

SHEET INDEX

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CAD 4	G4	1	1	1	1	5	5																																													G4

SUPPORTING INFORMATION

CATEGORY	NO.
EQUIPMENT DRAWINGS	J58829 AP
CABLING DRAWINGS	SD-66920-01

DWG ISSUE	CD ISSUE	DATE ISSUED	DRWN	APPD
1	1	8/22/66	EWK	HED
2D	ID	4-1-67	PJS	LAH
3D	ID	11-13-67	ROZ	HED
4D	2D	11-13-67	PJS	LAH
5B	2D	8-28-68	PJS	LAH
6A	2D	1-15-69	WR	JJM

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.

6

SD- 5E021-01	1J07	AT&TCO STANDARD
PBX SYSTEMS NO. 756A STATION MESSAGE REGISTER PULSE AND SURCHARGE CIRCUIT		
(STA MR PULS & SUR CKT)		SD- 5E021-01-A1
BELL TELEPHONE LABORATORIES INCORPORATED	6S	14 SHEETS PRINTED IN U.S.A.

SD-5E021-01-A1

APPARATUS INDEX

DESIG	LOCATION		
	FS	APP FIG	EQPT
RELAYS			
ALM			4
COD			3
DS	1G7		2
H	3C0		3
IMP	2C1		4
MR	2B7		3
MS	1F9		2
NV	1B4		3
P	1E2		1
SX	1B2		1
CAPACITORS			
ALM	2E0		4
CONNECTORS			
J1	2D4		4

DESIG	LOCATION		
	FS	APP FIG	EQPT
DIODES			
ALM	2G1		4
DS	1F6		2
HG	3D9		3
LP	1D1		1
PP	1F6		2
SI	1D6		2
SX	1C2		1
TR	1D1		1
FUSE			
MR	2A6		3
LAMP			
MR	1C2		1
MR	2B7		3
NV	2B4		3
RA	2G1		4
NETWORKS			
DS	1E6		2
MS	1E9		2
P	1E2		1
SC	1D8		2
SX	1B2		1
IMP	2D1		4
POWER SUPPLY			
+48V	2B2		3
RELAY TIME DELAY			
ALM	2F2		4

DESIG	LOCATION		
	FS	APP FIG	EQPT
RESISTORS			
ALM	2F0		4
MS	1F8		2
TR	1D0		1
SELECTOR			
SC	1A7 1A8		2
THERMISTOR			
LP	1D2		1
PP	1D3		1

LEAD INDEX

DESIG	FS LOC	CAD LOC
ALARM, TRANSFER & TEST CKT		
EXT	2B6	
BUSY VERIFICATION AUX TRK CIRCUIT		
BVS	3G8	
INTERRUPTER CKT 756A PBX		
FF1	2C0	
LINE, LINK AND MARKER		
COD	3B1	
MR1	3C8	
MR2	3D8	
MR3	3E8	
MR4	3F8	
MR5	3B8	
MR6	3C8	
MR7	3E1	
MR8	3E1	
MR9	3D1	
MR10	3C1	
MR11	3G1	
MR12	3F1	
MR13	3B1	
MR14	3C1	
RSA	3E8	
RSB	3D8	

OPTION INDEX

APP OR WRG	LOCATION
Z	1B1, 1C3, 1C1, APP FIG. 1
Y	1D3, 1E1, 1F3, APP FIG. 1
X	1B1
W	1F3
V	1G5, 1H4, 1C1
T	3B9, 3C9, 3E9, 3F9
S	3B9, 3C9, 3E9, 3F8
R	1B2, 1C2
Q	CAD1
N	CAD3
M	CAD 3
K	1F4
J	1C1, 1F3, 1G5, 1H4

DRAWING ISSUE	HW
1	EWK
	SKK
	GFH
	ROZ
3D	PJS
	RHP
	ROZ
4D	PJS
	RHP
	PVC
5B	PJS
	LDJ
	WR
6A	PJS
	LDJ

6

STATION MESSAGE REGISTER
PULSE AND SURCHARGE CIRCUIT

SD-5E021-01-A2

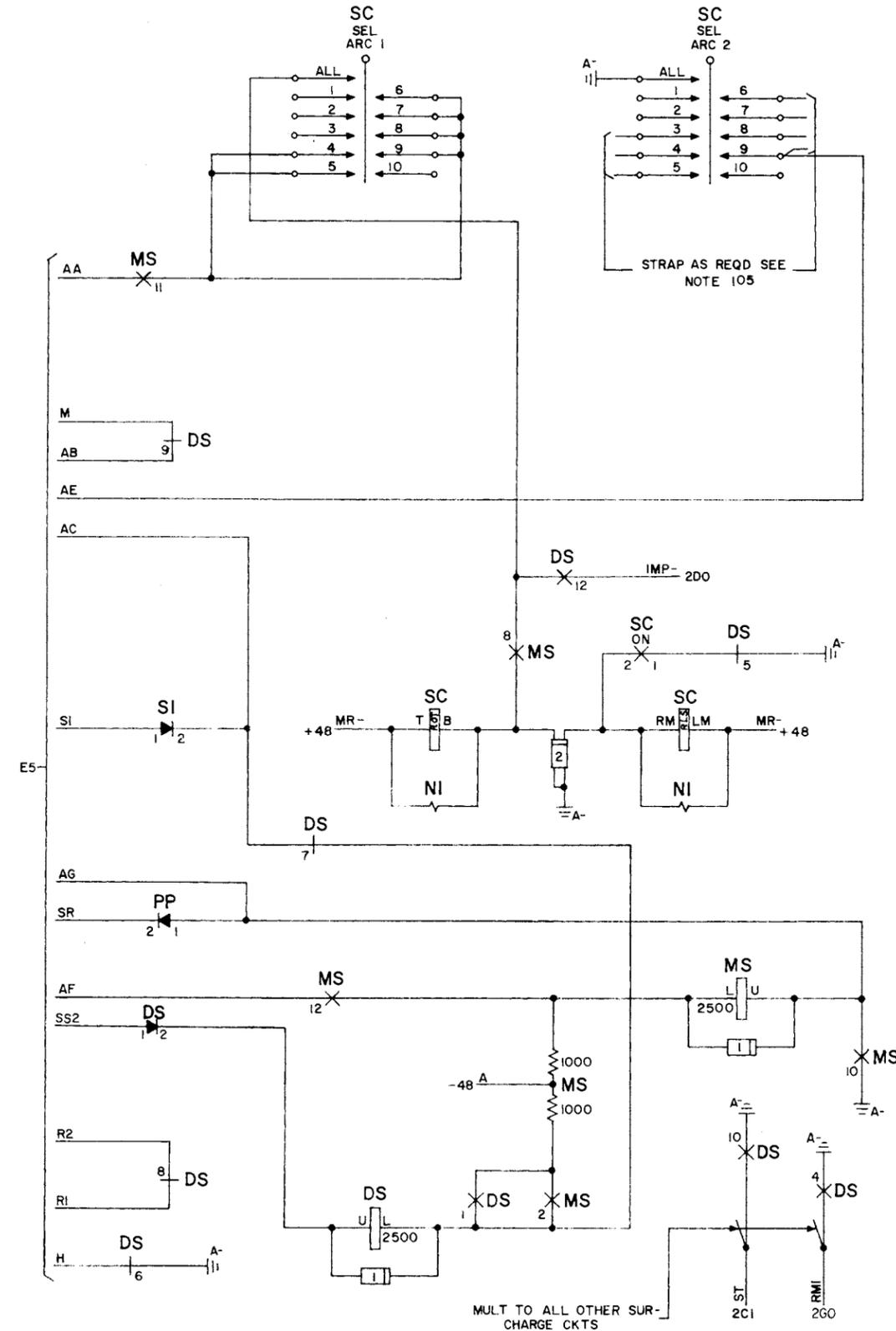
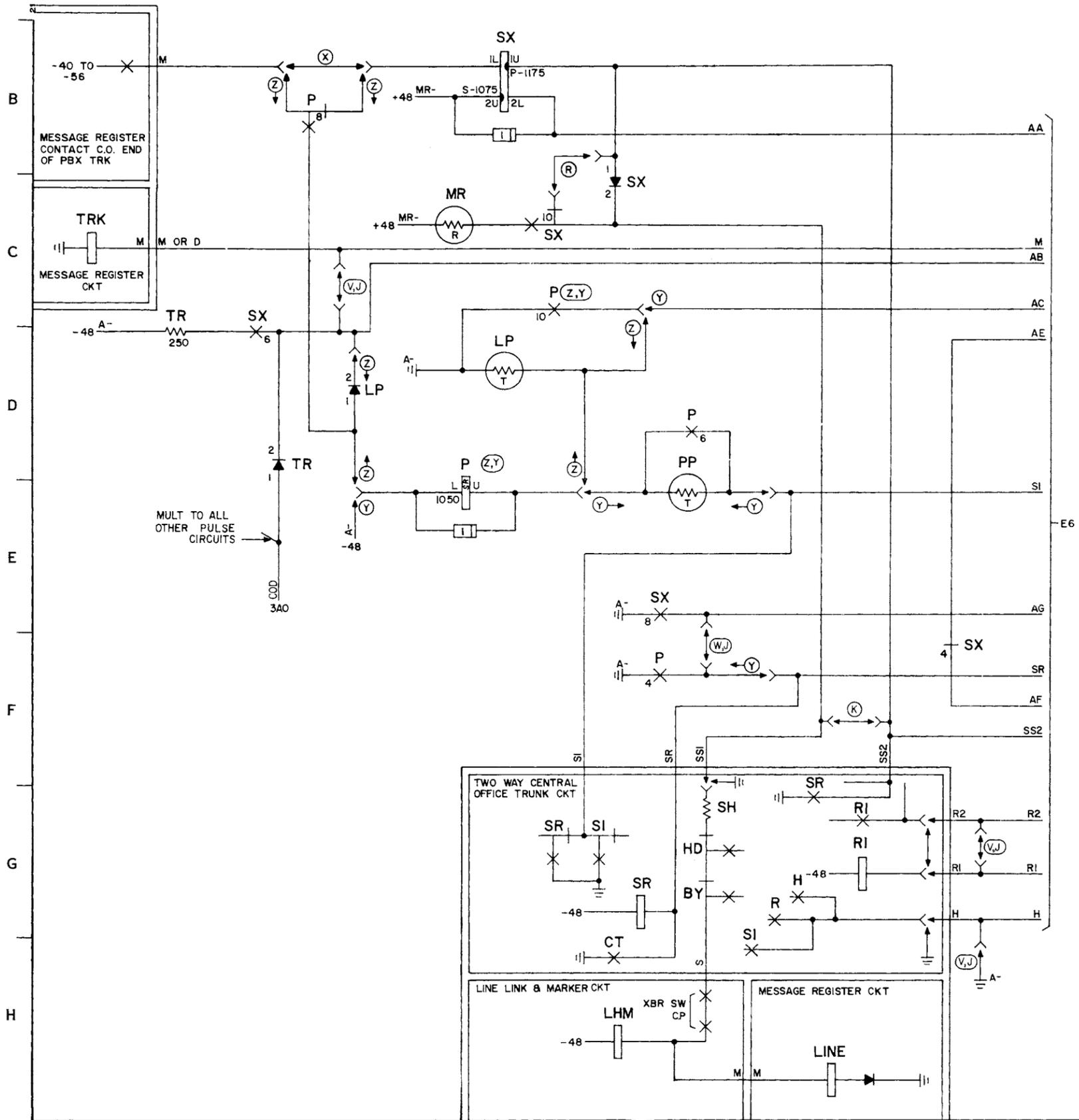
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FS I
STATION MESSAGE REGISTER PULSE CKT

