

SUPPORTING INFORMATION

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.

SD-32344-01		13
STEP BY STEP SYSTEMS NO. 1, 350A, 355A OR 35E97 OUTGOING COIN TRUNK CIRCUIT LOOP OR E&M LEAD SIGNALING ARRANGED TO HANDLE SPECIAL TOLL OPERATOR ASSISTANCE AND STATION TO STATION SENT PAID CALLS AMT-B OR C FOR NO. 1, 350A OR 355A OR AMT-C FOR 35E97 OR OPERATOR IDENTIFIED TO CAMA OFFICE		AT&TCO STANDARD
(OGT COIN - LOOP SIG-SPL T-D ASST-SENT PD) OR (OGT COIN - E&M SIG-SPL T-D ASST-SENT PD)		A&M ONLY FOR 350A AND 35E97
BELL TELEPHONE LABORATORIES 65		SD-32344-01-A1 23 SHEETS PRINTED IN U.S.A.

THIS ONE MARKED REF ON 2-19-71 HM/

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APPARATUS INDEX

DESIG	LOCATION		
	FS	APP FIG	EQPT
RELAYS			
A	2B1	2	
A	2E0	3	
A1	2G7	1	
AA	2D1	2	
A	2G1	3	
B	2B9	1	
B1	2C7	1	
C	2B1	1	
CB	3D0	1	
CC	3C7	1	
CN	2B4	2	
CR	3C7	1	
D	3C0	1	
F1	2L	3	
F2	2G5	3	
GD	4C8	6	
ID	1G6	1	
IR	3A7	1	
IR	3A7	6	
MB	1F5	1	
MF	1G7	1	
OA	3A7	2,3	
OC	1C1	1	
OC1	1B1	1	
OF	1G3	1	
OF1	1H5	1	
OR	4G4	6	
P1	4A4	6	
P2	4B4	6	
P3	4C4	6	
P4	4D4	6	
R1	3A4	2	
R2	3B2	2	
RB	3A6	1	
RV	1D5	1	
S	2C4	2	
S	2E8	3	
S1	3A0	1	
SA	3A1	2	
SA1	4D8	6	
SP	1E6	1	
SP1	1E7	1	
SR	4B8	6	
SR1	4A8	6	
SS	4E8	2	
ST	3H1	1	
T	3F3	1	
T1	3E3	1	
TT	1A1	1	
TT1	1B1	1	
TR	3D5	3	
W	2D7	1	
W1	1D3	1	

COMPONENT ASSEMBLY			
CA0.	SEE	1	
CA1	APP	1	
CA2	FIG.	2	

DESIG	LOCATION		
	FS	APP FIG	EQPT
CAPACITORS			
A	1A3	1	
B	3F4	1	
C	2F1	3	
C1	2G0	3	
D	1E8	3	
R	2C2	2	
T	2A2	2	
R1	2H5	3	
T1	2H5	3	

CIRCUIT PACK			
TM	3F4	1	

CONNECTOR			
J1	SEE APP FIG.	5	
P1			

CORD			
J1	2G6	1	
RCVR TEST	3G7	5	

DIODE			
A	5C1	1	
A	2F0	3	
B	2A9	1	
C	2A7	1	
D	3D1	1	
E	3F2	1	
F	3G2	1	
G	3G2	1	
H	3H2	1	
IR	2B9	1	
IRA	3G2	1	
J	3D0	1	
K	3C1	1	
L	2C6	2	
L1	2C6	2	
M	1F4	1	
M	3A2	2	
M1	1F4	1	
N	2B8	1	
P	4A2	6	
SR	4B8	6	
SR1	4A8	6	

INDUCTOR			
A	2B2	2	

JACK			
T		1	
TT	SEE APP FIG.	2	
TT		3	

DESIG	LOCATION		
	FS	APP FIG	EQPT
LAMP			
A	1C3	1	
CC	1A3	1	
CR	1A4	1	
H	2E6	3	
R	1A4	4	
ST	1F7	1	

RESISTOR			
A	1C4	1	
B	1B3	1	
C	1B3	1	
D	3B0	1	
E	2D2	1	
G	2B3	2	
H	2B4	2	
J	4F3	6	
K	4G3	6	
M	2E8	3	
MB	1G3	1	
R	2G4	3	
S	1E8	3	
T	2F4	3	
T1	3F3	1	
T2	3F4	1	
T3	3F3	1	
T4	3F3	1	
V	2B2	2	
W	2B5	2	
X	2B2	2	
Y	2B3	2	
Y1	2B3	2	

THERMISTOR			
IR	3F1	1	

LEAD INDEX

DESIG	FS LOC	CAD LOC
AUTO TRK TEST CKT OR TEST AND LINE VERIFICATION CKT		
TT	1A1	1G3

AUXILIARY TRUNK CKT		
R	1G0	2H2
S	1G0	2H2
T	1G0	2H2

COIN CONTROL SUPPLY		
+110 OR +130	1A3	1G7
-110 OR -130	1A3	1G7

CONTINUOUS RING SUPPLY OR MISC ALM CKT (RING FUSE & FUSE ALM)		
±105V	1A4	1A7
RING GRD	1A4	1A7

CX OR SF CKT OR CARRIER APPLICATION SCHEMATIC		
E	2E9	1C3, 2E5
M	2E9	1C3, 2E5

IDENTIFIER CIRCUIT		
OSC	2G9	1B7
		1C7

LINE BALANCING & REPEATING COIL CKT OR 4 WIRE TERMINATING CKT		
A	2F5	1C3, 2E5
B	2F5	1C3, 2E5
R OR -	1D9	1C3, 2E5
T OR +	1D9	1C3, 2E5

MISC CKT TRUNK FRAME		
CC	1H9	1F0
CL-	1A2	1A0
DT	2D6	1F0
E	2F9	1F0
FR	1A2	1F0
OSF	3E1	1F3
R (ANI-B)	1G9	1F0
R1	1E0	1F0
R2	1E0	1F0
RO	1A7	1F0
RO1	2G5	1F0
S	1E0	1F0
S2	1E0	1F0
SP1	1H9	1F0
SS	1E0	1F0
T1	1E0	1F0
T2	1E0	1F0
T0	1A7	1F0
TO1	2G5	1F0
TT1	1A2	1F0
TT0	3G1	1F3
XCL	1A2	1F0

DESIG	FS LOC	CAD LOC
MISC TONE & ALM CKT (NO. 1 & 350A) OR MISC ALM CKT (NO. 355A)		
LOW TONE (BUSY)	1H0	1D3

OSCILLATOR CKT		
G	1F3	1E7
OSC	2G9	1C7, 1D7
S	1F2	1E7

OUTPULSER CONNECTOR CIRCUIT		
AB	1F9	1E3
R	1F9	1E3
SP	1F9	1E3
ST	1F9	1E3
T	1F9	1E3
TST	1F9	1E3

POWER RINGING CIRCUIT		
MS	3B6, 3H6	1B7

PULSE GENERATOR		
S	1F2	1F7

RECEIVER CKT OR ALTERNATE RECEIVER CKT		
A	2H5, 2H7, 3F8	2E0
B	2H5, 2H7, 3F8	2E0
P1	2H5, 2H7, 3F8	2E0
P2	2H5, 2H7, 3F8	2E0
R1	2H5, 2H7, 3F8	2E0
T1	2H5, 2H7, 3F8	2E0

ROTARY OUT-TRUNK SW CIRCUIT		
R OR -	1C0, 1G0, 2A5, 2C2, 2F2	
S OR C	1C0, 1G0, 2A5, 2C2, 2F2	
T OR +	1C0, 1G0, 2A5, 2C2, 2F2	

SELECTOR BANK MULT		
R OR -	1B0, 1F0	1A3, 1B3, 2A2, 2D2, 2F2
S OR C	1B0, 1F0	1A3, 1B3, 2A2, 2D2, 2F2
T OR +	1B0, 1F0	1A3, 1B3, 2A2, 2D2, 2F2

TOTALIZER CKT		
TT-	1H0	1G3, 2G5

TRUNK CKT		
A OR -	1C9	2C5
T OR +	1C9	2C5

SD-32344-01-A2

DRAWING
ISSUE
1
2D
3D
4A
5A
6A
7A
8A
9A
10A
11A
12A
13A
14A
15A
16A
17A
18A
19A
20A
21A
22A
23A
24A
25A
26A
27A
28A
29A
30A
31A
32A
33A
34A
35A
36A
37A
38A
39A
40A
41A
42A
43A
44A
45A
46A
47A
48A
49A
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62A
63A
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68A
69A
70A
71A
72A
73A
74A
75A
76A
77A
78A
79A
80A
81A
82A
83A
84A
85A
86A
87A
88A
89A
90A
91A
92A
93A
94A
95A
96A
97A
98A
99A
100A

ISSUE
16B

OUTGOING COIN TRUNK CIRCUIT

BELL TELEPHONE LABORATORIES
INCORPORATED

SD-32344-01-A2

6S

DRAWING ISSUE
12AC
13B

ISSUE
17AC

[illegible]

