SHEET INDEX

FIG.	CONTENTS	SHEET NO. PRIOR TO ISSUE 7	SHEET NO. CURRENT ISSUE	ISSUE NO. 7	8	9	10	11	12	13	14	15	16	SHEET NO.
	SHEET INDEX SUPPORTING INFORMATION	0100A	1	7	8	9	10	11	12	13	14	15	16	1
	SHEET INDEX (CONT)	0100B	2	7	8	8	8	11	12	13	14	15	16	2
	SHEET INDEX (CONT)	0100C	3	7	8	9	10	11	12	13	14	15	16	3
1 2 3 4 5 6 7 8 9 18	CIRCUIT NOTES 227 TYPE AMPLIFIER AMPL 1 OR AMPL 2 AND ASSOCIATED JACKS 24V POWER DISTRIBUTION CKT FOR FROM 1 TO 12 AMPLIFIERS 48V POWER DISTRIBUTION CKT FOR FROM 1 TO 12 AMPLIFIERS FUSE ALARM BUILDING OUT RESISTORS FOR MEASURING 1200 OHM CKTS WITH 600Ω TMS -24V ALARM -48V ALARM -24V DECENTRALIZED FILTER FOR 12 TO 240 AMPLIFIERS MAX. CAPACITY 4 1/2 AMPS. 24V FILTER FOR 1 TO 12 AMPLS BUILDING OUT RESISTORS FOR MEASURING 900 OHM CKTS WITH 600 OHM TMS	0101	4	7	8	9	9	11	12	12	14	14	16		4
14 15 16 17 21 22 23 24	-24 VOLT DECENTRALIZED FILTER FOR MAX. OF 264 AMPLIFIERS -48 VOLT POWER DISTRIBUTION CKT FOR MAX. OF 264 AMPLIFIERS CKT FUSE FOR MAX. OF 12 AMPLIFIERS DROPPING RESISTOR FOR ONE AMPLIFIER 48 VOLT OPERATION AMPLIFIER SKT ARR FOR USING 849 TYPE NET. BET. 4 WIRE LOAD CKT FUSE FOR MAX. OF 12 AMPLIFIERS -24 VOLT DECENTRALIZED FILTER FOR MAX. OF 264 AMPLIFIERS -48 VOLT POWER DISTRIBUTION CKT FOR MAX. OF 470 AMPLIFIERS.	0102	5	7	8	8	8	8	8	8	15	15			5
10 12	24V4A REPEATER	0103	6	7	8	9	9	11	11	11	14	14	14			6
11 13	44V4A REPEATER	0104	7	7	7	7	7	11	12	12	14	14	14			7
19 20	44V4B REPEATER FOR SPECIAL SERVICE OR DATA TRUNKS	0105	8	7	7	7	7	11	12	12	14	14	14			8
CAD 1 CAD 2 CAD 3 CAD 4 CAD 5 CAD 6	CIRCUIT REQUIREMENTS TABLE EQUIPMENT NOTES ODD OR EVEN POWER DISTRIBUTING CKT 24V4 REPEATER 44V4 REPEATER 44V4 REPEATER	0106	9	7	7	7	7	11	11	11	11	15	15			9
CAD 7 CAD 8 CAD 9	24V4A REPEATER BASIC V4 REPEATER 44V4A REPEATER		10	7	8	8	10	11	11	11	14	14	16			10
CAD 10 CAD 11	44V4B REPEATER FOR SPECIAL SERVICE OR DATA TRUNKS AMPL SKT ARR FOR USING 849 TYPE NETWORKS		11	7	7	7	10	10	10	10	10	10	16			11
101 116	TABLE A TABLE B BASIC V4 TELEPHONE REPEATER PROJECTION-TYPE TRANSMISSION MEAS-SYSTEM	0107	12	7	7	7	7	11	12	12	14	14	14			12
102 103 104 105	24V4A OR C REPEATER ARRANGED FOR H88 & D88 LOADED CABLE REQUIRING GAIN, EQUALIZATION AND LOOP SIGNALING 24V4A OR C REPEATER ARRANGED FOR NON-LOADED CABLE REQUIRING GAIN AND LOOP SIGNALING 24V4A OR C REPEATER ARRANGED FOR 600 OHM CIRCUITS REQUIRING GAIN AND LOOP SIGNALING 24V4A OR C REPEATER ARRANGED FOR H88 & D88 LOADED CABLE REQUIRING NO TRANSMITTING GAIN BUT EQUIPPED WITH RECEIVING GAIN AND LOOP SIGNALING.	0108	13	7	8	8	8	8	8	8	14	14	14		13

SUPPORTING INFORMATION

CATEGORY	NO.
EQUIPMENT INFO	J98615A J98615B J98615AJ J98615AH J98615C J98615D ~~J98615AA~~ J98615AB J98615AC ~~J98615AD~~ ~~J98615AE~~ J98615AG ~~J98615AK~~ J98615AL J98615E J98615F J98615G J98615H J98615AM J98615BJ J98615-BK J98615-AS J98615-L J98615CA J98615CB J98615CC J98615CD J98615CE J98615CF J98615CG J98615CH J98615BL

SHEET INDEX NOTES

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.

DWG ISS	CD ISSUE	DWG ISS	CD ISSUE	DWG ISS	CD ISSUE
1	1	2A	2A	3D	3D
4D	4D	5A	6D APP1	6D	6D APP2

DWG ISSUE	CD ISSUE	DATE ISSUED	DRAWN	APPD	
7D	4D APP 3D	1-21-64	ACC —	FES ARD VGF	MH
8D	4D APP 4D	4-2-64	ACC —	FES ARD VGF	MH
9D	4D APP 5D	9-22-64	FWD —	FES RDE JGF	MH
10B	4D APP 6B	7-7-65	BRZ —	RD RDE JGF	MH
11D	4D APP 7D	11-4-65	ZEN —	FES RDE JGF	MH
12D	4D APP 8D	5-27-66	ZEN —	FES RDE JGF	
13A	4D APP 9A	5-27-66	ZEN —	FES RDE JGF	NO
14D	5D	1-31-68	WDP —	FES RDE WFG	NO
15D	5D APP 1D	2-11-69	NLK —	FES RDE WFG	NO
16D	5D APP 2D	10-14-69	JB G.B	RDE FES WFG	NO

16

SD-97047-01 IN99

COMMON SYSTEMS

V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS

FOR TWO OR MORE VF AMPLIFIERS

(V4 REP)

AT&TCO STANDARD

SD-97047-01-I

33 32 SHEETS

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

PRINTED IN U.S.A.

SD-97047-01-I

SHEET INDEX (CONT)

FIG.	CONTENTS	SHEET NO. PRIOR TO ISSUE 7	SHEET NO. CURRENT ISSUE	ISSUE NO. 7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	SHEET NO.
106	24V4A OR C REPEATER ARRANGED FOR H88 & D88 LOADED CABLE WHERE GAIN IS NOT REQUIRED BUT TRANSMITTING LEVEL CONTROL, RECEIVING LEVEL AND EQUALIZATION, AND LOOP SIGNALING IS SUPPLIED.	0109	14	7	8	8	8	8	8	8	14	14	14																																						14
107	24V4A OR C REPEATER ARRANGED FOR H88 & D88 LOADED CABLE WHERE GAIN IS NOT REQUIRED BUT TRSG AND RCVG LEVEL ADJUSTMENT AND LOOP SIGNALING IS DESIRED.																																																		
108	44V4A REPEATER PLUG-IN UNITS ARRANGED FOR H88 & D88 LOADED CABLE REQUIRING GAIN, EQUALIZATION AND SIMPLEX SIGNALING																																																		
109	44V4A REPEATER PLUG-IN UNITS ARRANGED FOR NON-LOADED CABLE ON "A" SIDE, H88 & D88 LOADED CABLE ON "B" SIDE WITH GAIN, EQUALIZATION AND SIMPLEX SIGNALING																																																	
110	44V4A REPEATER PLUG-IN UNITS ARRANGED FOR NON-LOADED CABLE ON "B" SIDE, H88 & D88 LOADED CABLE ON "A" SIDE WITH GAIN, EQUALIZATION, AND SIMPLEX SIGNALING	0110	15	7	7	7	7	7	7	7	14	14	14																																						15
111	44V4A REPEATER PLUG-IN UNITS ARRANGED FOR NON-LOADED CABLE REQUIRING GAIN, EQUALIZATION, AND SIMPLEX SIGNALING																																																		
112	44V4A REPEATER PLUG-IN UNITS ARRANGED FOR 600 OHM CIRCUITS WITH GAIN AND SIMPLEX SIGNALING																																																	
113	44V4A REPEATER PLUG-IN UNITS ARRANGED FOR 600 OHM CIRCUITS ON "A" SIDE, NON-LOADED CABLE ON "B" SIDE WITH TRANS AND REC LEVEL CONTROL AND SIMPLEX SIGNALING																																																	
114	44V4A REPEATER PLUG-IN UNITS ARRANGED FOR 600 OHM CIRCUITS ON "A" SIDE, H88 & D88 LOADED CABLE ON "B" SIDE WITH TRANS AND REC LEVEL CONTROL, REC CIRCUIT EQUALIZATION AND SIMPLEX SIGNALING	0111	16	7	8	8	8	8	8	12	12	14	14	14																																						16
115	24V4A OR C REPEATER ARRANGED FOR 600 OHM CKTS REQUIRING NO GAIN, TRANS AND REC LEVEL CONTROL, AND LOOP SIGNALING.																																																	
117	44V4A REPEATER PLUG-IN UNITS ARRANGED FOR D88 AND H88 LOADED CABLE ON "A" SIDE AND 600 OHM CIRCUITS ON "B" SIDE WITH TRANS AND REC LEVEL CONTROL, LOADED CABLE EQUALIZATION AND SIMPLEX SIGNALING																																																	
118	44V4A REPEATER FOR EXTENDING 600 OHM CARRIER CIRCUITS REQUIRING NO GAIN, ON "A" SIDE, TO D88 AND H88 LOADED CABLE REQUIRING GAIN AND EQUALIZATION ON "B" SIDE.	0112	17	7	7	7	7	7	12	12	14	14	14																																						17
119	44V4A REPEATER FOR EXTENDING D88 AND H88 LOADED CABLE REQUIRING GAIN AND EQUALIZATION, ON "A" SIDE, TO 600 OHM CARRIER CIRCUIT REQUIRING LEVEL CONTROL, NO GAIN AND NO EQUALIZATION ON "B" SIDE																																																	
120	44V4A REPEATER FOR EXTENDING 600 OHM CARRIER CIRCUITS REQUIRING NO GAIN OR EQUALIZATION ON "A" SIDE TO NON-LOADED CABLE REQUIRING GAIN AND NO EQUALIZATION ON "B" SIDE																																																	
121	44V4A REPEATER FOR EXTENDING NON-LOADED CABLE REQUIRING GAIN AND NO EQUALIZATION ON "A" SIDE TO 600 OHM CARRIER CIRCUITS REQUIRING NO GAIN OR EQUALIZATION ON "B" SIDE.																																																	

DRAW'G ISSUE		
7D	ACC — JGF	MH
8D	ACC — JGF	MH
11D	ZEN — JGF	
12D	ZEN — JGF	
13A	ZEN — JGF	MO
14D		MO
15D		MO
16D		JG

SD-97047-01-2

16

V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS (2)		SD-97047-01-2
BELL TELEPHONE LABORATORIES INCORPORATED	DWG SIZE 6S	PRINTED IN U.S.A.

SHEET INDEX (CONT)

FIG.	CONTENTS	SHEET NO. PRIOR ISSUE 7	SHEET NO. CURRENT ISSUE	ISSUE NO. 7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	SHEET NO.
122 123 124 125	44V4A REPEATER FOR EXTENDING 600 OHM CARRIER CIRCUITS TO NON-LOADED CABLE REQUIRING LEVEL CONTROL BUT NO GAIN OR EQUALIZATION ON BOTH "A" AND "B" SIDES. 44V4A REPEATER FOR EXTENDING NON-LOADED CABLE CIRCUITS TO 600 OHM CARRIER CIRCUITS REQUIRING LEVEL CONTROL BUT NO GAIN OR EQUALIZATION ON BOTH "A" AND "B" SIDES. 44V4A REPEATER ASSOCIATED WITH SF SIGNALING FOR EXTENDING 600 OHM VF CIRCUITS REQUIRING GAIN ON "A" SIDE TO DEB AND H88 LOADED CABLE REQUIRING GAIN AND EQUALIZATION ON "B" SIDE. 44V4A REPEATER ASSOCIATED WITH SF SIGNALING FOR EXTENDING DBB AND H.B. LOADED CABLE REQUIRING GAIN AND EQUALIZATION ON "A" SIDE TO 600 OHM VF CIRCUITS REQUIRING GAIN ON "B" SIDE.	0113	18	7	7	7	7	7	12	12	14	14	14																																									18
126 127 128 129	44V4A REPEATER ASSOCIATED WITH SF SIGNALING FOR EXTENDING 600 OHM VF CIRCUITS REQUIRING GAIN ON "A" SIDE TO DEB AND H88 LOADED CABLE REQUIRING GAIN AND EQUALIZATION ON "B" SIDE. 44V4A REPEATER ASSOCIATED WITH SF SIGNALING FOR EXTENDING NON-LOADED CIRCUITS REQUIRING GAIN ON SIDE "A" TO 600 OHM VF CIRCUITS REQUIRING GAIN ON "B" SIDE. 44V4B REPEATER ASSOCIATED WITH DATA TRUNK 44V4B REPEATER ASSOCIATED WITH DATA TRUNK	0114	19	7	7	7	7	7	7	7	14	14	14																																									19
130 131 132 133	44V4B REPEATER ASSOCIATED WITH DATA TRUNK 44V4B REPEATER ASSOCIATED WITH DATA TRUNK 44V4B REPEATER ASSOCIATED WITH DATA TRUNK 44V4B REPEATER ASSOCIATED WITH DATA TRUNK	0115	20	7	7	7	7	7	7	7	14	14	14																																								20
134 135 136 137	44V4B REPEATER ASSOCIATED WITH DATA TRUNK 44V4B REPEATER ASSOCIATED WITH DATA TRUNK 44V4B REPEATER ASSOCIATED WITH DATA TRUNK 44V4B REPEATER ASSOCIATED WITH DATA TRUNK	0116	21	7	7	7	7	7	7	7	14	14	14																																								21
138 139 140 141	44V4B REPEATER ASSOCIATED WITH DATA TRUNK 44V4B REPEATER ASSOCIATED WITH DATA TRUNK 44V4B REPEATER ASSOCIATED WITH DATA TRUNK 44V4B REPEATER ASSOCIATED WITH DATA TRUNK	0117	22	7	7	7	7	7	7	7	14	14	14																																								22
142 143 144 145	44V4B REPEATER ASSOCIATED WITH DATA TRUNK 44V4B REPEATER ASSOCIATED WITH DATA TRUNK 44V4B REPEATER ASSOCIATED WITH DATA TRUNK 44V4B REPEATER ASSOCIATED WITH DATA TRUNK	0118	23	7	7	7	7	7	7	7	14	14	14																																								23
146 147 148 149	44V4B REPEATER ASSOCIATED WITH DATA TRUNK 44V4B REPEATER ASSOCIATED WITH DATA TRUNK 44V4B REPEATER ASSOCIATED WITH DATA TRUNK 44V4B REPEATER ASSOCIATED WITH DATA TRUNK	0119	24	7	7	7	7	7	7	7	14	14	14																																								24
150 151	849 TYPE NETWORKS FOR CONNECTING CARRIER SYSTEMS TO LOADED OR NON-LOADED CABLE PAIRS 24V4D REPEATER POWER FAILURE LOOP-AROUND REQUIRING GAIN, EQUALIZATION, OR LOOP SIGNALING		25		7	9	9	9	9	9	9	9	16																																								25
25	24V4D REPEATER		25	-	8	9	9	11	11	11	14	14	14																																								26
CAD 12 CAD 13 CAD 14	24V4D REPEATER 24V4D REPEATER 24V4D REPEATER		27	-	8	9	9	11	11	11	14	14	16																																								27
CAD 15 CAD 16 CAD 17	5D1C V4 REPEATER 4[illegible] REPEATER 4[illegible] REPEATER		28				10	10	12	12	14	14	16																																								28
26	K[illegible] REPEATER		29	-				11	12	12	14	14	14																																								29
CAD 18 CAD 19 CAD 20 CAD 21	424V4A REPEATER 42[illegible] REPEATER 24V4C REPEATER		30	-				11	12	12	14	15	15																																								30
27 28	48V POWER DISTRIBUTION CIRCUIT FOR TSPS NO. 1 AND NO. 1 ESS OFFICES FUSE ALARM FOR TSPS NO. 1 & NO. 1 ESS OFFICES		31					11	12	13	14	15	15																																								31
29	24V4D RPTR FOR PWR FAIL. LP-AROUND OPERATION		32										16																																							32
CAD 22 CAD 23	24V4D REPEATER 8C0A PBX PLUG-IN CABLE		33										16																																								33

DRAWING ISSUE

7D	ACC	MP
	JGF	
8D	XCC	MP
	JGF	
9D	FWD	MP
	JGF	
10B	BRZ	MP
	JGF	
11D	ZEN	
	JGF	
12D	ZEN	
	JGF	
13A	ZEN	MC
	JGF	
14D		MC
15D		MC
16D		

DRAWING REVISED TO THIS CHANGE 11-14-68 LEB

SD-97047-01-3

PRINTED IN U.S.A. E-7939 (10-61)

16

V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS (2)

SD-97047-01-3

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

PRINTED IN U.S.A.

CIR. NOTES:

101.

FEATURE OR OPTION	FIG.	PROVIDE APP CR WRG	QUANTITY
600 OHM AMPLIFIER INPUT NO EQUALIZER	1	X	1
1200 OHM AMPLIFIER INPUT NO EQUALIZER	1	Y	1
SIMPLEX BY-PASS AROUND AMPL	1	W	1
600 OHM AMPLIFIER OUTPUT	1	S	1
1200 OHM AMPLIFIER OUTPUT	1	V	1
24VAD PWR FAILURE LOOP AROUND	29	E	1
24VAD PWR FAILURE LOOP AROUND WITH EXTERNAL EQUIP'T	29	F	1
LOCAL GRD ON (ALM) REL	4	R	1
EXTERNAL GRD ON (ALM) REL	4	T	1
AS COVERED IN TABLE B	4	M,N	1
-24V D.C SUPPLY	25	J	1
-48V D.C SUPPLY	25	K	1
2-W TO 4-W REPEATER TO EXTERNAL EQUIPMENT	25	G	1
	25	H	1
-48V D.C SUPPLY	26	—	1
-48V D.C. SUPPLY FOR TSPS NO.1	27	—	1

102. OFFICE WIRED OPTIONS. NO RECORD REQUIRED.

103. CURRENT DRAIN INFORMATION IS AS FOLLOWS:

VOLTAGE	EACH FIG.	STEADY CURRENT DRAIN-AMPS	INTERMITTENT CURRENT DRAIN AMPS
24	FIG. 1	0.018	
24	FIG. 6		0.051
48	FIG. 1	0.018	
48	FIG. 7		0.042
48	FIG. 26	0.036	
48	FIG. 28	0.012	0.054
48	FIG. 29	0.082	

104. ALARM CIRCUIT LEADS 1,2,3,4 AS SHOWN IN TABLE "B."

105.

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		
				STC	MD	
12D	C,D	D		C	D	

106. WHEN POWERING THE 24V4A REPEATER, USE -48V BATTERY ONLY

FIG. 9
-24V FLT
FOR 1 TO 12 AMPLIFIERS
TO FIG. 1,10,11,19 OR 25

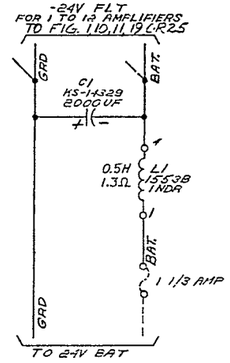


FIG. 5 (MFR DISC)
BUILDING OUT RESISTOR
FOR MEASURING 1200 OHM CKTS WITH 600Λ TMS

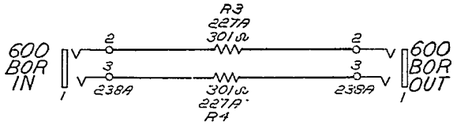


FIG. 18 (MFR DISC)
BUILDING OUT RESISTOR
FOR MEASURING 900 OHM CKTS WITH
600 OHM TMS

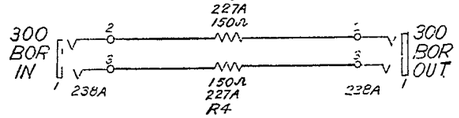


FIG. 2 (MFR DISC)
24V POWER DISTRIBUTION CKT
FOR FROM 1 TO 12 AMPLIFIERS
TO FIG. 1

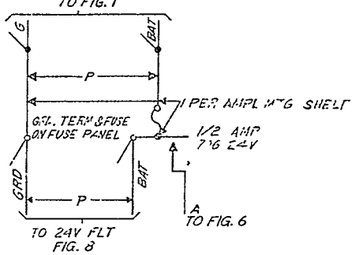


FIG. 3 (MFR DISC)
48V POWER DISTRIBUTION CKT
FOR FROM 12 TO 240 AMPLIFIERS
TO FIG. 1

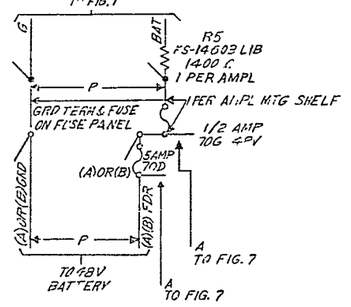


FIG. 8 (MFR DISC)
-24V DECENTRALIZED FLT
FOR 12 TO 240 AMPLIFIERS
MAX. CAPACITY 4 1/2 AMP
TO FIG. 2

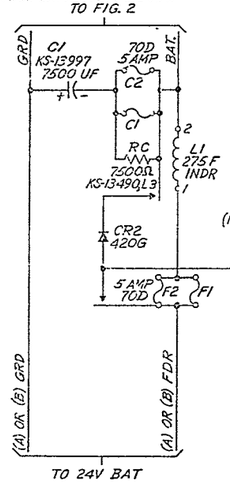


FIG. 6
-24V ALM
ALM/MN ALM

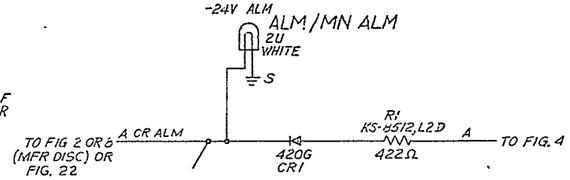


FIG. 7
-48V ALM
ALM/MN ALM

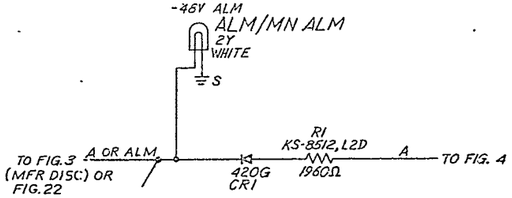


FIG. 1
227 TYPE AMPLIFIER
AMPL 1 OR AMPL 2 AND ASSOCIATED JACKS
SEE NOTE 201, TABLE A
AND FIG. 101

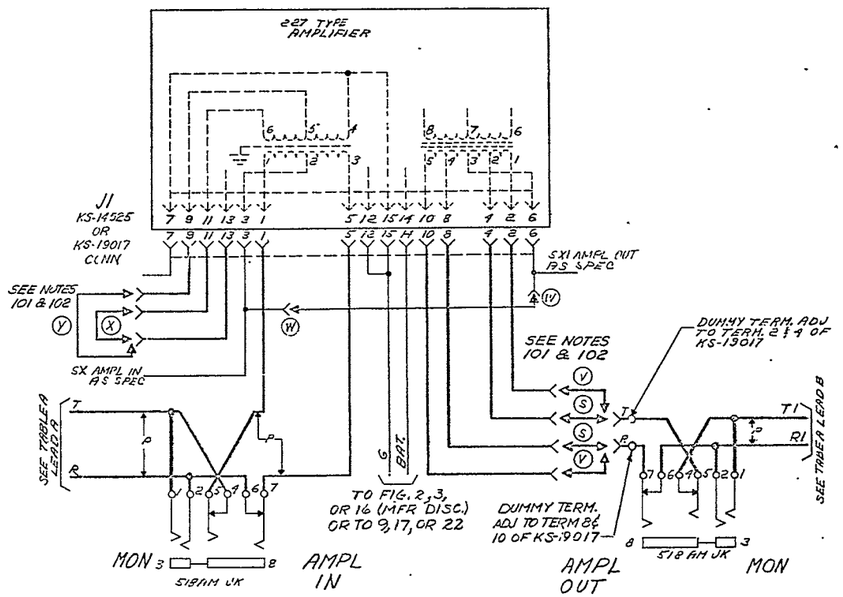
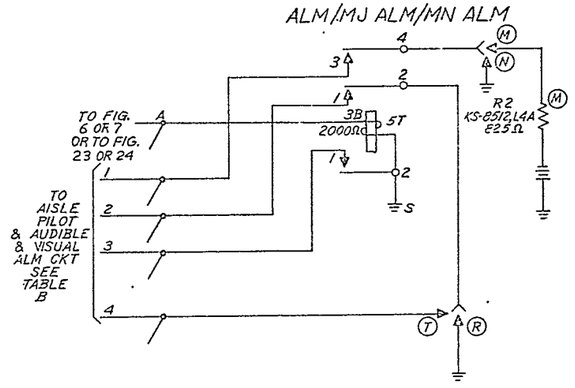


FIG. 4
FUSE ALARM
SEE NOTE 101



DWG ISSUE	EE OR CD ISSUE	DATE ISSUED	DRAWN	APPD
1	1	9-9-60	CWA EAC	EAC LP
2A	2A	9-6-61	FRB FAC	CET LP FBH

DRAWING ISSUE		
3D	RLF FAC	RBH
5A	MCT FAC	RBH
6D	RLS CET	RBH
7D	—	JGF
8D	ACC —	JGF
9D	FHS —	JGF
11D	ZEN —	JGF
12D	ZEH —	JGF
14D		
16D		

MH MH JGF JGF HC HD HC

16

V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS (2)

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

SD-97047-01-4

PRINTED IN U.S.A.

