SHEET INDEX

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	B SHEETS		A2	101	102	103	104	105	106	107	108																	
	C SHEETS D SHEETS		A3	101	102	103	104	105	106	107	108																	
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			A10	101	102	102	102	102	102	102	102																	
			A11	101	101	101	101	101	101	107	107																	
OPTION INDEX			A12	101	102	102	102	105	105	105	105																	
			A13	101	102	102	104	105	106	107	108																	

* NOTES:

1. PRIOR TO ISSUE 101D, SHEETS EXISTED AS FOLLOWS:

NEW	WERE ON ATTACHED SHEETS
A1-13	01-A1,A2,0108
B1-67	0101-0109,0123,0126,0127,0130,0132,0133, 0138-0140
C1-52	CONTAINED IN CIRCUIT FIGURES AND CIRCUIT REQUIREMENTS TABLES
D1-27	0101,0109-0113,0118-0122,0125,0134
-	
F1-15	01.14-0117,0128A,B,0135,0136
G3-96	SEE G1 AND G2

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. ON ISSUE 101D, THIS DRAWING WAS CHANGED FROM ATTACHED TO THE DETACHED CONTACT ARRANGEMENT INCREASING THE NO. OF SHEETS FROM 46 TO 259.
7. ASSOCIATION OF CADS WITH SWITCHBOARD CABLE DETAIL DRAWINGS: SEE G1 AND G2.

SUPPORTING INFORMATION

CATEGORY	NO.
EQUIPMENT DRAWINGS	J28751A - ( ) J28751B - ( ) J28751C - ( ) J28751E - ( ) J28751F - ( ) J28751G - ( )
EQUIPMENT DESIG REQT	J28751

DWG ISS	CD ISSUE	DWG ISS	CD ISSUE	DWG ISS	CD ISSUE
1	1	2A	2A	3A	3A
4A	3A APP 1A	5AR	3A APP 2AR	6AR	3A APP 3AR
7A	4A	8A	4A APP 1A	9D	4A APP 2D
10AR	4A APP 3AR	11A	5A	12D	5A APP 1D
13B	6B	14AR	7AR	15AR	8AR
16D	8AR APP 1D	17AR	8AR APP 2AR	18AR	8AR APP 3AR
19B	8AR APP 4B	20D	8AR APP 5D	21B	8AR APP 6B
22AR	8AR APP 7AR	23AR	9AR	24B	9AR APP 1B
25B	10B	26D	10B APP 1D	27AR	11AR
28R	11AR APP 1B	29D	11AR APP 2D	30D	12D
31AR	13AR	32D	13AR APP 1D	33AR	14AR
34B	14AR APP 1B	35D	14AR APP 2D	36D	14AR APP 3D
37D	14AR APP 4D	38D	15D	39D	15D APP 1D
40AR	15D APP 2AR	41D	16D	42D	16D APP 1D
43D	16D APP 2D	44D	17D	45D	18D
46AR	18D APP 1AR	47D	18D APP 2D	48A	19A
49B	19A APP 1B	50AR	19A APP 2AR	51B	19A APP 3B
52D	20D	53B	20D APP 1B	54B	20D APP 2D
55B	21B	56D	21B APP 1D	57D	21B APP 2D
58D	22D	59D	22D APP 1D	60D	23D
61D	24D	62B	24D APP 1B	63AR	24D APP 2AR
64B	24D APP 3B	65D	25D	66D	25D APP 1D
67D	26D	68B	27B	69B	28B
70D	29D	71B	30B	72D	31B
73D	31D APP 7D	74D	31D APP 2D	75AR	31D APP 3AR
76A	31D APP 4A	77A	31D APP 5A	78AC	31D APP 6AC
79D	31D APP 7D	80AC	31D APP 8AC	81AC	31D APP 9AC
82D	32D	83AR	32D APP 1AR	84AC	32D APP 2AC
85B	32D APP 3B	86D	32D APP 4D	87D	33D
88AC	33D APP 1AC	89D	33D APP 2D	90D	33D APP 3D
91AC	33D APP 4AC	92AR	33D APP 5AR	93B	33D APP 6B
94D	33D APP 7D	95AC	33D APP 8AC	96D	33D APP 9D
97B	33D APP 10B	98D	34D	99AC	34D APP 1AC
100B	34D APP 2B				

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DWG ISSUE	CD ISSUE	DATE ISSUED	[illegible]	APPD
101D	35D	11-5-70	TFS LDW	JAH VKS EDM
102D	35D APP 1D	11-5-70	RA GL	JAH VKS EDM
103B	35D APP 2B	11-5-70	RA GL	JAH VKS EDM
104AR	35D APP 3AR	6/17/71	G.B. J.S.	DFP ABVL THS
105B	35D APP 4B	9-9-71	DEW NSC	DFP ABVL THS
106D	35D APP 5D	9-9-71	DEW NSC	DFP ABVL THS
107A	36A	7-28-72	DM PG	DFP ABVL WES
108D	36A APP 1D	7-28-72	DM PG	DFP ABVL WES

ISSUE 108D

1C01

CROSSBAR SYSTEMS

NO. 1
ORIGINATING MARKER CIRCUIT

(2)

(OM)

AT&TCO STANDARD

SD-25016-01-A1

262 SHEETS

BELL TELEPHONE LABORATORIES INCORPORATED

6S

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	B2	101 102 102 102 102 102 102 108
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FS 3 REGISTER RECEIVING RELAYS	B4	101 101 101 101 101 101 101 108
	B5	101 101 101 101 101 101 101 101
FS 4 INTEGRITY CHECK OF RECEIVING RELAYS	B6	101 101 101 101 101 101 101 101
FS 5 CLASS OF SERVICE CODE, SCREENING	B7	101 101 101 101 101 101 101 101
FS 6 CLASS OF SERVICE, CLASS OF SERVICE, SENDER GROUP	B8	101 101 101 101 101 101 101 101
FS 7 DISTRICT FRAME INDICATION	B9	101 102 102 102 102 102 107 107
FS 8 ALTERNATE, OVERFLOW, AND ANNOUNCEMENT ROUTING, COIN REROUTE	B10	101 102 102 102 102 102 107 108
FS 9 TRANSLATION	B11	101 101 101 101 101 101 101 101
	B12	101 101 101 101 101 101 101 101
FS 10 TRANSLATION	B13	101 102 102 102 102 102 102 102
FS 11 LOCAL AND EXTENDED AREA INDICATIONS	B14	101 101 101 101 101 106 106 106
FS 12 RECEIVING COMPRESSED CODE AND ACCESS CODE INDICATIONS	B15	101 101 101 101 101 106 106 106
	B16	101 101 101 101 101 106 106 106
FS 13 SINGLE TANDEM ROUTE ACCESS	B17	101 101 101 101 101 106 106 106
FS 14 COMPRESSED CODE CHECK MINOR AREA AND DENIED ROUTE	B18	101 102 102 102 102 106 106 106
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FS 25 SENDER RELEASE AND START MARKING FUNCTION	B35	101 102 103 103 105 105 107 107
FS 26 SUBSCRIBER SENDER RELEASE	B36	101 102 102 102 102 102 102 108
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FS 28 TRUNK LEVEL	B38	101 101 101 101 101 101 101 101
FS 29 TRUNK RELAYS	B39	101 102 102 102 102 102 107 107
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FS 34 ACCESS TO OFFICE JUNCTORS	B43	101 102 102 102 102 102 102 102
FS 35 CHANNEL BUSY TEST AND HOLD MAGNET OPERATION	B44	104 102 102 104 104 104 107 107
FS 36 CHECK OF OFFICE AND DISTRICT HOLD MAGNET	B45	104 102 102 102 102 102 107 108
FS 37 TIMING FOR IDLE CHANNEL SELECTION AND SELECT MAGNET OPERATION	B46	101 102 102 104 105 105 107 107
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FS 43 ROUTE AND RATE VERIFICATION TEST	B53	101 101 101 101 101 101 101 101
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FS 55 TIMING (CAPACITOR TIME-OUT)	B65	101 102 102 102 102 102 102 102
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ISSUE 108D

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-A2

BELL TELEPHONE LABORATORIES 65

SD-25016-01-A2

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APP FIG BF-BK	C12	101 102 102 102 102 102 102 102
APP FIG BL,BM,BO,BP	C13	101 102 102 102 102 102 107 107
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	C15	101 102 102 102 102 102 107 107
APP FIG BR	C16	101 102 102 102 102 102 107 108
APP FIG BS-BV	C17	101 102 102 104 104 104 107 107
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	C30	101 101 101 101 101 101 101 101
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APP FIG 41	C42	101 102 102 102 102 102 102 102
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	120	D6	101 101 101 101 101 101 101 101
		D7	101 101 101 101 101 101 101 101
	121-135	D8	101 101 101 101 101 101 101 101
	136	D9	101 101 101 101 101 101 101 101
		D10	101 101 101 101 101 101 107 107
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DRAWING ISSUE
101D
102D
103B
104AR

ISSUE 108D

ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-A3

BELL TELEPHONE LABORATORIES INCORPORATED

SHEET NO. 6S

SD-25016-01-A3

SHEET INDEX

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(CHE1)-(CMR)	F3	101	102	102	102	102	102	102	102																	
(CO1)-(DT2)	F4	101	102	102	102	105	105	107	107																	
(DT2)-(GZ2)	F5	101	102	102	102	105	106	106	106																	
(GZ3)-(MR1)	F6	101	102	102	102	102	102	102	108																	
(MR1)-(OGP)	F7	101	102	102	102	102	102	102	102																	
(OGS)-(RT29)	F8	101	102	102	102	102	102	107	107																	
(RTP)-(SAO-24)	F9	101	102	102	102	102	102	102	108																	
(SAO-24)-(SGB)	F10	101	101	101	101	101	101	101	101																	
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DRAWING ISSUE
108D 6S
103B
104 AR

ISSUE 108D

ORIGINATING MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25016-01-A4

SD-25016-01-A4

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CAD 8	G6	101 101 101 101 101 101 101 101
CAD 9-15	G7	101 101 101 101 101 101 101 101
CAD 16-19	G8	101 101 101 101 101 101 101 101
CAD 20,21	G9	101 101 101 101 101 101 101 101
CAD 22	G10	101 101 101 101 101 101 101 101
	G11	101 101 101 101 101 101 101 101
	G12	101 101 101 101 101 101 101 101
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CAD 25	G14	101 101 101 101 101 101 101 101
CAD 26	G15	101 101 101 101 101 101 101 101
CAD 27	G16	101 101 101 101 101 101 101 101
CAD 28	G17	101 101 101 101 101 101 101 101
CAD 29,30	G18	101 101 101 101 101 101 101 101
CAD 31	G19	101 101 101 101 101 101 101 101
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CAD 34-36	G21	101 101 101 101 101 101 101 101
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	G23	
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	G28	
	G29	
CAD 50	G30	101 101 101 101 101 106 106 106
	G31	101 101 101 101 101 101 101 101
CAD 51	G32	101 102 102 102 102 102 102 102
	G33	101 101 101 101 101 106 106 106
CAD 52,53	G34	101 101 101 101 101 101 101 101
CAD 54	G35	101 101 101 101 101 101 101 101
CAD 55	G36	101 101 101 101 101 101 101 101
	G37	101 101 101 101 101 101 101 101
CAD 56,57	G38	101 102 102 102 105 105 105 108
CAD 58	G39	101 101 101 101 101 101 101 101
CAD 59	G40	101 101 101 101 101 101 101 101
CAD 60,61	G41	101 101 101 101 101 101 101 101
CAD 62,63	G42	101 101 101 101 101 101 101 101
CAD 64,65	G43	101 101 101 101 101 101 107 107
CAD 66	G44	101 101 101 101 101 106 107 107
CAD 67	G45	101 101 101 101 101 101 101 101
CAD 68	G46	101 101 101 101 101 101 101 101

CONTENTS	SHEET NO.	ISSUE NO. 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125
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	G48	101 101 101 101 101 101 101 101
CAD 70-72	G49	101 101 101 101 101 101 101 101
CAD 73,74	G50	101 101 101 101 101 101 101 101
CAD 75,76	G51	101 101 101 101 101 101 101 101
CAD 77	G52	101 101 101 101 101 101 101 101
CAD 78	G53	101 101 101 101 101 101 101 101
CAD 79	G54	101 101 101 101 101 101 101 101
CAD 80	G55	101 101 101 101 101 101 101 101
CAD 81	G56	101 101 101 101 101 101 101 101
CAD 82-84	G57	101 101 101 101 101 101 101 101
RESERVED	G58	
	G59	
	G60	
CAD 90	G61	101 101 101 101 101 101 101 101
CAD 91	G62	101 101 101 101 101 101 101 101
	G63	101 101 101 101 101 101 101 101
CAD 92	G64	101 101 101 101 101 101 101 101
CAD 93	G65	101 101 101 101 101 101 101 101
	G66	101 101 101 101 101 101 101 101
CAD 94	G67	101 101 101 101 101 101 101 101
CAD 95	G68	101 101 101 101 101 101 101 101
	G69	101 101 101 101 101 101 101 101
CAD 96	G70	101 101 101 101 101 101 101 101
	G71	101 101 101 101 101 101 101 101
	G72	101 101 101 101 101 101 101 101
CAD 97,98	G73	101 101 101 101 101 101 101 101
CAD 99	G74	101 101 101 101 101 101 101 101
CAD 100	G75	101 101 101 101 101 101 101 101
CAD 101	G76	101 101 101 101 101 101 101 101
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CAD 114	G83	101 101 101 101 101 106 106 106
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CAD 123	G88	101 101 101 101 101 101 101 101
CAD 124	G89	101 101 101 101 101 101 101 101
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DRAWING ISSUE
101D
102D
103B
104 AR

ISSUE 108D

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-A5

BELL TELEPHONE LABORATORIES INCORPORATED 65

SD-25016-01-A5

APPARATUS INDEX

DESIG	LOCATION FS	APP FIG	EQPT	*
	RELAYS			
2L	28F5	39	AL	
4L	28E5	39	AL	
70G	27B7	AQ	AN	
11X	19A0	64	AN	
11X'	19B0	64	AN	
A	44E1	BX	S	
A	44E1	BY	S	
A1	44A	I	AP	
A2	44A	I	AP	
A4	48A	I	AP	
A5	4C8,D8	BB,BC	AP	
ABCK	44C6	BW	S	
ABL0-9	44B2	BQ	Y,Z	
ABR0-9	44B2	BQ	Y,Z	
AC	45C4	BU,BV	V	
AC1	45C4	BU,BV	V	
ACC0	15B5	60	J	
ACC1	15E5	60	J	
ACC2	16G8	60	J	
ACC2	16F8	62	J	
ACC8	16C8	60	J	
ACC4	16D8	62	J	
ACC7	15D8	60	I	
AID	28B5	70	AY	
AID1	28D5	70	AY	
AIDK	27G7	70	AY	
AK'	29C3	28	V	
AK	29D3	28	V	
AK1	29E3	28	V	
AMB	3E2	S	BA	
AN	10G1	49	AQ	
AR	4B3	I	AS	
AR1	10B1	13	AS	
AR2	10C1	28	AS	
AR3	10D1	55	BB	
AR3	63C4	55	BB	
AR4	10E1	55	BB	
ARA	10B1	81	F	
AS0-3	15B7	58	RR2	
ASA0-3	15B7	72	RR3	
ASA4,6	19C4	73	RR3	
ASA5,7	19D4	73	RR3	
ASB0-3	19C0	74	RR4	
ASB4,6	19D0	74	RR4	
ASB5,7	19E0	74	RR4	
ASC0-3	19D0	74	RR4	
ASC4,6	19F0	74	RR4	
ASC5,7	19F0	74	RR4	
B	44F1	29	S	
B1	4D8	I	AP	
B2	4E8	I	AP	
B4	4F8	I	AP	
B5,B5'	4F8	I	AP	
BBCK	44D7	BW	S	
BCK	46C2	BW	T	
BE	37F1	13	BF	
BE1	49C6	17	L	
BF	37C5	J,K	W	

DESIG	LOCATION FS	APP FIG	EQPT	*
	RELAYS			
BK'	29A2	K	V	
BK	29A2	J,BO,BP	V	
BO	37D1	13	BF	
BO1	49B6	17	L	
C	44G1	BX	S	
C	44G1	BY	S	
C1	5A3	I	AP	
C2	5B3	I	AP	
C4	5B3	I	AP	
C5	5C3	I	AP	
CBA1	49E0	17	L	
CBA2	49F0	17	L	
CBA3	49F0	17	L	
CBA4	49G0	17	L	
CBA5	49H0	17	L	
CBB1	49A0	17	L	
CBB2	49B0	17	L	
CBB3	49B0	17	L	
CBB4	49C0	17	L	
CBB5	49D0	17	L	
CBC	49H5	17	L	
CBCK	44D9	BW	S	
CBH	49G5	17	L	
CBL	49F6	17	L	
CBR	3B2	27	BB	
CBS	5C2	27	BB	
CBT	3D2	R	BB	
CBT	3D2	S	BB	
CCO	15A4	55	BB	
CC1	15D4	55	BB	
CC2	16F3	55	BB	
CC4	16A8	55	BB	
CC7	15F9	55	BB	
CCK	18A2	55	BB	
CHE	48C0	29	U	
CHE1	47B2	28	Y,AB	
CHE2	47D2	G	W	
CHE2	47D2	H	W	
CHL	48H2	E,F	Z,AB	
CHL0	48C1	15	AA	
CHL1	48C2	15	AA	
CHL2	48C4	15	AA	
CHL3	48C6	15	AA	
CHL4	48C7	15	AA	
CHL5	48F0	15	AA	
CHL6	48F2	15	AA	
CHL7	48F4	15	AA	
CHL8	48F6	15	AA	
CHL9	48F7	15	AA	
CHR0	48C1	15	AA	
CHR1	48C3	15	AA	
CHR2	48C5	15	AA	
CHR3	48C6	15	AA	
CHR4	48C8	15	AA	
CHR5	48F1	15	AA	
CHR6	48F3	15	AA	
CHR7	48F5	15	AA	

DESIG	LOCATION FS	APP FIG	EQPT	*
	RELAYS			
CHR8	48F6	15	AA	
CHR9	48F8	15	AA	
CHT	47A2	28	S	
CIA	66B0	22	BJ	
CIB	66C0	22	BJ	
CIC	66D0	22	BJ	
CID	66D0	22	BJ	
CIE	66A4	22	BJ	
CIF1	66D4	26	BJ	
CIF2	66E4	26	BJ	
CIF3	52D6	AN	AZ	
CIF3	67N1	AQ	AZ	
CIF4	66F6	BW		
CIG	66F4	27	AQ	
CIH	66G4	P,J	AN	
CII	66F4	55,59	BB	
CK	29B2	J,K	V	
CK1	6A9	I	AP	
CK2	6C9	I	AP	
CK3	6D9	I	AP	
CK4	6F9	I	AQ	
CK4A	60A3	30	AQ	
CK4B	60B3	30	AL	
CK5	6G9	I	AQ	
CK6	6G9	I	AQ	
CK6A	56A0	2	AL	
CK80,1,2,3	13D1	84	RR5	
CL0	20A7	14	AV	
CL0-9	44B2	BQ	Y,Z	
CL1	23B7	14	AV	
CL2	20B7	14	AV	
CL3	20C7	14	AV	
CL4	20J7	14	AV	
CL5	20E7	14	AV	
CL6	20F7	14	AV	
CL7	20F7	14	AV	
CLA	23A6	14	AV	
CLB	2386	14	AV	
CLC	23C6	14	AV	
CLD	23E6	14	AV	
CLP	20A8	14	AV	
CLS	20A8	14	AV	
CMR	62G2	36	AV	
CO1	66E0	14	AZ	
CO2	66G0,H0	0,40	AX	
CO2	66G0	14	AX	
CO3	66F0	14	AV	
CO4	66F0	AQ	AN	
CRO	21A3	14	AW	
CRO-9	44B2	BQ	Y,Z	
CR1	21B3	14	AW	
CR2	21B3	14	AW	
CR3	21C3	14	AW	
CR4	21D3	14	AW	
CR5	21E3	14	AW	
CR6	21F3	14	AW	
CR7	21F3	14	AW	
CR8	21G3	14	AW	
CR9	21H3	14	AW	

DESIG	LOCATION FS	APP FIG	EQPT	*
	RELAYS			
CRA	23E6	14	AW	
CRB	23F6	14	AW	
CRC	23H6	14	AW	
CRL	49C7	17	L	
CRP	21A4	14	AW	
CRR0-7	10H4	37	AX	
CRS	21A4	14	AW	
CTL0-9	44A2	BR	Y	
CTR0-9	44A2	BR	Y	
D1	5E3	I	AQ	
D2	5E3	I	AQ	
D4	5F3	I	AQ	
D8	5G3	I	AQ	
DA1	3A1	27	BB	
DA2	3A1	27	BB	
DB	3B3	27	BB	
DF	9A1	12	P,Q	
DK'	29B7	8	S	
DK	29C7	8	S	
DL	36A6	8	W	
DLX	36B4	L,M	U	
DMT	67C2	8	AQ	
DR	18F7	8	AS	
DR1-9	18G7	61	AF,AG,AH	
DR10,12,14	19C6	75	RR3	
DR11,13,15	19D6	75	RR3	
DT1	50C5	13	U	
DT2	37H4	13A		
DT2	37H5	13A,13B	U	
DT3	50E5	13C,13D	U	
EA	14B7	29	BG	
EAH2-9	11B0	3	RT R8	
EAH2'-9'	11B0	3	RT R8	
EAR	14B5	29,44	AC	
EAR	14D5	55	AC	
EL	42A0	BD,BE	X,AH	
ER	42E0	BD,BE	X,AH	
F1	5A8	I	AQ	
F2	5B8	I	AQ	
F4	5C8	I	AQ	
F5	5C8	I	AQ	
F10	5D8	I	AQ	
F10'	5E8	I	AQ	
FM2	10B1	50	AU	
G(0-11)A	57A0	9	J	
G(0-11)B	57A0	9A	I	
G(0-11)C	57B0	9B	H	
G1-4	59D0	6	AR	
GPOA	56A3	5	BH	
GPOB	56B3	5	BI	
GP1A	56B3	5	BH	
GP1B	56C3	5	BI	
GS1	59E0	6	AR	
GS2-4	59E0	6	AR	

DESIG	LOCATION FS	APP FIG	EQPT	*
	RELAYS			
GSE	52G8	13	Z,AB	
GSE1	41B0	69	AE	
GT1	58D0	I	K	
GT2	58E0	I	K	
GT3	58F0	I	K	
GW0	56C1	16	K	
GW1	56E1	16	K	
GW2	56F1	16	K	
GW3	56H1	16	K	
GZ0	56B1	16	K	
GZ1	56D1	16	K	
GZ2	56F1	16	K	
GZ3	56G1	16	K	
H2-9	11A0	3	BF	
H2'-9'	11B0	3	BG	
HMT	46B5	28	S	
HMT1	46E4	BU,BV	U,T	
JC-	43A0	19	G	
JD	58H0	A0	K	
JD	50E0	AE	K	
JD	58G1	BI	K	
KE(L,R)0,2-8	41G0-G7	20	AB,AC,AD	
KO(L,R)0,2-8	41G0-G7	20	AB,AC,AD	
KE(L,R)1,3-9	41G2-G9	20	AB,AC,AD	
KO(L,R)1,3-9	41G2-G9	20	AB,AC,AD	
KP	12E3	C	AT	
KP	12E3	C	AT	
KP	12F3	D	AT	
KP	12E3	AJ	AT	
KP	12F3	AK	AT	
KP1	1A1	8	AT	
LA	14A7	29	BG	
LA1	16H3	53	AQ	
LAR	14A5	29,44	AC	
LAR	14B5	55	AC	
LLA	16D1	53,54	BG	

DESIG	LOCATION FS	APP FIG	EQPT	*
	RELAYS			
MF	4G3	52	AL	
MI1-9	16F9	39	AU	
MIA-H,J	2F1	39	AU	
MICK	2G1	39	AS	
MIKA	27C7	39	AL	
MIKB	27C7	39	AL	
MIKC	27F7	39	AL	
MIPS	2F1	39	AT	
MNR	18E7	AS	BB	
MPY	28F5	AT	AY	
MR	54B0	28	V	
MR1	54D0	AA,AB	V	
MR1	54D0	AC	V	
MRA	54A0	28		
MRK	54C0	AC	T,U	
MRL	54F0	J	W	
MRL	54F1,G0	BO,BP	W,V	
MSD	12C4, 18B2	AZ	AK	
MC	1F9	8	AT	
MC1	2D1	8	AT	
MCTD	32A1	AM	AY	
MSE'	37B2	BE	AG	
MSE	37C1	13	X	
MSO	37C1	13	X	
MSO'	37C2	BE	AG	
O-	31D3	40	O	
OB0	20A1	14	BA	
OB1	20B1	14	BA	
OB2	20B1	14	BA	
OB3	20C1	14	BA	
OB4	20D1	14	BA	
OB5	20E1	14	BA	
OB6	20F1	14	BA	
OB7	20F1	14	BA	
OB8	20G1	14	BA	
OB9	20H1	14	BA	
OBA	25A6	14	BA	
OBB	25B6	14	BA	
OBC	25E6	14	BA	
OBD	25D6	14	BA	
OBP	20A2	14	BA	
OBS	20A2	14	BA	
OBT	20A4	46	AZ	
OCB	65F2	K	T,U	
ODN	28A5	65	AY	
ODNK	27H7	65	AY	
ODR	1E9	V	AT	
OF	4E3	I	AS	
OF1	10E1	8	AS	
OF2	10F1	71	AE	

* LOCATIONS FOR THE COMMON EQUIPMENT BAY ARE INDICATED BY SKETCH REFERENCE(S) UNLESS OTHERWISE SHOWN. ALL OTHER LOCATIONS ARE SHOWN AS FOLLOWS.
RT R- ROUTE RELAY BAY J28751B-( )
RT R8 ROUTE RELAY BAY J28751C-( )
RELAY RACK MOUNTED EQUIPMENT:
RR1 ORIGINATING MARKER PEG COUNT UNIT J28751F-( )
RR2 ORIGINATING MARKER ACCESS CODES UNIT J28751G-( )
RR3 INTERCHANGEABLE CODE CONTROL UNIT J28751H-( )
RR3 INTERCHANGEABLE CODE SCREENING UNIT J28751J-( )
RR5 ORIGINATING MARKER DYNAMIC OVERLOAD CONTROL ROUTE TRANSFER RELAY UNIT J28751K-( )
RR6 ORIGINATING MARKER DYNAMIC OVERLOAD CONTROL PEG COUNT UNIT J28751L-( ).

APPARATUS INDEX

* SEE SHEET A6 FOR EXPLANATION OF EQUIPMENT LOCATIONS.

DESIG	LOCATION FS	APP FIG	EQPT *
RELAYS			
OG0	21A6	14	AZ
OG1	21B6	14	AZ
OG2	21B6	14	AZ
OG3	21C6	14	AZ
OG4	21D6	14	AZ
OG5	21E6	14	AZ
OGA	24E6	14	AZ
OGB	24F6	14	AZ
OGC	24H6	14	AZ
OGP	21A7	14	AZ
OGS	21A7	14	AZ
OL	42B0	BD,BE	X,AH
OOV	1E9	V	AT
OOV1	1C1	V	AT
OR	42C0	BD,BE	X,AH
OT	32B1	8	AT
OT1	1G1	8	AT
OTA	32B1	AQ	AY
OV	1D9	8	AT
OVA	23C7	X	AT
DVA	23D7	AF,BA	AT
P-	43G0	18	N
PA-	43E0	21	P
PC--	62F2	51	RR1
PD1	4A3	63	I
PEG	62C0	81	F
PEG1	9B9	81	F
P(O,E)--	39E3,E4	20	AI,AJ
P(O,E)--	39E3,E4	20	AI,AJ
P(O,E)LO	39E0,E7	20	AI,AJ
P(O,E)L9	39E0,E7	20	AI,AJ
P(O,E)R1	39E1,E6	20	AI,AJ
P(O,E)R8	39E1,36	20	AI,AJ
PRH	30A9	47	RT R-
PR	37A8	BE	AH
PS	55A7	8	AT
PS1	2A1	I	AR
PS1	2A1	T	AR
PS2	55B7	J,K	AT
PT	37B7	13	S
PT1	51E1	AQ	AY
PT2	34E4	AQ	AY
PT3	51A1	AQ	AY
PTK	50E3	AQ	AY
PTK1	50G3	AQ	AY
R-	30A2	7	RT R-
R-	30A6	7	RT R-
RA1	22B4	AQ	AN
RA2	22B4	AQ	AN
RA3	22C4	AQ	AN
RA4	32D4	AQ	AN
RA5	22D4	AQ	AN
RA6	22E4	AQ	AN
RA7	22E4	AQ	AN
RA8	22F4	AQ	AL
RA9	22G4	AQ	AM
RA10	22G4	AQ	AM

DESIG	LOCATION FS	APP FIG	EQPT *
RELAYS			
RL	36D6	8	W
RL1	36D6	8	Z,AB
RP1	2C1	8	AS
RT0	60D0	32,33	AQ
RT1	60D0	32,33	AQ
RT2	60E0	32,33	AQ
RT3	60F0	32,33	AQ
RT4	60G0	32,33	AQ
RT5	60C5	33	AL
RT6	60D5	33	AL
RT7	60E5	33	AL
RT8	60F5	33	AL
RT9	60F5	33	AL
RT10-29	68A3	85	RR5
RTP	68D0	86	RR6
RTPA	68E0	86	RR6
RX	67F1	8	U
S	45A1	28	V
S'	45A1	28	
S1K	50A0	28	V
S-(EVEN)	7A1	4	BH,BI
S-(ODD)	7A1	4	BH,BI
SA-(EVEN)	7C0	34	O,Q,R
SA-(ODD)	7C0	34	O,Q,R
SA-(EVEN)	7B1	43	CS
SA-(ODD)	7B1	43	CS
SB0	22A1	14	AY
SB1	22B1	14	AY
SB2	22B1	14	AY
SB3	22C1	14	AY
SB4	22D1	14	AY
SB5	22E1	14	AY
SB6	22F1	14	AY
SB7	22F1	14	AY
SB8	22G1	14	AY
SB9	22H1	14	AY
SBA	24A6	14	AY
SBB	24A6	14	AY
SBC	24C6	14	AY
SBD	24D6	14	AY
SBP	22A1	14	AY
SBS	22A1	14	AY
SOT	67B1	8	AQ
SOT-	67A1	23	BJ
SOT(-)A	67B1	23	BN
SOTA	67A3	8	AQ
SG0	20G4	N,O	AX
SG0	20B3	14	AX
SG1	20H4	N,O	AX
SG1	20C3	14	AX
SG2	20D3	14	AX
SG3	20D3	14	AX
SG4	20E3	14	AX
SG5	20F3	14	AX
SGA	26C6	O	AX
SGA	26A6	14	AX
SGB	26C6	N,O	AX
SGB	26D6	14	AX
SGC	26G6	14	AX

DESIG	LOCATION FS	APP FIG	EQPT *
RELAYS			
SGP	20G5	O	AX
SGP	20B5	14	AX
SGR	4E3,F3	8,AV	AO
SGR'	4E3,F3	8,AV	AO
SGS	20G5	O	AX
SGS	20B5	14	AX
SKP	27A7	AQ	AN
SL	45E1	28	V
SM	46A0	G	W
SM	46A0	H	W
SM1	46B0	H	Y,AB
SP	58C2	14	AW
SPE'	37A2	BE	AG
SPE	37B1	13	X
SPL	47B7	28	X
SPO	37B1	13	X
SPO'	37B2	BE	AG
SPR	47A7	28	X
SPT	65D2	K	T,U
SR	35A0	8	W
SRA	35A2	AQ	AY
ST1	35B0	8	W
ST1'	35A1	8	Y
ST2	35B0,C0	J,K	W
ST3	35D0	8	W
ST4	35D0	8	W
ST4A	35F0	57	AR
ST5	35G0	8	W
STR (1ST)	17A5	56	AV
STR (2ND)	17G5	56	AV
STX	67F1	13	U
TB	59A0	1	AR
TB1-4	30G0	6	AR
TB5	30G4	25	AR
TBL	29F2	13	W
TC	52G1	8	AT
TC	52G1	8	AT
TC1	1E1	8	AT
TCK	55C7	8	AS
TD	62F0	82	AX
TDV	32A2	AM	AY
TDVK	32D4	AM	AY
TED	19E6	71	AE
TGE(L,R)O,2-8	40B3	20	AE,AF
TGO(L,R)O,2-8	40B3	20	AE,AF
TGE(L,R)1,3,-9	40C3	20	AE,AF
TGO(L,R)1,3,-9	40C3	20	AE,AF
TIB	55E7	8	W
TK	33A0	BG,BH	V
TK1	34A0	AQ	AV
TKE	41G9	BF	U
TKE	41G8	BE	AH
TKE'	41G8	BE	AH

DESIG	LOCATION FS	APP FIG	EQPT *
RELAYS			
TLO-9	38B3	8	M
TL10-14	39B3	8	M
TM	65B2	K	S
TM1	63D4	8	AM
TM4	63E4	8	AM
TM5	63F4	8	AM
TM6	63G4	8	AM
TM7	63H4	8	AM
TM8	64B0	8	AM
TM8A	64C0	8	AM
TM8B	64D0	8	AM
TM8C	64E0	8	AM
TM9	64F0	8	AM
TM10	64F0	8	AL
TMS	63F0	J,K	AL.
TMS1	63B0	8	AM
TMS2	63E0	8	AM
TMW	63A1	8	AM
TMZ	63A1	8	AM
TNO-4	13A7	2	AQ
TOC	60A0	35	AT
T(O,E)--	39E3,E5	BJ,BK	AG,AH
T(O,E)--	39E3,E5	BJ,BK	AG,AH
T(O,E)LO	39E0,E8	20	AH
T(O,E)L9	39E0,E8	20	AG
T(O,E)R1	39E2,E6	20	AH
T(O,E)R8	39E2,E6	20	AG
TOV	24D6	67	AZ
TP	4C3	1	AS
TP'	4C3	42	AS
TP1	2B1	8	AS
TPK	52F0	8	AS
TR	66A0	8	W
TR1	66B0	68	AZ
TST	52G4	76	BJ
TST1	52G7	76	F
TST2	52G8	76	F
TST3,4	52G9	77	F
TSTA	52G7	76	BJ
TUR	3B2, 35B4	48	AC
TW	19G9	AG	AT
TW	19E9	AH,AI	AT
TW1	1B1	AH,AI	AX
TWA	59A2	14	AW
TWB	59B2	14	AW
ULA	16A1	53,54	BG
XAC	15B9	62	I
XBE	37G5	13	X
XBO	37F5	13	X
XC	1A0	8	AS

DESIG	LOCATION FS	APP FIG	EQPT *
RELAYS			
XCH	44D1	BT	S
XCH	44C1	BS	U
XCH1	44E2	BT	S
XCL	20A8	14	AY
XCR	21A4	14	AW
XDC	29D2	8	U
XDF	9A1	8	O
XDF1	9F3	13	O
XGE	40E6	13	X
XGS	40D6	13	X
XK	47E2	13	U
XK1	47F2	Q	S
XLC	42E4	13	U
XLC1	42G4	13	U
XMR	54A1	28	
XMR1	54C1	28	
XOB	20A2	14	BA
XOF	31D1	8	O
XOG	21A7	14	AZ
XRL	36F0	8	U
XS	45B4	13	U
XS1	39G3	13	U
XSB	22A2	14	AY
XSG	20G6	N,O	AX
XSG	20B5	14	AX
XSL	45F4	28	U
XSM	46D0	28	X
XSM1	46H0	H	S
XSM2	46D5	H	Y,AB
XSS	46F0	13	S
XT	24G7	14	AZ
XT1	26E7	14	AZ
XT2	61D0	14	BA
XTC	52E1	8	AS
XTD	32D4	AM	AY
XTL	39B2	8	M
XTL1	38C2	8	M
XTL2	38D2	8	M
XTL3	38E2	8	M
XX1	61B0	8	V
XX2	61B4	8	V
XZ	55C0	8	AS
XZS	55F0	8	AS
Z(A-J)	1F9	41	AT,AU
Z(A-J)1	2E1	41	AT,AU
ZCK	2H1	BL,BM	AS
ZL	55B0	8	AS
ZO	55E0	9	AS

DESIG	LOCATION FS	APP FIG	EQPT *
CAPACITORS			
A1	59C3	1	D
A2	59B3	1	D
AHM	44F3	BW	S
B	13A2	1	D
BHM1,2	44G7	BW	T
BK	45G3	28	A
C1	57B5	16	D
C2	57B5	16	D
CA	42F2	13	E
CB	42D2	13	E
CC	46E8	28	E
CD	43D7	13	E
CE	29D5	28	E
CF	9F5	13	E
CG	46C4	8,28	E
CH	50F8	8	E
CHM1	44H4	BW	S
CHM2	44G4	BW	S
CHT	47A4	28	A
CJ	6B8	1	E
CK	6C9	1	E
CL	50D6	13	E
CM	54G1	J	E
CM	54H1	80	E
CN	49H4	17	E
CP	6B1	1	E
CR	3C2	27	E
CS	35H1	8	E
CT	16H2	H	E
CU	63C0	8	E
CV	46C1	H	E
CW	63E0	9	E
CX	60A3,C3	30	E
CY	67G3	M	E
CZ1	14B7	29	E
CZ1	16E1	53	E
CZ2	14A7	29	E
CZ2	16E1	53	E
D	29D7	28	D
DSA	47H7	28	B
DSB	47G7	28	B
E	23A7	14	D
EAH2-9	11D2	3	RT R8
EAH2'-9'	11D2	3	RT R8
F1	35E4	8	D
F2	35E4	8	D

ISSUE 108D

ORIGINATING MARKER CIRCUIT

SD-25016-01-A7

BELL TELEPHONE LABORATORIES INCORPORATED

6S

* SEE SHEET A6 FOR EXPLANATION OF EQUIPMENT LOCATIONS.

APPARATUS INDEX

DESIG	LOCATION FS	APP FIG	EQPT	*
CAPACITORS				
G1	1D3	8	D	
G2	37D8	8	D	
GPOA	56A4	5	C	
GPOB	56L4	5	C	
GP1A	56B4	5	C	
GP1B	56D4	5	C	
H2-9	11D0	3	C	
H2'-9'	11D1	3	C	
HMT	46C7	28	A	
J	29G2	13	D	
JC	43B8	BE	T	
K1	35E1	13	D	
K2	35F2	13	D	
L	58E9	Z	D	
M1	59B3,B4	8	D	
M2	59C3,C4	6	D	
N	46A1	G	B	
N	46B1	H	B	
OPA	47F7	28	B	
OPB	47F7	28	B	
OSA	47E7	28	B	
OSB	47D7	28	B	
P	47C3	28	B	
P(0,E)-	39C4	20	AK	
P(0,E)L0-	39C1	20	AK	
P(0,E)L9	39C7	20	AK	
P(0,E)R8	39C7	20	AK	
PT	37C8	AQ,13	A	
PT2	34E6	AQ	AY	
R0,2,4,6,8	12D8	24	D	
R1,3,5,7,9	12D8	24	D	
S-	7E2,E3	4	B	
SA-	7E1	43	CS	
SS	46F0	9E	T	
TM	65B4	K	T	

DESIG	LOCATION FS	APP FIG	EQPT	*
DIODES				
AHM	44G3	BW	S	
AIDO-2	2B94,C4	70	AY	
ALLO-9	44A3	BR	CAIO-29	
ALRO-9	44A3	BR	CAIO-29	
AR3	10D2	55	BB	
ARL	16D3	55	BB	
ARU	16B3	55	BB	
BHM	44G7	BW	T	
BLLO-9	44A3	BR	CAIO-29	
BLRO-9	44A3	BR	CAIO-29	
CCK	18D1	68	AV	
CHM	44H4	BW	S	
CKA	13C1	84	AO	
CLLO-9	44A3	BR	CAIO-29	
CLRO-9	44A3	BR	CAIO-29	
DG1-12	18E8	AS	BB	
JC	43B8	BE	AG	
MPYO-5	28F4	AT	AY	
MR1	67D3	B1	F	
MSD	12D6	AZ	AK	
OG5	21F6	14	AZ	
PIO-29	68F3	86	RR6	
PT1	51E2	AQ	AY	
PT3	51B2	AQ	AY	
RTIO-29	68F4	86	RR6	
RTP	63F1	86	RR6	
SS	46F1	BE	AG	
ST4A	35E1	57	AR	
XA	14E5	55	AC	
XMR	54B3	28		

	LAMPS			
BHM	44G8	BW	T	
JC	43A8	BE	T	
SS	46F0	BE	T	
TP	50E0	AQ	SEE NOTE 1	

	KEYS			
RT	SEE APP FIG	31	SEE NOTE 2	
RT4-9		31		

	NETWORKS			
AID2	28D5	70	AY	
ALLO-9	44A3	BR	Y	
ALRO-9	44A3	BR	Y	
ARL	16E3	55	BB	
ARU	16B3	55	BB	
B	13B3	1	D	
BLLO-9	44A3	BR	Y	
BLRO-9	44A3	BR	Y	
C1	57B6	16	D	
C2	57C5	16	D	
CA	42D2,C3	BD,BE	D	
CB	42E2,C4	BD,BE	D	
CO	43C8	13	D	
CF	9F5	13	D	
CG	46D4	8,28	D	
CHL	48H2	E,F	D	
CI(A-D)	66C1-E1	22	F	
CIE	66B5	22	F	
CIH	66G5	AQ	C	

	COMPONENT ASSEMBLIES			
CA0-7	SEE APP FIG	86	RR6	
CA8		BE	AG	
CA9		BW	T	
CA10-29		BR		

DESIG	LOCATION FS	APP FIG	EQPT	*
NETWORKS				
CH	50E8	8	D	
CHE	48D0	28	U	
CHR9	44C6	15	D	
CHT	48H0	28	D	
CIF1,2	66D5,E5	26	F	
CJ	6B9	1	D	
CK	6C9	1	D	
CK3	6E8	1	D	
CL	50C5	13	D	
CLLO-9	44A3	BR	Y	
CLRO-9	44A3	BR	Y	
CN	49H5	17	D	
CO1	66F1	14	C	
CR	3C2	27	D	
CT	46H2	H	D	
CU	63C0	8	D	
CW	63E0	8	D	
CZ1	16B1	53	D	
CZ1	16B1	54	D,BG	
CZ1	14B7	29	D	
CZ2	14A7	29	D	
CZ2	16D1	53	D	
CZ2	16D1	54	D,BG	
DA	59G7	8	D	
DF-	9B1	12	D	
DT2	37H4	13A		
EA	29A3	8	B	
EL	46G3	BD,BE	B	
ER	46G3	BD,BE	B	
F	36A2	14	B	
GP(0,1)A,B	56A4-D4	5	C	
J	29G2	13	D	
K1	37D1	13	D	
K2	37F1	13	D	
KE	41F0	13	D	
L	58E8	Z	D	
L	58F9	Y	D	
MR	54C0	28	D	
MSDA	12D4	AZ	AK	
N	46A1	G	D	
N	46B1	H	D	
OL	46G3	BD,BE	D	
OR	46G3	BD,BE	D	
OS-	31D2	10	D	
PTK	50E3	AQ	B	
R0,2,4,6,8	12F8	24	D	
R1,3,5,7,9	12E8	24	D	
RA1-7	2284-G4	AQ	B,C	
RX	67F1	8	D	
ST4	35E0	8	D	
STX	67G1	13	D	
TB1-4	59E6	6	D	
TBA-D	30G0	6	D	
TDVK	32D4	AM	AY	
TP'	4C3	42	D	

DESIG	LOCATION FS	APP FIG	EQPT	*
RESISTORS				
A	59C8	1	D	
A	43C8	19	G	
A	46H0	H	BK	
AA	31A1	B	B	
AB	56B1	16	B	
AC	56D1	16	B	
AD	56F1	16	B	
AE	56H1	16	B	
AF	63A0	B	B	
AG	55F7,	B	B	
	66B1			
AH	47D4	28	B	
AID	28G3	70	AY	
AID1	28D3	70	AY	
AHM	44E3	BW	A	
AJ	46H0	H	B	
AK	46B0	H	B	
ALLO-9	44A4	BR	CAIO-29	
ALRO-9	44A4	BR	CAIO-29	
B	13B2	1	D	
BA	37A6,B6	13	A	
BB	37A6,B6	13	A	
BC	47B2	28	A	
BCK	46C2	BW		
BD	47B1	28	A	
BE	47A5	28	A	
BF	37B8	13	A	
BG	38G2	8		
BHM1,2	44F6	BW	A	
BHM3,4	44G6	BW	T	
BH	46C8	28	A	
BJO-3	4046,B8	BD,BE	A	
BK	45D2,E2	28	A	
BL	47F5	23	C	
BLLO-9	44A4	BR	CAIO-29	
BRRO-9	44A4	BR	CAIO-29	
BP	47D5	28	C	
BN	9E4,F4	13	C	
BN1	9E4	13	C	
BP	54C1	AC	C	
C	57B5	16	D	
CA	42C4	BE	AH	
CA	42E2,E3	BD	E,X	
CB	42D2,D3	BD	E,X	
CB	42C3	BE	AH	
CC	46E8	28	E	
CCB	18A0	55	BB	
CD	43C7	13	E	
CE	29D5	28	E	
CF	9G5	13	E	
CG	46D4	8,28	E	
CH	50F8	8	E	
CHM1,2	44H5	BW	A	
CJ	6B9	1	E	
CK	6D9	1	E	
CL	50D6	13	E	
CLLO-9	44A4	BR	CAIO-29	
CRRO-9	44A4	BR	CAIO-29	
CM	54G0	J	T	
CM	54H1	BD	T	
CN	49H4	17	E	
CP	6B2	1	E	
CR	3D2	27	E	
CS	35H1	8	E	
CT	46H2	H	E	
CU	63C0	8	E	

DESIG	LOCATION FS	APP FIG	EQPT	*
RESISTORS				
CV	46C1	H	E	
CW	63E0	8	E	
CX	60A3,C3	30	E	
CY	67G3	M	E	
CZ	16F0	53	E	
CZ	14A7	29	E	
D	29E7	2A	D	
DR10-15	49C7,D7	75	RR3	
DSA	47H7	28	B	
DSB	47G7	28	B	
DT2	37H3	13A		
E	2387	14	D	
EL	46G2	BD,BE	X,AG	
ER	46G2	BD,BE	X,AG	
F	3'E4	8	D	
G	4D3,	8	D	
	37C8			
GPO	56B4	5	C	
GP1	56D4	5	C	
H	11F1,G1	3	C	
H2-9	11E0	3	C	
HMT1,2,3	46A6	BV	A	
HMT4,5	46A7	BV	A	
J	29G2	13	D	
JC-	43F7	19	G	
JC1	43B7	BE	T	
JC2	43B7	BE	AG	
K	37E1	13	D	
L	58F9	Z	D	
LCO-9	4287-G7	13	A	
M	59C3	8	D	
N	46A1	G	B	
N	46B1	H	B	
QBT	25F5	46	C	
OL	46G2	BD,BE	X,AG	
OPA	47F7	28	B	
OPB	47E7	28	B	

DESIG	LOCATION FS	APP FIG	EQPT	*
RESISTORS				
OR	46G2	BD,BE	X,AG	
OSA	47D7	28	B	
OSB	47D7	28	B	
P	47C3	28	B	
P(0,E)0	39D1	20	AK	
P(0,E)-	39D4	20	AK	
P(0,E)9	39D7	20	AK	
PT1	34E5	AQ	AY	
PT2	34E7	AQ	AY	
RO-4	12D9,E8	24	D	
RG00-39	30B8	83	RR2	
S-	7F2	4	B	
S-	7F3	4	B	
SO	24G2	14	AY	
SS1	46G1	BE	T	
SS2	46F0	BE	AG	
TB1-4	59E6	6	AR	
TCK	55C7	8	AS	
TLO-14	38D3,F3	8	C	
TM1,4	65B2	K	T	
TM2,3	65B1	K	T	
TM6,7	65D2	K	T	
TM5	65B5	K	T	
TPK	52F0	8	AS	
XAC	15C8	62	C	
XCH	44D1	BT	T	

NOTES:
1. MTD ON MISCELLANEOUS FUSE BOARD.
2. KEYS ARE LOCATED IN THE CABLE TURNING SECTION OF THE A SWITCHBOARDS OR IN THE FACE OF THE 3C- OR 3CL TYPE SWITCHBOARD.