OUTGOING COIN TRUNK CIRCUIT

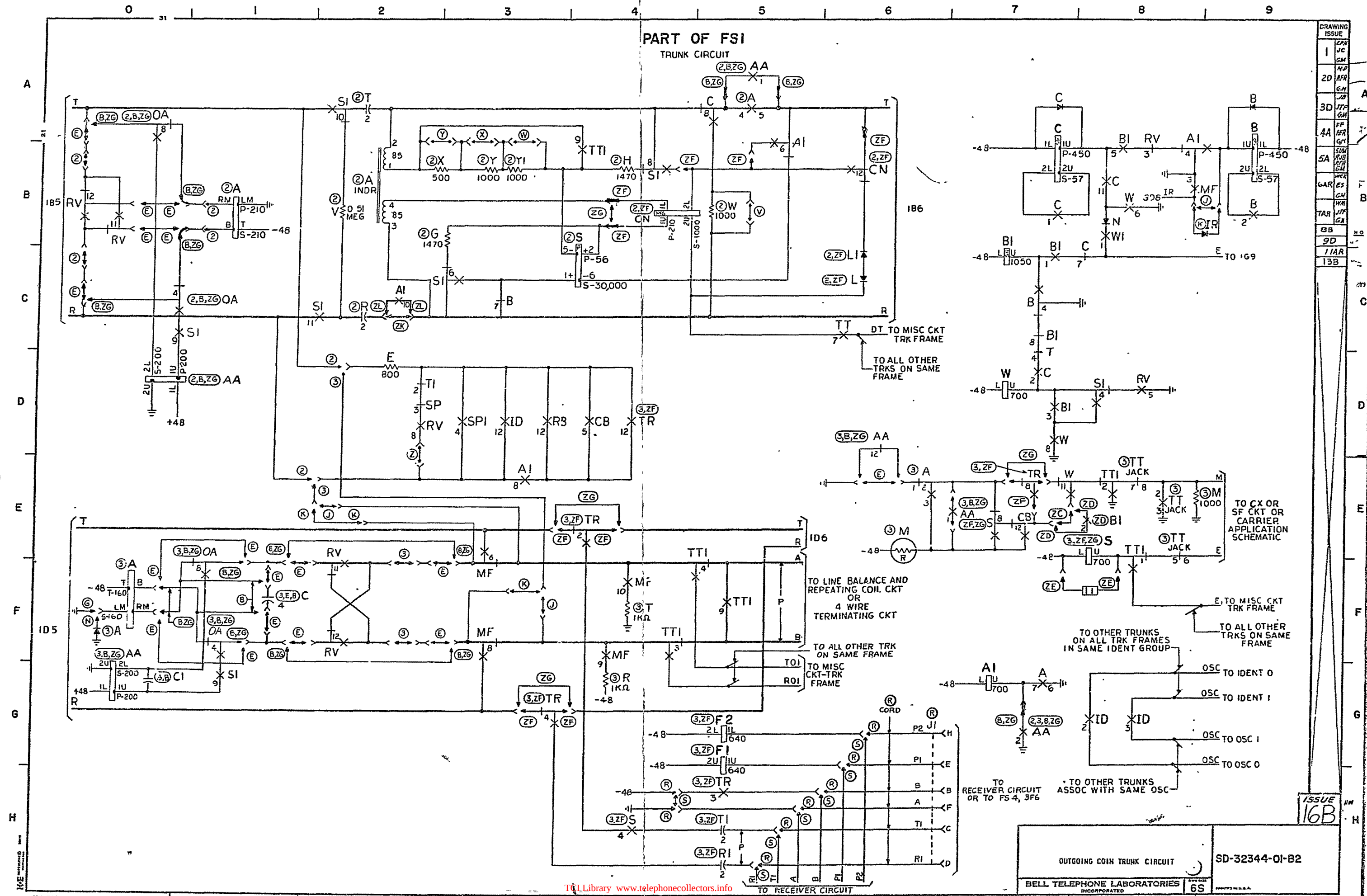
②

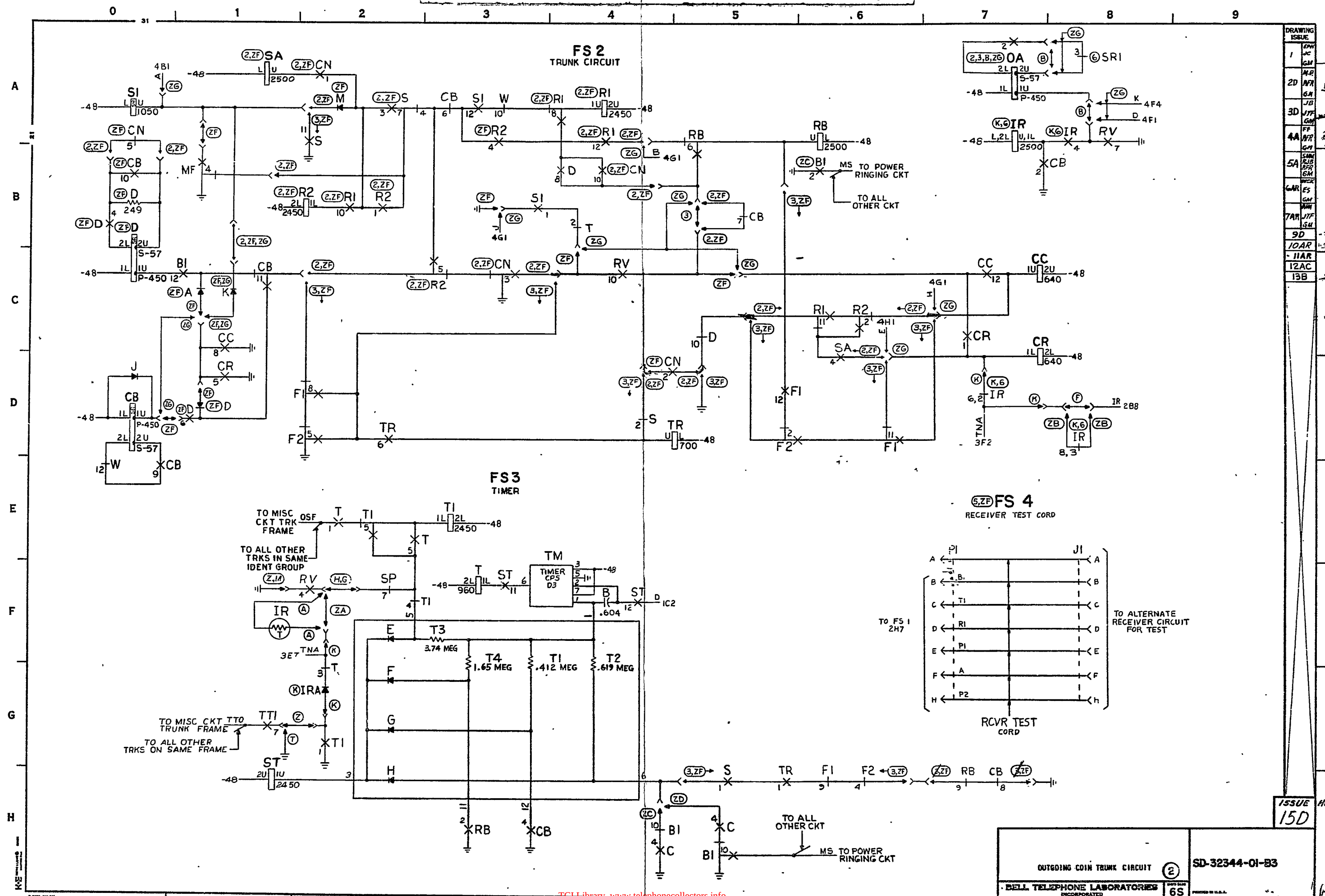
SD-32344-01-A3

BELL TELEPHONE LABORATORIES
INCORPORATED

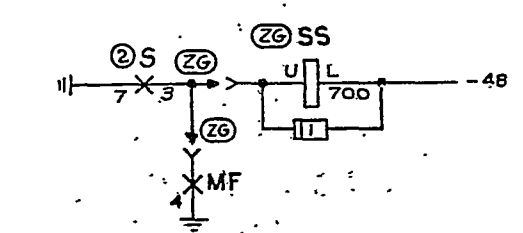
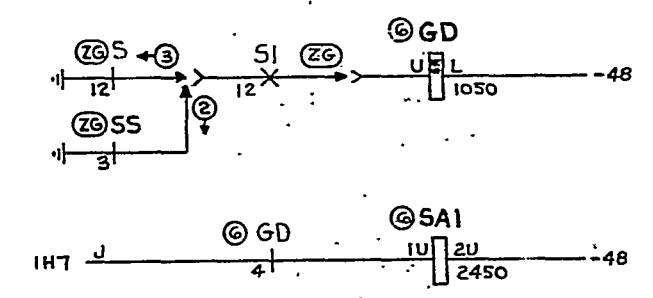
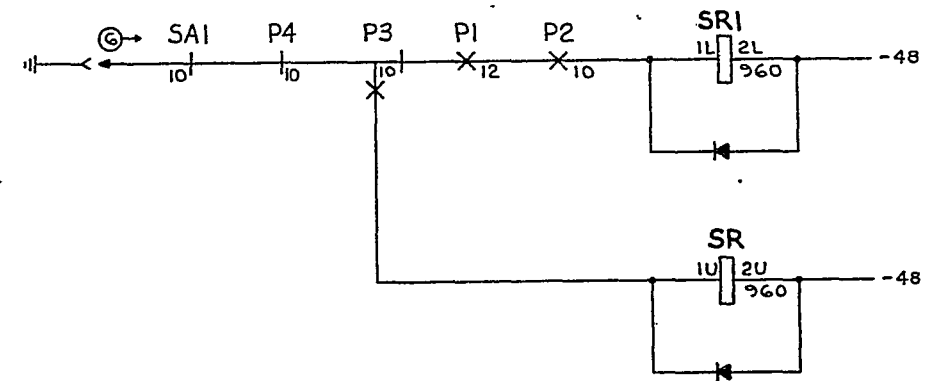
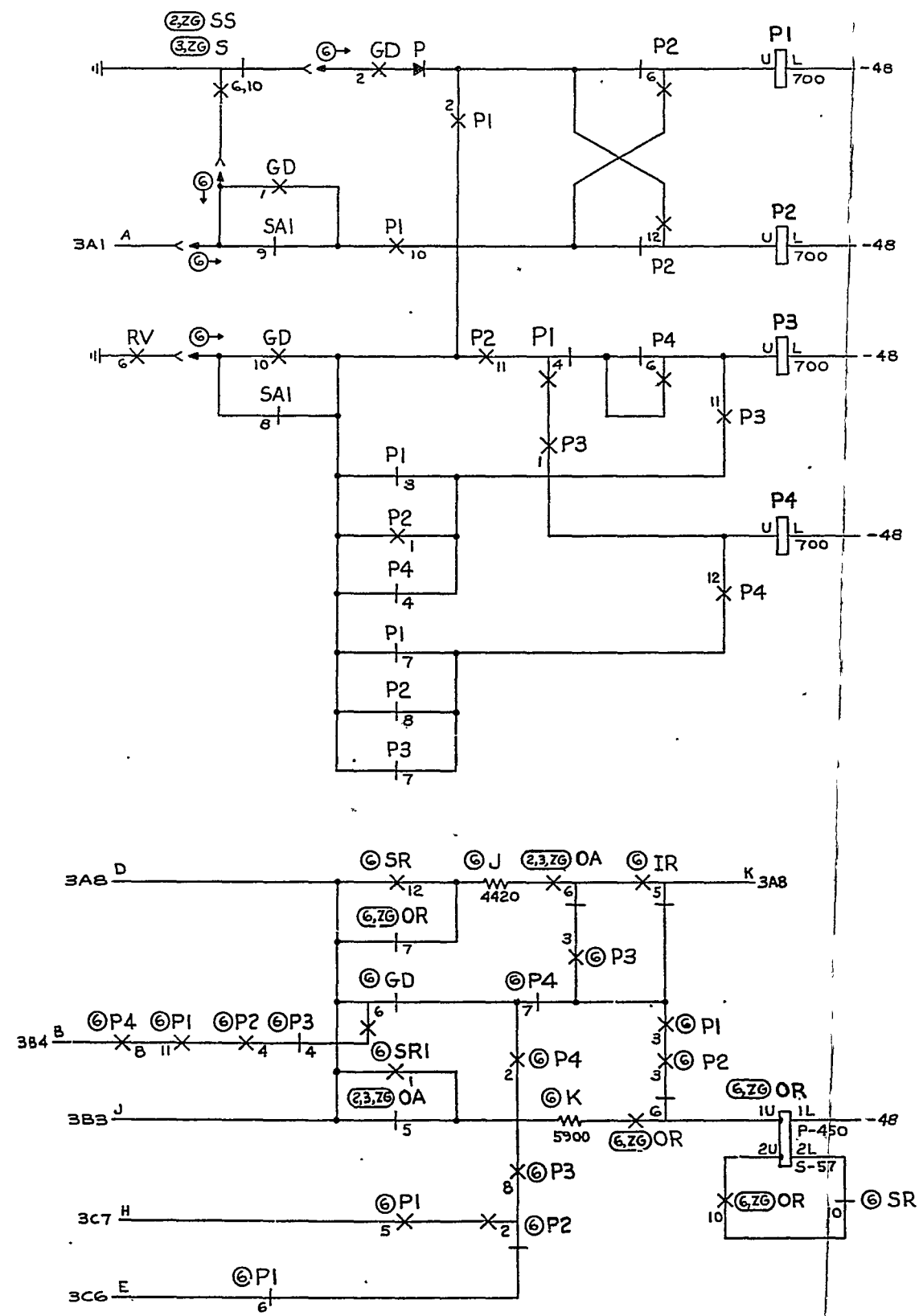
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FOURTH IN U.S.A.





FS 5 MULTI-WINK SIGNAL CONTROL



SD-32344-01-B4

OUTGOING COIN TRUNK CIRCUIT		2	SD-32344-01-B4
BELL TELEPHONE LABORATORIES INCORPORATED			
6S		PRINTED IN U.S.A.	