FS 2
STATION MESSAGE REGISTER SURCHARGE CIRCUIT

DRAWING	1	HW
ISSUE	1	HW
1	EW	HW
2	SM	HW
3	GFH	HW
3D	ROZ	PJS
4	RHP	PJS
4D	ROZ	PJS
5	RHP	PJS
5B	PMC	PJS
6	LDJ	PJS



STATION MESSAGE REGISTER PULSE AND SURCHARGE CIRCUIT

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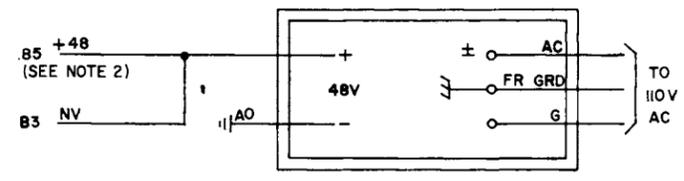
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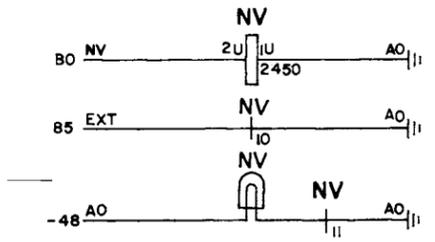
SD-5E021-01-B1

DRAWING ISSUE	
1	EWE SRK GFH
2D	CEB
3D	RHE ROZ PJS RHP
6A	WR PJS LDJ

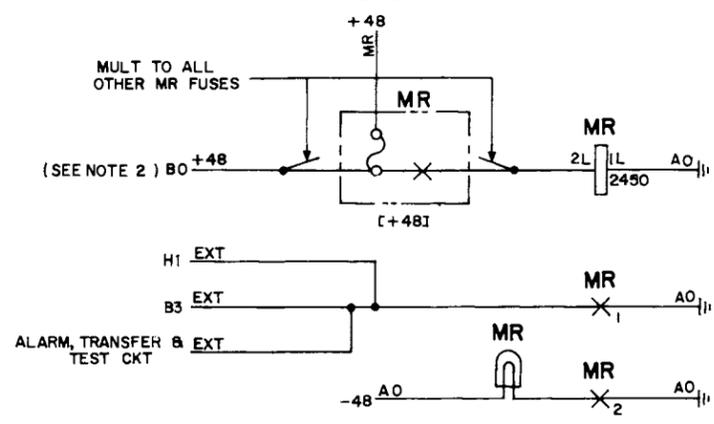
③ FS 3
+48V POWER SUPPLY
KS-15620 RECTIFIER



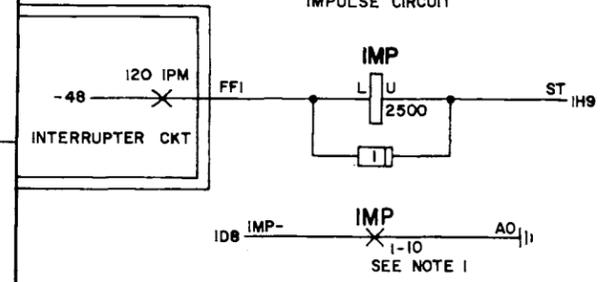
FS 4
NO VOLTAGE ALARM



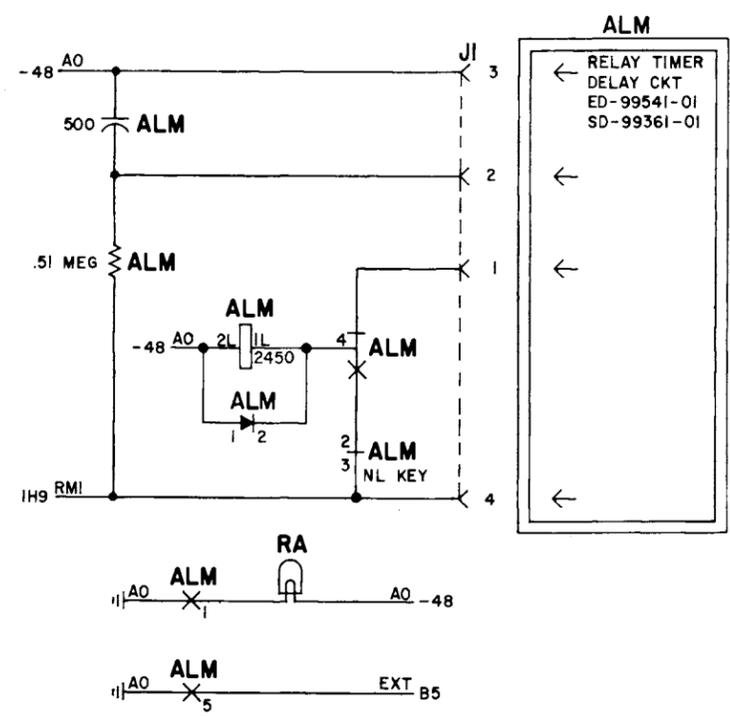
FS 5
FUSE ALARM



FS 6
IMPULSE CIRCUIT



FS 7
RELEASE MONITOR ALARM



NOTES:

