

DWG	CD	DWG	CD	DWG	CD
ISS	ISS	ISS	ISS	ISS	ISS
1	1	2D	2D	3AR	2D
4B	4B	5D	5D	6D	6D
DWG	CD	DATE	DRAWN	APPROVED	
ISSUE	ISSUE	ISSUED			
7D	6D APP 1D	5-10-63	CRA	LEV Evol PD	
8B	6D APP 2B	8-16-65	R.B.B.	JAY FNA J.P.K. PEG	
9D	6D APP 3D	4-8-69	H.G.L.	J.R. FNA R.B.B.	
10A	6D APP 4A	3-12-73	GONZ	AA DFF JL	
11B	6D APP 5B	3-12-73	GONZ	AA DFF JL	

PLEASE NOTE:

[illegible]

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.
6. "OLD SHEET NO." REFERS TO SHEET NO. PRIOR TO ISSUE: 7D

CATEGORY	NO.
EQUIPMENT INFO	J590236-() ED-65855-01

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

REPLACING SD-65716-01

SD-65727-01

W05

PBX SYSTEMS

NO. 557A
SECRETARIAL LINE AND LINE LAMP
TEST CIRCUIT

AT&TCO
STANDARD

(SECR LINE)

BELL TELEPHONE LABORATORIES
INCORPORATED

DWG 812
35

SD-65727-OI-AI
9 SHEETS

PRINTED IN U.S.A.

DRAWING	ISSUE
70	CRR
70	PD
88	RJR
88	J.P.E.
88	PEP
90	JGL
90	RAB
90	K.W.

FIG. 1

SECRETARIAL LINE CKT. WITH NON-LOCKING LINE LAMP
ARRANGED FOR SECRECY FOR USE WHERE RINGING
CURRENT IS AC-DC OR NEGATIVE SUPERIMPOSED
SEE CIRCUIT NOTES 104 & 107

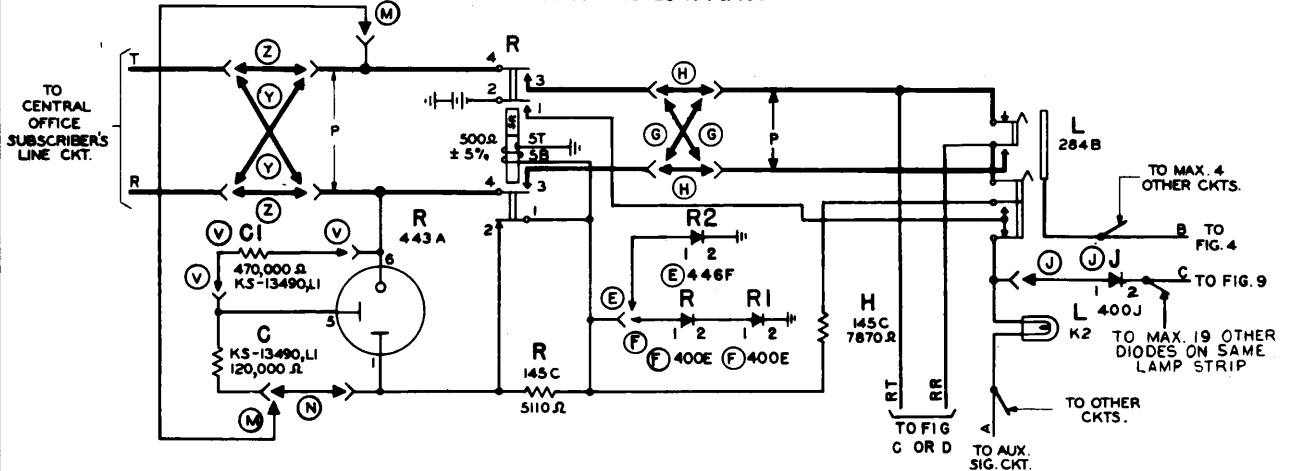


FIG. C (MFR. DISC.)

