

21

SD-32309-Q1-A1

DWG ISSUE	CO ISSUE	DATE ISSUED	DESIGN	APP'D
1	1	8-29-59	JH JHS	AKO FBB
2D	APP 1D	10-2-59	SYL JHS	FAC FBB
3AC	2AC	2-2-61	MR H.M.	FAD TEB
4AR	2AC 3PIAR	12-10-65	AD AD	PHS GM
5B	2AC APP 2B	2-14-69	5FL GAS	MLR PD
6A	2AC APP 3A	9-23-70	CGK PJS	CGK LCB
7B	2AC APP 4B	9-23-70	CGK PJS GK	CGK LCB GEB
8A	2AC APP 5A	5-17-72	CGK SAK KRV	FLS LCB SEB
9B	2AC APP 6B	3-19-76	KD PJS UFF	RWT BFC SEB

SHEET INDEX NOTES

- NOTICE**-NOT FOR USE OR DISCLOSURE OUTSIDE THE BELL
SYSTEM EXCEPT UNDER WRITTEN AGREEMENT.

ISSUE
9B

1099

AT&TCJ
STANDARD
A814 ONLY FOR 350A
AND 35E97

E AND M LEAD SUPERVISION

E AND M LEAD SUPERVISION

E AND M LEAD SUPERVISION

(OGT) 2

SD-32309-01-A1

11 SHEETS

BELL TELEPHONE LABORATORIES
INCORPORATED

DATA DATE
65

APPARATUS INDEX

DESIG	LOCATION		
	FS	APP FIG.	EQUIP.
RELAYS			
B	1C7	1	
C	2B9	6	
E	1E7	1	
MB	1C3	1	
OA	1E5	1	
P	2D8	6	
R	2B2	3	
R	2C6	6	
RT	2E2	4	
S	1F4	1	
SI	1E5	1	
SL	1E2	1	
ST	2C6	6	
T	1R4	2	
T	2B5	6	
TBL	2E0	4	
TBL	2B9	6	

CAPACITORS			
A	1C6	1	
C	1A7	1	
H	2D8	6	

DIODES			
C1	2C9	6	
C2	2C8	6	
R	2C2	6	
S	2B6	6	
RT-4	2B2	6	
RT-4	2B3	6	
RT	2E3	4	
RTI-4	2F3	6	
T	1R4	2	
T	2B5	6	
TI-4	1G4	2	
TI-4	2C6	6	