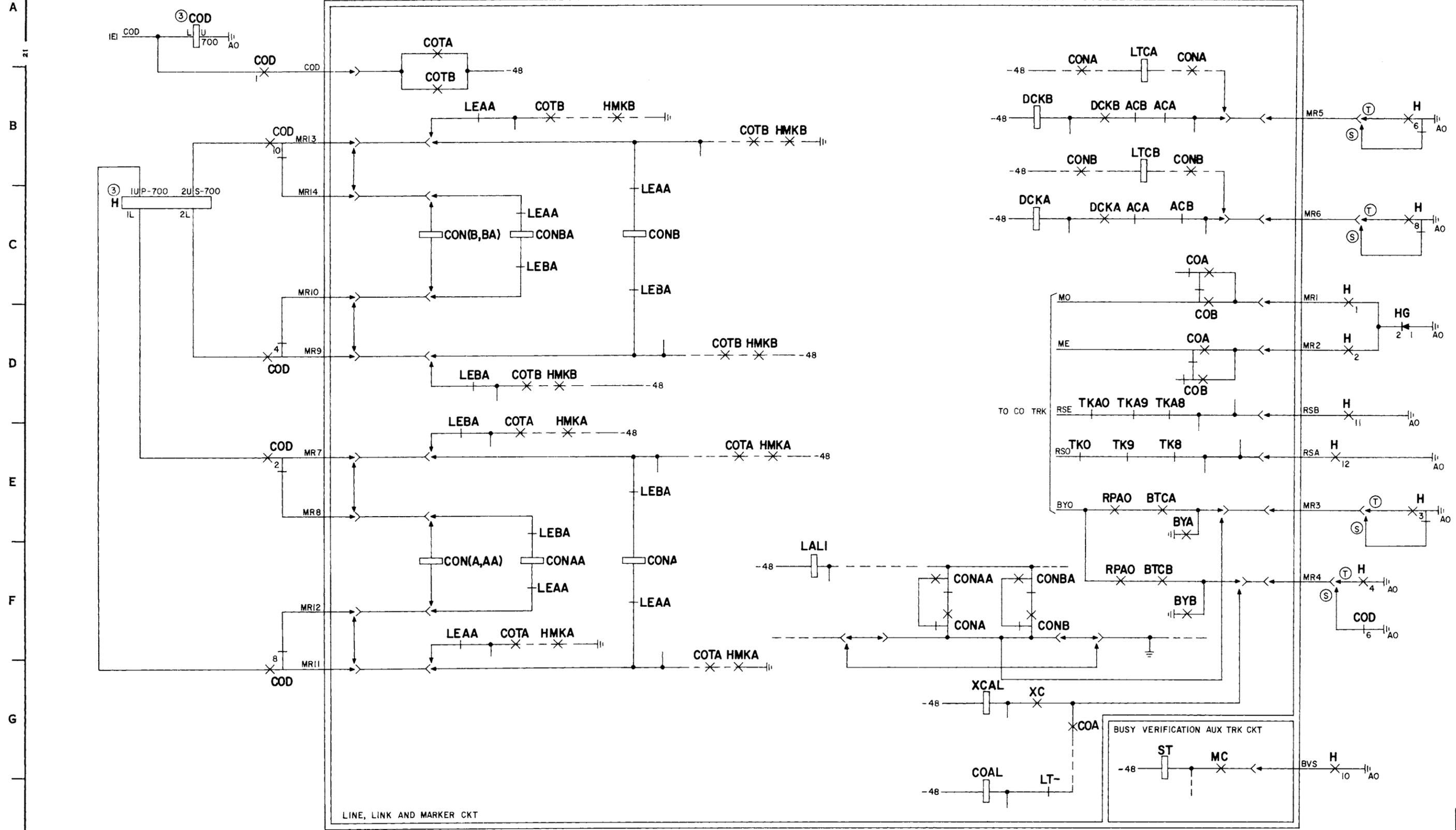
- IMP RELAY CONTACT 1M CONNECT TO FIRST SURCHARGE CIRCUIT FS 2, CONTACT 2M TO SECOND SURCHARGE CIRCUIT FS2, ETC.
- NO. 14 GAUGE SOLID WIRE, KS-13385 L1 SHALL BE USED FOR THE +48V LEAD BETWEEN THE POWER SUPPLY AND THE +48V FUSES.

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STATION MESSAGE REGISTER PULSE AND SURCHARGE CIRCUIT		SD-5E021-01-B2
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③ FS 8
MARKER CONTROLLER CIRCUIT

DRAWING ISSUE	
3D	RCZ
4D	RCZ



SD-5E021-01-B3

STATION MESSAGE REGISTER PULSE AND SURCHARGE CIRCUIT		②	SD-5E021-01-B3
BELL TELEPHONE LABORATORIES INCORPORATED			

CIRCUIT NOTES

DESIG	FUSE AMP	POTENTIAL	ONE PER	TERM DESIG
A-0	1-1/3	-48V	APP FIG. 1,2,3 & 4	
A-1/9	1-1/3	-48V	APP FIG 1 & 2	
MR	1-1/3	+48V	APP FIG. 1 & 2	
A-0		GRD	APP FIG 1,2,3 & 4	
A-1/9		GRD	APP FIG 1 & 2	

BATTERY SYMBOL	VOLTAGE RANGE
-48V	45-52V
+48V	45-52.6V

NETWORK VALUES		
NETWORK NUMBER	RESISTANCE IN OHMS	CAPACITANCE IN UF
1	470	.11
2	100	.5

INFORMATION NOTES

301. UNLESS OTHERWISE SPECIFIED RESISTANCE VALUES ARE IN OHMS. CAPACITANCE VALUES ARE IN MICROFARADS VALUES PRECEDED BY THE SYMBOL +(PLUS) OR- (MINUS) ARE IN VOLTS.

STRAPPING AT TS FOR SURCHARGE	
SURCHARGE	STRAP AT TS
6	NONE
5	36 TO 26
4	36 TO 16
3	36 TO 45
2	36 TO 35
1	36 TO 25
0	36 TO 15

106. IF THE LINE LINK AND MARKER CIRCUIT IS EQUIPPED WITH OPTION XK, OPTION T MUST BE PROVIDED. IF THE MARKER CIRCUIT IS EQUIPPED WITH OPTION WV, OPTION S MUST BE PROVIDED.

FEATURE OR OPTION	PROVIDE		
	APP FIG	APP OR WRG	QUANTITY
WITHOUT SURCHARGE: COMMON APPARATUS	3		ONE PER PBX
+48V BAT (SYSTEM BATTERYLESS OPR) NO VOLTAGE ALARM FUSE ALARM			
WITH SURCHARGE: COMMON APPARATUS (SEE NOTES 201 & 205)	3,4		ONE PER 2-WAY C.O. TRK
+48V BAT (SYSTEM BATTERYLESS OPR) NO VOLTAGE ALARM FUSE ALARM IMPULSE RELAY CKT. REL MONITOR ALARM			
PBX ARRANGED FOR MESSAGE REGISTRATION (SEE NOTE 204)	1	X	ONE PER 2-WAY C.O. TRK
	1,2		
TRUNK ARRANGEMENTS FOR MESSAGE REGISTRATION	1	Z	ONE PER 2-WAY C.O. TRK
	1,2		
STA MESSAGE REGISTER ARR FOR SINGLE OR MULTIPLE PULSE DURING CALL	1	X	ONE PER 2-WAY C.O. TRK
NO SURCHARGE (SEE NOTES 201 & 205)			
STA MESSAGE REGISTER ARR TO CUT-OFF M LEAD SINGLE LONG PULSE	1	Z	ONE PER 2-WAY C.O. TRK
NO SURCHARGE (SEE NOTES 201 & 205)			
STA MESSAGE REGISTER ARR T) HOLD FOR SGL POST CALL M LEAD PULSE	1	X,Y	ONE PER 2-WAY C.O. TRK
NO SURCHARGE (SEE NOTES 201 & 205)			

RECORD OF APP FIGURE, 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	MD
4D	S	T	106	S	T	
	R	NONE		Q		R
	N	M		N		M
5B	K	NONE	204	K		
	J	V,W	205	J		V,W

EQUIPMENT NOTES

- 201. SURCHARGE FEATURE PROVIDED BY CONNECTION TO APPLIQUE UNIT.
- 202. LEADS ARE PROVIDED ONLY WHEN APP. FIG. 4 IS PROVIDED.
- 203. THE REQUIRED LENGTH OF A25C CONNECTOR CABLE SHALL BE ORDERED SEPARATELY.
- 204. INSTALLER SHALL REMOVE K OPTION ONLY FOR THOSE C.O. TRUNKS REQUIRING MESSAGE REGISTRATION.
- 205. INSTALLER SHALL REMOVE J OPTION ONLY FOR THOSE C.O. TRUNKS REQUIRING SURCHARGE REGISTRATION.