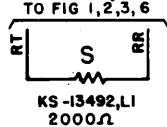


FIG. D

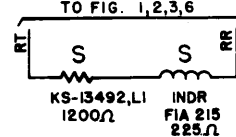
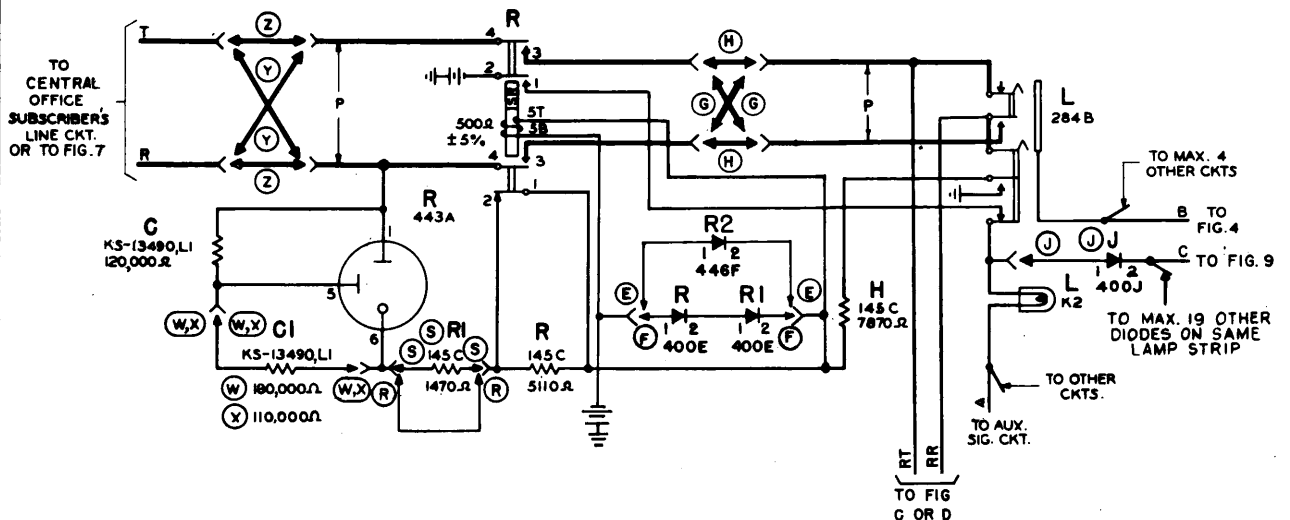


FIG. 2

SECRETARIAL LINE CKT. WITH NON-LOCKING LINE LAMP
ARRANGED FOR SECRECY FOR USE WHERE RINGING
CURRENT IS AC ONLY OR POSITIVE SUPERIMPOSED



