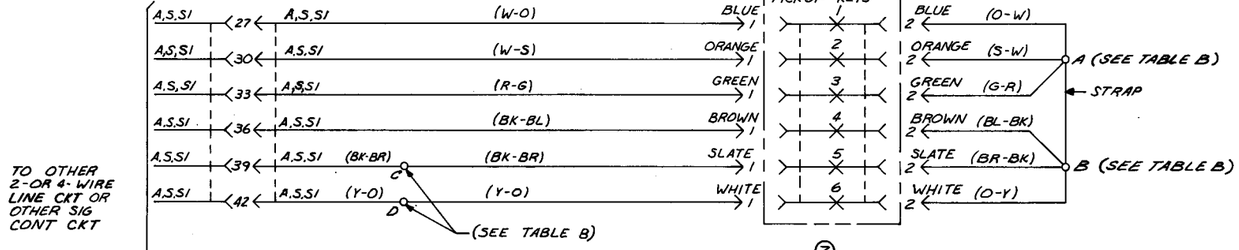


Ⓩ

P/O 2ND KEY UNIT, 18- 2ND, 3RD OR 4TH KEY UNIT, 30- BUTTON SET

2ND PLUG 18- 2ND, 3RD OR 4TH PLUG 30- BUTTON SET

TO OTHER 2-OR 4-WIRE LINE CKT OR OTHER SIG CONT CKT



Ⓩ

P/O 3RD KEY UNIT, 18-BUTTON SET OR 5TH KEY UNIT, 30-BUTTON SET

LAST PLUG 18-OR 30-BUTTON SET

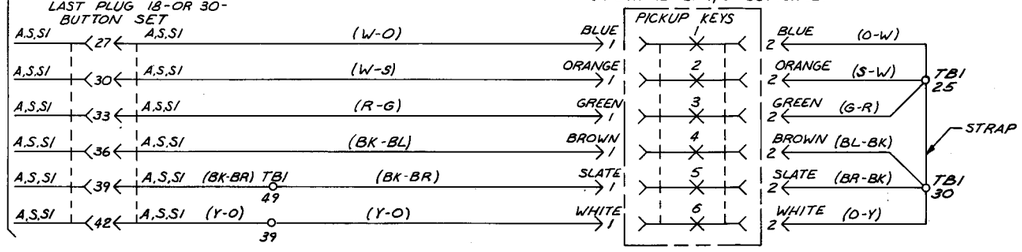


TABLE B

TBI TERM. NO.	18-BUTTON SET	30-BUTTON SET		
	KEY UNIT OF SET			
	2ND	2ND	3RD	4TH
A	15	15	35	45
B	20	20	40	50
C	34	34	53	55
D	33	33	54	56

† SPADE TIP, INSULATE AND STORE

(3 & 4 OR 3 & 5) FS4 'A' LEAD AND SIGNALING CONTROL

ISSUE

682AA, 683AA, 2682AA, 2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

SD-69641-01-B4

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

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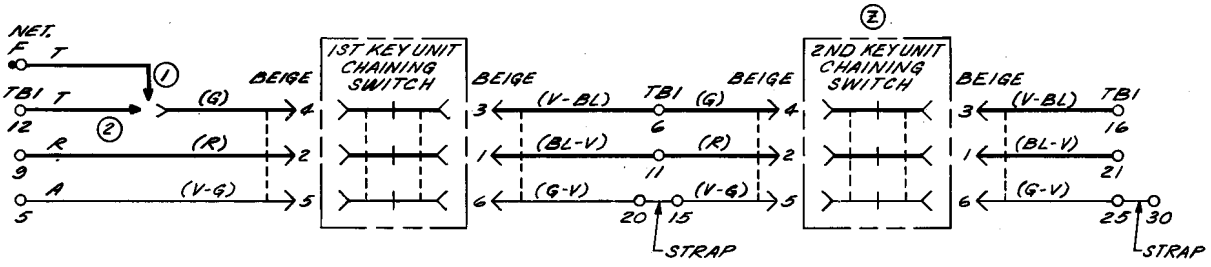
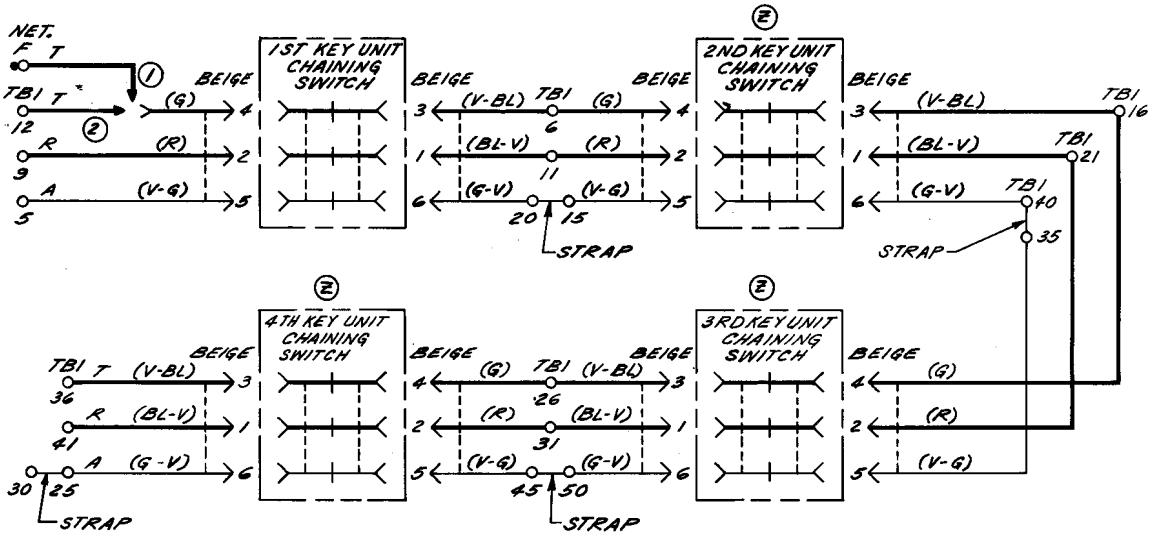
(3 & 4) FS5
TRANSMISSION AND "A" LEAD CIRCUIT
FOR CHAINING SWITCH
18- BUTTON SET



(3 & 5) FS6
TRANSMISSION AND "A" LEAD CIRCUIT
FOR CHAINING SWITCH
30- BUTTON SET



FIXED CONNECTION

MOVABLE CONNECTION

(3 & 5) FS 6 TRANSMISSION AND "A" LEAD CIRCUIT FOR CHAINING SWITCH 30-BUTTON SET

(3 & 4) FS 5 TRANSMISSION AND "A" LEAD CIRCUIT FOR CHAINING SWITCH 18-BUTTON SET

DRAWING ISSUE

ISSUE

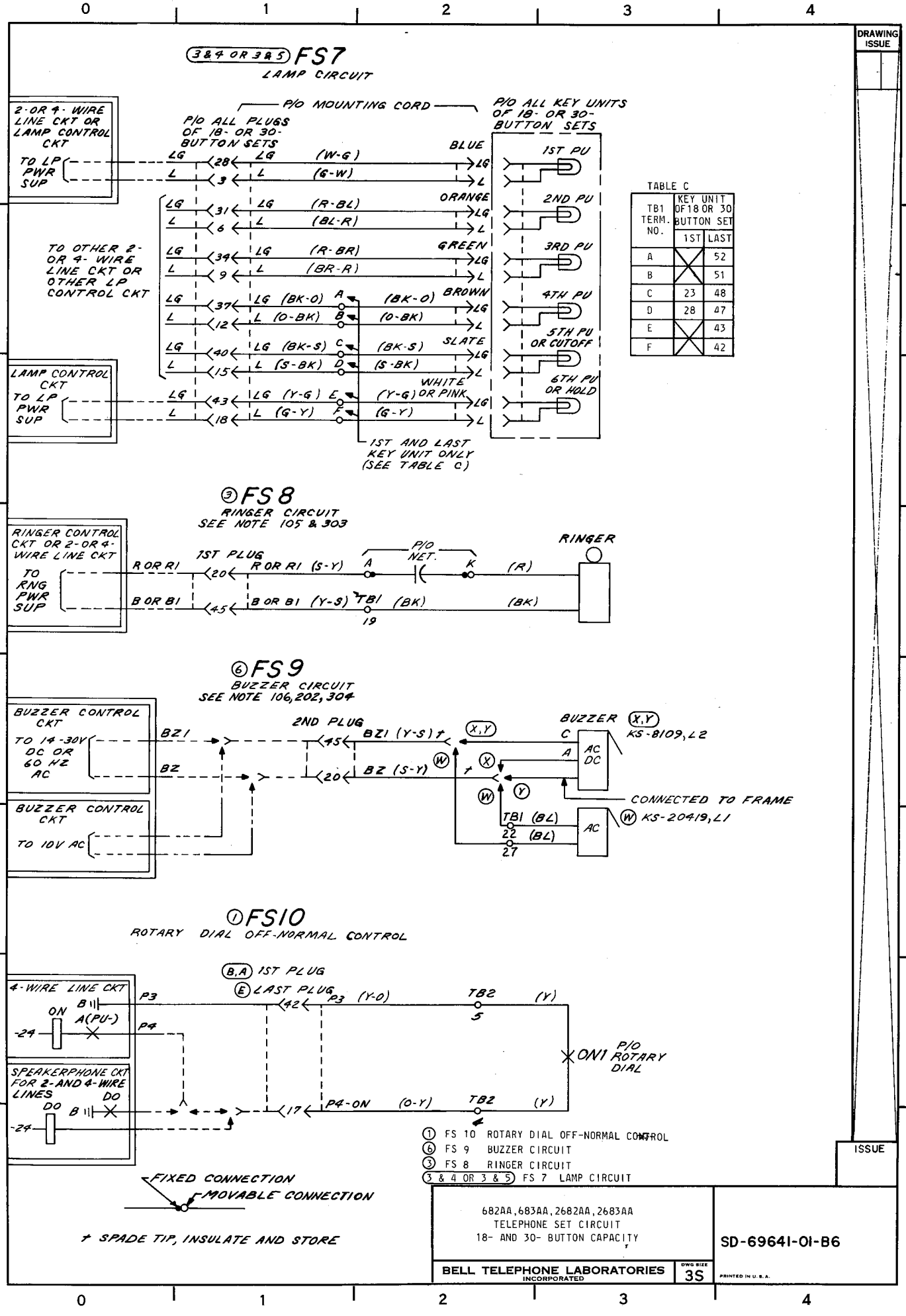
682AA, 683AA, 2682AA, 2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