SD-97047-01-4

FIG. 14 (MFR DISC)
-24 VOLT DECENTRALIZED FILTER FOR MAXIMUM OF 264 AMPLIFIERS (MAX. CAPACITY 4 3/4 AMP)

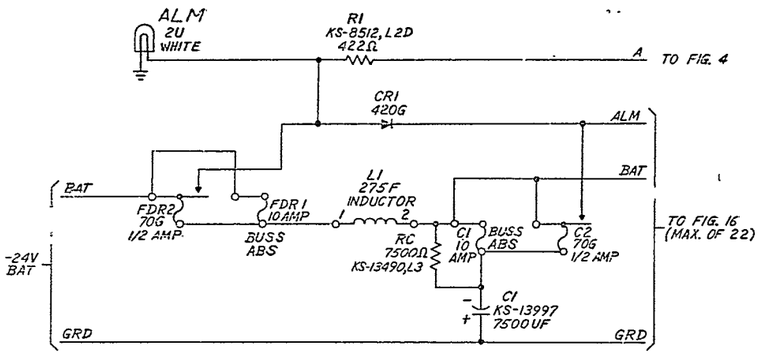


FIG. 16 (MFR DIS.
CIRCUIT FUSE FOR MAXIMUM OF 12 AMPLIFIERS

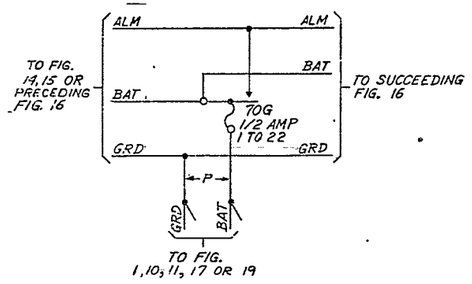


FIG. 17
DROPPING RESISTOR FOR ONE AMPLIFIER FOR 48 VOLT OPERATION

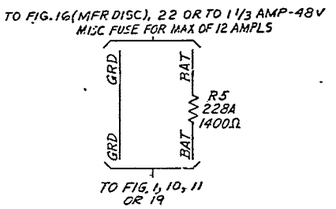


FIG. 22
CIRCUIT FUSE FOR MAXIMUM OF 12 AMPLIFIERS

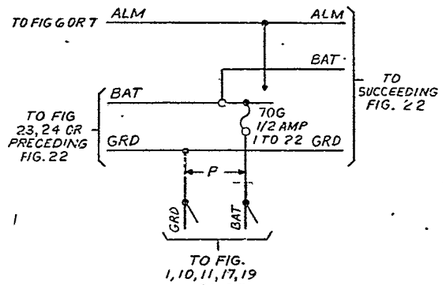


FIG. 15 (MFR DISC)
-48 VOLT POWER DISTRIBUTION CIRCUIT FOR MAXIMUM OF 264 AMPLIFIERS

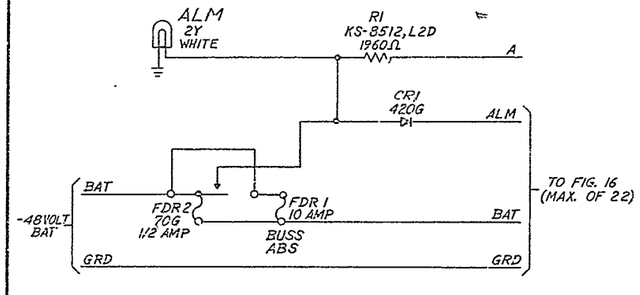


FIG. 21
AMPL SOCKET ARRANGED FOR USING 849 TYPE NETWORKS BETWEEN 4 WIRE LOADED OR NON-LOADED FACILITIES AND 600 OHM EQPT. SEE FIG. 150

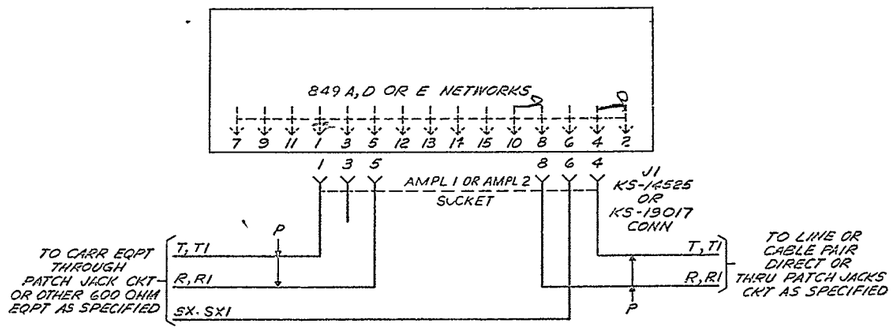


FIG. 23
-24 VOLT DECENTRALIZED FILTER FOR MAXIMUM OF 264 AMPLIFIERS

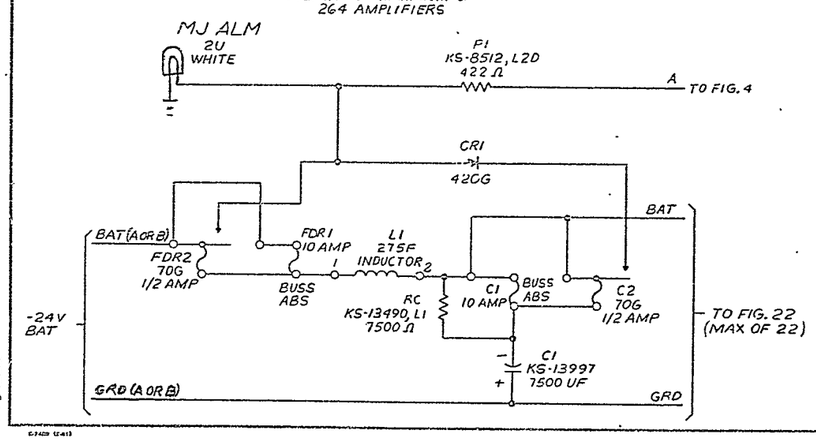
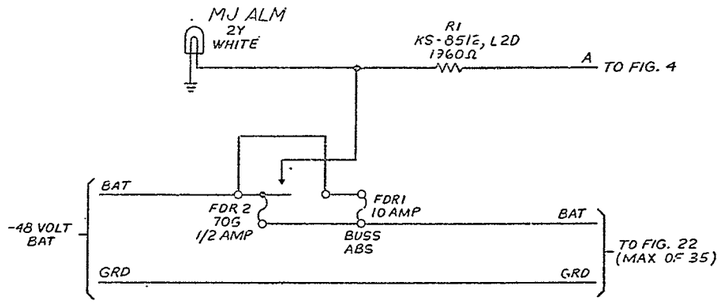


FIG. 24
-48 VOLT POWER DISTRIBUTION CIRCUIT FOR MAXIMUM OF 120 AMPLIFERS



DRAWING ISSUE	
4D	ERD FAC RBH
5A	MCT FAC RBH
6D	MCT FAC RBH
7D	— JGF
8D	FAC — MF
15D	

15

COMMON SYSTEMS

V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS

SD-97047-01-5

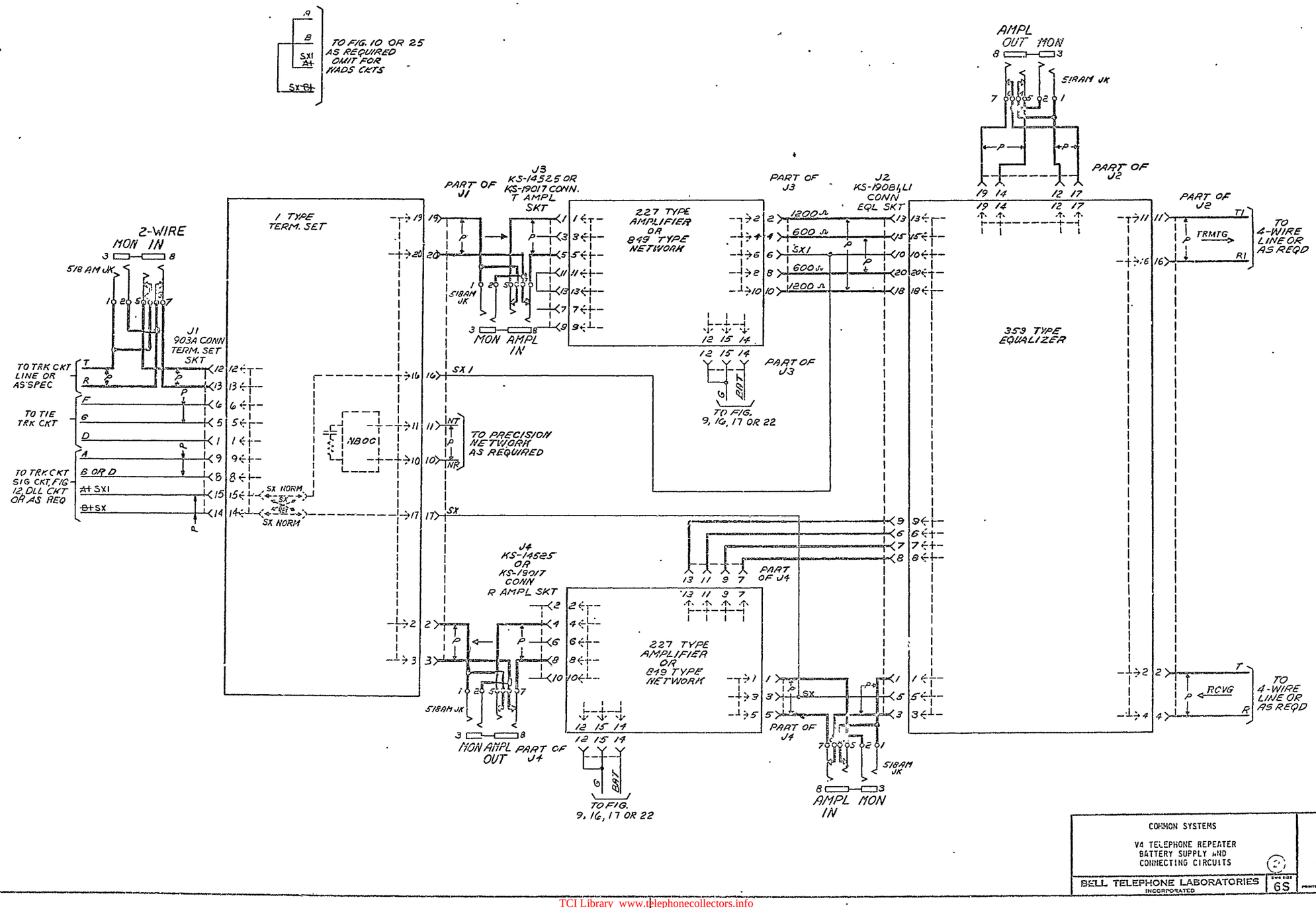
BELL TELEPHONE LABORATORIES INCORPORATED | DWG SIZE 6S | PRINTED IN U.S.A.

SD-97047-01-5

EAGLE E 2

FIG. 12

FIG. 10
24V4A REPEATER



DRAWING ISSUE

3D	
4D	
5A	
6D	
7D	
8D	
9D	
11D	
14D	

9-10-97047-03

EAGLE E2

14

COMMON SYSTEMS

V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS

SD-97047-01-G

BELL TELEPHONE LABORATORIES INCORPORATED

CODE 65

PRINTED IN U.S.A.

DRAWING ISSUE	
3D	SWT FAA RDM
4D	FRD FAC RDM
5A	MKT FAC RDM
6D	ANT DJES RDM
7D	STM — JGF
11D	ZZM — JGF
12D	ZZM — JGF
14D	

FIG. 13

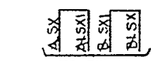
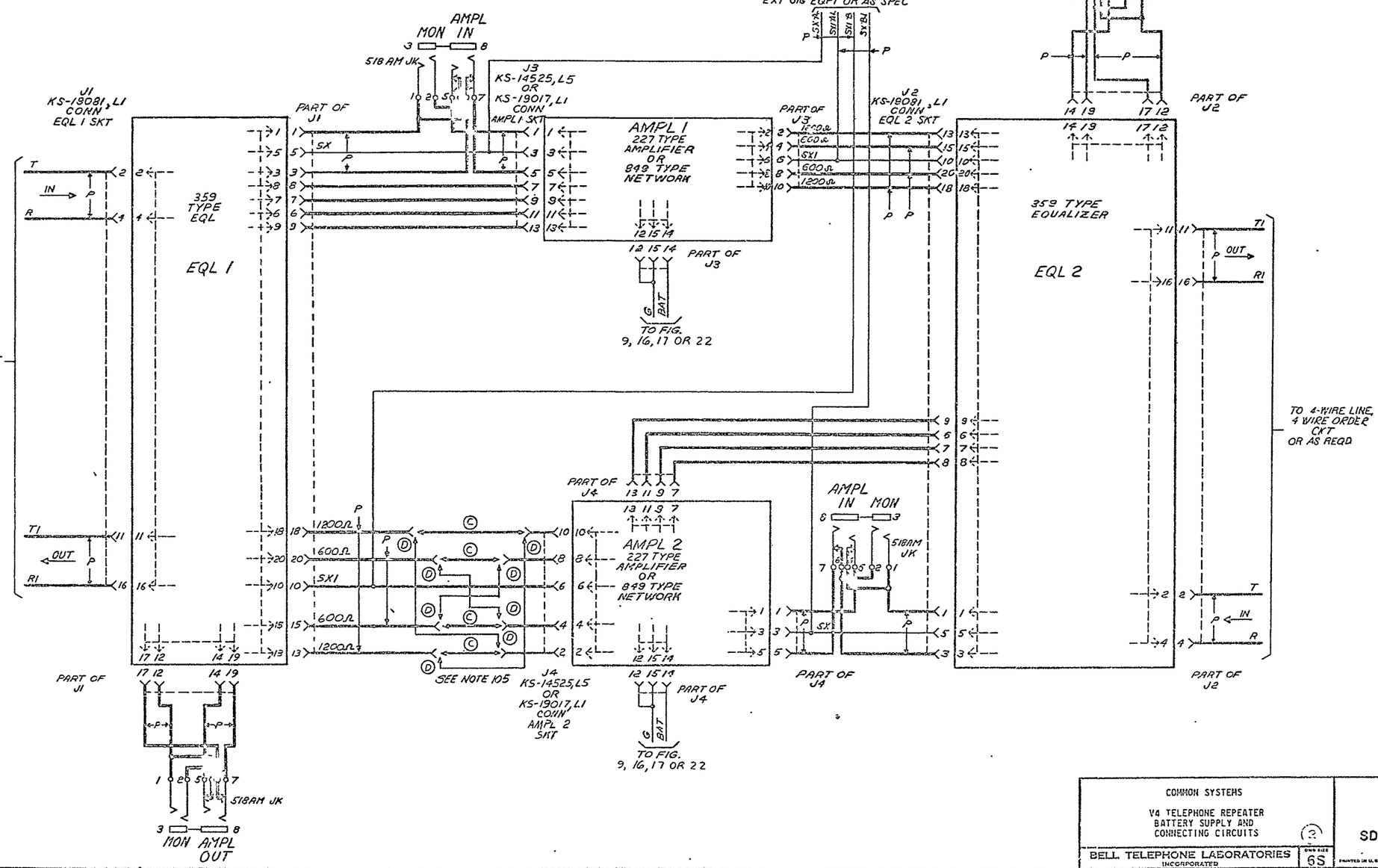


FIG. 11
44V4A REPEATER
FOR VF MESSAGE TRUNKS



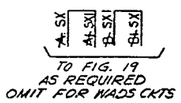
SD-97047-01-7

14

COMMON SYSTEMS V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS (2)	SD-97047-01-7
BELL TELEPHONE LABORATORIES INCORPORATED	DWG SIZE 6S

FIG. 19
44V4B REPEATER FOR SPECIAL SERVICE OR DATA TRUNKS

FIG. 20



DRAWING ISSUE
6D
7D
11D
12D
14D

14

COMMON SYSTEMS

V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS (2)

SD-97047-01-8

BELL TELEPHONE LABORATORIES INCORPORATED

6S

PRINTED IN U.S.A.

SD-97047-01-8

EAGLE E2

SD-97047-01 — CIRCUIT REQUIREMENTS — A

V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CKTS (V4 REP)

APPARATUS DESIG	APPARATUS CODE	APPARATUS FEATURE OR OPTION	APPARATUS CKT FIG	APPARATUS RATING	LOC	MECH REQT BSP FIG.	MECH REQT COMPONENTS	MECH REQT ARM TRK	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP CONN BAT	CIRCUIT PREPARATION TEST CLIP CONN SRD	TEST SET CREP	SEE TEST NOTE NO	DIRECT CURRENT FLOW REQT TEST WDG	DIRECT CURRENT FLOW REQT TEST FOR	DIRECT CURRENT FLOW REQT AFTER SOAK MA	DIRECT CURRENT FLOW REQT TEST MA	DIRECT CURRENT FLOW REQT READJ MA	REMARKS
RELAYS																			
ALM	J12237		4			111/101	H	29					1	0			7.3	6.9	
MJ RLY										B(ALN)		45%	2	0			16.1V	15.2V	
MN ALM RLY																			
FA	AF10		28			214			6(FA)	L(FA)		B	1		0		3.0	7.2	

TEST NOTES
1. REQS FOR REL WDG ALONE
2. PAR REQS WITH (ALM) LAMP
3. REMOVE FUSE

SD-97047-01

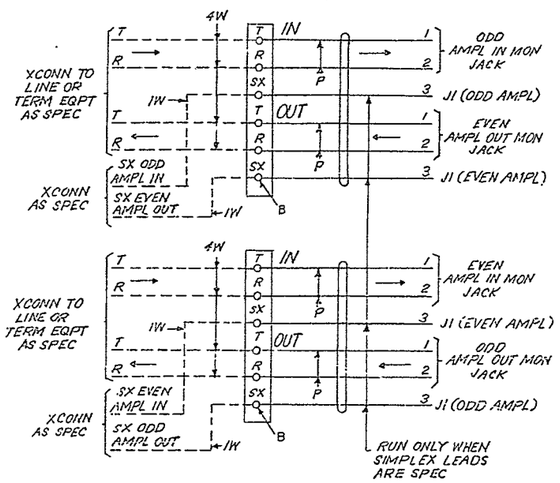
EQUIPMENT NOTES:

201. SOCKETS FOR MOUNTING 227 TYPE AMPLIFIERS ARE FURNISHED AS PART OF J98615 MOUNTING PLATES.

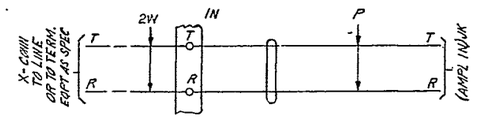
202. DISTRIBUTION FRAME MAY BE OMITTED AND CABLING RUN DIRECTLY TO OTHER EQUIPMENT IF SPECIFIED.

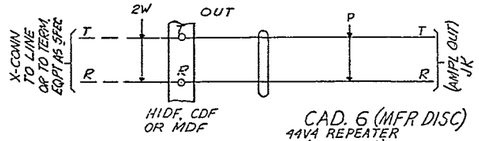
203. FOR THE J98615 L BAY EQUIPPED ONLY WITH 424 V4A REPEATERS IN TSPS NO.1 OFFICES, THE A & B FEEDERS OF FIG 27 MAY BE TIED TOGETHER SO THAT ALL 10 FUSES (F1 TO F10) ARE SUPPLIED FROM ONE BATTERY FEEDER.

CAD 5 (MFR DISC)
FOR FIG 1 & 101
(REPLACED BY CAD 8)

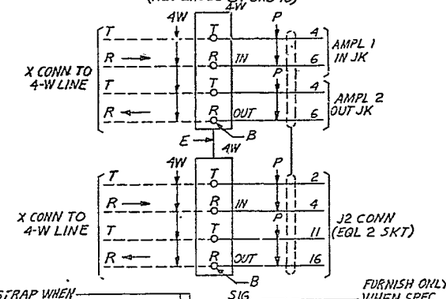


CAD 1 (MFR DISC)
FOR FIG.1
(ODD) OR (EVEN)
(REPLACED BY CAD 5)

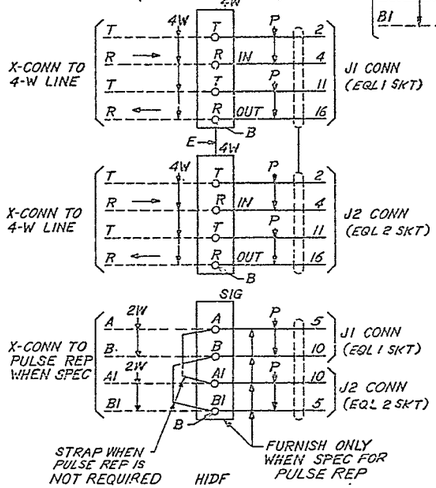




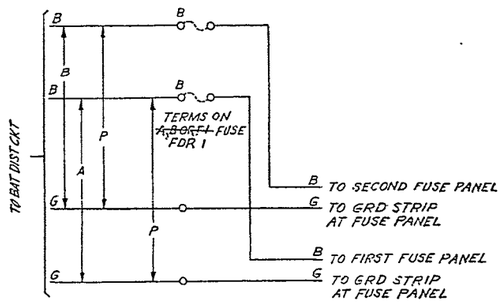
CAD 6 (MFR DISC)
44V4 REPEATER
(FOR FIG.19)
(REPLACED BY CAD 10)



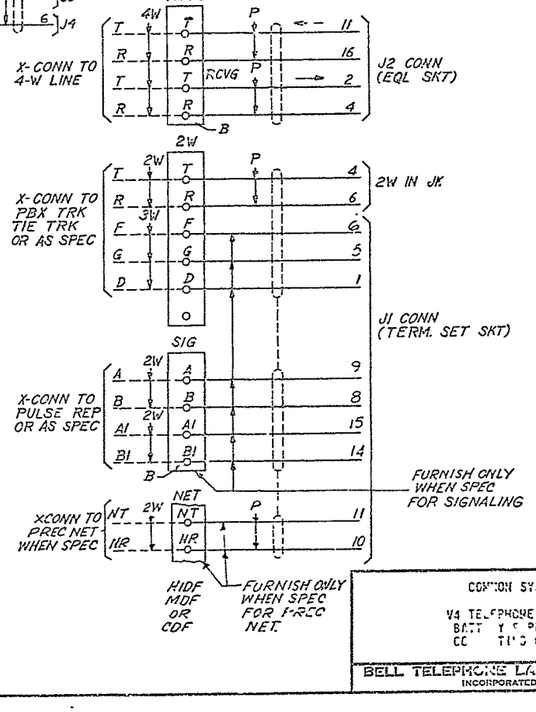
CAD 4 (MFR DISC)
44V4 REPEATER
(FOR FIG. 11)
(REPLACED BY CAD 9)



CAD 2
POWER DISTRIBUTING CKT
FIG. 3 OR FIG. 8 (MFR DISC)
FIG. 23



CAD 3 (MFR DISC)
24 V4 REPEATER
(FOR FIG. 10)
(REPLACED BY CAD 7)



DRAWING ISSUE		
1	SMA FAC	EBH
2A	ERB FAC KBH	
3D	CCH FAC KBH	
4D	ERB FAC KBH	
5A	HCT FAC KBH	
6D	ART CCH DTD	
11D	ERB IGF	
15D		

15

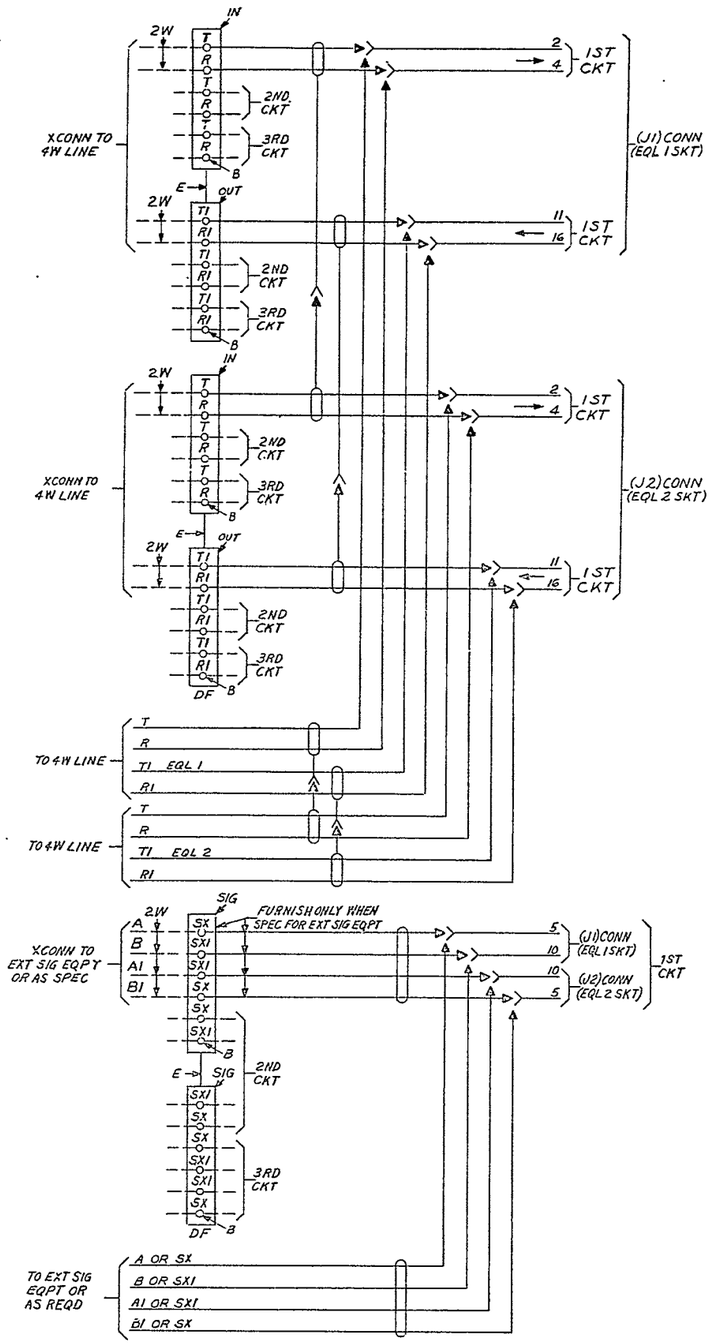
COMMON SYSTEMS
V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS
(2)