DRAWING ISSUE	
7D	CRA
8B	PD
9D	JAL
	RAB
	WLL

FIG. 3
UNIVERSAL SECRETARIAL LINE CKT.
WITH NON-LOCKING LINE LAMP
ARRANGED FOR SECRECY
SEE CIRCUIT NOTES 104, 105 & 107

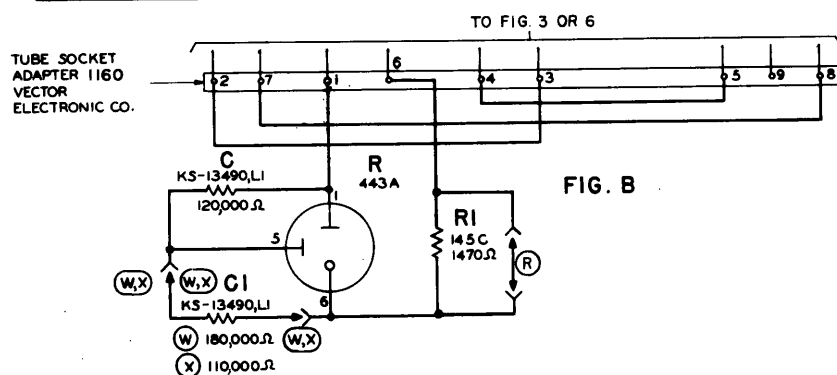
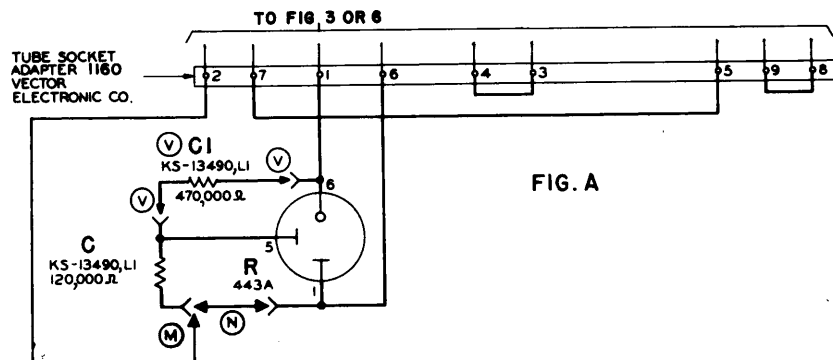
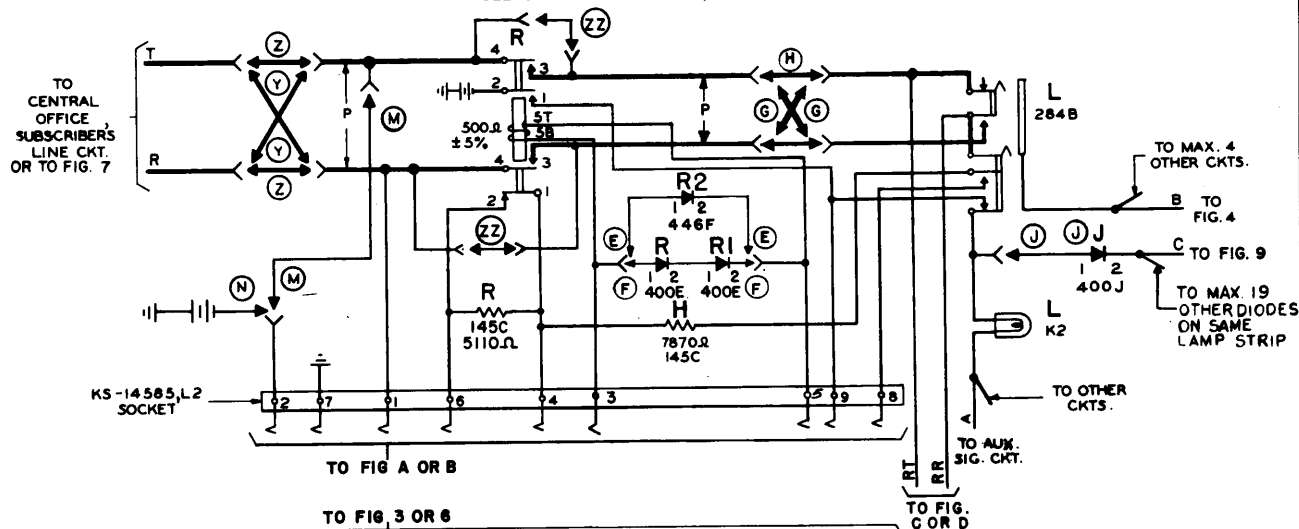


FIG. 4
RESISTANCE LAMP CKT.

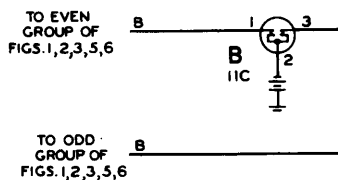
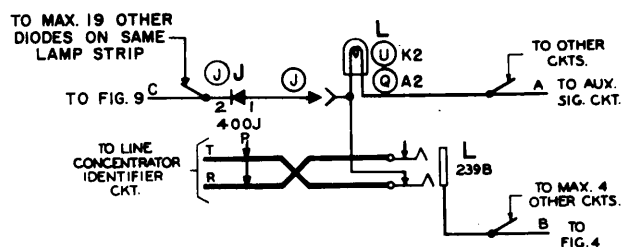


FIG. 5
SECRETARIAL LINE CKT.
FOR USE WITH CONCENTRATOR-IDENTIFIER CKT.



PBX SYSTEMS
NO. 557A
SECRETARIAL LINE AND LINE LAMP
TEST CIRCUIT

SD-65727-01-B2

BELL TELEPHONE LABORATORIES
INCORPORATED

3S

PRINTED IN U.S.A.

DRAWING ISSUE	
7D	CRA
8B	PB
9D	JBL
	RAM

FIG. 6
UNIVERSAL SECRETARIAL LINE CKT.
ARRANGED FOR LOCKED IN LINE SIGNAL
WITHOUT SECRECY
SEE CIRCUIT NOTES 104, 105 & 107

