





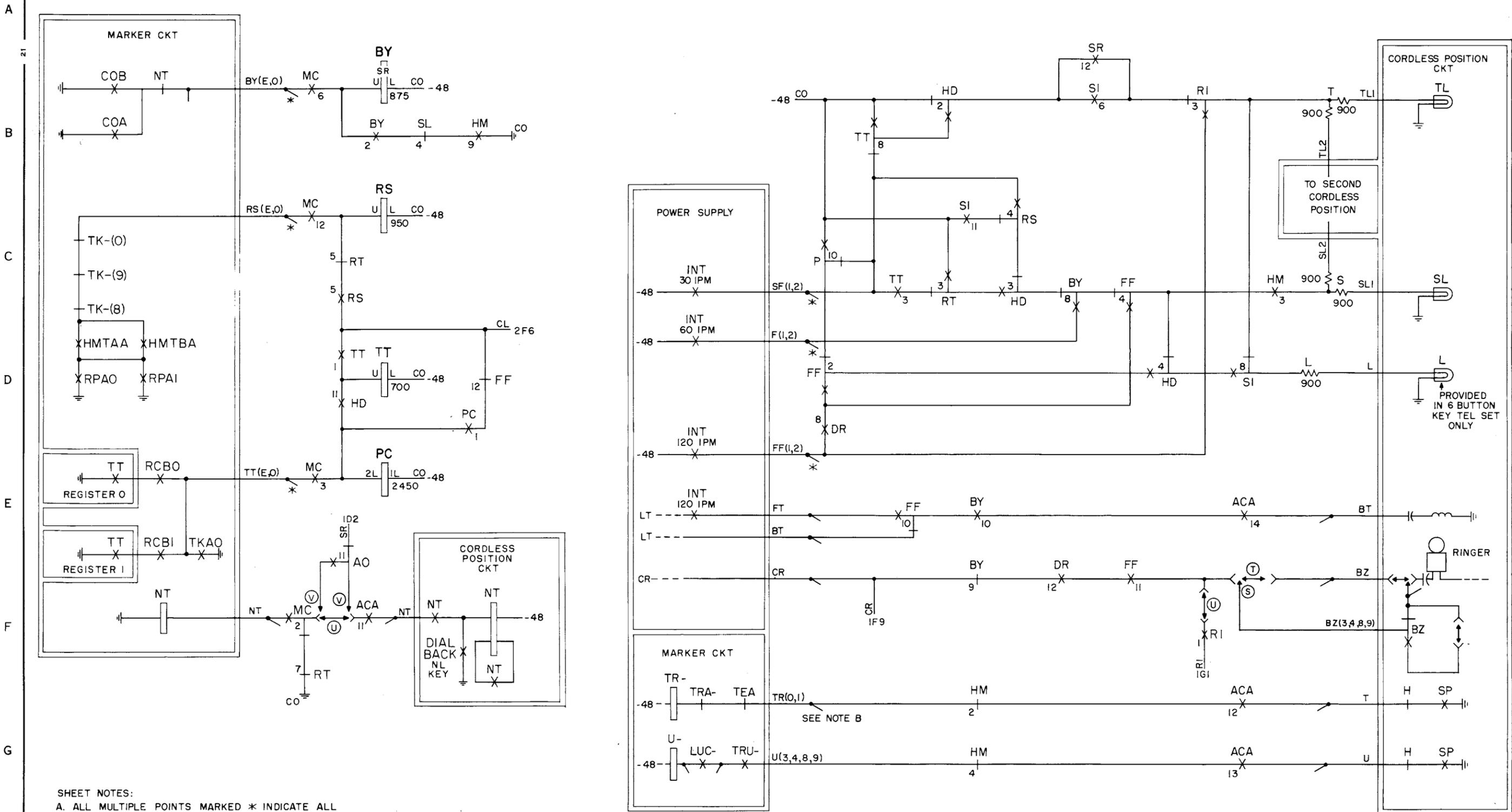




**FS 3**  
MARKER INFORMATION RELAYS  
(SEE NOTE "A" FOR MULTIPLE DESIGNATIONS)

**FS 4**  
AUDIBLE & VISUAL SIGNALS

DRAWING  
ISSUE  
1 1/2 1/2  
30 1/2 1/2  
FC



SHEET NOTES:  
A. ALL MULTIPLE POINTS MARKED \* INDICATE ALL EVEN TRUNKS MULTIPLIED SEPARATELY FROM ALL ODD TRUNKS.  
B. MULTIPLE TRUNKS 3 AND 4 ON LEAD "TRO" AND TRUNKS 8 AND 9 INCLUSIVE ON LEAD "TRI".

SD-65756-01-B3

NO. 756A  
TIE TRUNK CIRCUIT  
BELL TELEPHONE LABORATORIES  
INCORPORATED  
SD-65756-01-B3  
6S  
PRINTED IN U. S. A.

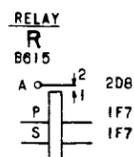
APP FIG. 1

RELAY		AC		AO		PC		BY		DR		RI		FF		HD		HM		LO		SL		DESIG						
CODE	AF139	AK4				AG33				AK8				AJ15				AJ15				AF100				AK8				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	OPTION					
12	CONT																								12					
11	LOC																								11					
10	CONT																								10					
9	LOC																								9					
8	CONT																								8					
7	LOC																								7					
6	CONT																								6					
5	LOC																								5					
4	CONT																								4					
3	LOC																								3					
2	CONT																								2					
1	LOC																								1					
COIL																									COIL					

RELAY		MC		P		P		TC		RS		RT		S		S1		SR		T		T1		TT		DESIG																
CODE	AJ56	AJ28				AK7				AJ3				AJ58				AJ26				AG34				AG34				AG24				AG24				AJ12				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	CONT	LOC	OPTION															
12	CONT																									12																
11	LOC																									11																
10	CONT																									10																
9	LOC																									9																
8	CONT																									8																
7	LOC																									7																
6	CONT																									6																
5	LOC																									5																
4	CONT																									4																
3	LOC																									3																
2	CONT																									2																
1	LOC																									1																
COIL																										COIL																



RELAY		ACA	
CODE	AJ202	CONT	LOC
24	M		
23	M		
22	M		
21	M	2F7	
20	M		
19	M	2D6	
18	M	2E7	
17	M	1A7	
16	M	2E5	
15	M	2F7	
14	M	3E7	
13	M	3G7	
12	M	3G7	
11	M	3F2	
10	M		
9	M	2G7	
8	M	2G7	
7	M	1C5	
6	M	1A6	
5	M	2F7	
4	M	1C4	
3	M	1C4	
2	M	1C4	
1	M	1C5	
COIL		1A7	