SD-97047-01-9

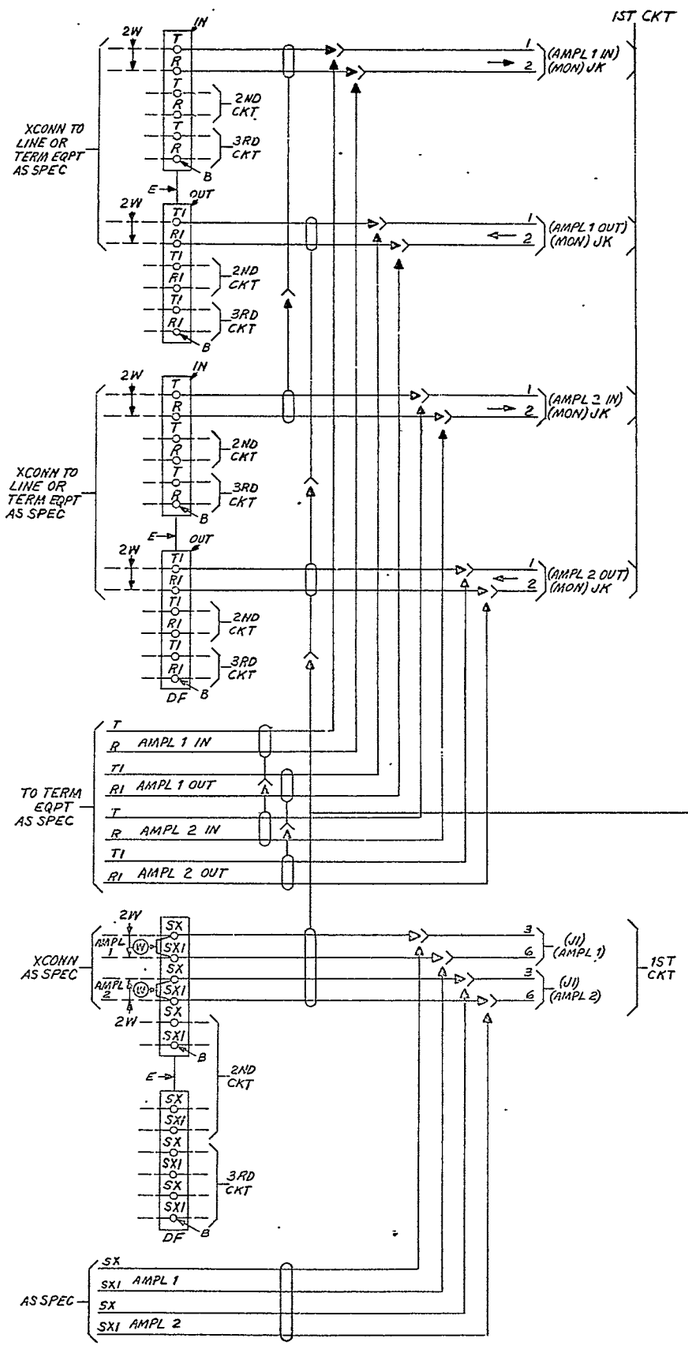
BELL TELEPHONE LABORATORIES INCORPORATED — 6S — PRINTED IN U.S.A.

SD-97047-01-9

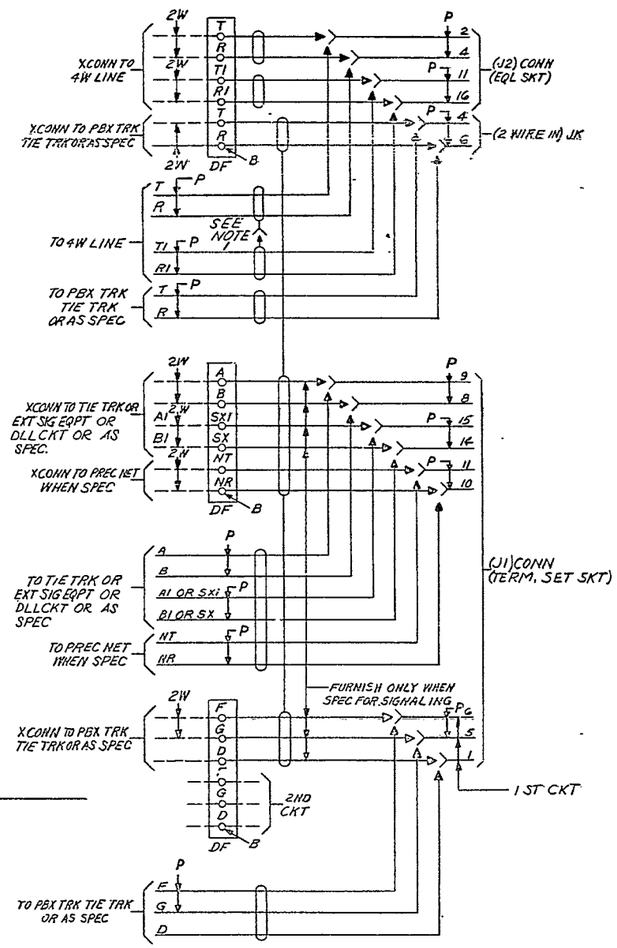
CAD 9 (MFR DISC)
(FOR FIG 11)
44V4A REPEATER
(REPLACED BY CAD 16)



CAD 8 (MFR DISC)
(FOR FIG 1)
BASIC V4 REPEATER
(REPLACED BY CAD 15)



CAD 7
(FOR FIG 10)
24V4A REPEATER



NOTES:
1. ALWAYS PROVIDE SEPARATE CABLING EXCEPT WHEN SPECIFICALLY SPECIFIED, OTHERWISE BY CUSTOMER OR CONNECTING DRAWING.

DRAWING ISSUE		
7D	WK — JGF	MH
8D	ACC — JGF	MH
10B	BRZ — JGF	MH
11D	ZEN — JGF	
14D		
16D		

16

V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS

SD-97047-01-10

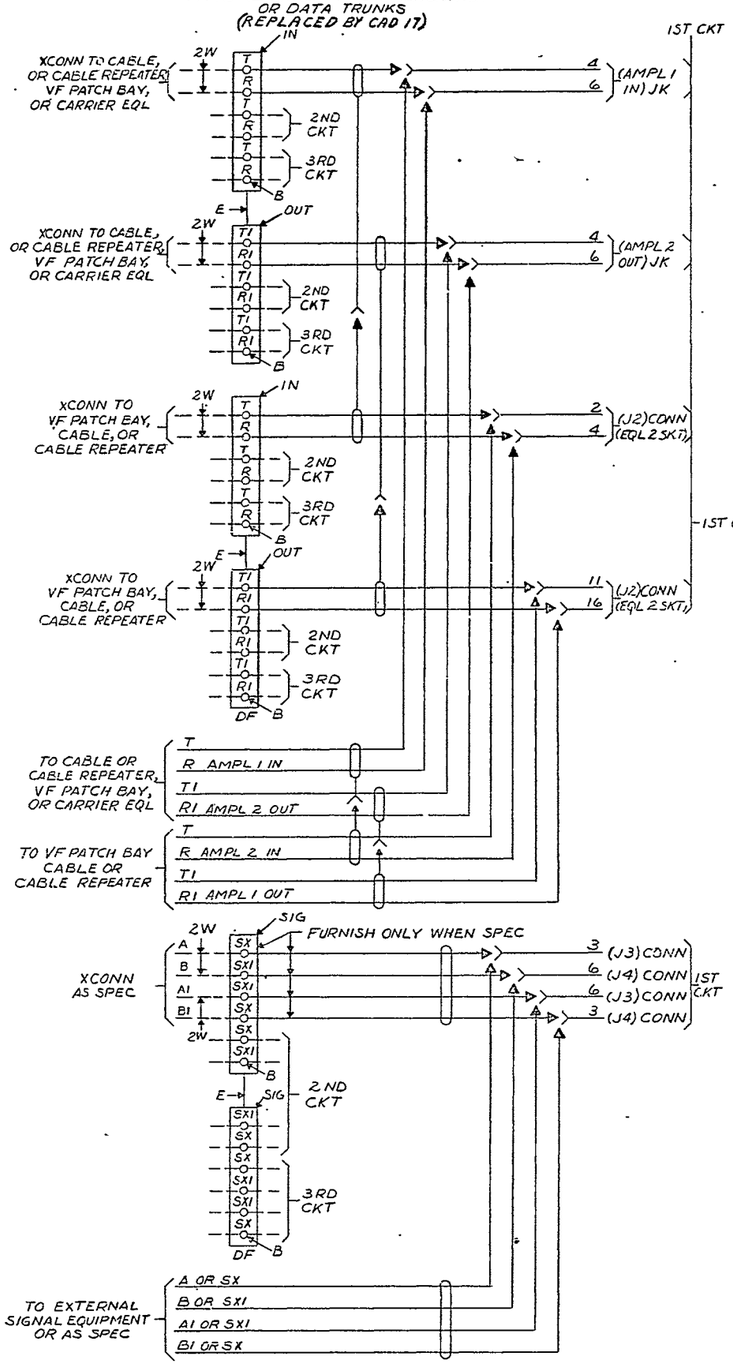
BELL TELEPHONE LABORATORIES INCORPORATED

CAGE SIZE 6S

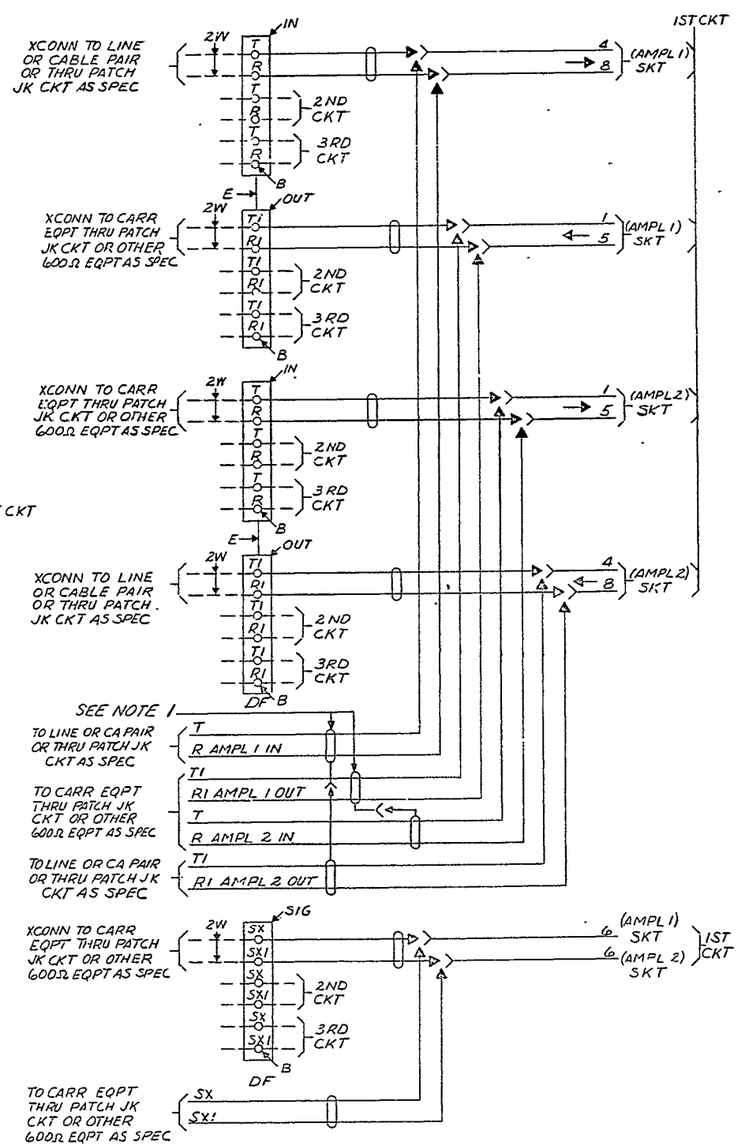
PRINTED IN U.S.A.

SD-97047-01-10

CAD 10 (MFR DISC)
(FOR FIG 19)
44V4B REPEATER FOR SPECIAL SERVICE OR DATA TRUNKS
(REPLACED BY CAD 17)



CAD 11
(FOR FIG. 21)
AMPLIFIER SOCKET ARRANGED FOR USING 849 TYPE NETWORKS



NOTES:
1. ALWAYS PROVIDE SEPARATE CABLING EXCEPT WHEN SPECIFICALLY SPECIFIED OTHERWISE BY CUSTOMER OR CONNECTING DRAWING.

DRAWING ISSUE	
70	RZZ — JGA
108	BRZ — JGF
160	

16

VR TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS

SD-97047-01-11

BELL TELEPHONE LABORATORIES INCORPORATED — DWG SIZE 6S — PRINTED IN U.S.A.

SD-97047-01-11

TABLE A
CONNECTING CKT INFORMATION FOR V4 TELEPHONE REPEATERS

LEAD DESIGNATED A,B,C,D, ETC REFERS BACK TO CIRCUIT FIGURE											CONNECTS TO	
FIG. 101					FIG. 6	FIG. 5	FIG. 4	FIG. 3	FIG. 2	FIG. 1 AMPL 1	FIG. 1 AMPL 2	CIRCUIT NUMBER	CIRCUIT TITLE
A, B										A&B	A&B	SD95144-01	V3 TELEPHONE REPEATER LINE AND BALANCING APPLICATION SCHEMATIC

TABLE B

ALARM CIRCUITS			LEADS MINOR ALARM 1	2	3	4	MAJOR ALARM 1	2	3	4	OPTION
[illegible]		[illegible]	AC	A			DC	A			N,R
[illegible]		[illegible]	MN	A			MJ	A			N,R
[illegible]		[illegible]	F	R			DL	R			N,R
[illegible]		[illegible]			PF						
STEP BY STEP SYSTEM	[illegible]	[illegible]	A	D							N,R
	[illegible]	[illegible]	A	D							N,R
	#1	[illegible]	A								N
	[illegible]	[illegible]	A	D							N,R
	355A	[illegible]			A			D			R
		[illegible] 1 CKT [illegible] SD-[illegible]-01 & SD-[illegible]-01 [illegible] CKT		CF				PL			R
		[illegible] CKT, [illegible] CKT SD-[illegible]-01 & SD-[illegible]-01	CF				PL				N
	358A	[illegible]	FA				DF				M
	[illegible]	[illegible] -01	CRA					CRL		G	N,T
	[illegible]	[illegible] 3-01	DG	R							N,R
PANEL SYSTEM	[illegible]	[illegible]	1	2							N,R
	[illegible]	[illegible] [illegible]-01	1	2							N,R
	GCO & BCO	AUDIBLE ALM CKT FOR FL ALM BD SD-21819-01			R						
CROSS BAR SYSTEMS	#1 #5	AISLE PILOT CKT WITH ASSOC AUDIBLE ALMS SD-25087-01	F		R		DL	R			N,R
		ALM CKT SD-75471-01	MN				MJ				M
NO. 1 ESS		ALM CKT SD-1A158-01					MJ	ABG			
		MASTER SCANNER CKT SD-1A209-01			SC (00)1	SC (00)2			SC (00)1	SC (00)2	
TSPS NO. 1*		ALM CKT SD-1B036-01					MJ	ABG			
		MASTER SCANNER CKT SD-1C105-01							SC (00)1	SC (00)2	

*LEADS 1 & 2 SHALL BE MULTIPLED TO OTHER SIMILARLY DESIGNATED LEADS IN SAME AISLE. MASTER SCANNER TERMINALS ASSOCIATED WITH LEADS SC(00)1 AND SC(00)2 (NOT SHOWN) ARE STRAPPED AT THE ASSOCIATED MASTER SCANNER FERRODS

FIG. 101
BASIC V4 TELEPHONE REPEATER

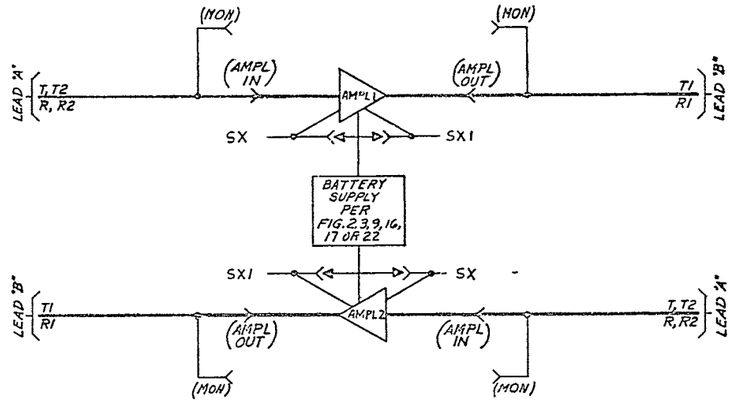


FIG. 116
PROJECTION-TYPE TRANSMISSION MEAS SYSTEM

WHEN USE OF A PROJECTION TYPE XMSN MEASURING SYSTEM IS REQUIRED FOR [illegible] SAY, PROVIDE JACKS IN ACCORDANCE WITH SD-[illegible]02 AS FOLLOWS:

FOR 600Ω CKTS - 1000 CPS [illegible] PLY JACKS FOR 0, -15 AND -25 DBM [illegible] UTS AND SENSITIVITY CONTROLS [illegible] 600Ω (REC).

FOR 900Ω CKTS - 1000 CPS SUPPLY JACKS FOR 0, -15 AND -25 DBM [illegible] UTS AND SENSITIVITY CONTROL [illegible] 900Ω (REC)

DRAWING ISSUE		
1	DWA FAC	RBH
2A	FAD FAC PSH	
3D	REF FAC CEA	
4D	FAD FAC RBH	
5A	MCT FAC RBH	
6D	RT ASB RBH	NMS
7D	NR – JGF	NMS
11D	ZCH – JGF	NMS
12D	ZCH – JGF	MJO
14D		MJO

14

COMMON SYSTEMS
V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS (2)

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

SD-97047-01-12

SD-97047-01-12

FIG. 102

24V4A OR C REPEATER ARRANGED FOR H88 & D88 LOADED CABLE REQUIRING GAIN, EQUALIZATION AND LOOP SIGNALING SEE FIG. 10

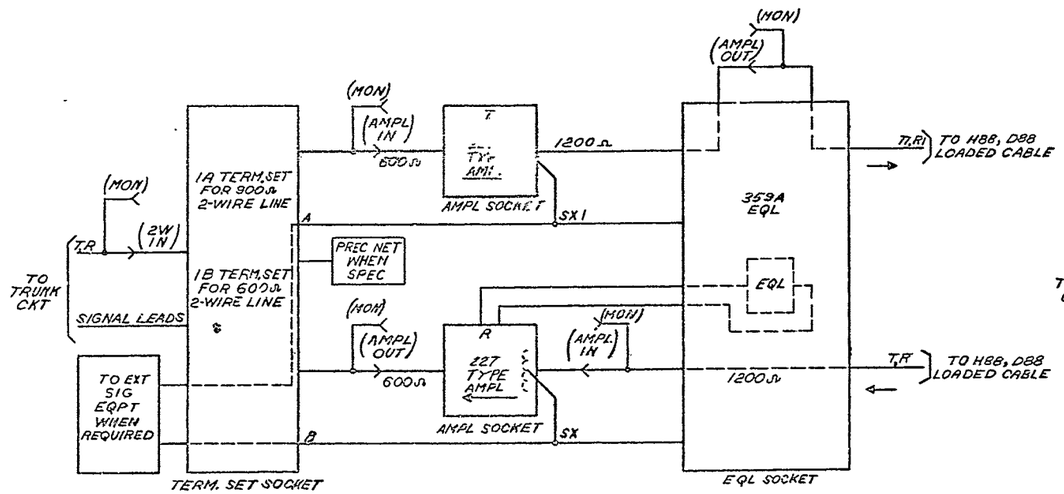


FIG. 104

24V4A OR C REPEATER ARRANGED FOR 600Ω CIRCUITS REQUIRING GAIN AND LOOP SIGNALING SEE FIG. 10

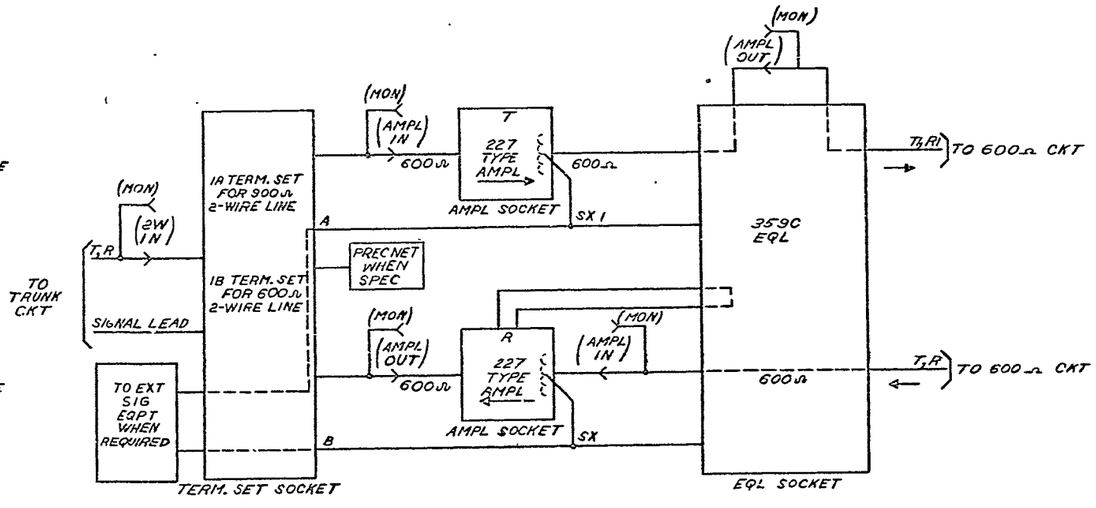


FIG. 103

24V4A OR C REPEATER ARRANGED FOR NON-LOADED CABLE REQUIRING GAIN AND LOOP SIGNALING SEE FIG. 10

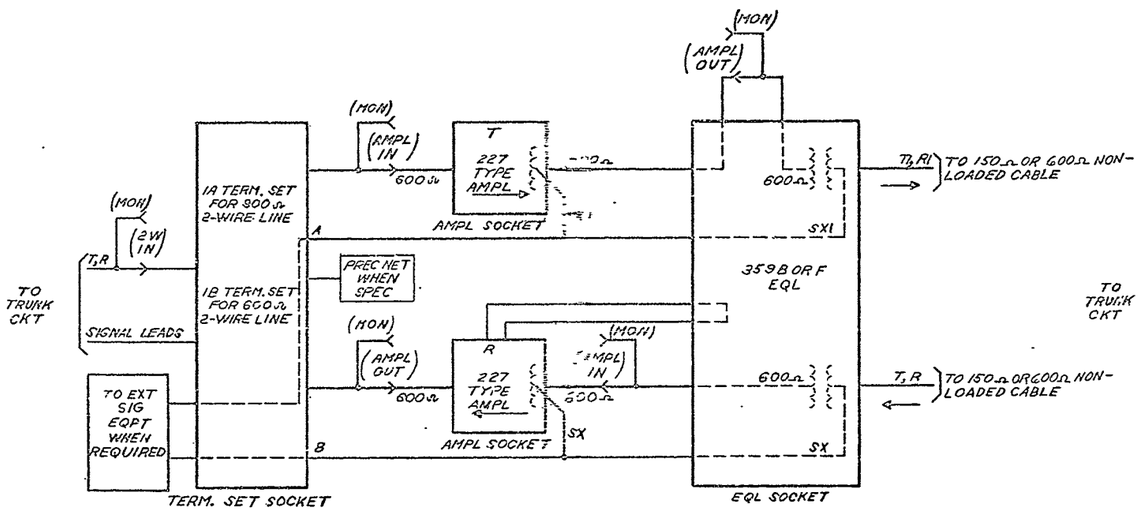
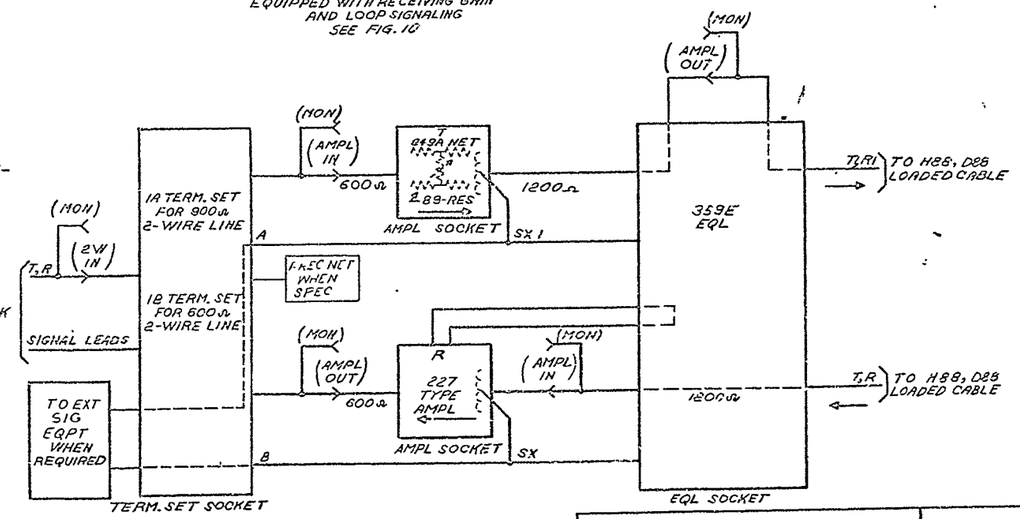


FIG. 105

24V4A OR C REPEATER ARRANGED FOR H88 & D88 LOADED CABLE REQUIRING NO TRANSMITTING GAIN, BUT EQUIPPED WITH RECEIVING GAIN AND LOOP SIGNALING SEE FIG. 10



DRAWING ISSUE		
3D	SLP FAC EBH	
4D	FKR FAC EBH	
5A	MCF FAC EBH	
6D	MK ESR KSK	
7D	MK – JGF	MH
8D	ACC – JGF	MH
14D	CS	MH

14

COMMON SYSTEMS

V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-97047-01-13

PRINTED IN U.S.A.