APP FIG. 1

RELAY	DESIG	A1	B	B1	C	CB	CC	CR	D	ID	TR	DESIG
CODE	AJ30	AG3R	AG7	AG49	AG53	AK30	AG22	AF23			AF67	CODE
OPTION											K	OPTION
12	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC
11	M	2C2	M	1E4	EBM	b	EBM	3C1	EBM	1B3	B	2D3
10	M	2C2	M	1E4	EBM	b	EBM	3C1	EBM	1B3	B	2D3
9	B		B		B	1D4		EBM	3E0	EBM		
8	EBM	2E3	EBM	1G7	EBM	2C7	EBM	2A5	EBM	3H6	EBM	3D8
7	B		B	2C3			B	2C8	EBM	3B5		
6	EBM	2A5	EBM	1D3	EBM	1D8	EBM	1E3	EBM	3A3		
5	B		B		B	2B8	B		EBM	2D4		
4	EBM	2B8	EBM	2C7	EBM	1D4	EBM	a	EBM	3H3		
3	B		B		B	2D7			EBM	1B4		
2			M	2B9	M	a	EBM	2D7	EBM	3B7		
1			M	2C7	M	2B7	EBM	1D4	EBM	1D4		
COIL	2G7	2B9	2C7	2B7	3D0	3C7	3C7	3C0	166		3A7	COIL

2B 2E8
 2C 3B6
 2C 3H4
 2D 3H5

RELAY														DESIG
DESIG	PA	T	MF		OC	DF	OC1	OF1			RB	RV	DESIG	
CODE			AJ9				AF79	AG6			AF9	AJ15	CODE	
OPTION													OPTION	
CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	
ARR		ARR		ARR		ARR		ARR		ARR		ARR		
12	M			EBM	1B6		B	EMB	1G2	EMB	1B1	EM	2D3	
11	M			EBM	1D6		M	1C1				EBM	b	
10	EBM	1D1		EBM	2F4		M	1B1		EBM		M	EBM	
9	EMB	1F3		EBM	2F4							B	3H7	
8	EM			EMB	2F3					EBM		EBM	1B4	
7										B	1G1	EBM	2D2	
6				EMB	2E3			EMB	1G1	EMB	1H2	EBM	3A8	
5		EM	3E2	EBM	a							EBM	3A5	
4		B	2C7	EBM	2B9		M	1H4	EBM	1C3	EBM	B	EBM	
3		EBM	3G2	EBM	2B9		BM					EBM	1D4	
2		EBM	3B4	EBM	1F6		BM		EMB	1G2	EBM	M	3H3	
1		M	3E2	EBM	1F6		BM	1G1	M	1D1	M		EBM	
COIL	1F5	3F3	1G7		1C1	1G3	1B1	1H5				3A6	1D5	
													COIL	

2F 3B1
 2G 4E7

2 2B0
 3 2F2
 2 2B0
 3 2F2

CAPACITOR

DESIG	LOC	CODE
A	1A3	451A
B	3F4	5356C

CIRCUIT PACK

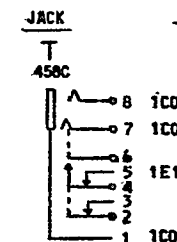
DESIG	LOC	CODE
TM	3F4	D3

RELAY	DESIG	S1	SP	SP1	ST	T1	TT	TT1	W	W1	DESIG
CODE	AG7	AJ71	AF120		AK4	AJ5	AJ5		AJ15	AG45	CODE
OPTION											OPTION
12	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT
11	M	b	EM	1E7	EM	1H8			EBM	1F0	EBM
10	FRN	2A2	EBM		EBM	1B3			EBM	1A1	EBM
9	M	a	B		EBM	3F3			EBM	1D7	
8	EBM	2B4	EBM		EBM	1A2	EBM	a	EBM	1A2	EBM
7			B	3F2	B		EBM	1G7	EBM	1G8	
6	EBM	2C3	EBM	1E8	EBM	1D3			EBM	2C6	EBM
5	M	1E4	B	1F7	B	1G6			EBM	1E1	EBM
4	EBM	2D8	EBM	1G6	EM	2D3			EBM	3E2	EBM
3	M	1G8	B	2D2	B	1G8			EBM	1F8	EBM
2	M	1G8	M	1E7	EM				EBM	1R0	EBM
1	M	3B4	M	1G7					EBM	2D2	EBM
COIL	3A0	1E6	1E7		3H1	3E3	1A1	1B1	2G7	1D3	

2 2C1
 3 2G1
 2F 3A3
 2G 4C7

2 2B4
 3 2F5

DIODE	DESIG	LOC	CODE
K, ZG	IR	2B9	446F
K, ZG	IRA	3G2	446F
	M	1F4	446N
	M1	1F4	446N



LAMP	DESIG	LOC	CODE
A	1C3	11B (RES)	
CC	1A3	13L (RES)	
CR	1A4	13L (RES)	
ST	1F7	13J (RES)	

RESISTOR

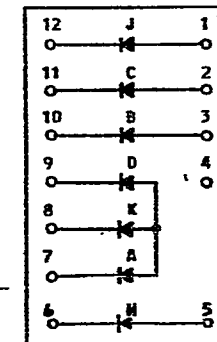
DESIG	LOC	CODE
A	1C4	180
B	1B3	180M
C	1B3	KS-13490, L3, 0.1 MEG
		221A, 249
	2D2	180M
	1G3	KS-14314, L1, 6810
	1G3	M-4A, 2870

THERMISTOR

DESIG	LOC	CODE
IR	3F1	8C

COMPONENT ASSEMBLY

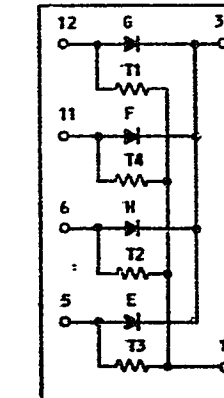
CA0, ED-32325-(), G1



DIODE	DESIG	LOC	CODE
A	3C1	446F	
B	2A9	446F	
C	2A7	446F	
D	3D1	446F	
J	3D0	446F	
K	3C1	446F	
H	2B9	446F	

COMPONENT ASSEMBLY

CA1, ED-32326-(), G1



DIODE	DESIG	LOC	CODE
E	3F2	446F	
F	3G2	446F	
G	3G2	446F	
H	3H2	446F	

RESISTOR	DESIG	LOC	CODE
T1	3F3	145A, 0.472 MEG	
T2	3F4	145A, 0.619 MEG	
T3	3F3	145A, 3.74 MEG	
T4	3F3	145A, 1.65 MEG	

SD-32344-01-C1

OUTGOING COIN TRUNK CIRCUIT

BELL TELEPHONE LABORATORIES

6S

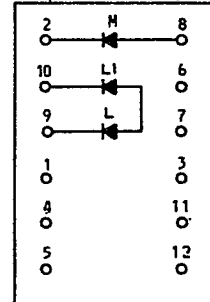
SD-32344-01-C1

② APP FIG. 2

RELAY		AA		CN		OA		R1		R2		SA		SS		DESIG
CODE	OPTION	DESIG	LOC	DESIG	LOC	DESIG	LOC	DESIG	LOC	DESIG	LOC	DESIG	LOC	DESIG	LOC	
		AJ102	B, ZG	AJ141	ZF	AG38	B, ZG	AK4	ZF	AF15	ZF	AJ30	ZG			
12	CONT ARR			CONT ARR		CONT ARR		CONT ARR		CONT ARR		CONT ARR		CONT ARR		12
11	LOC			LOC		LOC		LOC		LOC		LOC		LOC		11
10																10
9																9
8																8
7																7
6																6
5																5
4																4
3																3
2																2
1																1
COIL																COIL

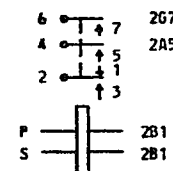
a (ZG) 4F3
b (ZG) 4G2

COMPONENT ASSEMBLY
CA2, ED-32327-(), G1

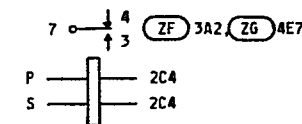


DIODE		INDUCTOR	
DESIG	LOC	DESIG	LOC
ZF L	2C6	A	2B2
ZF L1	2C6		
ZF M	3A2		

RELAY
A
221FAC

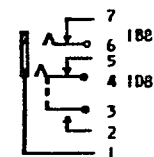


RELAY
S
280CD



CAPACITOR		CODE	
DESIG	LOC	DESIG	LOC
R	2C2		
T	2A2		

JACK
TT
240C



NETWORK		CODE	
DESIG	LOC	DESIG	LOC
ZG SS	4E8		

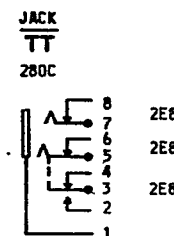
RESISTOR		CODE	
DESIG	LOC	DESIG	LOC
G	2B3		
H	2B4		
V	2B2		
W	2B5		
X	2B2		
Y	2B3		
Y1	2B3		

③ APP FIG. 3

RELAY		AA		F1		F2		OA		S		S		TR		DESIG
CODE	OPTION	DESIG	LOC	DESIG	LOC	DESIG	LOC	DESIG	LOC	DESIG	LOC	DESIG	LOC	DESIG	LOC	
		AJ102	B, ZG	AK30	ZF	AG38	B, ZG	AF20	ZF	AF20	ZG	AF100	ZF			
12	CONT ARR			CONT ARR		CONT ARR		CONT ARR		CONT ARR		CONT ARR		CONT ARR		12
11	LOC			LOC		LOC		LOC		LOC		LOC		LOC		11
10																10
9																9
8																8
7																7
6																6
5																5
4																4
3																3
2																2
1																1
COIL																COIL

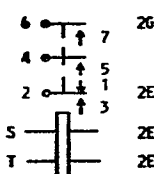
a (ZG) 4F3
b (ZG) 4G2

DIODE		JACK	
DESIG	LOC	DESIG	LOC
A	2F0	TT	280C



LAMP		CODE	
DESIG	LOC	DESIG	LOC
M	2E6		

RELAY
A
221FAE



CAPACITOR
DESIG

DESIG	LOC	CODE
C	2F1	437QA
C1	2G0	535GH
D	1E8	439A
(ZG) [1]	2H5	437E
R1	2H5	
T1		

CORD		CODE	
DESIG	LOC	DESIG	LOC
J	2G6		

NETWORK		CODE	
DESIG	LOC	DESIG	LOC
S	2E8		

RESISTOR		CODE	
DESIG	LOC	DESIG	LOC
M	2E8		
R	2G4		
S	1E8		
T	2F4		

OUTGOING COIN TRUNK CIRCUIT

②

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BELL TELEPHONE LABORATORIES

6S

ISSUE
15D

④ APP FIG. 4

LAMP	LOC	CODE
DESIG		
R	1A4	13C (RES)

CONNECTOR

A	B
O	D
C	O
E	F
H	O

DESIG	J1
CODE	KS-14528, L2
OPTION	
TERM	LOCATION
A	3E8
B	3F8
C	3F8
D	3F8
E	3F8
F	3G8
H	3G8

⑤ APP FIG. 5 (MFR DISC)

CONNECTOR

B	A
D	C
F	E
	H

DESIG	P1
CODE	KS-14527, L2
OPTION	
TERM	LOCATION
A	3E7
B	3F7
C	3F7
D	3F7
E	3F7
F	3G7
H	3G7

CORD	LOC	CODE
DESIG		
RCVR TEST	3G7	W7C

DRAWING
ISSUE
30
JTB
13B

⑥ APP FIG. 6

RELAY

DESIG	CODE	OPTION	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	DESIG	CODE	OPTION
12																			12		
11																			11		
10																			10		
9																			9		
8																			8		
7																			7		
6																			6		
5																			5		
4																			4		
3																			3		
2																			2		
1																			1		
COIL																			COIL		

RELAY

DESIG	CODE	OPTION	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	CONT	LOC	DESIG	CODE	OPTION
12																											12		
11																											11		
10																											10		
9																											9		
8																											8		
7																											7		
6																											6		
5																											5		
4																											4		
3																											3		
2																											2		
1																											1		
COIL																											COIL		

DIODE

DESIG	LOC	CODE
P	4A2	
SR	4B8	446F
SR1	4A8	

RESISTOR

DESIG	LOC	CODE
J	4F3	221A, 4420
K	4G3	221A, 5900

ISSUE
16B

OUTGOING COIN TRUNK CIRCUIT

BELL TELEPHONE LABORATORIES
INCORPORATED

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CIRCUIT NOTES:

DESIG	FUSE AMP	POTENTIAL	ONE PER
1/4 HV*	+130V AND +110V		CKT
1/4 HV*	-130V AND -110V		CKT
1/4 HV*	+105V		5 APP FIG. 4
2	-48V TALK		APP FIG. 1&2, OR 3
A	GRD		APP FIG. 1&2, OR 3
B	GRD		FRAME **
1 1/3	+48V TALK		CKT

BATTERY SYMBOL	VOLTAGE RANGE
+130	125-135V
-130	125-135V
+110	100-120V
-110	100-120V
-48	45-52V
+48	44-52V

*THIS INFORMATION APPLIES ONLY IN NO. 1 AND 350A OFFICES. FOR NO. 355A OFFICES REFER TO MISCELLANEOUS ALARM (KEY) CIRCUIT FOR FUSING INFORMATION.