SD-5E021-01-D1

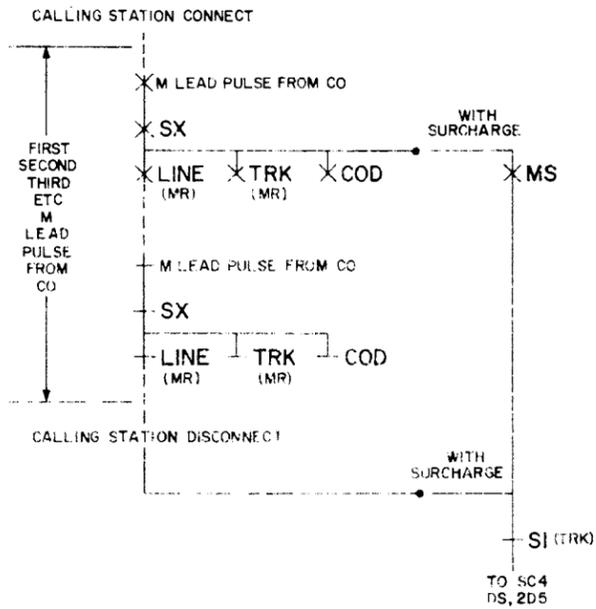
DRAWING ISSUE
1 EWE
4D ROZ
RHP
5B PMS
LDJ

5

STATION MESSAGE REGISTER PULSE AND SURCHARGE CIRCUIT		②	SD-5E021-01-D1
BELL TELEPHONE LABORATORIES INCORPORATED			

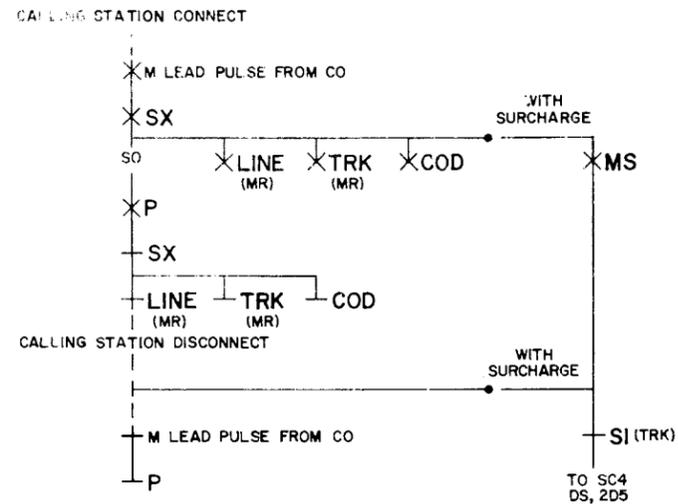
SC 1

OPERATION OF STATION MESSAGE REGISTER PULSE CKT SEE NOTE 1



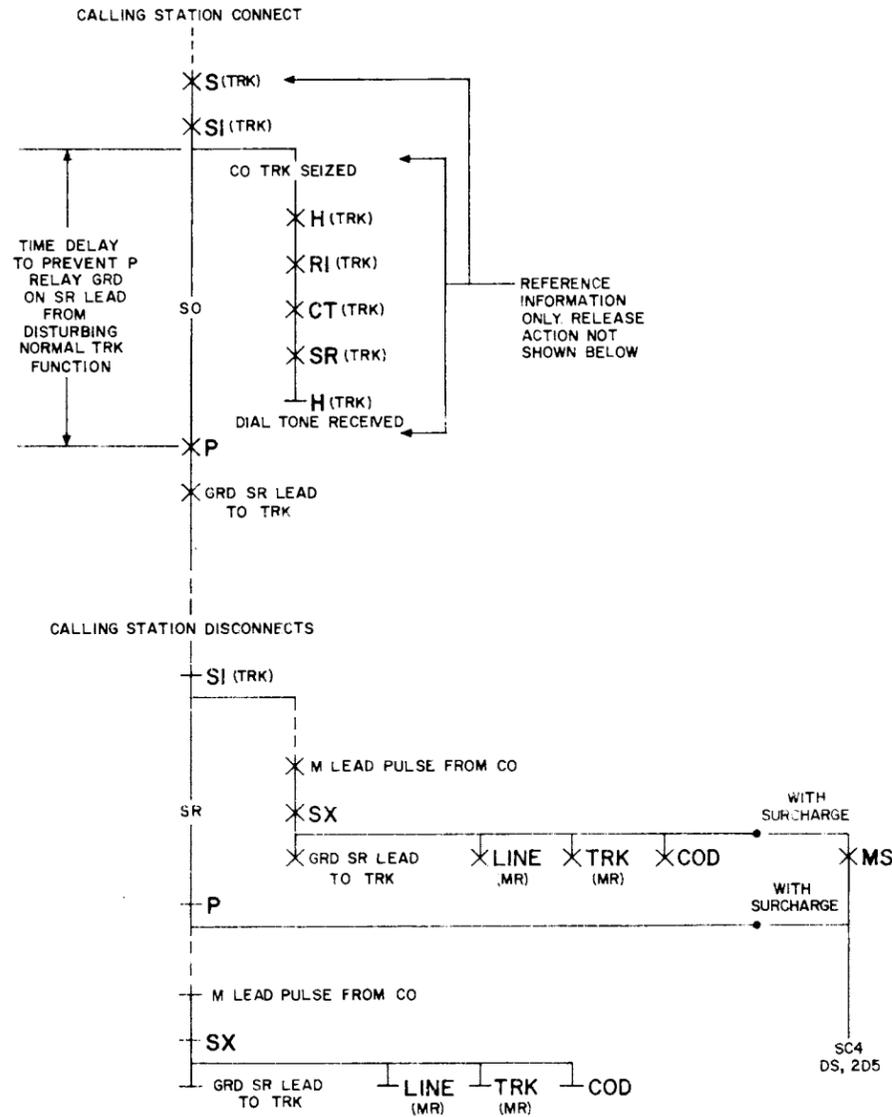
SC 2

OPERATION WITH M LEAD SINGLE LONG PULSE OUT-GOVT CKT SEE NOTE 1



SC 3

OPERATION WITH HOLD CKT FOR SINGLE POST-CALL M LEAD PULSE SEE NOTE 1



SHEET NOTES:

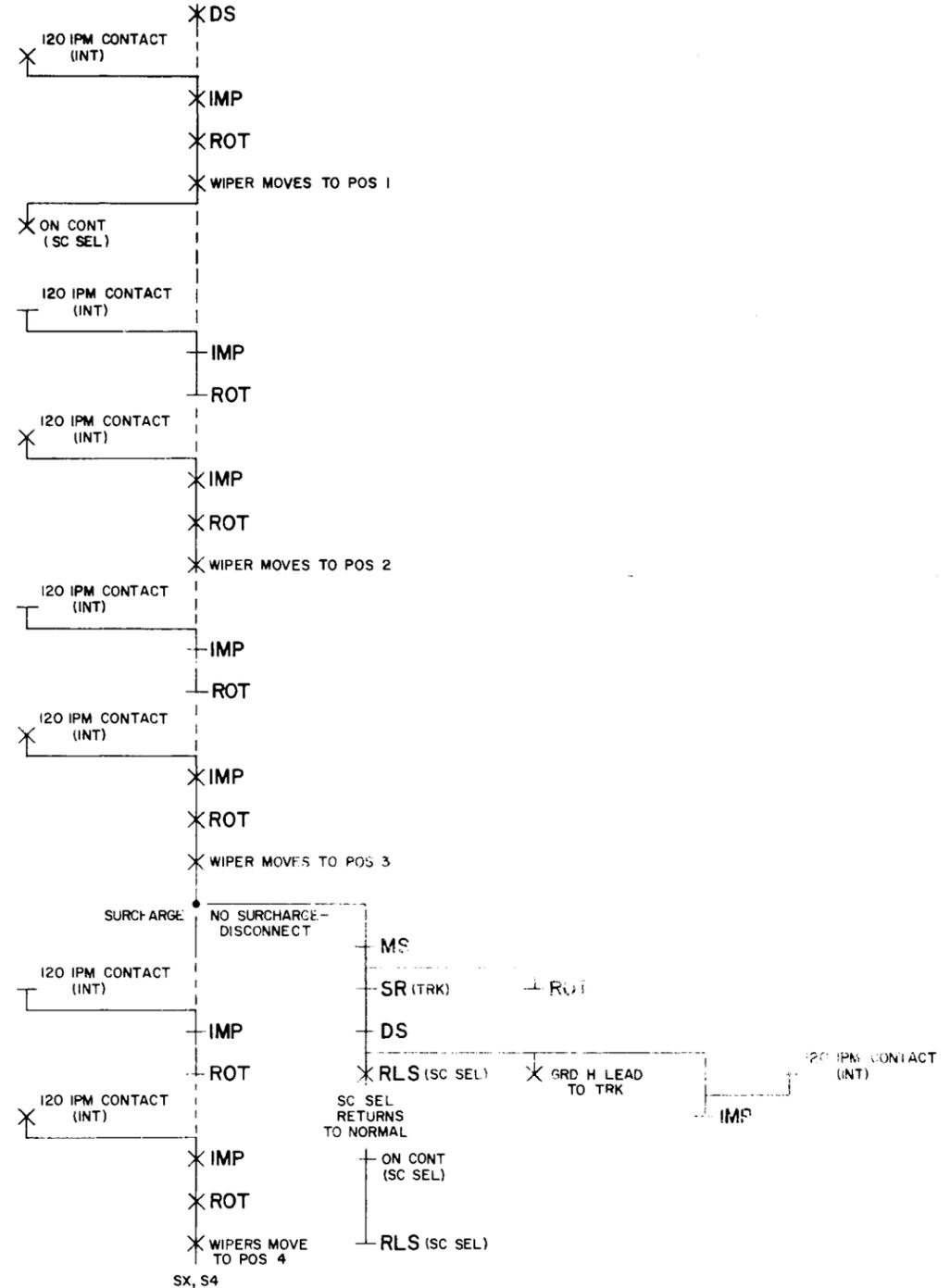
1. SC1, 2, AND 3 ASSUMES THAT THE LINE, TRK AND MARKER CIRCUIT IS NOT IN THE POSSESSION OF COMPLETING A CAMP-ON CALL TERMINATION