SD-97047-01-13

FIG. 106
24V4A OR C REPEATER
ARRANGED FOR H88 & D88 LOADED CABLE
WHERE GAIN IS NOT REQUIRED BUT
TRANS LEVEL CONTROL, REC LEVEL
AND EQUALIZATION, AND LOOP SIGNALING
IS SUPPLIED
SEE FIG. 10.

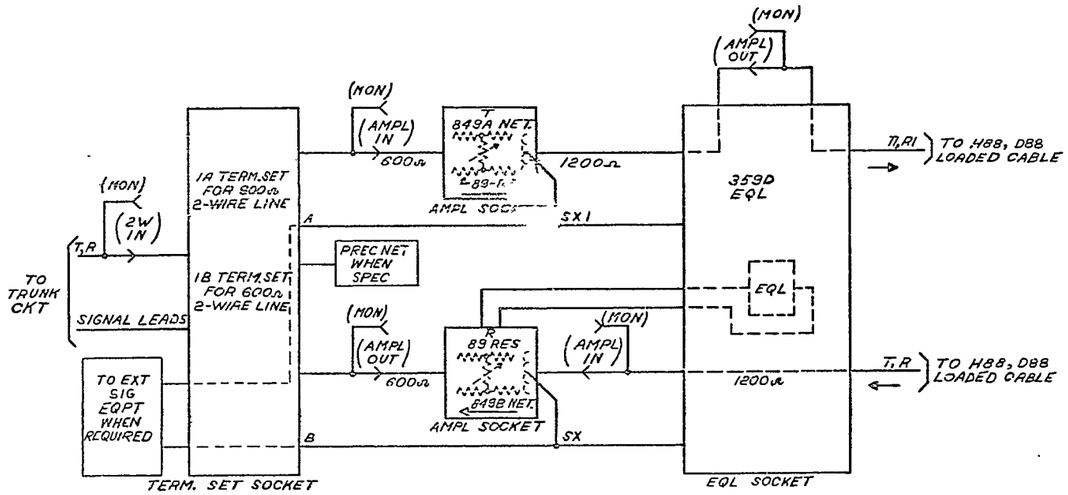


FIG. 107
24V4A OR C REPEATER
ARRANGED FOR H88 & D88 LOADED CABLE
WHERE GAIN IS NOT REQUIRED BUT
TRANS AND REC LEVEL ADJUSTMENT
AND LOOP SIGNALING IS DESIRED
SEE FIG. 10

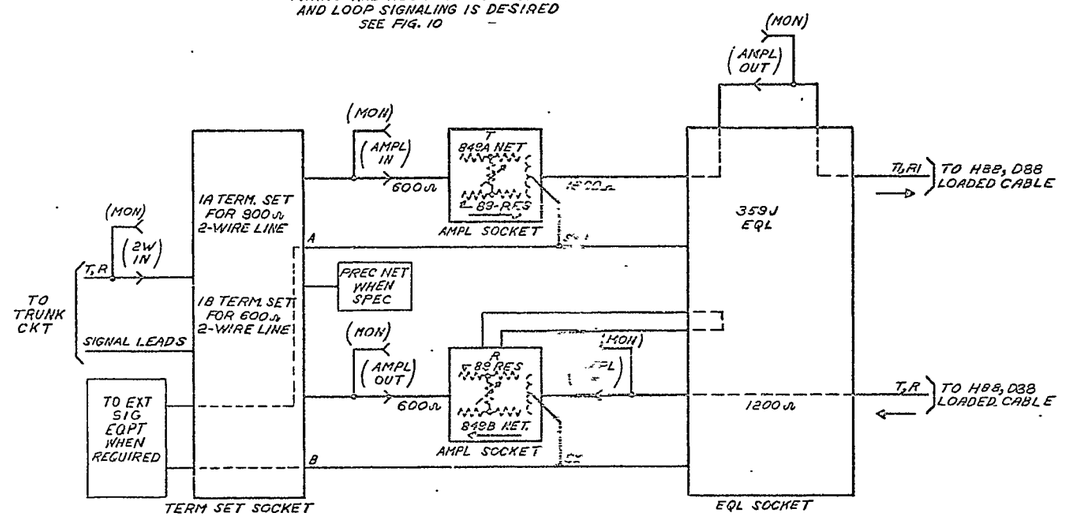


FIG. 108
44V4A REPEATER
PLUG-IN UNITS ARRANGED FOR H88 & D88
LOADED CABLE REQUIRING GAIN, EQUALIZATION
AND SIMPLEX SIGNALING
SEE FIG. 11

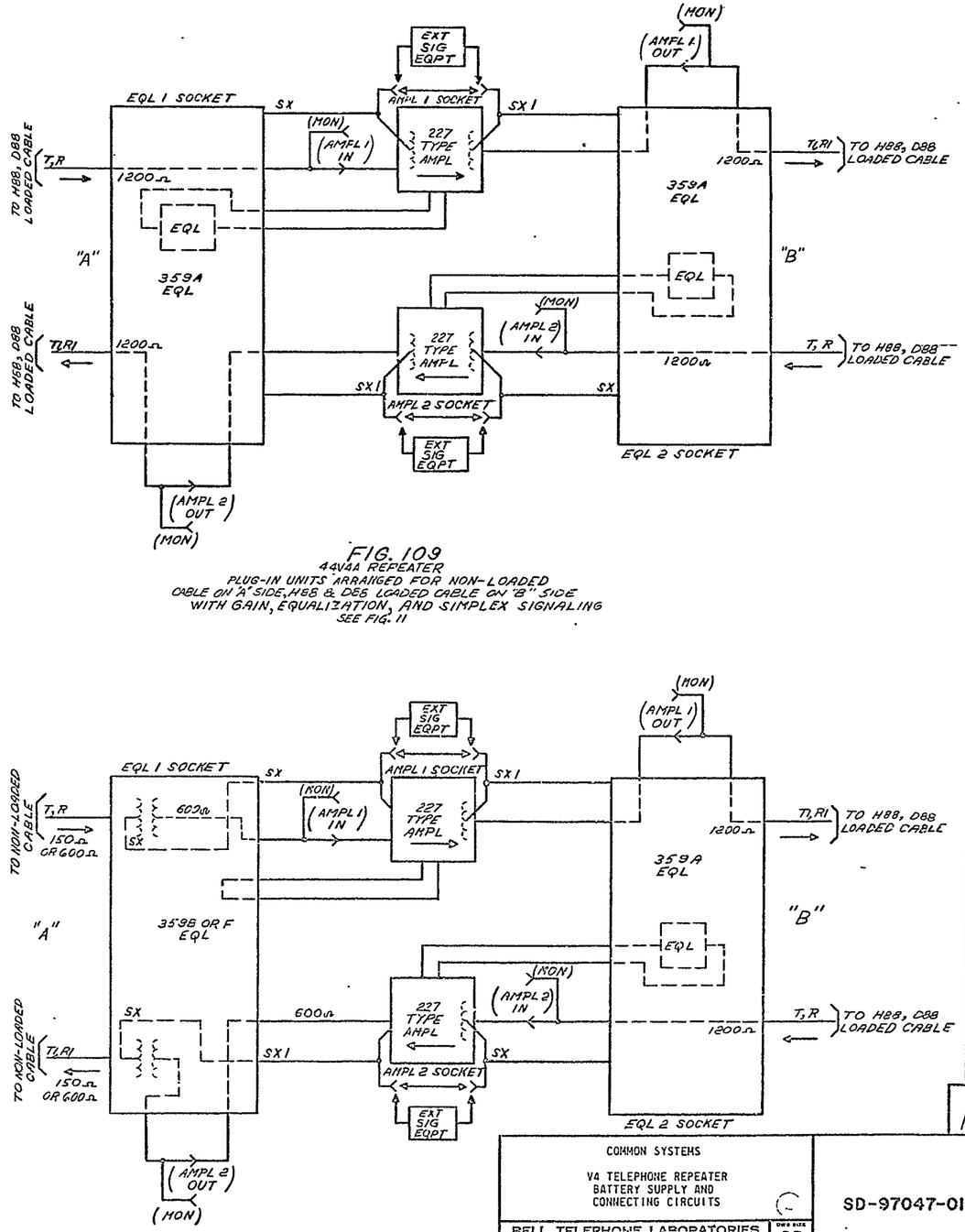


FIG. 109
44V4A REPEATER
PLUG-IN UNITS ARRANGED FOR NON-LOADED
CABLE ON "A" SIDE, H88 & D88 LOADED CABLE ON "B" SIDE
WITH GAIN, EQUALIZATION, AND SIMPLEX SIGNALING
SEE FIG. 11

DRAWING ISSUE		
3D	WAF	
	FAC	
	KBH	
4D	FRR	
	FAC	
	KBH	
5A	HCT	
	FAC	
	KBH	
6D	FAT	
	ELE	
	KBH	MH
7D	STC	
	—	
	JGF	MH
8D	RCC	
	—	
	KBH	MH
14D		HD

14

COMMON SYSTEMS

V4 TELEPHONE REPEATER
BATTERY SUPPLY AND
CONNECTING CIRCUITS

SD-97047-01-14

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

PRINTED IN U.S.A.

SD-97047-01-14

FIG. 110
44V4A REPEATER
PLUG-IN UNITS ARRANGED FOR NON-LOADED CABLE ON "B" SIDE H88 & D88 LOADED CABLE ON "A" SIDE WITH GAIN, EQUALIZATION, AND SIMPLEX SIGNALING
SEE FIG. 11

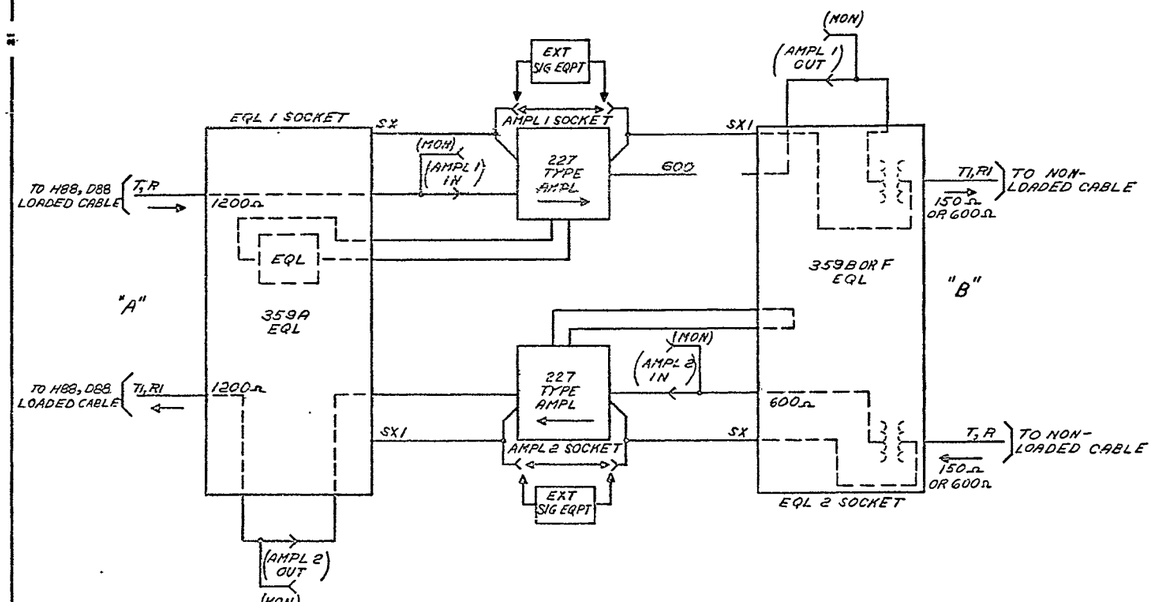


FIG. 111
44V4A REPEATER
PLUG-IN UNITS ARRANGED FOR NON-LOADED CABLE REQUIRING GAIN, EQUALIZATION, AND SIMPLEX SIGNALING
SEE FIG. 11

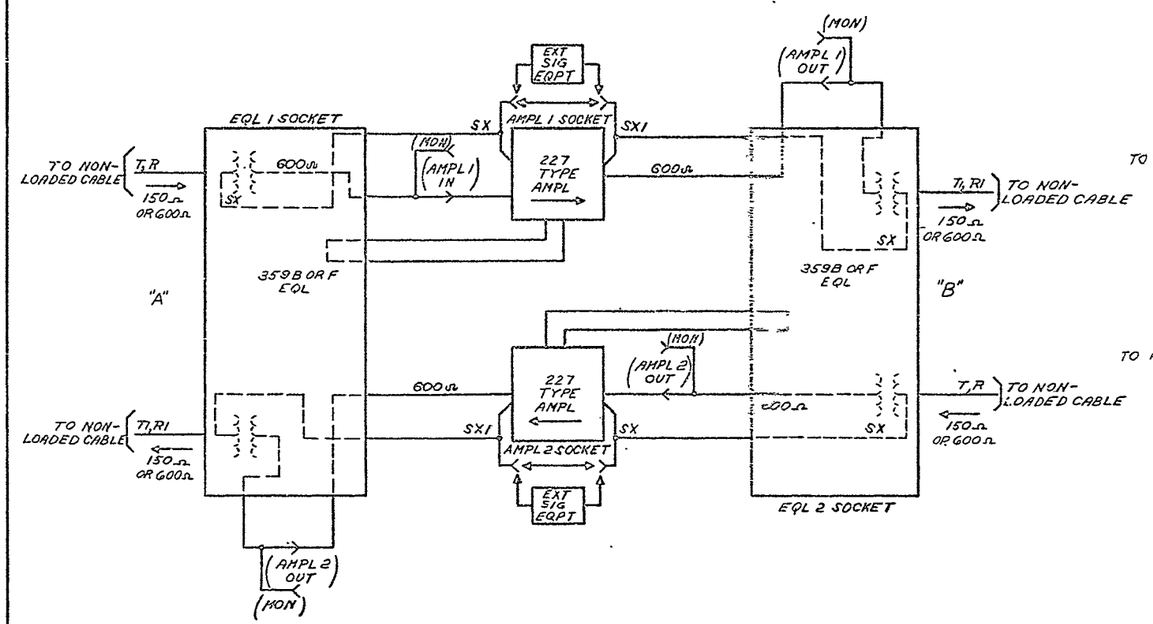


FIG. 112
44V4A REPEATER
PLUG-IN UNITS ARRANGED FOR 600 OHM CIRCUITS WITH GAIN AND SIMPLEX SIGNALING
SEE FIG. 11

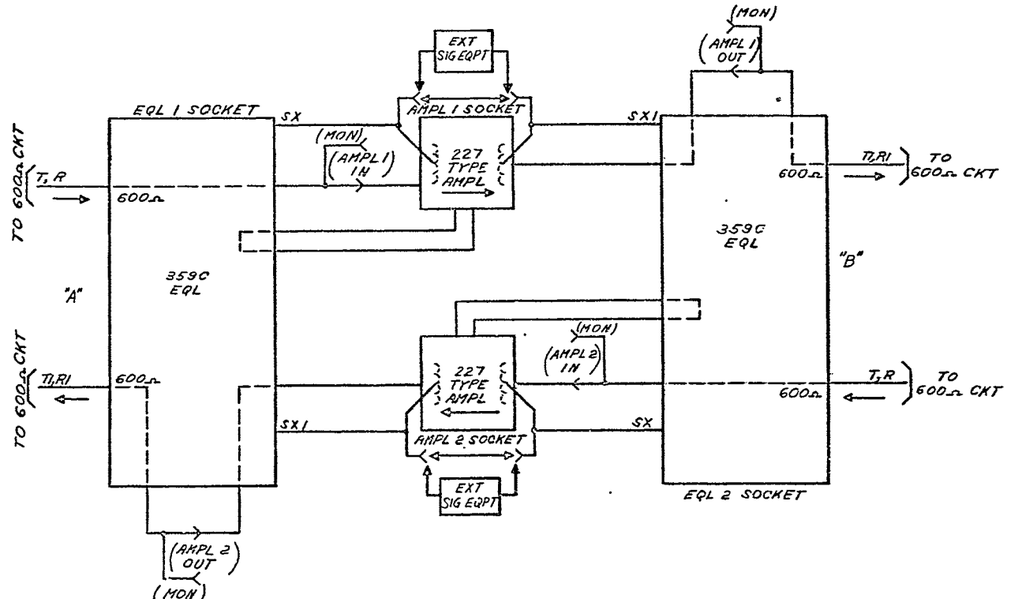
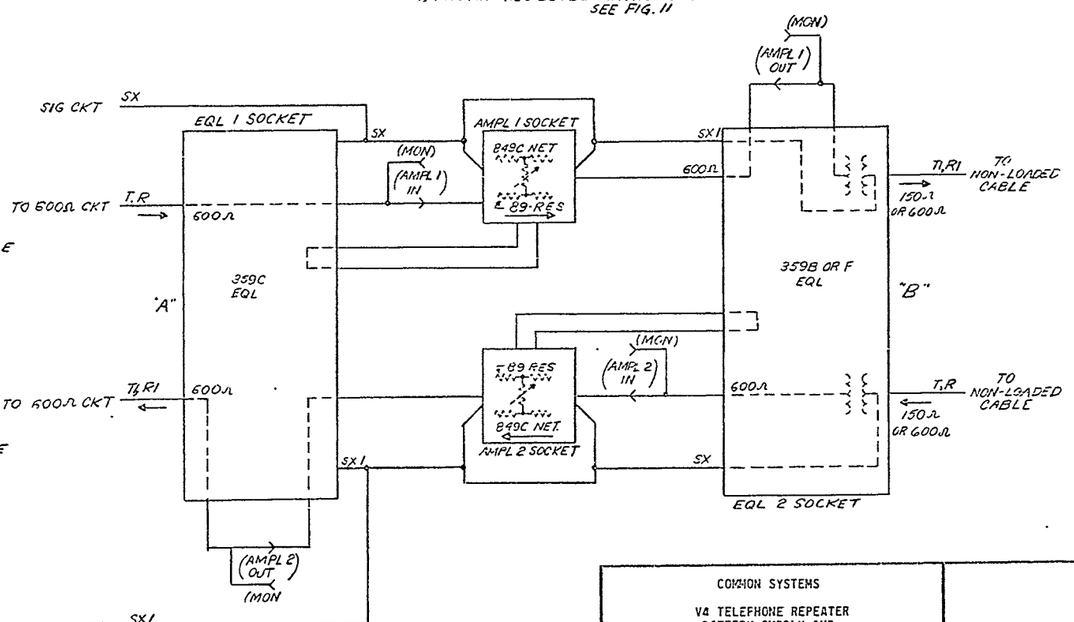


FIG. 113
44V4A REPEATER
PLUG-IN UNITS ARRANGED FOR 600Ω CIRCUITS ON "A" SIDE, NON-LOADED CABLE ON "B" SIDE, WITH TRANS AND REC LEVEL CONTROL AND SIMPLEX SIGNALING
SEE FIG. 11



DRAWING ISSUE	
3D	T&F FAC F&H
4D	F&R FAC F&H
5A	NOT FAC F&H
6D	NOT F&R F&H
7D	NOT — V&F
14D	

14

COMMON SYSTEMS
V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS (2)

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

SD-97047-01-15

PRINTED IN U.S.A.

SD-97047-01-15

DRAWING ISSUE
5A
6D
7D
8D
12D
14D

FIG. 114
44V4A REPEATER
PLUG-IN UNITS ARRANGED FOR 600Ω CIRCUIT ON "A" SIDE, H88 & D88 LOADED CABLE ON "B" SIDE WITH TRANS AND REC LEVEL CONTROL, REC CIRCUIT EQUALIZATION AND SIMPLEX SIGNALING
SEE FIG. 11

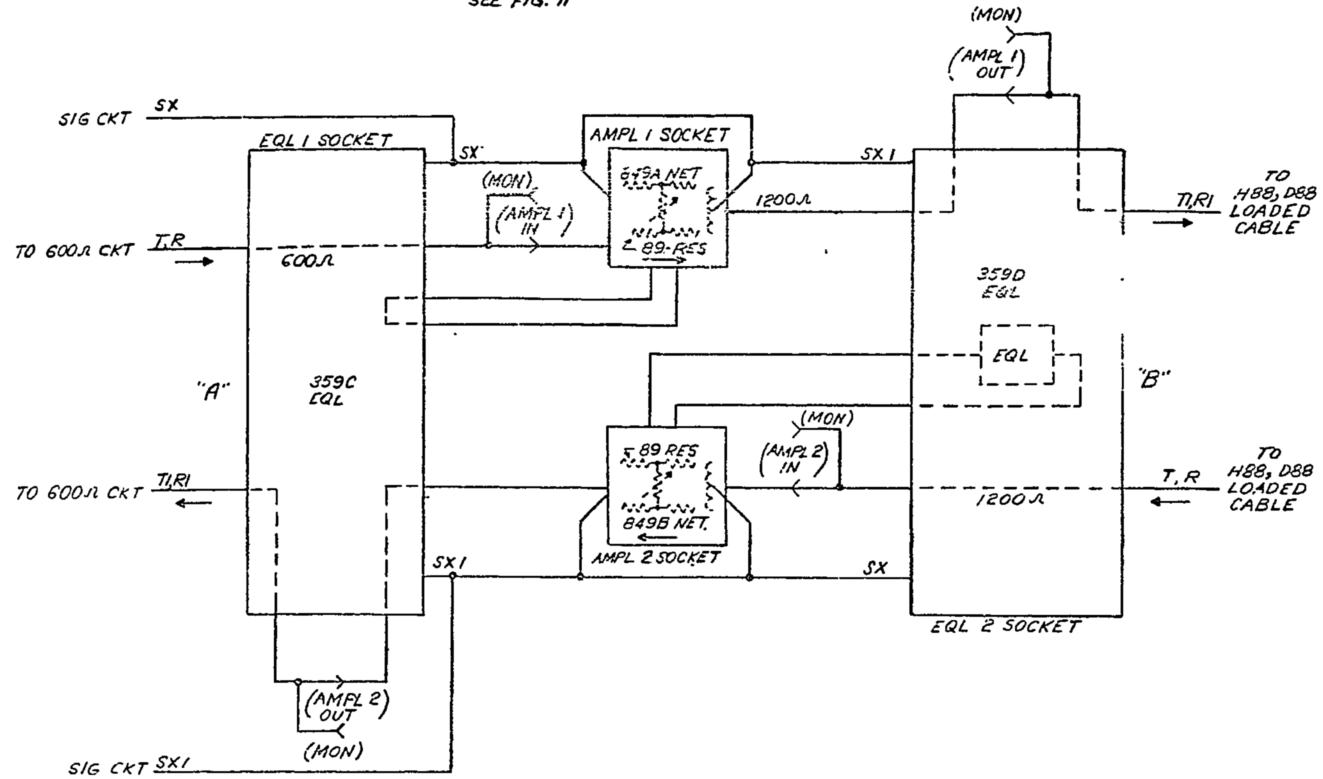


FIG. 117
44V4A REPEATER
PLUG-IN UNITS ARRANGED FOR D88 & H88 LOADED CABLE ON "A" SIDE AND 600Ω CIRCUITS ON "B" SIDE, WITH TRANS AND REC LEVEL CONTROL, LOADED CABLE EQUALIZATION AND SIMPLEX SIGNALING.
SEE FIG. 11