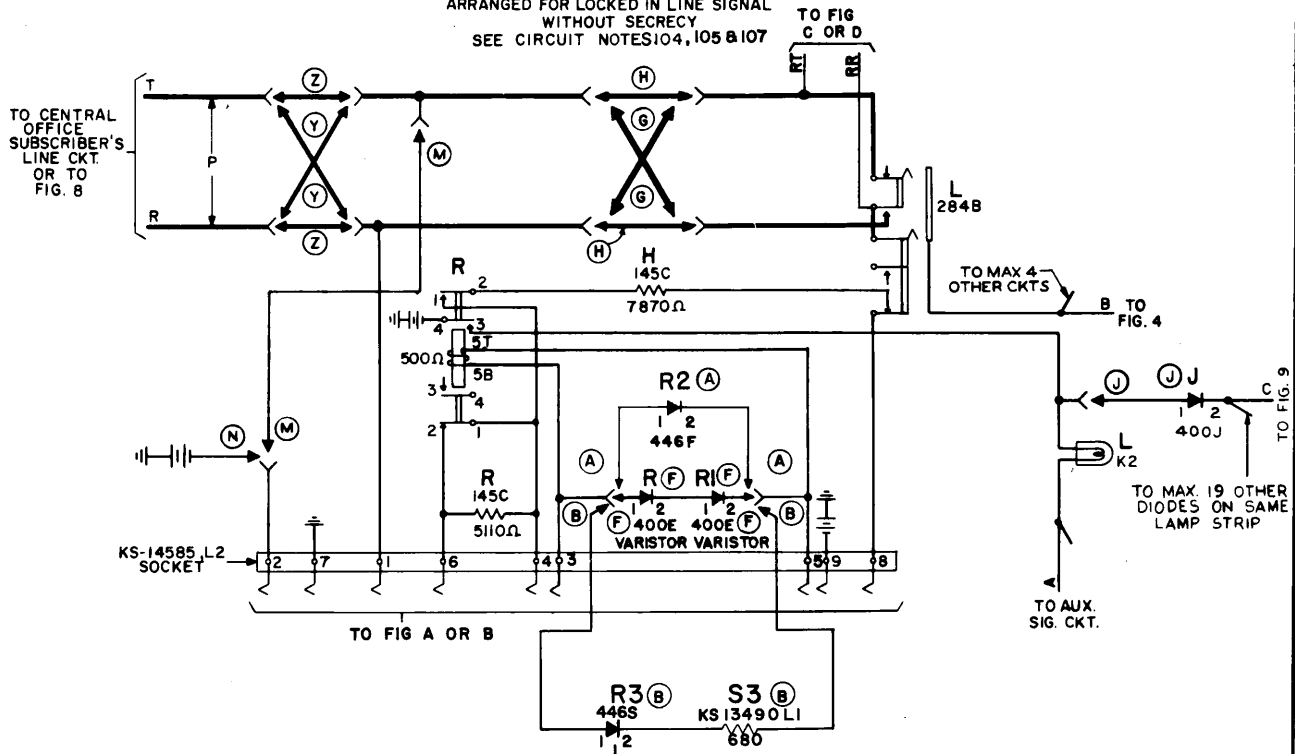
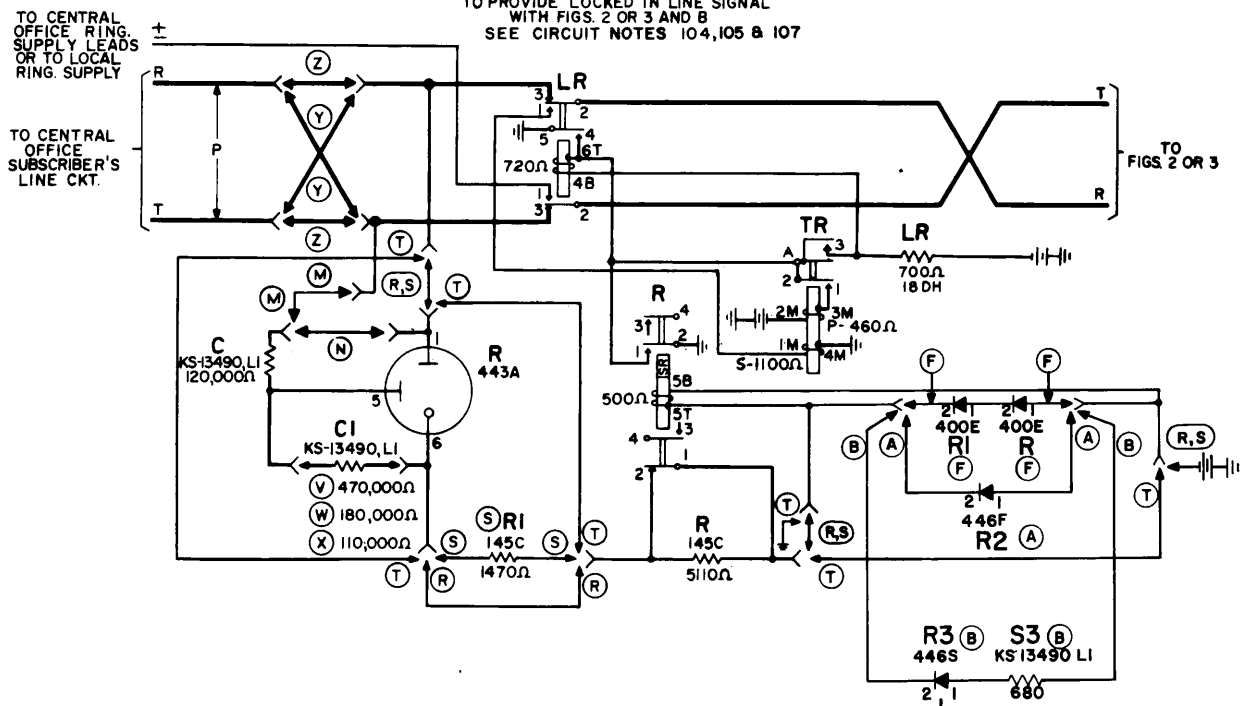