DRAWING ISSUE	
1	EWG
2	SPK
3	POB
4	HP
5	POB
6	HP
7	POB
8	HP
9	POB
10	HP
11	POB
12	HP
13	POB
14	HP
15	POB
16	HP
17	POB
18	HP
19	POB
20	HP
21	POB
22	HP
23	POB
24	HP
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27	POB
28	HP
29	POB
30	HP
31	POB
32	HP
33	POB
34	HP
35	POB
36	HP
37	POB
38	HP
39	POB
40	HP

STATION MESSAGE REGISTER PULSE AND SURCHARGE CIRCUIT		SD-5E021-01-E1
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SC 4

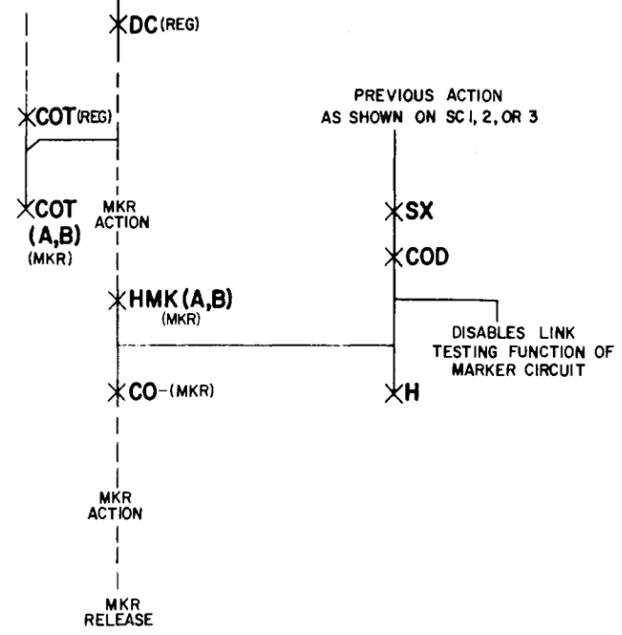
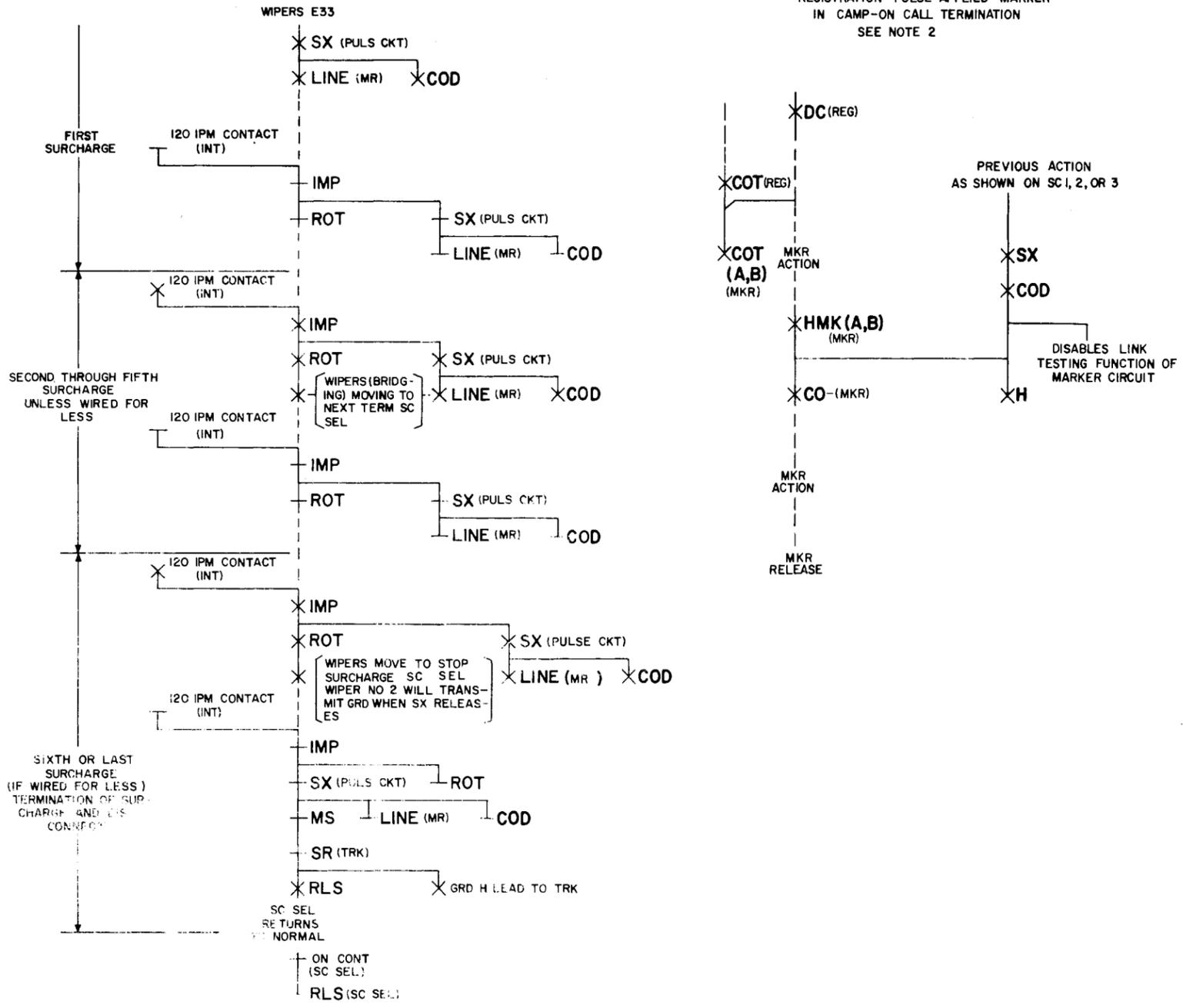
SURCHARGE
SEE NOTE 1
FROM SC1 S1, 1H 16
FROM SC2 S1, 1H 33
FROM SC3 MS, 1X 26



SHEET NOTE:
1. SC4 ASSUMES THAT THE LINE, LINK AND MARKER CIRCUIT IS NOT IN THE PROCESS OF COMPLETING A CAMP-ON CALL TERMINATION.
2. SC5 ASSUMES THAT RELAY COD OPERATES PRIOR TO THE OPERATION OF MARKER RELAYS HMKA,B.

SC 5

REGISTRATION PULSE APPLIED-MARKER
IN CAMP-ON CALL TERMINATION
SEE NOTE 2



SD-5E021-01-E2

CIRCUIT REQUIREMENTS

CIRCUIT REQUIREMENTS

DRAWING ISSUE

1
30
EWE
S/M
GPH
R/S
R/P

3

APPARATUS				MECH REQ			CIRCUIT PREPARATION				DIRECT CURRENT FLOW REQ					REMARKS	
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 MA	TEST MA		READJ MA
								CONN BAT.	CONN GRD								
RELAYS																	
ALM	1/2AK4		4	202			4(ALM)		1L(ALM)	G			0		11.9	11.3	MOUNTED WITH (SPARE)
COD	AF20		3	205					L(COD)	B			0		35.5	34	
DS	AF84		2	236			1(DS)		1U(DS)	1U(DS)	B/G		0		5.7	5.4	
H	AJ72		3	64					1U(H)	1L(H)	B/G		0		33.6	32	
									2U(H)	2L(H)	B/G		0		35.2	33.5	
IMP	AF83		4	8					L(IMP)	U(IMP)	B/G	1	0		8.2	7.8	
MR	1/2AK4		3	202			1M(MR)		2L(MR)	B	5		0		11.9	11.3	MOUNTED WITH (NV)
MS	AF140		2				1(MS)		1U(MS)	G			0		9.0	8.6	
NV	1/2AK4		3	202			1OB(NV)		L(NV)	G	3		0		11.9	11.3	MOUNTED WITH (MR)
P	AG24	Y	1	188					U(P)	G	4		0	F.S.	13.7	13.0	
													H		1.6	1.5	
													R		0.7	1.0	
P	AG24	Z	1	188			8M(P)		L(P)	U(P)	B/G		0	F.S.	13.7	13.0	
													H		1.6	1.5	
													R		0.7	1.0	

