CIRCUIT NOTES:

101.

DESIG.	AMP.	POTENTIAL FUSED	ONE PER
	1½	48 V. SIG.	CKT.
	½ H.V.	#110 COIN OR #130V. PLATE OR T.G.	FIG. C
	½ H.V.	CONT. RINGING.	MAX 25 FIGS. B

102.

FEATURE OR OPTION				PROVIDE FIGS.	PROVIDE APP. OR WIR.	PROVIDE QUANTITY
TRUNK CKT.				1		1 PER CKT.
TRUNK IDENTIFICATION RESISTOR (PAD CONTROL NOT PROVIDED)				3		1 PER CKT
RINGING LAMP				4		1 PER MAT 5 FIGS. B
	COIN CONTROL REQD			5		1 PER CKT
	CENTRALIZED OR SWBD MAKE BUSY JACKS	NOT REQD			20	
		REQD		9	21	1 PER CKT
	RERING OR CONTROLLED START OF RINGING	NOT REQD		A	3	
		REQD	20V RINGING SEE NOTE 13A	B		
			SIMPLEX RINGING	C		
SWBD NO. 3C OR 3CL	NO TEST OPERATION	CROSSBAR NO. 1		B		
		CROSSBAR NO. 5		C		
	MF-KP EXCEPT THRU TOLL TOM SWBD				G,X	
	STRAIGHT FORWARD OPERATION	REV BAT SUPV.	WHEN CONN TRUNK IS ARRANGED FOR BAT ON TIP AS OFF-HOOK SIGNAL		G,X	
	MF KP THRU TOLL TOM SWBD		WHEN CONN TRUNK IS ARRANGED FOR BAT ON RING AS OFF-HOOK SIGNAL.		G,W	
		WET DRY SUPV.			G,X	
	PANEL SENDER TANDEM (STRAIGHT FORWARD)				F,X	
TESTBOARD NO. 17B, 17C, 18B, 18A OR 21A OR TOLL TEST UNIT NO. 5A	20V RINGING (SEE NOTE 19A)			B	G,Y	
	SIMPLEX RINGING			C		
	MAKE BUSY JACKS AT TERM ROOM	REQD		9	21	1 PER CKT
		NOT REQD			20	
BUILDING OUT CAPACITOR TO EQUALIZE OFFICE CABLE CAPACITY				8		1 PER CKT

103 (MFR DISC)

REPEAT COILS AND ASSOCIATED WIRING SHALL BE PROVIDED AS INDICATION THE FOLLOWING TABLE.

WHEN E1 OR E2 REPEATERS ARE NOT USED OR ARE USED IN CONJUNCTION WITH E3 REPEATERS, FURNISH IN ACCORDANCE WITH "TRUNK IMPEDANCE AT 1000~". (FOR IMPEDANCE DATA, SEE MASTER KEYSHEET.)

WHEN E1 OR E2 REPEATERS ALONE ARE USED, FURNISH IN ACCORDANCE WITH "IMPEDANCE RATIO" SPECIFIED BY THE TELEPHONE COMPANY.

PROVIDED 120G ("U" OPTION) OR 120GS ("ZA" OPTION) REPEAT COILS WHEN THIS CIRCUIT IS CONVERTIBLE WITH TRUNK IMPEDANCE ABOVE AND BELOW 1200 OHMS.

SEE NOTE 106.