RESISTOR		
DESIG	LOC	CODE
H	1E5	KS-8512, L3A 1000
ITT	1E6	KS-13402, L1, 200
IL	1C5	KS-13402, L1, 820
L	3D8	18FB
PD	2A4	18GF
S	3C8	19BA
SL	2B4	18BW
T	3B8	19BA
TL	1E7	KS-13402, L1, 1200
TL1	1D7	KS-13402, L1, 3900

CAPACITOR		
DESIG	LOC	CODE
A	1E8	KS-13614, L6, 0.05 UF
BR	1F7	KS-13614, L6, 0.05 UF
D	1E6	437QA
FB	1E2	KS-13614, L6, 0.05 UF
L	1E6	437QA
RV	1E3	444A
RV	1E3	KS-13486, 60 UF

THERMISTOR		
DESIG	LOC	CODE
R1	2C8	8B
R2	1D7	8A
R3	1F7	8A

DIODE		
DESIG	LOC	CODE
A	1E2	KS-15724, L2
A	1E2	446F
B	1D3	KS-15724, L2
B	1D3	446F
C	1E6	KS-15724, L2
C	1E6	446F
D1	1E7	400E
D2	1E7	400E
D3	1E7	400E
D4	1E7	400E
F	2A2	KS-15724, L2
F	2A2	446F

DIODE		
DESIG	LOC	CODE
G	2A3	KS-15724, L2
G	2A3	446F
H	1B2	446F
J	1D4	446F
K	1D5	446F
L	1A8	446F
M	1B2	446F
N	1G3	446F
P	1G1	446F

PAD		
DESIG	LOC	CODE
PR	1D8	IC (MODIFIED) WITH 89 TYPE RES

TRANSFORMER		
DESIG	LOC	CODE
A	1E6	202A REP COIL

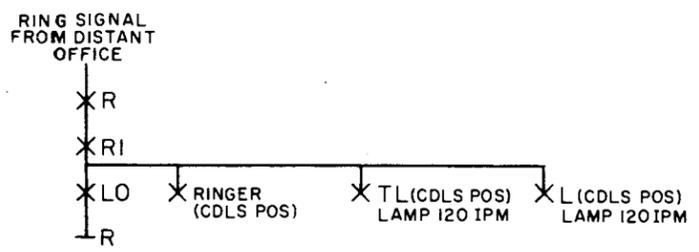
TIE TRUNK CIRCUIT (2) SD-65756-01-C1

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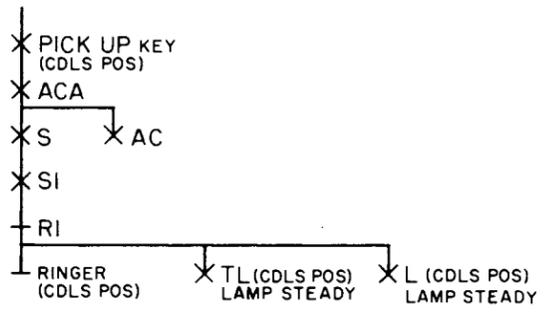
SC 1