JACKS			
TI	2G0	5	
TST	1B1, 1C1	1	

LAMPS			
H	1F6	1	
RT	1D7	7	

NETWORK			
E	1E7	1	
SI	1E5	1	

DESIG	LOCATION		
	FS	APP FIG.	EQUIP.
PLUG			
TI	2G0	8	

RESISTORS			
A	1E2	1	
B	2H1	5	
C	1B7	1	
H	2D9	6	
M	1E7	1	
MB	1C3	1	
R	2B1	3	
R	2H2	5	
S	1E4	1	
T	1G3	2	
T	2G2	5	

THERMISTOR			
B	2H1	.5	

TUBES ELECTRON			
R	2C2	3	
R	2H3	5	
T	1G2	2	
T	2H2	5	

LEAD INDEX

DESIG	FS LOC	CAD LOC
CX SET AND REP COIL CKT		
R OR -	1F8	1C1-6
T OR +	1B8	1C1-6

EMERGENCY LINE CKT		
E	1E6	1B1, 3, 1C6
H	1E6	1B1, 3, 1C6
R	1B8	1C1-6
S	1B8	1C1-6
T	1B8	1C1-6

MACH RINGING CKT		
MR RI OR MR SUP-	1D8	

NAKE BUSY CKT		
K	1F8	1E1, 3

MISC ALARM CKT		
CODE 1	1C8	1F1, 2

POWER RINGING CKT		
MS	1E8	1F1, 3

POWER SHELF TERM. BLOCK		
RB TOAE	1C8	1F1, 3
RM ST	1E8	1F1, 3

PULSE GENERATOR CKT		
C1	2C9	1E3
C2	2C9	1E3
C3	2C9	1E3
PLS-	2C9	1D3
PII	2C9	1E3
ST	2C9	1E3

SIGNALING CKT USING E AND H LEADS		
E	1E6	1B1, 3, 1C6
H	1E6	1B1, 3, 1C6

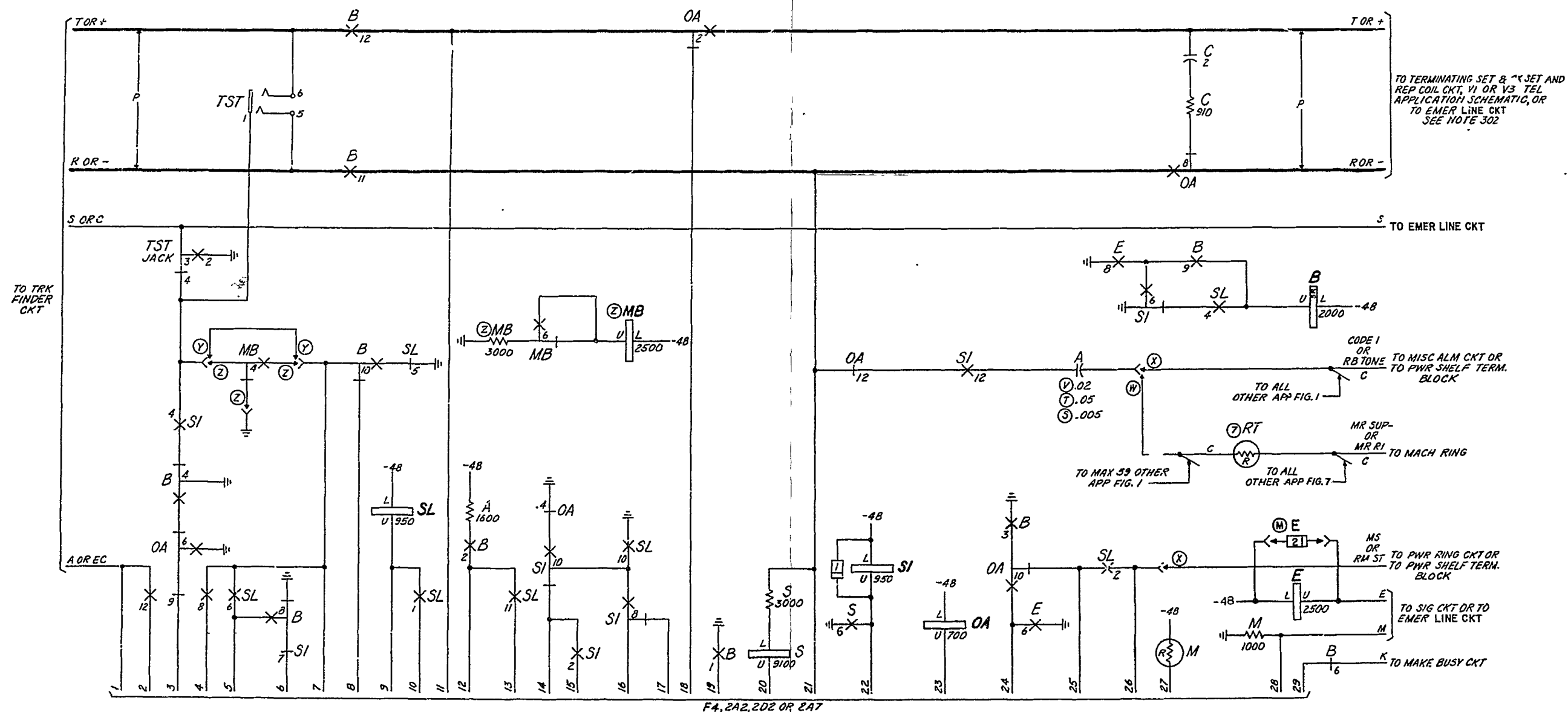
OPTION INDEX

APP OR WIR	LOCATION
2	APP FIG. 2, 1G6
3	APP FIG. 3, 2A1
4	APP FIG. 4, 2D1
5	APP FIG. 5, 2G3
6	APP FIG. 6, 2A6
7	APP FIG. 7, 1D7
8	APP FIG. 8, 2G0
Z	APP FIG. 1, 1C3, 1D1
Y	1C1
X	1C6, 1E7
W	1D6
V	APP FIG. 1, 1D6
-	APP FIG. 1, 1D6
S	APP FIG. 1, 1D6
R	APP FIG. 2, 3, 4 & 6 1G2, 1H3, 1G4 2B1, 2C1, 2C2 2B6, 2C5, 2C6 2E1, 2E2, 2G2 2H2
Q	APP FIG. 2, 3, 4 & 6 1G2, 1G3, 1H3, 1H4 2B1, 2B2, 2C1, 2C2 2C5, 2C6, 2E1, 2E2 2F2, 2G2, 2H2
P	2A7, 2B5, 6, 7, 8, 9 2C6, 9, 2D5
N	2A7, 2B5, 6, 7, 8, 9 2C6, 9, 2D5
M	APP FIG. 1 2B9, 2C8, 2C9
L	APP FIG. 6, 2B9, 2C8
K	APP FIG. 6, 2B9, 2C8

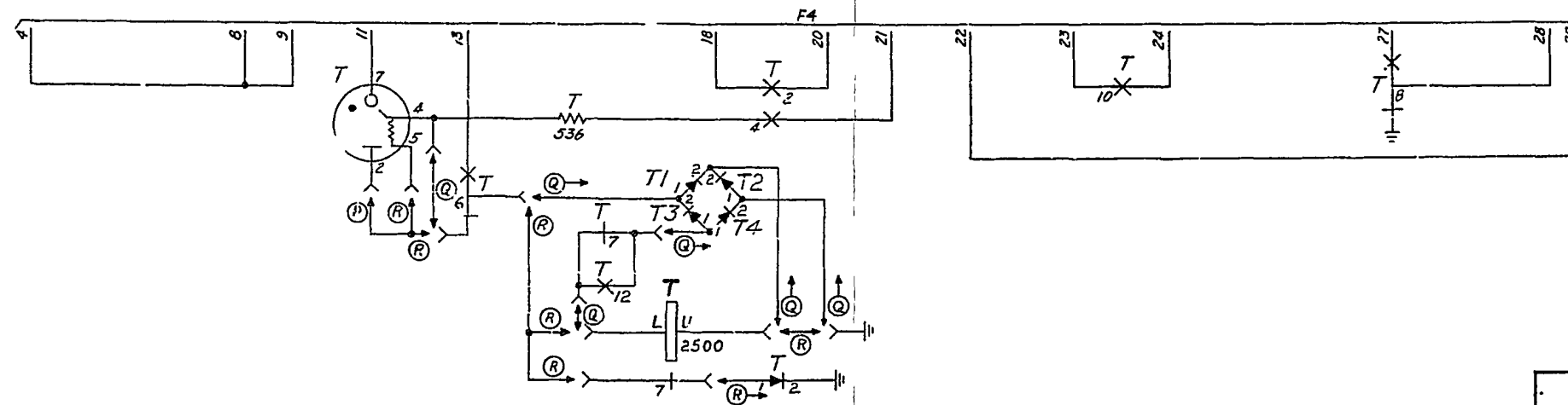
DRAWING	ISSUE
1	1
3AC	4M
TEB	7B

HW
1/1

FS1 TRUNK CIRCUIT



② FS2 MACHINE INTERCEPT ONLY



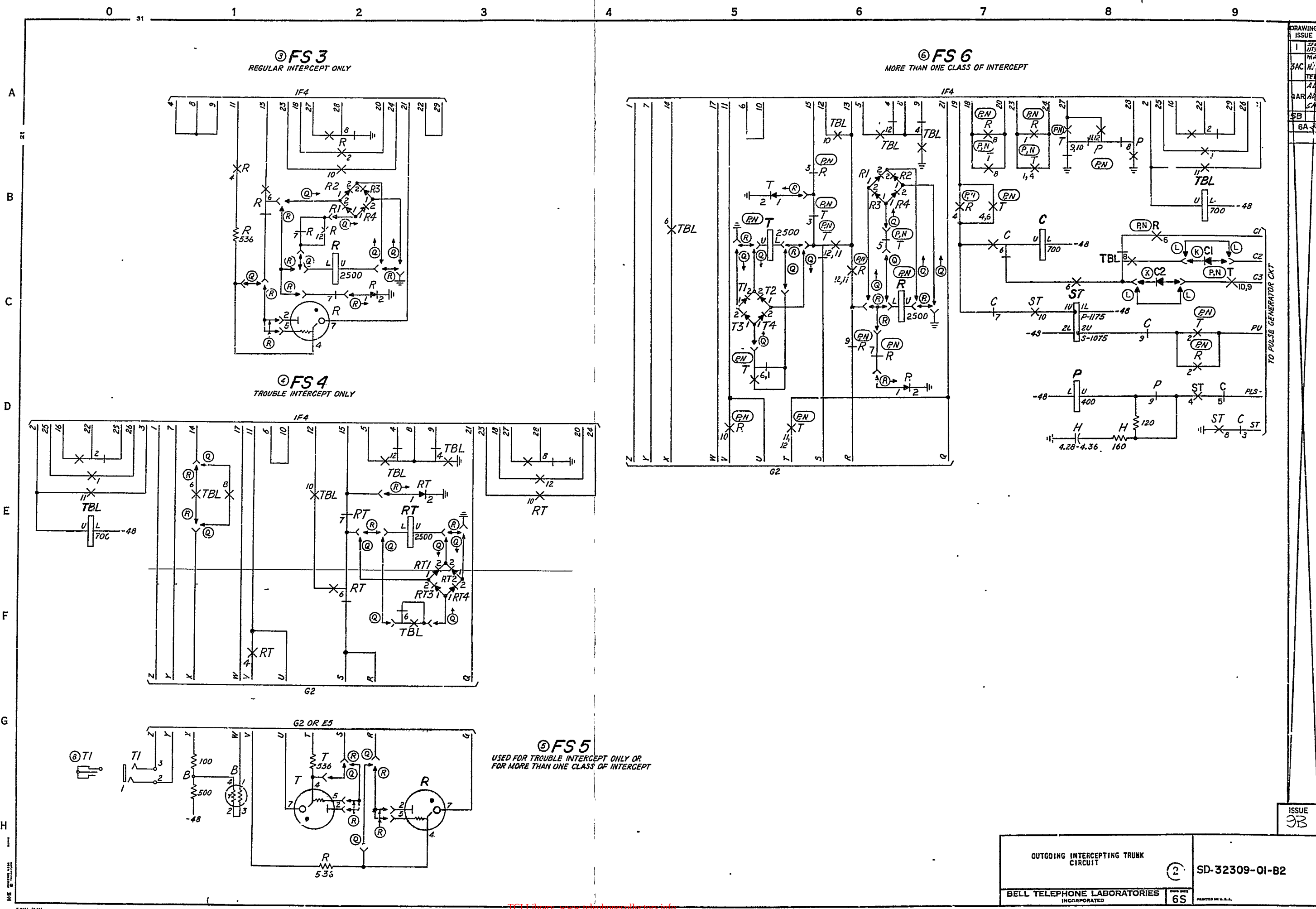
OUTGOING INTERCEPTING TRUNK
CIRCUIT

②

SD-32309-01-B1

BELL TELEPHONE LABORATORIES

PAPER SIZE



SD-32309-01-B2

OUTGOING INTERCEPTING TRUNK CIRCUIT		(2)	SD-32309-01-B2
BELL TELEPHONE LABORATORIES INCORPORATED		6S	PRINTED IN U.S.A.