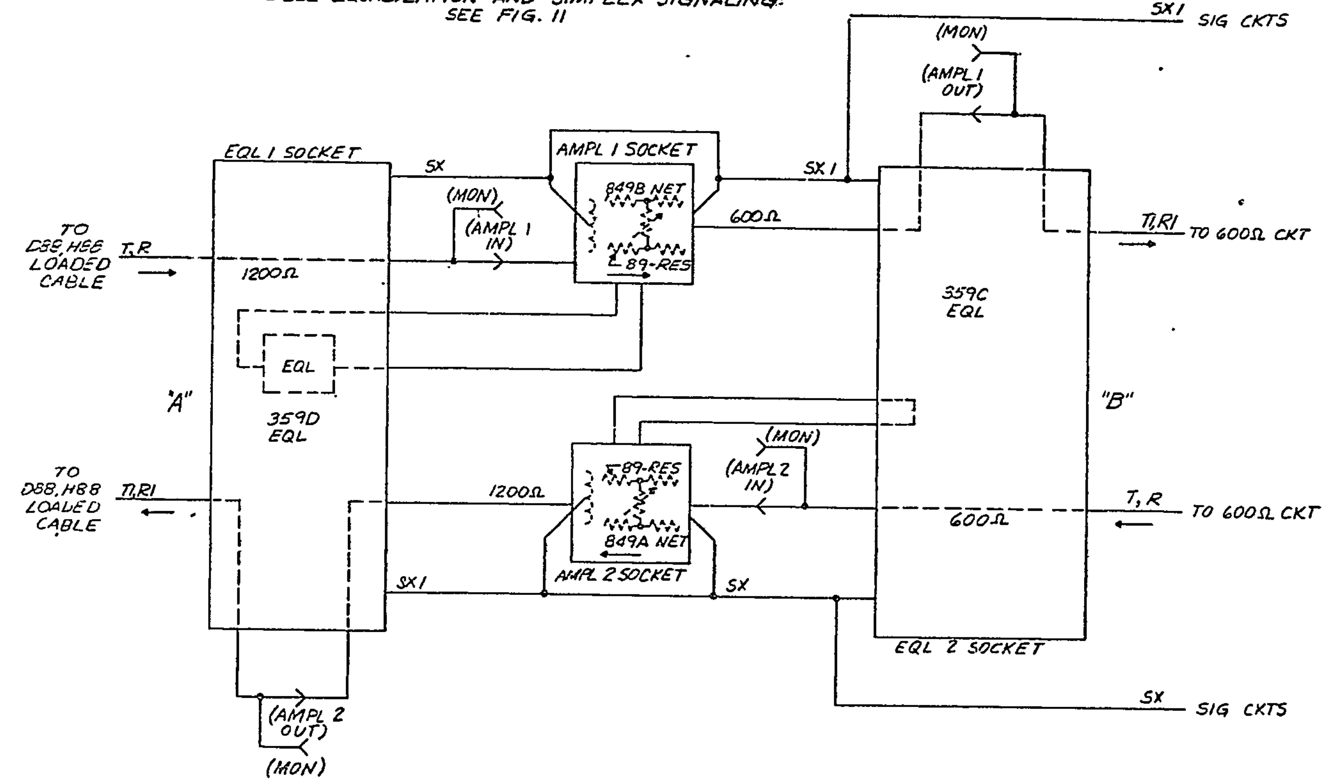
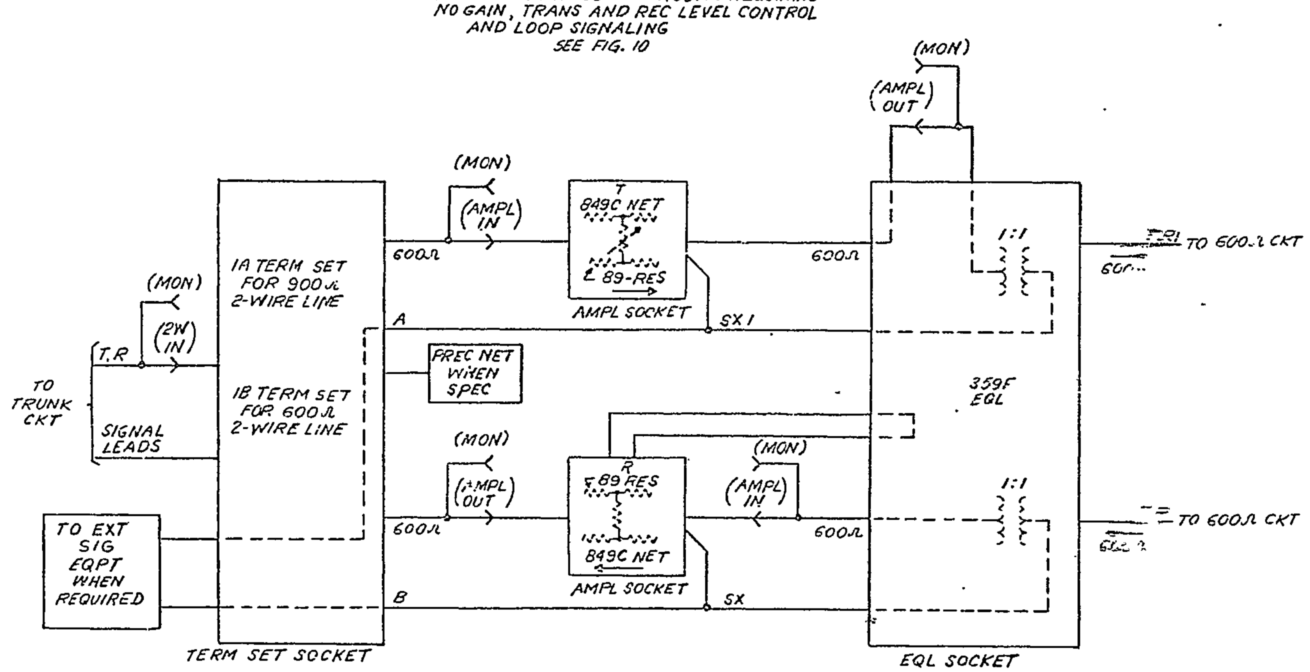


FIG 115
24V4A OR C REPEATER
ARRANGED FOR 600Ω CIRCUITS REQUIRING NO GAIN, TRANS AND REC LEVEL CONTROL AND LOOP SIGNALING
SEE FIG. 10



14

COMMON SYSTEMS
V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS

SD-97047-01-16

BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-97047-01-16

FIG 118
44V4A REPEATER
FOR EXTENDING 600 OHM CARRIER CIRCUITS REQUIRING NO GAIN ON "A" SIDE, TO D88 & H88 LOADED CABLE REQUIRING GAIN AND EQUALIZATION ON "B" SIDE
SEE FIG. 11

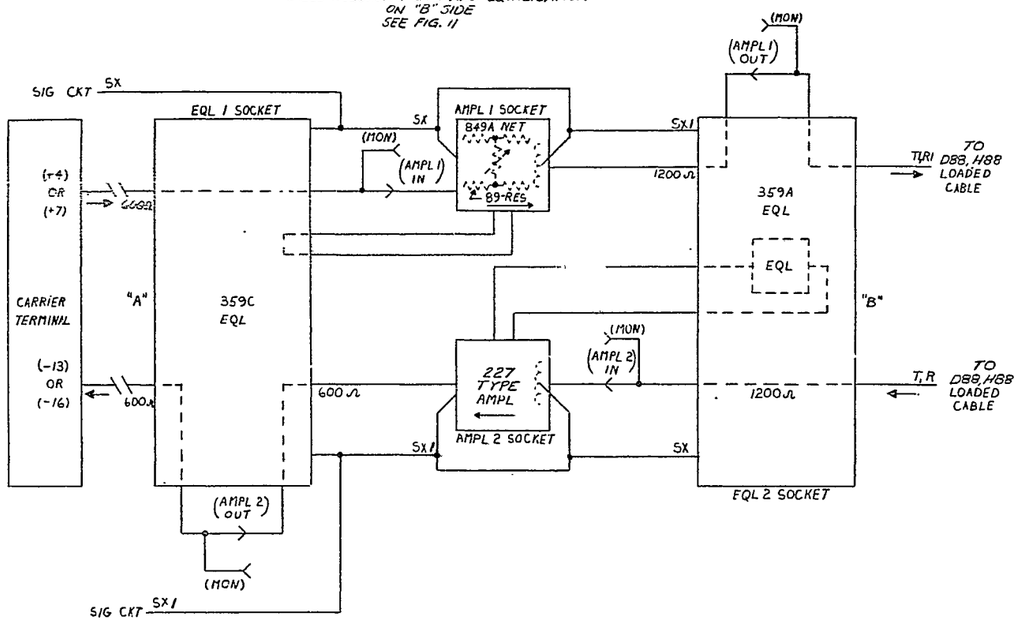


FIG 119
44V4A REPEATER
FOR EXTENDING D88 & H88 LOADED CABLE REQUIRING GAIN AND EQUALIZATION, ON "A" SIDE, TO 600 OHM CARRIER CIRCUITS REQUIRING LEVEL CONTROL, NO GAIN AND NO EQUALIZATION ON "B" SIDE
SEE FIG. 11

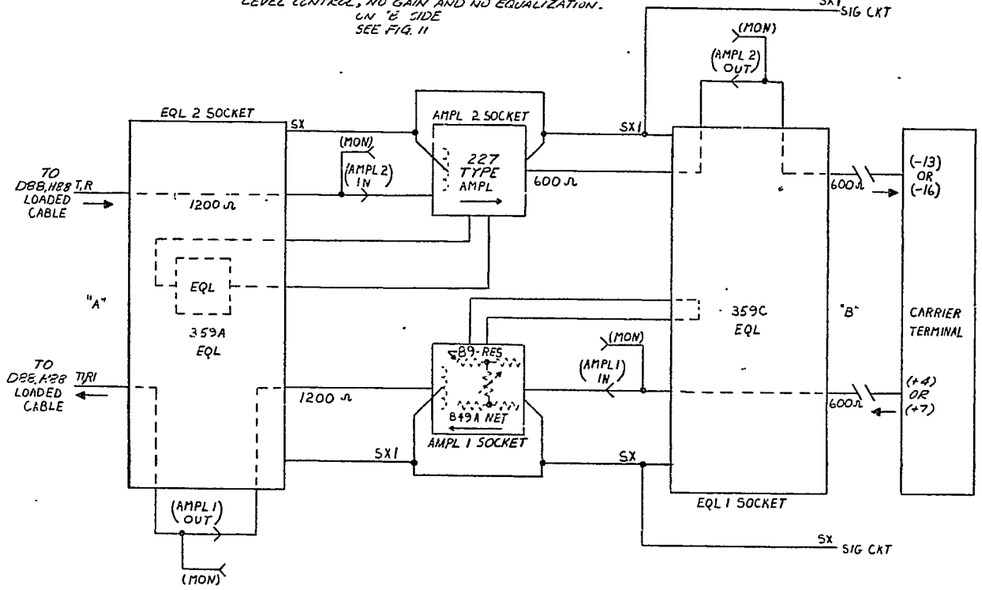


FIG 120
44V4A REPEATER
FOR EXTENDING 600 OHM CARRIER CIRCUITS REQUIRING NO GAIN OR EQUALIZATION ON "A" SIDE TO NON-LOADED CABLE REQUIRING GAIN AND NO EQUALIZATION ON "B" SIDE
SEE FIG 11

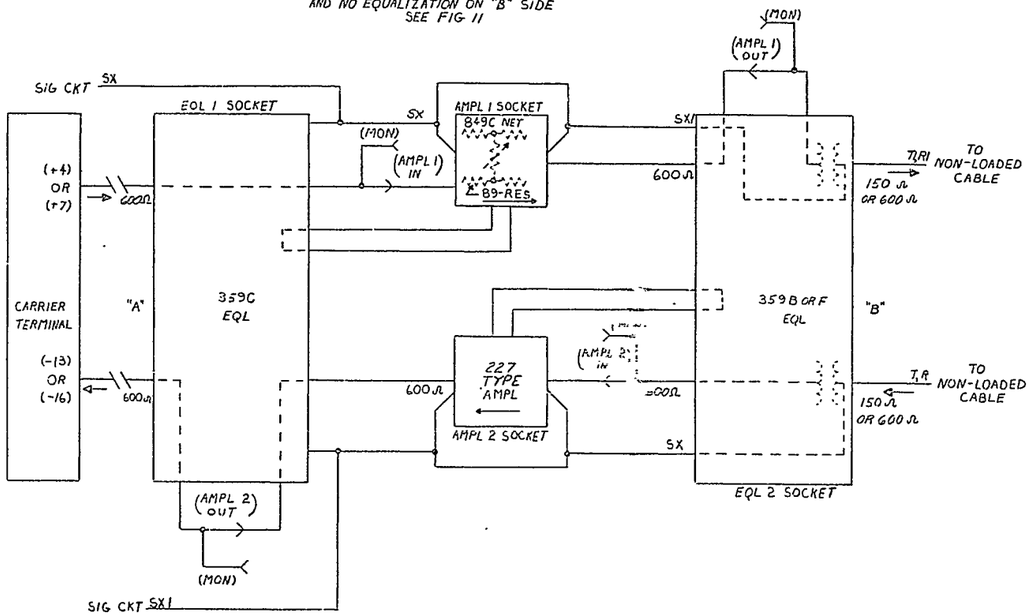
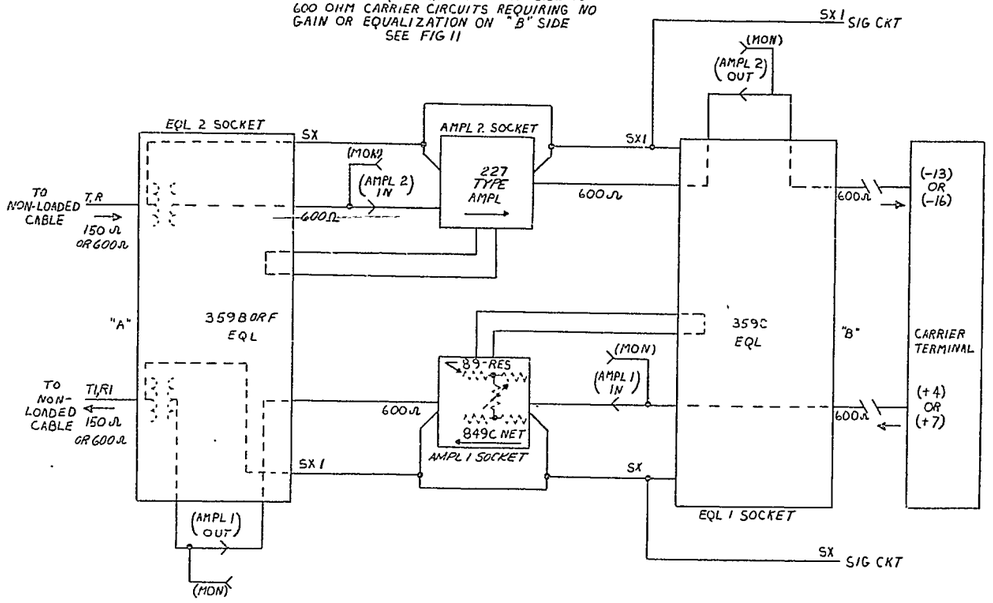


FIG 121
44V4A REPEATER
FOR EXTENDING NON-LOADED CABLE REQUIRING GAIN AND NO EQUALIZATION ON "A" SIDE TO 600 OHM CARRIER CIRCUITS REQUIRING NO GAIN OR EQUALIZATION ON "B" SIDE
SEE FIG 11



DRAWING ISSUE	
6D	CEK, ZJR, ZEH
7D	NK — JGF
12D	ZEH — JGF
14D	

SD-97047-01-17

14

COMMON SYSTEMS
V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS
BELL TELEPHONE LABORATORIES INCORPORATED
SIZE 6S
SD-97047-01-17

FIG. 122
44V4A REPEATER
FOR EXTENDING 600 OHM CARRIER CIRCUITS TO NON-LOADED CABLE REQUIRING LEVEL CONTROL BUT NO GAIN OR EQUALIZATION ON BOTH "A" AND "B" SIDES
SEE FIG. 11

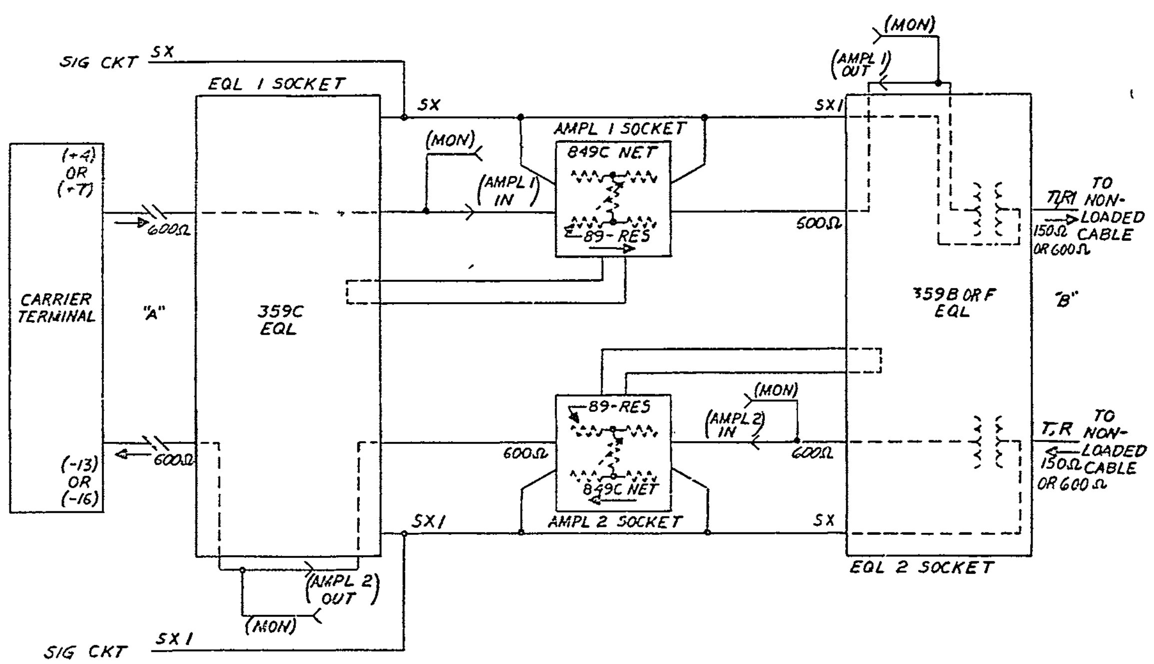


FIG. 123
44V4A REPEATER
FOR EXTENDING NON-LOADED CABLE CIRCUITS TO 600 OHM CARRIER CIRCUITS REQUIRING LEVEL CONTROL BUT NO GAIN OR EQUALIZATION ON "A" AND "B" SIDES
SEE FIG. 11

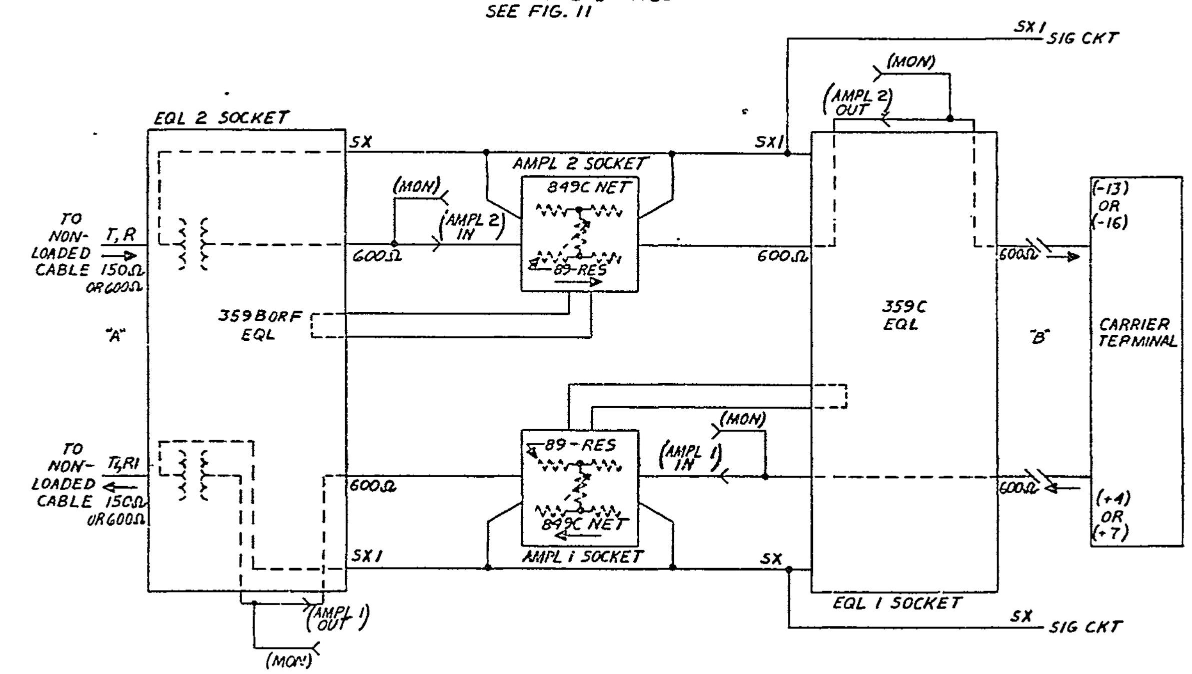


FIG. 124
44V4A REPEATER
ASSOCIATED WITH SF SIGNALING FOR EXTENDING 600 OHM VF CIRCUITS REQUIRING GAIN ON "A" SIDE TO D88 & H88 LOADED CABLE REQUIRING GAIN AND EQUALIZATION ON "B" SIDE
SEE FIG. 11

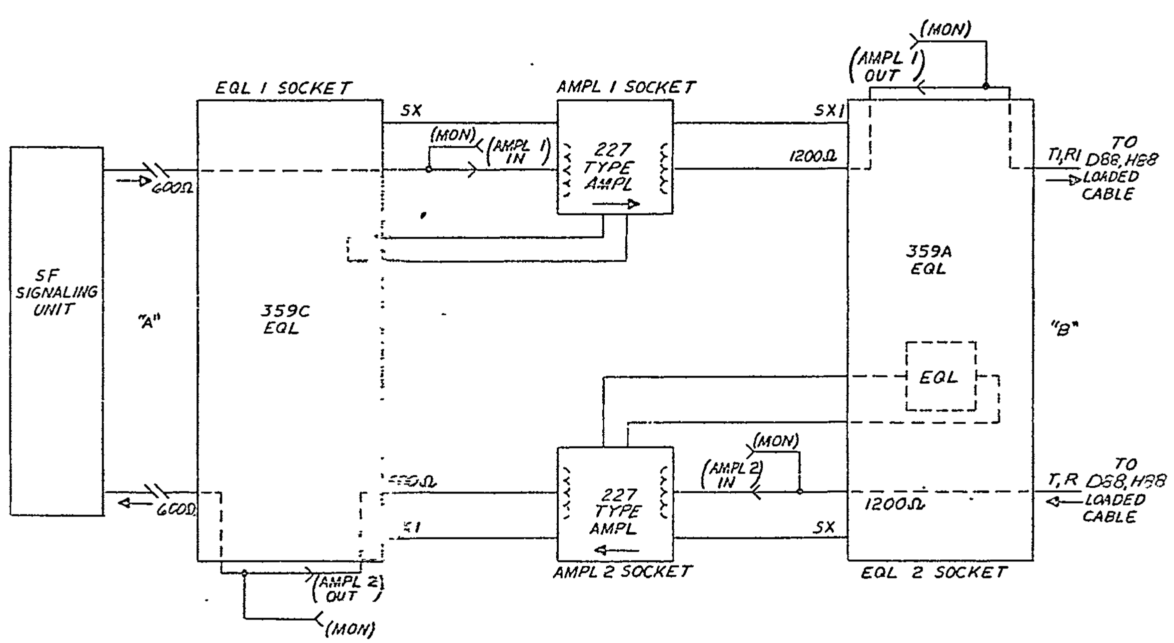
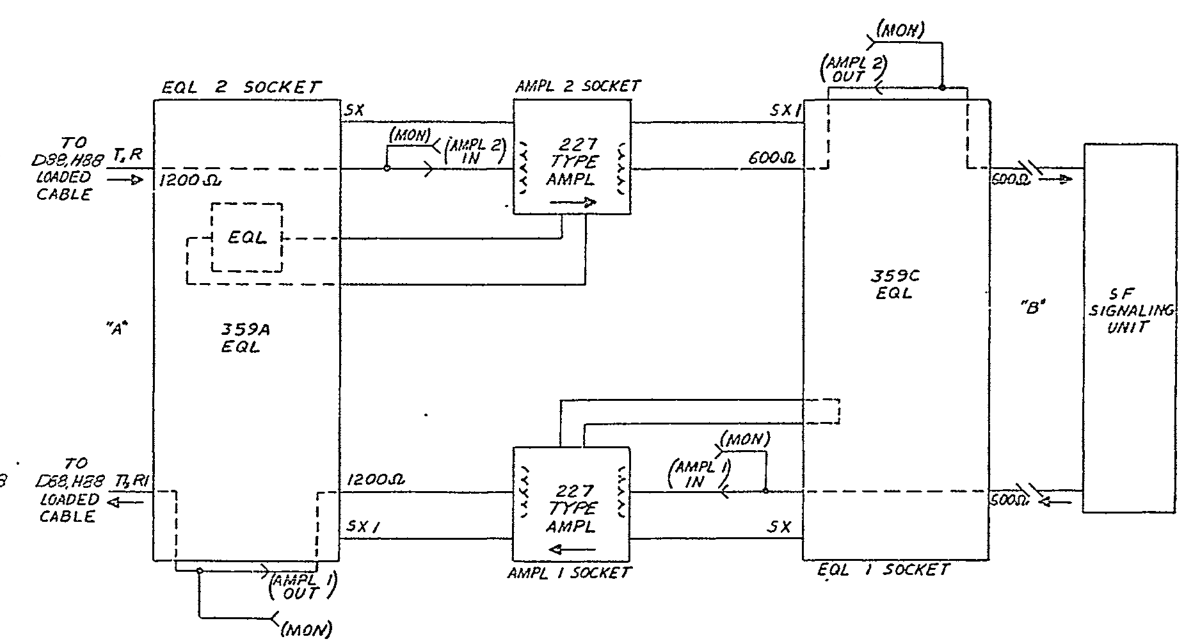


FIG. 125
44V4A REPEATER
ASSOCIATED WITH SF SIGNALING FOR EXTENDING D88 & H88 LOADED CABLE REQUIRING GAIN AND EQUALIZATION ON "A" SIDE TO 600 OHM VF CIRCUIT REQUIRING GAIN ON "B" SIDE
SEE FIG. 11



DRAWING ISSUE
6D
7D
12D
14D

14

COMMON SYSTEMS
V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS

BELL TELEPHONE LABORATORIES INCORPORATED

SD-97047-01-18

6S

DRAWING ISSUE
6D
7D
14D

FIG. 126
44V4A REPEATER
ASSOCIATED WITH SF SIGNALING.
FOR EXTENDING 600 OHM VF CIRCUITS
REQUIRING GAIN ON "A" SIDE TO NON-LOADED
CIRCUITS REQUIRING GAIN ON "B" SIDE
SEE FIG. 11