**SEE NOTE 202.

CIRCUIT NOTES: (CONT)

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION HAS FURN	SEE NOTE	USE IN CIRCUIT
2D	R OR S	R		R,S
8B	Q OR N	Q		N
9D	J,K, OR M	J	102	J,K,M
9D	H OR G	G		H
11AR	F	NONE	102	F
12AC	A	NONE	102,105	A
12AC	ZB OR F	F	102	ZB
13B	E OR B	E	102	E,B
13B				ZD
13B	ZE	NONE		ZE
15D	FIG.6	NONE	102	FIG.6
15D	ZF OR ZG	ZF	102	ZF,ZG
16B	R OR S	R		S
16B	ZH OR ZI	ZH		ZI
16B	ZJ	NONE		ZJ
16B	ZK OR ZL	ZK		ZL
17AC	ZN,ZM	ZM	106	ZM,ZN

FEATURE OR OPTION				PROVIDE	
	ANI	RETURN OF INITIAL COIN	YES	APP FIG.	QUANTITY
TRUNK CIRCUIT	NON ANI	YES	NO	1	H,Z,K,ZB
		YES	YES		H,Z,J
		NO	NO		T,M,K,A
			NO		T,J
	+48V BATTERY REQUIRED TOWARD STATION ON INITIAL ANSWER		YES		B
			NO		E
LOOP SIGNALING	WHEN CONDUCTOR LOOP IS	0-500Ω			
		501-1000Ω		Y	1 PER CIRCUIT
		1001-1500Ω		V,X	
		1501-2000Ω		V,X,Y	
		2001-2500Ω		V,W,X	
		OVER 2500Ω		V,W,X,Y	
E&M LEAD SIGNALING	RETURN OF INITIAL COIN	YES	3	K	1 PER CIRCUIT
		NO		J	
RINGING LAMP			4		1 PER 5 CIRCUITS
METHOD OF COIN CONTROL	HI-LOW BATTERY (LOOP SIGNALING)				
	INBAND SIGNALING (E&M SIGNALING)			ZF	
	MULTI-WINK SIGNALS (LOOP OR E&M LEAD) WITH +48V BAT.		6	ZG	

NETWORK VALUES		
NETWORK NO.	RESISTANCE IN OHMS	CAPACITANCE IN UF
1	470	.11

105. PRIOR TO ISSUE 12AC ZA OPTION WAS PART OF M OPTION.

106. PROVIDE ZN OPTION WHEN CONNECTION TO ROTARY OUT TRUNK SWITCH IS REQUIRED OTHERWISE PROVIDE ZM OPTION.

EQUIPMENT NOTES:

201. THE OSC(0), OSC(1), S AND G LEADS OF ALL TRUNKS SERVED BY THE SAME OSCILLATOR SHALL BE MULTIPLIED. A PAIR OF OSCILLATORS MAY SERVE TRUNKS IN A MAX OF 3 ADJACENT TRUNK FRAMES IN THE SAME IDENTIFIER GROUP. THESE MULTIPLY LEADS IN THE FRAME LOCAL CABLE SHALL BE RUN UPWARD AND DOWNWARD FROM THE OSCILLATOR UNITS TO TRUNKS ABOVE AND BELOW THE OSCILLATOR UNITS. THE INTER FRAME MULTIPLYING OF THE S AND G LEADS SHALL BE RUN HORIZONTALLY DIRECTLY BETWEEN FRAMES AT THE LEVEL OF THE BOTTOM TRUNK UNITS ON THE FRAMES TO AVOID ELECTRICAL INTERFERENCE BETWEEN THE S AND G LEADS AND OTHER CIRCUITS. SEE NOTE 202.

202. AS SHOWN IN CAD 1, "B" GROUND FOR SUPPLYING GROUND TO THE G LEADS TO THE OSCILLATORS IS OBTAINED FROM THE GROUND BAR OF THE FUSE PANEL ON EACH TRUNK FRAME THRU AN EXTENSION OF THE G LEAD IN THE FRAME LOCAL CABLE FROM THE BOTTOM TRUNK UNIT POSITION ON EACH FRAME. THE MULTIPLYING OF S AND G LEADS BETWEEN TRUNKS SERVED BY THE SAME OSCILLATORS IS COVERED IN NOTE 201.

203. THE TRUNK CONNECTOR (TP-) RELAYS OF THE OUTPUTS CONNECTOR CKT ARE LOCATED ON THE TRUNK FRAME AS PART OF A TRUNK CONNECTOR UNIT PER FRAME. THE LEADS FROM EACH TRUNK ARE INCLUDED IN THE FRAME LOCAL CABLE AND CONNECT DIRECTLY TO THE TERMINALS OF THE ASSOCIATED (TP-) RELAY.

204. ON THE VIDE, VTDF OR HCDF, ONE 6 POINT BLOCK MAY BE USED RATHER THAN TWO 3 POINT BLOCKS WHEN REQUIRED.

TRANSMISSION TEST REQUIREMENTS (1000 CYCLE LOSS BETWEEN 600N LINES)					
				MAX ALLOWABLE CKT LOSS (dB)	
				0.3	
				MAX ALLOWABLE CKT LOSS (dB)	
				THE (C) CAPACITOR AND THE (A)* RELAY SHOWN ON FS 1 THAT CONNECT TO THE MIDPOINTS OF THE ASSOC REPEAT COIL CKT, DO NOT AFFECT THE MAXIMUM ALLOWABLE CKT LOSS REQD OF THE ASSOC REPEAT COIL CKT, BUT ARE SHOWN HERE FOR INDIVIDUAL APPARATUS LOSS.	
INDIVIDUAL APPARATUS LOSSES					
APPARATUS	DESIG	CODE	MAX LOSS	MIN LOSS	REMARKS
CAPACITOR	T,R	4390A	12.8	12.1	2.14-2.18
CAPACITOR	A	441A	18.6	17.9	4.28-4.36
INDUCTOR	A	274AH	0.1		
RELAY	A	221FAC	0.2		
*INDICATES APPARATUS FOR WHICH INDIVIDUAL LOSSES ARE NOT REQD.					

OUTGOING TRUNK CIRCUIT

2

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BELL TELEPHONE LABORATORIES

6S

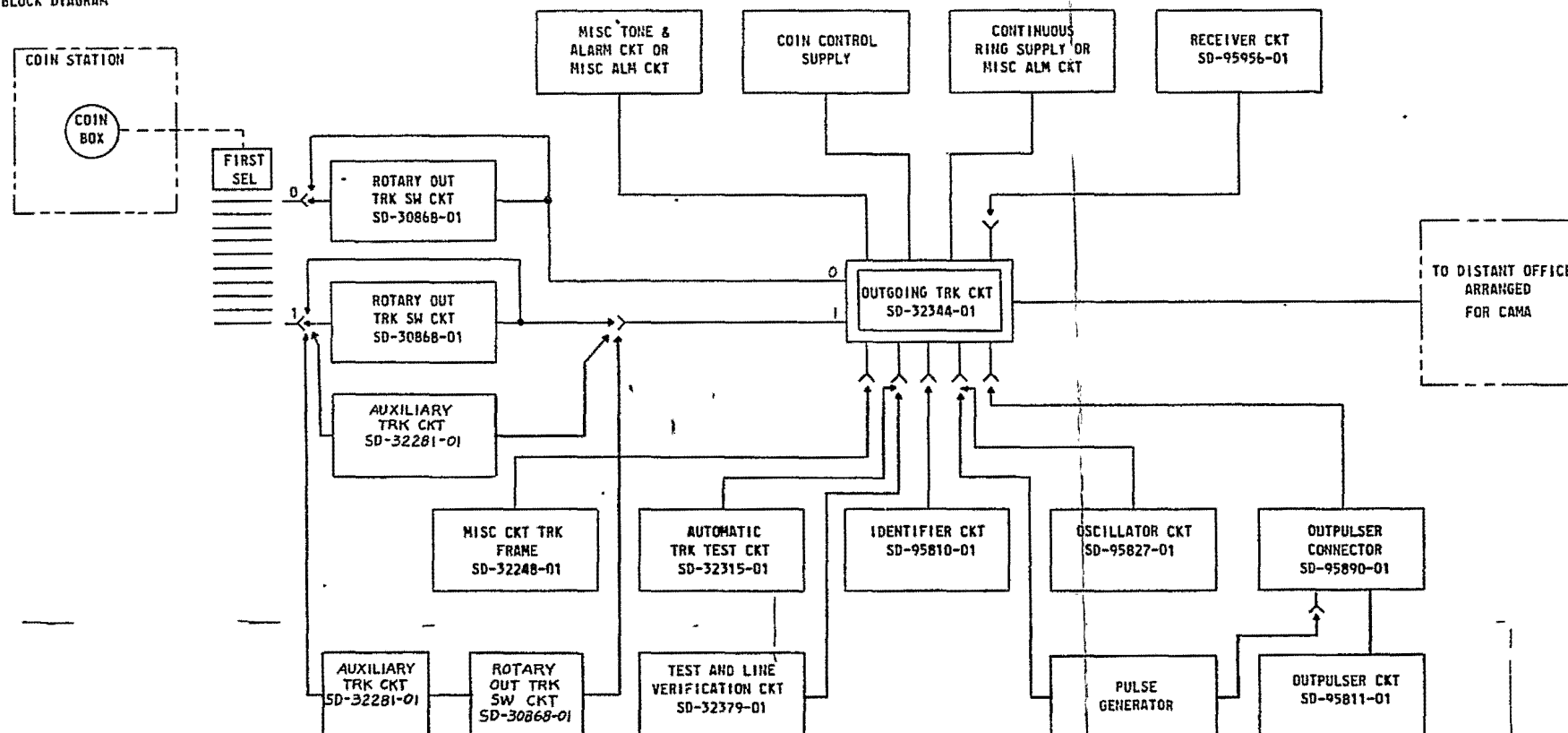
MADE IN U.S.A.

ISSUE
17AC

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. BLOCK DIAGRAM



	WORKING LIMITS				
	PULSING	SUPERVISION			
	(A) RELAY APP FIG. 2&3	(A) RELAY APP FIG. 2	(A) RELAY APP FIG. 3	(AA) RELAY	(CN) RELAY
MAX. EXT CKT LOOP RES	1500	1885	1670	2700	3400
MIN INS RES	15,000	15,000	15,000	15,000	30,000
MAX. EXT CKT LOOP RES	(S) RELAY				
MIN INS RES	4150				
	30,000				