TRUNK SEIZED FOR INCOMING CALL



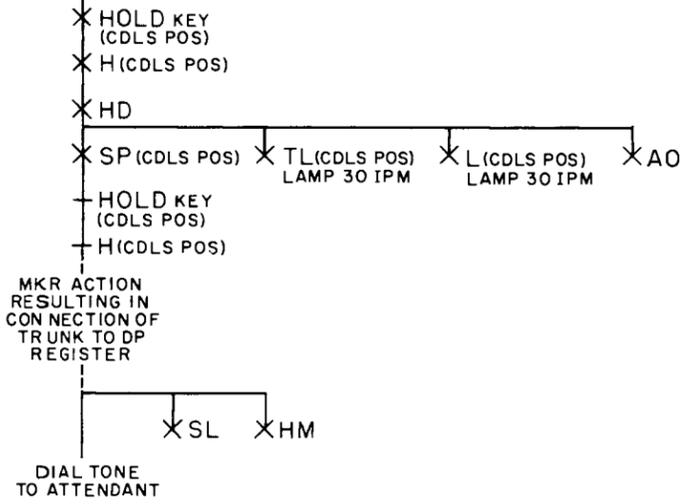
SC 2

ATTENDANT ANSWERS INCOMING CALL



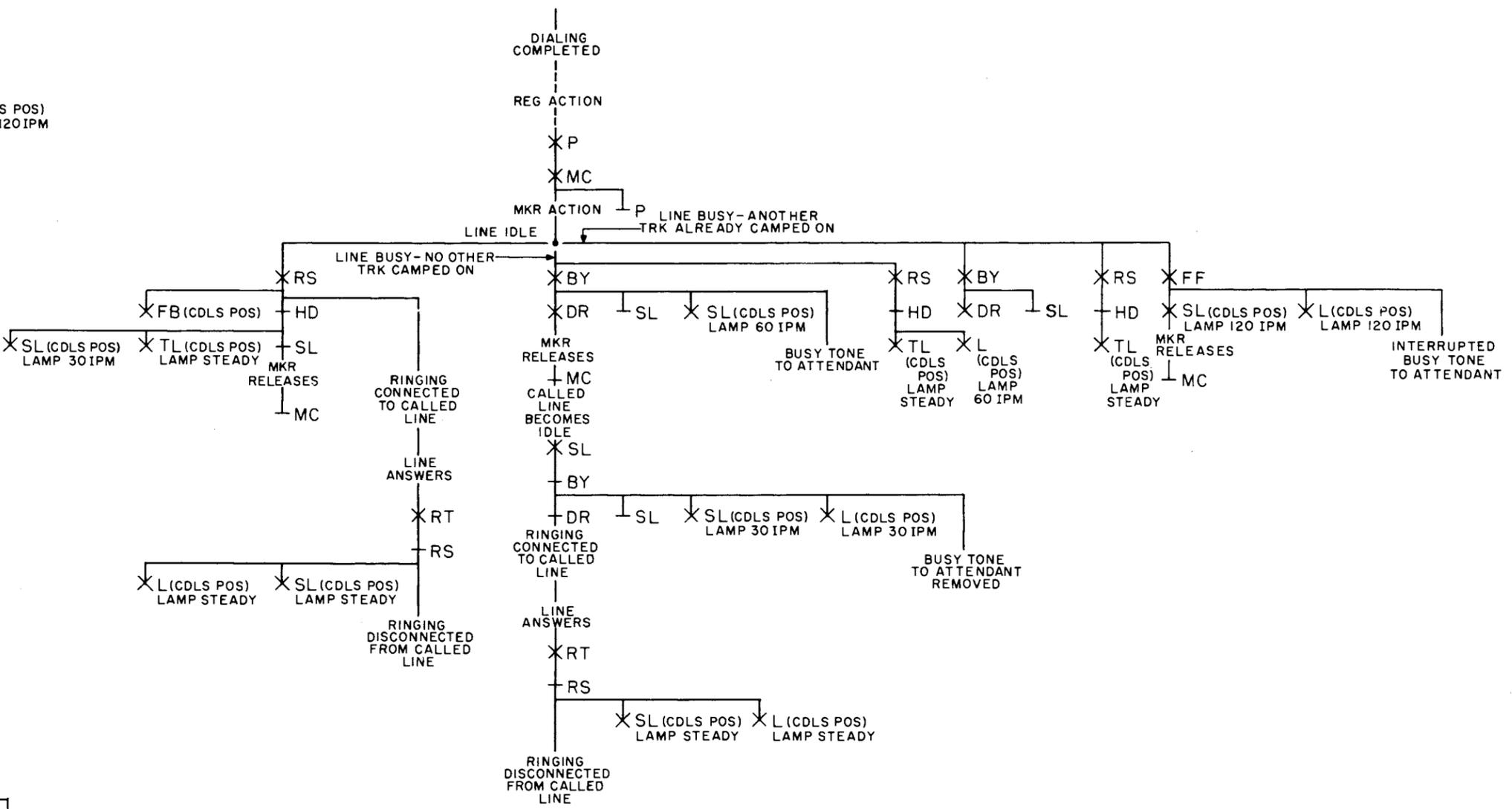
SC 3

ATTENDANT STEERS INWARD FOR PBX DIAL TONE



SC 4

COMPLETING INCOMING CALL TO A STATION LINE

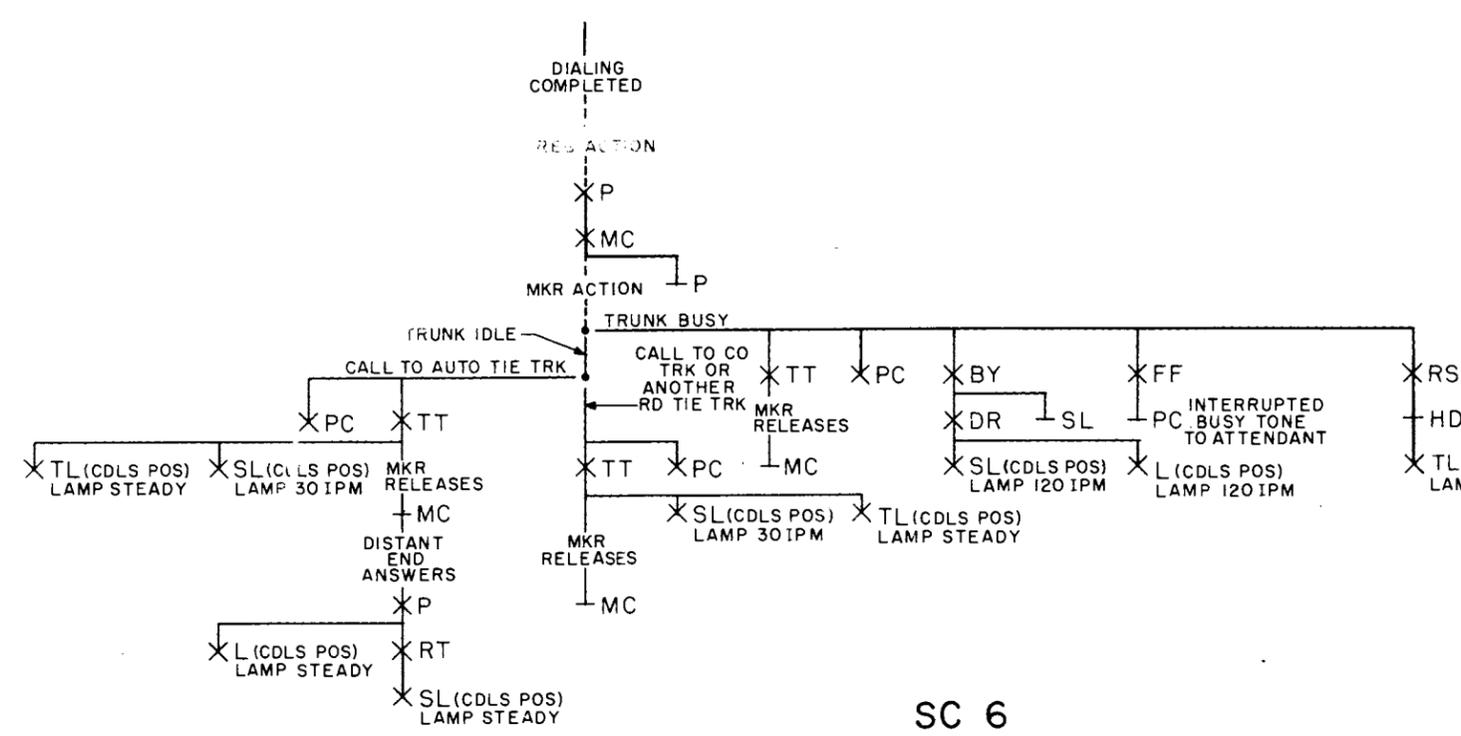


SHEET NOTES:  
1. SC4 ASSUMES THAT ATTENDANT REMAINS IN ON CONNECTION.