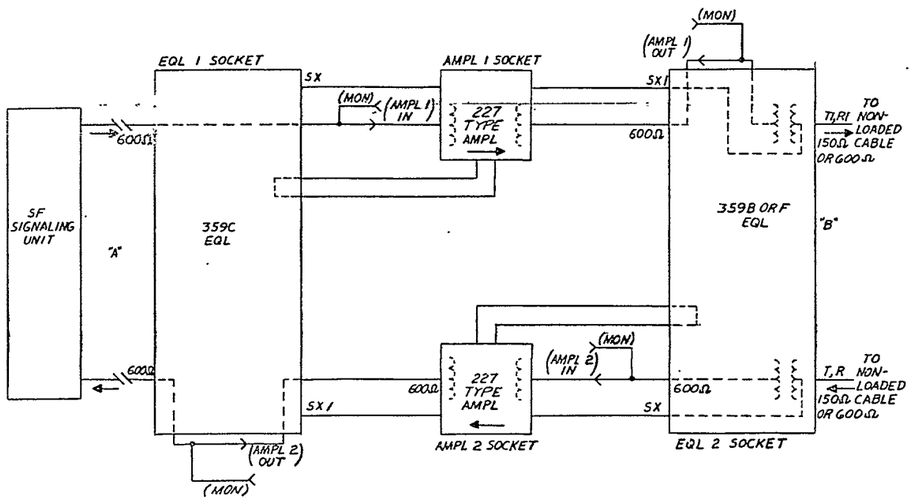


FIG. 127
44V4A REPEATER
ASSOCIATED WITH SF SIGNALING
FOR EXTENDING NON-LOADED CIRCUITS
REQUIRING GAIN ON SIDE "A" TO 600 OHM
VF CIRCUITS REQUIRING GAIN ON "B" SIDE
SEE FIG. 11

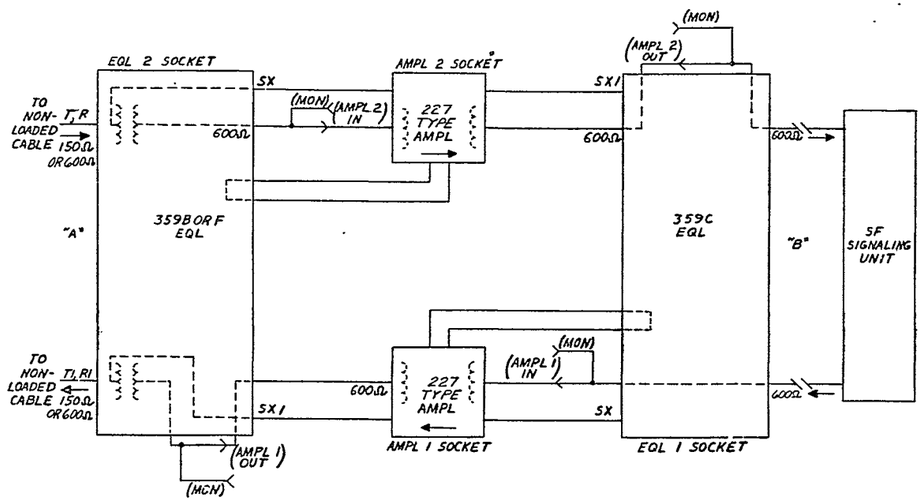


FIG. 128
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19

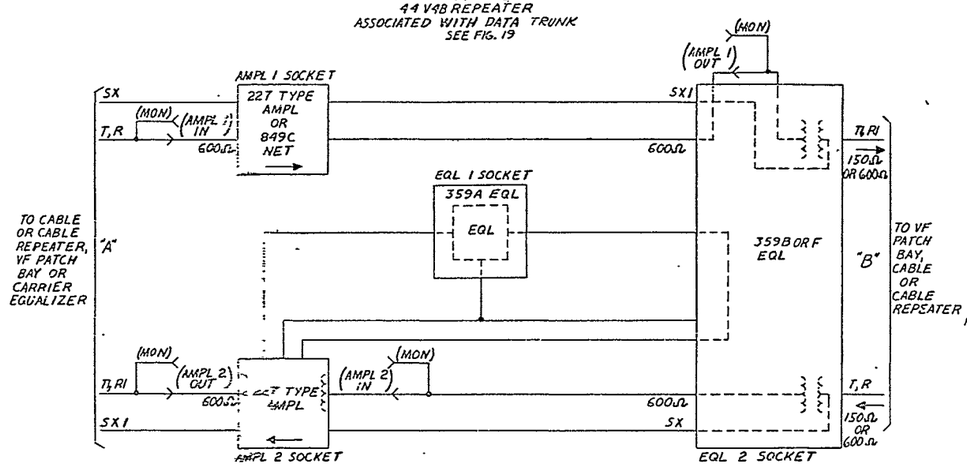
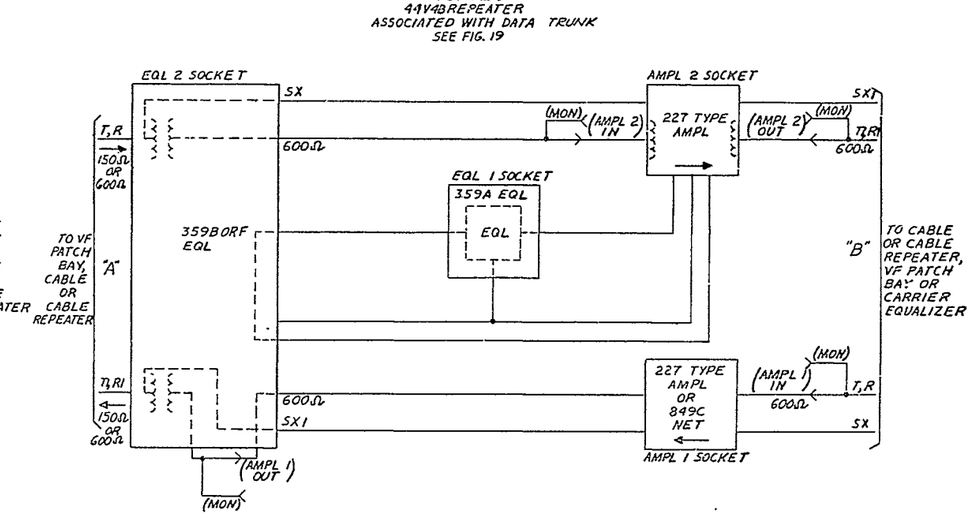


FIG. 129
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19



SD-97047-01-19

14

COMMON SYSTEMS
V4 TELEPHONE REPEATER
BATTERY SUPPLY AND
CONNECTING CIRCUITS

SD-97047-01-19

BELL TELEPHONE LABORATORIES
INCORPORATED
DWG SIZE 6S
PRINTED IN U.S.A.

DRAWING ISSUE
6D BSS EJP
RBH
7D NC — JGF
14D

FIG. 130
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19

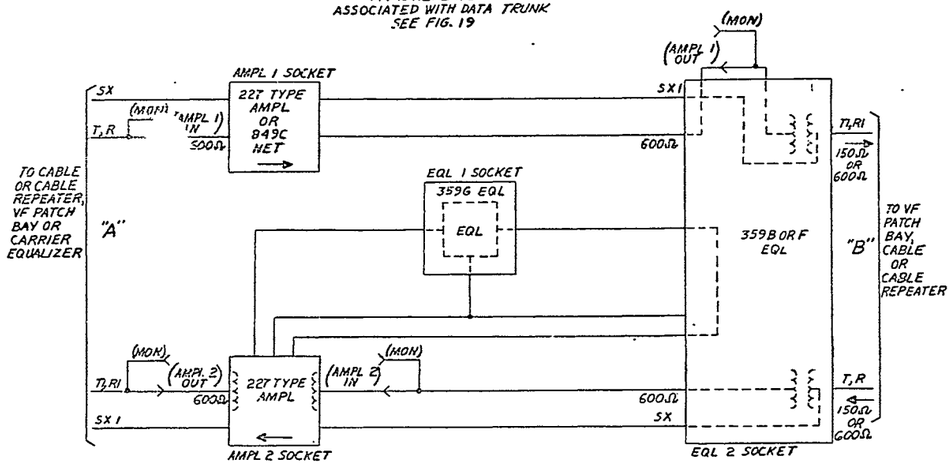


FIG. 131
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19

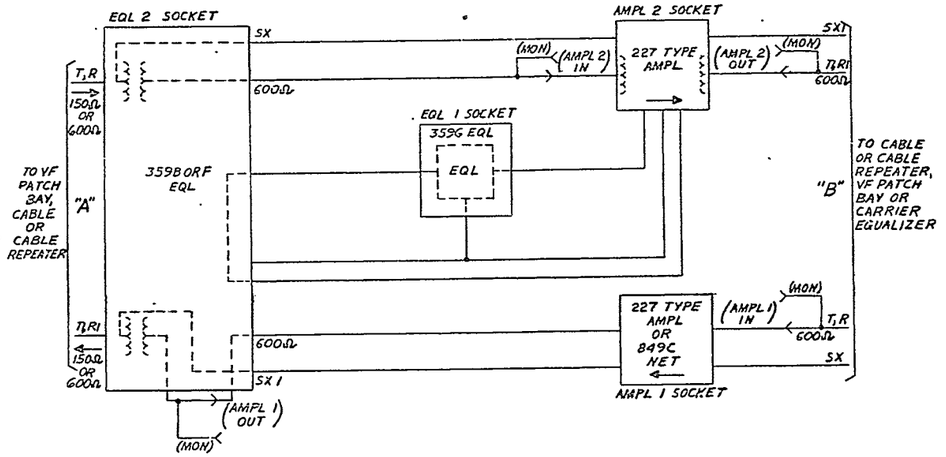


FIG. 132
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19

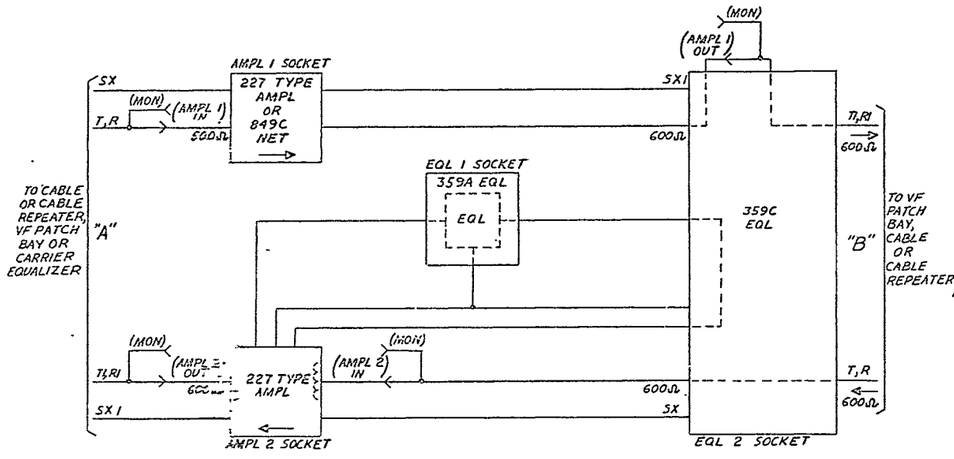
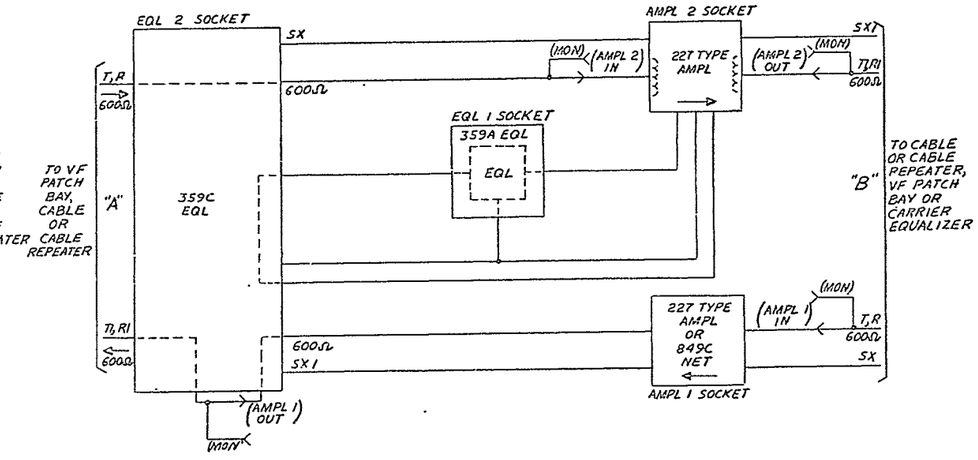


FIG. 133
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19



SD-97047-01-20

14

COMMON SYSTEMS
V4 TELEPHONE REPEATER
BATTERY SUPPLY AND
CONNECTING CIRCUITS
(2)

SD-97047-01-20

BELL TELEPHONE LABORATORIES
INCORPORATED
DRG SIZE 6S
PRINTED IN U.S.A.

DRAWING ISSUE
6D
7D
14D

FIG. 134
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19

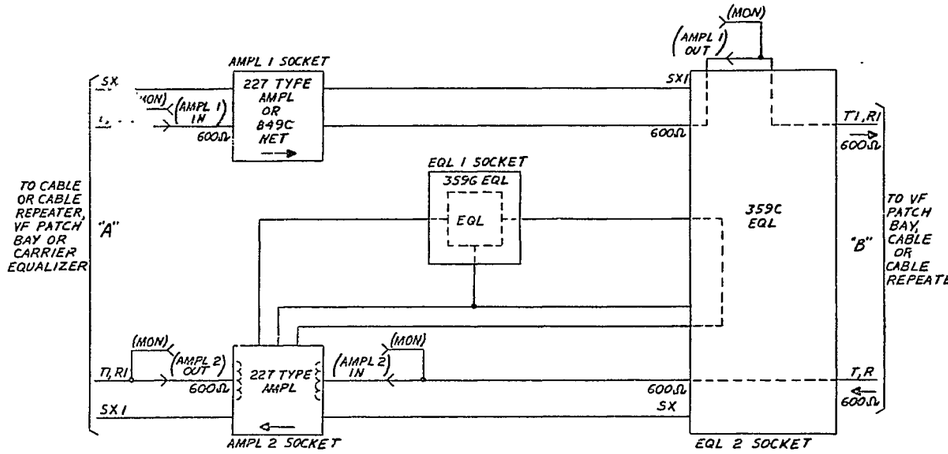


FIG. 135
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19

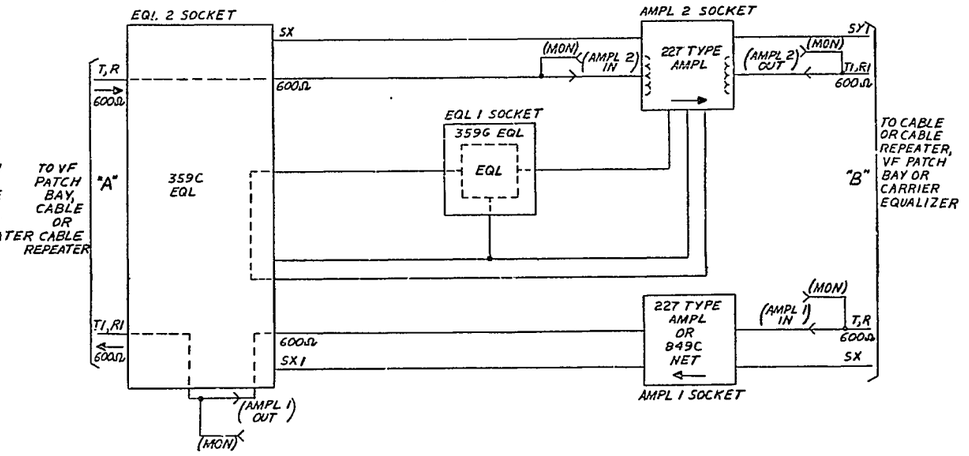


FIG. 136
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19

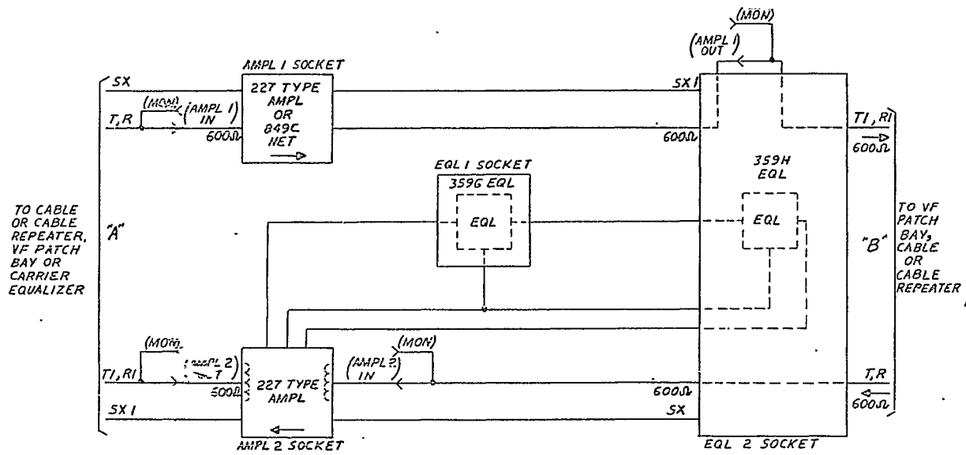
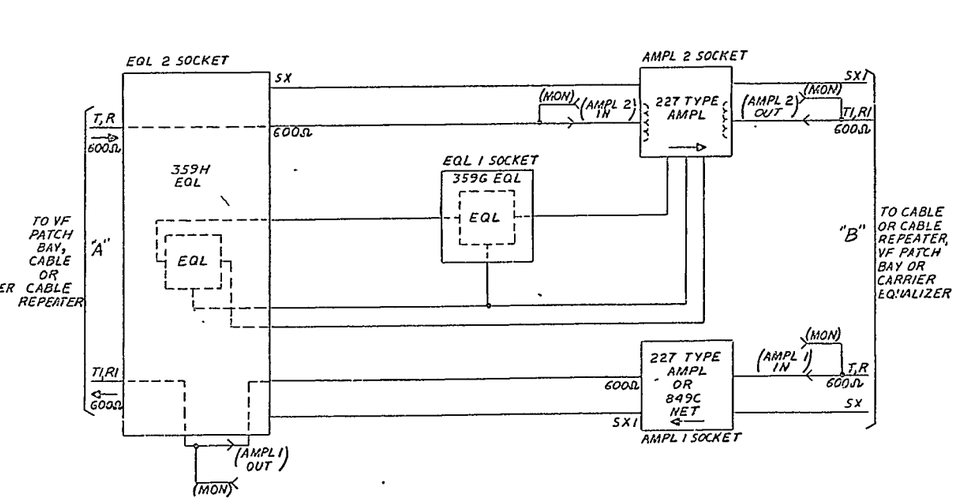


FIG. 137
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19



SD-97047-01-21

14

COMMON SYSTEMS
V4 TELEPHONE REPEATER
BATTERY SUPPLY AND
CONNECTING CIRCUITS

BELL TELEPHONE LABORATORIES
INCORPORATED

SIZE 6S

SD-97047-01-21

DRAWING ISSUE
6D
7D
14D

FIG 138
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19

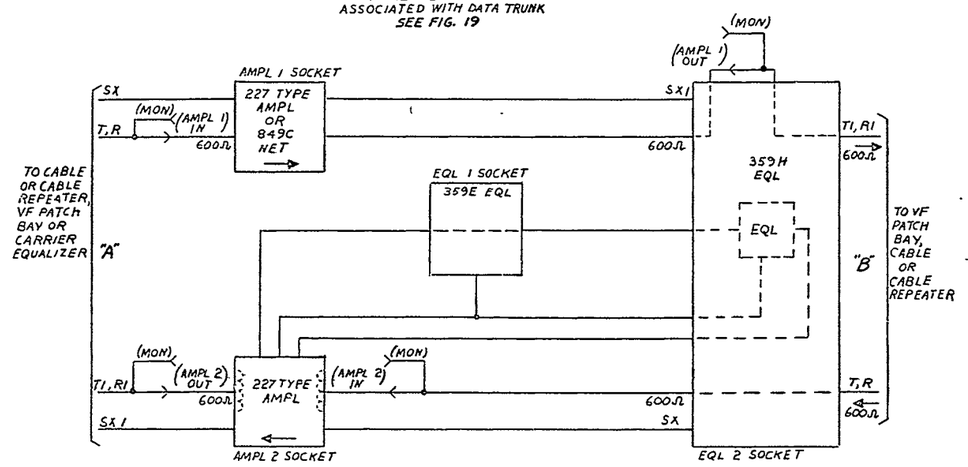


FIG 139
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19

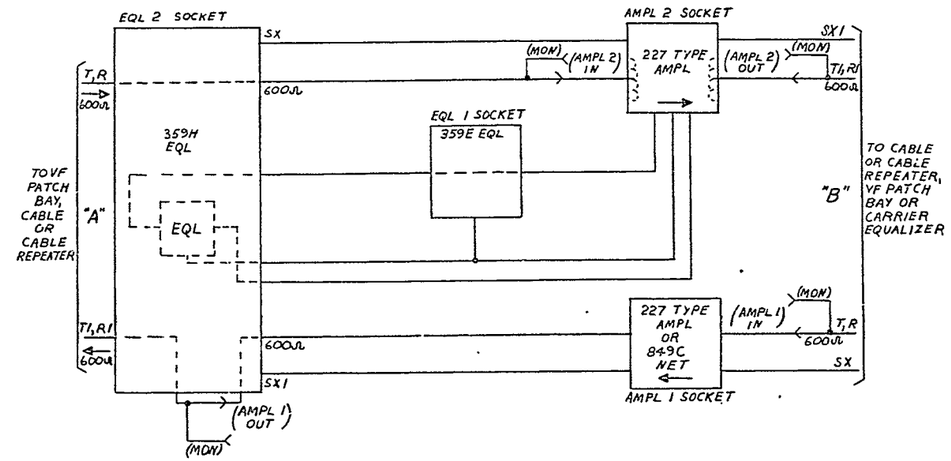


FIG 140
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19

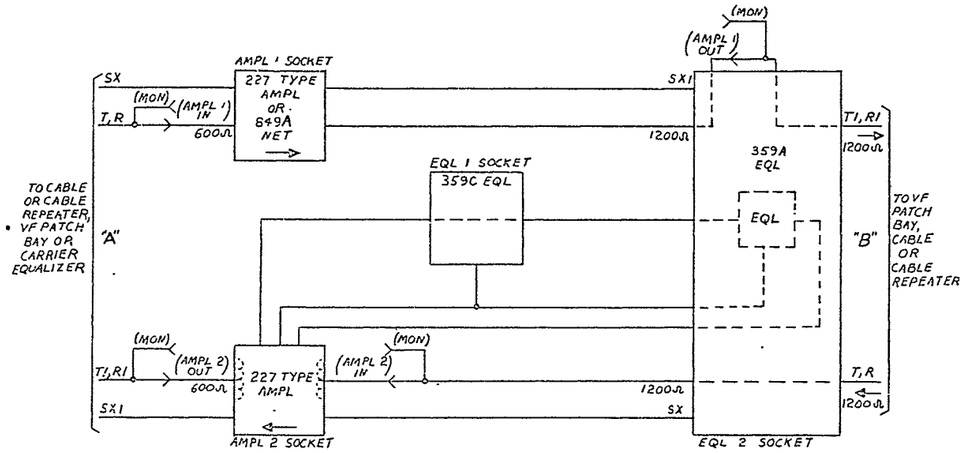
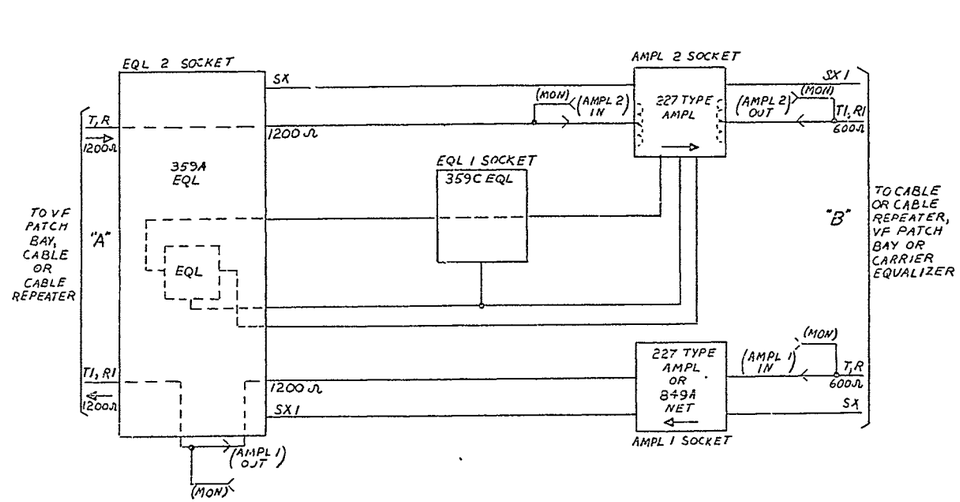


FIG 141
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19



SD-97047-01-22

14

COMMON SYSTEMS
V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS
BELL TELEPHONE LABORATORIES INCORPORATED
DWG SIZE 6S
SD-97047-01-22
PRINTED IN U.S.A.