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DRAWING ISSUE
108D G.E.
102D

ISSUE 108D

SIGNATING MARKER CIRCUIT (2) SD-25016-01-A8
BELL TELEPHONE LABORATORIES INCORPORATED 6S

LEAD INDEX

CIRCUIT TITLE	CKT LEAD INDEX EOC
3 DIGIT COMMON TRANSLATOR	9A2
3 DIGIT INDIVIDUAL TRANSLATOR	9C2
3 DIGIT TRANSLATOR CONNECTOR	9A3
DISTRICT LINK AND CONNECTOR CKT	9A5
INTERRUPTER FRAME CKT	9A7
MISC CKT FOR ORIGINATING MARKER CKT	9B6
MISC CKT FOR ORIGINATING TROUBLE INDICATOR CKT	9C6
MISC CKT FOR SENDER MAKE BUSY CKT	9H6
OFFICE LINK AND CONNECTOR CKT	9D7
ORIGINATING MARKER CONNECTOR CKT	10D0
ORIGINATING SENDER TEST CKT	10A5
ROUTE AND RATE VERIFICATION TEST CKT	10F6
ROUTE TRANSFER &ID MAKE BUSY CKT	10E7
ROUTE TRANSFER CONTROL CKT	10G7
TIMING CONTROL CKT FOR ALL ORIGINATING MARKERS BUSY	10A8
TRAFFIC REGISTER CKT	10D8
TRAFFIC USAGE RECORDER CKT	11A1
TROUBLE INDICATOR CKT ORIGINATING	11C1
ZONE REGISTRATION COMMON CONTROL CKT	11F8

DESIG	LOCATION FS	LOCATION CAD
3 DIGIT COMMON TRANSLATOR		
RC	30A1,A5	20F2, 78E0
RP--	62F1	49G0
SC0-19	7H4	34E2
SC20-39	7H4	36C4

DESIG	LOCATION FS	LOCATION CAD
3 DIGIT INDIVIDUAL TRANSLATOR		
H2-9	11F2	57D0
H2'-9	11F2	57D0
RC-	30A1,A5	20F2, 78E0
RP--	62F1	49G0
SC0-19	7H4	34E2
SC20-39	7H4	36C4
TN0-4	13G4	57D0
U0-9	13G4	50A2

DESIG	LOCATION FS	LOCATION CAD
3 DIGIT TRANSLATOR CONNECTOR		
CC0-3	18C6	51F0
H2-9	11F5	43D2
H2'-9'	11F5	43D2
TG0-3	18C6	50F0
TN0-4	13G5	43D2, 51B0
UN0-9	13G5	50B2

DESIG	LOCATION FS	LOCATION CAD
DISTRICT LINK AND CONNECTOR CKT		
AK	2908	38E5
B	46H3	38D7
BK	2908	38E5
CB-	65F9	3980, 3900
DK	2908	38D7
DKI	2908	44F2
JC-	4309	38E5
JC0	4309	39E5
LS-	4489	38E5
MR	54C7	587,38E5
MRI	54C7	587, 38E5
OT	52A1	39E5
PC	46E9	38E5
PS	36H6	587, 38D7
S-	4489	38D7
SL	45E8	38E5
SSA	47G8	38E5
SSB	47G8	38E5
ST-	9F7	4485
TC	52A1	587,38C5
TI	66F9	38E5
TP	52A1	38E5
TRL	36H6	38E5
ZK	52A1	38E5
ZO	55F5	587,38E5
ZS	55F5	38E5

DESIG	LOCATION FS	LOCATION CAD
MISC CKT FOR ORIGINATING MARKER CKT		
AR	6464	-
BB	6489	-
TA	6464	-

DESIG	LOCATION FS	LOCATION CAD
MISC CKT FOR ORIGINATING TROUBLE INDICATOR CKT		
ALM	6C89	780,48B2
ANE	10G3	43B7
ANO	10G3	43B7
B	3B4	7C0, 48C5
CB0,1,2	3E0	47F2, 48E2
CTR	6BB0	
DB	62C5	44C0
DJ	3B4	44C5
GT	3B4	44F5
MB	64G4,M4	44B0
MR	67D3	44G2
RT-	6089	730,60, 43B2
RT4-9	60E9	
RT10-29	6BB0	
RTL	6089	
TAP	64G4	44G2
TIA	36G0	44G2
TSB0-4	60E4	7G0, 44D0

DESIG	LOCATION FS	LOCATION CAD
MISC CKT FOR SENDER MAKE BUSY CKT		
2TF	67E5	92E0
PC	67E5	92E0

DESIG	LOCATION FS	LOCATION CAD
INTERRUPTER FRAME CKT		
A	63A3, 64B4	92B0
B	63A2, 64B3	92B0
F	64C3	92B0

DESIG	LOCATION FS	LOCATION CAD
OFFICE LINK AND CONNECTOR CKT		
CB (EVEN)	65F3	45D0
CB (ODD)	65F3	46D0
CK (EVEN)	29B3	7A2, 45D5
CK (ODD)	29B3	702, 46D5
LC0-9 (EVEN)	42D9	45D5
LC0-9 (ODD)	42D9	46D5
LS-(EVEN)	44C9	45D5, 46D5
LS-(ODD)	44C9	45D5, 46D5

DESIG	LOCATION FS	LOCATION CAD
OFFICE LINK AND CONNECTOR CKT		
MB (EVEN)	37D3	45D0
MB (ODD)	37D3	46D0
MCB (EVEN)	42D3	45D0
MCB (ODD)	42D3	46D0
MS (EVEN)	37D3	45D0
MS (ODD)	37D3	46D0
OK-	31B5	44B2
PSA (EVEN)	47E8	45D5
PSA (ODD)	47E8	46D5
PSB (EVEN)	47E8	45D5
PSB (ODD)	47E8	46D5
S-OL-9L	39A4	45D5, 46D5
S-OR-9R	39A4	45D5, 46D5
SI-OL-9L	39A4	45D0, 46D0
SI-OR-9R	39A4	45D0, 46D0
SB	9G7	44F2
SIK	50A7	
SML (EVEN)	46F4	45D0
SML (ODD)	46F4	46D0
SMR (EVEN)	46F4	45D0
SMR (ODD)	46F4	46D0
SP (EVEN)	37D3	45D0
SP (ODD)	37D3	46D0
SSA (EVEN)	47E8	45D5
SSA (ODD)	47E8	46D5
SSB (EVEN)	47E8	45D5
SSB (ODD)	47E8	46D5
ST	31D5	44D2

DRAWING ISSUE 10.1D 10.2D

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ORIGINATING MARKER CIRCUIT (2) SD-25016-01-A9

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-A9

LEAD INDEX

DESIG	LOCATION FS	LOCATION CAD
OFFICE LINK AND CONNECTOR CKT		
TLO-14 (EVEN)	38D6	45D0
TLO-14 (ODD)	38D6	46D0

DESIG	LOCATION FS	LOCATION CAD
ORIGINATING MARKER CONNECTOR CKT		
2L	27D0	48D0
70G	27D0	48D0, 48C2
A1,2,4,5	4D5	47G2
AID	27D0	47D7
AR	4D0	47G2
B1,2,4,5	4D5	47D0
C1,2,4,5	5D0	47D0

DESIG	LOCATION FS	LOCATION CAD
ORIGINATING MARKER CONNECTOR CKT		
CB0-2(0-9)	3E0	7B4, 47C2, 48C2
CC0,1	15D0	7F2, 47D7
CC2	14C0	7F2, 47D7
CC4	16A0	7F2, 48D0
CC7	15D0	7F2, 48D0
CIE	66C4	
CK1-4	6C0	47D0
CKG	6C0	7D5, 47D0
CL1-5	23D0	47D7
CNG	66C4	47D7
CR1-5	23D0	48D0
CR6	24D0	7D5
CR7	24D0	7D5
D1,2,4,8	5D0	47D0
DA	3B0	47D0
DB	3B0	7D5, 47D0
DC	29E0	47D0

DESIG	LOCATION FS	LOCATION CAD
ORIGINATING MARKER CONNECTOR CKT		
EA	14C0	47D0
F	3B0	47D0
F1,2,4,5	5C5	47G2
F10	5C5	47G2
FRG	66C4	47D7
GT	3B0	44E5
KP	36C1	
LA	14C0	7D5, 47D0
MF	4D0	
MIO.1.2.4.7	27D0	48D0
OB1,2,4	25D0	48D0
ODN	27D0	47D7
OF	4D0	47D0
OG1,2,4,5	24D0	47D7
PD1	4D0	48D0

DESIG	LOCATION FS	LOCATION CAD
ORIGINATING MARKER CONNECTOR CKT		
RL	36A0	47D7
RO	1A0	7F2, 7D5, 47D7
SB1,2	24D0	7D5
SB4	24D0	47D7
SD	25D0	47D7
SD1	25D0	48D0
SG1,2,4	26D0	7D5
SG5	26D0	47D7
SGR	4D0	47D0
SK2,3	27D0	48D0, 48C2
SNG	66C4	48D0
SO	24D0	48D0
SSO	26D0	47D7
ST-	67A0	47D0, 47D7
TDV	32D0	47D7
TM	6389	47D0
TP	4D0	47D0
TRL	36H0	7D5, 47D7
TW	23D0	48D0

DESIG	LOCATION FS	LOCATION CAD
ORIGINATING SENDER TEST CKT		
A1,2,4,5	4H5	51D5
ACC	55H5	51D5
AR	4H0	51D7
B1,2,4,5	4H5	51D5
C1,2,4,5	5H0	51D7
CC0,1,7	15H4	8F0, 51D7
CC2	14H2	8F0, 51D7
CC4	16H1	8F0, 51D7
CK1,2	6G1	51D5
CK3	6G1	51D7
CK6	59A7	51D5
CKG	6G1	51D7
CKL	6G1, 59A7	51D7
D1,2,4,8	5H0	51D7
DC	29G1	51D5
EA	14H2	51D7
F1,2,4,5	5E5	51D5
F10	5E5	51D7

DESIG	LOCATION FS	LOCATION CAD
ORIGINATING SENDER TEST CKT		
GS1	59H3	51D5
LA	14H2	51D5
OF	4H0	51D7
PD1	4H0	8F0, 51D7
SGR	4H0	51D5
TIB	67A5	51D5
TIB1	67A5	51D5
TP	4H0	51D7

DESIG	LOCATION FS	LOCATION CAD
ROUTE AND RATE VERIFICATION TEST CKT		
ASC00-29	15A8	79H4
ASC30-39	19E5	79H4
C	59E5	55F7
D	1289	55E0
E	17A2	55E0
G	53G0	5580
IA	5689	55E0
IB	5689	55E0

DESIG	LOCATION FS	LOCATION CAD
ROUTE AND RATE VERIFICATION TEST CKT		
DA	5689	55E0
DB	5689	55E0
DDR	1E1	55E0
RA0-70	53D0	55F7
SB(0,1)P	21G0	55E0
SB(2-5)P	21G0	55E0
SB(6-9)P	21B0	55E0
SB(0-9)S	21G0	55E0
SC0-39	7F8	55F7
T-RA(3-13)	53D0	18F5
TWD	53D0	55F7

DESIG	LOCATION FS	LOCATION CAD
TIMING CONTROL CKT FOR ALL ORIGINATING MARKERS BUSY		
AMB	3B5	44F5

DESIG	LOCATION FS	LOCATION CAD
TRAFFIC REGISTER CKT		
AI		33C4
CSP0-9	62D0	37E4
FAPC		51F0
FAPC1		51F0
FM2	65F8	43D5
MPC		9280
MPC1		9280
LC1	62D0	37E4
PC10-29		68F5
PC-MJ	62B3	43G0
PC-MN	62B3	43G2
TR-OF-		7886
TR-PC		7886

DESIG	LOCATION FS	LOCATION CAD
ROUTE TRANSFER AND MAKE BUSY CKT		
RT 4-9	60E9	9287

DESIG	LOCATION FS	LOCATION CAD
ROUTE TRANSFER CONTROL CKT		
RT-	60H7	21C0, 92C2

DESIG	LOCATION FS	LOCATION CAD
FOR CODE POINT PEG COUNT		
PCT	62F0	90C0
FOR DISTRICT OVERFLOW		
OF -	62A3	7D0, 44C2

DRAWING ISSUE
10ID CB
10Z0 CB

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ORIGINATING MARKER CIRCUIT (2) SD-25016-01-A10

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-A10

HIGGINS 4465 MADE IN U.S.A.

LEAD INDEX

DESIG	LOCATION FS	LOCATION CAD
TRAFFIC REGISTER CKT — FOR OFFICE OVERFLOW		
OF-	62A3	7D0, 44C2
FOR OUTGOING GROUP OVERFLOW		
OF-	62A3	7D0, 44C2
FOR OUTGOING GROUP PEG COUNT		
FAPC	62E0	51F0
FAPC1	62E0	51F0
FOR OVERFLOW AND ANNOUNCEMENT WITH INTERSENDER TIMING		
OF-	62A3	7D0, 44C2
FOR PEG COUNT		
FAPC	62E0	51F0
FAPC1	62E0	51F0
MPC	62C3	92B0
MPC1	62C3	92B0

DESIG	LOCATION FS	LOCATION CAD
TRAFFIC USAGE RECORDER CKT		
MB	62B9	43E5
MBM	62B9	43E5

DESIG	LOCATION FS	LOCATION CAD
TROUBLE INDICATOR CKT ORIGINATING		
2L	27H0	52D0
7DG	27H0	43E5
A	45H4	53E2
A1,2,4,5	4H7	54D0
ABCK	46D4	43D7
AIDK	27H0	43C7
AIOD	28G5	43C7
AK	29G9	54D5
AN	10G5	54D7
ANI	51G7	43D5
AR	4H1	54D0
B	54B7	53E0
B1,2,4,5	4H7	54D0
BBCK	46D4	43D7
BK	29C0	53E0
C	45B0	53E2
CO	66D3	52D0
C1,2,4,5	5H2	54D0
CBCK	46D4	43D7
CCO	15H1	50G0
CC1	15H1	50G0
CC2	14H1	50G0
CC4	16H0	50G0
CC7	15H1	50G0
CHE	48B0	53E0
CHLO-9	48B0	52C2
CHRO-9	48B0	52C2
CIA	66D3	44D5
CIE	66D8	54D5
CIF1	66D8	44D5
CK	29C0	53E0
CK1-4	6G3	54D5
CK6	59A7	54D7
CKG	6G3	54D2
CL1-4	23H0	54D2
CL5	23H0	52D0
CR1-5	23H0	54D2
CR6	24H0	8E5
CR7	24H0	8E5
CRL	49D8	54D5
CRT		93F3
D1,2,4,8	5H2	54D2
DB	64B9	44D5
DC	29G0	54D5
DF-	9H3	52D0
DK	29G9	53E0
DK1	35D8	54D5
DKT	29G0	54D5
DL	55E9	44D5
DLS	44C9	54D5
DOC	68C2	93B3,F3
DR	59H1, 64B9	44D5
DSB	9H3	54D7
DSB1	9H3	54D7
DT3	50G9	54D5
EA	14H1	52D0
EXBG	66D8	54D7
F1,2,4,5	5E7	54D2
F10	5E7	54D2
G	35H2	54D5
GO,1	57C0	53E2
G2-6	57C0	53E2
G7-11	54C0	53E2
GS1,3	59H1	8B5,54D7
GS2	59H1	52D5
GS4	59H1	52D5
GSE	52A6	8E5, 54D7
GT1	58E0	53E0
GT3	58E0	52D5
JC-	43B0	52D5
K4	12C7	54D0
K5	13B1	54D0
KE(R,L)0,2-8	41F3-F9	52C2
KE(R,L)1,3-9	41F3-F9	52C2
KO(R,L)0,2-8	41F3-F9	52C2
KO(R,L)1,3-9	41F3-F9	52C2
LA	14H1	52D0
MC	66D3	54D2
MIA-H,J	2D9	52D7
MIO,1,2,4,7	27H0	52D0
MICK	2D9	52D7
MIPS	2D9	52D7
MR	54F8	53E2
MR1	54E0	54D5
MR2	54B7	54D5
MRK	54E0	54D7
MRL	54E0	54D5
MS	35H2	53E0
NC1	2D9	52D7
NSE	37A3	53E0
NSO	37A3	53E0
OB1,2,4	25F0	54D0
OBT	25F0	54D7
ODN	27H0	50A0
OF	4H1	54D2
OG1,2,4,5	24H0	54D0
OK-	31G4	52D0
OT	52A6	54D5
OT1	1H2	52D7
P-	43H0	52D5, 52D7
PD(1)	4H1	50A0
PD1	4H1	50A0
PS1	2D9	52D7
PTK	50G9	52D0
RO	1A0, 36D1	54D5
RL	36A0	54D5
RP1	2D9	52D7
RT4-9		92B2
S	45B0	53E0,54D5
SB1,2,4	24H0	8E5
SD	25F0	54D0
SD1	25F0	54D0
SDT	67C3	52D0
SG1,2,4	26H0	8E5
SG5	26H0	54D2
SGR	4H1	53E2
S1K	50G9	53E0
SK2	20H0	43E5
SK3	20H0	43E5
SL	45H4	53E0, 54D5
SO	24H0	54D0
SPE	37A3	53E0
SPO	37A3	53E0
SR	35A1	53E0
SSO	26H0	54D2
TB5	30H4	54D5
TC	52A6	54D5,54D7
TC1	1H2	52D7
TCK	55E9	52D7
TDV	32H1	8E5,43D5
TDVK	32H1	8E5, 43D5
T1B	55E9 66D3	44D5
TIS	66B3	44D5
TK	33B0	8B5,43D5
TK1	34G9	43E5
TKE	41E9	53E0
TLO-9	38C6	52D0
TL10-14	38C6	52D0
TM	63B7	44D5
TM6	63G8	54D2
TOV	24H0	54D0
TP	4H1	54D2
TP1	2D9	52D7
TP2	52A6	54D5
TPK	52A6	52D7
TR	66D3	54D7
TR1	36D9	54D7
TR2	54F8	54D7
TRL	36G0	54D5
TST	52A6	54D5
TW	23H0	54D2
XC	61E7	53E2
XCH	44C0	53E2
XCL	61D4	53E0
XCR	61D4	53E0
XDC	29C0	52D0
XDF1	9H3	52D7
XGE	61E7	53E2
XGS	61E7	53E2
XK	47E2	53E0
XLCO	61E7	53E2
XLCE	61E7	53E2
XOB	61D4	53E0
XOF	61E7	53E2
XOG	61D4	53E0
XRL	36A0	53E2
XS	45H4	53E0
XS1	39H3	53E0
XSB	61D4	8B5
XSG	61D4	53E0
XSL	45H4	53E0
XSM	46E1	53E0
XSM1	46G8	52D5
XSS	61E7	53E0
XT	61D4	53E0
XTC	52A6	53E2
XTD	32H1	52D0
XTL	61E7	53E2
XTL1	31G4	53E2
XX1	61D4	53E2
XZ	55B3	53E2
XZS	55G5	53E2
Z(A-J)1	2D9	52D7
ZA-J	55B3	54D7
ZCK	2D9	52D7
ZK	52A6	54D5
ZKA	52A6	54D7
ZL	55B3	54D5
ZO	55G5	54D5
ZS	55G5	54D7

DESIG	LOCATION FS	LOCATION CAD
ZONE REGISTRATION COMMON CONTROL CKT		
Z(A-J)	55C3	39G0
ZL	55C3	39G0
ZR	66F9	39G0

DRAWING ISSUE 101D

ISSUE 107A

ORIGINATING MARKER CIRCUIT ② SD-25016-01-A11

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-A11

OPTION INDEX

APP OR MRG	LOCATION
FIG. A	6A3,8E0-E9
FIG. B	APP FIG B, 4F1
FIG. C	APP FIG C,36C1-C3, D1,D4,E2,F1,F3
FIG. D	APP FIG D,1A2,2388, B9,36C1-C3,D2,D4,D5, E3,F1,F3
FIG. E	APP FIG E,49C3
FIG. F	APP FIG F
FIG. G	APP FIG G,44C5,C8, D5
FIG. H	APP FIG H
FIG. I	APP FIG I
FIG. J	APP FIG J
FIG. K	APP FIG K,29A2,A5
FIG. L	APP FIG L,35B3,C3, 63B1
FIG. M	APP FIG M,35B3
FIG. N	APP FIG N,2063, G5,H3,2684,66C7
FIG. O	APP FIG O,2063,H3, 2684
FIG. P	47F3
FIG. Q	APP FIG Q
FIG. R	APP FIG R
FIG. S	APP FIG S
FIG. T	APP FIG T
FIG. U	APP FIG U,2964,59F7
FIG. V	APP FIG V
FIG. W	23C8,C9,29F6,36C4
FIG. X	23C9,36C4,C5
FIG. Y	APP FIG Y,56A0
FIG. Z	APP FIG Z

APP OR MRG	LOCATION
FIG. AA	APP FIG AA,3666,5485
FIG. AB	APP FIG AB,3666,5485
FIG. AC	APP FIG AC
FIG. AD	APP FIG AD
FIG. AE	APP FIG AE
FIG. AF	23C9,36C5,D4
FIG. AG	APP FIG AG,3184, 35F2
FIG. AH	APP FIG AH
FIG. AI	APP FIG AI
FIG. AJ	36C1-C3,D2,D4,D5, E3,F1,F3
FIG. AK	APP FIG AK,1A2, 2988,89,36C1-C3, D2,D4,E3,F1
FIG. AL	APP FIG AL
FIG. AM	APP FIG AM
FIG. AN	APP FIG AN,67H2
FIG. AO	APP FIG AO
FIG. AP	33A3,6686
FIG. AQ	APP FIG AQ,5083
FIG. AR	1683,D3
FIG. AS	APP FIG AS
FIG. AT	APP FIG AT
FIG. AU	27E3,F3,34F3
FIG. AV	APP FIG AV,4F1
FIG. AW	21C0-E0
FIG. AY	APP FIG AY,1206, E6,17A7,G7,18A1
FIG. AZ	APP FIG AZ,18A1
FIG. BA	APP FIG. BA,23C9, 36C3,C5
FIG. BB	APP FIG. BB,1286
FIG. BC	APP FIG. BC

APP OR MRG	LOCATION
FIG.BD	APP FIG BD,43B7,46F1,F2
FIG.BE	APP FIG BE
FIG.BF	APP FIG BF
FIG.BG	APP FIG BG
FIG.BH	APP FIG BH
FIG.BI	APP FIG BI
FIG.BJ	APP FIG BJ
FIG.BK	APP FIG BK
FIG.BL	APP FIG BL
FIG.BM	APP FIG BM
FIG.BO	APP FIG BO
FIG.BP	APP FIG BP
FIG.BQ	APP FIG BQ
FIG.BR	APP FIG BR
FIG.BS	APP FIG BS
FIG.BT	APP FIG BT
FIG.BU	APP FIG BU,45A2,A3, E2,E3,E5
FIG.BV	APP FIG BV,4486,E6, 4583,D2,E2,E3,46E5
FIG.BW	APP FIG BW
FIG.BX	APP FIG BX,44E1,F3, H0,H3
FIG.BY	APP FIG BY,44E1,F3, H1,H3

APP OR MRG	LOCATION
2	APP FIG 2
5	APP FIG 5
9	APP FIG 9
9A	APP FIG 9A
9B	APP FIG 9B
13A	APP FIG 13A
13B	APP FIG 13B
13C	APP FIG 13C
13D	APP FIG 13D
13E	APP FIG 13E
18	APP FIG 18
21	APP FIG 21
29	APP FIG 29,14A3,B4
30	APP FIG 30,6089
31	APP FIG 31
32	APP FIG 32,6080,C0
33	APP FIG 33,6080,H7
34	APP FIG 34
35	APP FIG 35
36	APP FIG 36
37	APP FIG 37
38	APP FIG 38,43A3-G3, B2,C2,65F7,G7
39	APP FIG 39,28E3, 32B3,34F2,H4
40	APP FIG 40
41	APP FIG 41,36C2,F2
42	APP FIG 42
43	APP FIG 43
44	APP FIG 44,14A3,94
45	APP FIG 45,25B4
46	APP FIG 46
47	APP FIG 47
48	APP FIG 48
49	APP FIG 49
50	APP FIG 50
51	APP FIG 51
52	APP FIG 52
53	APP FIG 53

APP OR MRG	LOCATION
54	APP FIG 54
55	APP FIG 55,17D3,1846, B7,C7,C8,E8
56	APP FIG 56,17A7,G7
57	APP FIG 57
58	APP FIG 58
59	APP FIG 59,14F2, 15A2,D2,F6,16A2, A4,D2,18A6,B7,C8
60	APP FIG 60,1588
61	APP FIG 61
62	APP FIG 62,15C4,E4
63	APP FIG 63
64	APP FIG 64
65	APP FIG 65,27D3,E3, E4,F4
66	APP FIG 66,66E6
67	APP FIG 67
68	APP FIG 68
69	APP FIG 69
70	APP FIG 70
71	APP FIG 71
72	APP FIG 72
73	APP FIG 73
74	APP FIG 74
75	APP FIG 75
76	APP FIG 76
77	APP FIG 77
78	APP FIG 78,53A2,D2,F2
79	APP FIG 79,5303,F3,G3
80	APP FIG 80,53G1
81	APP FIG 81
82	APP FIG 82
83	APP FIG 83
84	APP FIG 84
85	APP FIG 85
86	APP FIG 86

APP OR MRG	LOCATION

APP OR MRG	LOCATION
Z	43C3,G3,4948,B8,D4, E4
Y	3988,B2,D3,D4,D6,D8
X	APP FIG. 28,39C8,D2, B3,D5,B6,D8
W	4384,C3,B4,G3,G4, 4948,E4
V	35F4
U	APP FIG 4
T	58F5,F6,H3
S	APP FIG 14
R	3186,59E1
Q	58F5,G3,G5,G6
P	APP FIG 27
N	APP FIG 14,2084,C3, C4,2486,C1,26A3,D5, E6,G5,G6,33D1
M	3300,6687
K	3606,E6
J	APP FIG 8
H	APP FIG 4,60C0
G	60C0
F	APP FIG 1
E	APP FIG 1,2
D	APP FIG 8
C	APP FIG 4
B	65E6,E8
A	APP FIG 4
AA	58C6,E6
AB	58C6
AC	3186,B7,5981,E1
AD	3186,59E1
AE	APP FIG 16
AF	APP FIG 16
AG	APP FIG 1
AH	APP FIG 8
AI	APP FIG 13
AJ	APP FIG 17
AK	APP FIG 17
AL	APP FIG 8, AG,AH,AI, AK,8
AM	APP FIG 14

APP OR MRG	LOCATION
AN	APP FIG 28,BK
AO	APP FIG 13
AP	APP FIG 28,BK
AQ	APP FIG 8,55E2,E4,F3
AR	APP FIG 8,55E2,E4, 6507
AS	1G3,G5,2E3,G4,G6
AT	APP FIG 8,1G2,G3,G5, G6,2E3
AU	APP FIG 14,2E3,F3
AW	APP FIG 1,58C5,D6,D7, 59A7-D7
AW	APP FIG 3
AX	APP FIG 3
AY	APP FIG 3
AZ	66F8
BA	APP FIG 14
BB	2084,B5,26A3,B4,F5, G5,3300,D8,6687
BC	65F7,F8,G7
BD	APP FIG G,5,8,13,24, 28
BE	APP FIG 3,8,16
BF	APP FIG 1,5807,D8, 59A7-C7
BG	APP FIG 31
BH	APP FIG 31
BI	58C5,D6
BJ	3085,58B7
BK	58D6
BL	APP FIG C
BM	APP FIG C,AJ
BN	APP FIG 28
BO	APP FIG 28
BP	APP FIG 28
BQ	APP FIG 8
BR	APP FIG 8,36A6
BS	APP FIG 19
BT	APP FIG 19

APP OR MRG	LOCATION
BU	1285,B6
BV	1285,B6,C7
BW	6BA7
BX	6087
BY	APP FIG 28,4469
BZ	APP FIG 28,4469
CA	APP FIG 13
CB	APP FIG BU
CC	APP FIG BU
CD	1062,6084,B5
CE	APP FIG 31
CF	58A1,B1,B7
CG	58A2,B2,59A8,F3
CH	59F0,F3,G3
CI	59A8,F1,F2
CJ	APP FIG M
CK	APP FIG J
CL	APP FIG K
CM	APP FIG M
CN	APP FIG J
CO	APP FIG K
CP	APP FIG 8,13,15
CQ	APP FIG 8,13,15
CR	APP FIG Z
CS	APP FIG Y,2,6
CT	APP FIG E,F,L,M,BE, BE,BO,BQ,1,8,10,12, 138,138,28,29
CU	APP FIG H,U,BB,6,8, 13,17,28,29,30,53
CV	APP FIG G,H,J,K,BB, BU,1,8,13,17,19,28, 29,30,53,54
CW	APP FIG 8,41
CX	APP FIG 8,41
CY	APP FIG B
CZ	APP FIG B

DRAWING ISSUE 105B

ORIGINATING MARKER CIRCUIT ② SD-25016-01-A12

BELL TELEPHONE LABORATORIES INCORPORATED 65

SD-25016-01-A12

OPTION INDEX

APP OR WRG	LOCATION
DA	APP FIG 8
DB	APP FIG 8
DC	AFP FIG 8
DD	APP FIG 8
DE	APP FIG 8
DF	APP FIG 8
DG	APP FIG 14
DH	APP FIG 14
DI	APP FIG N,O,14
DJ	APP FIG N,O,14
DK	APP FIG N,O,14
DL	APP FIG N,O,14
DM	APP FIG 14
DN	APP FIG 14
DO	APP FIG O,14
DP	APP FIG O,14
DQ	APP FIG H,14,28
DR	APP FIG H,14,28
DS	APP FIG BQ
DT	APP FIG BQ
DU	APP FIG 17
DV	APP FIG 17
DW	APP FIG 14
DX	APP FIG 14
DY	APP FIG 14
DZ	APP FIG 14
EA	APP FIG K
EB	APP FIG K
EC	APP FIG L
ED	APP FIG L
EE	APP FIG 8
EF	APP FIG 8
EG	APP FIG 27
EH	APP FIG 27
EI	APP FIG 13
EJ	APP FIG 8
EK	APP FIG 8
EL	APP FIG 14
EM	APP FIG 14
EN	APP FIG 14
EO	APP FIG 14
EP	APP FIG 14

APP OR WRG	LOCATION
EQ	APP FIG 14
ER	APP FIG 14
ES	APP FIG 13
ET	APP FIG 14
EU	AP FIG 14
EV	APP FIG 20
EW	APP FIG BJ,BK
EX	APP FIG 16
EY	APP FIG 16
EZ	APP FIG 1
FA	APP FIG G,I,5,8,13, 24,27,28
FB	APP FIG G,V,BU,I,5, 6,8,13,24,27,28,41
FC	APP FIG 1
FD	APP FIG 1
FE	APP FIG 1
FF	APP FIG 1
FG	APP FIG 8
FH	APP FIG 8
FI	APP FIG O,AC,8,28, 36,2E5,33A8,G1, 36C7-E7,G8,54A1, B2,B6,C4,C6,G4, 55B2,61B2
FJ	APP FIG 28,1G3,G5, G6,2F2,F5,27C1-G1, F7,34F1,36C7,E7, G5,55G4,59H6
FK	25F1
FM	APP FIG 28
FN	APP FIG 8
FO	10A7,A8
FP	APP FIG 15
FQ	APP FIG 15
FR	APP FIG B,BB,BC,I
FS	APP FIG X
FT	APP FIG X,54C3
FU	APP FIG 13
FV	APP FIG 13
FW	6A6
FX	4C3,6A6
FY	APP FIG 42
FZ	64B7

APP OR WRG	LOCATION
GA	APP FIG J,K
GB	APP FIG 13
GC	APP FIG H
GD	APP FIG H,13
GE	APP FIG K,13,28
GF	APP FIG K,13,28
GG	APP FIG BX
GH	APP FIG BX
GI	APP FIG 28
GJ	APP FIG 28
GK	APP FIG 31
GL	58F5,G1,G5,G6,H3
GM	39F3,41D0
GN	APP FIG 13
GO	APP FIG 13
GP	36F7
GQ	36F7
GR	13A1
GS	13A1,A2,17C1,D1
GT	52H5
GU	APP FIG AN,52B5,C6, H5
GV	APP FIG 41,52H6
GW	41B1,52C8,E8
GX	41B0,52D8
GY	52H5
GZ	52H6
HA	32G0
HB	32G1
HC	APP FIG 8
HD	APP FIG Z,BQ
HE	APP FIG AQ
HF	APP FIG AQ
HG	APP FIG AQ
HH	APP FIG AQ
HI	APP FIG AQ
HJ	APP FIG AQ
HK	APP FIG 14

APP OR WRG	LOCATION
HL	33B4
HM	APP FIG 14,33B5
HN	62A7,B7,C6,C8
HO	APP FIG AQ
HP	APP FIG AQ
HQ	APP FIG 8
HR	APP FIG 13
HS	APP FIG 13
HT	APP FIG AQ
HU	APP FIG AQ
HV	APP FIG AQ,34E6,E7, 50A1,A3,G4,51A3,C6, C8,C9,E3,G6
HW	10A2,10B2,65G7
HX	APP FIG 3
HY	APP FIG 3
HZ	APP FIG 3
IA	APP FIG 3,4,5,7,23, 29,43
IB	APP FIG 3,4,5,7,23, 29,43
IC	APP FIG 13,22,26
ID	APP FIG 13,22,26
IE	10G2,G3,G5,60B5
IF	30F2,F6,59H7
IG	30F1,F5,59H7
IJ	30A0,A1
IK	APP FIG AQ,33C0, 34A0,B1,B4,B7,B8,D1, D2,D4,G8
IM	27B1
IN	27B1
IO	50A2
IP	33A2,B0
IR	62A7,C6 C8
IS	32B4
IT	32D2,G3

APP OR WRG	LOCATION
IU	32E2,E3,G1,G3
IV	36H4,46F6
IW	46E6
IX	35E1,54B2,B4
IY	13B7
IZ	APP FIG 54
JA	62C1
JB	4H3,62C1,C3
JC	APP FIG 13
JD	APP FIG 13
JE	62E1
JF	62E3
JG	32B5
JH	APP FIG 8,52E0
JI	APP FIG 8
JJ	35F2
JK	35G1
JN	APP FIG 55,14D4,E4, E5,F2,15A3,D3,E3,E4, G7,16A5,A6,B4,B5, 17A4,C4
JO	APP FIG 55,14D4,E4, E5,F2,15A3,D3,E3,E4, G7,16A5,A6,B4,B5, 17A4,C4
JP	APP FIG 55,4B3,14D4, E3,E5,15F7,16A5,B4, B6,17A4
JQ	APP FIG 55,4B3,14D4, E3,E4,15F7,G7,16A5, B4,B6,17A4
JR	12D4
JS	6A8
JT	6A7
JV	12A1-E1,D4,E5,16D7, F7
JW	4A1,14G2,15G3-G5, 16F1
JX	APP FIG 23
JY	APP FIG 62,12A1-E1, D4,E5,15D7

APP OR WRG	LOCATION
KA	27D2,F2,34F2,G4,G5
KB	27H1,H6
KC	APP FIG 14
KD	APP FIG 14
KE	66B4,C4
KF	50F4
KG	50F4,F5
KH	50D2,51A0,A6-C5, G4
KI	APP FIG AQ,46F6, 50D1-D4,51A5-C5,B0, C1
KJ	36A2
KK	36A2
KL	66E7,E8
KM	18C0,33A1
KN	33C1
KO	33B1
KP	24C1,D4
KQ	16D3
KR	16D3
KS	15C7
KT	15C7
KU	66B1
KV	50D4,F4
KW	35D6,38F4
KX	34A5,D5
KY	APP FIG AQ
KZ	51D5,G3
LA	34F6
LB	27G1,G5,28G4
LC	APP FIG AH,AI
LD	1B2
LE	19E4,E5,F4,F5
LF	APP FIG 70,28D3
LG	27B2,B3,34B3,D3
LH	APP FIG AQ

APP OR WRG	LOCATION
LJ	APP FIG AV
LK	12D4
LL	1D2,8B0,12A8,A9, 16E8,17C2,31A1,C3, 52A5,B7,C4,E4,E7, 56A5-C5,57C7,65C8, 66A9
LM	APP FIG 8,22,26,69, 8B0,12A8,A9,16E8, 17C2,35B6,52A5,84, B7,E4,E7,53A1,59G2, 64C9
LN	34B6,D6
LO	APP FIG AQ
LP	17E3,19A5
LQ	4A2,19A5,A7
LR	17E3
LS	17E2,E3
LT	51C2
LU	APP FIG AQ,51C2
LV	1F2
LW	1F2
ME	18E0
MH	10B1,B2,62C1
MI	9A7,B8,10B1,B2,62C1, 67D3
MJ	4G2,62C2
MK	4G2,62C1
ML	35E1,F1
MM	35E0,F2
MN	62E1
MO	62E1,E2
MP	52C1
MQ	52C1

APP OR WRG	LOCATION
MU	17B7
MX	68F2
MY	68F2
MZ	APP FIG.13A,29A5, 37C7,39G3,46B5
NA	APP FIG K,BE,8,13A, 28,29A7,39G3,44D5, D8,47A4
NB	44A7,46F0,F1
NC	APP FIG BE
ND	APP FIG BE
NE	APP FIG 8
NF	APP FIG 28
NG	APP FIG 28,47A2
NH	47B4
NI	47C4
NK	44C5,D6,D8,H5,H6, 46C3
NL	APP FIG BW
NM	APP FIG 13
NN	44E5,F3,F7,G6,H6
NP	APP FIG 55
NQ	35F1
NT	APP FIG AQ,46F6, 50D1,D2,F4,51B0,B5, C1,C2
NU	17B7
NV	APP FIG 55,15D4,E3, F7,F8,16A5,A6,17C4
NW	APP FIG 55 15D4,E3, F7,F8,16A5,A6,17C4

APP OR WRG	LOCATION
QA	1F0,36G7,54B2,C0, 55D7,F5
QB	APP FIG. 28,4H3, 10B1,37D9,54F7, 55D7

DRAWING ISSUES
101D
102D
104 AR

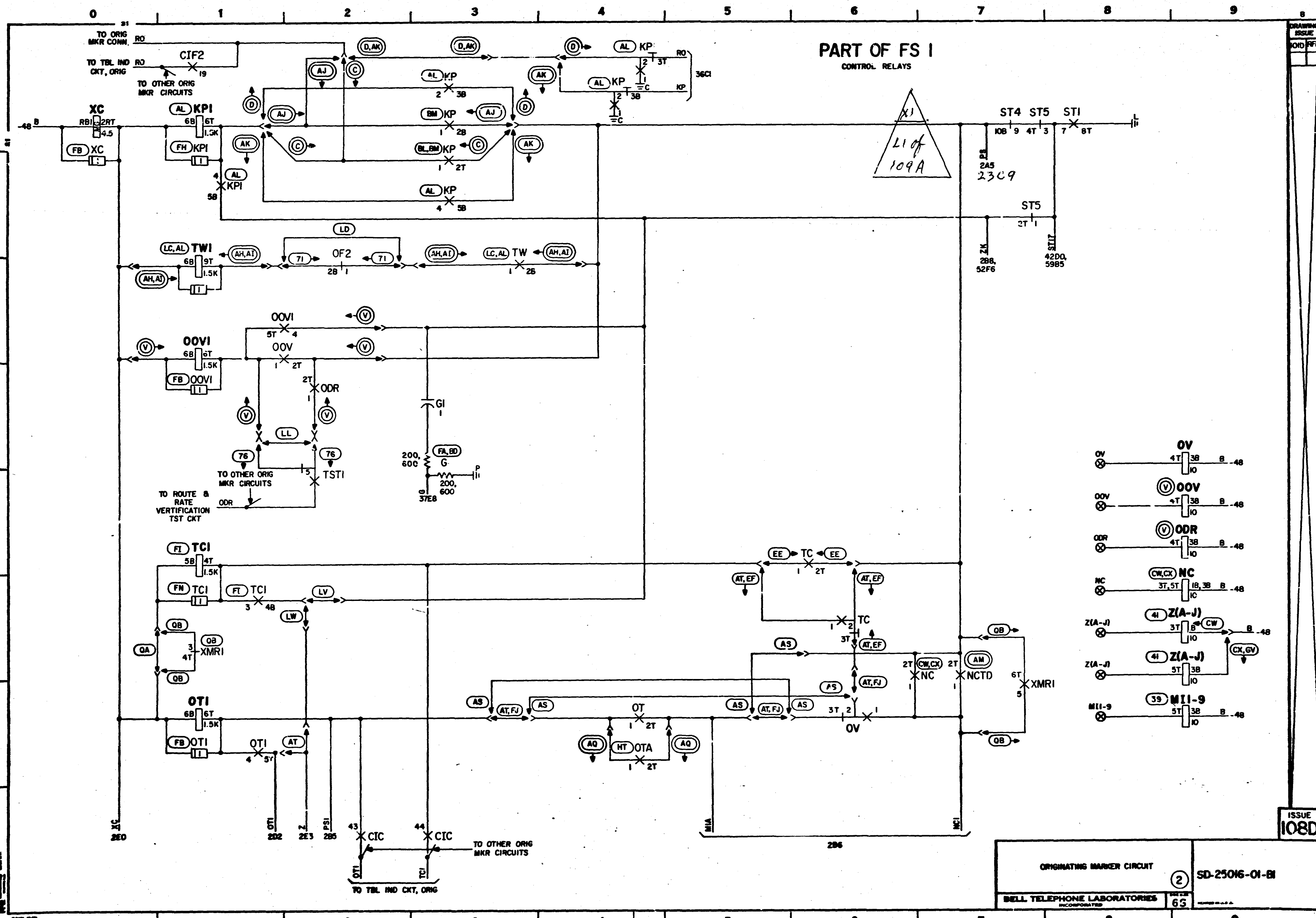
ISSUE 100

SD-25016-01-AI3

ORIGINATING MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-AI3



PART OF FS I
CONTROL RELAYS
TO ORIG MKR CONN.
TO TBL IND CKT, ORIG
TO OTHER ORIG MKR CIRCUITS
CIF2
XC
KPI
TWI
OF2
TW
OOVI
OOV
ODR
TSTI
TO OTHER ORIG MKR CIRCUITS
TO ROUTE & RATE VERIFICATION TST CKT
GI
G
TCI
XMRI
OTI
OT
OTA
TC
NC
NCTD
OV
ST4
ST5
STI
CIC
TO OTHER ORIG MKR CIRCUITS
TO TBL IND CKT, ORIG
OV
OOV
ODR
NC
Z(A-J)
MII-9
L1 of 109A
23C9
ISSUE 108D
ORIGINATING MARKER CIRCUIT
SD-25016-01-B1
BELL TELEPHONE LABORATORIES INCORPORATED

PART OF FS I

CONTROL RELAYS

PSI -48 B 10B 11T 950

PSI -48 B 11B 13T 700

10T PSI 9

12T PSI 11

PS 1 2T

PS

PS'

ST4 ST5 STI

TC AT, EF AT, EF

AT, FJ

AS AT, FJ OT OTA AS AT, FJ

OV

NC 1/7 NCTD

ST5

1B7, 1A7, 1H2, 1H6

MIA NCI ZK

D, HQ TPI -48 B 8B, 11B 10T, 12T 1.5K, 2.5K

FG TPI 1

TPI

FC TP 1 2 3T ST4 2B 1 ST41

ST5 10T 9 STI 5 6T 10E2

D, HQ TPI 6,5 7B, 6B

TPI 2T 1

D, HQ RPI -48 B 5B, 7B 4T, 8T 1K

FG RPI 1

RPI

D, HQ RPI 3 4B

JH, JI NCI -48 B 4B, 8B 6T, 8T 2.5K

FB NCI 1

NCI

NCI 1 2 3T STI 1H1, 5K2, 52F6

AS AT

Z(A-J)I 7 8T 41 AS AT Z 1H2

CX,CW,GV Z(A-J) 1 2T 41

FI FI

FJ

XC -48 A 4.5 1H0

41 39 XC

Z(A-J)I 6B 9T 1.5K

FB Z(A-J)I 1 ZA-JI

MIPS -48 B 6B 9T 1.5K

39 FJ PS PS 1 2B PS2B 54A2

MIPS

MIA-H,J 6B 9T 1.5K MI A-H,J

MII-9 1 2T MII-9 4T 3 MILI-9

MICK -48 B 6B 6T 1.5K

MIA-H,J 5B 4 5T MICK 4 ZK1 52H6

MICK

BL,BM ZCK -48 B 4B,4B 4T,5T 2.5K, 700 ZCK 3E

CLP 2B 1 CLS 2B 1

FJ

ZO AQ Z(A-J)I AQ ZO AR AR TO DIST LK & CONN CKT

Z(A-J)I ZL ZA-J TO ZONE REGISTRATION CKT

ZL 5503

TO OTHER ORIG MKR CIRCUITS

CIC 41 PSI

CIC 45 TPI TPI

CIC 42 NCI NCI

41 ZJN

ZJI 41 CIC 59 39 MIPS

MIPS 39

41 Z(A-I)I

Z(A-I)I 41 CIC 50-58 39 MI A-H,J

MIA-H,J 39

41 ZCK

ZCK BL,BM CIC 47 39 MICK

MICK 39

CIC 46 RPI RPI

TO TROUBLE INDICATOR CKT, ORIG

DRAWING ISSUE

101D	RFR
102D	

ISSUE 108D

ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-B2

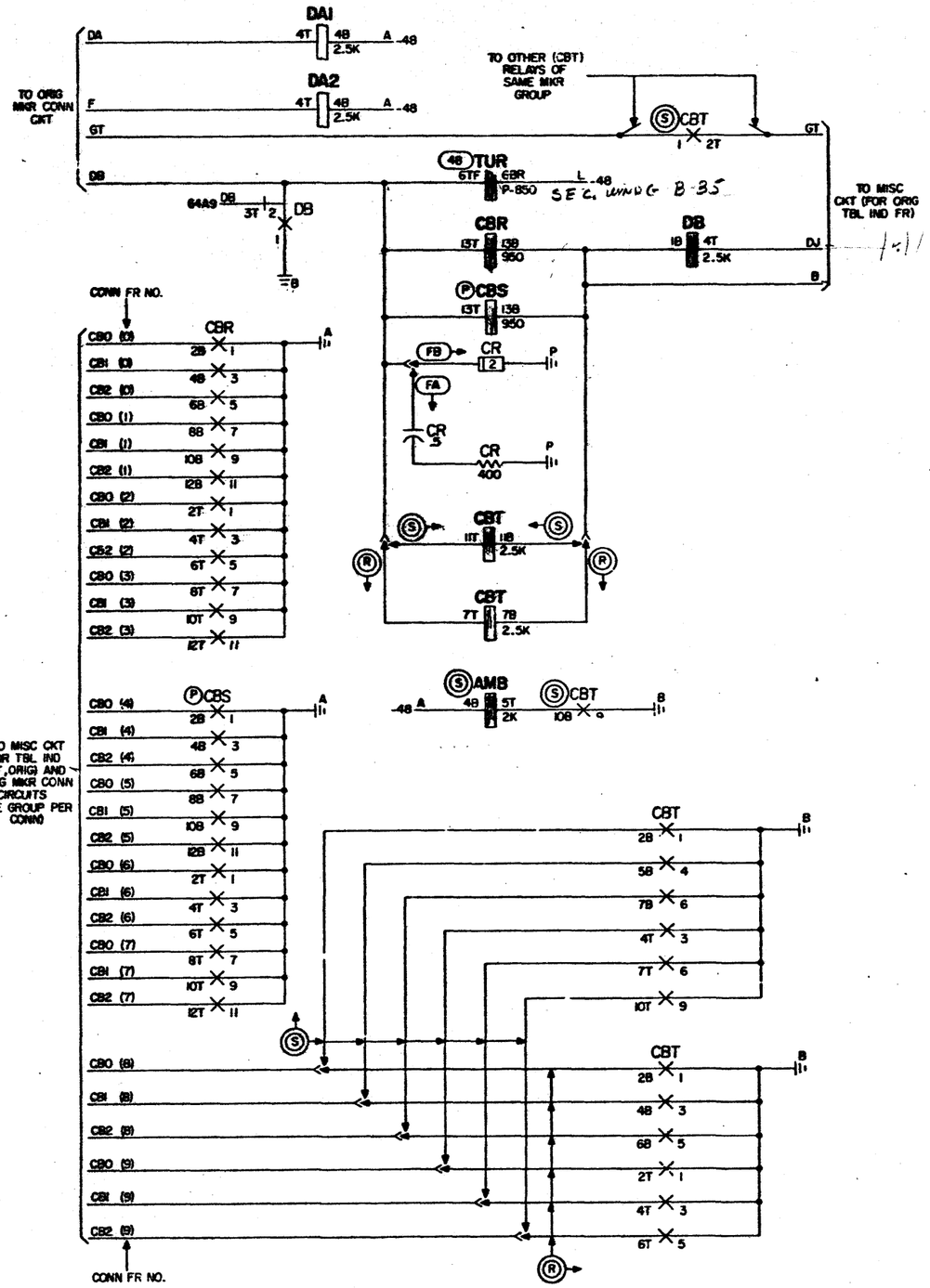
BELL TELEPHONE LABORATORIES INCORPORATED 6S

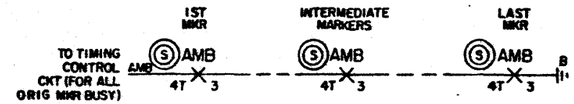
SD-25016-01-B2

HIGGINS 4465 M-B

FS 2

MARKER SEIZURE AND MARKER BUSY INDICATION





SD-25016-01-83

101

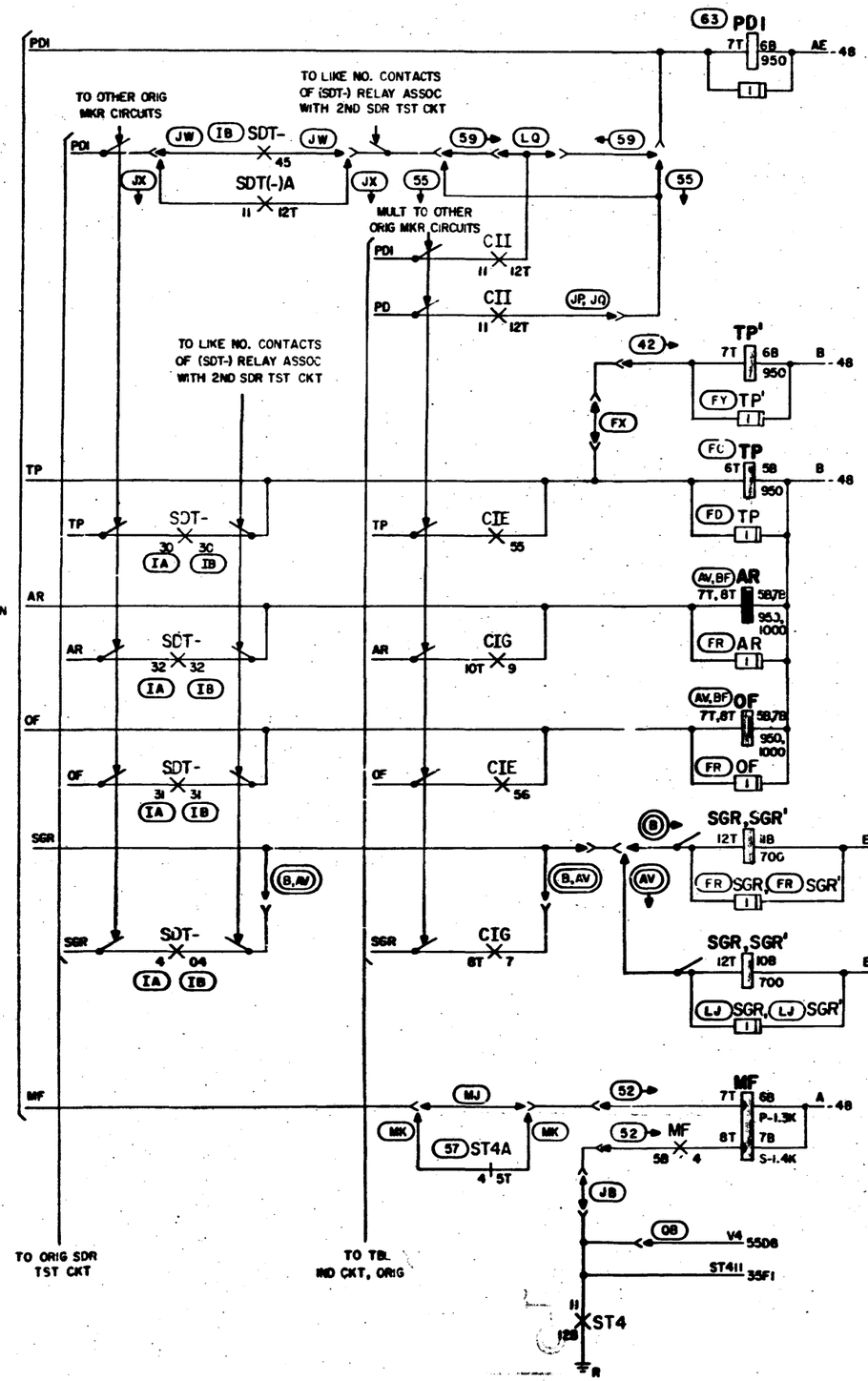
ORIGINATING MARKER CIRCUIT

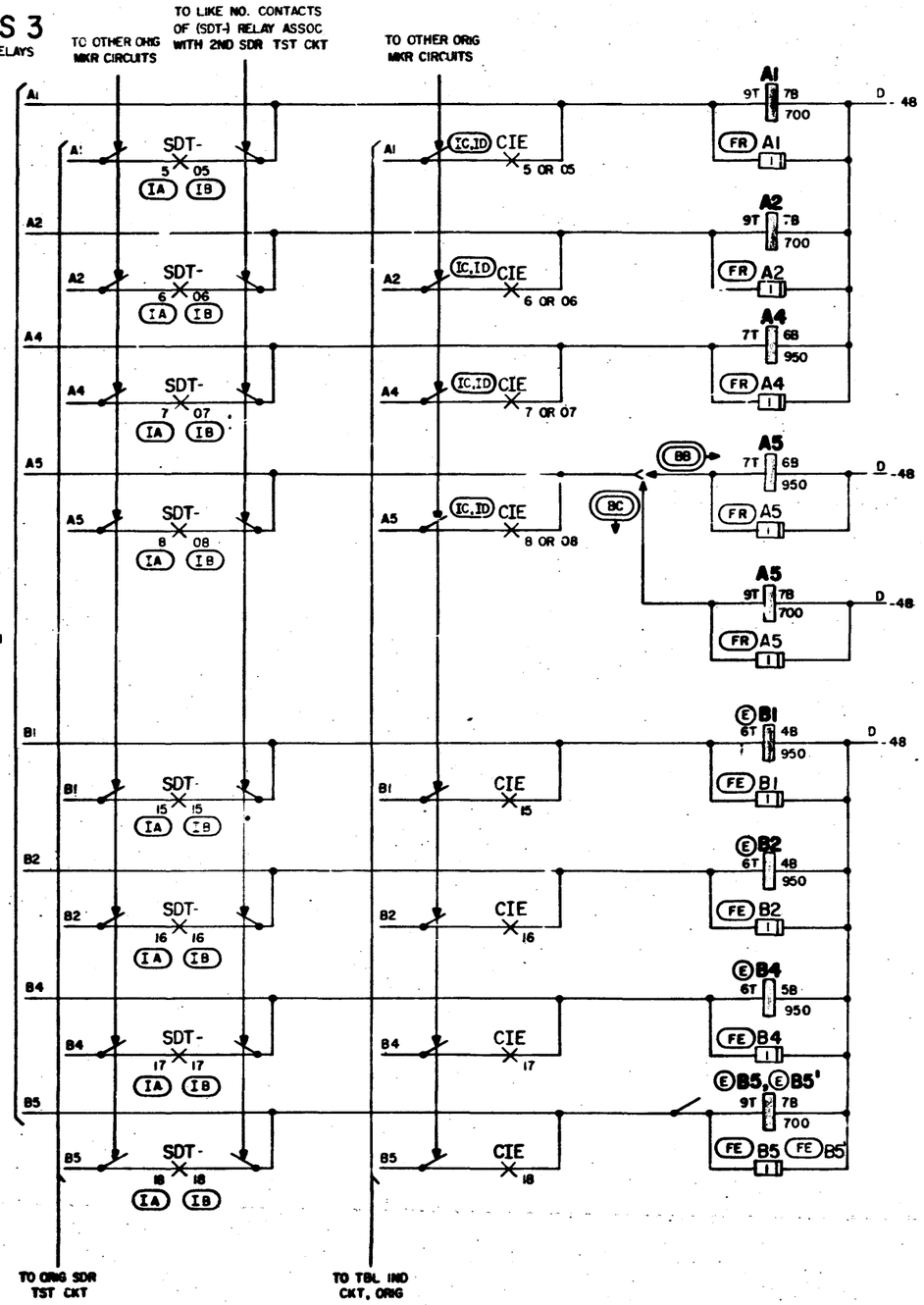
SD-25016-01-83

BELL TELEPHONE LABORATORIES INCORPORATED

PART OF FS 3

REGISTER RECEIVING RELAYS





DRAWING ISSUE

VOID	THIS

ISSUE 1080D

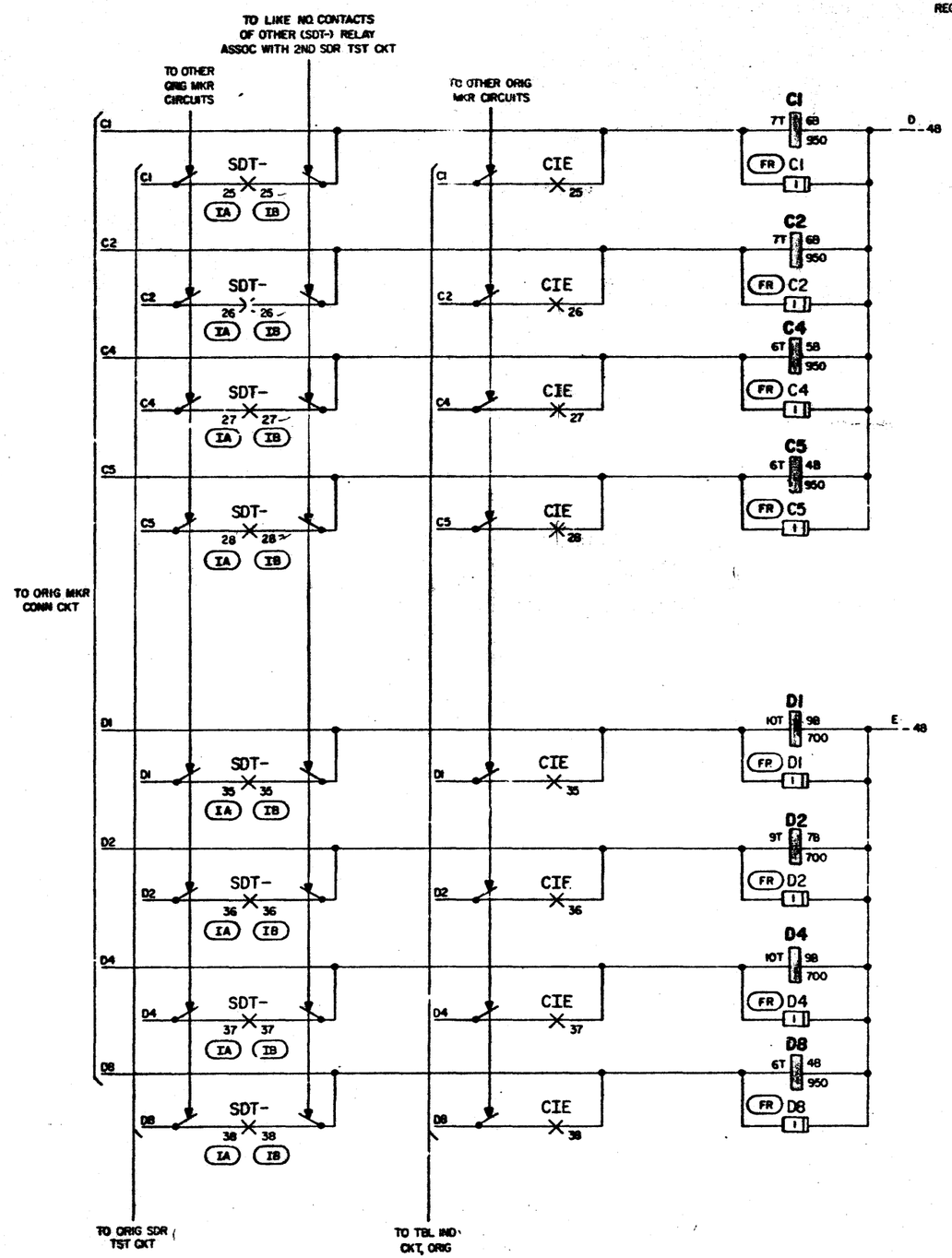
ORIGINATING MARKER CIRCUIT (2) SD-25016-01-B4

