

WORKING LIMITS
LIMITS ARE FOR SINGLE OFFICE AREAS.
FOR MULTIOFFICE AREAS, AND FOR OPERATOR PULSING, SEE
KEY SHEETS

TYPE OF DIAL OR ADJ.	45V. MIN.				48V. MIN.			
	PULSING FROM SUB.		CALLED STA SUPV.		PULSING FROM SUB.		CALLED STA SUPV.	
MAX. EXT. CKT. LOOP **	2, 4 OR 5	6	7	ADJ. "A"	2, 4 OR 5	6	7	ADJ. "A"
MAX. EXT. CKT. LOOP ***	750	1200	1100	1000	850	1500	1400	1400
MIN. INS. RES.	1000	1400	1300	1000	1000	1500	1500	1115
		15000	1400	1000		15000	1500	1115
				15000				15000

* WHEN USING 1000" LOOP - LEAK B IN PULSING TEST SET
* WHEN USING 1200" LOOP - LEAK A IN PULSING TEST SET
* WHEN USING 1400" LOOP - LEAK A IN PULSING TEST SET

TYPE OF RINGING AND DISTRICT	TRIPPING RANGES		SILENT INTERVAL VOLTAGE	MAX. EXT. CKT. LOOP FOR TRIPPING
	AC VOLTAGE	DC VOLTAGE		
AC-DC	75-110	45-52	45-52	1030"
			48-52	1115"
SUP	65-90	37-40	45-52	1030"
			48-52	1115"

FIG. 2
(MFR. DISC.)

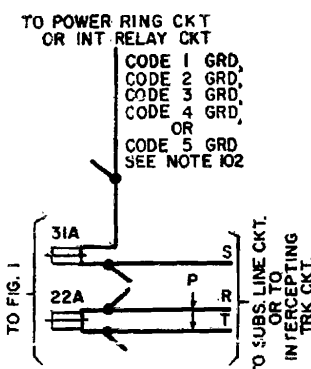
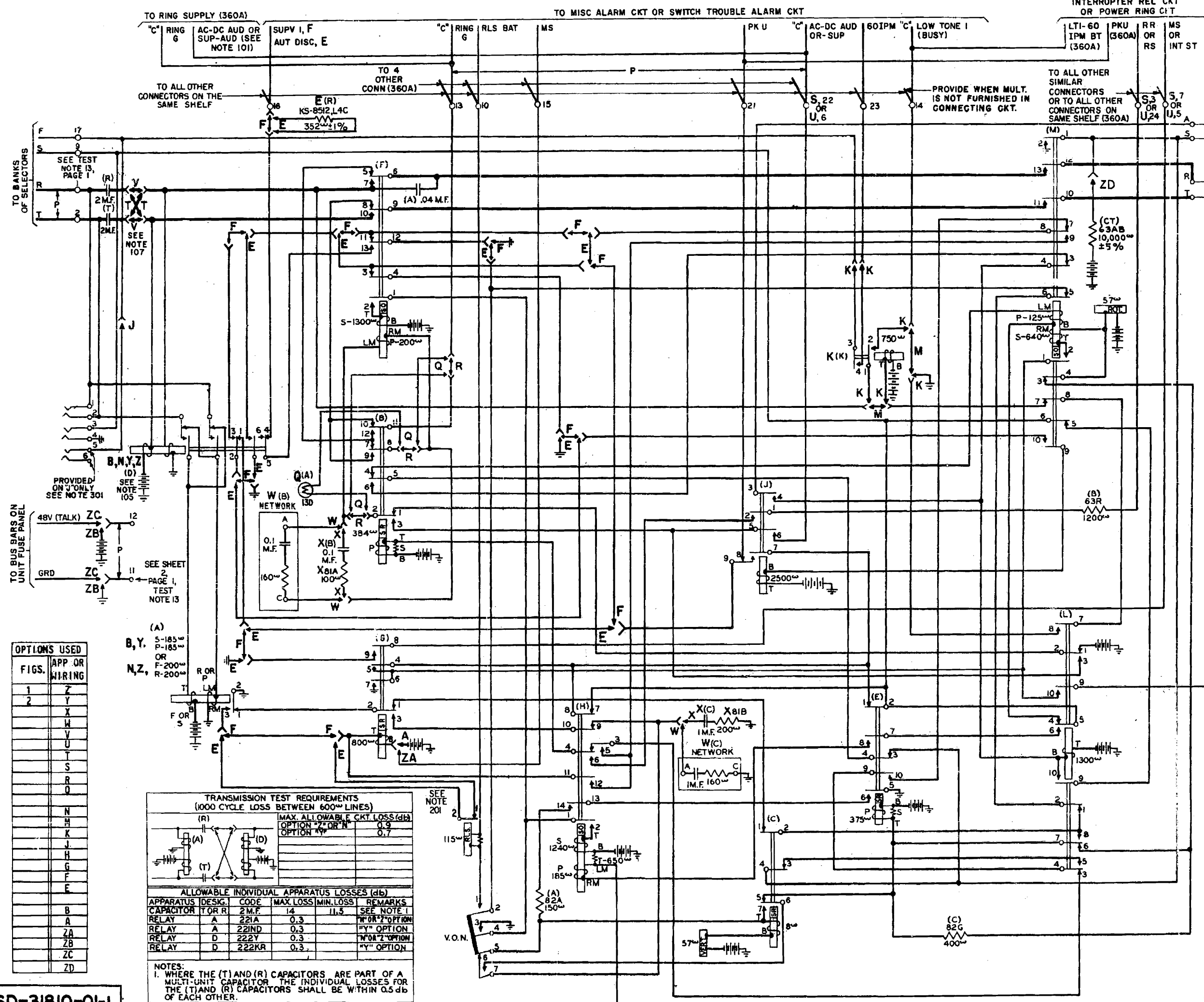