OUTGOING COIN TRUNK CIRCUIT

BELL TELEPHONE LABORATORIES

INCORPORATED

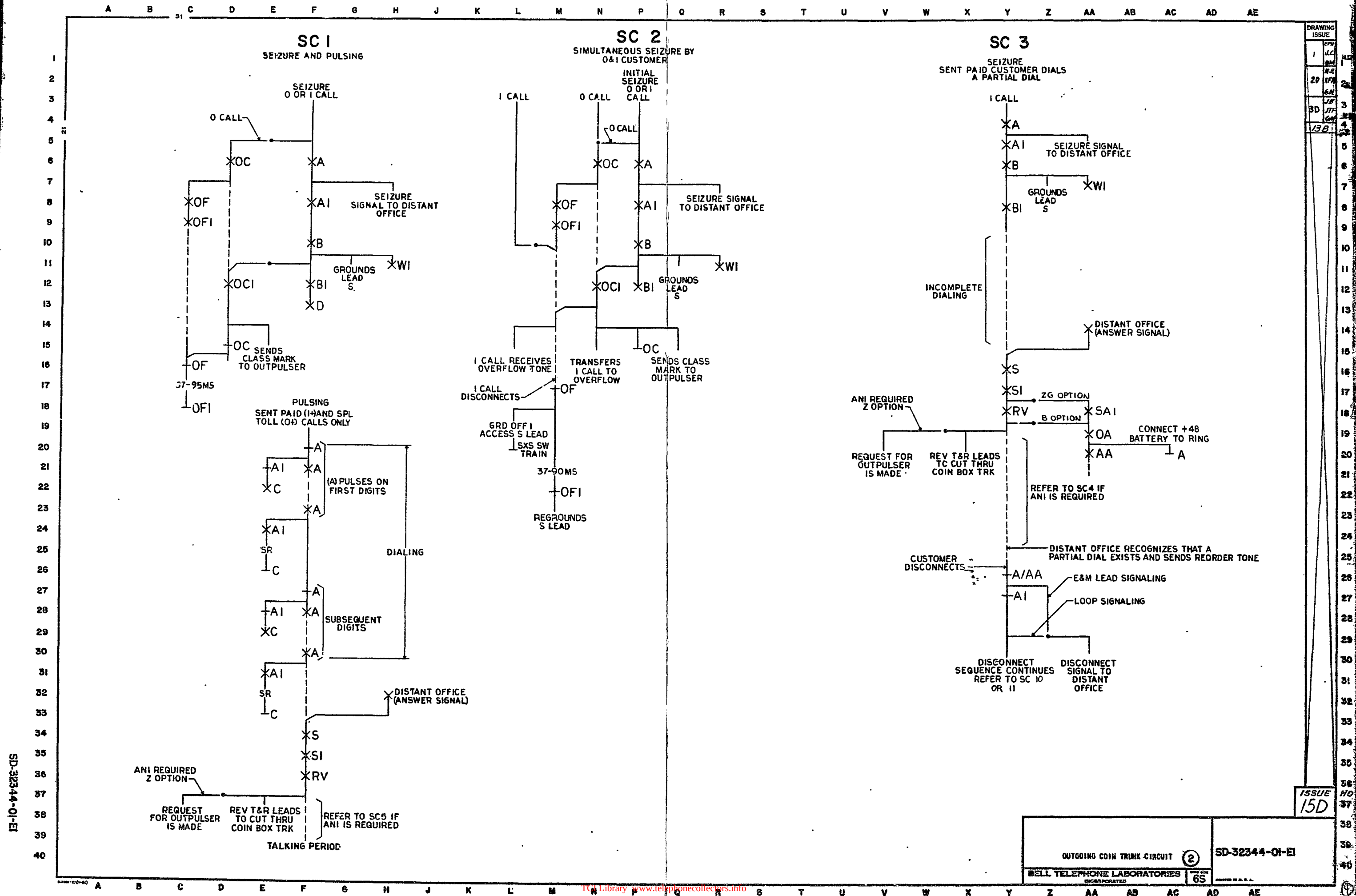
6S

SD-32344-01-D2

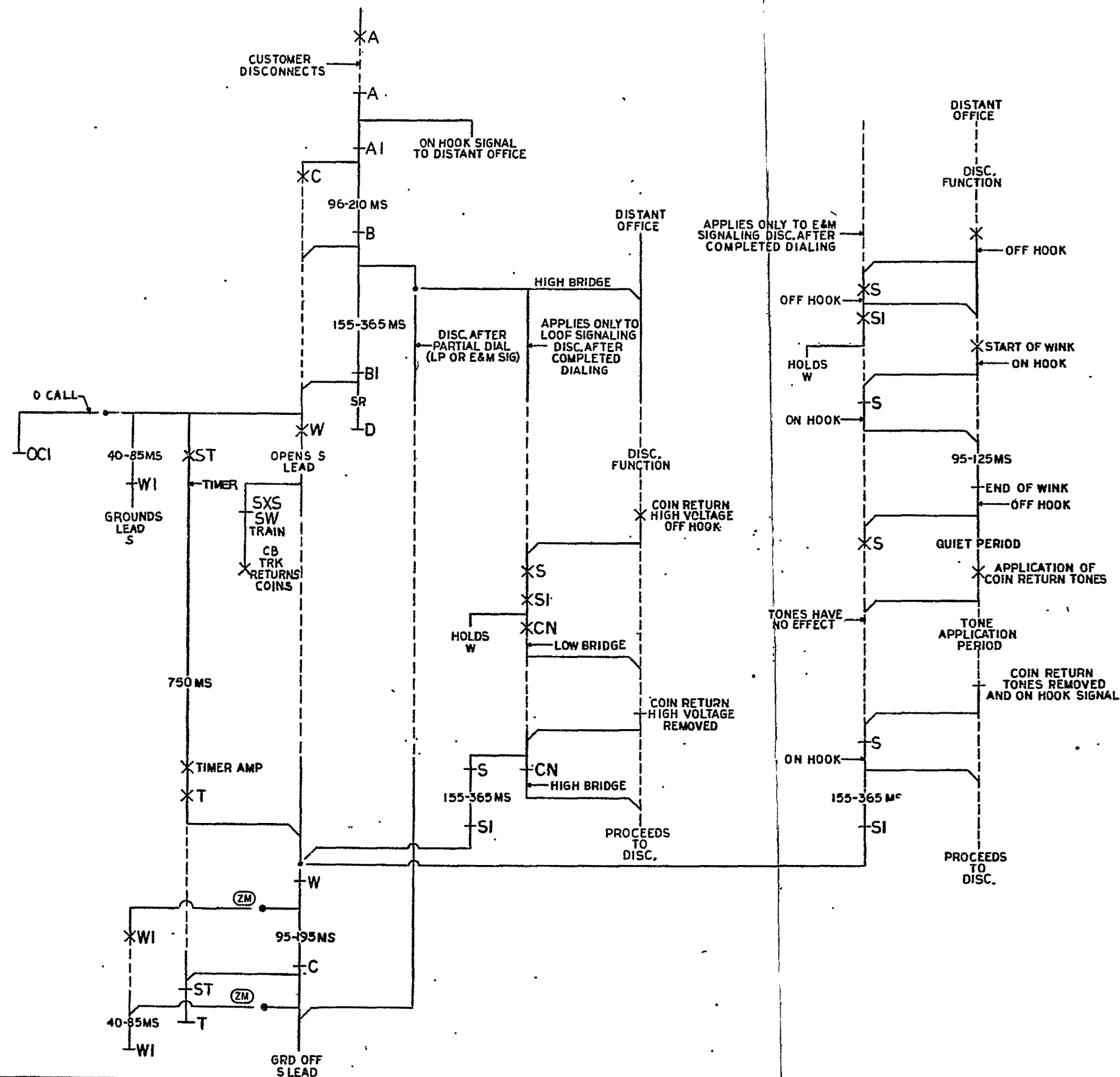
DRAWING	ISSUE
1	ACB
20	WFR
30	JB
7A	WFR
13B	WFR

13

SD-32344-01-D2



SC 4 CUSTOMER DISCONNECTS BEFORE ANSWER SIGNAL FROM DISTANT OFFICE



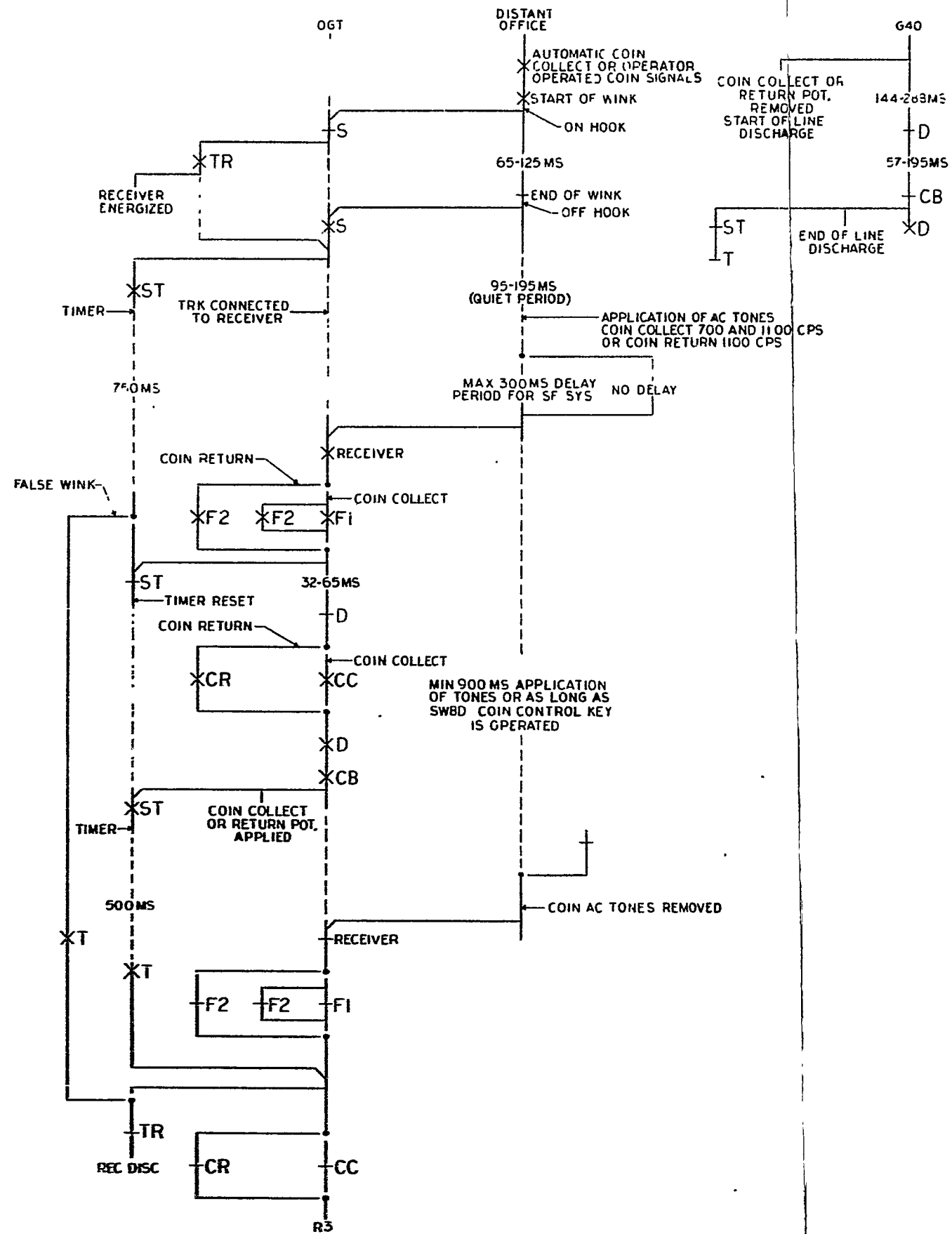
SD-32344-01-E2

DRAWING	ISSUE
1	1
2D	2
3D	3
4A	4
13B	5
17AC	6
17AC	7
17AC	8
17AC	9
17AC	10
17AC	11
17AC	12
17AC	13
17AC	14
17AC	15
17AC	16
17AC	17
17AC	18
17AC	19
17AC	20
17AC	21
17AC	22
17AC	23
17AC	24
17AC	25
17AC	26
17AC	27
17AC	28
17AC	29
17AC	30
17AC	31
17AC	32
17AC	33
17AC	34
17AC	35
17AC	36
17AC	37
17AC	38
17AC	39
17AC	40