APP FIG. 1

RELAY		B		E		MB		OA		S		SI		SL		DESIG	
CODE		AG20		AF15		AFB7		AF32		AJ7		AF120		AJ48		CODE	
OPTION		CONT		LOC		CONT		LOC		CONT		LOC		CONT		LOC	
12	M	1A2														12	
11	M	1B2														11	
10	EBM	1D2														10	
9	M	1C7														9	
8	EMB	1E1	M	1C6	EBM											8	
7	EMB	1F7	EMB	1E6	EMB	1C3										7	
6	EMB	1F7	EMB	1E6	EMB	1C3										6	
5																5	
4	EBM	1D1	M		EBM	1C1										4	
3	M	1E6														3	
2	EBM	1E2														2	
1	M	1F4														1	
COIL		1C7		1E7		1C3		1E6		1F4		1E5		1E2		COIL	

CAPACITOR		JACK		LAMP		NETWORK		RESISTOR	
DESIG	LOC	CODE	DESIG	LOC	CODE	DESIG	LOC	DESIG	LOC
V	A	1C6	441H					A	1E2
T	A	1C6	441H					C	1E7
S	A	1C6	441P					M	1E7
C		1A7	436A					S	1E4

TST		RESISTOR	
DESIG	LOC	DESIG	LOC
328C		18AT	
5	1B1	KS-13480, L1, 910	
4	1B1	18BH	
3	1C1	18DB	
1	1B1	18DB	

APP FIG. 2

RELAY		T	
CODE		AF10	
OPTION		CONT	
		LOC	
12	EM	1H3	
11			
10	M	1G5	
9			
8	EBM	1G7	
7	B		
6	EMB	1G3	
5			
4	M	1G4	
3			
2	M	1G4	
1			
COIL		1H4	

DIODE		RESISTOR	
DESIG	LOC	DESIG	LOC
RT	1H4	400J	
RT-4	1G4	400J	
T	1G3	KS-8512, L8B, 536	

TUBE, ELECTRON		RESISTOR	
DESIG	LOC	DESIG	LOC
T	1G2	346C	

APP FIG. 3

RELAY		R	
CODE		AF1G	
OPTION		CONT	
		LOC	
12	EM	2B2	
11			
10	M	2B2	
9			
8	EBM	2B2	
7	B		
6	EMB	2B	
5			
4	M	2B1	
3			
2	M	2B2	
1			
COIL		2B2	

DIODE		RESISTOR	
DESIG	LOC	DESIG	LOC
R	2C2	400J	
RT-4	2B2	400J	
R	2B1	KS-8512, L8B, 536	

TUBE, ELECTRON		RESISTOR	
DESIG	LOC	DESIG	LOC
R	2C1	346C	

APP FIG. 4

RELAY		RT		TBL	
CODE		AF10		AF20	
OPTION		CONT		LOC	
12	EM	2E3	EMB	2E2	
11					
10	M	2E3	EBM	2E2	
9					
8	EBM	2E3	EBM	2E1	
7	B	2E2			
6	EMB	2F2	EMB		
5					
4	M	2F1	EBM	2E3	
3					
2	M		EBM	2E0	
1					
COIL		2E2		2E0	

DIODE		RESISTOR	
DESIG	LOC	DESIG	LOC
RT	2E3	400J	
RT-4	2F3	400J	

TUBE, ELECTRON		RESISTOR	
DESIG	LOC	DESIG	LOC
R	2H1	26A	

APP FIG. 5

JACK		RESISTOR	
DESIG	LOC	DESIG	LOC
T1	260	238A	

THERMISTOR		RESISTOR	
DESIG	LOC	DESIG	LOC
B	2H1	26A	

TUBE, ELECTRON		RESISTOR	
DESIG	LOC	DESIG	LOC
R	2H3	346C	
T	2H2	346C	

APP FIG. 6

RELAY		C		P		R		R		ST		T		T		TBL		DESIG	
CODE		AJ30		AF11G		AF140		AJ125		AF71		AF64		AJ125		AF20		CODE	
OPTION		CONT		LOC		CONT		LOC		CONT		LOC		CONT		LOC		OPTION	
12																		12	
11																		11	
10	M																	10	
9	B	2C8	B	2D9	B	2C6	EBM	2A7	M	2D9	M	2B7	EBM	2B7				9	
8	EBM	2C7	EBM	2B8	EBM	2C6	EBM	2A7	M	2D9	M	2B7	EBM	2B7				8	
7	B	2C7	B	2D9	B	2C6	EBM	2A7	M	2D9	M	2B7	EBM	2B7				7	
6	EMB	2B7	EBM	2B8	EBM	2C6	EBM	2A7	M	2D9	M	2B7	EBM	2B7				6	
5	B	2D9	B	2D9	B	2C6	EBM	2A7	M	2D9	M	2B7	EBM	2B7				5	
4	EBM																	4	
3	B	2D9	M															3	
2																		2	
1																		1	
COIL		2B7		2D8		2C6		2C6		2C8		2B5		2B5		2A9		COIL	

CAPACITOR		DIODE (CONT)		RESISTOR	
DESIG	LOC	DESIG	LOC	DESIG	LOC
H	2D8	437QA		H	2D8

DIODE		RESISTOR	
DESIG	LOC	DESIG	LOC
C1	2C9	446F	
C2	2C8	446F	

APP FIG. 7

LAMP		PLUG	
DESIG	LOC	DESIG	LOC
RT	1D7	13C	

APP FIG. 8

LAMP		PLUG	
DESIG	LOC	DESIG	LOC
T1	260	375A	

OUTGOING INTERCEPTING TRUNK
CIRCUITBELL TELEPHONE LABORATORIES
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SD-32309-01-C1

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101.

104.EQUIPMENT NOTES:

INFORMATION NOTES:

302. THE REF COIL IN THE ASSOCIATED CONNECTING CIRCUIT SHALL BE EQUIPPED WITH A CAPACITOR ACROSS THE MIDPOINT OF THE COIL CONNECTED TO THIS CIRCUIT.