FIG. 1



FIGS.	APP OR WIRING
1	Z
2	Y
	X
	W
	V
	U
	T
	S
	R
	Q
	N
	M
	K
	J
	H
	G
	F
	E
	D
	C
	B
	A
	ZD

TRANSMISSION TEST REQUIREMENTS (1000 CYCLE LOSS BETWEEN 600" LINES)				
APPARATUS DESIG.	CODE	MAX. LOSS	MIN. LOSS	REMARKS
RELAY	A	221A	0.3	"W" OR "Z" OPTION
RELAY	A	221D	0.3	"W" OR "Z" OPTION
RELAY	D	222Y	0.3	"W" OR "Z" OPTION
RELAY	D	222KR	0.3	"W" OR "Z" OPTION

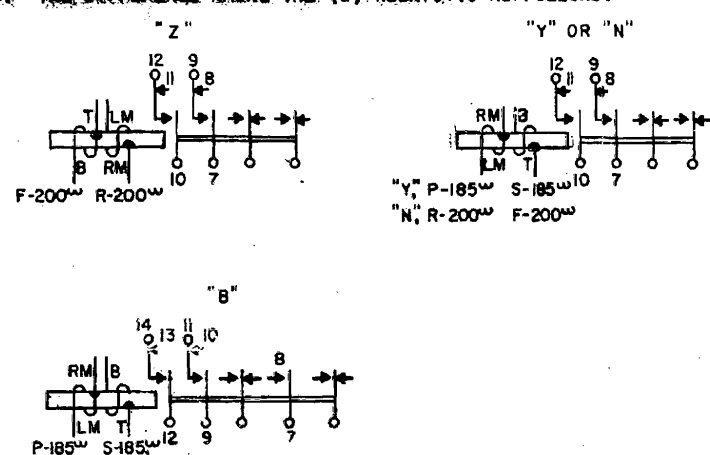
NOTES:
1. WHERE THE (T) AND (R) CAPACITORS ARE PART OF A MULTI-UNIT CAPACITOR, THE INDIVIDUAL LOSSES FOR THE (T) AND (R) CAPACITORS SHALL BE WITHIN 0.5db OF EACH OTHER.