FIG. 7
APPLIQUE CKT.
TO PROVIDE LOCKED IN LINE SIGNAL
WITH FIGS. 2 OR 3 AND B
SEE CIRCUIT NOTES 104, 105 & 107



CIRCUIT NOTES:

101. OBTAIN BATTERY SUPPLY FROM ASSOCIATED POSITION. OBTAIN GROUND FROM LOCAL BUILDING GROUND.

102.

FEATURE OR OPTION				PROVIDE		
				FIG.	APP OR WIR	QUANTITY
SECRETARIAL LINE CKT WITH NON-LOCKING LINE SIGNAL AND ARRANGED FOR SECRECY-USED WITH FOLLOWING TYPES OF RINGING				AC-DC OR NEGATIVE SUPERIMPOSED	1	1 PER CKT
				POSITIVE SUPERIMPOSED	2	1 PER CKT
				AC ONLY	2	R 1 PER CKT
UNIVERSAL SECRETARIAL LINE CKT	WITH NON-LOCKING LINE SIGNAL AND ARRANGED FOR SECRECY-USED WITH THE FOLLOWING TYPES OF RINGING			AC-DC OR NEGATIVE SUPERIMPOSED	3,A	1 PER CKT
				POSITIVE SUPERIMPOSED	3,B	1 PER CKT
				AC ONLY	3,B	R 1 PER CKT
	WITH LOCKING LINE SIGNAL NOT ARRANGED FOR SECRECY-USED WITH THE FOLLOWING TYPES OF RINGING			AC-DC OR NEGATIVE SUPERIMPOSED	6,A	1 PER CKT
				POSITIVE SUPERIMPOSED	6,B	1 PER CKT
				AC ONLY	6,B	R 1 PER CKT
	APPLIQUE CKT REQUIRED TO CONNECT TO FIG. 2 WITH "R" & "Y" OPTIONS OR TO FIG. 3 & B WITH "R" & "Y" OPTIONS			AC-DC OR NEGATIVE SUPERIMPOSED	7	T 1 PER CKT
				POSITIVE SUPERIMPOSED	7	S 1 PER CKT
				AC ONLY	7	R 1 PER CKT
FOR LOCKING LINE SIGNAL-USED WITH THE FOLLOWING TYPES OF RINGING			AC-DC OR NEGATIVE SUPERIMPOSED	7	T 1 PER CKT	
			POSITIVE SUPERIMPOSED	7	S 1 PER CKT	
			AC ONLY	7	R 1 PER CKT	
APPLIQUE CKT REQUIRED TO CONNECT FIG. 6 & B WITH "R" AND "Z" OPTION FOR SECRECY-USED WITH THE FOLLOWING TYPES OF RINGING			AC-DC OR NEGATIVE SUPERIMPOSED	8	T 1 PER CKT	
			POSITIVE SUPERIMPOSED	8	S 1 PER CKT	
			AC ONLY	8	R 1 PER CKT	
RESISTANCE LAMP CKT				4	1 PER 10 FIG. 1, 2, 3, 5 OR 6	
RINGING RECEIVED ON			RING CONDUCTOR	Z		
			TIP CONDUCTOR	Y		
RINGING CURRENT IS		POSITIVE SUPERIMPOSED AND SILENT INTERVAL BATTERY IS	60-75 VOLTS	X		
			45-52 VOLTS	W		
		NEGATIVE SUPERIMPOSED AND SILENT INTERVAL BATTERY IS 60-75 VOLTS		V		
CONCENTRATOR IDENTIFIER LINE				5	1 PER CKT	
LAMP TEST CIRCUIT			TEST KEY	9	1 KEY PER 20 LAMPS	
			TEST LINE RESISTOR	10	1 PER INSTL	
DIAL EXCLUSION		ROTARY			H	
		TOUCH-TONE	Z WIRING SPECIFIED		G	SEE NOTE 106
			Y WIRING SPECIFIED		H	
NON-SECRECY REQD. FOR FIG. 3					ZZ	