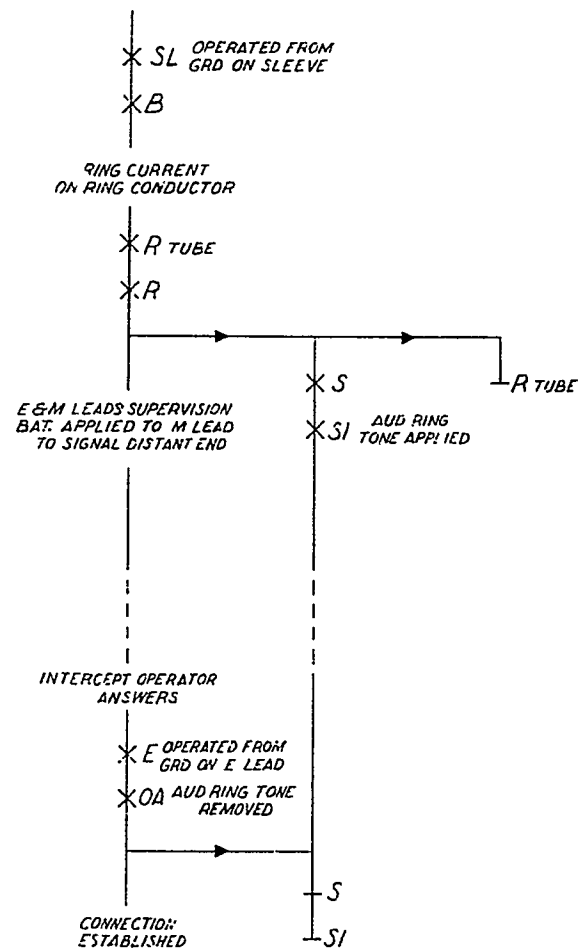
FEATURE OR OPTION			PROVIDE		QUANTITY
			APP FIG.	APP OR VRS	
FUSE FAILURE		REQUIRED		Z	
MAKE BUSY RELAY		NOT REQUIRED		Y	
OFFICE		355A OR 35E97		Y	
		NO. 1 OR 350A		W	
		OTHER THAN 35E97 OFFICE		V	
RINGING TONE CAPACITOR	35E97 OFFICE	ROTARY TYPE RING. MACH OR SUBCYCLE IS PROVIDED		T	
		VIBRATOR TYPE RING. MACH IS PROVIDED		S	
RINGING SUPPLY LAMP			7		ONE PER MAX 60 APP FIG. 1
MORE THAN ONE CLASS OF INTERCEPT			5,6		
TROUBLE INTERCEPT ONLY			4,5		
REGULAR INTERCEPT ONLY			3		
MACHINE INTERCEPT ONLY			2		
TRUNK CIRCUIT			1		
(T1) PLUG			B		ONE PER OFF. USING APP FIG. 5

NETWORK VALUES		
NETWORK NO.	RESISTANCE IN OHMS	CAPACITANCE IN UF
1	120	0.35
2	470	0.11

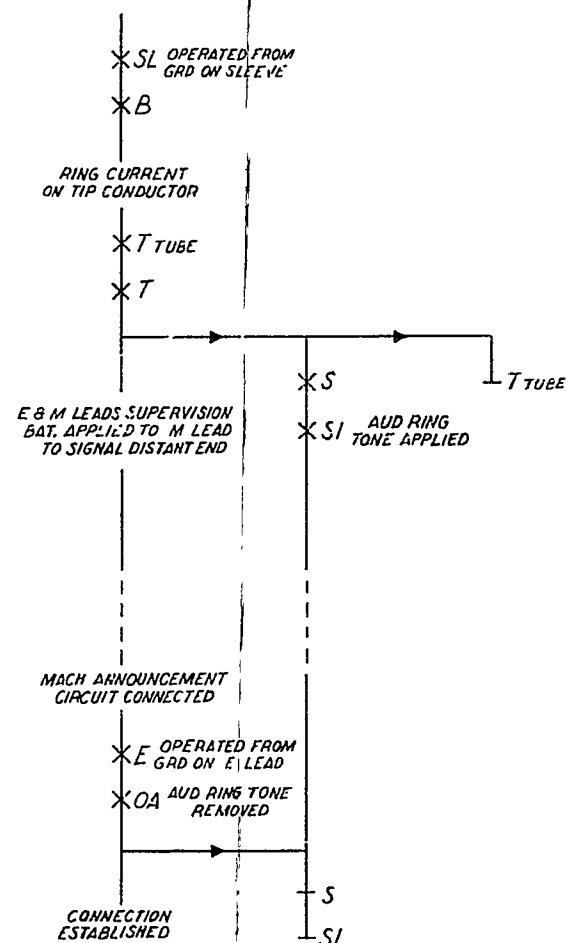
A B C D E F G H J K L M N P Q R S T U V W X Y Z AA AB AC AD AE