APPARATUS				MECH REQ			CIRCUIT PREPARATION				DIRECT CURRENT FLOW REQ					REMARKS	
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 MA	TEST MA		READJ MA
								CONN BAT.	CONN GRD								
SX	AF73		1	203					1L(SX)	1U(SX)	B/G		P	0		15.5	
									2U(SX)		G		S	0		16.5	15.5
SEL	204C		2						B(SC)		G	2	ROT	0		300	
SC									RW1(SC)		G	2	RLS	0		150	

TEST NOTES

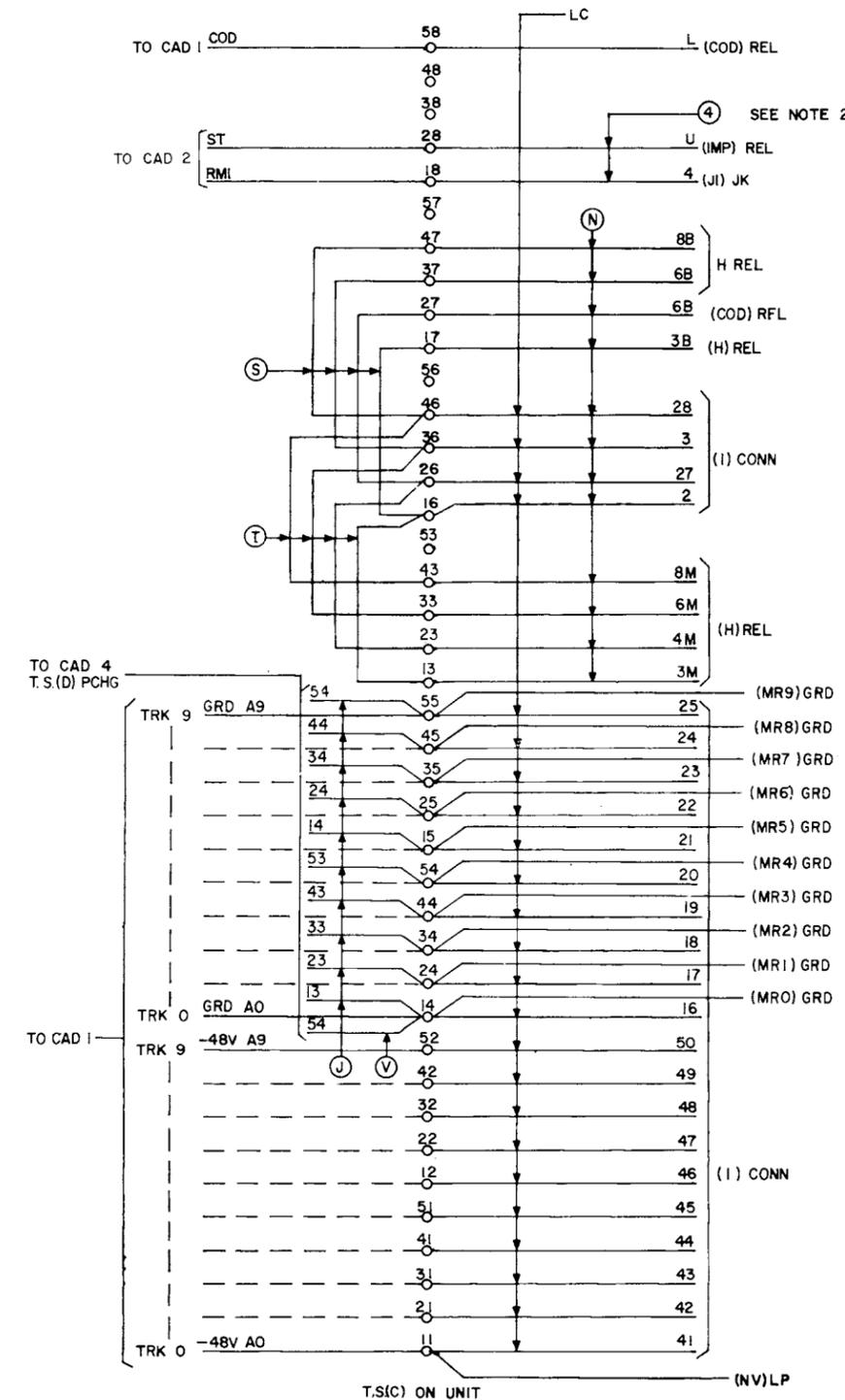
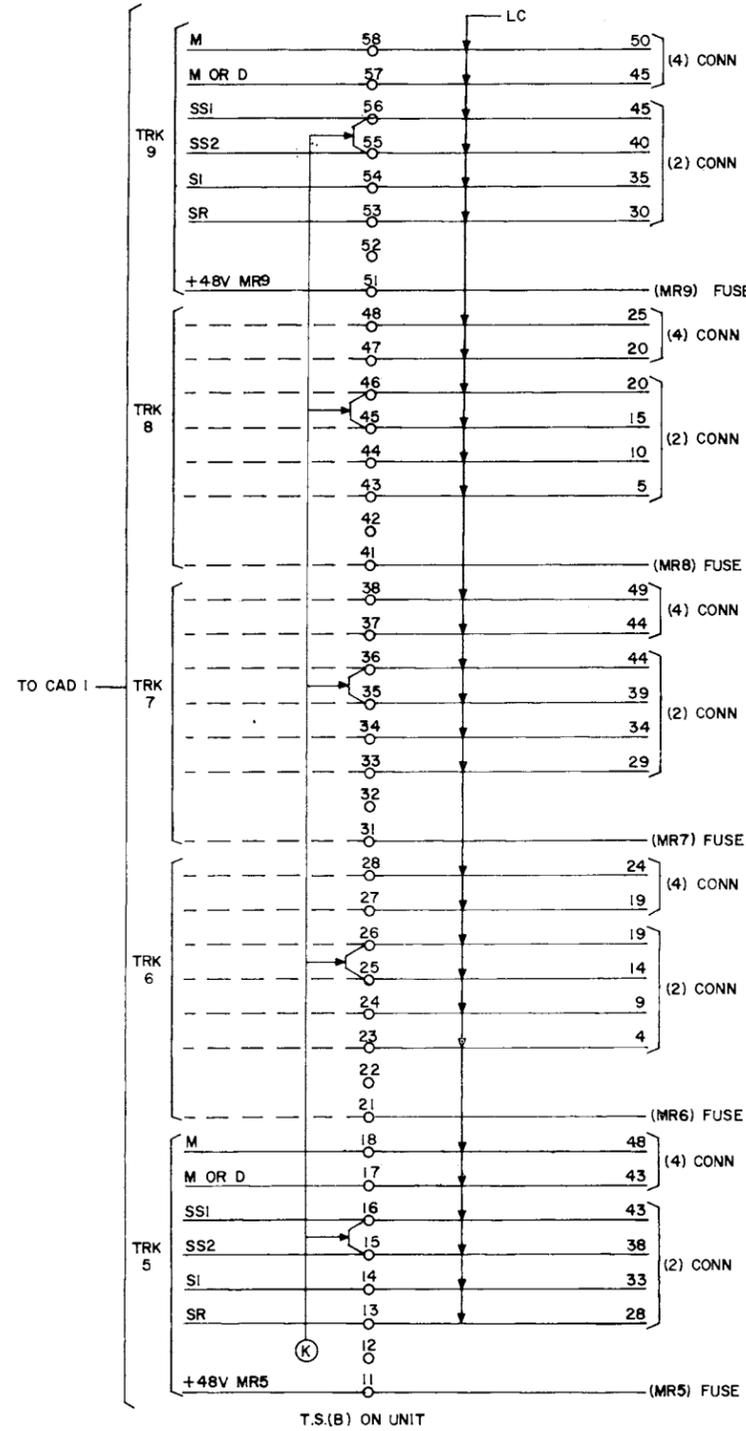
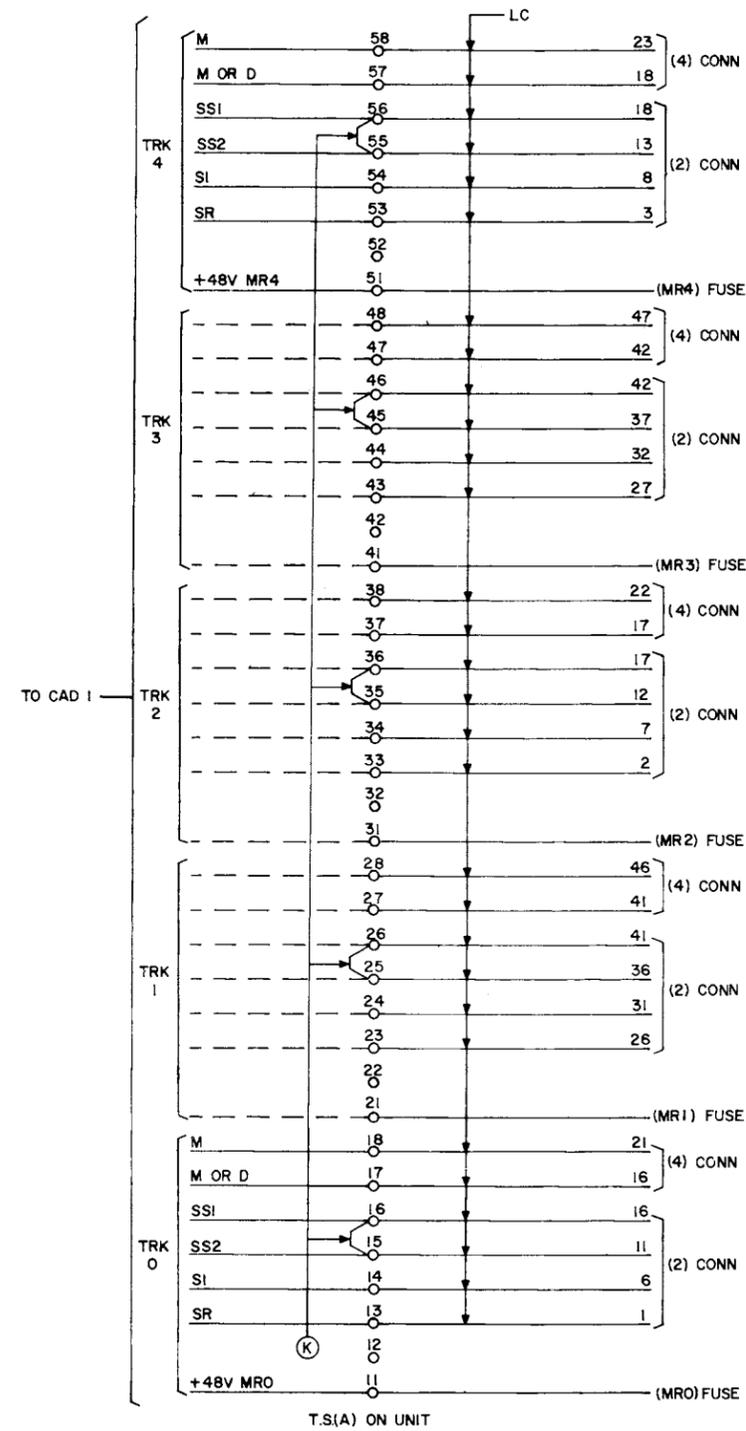
1. OPEN FFI LEAD AT U WDG OF IMP RELAY.
2. ADJUST PER BSP A468.003.
3. OPEN GRD LEAD 1U (NV) RELAY.
4. OPEN LEAD S1 AT T.S.
5. REMOVE ALL MR- FUSES.