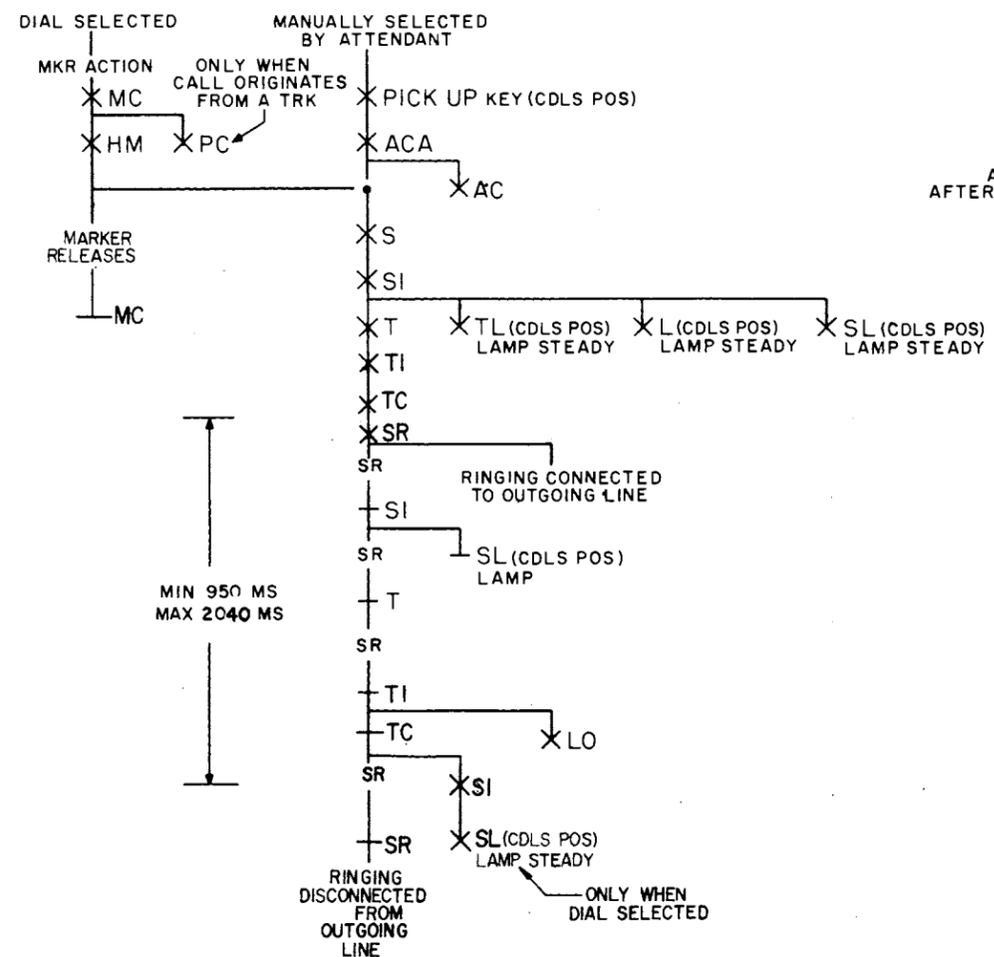
NO. 756A TIE TRUNK CIRCUIT	SD-65756-01-E1
BELL TELEPHONE LABORATORIES INCORPORATED	6S

DRAWING ISSUE	
1	AC #1
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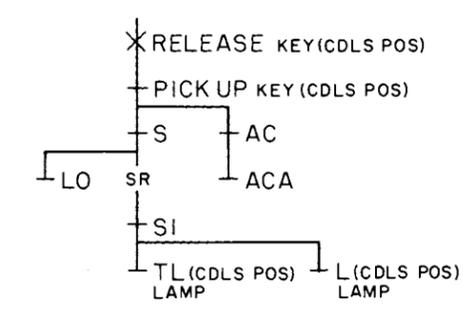
### SC 5 COMPLETING INCOMING CALL TO A TRUNK



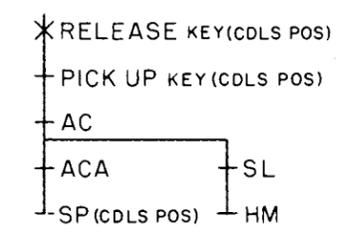
### SC 6 OUTGOING CALL



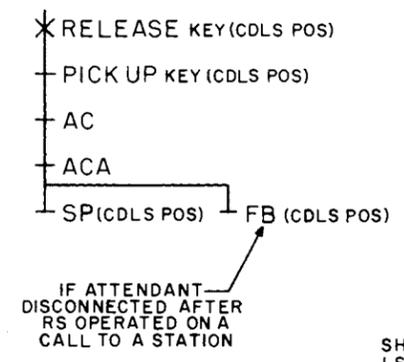
### SC 7 ATTENDANT DISCONNECTS FROM TRUNK AFTER ANSWERING INCOMING CALL(SC 2) OR AFTER ORIGINATING OUTGOING CALL(SC 6)



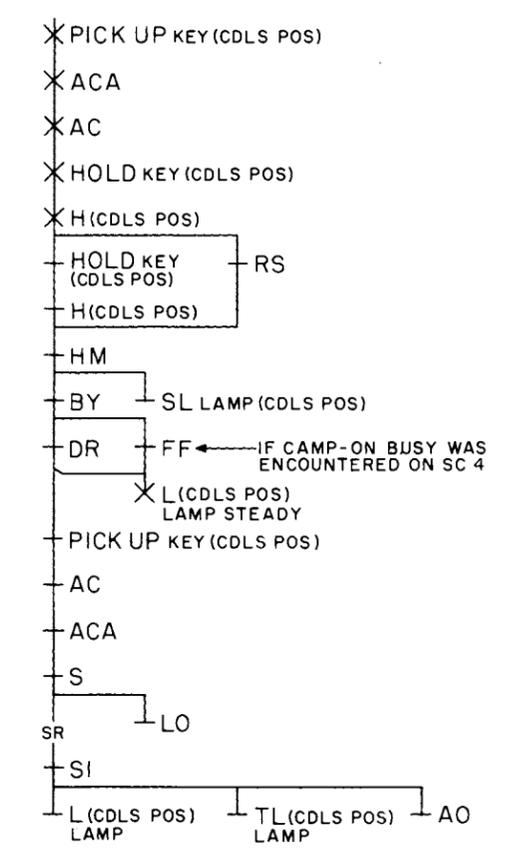
### SC 8 ATTENDANT DISCONNECTS FROM TRUNK AFTER STEERING INWARD FOR DIAL TONE(SC 3)



### SC 9 ATTENDANT DISCONNECTS FROM TRUNK AFTER DIALING A STATION OR TRUNK (SC 4 OR SC 5)



### SC 10 ATTENDANT RE-ENTERS CONNECTION TO RELEASE FROM A BUSY LINE (SC 4 AND SC 9)



SHEET NOTES:  
1. SC 5 ASSUMES THAT ATTENDANT REMAINS  
IN ON CONNECTION.