A B C D E F G H J K L M N P Q R S T U V W X Y Z AA AB AC AD AE

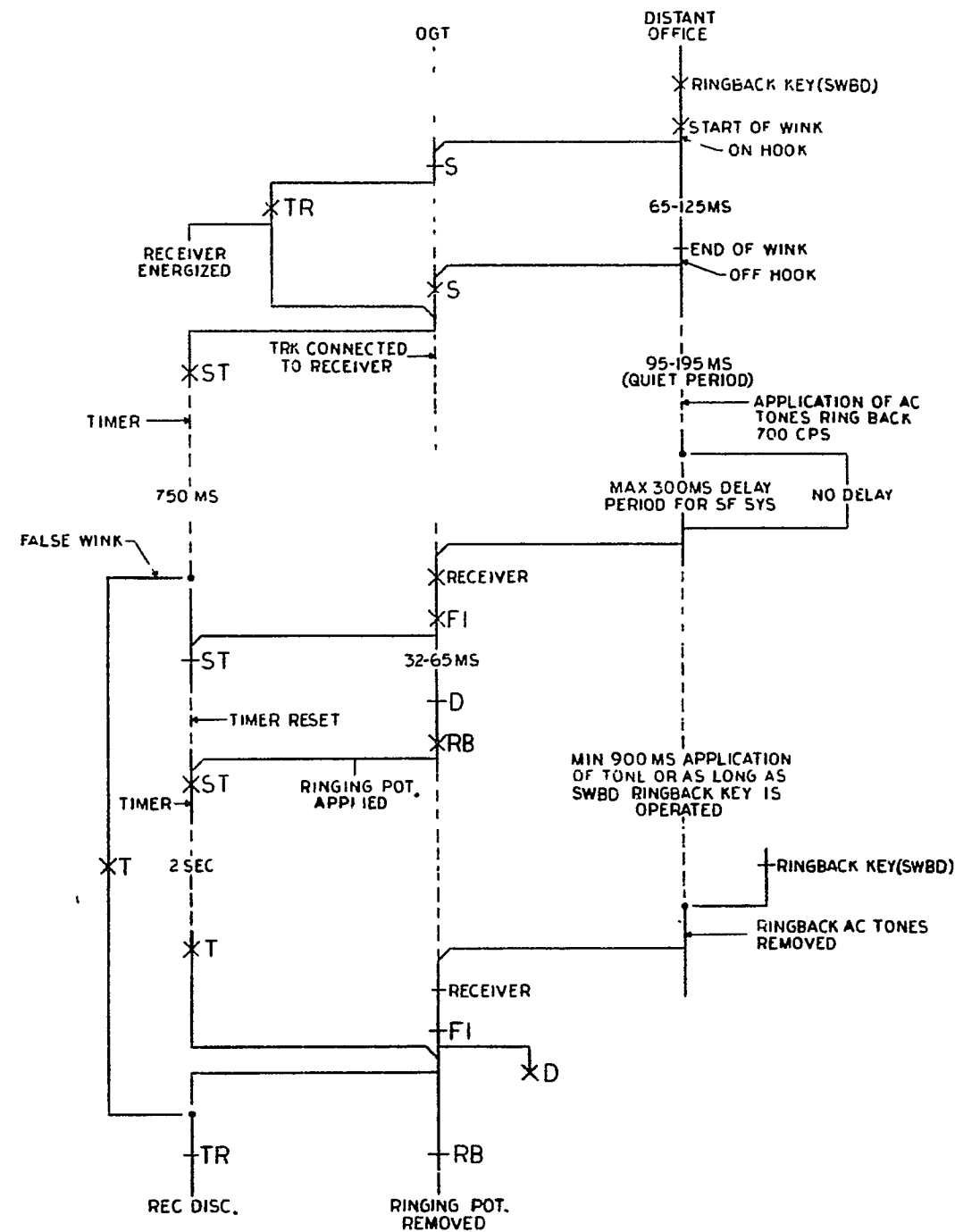
SC 7

AUTOMATIC COIN COLLECT
AND OPERATOR COIN CONTROL
E&M SIGNALING



SC 8

OPERATOR RINGBACK SIGNALS
E&M LEAD SIGNALING



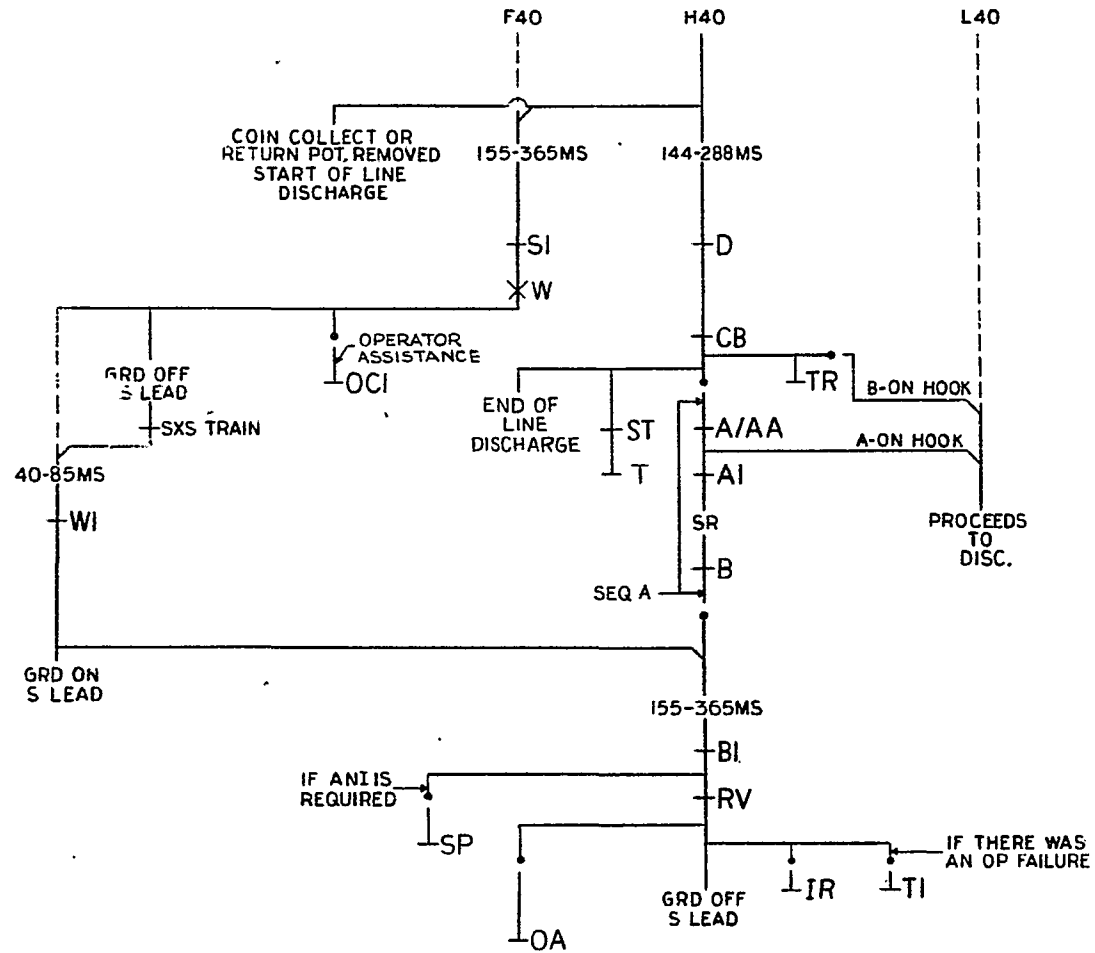
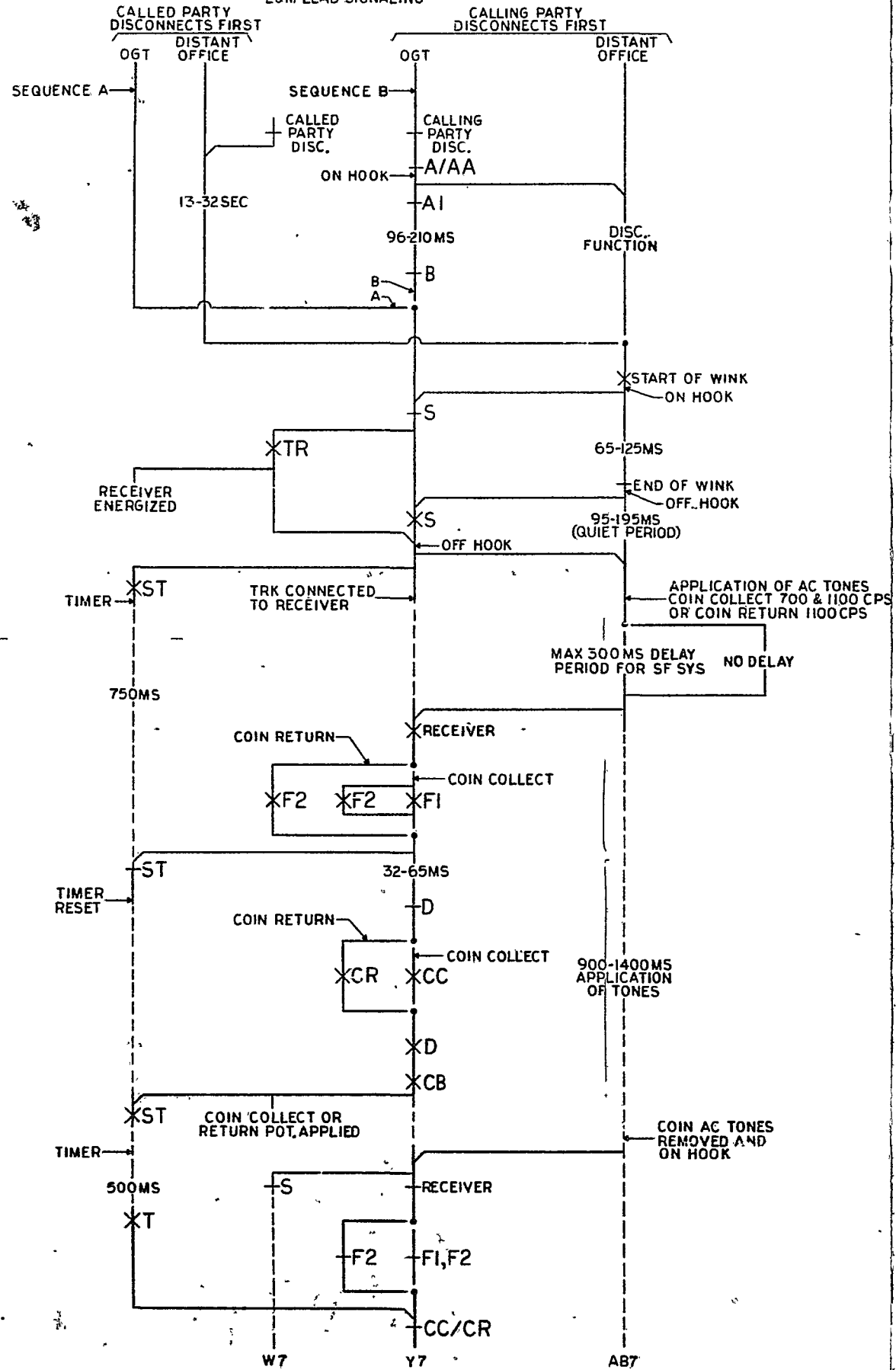
DRAWING
ISSUE
1
JL
CM
30
JTF
CM
13B

13

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SC II

DISCONNECT
AUTOMATIC COIN DISPOSAL
E&M LEAD SIGNALING



SD-32344-01-E6

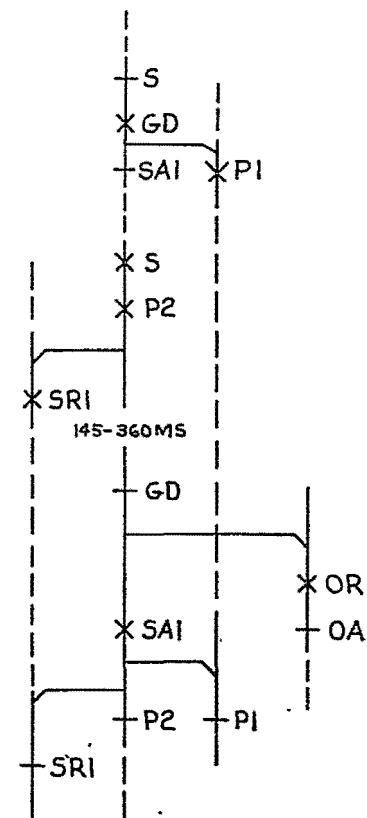
OUTGOING COIN TRUNK CIRCUIT		2	SD-32344-01-E6
BELL TELEPHONE LABORATORIES		65	PRINTED U.S.A.