TRUNK IMPEDANCE AT 1000~	IMPEDANCE RATIO: OFFICE	IMPEDANCE RATIO: TRUNK	COIL: CODE	COIL: OPTION	WIRING OPTION	TERMINAL NUMBERING: OFFICE END A	B	C	D	E	F	TRUNK END G	H	J	K	L	M	WINDING RESISTANCE OHMS 2-1 6-5	4-3 8-7	4L-3 8-7L	4H-3 8-7H
	1.5	1	120E	V	Z		4	3	8	7			2	1	6	5		5	5.5		
	1.5	1	120ES	A	Z		4	3	8	7			2	1	6	5		13.5	21		
	1.5	1	120G	U	Z		4L	3	8	7L			2	1	6	5		2.5		6	
	1.5	1	120GS	ZA	Z		4L	3	8	7L			2	1	6	5		10		31	
	1	1	120C	R	Z		2	1	6	5			4	3	8	7		7.8	5.5		
	1	1	120CS	B	Z		2	1	6	5			4	3	8	7		20	20		
	1	1.5	120F	V	Z		2	1	6	5			4	3	8	7		5	5.5		
	1	1.5	120FS	A	Z		2	1	6	5			4	3	8	7		13.5	21		
	1	1.5	120G	U	Z		2	1	6	5			4L	3	8	7L		2.5		6	
1200 Ω OR LESS	1	1.5	120GS	ZA	Z		2	1	6	5			4L	3	8	7L		10		31	
	1	2.5	120F	T	Z		2	1	6	5			4	3	8	7		2.5	81		
	1	2.5	120FS	ZB	Z		2	1	6	5			4	3	8	7		10	41		
GREATER THAN 1200 Ω	1	2.5	120G	U	Y		2	1	6	5		4H		3	8		7H	2.5			61
	1	2.5	120GS	ZA	Y		2	1	6	5		4H		3	8		7H	10			42

104. THE USE OF 20~ CONTROLLED RINGING TO TOLL SW. SYSTEM NO. 4 IS MFR. DISC.

105.

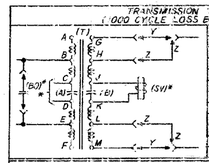
RECORD OF FIGURES, WIRING, AND APPARATUS CHANGES							
CHANGED ON ISS.	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS PURC.	SEE NOTE	USE IN CIRCUIT STD.	A&M	M.D.	
3D	R	T,U OR V		R,T,U,V			
4D	Q OR N	Q		N		Q	
6D	M OR K	M		K		M	
4D	J	NONE		J			
4D						R	
5D	H OR P	P		H		P	
7D	D OR E	E		D		E	
7D	F OR G	G	102	F,G			
8D	B, A, ZA OR ZB	R, V, U OR T	106	B,A,ZA 20,4V (OPT.)			
10D	ZC	D OR E		ZC		R,B	
11D			102	F,G,E		D	
11D			102	F,G,T			
11D	ZE OR ZD	ZD	102	ZD,ZE			
11D	ZF	NONE	102	ZF			
12D			102	F,G,B			
12D	ZG OR ZH	ZG	107	ZH		ZG	
12D			102	F,G,9,10		F,G,6,7	
12D						ZF	
13D				R,B			
14D	Z.I	ZD,ZE	102	ZD,ZI		ZE	
14D						R,B	
14D			110		F,G,2	F,G,10	

106. USE "A" OR "B", "ZA", OR "ZB" OPTION ONLY IF REQUIRED BY GOVERNMENT MATERIALS RESTRICTIONS ON "V", "R" "U" OR "T" OPTION.

107. WHEN THIS CIRCUIT IS MODIFIED FOR FIXED PADS IN CONNECTION WITH 2-WIRE SWITCHING, CAP. (A) PER "2H" OPTION MUST BE FURNISHED.

108. WHEN THE TRAFFIC USAGE RECORDER IS USED, IT SHALL BE CONNECTED TO THE "GB" LEAD UNLESS THIS TRUNK IS ARRANGED FOR GROUP BUSY LAMPS OR TONES. IN THAT CASE, THE TRAFFIC USAGE RECORDER SHALL CONNECT TO THE "G" LEAD.