6

**TIE TRUNK CIRCUIT** ②

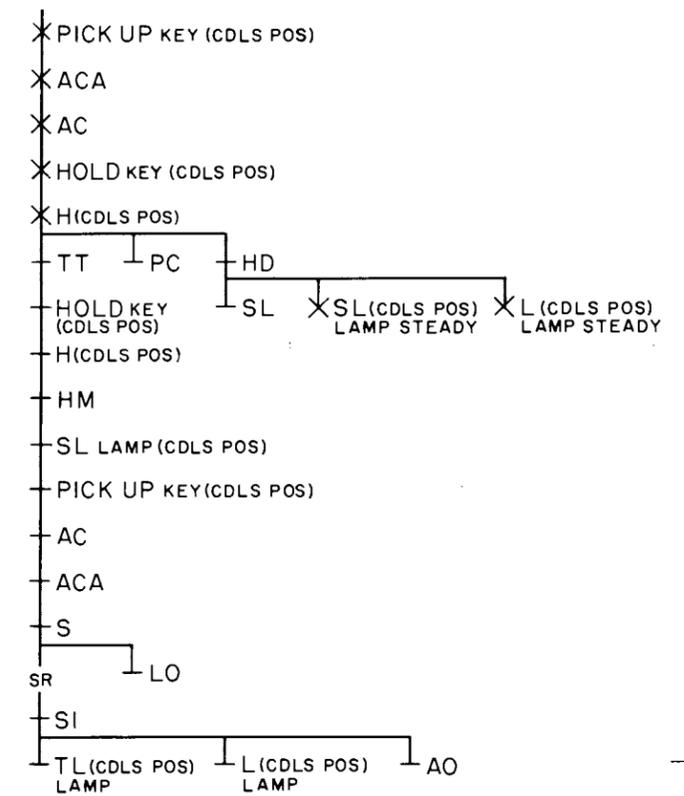
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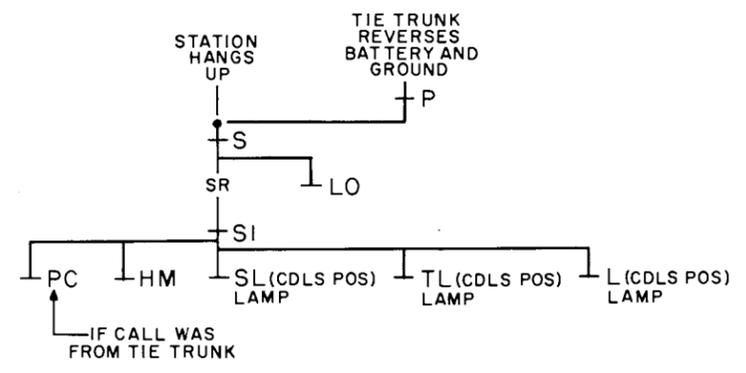
### SC 11

ATTENDANT REENTERS TO RELEASE TRUNK FROM CONNECTION TO CENTRAL OFFICE TRUNK OR ANOTHER RINGDOWN TIE TRUNK (SC 5 AND SC 9)



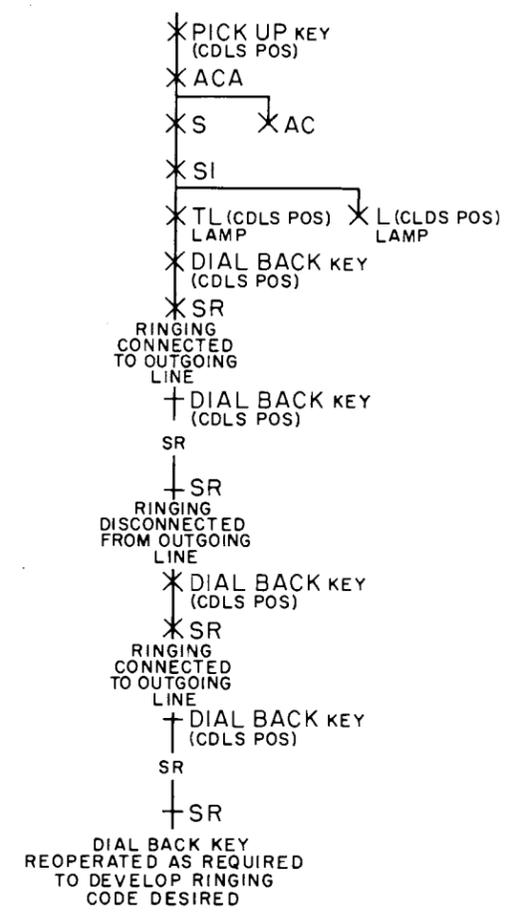
### SC 13

CALLING STATION OR DIAL REPEATING TYPE TIE TRUNK DISCONNECTS FROM OUTGOING CALL (SC 6)