A B C D E F G H J K L M N P Q R S T U V W X Y Z AA AB AC AD AE

SC 12

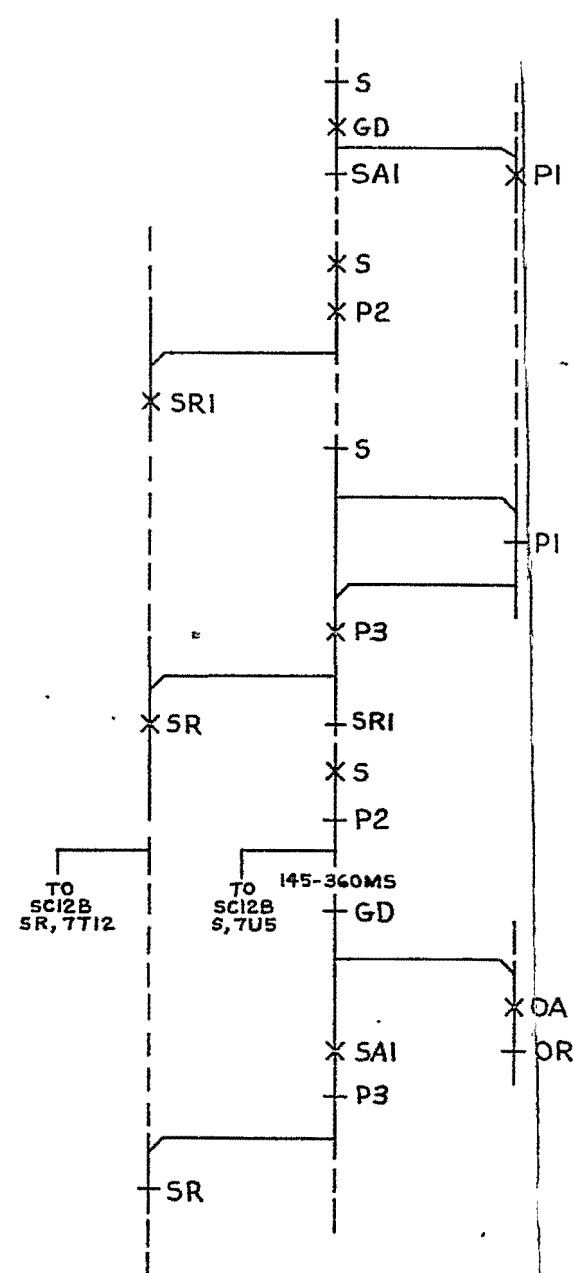
MULTI-WINK SIGNALING

SINGLE WINK
OPERATOR RELEASE



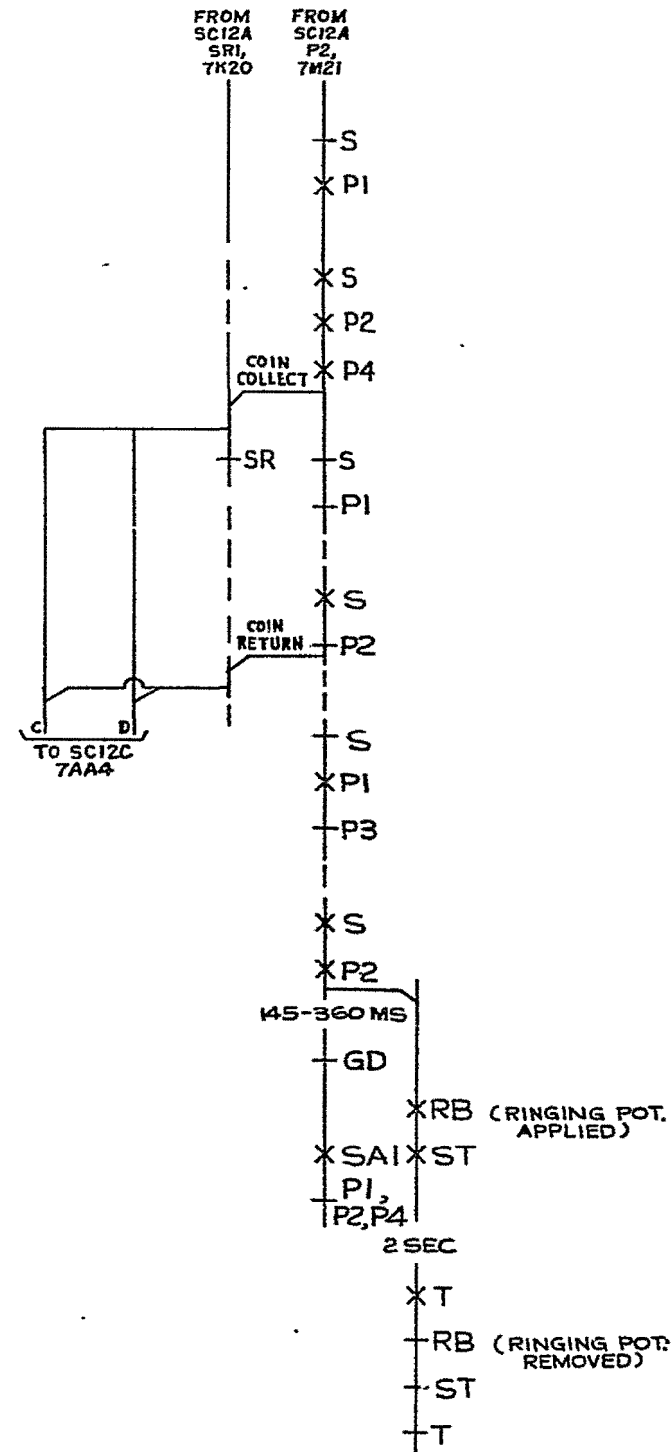
SC 12A

TWO WINKS
OPERATOR ATTACHED



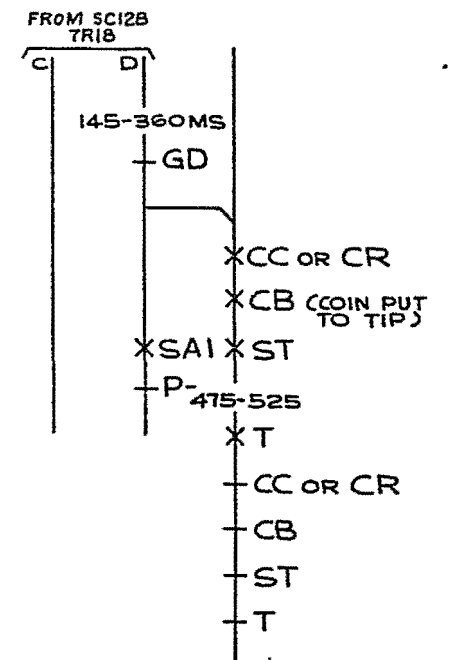
SC 12B

THREE OR FOUR OR FIVE WINKS
COIN COLLECT OR COIN RETURN OR RING BACK



SC 12C

COIN CONTROL



NOTE:
1. (S) RELAY WINK, ON-HOOK INTERVAL 75-125 MS
OFF-HOOK INTERVAL 100-150 MS.

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DRAWING
ISSUE
15D

OUTGOING COIN TRUNK CIRCUIT

2

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A B C D E F G H J K L M N P Q R S T U V W X Y Z AA AB AC AD AE

SD-32344-01 4 PAGES CIRCUIT REQUIREMENTS																			
NO. 1, 350A, 355A OR 35E97 OUTGOING COIN TRUNK CIRCUIT (OGT COIN-LOOP SIG-SPLT-O ASST-SENT PD) OR (OGT COIN-EAM SIG-SPLT-O ASST-SENT PD)																			
APPARATUS		MECH REQ		CIRCUIT PREPARATION		TEST CLIP DATA		TEST SET		SEE TEST		DIRECT CURRENT FLOW REQ		TEST		TEST		REMARKS	
DESIG	CODE	OPT.	FIG.	RESID	BSP FIG.	CONT PRES	ARM. TRVL	BLOCK OR INSULATE	CONN BAT.	CONN GRD.	TEST WDG	TEST FOR	AFTER SOAK	TEST MA	TEST MA	TEST MA	TEST MA	TEST MA	REMARKS
RELAYS																			
A	221FAC		2	4-8	366		8	(OC)NO	(T)JACK T	(T)JACK R	M	1,2,3	P/S	0	FS	14.1	13.4		
								(OC)NO	(T)JACK T	(T)JACK R	M	1,3	P/S	NO	FS	11.8	12.4		
A	221FAE		3	7-11	728		8	(OC)NO	(T)JACK T	(T)JACK R	M	1,2,3,6	S/T	0	FS	15.1	14.8		
								(OC)NO	(T)JACK T	(T)JACK R	M	1,3,6	S/T	NO	FS	13.6	13.9		
AA	AJ102	B, ZG	2,3		75				2L(AA)	1U(AA)	M	7-10	P/S	0		15.5	14.0		
												7-10	P/S	R		5.8	6.1		
A1	AJ30		1		256			(B)NO	U(A1)	GRD				0		28.5	27		
								(B)NO	U(A1)	GRD				NO		18	19		
B	AG38		1		2138			(B1)NO	1U(B)	GRD		P	0	FS	49.5	47			
								(B1)NO	1U(B)	GRD		P	H	FS	8.4	7.9			
								(B1)NO	1U(B)	GRD		P	R	FS	5.2	6.0			
								(B1)NO, 118(N)	2L(B)	2U(B)	B/G	S	0	100	61.5				
B1	AG7		1		241B			(C)NO	U(B1)	GRD				0	FS	17.5	16.5		
								(C)NO	U(B1)	GRD				H	FS	3.2	3.0		
								(C)NO	U(B1)	GRD				R	FS	1.6	1.9		
C	AG49		1		416B				1U(C)	GRD		P	0	FS	59	56			
									1U(C)	GRD		P	H	FS	8.4	8.0			
									1U(C)	GRD		P	R	FS	5.9	6.6			
									2L(C)	2U(C)	B/G	S	0	100	77				
CB	AG53		1		249B				1U(CB)	GRD		P	0	FS	65	62			
									1U(CB)	GRD		P	H	FS	12	11.4			
									1U(CB)	GRD		P	R	FS	5.9	6.6			
								(W)D	2L(CB)	2U(CB)	B/G	S	0	100	85				
CC	1/2AK30		1		202			(S1)NO	1U(CC)	GRD				0		23.5	22		MTD WITH (CR)
CN	AJ141	ZF	2		339				1L(CN)	1U(CN)	B/G	3	P	0		34.5	32.5		
									1L(CN)	1U(CN)	B/G	3	P	NO		19.0	20.0		
									1L(CN)	2U(CN)	B/G	3.5	P/S	0		11.4	10.8		
CR	1/2AK30		1		202			(S1)NO (JR)D	1L(CR)	GRD				0		23.5	22		MTD WITH (CC)
D	AG22	ZF	1		56B				1U(D)	GRD		P	0	FS	36	34			
									1U(D)	GRD		P	H	FS	5.6	5.3			
									1U(D)	GRD		P	R	FS	3.5	4.2			
								4(D)	2L(D)	2U(D)	B/G	S	0	100	47	42.5			
F1	1/2AK30	ZF	3		202			(RB)NO	1U(F1)	GRD				0		23.5	22		MTD WITH (F2)
F2	1/2AK30	ZF	3		202			(CR)NO	1L(F1)	GRD				0		23.5	22		MTD WITH (F1)
TEST NOTES:																			
1. CONTACT SEPARATION TEST MIN .0003 INCH, CONTACT FOLLOW TEST MIN .0008 INCH																			
2. ARMATURE NEED NOT TOUCH CORE.																			
3. INSERT PLUG IN (TT) JACK.																			
4. ONLY CONTACTS IN POSITION 12 NEED MAKE ON 26.5 PRIMARY OPERATE.																			
5. STRAP 1U TO 2L OF (CN) RELAY.																			
6. APPLY PULSE REPEATING REQUIREMENT 61.50-65% DM.																			
7. CONTACT MAKE 5, NO MAKE 8.5, READJUST; MAKE 3.5, NO MAKE 10 TEST.																			
8. ARMATURE BACK TENSION MINIMUM 20 GRAMS READJUST, 15 GRAM TEST.																			
9. INSERT PLUG IN TT JACK.																			
10. CONTACT BREAK 13 READJUST, 11.5 TEST, NO BREAK 16.5, READJUST, 18 TEST.																			
PAGE 1																			
SD-32344-01-F1																			
BELL TELEPHONE LABORATORIES INCORPORATED																			
SD-32344-01-F1																			