FEATURE OR OPTION	REQUIRED	PROVIDE	
		FIG.	QUANTITY
AUTO. DISCONNECT ON CALLING PARTY HOLDS ON NON-REVERTIVE CALLS	REQUIRED	B, E, G	
	NOT REQUIRED	F	
NO. 1, 350A OR 355A OFFICES		A, ZB	
NO. 360A OFFICES		F, ZC	
NO. 360A-START-STOP OPERATION OF RINGING MACHINE	REQUIRED	ZA	
	NOT REQUIRED	A	

(G) 1976W SWITCH (H) 1976M SWITCH, 346 JACK, 242C PLUG

CIRCUIT NOTES:

- DESIG. FUSE AMP. POTENTIAL ONE PER
1 1/2 48V. TALK. CKT
(35A) AC-DC AUD. (360A) 5 CIRCUITS
- CONNECT TO ONE OF THE CODE LEADS IN ACCORDANCE WITH THE RINGING CODE ASSIGNED FOR THE CALLED NUMBER CORRESPONDING TO THE BANK TERMINALS.
- THIS CKT SHALL NOT BE USED FOR CALLS FROM INCOMING REPEATERS OR TRUNKS WHICH PLACE A HOLDING GRD. FORWARD ON THE SLEEVE AFTER THE CONNECTOR REMOVES ITS GROUND FROM THE INCOMING SLEEVE AT THE TIME OF RELEASE.
- THIS CKT SHALL BE USED FOR REVERTING CALL SERVICE ONLY WHERE THERE IS A DIRECT LOCAL SLEEVE FROM THE CONNECTOR THROUGH THE SLEEVE FROM THE SUBSCRIBER LINE CIRCUIT TO THE CONNECTOR.
- THE DIFFERENCE AMONG THE (D) RELAYS IS AS FOLLOWS:



CIRCUIT REQUIREMENTS

DRAWING
ISSUE

APPARATUS				MECH REQ			CIRCUIT PREPARATION				TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQ					TIME REQ		REMARKS				
DESIG	CODE	OPTION	FIG.	RESID	ASP FIG.	CONT PRESS	ARM TRVL	BLOCK OR INSULATE	TEST CLIP DATA				TEST WDG	TEST FOR	AFTER SOAK	TEST	READJ	TEST	READJ					
									CONN BAT.	CONN GRD			MA.	MA.	MA.	SEC	SEC							
G	2475		1	1.5-4	505		27			3(A)	GRD	1		0	FS	10.5	10							
										3(A)	GRD	1		NO	FS	8.5	9							
				MIN 1.5					TST JK 2	TST JK 1	2.4		U					.333						
									TST JK 2	TST JK 1	V/BR 2.3		R				.750	.500						
									3(A)	GRD	2		NO	FS	8.5	9								
H	2226Y		1	S-4	324		31			8(E)	GRD	5.6	P	0	FS	41	39							
										8(E)	GRD	6	P	NO	FS	21	22.5							
										2(H)	GRD		S	0	FS	24	22.5							
										2(H)	GRD	7	S	NO	FS	17.5	18.5							
J	2216S		1	S-4	305		16			9B(M)	GRD			0	FS	9	8.5							
										9B(M)	GRD			NO	FS	5.7	7.1							
K	2226B	K	1	S-4	8		13			7T(L)	GRD			0	FS	23	21.5							
										7T(L)	GRD			NO	FS	17	18							
L	223AE		1	S-4	263		17	(M)0, (E)NO	4(J)	GRD	8.9		0	FS	23	21.5								
								(M)0, (E)NO	4(J)	GRD	9.10		NO	FS	17	18								
M	224BS		1	3-5	422		31	(E)0	4(B)		BAT. 12.5/4	P	0			28.5	27							
								(E)0	4(B)		BAT. 14.2/4	P	NO			20	21.5							
								3B(M)		2B(M)	GRD 9.1, 5	S	0	FS	30.5	29								
								3B(M)		2B(M)	GRD 9.11	S	0	FS	52.5	50								
								3B(M)		2B(M)	GRD 9.11, 16	S	NO	FS	38.5	41								

TEST NOTES:

- FOR USE WHEN TIMING REQ ARE NOT APPLIED.
- FOR USE WHEN TIMING REQ ARE APPLIED.
- CONNECT DIRECT GROUND TO SLEEVE WIPER.
- TEST HOLD - USE 1400" LOOP IN PULSING TEST SET.
- CONTACTS 1-2 SHALL MAKE BEFORE SPG 1 STRIKES THE BUSHING ON SPG 4. CONTACT PRESSURE SPG 3-5 (ARM. CPD) MIN 15 GRAMS.
- REQ FOR SPG 1-2 ONLY.
- CONT 1-2 AND 3-5 MAY MAKE AND 3-4 AND 7-8 MAY BREAK.
- TEST - CONTACT SEPARATION SPG 2T AND 3T MIN 13.
- SOAK VALUES ADDED ON ISS 40.
- AS PERMITTED BY SEQUENCE, ANY 2 BREAK CONTACTS MAY BREAK ON NON-OPERATE.
- TEST: 1B-2B SHALL MAKE BEFORE 1T-2T MAKE. 1T-2T SHALL MAKE BEFORE 3T-4T AND 5B-6B BREAK. CONTACTS 3B-4B SHALL BREAK BEFORE 3T-4T AND 5B-6B BREAK.
- SHORT CIRCUIT SPG 3 AND 4 OF TEST JACK.
- 1B-2B SHALL MAKE BEFORE 1B STRIKES THE BUSHING ON 4B AND 1T STRIKES BUSHING ON 4T.
- REQ FOR SPG 1B-2B ONLY.
- 1T-2T MAY MAKE, ONLY 1B-2B, 3B-4B, REQ TO OPERATE.

- 1T-2T AND 1B-2B MAY MAKE AND 3B-4B BREAK AND AS PERMITTED BY SEQUENCE ANY OTHER TWO CONTACTS BREAK ON SECONDARY NON-OPERATE.

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LOCAL CONNECTOR CIRCUIT

2

SD-31E10-01-2

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FIG. 51
(FOR FIG. 1)
ONE PER CONN. WHEN BUSY FLASH TO
OPERATOR IS NOT REQ

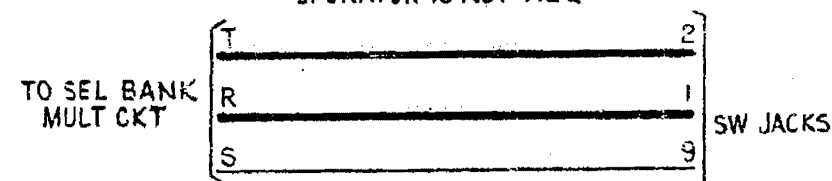


FIG. 52 (MFR DISC.)
(FOR FIG. 1)