STATION MESSAGE REGISTER PULSE AND SURCHARGE CIRCUIT		SD-5E021-01-FI
BELL TELEPHONE LABORATORIES INCORPORATED		

PART OF CAD 3

(FOR APP FIG. 3)
(SEE NOTE 204 AND 205)

DRAWING	1	HW
ISSUE	1	HW
REV	1	HW
CHK	1	HW
APP	1	HW
3D	1	HW
4D	1	HW
5B	1	HW
6A	1	HW



STATION MESSAGE REGISTER
PULSE AND SURCHARGE
CIRCUIT

BELL TELEPHONE LABORATORIES
INCORPORATED

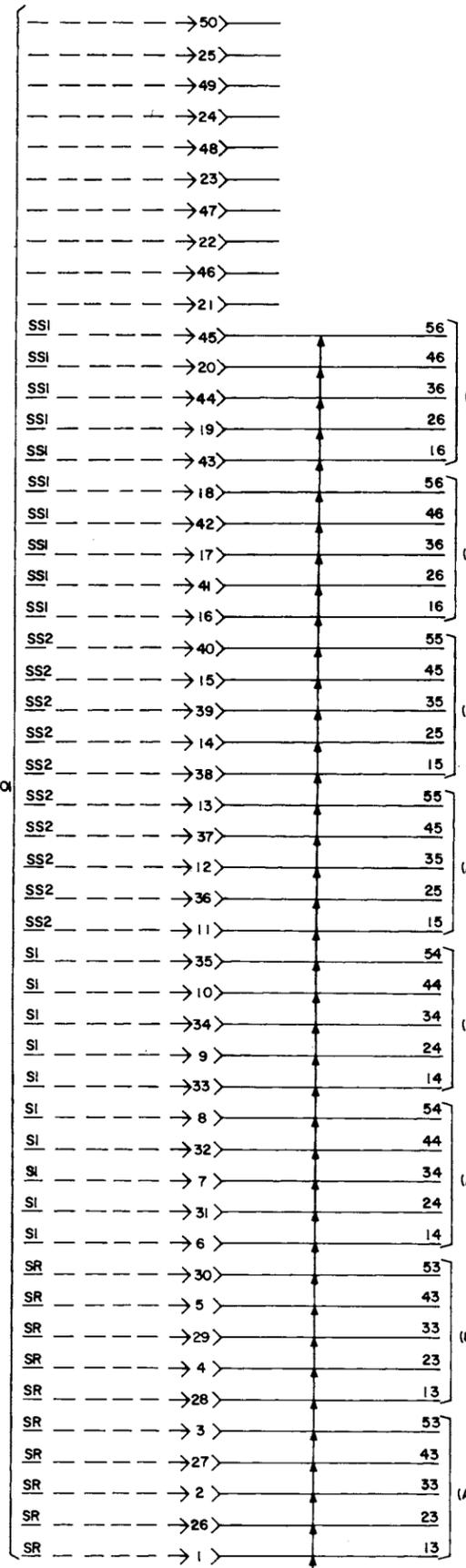
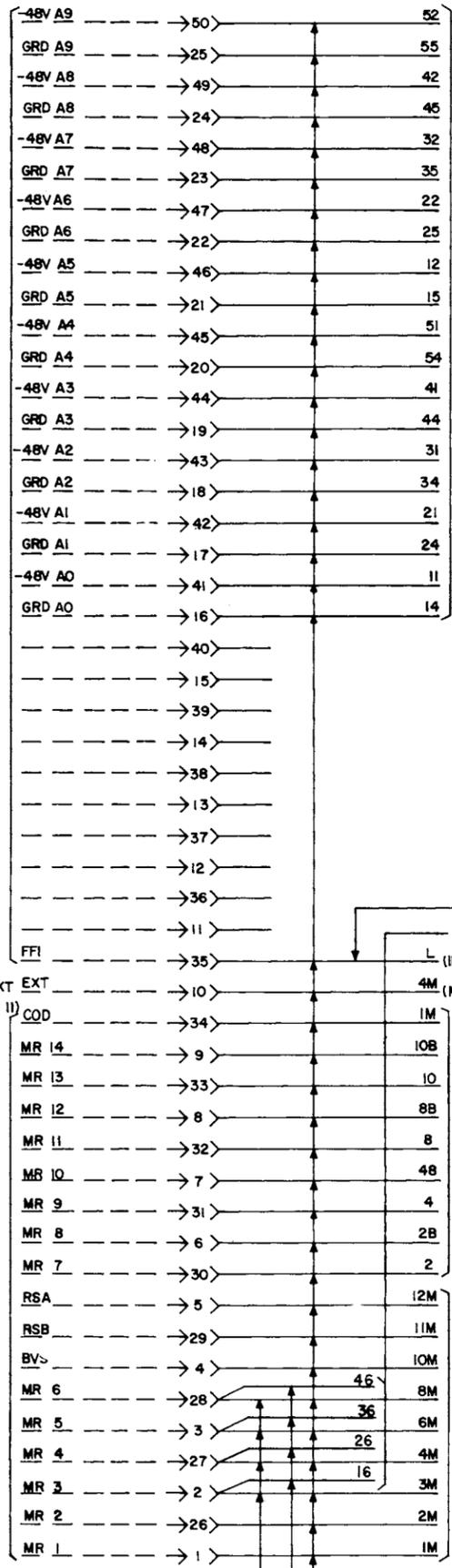
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6S