TRANSMISSION TEST REQUIREMENTS
1,000 CYCLE LOSS BETWEEN 600 Ω LINES



OPTION	MAXIMUM ALLOWABLE CKT LOSS (db) 2H	2G	OPTION	2H	2G
"V", "Z"	0.7	0.6	"B", "Z"	1.2	.1
"T", "Z"	1.4	1.3	"A", "Z"	1.3	1.2
"U", "Z"	0.7	0.6	"ZA", "Z"	2.1	2.0
"U", "V"	1.4	1.3	"ZB", "Z"	1.3	1.2
"R", "Z"	0.5	0.4	"ZG", "Y"	2.1	2.0

ALLOWABLE INDIVIDUAL APPARATUS LOSSES (db)

APPARATUS	DES. S.	CODE	MAX. LOSS	MIN. LOSS	REMARKS
CAPACITOR	A,B	4 μF	9.6	7.5	(A) CAP. "2H" OPT.
CAPACITOR	A	1 μF	8.3	6.6	"2H" OPTION
REP. COIL	T	120E	0.6	0.5	"V" OPTION
REP. COIL	T	120F	1.3	0.9	"T", "Z" OPTION
REP. COIL	T	120G	0.6	0.3	"U", "Z" OPTION
REP. COIL	T	120C	1.3	0.9	"U", "V" OPTION
REP. COIL	T	120C	0.4	0.2	"R", "Z" OPTION
REP. COIL	T	120GS	1.1	0.5	"ZA", "Z" OPTION
REP. COIL	T	120ES	1.2	0.6	"A", "Z" OPTION
REP. COIL	T	120FS	2.0	1.5	"ZB", "Z" OPTION
REP. COIL	T	120GS	1.2	0.6	"ZA", "Z" OPTION
REP. COIL	T	120ES	2.0	1.5	"ZA", "Y" OPTION

* INDICATES APPARATUS FOR WHICH IND. LOSSES ARE NOT REQ'D.

CIRCUIT NOTES: (CONT'D)

109. PROVIDE REPEATING COIL IN ACCORDANCE WITH THE FOLLOWING TABLE PENDING THE 120 OR 120GS REPEATING COILS WHEN THIS CIRCUIT IS CONVERTIBLE WITH TRUNK IMPEDANCES ABOVE AND BELOW 1200 Ω.

TRUNK* IMPEDANCE AT 1000 ~	CODE	OPTION		IMP. RATIO	INDIV. RESISTANCE			TERMINAL NUMBERING											
		APP.	WIR.					A	B	C	D	E	F	G	H	J	K	L	M
1200 Ω OR LESS	120E	V	Z	1:1.5	5	5.5			2	1	6	5			4	3	8	7	
	120ES	A	Z	1:1.5	13.5	21			2	1	6	5			4	3	8	7	
	120G	U	Z	1:1.5	2.5		6		2	1	6	5			4	3	8	7L	
	120GS	ZA	Z	1:1.5	10		31		2	1	6	5			4	3	8	7L	
	120F	T	Z	1:2.5	2.5	81			2	1	6	5			4	3	8	7	
	120FS	ZB	Z	1:2.5	10	41			2	1	6	5			4	3	8	7	
GREATER THAN 1200 Ω	120G	U	Y	1:2.5	2.5			8.1	2	1	6	5		4H		3	8		7H
	120GS	ZA	Y	1:2.5	10			42	2	1	6	5		4H		3	8		7H

* FOR IMPEDANCE DATA SEE MASTER KEY SHEET

110. (A & M ONLY)

FEATURE OR OPTION	PROVIDE FIGS.	PROVIDE APP. OR WIR.	PROVIDE QUANTITY
PAD CONTROL RELAY AT SWBD NO. 3C OR 3CL	2		1 PER CKT

INFORMATION NOTES:

301. CONNECTION TO THE TEST JACK CIRCUIT IS RATED "MFR. DISC.".

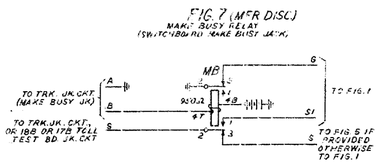


FIG. 7 (MFR DISC)
MAKE BUSY RELAY
(SWITCHBOARD MAKE BUSY JACK)