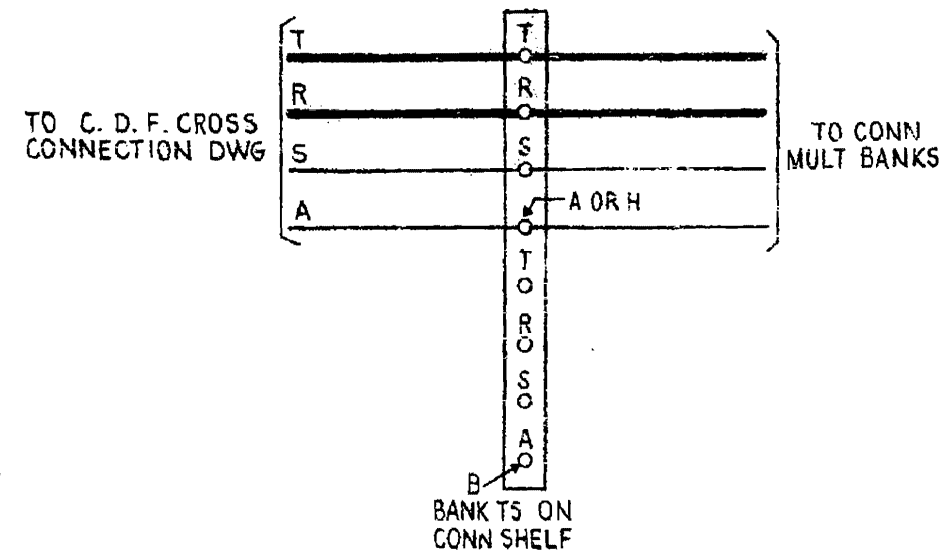


FIG. 53 (MFR DISC.)
(FOR FIG. 1)
ONE PER SHELF

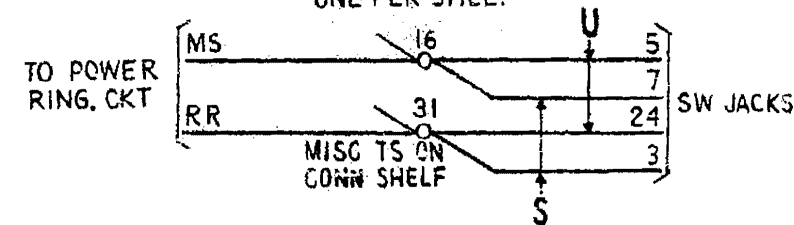


FIG. 54 (MFR DISC.)
(FOR FIG. 1)
ONE PER CONN. WHEN BUSY FLASH TO
OPERATOR IS REQ

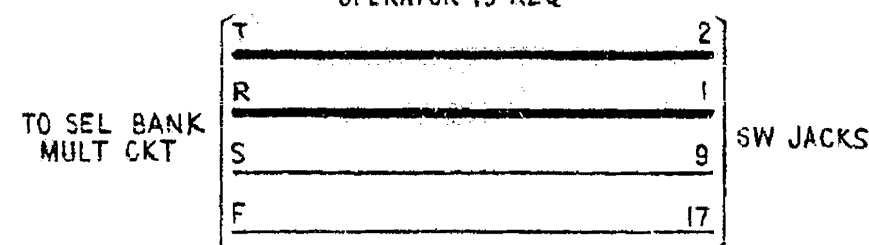
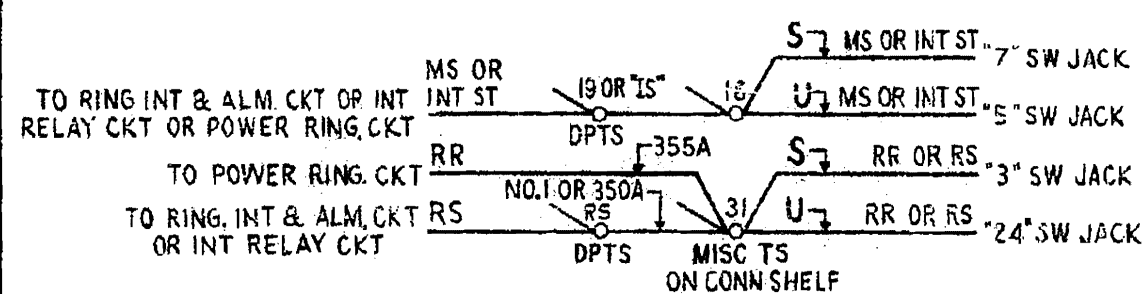