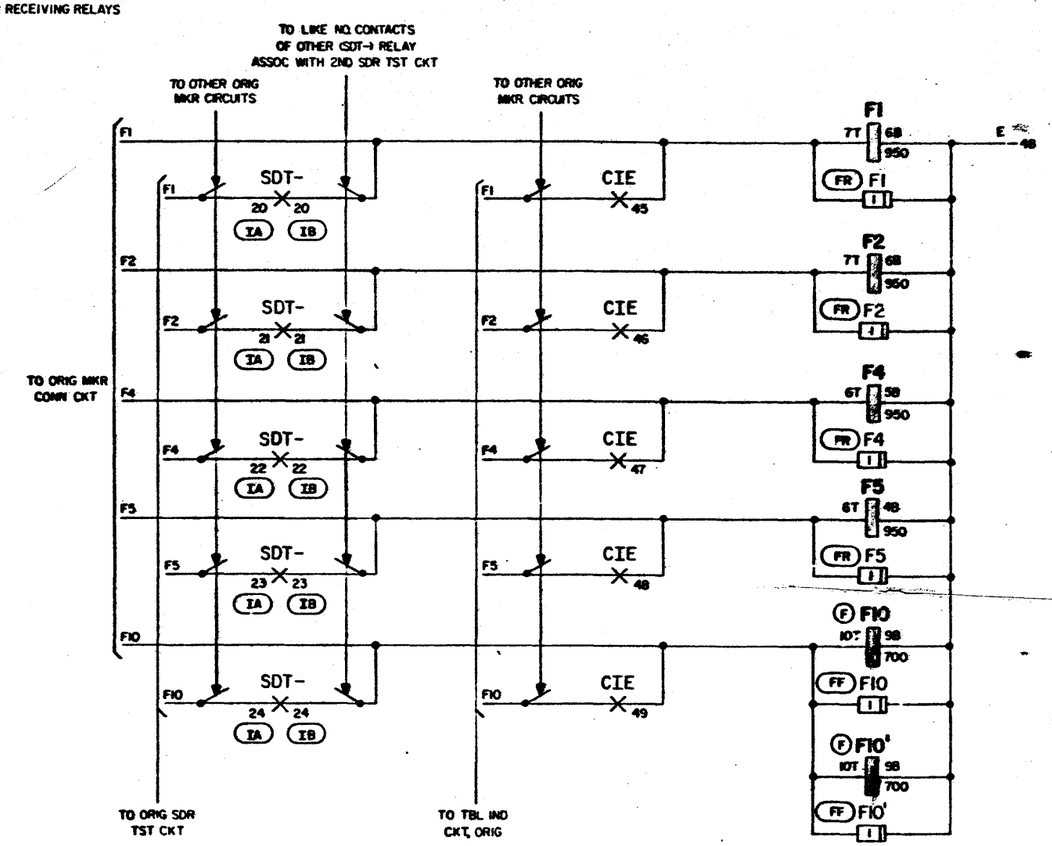
BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-B4

NWDWG 4469

PART OF FS 3
REGISTER RECEIVING RELAYS





DRAWING ISSUE 10 10

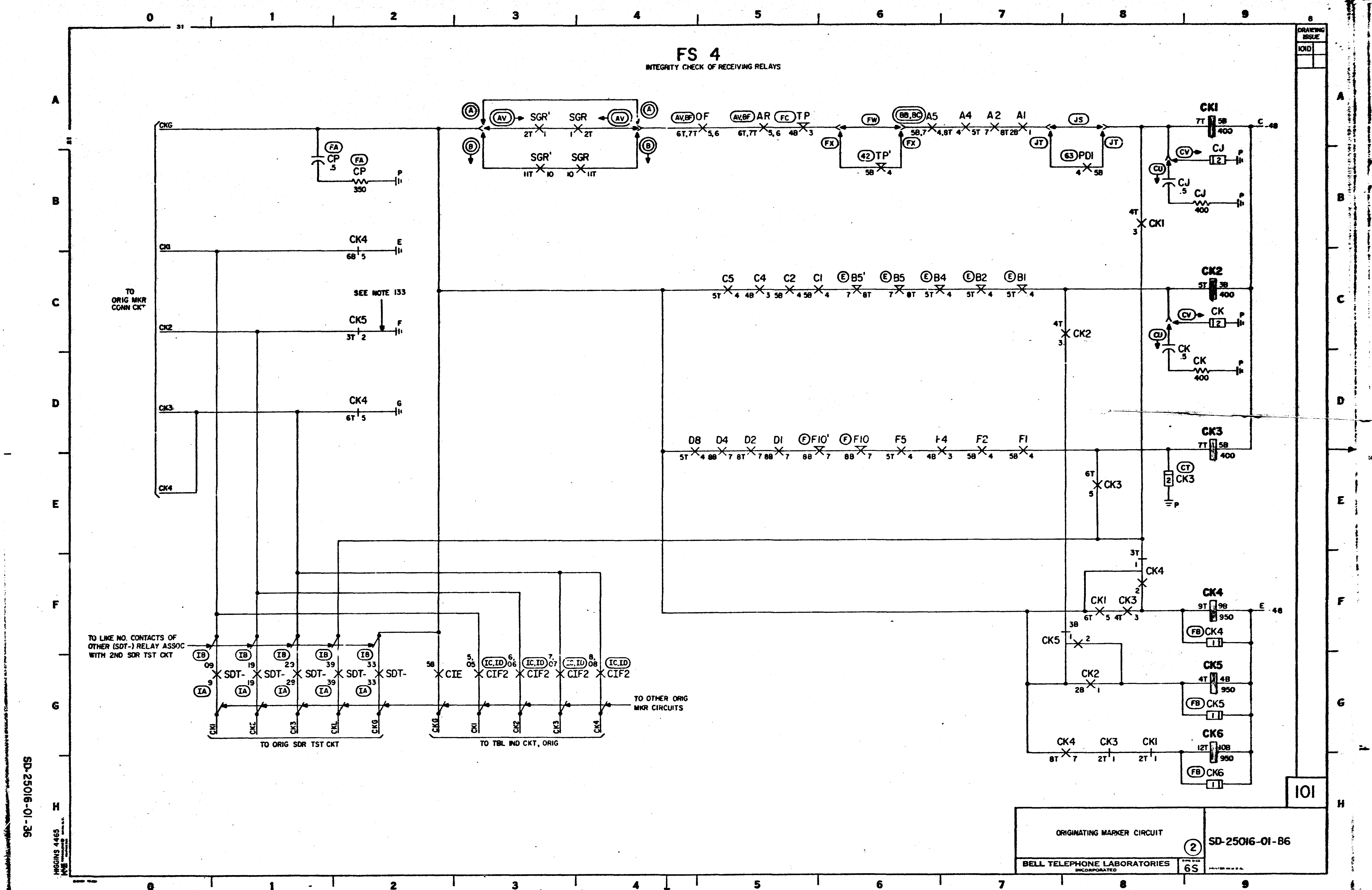
101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-P5

BELL TELEPHONE LABORATORIES INCORPORATED 6S

HIGGINS 4465

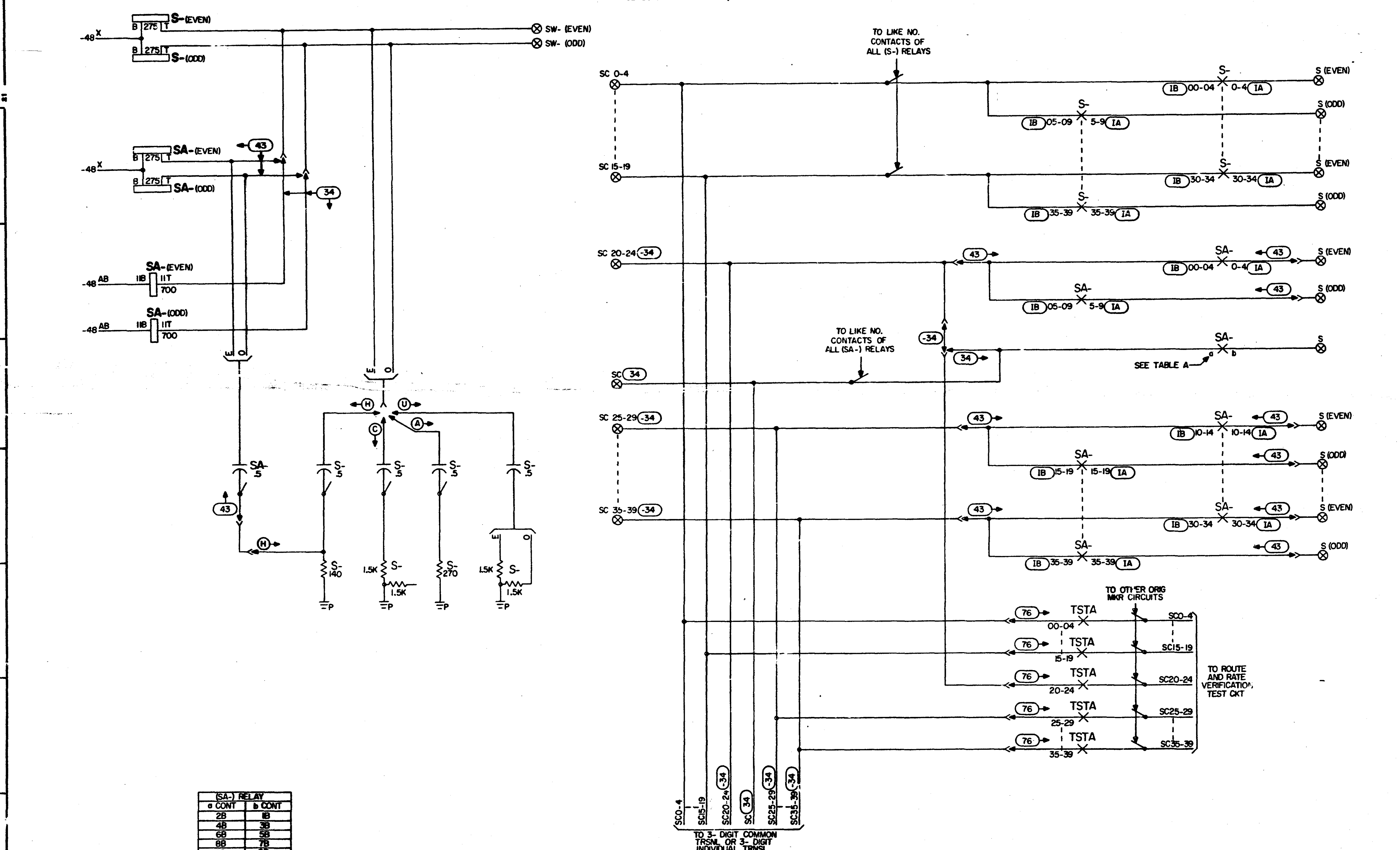
SD-10-01623-01



FS 4
INTEGRITY CHECK OF RECEIVING RELAYS
SGR'
SGR
OF
AR
TP
A5
A4
A2
A1
PDI
CK1
CJ
CK
CK2
CK3
CK4
CK5
CK6
C5
C4
C2
C1
B5'
B5
B4
B2
B1
D8
D4
D2
D1
F10'
F10
F5
F4
F2
F1
CP
TO ORIG MKR CONN CKT
SEE NOTE 133
TO LIKE NO. CONTACTS OF OTHER (SDT-) RELAY ASSOC WITH 2ND SDR TST CKT
SDT-
CIE
CIF2
TO OTHER ORIG MKR CIRCUITS
TO ORIG SDR TST CKT
TO TBL IND CKT, ORIG
DRAWING ISSUE
101D
101
ORIGINATING MARKER CIRCUIT
SD-25016-01-B6
BELL TELEPHONE LABORATORIES INCORPORATED
6S
SD-25016-01-36

FS 5

CLASS OF SERVICE CODE, SCREENING



(SA-) RELAY	
a CONT	b CONT
2B	1B
4B	3B
6B	5B
8B	7B
10B	9B

101

ORIGINATING MARKER CIRCUIT

SD-25016-01-B7

BELL TELEPHONE LABORATORIES INCORPORATED

6S

DRAWING ISSUE 10 D DM

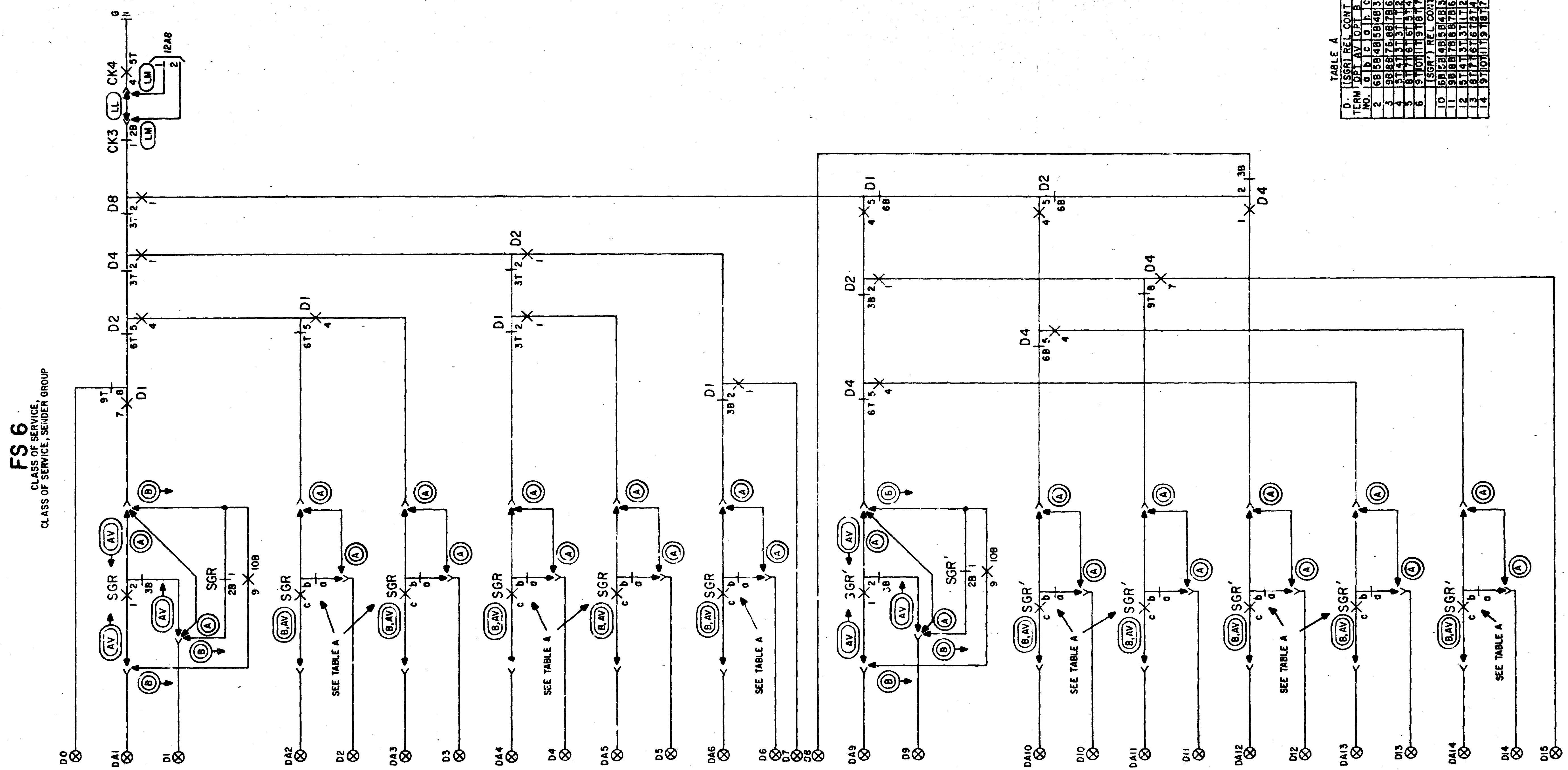


TABLE A

D. TERM NO.	(SGR) REL CONT OPT AV a	b	c	OPT B a	b	c
2	6B	5B	4B	5B	4B	3B
3	9B	8B	7B	8B	7B	6B
4	5T	4T	3T	3T	1T	2T
5	8T	7T	6T	6T	5T	4T
6	9T	10T	11T	9T	8T	7T
	(SGR') REL CONT					
10	6B	5B	4B	5B	4B	3B
11	9B	8B	7B	8B	7B	6B
12	5T	4T	3T	3T	1T	2T
13	6T	7T	6T	6T	5T	4T
14	9T	10T	11T	9T	8T	7T

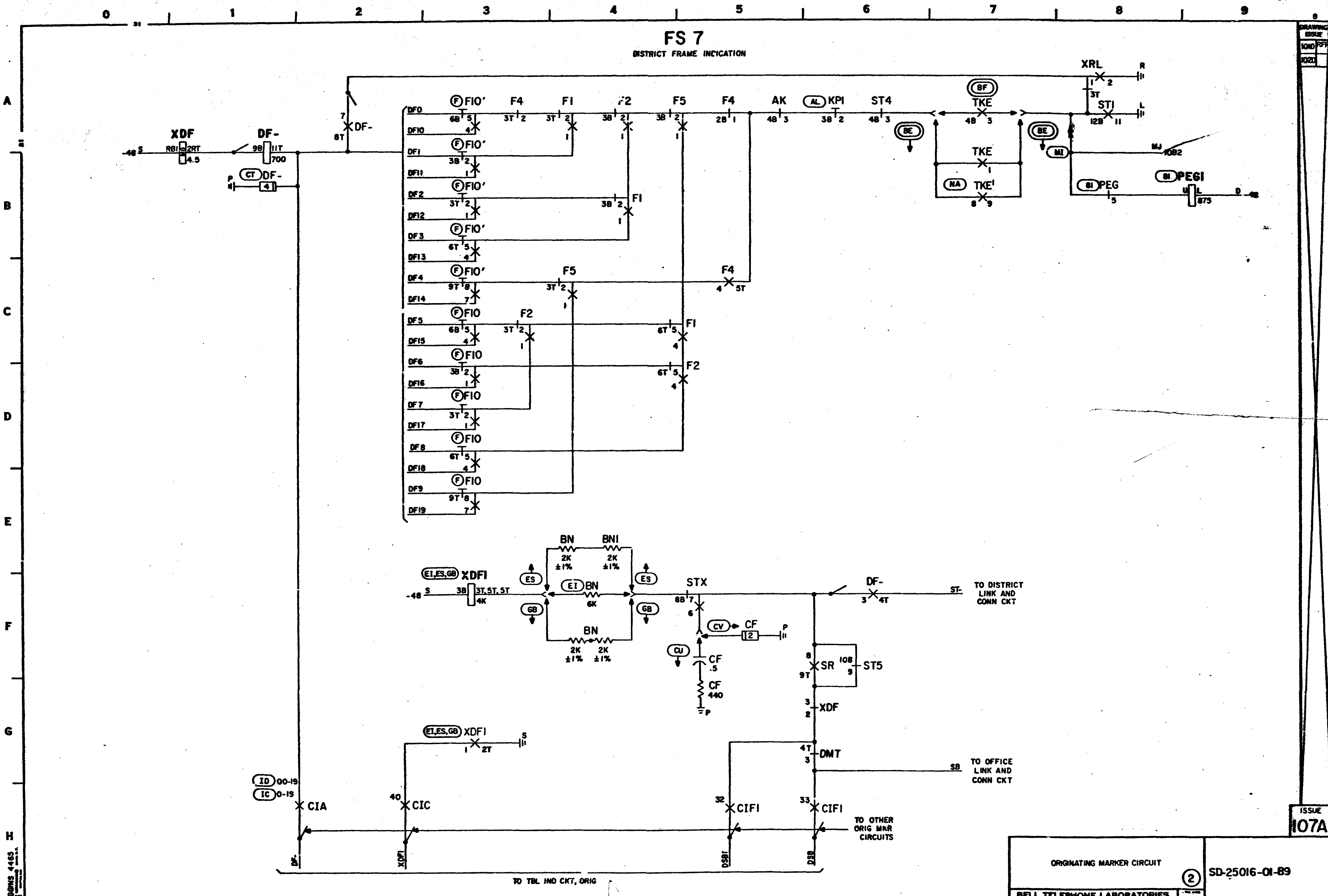
ORIGINATING MARKER CIRCUIT

SD-25016-01-B8 (2)

BELL TELEPHONE LABORATORIES INCORPORATED

6S

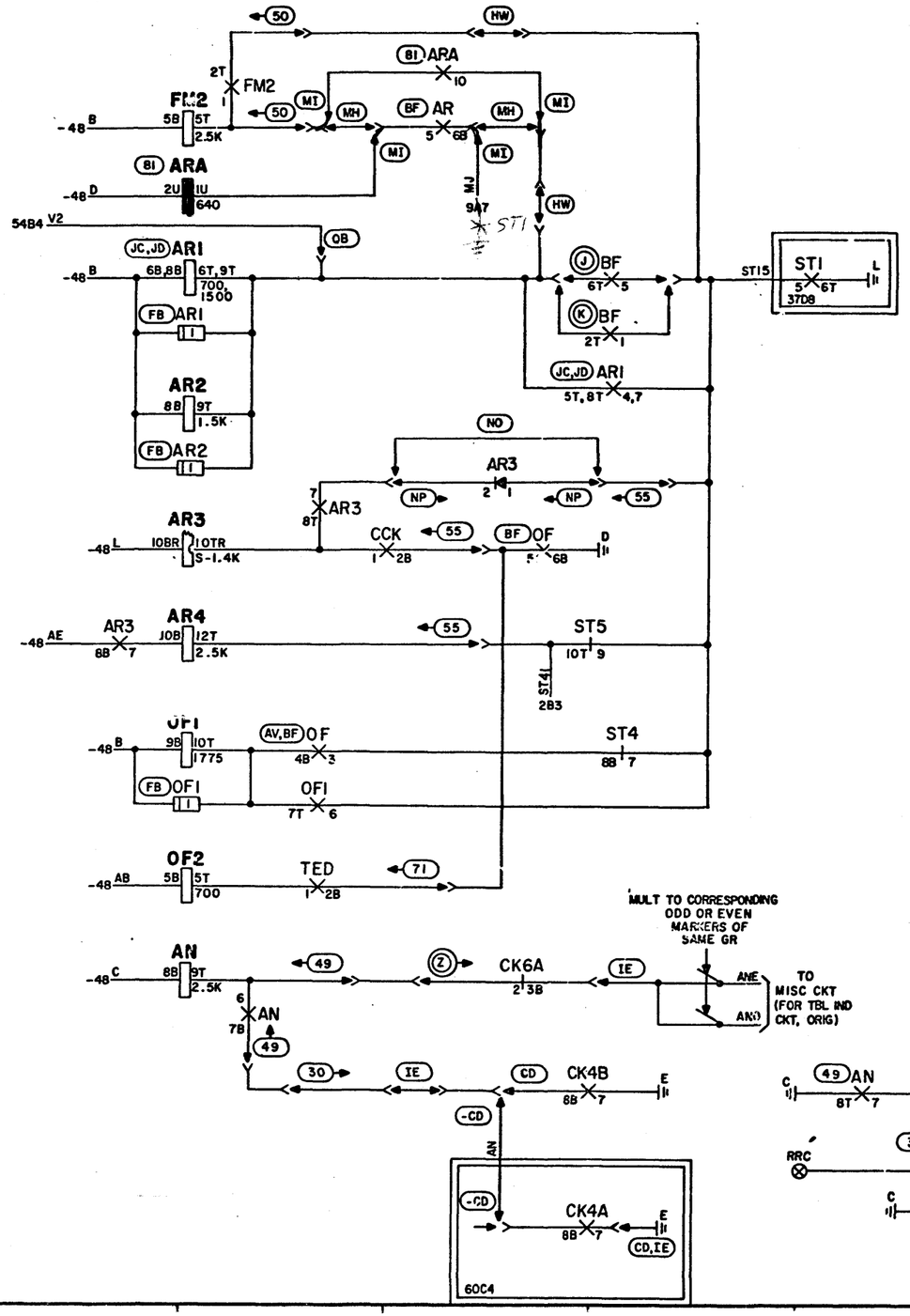
101

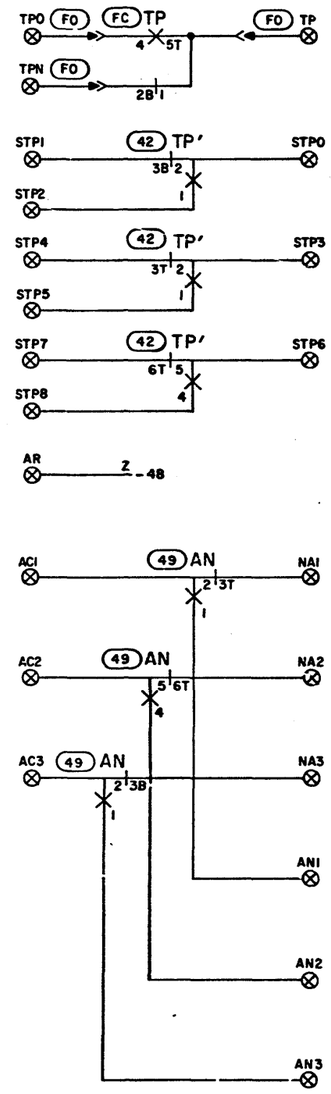


FS 7
DISTRICT FRAME INDICATION
XDF
DF-
XRL
TKE
STI
PEGI
PEG
TKE'
AK
KPI
ST4
F4
FI
F2
F5
FIO'
FIO
XDFI
BN
BNI
STX
CF
SR
ST5
DMT
CIA
CIC
CIFI
TO DISTRICT LINK AND CONN CKT
TO OFFICE LINK AND CONN CKT
TO OTHER ORIG MKR CIRCUITS
TO TBL IND CKT, ORIG
ISSUE 107A
ORIGINATING MARKER CIRCUIT
SD-25016-01-89
BELL TELEPHONE LABORATORIES

FS 8

ALTERNATE, OVERFLOW, AND ANNOUNCEMENT ROUTING, COIN REROUTE





ORIGINATING MARKER CIRCUIT (2)	SD-25016-01-810
BELL TELEPHONE LABORATORIES INCORPORATED	ISSUE GS

DRAWING ISSUE: 101D GLS; 102D

ISSUE 108D

HIGGINS 4465

PART OF FS 9

TRANSLATION (HUNDREDS)

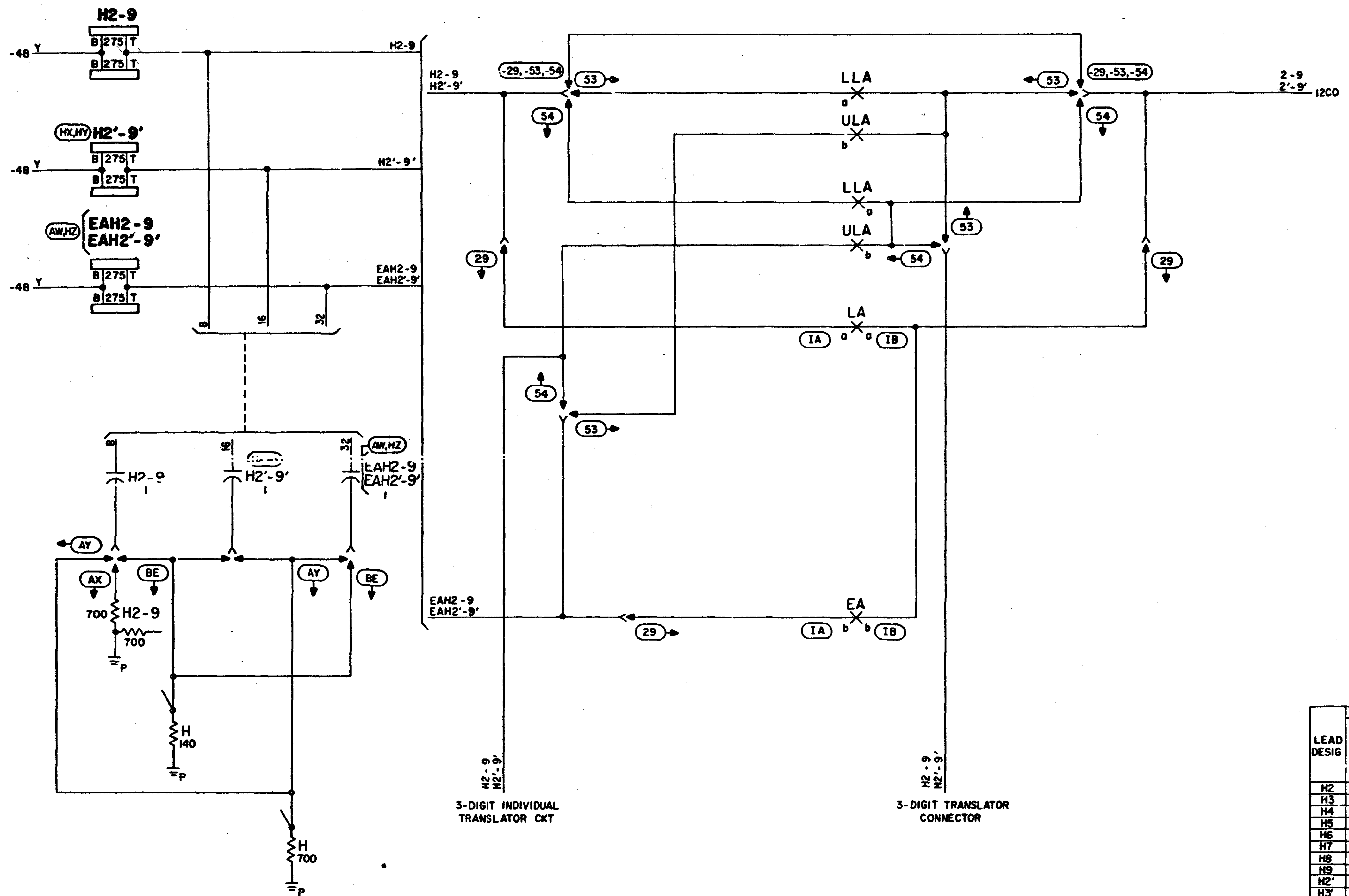


TABLE A

LEAD DESIG	a CONTACT (53) / (29) WITH (IA)	a CONTACT (29) WITH (IB) / (54)	LEAD DESIG	b CONTACT (53) / (29) WITH (IA)	b CONTACT (29) WITH (IB) / (54)
H2	2	02	EAH2	7	07
H3	3	03	EAH3	8	08
H4	4	04	EAH4	9	09
H5	20	20	EAH5	25	25
H6	21	21	EAH6	26	26
H7	22	22	EAH7	27	27
H8	23	23	EAH8	28	28
H9	24	24	EAH9	29	29
H2'	12	12	EAH2'	17	17
H3'	13	13	EAH3'	18	18
H4'	14	14	EAH4'	19	19
H5'	30	30	EAH5'	35	35
H6'	31	31	EAH6'	36	36
H7'	32	32	EAH7'	37	37
H8'	33	33	EAH8'	38	38
H9'	34	34	EAH9'	39	39

101

ORIGINATING MARKER CIRCUIT

(2) SD-25016-01-B11

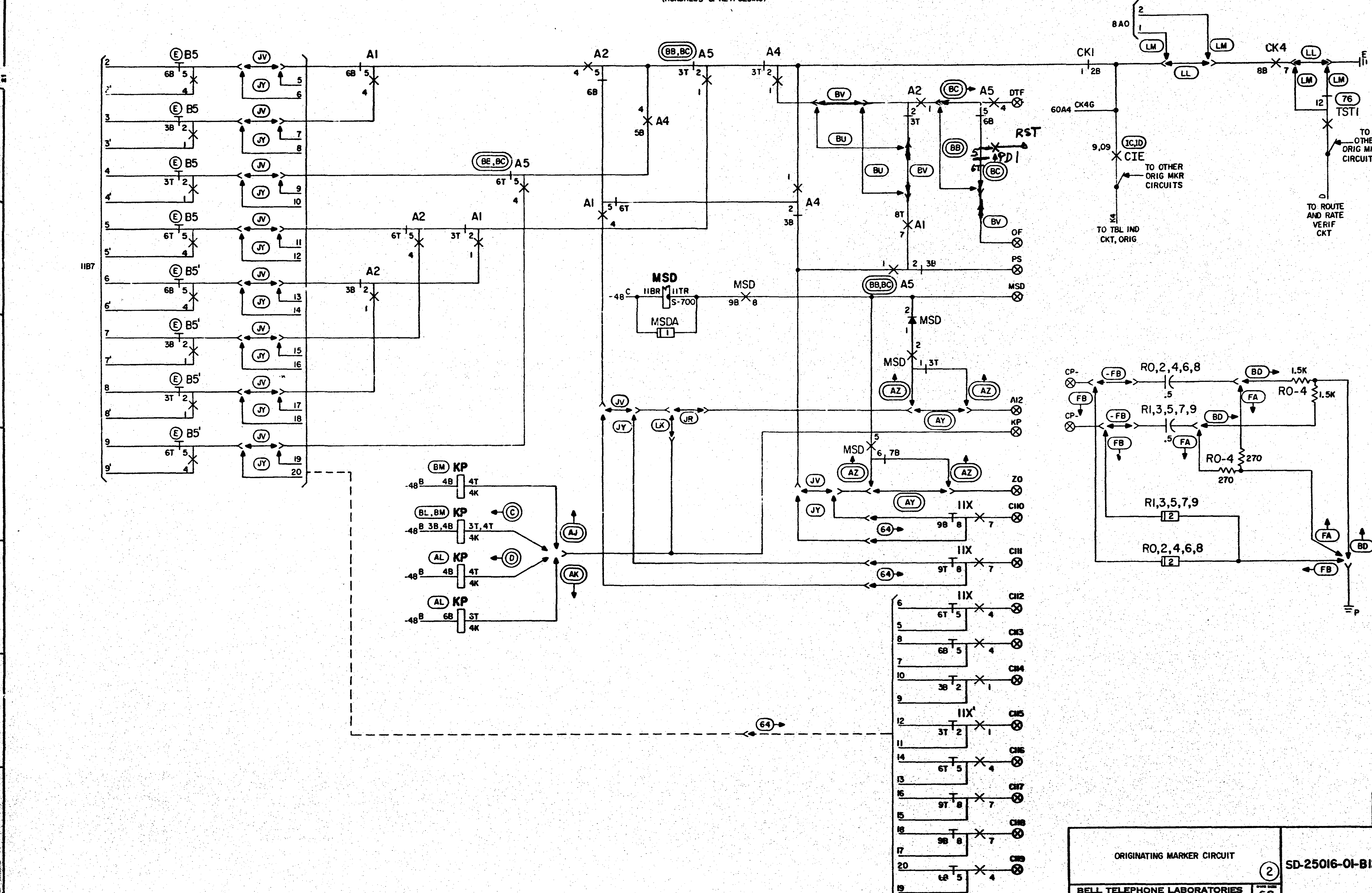
BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25016-01-B11

PART OF FS 9

TRANSLATION
(HUNDREDS & KEYPULSING)



ORIGINATING MARKER CIRCUIT

SD-25016-01-B12

BELL TELEPHONE LABORATORIES INCORPORATED

6S

101

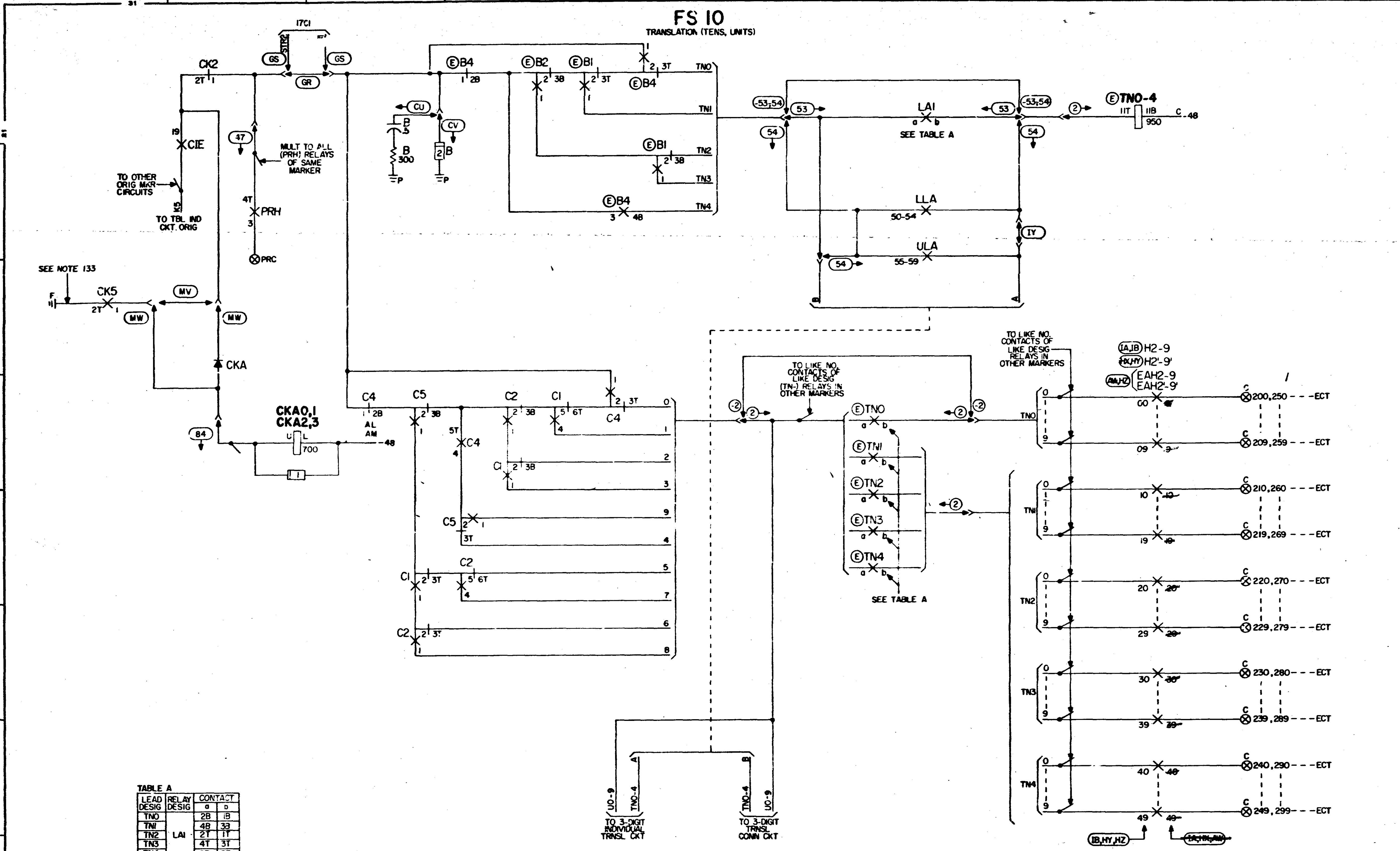


TABLE A

LEAD DESIG	RELAY DESIG	CONTACT a	CONTACT b
TN0	LA1	2B	1B
TN1		4B	3B
TN2		2T	1T
TN3		4T	3T
TN4		6T	5T
0	TN0-4	2B	1B
1		4B	3B
2		6B	5B
3		8B	7B
4		10B	9B
5		2T	1T
6		4T	3T
7		6T	5T
8		8T	7T
9		10T	9T

102

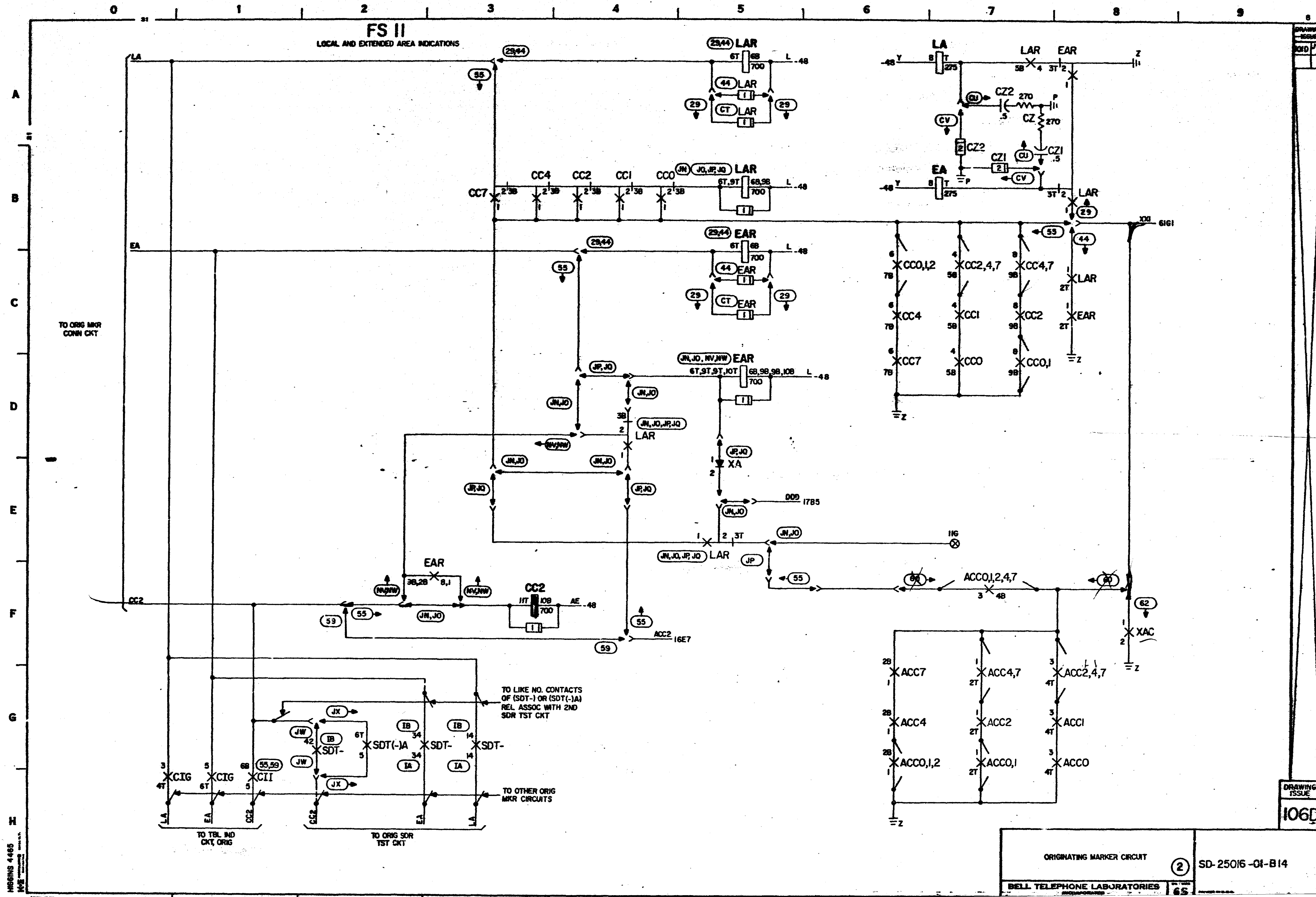
ORIGINATING MARKER CIRCUIT

(2) SD-25016-01-B13

BELL TELEPHONE LABORATORIES INCORPORATED

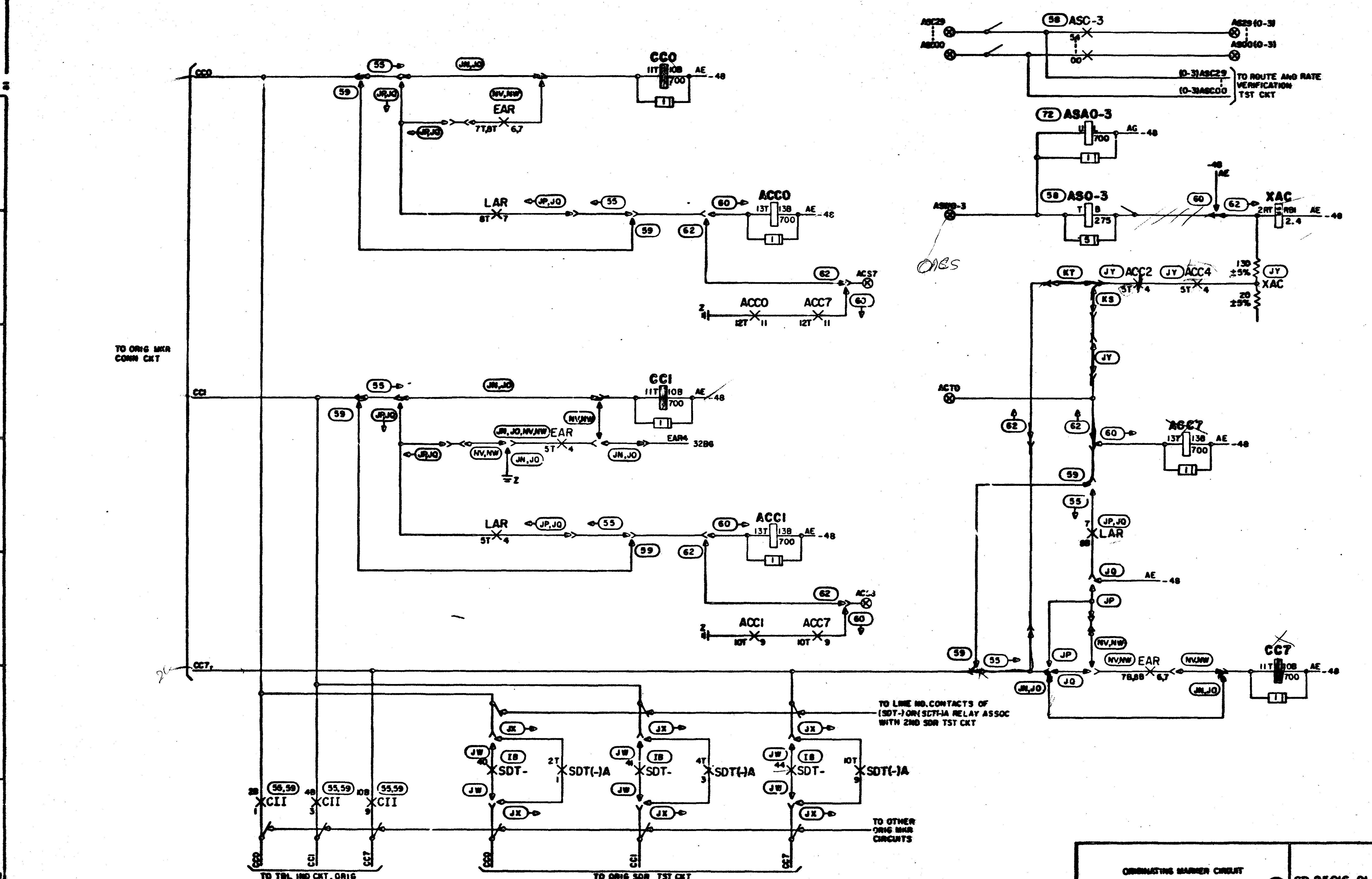
6S

SD-25016-01-B13


FS 11
LOCAL AND EXTENDED AREA INDICATIONS
TO ORIG MKR CONN CKT
TO LIKE NO. CONTACTS OF (SDT-) OR (SDT(-)A) REL ASSOC WITH 2ND SDR TST CKT
TO OTHER ORIG MKR CIRCUITS
TO TBL IND CKT, ORIG
TO ORIG SDR TST CKT
DRAWING ISSUE
106D
ORIGINATING MARKER CIRCUIT
SD-25016-01-B14
BELL TELEPHONE LABORATORIES

PART OF FS 12

RECEIVING COMPRESSED CODE AND ACCESS CODE INDICATIONS


CCO
CCI
CC7
CCO 11T 10B 700 AE -48
CCI 11T 10B 700 AE -48
CC7 11T 10B 700 AE -48
ACCO 13T 13B 700 AE -48
ACCI 13T 13B 700 AE -48
ACC7 13T 13B 700 AE -48
EAR
LAR
ACCO
ACC7
ACCI
ACS7
ASC29
ASCOO
ASC-3
ASA0-3
ASO-3
XAC
ACC2
ACC4
ACTO
AS29(0-3)
AS00(0-3)
(0-3)ASC29
(0-3)ASCOO
TO ROUTE AND RATE VERIFICATION TST CKT
TO ORIG MKR CONN CKT
SDT-
SDT(-)A
CII
TO LINE NO. CONTACTS OF (SDT-) OR (SDT(-)A RELAY ASSOC WITH 2ND SDR TST CKT
TO OTHER ORIG MKR CIRCUITS
TO TBL IND CKT, ORIG
TO ORIG SDR TST CKT
EAR4 32B6

ORIGINATING MARKER CIRCUIT

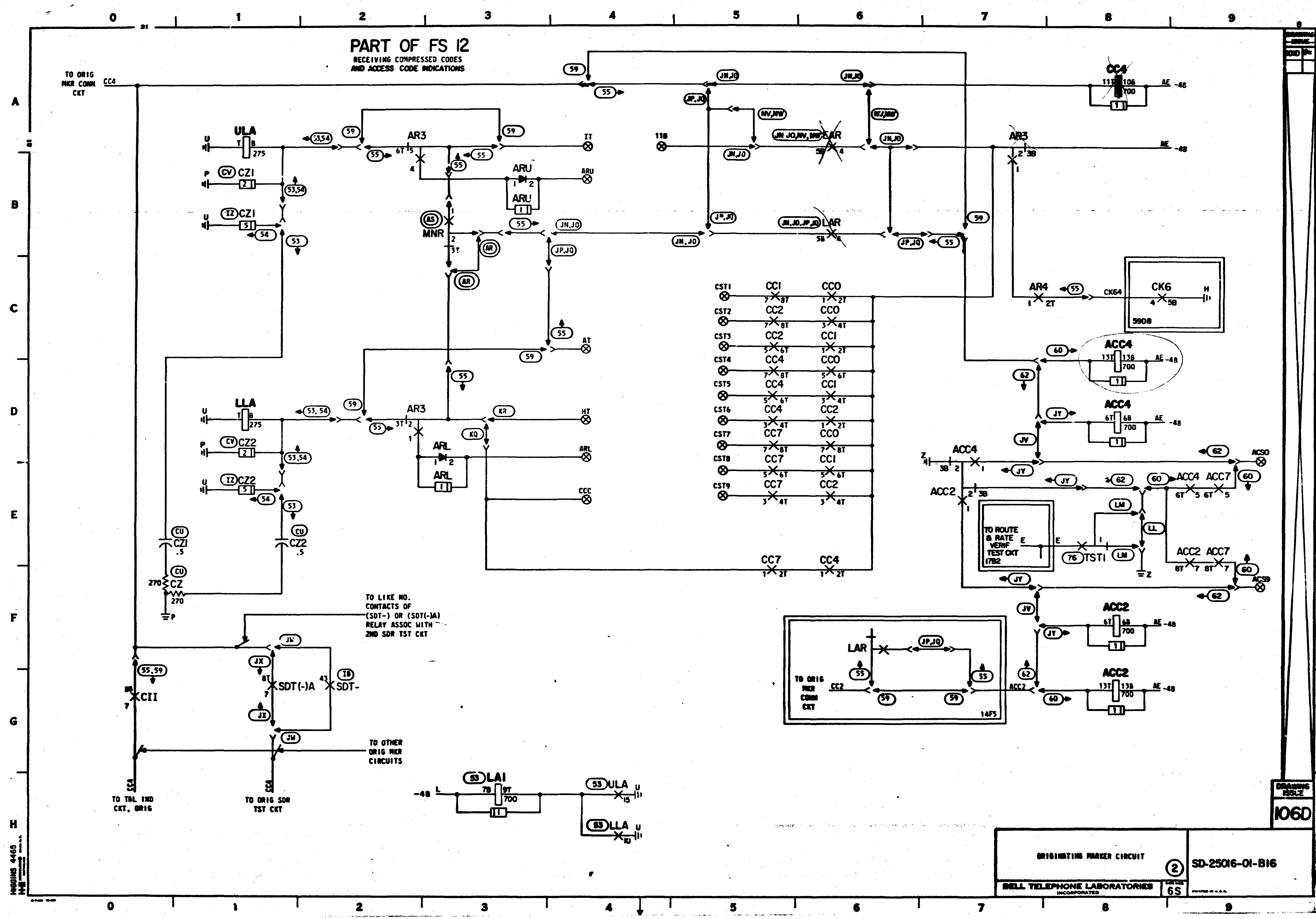
BELL TELEPHONE LABORATORIES INCORPORATED