SD-69641-01-B5

BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE 3S

PRINTED IN U.S.A.



682AA, 683AA, 2682AA, 2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

SD-69641-01-B6

BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE 3S

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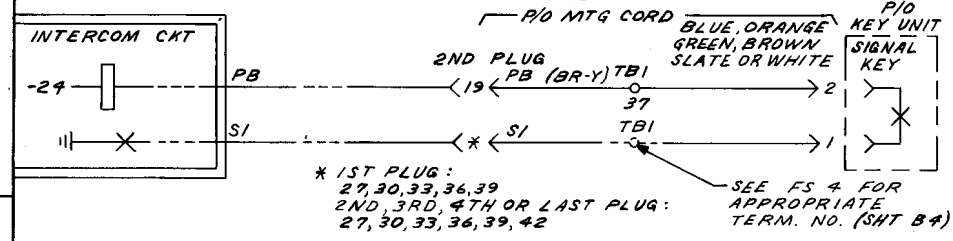
DRAWING ISSUE

FS11

PB AND S1 LEADS
SEE NOTE 1

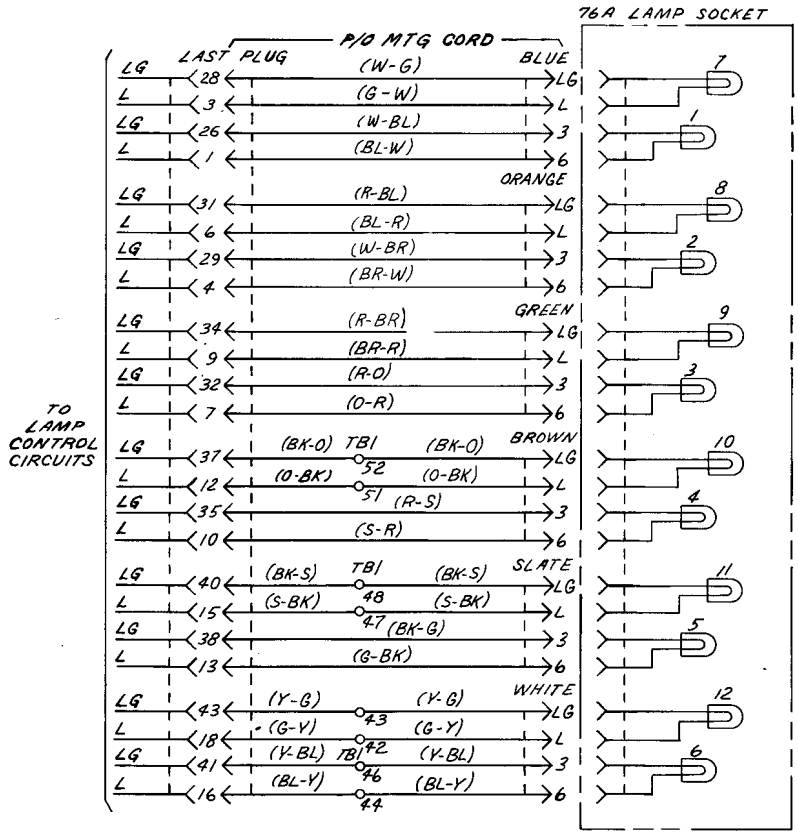


NOTES:

1. WHEN SET IS CONNECTED TO AN INTERCOM PROVIDING ADD-ON CONFERENCE FEATURE THE PB AND S1 LEADS BOTH ORIGINATE IN THE INTERCOM CIRCUIT AND SHALL BE CONNECTED IN THE SET AS SHOWN. THE SIG KEY WHICH ACTIVATES THE ADD-ON FEATURE MAY BE ANY KEY NOT BEING USED FOR OTHER FEATURES OR OPTIONS.

⑦ FS12

AUXILIARY LAMP CIRCUIT
SEE NOTE 2



NOTES:

2. THE 76A LAMP SOCKET MAY BE INSTALLED IN PLACE OF A PICKUP KEY UNIT. IT MUST BE LOCATED IN A KEY POSITION TO THE RIGHT OF THE LAST POSITION EQUIPPED WITH A PICKUP KEY UNIT AND TO THE LEFT OF THE INTERNAL SPEAKERPHONE TRANSMITTER IF THE SET IS SO EQUIPPED. WHEN THE LAMP SOCKET IS INSTALLED IN OTHER THAN THE LAST POSITION, LEAD AND TERMINAL INFORMATION, IF REQUIRED, MAY BE OBTAINED FROM FS 3 AND FS 7.

ISSUE

⑦ FS 12 AUXILIARY LAMP CIRCUIT
FS 11 PB AND S1 LEADS

682AA, 683AA, 2682AA, 2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

SD-69641-01-B7

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 3S

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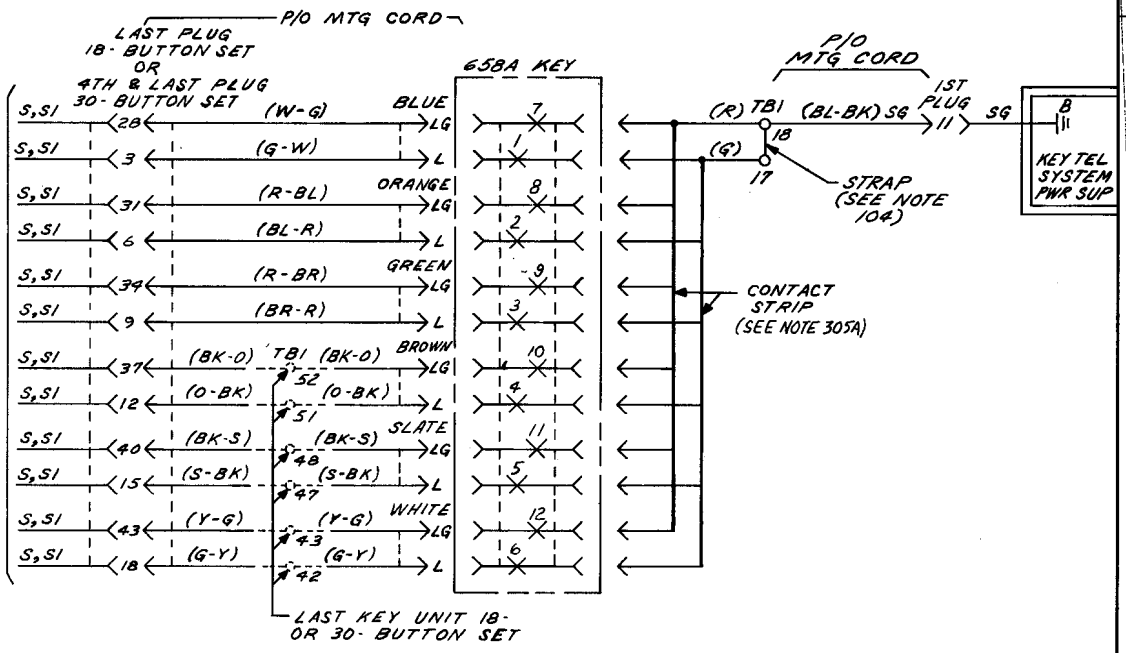
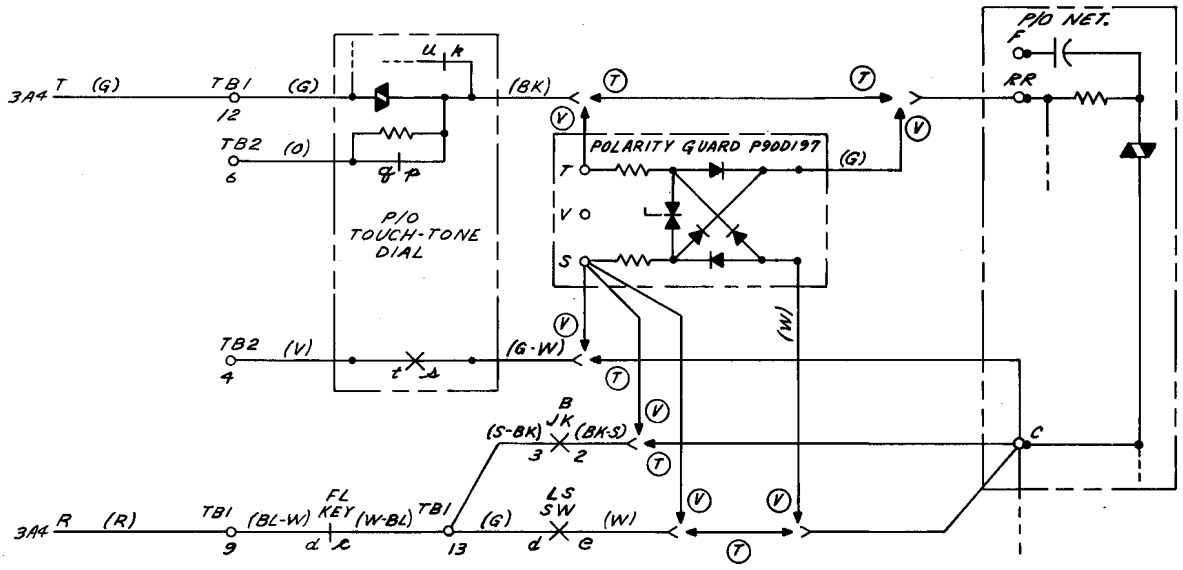
⑧ FS13
SIGNALING KEY CIRCUIT
SEE NOTE 104