DRAWING
ISSUE
1

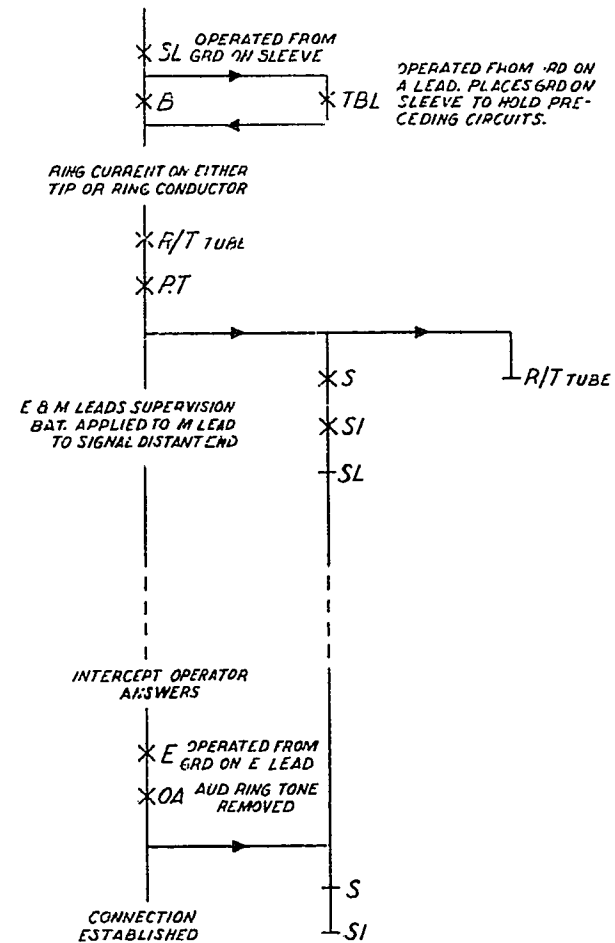
SC1
SEIZURE
REGULAR INTERCEPT
ONLY



SC2
SEIZURE
MACHINE INTERCEPT
ONLY



SC3
SEIZURE
TROUBLE INTERCEPT
ONLY



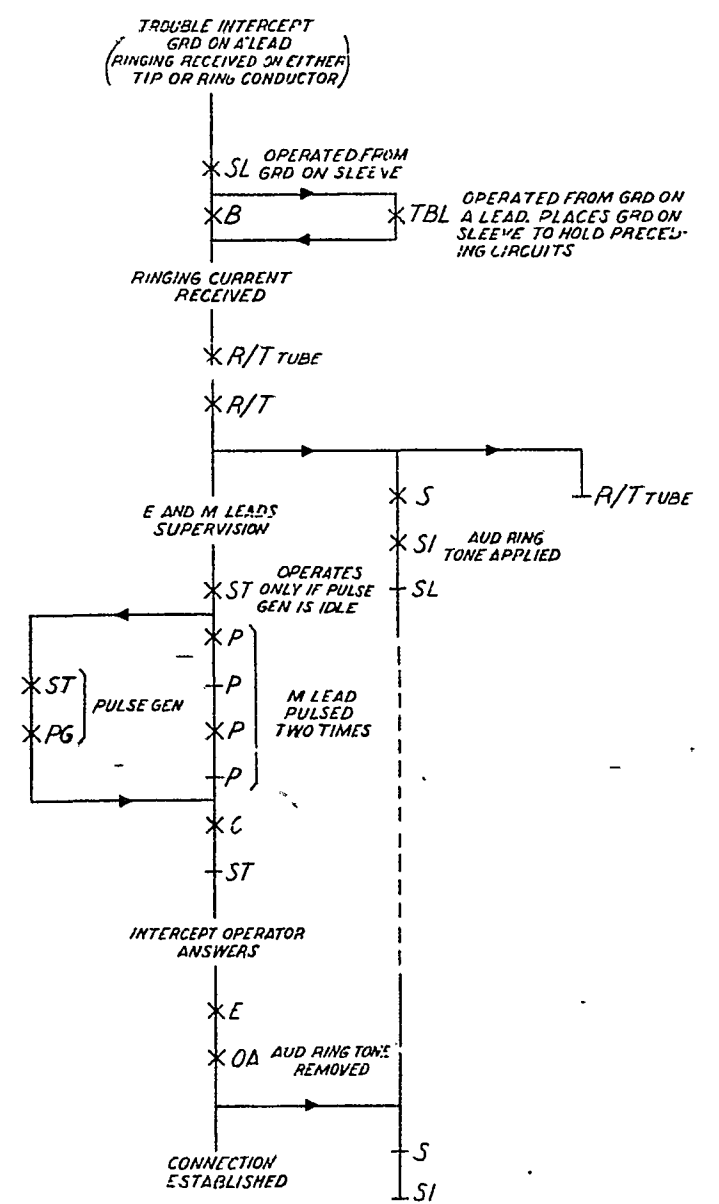
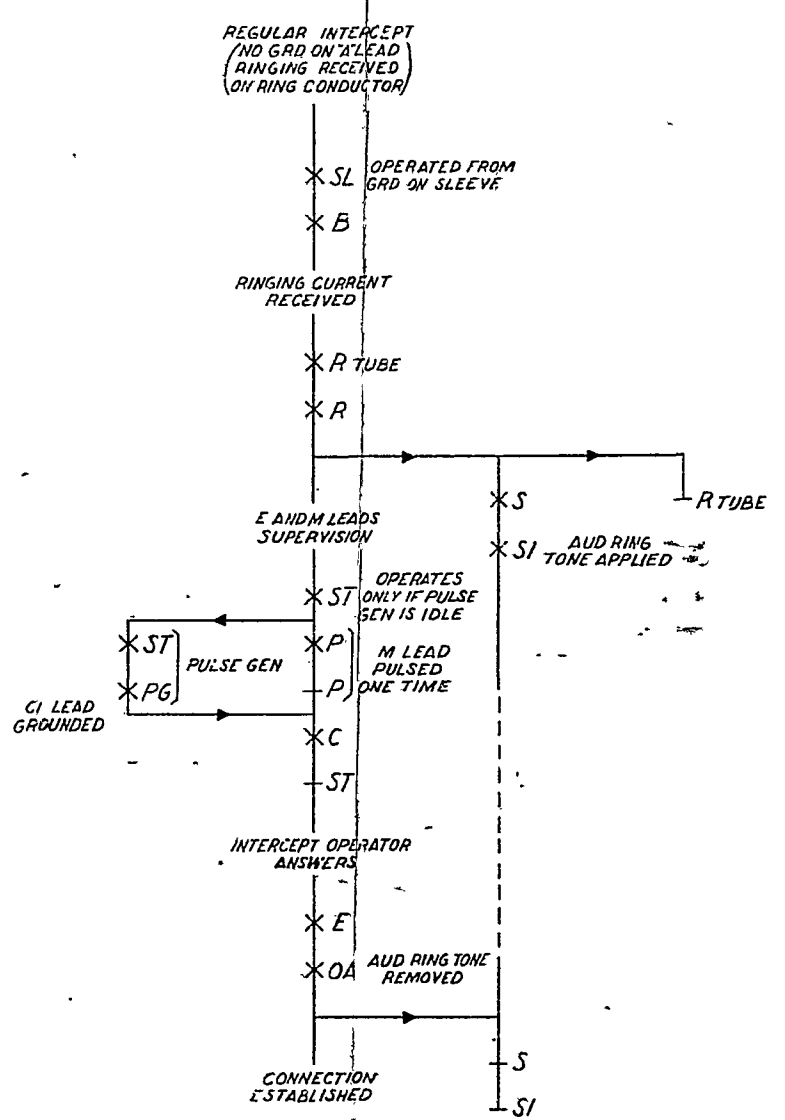
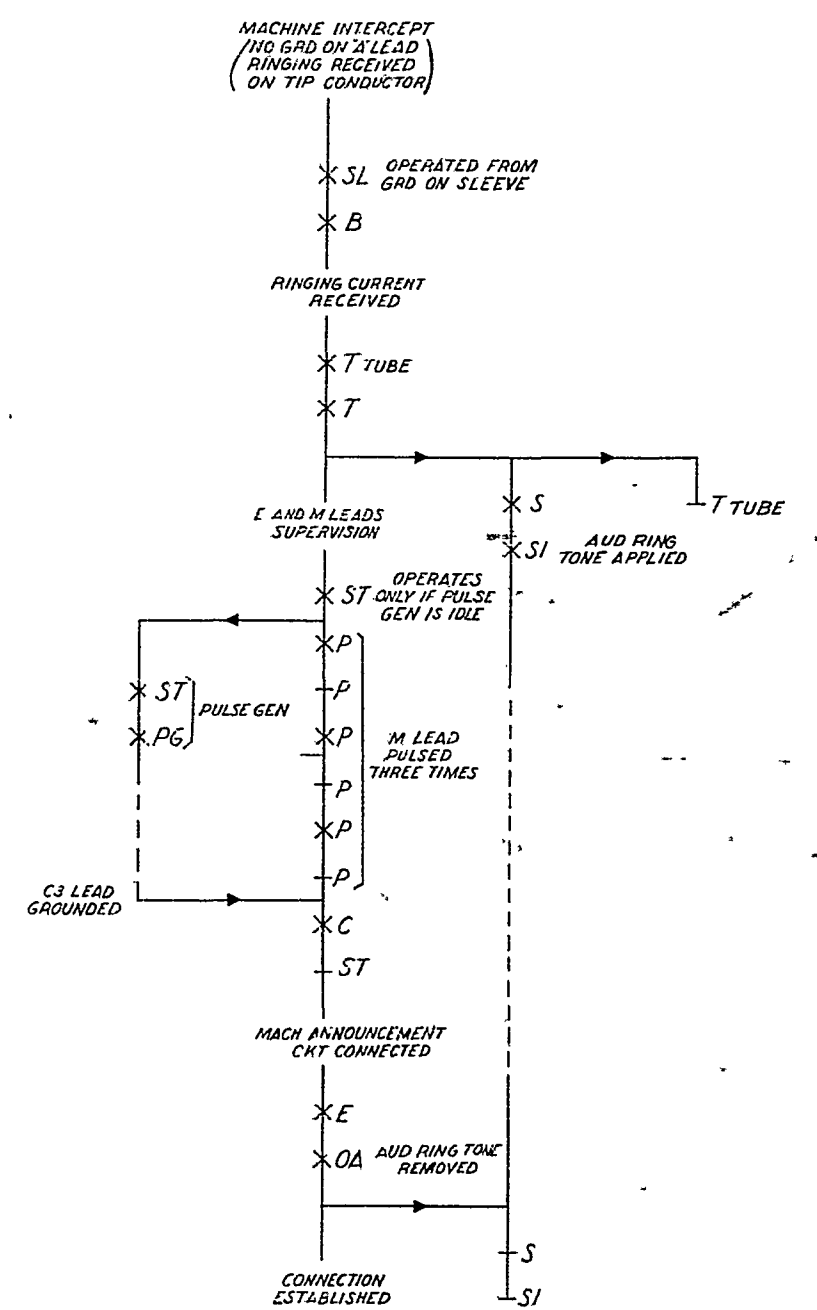
SD-32309-01-E1