SD-25016-01-B15

6S

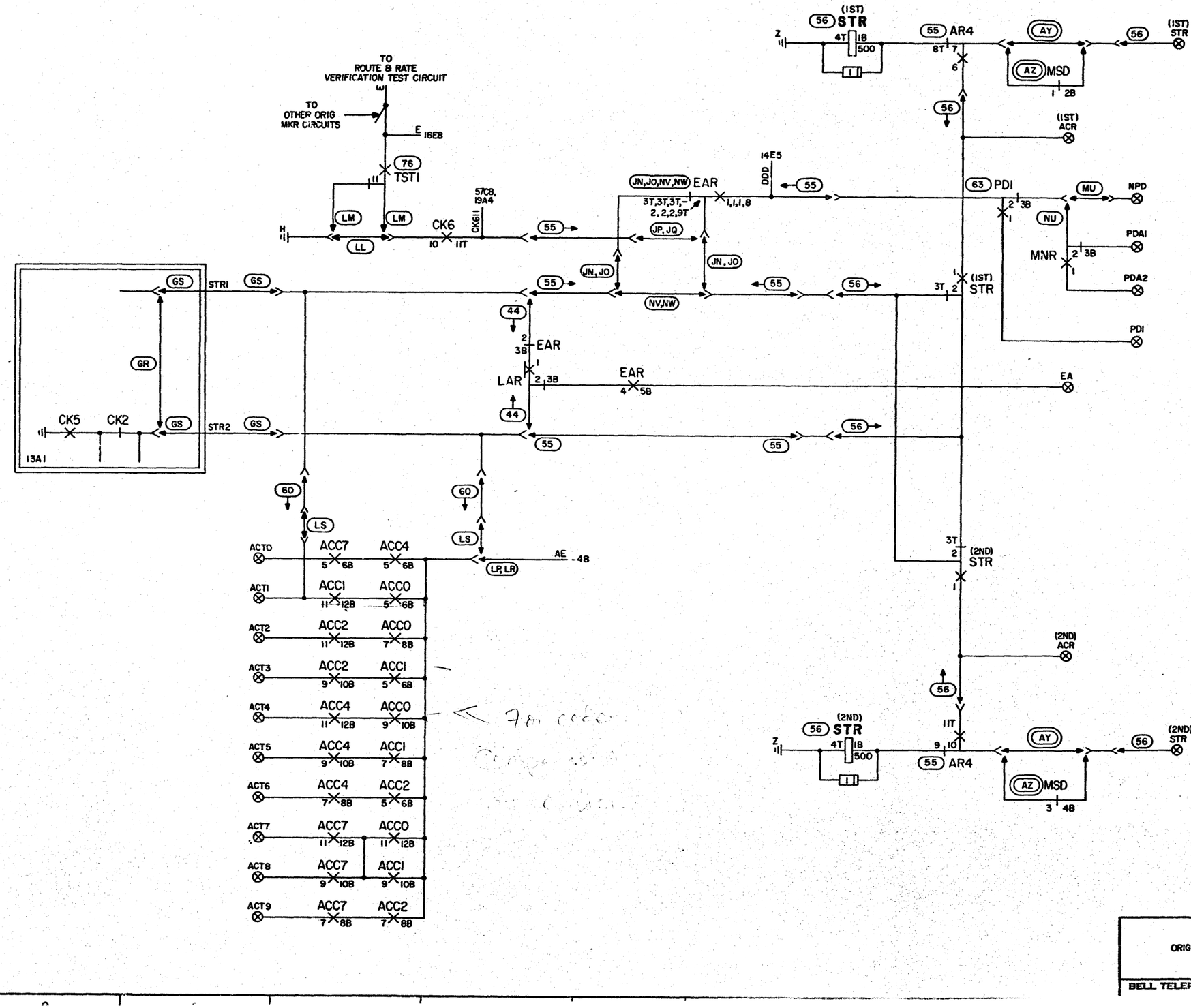
DRAWING ISSUE 106D

SD-25016-01-B15


PART OF FS 12
RECEIVING COMPRESSED CODES AND ACCESS CODE INDICATIONS
TO ORIG MKR CONN CKT
TO LIKE NO. CONTACTS OF (SDT-) OR (SDT(-)A) RELAY ASSOC WITH 2ND SDR TST CKT
TO OTHER ORIG MKR CIRCUITS
TO TBL IND CKT, ORIG
TO ORIG SDR TST CKT
TO ROUTE & RATE VERIF TEST CKT 1782
TO ORIG MKR CONN CKT
ULA
LLA
CZ1
CZ2
AR3
ARU
ARL
MNR
LAR
CC4
AR4
CK6
ACC4
ACC2
ACC7
TST1
CII
SDT(-)A
SDT-
LA1
DRAWING ISSUE
106D
ORIGINATING MARKER CIRCUIT
SD-25016-01-B16
BELL TELEPHONE LABORATORIES INCORPORATED
6S
HIGGINS 4465

FS 13

SINGLE TANDEM ROUTE ACCESS



DRAWING ISSUE 106D

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-B17

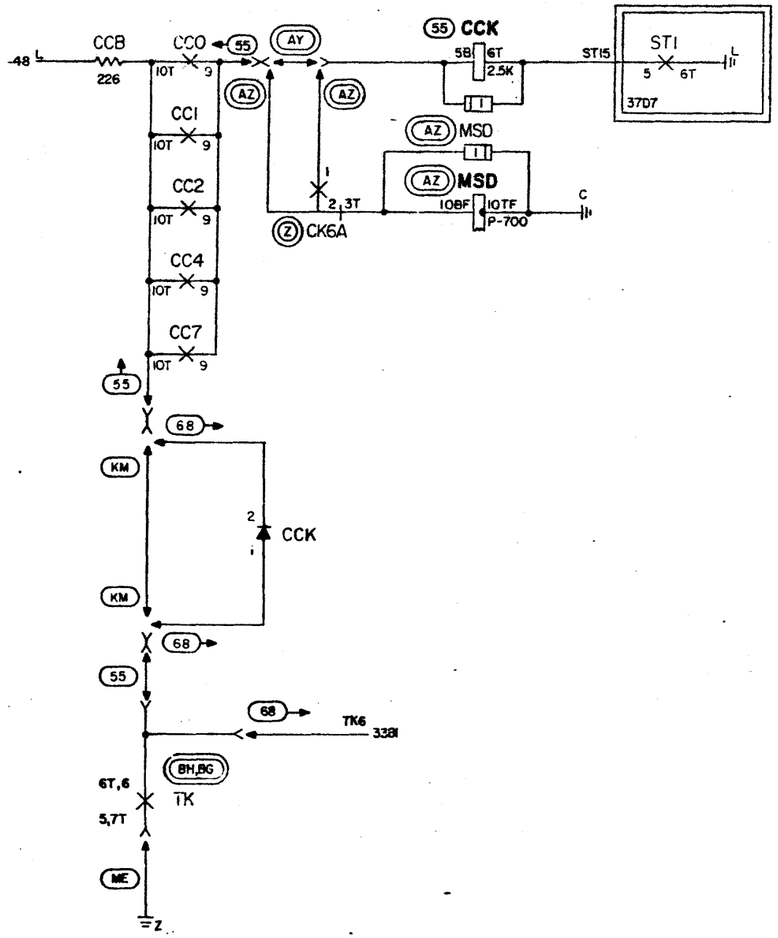
BELL TELEPHONE LABORATORIES INCORPORATED 6S

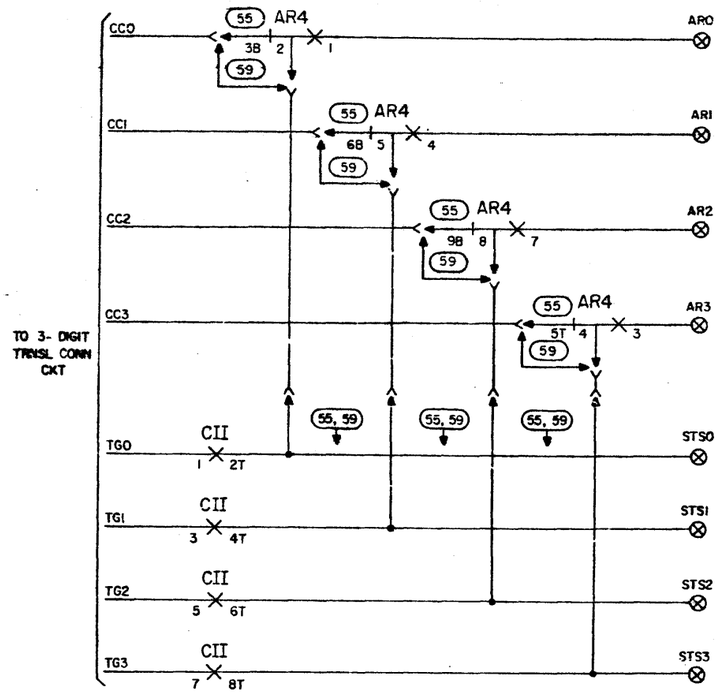
SD-25016-01-B17

HIGGINS 4465

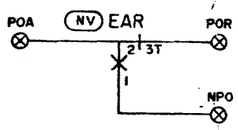
FS 14

COMPRESSED CODE CHECK
MINOR AREA AND DENIED ROUTE

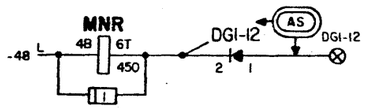


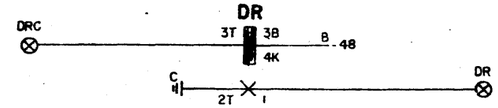


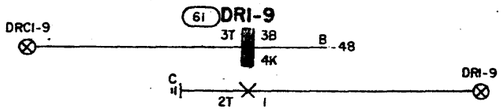
DIGIT ONE IS DIALED



DIGIT ONE NOT DIALED BEFORE A 10 DIGIT CODE







Sheet D-19B

DRAWING ISSUE 106D

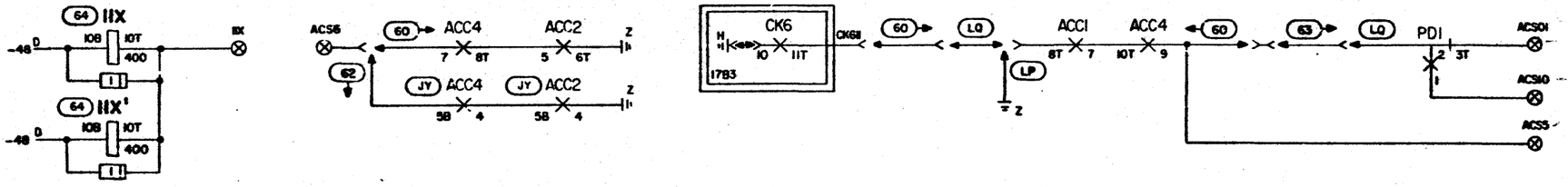
ORIGINATING MARKER CIRCUIT (2)
SD-25016-01-B18
BELL TELEPHONE LABORATORIES INCORPORATED
DWG SIZE 6S

SD-25016-01-B18

HIGGINS 4465

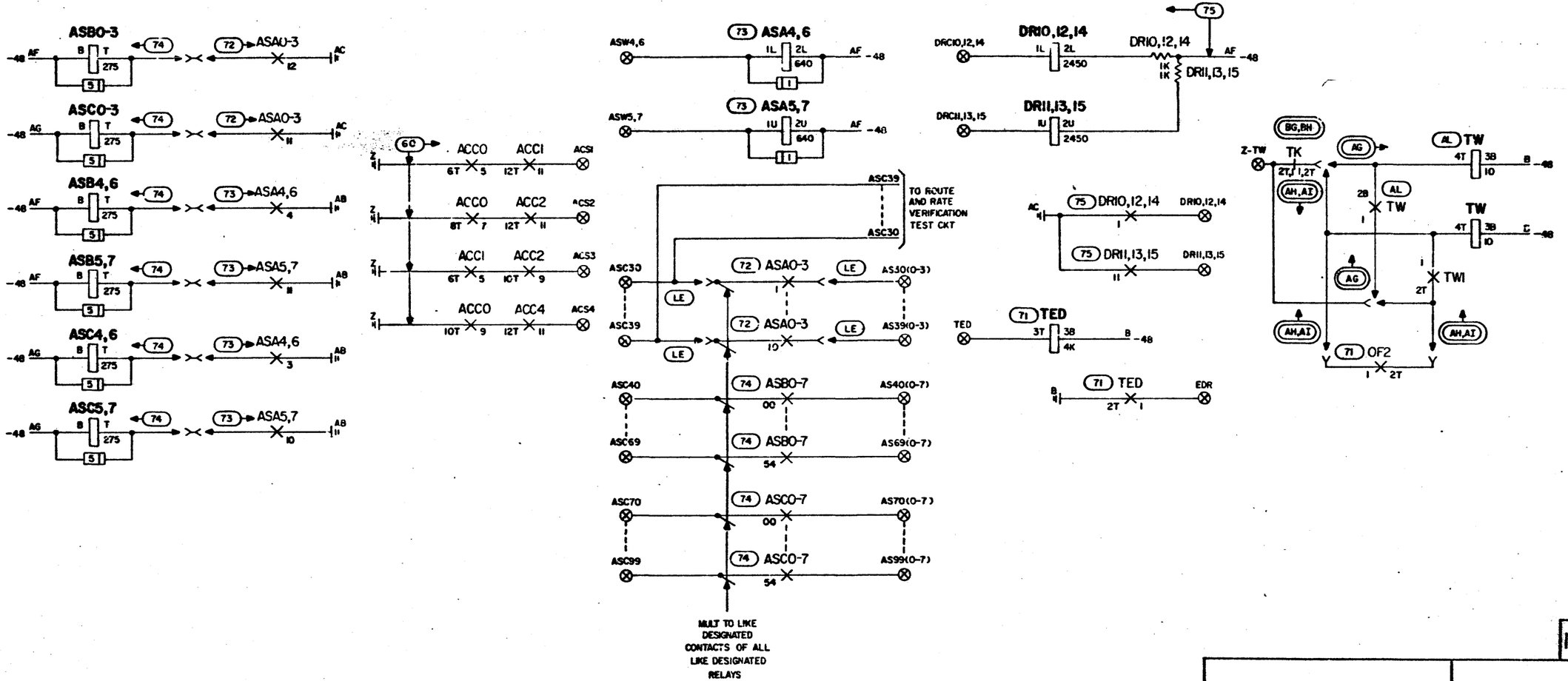
FS 15

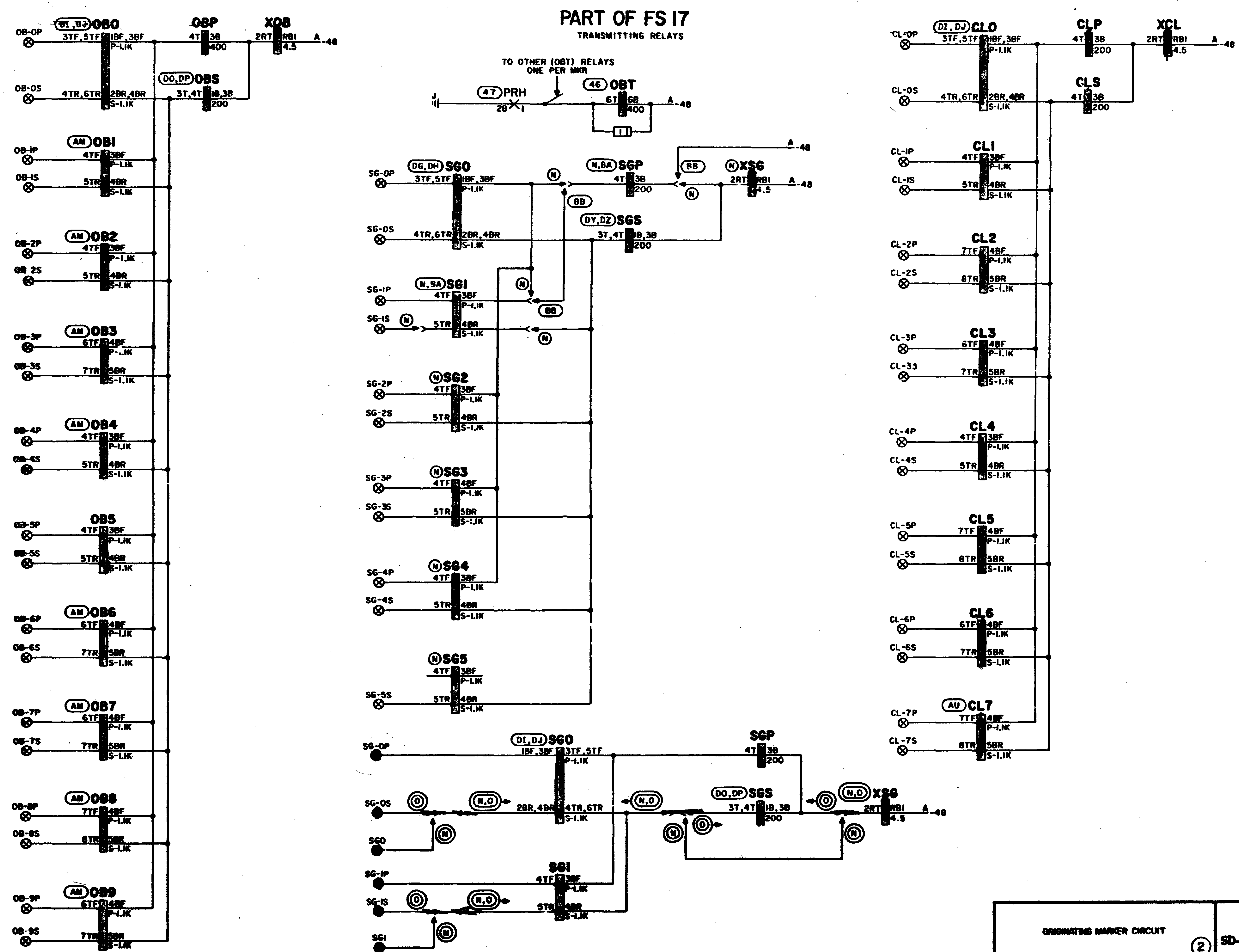
ACCESS TO PREFIX DIGITS IIX, 01, 10



FS 16

INTERCHANGEABLE OFFICE AND AREA CODE





101

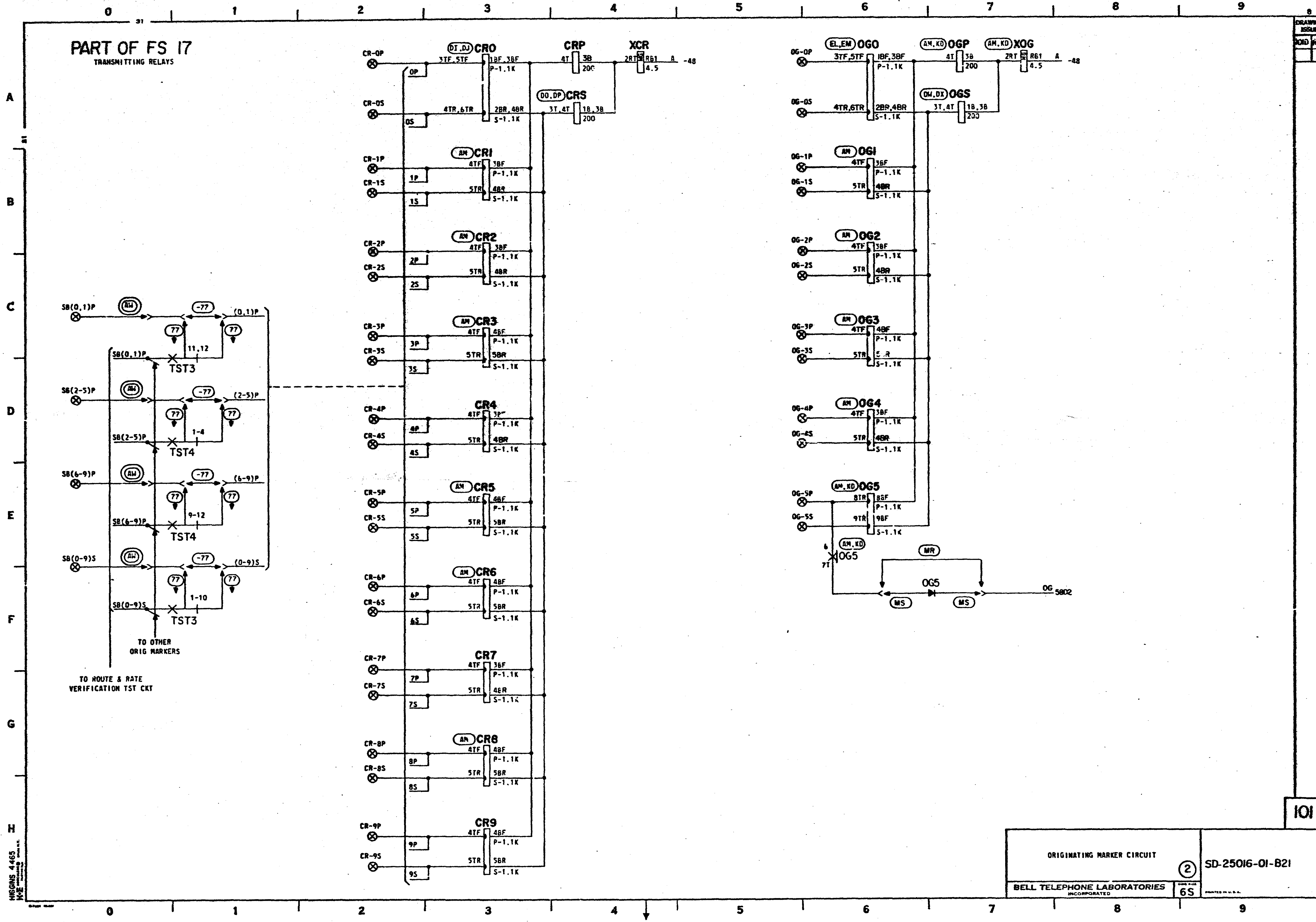
ORIGINATING MARKER CIRCUIT

SD-25016-01-B20

2

BELL TELEPHONE LABORATORIES INCORPORATED

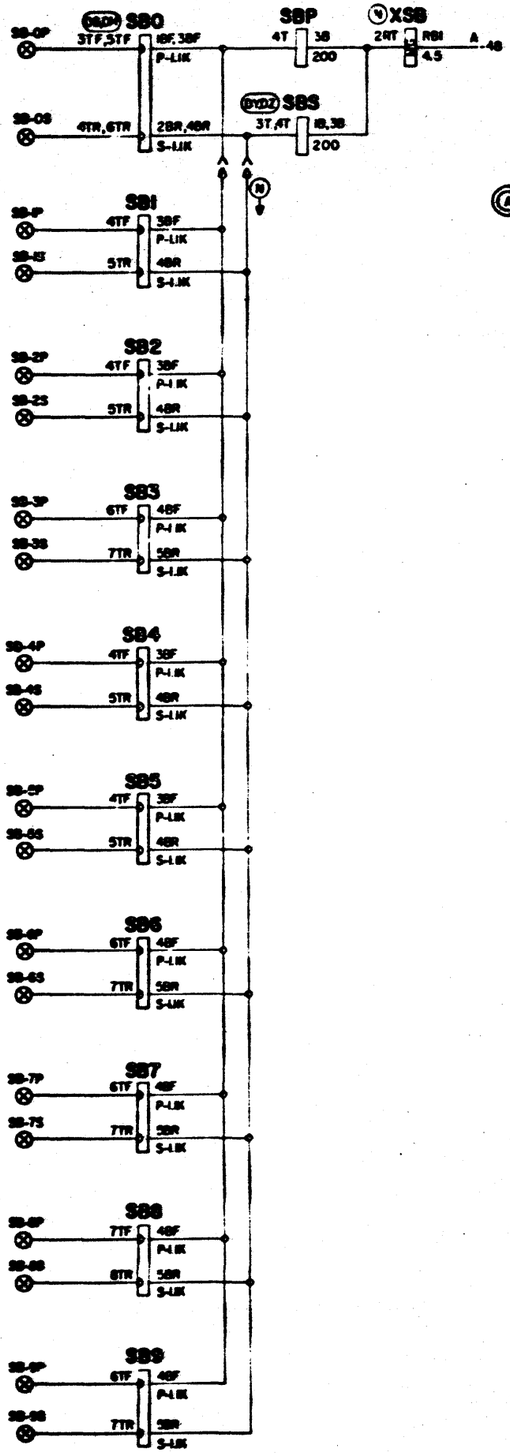
6S

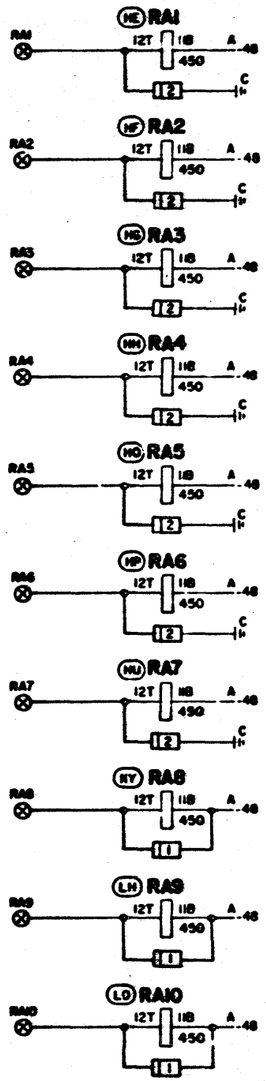


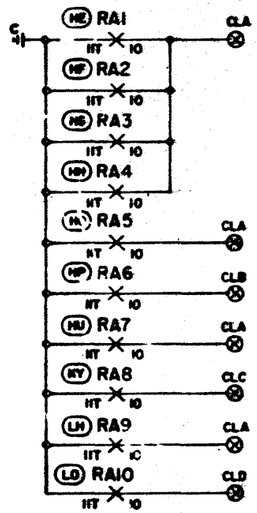
PART OF FS 17
TRANSMITTING RELAYS
CR0
CRP
XCR
CRS
CR1
CR2
CR3
CR4
CR5
CR6
CR7
CR8
CR9
OG0
OGP
XOG
OGS
OG1
OG2
OG3
OG4
OG5
TST3
TST4
TO OTHER ORIG MARKERS
TO ROUTE & RATE VERIFICATION TST CKT
ORIGINATING MARKER CIRCUIT
SD-25016-01-B21
BELL TELEPHONE LABORATORIES INCORPORATED
6S
101

PART OF FS 17

TRANSMITTING RELAYS







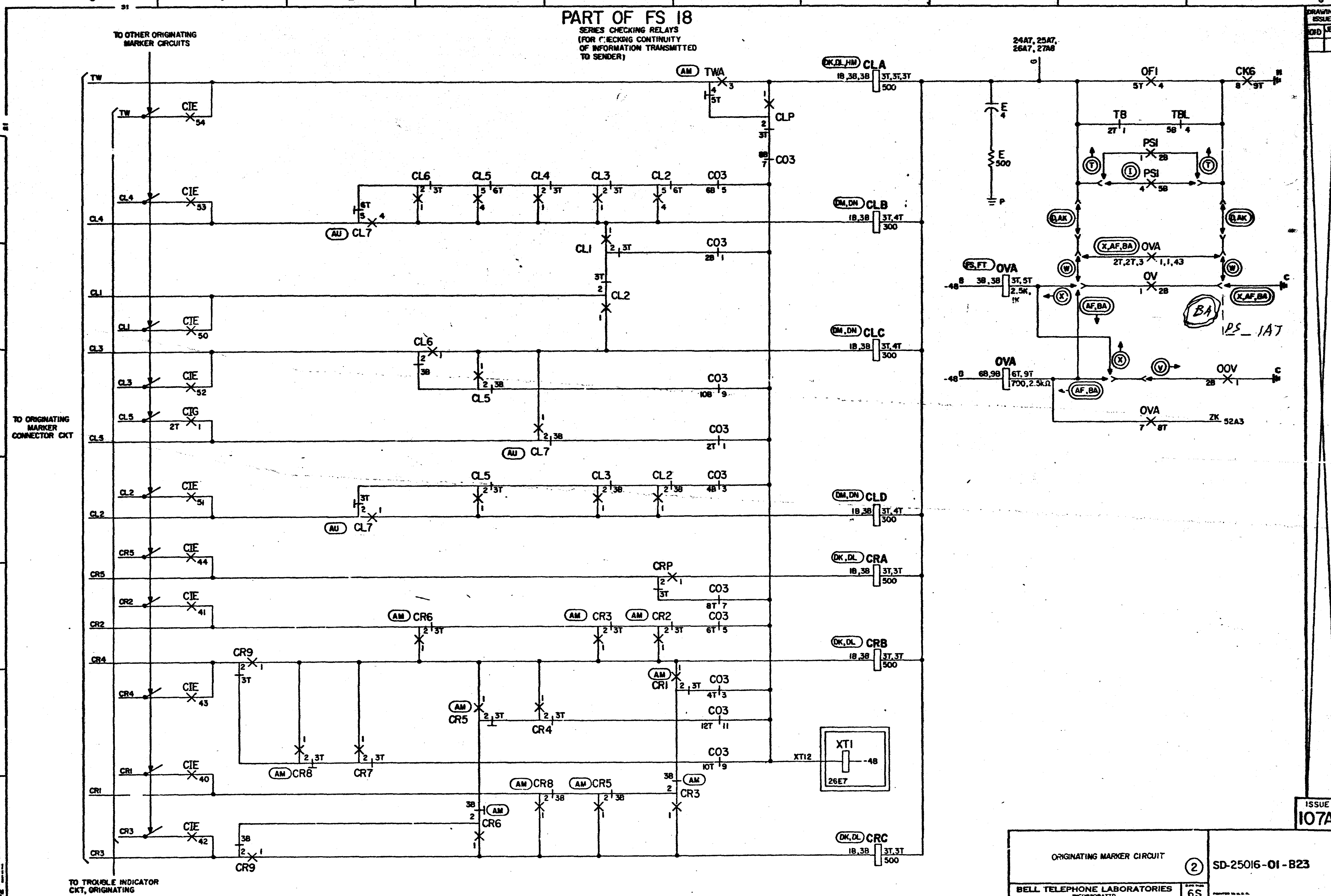
SD-2506-01-B22

101

ORIGINATING MANNER CIRCUIT	(2)	SD-2506-01-B22
BELL TELEPHONE LABORATORIES INCORPORATED	6S	

PART OF FS 18

SERIES CHECKING RELAYS (FOR CHECKING CONTINUITY OF INFORMATION TRANSMITTED TO SENDER)

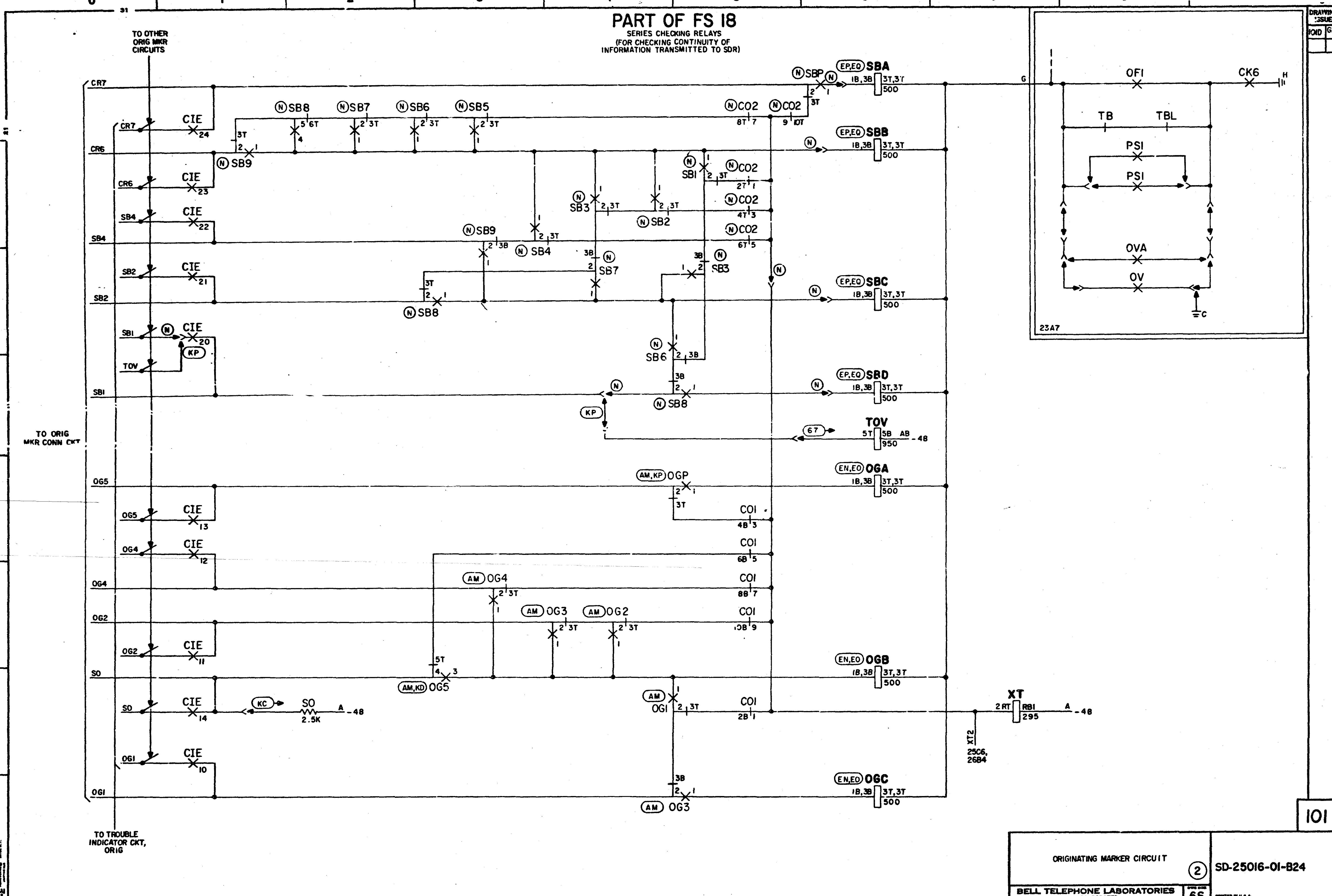


ORIGINATING MARKER CIRCUIT

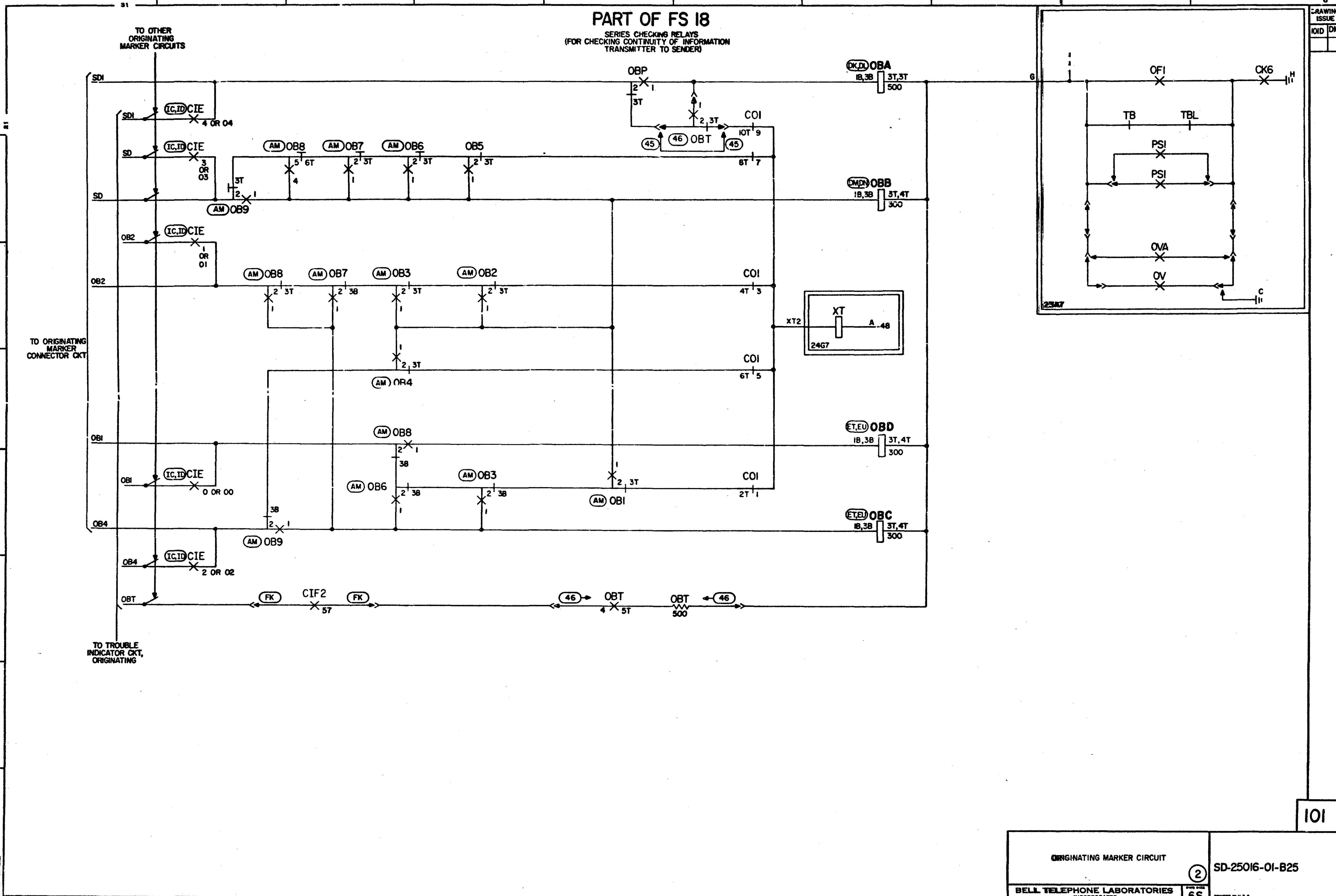
SD-25016-01-B23

BELL TELEPHONE LABORATORIES INCORPORATED

6S



PART OF FS 18
SERIES CHECKING RELAYS
(FOR CHECKING CONTINUITY OF INFORMATION TRANSMITTED TO SDR)
TO OTHER ORIG MKR CIRCUITS
TO ORIG MKR CONN CKT
TO TROUBLE INDICATOR CKT, ORIG
CR7
CR6
SB4
SB2
SB1
TOV
OG5
OG4
OG2
SO
OG1
CIE
SB9
SB8
SB7
SB6
SB5
SB4
SB3
SB2
SB1
SBP
CO2
CO1
SBA
SBB
SBC
SBD
TOV
OGA
OGB
OGC
OGP
OG1
OG2
OG3
OG4
OG5
EP,EQ
EN,EO
AM
AM,KP
AM,KD
KP
KC
67
950
500
295
-48
2.5K
XT
RB1
XT2
25C6, 26B4
OFI
CK6
TB
TBL
PSI
OVA
OV
23A7
ORIGINATING MARKER CIRCUIT
SD-25016-01-B24
BELL TELEPHONE LABORATORIES INCORPORATED
6S
101
HIGGINS 4465 K+E



ORIGINATING MARKER CIRCUIT

SD-25016-01-B25

BELL TELEPHONE LABORATORIES INCORPORATED

PART OF FS 18

SERIES CHECKING RELAYS
(FOR CHECKING CONTINUITY OF
INFORMATION TRANSMITTED TO SENDER)

TO OTHER ORIGINATING MARKER CIRCUITS

TO ORIGINATING MARKER CONNECTOR CKT

TO TROUBLE INDICATOR CKT, ORIGINATING

SG5 CIE 33

SSO CIE 34

SG2 CIE 31

SG4 CIE 32

SGI CIE 30

(N,BA) SGP 2 1 3T

(N) CO2 2B 1

(BB) CO1 12T 11 (N,O) XT2 XT 24G7 -48

(BB)

(O) SGP 2 1 3T SGP 27F7

(N,O) 3T 2 1 SGI

(N) 2 1 3T

(N) SG3 2 1 3T

(N) SG2 2 1 3T

(N) CO2 88 7

(N) SG4 2 1 3T

(N) CO2 6B 5

(N) CO2 48 3

(N) CO2 9 10B

(BB) 3T 2 1 SG1

(EP,EQ,ER) SGA 1B,3B,1B 3T,3T,3T 500

(DK,DL) SGA 1B,3B 3T,3T 500

(DK,DL) SGB 1B,3B 3T,3T 500

(EP,EO) SGB 1B,3B 3T,3T 500

(EP,EO) SGC 1B,3B 3T,3T 500

XT1 2RT RBI 295 A -48

XT12 23G6, 27D8

SG13

(BB) SG11 33E2

(BB) SG12

3B 2 1 SG3

G OFI CK6 H

TB TBL

PSI

PSI

OVA

OV

C

23A7

DRAWING ISSUE
VOID | N.C.

101

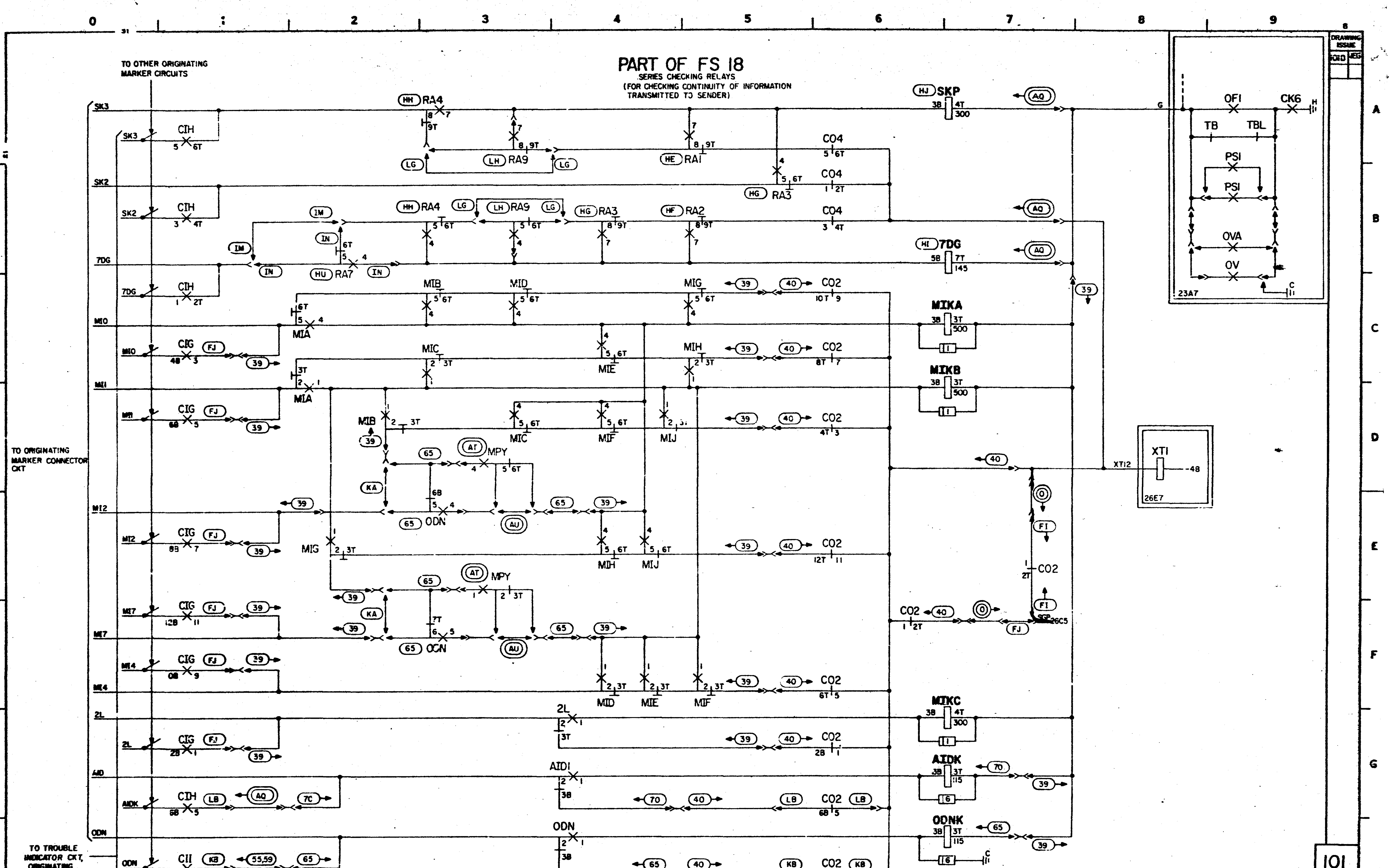
ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-B26

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-B26

HIGGINS 4465



PART OF FS 18
SERIES CHECKING RELAYS
(FOR CHECKING CONTINUITY OF INFORMATION TRANSMITTED TO SENDER)
TO OTHER ORIGINATING MARKER CIRCUITS
TO ORIGINATING MARKER CONNECTOR CKT
TO TROUBLE INDICATOR CKT, ORIGINATING
SK3
SK2
7DG
MI0
MI1
MI2
MI7
MI4
2L
AID
AIDK
ODN
CIH
CIG
CII
RA4
RA9
RA1
RA3
RA3
RA2
RA7
CO4
CO2
MIA
MIB
MIC
MID
MIE
MIF
MIG
MIH
MIJ
MPY
ODN
OCN
AIDI
SKP
7DG
MIKA
MIKB
MIKC
AIDK
ODNK
XTI
XT12
26E7
OFI
CK6
TB
TBL
PSI
OVA
OV
23A7

ORIGINATING MARKER CIRCUIT

SD-25016-01-827

BELL TELEPHONE LABORATORIES INCORPORATED

6S

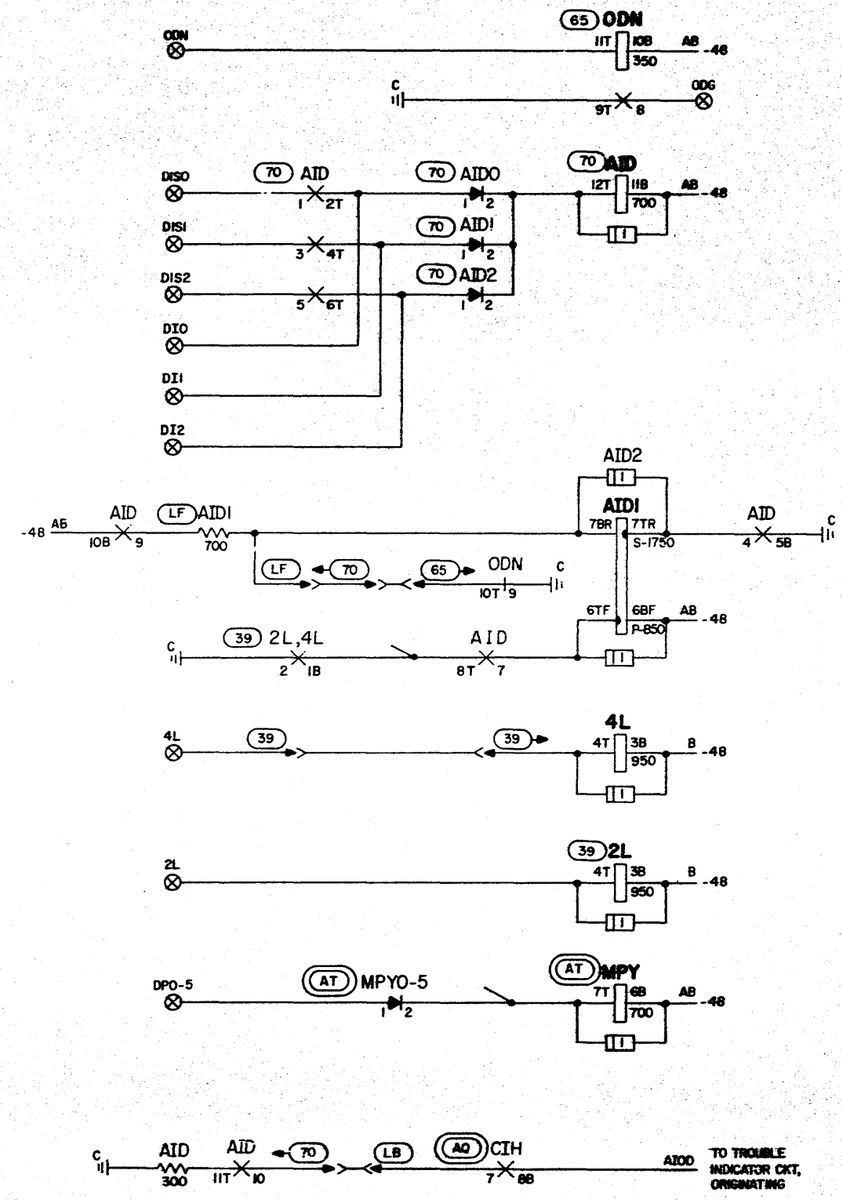
101

SD-25016-01-827

HIGGINS 4465

FS 19

DDD, MF CHECK RELAYS, MULTIPARTY, OUTPULSING DIRECT NO. AND AUTO ID (AID) INFORMATION TRANSMITTED TO SENDER



DRAWING ISSUE
101D AR
104 AR

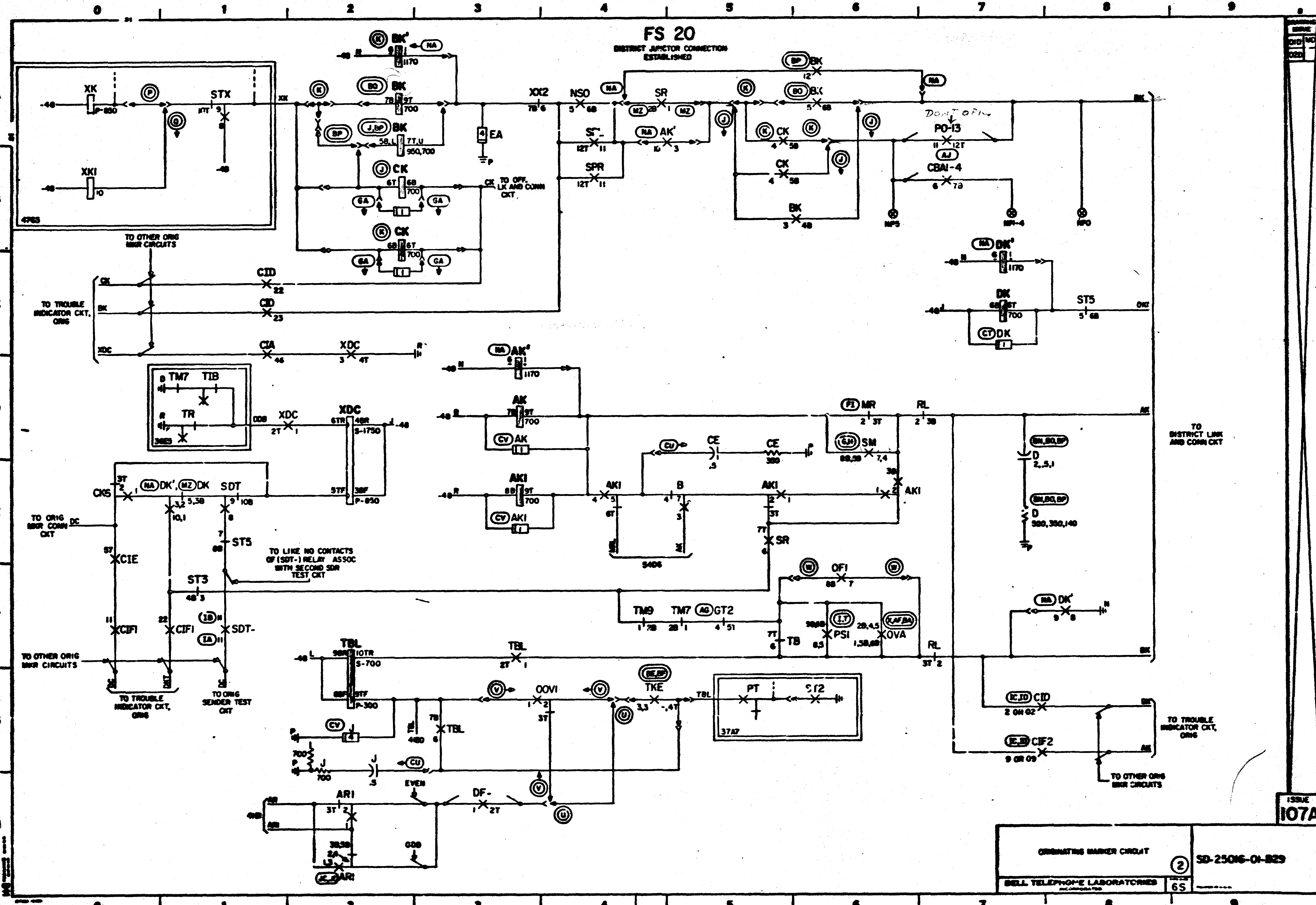
104

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-B28

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-B28

HIGGINS 4465



FS 20
DISTRICT JUNCTOR CONNECTION ESTABLISHED
TO OTHER ORIG MKR CIRCUITS
TO TROUBLE INDICATOR CKT, ORIG
TO OFF. LK AND CONN CKT
TO ORIG MKR CONN CKT
TO LIKE NO CONTACTS OF (SDT-) RELAY ASSOC WITH SECOND SDR TEST CKT
TO ORIG SENDER TEST CKT
TO DISTRICT LINK AND CONN CKT
ISSUE 107A
ORIGINATING MARKER CIRCUIT
SD-25016-01-B29
BELL TELEPHONE LABORATORIES INCORPORATED
6S

FS 21
ROUTE RELAYS

FOR GRD SUPPLY (TRUNK BLOCK 1-4)

TO 3 DIGIT COMMON TRANSLATOR CKT RC-
TO 3 DIGIT INDIVIDUAL TRANSLATOR CKT RC-
RC- R- T B R 275

MULT TO (R-) RELAYS ASSOC WITH SAME GROUND SUPPLY

	OB	24 OR 29	24 OR 29	OB
	OG	23 OR 28	23 OR 28	OG
	SB	22 OR 27	22 OR 27	SB
5B8B	SG	21 OR 26	21 OR 26	SG
	CL	20 OR 25	20 OR 25	CL
	CR	14 OR 19	14 OR 19	CR
	SP	13 OR 18	13 OR 18	SP
	TL	12 OR 17	12 OR 17	TL
35F7	GS	11 OR 16	11 OR 16	GS
	GE	10 OR 15	10 OR 15	GE
31A8	ST	04 OR 09	4 OR 9	ST
59G9	PC	03 OR 08	3 OR 8	PC
59H9	PCI		IF	
	IG		R-	
59E9	RA	01 OR 06	1 OR 6	RA
59G9	OF	02 OR 07	2 OR 7	OF
		00 OR 05	0 OR 5	
		IB	IA	

MULT TO ALL (R-) RELAYS

TBI-4 48C 5B 8T 200 GI-4 8 9B
CS TBA-D P 2 3 TBI-4 48

FOR GRD SUPPLY (TRUNK BLOCK 5) PERMANENT SIGNAL & OVERFLOW

TO 3 DIGIT COMMON TRANSLATOR CKT RC-
TO 3 DIGIT INDIVIDUAL TRANSLATOR CKT RC-
RC- R- T B R- 275

MULT TO (R-) RELAYS ASSOC WITH SAME GROUND SUPPLY

	OB	24 OR 29	24 OR 29	OB
	OG	23 OR 28	23 OR 28	OG
BJ	SB	22 OR 27	22 OR 27	SB
	SG	21 OR 26	21 OR 26	SG
	CL	20 OR 25	20 OR 25	CL
	CR	14 OR 19	14 OR 19	CR
	TL	12 OR 17	12 OR 17	TL
35E7	GS	11 OR 16	11 OR 16	GS
	GE	10 OR 15	10 OR 15	GE
31A8	ST	04 OR 09	4 OR 9	ST
59G9	PC	03 OR 08	3 OR 8	PC
59H9	PCI		IF	
	IG		R-	
	RA	01 OR 06	1 OR 6	RA
59F9	REG	TB5 2B 1		
	OF	02 OR 07	2 OR 7	OF
		00 OR 05	0 OR 5	
		IB	IA	