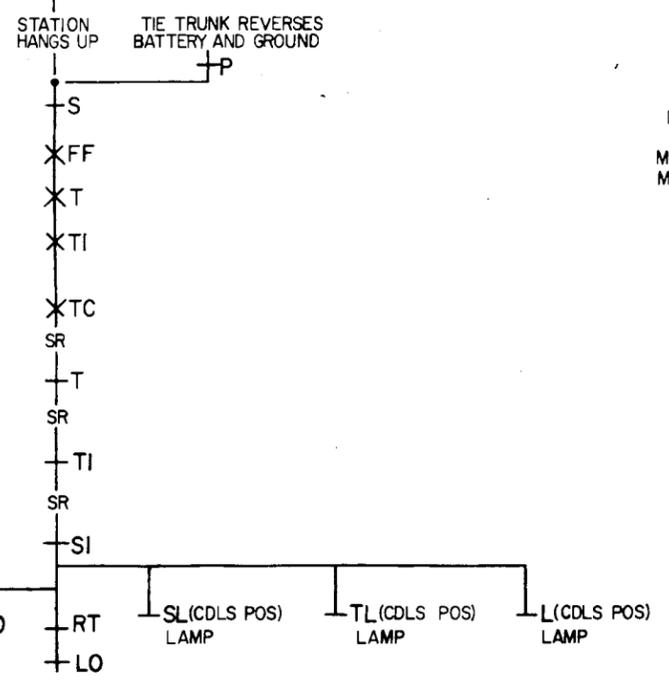
### SC 15

CODE RINGING OUTGOING - V OPTION



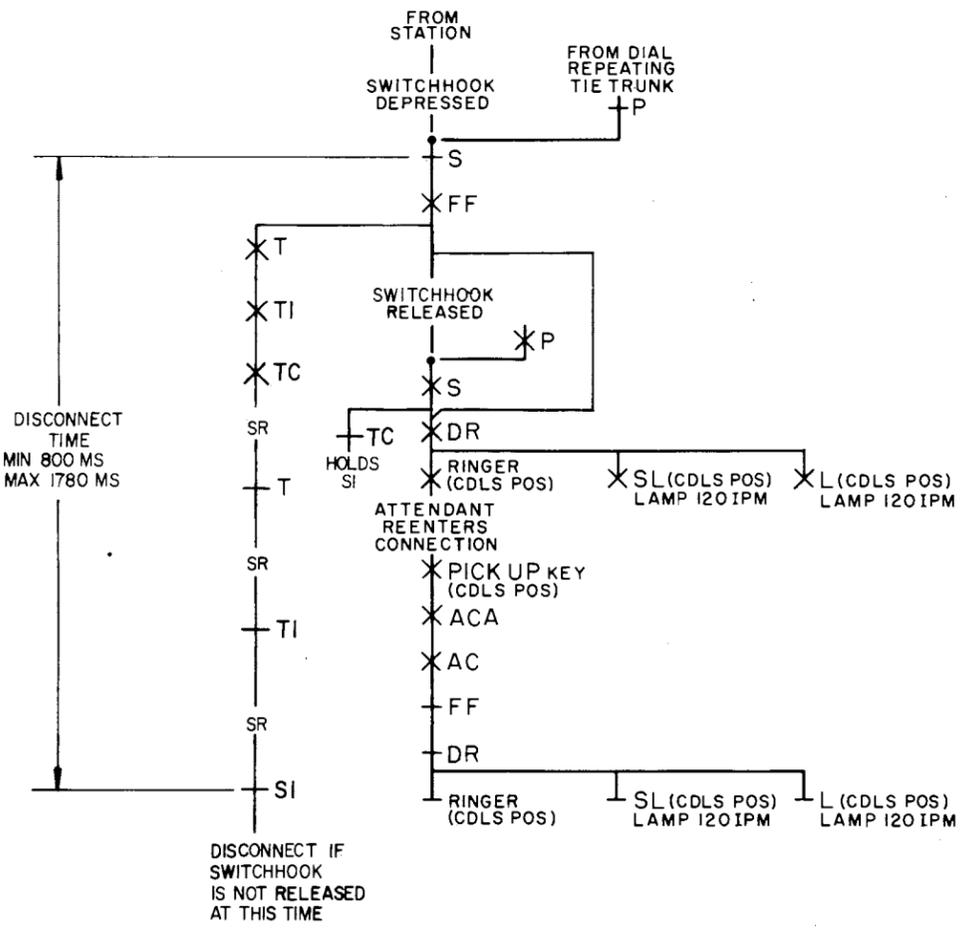
### SC 12

CALLED STATION OR DIAL REPEATING TYPE TIE TRUNK DISCONNECTS FROM INCOMING CALL (SC 4 OR SC 5 AND SC 9)



### SC 14

RECALL OF ATTENDANT FROM CALLED STATION (SC 4 AND SC 9) OR DIAL REPEATING TYPE TIE TRUNK (SC 5 AND SC 9)



TIE TRUNK CIRCUIT		SD-65756-01-E3
BELL TELEPHONE LABORATORIES INCORPORATED		6S

CIRCUIT REQUIREMENTS

NO. 756A TIE TRUNK CIRCUIT (T TRK DG MAN & D SEL INC RD)

APPARATUS				MECH REQ		CIRCUIT PREPARATION				DIRECT CURRENT FLOW REGT						REMARKS	
DESIG	CODE	OPTION	FIG.	BSP FIG	CONT PRESS	ARM TRVL	BLOCK OR INSULATE	TEST CLIP DATA		TEST SET PREP	SEE TEST NOTE	TEST WDG	TEST FOR	AFTER SOAK			
								CONN BAT.	CONN GRD					MA.	MA.		MA.
RELAY																	
AC	AF139		I	256				U(AC)	GRD					0	8.3	7.9	
								U(AC)	GRD					H	4.8	4.5	
ACA	AJ202		I	500			(AC)NO	U(ACA)	GRD					0	42.5	40.5	
AO	1/2 AK4		I	202				2U(AO)	GRD					0	11.9	11.3	MOUNTED WITH (PC)
BY	AG33		I	305B				U(BY)	GRD				0	FS	14.7	14	
								U(BY)	GRD				H	FS	2.5	2.3	
								U(BY)	GRD				R	FS	1.3	1.5	
DR	1/2 AK8		I	204				1U(DR)	GRD					0	9.2	8.7	MOUNTED WITH (RI)
FF	AJ15		I	249				U(FF)	GRD					0	42.5	40.5	
HD	AJ15		I	249				U(HD)	GRD	I				0	42.5	40.5	
HM	AF100		I	252			6(HM)	U(HM)	GRD					D	43.5	39.5	
LO	1/2 AK9		I	6				1U(LO)	GRD					0	7.7	7.3	MOUNTED WITH (SL)
MC	AJ56		I	413			4(MC)	U(MC)	GRD	2				0	57.5	54.5	
P	1/2 AK7	H	I	203			(AO)O	2U(P)	GRD					0	26.8	25.5	WDG ALONE & WDG WITH VARIST-OR SHUNT MOUNTED WITH (TC)
							(AO)O	2U(P)	GRD					NO	10.4	11	
P	AJ28	J	I	257				2L(P)	2U(P)	B/G	S	0		12.4	11.8		
								2L(P)	2U(P)	B/G	S	R		1.9	2		
							(AC)O	1L(P)	1U(P)	B/G	P	0		23.5	22		WDG ALONE & WDG WITH VARISTOR SHUNT
							(AC)O	1L(P)	1U(P)	B/G	P	NO		11.1	11.6		
PC	1/2 AK4		I	202				2L(PC)	GRD					0	11.9	11.3	MOUNTED WITH (AO)
R	8615		I	3		30		1M(R)	4M(R)	B/G	S	0	AC	5.6	5.4		
											S	NO		3.4	3.6		
RI	1/2 AK8		I	204				1L(RI)	GRD					0	17	16	MOUNTED WITH (DR)
RS	AJ3		I	226				U(RS)	GRD					0	18	17	
RT	AJ58		I	308			7(MC)	1L(RT)	1U(RT)	B/G	5	P	0	28	26.5		
							7(MC)	1L(RT)	1U(RT)	B/G	P	0		29.5	28		
							7(MC)	1L(RT)	1U(RT)	B/G	P	NO		20	21.5		
								2U(RT)	GRD		S	0		19			
S	AJ26		I	55B	L			1L(S)	2L(S)	M	3	P/S	0	17.5	15.5		
								1L(S)	2L(S)	M		P/S	R	6.5	6.8		
SI	AG34		I	307B				U(SI)	GRD				0	FS	18	17	
								U(SI)	GRD				H	FS	3	2.8	
								U(SI)	GRD				R	FS	1.5	1.8	
SL	1/2 AK9		I	6				2L(SL)	1L(SL)	B/G			0	25.5	24		MOUNTED WITH (LO)
								2L(SL)	1L(SL)	B/G			NO	11.8	12.5		
SR	AG34		I	307B				U(SR)	GRD				0	FS	18	17	
								U(SR)	GRD				H	FS	3	2.8	
								U(SR)	GRD				R	FS	1.5	1.8	

TEST NOTES:

- CONTACTS 5B AND 8B SHALL BOTH CLOSE BEFORE EITHER CONTACT 5M OR 8M OPEN WHEN (HD) RELAY RELEASES.
- CONTACTS 9B AND 8B SHALL BOTH CLOSE BEFORE EITHER CONTACT 9M OR 8M OPEN WHEN (MC) RELAY RELEASES.
- ARMATURE BACK TENSION TEST MIN 15 GRAMS, READJ MIN 20 GRAMS.
- TEST FOR OPERATE BY RINGING FROM DISTANT PBX OR BY APPLYING 95V MIN, 111V MAX, 1100-1200 RPM RINGING CURRENT THRU A 13C RESISTANCE LAMP AND 8000Ω ±1% NON-INDUCTIVE RESISTOR TO TERMINAL 5 OF REP COIL (A) AND RINGING GROUND TO TERMINAL 2 OF REP COIL (A) WITHOUT "W" OR "X" OPTION.
- ONLY EM CONTACTS NEED MAKE ON PRIMARY 26.6 MA OPERATE TEST.