NO. 1, 350A, 355A OR 35E97
OUTGOING INTERCEPTING TRUNK
CIRCUIT
BELL TELEPHONE LABORATORIES
INCORPORATED
6S
SD-32309-01-E1
REGISTERED IN 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

DRAWING
ISSUE
1
1 NY
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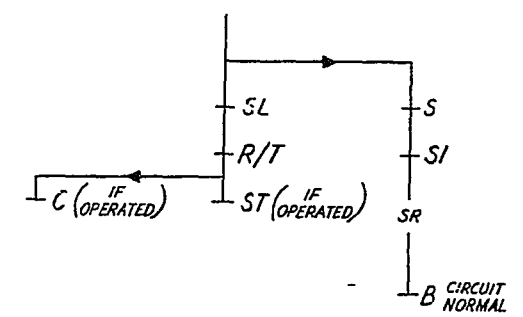
SC4
SEIZURE
MORE THAN ONE CLASS
OF INTERCEPT



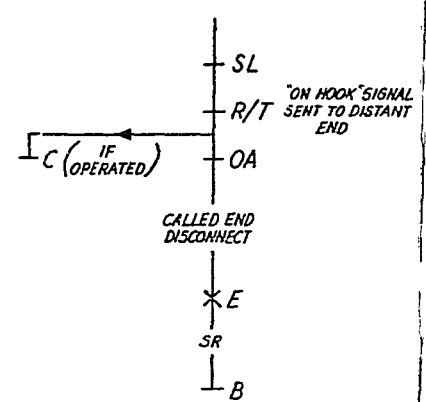
SD-32309-01-E2

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

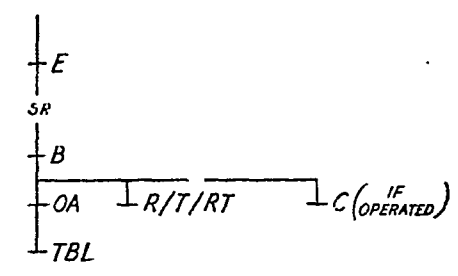
SC 5
DISCONNECT
CALLING PARTY DISCONNECTS
BEFORE CONNECTION IS ESTABLISHED
REGULAR OR MACHINE
INTERCEPT



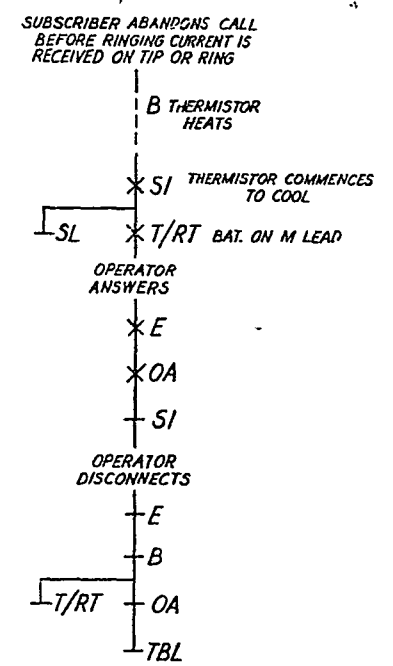
SC 7
DISCONNECT
CALLING END DISCONNECTS FIRST
REGULAR OR MACHINE
INTERCEPT



SC 10
DISCONNECT
CALLED END DISCONNECTS
TROUBLE INTERCEPT



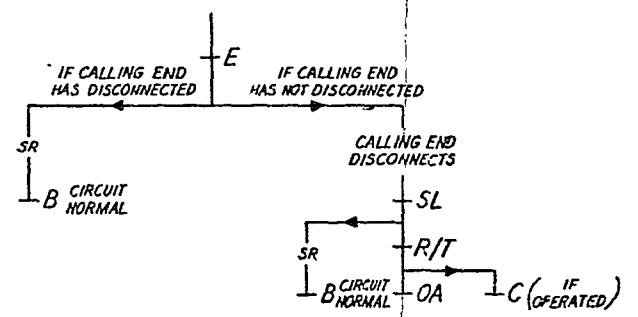
SC 6
DISCONNECT
CALLING PARTY DISCONNECTS
BEFORE CONNECTION IS ESTABLISHED
TROUBLE INTERCEPT



SC 8
DISCONNECT
CALLING END DISCONNECTS FIRST
TROUBLE INTERCEPT

CIRCUIT CONTROLLED BY
INTERCEPT OPERATOR
SEE SC 10

SC 9
DISCONNECT
CALLED END DISCONNECTS
REGULAR OR MACHINE
INTERCEPT



NO. 1, 350A, 355A OR 35E97
OUTGOING INTERCEPTING TRUNK
CIRCUIT

SD-32309-01-E3

BELL TELEPHONE LABORATORIES
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CIRCUIT REQUIREMENTS

NO. 1, 350A, 355A, OR 35E97 OUTGOING INTERCEPTING TRUNK CIRCUIT

APPARATUS				MECH. RLDT		CIRCUIT PREPARATION				DIRECT CURRENT FLOW REQT							REMARKS
DESIG	CODE	OPTION	FIG.	REF FIG.	CONT PRESS	ARM. TRVL	BLOCK OR INSULATE	TEST CLIP DATA		TEST SET PREP	REC TEST NOTE	TEST WDG	TLYT FOR	AFTER SOAK MA.	TEST MA.	READJ MA.	
								CONN BAT.	CONN GRD								
RELAYS																	
B	AG20		1	252B					U(B)	GRD			0	FS	10.7	10.2	
									U(B)	GRD			H	FS	2.0	1.9	
									U(B)	GRD			R	FS	0.9	1.1	
C	AJ30		8	255					U(C)	GRD			0		28.5	27	
									U(C)	GRD			NO		18	19	
E	AF15		1	216					U(E)	GRD			0		7.1	6.7	
HB	AF67	Z	1	207			6(MB)		U(MB)	GRD			0		7.2	6.8	
OA	AF32		1	208					U(OA)	GRD			0		32.5	30.5	
P	AF116		6	285			(ST)NO		U(P)	GRD			0		59.5	55.5	
R	AF10		3	214			BM(R), 7(R)	L(R)		BAT. 3			0		7.6	7.2	
							BM(R), 7(R)	L(R)		BAT. 3			NO		4.2	4.5	
							BM(R)	L(R)		BAT. 3			0		7.6		(R) REL IN PAR WITH (R) DIO.
							BM(R), 7(R)	L(R)		BAT. 4, 5			0		7.6	7.2	
							12(R)										
							BM(R), 7(R)	L(R)		BAT. 4, 5			NO		4.2	4.5	
							12(R)										
							BM(R)	6(R)		BAT. 4			0		7.6		(R) REL IN SERIES WITH (R4) & (R1) DIODES.
R	AF140	P	6	304			(C)0, (P)0, 7(R)	L(R)		BAT. 3			0		9.1	8.6	
							(C)0, (P)0, 7(R)	L(R)		BAT. 3			0		9.1		(R) REL IN PAR WITH (R) DIO.
							(C)0, (P)0, 6(T)	L(R)		BAT. 4, 5			0		9.1	8.6	
							(C)0, (P)0, 12(R)			BAT. 4			0		9.1		(R) REL IN SERIES WITH (R2) & (R3) DIODES.
R	AJ125	N	6	299			(C)0, (P)0, --5(T)	L(R)		BAT. 4, 5			0		10.8	10.3	
							(C)0, (P)0, 12(R)			BAT. 4			0		10.8		(R) REL IN SERIES WITH (R2) & (R3) DIODES
RT	AF10		4	214			BM(RT), 7(RT)	L(RT)		BAT. 3			0		7.6	7.2	
							BM(RT), 7(RT)	L(RT)		BAT. 3			NO		4.2	4.5	
							BM(RT)	L(RT)		BAT. 3			0		7.6		(RT)REL IN PAR WITH (RT) DIO
							BM(RT), 6(TBL)	L(RT)		BAT. 4, 5			0		7.6	7.2	
							BM(RT), 6(TBL)	L(RT)		BAT. 4, 5			NO		4.2	4.5	
							BM(RT)	6(RT)		BAT. 4			0		7.6		(RT)REL IN SERIES WITH (RT2) & (RT3) DIODES.
S	AJ7		1	1				L(S)	U(S)	B/G 1, 2			0		1.7	1.6	
S1	AF120		1	406					U(S1)	GRD			0		20.5	19.5	
									U(S1)	GRD			NO		12.7	14.5	
SL	AJ46		1	266			(B)NO, 8B(B)		U(SL)	GRD			0		12.3	11.7	
BT	AF71		6	4			(C)0		1U(ST)	GRD		P	0		12.4	11.8	
							(C)0		2U(ST)	GRD		S	0		13.1		