MULT TO ALL (R-) RELAYS

TB5 48C 5B 4T 8K
TB 7B 6 D

67 TOV 1 2B XTOV 6162

I7 CIF2 TO OTHER ORIG MKR CIRCUITS
TB5 TO TBL IND CKT, ORIG

47 PRH RC 7T 5B 400 J 48
83 RG00-39 RG00-39 MT 47kΩ AE 48

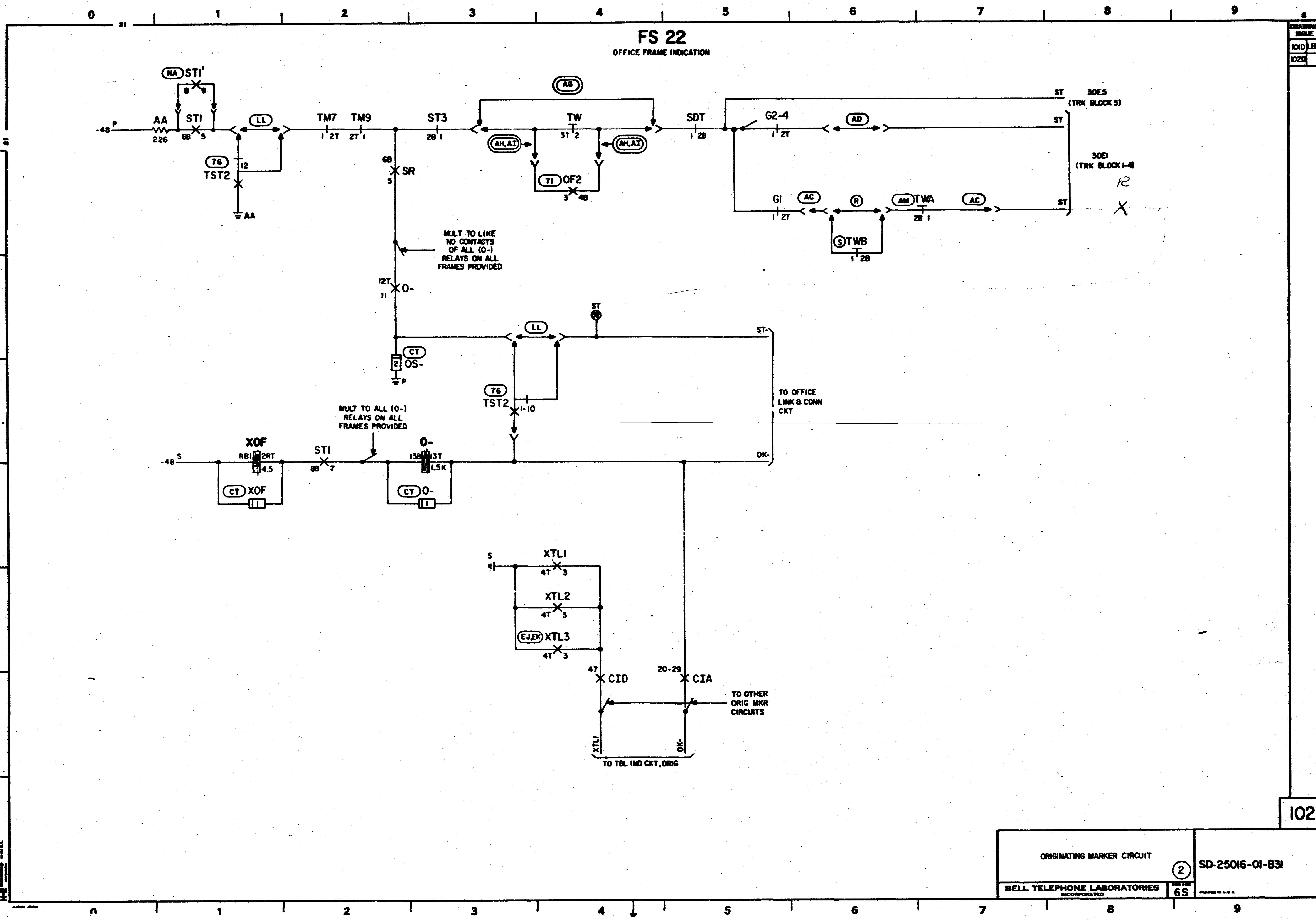
DRAWING INDEX IOID

101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-830
BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-830

HIGGINS 4485



SD-25016-01-B31

FS 23
OPERATOR TALKING
TOLL DIVERSON

NCTD
OT
OTA
TDV
TDVK
XTD
TR
TM7 TIB
CIF2
CIF3
CIH
CIA
ZA-J
MII-9
CCK
EAR
TO ORIG MKR CONN CKT
TO TBL IND CKT, ORIG
TO OTHER ORIG MKR CIRCUITS
SEE NOTE 194
SEE NOTE 242
1504
36E5

ORIGINATING MARKER CIRCUIT (2)
SD-25016-01-832
BELL TELEPHONE LABORATORIES INCORPORATED
SECTION 6S
101

SD-25016-01-832
HIGGINS 4465

PART OF FS 24

(TK) CHECK

ISSUE
#01D GLS
#02D

BG,BH TK AL KPI
A 68,98 8T,9T
1.3K,700 3T 2
-48
TO OTHER ORIG MKR CIRCUITS
TC TBL IND CKT, ORIG
TK CID 3 IP
AQ CIH 11 12T IK
KO KN
68 TRI 1 3B 2 TK6
68 TK 6 7T Z 18E1
KM IP IK TKI 2T 1
AL AM TDV 2 1 38 TDVK 1 2B
AP AQ 6 5 34A0
CLS 2 3T 1 2T CLA 58
TWA 3 4
HM HL DL,HM CLA 1 2B 3 4 5B
HM AM,KD OG5
CLB 1 2T DI,DJ CLO 1,3 2T,4T
CLC 2T 1 CL3 5T 4 CL1 1 2B CL4 1 2B
CLD 1 2T CL6 4 5T
CRS 1 2T CRA 1 2T
DI,DJ CRO 1,3 2T, 4T
AM CR1 1 2B
AM CR2 1 2B
CR4 1 2B
CR7 1 2B
CRB 1 2T
CRC 1 2T
FI 39 MIKC2 MIKA2 34F0

M N SGS 1 2T DG,DH SGO 1,3 2T,4T SGA 1 2T SGB 1 2T
BB
SG1 SG2 SG4 SG5 SGC 1 2T
SBS 1 2T DG,DH SBO 1,3 2T,4T SBA 1 2T SBB 1 2T
SB2 SB1 SB4 SB5 SBC 1 2T SB6 SB7 SB9 SBD 1 2T
SG13 SG11 BB 3T SG1 SG12 26F6
V
OGS 1 2T EL,EM OGO 1,3 2T,4T OGA 1 2T OGB 1 2T
AM OG1 AM OG2 AM OG4 AM,KD OG5 6 OGC 1 2T
OBA 1 2T OBS 1 2T DI,DJ OBO 1,3 2T,4T
OBB 1 2T OB5 OB1 OB2 OB4 OBC 1 2T OB3 OB6 OB7 OB9 OBD 1 2T
O
SGS 1 2T DI,DJ SGO 1,3 2T,4T SGA 1 2T SGB 1 2T

SD-25016-01-833

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ORIGINATING MARKER CIRCUIT (2) SD-25016-01-833

BELL TELEPHONE LABORATORIES INCORPORATED 6S

HIGGINS 4465

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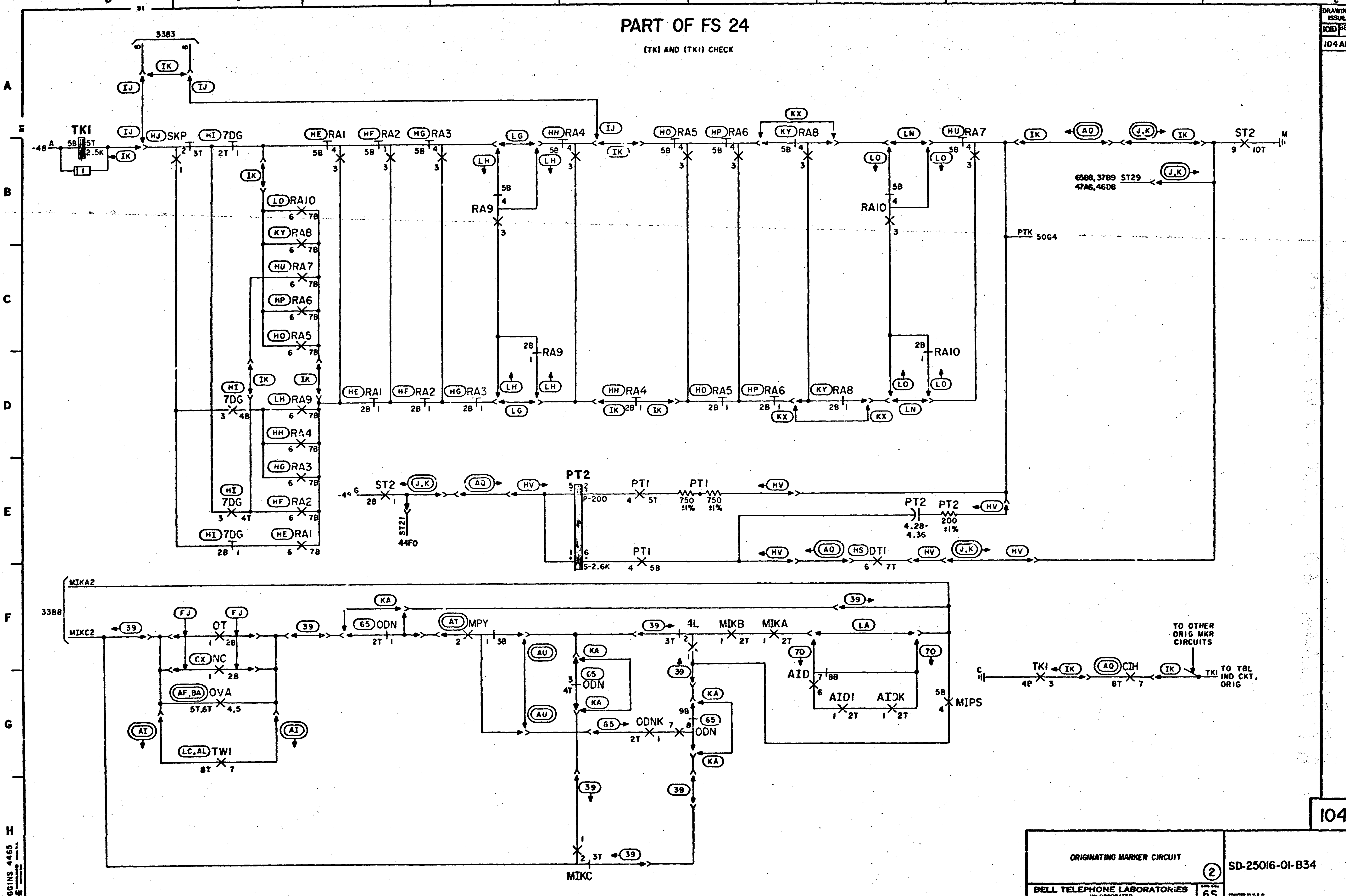

PART OF FS 24
(TK) AND (TK1) CHECK
TK1
SKP
7DG
RA1
RA2
RA3
RA4
RA5
RA6
RA8
RA7
RA9
RA10
ST2
ST29
PTK
PT2
PT1
DT1
MIKA2
MIKC2
3388
OT
NC
OVA
TW1
ODN
MPY
ODNK
MIKB
MIKA
AID
AID1
AIDK
MIPS
MIKC
CIH
TO OTHER ORIG MKR CIRCUITS
TO TBL IND CKT, ORIG
104
ORIGINATING MARKER CIRCUIT
SD-25016-01-B34
BELL TELEPHONE LABORATORIES INCORPORATED

FS 25

SENDER RELEASE AND START MARKING FUNCTION

TO OTHER ORIGINATING MARKER CIRCUITS

TO TROUBLE INDICATOR CKT, ORIGINATING

TO OTHER (O-) RELAYS ASSOC WITH SAME MARKER

TO OTHER ORIGINATING MARKER CIRCUITS

TO TROUBLE INDICATOR CKT, ORIGINATING

TO OTHER ORIGINATING MARKER CIRCUITS

TO TROUBLE INDICATOR CKT, ORIGINATING

SD-25016-01-B35

ISSUE 107A

ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-B35

BELL TELEPHONE LABORATORIES INCORPORATED

6S

FS 26

SUBSCRIBER SENDER RELEASE

TO ORIG MARKER CONNECTOR CKT RL

TO TROUBLE INDICATOR CKT, ORIG RL XRL

CIF2 29

CID 57

F

TO OTHER ORIG MARKER CIRCUITS

ST5 28 1

ST3 6T 5

SR 5T 4

TR 38 1

KJ KK

AK 3 4T

SDT 9 8 10T

AG AL TW AC

AI,AH

TWI 2 1 38

DLX 38,36 6T 850

CT DLX

EC,ED DLX 18,38 5T 1.2K,2K

STI L 3 4T 5IC3

STI3

BH,BG

TK R -48

XX2 48 3

XX1 1 28 4 5T H

BR DL BE,BD TMS2 D 58 4 58 4

BQ,BR DL J -48 38,68 3T,7T 1.3K, 2K

TM 3 7 OCB 48 3 ST2II

ST2 11 12T M 6503

XRL 1 2B R

XX1 3 4T

XX2 10T 9

XSM2 6B 5 Z

TM1 3 48 4T

TMSI 3

XTD 3 4T C

XDF1 1 S

EI,ES,6B

CK1 48 3 C

CK3 48 3

CK4 3B 2 E

SDT ST3 3 48 2T 1

TM6 1 2B D

PSI 9 8 10T

TB5 3 48

TIB 7 8T 6

FI FJ

PSI 3B 2 1

RLI -48 L 1B 5T 200

RL -48 J 8B 10T 1.3K

TR TIB 58 4 58 4

TM7 3 48 P

RLI 2T R

CIF2 36 TRI

TO TROUBLE INDICATOR CKT, ORIG

TO OTHER ORIG MARKER CIRCUITS

DMT 6B 7

TIB 5T 3 4

PSI 2T 3 4T 5T 1 2

HMTI 3,9 4T,-

DT3 BC,5D 1,5 2B,6T2B

BU,BV

CRL 2B 1

XS

6P 6Q

MRI 7T 6 5

AC AA,AB

XX2 XX1 ST5 6T 5 2T 1 12T 11 R

MRK 2B 1

QA QB

XMRI 3B 2 1

V3 54F7

TO DISTRICT LINK AND CONNECTOR CKT TRL

TO MISC CKT (FOR ORIG TROUBLE INDICATOR FR) TIA

DMT SDTA DL 2B 1 2B 1 1 2B R

TO OTHER ORIG MARKER CIRCUITS

TO ORIG MARKER CONNECTOR CKT TRL

TM9 7 8B 6

TMIO 2B C

TO TROUBLE INDICATOR CKT, ORIG TRL

EC, ED CIFI 3,03

ST4 12T 11 RX

TM7 10B 9 6T 7 6

ST3 7 6T

ST5 3 4B

TM7 7 8 6

TM9 6T 6 7

TR 10B 9 8

TM7 1 2 3B TIB 58 4

TO TRUBLE INDICATOR CKT, ORIG TRL

XRL 3 4B

TO ORIG MRKR CONN RO

TO TBL IND CKT, ORIG IA5 RO

CIF2 KP KP RO

AK C,AJ OFI D 3T 1 2 D,AK 41 39 MIPS 6T 4 5

TB5 2 1 3T W X AK 7 8T X W AF,BA C,AJ D,AK

TR 10T 9 R

290I,32E2,3862,39G3, 44DO,4584,65,46DI, 47E3,52D2,55HI,61BI

DDB

AJ D,AK 7B 6 ST3 5

BM KP 2 3T C

XRL 58F 6TF P-1.5K 6BR 7TR S-215 L -48

AJ AK D AL KP 4 5T

OFI 2B 1

TR 10B 9 8

TM7 3B 1 2 D TIB 58 4

PSI 4B 3 TR TIB 5B 3T 1 10T 9 PSI 7B 6 TB 3 4 D

PS

TO DISTRICT LINK AND CONNECTOR CKT

AQ IV TRL

IV PTI PTKI HMT J,K BK PT3 46F5

ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-836

BELL TELEPHONE LABORATORIES INCORPORATED

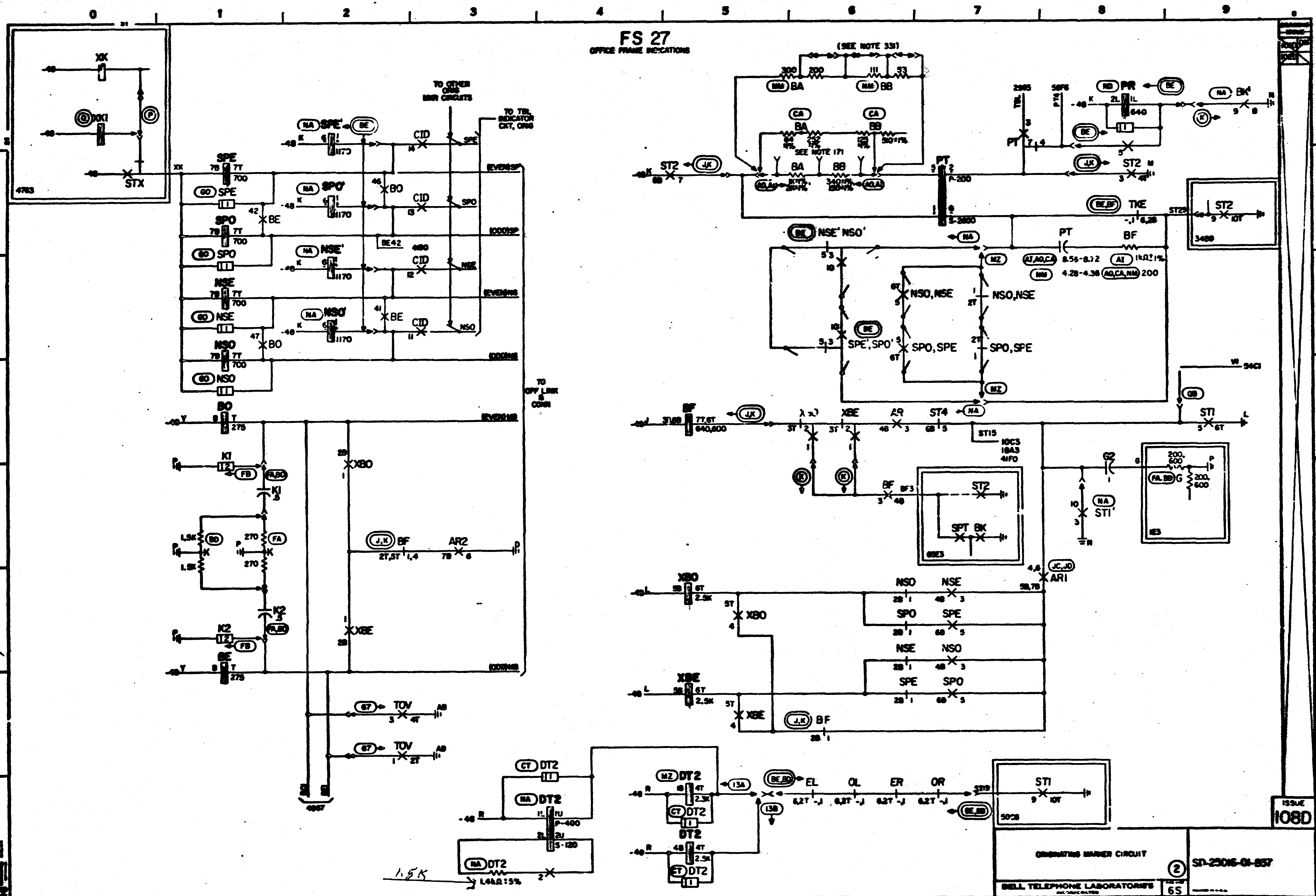
6S

ISSUE 108D

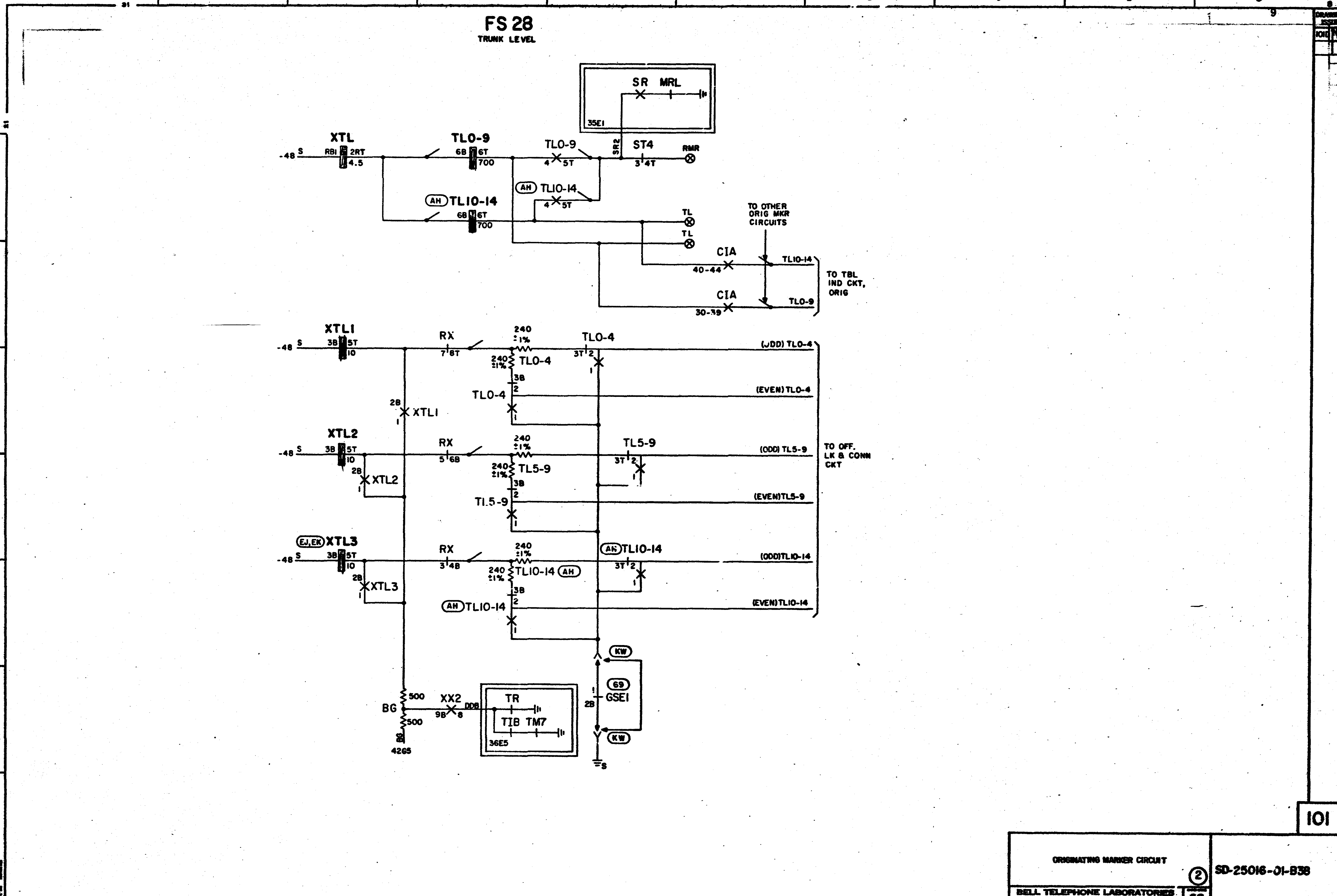
DRAWING ISSUE 101D 102D

SD-25016-01-836

1694W3 4465



FS 27
OFFICE FRAME INDICATIONS
(SEE NOTE 331)
SEE NOTE 171
TO OTHER ORIG MKR CIRCUITS
TO TBL INDICATOR CKT, ORIG
TO OFF LINK & CONN
XX
XXI
STX
SPE
SPO
NSE
NSO
SPE'
SPO'
NSE'
NSO'
CID
BE
BO
BE42
K1
K2
XBO
XBE
BF
AR2
TOV
DT2
BA
BB
PR
BK'
ST2
PT
TKE
NSE' NSO'
NSO,NSE
SPO,SPE
SPE',SPO'
AR
ST4
STI
STI'
G2
SPT BK
ARI
EL
OL
ER
OR
1.5K
ISSUE
108D
ORIGINATING MARKER CIRCUIT
SD-25016-01-B37
BELL TELEPHONE LABORATORIES
INCORPORATED
6S



FS 28
TRUNK LEVEL
SR MRL
35E1
XTL
TL0-9
ST4
RMR
TL10-14
TL
TO OTHER ORIG MKR CIRCUITS
CIA
TO TBL IND CKT, ORIG
XTL1
RX
TL0-4
(ODD) TL0-4
(EVEN) TL0-4
XTL2
TL5-9
(ODD) TL5-9
(EVEN)TL5-9
TO OFF. LK & CONN CKT
XTL3
(ODD)TL10-14
(EVEN)TL10-14
KW
GSE1
BG
XX2
TR
T1B TM7
36E5
ORIGINATING MARKER CIRCUIT
SD-25016-01-B38
BELL TELEPHONE LABORATORIES
101

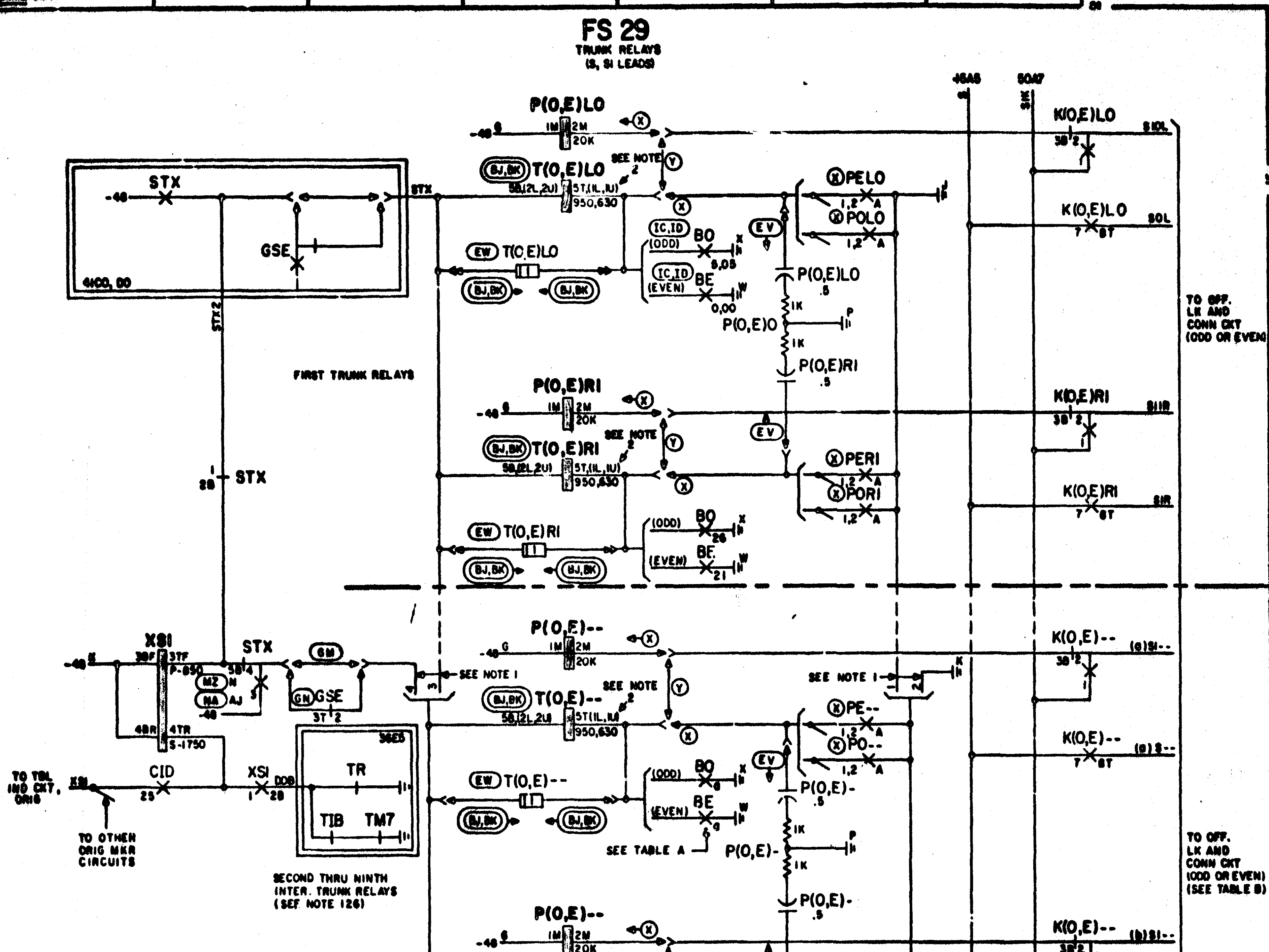


TABLE A

TRUNK RELAY	CONT NO. (BO) REL. a	CONT NO. (BO) REL. b	CONT NO. (BE) REL. a	CONT NO. (BE) REL. b
2ND	*7/07	28	*2/02	23
3RD	*9/09	35	*4/04	40
4TH	16	37	11	32
5TH	18	39	13	34
6TH	25	*6/06	20	*1/01
7TH	27	*8/08	22	*3/03
8TH	29	15	24	10
9TH	36	17	31	12

*INDICATES (IC)/(ID) OPTION

TABLE B

TRUNK RELAY	LEAD DESIG SI--LEAD a	LEAD DESIG SI--LEAD b	LEAD DESIG S--LEAD a	LEAD DESIG S--LEAD b
2ND	SI2L	SI3R	S2L	S3R
3RD	SI4L	SI5R	S4L	S5R
4TH	SI6L	SI7R	S6L	S7R
5TH	SI8L	SI9R	S8L	S9R
6TH	SI0R	SI1L	S0R	S1L
7TH	SI2R	SI3L	S2R	S3L
8TH	SI4R	SI5L	S4R	S5L
9TH	SI6R	SI7L	S6R	S7L

NOTES:

1. WIRING FOR TRUNK RELAYS 1ST-5TH AND 6TH-10TH IS INDICATED BY LEADS 1 AND 3, 2 AND 4 RESPECTIVELY.
2. THE COIL TERMINALS FOR RELAYS (TOLO) AND (TORI) IN APP FIG. BK ARE 1U AND 2U RESPECTIVELY. THE COIL TERMINALS FOR RELAYS (TELO) AND (TERI) IN APP FIG. BK ARE 1L AND 2L RESPECTIVELY.

ORIGINATING MARKER CIRCUIT

BELL TELEPHONE LABORATORIES

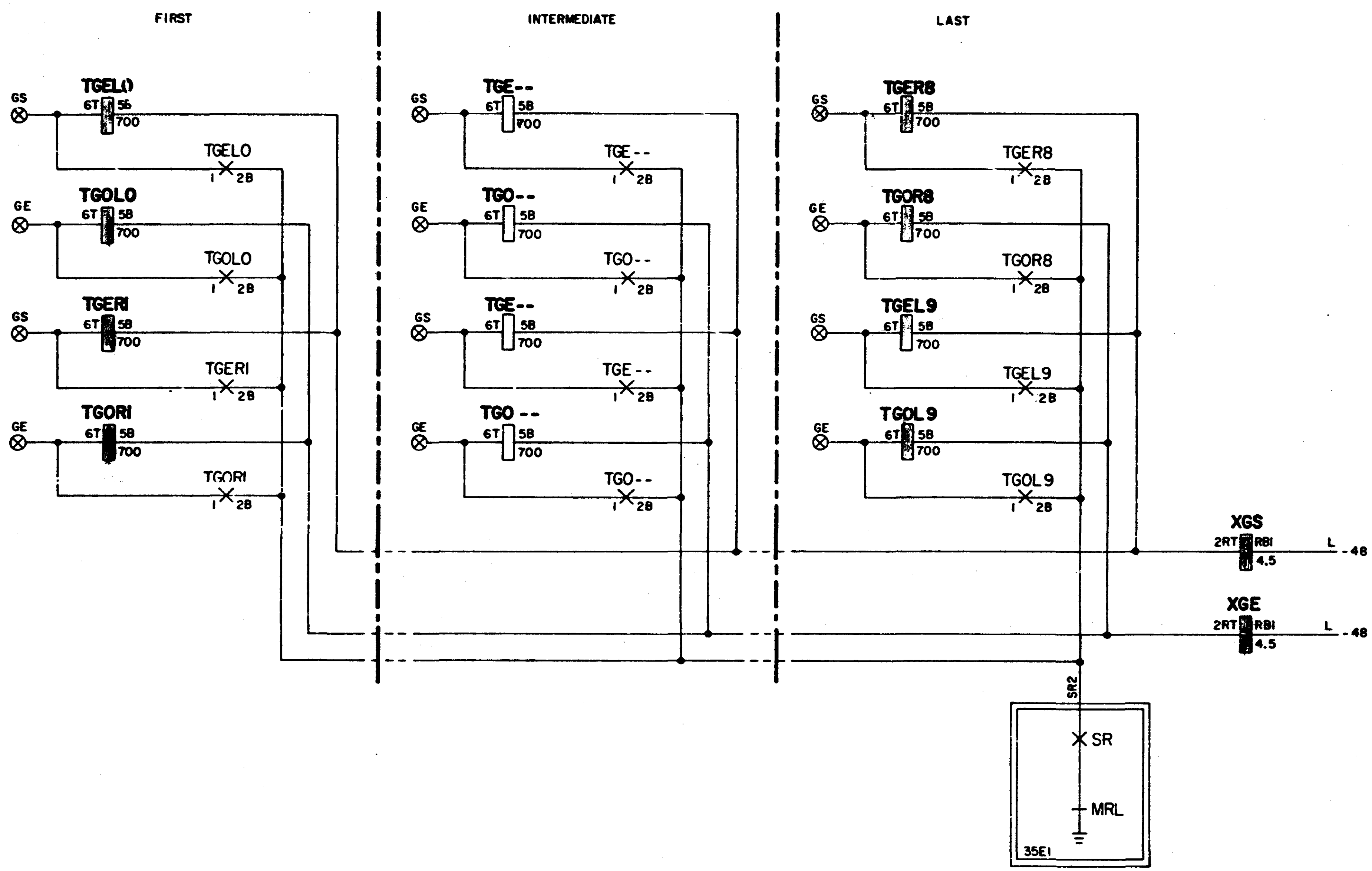
(2) SD-25016-01-839

6S

ISSUE 107A

FS 30

TRUNK GROUP START-END
(SEE NOTE 126)



ORIGINATING MARKER CIRCUIT

2

SD-25016-01-B40

BELL TELEPHONE LABORATORIES INCORPORATED

6S

101

DRAWING ISSUE 101D

SD-25016-01-B40

HIGGINS 4465

FS 31

TRUNK SELECT

FIRST

INTERMEDIATE (SEE NOTE 126)

LAST

TO TROUBLE INDICATOR CKT, ORIGINATING

TO OTHER ORIGINATING MARKER CIRCUITS

SEE TABLE A

TABLE A

REF DESIG	K--- LEADS	CONTACTS IC	CONTACTS ID
a	EL2,4,6,8	2,4,6,8	02,04,06,08
	ER0,2,4,6	20,22,24,26	20,22,24,26
b	OL2,4,6,8	12,14,16,18	12,14,16,18
	OR0,2,4,6	30,32,34,36	30,32,34,36
c	ER3,5,7,9	23,25,27,29	23,25,27,29
	EL1,3,5,7	1,3,5,7	01,03,05,07
d	OR3,5,7,9	33,35,37,39	33,35,37,39
	OL1,3,5,7	11,13,15,17	11,13,15,17

BELL TELEPHONE LABORATORIES INCORPORATED

ORIGINATING MARKER CIRCUIT

SD-25016-01-B41

102

FS 32
MATE OFFICE FRAME RELEASE

BD,BE EL. -48 L,AJ 6B,L 6T,U 400,270 KELO-9 4 5B ST19 → STI 9 IDT 50C8

BD,BE OL. -48 L,AJ 6B,L 6T,U 400,270 KOLO-9 4 5B

BD,BE ER -48 L,AJ 6B,L 6T,U 400,270 KERO-9 4 5B

BD,BE OR -48 L,AJ 6B,L 6T,U 400,270 KORO-9 4 5B

EL 7 ER 7 — CT CA 10kΩ K -48

OL 7 OR 7 — CT CB 10kΩ K -48 — CA 3 K

STI 8T 7 ST17 IB6 — TB 4T 3 — AG GT2 9T 8 — BE BD — OL 1 2B — OR 2B 1 — CU — CV — 3 CB — CB 140 CB 1 P — CT CB 10K L -48 — BD BE MCB (EVEN) — 3 CB K

TO OFFICE LINK AND CONN CKT

EL 1 2B ER 2B 1 — BD BE MCB (ODD) — CU — CV — 3 CA — CA 140 CA 1 P — CT CA 10K L -48

XLC 48L 3B 5T 10 — 1 2B XLC

XLCI 48L 3B 5T 10 — 1 2B XLCI

BG — 500 BG 500 — XX2 — 3662

TR TIB TM7 — 36E5

STI BEI BOI CBH — 20 — 4388

FS 33
ACCESS TO OFFICE LINKS
(SEE NOTE 126)

1ST TRK SELECT 0 — 6ST TRK SELECT 20

KELO (1ST) 6T 5 4 — KERO (1ST) 6T 5 4 LCO (EVEN)

240 ±1% LCO 240 ±1% — KERI (3RD) 6T 5 4 — KELI (3RD) 6T 5 4 LCI (EVEN)

KOLO (2ND) 6T 5 4 — KORO (2ND) 6T 5 4 LCO (ODD)

240 ±1% LCI 240 ±1% — KORI (4TH) 6T 5 4 — KOLI (4TH) 6T 5 4 LCI (ODD)

2ND TRK SELECT — 7TH TRK SELECT — LC2 — TO OFFICE LINK AND CONN CKT

3RD TRK SELECT — 8TH TRK SELECT — LC7

4TH TRK SELECT — 9TH TRK SELECT

5TH TRK SELECT — 10TH TRK SELECT

KEL8 (1ST) 6T 5 4 — KER8 (1ST) 6T 5 4 LC8 (EVEN)

240 ±1% LC8 240 ±1% — KER9 (3RD) 6T 5 4 — KEL9 (3RD) 6T 5 4 LC9 (EVEN)

KOL8 (2ND) 6T 5 4 — KOR8 (2ND) 6T 5 4 LC8 (ODD)

240 ±1% LC9 240 ±1% — KOR9 (4TH) 6T 5 4 19 — KOL9 (4TH) 6T 5 4 39 LC9 (ODD)

DRAWING ISSUE
101D
102D

C5

102

ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-B42

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-B42

FS 34

ACCESS TO OFF. JUNCTORS

DRAWING ISSUE
101D CRR
102D

JC- -48 S 4B 4T 700 JC-
20-39 CIC
TO OTHER ORIG MARKER CIRCUITS
TO TROUBLE INDICATOR CKT, ORIG

21 PA-
PC9 PC8 PC7 PC6 PC5 PC4 PC3 PC2 PC1 PC0
9 10T; 7 8T; 5 6T; 3 4T; 1 2T; 9 10B; 7 8B; 5 6B; 3 4B; 1 2B
P9- P8- P7- P6- P5- P4- P3- P2- P1- P0-
TO ALL OTHER (PA-) RELAYS

21 PA- -48 S 11B 11T 950 PA-

19 P- -48 S 13B 15T 700 P-
0-13 00-13 2C,7D CIC
TO OTHER ORIG MARKER CIRCUITS
TO TROUBLE INDICATOR CKT, ORIG

MULT TO OTHER (O-) RELAYS PER ALL FR PAIRS
EA- O- 11 12B
EB- O- 7 8B
EC- O- 3 4B
ED- O- 5 6T
MULT TO OTHER (O-) RELAYS OF FIRST FOUR PAIR OF FRAMES, (0-3) MAX
EE
MULT TO ALL OTHER (DF-) RELAYS OF ALL FRAMES
EAP- DF- 3 4B
MULT TO OTHER (DF-) RELAYS OF FIRST EIGHT FRAMES, (0-7) MAX
EEP- DF- 7 8B

CB14 W CB15
(AJ) CBA1 6 7T; (AJ) CBB2 1 2T; (AJ) CBB5 1 2T
(AJ) CBA2 6 7T; (AJ) CBB3 1 2T
(AJ) CBA3 6 7T; (AJ) CBB4 1 2T
(AJ) CBA4 6 7T
7T (AJ) CBA5 6
(AJ) CBB1 5 6T
(AJ) CBB1 1 2T

MULT TO OTHER (O-) RELAYS PER ALL FR PAIRS
OA- O- 9 10B
OB- O- 5 6B
OC- O- 1 2B
OD- O- 7 8T
MULT TO OTHER (O-) RELAYS OF FIRST FOUR PAIR OF FRAMES, (0-3) MAX
OE
MULT TO ALL OTHER (DF-) RELAYS OF ALL FRAMES
OAP- DF- 1 2B
MULT TO OTHER (DF-) RELAYS OF MAX 1ST EIGHT FRAMES, (0-7) MAX
OEP- DF- 5 6B

CB16 W CB17
(AJ) CBA1 4 5B; (AJ) CBB2 1 2B; (AJ) CBB5 1 2B
(AJ) CBA2 4 5B; (AJ) CBB3 1 2B
(AJ) CBA3 4 5B; (AJ) CBB4 1 2B
(AJ) CBA4 4 5B
5B (AJ) CBA5 4
(AJ) CBB1 3 4B
(AJ) CBB1 1 2B

PA- O- 1 2T S 11
MULT TO OTHER (O-) RELAYS PER ALL FR PAIRS

(BD,BE) ER 4 5T,- 4T,4 3,- EL (BD,BE)
BD; BE; NB; BE
NC; NC
BOI 1 2T 2T 1 BEI
STII STI 41A0 11 12T L
CBH 6B 5
+130 JCI 850 10 TKE JC R JC
JC2 301
JC 4-5

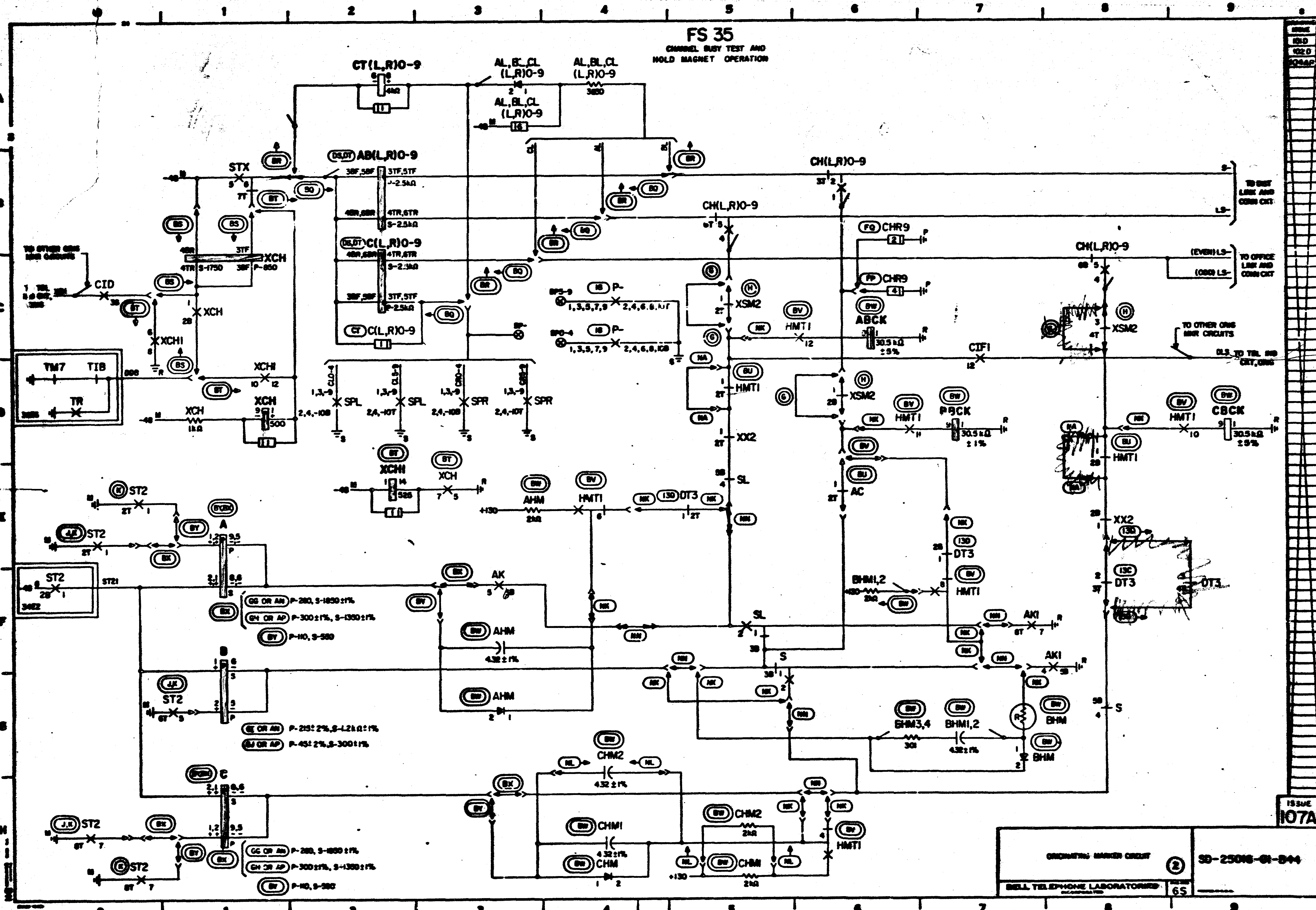
FIRST
-48 H 4B 3 ST2 (J,K) TBL 5 6T (BS,BT) A 60, 150 JCO 1 2 3T
CU CD 200 CD .5 P
CV CD 2 P
JCO 3B 2 1
3,- 4T,4 5T,- 3,- 4 OL
OR (BD,BE)
INTERMEDIATE
TO DISTRICT LINK AND CONN CKT
JC- 1 2 3T JC-
JC- 3B 2 1
LAST
S CV JC- 5.1K JC- 2 3B CV JC- 1 2 3T JC-
F

SD-25016-01-843

HIGGINS 4465 NE

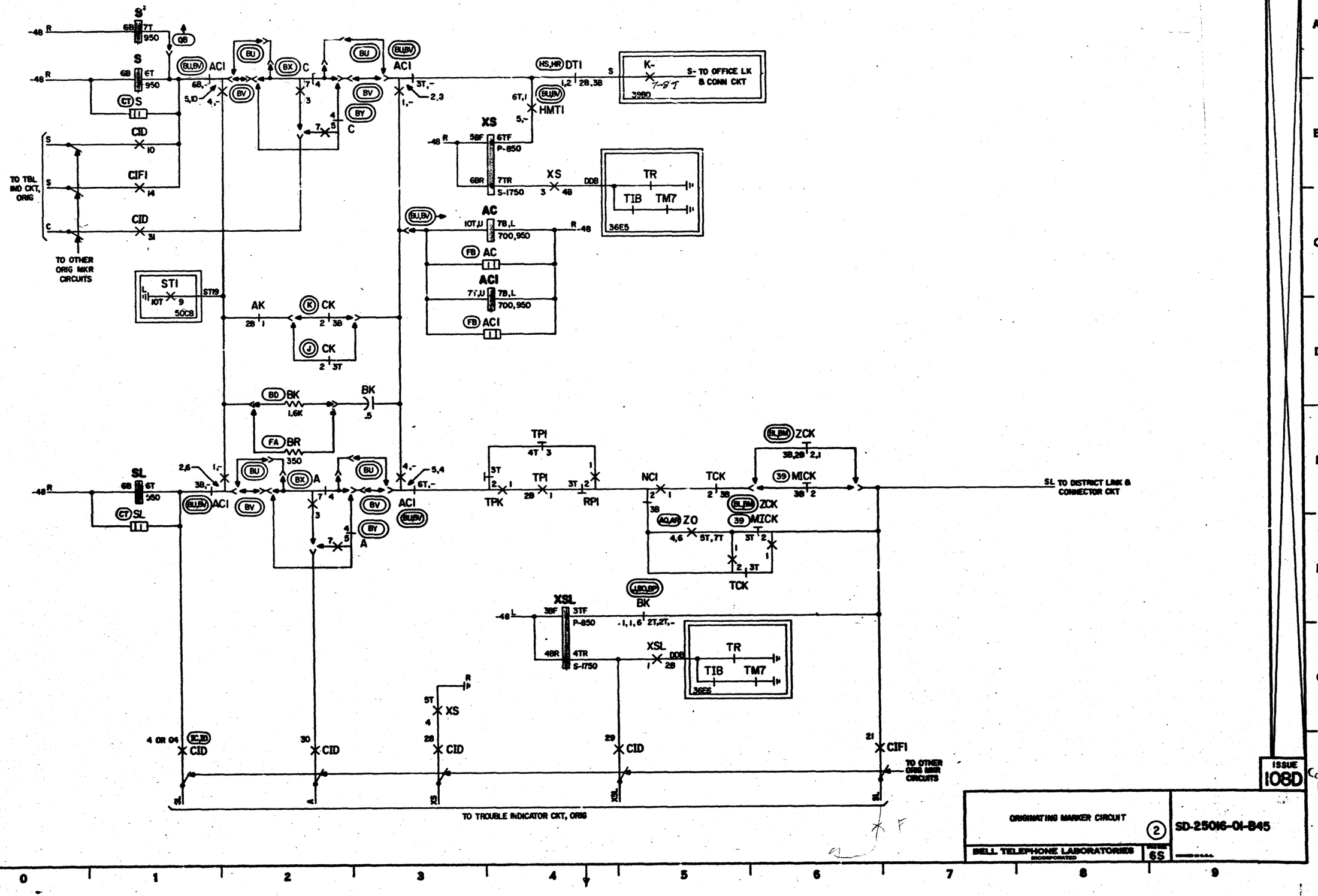
102

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-843
BELL TELEPHONE LABORATORIES INCORPORATED 6S



FS 35
CHANNEL BUSY TEST AND HOLD MAGNET OPERATION
CT(L,R)0-9
AL,BL,CL (L,R)0-9
AB(L,R)0-9
C(L,R)0-9
CT C(L,R)0-9
CH(L,R)0-9
STX
XCH
XCH1
CID
TM7
TIB
TR
SPL
SPR
ST2
AHM
HMT1
DT3
XSM2
XX2
SL
AC
ABCK
PBCK
CBCK
CHR9
CIF1
AK
AK1
BHM1,2
BHM3,4
BHM
CHM
CHM1
CHM2
TO DIST LINK AND CONN CKT
TO OFFICE LINK AND CONN CKT
TO OTHER ORIG MKR CIRCUITS
ISSUE 107A
ORIGINATING MARKER CIRCUIT
SD-25016-01-B44
BELL TELEPHONE LABORATORIES
6S

FS 36
CHECK OF OFFICE & DISTRICT HOLD MAGNET



ISSUE 108D

ORIGINATING MARKER CIRCUIT	(2)	SD-25016-01-B45
BELL TELEPHONE LABORATORIES INCORPORATED	ISSUE 6S	

SD-25016-01-B45

PART OF FS 37

TIMING FOR IDLE CHANNEL SELECTION AND SELECT MAGNET OPERATION

TO OTHER ORIGINATING MARKER CIRCUITS

TO TROUBLE INDICATOR CKT, ORIGINATING

TO TROUBLE INDICATOR CKT, ORIGINATING

TO OTHER ORIGINATING MARKER CIRCUITS

TO OFFICE LINK AND CONNECTOR CKT

TO OTHER ORIGINATING MARKER CIRCUITS

(SEE NOTE 333)

(SEE NOTE 132)