② FS14
Ⓥ POLARITY GUARD CONNECTIONS



② FS 14 POLARITY GUARD CONNECTIONS
⑧ FS 13 SIGNALING KEY CIRCUIT

MOVABLE CONN — FIXED CONN

682AA, 683AA, 2682AA, 2683AA TELEPHONE SET CIRCUIT 18- AND 30- BUTTON CAPACITY	SD-69641-01-B8
BELL TELEPHONE LABORATORIES INCORPORATED	DWG SIZE 3S

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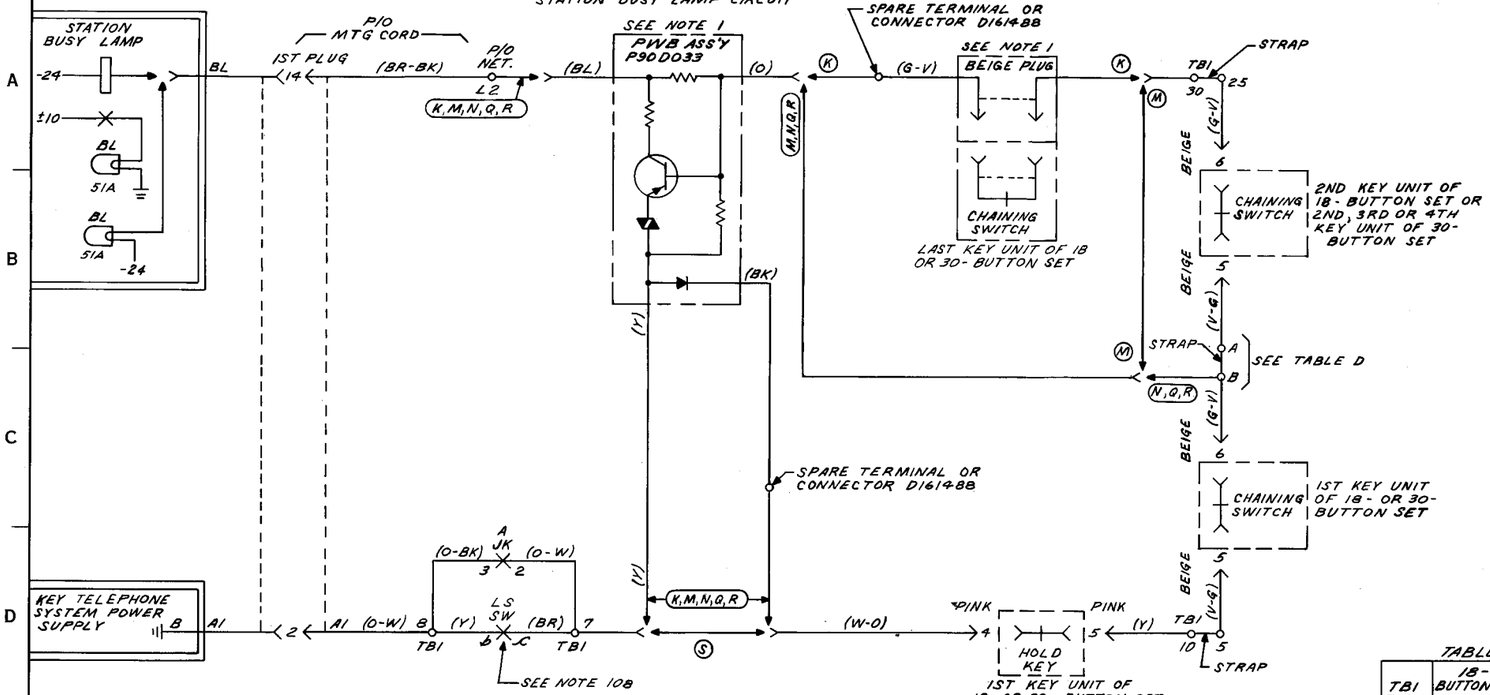
DRAWING ISSUE

ISSUE

⑨ FS15
STATION BUSY LAMP CIRCUIT



NOTES:

1. (a) THE KIT OF PARTS (D180463) CONSISTS OF PRINTED WIRING BOARD (P90D033) AND A LIGHT BEIGE PLUG (509A) HAVING A G-V LEAD CONNECTED TO PIN 6 AND A V-G LEAD CONNECTED TO PIN 5.

   (b) WHEN STATION BUSY LAMP IS REQUIRED AND ALL POSITIONS ARE EQUIPPED WITH PICKUP KEYS USE THE KIT OF PARTS (D180463) AND CONNECT AS SHOWN IN FS 15, OPTION K.

   (c) WHEN ALL POSITIONS ARE NOT EQUIPPED WITH PICKUP KEYS USE THE PRINTED WIRING BOARD (P90D033) ONLY. CONNECT THE ORANGE LEAD TO THE APPROPRIATE TERMINAL (B) OR (30) WHERE THE G-V LEAD OF THE LAST EQUIPPED KEY CHAINING SWITCH TERMINATES, FS 15, OPTION M, N, Q OR R.

2. (a) PRIORITY HOLD IS PROVIDED BY THE ADDITION OF A HOLD KEY IN THE SECOND MODULE OF THE SET. THE D180411 KIT OF PARTS CONSISTS OF A 635A5C KEY, A PINK 508A PLUG AND TWO CONTACT STRIPS.

   (b) ASSEMBLE THE KIT OF PARTS BY CONNECTING THE CONTACT STRIPS TO THE FIVE PICKUP POSITIONS AND THE PINK PLUG TO THE HOLD POSITION OF THE 635A5C KEY.

   (c) DISCONNECT ALL OF THE COLORED PLUGS AND THE CONTACT STRIPS FROM THE SECOND KEY UNIT AND REPLACE IT WITH THE ASSEMBLED KIT OF PARTS. DISCONNECT THE CONTACT STRIP LEADS FROM THEIR SCREW TERMINALS.

   (d) CONNECT ALL OF THE COLORED PLUGS EXCEPT THE WHITE TO THE 635A5C KEY. INSULATE AND STORE THE WHITE PLUG. CONNECT THE CONTACT STRIP LEADS TO THEIR SCREW TERMINALS.

   (e) CONNECT THE LEADS FROM THE PINK PLUG AND REARRANGE THE WIRING AS SHOWN IN FS 16, OPTION G.

3. 'I' HOLD IS IMPLEMENTED BY CONNECTING THE INSULATED AND STORED G-R LEAD OF THE FIRST PLUG TO TB1 TERMINAL 24 AS SHOWN IN FS 16 OPTION F.