FIG. 142
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19

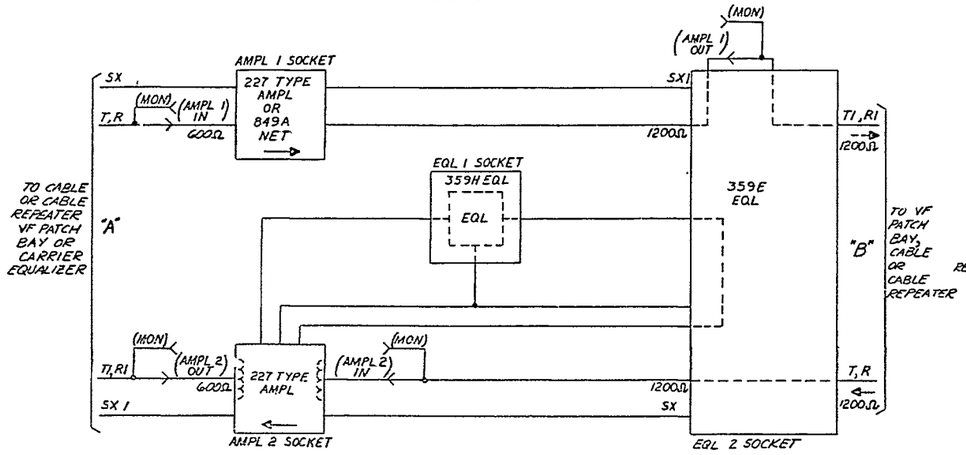


FIG. 143
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19

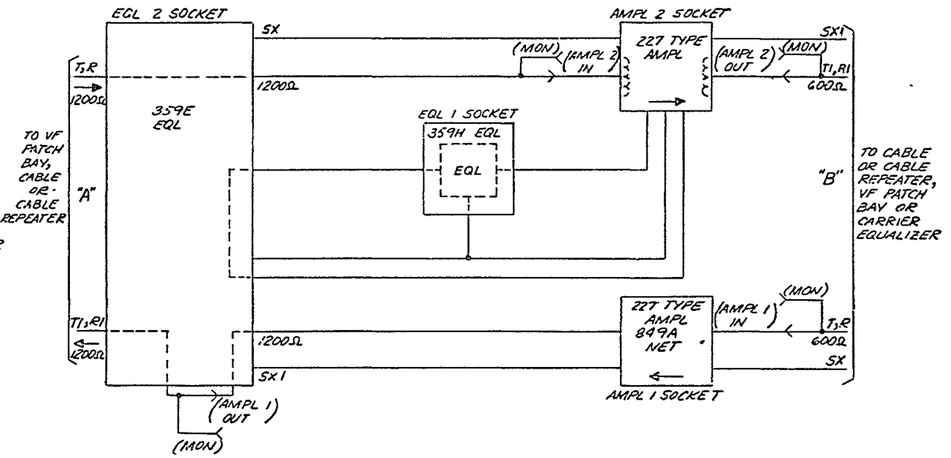


FIG. 144
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19

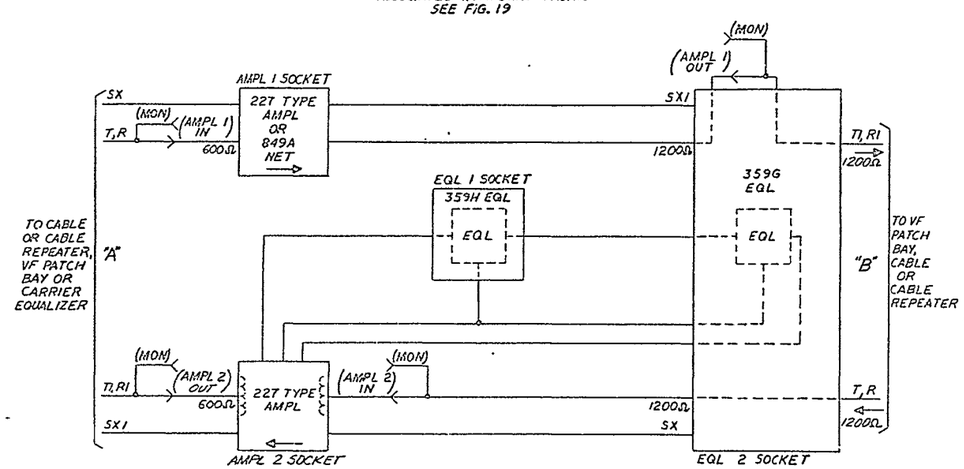
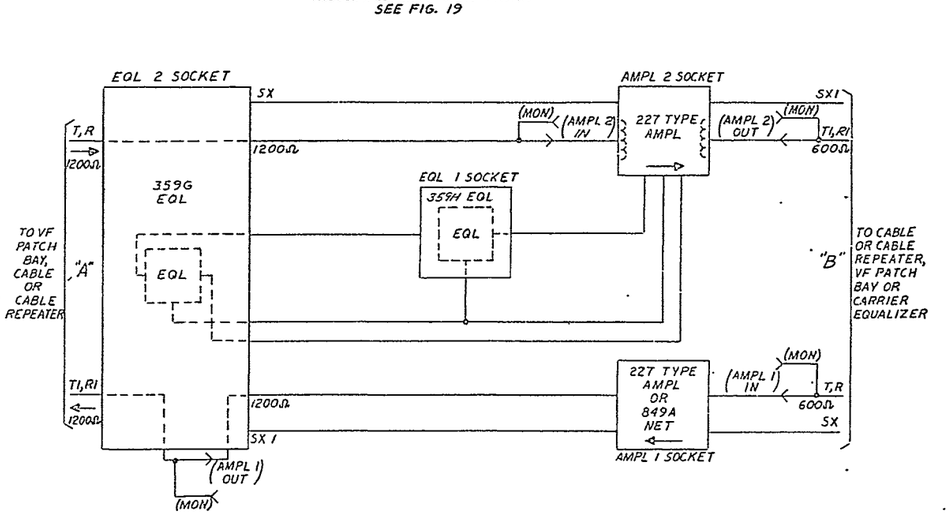


FIG. 145
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19



14

COMMON SYSTEMS

V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

SD-97047-01-23

PRINTED IN U.S.A.

SD-97047-01-23

FIG. 146
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19

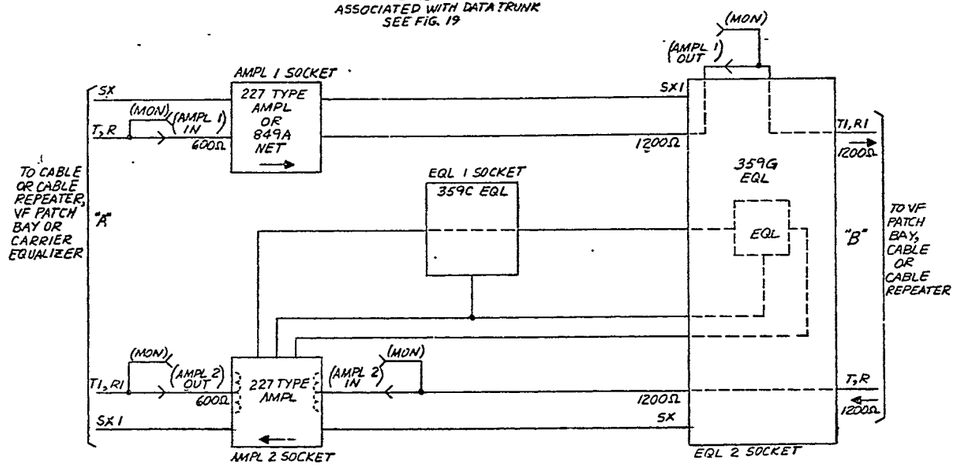


FIG. 147
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19

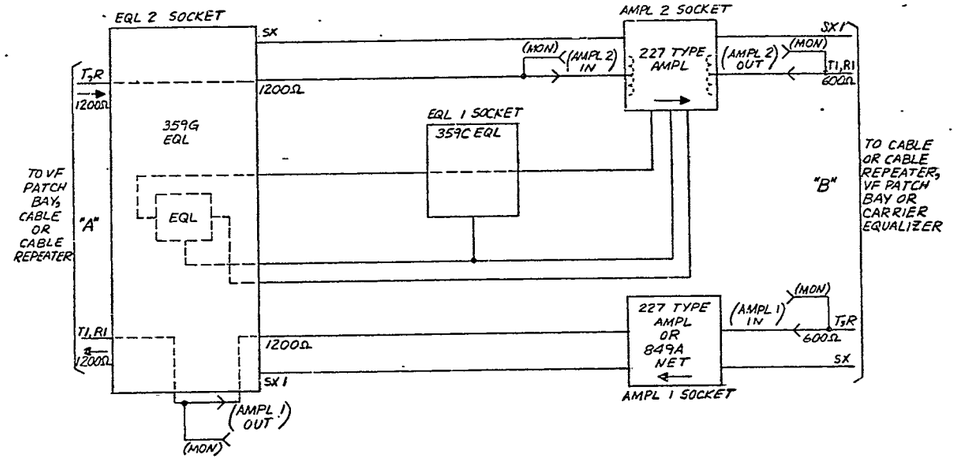


FIG. 148
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19

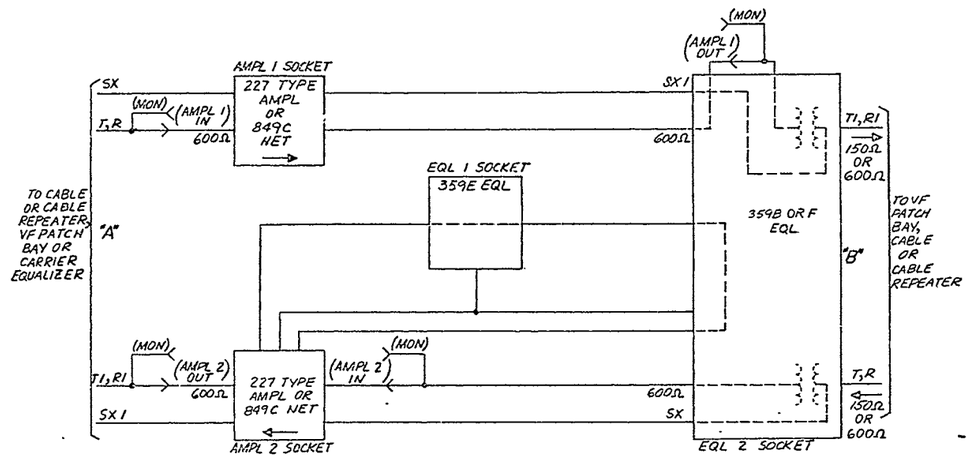
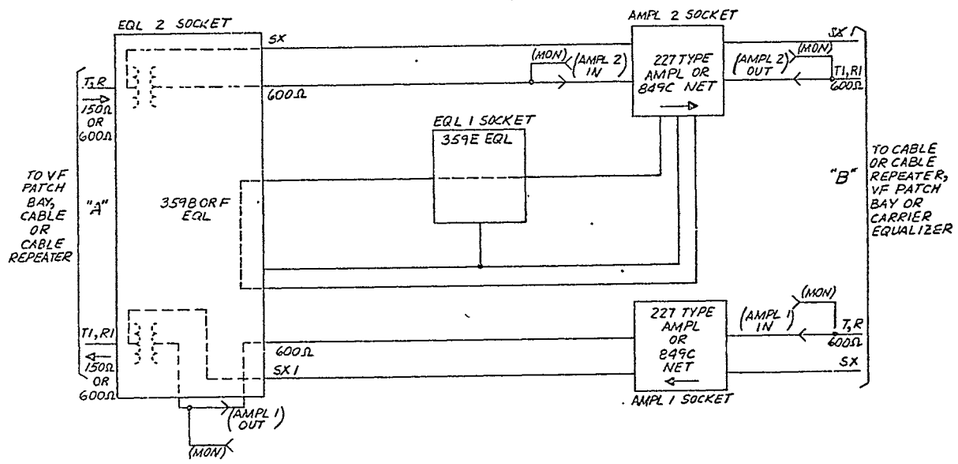


FIG. 149
44V4B REPEATER
ASSOCIATED WITH DATA TRUNK
SEE FIG. 19



COMMON SYSTEMS
V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

SD-97047-01-24

PRINTED IN U.S.A.

SD-97047-01-24

FIG. 150
849 TYPE NETWORKS FOR CONNECTING CARRIER SYSTEMS TO LOADED OR NON-LOADED CABLE PAIRS

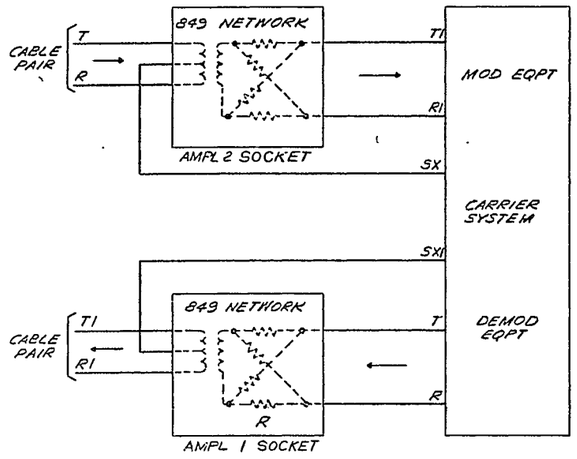
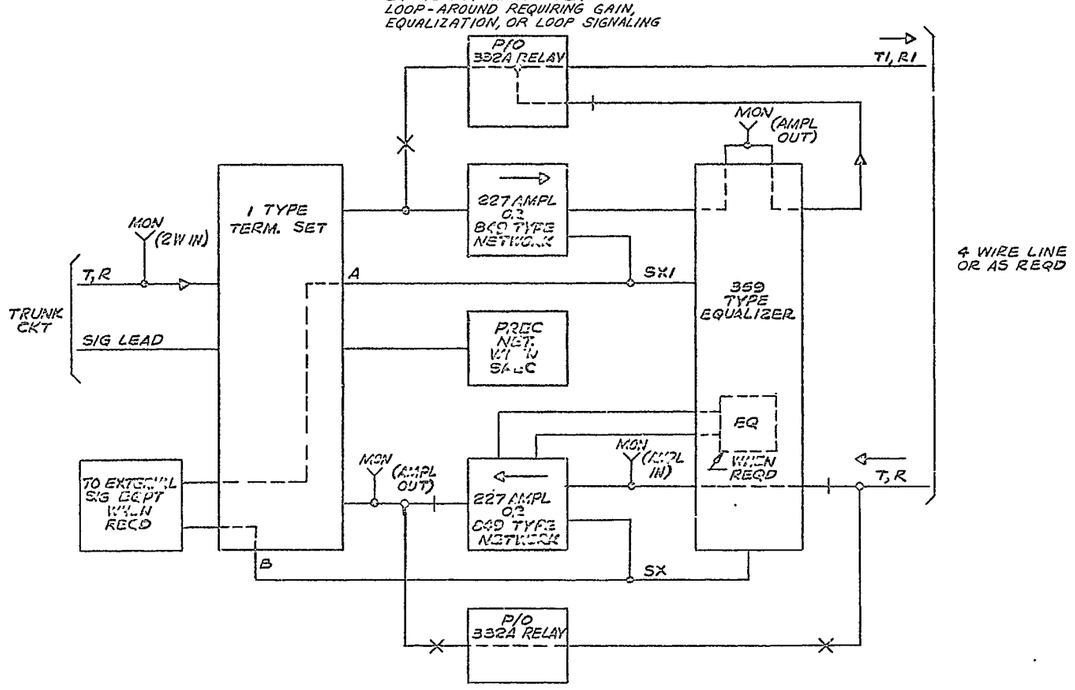


FIG. 151
24V4D REPEATER POWER FAILURE LOOP-AROUND REQUIRING GAIN, EQUALIZATION, OR LOOP SIGNALING



DRAWING ISSUE		
7D	SD/TC — JGF	MH
9D	RJG — JGF	MH
16D		H

16

V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS

SD-97047-01-25

BELL TELEPHONE LABORATORIES INCORPORATED | DRG SIZE 6S | PRINTED IN U.S.A.

SD-97047-01-25

FIG. 25
24V4C REPEATER

DRAWING ISSUE		
8D	ACC — ESF	MH
9D	FWD — ESF	A
11D	ZBM — JGF	HO
14D		

2-WIRE MON IN

J7 518AM JK

PART OF TS1

TO TRK CKT LINE OR AS SPEC

TO TRK CKT SIG CKT, FIG 12, DLL CKT OR AS REQD

TO TIE TRK CKT

1 TYPE TERM. SET

COMP NET AND NBOC

TO EXT EQPT AS REQ

SEE NOTE 101

AMPL MON IN

J8 518AM JK

PART OF TS1

J4 KS-14525, L5 OR KS-19017, L1 CONN T AMPL SKT

227 TYPE AMPL OR 849 TYPE NET.

J6 KS-19081, L1 CONN EQL SKT

AMPL OUT MON

J9 518AM JK

359 TYPE EQUALIZER

PART OF TS1

TRMTG

TO 4-WIRE LINE OR AS REQD

434A PLUG OR 648A FLT OR 4066 TYPE NET.

J2 KS-19081, L1 CONN NET. SKT

PART OF TS1

434A PLUG OR 4066 TYPE NET

J1 KS-19081, L1 CONN FLT/NET. SKT

TO FIG. 9, 22, 27

BAT

GRD

PART OF TS1

R1 228A 1400Ω

R2 228A 1400Ω

SEE NOTE 101

J3 903A CONN TERM. SET SKT

PART OF TS1

SEE NOTE 101

TO EXT EQPT AS REQ

J11 518AM JK

MON AMPL OUT

227 TYPE AMPL OR 849 TYPE NET.

J5 KS-14525, L5 OR KS-19017, L1 CONN R AMPL SKT

J10 518 AM JK

AMPL MON IN

PART OF TS1

RCVG

TO 4-WIRE LINE OF AS REQD

SD-97047-01-26

14

COMMON SYSTEMS
V4 TELEPHONE REPEATER
BATTERY SUPPLY AND
CONNECTING CIRCUITS

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

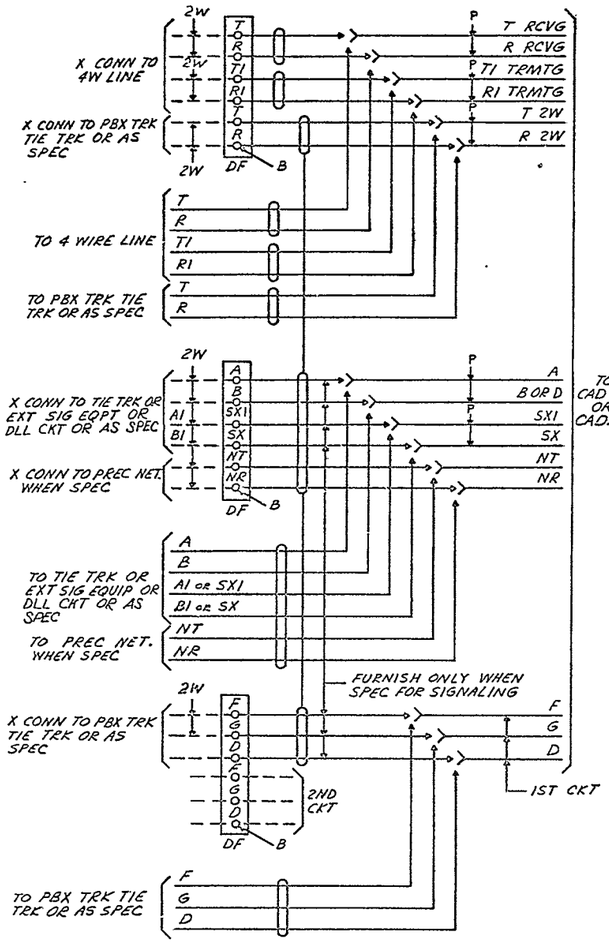
SD-97047-01-26

PRINTED IN U.S.A.

EAGLE E2

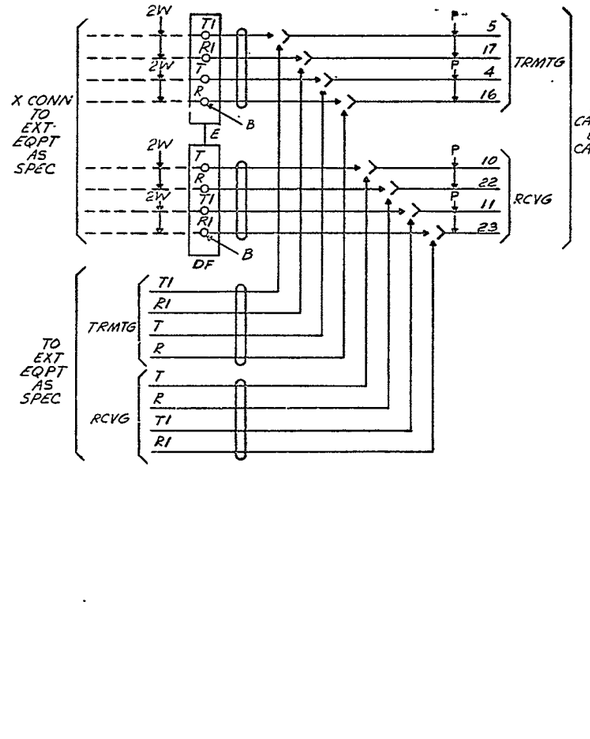
CAD 12

24V4C REPEATER OR
24V4D REPEATER



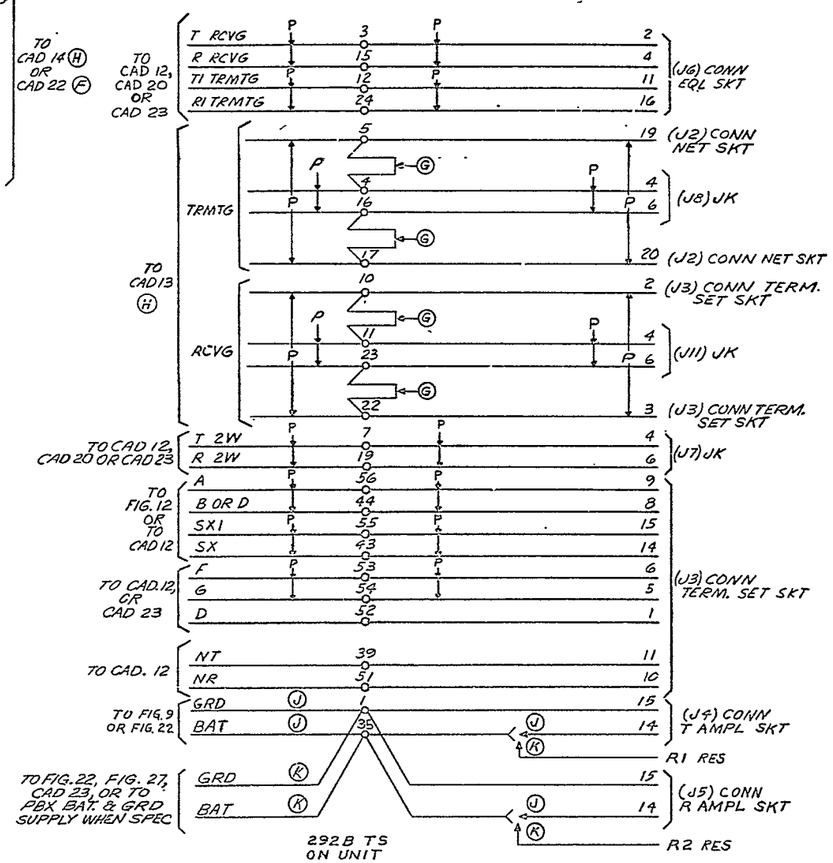
CAD 13

24V4C REPEATER OR
24V4D REPEATER



CAD 14

(FOR FIG. 25)
24V4C REPEATER- TERMINAL STRIP



NOTE:
SPARE TERMINALS
2, 6, 8, 9, 13, 14, 18, 20, 21, 25 THRU 34
36, 37, 38, 40, 41, 42, 45 THRU 50, 57, 58

DRAWING ISSUE		
8D	J1B — J6F	MH
9D	FM7 — J6F	MH
11D	FZM — J6F	A
14D		
16D		

16

V4 TELEPHONE REPEATER
BATTERY SUPPLY AND
CONNECTING CIRCUITS
2

SD-97047-01-27

BELL TELEPHONE LABORATORIES
INCORPORATED

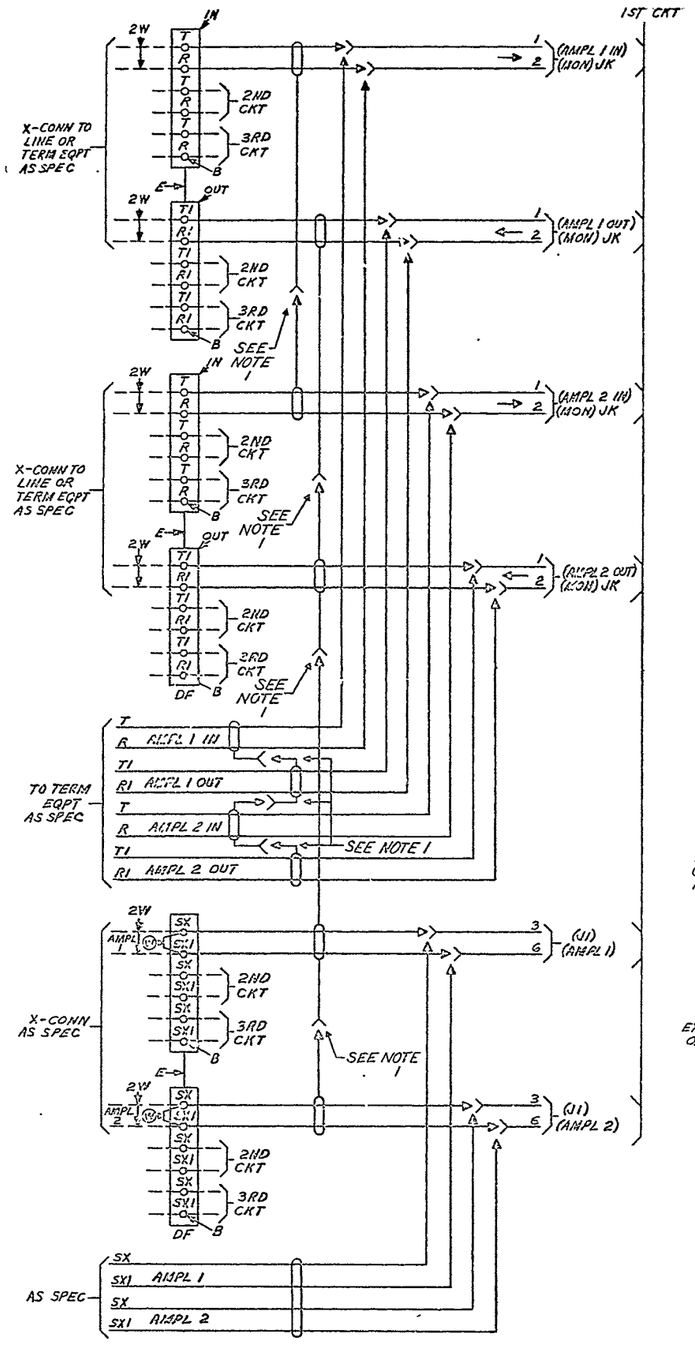
SIZE 6S

PRINTED IN U.S.A.