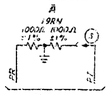


FIG. 3
TRUNK IDENTIFICATION RESISTOR

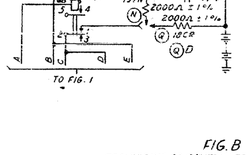


FIG. A
NO RERING OR START OF RINGING

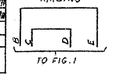


FIG. C
SIMPLEX RERING OR CONTROLLED START OF RINGING

FIG. B
20V RERING OR CONTROLLED START OF RINGING

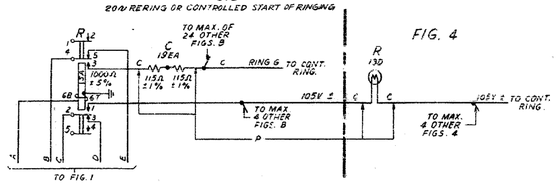


FIG. 4

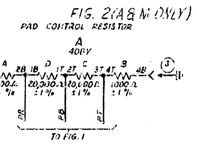


FIG. 2 (A & M ONLY)
PAD CONTROL RESISTOR

FIG. 8
BUILDING OUT CAPACITOR

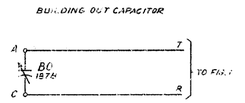


FIG. 1
TRUNK CIRCUIT

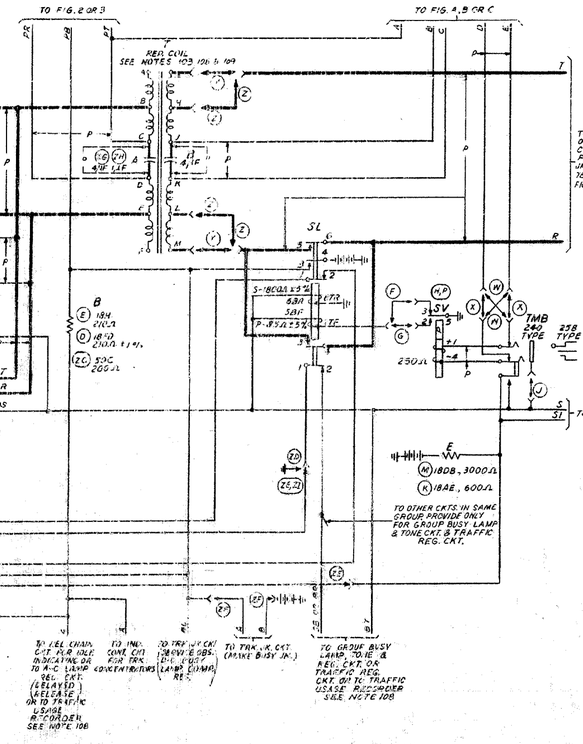


FIG. 5
COIN CONTROL
THIRD WIRE OPERATION

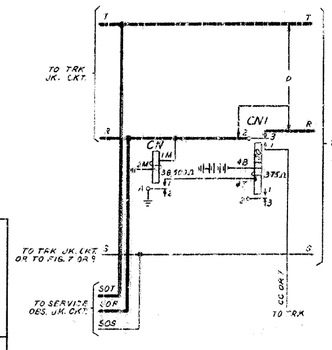


FIG. 9
MAKE BUSY RELAY

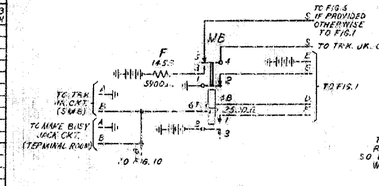


FIG. 10 (MFR. DISC)
CENTRALIZED MAKE BUSY JACK

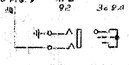
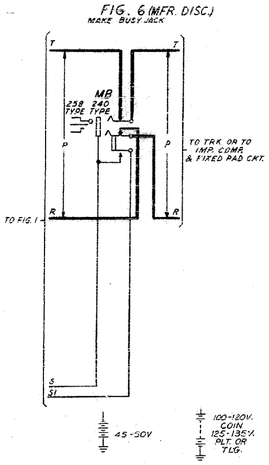