TO OTHER ORIGINATING MARKER CIRCUITS

XSMI TO TROUBLE INDICATOR CKT, ORIGINATING

PC TO DIST LK AND CONN CKT

B TO DIST LK CONN CKT

DRAWING ISSUE	
101D	JGS
102D	
104AR	

ISSUE 107A

ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-846

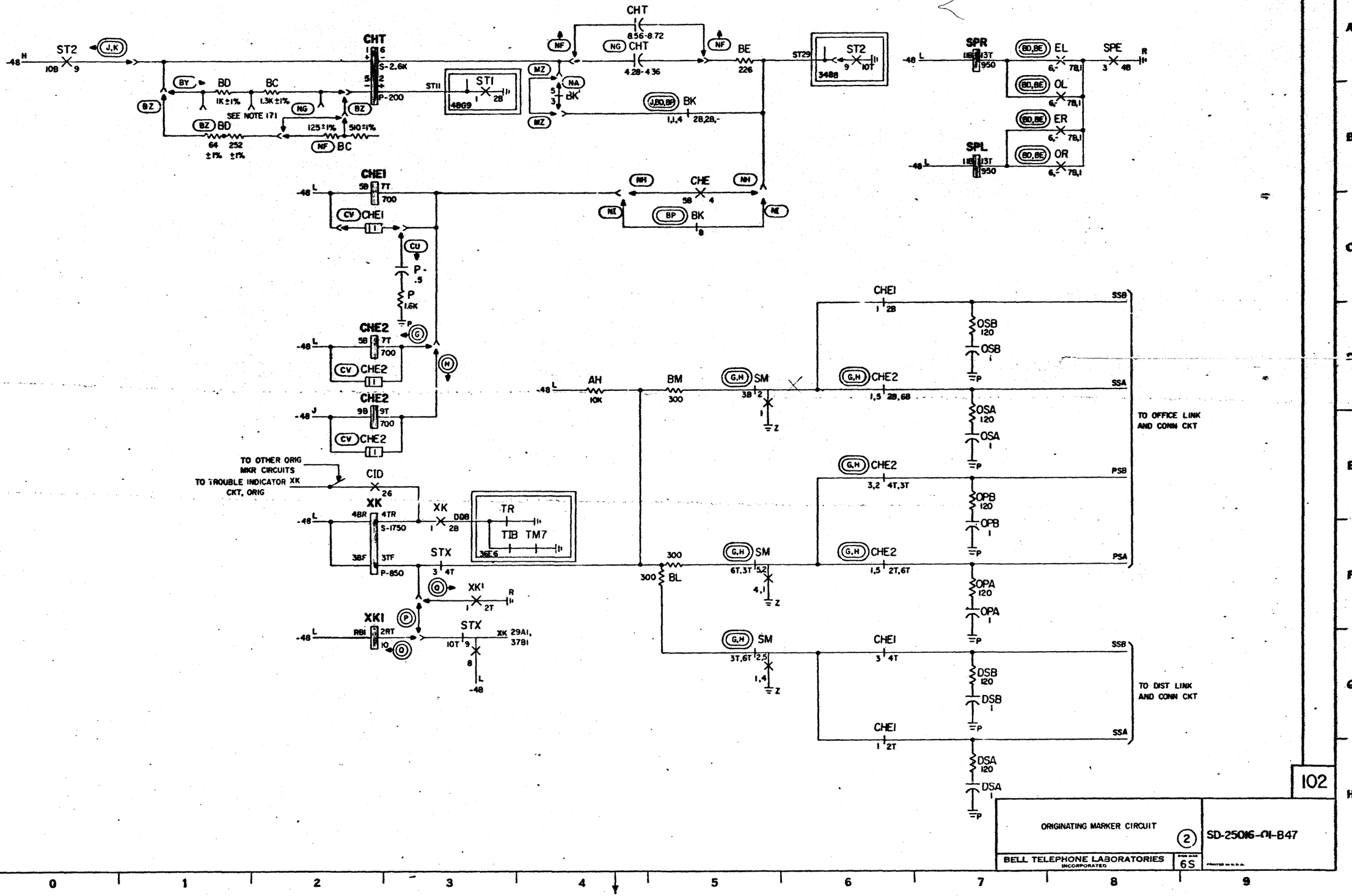
BELL TELEPHONE LABORATORIES INCORPORATED

SS

SD-25016-01-846

PART OF FS 37

TIMING FOR IDLE CHANNEL SELECTION AND SELECT MAGNET SELECTION



102

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-B47

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-B47

HIGGINS 4465

FS 38
CHANNEL SELECTION AND LOCK

TO OTHER ORIG MKR CIRCUITS

TO TBL INDICATOR CKT, ORIG

CHLO-9, CHRO-9

CHE

CIB

CID

SEE NOTE 110

ABLO ABRO ABLI ABRI ABL2 ABR2 ABL3 ABR3 ABL4 ABR4

CLO CRO CLI CRI CL2 CR2 CL3 CR3 CL4 CR4

CHLO CHRO CHLI CHRI CHL2 CHR2 CHL3 CHR3 CHL4 CHR4

CTLO CTRO CTLI CTRI CTL2 CTR2 CTL3 CTR3 CTL4 CTR4

ABL5 ABR5 ABL6 ABR6 ABL7 ABR7 ABL8 ABR8 ABL9 ABR9

CL5 CR5 CL6 CR6 CL7 CR7 CL8 CR8 CL9 CR9

CHL5 CHR5 CHL6 CHR6 CHL7 CHR7 CHL8 CHR8 CHL9 CHR9

CTL5 CTR5 CTL6 CTR6 CTL7 CTR7 CTL8 CTR8 CTL9 CTR9

MRI STI HMTI CHT AR2 JD

ISSUE 107A

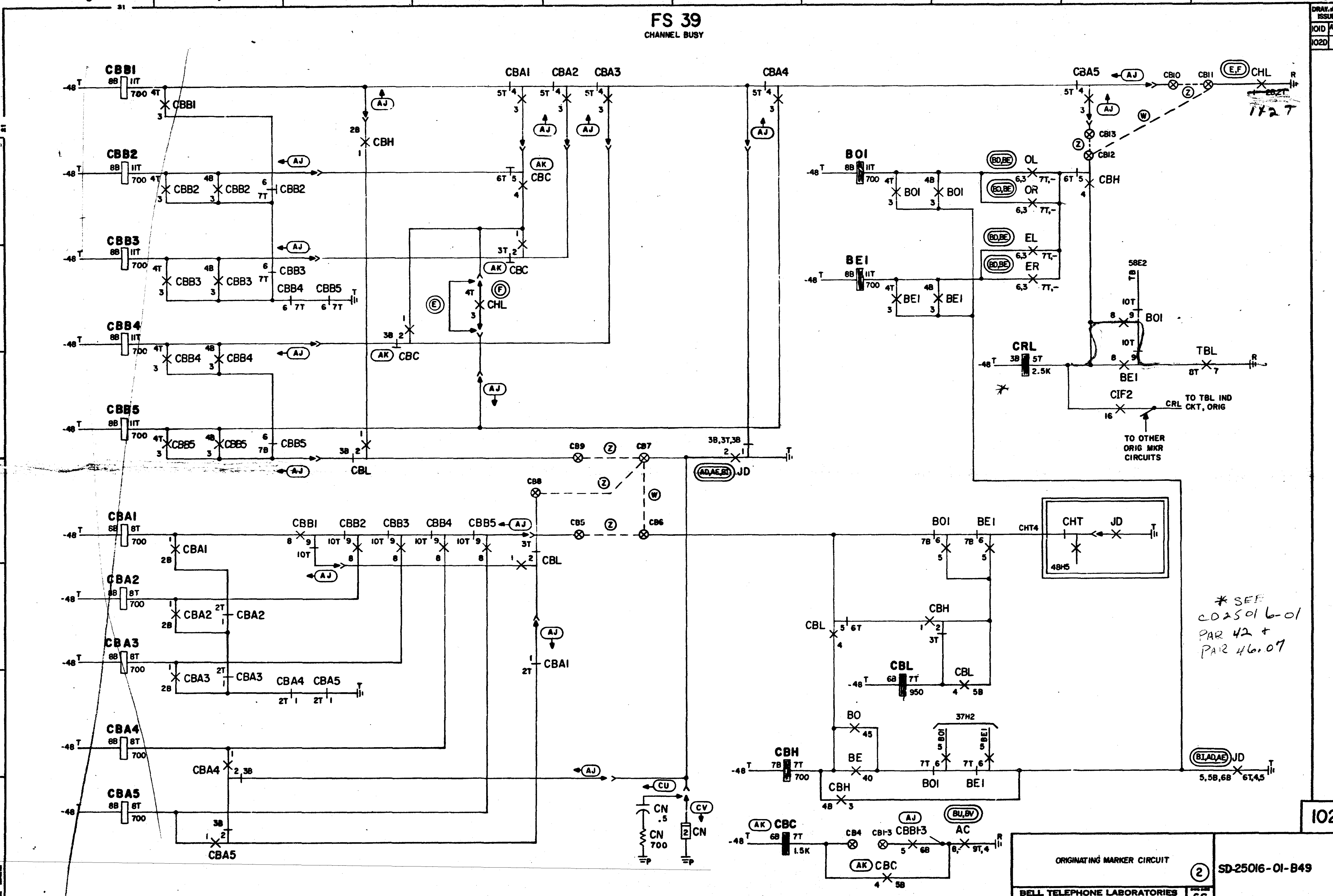
ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-B48

BELL TELEPHONE LABORATORIES INCORPORATED

65

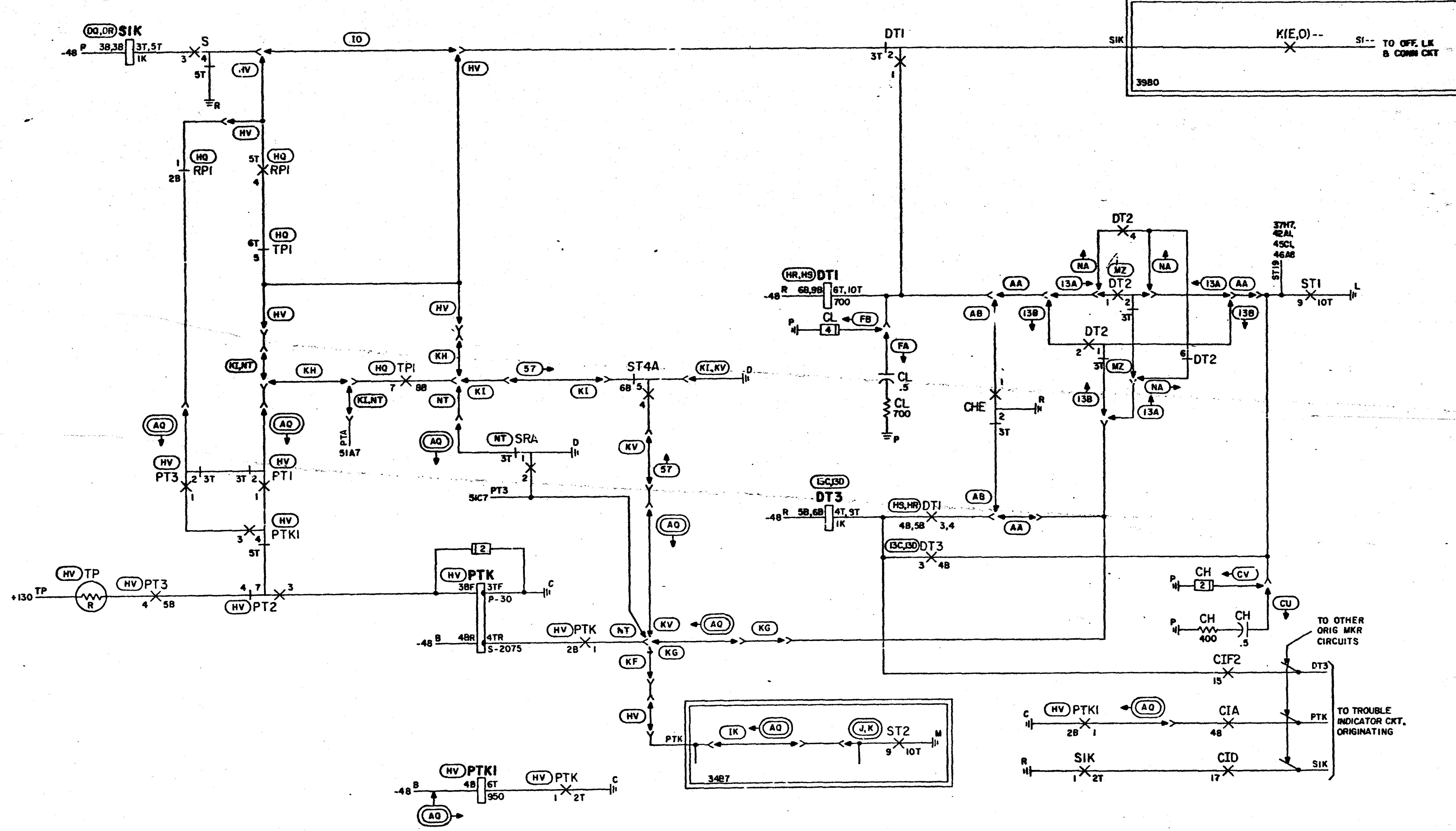
SD-25016-01-B48



FS 39
CHANNEL BUSY
CBB1
CBB2
CBB3
CBB4
CBB5
CBA1
CBA2
CBA3
CBA4
CBA5
CBH
CBC
CHL
CBL
BO1
BE1
OL
OR
EL
ER
CRL
TBL
CIF2
TO TBL IND CKT, ORIG
TO OTHER ORIG MKR CIRCUITS
JD
CHT
CHT4
48H5
37H2
CN
AC
CBB1-3
* SEE CD25016-01 PAR 42 + PAR 46.07
1127
102
ORIGINATING MARKER CIRCUIT
SD-25016-01-B49
BELL TELEPHONE LABORATORIES INCORPORATED
6S

FS 40

SI LEAD CHECK, PARTY CHECK AND DOUBLE CONNECTIONS TEST



ISSUE 107A

ORIGINATING MARKER CIRCUIT

SD-25016-01-B50

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25016-01-B50

HIGGINS 4465 K-E

FS 42
TIP PARTY CHARGE

TPK
-48 B 1B 4T 2.5K
HC TPK 220K
BU,BV AC 68,-5,10 4,- R
D,HQ TPI 9T,11T 8,10
JI NCI C 4 5B
JH 3B 2 OTI 1 C
D,HQ TPI 5,7 6,8 7T,9T
TP

TC
TC EE 3T 1B B -48 10
AT,EF
TC 4T 3B B -48 10

XTC
-48 B 3BF 3TF P-850 RX 10T 9
4BR 4TR S-1750 XTC 1 2B DDB
TR TIB TM7 36E6
OTI 3T 2 1
MP BA OVA MQ 4T 3 MQ
FI TCI 3T 2 1
AQ,AR ZO T 3T,5T 2,4 1,3
TP 55D8
TC
OT
ZK
ZK 23D9

TO DISTRICT LINK & CONN CKT

PART OF FS 43
ROUTE & RATE VERIFICATION TEST

TO OTHER ORIGINATING MKR CIRCUITS

CIF2 28 ZK
CID 45 XTC
CIC 49 TPK
CIF1 31 TST
CIF2 49 OT
ZKA

TST
-48 AC B T 275 B T 275 5
76 LM LL GU AF,BA AN GT
CIF3 2T I
2,2T 3B,1 OVA
GY AF,BA
GY 2G2 ZKI 2 1 3T
AO CIF3 GZ
OTI NCI 1B7 2D2 ST5 STI L
ZK

CIF3 GU AN -48 W 5B 5T 2.5K
U
CIF2 48 TC
CIF1 30
CIF2 47 TP2
CIF1 24

TSTA
-48 AC B T 275 B T 275 5
76 LM LL

TSTI
-48 M L U 700 6
TST2 L U 700

GN GSE -48 L 6B 6T 1.5K
GW GX AO CIF3 9T 8 GSE

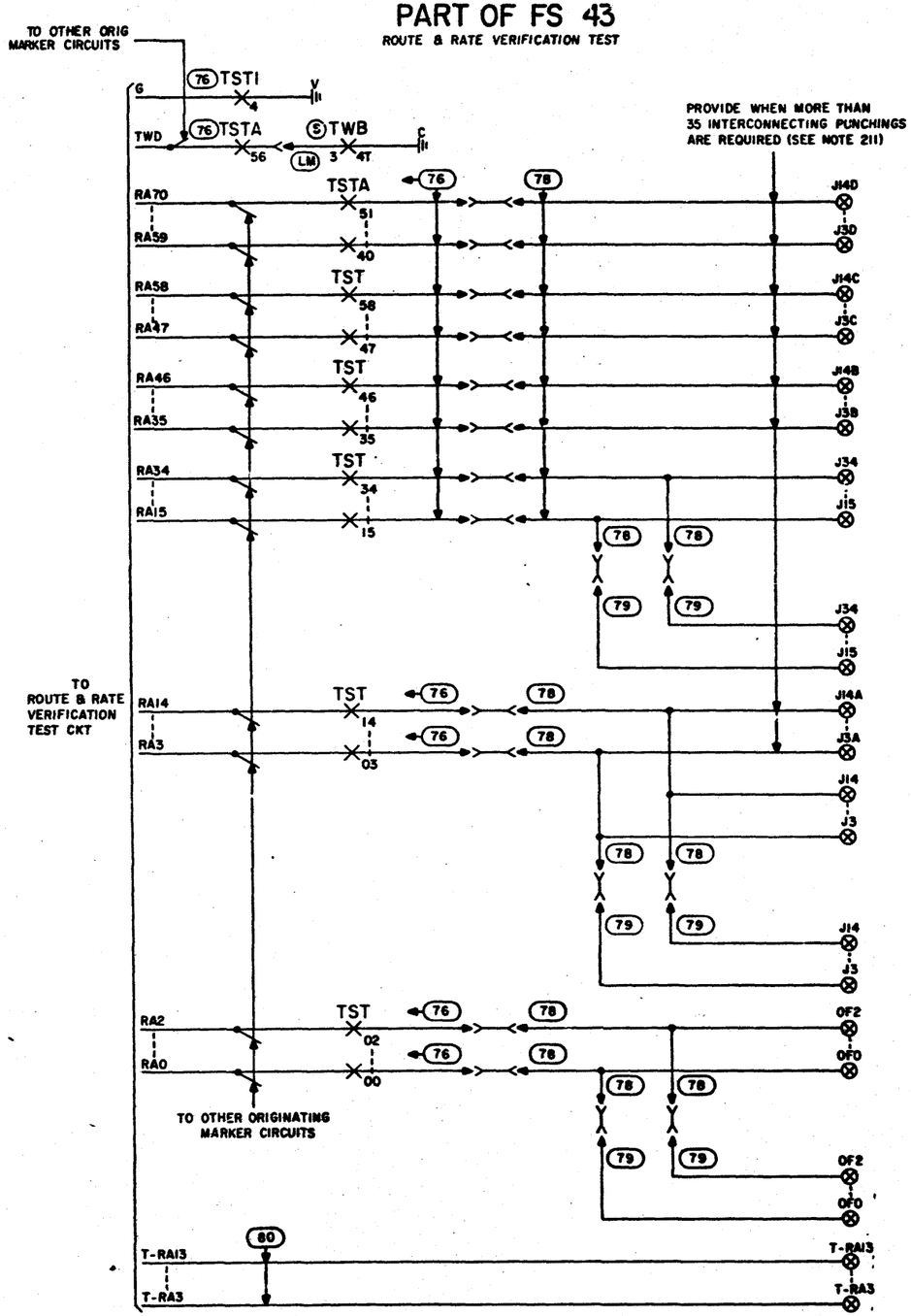
TST3
-48 M L U 700 6
77 76 TSTI 2 AA
TST4 L U 700

TO TROUBLE INDICATOR CKT, ORIGINATING

BELL TELEPHONE LABORATORIES INCORPORATED
ORIGINATING MARKER CIRCUIT
65 2
SD-25016-01-852
ISSUE 107A
DRAWING ISSUE 020

PART OF FS 43

ROUTE & RATE VERIFICATION TEST

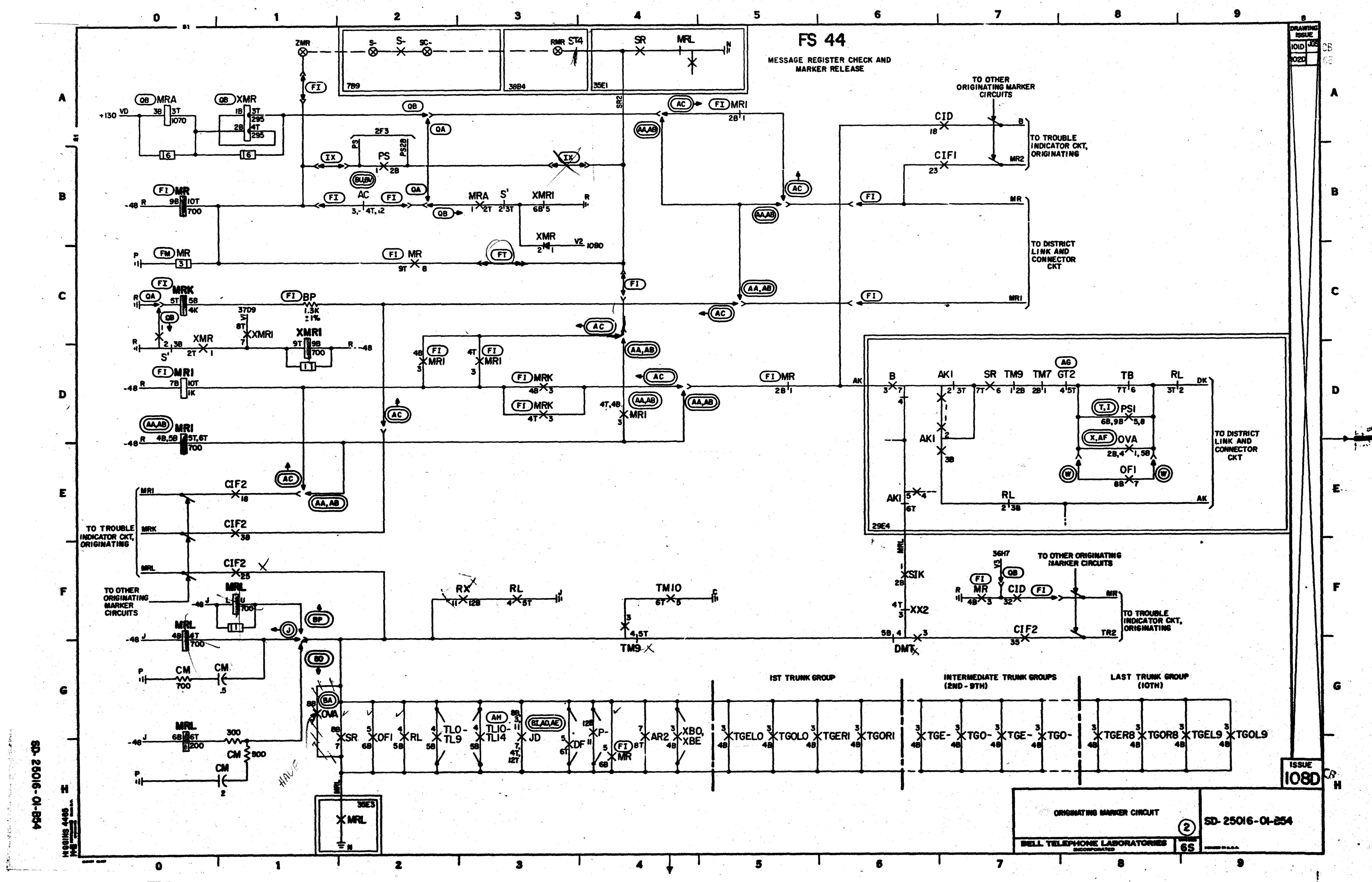


ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-B53

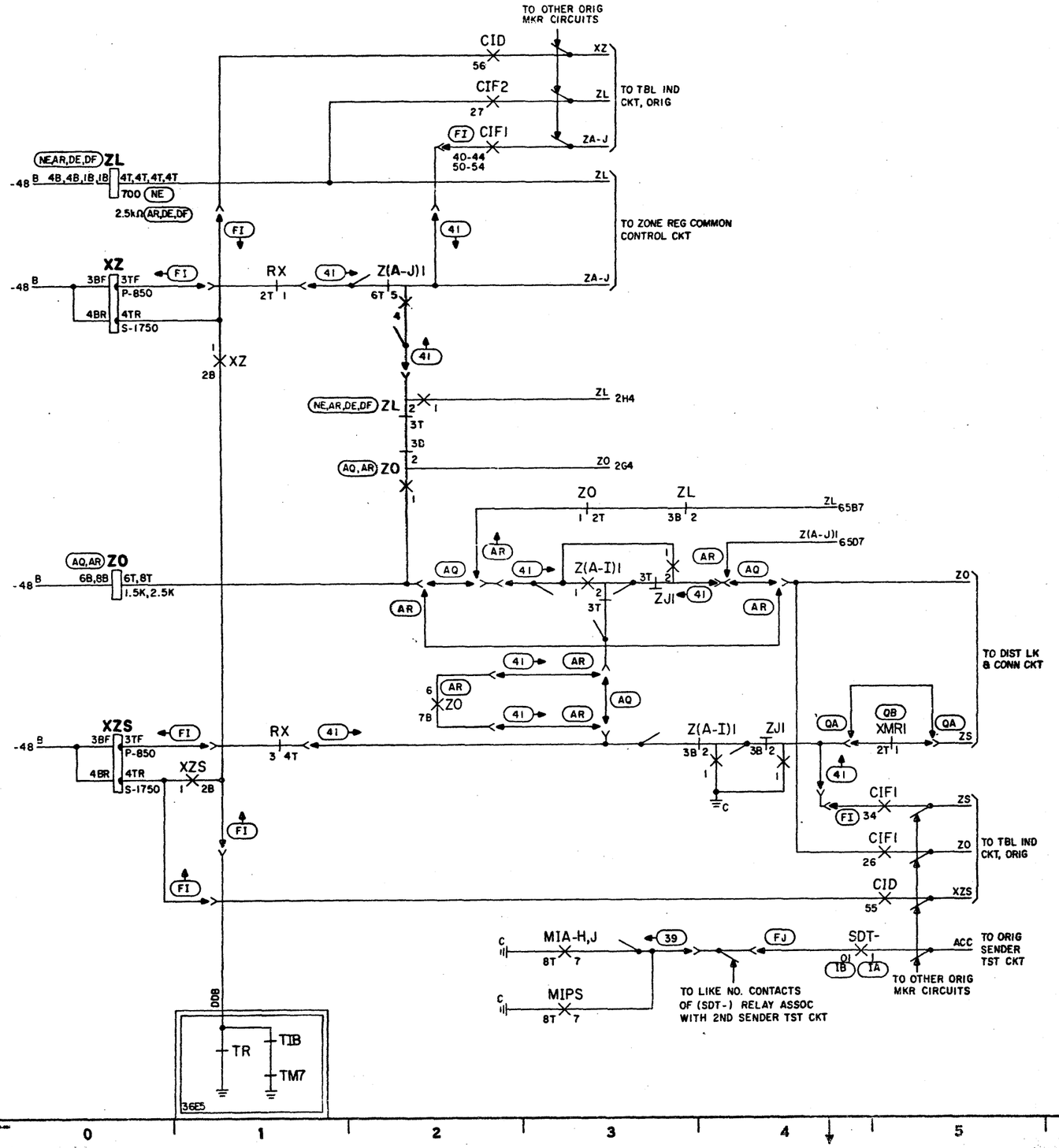
BELL TELEPHONE LABORATORIES INCORPORATED

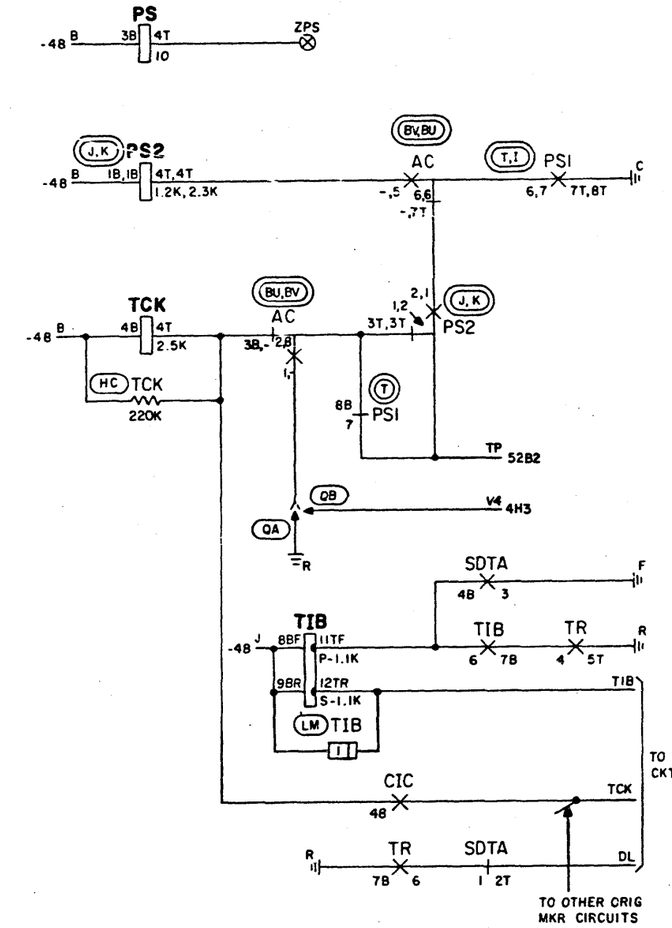
6S


FS 44
MESSAGE REGISTER CHECK AND MARKER RELEASE
TO OTHER ORIGINATING MARKER CIRCUITS
TO TROUBLE INDICATOR CKT, ORIGINATING
TO DISTRICT LINK AND CONNECTOR CKT
TO TROUBLE INDICATOR CKT, ORIGINATING
TO OTHER ORIGINATING MARKER CIRCUITS
TO DISTRICT LINK AND CONNECTOR CKT
TO OTHER ORIGINATING MARKER CIRCUITS
TO TROUBLE INDICATOR CKT, ORIGINATING
IST TRUNK GROUP
INTERMEDIATE TRUNK GROUPS (2ND - 9TH)
LAST TRUNK GROUP (10TH)
ISSUE 108D
ORIGINATING MARKER CIRCUIT
SD-25016-01-254
BELL TELEPHONE LABORATORIES INCORPORATED
6S
SD-25016-01-254

FS 45
ZONE CHARGE

FS 46
PERMANENT SIGNAL





DRAWING ISSUE	
101D	KY
102D	

ISSUE 108D

ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-855

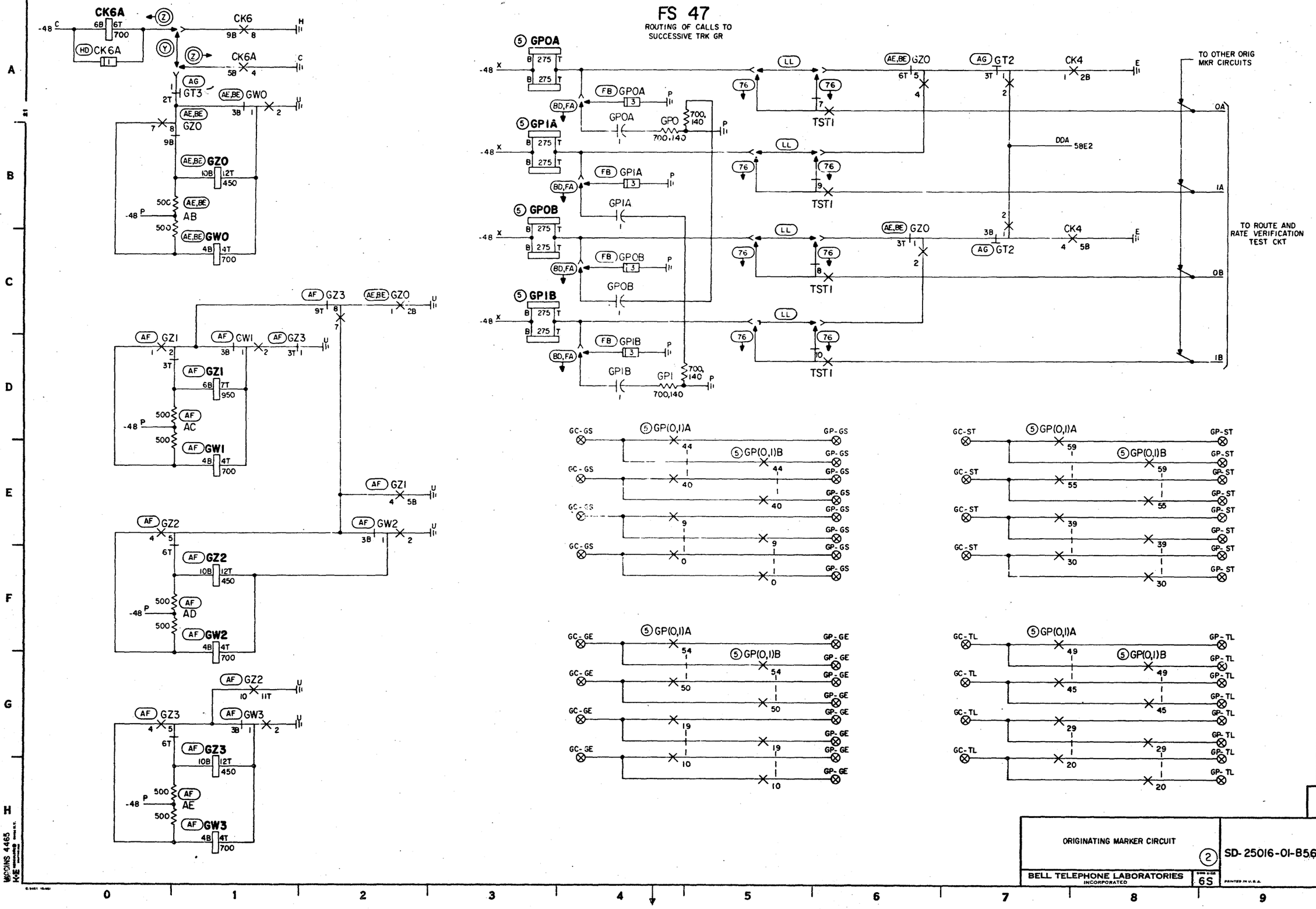
BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-855

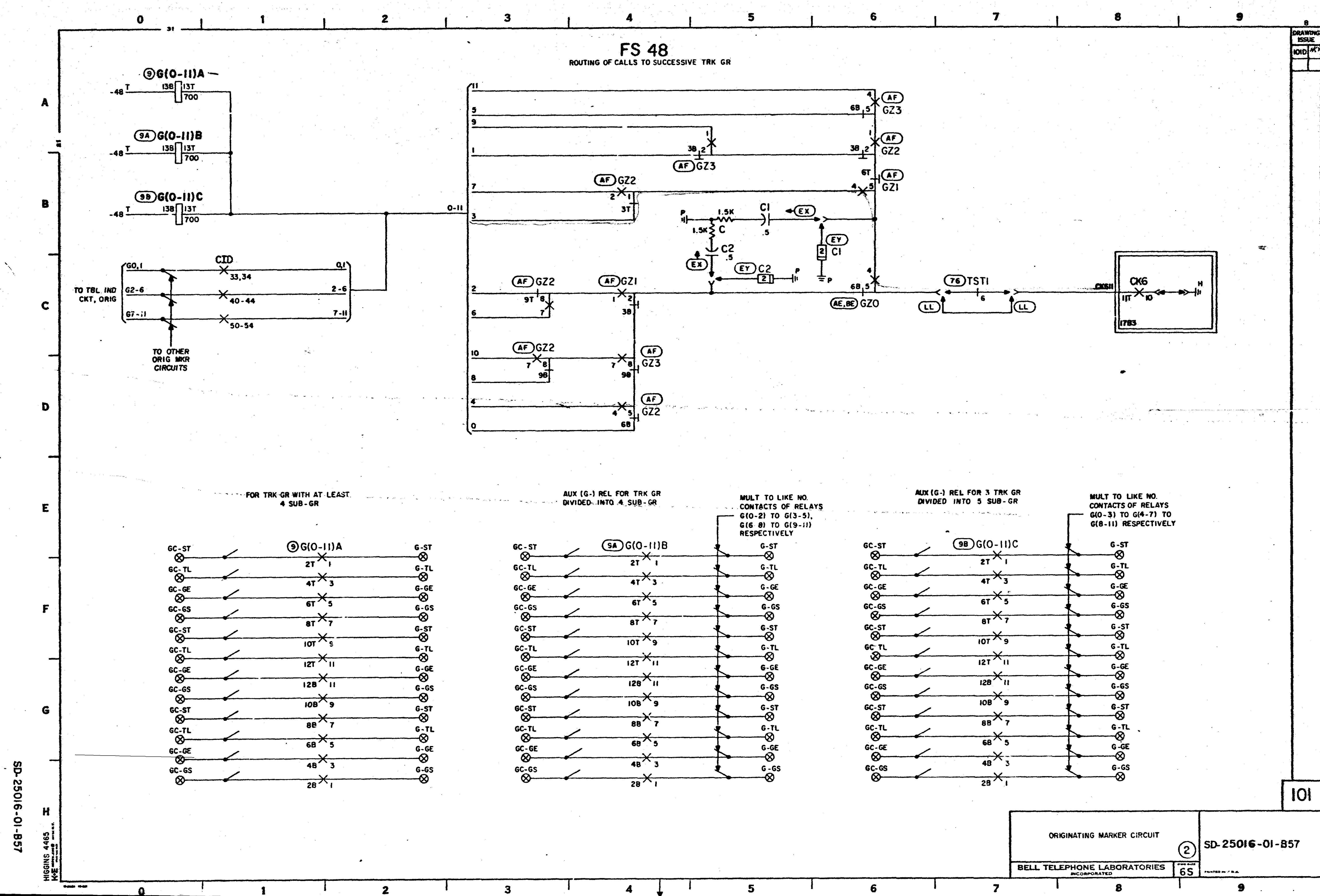
HIGGINS 4465

FS 47

ROUTING OF CALLS TO SUCCESSIVE TRK GR



SD-25016-01-856


FS 48
ROUTING OF CALLS TO SUCCESSIVE TRK GR
⑨G(0-11)A
9A G(0-11)B
9B G(0-11)C
CID
TO TBL IND CKT, ORIG
TO OTHER ORIG MKR CIRCUITS
AF GZ3
AF GZ2
AF GZ1
AE,BE GZ0
EX
EY
C1
C2
76 TSTI
LL
CK6
FOR TRK GR WITH AT LEAST 4 SUB-GR
AUX (G-) REL FOR TRK GR DIVIDED INTO 4 SUB-GR
MULT TO LIKE NO. CONTACTS OF RELAYS G(0-2) TO G(3-5), G(6 8) TO G(9-11) RESPECTIVELY
AUX (G-) REL FOR 3 TRK GR DIVIDED INTO 5 SUB-GR
MULT TO LIKE NO. CONTACTS OF RELAYS G(0-3) TO G(4-7) TO G(8-11) RESPECTIVELY
GC-ST
GC-TL
GC-GE
GC-GS
G-ST
G-TL
G-GE
G-GS
101
ORIGINATING MARKER CIRCUIT
BELL TELEPHONE LABORATORIES INCORPORATED
SD-25016-01-B57
6S
DRAWING ISSUE
101D
SD-25016-01-B57

PART OF FS 49

TRUNK BUSY

DRAWING ISSUE 10ID CRR 10 2D

TWA
TWB
TWC
TWD
SPA
SPB
OG 2IFB

AM TWA 8TF 88F P-1.1K A -48
9TR 98R S-1.1K

AM TWB 8TF 88F P-1.1K A -48
9TR 98R S-1.1K

SP 5T 1B 2.5K A -48

CF CG AM 7T TWA 6 CG

77 TST4 8

AM TWA 7B 6 6 S 7B TWB

SP 1 2T 4T 3

GSI,2 BI BI GSI,2 AV AV AV AV BI GSI-4 GS3,4 AV AV GS3,4

BK

GSI-4 GS3,4 AV GS3,4 GSI,2 AV,BI GSI,2

CG CF BJ CF

GSI-4 5 6B SB
GI-4 3 4T CR
GI-4 5 6T SP
GSI-4 1 2B CL
GSI-4 5 6T OG
GSI-4 3 4T OB
GSI-4 3 4B SG
30CI

AG GTI 3B 4T 2.5K -48 T

GWO 2 3T 9T GZO 7 8

CID 2I

TO TROUBLE INDICATOR CKT ORIGINATING GTI
TO OTHER ORIGINATING MARKER CIRCUITS GT3

AG GT2 8B 10T 700 -48 T

AG GT2 6 7B
AG GT3 2B 1
AG GTI 1 2 3T

DDA GT2 CK4 56B7
TB BOI BEI TBL 49C8

TBL 59A1

CIC 1I

AG GT3 7B 6T 700 -48 T

3 AG GT3 4B
3 AG GT3 4T

AG GT2 7T 6 Q,G

PT4 PT ST2 37A8
STIII STI 41A0

JD 11B 13T 700 -48 T
JD 11T 10B S-230
JD 9B 10T P-155 -48 S
JD 8B 9T 2.5K -48 T

BF,BE TKE 6T 5,12
AE AD BI
GL JD 4B 3
JD 7T 6
JD 2T 1
JD 2T 1
CT JD 11

NSE 5 6B
SPO 3 4B

Q GL Q,GL AG GTI 1 2B Q,GL
AG GT3 6B 5

BF BF TI-4 ABD OF T3,4 AR T1,2 59C6

Z CK6A Z 5T 4 TB2 Y Y TB 35A8
CR CS 3 L P L 1 L 750 P
CS L 3 P

102

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-B58

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-B58

HIGGINS 4485 M4

PART OF FS 49

TRUNK BUSY

TB
-48 C 8B 10T 700 TBL
6 9T TB
GTI BOI BEI TBL
58F2
TBI-4 7T 6
GSI-4 1 2T
AC
IID 10 GI
GSI GS2 GS3 GS4
GI-4
38 1 2 GI-4
GI,2
BD
FA
M1 M1
200 700
M 200 M 700
P
M2 M2
ST5 6T 5
STI7
STI 7 8T
187
G3,4
ST5 8T 7

GI-4
-48 C 12B 13T 700
FB GI-4
TBI-4 2B 1 D

GSI
-48 C 7B 9T 11K
FB GSI
AC R AM TWA GSI 2T 1
S TWB 2T 1

GS2-4
-48 C 7B 9T 11K
FB GS2-4
AD GS2-4

GSI-4

GS4 GS3 CI CH 18 CIC
GS3 CI CH 17 CIC
GS2 39 CIF2
16 CIC
45 CIF2
GSI CI CH U LM 15 CIC
IB 03 SDT-
IA
LM CH
DR GSI GSI
TO OTHER ORIGINATING MARKER CIRCUITS
GS4 GS3 GS3 GS2 GSI DR GSI
TO TROUBLE INDICATOR CKT, ORIGINATING
TO LIKE NO CONTACTS OF (SDT-) RELAY ASSOC WITH 2ND SDR TEST CKT
TO ORIGINATING SENDER TEST CKT

TO OTHER ORIGINATING MARKER CIRCUITS
TO ORIGINATING SDR TEST CKT CK6
TO TOUBLE INDICATOR CKT, ORIGINATING CK6
TO LIKE NO. CONTACTS OF (SDT-) RELAY ASSOC WITH 2ND SDR TEST CKT
SDT- 02 CG IA 2 IB CI
CIF2 46

BF AR 1 2 3T
AV AR 1 2T
GS1
BF AV AR 2B 1
AV BF AR GS2 3,4 4T,5T
GS3 AV, BF OF 1,4 2T,5T
AV OF 3 4T
GS4 1 2 3T BF OF
T1,2
T3,4
BF AV OF 2B 1
ABD 58E8 T1-4
A2 700 P A 700 A1
GS2 8T 7
CK6 6 7B H
GS3,4 8T 7
CK6 4 5B H
TBS,4 TBI,2 TBI-4
CK64 F4. 16C8

76 TSTA 52-55
TO ROUTE AND RATE VARIFICATION TEST CKT
TO OTHER ORIGINATING MARKER CIRCUITS
GI-4 7B 6
TBI-4 2T 1 TBI-4
FB TBI-4 -48 C 51K RA 30F1
P FB TBI-4 3

DB CK64 ST4 1 2T G,H SM 58,78 4,6 BIAD,AE JD 3,5,4 4T,6T,5T
DMT 1 2T
67 TOV 3 4B
V OOVI 38 2 V
U U V U U
REG 3065
OFI 4B 3 PC 30F5
P CT DA 4
TBI-4 4 5T GI-4 4 5B PC 30F1
3 OF 30G1

R MR 5T 4 FI SL 3 4T IG OFI 6 9T PCI 30F1, 30F5
FJ IF
R

DRAWING ISSUE
102D JGS B
C6

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-B59

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-B59

HIGGINS 4485 MADE IN U.S.A.

FS 50
ROUTE TRANSFER

TOC
-48 B 5B 5T 700 TOC
I 2B TOC (35)
(32,33) -48 B (H) (6)
(35) (32) (33)

RT0 5B,8B 6T,9T 2.5K (32,33) (30) CK4A 38 2 1 E
RT0 48,78 3,6 (32,33)
TSB0

RT1 5B,8B 6T,9T 2.5K CK4A 68 5 4 E
RT1 48,78 3,6
TSB1

RT2 5B,8B 6T,9T 2.5K CK4A 3T 2 1 E
RT2 48,78 3,6
TSB2

RT3 5B,8B 6T,9T 2.5K CK4A 6T 5 4 E
RT3 48,78 3,6
TSB3

RT4 5B,8B 6T,9T 2.5K (32,33) (30) CK4A 9T 8 7 E
48,78 RT4 3,6 (32,33)
(SEE NOTE 3)
TSB4

TO MISCELLANEOUS CKT (FOR TBL IND CKT, ORIG)

CK4A
-48 E 9B IOT 700 CV CK4A CU
P CX 700 CX .5
(30) CK46 CK4 8B 7 E 1288

CK4B
-48 E 9B IOT 700 CV CK4B CU
P CX 700 CX .5
(CD) CK4A 8B 7 E CD,IE
(-CD) (30) ALM IOH2

RT0-4 (32,33) RT0-4 2 1 3T RTB0-4 RTA0-4
RT5-9 (33) RT0-4 5 4 6T RTB5-9 RTA5-9
RT10-14 (33) RT5-9 2 1 3T RTB10-14 RTA10-14
RT15-19 (33) RT5-9 5 4 6T RTB15-19 RTA15-19

C (BW) RT0-9 9T 7 (33) RT
C RT0-4 5T 4 (32)
C (BX) RT0-9 5B 4 (33) (30) ALM
C RT0-4 2B 1 (32)
(BG,BH) RT OR (CE,GK) RT4-9 L KEY 5 6
(31) SEE NOTE 2
SEE NOTE 1 RTL

TO ALL (RT-) RELAYS IN ALL ORIG MARKERS

RT5 8B 9T 2.5K (33) (30) CK4B 38 2 1 E
RT5 7B 6
(30) (31) (CE,GK) RT5 L KEY 1 2 SEE NOTE 2
RT5 6067 (-31) RT5

RT6 8B 9T 2.5K CK4B 6B 5 4 E
RT6 7B 6
(31) (CE,GK) RT6 L KEY 1 2 SEE NOTE 2
RT6 6067 (-31) RT6

RT7 8B 9T 2.5K CK4B 3T 2 1 E
RT7 7B 6
(31) (CE,GK) RT7 L KEY 1 2 SEE NOTE 2
RT7 6067 (-31) RT7

RT8 8B 9T 2.5K CK4B 6T 5 4 E
RT8 7B 6
(31) (CE,GK) RT8 L KEY 1 2 SEE NOTE 2
RT8 6067 (-31) RT8

RT9 8B 9T 2.5K CK4B 9T 8 7 E
RT9 7B 6
(31) (CE,GK) RT9 L KEY 1 2 SEE NOTE 2
RT9 6067 (-31) RT9

TO MISCELLANEOUS CKT (FOR TBL IND CKT, ORIG) OR TO ROUTE TRANSFER & MAKE BUSY CONT CKT

RT OR RT4 (32) (33)
RT (BG,BH) RT L KEY 1 2 SEE NOTE 2
(31) (-31)

60C7-G7
RT5 RT6 RT7 RT8 RT9 SEE NOTE 4
(-31) (31) (CE,GK) RT4 L KEY 1 2 SEE NOTE 2
(33) (-33) RT TO ROUTE TRANSFER CONT CKT

NOTES:
1. THE DESIGNATION OF THE KEY FOR OPTION 31 IS (RT) WHEN FURNISHED WITH (CK4A) RELAY ALONE, (RT4-9) WHEN FURNISHED WITH (CK4A) AND (CK4B) RELAYS.
2. GROUND SHOWN ON SWBD GROUND CKT.
3. LEAVE DISCONNECTED WHEN RT OR RT4 WRG IS USED.
4. CONNECT LEADS (RT5-9) ONE AT A TIME TO THE ROUTE TRANSFER CONTROL CKT.

DRAWING ISSUE IOID AMD CB

ORIGINATING MARKER CIRCUIT	2	SD-25016-01-B60
BELL TELEPHONE LABORATORIES INCORPORATED	6S	

101

SD-25016-01-B60

HIGGINS 4465 M&B

FS 51
TROUBLE INDICATOR SEIZURE

DECODER STAGE

MARKING STAGE

TO OTHER ORIGINATING MARKER CIRCUITS

XX1 -48 R 5B 7T 2.5K

XX2 -48 R 10B 13T 700 LM XX2

XX1 3 DB TIB TR TM7 3665

FI STX FI MR

XCL XCR XOB XOG XSB XSG XT XT1 XT2

DQ,DR XT2 -48 A 3B,3B 3T,5T 1K

AN,KD XOG

N XSB

N,O XSG

IC,ID CID

TO TROUBLE INDICATOR CKT ORIGINATING

XZS XZ XTC XDC XS XSI XLC XLCI XK XSM XSL

XLCI XLC XOF XTL XC XGS XGE XSS

XLCO XLCE XOF XTL XC XGS XGE XSS

BS XCH BT XCHI XTL1 XTL2 XTL3

TO OTHER ORIGINATING MARKER CIRCUITS

XTOV 1488 62 60 XAC ACC- 44 LAR EAR 55 CC- 67 TOV TB 30H8

ABE 69 GSEI 76 TST2 O- GT2 TB DK 5T 3506

DRAWING ISSUE 1010 1020

CB

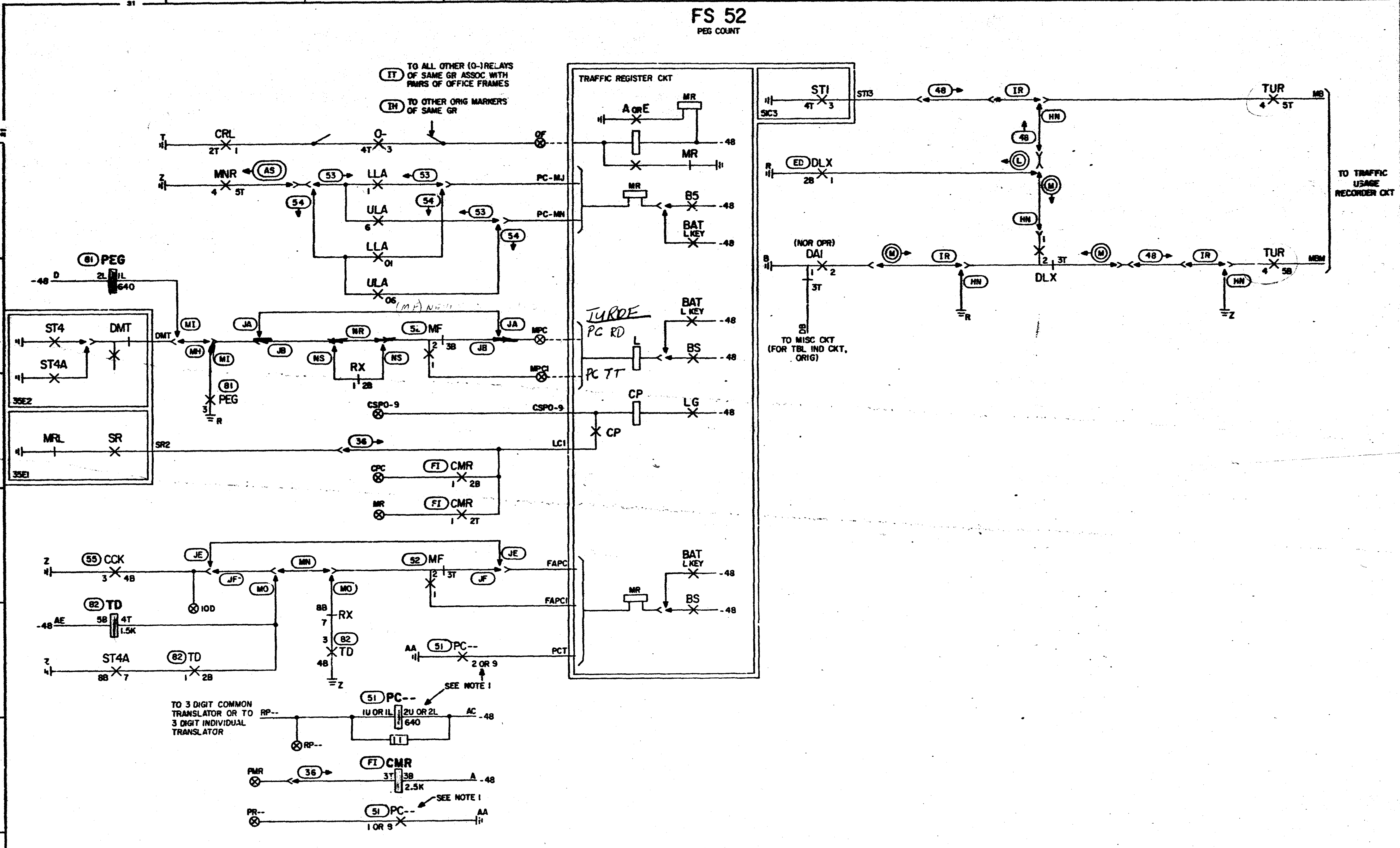
102

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-B61

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-B61

HIGGINS 4466 KAE



NOTES:

1. SPRINGS 1 TO 5 AND COIL TERMINALS 1L & 2L APPLY TO LOWER RELAYS (PC--), SPRINGS 8 TO 12 AND COIL TERMINALS 1U & 2U APPLY TO UPPER RELAYS (PC--).

ISSUE 107A

ORIGINATING MARKER CIRCUIT

(2) SD-25016-01-B62

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25016-01-B62

FS 53
TIMING
SHORT TIME-OUT

INTERRUPTER FRAME CKT (SEE NOTE 125)

TM INTER.