TIE TRUNK CIRCUIT

SD-65756-01-FI

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CIRCUIT REQUIREMENTS

APPARATUS				MECH REQ		CIRCUIT PREPARATION				DIRECT CURRENT FLOW REGT						REMARKS	
DESIG	CODE	OPTION	FIG.	BSP FIG	CONT PRESS	ARM TRVL	BLOCK OR INSULATE	TEST CLIP DATA		TEST SET PREP	SEE TEST NOTE	TEST WDG	TEST FOR	AFTER SOAK			
								CONN BAT.	CONN GRD					MA.	MA.		MA.
T	AG24		I	188				U(T)	GRD					0	13.7	13	
								U(T)	GRD					H	1.6	1.5	
								U(T)	GRD					R	0.7	1	
TC	1/2 AK 7	H	I	203				1L(TC)	GRD				0	26.8	25.5		MOUNTED WITH (P)
								1L(TC)	GRD				NO	10.4	11		
T1	AG24		I	188				U(T1)	GRD					0	13.7	13	
								U(T1)	GRD					H	1.6	1.5	
								U(T1)	GRD					R	0.7	1	
TT	AJ12		I	220				U(TT)	GRD					0	42.5	40.5	

TIE TRUNK CIRCUIT

SD-65756-01-FI

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CAD 1

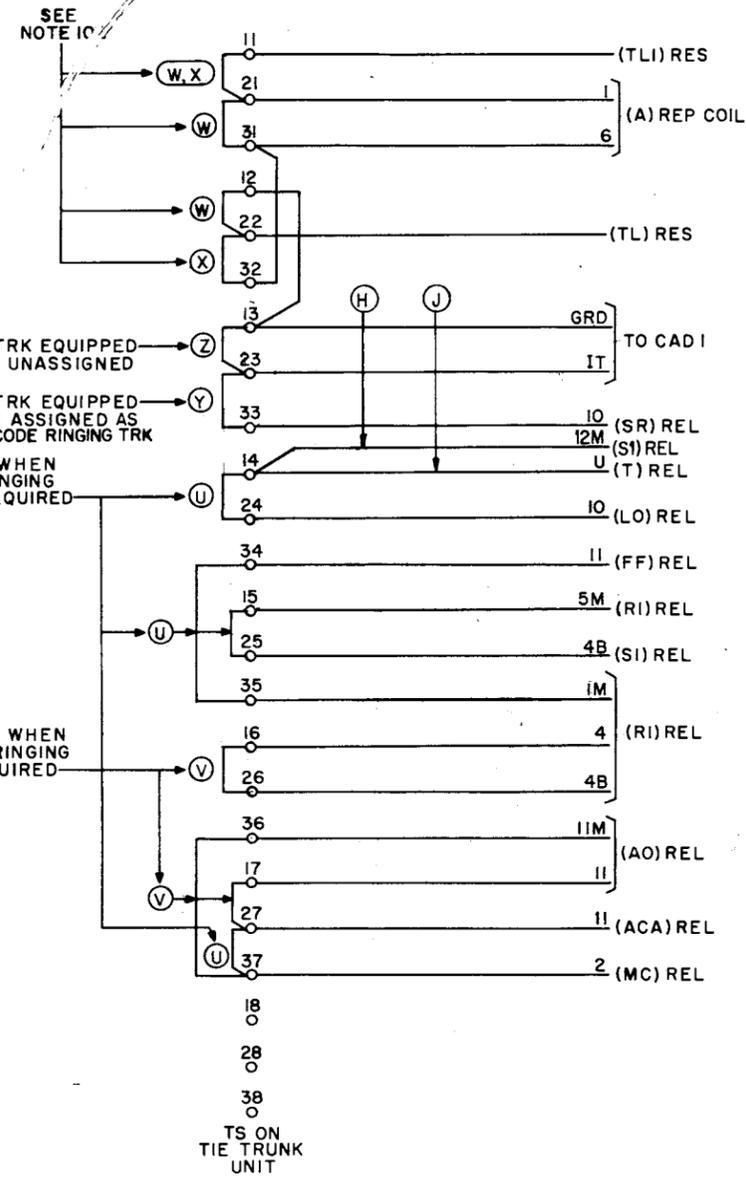
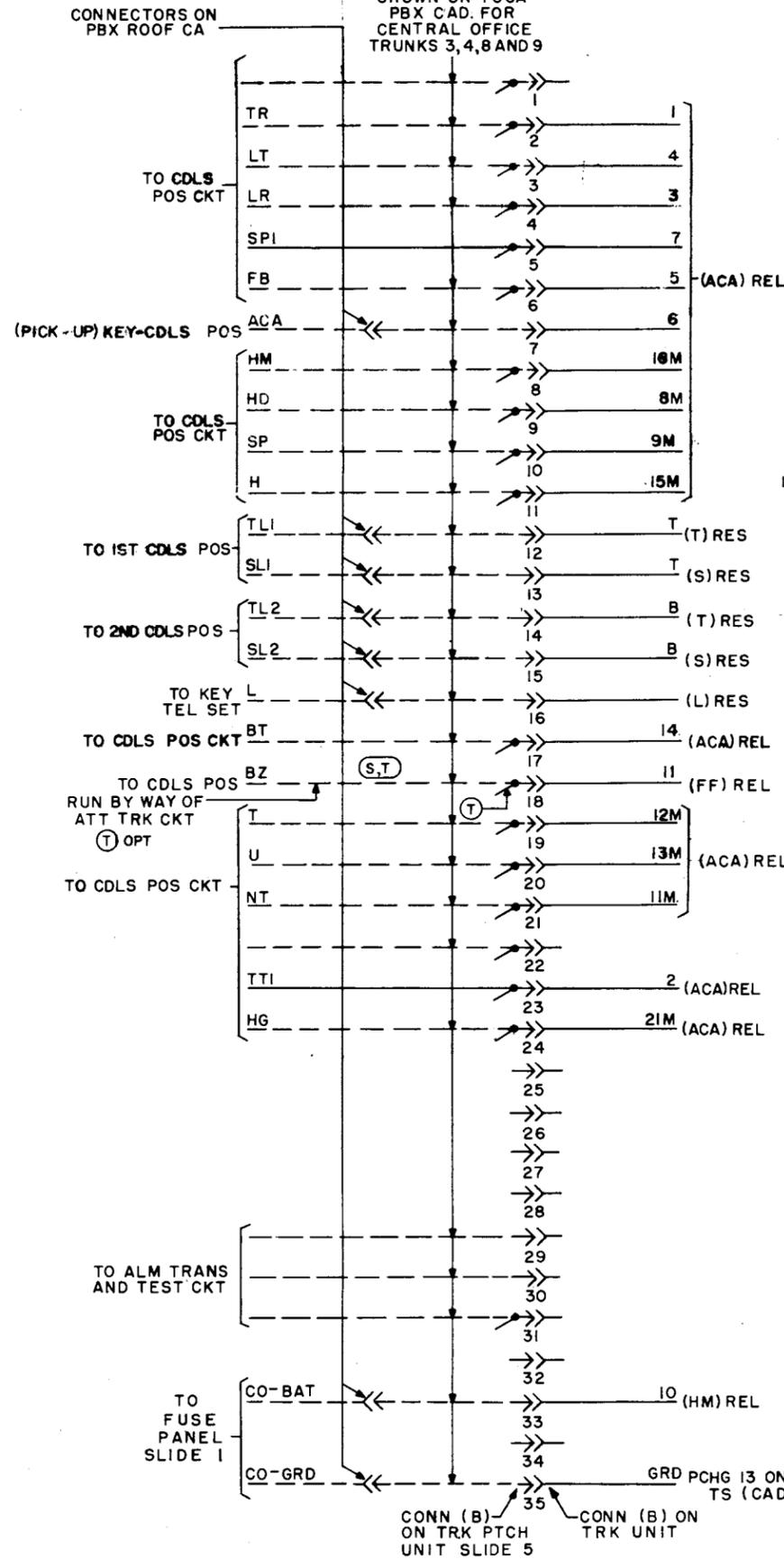
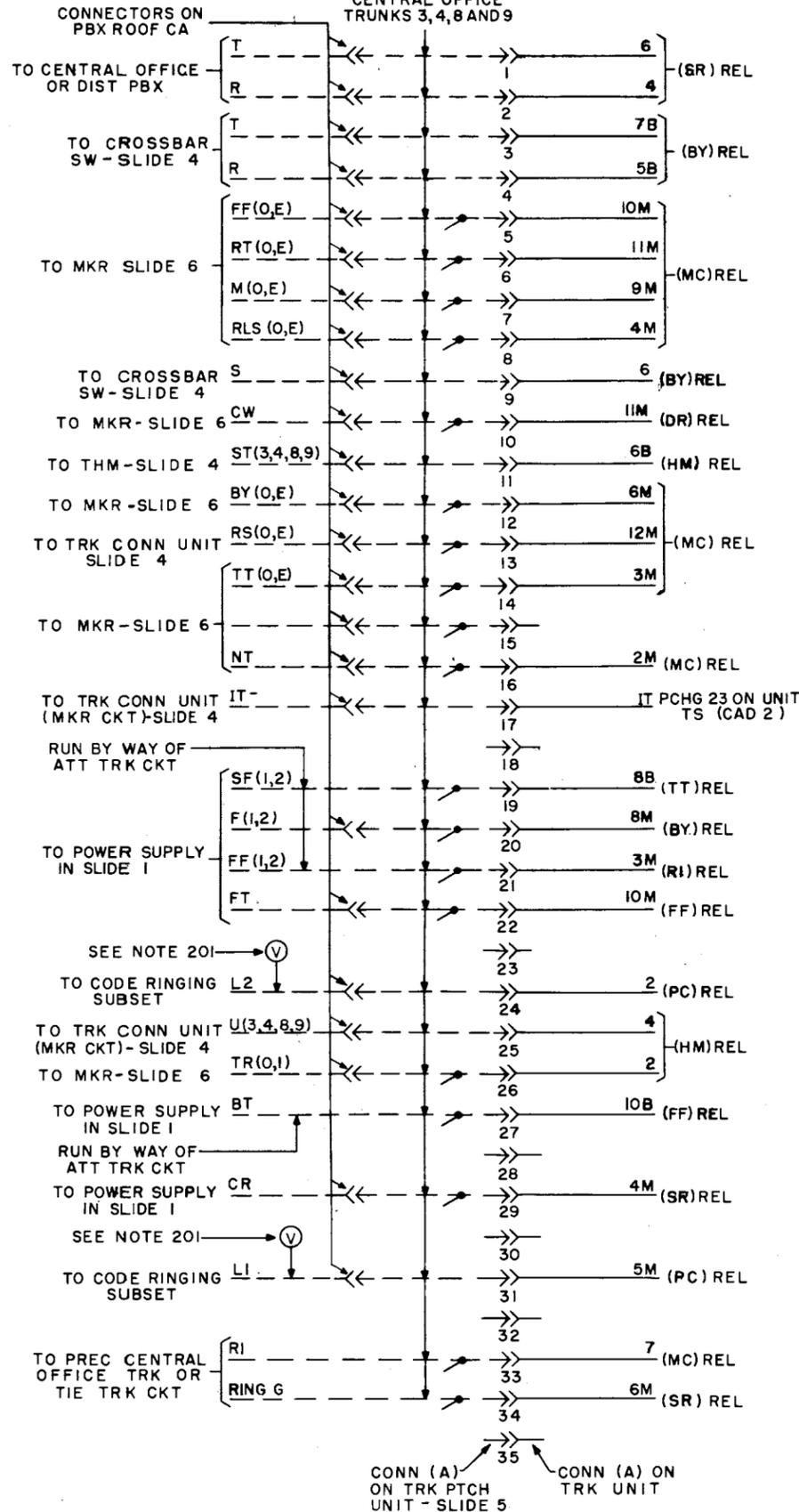
CAD 2

DRAWING	1
ISSUE	1
2D	1
3D	1
6B	1

SHOWN ON 756A  
PBX CAD. FOR  
CENTRAL OFFICE  
TRUNKS 3, 4, 8 AND 9

SHOWN ON 756A  
PBX CAD. FOR  
CENTRAL OFFICE  
TRUNKS 3, 4, 8 AND 9

RING DOWN TIE TRUNK OPTIONS



TIE TRUNK CIRCUIT ② SD-65756-01-G1

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