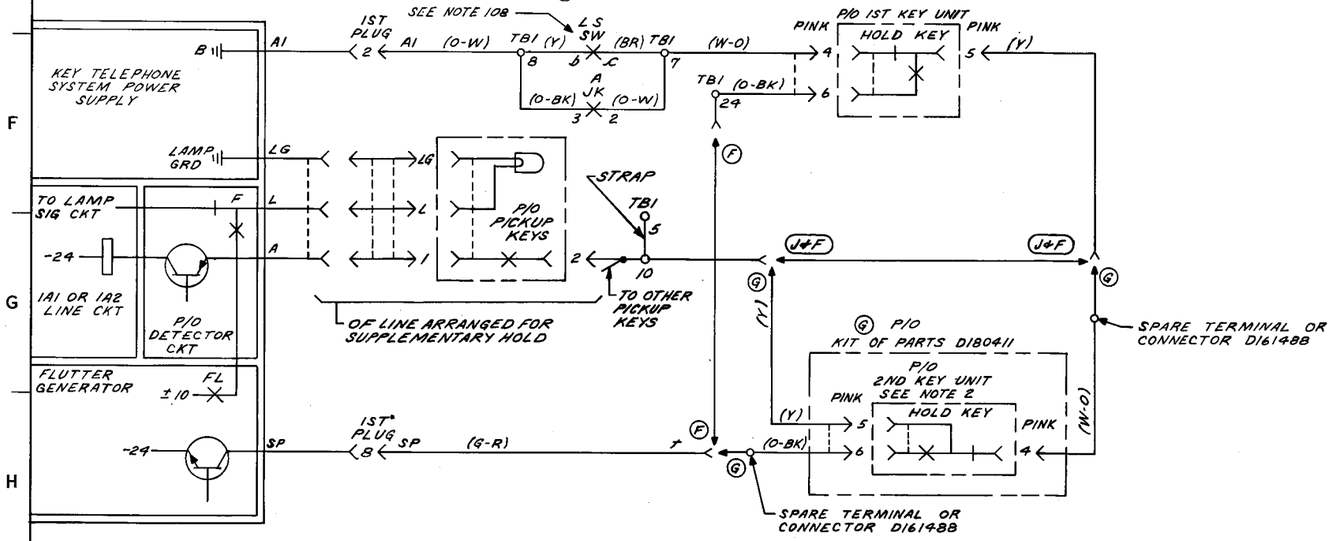
TABLE D

TBI TERM. NO.	18-BUTTON SET	30-BUTTON SET		
	KEY UNIT OF SET			
	2ND	2ND	3RD	4TH
A	15	15	35	45
B	20	20	40	50
OPTION	R	R	Q	N

FS16
SUPPLEMENTARY HOLD CIRCUIT

⑩ (G) PRIORITY HOLD (SEE NOTE 2)

(F) "I" HOLD (SEE NOTE 3)



* SPADE TIP, INSULATE AND STORE

⑩ FS 16 SUPPLEMENTARY HOLD CIRCUIT
⑨ FS 15 STATION BUSY LAMP CIRCUIT

ISSUE

682AA, 683AA, 2682AA, 2683AA TELEPHONE SET CIRCUIT 18- AND 30- BUTTON CAPACITY

SD-69641-01-B9

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

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(11) FS17
2- AND 4- WIRE SPEAKERPHONE CONNECTIONS SEE TABLES E & F

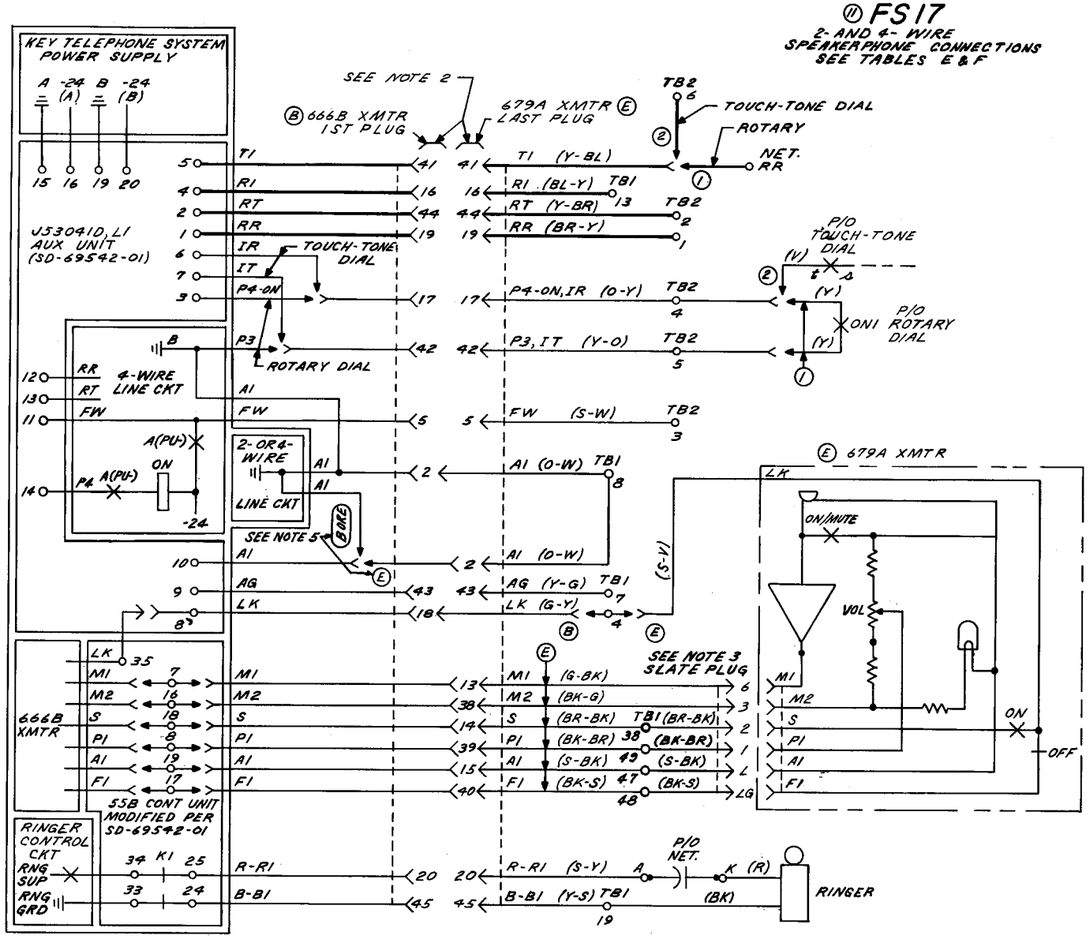

TABLE E
SEE NOTES 2 AND 4
CONNECTIONS FOR 666B TRANSMITTER (B)

LEAD DESIG	COLOR	1ST PLUG PIN NO.	MOVE FROM	MOVE TO		REMARKS
				ROTARY	T-T	
T1	Y-BL	41	TB1 2	NET RR	TB2 6	
R1	BL-Y	16	TB1 1	TB1 13	TB1 13	
P3/IT	Y-O	42	SEE NOTE 4	TB2 5	TB2 5	
P4-ON/IR	O-Y	17		TB2 4	TB2 4	
AG	Y-G	43	TB1 22	TB1 7	TB1 7	
LK	G-Y	18	TB1 27	TB1 4	TB1 4	

TABLE F
SEE NOTES 1, 2 AND 3
CONNECTIONS FOR 679A TRANSMITTER (E)

LEAD DESIG	COLOR	LAST PLUG PIN NO.	MOVE FROM	MOVE TO		REMARKS
				ROTARY	T-T	
T1	Y-BL	41	TB1 46	NET RR	TB2 6	
R1	BL-Y	16	TB1 44	TB1 13	TB1 13	
P3/IT	Y-O	42	TB1 39	TB2 5	TB2 5	
P4-ON/IR	O-Y	17	*	TB2 4	TB2 4	
AG	Y-G	43	TB1 43	TB1 7	TB1 7	
RT	Y-BR	44	*	TB2 2	TB2 2	SEE NOTE 1
RR	BR-Y	19	*	TB2 1	TB2 1	
B-B1	Y-S	45	*	TB1 19	TB1 19	
R-R1	S-Y	20	*	NET A	NET A	
FW	S-W	5	*	TB2 3	TB2 3	
A1(SYS)	O-W	2	*	TB1 8	TB1 8	
M1	G-BK	13				SEE NOTE 3
M2	BK-G	38				
S	BR-BK	14	*	TB1 38	TB1 38	
	BR-BK	PIN 2 OF SLATE PLUG	TB1 30	TB1 38	TB1 38	
P1	BK-BR	39				
A1	S-BK	15				
F1	BK-S	40				
LK	S-V	-		TB1 4	TB1 4	

NOTES:

1. WHEN CONNECTING INDICATED LEADS OF THE LAST PLUG OF 18- OR 30- BUTTON SET, DISCONNECT THE CORRESPONDING LEADS OF THE FIRST PLUG, INSULATE AND STORE.

2. WHEN USING TRANSMITTER 666B, OPTION B AND TABLE E, LEADS FROM THE FIRST PLUG OF 18- OR 30- BUTTON SET ARE CONNECTED. WHEN USING TRANSMITTER 679A, OPTION E AND TABLE F, LEADS FROM THE LAST PLUG OF 18- OR 30- BUTTON SET ARE CONNECTED.

3. WHEN USING TRANSMITTER 679A, REMOVE SLATE PLUG FROM LAST KEY UNIT OR APPARATUS BLANK AND CONNECT IT TO THE TRANSMITTER. REMOVE ALL OTHER PLUGS FROM THE LAST KEY UNIT, INSULATE AND STORE. CONNECT THE SPADE TIPPED S-V LEAD TO TB1, TERMINAL 4.

4. FOR ROTARY DIAL SETS THE Y-O AND O-Y LEADS OF 1ST PLUG SHALL BE SHOP WIRED TO TB2 TERMINALS 5 AND 4, RESPECTIVELY. FOR TOUCH-TONE DIAL SETS THE Y-O AND O-Y LEADS OF 1ST PLUG SHALL BE SPADE TIPPED, INSULATED AND STORED. THEY SHALL BE CONNECTED TO TB2 TERMINALS 5 AND 4,RESPECTIVELY,ONLY WHEN SPEAKERPHONE WITH THE EXTERNAL TRANSMITTER. OPTION B, IS PROVIDED.

5. A. WHEN EXTERNAL TRANSMITTER (666B), OPTION B, IS REQUIRED, CONNECT LEAD A1 FROM 2- OR 4- WIRE LINE CIRCUIT TO TERMINAL 10, AUXILIARY UNIT (J53041D,L1).