FIG. 6 (MFR. DISC.)
MAKE BUSY JACK



OPTIONS USED		
FIGS.		APP. OR WIRING
1	A	Z 2A
2	R	Y 2B
3	C	X 2C
4		W 2D
5		V 2E
6		U 2F
7		T 2G
8		S 2H
9		R 2I
10		Q
		P
		N
		M
		K
		J
		H
		G
		F
		E
		D
		B
		A

WORKING LIMITS
MAX. EXT. CKT. LOOP RES. TO 45-50V. 5130 Ω
MIN. INS. RES. 30,000 Ω

J61572CA-( )
ED-92575-01
J61572AT( )
EQUIPMENT INFO

REPLACES SD-63121-01 FOR 1 WAY TRUNK CKTS REPLACES SD-55224-01, SD-62610-02 AND SD-64406-01 REPLACES BUT NOT INTERCHANGEABLE WITH SD-55988-01 OR SD-55680-01 REPLACED BY SD-56382-01 FOR 17B OR 18B FOR TEST TRUNK REPLACED BY SD-56525-01

SD-55879-01 2 SHEETS

TOLL SYSTEMS

SWITCHBOARD NO. 3C OR 3CL
TOLL TESTBOARD NO. 17B OR 18B
TESTBOARD NO. 17E, 19A, OR 21A
TEST UNIT NO. 5A
OUTGOING TRUNK CIRCUIT
MF KEY PULSING OR STRAIGHTFORWARD
REVERSE BATTERY OR WET DRY SUPERVISION
20 CYCLE, SIMPLEX OR
NO RINGING START
WITH OR WITHOUT COIN CONTROL

(OGT)

BELL TELEPHONE LABORATORIES, INC

MFR DISC

16

RU

SD-55879-01

ISS.	C.O.	ISSUE	ISS.	C.O.	ISSUE	ISS.	C.O.	ISSUE
1	1	2A	4D	3D	5D	7D	6D	8D
2D	3D	5D	5D	4D	6D	8D	7D	9D
3D	4D	6D	6D	5D	7D	9D	8D	10D

DESIG. ISS.	C.O. ISSUE	DATE ISSUED	APPROVED
11D	6D	9-18-54	WJ 9-18-54
12D	6D APPR'D	1-19-55	WJ 1-19-55
13D	7D	1-20-59	WJ 1-20-59
14D	7D		WJ 1-20-59
15D	7D APPR'D	4-19-61	WJ 1-20-59 RAB 4-19-61
16D	7D APPR'D	9-16-66	ZER 9-16-66

SD-55879-011

SD-55879-01

CIRCUIT REQUIREMENTS

SWITCHBOARD NO. 3C OR 3CL TOLL TEST BOARD NO. 17B, 18B OR 19A TOLL TEST UNIT NO. 5A OUTGOING TRK CKT (OGT)