6

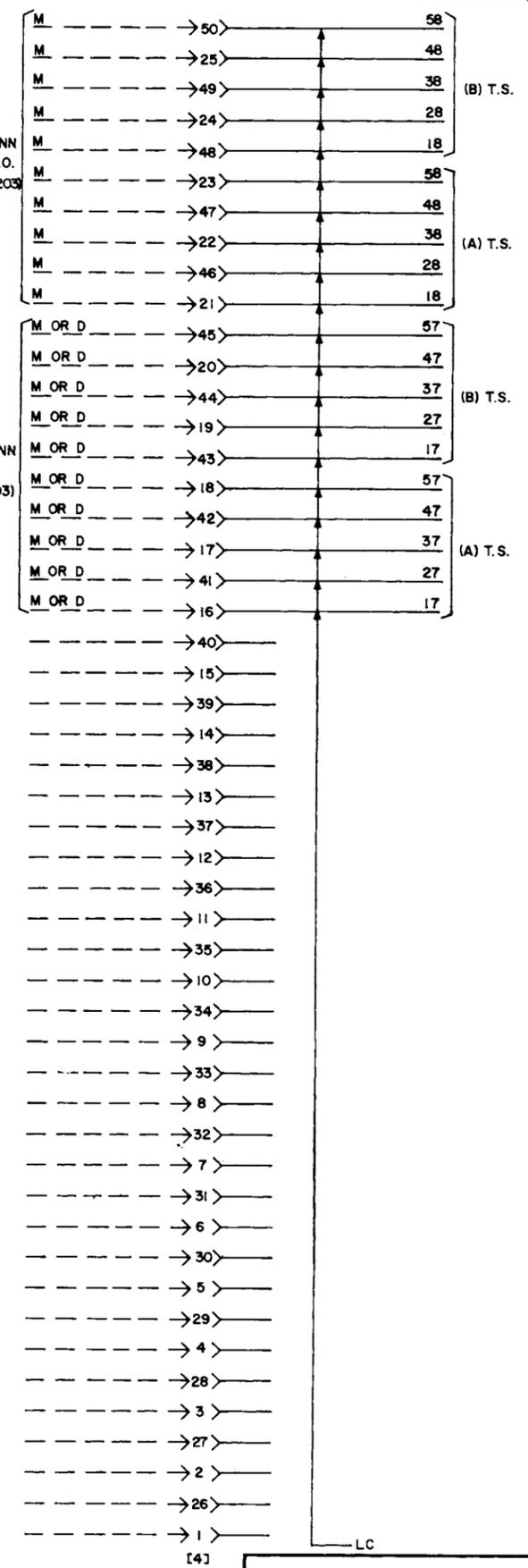
PART OF CAD 3
(FOR APP FIG. 3)

A
B
C
D
E
F
G
H



CROSS CONN
TO C.O.
(SEE NOTE 203)

CROSS CONN
TO MR CAB
(SEE NOTE 203)



DRAWING	
1	HW
2	HW
3D	ROZ
	RHP
4D	ROZ
	RHP

STATION MESSAGE REGISTER
PULSE AND SURCHARGE
CIRCUIT

BELL TELEPHONE LABORATORIES
INCORPORATED

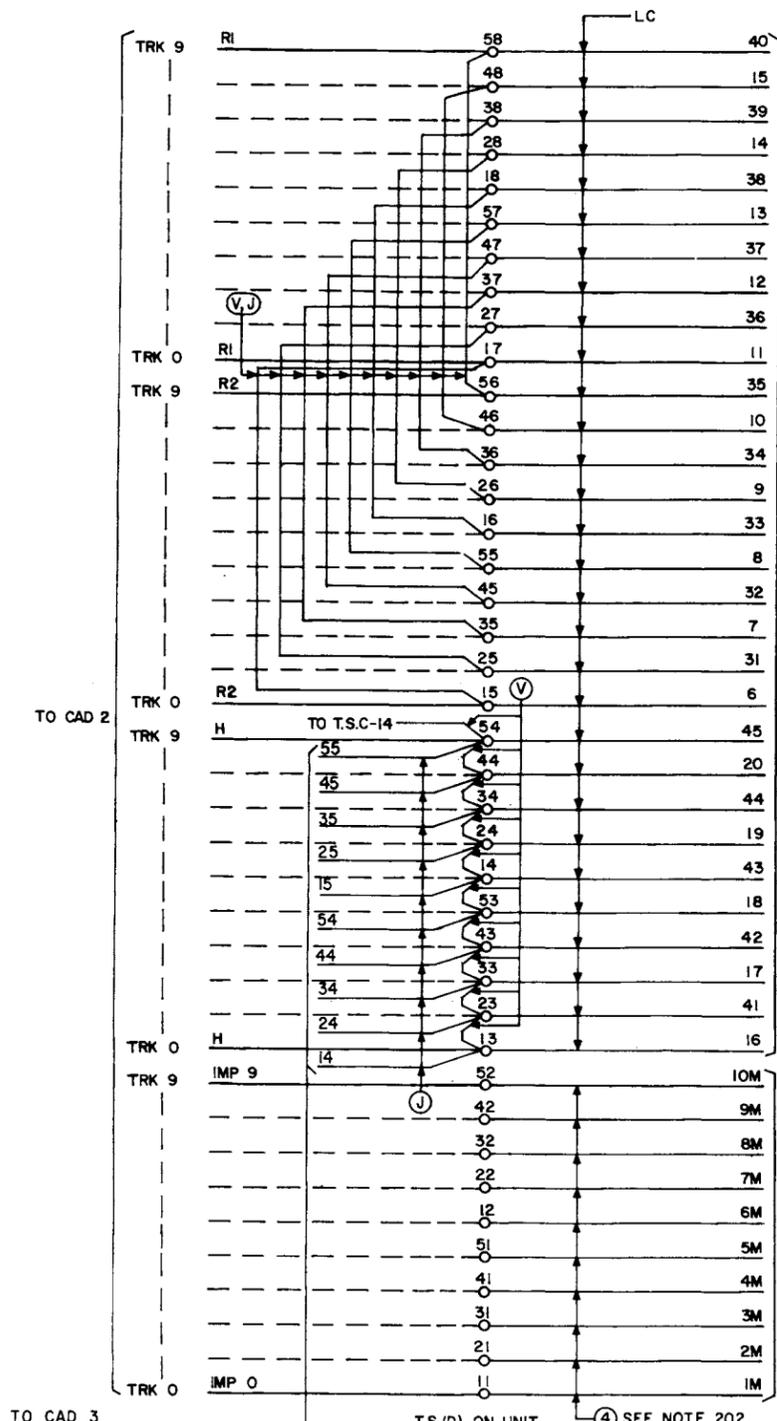
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6S

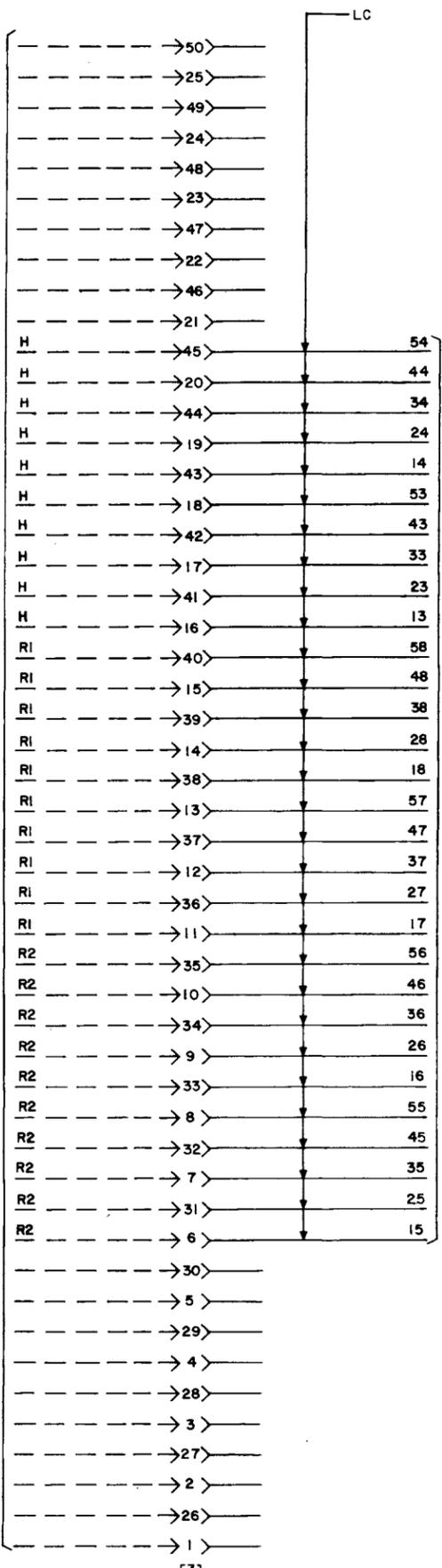
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CAD 4
(SEE NOTE 205)

DRAWING ISSUE
1 EWE HW
5B FMC RJS LDU



TO TWO WAY
CO TRK CKT
(SEE SD-66920-01
CAD 11)



STATION MESSAGE REGISTER
PULSE AND SURCHARGE
CIRCUIT

BELL TELEPHONE LABORATORIES
INCORPORATED

SD-5E021-01-G4

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