TMW 48 4T 700

TMZ 48 6T 950

500 AF 500

TMSI

TMS1 6B 6T 1K

TMS2 6B 6T 1K

CU (CV) 2

CU 1K

CU .5

DLX 2B 1

STI 10B 9

35C2

DK 2 3T

BD,BE TMS2 2T 1

TMS 48 3

TMS 78 6

RTP 6B02

86

MY

MV,MK

TMS 7B,8B 8T,10T 1K,2.5K

DK 5B 4

J,K TMS 7T,9T 6,8

J,K CK 5T 4

AK1 7B 6

TMI 3T 2

TM5 1 2B

TMZ 5T 4

TMW 3T 2

TO TROUBLE INDICATOR CIRCUIT, ORIGINATING

ORIGINATING MARKER CONN CKT

DMA

STI 2T

OBT 5B

TDV 5T

DA1

DA2

NORMALLY OPERATED

55 AR3 9BF 9TF P-1.3K

JD ARI

CCK 5T 4

TMI 7B 8T 700

CT TMI 11

TMI 6B

TMSI 5B 4

TM4 3B 4T 2.5K

CT TM4 1

BD,BE TMS2 4T 3

TM4 2B

TM4 3T 2

TM6 3T 2

TM5 5B 4T 700

TM5 4B

TM6 5B 4T 1.5K

TM6 4B

TMI 7T 6

TM7 11B 11T 1.5K

TM7 10B 9

CIG 11 12T

TM6 TO TROUBLE INDICATOR CKT, ORIGINATING

TO OTHER ORIGINATING MARKER CIRCUITS

102

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-863

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-863

HIGGINS 4465 K-E

FS 54

TIMING
(LONG TIME-OUT)

TM8 3 4T

TM8 3B 5T 700 — -48 E

TM8A 3B 5T 700 — -48 E

TM8B 3B 4T 2.5K — -48 E

TM8C 3B 4T 2.5K — -48 E

TM9 NB 11T 1.5K — -48 E

TM10 7B 7T 2.5K — -48 E

(K) TMS 4T 3 — TM8A 1 2T — TM8B 3T 2 1

(K) TMS 2B — TMS 5 6B

TM8A 1 2T — TM8A 3 4T

TM8B 1 2B

TM9 2B 1 — TM8A 2B 1

TM8C 3T 2 1

TM8B 1 2B — 2B TM8C 1

INTERRUPTER FR CKT (SEE NOTE 125)
DB INTER. B F

(K) TMS 6 7T — 5 R

(J) TMS 2 3T — 1 R

XXI 5 6T R

XX2 11 12T R

XRL 4 5T R

XDT 11 12T C

DTI 4 5T R

FZ

XBT 1 2B C (46)

XTR 8 9T R

XF2 3 4T AB (71)

LM — LL

XCO 3B U

DB 38H

TO MISC CKT (FOR ORIGINATING MARKER FR) 3B

DB

DR

TO TROUBLE INDICATOR CKT, ORIGINATING

TM9 9 10T C

TM7 9 10T D

TM10 6B 5 AR

TM10 4T 3 TA — C

TM10 2T 1 TAF — C

TM10 3 4B MB — C

FOR ORIGINATING MARKER FR

FOR ORIGINATING TROUBLE INDICATION FR

TO MISC CKT

TO OTHER ORIGINATING MARKER CIRCUITS

(J,K) TMS 4,4 5T,5B — B

SD-23016-01-864

101

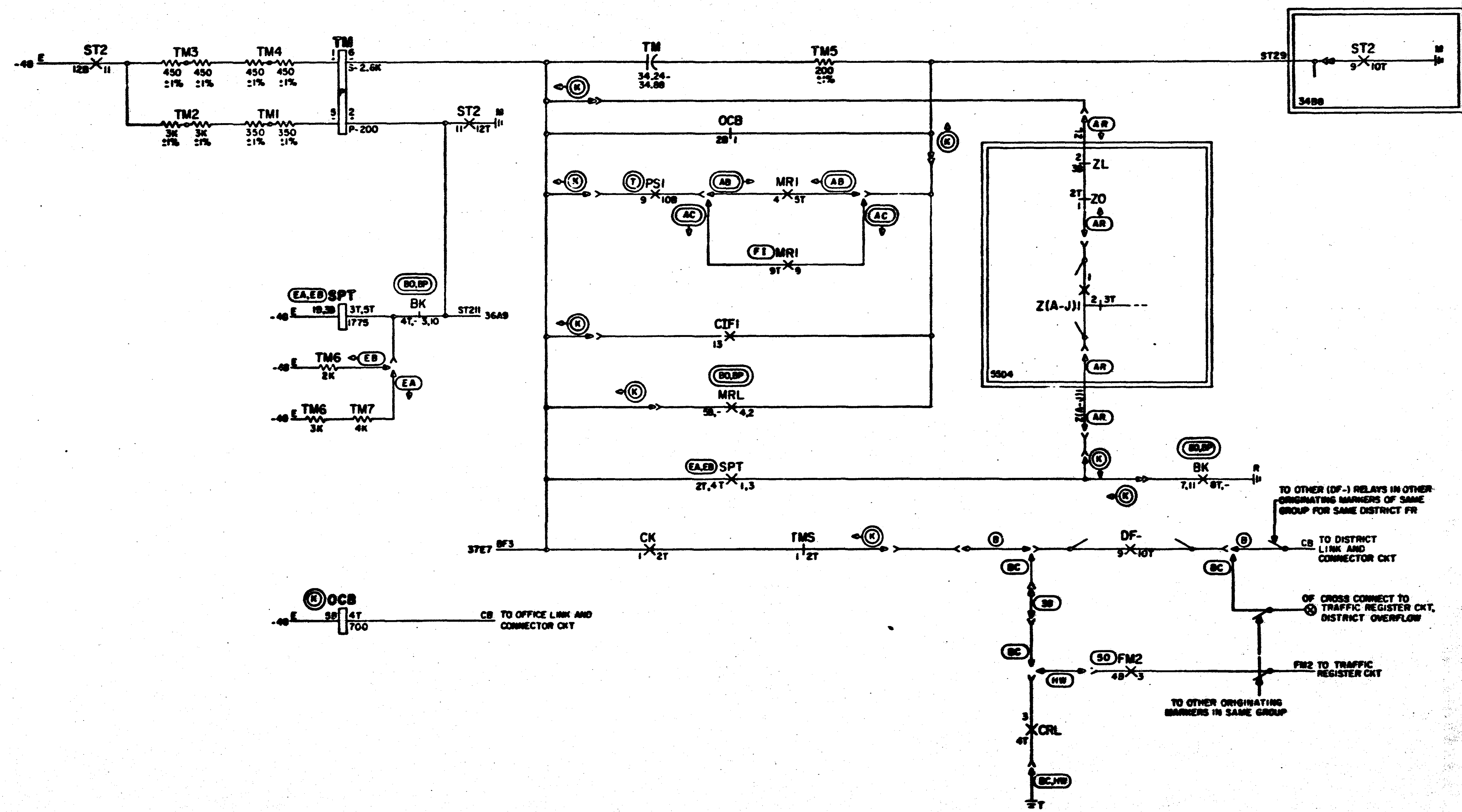
ORIGINATING MARKER CIRCUIT (2) SD-23016-01-864

BELL TELEPHONE LABORATORIES INCORPORATED 6S

DRAWING ISSUE: IOID | DM

FS 55

TIMING
CAPACITOR TIME-OUT



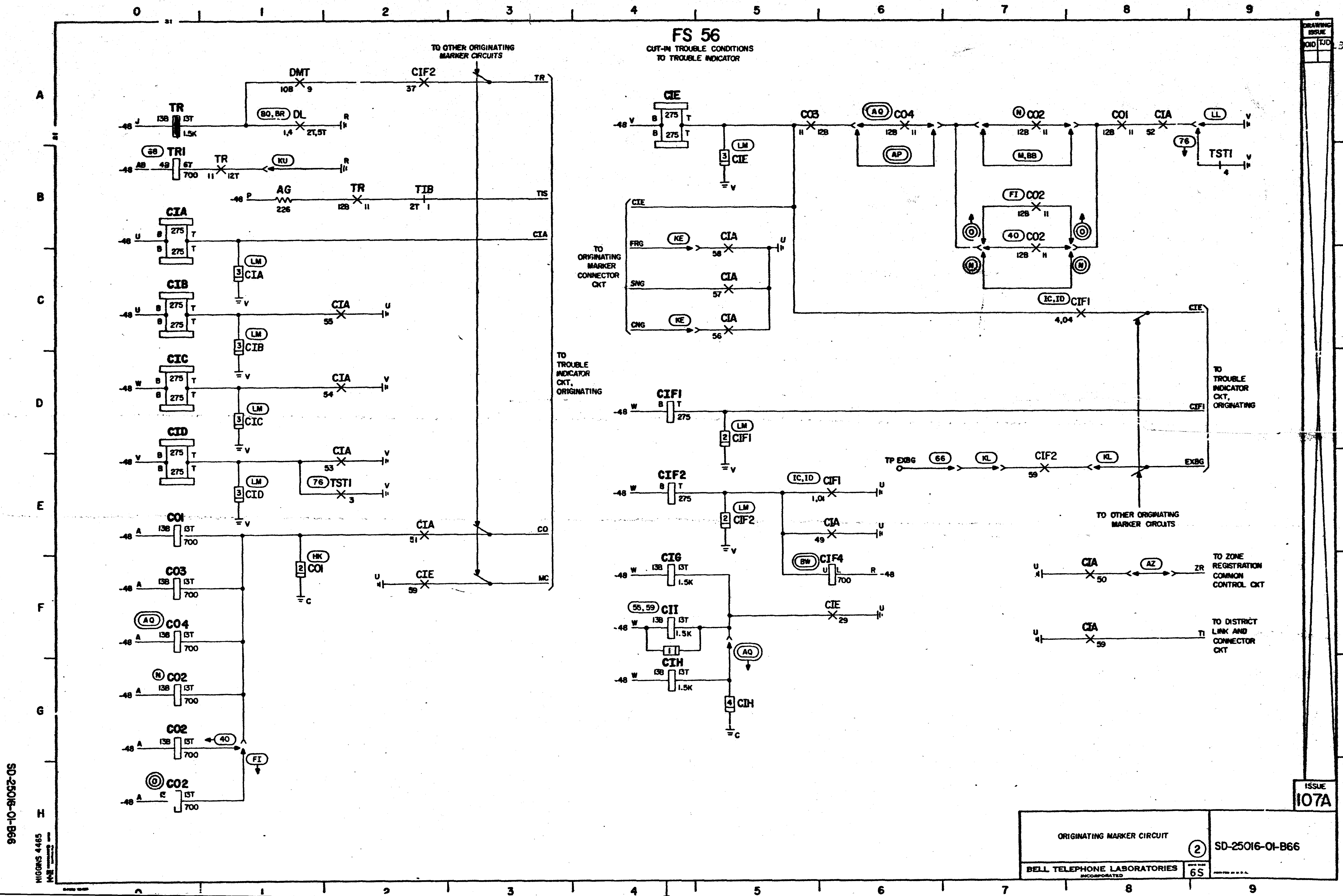
102

ORIGINATING MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25016-01-B65

6S



FS 56
CUT-IN TROUBLE CONDITIONS TO TROUBLE INDICATOR
TO OTHER ORIGINATING MARKER CIRCUITS
TO TROUBLE INDICATOR CKT, ORIGINATING
TO ORIGINATING MARKER CONNECTOR CKT
TO OTHER ORIGINATING MARKER CIRCUITS
TO ZONE REGISTRATION COMMON CONTROL CKT
TO DISTRICT LINK AND CONNECTOR CKT
ISSUE 107A
ORIGINATING MARKER CIRCUIT
SD-25016-01-B66
BELL TELEPHONE LABORATORIES INCORPORATED
6S
SD-25016-01-B66

FS 57

SENDER TEST CONTROL

TO ALL ORIGINATING MARKER CONNECTOR CIRCUITS ASSOC WITH ONE GROUP OF ORIGINATING MARKER CIRCUITS

SDT-

ST — T 275 B — T 275 B — W -48

TO LIKE NO. CONTACTS OF (SDT-) RELAY ASSOC WITH 2ND SENDER TEST CKT

TO OTHER ORIGINATING MARKER CIRCUITS

SDTA

-48 C — 5B 7T — 2.5K — 6T

ST3 — 3 4T

SDT- (IB 12 12 IA) — TIB — TO ORIGINATING SENDER TEST CKT

SDTA — 5

SDT- (IB 13 13 IA) — TIBI

7T SDT — 6 — C

(JX) SDT(-)A

-48 F — 13B 13T — 2.5K — SDT- (IB 00 0 IA) — U

TO LIKE NO. CONTACTS OF (SDT-) RELAY ASSOC WITH 2ND SDR TEST CKT

SDT

-48 C — 11B 13T — 1775 — (BG,BH) TK — 38,3 2,4T

SDT- (10 10 IB IA) — U

CIA — 45 — SDT TO TROUBLE INDICATOR CKT, ORIGINATING

TO OTHER ORIGINATING MARKER CIRCUITS

DMT

-48 C — 11B 11T — 950 — (IC,ID) CIFI — 0 OR 00 — U

5 — DMT 6,7T — MR TO MISC CKT (FOR ORIGINATING TROUBLE INDICATOR)

SAME DESIG LEADS FROM OTHER ORIGINATING MARKER CIRCUITS IN SAME GROUP

(MI) — (81) MRI 1 2 — (81) ARA 11 — 2TF

TO MISC CKT FOR SDR MAKE BUSY FR

SMB

7B — 5 6 TR — R

SDT — 6 7T

(81) PEGI 1 — (81) PEG 1 — D — PC

SDT — 2 — 1 3T — CK6 6 7T — H

TMI 1 2B — D

11 — RX — NORMALLY OPERATED

RX

-48 R — 13B 13T — 700 — 12T

AK 1 2T — DA2 3T 1 — A

(CV) RX 4 — P

STX

-48 R — 11B 11T — 950

(CV) STX 4 — P

(L) — DLX 1 2T — R

(M) — DLX 4 5T — R

(CU) CY .5 — (CJ) CY 400 — P

39 — CIE

(AO) — CIF3 5B 4 — C

(AN) — (EC,ID) CIFI 2 OR 02 — U

CIF3

-48 W — 8B 10T — 950

(AO)

DRAWING ISSUE 10D 10ZD

ISSUE 107A

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-867

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-867

FS 58

DYNAMIC OVERLOAD CONTROL, ROUTE TRANSFER RELAYS

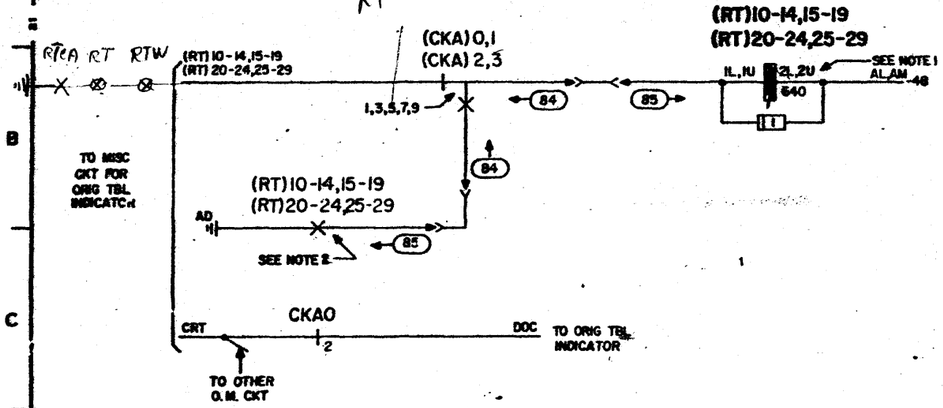
CAD. 135-137

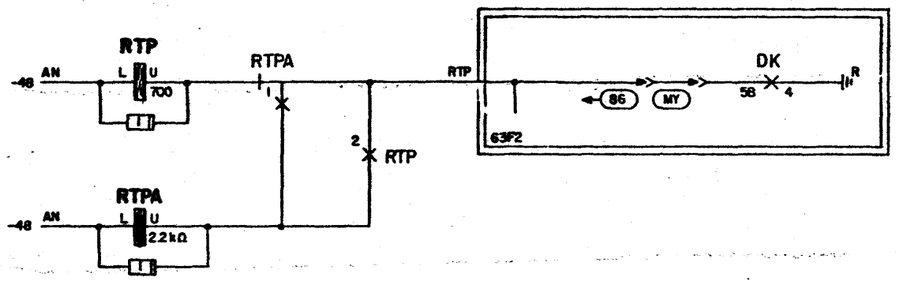
RT-

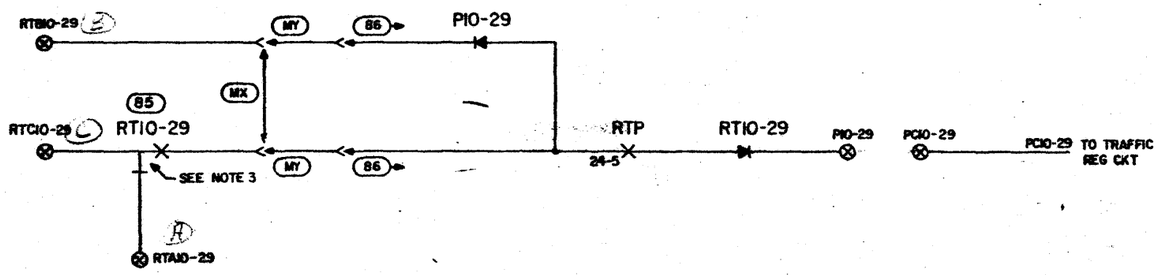
RT 12

RT-0 ~~CAB~~ "C" SHELF (AQ)

CKA 0 1 2 3
CAD-133







NOTES :
1. EVEN RELAYS IL , ODD RELAYS 1U,2U.
2. EVEN RELAYS CONTACT NO.1, ODD RELAYS CONTACT NO.12.
3. EVEN RELAYS CONTACT NO.5, ODD RELAYS CONTACT NO.8.

DRAWING ISSUE 102D

DRAWING ISSUE 106D

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-B68

BELL TELEPHONE LABORATORIES INCORPORATED 65

SD-25016-01-B68

APP FIG A

WIRING ONLY
(SEE NOTE 102(b)PAR. 14)

APP FIG B (MFR DISC)

(SEE NOTE 269)

RELAY												
LEGG	SGR			SGR*								
CODE	U577			U577								
OPTION												
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	11,10	M	684	11,10	M	683						
	9,8,7	BM	8F4	9,8,7	BM	8F9						
	6,5,4	BM	8F3	6,5,4	BM	8F8						
	2,1,3	MB	8F3	2,1,3	MB	8F7						
BOT.	2,1	B	9F1	2,1	B	8F5						
	5,4,3	BM	8F1	5,4,3	BM	8F6						
	8,7,6	BM	8F2	8,7,6	BM	8F7						
	10,9	M	8F1	10,9	M	8F5						
COIL			4E3			4E3						

OPTION	NETWORK DESIG	LOC	CODE
FR	SGR	4E3	185A
FR	SGR*	4E3	185A

APP FIG C (MFR DISC)

RELAY																					
DESIG	KP			KP																	
CODE	U154			U787																	
OPTION	BL			BM																	
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
	2,1	M	1B3	3,2,1	BM	1B3															
BOT	2,1	M	-	3,2,1	M,M	-															
COIL			12E3			12E3															

APP FIG D (MFR DISC)

RELAY																					
DESIG	KP																				
CODE	U787																				
OPTION	AL																				
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
	3,2,1	BM	1A4																		
BOT.	3,2,1	MM	1A3																		
COIL			12F3																		

APP FIG E (MFR DISC)

RELAY												
DESIG	CHL											
CODE	U6034											
OPTION												
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP												
	4,3	M	48H3									
	2,1	B	49C0									
BOT.	2,1	M	49A9									
COIL			48H2									

OPTION	NETWORK DESIG	LOC	CODE
CT	CHL	48H2	1/2 177H

APP FIG F

(SEE NOTE 102(c)PAR. 17)

RELAY												
DESIG	CHL											
CODE	U717											
OPTION												
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP												
	4,3	M	49C3									
	2,1	M	49A9									
BOT	2,1	B	48C0									
	4,3	M	48H3									
COIL			48H2									

OPTION	NETWORK DESIG	LOC	CODE
CT	CHL	48H2	1/2 177H

DRAWING ISSUE
ADD CB

ISSUE 107A

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-CI

BELL TELEPHONE LABORATORIES INCORPORATED 6S

NORMS 4465

APP FIG G (A & M ONLY)

(SEE NOTE 102(d) PAR. 10)

RELAY DESIG	CHE2			SM								
CODE	U6043			U944								
OPTION												
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP												
	6,5	M	46A2	8,7	M	46A2						
	4,3	B	47E6	6,5,4	BM	47F5						
	2,1	B	47F6	3,2,1	BM	47G5						
BOT.	2,1	B	47D6	3,2,1	BM	47D5						
	4,3	M	46C7	6,5,4	BM	59F5						
				8,7	M	29D6						
COIL			47D2			46A0						

OPTION	CAPACITOR DESIG	LOC	CODE
BD,FA	N	46A1	441B

OPTION	NETWORK DESIG	LOC	CODE
CV	CHE2	47D2	185A
FB	N	46A1	1/2 177C

OPTION	RESISTOR DESIG	LOC	CODE
BD	N	46A1	18BA,2K
FA	N	46A2	19CH,700

PART OF APP FIG H

(SEE NOTE 102(c)PAR. 18)

RELAY DESIG	CHE2			SM			SM1			SM1			XSM1			XSM1			XSM2		
CODE	U944			U795			U534			U1254			239HH			290AF			U516		
OPTION							DQ			DR			GC			GD					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
				10,9	M	46B2															
	9,7	M	46B2	8,7	M	46C1													5,5	M	46C6
	6,5,4	BM	47F6	6,5,4	BM	47G5				4,3	M	-							4,3	B	44C8
	3,2,1	BM	47E6	3,2,1	BM	47F5	2,1	M	46H1	2,1	M	46H1	4,7,3	BM	46D6	4,7,3	BM	46D6	2,1	B	44C5
BOT.	3,2,1	BM	46H1	3,2,1	BM	47D5	2,1	M	46H0	2,1	M	46H0							2,1	B	44C6
	6,5,4	BM	47D6	5,4	M	29D6													4,3	M	46C6
	9,7	M	46C6	7,6	M	59F5													6,5	M	36B9
				9,8	M	46H1															
COIL			47D2			46A0			46B0			46B0			46H0			46H0			46D5

RELAY DESIG																					
CODE																					
OPTION																					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
BOT.																					
COIL																					

PART OF APP FIG H

OPTION	CAPACITOR DESIG	LOC	CODE
CU	CT	46H2	441B
	CV	46C1	
	N	46B1	

OPTION	NETWORK DESIG	LOC	CODE
CV	CHE2	47E2	185A
	CT	46H2	1/2 177C
	N	46B1	1/2 177E
	SM1	46C0	185A

OPTION	RESISTOR DESIG	LOC	CODE
CU	A	46H0	71-A,40
	AJ	46H8	19MN
	AK	46B0	18AG,226
	CT	46H2	18AE,600
	CV	46C1	18BH,1K
	N	46B1	18AN,350

APP FIG I (MFR DISC)

RELAY DESIG	PS1																				
CODE	U572																				
OPTION																					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,10	M	2A2																		
	9,7	M	5588																		
	6,5	M	35H5																		
	4,3	M	36E8																		
	2,1	B	36E8																		
BOT.	3,2,1	BM	36C6																		
	5,4	M	2388																		
	7,6	M	36G5																		
	9,8	M	29F6																		
COIL			2A1																		

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APP FIG J (MFR DISC)

RELAY DESIG	CODE	OPTION	POSITION	CONT NO.	CONT ARR	LOC
BF	Y66	CK	TOP	6,5	M	10C3
			TOP	4,3	B	-
			TOP	2,1	B	37E2
			BOT.	2,1	B	37G6
			COIL			37D5
BF	Y289	CN	TOP	6,5	M	10C3
			TOP	4,3	B	-
			TOP	2,1	B	37E2
			BOT.	2,1	B	37G6
			COIL			37D5
BK	UB98		TOP	6,5	M	46F8
			TOP	4,3	B	41G9
			TOP	2,1	B	45F5
			BOT.	2,1	B	47B5
			BOT.	4,3	M	29B6
			COIL			29A2
CK	U6030		TOP	5,4	M	63G1
			TOP	3,2,1	BM	45D2
			BOT.	3,2,1	BM	-
			BOT.	5,4	M	29B5
			COIL			29B2
MRL	U6035		TOP	2,1,3	MB	35D3
			BOT.	2,1,3	MB	35D3
			COIL			54F0
PS2	U172		TOP	2,1,3	MB	55C8
			COIL			55B7
ST2	U6036		TOP	10,9	M	34B9
			TOP	8,7	M	44H0
			TOP	6,5	M	44G1
			TOP	4,3	M	37B8
			TOP	2,1	M	44E0
			BOT.	2,1	M	34E2
			BOT.	4,3	M	43C7
			BOT.	6,5	M	46C4
			BOT.	8,7	M	37B5
			BOT.	10,9	M	47A0
			COIL			35C0
TMS	U980		TOP	7,6	M	63G1
			TOP	5,4	M	64H3
			TOP	3,2,1	BM	64C5
			BOT.	2,1	B	64B1
			BOT.	4,3	M	63E2
			BOT.	6,5	M	64C1
			COIL			63F0

CAPACITOR

OPTION	DESIG	LOC	CODE
	CM	54G1	441B

NETWORK

OPTION	DESIG	LOC	CODE
GA	CK	29B2	185A
CV	ST2	35C0	185A

RESISTOR

OPTION	DESIG	LOC	CODE
	CM	54G0	18DH,700

APP FIG K

(SEE NOTE 102(b)PAR. 30)

RELAY DESIG	CODE	OPTION	POSITION	CONT NO.	CONT ARR	LOC
BF	Y135	CL	TOP	5,4,3	PBM	37E2
			TOP	2,1	M	10C3
			BOT	2,1	B	37G6
			BOT	5,4,3	BM	37E6
			COIL			37D5
BF	Y277	CO	TOP	5,4,3	PBM	37E2
			TOP	2,1	M	10C3
			BOT	2,1	B	37G6
			BOT	5,4,3	BM	37E6
			COIL			37D5
BK'	313A	NA	TOP	5,3,10	BM	47B4
			TOP	4,8,9	BM	37A9
			COIL			29A2
CK	U6030		TOP	5,4	M	63G1
			TOP	3,2,1	BM	65E4
			BOT	3,2,1	BM	45D2
			BOT	5,4	M	29A5
			COIL			29B2
OCB	U299		TOP	3,2,1	BM	-
			BOT	2,1	B	65B5
			BOT	4,3	M	36A8
			COIL			65F2
PS2	Y88		TOP	3,2,1	BM	55C8
			COIL			55B7
SPT	U791	EA	TOP	2,1	M	65E5
			COIL			65D2
SPT	U1268	EB	TOP	4,3	M	65E5
			TOP	2,1	B	-
			BOT.	2,1	M	-
			COIL			65D2
ST2	U144		TOP	12,11	M	65B3
			TOP	10,9	M	34B9
			TOP	8,7	M	44H0
			TOP	6,5	M	44G1
			TOP	4,3	M	37B8
			TOP	2,1	M	44E0
			BOT.	2,1	M	34E2
			BOT.	4,3	M	43C7
			BOT.	6,5	M	46C4
			BOT.	8,7	M	37B5
			BOT.	10,9	M	47A0
			BOT.	12,11	M	65B1
			COIL			35B0
TM	239FC	GE	TOP	4,7,3	BM	36A8
			COIL			65B2
TM	280A	GF	TOP	4,7,3	BM	36A8
			COIL			65B2
TMS	U206		TOP	9,8	M	63G1
			TOP	7,6,5	BM	64B5
			TOP	4,3	B	64B1
			TOP	2,1	B	65E5
			BOT.	3,2,1	BM	64C1
			BOT.	5,4	M	64H3
			BOT.	7,6	M	63E2
			COIL			63F0

CAPACITOR

OPTION	DESIG	LOC	CODE
	[8] TM(TM.1-8)	65B4	437QA

NETWORK

OPTION	DESIG	LOC	CODE
GA	CK	29B2	185A
CV	ST2	35C0	185A

RESISTOR

OPTION	DESIG	LOC	CODE
	TM1	65B2	19DS
	TM2	65B1	19RP
	TM3	65B1	19MC
	TM4	65B2	19MC
	TM5	65B5	18BT,200
EA	TM6	65D2	18DB,3K
EB	TM6	65D2	18BA,2K
EA	TM7	65D2	18FC,4K

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APP FIG L (MFR DISC)

RELAY DESIG	DLX			DLX														
CODE	U48A			Y288														
OPTION	EC			ED														
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	2,1	M	67F3	2,1	M	67F3												
BOT.				2,1	M	62B5												
COIL			36B4			36B4												

OPTION	NETWORK DESIG	LOC	CODE
CT	DLX	36C4	185A

APP FIG M
(SEE NOTE 102(b) PAR.16)

RELAY DESIG	DLX			DLX														
CODE	Y52			Y269														
OPTION	CJ			CM														
	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC
TOP																		
	5,6	M	67G3	5,4	M	67G3												
	3,2,1	BM	62C7	3,2,1	BM	62C7												
BOT	2,1	B	63C2	2,1	B	63C2												
COIL			36B4			36B4												

OPTION	CAPACITOR DESIG	LOC	CODE
CU	CY	67G3	441B

OPTION	NETWORK DESIG	LOC	CODE
CT	DLX	36B4	185A

OPTION	RESISTOR DESIG	LOC	CODE
CU	CY	67G3	18AJ,400

APP FIG N
(SEE NOTE 102(b) PAR.36 & NOTE 152)

RELAY DESIG	SGO			SGO			SG1			SGB			SGB			XSS					
CODE	U508			U1251			U511			U529			U469			U565					
OPTION	DI			DJ						DK			DL								
	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
				4,3	M	33G1															
	2,1	M	33G1	2,1	B	-	3,2,1	BM	26D3	2,1	M	33F1	2,1	M	33F1	2,1	M	61G3			
BOT.				2,1	M	-	2,1	M	-				2,1	M	-						
COIL			20G4			20G4			20H4			26C6			26C6			20G6			

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APP FIG O

RELAY																					
DESIG	C02			S[illegible]			SG0			SG1			SGA			SGA			SGB		
CODE	U88			U5[illegible]			U1251			U511			U528			UA69			UA69		
OPTION	FI			DI			DJ						DK			DL			DL		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	B	-																		
	10,9	B	-																		
	8,7	B	-																		
	6,5	B	-																		
	4,3	B	-				4,3	M	33G1												
	2,1	B	27E7	2,1	M	33G1	2,1	B	-	3,2,1	BM	26D3	2,1	M	33G1	2,1	M	33G1	2,1	M	33G1
BOT	2,1	B	-				2,1	M	-	2,1	M	-				2,1	M	-	2,1	M	-
	4,3	B	-																		
	6,5	B	-																		
	6,7	B	-																		
	10,9	B	-																		
	12,11	M	66B7																		
COIL			66H0			20G4			20G4			20H4			26C6			26C6			26C6

RELAY																					
DESIG	SGB			SGP			SGS			SGS			XSG								
CODE	U528			U510			U509			U510			565								
OPTION	DK						DG			DP											
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
	2,1	M	33G1	3,2,1	BM	26C5	2,1	M	33G1	3,2,1	BM	33G1	3,2,1	BM	61G[illegible]						
BOT				2,1	M	-				2,1	M	-									
COIL			26C6			20G5			20G5			20G5			20G6						

APP FIG P (MFR DISC)

WIRING ONLY

APP FIG Q

RELAY						
DESIG	XK1					
CODE	S509					
OPTION						
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP						
	2,1	B	47F3			
BOT						
COIL			47F2			

APP FIG R (MFR DISC)

RELAY						
DESIG	CBT					
CODE	U207					
OPTION						
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP						
	6,5	M	3G3			
	4,3	M	3G3			
	2,1	M	3G3			
BOT	2,1	M	3G3			
	4,3	M	3G3			
	6,5	M	3G3			
COIL			3D2			

APP FIG S

(SEE NOTE 102(c) PAR.15)

RELAY												
DESIG	AMB			CBT								
CODE	Y107			U318								
OPTION												
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP												
				10,9	M	3F3						
				8,7,6	BM	3F3						
	4,3	M	3B6	5,4,3	BM	3F3						
	2,1	B	-	2,1	B	3B3						
BOT	3,2,1	BM	-	3,2,1	BM	3F3						
				5,4	M	3F3						
				8,7,6	BM	3F3						
				10,9	M	3E3						
COIL			3E2			3D2						

APP FIG T

(SEE NOTE 102(b) PAR.30)

RELAY						
DESIG	PS1					
CODE	U147					
OPTION						
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP						
	12,11	M	2B2			
	10,9,8	BM	36C5			
	7,6	M	55B9			
	5,4	M	35H5			
	2,1,3	MB	36E8			
BOT	2,1	M	23B9			
	4,3	M	36G5			
	6,5	M	29F6			
	8,7	B	55C4			
	10,9	M	65C4			
COIL			2A1			

APP FIG U

(SEE NOTE 102(b) PAR.31)

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APP FIG V
(SEE NOTE 102(b)PAR. 31)

RELAY																	
DESIG	00R			00V			00VI										
CODE	U492			U482			U460										
OPTION																	
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP							5,4	M	1C1									
	3,2,1	BM	1D2	3,2,1	BM	1C1	3,2,1	BM	29G4									
BOT	2,1	M	-	2,1	M	23D9	3,2,1	BM	59F7									
							5,4	M	35G3									
COIL			1E9			1E9			1C1									

OPTION	NETWORK DESIG	LOC	CODE
FB	00VI	101	185A

APP FIG W (MFR DISC)

WIRING ONLY

APP FIG X (MFR DISC)

RELAY									
DESIG	0VA			0VA					
CODE	U624			U1229					
OPTION	F5			FT					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
				4,3	M	-			
	2,1	M	23C8	2,1	M	23C8			
BOT	2,1	M	29F6	2,1	M	29F6			
COIL			23C7			23C7			

APP FIG Y (MFR DISC)

OPTION	NETWORK DESIG	LOC	CODE
CS	L	58F9	1/2 177A

APP FIG Z
(SEE NOTE 102(C)PAR. 19)

RELAY						
DESIG	CK6A					
CODE	U6030					
OPTIC						
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP						
	5,4	M	59D9			
	3,2,1	BM	1881			
BOT	3,2,1	BM	1052			
	5,4	M	56A1			
COIL			56A0			

OPTION	CAPACITOR DESIG	LOC	CODE
CR	L	58E9	441A

OPTION	NETWORK DESIG	LOC	CODE
HD	CK6A	56A0	185A
CS	L	58E8	1/2 177A

OPTION	RESISTOR DESIG	LOC	CODE
CR	L	58F9	198L,750

APP FIG AA (MFR DISC)

RELAY						
DESIG	MR1					
CODE	U366					
OPTION						
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP						
	4,3	M-B	54D4			
	2,1		48G9			
BOT	3,2,1	BM	36G7			
COIL			54D0			

APP FIG AB (MFR DISC)

RELAY						
DESIG	MR1					
CODE	U595					
OPTION						
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP						
	5,4	M	65C5			
	3,2,1	BM	36G7			
BOT	2,1	M-B	48G8			
	4,3		54D4			
COIL			54D0			

APP FIG AC
(SEE NOTE 102(a)PAR. 12)

RELAY									
DESIG	MR1			MRK					
CODE	U474			U747					
OPTION	F1			F1					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
	9,8	M	65C5						
	7,6,5	BM	36F6						
	4,3	M-B	54D3	4,3	M	54D3			
	2,1		*8G9	2,1	B	36M3			
BOT	2,1	M-B	54B5	2,1	B	36G3			
	4,3		54D2	4,3	M	54C1			
	6,5	M	-						
COIL			54D0			54C0			

OPTION	RESISTOR DESIG	LOC	CODE
F1	BP	54C1	18BK,1.5K

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APP FIG AD (MFR DISC)

RELAY

DESIG	JD											
CODE	U921											
OPTION												
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	8,7	M	41H0									
	6,5	M	59F5									
	4,3	M	54G3									
	2,1	M	59H2									
BOT.	2,1,3	MB	49E5									
	5,4	M	49G9									
	7,6	M	48H6									
COIL			59H0									

APP FIG AE (MFR DISC)

(SEE NOTE 102(b)PAR. 4)

RELAY

DESIG	JD											
CODE	U147											
OPTION												
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	54G3									
	10,9,8	BM	-									
	7,6	M	58G2									
	5,4	M	59F5									
	2,1,3	MB	49E5									
BOT.	2,1	M	48H6									
	4,3	M	58G2									
	6,5	M	49G9									
	8,7	B	-									
	10,9	M	41H0									
COIL			58F0									

OPTION	NETWORK DESIG	LOC	CODE
CT	JD	58G0	185A

APP FIG AF (MFR DISC)

RELAY

DESIG	DVA																				
CODE	U1375																				
OPTION																					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	5,4	M	34G1																		
	3,2,1	BM	23C9																		
BOT	3,2,1	BM	52H5																		
	5,4	M	29F6																		
COIL			23D7																		

APP FIG AG (A & M ONLY)

(SEE NOTE 102(d)PAR. 9)

RELAY

DESIG	TW																						
CODE	U482																						
OPTION	AL																						
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	3,2,1	BM	36B3																				
BOT.	2,1	M	19E8																				
COIL			19D9																				

APP FIG AH

(SEE NOTE 102(b)PAR. 12)

RELAY

DESIG	TW			TWI								
CODE	U482			U1373								
OPTION	AL,LC			AL,LC								
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				8,7	M	-						
				6,5,4	BM	35F3						
	3,2,1	BM	31A4	3,2,1	BM	19E9						
BOT.	2,1	M	1B3	3,2,1	BM	36B2						
				5,4	M	-						
COIL			19E9			1B1						

OPTION	NETWORK DESIG	LOC	CODE
AL,LC	TWI	1B1	185A

APP FIG AI

(SEE NOTE 102(b)PAR. 12)

RELAY

DESIG	TW			TWI								
CODE	U482			U1323								
OPTION	AL,LC			AL,LC								
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				8,7	M	34G1						
				6,5,4	BM	35F3						
	3,2,1	BM	31A4	3,2,1	BM	19E9						
BOT	2,1	M	1B3	3,2,1	BM	36B2						
				5,4	M	-						
COIL			19E9			1B1						

OPTION	NETWORK DESIG	LOC	CODE
AL,LC	TWI	1B1	185A

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APP FIG A J (A&M ONLY)

(SEE NOTE 102(d) PAR.1)

RELAY																					
DESIG	KP																				
CODE	U787																				
OPTION	BM																				
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
	3,2,1	BM	35F1																		
	3,2,1	M	1A3																		
BOT																					
COIL			12E3																		

APP FIG AK

(SEE NOTE 102(b) PAR.31)

RELAY																					
DESIG	KP																				
CODE	U686																				
OPTION	AL																				
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
	5,4,3	BM	36F4																		
	2,1	B	-																		
BOT	3,2,1	BM	1A4																		
	5,4	M	1B3																		
COIL			12F3																		

APP FIG AL

(SEE NOTE 102(b) PAR.23)

WIRING ONLY

APP FIG AM

(SEE NOTE 102(b) PAR.23)

RELAY																					
DESIG	NCTD			TDV			TDVK			XTD											
CODE	U124			U217			U422			U1235											
OPTION																					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC
TOP																					
	4,3	M	-	5,4	M	63C8				4,3	M	36B7									
	2,1	M	1F7	3,2,1	BM	32D2	3,2,1	BM	32G3	2,1	M	32E3									
BOT	2,1	M	32B3	3,2,1	BM	33B2	2,1	M	33B3	2,1	M	32G2									
COIL			32A1			32A2			32D4			32D4									

NETWORK

DESIG	LOC	CODE
TDVK	32D4	1/2 177E

APP FIG AN (MFR DISC)

RELAY																					
DESIG	CIF3																				
CODE	U566																				
OPTION	GU																				
	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
	4,3	M	-																		
	2,1	B	52G5																		
BUF	2,1	B	-																		
	4,3	M	-																		
COIL			52D6																		

APP FIG AO

(SEE NOTE 102(E) PAR.4)

RELAY																					
DESIG	CIF3																				
CODE	U179																				
OPTION																					
	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
	9,8	M	52C8																		
	7,6	M	32H1																		
	5,4	M	-																		
	3,2,1	BM	52D6																		
BOT	3,2,1	BM	-																		
	5,4	M	67G3																		
	7,6	M	-																		
COIL			67H1																		

APP FIG AP

(SEE NOTE 199)

WIRING ONLY

DRAWING ISSUE 3

SD-25016-01-C8

101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C8

BELL TELEPHONE LABORATORIES INCORPORATED 6S

APP FIG AQ

(SEE NOTE 199)

RELAY																													
DESIG	7DG			CIH			C04			OTA			PTI			PT2			PT3										
CODE	UA10			U88			U495			U1249			U67			280A			U25A										
OPTION	HI									HT			HV			HV			HV										
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC								
TOP				12,11	B	33C0	12,11	M	-																				
				10,9	B	-	10,9	M	-																				
				8,7	B	34G8	8,7	M	-																				
	6,5	M	-	6,5	B	27A1	6,5	M	27A6				7,6	M	51D1														
	4,3	M	34E1	4,3	B	27B1	4,3	M	27B6	4,3	M	-	5,4	M	34E4				5,4	M	51B1								
	2,1	B	34B1	2,1	M	27C1	2,1	M	27B6	2,1	M	1G4	3,2,1	BM	50E1	4,7,3	BM	50F1	3,2,1	BM	50E1								
BOT.	2,1	B	34E1	2,1	B	-	2,1	M	32E3	2,1	M	32C5	3,2,1	BM	46E6				3,2,1	BM	46F7								
	4,3	M	34D1	4,3	B	51G6	4,3	M	-				5,4	M	34E4				5,4	M	50E1								
				6,5	B	27G1	6,5	M	-																				
				8,7	B	28G4	8,7	M	-																				
				10,9	B	32G4	10,9	M	-																				
				12,11	M	32H2	12,11	M	66A6																				
COIL			27B7			66G4			66F0			32B1			51E1			34E4			51A1								

RELAY																													
DESIG	PTK			PTKI			RA1			RA2			RA3			RA4			RA5										
CODE	U61D6			U311			U648			U648			U648			U648			U648										
OPTION	HV			HV			HE			HF			HG			HH			HD										
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC								
TOP							11,10	M	22B5	11,10	M	22B5	11,10	M	22B5	11,10	M	22C5	11,10	M	22C5								
							9,8,7	BM	27A5	9,8,7	BM	27B5	9,8,7	BM	27B4	9,8,7	BM	27A3	9,8,7	BM	51F2								
				5,4,3	BM	50E1	6,5,4	BM	51F2	6,5,4	BM	-	6,5,4	BM	27B5	6,5,4	BM	27B3	6,5,4	BM	-								
	2,1	M	50G3	2,1	B	46F7	2,1,3	MB	51A5	2,1,3	MB	-	2,1,3	MB	-	2,1,3	MB	-	2,1,3	MB	51B5								
BOT.	2,1	M	50F3	3,2,1	BM	50G7	2,1	B	34D2	2,1	B	34D2	2,1	B	34D3	2,1	B	34D4	2,1	B	34D5								
							5,4,3	BM	34B2	5,4,3	BM	34B2	5,4,3	BM	34B3	5,4,3	BM	34B4	5,4,3	BM	34B4								
							7,6	M	34E1	7,6	M	34E1	7,6	M	34D1	7,6	M	34C1	7,6	M	34C1								
							10,9,8	MM	51E5	10,9,8	MM	-	10,9,8	MM	-	10,9,8	MM	-	10,9,8	MM	51E5								
COIL			50E3			50G3			22B4			22B4			22C4			22D4			22D4								

RELAY																													
DESIG	RA6			RA7			RA8			RA9			RA10			SKP			TKI										
CODE	U648			U648			U648			U648			U648			UA72			U66										
OPTION	HP			HU			KY			LH			LD			HJ			IK										
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC								
TOP	11,10	M	22C5	11,10	M	22D5	11,10	M	22D5	11,10	M	22D5	11,10	M	22D5														
	9,8,7	BM	51G2	9,8,7	BM	51G2	9,8,7	BM	51G2	9,8,7	BM	27A3	9,8,7	BM	-														
	6,5,4	BM	-	6,5,4	BM	27C2	6,5,4	BM	-	6,5,4	BM	27B3	6,5,4	BM	-				4,3	M	-								
	2,1,3	MB	51B5	2,1,3	MB	51B5	2,1,3	MB	51C5	2,1,3	MB	51C5	2,1,3	MB	51C5	3,2,1	BM	34B1	2,1	M	33B2								
BOT	2,1	B	34D5	2,1	B	-	2,1	B	34D6	2,1	B	34D3	2,1	B	34D6	2,1	M	-	2,1	B	-								
	5,4,3	BM	34B5	5,4,3	BM	34B7	5,4,3	BM	34B5	5,4,3	BM	34B3	5,4,3	BM	34B6				4,3	M	34G7								
	7,6	M	34C1	7,6	M	34C1	7,6	M	34B1	7,6	M	34D1	7,6	M	34B1														
	10,9,8	MM	51E5	10,9,8	M	51F5	10,9,8	MM	51F5	10,9,8	MM	51F5	10,9,8	MM	51G5														
COIL			22E4			22E4			22F4			22G4			22G4			27A7			34A0								

RELAY																													
DESIG	SRA																												
CODE	U743																												
OPTION	NT																												
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC								
TOP																													
	5,4	M																											
	2,1,3	MB	50D3																										
BOT.	3,2,1	BM																											
	5,4	M																											
COIL			35A2																										

CAPACITOR

OPTION	DESIG	LOC	CODE
HV	PT2	34E6	437QA

DIODE

OPTION	DESIG	LOC	CODE
KI,NT	PT1	51E2	426A
	PT3	51B2	

LAMP

OPTION	DESIG	LOC	CODE
HV	TP	50E0	13L RES

NETWORK

OPTION	DESIG	LOC	CODE
	CIH	66G5	1/2 177C
LU,NT	PT3	51B1	105A
HV	PTK	50E3	
HE	RA1	22B4	
HF	RA2	22B4	
HG	RA3	22C4	
HH	RA4	22D4	
HD	RA5	22D4	1/2 177H
HP	RA6	22E4	
HU	RA7	22E4	
KY	RA8	22F4	
LH	RA9	22G4	
LD	RA10	22G4	
NT	SRA	35A2	105A
IK	TKI	34A0	105A

RESISTOR

OPTION	DESIG	LOC	CODE
HV	PT1	34E5	190E
	PT2	34E7	18BT,200

DRAWING ISSUE 105B

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C9

BELL TELEPHONE LABORATORIES INCORPORATED — ISSUE 6S

SD-25016-01-C9

APP FIG AR
(SEE NOTE 102(b) PAR.19)
WIRING ONLY

APP FIG AS
(SEE NOTE 102(b) PAR.19)

RELAY

DESIG	MNR								
CODE	U242								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
	5,4	M	6281						
	3,2,1	BM	16B3						
BOT.	3,2,1	BM	17C7						
COIL			18E7						

DIODE

	DESIG	LOC	CODE
[12]	DGI-12	18E8	426A

NETWORK

DESIG	LOC	CODE
MNR	18E7	18TA

APP FIG AT

RELAY

DESIG	MPY								
CODE	U929								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
	6,5,4	3M	27D3						
	3,2,1	8M	27E3						
BOT.	2,1,3	MB	34F3						
	5,4	M	-						
COIL			28F5						

DIODE

	DESIG	LOC	CODE
[6]	MPYO-5	28F4	426A

NETWORK

DESIG	LOC	CODE
MPY	28F5	185A

APP FIG AU
(SEE NOTE 102(b) PAR.19)
WIRING ONLY

APP FIG AW
(SEE NOTE 102(b) PAR.24)
WIRING ONLY

APP FIG AY
(SEE NOTE 102(b) PAR.19)
WIRING ONLY

APP FIG AV
(SEE NOTE 102(b) PAR.14)

RELAY

DESIG	SGR			SGR'														
CODE	U1462			U1462														
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	11,10,9	MB	8F4	11,10,9	MB	8F9				9,8	B							
	8,7,6	BM	8F3	8,7,6	BM	8F8				7,6	M							
	5,4,3	BM	8F3	5,4,3	BM	8F7				5,4	B							
	2,1	B	6A4	2,1	B	6A3				2,1,3	BM	12D6						
BOT.	3,2,1	BM	8F0	3,2,1	BM	8F5				2,1	B	17A7						
	6,5,4	BM	8F1	6,4,5	BM	8F6				4,3	B	17G7						
	9,8,7	BM	8F2	9,8,7	BM	8F7				7,6,5	BM	12E6						
										9,8	M	12F3						
COIL			4F3			4F3						a						

a P-18B2
S-12C4

NETWORK

OPTION	DESIG	LOC	CODE
LJ	SGR	4F3	185A
LJ	SGR'	4F3	185A

APP FIG AZ
(SEE NOTE 102(b) PAR.19)

DESIG	MSD								
CODE	U1313								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
	9,8	B							
	7,6	M							
	5,4	B							
	2,1,3	BM	12D6						
BOT.	2,1	B	17A7						
	4,3	B	17G7						
	7,6,5	BM	12E6						
	9,8	M	12F3						
COIL			a						

a P-18B2
S-12C4

DIODE

DESIG	LOC	CODE
MSD	12D6	446K

NETWORK

DESIG	LOC	CODE
MSD	18B2	185A
MSDA	12D4	185A

APP FIG BA
(SEE NOTE 102(b) PAR.12, 102(E) PAR.15)

DESIG	OVA								
CODE	U1054								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
	8,7	M	23D8						
	6,5	M	34G1						
	4,3	B	52C1						
	2,1	B	52H5						
BOT.	2,1	B							
	4,3	M	23C8						
	6,5	M	29F6						
	8,7	M	54G1						
COIL			23D7						

APP FIG BB (MFR DISC)

RELAY

DESIG	A5								
CODE	U192								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
BOT.									
COIL			4C8						

NETWORK

OPTION	DESIG	LOC	CODE
FR	A5	4C8	185A

APP FIG BC
(SEE NOTE 102(b) PAR.36)

DESIG	A5								
CODE	U500								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
	8,7	M	6A6						
	6,5,4	BM	12B3						
	3,2,1	BM	12A4						
	3,2,1	BM	12C6						
BOT.	6,5,4	BM	12A7						
	5,4	M	6A6						
COIL			4D8						

NETWORK

OPTION	DESIG	LOC	CODE
FR	A5	4D8	185A

ISSUE 107A

ORIGINATING PARKER CIRCUIT (2) SD-25016-01-C10

BELL TELEPHONE LABORATORIES INCORPORATED 65

SD-25016-01-C10

HIGGINS 4465 M-B

DRAWING ISSUE
101D
102D

APP FIG BD (MFR DISC)

RELAY

DESIG	EL			ER			OL			OR								
CODE	U506			U506			U506			U506								
OPTION	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	7,6	M	49B7	7,6	M	49C7	7,6	M	49B7	7,6	M	49B7						
	5,4,3	BM	43A6	5,4,3	BM	43A6	5,4,3	BM	43D6	5,4,3	BM	43D6						
	2,1	B	37H6	2,1	B	37H6	2,1	B	37H6	2,1	B	37H7						
BOT	2,1	B	42E1	2,1	B	42E2	2,1	B	42D1	2,1	B	42D2						
	5,4,3	BM	46F2	5,4,3	BM	46F2	5,4,3	BM	46F2	5,4,3	BM	46F2						
	7,6	M	47A8	7,6	M	47B8	7,6	M	47B8	7,6	M	47B8						
COIL			42A0			42B0			42B0			42C0						

NETWORK

OPTION	DESIG	LOC	CODE
CV	CA	42E2	1/2 177A
CV	CB	42D2	1/2 177A
CT	EL	46G3	1/2 177H
	ER	46G3	
	OL	46G3	
	OR	46G3	

RESISTOR

OPTION	DESIG	LOC	CODE
CV	CA	42E2	18E,140
CT	CA	42E3	KS-8058C,10kΩ OR
CT	CB	42D3	KS-19150,L1,10kΩ
CU	CB	42D2	18E,140
CT	EL	46G2	KS-8058C,10kΩ OR
	ER	46G2	
	OL	46G2	KS-19150,L1,10kΩ
	OR	46G2	

APP FIG BE

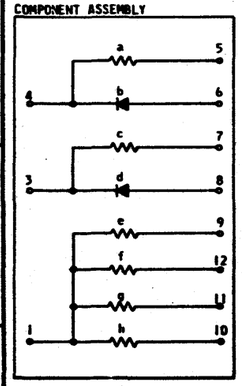
RELAY

DESIG	NSE*			NSO*			SPE*			SPO*			TKE*					
CODE	313A			313A			313A			313A			313A					
OPTION	NA			NA			NA			NA			NA					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	5,3,10	BM	37B6	5,3,10	BM	37B6	5,3,10	BM	37C6	5,3,10	BM	37C6	5,3,10	BM				
	4,8,9	BM		4,8,9	BM		4,8,9	BM		4,8,9	BM		4,8,9	BM	9B7			
BOT																		
COIL			37B2			37C2			37A2			37B2			41G8			

RELAY

DESIG	EL		AF518		ER		AF518		DL		AF518		OR		AF518		PR		AK30				TKE		AF518				DESIG
CODE																	ND						NC						CODE
OPTION	CONT ARR	LOC		CONT ARR	LOC		CONT ARR	LOC	CONT ARR	LOC		CONT ARR	LOC		CONT ARR	LOC		CONT ARR	LOC		CONT ARR	LOC		CONT ARR	LOC		CONT ARR	LOC		OPTION
12	EMB			EMB			EMB		EMB			EMB			M					M			EMB	58F2					12
11	M			M			M		M			M			EBM					M			M						11
10	EBM			EBM			EBM		EBM			EBM			EBM					EBM	43B7								10
9															EMB														9
8	EBM			EBM			EBM		EBM			EBM			EMB					EBM	46G1								8
7	B	42C2		B	42C2		B	42C2	B	42C2		B	42C2							B									7
6	EMB	37H6		EMB	37H6		EMB	37H6	EMB	37H6		EMB	37H7							EMB	37B8								6
5																	EMB												5
4	EBM	43A6		EBM	43A6		EBM	43D6	EBM	43D6		EBM	43D6		EMB	46F3				EBM									4
3	M	49B7		M	49C7		M	49B7	M	49B7		M	49B7		EBM	46F3				M	29G4								3
2	EBM	46F2		EBM	46F2		EBM	46F2	EBM	46F2		EBM	46F2		EBM	46F3				EBM	35A5								2
1	M	47A8		M	47B8		M	47B8	M	47B8		M	47B8		M	46F3				M	9B7								1
COIL		42A0			42B0			42B0		42B0			42C0			37A8					41G8								COIL

COMPONENT ASSEMBLY



DESIG		CA8		
CODE		ED-94B23-(),G774		
COMPONENT	OPT	DESIG	LOC	CODE
DIODE b	NC	SS	46F1	4266
DIODE d	NC	JC	43B8	4266
RESISTOR a	NC	SS2	46F0	KS-14603,L3A,301
RESISTOR c	NC	JC2	43B7	KS-14603,L3A,301
RESISTOR e	CT	OR	46G2	KS-8058C,30kΩ
RESISTOR f	CT	ER	46G2	KS-8058C,30kΩ
RESISTOR g	CT	OL	46G2	KS-8058C,30kΩ
RESISTOR h	CT	EL	46G2	KS-8058C,30kΩ