   B. WHEN INTERNAL TRANSMITTER (679A), OPTION E, IS REQUIRED, CONNECT LEAD A1 (O-W) EITHER FROM TB1, TERMINAL 8 THRU LAST PLUG, PIN 2, TO TERMINAL 10, AUXILIARY UNIT (J53041D,L1) OR AS DESCRIBED IN PARAGRAPH 5A, ABOVE. SEE CD PARAGRAPH 6.05.

MOVABLE CONNECTION
FIXED CONNECTION

* SPADE TIP, INSULATE AND STORE.

DRAWING ISSUE

ISSUE

(11) FS 17- 2- AND 4- WIRE SPEAKERPHONE CONNECTIONS

682AA,683AA,2682AA,2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

SD-69641-01-BIO

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

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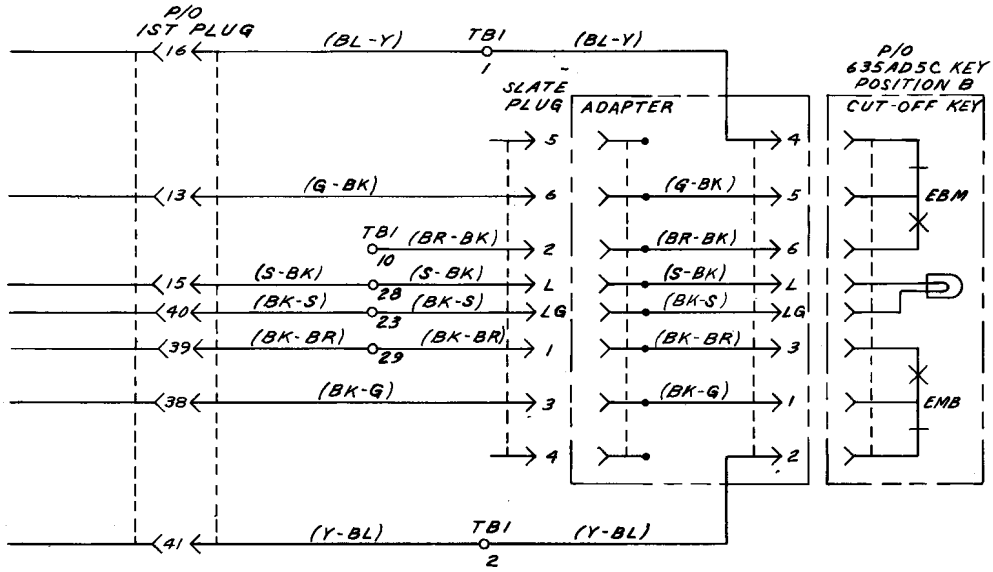
⑫FS18
CUT-OFF KEY CIRCUIT
SEE NOTE 305C



NOTES:

1. (a) WHEN A CUTOFF KEY IS REQUIRED THE FIRST MODULE CAN BE EQUIPPED WITH A 635AD5C KEY ARRANGED FOR A PUSH-TO-LOCK, PUSH-TO-RELEASE KEY IN PLACE OF THE FIFTH PICKUP KEY AND ADJACENT TO THE HOLD KEY. THE "PUSH-PUSH" KEY IS EQUIPPED WITH TWO SETS OF TRANSFER CONTACTS. AN ADAPTER IS PROVIDED WITH THE 635AD5C KEY TO PROVIDE THE WIRING TRANSITION BETWEEN THE SLATE PLUG OF THE MOUNTING CORD AND THE TRANSFER CONTACTS OF THE PUSH-PUSH KEY. NEW CONTACT STRIPS FOR THE COMMON TIP AND RING CONNECTIONS MUST BE ORDERED SEPARATELY TO REPLACE THOSE ON THE 635A5C KEY. SEE THE APPROPRIATE APPARATUS FIGURE ON THE DRAWING FOR ORDERING INFORMATION.

   (b) IT WILL BE NECESSARY TO DISCONNECT ANY LINE CIRCUITS AND ALL MULTIPLES FROM THE CONDUCTORS THAT ARE BEING ASSOCIATED WITH THE CUTOFF KEY TO PREVENT INTERFERENCE WITH OTHER CIRCUITS.

   (c) TO INSTALL THE CUTOFF KEY, REMOVE THE COLORED PLUGS AND CONTACT STRIPS FROM THE 635A5C KEY AND DISCONNECT THE CONTACT STRIP LEADS FROM THEIR TERMINALS ON THE TERMINAL BOARD. INSTALL THE NEW CONTACT STRIPS, THE ADAPTER AND THE COLORED PLUGS ON THE 635AD5C KEY. CONNECT THE COMMON TIP AND RING LEADS OF THE CONTACT STRIPS TO THEIR TERMINALS ON THE TERMINAL BOARD. THE BL-Y AND Y-BL LEADS OF THE ADAPTER AND THE BK-BR, S-BK AND BK-S LEADS OF THE SLATE PLUG MAY BE CONNECTED AS REQUIRED. SEE THE APPROPRIATE BELL SYSTEM PRACTICE FOR DETAILED CONNECTION INFORMATION. THE BR-BK LEAD OF THE SLATE PLUG SHALL BE DISCONNECTED FROM TB1, TERMINAL 10 IN ALL CASES. IT MAY BE CONNECTED AS REQUIRED OR INSULATED AND STORED.

DRAWING ISSUE

ISSUE

⑫ FS 18, CUT-OFF KEY CIRCUIT

682AA, 683AA, 2682AA, 2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

SD-69641-01-BII

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 3S

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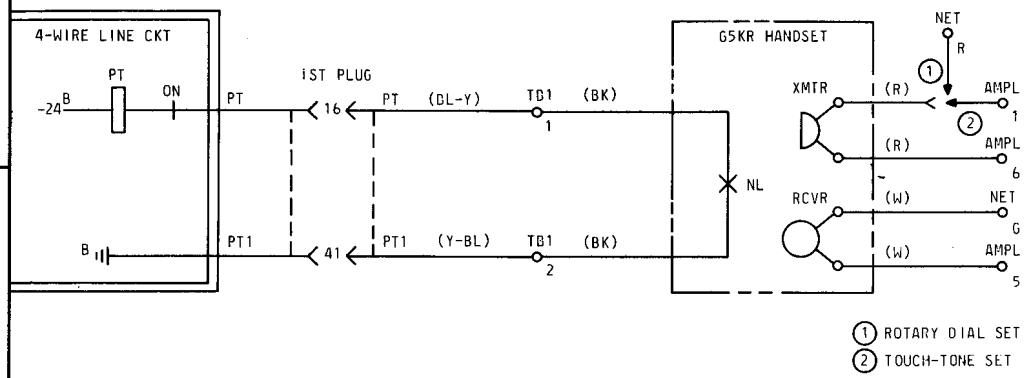
FS 19

(13) PUSH-TO-TALK HANDSET



DRAWING ISSUE

ISSUE

(13) FS19 PUSH-TO-TALK HANDSET

682AA, 683AA, 2682AA, 2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

SD-69641-01-BI2

BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE 3S

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APP FIG. 1

RELAY*

DESIG	FW	
CODE	P-269693	
OPTION		
	CONT ARR	LOC
4	EMB	-
3	EBM	-
2	EBM	1D3
1	EBM	1B1
COIL		4B2

* RELAY NON-ADJUSTABLE, REPLACE WHEN THERE IS A MALFUNCTION.

DIAL

DESIG	CODE	LOC
	8C	
ON1		(Y) 6G3, 10B4
		(Y) 6G3, 10B4
ON		(W) 1G4
		(W) 1G4
PLS		(BL) 1A3
		[G](BL) 1A3

[G] COLOR MFR DISC.

APP FIG. 2

RELAY *

DESIG	FW	
CODE	840154645	
OPTION		
	CONT ARR	LOC
4	EMB	-
3	EBM	2E1
2	EBM	2D1
1	EBM	2D3
COIL		4B2

* RELAY NON-ADJUSTABLE, REPLACE WHEN THERE IS A MALFUNCTION.

DIAL

DESIG	CODE	LOC
-	35C3A	

LEAD COLOR	LOC
BK	2A3, 8E2
BL	2C2
G	2A1, 8E1
G-W	2C2, 8F2
O	2A1, 8E1
O-BK	2C2
R	2D2
RG	2D2
V	2C1, 8F1, 10B3
W	2F1
W-BL	2G1

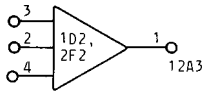
(V) POLARITY GUARD

DESIG	LOC	CODE
-	8E2	P-90D197

PART OF APP FIG. 3

AMPLIFIER

DESIG	CODE	LOC
AMPL	241B	



5 O 1G2, 2F2, 12B3

6 O 1D2, 2G2, 12A3

CONNECTOR - JACK

517A	A	B
	1F2, 2G2	1F2, 2G2
	1F3, 2G2	1E2, 2F2
	4C2, 9D1, 9F2	1B2, 2B2, 8E2

CONNECTOR - PLUG

CODE

* P-269720 PLUG ASSEMBLY (LIGHT BEIGE) FOR CHAINING SWITCH
[2] MAXIMUM REQUIRED 18-BUTTON SET
[4] MAXIMUM REQUIRED 30-BUTTON SET

PIN NO.	WIRE COLOR	LOCATION					
		18-BUTTON SET		30-BUTTON SET			
		KEY UNIT OF SET					
		1ST	2ND	1ST	2ND	3RD	4TH
1	BL-V	5B2	5B3	5D1	5D3	5E2	5E1
2	R	5B1	5B3	5D1	5D2	5E3	5E1
3	V-BL	5B2	5B3	5D1	5D3	5E2	5E1
4	G	5B1	5B3	5D1	5D2	5E3	5E1
5	V-G	5B1	5B3	5D1	5D2	5F3	5F1
6	G-V	5B2	5B3	5D1	5D3	5F2	5F1

* LIGHT BEIGE PLUG ASSEMBLY NOT REQUIRED FOR LAST KEY UNIT, EXCEPT FOR STATION BUSY LAMP CIRCUIT. WHEN LESS THAN FULL COMPLEMENT OF KEY UNITS ARE REQUIRED THE LAST KEY UNIT USED DOES NOT REQUIRE A LIGHT BEIGE PLUG ASSEMBLY.