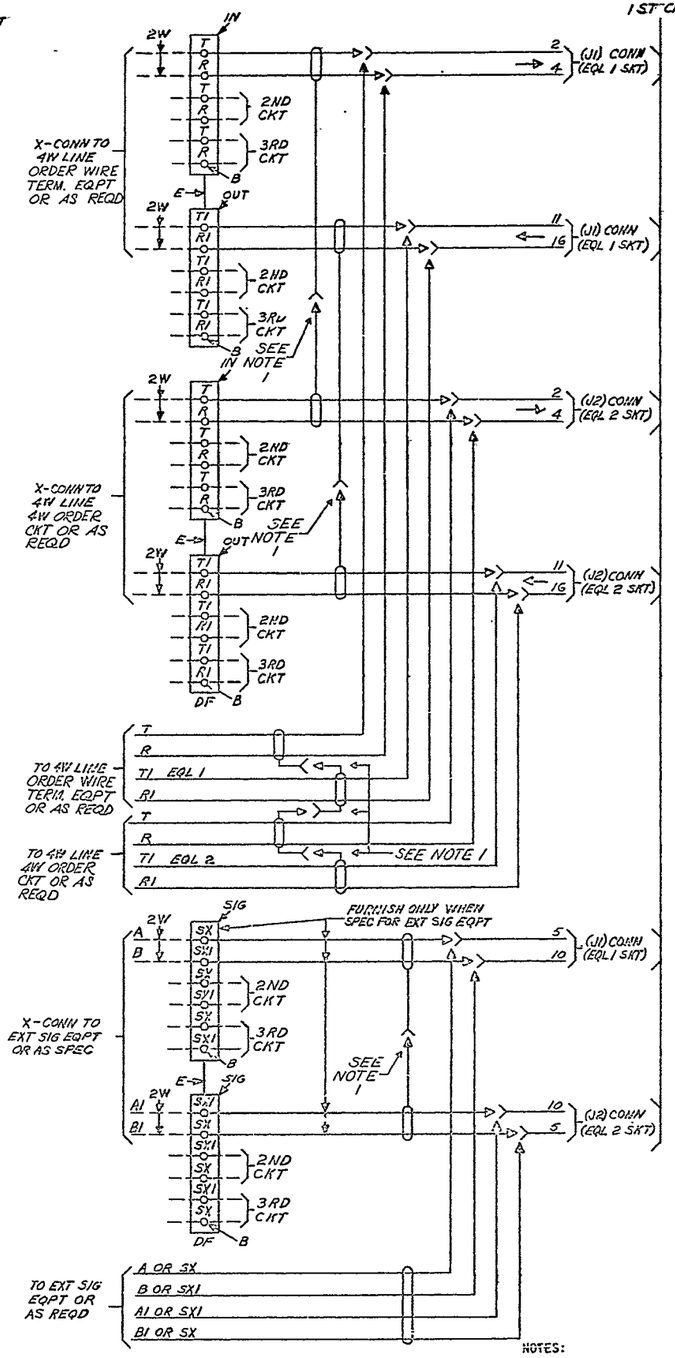
SD-97047-01-27

EAGLE 22 KE

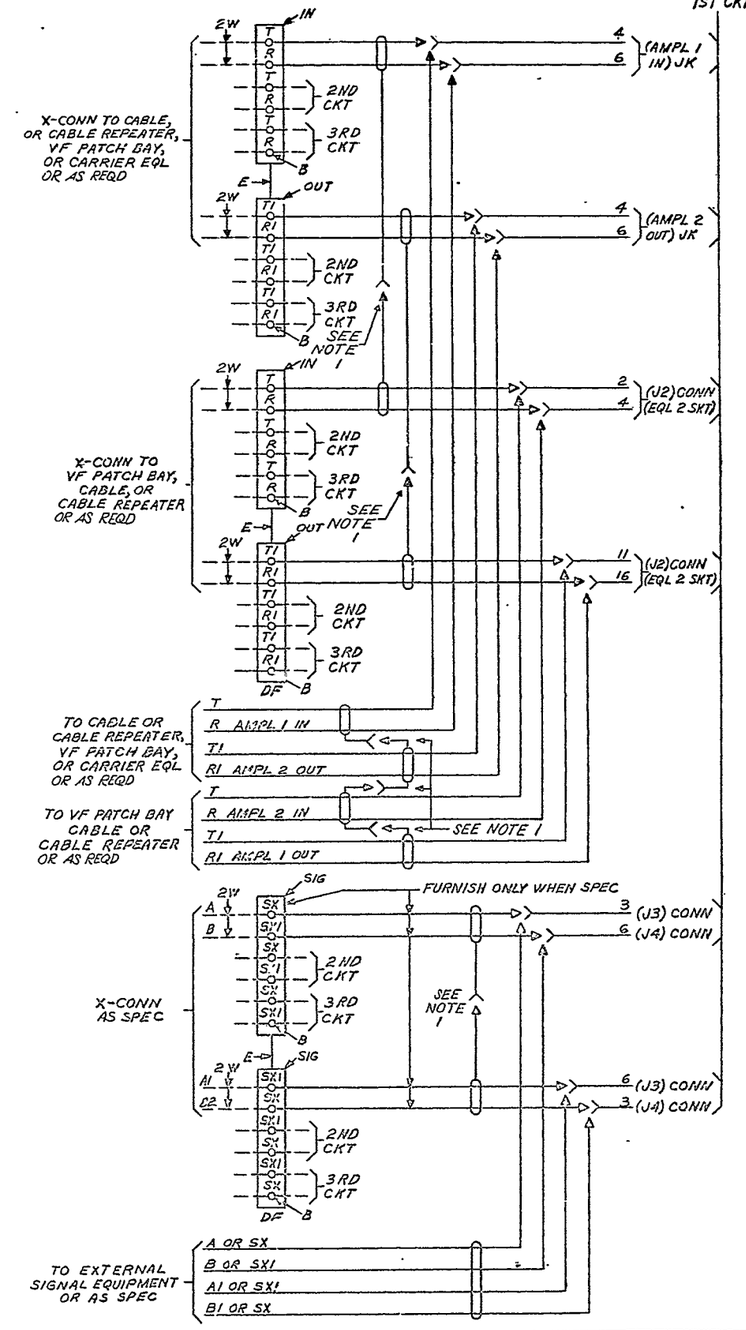
CAD 15
(FOR FIG. 1)
BASIC V4 REPEATER



CAD 16
(FOR FIG. 11)
44V4A REPEATER



CAD 17
(FOR FIG. 19)
44V4B REPEATER FOR SPECIAL SERVICE OR DATA TRUNKS



NOTES:
1. ALWAYS PROVIDE SEPARATE CABLING EXCEPT WHEN SPECIFICALLY SPECIFIED OTHERWISE BY CUSTOMER OR CONNECTING DRAWING.

DRAWING ISSUE

10B	BRZ – JGF	
12D	ZEN – JGF	
14D		
16D		

16

V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS (2)

SD-97047-01-28

BELL TELEPHONE LABORATORIES INCORPORATED — DWG SIZE 6S — PRINTED IN U.S.A.

SD-97047-01-28

FIG. 26
424V4A REPEATER

DRAWING ISSUE
11D — 2EM 3GP
12D — 2EM 3GT
14D

J3 KS-19017 CONN AMPL 1 SKT

R1 228A 1400Ω

GRD
BAT. 29H7

LOCAL AMPL1 OUT IN

J6 482BM JK

PART OF TS1

TRMTG 4-W IN

AMPL 1 227 TYPE AMPL

PART OF TS1

TO UNIV TRK FRAME

AMPL1 TOLL OUT IN

J7 482BM JK

PART OF TS1

TRMTG 4-W OUT

J1 KS-19017, CONN NET. 1 SKT

NET 1 849 TYPE NET.

LOC OFF. SIDE TO TRMSN FAC TRK CKT OR AS REQD

TO UNIV TRK FRAME

PART OF TS1

1 TYPE TERM. SET

J5 903A CONN TERM. SET SKT

2 WIRE IN MON

J8 518AM JK

TO TRK LINK FRAME

PART OF TS1

NET. 2 849 TYPE NET.

J2 KS-19017 CONN NET. 2 SKT

TOLL OFF. SIDE TO TRMSN FAC TRK CKT OR AS REQD

TO UNIV TRK FRAME

PART OF TS1

RCVG 4W OUT

PART OF TS1

J9 482 BM JK

LOCAL AMPL 2 IN OUT

PART OF TS1

TO UNIV TRK FRAME

AMPL 2 227 TYPE AMPL

J4 KS-19017 CONN AMPL 2 SKT

1400Ω 228A R2

J10 482BM JK

AMPL2 TOLL IN OUT

RCVG 4-W IN

TO FIG. 27

BAT. 29A4

GRD

PART OF TS1

14

COMMON SYSTEMS
V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS

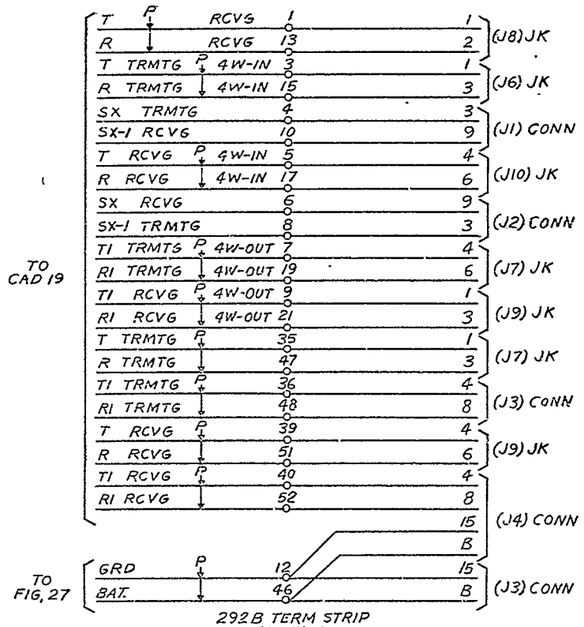
BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

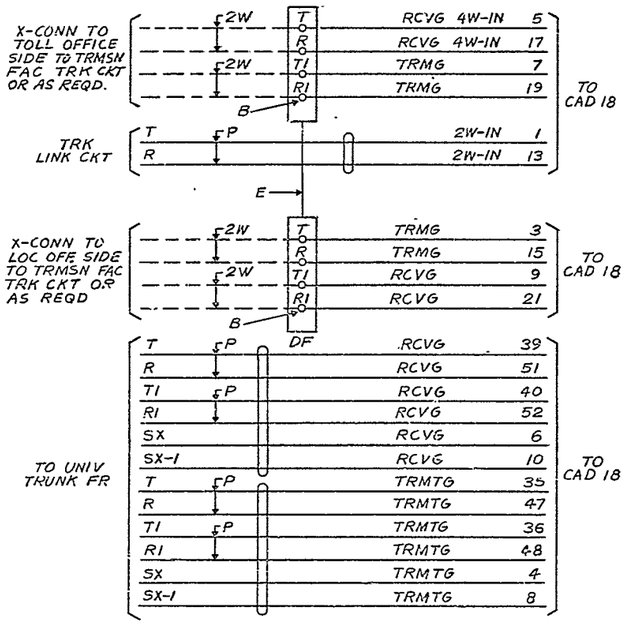
SD-97047-01-29

SD-97047-01-29

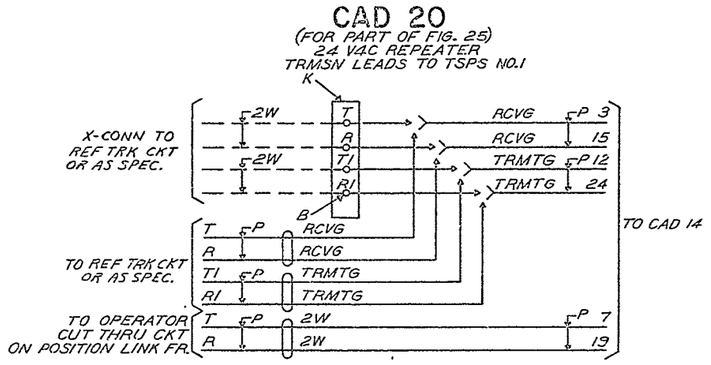
CAD 18
(FOR FIG. 26)
(TSPS NO.1)
424 V4A REPEATER



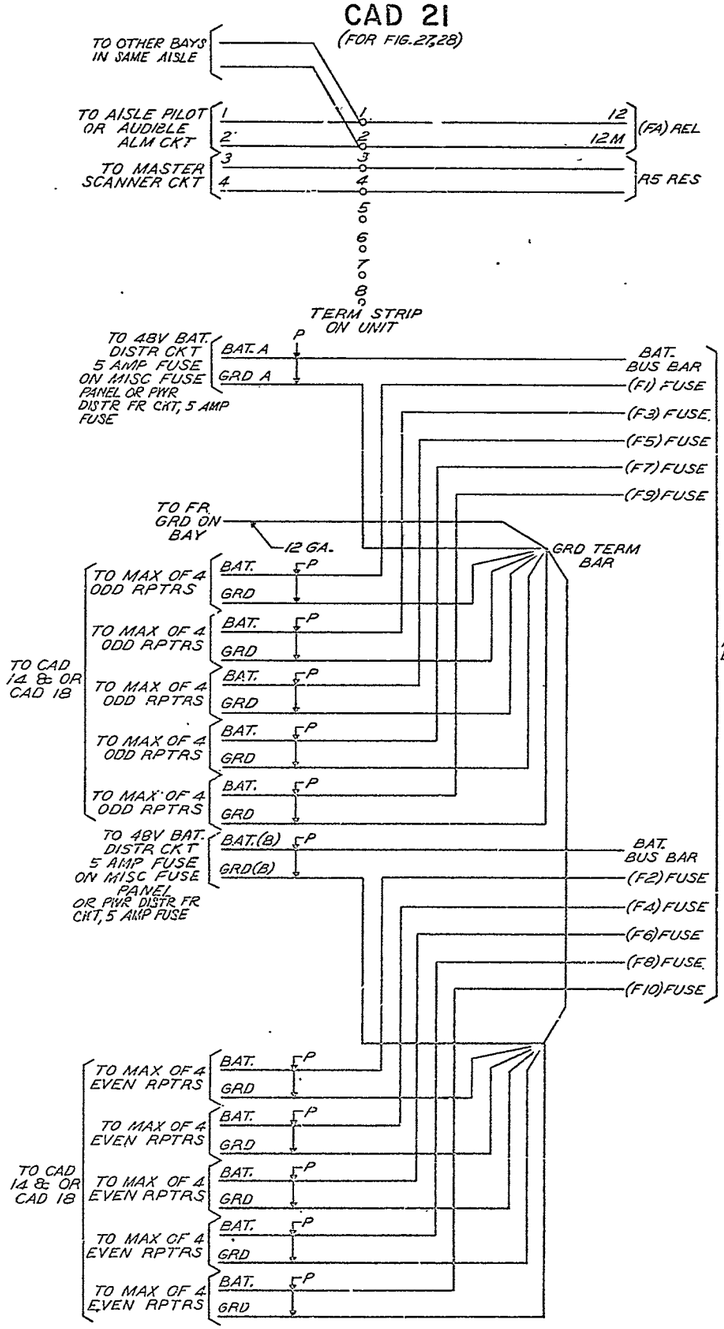
CAD 19
(FOR FIG. 26)
(TSPS NO.1)
424 V4 A REPEATER



CAD 20
(FOR PART OF FIG. 25)
24 V4C REPEATER
TRMSN LEADS TO TSPS NO.1



CAD 21
(FOR FIG. 27,28)



NOTES:
1. SPARE TERMINALS
2, 11, 14, 16, 18, 20, 22
THRU 34, 37, 38, 41
THRU 45, 49, 50, 53
THRU 58

DRAWING ISSUE
11D ZEN – JGF
12D ZEN – JGF
14D
15D

SD-97047-01-30

15

COMMON SYSTEMS
V4 TELEPHONE REPEATER
BATTERY SUPPLY AND
CONNECTING CIRCUITS

SD-97047-01-30

BELL TELEPHONE LABORATORIES INCORPORATED
DWG SIZE 6S

FIG. 27
48V POWER DISTRIBUTION CIRCUIT
FOR TSPS NO.1 AND NO.1 ESS OFFICES
(SEE NOTE 203)

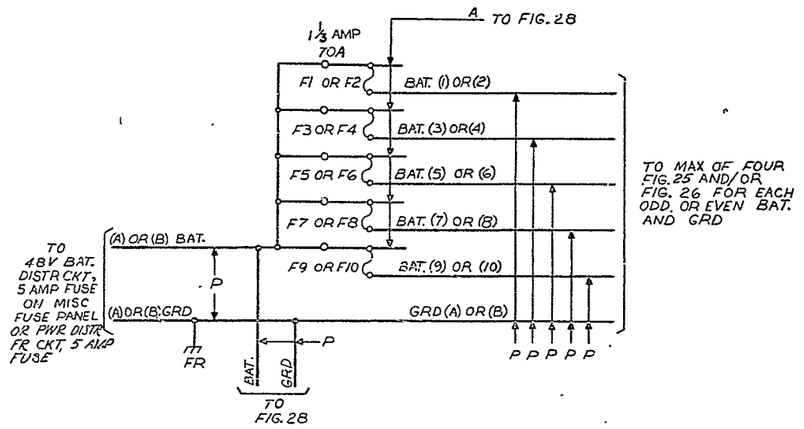
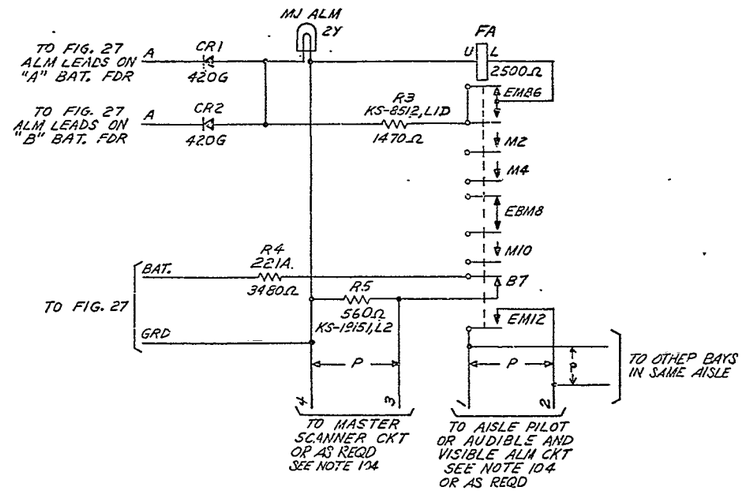


FIG. 28
FUSE ALARM FOR TSPS NO.1 AND NO.1 ESS OFFICES



DRAWING ISSUE

11D	ZEN	—
	JGF	
12D	ZEN	—
	JGF	
13A	ZEN	—
	JGF	
14D		
15D		

15

COMMON SYSTEMS
V4 TELEPHONE REPEATER
BATTERY SUPPLY AND CONNECTING CIRCUITS

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE D

SD-97047-01-31

SD-97047-01-31

FIG. 29

24V4D REPEATER FOR POWER FAILURE LOOP-AROUND OPERATION (SEE FIG. 151).

DRAWING ISSUE 16D

1 TYPE TERM SET

2-WIRE MON IN

J7 518AM JK

PART OF TSI

TO TRK CKT LINE OR AS SPEC

TO TRK CKT SIG CKT, FIG. 12 DLL CKT OR AS REQD

TO TIE TRK CKT

COMP NET AND NBOC

TO EXT EQPT AS REQD

SEE NOTE 101

J8 518AM JK

MON

AMPL IN

PART OF TSI

227 TYPE AMPL OR 849 TYPE NETWORK

5X1

J4, KS-19017, L1 CONN T AMPL SKT

J2 KS-19081 L1 CONN NET. SKT

434A PLUG OR 4066 TYPE NET.

434A PLUG OR 640A FLT OR 4066 TYPE NET.

J1, KS-19081, L1 CONN FLT/NET SKT

TO FIG. 22, 27 OR AS REQD (SEE NOTE 106)

BAT

GRD

P/O TSI

R1 228A 1400Ω

R2 228A 1400Ω

5X

SX

J3 903A CONN TERM. SET SKT

PART OF TSI

SEE NOTE 101

TO EXT EQPT AS REQD

J11 518AM JK

MON

AMPL OUT

227 TYPE AMPL OR 849 TYPE NET.

J5, KS-19017, L1 CONN R AMPL SKT

332A RELAY

J12, KS-19081, L1 CONN RELAY SKT

359 TYPE EQUALIZER

J6, KS-19081, L1 CONN EQL SKT

J9 518AM JK

MON

ALM OUT

TRMTG

TO 4-WIRE LINE OR AS REQD

P/O TSI

RCVG

TO 4-WIRE LINE OR AS REQD

P/O TSI

J10 518AM JK

MON

ALM IN

SD-97047-01-32

16

V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS (2)

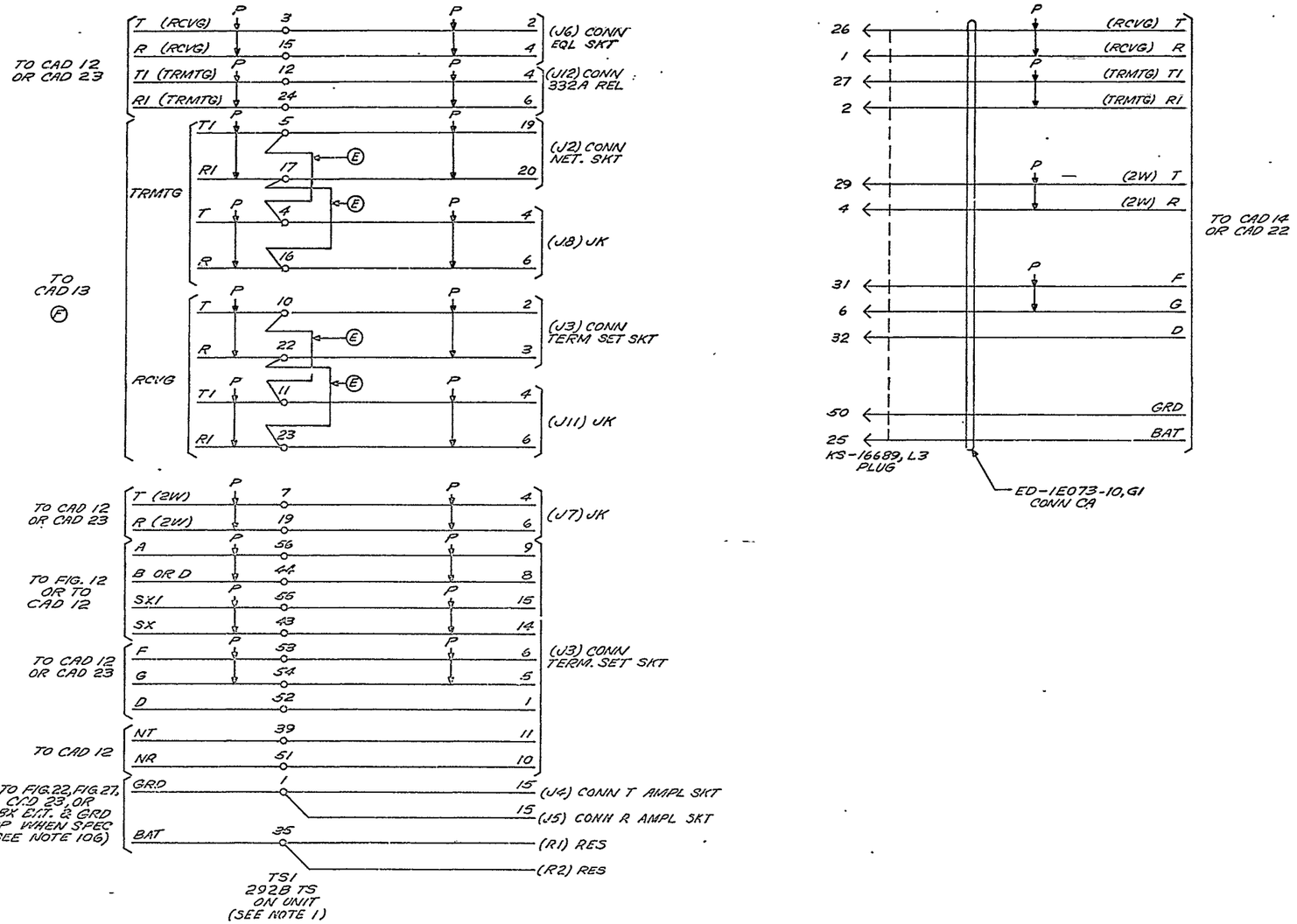
SD-97047-01-32

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

PRINTED IN U.S.A.

CAD 22
(FOR FIG. 29)
24V40 REPEATER TERMINAL STRIP



CAD 23
800A PBX PLUG-IN CABLE

NOTES:

1. SPARE TERMINALS: 2,6,8,9,13,14,18,20,21, 25 THRU 34,36,37,38,40,41,42,45 THRU 50, 57,58.

DRAWING ISSUE 16D

16

V4 TELEPHONE REPEATER BATTERY SUPPLY AND CONNECTING CIRCUITS (2)

SD-97047-01-33

BELL TELEPHONE LABORATORIES INCORPORATED

CPO SIZE 6S

PRINTED IN U.S.A.

SD-97047-01-33