APPARATUS				CKT FIG.	MECH REQ			CIRCUIT PREPARATION			TOUCH SET PREP.	SEE NOTE	DIRECT CURRENT FLOW REQ					DWG. NO.
CLASS	CODE	OPTION			BSP FIG.	COIN TERMINAL	REM TERMINAL	IN OCC OR DISCONN.	TEST CUP DATA CONN. STT.	CONN. DISC.		NOTE NO.	DST MON.	TEST CONF.	MEDIA CONN. MA	TEST MA	BOND. MA	REMARKS
RELAYS																		
CN	B1145		5		3		50	2T(CN1)	2T(CN1)		CC			O	F5	1.2	1.1	
								2T(CN1)	2T(CN1)		BAT			R	F5	0.7	0.8	
CN1	U713		5		132/132	H	47			T(CN1)	GRD			O		43	39	
										T(CN1)	GRD			NO		22	23.5	
MB	U141		7		132/132	H	47			T(MB)	GRD			O		18.5	17.5	
MB	U131B		9		160/132	H	47		B(MB)	T(MB)	B/G			O		9.4	8.9	
R	U879		B,C		160/108	H	47		B(R)		BAT	2		O		33.5	31.5	
									B(R)		BAT	2		NO		17	18	
									B(R)		BAT	2		R		9.9	10.5	
									B(R)		BAT	2/3/6		O		31.5	29.5	
									B(R)		BAT	2/3/6		NO		14.6	15.5	
									B(R)		BAT	2/3/6		R		7.5	8.1	
SL	UA39		1		120/110	SPL	SPL		BR(SL)		24V	1/4	S	O		7.2	6.8	ARM. TRVL. 29
									BR(SL)		24V	4	S	NO		4	4.3	
									BR(SL)		24V	4/5	TRS	O		27		
SV	206BH	P	1		3				(TMB)JK-R	(TMB)JK-T	B/G			O	-16	5.5	5.2	
									(TMB)JK-R	(TMB)JK-T	B/G			R	16	0.5	0.6	
SV	280F	H	1		8				1B)JK-R	(TMB)JK-T	B/G			O	-16		0.4	
									1B)JK-R	(TMB)JK-T	B/G			NO	-16		0.3	
									1B)JK-R	(TMB)JK-T	B/G			O	-16	5.5	5.2	
									(TMB)JK-R	(TMB)JK-T	B/G			R	16	2	2.2	

TEST NOTES:
1. CONTACT MAKE READJ. 6, TEST 4. TENSION IT AND 1B MIN. 10 GRS. READJ. 8 GRS. TEST.
2. ADJACENT RELAYS SHALL NOT BE ENERGIZED, SEE BSP.
3. PLACE 258 TYPE PLUG IN (TMB) JACK.
4. WITH "O" OPTION, CONNECT DIRECT GROUND TO TF(SL)

WHEN MAKING P/S TEST WITH "F" OPTION DISCONNECT THE LEAD TO TTF(SL) WHEN TESTING THE SECONDARY WINDING.
5. P/S WDGS. PARALLEL AIDING.
6. PAR. CONS(R)REL 8(A)RES. WHEN FIG. 2 IS FURNISHED.

SD-55879-01

EQUIPMENT NOTES:
201. MOUNT THE 206BH REL.(SV) ON 3½" CENTERS VERTICALLY AND HORIZONTALLY WITH RESPECT TO ALL APPARATUS, EXCEPT THAT NO RESTRICTIONS ARE REQUIRED WHEN MOUNTING THESE RELAYS ADJACENT TO CAPACITORS, RESISTORS OR OTHER 206BH(SV) RELAYS.

202. TERMINALS NUMBERED 21-40 ARE USED FOR SECOND CIRCUIT WHEN D2 TERMINAL IS USED IN FIG. 54.

FIG. 56
(FIGS. 1,5 & 9)

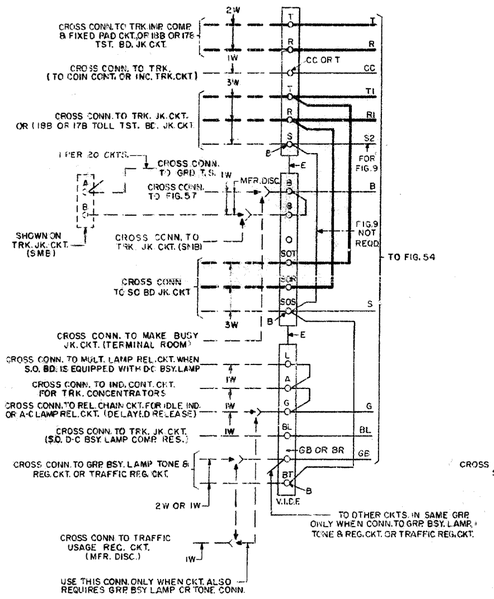


FIG. 57 (MFR. DISC.)
(FOR FIG. 10)