FIG. 55
(FOR FIG. 1)
ONE PER SHELF



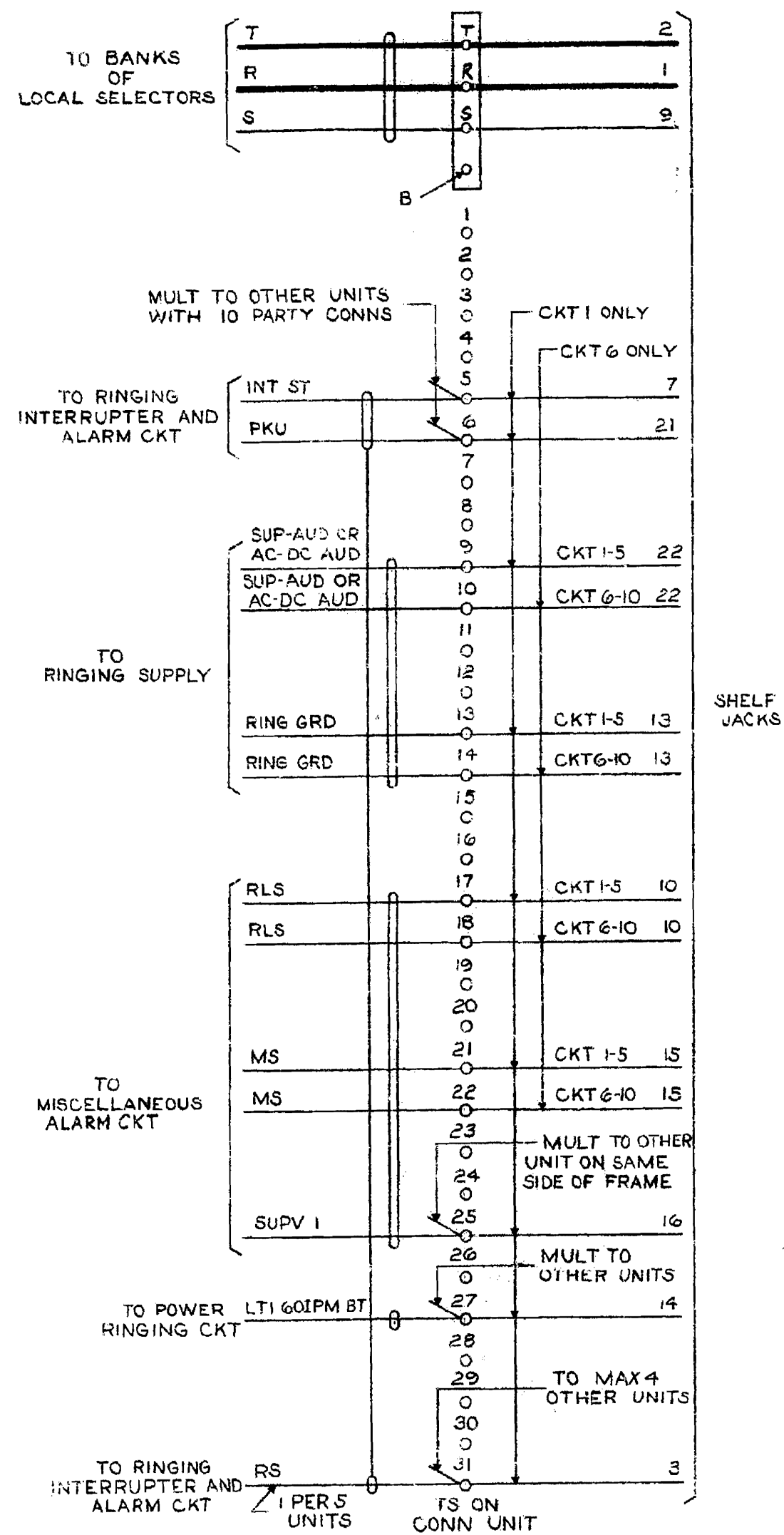
EQUIPMENT NOTES:

201. EXISTING SWITCHES MAY BE MODIFIED TO AGREE WITH G OPTION BY
ADDING THE FOLLOWING ASSEMBLY PARTS TO THE RELEASE MAGNET.
P-12B224 - BREAK CONTACT
P-250483 - BUSHING
P-485112 - SPRING ARM
P-252926 - HEX HEAD MACHINE SCREW

INFORMATION NOTES:

301. TEST JACK SPRINGS 5 AND 6 PROVIDED ONLY ON SWITCHES (H
OPTION) MANUFACTURED AFTER AUGUST 10, 1953. TO MODIFY
SWITCHES NOT HAVING THESE SPRINGS, REPLACE THE TEST JACK
AND WIPER CORD ASSEMBLY BY P-250320.
302. WHERE CONNECTORS ARE PROVIDED WITH Q OPTION, INTERCEPT
CIRCUITS SHALL BE ARRANGED TO TRIP RINGING EITHER BY A
COLD CATHODE TUBE OR BY MOMENTARY BATTERY ON ONE SIDE OF
THE CIRCUIT. WHERE CONNECTORS ARE PROVIDED WITH R OPTION,
INTERCEPT CIRCUITS SHALL BE ARRANGED TO TRIP RINGING
EITHER BY A COLD CATHODE TUBE OR BY MOMENTARY GROUND ON
ONE SIDE OF THE CIRCUIT.

FIG. 56 (A&M ONLY)
(FOR FIG. 1)
ONE PER SHELF
360A OFFICE



LOCAL CONNECTOR CIRCUIT

2

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