CODE

840151161 PLUG ASSEMBLY (PINK) FOR HOLD KEY

1ST KEY UNIT OF 18- OR 30- BUTTON SET		
PIN NO.	WIRE COLOR	LOC
1	BR-V	4C3
2	V-BR	4C3
3	G	4C4
4	W-O	4B3
5	Y	4B4
6	O-BK	4C3
L	G-Y	6C2
LG	Y-G	6C2

CONTACT STRIP (SEE NOTE 305)

DESIG	LOC	CODE
-	3B3	840151120(R), 840151138(G)
(Z) -	3D3, 3F3	P-21F800(G), P-21F801(R)

DRAWING ISSUE

ISSUE

APP FIG. 1,2 AND PART OF APP FIG. 3

682AA, 683AA, 2682AA, 2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

SD-69641-01-CI

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 3S

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PART OF APP FIG. 3

DRAWING ISSUE

HANDSET

DESIG	LOC	CODE
RCVR	1G3,2F3	G3A4
XMTR	1C2,2E2	

KEY

DESIG	CODE	
FL	-	
	d (BL-W)	1B1,2B1,8G1
	c (W-BL)	
	a (BR-R)	1F3,2E3
	b (BK-BR)	

DESIG	LOC	CODE
-	3A2,4A4 5B1,5D1, 6A2	635A5C
(Z) -	3C2,3E2, 4D4,4F4, 5B3,5D2, 5E1,5E2, 6A2	635G5C

NETWORK

DESIG	LOC	CODE
NET.		4010B

TERM. NO.	LOC
A	6D2,10E3
B	1E3,2C3
C	1B3,2B3,8F3
F	1A3,2A3,5B0, 5D0,8E3
G	1F3,2G3, 12B3
GN	1D3,2D3
K	6D3,10E3
L1	1E2,2E3
L2	9A1
R	1B3,2D3,12A3
RR	1B3,2A3 8E3,10A3

RINGER

DESIG	LOC	CODE
-	6D3	T1A

SWITCH

DESIG	CODE	
LS	-	
	a (S)	4C3
	b (Y)	
	c (BR)	4C3,9D2,9E2
	d (G)	
	e (W)	1B2,2B3,8G2
	f (R)	
	g (BK)	1F3,2G3

TERMINAL BOARD

CODE -

DESIG	TB1		
TERM. NO.	LOCATION	TERM. NO.	LOCATION
1	11B2,12A2	29	4B2,7A2,11C2
2	11D2,12B2	30	4G5,5B4,5F0,9A5
3	2E1	31	3C3,3F3,5E2
4	4C2,10D2	32	4B2,7A2
5	4A5,5B0,5E0,9D5,9F2	33	4E2,7A2
6	3C3,5B2,5D2	34	4E2,7A2
7	4B3,9D2,9E2,10D2	35	4D5,5E4,9C5
8	4C2,9D1,9E2,10C2	36	3F3,5E0
9	1B1,2B1,5B0,5D0,8G1	37	7A2
10	4B5,9D5,9G2,11B2	38	10D3
11	3C3,5B2,5D2	39	4G2,7A2
12	2A1,5B0,5D0,8E1	40	4E5,4G5,5D4,9C5
13	1B2,2B2,8G1,10B3	41	3F3,5F0
14	2E0	42	6C1,7F1,8C1
15	4D5,5B0,5D2,9C5	43	6C1,7F1,8C1
16	3C3,3F3,5B4,5D4	44	3G1,7F1
17	8A3	45	4D5,5F2,9C5
18	8A3	46	3G1,7F1
19	6D2,10E2	47	6C1,7F1,8C1,10E3
20	4E5,5B2,5D2,9C5	48	6B1,7F1,8C1,10E3
21	3C3,3F3,5B4,5D4	49	4G2,7A2,10E3
22	6C1	50	4E5,5F2,9C5
23	6B1,11C2	51	6B1,7E1,8B1
24	4B3,9F2	52	6B1,7E1,8B1
25	4F5,5B0,5F0,9A5	53	4E2,7A2
26	3C3,3F3,5E2	54	4E2,7A2
27	6C1	55	4E2,7A2
28	6C1,11C2	56	4E2,7A2