CIRCUIT REQUIREMENTS																			DRAWING ISSUE	
APPARATUS				MECH REQ			CIRCUIT PREPARATION				TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQ					REMARKS		
DESIG	CODE	OPT.	FIG.	BSP FIG.	CONT PRES	ARM. TRVL	BLOCK OR INSULATE	TEST CLIP DATA		TEST WDG			TEST FOR	AFTER SOAK MA	TEST MA	READJ MA				
								CONN BAT.	CONN GRD											
GD	AG43		6		348		68(P2)		U(GD)	GRD			0	16.5	15.5					
										GRD			H	3.5	3.3					
										GRD			R	1.7	2					
ID	AF23		1		206		A(NO)		U(ID)	GRD			0	73	69.5					
IR	AF67	K	1		207				U(IR)	GRD			0	7.2	6.8					
IR	1/2AK4		6		202				1L(IR)	GRD			0	11.9	11.3	MTD WITH (SA1)				
MB	1/2AK8		1		204		9(MB)		1U(MB)	GRD	1		0	9.2	8.7	MTD WITH (T)				
							9(MB)		1U(MB)	GRD	1		R	1.7	1.8					
							9(MB)		1U(MB)	GRD	1		NO	5.7	6.0	B OPTION ONLY				
MF	AJ9		1		234				U(MF)	GRD			0	40	38					
OA	AG38	B, ZG	2,3		2138				1U(OA)	GRD		P	0	49.5	47					
									1U(OA)	GRD		P	NO	FS	25.0	26.5				
									1U(OA)	GRD		P	H	FS	8.4	7.9				
									1U(OA)	GRD		P	R	FS	5.2	6.0				
									1U(OA)	GRD		S	0	100	61.5	58.5				
OC	1/2AK15		1		9		2(OA)	2L(OA)	2U(OA)	B/G			0	14.2	13.5	MTD WITH (OF)				
							(OF)NO	1U(OC)	2U(OC)	B/G			H	5.3	5.6					
							(OF)NO	1U(OC)	2U(OC)	B/G										
OC1	AF79		1		205		(W)5		U(OC1)	GRD			0	9.7	9.2					
							128(OF1)													
OF	1/2AK15		1		9				1L(OF)	GRD			0	12.5	11.9	MTD WITH (OC)				
OF1	AG6		1		239B				U(OF1)	GRD			0	FS	9.3	8.8				
									U(OF1)	GRD			H	FS	1.6	1.5				
									U(OF1)	GRD			R	FS	0.8	1.0				
OR	AG37	ZG	6		297B				1U(OR)	GRD		P	0	FS	48	46				
									1U(OR)	GRD		P	H	FS	6.3	5.9				
									1U(OR)	GRD		P	R	FS	3.9	4.6				
							10(OR)	2L(OR)	2U(OR)	B/G		S	0	100	60.5	57.5				
P1	AF55		6		26				U(P1)	GRD			0	37	35					
P2	AF100		6		252				U(P2)	GRD			0	41.5	39.5					
P3	AF55		6		26				U(P3)	GRD			0	37	35					
P4	AF54		6		25				U(P4)	GRD			0	30	29					
R1	1/2AK4	ZF	2		202				1U(R1)	GRD			0	11.9	11.3	MTD WITH (R2)				
R2	1/2AK4	ZF	2		202		(RB)NO		1L(R2)	GRD			0	11.9	11.3	MTD WITH (R1)				
RB	AF9		1		213		2(S) APP FIG. 3		U(RB)	GRD			0	8.7	8.2					
RV	AJ15		1		249		(T1)0		U(RV)	GRD			0	43	40.5					
S	AF20	ZF, ZG	3		205		(S1)NO		U(S)	GRD			0	36	34					
S	280CD		2		B		(A)0, (S1)NO	6(S)	2(S)	B/G	2	P	0	-7C	1.5					
							(A)0, (S1)NO	6(S)	2(S)	B/G	2	P	NO	-70	1.1					
							(A)0, (S1)NO	6(S)	2(S)	B/G	2	P	0	-70	7.2	6.8				
							(A)0, (S1)NO	6(S)	2(S)	B/G	2	P	R	-70	0.1	0.2				
							(S1)NO	6(S)	2(S)	B/G	2	S	0		0.53					
S1	AG7		1		241B				U(S1)	GRD			0	FS	17.5	16.5	WITH APP FIG. 2, BLOCK (R1)NO			
									U(S1)	GRD			H	FS	3.2	3.0				
									U(S1)	GRD			R	FS	1.6	1.9				
SA	AF15	ZF	2		216				U(SA)	GRD			0	7.1	6.7					
SA1	1/2AK4		6		202				1U(SA1)	GRD			0	11.9	11.3	MTD WITH (IR)				
TEST NOTES:																				
1. ARMATURE BACK TENSION MINIMUM 20 GRAMS READJUST, 15 GRAMS TEST.																				
2. INSERT PLUG IN (TT) JACK.																				
AL																				
OUTGOING COIN TRUNK CIRCUIT																			SD-32344-01-F1	
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INCORPORATED																			PRINTED IN U.S.A.	
PAGE 2																			ISSUE 16B	

CIRCUIT REQUIREMENTS

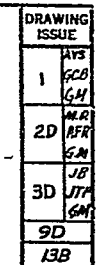
DRAWING
ISSUE

1
JL
GM
MA
AF
GA
2D
JB
JTF
GA
3D
FF
GA
4A
AF
GA
5A
JUB
JTF
GA
8B

APPARATUS				MECH REQ			CIRCUIT PREPARATION				TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQ					REMARKS
DESIG	CODE	OPT.	FIG.	BSP FIG.	CONT PRES	ARM. TRVL	BLOCK OR INSULATE	TEST CLIP DATA		TEST WDG			TEST FOR	AFTER SOAK MA	TEST MA	READJ MA		
								CONN BAT.	CONN GRD									
SP	AJ71		1	250			12(SP)		1U(SP)	GRD			F	0	23.5	21		
							12(SP)		1U(SP)	GRD			P	NO	11.4	12		
							12(SP)		2U(SP)	GRD			S	0	13.9			
SP1	AF120		1	406			(A)NO	L(SPI)	U(SPI)	B/G				0	20.5	19.5		
SR	1/2AK38		6	13					1U(SR)	GRD				0	11.9	11.3	MTD WITH (SR1)	
													H	5.4	5.1			
SR1	1/2AK38		6	13					1L(SR1)	GRD				0	11.9	11.3	MTD WITH (SR)	
													H	5.4	5.1			
SS	AJ30	ZG	2	256					U(SS)	GRD				0	28.5	27		
									U(SS)	GRD				NO	20	19		
ST	1/2AK4		1	202					1U(ST)	GRD	1			0	11.9	11.3	MTD WITH (T1)	
T	1/2AKB		1	204					1L(T)	GRD	1			0	17	16	MTD WITH (M8)	
T1	1/2AK4		1	202					1L(T1)	GRD				0	11.9	11.3	MTD WITH (ST)	
TT	AJ5		1	220				L(TT)		BAT				0	13.3	12.6		
TT1	AJ5		1	220					U(TT1)	GRD				0	13.3	12.6		
TR	AF100	ZF	3	252					U(TR)	GRD				0	41.5	39.5		
W	AJ15		1	249					U(W)	GRD				0	43	40.5		
WI	AG45		1	208					U(WI)	GRD				0	7	6.6		
									U(WI)	GRD				H	1.4	1.3		
									U(WI)	GRD				R	0.9	1.1		

[illegible]

(FOR APP FIG 1,2 & 3)



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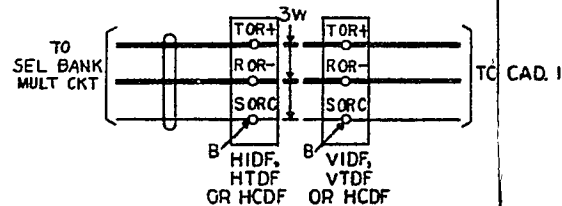
PART OF CAD. 1

(FOR APP FIG 1,2 & 3)

CAD. 2

(FOR APP FIG. 1)

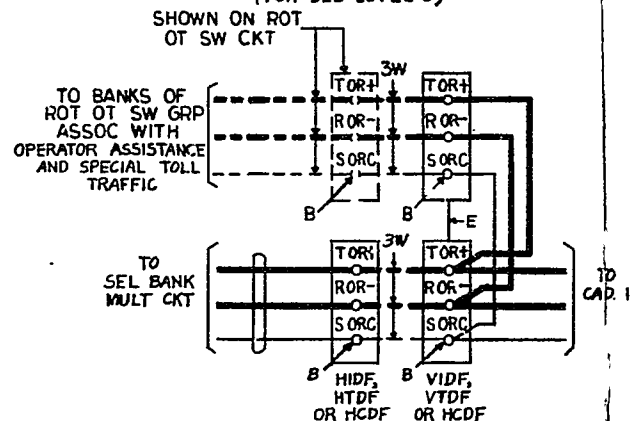
CONN TO SEL BANK MULT CKT THRU IDF, TDF OR CDF
(FOR SEL LEVEL 0 OR 1)



CAD. 3

(FOR APP FIG. 1) (SEE NOTE 201)

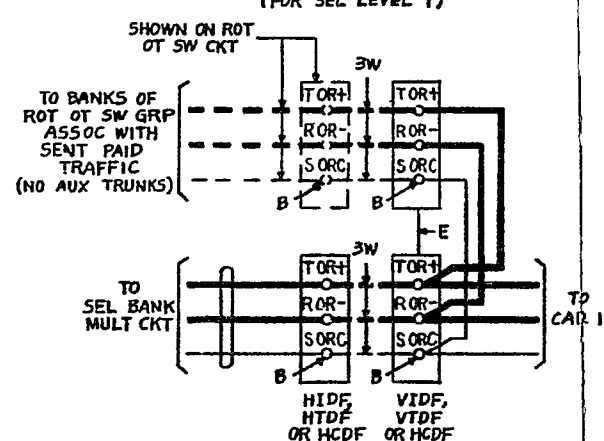
CONN TO SEL BANK MULT CKT AND ROT OT SW THRU IDF, TDF OR CDF
(FOR SEL LEVEL 0)



CAD. 4

(FOR APP FIG. 1) (SEE NOTE 204)

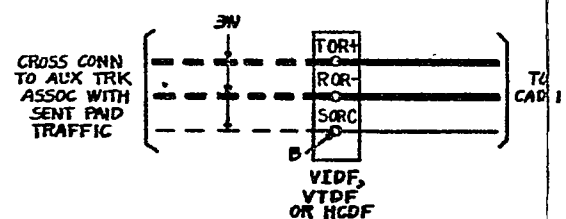
CONN TO SEL BANK MULT CKT AND ROT OT SW THRU IDF, TDF OR CDF
(FOR SEL LEVEL 1)



CAD. 5

(FOR APP FIG. 1)

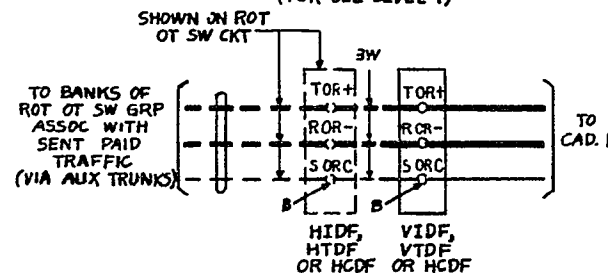
CONN TO AUX TRUNKS THRU IDF, TDF OR CDF
(FOR SEL LEVEL 1)



CAD. 6

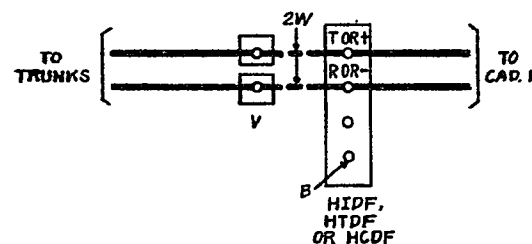
(FOR APP FIG. 1)

CONN TO ROT OT SW ASSOC WITH AUX TRUNKS THRU IDF, TDF OR CDF
(FOR SEL LEVEL 1)



CAD. 7

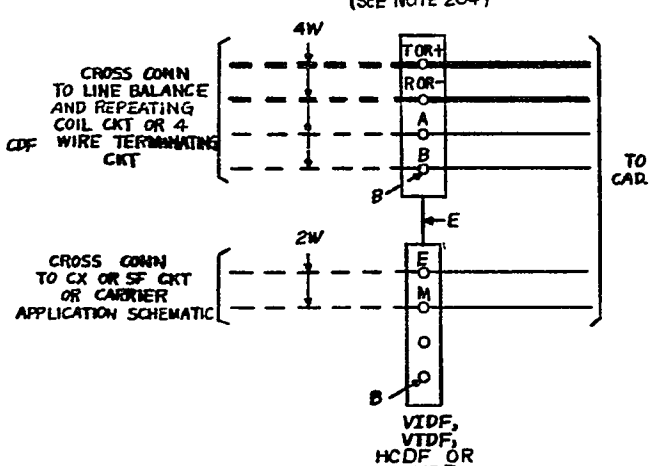
(FOR APP FIG. 2)



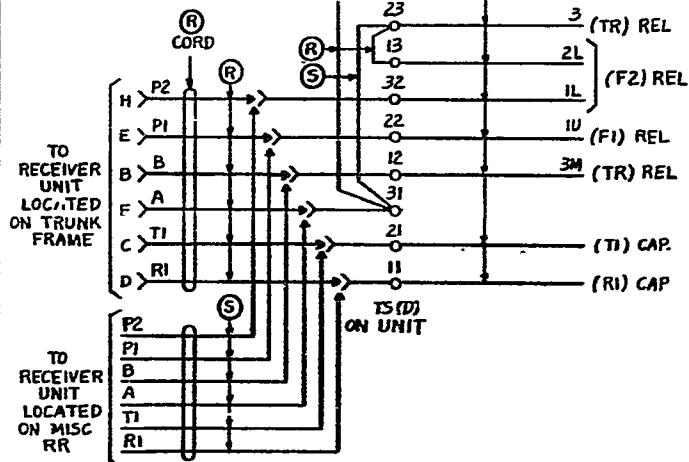
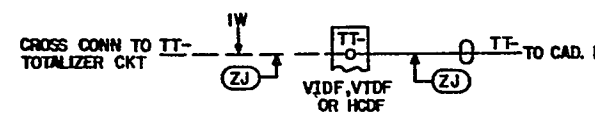
CAD. 8

(FOR APP FIG. 3)

(SEE NOTE 204)



CAD. 9



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OUTGOING COIN TRUNK CIRCUIT

2

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