TEST NOTES:

1. CONTACT MAKE 5, NO MAKE 8.5, READJ; MAKE 3.5, NO MAKE 10, TEST.
2. ARM. BACK TENSION MIN 18 GRAMS READJ, 15 GRAMS TEST.
3. WHEN R OPTION IS USED.
4. WHEN Q OPTION IS USED.
5. CONNECT DIRECT GROUND TO U (REL TST).

PAGE 1

OUTGOING INTERCEPTING TRUNK
CIRCUIT

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CIRCUIT REQUIREMENTS

APPARATUS				FIG.	MECH REQT			CIRCUIT PREPARATION		TEST ACT PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT					REMARKS
DESIG	CODE	OPTION	BSP FIG.		CONT PRESS	ARK. TRVL	BLOCK OR INSULATE	TEST CLIP DATA				TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READ J MA	
								CONN BAT.	CONN GRD								
T	AF10		2	214			BM(T), 7(T)	L(T)		BAT	3		0		7.9	7.2	
							EM(T), 7(T)	L(T)		BAT	3		NO		4.2	4.6	
							EM(T)	L(T)		BAT	3		0		7.6		(T) REL IN PAR WITH (T) DIO.
							BM(T), 7(T), 12(T)	L(T)		BAT	7,8		0		7.6	7.2	
							BM(T), 7(T), 12(T)	L(T)		BAT	7,8		NO		4.2	4.6	
							BM(T)	6(T)		BAT	7		0		7.6		(T) REL IN SERIES WITH (T1) (T4) DIODES.
T	AF64	P	6	219			(C)0, (P)0, 8(T)	L(T)		BAT	9		0		11.2	10.8	
							(C)0, (P)0	L(T)		BAT	9		0		11.2		(T) REL IN PAR WITH (T) DIO
							(C)0, (P)0, 6(T)	L(T)		BAT	7,8		0		11.2	10.8	
							(C)0, (P)0	12(T)		BAT	7		0		11.2		(T) REL IN SERIES WITH (T1) & (T4) DIODES.
T	AJ125	N	6	299			(C)0, (P)0, 1(T)	L(T)		BAT	7,8		0		10.8	10.3	
							(C)0, (P)0	12(T)		BAT	7		0		10.8		(T) REL IN SERIES WITH (T1) & (T4) DIODES
TBL	AF20		4,6	205					U(RV)	GRD			0		36	34	
ELECTRON TUBES																	
R	346B		3,5								1,2,3,6						
T	346B		2,5								4,5,6						

TEST NOTES:

1. WHEN USING APP FIG. 3 OR APP FIG. 4 INS 8(R). WHEN USING APP FIG. 8 INS 9(R).
2. TO TEST SG 10W AND AG DROP CONN W TO TERM. 5 (R) TUBE AND B TO TERM. 7 (R) TUBE. OMIT AG DROP TEST WITH Q OPTION.
3. TO TEST SG VOLTAGE DROP CONN W TO TERM.4 (R) TUBE AND B TO TERM.7 (R) TUBE.
4. TO TEST SG 10W AND AG DROP CONN W TO TERM.5 (T) TUBE AND B TO TERM. 7 (T) TUBE. OMIT AG DROP TEST WITH Q OPTION.
5. TO TEST SG VOLTAGE DROP CONN W TO TERM.4 (T) TUBE AND B TO TERM.7 (T) TUBE