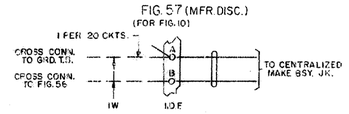


FIG. 54
(FIG. 1, 2, 3, 5, 8 OR C & 7 OR 9)
SEE NOTE 202

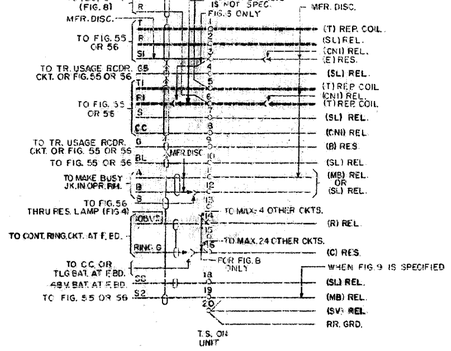


FIG. 55 (MFR. DISC.)
(FOR FIG. 1 OR FIGS. 1, 5 & 7)

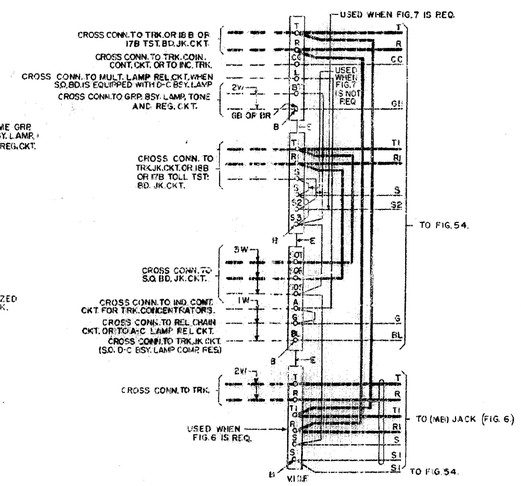


FIG. 51 (MFR. DISC.)
UNIT WIRING

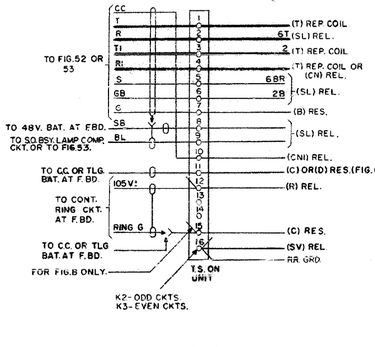


FIG. 52 (MFR. DISC.)
FRAME WIRING

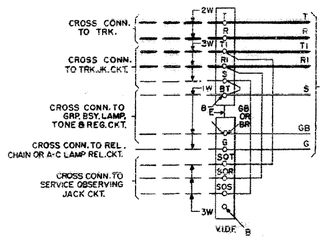
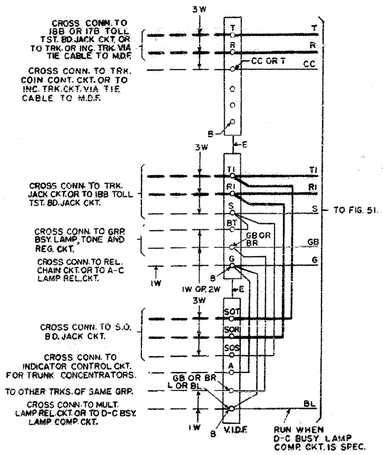


FIG. 53 (MFR. DISC.)
(FOR FIG. 1 OR FIGS. 1 & 5)



DRAWING ISSUE	
11D	
12D	
13D	
14D	
15D	
16D	

OUTGOING TRUNK CIRCUIT

BELL TELEPHONE LABORATORIES, INC. | SIZE 8S

SD-55879-012
2 SHEETS, SHEET 2

16

SD-55879-012