CODE -

DESIG	TB2
TERM. NO.	LOCATION
1	1C1,2E1,10B3
2	1C1,2D1,10B3
3	4B2,10C3
4	2C1,6G2,7F1,10B3
5	6H2,10B3
6	2A1,8E1,10A3

VARISTOR

DESIG	LOC	CODE
RV	1F2,2G2	104A

ISSUE

PART OF APP FIG. 3

682AA,683AA,2682AA,2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

SD-69641-01-C2

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 3S

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CORDS

APP FIG. 4
18-BUTTON SET CODE D120K

APP FIG. 5
30-BUTTON SET CODE D200S

CONDUCTOR			PLUG 1 TERMINATION						PLUG 2 TERMINATION						LAST PLUG TERMINATION						PLUG 3 TERMINATION						PLUG 4 TERMINATION					
			SET TERMINAL			KEY PLUG			SET TERMINAL			KEY PLUG			SET TERMINAL			KEY PLUG			SET TERMINAL			KEY PLUG			SET TERMINAL			KEY PLUG		
PIN NO.	WIRE COLOR	LOC	TERM. BLOCK	TERM.	LOC	PLUG COLOR	PIN	LOC	TERM. BLOCK	TERM.	LOC	PLUG COLOR	PIN	LOC	TERM. BLOCK	TERM.	LOC	PLUG COLOR	PIN	LOC	TERM. BLOCK	TERM.	LOC	PLUG COLOR	PIN	LOC	TERM. BLOCK	TERM.	LOC	PLUG COLOR	PIN	LOC
26	W-BL	3A1-F1				BLUE	3	3A2				BLUE	3	3C2				BLUE	3	3F2				BLUE	3	3C2				BLUE	3	3C2
1	BL-W	3A1-F1				BLUE	6	3A2				BLUE	6	3C2				BLUE	6	3F2				BLUE	6	3C2				BLUE	6	3C2
27	W-O	4A1-F1				BLUE	1	4A3				BLUE	1	4D3				BLUE	1	4F3				BLUE	1	4D3				BLUE	1	4D3
	O-W		TB1	5	4A5	BLUE	2	4A4	TB1	15	4D5	BLUE	2	4D4	TB1	25	4F5	BLUE	2	4F4	TB1	35	4D5	BLUE	2	4D4	TB1	45	4D5	BLUE	2	4D4
2	O-W	4C1	TB1	8	4C2				↑						↑						↑						↑					
28	W-G	6A1				BLUE	LG	6A2				BLUE	LG	6A2				BLUE	LG	6A2				BLUE	LG	6A2				BLUE	LG	6A2
3	G-W	6A1				BLUE	L	6A2				BLUE	L	6A2				BLUE	L	6A2				BLUE	L	6A2				BLUE	L	6A2
29	W-BR	3A1-F1				ORANGE	3	3A2				ORANGE	3	3D2				ORANGE	3	3F2				ORANGE	3	3D2				ORANGE	3	3D2
4	BR-W	3B1-F1				ORANGE	6	3B2				ORANGE	6	3D2				ORANGE	6	3F2				ORANGE	6	3D2				ORANGE	6	3D2
30	W-S	4A1-F1				ORANGE	1	4A3				ORANGE	1	4D3				ORANGE	1	4F3				ORANGE	1	4D3				ORANGE	1	4D3
	S-W		TB1	5	4A5	ORANGE	2	4A4	TB1	15	4D5	ORANGE	2	4D4	TB1	25	4F5	ORANGE	2	4F4	TB1	35	4D5	ORANGE	2	4D4	TB1	45	4D5	ORANGE	2	4D4
5	S-W	4B1	TB2	3	4B2				↑						↑						↑						↑					
31	R-BL	6B1				ORANGE	LG	6B2				ORANGE	LG	6B2				ORANGE	LG	6B2				ORANGE	LG	6B2				ORANGE	LG	6B2
6	BL-R	6B1				ORANGE	L	6B2				ORANGE	L	6B2				ORANGE	L	6B2				ORANGE	L	6B2				ORANGE	L	6B2
32	R-O	3B1-F1				GREEN	3	3B2				GREEN	3	3D2				GREEN	3	3F2				GREEN	3	3D2				GREEN	3	3D2
7	O-R	3B1-F1				GREEN	6	3B2				GREEN	6	3D2				GREEN	6	3F2				GREEN	6	3D2				GREEN	6	3D2
33	R-G	4B1-F1				GREEN	1	4B3				GREEN	1	4E3				GREEN	1	4F3				GREEN	1	4E3				GREEN	1	4E3
	G-R		TB1	5	4A5	GREEN	2	4B4	TB1	15	4D5	GREEN	2	4E4	TB1	25	4F5	GREEN	2	4F4	TB1	35	4E4	GREEN	2	4E4	TB1	45	4D5	GREEN	2	4E4
8	G-R		↑						↑						↑						↑						↑					
34	R-BR	6B1				GREEN	LG	6B2				GREEN	LG	6B2				GREEN	LG	6B2				GREEN	LG	6B2				GREEN	LG	6B2
9	BR-R	6B1				GREEN	L	6B2				GREEN	L	6B2				GREEN	L	6B2				GREEN	L	6B2				GREEN	L	6B2
35	R-S	3B1-G1				BROWN	3	3B2				BROWN	3	3D2				BROWN	3	3G2				BROWN	3	3D2				BROWN	3	3D2
10	S-R	3B1-G1				BROWN	6	3B2				BROWN	6	3D2				BROWN	6	3G2				BROWN	6	3D2				BROWN	6	3D2
36	BK-BL	4B1-G1	TB1	32	4B2	BROWN	1	4B3				BROWN	1	4E3				BROWN	1	4G3				BROWN	1	4E3				BROWN	1	4E3
	BL-BK		TB1	10	4B5	BROWN	2	4B4	TB1	20	4E5	BROWN	2	4E4	TB1	30	4G5	BROWN	2	4G4	TB1	40	4E5	BROWN	2	4E4	TB1	50	4E5	BROWN	2	4E4
11	BL-BK		TB1	18					↑						↑						↑						↑					
37	BK-O	6B1				BROWN	LG	6B2				BROWN	LG	6B2	TB1	52	6B1	BROWN	LG	6B2				BROWN	LG	6B2				BROWN	LG	6B2
12	O-BK	6B1				BROWN	L	6B2				BROWN	L	6B2	TB1	51	6B1	BROWN	L	6B2				BROWN	L	6B2				BROWN	L	6B2
38	BK-G	3B1-G1				SLATE	3	3B2				SLATE	3	3E2				SLATE	3	3G2				SLATE	3	3E2				SLATE	3	3E2
13	G-BK	3C1-G1				SLATE	6	3C2				SLATE	6	3E2				SLATE	6	3G2				SLATE	6	3E2				SLATE	6	3E2
39	BK-BR	4B1-G1	TB1	29	4B2	SLATE	1	4B3	TB1	34	4E2	SLATE	1	4E3	TB1	49	4G2	SLATE	1	4G3	TB1	53	4E2	SLATE	1	4E3	TB1	55	4E2	SLATE	1	4E3
	BR-BK		TB1	10	4B5	SLATE	2	4B4	TB1	20	4E5	SLATE	2	4E4	TB1	30	4G5	SLATE	2	4G4	TB1	40	4E5	SLATE	2	4E4	TB1	50	4E5	SLATE	2	4E4
14	BR-BK	6C1	NET	L2					↑						↑						↑						↑					
40	BK-S	6C1	TB1	23	6B1	SLATE	LG	6B2				SLATE	LG	6C2	TB1	48	6C1	SLATE	LG	6C2				SLATE	LG	6C2				SLATE	LG	6C2
15	S-BK		TB1	28	6C1	SLATE	L	6C2				SLATE	L	6C2	TB1	47	6C1	SLATE	L	6C2				SLATE	L	6C2				SLATE	L	6C2
41	Y-BL	3E1-G1,10A2	TB1	2	a							WHITE	3	3E2	TB1	46	3G1	WHITE	3	3G2				WHITE	3	3E2				WHITE	3	3E2
16	BL-Y	3E1-G1,10A2	TB1	1	b							WHITE	6	3E2	TB1	44	3G1	WHITE	6	3G2				WHITE	6	3E2				WHITE	6	3E2
42	Y-O	4E1,4G1	SEE NOTE 109						TB1	33	4E2	WHITE	1	4E3	TB1	39	4G2	WHITE	1	4G3	TB1	54	4E2	WHITE	1	4E3	TB1	56	4E2	WHITE	1	4E3
	O-Y								TB1	20	4E5	WHITE	2	4E4	TB1	30	4G5	WHITE	2	4G4	TB1	40	4E5	WHITE	2	4E4	TB1	50	4E5	WHITE	2	4E4
17	O-Y	6G1	SEE NOTE 109						↑						↑						↑						↑					
43	Y-G	6C1	↑									WHITE	LG	6C2	TB1	43	6C1	WHITE	LG	6C2				WHITE	LG	6C2				WHITE	LG	6C2
18	G-Y	6C1	↑									WHITE	L	6C2	TB1	42	6C1		L	6C2				WHITE	L	6C2				WHITE	L	6C2
44	Y-BR	1B0,2D0	TB2	2	1C1,2D1				↑						↑						↑						↑					
19	BR-Y	1D0,2E0	TB2	1	1C1,2E1				TB1	37																						
45	Y-S	6D1	TB1	19	6D1				TB1	27	6F3																					
20	S-Y	6D1	NET	A	6D1				TB1	22	6F3																					
46																																
21																																
47																																
22																																
48																																
23																																
49																																
24																																
50																																
25																																

↑ SPADE TIP, INSULATE AND STORE

a	11D2, 12B2
b	11B2, 12A2

APP FIG. 4,5

682AA,683AA,2682AA,2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

BELL TELEPHONE LABORATORIES INCORPORATED

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APP FIG. 6

BUZZER

	DESIG	LOC	CODE
(X,Y)	-	6E3	KS-8109,L2
(W)	-	6F3	KS-20419,L1

APP FIG. 7

LAMP SOCKET

DESIG	LOC	CODE
-	7C2	76A

APP FIG. 8

KEYS

DESIG	LOC	CODE
-	8A2	650A

APP FIG. 9

KIT OF PARTS

	DESIG	LOC	CODE
(K)	-	9A8	D180463

PRINTED WIRING BOARD

	DESIG	LOC	CODE
(M,N,Q,R)	-	9A1	P90D033

APP FIG. 10

KIT OF PARTS

	DESIG	LOC	CODE
(G)	-	9G3	D180411

APP FIG. 11

TRANSMITTER

	DESIG	LOC	CODE
(E)	XMTR	10C4	679A

APP FIG. 12

CONTACT STRIP (NOT SHOWN, SEE NOTE 305C)

DESIG	LOC	CODE
-	-	840151039(R)
-	-	840151047(G)

KEY

DESIG	LOC	CODE
-	11B3	635AD5C (INCLUDES P269699 ADAPTER)

APP FIG. 13

HANDSET

DESIG	LOC	CODE
RCVR	12D3	G5KR
XMTR	12A3	

DRAWING ISSUE

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APP FIG. 6-13

682AA,683AA,2682AA,2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

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CIRCUIT NOTES:

101.

DESIG	FUSE AMP	POTENTIAL	ONE PER

102.

FEATURE OR OPTION			PROVIDE APP FIG.	PROVIDE APP OR WRG	PROVIDE QTY	FS
TELEPHONE TRANSMISSION CIRCUIT		ROTARY DIAL	1		1	1
		TOUCH-TONE DIAL	2		1	2
	KEYS	HOLD AND 5 PICKUPS	3		1	3, 4, 5, 6, 7
		6 PICKUPS		Z	AS REQD	
	CORDS	18-BUTTON SET	4		1	
		30-BUTTON SET	5		1	
RINGER CIRCUIT			3		1	8
BUZZER CIRCUIT	KS-8109,L2 (14-30 VOLTS)	DC OPERATION	6	Y	AS REQD	9
		60 HZ OPERATION		X		
	KS-20419,L1 (6-10 VOLTS)	60 HZ OPERATION ONLY		W		
ROTARY DIAL OFF-NORMAL CONTROL	SPEAKER-PHONE	INTERNAL TRANSMITTER	1	E	1	10
		EXTERNAL TRANSMITTER		B		
		NOT PROVIDED		A		
AUXILIARY LAMP CIRCUIT			7		AS REQD	12
SIGNALING KEY CIRCUIT			8		AS REQD	13
POLARITY GUARD		PROVIDED	2	V	1	14
		NOT PROVIDED		T		
STATION BUSY LAMP CIRCUIT		PROVIDED	9	R, Q, N, M, K	1	15
		NOT PROVIDED		S		
SUPPLEMENTARY HOLD CIRCUIT		NOT PROVIDED		J		16
		PROVIDED PRIORITY	10	G	AS REQD	
		PROVIDED 'I'		F		
2-AND 4-WIRE SPEAKER-PHONE CIRCUIT	PROVIDED	INTERNAL TRANSMITTER	11	E	1	17
		EXTERNAL TRANSMITTER		B	1	
CUT-OFF KEY CIRCUIT			12		1	18
PUSH-TO-TALK HANDSET			13		1	19

CIRCUIT NOTES: (CONT)

103.