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.	A & M	M.D.
4B	Q OR U	U		Q		U
6D	M OR N	N		M OR N		
6D	J	NONE		J		
8B	FIG C OR D	FIG C		FIG D		FIG C
8B	G OR H	H		G OR H		
8B	E OR F	F		E		F
9D	A OR B	A	108	B		A
11B	ZZ	NONE		ZZ		

104. PROVIDE "M" OPTION WHEN SECRETARIAL LINE CIRCUIT IS CONNECTED FOR AC-DC, RING CURRENT OR NEGATIVE SUPERIMPOSED AND IS SUBJECT TO AUTOMATIC NUMBER IDENTIFICATION OR TO TWO PARTY FLAT RATE TESTS USING NEGATIVE COIN BATTERY.

105. USE "N" WIRING WITH FIG. B.

106. REFERENCE TO "Y" OR "Z" WIRING APPLIES ONLY WHEN FIGS. 1, 2, 3 OR 6 ARE USED ALONE. WHEN CONNECTING TO FIG. 7 WHICH HAS "Y" WIRING PROVIDE "G" IN FIG. 2 OR 3. WHEN CONNECTING TO FIG. 8 WHICH HAS "Y" WIRING PROVIDE "H" IN FIG. 6. (FOR TOUCH-TONE DIAL EXCLUSION, TIP POTENTIAL OF THE JACK SHALL ALWAYS BE NEGATIVE).

107. IN FIGURES 6 AND 7 OPTION B PROVIDES DIAL PULSE TRANSIENT PROTECTION IN SX'S OFFICES.

CIRCUIT NOTES: (CONT)
 108. IN FIGURES 6 AND 7 PRIOR TO ISSUE 9D,
 OPTION A WAS PART OF OPTION E.

DRAWING ISSUE	
TD	CRA
PD	
88	PBB JPK PEG
9D	JGL PBB HLL



WORKING LIMITS

NO. OF MAIN STATION RINGING BRIDGES	MAX. EARTH POTENTIAL				±5V	
	CONDUCTOR LOOP TO PBX FROM ALL CENTRAL OFFICES EXCEPT NO. 1 CROSSBAR					
	SUPERIMPOSED RINGING 84-88V AC, 37-40V DC		AC-DC RINGING 84-88V AC, 45-52V DC		AC-DC RINGING 95-103V AC, 16-19V DC WITH 48V SILENT INTERVAL	
	10,000Ω LEAK	50,000Ω LEAK	10,000Ω LEAK	50,000Ω LEAK	10,000Ω LEAK	50,000Ω LEAK
1	1350	1600	2000	2000	200	500
2	1150	1500	1800	2000		200
3	700	1200	1400	2000		
4	500	900	1200	1000		
	CONDUCTOR LOOP TO PBX FROM NO. 1 CROSSBAR CENTRAL OFFICE					
4	100	100	100	100		

FIGURES AND OPTIONS ON THIS DWG			
CKT FIG.	APP OR WIRING		
1	A	Z	
2	B	Y	J
3	C	X	H
4	D	W	G
5		V	F
6		U	E
7		T	Δ
8		S	A
9		R	ZZ
10		Q	
11		N	
12		M	

PBX SYSTEMS		SD-65727-01-D2
NO. 557A		
SECRETARIAL LINE AND LINE LAMP TEST CIRCUIT		
BELL TELEPHONE LABORATORIES INCORPORATED	DWG SIZE 3S	PRINTED IN U.S.A.