6.		SG 10N	SG DROP (AT 20 MA)	AG DROP (AT 20 MA)
	MIN VOLTS	62	52	72
	MAX VOLTS	88	74	90

7. WHEN Q OPTION IS USED.
8. CONNECT DIRECT GROUND TO U (REL TST).
9. WHEN R OPTION IS USED.

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ISSUE
9B

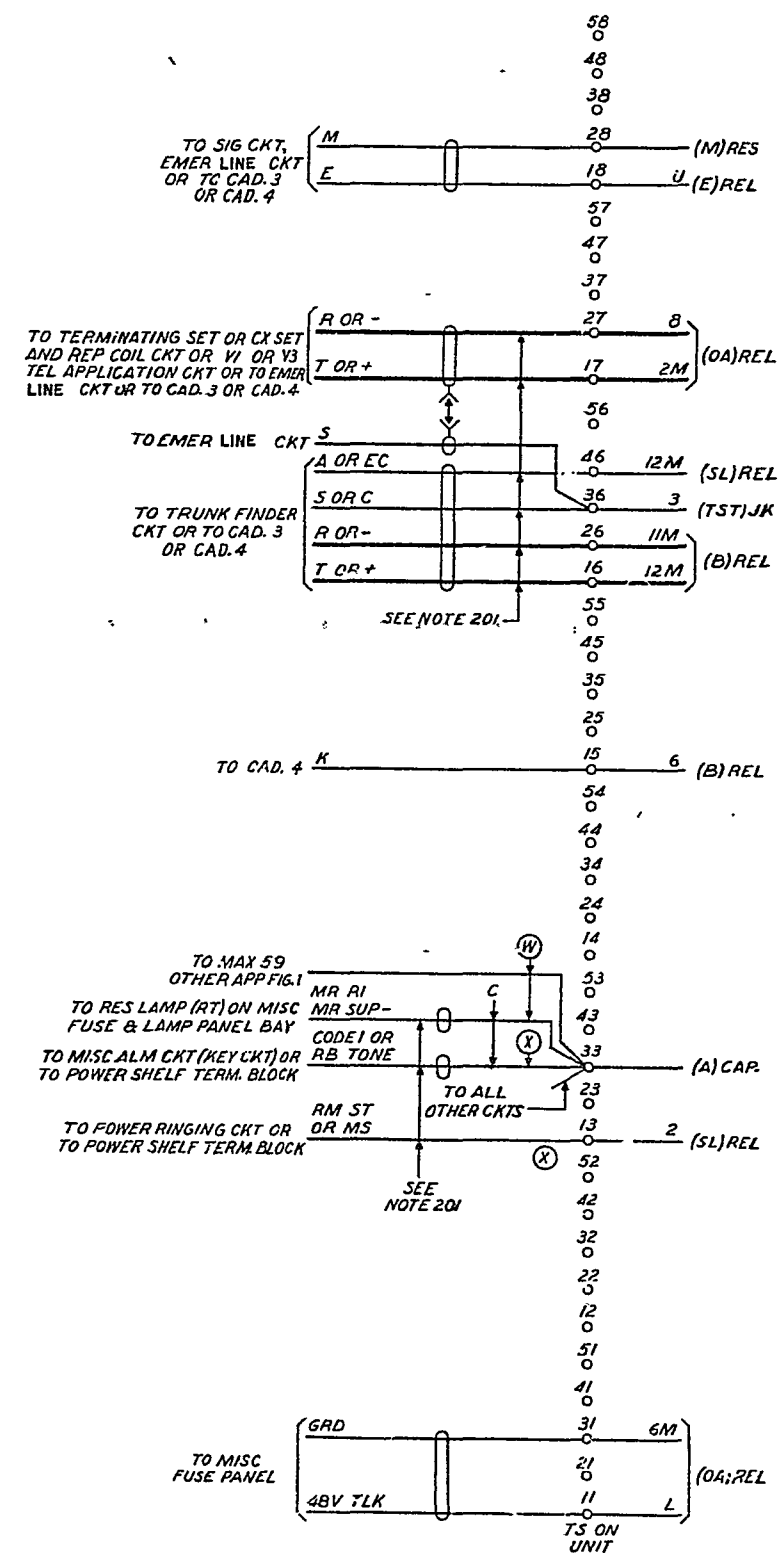
OUTGOING INTERCEPTING TRUNK
CIRCUIT

BELL TELEPHONE LABORATORIES
INCORPORATED

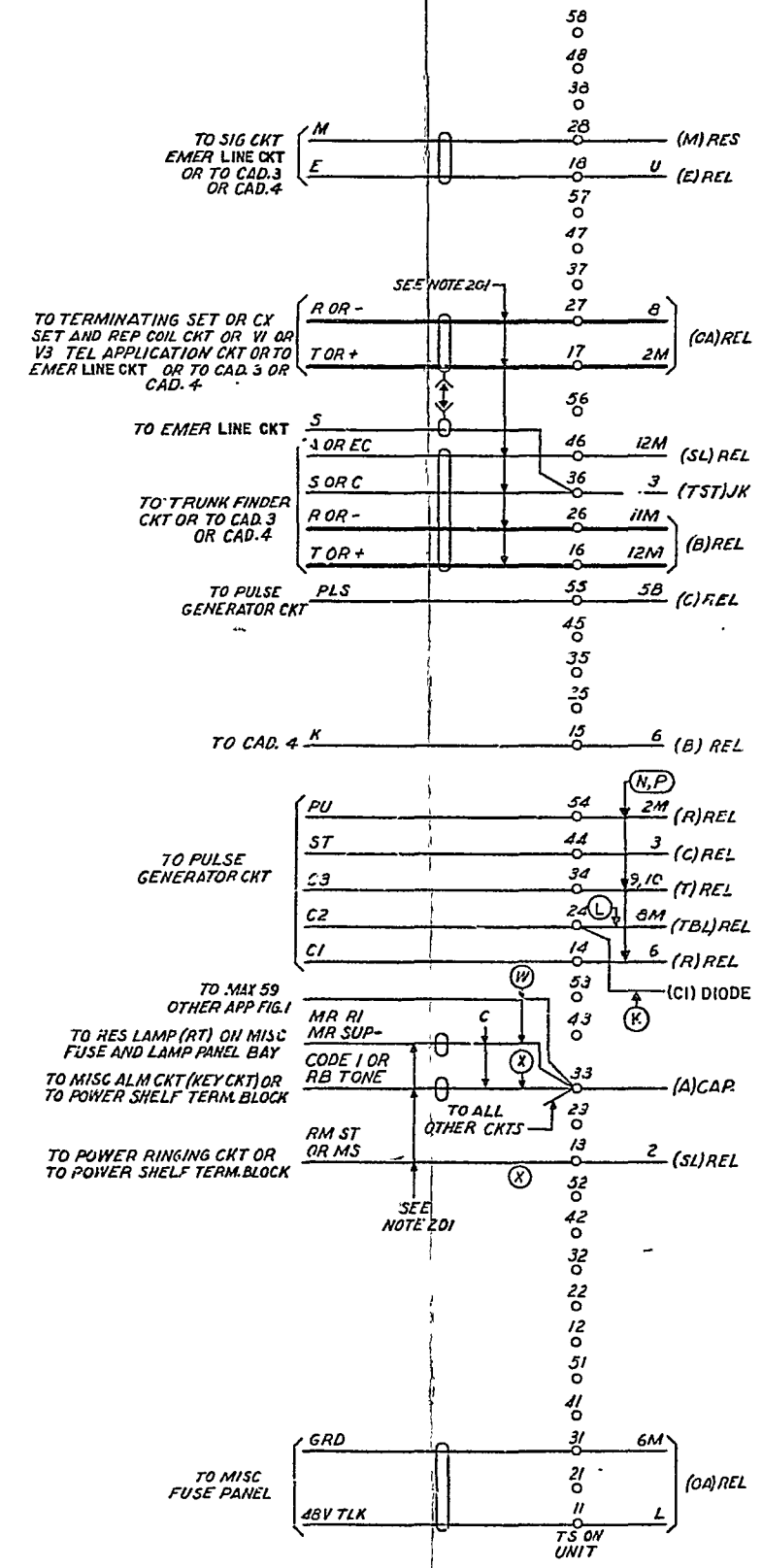
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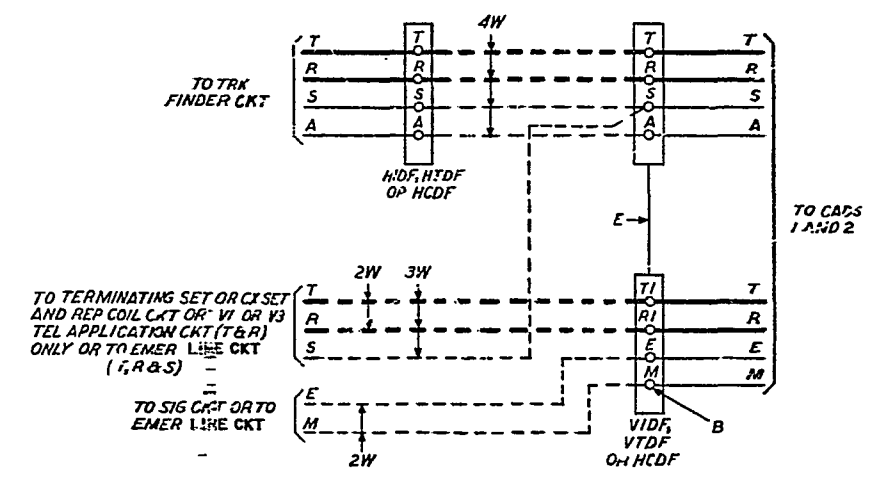
CAD.1
MACHINE INTERCEPT ONLY
(FIGS. 1 AND 2)
OR
REGULAR INTERCEPT ONLY
(FIGS. 1 AND 3)
OR
TROUBLE INTERCEPT ONLY
(FIGS. 1, 4 OR 5)



CAD.2
MORE THAN ONE CLASS
OF INTERCEPT
(FIGS. 1, 5 AND 6)



CAD.3 (MFR DISC.)



CAD.4