RECORD OF FIGURES, WIRING AND APPARATUS CHANGES						
CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	USE IN CIRCUIT A&M	USE IN CIRCUIT MD

104. WHEN THE 658A KEY IS REQUIRED AS A DUAL PURPOSE KEY, STRAP BETWEEN TERMINALS 17 & 18 SHALL BE REMOVED. USE M1W CORD OR EQUIVALENT TO CONNECT TERMINAL 17 TO A SEPARATE GROUND OR A NON GROUNDED CIRCUIT COMMON.

105. THE RINGER MAY BE CONNECTED WITH OR WITHOUT CAPACITOR FOR PRIVATE LINE, COMMON OR INTERCOM LINE SIGNAL AS REQUIRED. THE RINGER SHALL BE CONNECTED WITH CAPACITOR WHEN USED AS A BRIDGED RINGER ON A CENTRAL OFFICE OR PBX LINE AND WHEN POWER FAILURE FEATURE IS PROVIDED.

106. BUZZER (KS-8109,L2) MAY BE OPERATED FROM A 14-30 VOLT DC SUPPLY USING WIRING OPTION Y OR FROM A 14-30 VOLT, 60 Hz AC SUPPLY USING WIRING OPTION X. BUZZER (KS-20419,L1) OPTION W, SHALL BE OPERATED FROM A 10 VOLT 60 Hz AC SUPPLY, ONLY. S-Y AND Y-S LEADS IN ORANGE-WHITE BINDER ARE DEDICATED FOR BUZZER USE. WHEN MORE THAN ONE BUZZER IS REQUIRED SPARE PAIRS SHALL BE USED.

107. ALL KEYS EXCEPT THE HOLD KEY MAY BE CONVERTED FROM PICKUP TO SIGNALING OR VICEVERSA. TRANSFER AND LOOPBACK FUNCTIONS MAY BE ASSIGNED TO THESE KEYS WHEN SUCH CIRCUITS ARE FURNISHED. THE CIRCUIT IS REARRANGED FOR SIGNALING BY MOVING ONE OR MORE SPADE-TIPPED LEADS ON THE TERMINAL BOARDS. WHEN KEYS ARE USED FOR SIGNALING, THE KEY CONTACTS AND CORD CONDUCTORS NORMALLY USED FOR "A" LEAD FUNCTIONS ARE USED FOR SIGNALING FUNCTIONS AND ARE DESIGNATED "S" OR "S1".

108. LINE SWITCH SEQUENCE

REMOVING HANDSET	RESTORING HANDSET
1. bc MAKES	1. fg MAKES
2. dc MAKES	2. ab MAKES
3. ab BREAKS	3. dc BREAKS
4. fg BREAKS	4. bc BREAKS

FLASH SWITCH SEQUENCE

OPERATING	RELEASE
1. ab MAKES	1. cd MAKES
2. cd BREAKS	2. ab BREAKS

109. FOR ROTARY DIAL SETS THE Y-O AND O-Y LEADS OF 1ST PLUG SHALL BE SHOP WIRED TO TB2 TERMINALS 5 AND 4, RESPECTIVELY. FOR TOUCH-TONE DIAL SETS THE Y-O AND O-Y LEADS OF 1ST PLUG SHALL BE SPADE TIPPED, INSULATED AND STORED. THEY SHALL BE CONNECTED TO TB2 TERMINALS 5 AND 4 RESPECTIVELY, ONLY WHEN SPEAKERPHONE WITH THE EXTERNAL TRANSMITTER, OPTION B, IS PROVIDED.

DRAWING ISSUE

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CIRCUIT NOTES

682AA,683AA,2682AA,2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

SD-69641-01-DI

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 3S

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EQUIPMENT NOTES:

201. WHEN A SET IS EQUIPPED WITH LESS THAN A FULL COMPLEMENT OF KEYS ALL SPARE PLUGS SHALL BE INSTALLED ON THE APPARATUS BLANKS.

202. A MOUNTING BRACKET FOR BUZZERS IS PROVIDED INSIDE THE SET. IT IS ARRANGED TO MOUNT ONE OR TWO KS-8109,L2 BUZZERS, OPTIONS X OR Y, OR KS-20419 ,L1 BUZZERS, OPTION W, OR COMBINATIONS THEREOF. THE KS-20419, L1 BUZZER MAY BE MOUNTED UNDER ANY CONVENIENT SCREW HEAD THAT DOES NOT CAUSE ELECTRICAL OR MECHANICAL INTERFERENCE WITH OTHER APPARATUS. THE KS-8109,L2 BUZZER SHALL ALWAYS BE MOUNTED SO THAT ITS FRAME IS INSULATED FROM THE BASE OF THE SET. THIS IS BEST ACCOMPLISHED BY LIMITING THE MOUNTING OF THE KS-8109,L2 BUZZER TO THE MOUNTING BRACKET. SETS MANUFACTURED AFTER DEC. 31,1972 WILL BE FACTORY EQUIPPED WITH THE KS-20419,L1 BUZZER,OPTION W.

203. TO CONVERT A KEY POSITION FROM PICKUP (LOCKING) TO SIGNALING (NON-LOCKING) REMOVE THE THREADED PIN FROM THE PLUNGER.

INFORMATION NOTES:

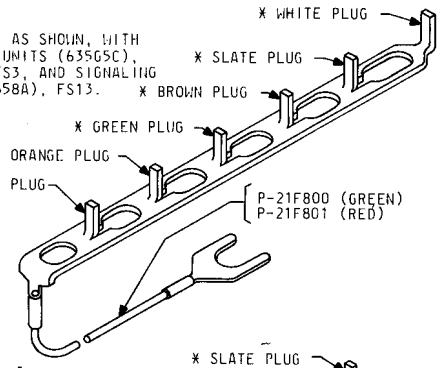
301. UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS, CAPACITANCE VALUES ARE IN MICROFARADS, VALUES PRECEDED BY THE SYMBOL +(PLUS) OR -(MINUS) ARE IN VOLTS.

302. ⏚ GROUND RETURN.

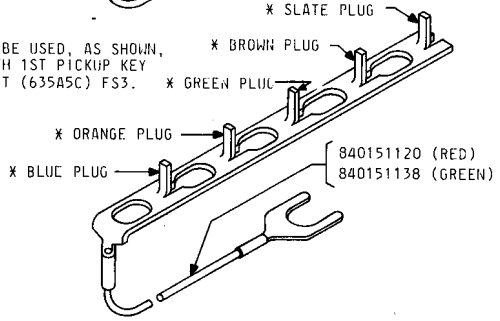
303. RINGER CONNECTIONS MAY BE MADE BY CONNECTING THE CABLE CONDUCTORS ASSOCIATED WITH LEADS R OR R1 (S-Y) AND B OR B1 (Y-S) AT THE TERMINAL FIELD AS REQUIRED.

304. BUZZER LEADS BZ AND BZ1 (S-Y AND Y-S, RESPECTIVELY, 2ND PLUG) MAY BE CONNECTED TO THE R,R1 OR BZ AND B, B1 OR BZ1 TERMINALS, RESPECTIVELY, AT THE TERMINAL FIELD TO PROVIDE THE REQUIRED TYPE OF BUZZER OPERATION.

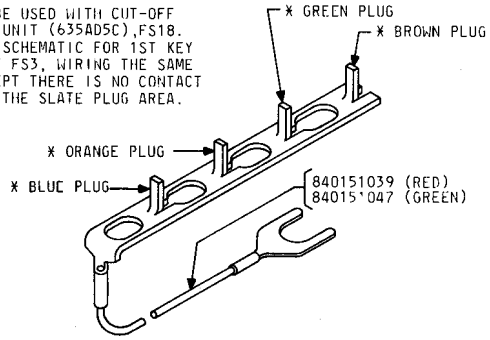
305. A. TO BE USED, AS SHOWN, WITH PICKUP KEY UNITS (635G5C), OPTION Z, FS3, AND SIGNALING KEY UNIT (658A), FS13.



B. TO BE USED, AS SHOWN, WITH 1ST PICKUP KEY UNIT (635A5C) FS3.



C. TO BE USED WITH CUT-OFF KEY UNIT (635AD5C),FS18. USE SCHEMATIC FOR 1ST KEY UNIT FS3, WIRING THE SAME EXCEPT THERE IS NO CONTACT FOR THE SLATE PLUG AREA.



* ASSOCIATED WITH INDICATED (COLOR) PLUG. (SEE CD PARAGRAPH 2.02).

DRAWING NOT TO SCALE.

DRAWING ISSUE

ISSUE

EQUIPMENT NOTES
INFORMATION NOTES

682AA,683AA,2682AA,2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

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CIRCUIT REQUIREMENTS

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APPARATUS					MECH REQT			CIRCUIT PREPARATION			TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT					REMARKS
DESIG	CODE	OPT	FIG		BSP FIG.	CONT PRESS	ARM. TRVL	BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD			TEST WDG	TEST FOR	AFTER SOAK MA.	TEST MA.	READJ MA.	
RELAYS																		
FW	MA4		1		101				TERM. 3 OF TB2	TERM. 7 OF TB1	B/G	1		0		17.0	16.0	

TEST NOTES:

1. RELAY NOT ADJUSTABLE IN THE FIELD. REPLACE WHERE THERE IS A MALFUNCTION.

ISSUE

682AA, 683AA, 2682AA, 2683AA
TELEPHONE SET CIRCUIT
18- AND 30- BUTTON CAPACITY

SD-69641-01-F1

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