CIRCUIT REQUIREMENTS																		DRAWING		
NO. 557A SECRETARIAL LINE CKT (SECR APLQ) (SECR LINE)																		ISSUE		
APPARATUS				MECH REQ			CIRCUIT PREPARATION				TEST		DIRECT CURRENT FLOW REQ				REMARKS		TD	
DESIG	CODE	OPT.	FIG.	BSP FIG.	CONT PRES	ARM. TRVL	BLOCK OR INSULATE	TEST CLIP DATA		TEST SET PREP	SEE TEST NOTE	TEST WDG	TEST FOR	AFTER SOAK	TEST MA	READJ MA				
								CONN BAT.	CONN GRD											
RELAYS																				
AR	B1177		8	16		SPL		1M(AR)	2M(AR)	B/G	3		O	150	8.6	7.7	ARM. TRVL 20			
								1M(AR)	2M(AR)	B/G			NO	150	4.8	5.4				
								1M(AR)	2M(AR)	B/G			R	150	2.9	3.3				
LR	UA119		7	108/132	H	SPL	5T(LR)		T(LR)	GRD	4		O		8.4	8	ARM. TRVL 38			
R	Y311		1	190/188	H	35		B(R)		BAT.	1		O	FS	17	16				
								B(R)		BAT.	1		NO	FS	9.4	9.9				
								B(R)		BAT.	1		H	FS	1.6	1.5				
								B(R)		BAT.	1		R	FS	0.9	1.1				
R	Y311		2	190/188	H	35		T(R)		GRD	1		O	FS	17	16				
								T(R)		GRD	1		NO	FS	9.4	9.9				
								T(R)		GRD	1		H	FS	1.6	1.5				
								T(R)		GRD	1		R	FS	0.9	1.1				
R	Y311		3	190/188	H	35					1,2		O	FS	17	16				
											1,2		NO	FS	9.4	9.9				
											1,2		H	FS	1.6	1.5				
											1,2		R	FS	0.9	1.1				
R	Y311		6	190/188	H	35	2T(R)				1,2		O	FS	17	16				
							2T(R)				1,2		NO	FS	9.4	9.9				
							2T(R)				1,2		H	FS	1.6	1.5				
							2T(R)				1,2		R	FS	0.9	1.1				
R	Y311		7	190/188	H	35	2T(R)				1,5		O	FS	17	16				
							2T(R)				1,5		NO	FS	9.4	9.9				
							2T(R)				1,5		H	FS	1.6	1.5				
							2T(R)				1,5		R	FS	0.9	1.1				
R	Y311		8	190/188	H	35					1,5		O	FS	17	16				
											1,5		NO	FS	9.4	9.9				
											1,5		H	FS	1.6	1.5				
											1,5		R	FS	0.9	1.1				
R1	U808		8	160/132	H	47			T(R1)	GRD			O		19.5	18.5				
TR	J55		7	5		23	1(TR),(LR)NO		3M(TR)	GRD		P	O		16.5	15.5				
							1(TR),(LR)NO	1T(LR)		BAT.		S	O		10.9					
							1(TR),(LR)NO				6	S	O							

TEST NOTES:

- ADJACENT RELAYS SHALL NOT BE ENERGIZED. SEE BSP.
- WITH FIG. A, CONNECT BAT. TO B(R); USE TEST SET PREP "BAT" WITH FIG. B, CONNECT GRD. TO T(R); USE TEST SET PREP "GRD".
- TEST: CONTACT MAKE MIN. 3. CONTACT SEPARATION MIN 3
- CONTACTS MAKE 6 READJUST, 4 TEST. MIN. SPRING TENSION (2T & 2B) 10 GRAMS READJUST, 8 GRAMS TEST.
- WITH T OPTION CONNECT BAT TO B (R); USE TEST SET PREP "BAT" WITH R OR S OPTION CONNECT GRD TO T(R); USE TEST SET PREP "GRD".
- TEST AND READJUST THE (TR) RELAY FOR OPERATION ON AC BY CONNECTING 6500Ω NON-INDUCTIVE RES. BETWEEN 1T (LR) AND 1B (LR). THE (TR) RELAY SHOULD OPERATE AND HOLD STEADILY WITH THE 6500Ω RESISTANCE SHORT CIRCUITED.

PBX SYSTEMS
NO. 557A
SECRETARIAL LINE AND LINE LAMP
TEST CIRCUIT

BELL TELEPHONE LABORATORIES
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