CAPACITOR

OPTION	DESIG	LOC	CODE
NC	JC	43B8	437QA
NC	SS	46F0	437QA

RESISTOR

OPTION	DESIG	LOC	CODE
CT	CA	42C4	KS-8058C,10kΩ OR
CT	CB	42C3	KS-19150,L1,10kΩ
NC	JC1	43B7	59M,850
NC	SS1	46G1	59M,850

LAMP

OPTION	DESIG	LOC	CODE
NC	JC	46F0	13J (RES)
NC	SS	43A8	13J (RES)

NETWORK

OPTION	DESIG	LOC	CODE
	CA	42C4	1/2 177A
	CB	42C3	1/2 177A
CT	EL	46G3	1/2 177H
CT	ER	46G3	1/2 177H
CT	OL	46G3	1/2 177H
CT	OR	46G3	1/2 177H
ND	PR	37A8	185A
NC	TKE	41G8	186A

SD-25016-01-CII

102

ORIGINATING MARKER CIRCUIT

(2) SD-25016-01-CII

BELL TELEPHONE LABORATORIES INCORPORATED

SHEET 65

APP FIG BF (MFR DISC)

RELAY									
DESIG	TKE								
CODE	U6019								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	6,5	M	58F2						
	4,3	M	29G4						
	2,1	B	3545						
BOT	2,1	B	37B8						
	4,3	M	9A7						
	6,5	M							
COIL			41G9						

APP FIG BG (MFR DISC)

RELAY									
DESIG	TK								
CODE	U546								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	7,6	M	18E1						
	5,4,3	BM	36B4						
	2,1	B	19D8						
BOT	3,2,1	BM	67B2						
	5,4	M	35A6						
COIL			33A0						

APP FIG BH

RELAY									
DESIG	TK								
CODE	U677								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	8,7	M	35A6						
	6,5	M	18E1						
	4,3	B	67B2						
	2,1	B	19D8						
BOT	3,2,1	BM	36B4						
	6,5,4	BM							
	8,7	M							
COIL			33A0						

APP FIG BI

RELAY									
DESIG	JD								
CODE	U295								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8	M	41H0						
	7,6,5	BM	49G9						
	4,3	M	59F5						
	2,1	M	58H2						
BOT	2,1,3	MB	49D5						
	6,5,4	BM	48H6						
	8,7	M	54G3						
COIL			58B1						

APP FIG BJ (MFR DISC)

RELAY					
DESIG	T(E,0)--				
CODE	U520				
OPTION					
	CONT NO.	CONT ARR	LOC IST	LOC INTER.	LOC LAST
TOP	4,3	M	41C1	41C4	41D9
	2,1	B	41E0	41E4	41E9
BOT	2,1	B	41E0	41E3	41E8
	4,3	M	41D0	41D4	41D8
COIL			39E0	39E3	39E8

OPTION	NETWORK DESIG	LOC IST	INTER.	LAST	CODE
EW	T(E,0)--	39E1	39E5	39E8	185A

APP FIG BK

RELAY									
DESIG	[20] T(E,0)--				[20] T(E,0)--				
CODE	AR46								
OPTION									
	CONT ARR	LOC IST	LOC INTER.	LOC LAST	CONT ARR	LOC IST	LOC INTER.	LOC LAST	
12					M				
11					M	41C1	41C4	41D9	
10					M	41D0	41D4	41D8	
9					B	41E0	41E4	41E9	
8					B	41E0	41E3	41E8	
7									
6									
5	B	41E0	41E4	41E9					
4	B	41E0	41E3	41E8					
3	M								
2	M	41C1	41C4	41D9					
1	M	41D0	41D4	41D8					
COIL		39E0	39E3	39E7		39E0	39E3	39E8	

OPTION	NETWORK DESIG	LOC IST	INTER.	LAST	CODE
EW	T(E,0)--	39E1	39E5	39E8	18E7
EW	T(E,0)--	39E1	39E5	39E8	1857

DRAWING ISSUE
101D
102D

SD-25016-01-C12

102

ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-C12

BELL TELEPHONE LABORATORIES INCORPORATED

6S

APP FIG BL (MFR DISC)

RELAY										
DESIG	ZCK									
CODE	U440									
OPTION										
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	
TOP										
	3,2,1	BM	45E6							
BOT	3,2,1	BM	45E6							
COIL			2H1							

APP FIG BM

RELAY									
DESIG	ZCK								
CODE	U293								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
	3,2,1	BM	45E6						
BOT	2,1	B	45E6						
	4,3	M							
COIL			2H1						

APP FIG BO (MFR DISC)

RELAY												
DESIG	BK			MRL								
CODE	U6029			U298								
OPTION												
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP												
	8,7	M	65E8									
	6,5	M	46F8									
	4,3	B	65D3	5,4	M	-						
	2,1	B	45F5	2,1,3	MB	35D3						
BOT	2,1	B	47B5	2,1,3	MB	35D3						
	4,3	B	41G9	5,4	M	65D5						
	6,5	M	29A6									
COIL			29A2			54G0						

OPTION	CAPACITOR DESIG	LOC	CODE
	CM	54H1	439A

OPTION	RESISTOR DESIG	LOC	CODE
	CM	54H1	19GJ

APP FIG BP

RELAY																
DESIG	BK		MRL													
CODE	AF55		AJ131													
OPTION																
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12	M	29A6	EBM													
11	M	65E8	EMB													
10	BM	65D3	EBM													
9	M		EMB													
8	BM	47C5	EBM													
7	B	41G9	EM3													
6	BM	45F5	EBM													
5	M	46F8	EM3	35D3												
4	BM	47B5	EBM													
3	M		EMB	35D3												
2	M		EBM	65D5												
1	M		EM3													
COIL		29A2		54F1												

OPTION	NETWORK DESIG	LOC	CODE
	MRL	54F1	185A

DRAWING ISSUE
101D
102D
ISSUE 107A

ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-C13

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25016-01-C13

PART OF APP FIG BQ (MFR DISC)

RELAY	A6L0	A6L0	A6L1	A6L1	A6L2	A6L2	A6L3
DESIG							
CODE	U538	UA74	U538	UA74	U538	UA74	U538
OPTION	DS	DT	DS	DT	DS	DT	DS
CONT NO.							
CONT ARR							
LOC							
TOP	4,3 M -	4,3 M -		4,3 M -		4,3 M -	
	2,1 B 48B1	2,1 B 48B1	2,1 B 48B2	2,1 B 48B2	2,1 B 48B4	2,1 B 48B4	2,1 B 48B6
	2,1 M 48A1	2,1 B	2,1 M 48A2	2,1 B	2,1 M 48A4	2,1 B	2,1 M 48A6
BOT.		4,3 M 48A1		4,3 M 48A2		4,3 M 48A4	
COIL	44B2	44B2	44B2	44B2	44B2	44B2	44B2

RELAY	A6L3	A6L4	A6L4	A6L5	A6L5	A6L6	A6L6
DESIG							
CODE	UA74	U538	UA74	U538	UA74	U538	UA74
OPTION	DT	DS	DT	DS	DT	DS	DT
CONT NO.							
CONT ARR							
LOC							
TOP	4,3 M -		4,3 M -		4,3 M -		4,3 M -
	2,1 M 48B6	2,1 B 48B7	2,1 B 48B7	2,1 B 48E1	2,1 B 48E1	2,1 B 48E2	2,1 B 48E2
	2,1 B	2,1 M 48A7	2,1 B	2,1 M 48D1	2,1 B	2,1 M 48D2	2,1 B
BOT.	4,3 M 48A6		4,3 M 48A7		4,3 M 48D1		4,3 M 48D2
COIL	44B2	44B2	44B2	44B2	44B2	44B2	44B2

RELAY	A6L7	A6L7	A6L8	A6L8	A6L9	A6L9	A6R0
DESIG							
CODE	U538	UA74	U538	UA74	U538	UA74	U538
OPTION	DS	DT	DS	DT	DS	DT	DS
CONT NO.							
CONT ARR							
LOC							
TOP	4,3 M -		4,3 M -		4,3 M -		
	2,1 B 48E4	2,1 B 48E4	2,1 B 48E6	2,1 B 48E6	2,1 B 48E7	2,1 B 48E7	2,1 B 48B1
	2,1 M 48D4	2,1 B	2,1 M 48D6	2,1 B	2,1 M 48D7	2,1 B	2,1 M 48A1
BOT		4,3 M 48D4		4,3 M 48D6		4,3 M 48D7	
COIL	44B2	44B2	44B2	44B2	44B2	44B2	44B2

RELAY	A6R0	A6R1	A6R1	A6R2	A6R2	A6R3	A6R3
DESIG							
CODE	UA74	U538	UA74	U538	UA74	U538	UA74
OPTION	DT	DS	DT	DS	DT	DS	DT
CONT NO.							
CONT ARR							
LOC							
TOP	4,3 M -		4,3 M -		4,3 M -		4,3 M -
	2,1 B 48B1	2,1 B 48B3	2,1 B 48B3	2,1 B 48B5	2,1 B 48B5	2,1 B 48B7	2,1 B 48B7
	2,1 B	2,1 M 48A3	2,1 B	2,1 M 48A5	2,1 B	2,1 M 48B9	2,1 B
BOT.	4,3 M 48A1		4,3 M 48A3		4,3 M 48A5		4,3 M 48A7
COIL	44B2	44B2	44B2	44B2	44B2	44B2	44B2

RELAY	A6R4	A6R4	A6R5	A6R5	A6R6	A6R6	A6R7
DESIG							
CODE	U538	UA74	U538	UA74	U538	UA74	U538
OPTION	DS	DT	DS	DT	DS	DT	DS
CONT NO.							
CONT ARR							
LOC							
TOP	4,3 M -		4,3 M -		4,3 M -		
	2,1 B 48B8	2,1 B 48B8	2,1 B 48E1	2,1 B 48E1	2,1 B 48E3	2,1 B 48E3	2,1 B 48E5
	2,1 M 48A8	2,1 B	2,1 M 48D1	2,1 B	2,1 M 48D3	2,1 B	2,1 M 48D5
BOT		4,3 M 48A8		4,3 M 48D1		4,3 M 48D3	
COIL	44B2	44B2	44B2	44B2	44B2	44B2	44B2

RELAY	A6R7	A6R8	A6R8	A6R9	A6R9		
DESIG							
CODE	UA74	U538	UA74	U538	UA74		
OPTION	DT	DS	DT	DS	DT		
CONT NO.							
CONT ARR							
LOC							
TOP	4,3 M -		4,3 M -		4,3 M -		
	2,1 B 48E7	2,1 B 48E7	2,1 B 48E9	2,1 B 48E9			
	2,1 B	2,1 M 48D7	2,1 B	2,1 M 48D8			
BOT	4,3 M 48D5		4,3 M 48D7				
COIL	44B2	44B2	44B2	44B2			

DRAWING ISSUE
101D
102D

ISSUE 107A CB

SD-25016-01-C14

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C14

BELL TELEPHONE LABORATORIES INCORPORATED 6S

HIGGINS 4465

PART OF APP FIG BQ (MFR DISC)

RELAY

DESIG	CL0			CL0			CL1			CL1			CL2			CL2		
CODE	U538			UA74			U538			UA74			U538			UA74		
OPTION	DS			DT			DS			DT			DS			DT		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
				4,3	M	-				4,3	M	-				4,3	M	-
	2,1	B	48B1	2,1	B	48B1	2,1	B	48B3	2,1	B	48B3	2,1	B	48B4	2,1	B	48B4
BOT	2,1	M	48A1	2,1	B		2,1	M	48A3	2,1	B		2,1	M	48A4	2,1	B	
				4,3	M	48A1				4,3	M	48A2				4,3	M	48A4
COIL			44B2			44B2			44B2			44B2			44B2			44B2

RELAY

DESIG	CL3			CL3			CL4			CL4			CL5			CL5		
CODE	U538			UA74			U538			UA74			U538			UA74		
OPTION	DS			DT			DS			DT			DS			DT		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
				4,3	M	-				4,3	M	-				4,3	M	-
	2,1	B	48B6	2,1	B	48B6	2,1	B	48B8	2,1	B	48B8	2,1	B	48F1	2,1	B	48F1
BOT	2,1	M	48A6	2,1	B		2,1	M	48A8	2,1	B		2,1	M	48E1	2,1	B	
				4,3	M	48A6				4,3	M	48A8				4,3	M	48E1
COIL			44B2			44B2			44B2			44B2			44B2			44B2

RELAY

DESIG	CL6			CL6			CL7			CL7			CL8			CL8		
CODE	U538			UA74			U538			UA74			U538			UA74		
OPTION	DS			DT			DS			DT			DS			DT		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
				4,3	M	-				4,3	M	-				4,3	M	-
	2,1	B	48F3	2,1	B	48F3	2,1	B	48F4	2,1	B	48F4	2,1	B	48F6	2,1	B	48F6
BOT	2,1	M	48E3	2,1	B		2,1	M	48E4	2,1	B		2,1	M	48E6	2,1	B	
				4,3	M	48E2				4,3	M	48E4				4,3	M	48E6
COIL			44B2			44B2			44B2			44B2			44B2			44B2

RELAY

DESIG	CL9			CL9			CR0			CR0			CR1			CR1		
CODE	U538			UA74			U538			UA74			U538			UA74		
OPTION	DS			DT			DS			DT			DS			DT		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
				4,3	M	-				4,3	M	-				4,3	M	-
	2,1	B	48F8	2,1	B	48F8	2,1	B	48B2	2,1	B	48B2	2,1	B	48B3	2,1	B	48B3
BOT	2,1	M	48E8	2,1	B		2,1	M	48A2	2,1	B		2,1	M	48A3	2,1	B	
				3,3	M	48E7				4,3	M	48A1				4,3	M	48A3
COIL			44B2			44B2			44B2			44B2			44B2			44B2

RELAY

DESIG	CR2			CR2			CR3			CR3			CR4			CR4		
CODE	U538			UA74			U538			UA74			U538			UA74		
OPTION	DS			DT			DS			DT			DS			DT		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
				4,3	M	-				4,3	M	-				4,3	M	-
	2,1	B	48B5	2,1	B	48B5	2,1	B	48B7	2,1	B	48B7	2,1	B	48B9	2,1	B	48B9
BOT	2,1	M	48A5	2,1	B		2,1	M	48A7	2,1	B		2,1	M	48A8	2,1	B	
				4,3	M	48A5				4,3	M	48A7				4,3	M	48A8
COIL			44B2			44B2			44B2			44B2			44B2			44B2

RELAY

DESIG	CR5			CR5			CR6			CR6			CR7			CR7		
CODE	U538			UA74			U538			UA74			U538			UA74		
OPTION	DS			DT			DS			DT			DS			DT		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
				4,3	M	-				4,3	M	-				4,3	M	-
	2,1	B	48F2	2,1	B	48F2	2,1	B	48F3	2,1	B	48F3	2,1	B	48F5	2,1	B	48F5
BOT	2,1	M	48E2	2,1	B		2,1	M	48E3	2,1	B		2,1	M	48E5	2,1	B	
				4,3	M	48E1				4,3	M	48E3				4,3	M	48E5
COIL			44B2			44B2			44B2			44B2			44B2			44B2

DRAWING ISSUE
101D
102D

ISSUE
107A

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C15

BELL TELEPHONE LABORATORIES INCORPORATED SHEET NO. 65

SD-25016-01-C15

E-1422-8-2(8-64)

PART OF APP FIG BQ (MFR DISC)

RELAY DESIG	CR8			CR8			CR9			CR9								
CODE	U538			UA74			U538			UA74								
OPTION	DS			DT			DS			DT								
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				4,3	M	-				4,3	M	-						
TOP	2,1	B	48F7	2,1	B	48F7	2,1	B	48F9	2,1	B	48F9						
BOT	2,1	M	48E7	2,1	B	48E7	2,1	M	48E8	2,1	B	48E9						
BOT				4,3	M	47E8				4,3	M	47E9						
COIL			44B2			44B2			44B2			44B2						

NETWORK

DESIGN	DESIG	LOC	CODE
CT	CL0-9	44C2	105A
HD	CR0-9	44C2	

APP FIG BR
(SEE NOTE 215)

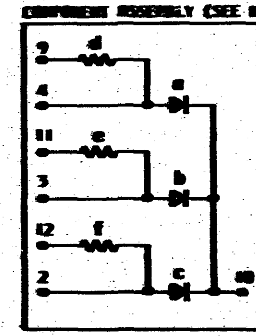
RELAY DESIG	CTL0			CTL1			CTL2			CTL3			CTL4			CTL5		
CODE	303E			303E			303E			303E			303E			303E		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	5,3,1	BM	48C1	5,3,1	BM	48C3	5,3,1	BM	48C4	5,3,1	BM	48C6	5,3,1	BM	48C4	5,3,1	BM	48G1
BOT																		
COIL			44A2			44A2			44A2			44A2			44A2			44A2

RELAY DESIG	CTL6			CTL7			CTL8			CTL9			CTR0			CTR1		
CODE	303E			303E			303E			303E			303E			303E		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	5,3,1	BM	48G3	5,3,1	BM	48G4	5,3,1	BM	48G6	5,3,1	BM	48G8	5,3,1	BM	48C2	5,3,1	BM	48C5
BOT																		
COIL			44A2			44A2			44A2			44A2			44A2			44A2

RELAY DESIG	CTR2			CTR3			CTR4			CTR5			CTR6			CTR7		
CODE	303E			303E			303E			303E			303E			303E		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	5,3,1	BM	48C5	5,3,1	BM	48C7	5,3,1	BM	48C9	5,3,1	BM	48G2	5,3,1	BM	48G3	5,3,1	BM	48G5
BOT																		
COIL			44A2			44A2			44A2			44A2			44A2			44A2

RELAY DESIG	CTR8			CTR9		
CODE	303E			303E		
OPTION						
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	5,3,1	BM	48G7	5,3,1	BM	48F9
BOT						
COIL			44A2			44A2

COMPONENT ASSEMBLY (SEE NOTE 215)



DESIG	[20] CA10-29			
CODE	ED-90825-( ), G954			
OPTION				
COMPONENT		DESIG	LOC	CODE
DIODE	a	CL--	40B3	426A
	b	BL--	40B3	
	c	RL--	40B3	
RESISTOR	d	CL--	40B4	KS-16266,L1A 3000Ω
	e	BL--	40B4	
	f	RL--	40B4	

ISSUE 108D

ORIGINATING NUMBER CIRCUIT ②

BELL TELEPHONE LABORATORIES

6S

SD-25018-01-C16

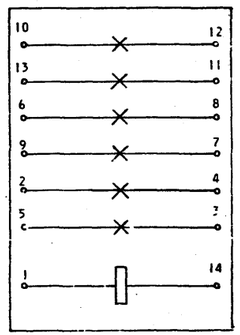
APP FIG BS (MFR DISC)

RELAY

DESIG	XCH					
CODE	U368					
OPTION						
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP						
	2,1	M	61A9			
BOT	2,1	M	44C1			
COIL			44C1			

APP FIG BT

RELAY



DESIG	XCH1	
CODE	295A	
OPTION		
CONT	10-12	44D1
	13-11	61A9
	6-8	44C1
	9-7	
	2-4	
	5-3	
COIL		44E2

DESIG	XCH																	
CODE	3168																	
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	4,5,7	BM	44E3															
BOT																		
COIL			44D1															

NETWORK

OPTION	DESIG	LOC	CODE
	XCH	44D1	185A
	XCH1	44E2	185A

RESISTOR

OPTION	DESIG	LOC	CODE
	XCH	44D1	18BH

APP FIG BU (MFR DISC)

RELAY

DESIG	AC			AC1			HMT1											
CODE	U6031			U6032			U6043											
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	9,8	M	49H7				6,5	M	45B4									
	7,6,5	BM	55B8															
	4,3	B	54B2	6,5,4	BM	45E3	4,3	B	36F8									
	2,1	B	44E6	3,2,1	BM	45A3	2,1	B	44D5									
BOT	3,2,1	BM	55C7	3,2,1	BM	45E2	2,1	B	44D8									
	6,5,4	BM	52F0	6,5,4	BM	45A1	4,3	M	48H2									
COIL			45C4			45C4			46E4									

NETWORK

OPTION	DESIG	LOC	CODE
FB	AC	45C4	185A
FB	AC1	45D4	
CV	HMT1	46E4	

RESISTOR

OPTION	DESIG	LOC	CODE
CB	BJ0	46A6	19CE
CC	BJ0	46B8	18CP,1260
CB	BJ1	46B6	19JW
CC	BJ1	46B7	18BM,1KΩ
CC	BJ2	46B7	18GF,800
CC	BJ3	46B6	18GH,600

APP FIG BV

RELAY

DESIG	AC		AC1		HMT1												DESIG
CODE	AF110		AF110		AJ12												CODE
OPTION																	OPTION
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	
12	B	54B2	B		EBM	44C6											12
11					EBM	44D6											11
10	EBM	52F0	EBM	45A1	EBM	44D9											10
9					EBM	36F8											9
8	EBM	55C7	EBM	45A3	EBM	44F7											8
7					EBM	46E5											7
6	EMB	55B8	EMB	45E2	EBM	44E4											6
5					EBM	48H2											5
4	EBM	49H7	EBM	45E3	EBM	44H6											4
3					EBM												3
2					EBM												2
1					EBM	45B4											1
COIL		45C4		45C4		46E4											COIL

NETWORK

OPTION	DESIG	LOC	CODE
	AC	45C4	185A
	AC1	45D4	
	HMT1	46E4	

RESISTOR

OPTION	DESIG	LOC	CODE
	BJ0	46A5	19CE
	BJ1	46A5	19JW
	HMT1	46A6	18GH,600
	HMT2	46A6	18GF,800
	HMT3	46A6	18BM,1KΩ
	HMT4	46A7	18CP,1260
	HMT5	46A7	18DS,1.7KΩ

ISSUE
101D
102D
104 AR

ISSUE
107A

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C17

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-C17

APP FIG BW

RELAY

DESIG	ABCK			BBCK			CBCK								
CODE	316A			316A			316A								
OPTION															
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP															
	4,5,7	BM	46C3	4,5,7	BM	46C3	4,5,7	BM	46C3						
BOT															
COIL			44C6			44D7			44D9						

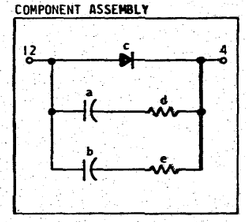
RELAY

DESIG	BCK		CIF4									
CODE	AG53		AF24									
OPTION												
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12	EBM		M									
11	EBM		M									
10	EBM		M									
9	EBM		M									
8	EMB		M									
7	EBM		M									
6	EMB		M	46D3								
5	EMB		M									
4	EBM	46F7	M	46D3								
3	EBM		M									
2	EBM	46C2	M	46D3								
1	EBM		M									
COIL		46C2		66F6								

CAPACITOR

OPTION	DESIG	LOC	CODE
	AHM	44F3	535GH
	CHM1	44H4	
NL	CHM2	44G4	

COMPONENT ASSEMBLY



DESIG		CA9	
CODE		ED-94823-(),G775	
OPTION			
COMPONENT	DESIG	LOC	CODE
CAPACITOR a	BHM1	44G7	535GH
CAPACITOR b	BHM2	44G7	
DIODE c	BHM	44G7	426F
RESISTOR d	BHM3	44G6	KS-14603,L3A,3C1
RESISTOR e	BHM4	44G6	

DIODE

OPTION	DESIG	LOC	CODE
	AHM	44G3	426F
	CHM	44H4	426F

LAMP

OPTION	DESIG	LOC	CODE
	BHM	44G8	13J (RES)

NETWORK

OPTION	DESIG	LOC	CODE
	BCK	46C2	185A

RESISTOR

OPTION	DESIG	LOC	CODE
	AHM	44E3	18BA,2kΩ
	BCK	46C2	KS-19151,L1,1.6kΩ
	BHM1	44F6	18BA,2kΩ
	BHM2	44F6	18BA,2kΩ
	CHM1	44H5	18BA,2kΩ
NL	CHM2	44H5	18BA,2kΩ

APP FIG BX (MFR DISC)

RELAY

DESIG	A			C														
CODE	239HF,HW;280EC,EY			239HF,HW;280EC,EY														
OPTION	AN,AP,GG,GH			AN,AP,GG,GH														
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	4,7,3	BM	45E2	4,7,3	BM	45A2												
BOT																		
COIL			44E1			44G1												

APP FIG BY

RELAY

DESIG	A			C														
CODE	316C			316C														
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	4,5,7	BM	45F3	4,5,7	BM	45B2												
BOT																		
COIL			44E1			44G1												

DRAWING ISSUE
101D
102D
104 AR

ISSUE
107A

SD-2501S-01-C18

ORIGINATING MARKER CIRCUIT (2)

SD-2501S-01-C18

BELL TELEPHONE LABORATORIES INCORPORATED

6S

PART OF APP FIG 1

RELAY	A1			A2			A4						AR			AR			B1		
DESIG																					
CODE	U500			U500			U192						U504			U980			U505		
OPTION													AV			BF			E		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	8,7	M	12C6	8,7	M	6A7							6,5	M	6A5	7,6	M	6A5			
	6,5,4	BM	12C4	6,5,4	BM	12C2	6,5,4	BM	6A7				4,3	M	5986	5,4	M	5986	5,4	M	6C7
	3,2,1	BM	12C3	3,2,1	BM	1286	3,2,1	BM	1245				2,1	M	5986	3,2,1	BM	5946	3,2,1	BM	1304
BOT.	3,2,1	BM	6A7	3,2,1	BM	12C2	3,2,1	BM	12C5				2,1	B	5987	2,1	B	5987	3,2,1	BM	1304
	6,5,4	BM	12A2	6,5,4	BM	1244	5,4	M	1284				4,3	M	3706	4,3	M	3706			
																6,5	M	1082			
COIL			4A9			4A9			4B9						4D3			4D3			4C9

RELAY	B2			B4			B5			B5'			C1			C2			C4		
DESIG																					
CODE	U505			U499			U500			U500			U192			U192			U499		
OPTION	E			E			E			E											
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP							8,7	M	6C6	8,7	M	6C6									
	5,4	M	6C7	5,4	M	6C6	6,5,4	BM	12C1	6,5,4	BM	12E1	6,5,4	BM	13D3	6,5,4	BM	13E3	5,4	M	1303
	3,2,1	BM	-	3,2,1	BM	1334	5,2,1	BM	1291	3,2,1	BM	1201	3,2,1	BM	13E2	3,2,1	BM	13F2	3,2,1	BM	1304
BOT.	3,2,1	BM	17A3	2,1	B	13A3	3,2,1	BM	12F1	3,2,1	BM	1201	3,2,1	BM	13D3	3,2,1	BM	1303	2,1	B	1302
				4,3	M	1384	6,5,4	BM	12A1	6,5,4	BM	12C1	5,4	M	5C5	5,4	M	6C5	4,3	M	6C5
COIL			4E9			4F8			4F9			4F8			5A3			5B3			5B3

RELAY	C5			CK1			CK2			CK3			CK4			CK5			CK6		
DESIG																					
CODE	U505			U6033			U6034			U6033			U6038			U6039			U6087		
OPTION																					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																			11,10	M	17C3
																			9,8	M	23A9
				6,5	M	6F8				6,5	M	6E8	8,7	M	6G8				7,6	M	67E2
	5,4	M	6C5	4,3	M	6B9	4,3	M	6C9	4,3	M	6F8	6,5,4	BM	a				5,4	M	3636
	3,2,1	BM	13E3	2,1	B	6C9	2,1	B	13A1	2,1	B	6G8	3,2,1	BM	6F9	3,2,1	BM	a	3,2,1	BM	2980
BOT	3,2,1	BM	1302	2,1	B	12A7	2,1	M	6G9	2,1	B	9B0	2,1,3	BM	b	2,1,3	M-B	6F7	3,2,1	BM	3501
				4,3	M	36A8				4,3		36B8	4,5,6	BM	c				5,4	M	5909
													7,8	M	12A9				7,6	M	5989
																			9,8	M	56A1
COIL			5C3			6A9			6C9			6D9			6F9			6G9			6G9

a	602 8B0
b	36B8 56A7
c	682 56C7

a	6C2 13C0

RELAY	D1			D2			D4			D8			F1			F2			F4		
DESIG																					
CODE	U503			U500			U503			U505			U192			U192			U499		
OPTION																					
	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
	9,8,7	BM	8D0	8,7	M	6D5	9,8,7	BM	8C7												
	6,5,4	BM	8C1	6,5,4	BM	8D0	6,5,4	BM	9D5	5,4	M	6D4	6,5,4	BM	9C5	6,5,4	BM	9D5	5,4	M	9C5
	3,2,1	BM	8D3	3,2,1	BM	8C3	3,2,1	BM	9C0	3,2,1	BM	9C0	3,2,1	BM	9A4	3,2,1	BM	9C3	3,2,1	BM	9B3
BOT	3,2,1	BM	8D4	3,2,1	BM	8C5	3,2,1	BM	9C7	3,2,1	BM	-	3,2,1	BM	9B4	3,2,1	BM	9B4	2,1	B	9B5
	6,5,4	BM	8C5	6,5,4	BM	9C6	6,5,4	BM	9D6				5,4	M	6D7	5,4	M	6D7	4,3	M	6D7
	3,7	M	6D5				3,7	M	6D5												
COIL			5E3			5E3			5F3			5G3			5A9			5B8			5C8

RELAY	F5			F10			F10'			GT1			GT2			GT3			DF		
DESIG																					
CODE	U505			U503			U503			U175			U485			U430			U504		
OPTION				F			F			AG			AG			AG			AV		
	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC
TOP													9,8	B	4201						
				9,8,7	BM	9E3	9,8,7	BM	9C3				7,6	M	58F4	7,6,5	BM	-	6,5	M	6A5
	5,4	M	6D6	6,5,4	BM	903	6,5,4	BM	9B3				5,4	B	29F5	4,3	M-B	58F4	4,3	M	5906
	3,2,1	BM	9C4	3,2,1	BM	903	3,2,1	BM	9B3	3,2,1	BM	58E1	2,1,3	MB	56A7	2,1		56A1	2,1	M	5906
BOT.	3,2,1	BM	9A5	3,2,1	BM	9C3	3,2,1	BM	9A3	2,1	M	5B05	2,1,3	MB	56C7	2,1	M-B	58E1	2,1	B	5907
				6,5,4	BM	9C3	6,5,4	BM	9A3				5,4	B	3548	4,3		58F3	4,3	M	10E1
				8,7	M	6D6	8,7	M	6D6				7,6	M	58E1	6,5	M	58H5			
COIL			5C8			5D8			5E9			53D0			58E0			59F0			4E3

RELAY	OF			TB			TP														
DESIG																					
CODE	U980			U515			U499														
OPTION	BF						FC														
	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC
TOP				9,9	M	5921															
	7,6	M	6A5	7,6,5	BM	29F5															
	5,4	M	5906	4,3	B	4200	5,4	M	10A7												
	3,2,1	BM	5906	2,1	B	2329	3,2,1	BM	2B2												
BOT	2,1	B	5907	2,1	B	35A9	2,1	B	10A7												
	4,3	M	10E1	5,4,3	BM	36M4	4,3	M	6A5												
	6,5	M	10D2	7,6	M	3057															
COIL			4E3			5920			4C3												

SD-25016-01-C19

HIGGINS 4465

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ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C19

BELL TELEPHONE LABORATORIES INCORPORATED 6S

PART OF APP FIG 1

OPTION	CAPACITOR DESIG	LOC	CODE
EZ	A1	59C8	441A
EZ	A2	59B8	441A
CU	B	13A2	441B
	CJ	68B	
	CK	6C9	
FA	CP	68I	

OPTION	DIODE DESIG	LOC	CODE
	CKA	13C1	446F

OPTION	NETWORK DESIG	LOC	CODE
FR	A1	4A8	185A
	A2	4A8	
	A4	4B8	
	AR	4D3	
CV	B	13B3	1/2 177H
FE	B1	4D8	185A
	B2	4E8	
	B4	4F8	
	B5	4F8	
	B5'	4F8	
FR	C1	5A3	1/2 177H
	C2	5B3	
	C4	5C3	
	C5	5D3	
CV	CJ	6B9	
CV	CK	6C9	
CT	CK3	6E8	

OPTION	NETWORK DESIG	LOC	CODE
FB	CK4	6F9	185A
	CK5	6G9	
	CK6	6H9	
	D1	5E3	
	D2	5F3	
	D4	5G3	
	D8	5G3	
FR	F1	5A8	
	F2	5B8	
	F4	5C8	
	F5	5D8	
FF	F10	5D8	
FF	F10'	5E8	
FR	OF	4E3	
FD	TP	4C3	

OPTION	RESISTOR DESIG	LOC	CODE
EZ	A	58C8	1/2 19RL
CU	B	13B2	18AF, 300
	CJ	68B	18AJ, 400
	CK	6D9	18AJ, 400
FA	CP	68Z	18AN,350

APP FIG 2

(SEE NOTE 102(5)PAR. 1)

RELAY DESIG	TN0			TN1			TN2			TN3			TN4								
CODE	U57			U57			U57			U57			U57								
OPTION	E			E			E			E			E								
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	10,9	M	13D6	10,9	M	13D6	10,9	M	13D6	10,9	M	13E6	10,9	M	13E6						
	8,7	M	13D6	8,7	M	13D6	8,7	M	13D6	8,7	M	13E6	8,7	M	13E6						
	6,5	M	13D6	6,5	M	13D6	6,5	M	13D6	6,5	M	13E6	6,5	M	13E6						
	4,3	M	13D6	4,3	M	13D6	4,3	M	13D6	4,3	M	13E6	4,3	M	13E6						
	2,1	M	13D6	2,1	M	13D6	2,1	M	13D6	2,1	M	13E6	2,1	M	13E6						
BOT.	2,1	M	13D6	2,1	M	13D6	2,1	M	13D6	2,1	M	13E6	2,1	M	13E6						
	4,3	M	13D6	4,3	M	13D6	4,3	M	13D6	4,3	M	13E6	4,3	M	13E6						
	6,5	M	13D6	6,5	M	13D6	6,5	M	13D6	6,5	M	13E6	6,5	M	13E6						
	8,7	M	13D6	8,7	M	13D6	8,7	M	13D6	8,7	M	13E6	8,7	M	13E6						
	10,9	M	13D6	10,9	M	13D6	10,9	M	13D6	10,9	M	13E6	10,9	M	13E6						
COIL			13A7			13A7			13A7			13A7			13A7						

DRAWING ISSUE 2010

SD-25016-01-C20

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ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C20

BELL TELEPHONE LABORATORIES INCORPORATED SIZE 6S

HIGGINS 4465 MYLAR

APP FIG 3

DESIG	[8] EAH2-9	[8] EAH2'-9'	[8] H2-9	[8] H2'-9'		
CODE	263D #	263D #	263D #	263D #		
OPTION	AW	AW	IA	MX		
CODE	287A	287A	287A	287A		
OPTION	HZ	HZ	IB	MY		
59	-	-	-	-		
58	-	-	-	-		
57	-	-	-	-		
56	-	-	-	-		
55	-	-	-	-		
49	13D8	13D8	13C8	13C9		
48	13D9	13D8	13C9	13C9		
47	13D9	13D9	13C9	13C9		
46	13D9	13D9	13C9	13C9		
45	13D9	13D9	13C9	13C9		
39	13D9	13D8	13C8	13C8		
38	13D9	13D8	13C9	13C9		
37	13D9	13D9	13C9	13C8		
36	13D9	13D9	13C9	13C9		
35	13D9	13D9	13C9	13C9		
29	13D9	13D9	13C9	13C9		
28	13D9	13D9	13C9	13C9		
27	13D8	13D9	13C9	13C9		
26	13D9	13D8	13C9	13C9		
25	13D8	13D8	13C9	13C8		
19	13D9	13D9	13C8	13C9		
18	13D9	13D9	13C9	13C9		
17	13D8	13D9	13C9	13C8		
16	13D8	13D9	13C9	13C9		
15	13D9	13D8	13C8	13C8		
9OR09	13D9	13D8	13C9	13C9		
8OR08	13D9	13D8	13C8	13C9		
7OR07	13D8	13D9	13C8	13C8		
6OR06	13D8	13C8	13C8	13C9		
5OR05	13D9	13D8	13C9	13C9		
COIL	11B0	11B0	11A0	11B0		
54	-	-	-	-		
53	-	-	-	-		
52	-	-	-	-		
51	-	-	-	-		
50	-	-	-	-		
44	13D9	13D9	13C9	13C9		
43	13D8	13D9	13C8	13C9		
42	13D8	13D9	13C9	13C9		
41	13D8	13D8	13C9	13C9		
40	13D8	13D9	13C9	13C9		
34	13D9	13D9	13C9	13C9		
33	13D8	13D8	13C9	13C8		
32	13D8	13D9	13C9	13C9		
31	13D9	13D9	13C9	13C8		
30	13D8	13D9	13C9	13C9		
24	13D8	13D9	13C9	13C8		
23	13D8	13D8	13C9	13C8		
22	13D9	13D8	13C8	13C8		
21	13D8	13D8	13C9	13C8		
20	13D9	13D9	13C9	13C9		
14	13D8	13D8	13C8	13C8		
13	13D9	13D8	13C8	13C8		
12	13D8	13D8	13C9	13C8		
11	13D9	13D8	13C9	13C8		
10	13D8	13D8	13C9	13C8		
4OR04	13D9	13D8	13C8	13C9		
3OR03	13D9	13D9	13C9	13C9		
2OR02	13D9	13D8	13C8	13C8		
1OR01	13D9	13D8	13C8	13C8		
0OR00	13D8	13D8	13C8	13C8		
COIL	11B0	11B0	11A0	11B0		

CODE 263D PROVIDES CONTACTS 0-49 ONLY

CAPACITOR

OPTION	DESIG	LOC	CODE
AW,HZ	[8]EAH2-9	11D2	441A
AW,HZ	[8]EAH2'-9'	11D2	
	[8]H2-9	11D0	
MX,MY	[8]H2'-9'	11D1	

RESISTOR

OPTION	DESIG	LOC	CODE
BE	M	11F1	18E,140
AY	M	11G1	18DH,700
AX	[8]H2-9	11E0	19RL

APP FIG 4

(SEE NOTE 1D2(b) PAR.1)

DESIG	S-		
CODE	263B #		
OPTION	IA		
CODE	287A		
OPTION	IB		
59	-		
58	-		
57	-		
56	-		
55	-		
49	-		
48	-		
47	-		
46	-		
45	-		
39	7B7		
38	7B7		
37	7B7		
36	7B7		
35	7B7		
29	7B7		
28	7B7		
27	7B7		
26	7B7		
25	7B7		
19	7B7		
18	7B7		
17	7B7		
16	7B7		
15	7B7		
9OR09	7B7		
8OR08	7B7		
7OR07	7B7		
6OR06	7B7		
5OR05	7B7		
COIL	7A1		
54	-		
53	-		
52	-		
51	-		
50	-		
44	-		
43	-		
42	-		
41	-		
40	-		
34	7B9		
33	7B8		
32	7B8		
31	7B9		
30	7B8		
24	7A8		
23	7A9		
22	7A8		
21	7A8		
20	7A9		
14	7A8		
13	7A9		
12	7A8		
11	7A9		
10	7A8		
4OR04	7A8		
3OR03	7A8		
2OR02	7A8		
1OR01	7A8		
0OR00	7A8		
COIL	7A1		

CODE 263B PROVIDES CONTACTS 0-39 ONLY

CAPACITOR

OPTION	DESIG	LOC	CODE
U	S-	7E3	441C
A	S-	7E3	
C	S-	7F2	
H	S-	7E2	

RESISTOR

OPTION	DESIG	LOC	CODE
U	S-	7F3	1/2 19KY
A	S-	7F2	18EJ,270
C	S-	7F2	1/2 19KY
H	S-	7F2	19E,140

DRAWING ISSUE
10ID CB

101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C2I

BELL TELEPHONE LABORATORIES INCORPORATED 6S

120-10-25016-03

APP FIG 5

(SEE NOTE 102(b) PAR.2)

DESIG	SP0A	GP1A	GP0B	GP1B		
CODE	263A	263A	263A	263A		
OPTION	IA	IA	IA	IA		
CODE	287A	297A	287A	287A		
OPTION	IB	IB	IB	IB		
59	56D7	56D7	56E8	56E8		
58	56D7	56D7	56E8	56E8		
57	56D7	56D7	56E8	56E8		
56	56D7	56D7	56E8	56E8		
55	56D7	56D7	56E8	56E8		
49	56F7	56F7	56G8	56G8		
48	56F7	56F7	56G8	56G8		
47	56F7	56F7	56G8	56G8		
46	56F7	56F7	56G8	56G8		
45	56F7	56F7	56G8	56G8		
39	56D7	56D7	56E8	56E8		
38	56D7	56D7	56E8	56E8		
37	56D7	56D7	56E8	56E8		
36	56D7	56D7	56E8	56E8		
35	56D7	56D7	56E8	56E8		
29	56F7	56F7	56G8	56G8		
28	56F7	56F7	56G8	56G8		
27	56F7	56F7	56G8	56G8		
26	56F7	56F7	56G8	56G8		
25	56F7	56F7	56G8	56G8		
19	56F4	56F4	56G5	56G5		
18	56F4	56F4	56G5	56G5		
17	56F4	56F4	56G5	56G5		
16	56F4	56F4	56G5	56G5		
15	56F4	56F4	56G5	56G5		
9 OR 09	56D4	56D4	56E5	56E5		
8 OR 08	56D4	56D4	56E5	56E5		
7 OR 07	56D4	56D4	56E5	56E5		
6 OR 06	56D4	56D4	56E5	56E5		
5 OR 05	56D4	56D4	56E5	56E5		
COIL	56A3	56B3	56B3	56C3		
54	56F4	56F4	56G5	56G5		
53	56F4	56F4	56G5	56G5		
52	56F4	56F4	56G5	56G5		
51	56F4	56F4	56G5	56G5		
50	56F4	56F4	56G5	56G5		
44	56D4	56D4	56E5	56E5		
43	56D4	56D4	56E5	56E5		
42	56D4	56D4	56E5	56E5		
41	56D4	56D4	56E5	56E5		
40	56D4	56D4	56E5	56E5		
34	56D7	56D7	56E8	56E8		
33	56D7	56D7	56E8	56E8		
32	56D7	56D7	56E8	56E8		
31	56D7	56D7	56E8	56E8		
30	56D7	56D7	56E8	56E8		
24	56F7	56F7	56G8	56G8		
23	56F7	56F7	56G8	56G8		
22	56F7	56F7	56G8	56G8		
21	56F7	56F7	56G8	56G8		
20	56F7	56F7	56G8	56G8		
14	56F4	56F4	56G5	56G5		
13	56F4	56F4	56G5	56G5		
12	56F4	56F4	56G5	56G5		
11	56F4	56F4	56G5	56G5		
10	56F4	56F4	56G5	56G5		
4 OR 04	56D4	56D4	56E5	56E5		
3 OR 03	56D4	56D4	56E5	56E5		
2 OR 02	56D4	56D4	56E5	56E5		
1 OR 01	56D4	56D4	56E5	56E5		
0 OR 00	56D4	56D4	56E5	56E5		
COIL	56A3	56B3	56B3	56C3		

CAPACITOR

OPTION	DESIG	LOC	CODE
8D,FA	GP0A	56A4	441A
	GP1A	56B4	
	GP0B	56C4	
	GP1B	56D4	

NETWORK

OPTION	DESIG	LOC	CODE
FB	GP0A	56A4	1/2 177A
	GP1A	56B4	
	GP0B	56C4	
	GP1B	56D4	

RESISTOR

OPTION	DESIG	LOC	CODE
8D	GP0,1	56B4	198L
FA	GP0,1	56B4	198F

APP FIG 6

RELAY

DESIG	G1			G2			G3			G4								
CODE	U535			U535			U535			U535								
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	B	35F6	12,11	B	35F6	12,11	B	35F6	12,11	B	35F6						
	10,9	B	35F6	10,9	B	35F6	10,9	B	35F6	10,9	B	35F6						
	8,7	B	35E6	8,7	B	35E6	8,7	B	35E6	8,7	B	35E6						
	6,5	B	58B8	6,5	B	58B8	6,5	B	58B8	6,5	B	58B8						
	4,3	B	58B8	4,3	B	58B8	4,3	B	58B8	4,3	B	58B8						
	2,1	B	31B5	2,1	B	31A5	2,1	B	31A5	2,1	B	31A5						
BOT.	2,1,3	MB	59C2	2,1,3	MB	59C2	2,1,3	MB	59C2	2,1,3	MB	59C2						
	5,4	B	59G8	5,4	B	59G8	5,4	B	59G8	5,4	B	59G8						
	7,6	M	59E7	7,6	M	59E7	7,6	M	59E7	7,6	M	59E7						
	9,8	B	30G1	9,8	B	30G1	9,8	B	30G1	9,8	B	30G1						
	11,10	M	59B1	11,10	M	-	11,10	M	-	11,10	M	-						
COIL			59D0			59D0			59D0			59D0						

RELAY

DESIG	GS1-4			T51			TB2			TB3			TB4					
CODE	U241			U6037			U6037			U6037			U6037					
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	9,7	M	59D8,D8															
	6,5	B	58C8	7,6	M	59B1	7,6	M	59B1	7,6	M	59B1	7,6	M	59B1			
	4,3	B	58C8	5,4,3	BM	59G8	5,4,3	BM	59G8	5,4,3	BM	59G8	5,4,3	BM	59G8			
	2,1	B	59B2	2,1	B	59E7	2,1	B	59E7	2,1	B	59E7	2,1	B	59E7			
BOT.	2,1	B	58C9	2,1	M-M	59D2	2,1	M-M	59D2	2,1	M-M	59D2	2,1	M-M	59D2			
	4,3	B	58D9	4,3		30H0	4,3		30H0	4,3		30H0	4,3		30H0			
	6,5	B	58A8															
COIL			59E0			30G0			30G0			30G0			30G0			

NETWORK

OPTION	DESIG	LOC	CODE
FB	G1-4	59D0	185A
	GS1	59E0	
	GS2-4	59F0	
	[4] TB1-4	59E6	1/2 177A
CS	[4] TBA-D	30G0	1/2 177M

RESISTOR

OPTION	DESIG	LOC	CODE
FB	[4] TB1-4	59E6	KS-19150,L1,51K

APP FIG 7

	TRK BLOCK 1-4	TRK BLOCK 5		
DESIG	R-	R-		
CODE	245C,263C	245C,263C		
OPTION	IA	IA		
CODE	287A	287A		
OPTION	IB	IB		
59				
58				
57				
56				
55				
49				
48				
47				
46				
45				
39				
38				
37				
36				
35				
29	30B2	30B6		
28	30B2	30B6		
27	30B2	30B6		
26	30B2	30B6		
25	30B2	30B6		
19	30B2	30B6		
18	30B2	30D6		
17	30B2	30D6		
16	30B2	30D6		
15	30B2	30D6		
9 OR 09	30B2	30D6		
8 OR 08	30B2	30D6		
7 OR 07	30F2	30F6		
6 OR 06	30F2	30F6		
5 OR 05	30F2	30F6		
COIL	30A2	30A6		
54				
53				
52				
51				
50				
44				
43				
42				
41				
40				
34				
33				
32				
31				
30				
24	30B2	30B6		
23	30B2	30B6		
22	30B2	30B6		
21	30B2	30B6		
20	30B2	30B6		
14	30B2	30B6		
13	30B2	30D6		
12	30B2	30D6		
11	30B2	30D6		
10	30B2	30D6		
4 OR 04	30B2	30D6		
3 OR 03	30B2	30D6		
2 OR 02	30F2	30F6		
1 OR 01	30F2	30F6		
0 OR 00	30F2	30F6		
COIL	30A2	30A6		

DRAWING ISSUE

HOLD

SD-25016-01-C22

101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C22

BELL TELEPHONE LABORATORIES INCORPORATED 6S

PART OF APP FIG 8

RELAY DESIG	DK			DL			DL			DMT			DR			KP1			NC		
CODE	U6030			Y63			Y174			U183			U154			U460			U483		
OPTION				BQ			BR									AL			CW		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP										10,9,8	BM	35F2									
										7,6,5	BM	67D2									
	5,4	!	35D7				6,5,4	BM	66A1	4,3	B	9G6				5,4	M	35G6			
	3,2,1	BM	63B2	2,1	M	66A1	2,1,3	MC	46G1	2,1	B	59F6	2,1	M	19F7	3,2,1	BM	33A0	2,1	M	1F7
BOT.	3,2,1	BM	29E1	2,1	M	36G1	3,2,1	BM	36G1	2,1	B	36G1	2,1	M	-	3,2,1	BM	9A6			
	5,4	M	63F1				5,4	M	36A7	5,4,3	BM	54G6				5,4	M	1B1			
										8,7,6	BM	36E7									
										10,9	M	66A1									
COIL			29C7			36A6			36A6			67C2			19F7			1A1			1F9

RELAY DESIG	NC			NC1			NC1			OF1			OT			OT1			OV		
CODE	U1249			U542			U530			U914			U482			U460			U482		
OPTION	CX			JH			JI														
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP										9,8	M	59H9									
							7,6	M	-	7,6	M	1CF1									
	4,3	M	-	5,4	M	35G4	5,4	M	35G4	5,4	M	23A9				5,4	M	1G1			
	2,1	M	1F7	3,2,1	BM	2D2	3,2,1	BM	2D2	2,1,3	MB	36C1	3,2,1	BM	1G4	3,2,1	BM	52C2	3,2,1	BM	1G6
BOT.	2,1	M	34F1	3,2,1	BM	45E5	3,2,1	BM	45E5	2,1	B	36F3	2,1	M	34F1	3,2,1	BM	52D2	2,1	M	23C9
							5,4	M	52C0	4,3	B	59F9				5,4	M	35G4			
							7,6	M	-	6,5	M	54G2									
										8,7	M	29F6									
COIL			1F9			2D1			2D1			1CE1			3231			1G1			1D9

RELAY DESIG	PS			RL			RL1			RP1			RP1			RX			SDT		
CODE	U482			U660			U103C			U480			U980			U59			U833		
OPTION							J			D			HQ								
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																12,11	M	67F2			
																10,9	B	52E1	12,11	M	64B7
				9,8	M	-										8,7	B	39C3	10,9,8	BM	36B2
				7,6	M	-							7,6	M	-	6,5	B	46D1	7,6	M	67B4
				5,4	M	54F3	4,3	M-M	36E7				5,4	M	50B1	4,3	B	55F1	5,4	B	35F2
	3,2,1	BM	2A4	3,2,1	BM	29F7	2,1	M-M	36D6	3,2,1	BM	45E4	3,2,1	BM	45E4	2,1	B	55C1	2,1,3	MB	67E1
BOT.	2,1	M	54B3	3,2,1	BM	29D7				2,1	M	50C1	2,1	B	50B1	2,1	B	62D2	2,1	B	31A5
				5,4	M	54G2				4,3	M	2C2	4,3	M	2C2	4,3	B	38E3	4,3	B	36B7
			-	7,6	M	-							6,5	M	35G6	6,5	B	39D3	7,6,5	BM	67E2
																9,7	B	62F2	10,9,8	BM	29E1
																10,9	B	36G3			
																12,11	M	54F3			
COIL			55A7			36D6			36D6			2C1			2C1			67F1			67B1

RELAY DESIG	SDTA			SR			ST1			ST3			ST4			ST5			TC		
CODE	U270			U1215			U144			U496			U59			U59			U483		
OPTION																			EE		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP							12,11	M	41A0				12,11	M	36G3	12,11	M	36G9			
				11,10	M	35A3	10,9	M	50C9	10,9	M	35G1	10,9	B	35F5	10,9	B	1CE2			
				9,8	M	9F6	8,7	M	1A9	8,7	B	36G2	8,7	B	35F5	8,7	B	59C4			
	6,5	M	67A4	7,6	M	29F5	6,5	M	37D9	6,5	B	36A3	6,5	B	35E5	6,5	B	59D4			
	4,3	M	-	5,4	M	36A3	4,3	M	51C3	4,3	B	67A4	4,3	B	39B4	4,3	B	1A7			
	2,1	M	55F9	3,2,1	MM	35D1	2,1	M	63C7	2,1	B	36A7	2,1	B	59F4	2,1	B	1B7	2,1	M	1E6
BOT.	2,1	B	36G1	2,1	M	a	2,1	M	49G9	2,1	B	31A2	2,1	B	2B2	2,1	B	36A2			
	4,3	M	55D9	4,3	M	35C3	4,3	M	35C4	4,3	B	29F1	4,3	B	9A6	4,3	B	36H2			
				6,5	M	31B2	6,5	M	31A1	7,6,5	BM	36F2	6,5	B	37D7	6,5	B	29C9			
				8,7	M	54G2	8,7	M	31D2	9,8	M	35D3	8,7	B	1CE2	8,7	B	29E1			
				10,9	M	35A5	10,9	M	35B3				10,9	B	1A7	10,9	B	9F6			
							12,11	M	9A8				12,11	M	4H3	12,11	M	35G1			
COIL			67A3			35A0			35B0			35D0			35D0			35G0			52G1

(MZ) 29A4
a
(NA) 46C5

RELAY DESIG	TC			TC1			TCK			TIB						[10] TL0-9			[5] TL10-14		
CODE	U482			U541			U440			U626						U521			U521		
OPTION	EF,AT			FI															AH		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP										10,9	M	36G5									
										8,7,6	BM	36C9									
										5,4,3	BM	36D9				5,4	M	39B4	5,4	M	33B4
	3,2,1	BM	1F6	3,2,1	BM	52B1	3,2,1	BM	45F5	2,1	B	66B2				3,2,1	BM	39C4	3,2,1	BM	39E4
BOT.	2,1	M	-	2,1	M	35G5	3,2,1	BM	45E5	3,2,1	BM	36G4				3,2,1	BM	39D3	3,2,1	BM	39F3
				4,3	M	1F1				5,4	M	36D7				5,4	M	54G2	5,4	M	54G3
										7,6	M	55E9									
COIL			52G1			1E1			55C7			55E7						39B3			39B3

RELAY DESIG	TM1			TM4			TM5			TM6			TM7			TM8			TM8A		
CODE	U119			U113			U132			U265			U333			U6072			U6072		
OPTION																					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP													10,9	M	64G1						
	7,6	M	63H5										8,7,6	BM	36G3						
	5,4	M	63E5										5,4,3	BM	-	4,3	M	64A2	4,3	M	64C2
	3,2,1	BM	63B5	3,2,1	BM	63D5	3,2,1	BM	63E5	3,2,1	BM	63D6	2,1	B	31A2	2,1	B	64C2	2,1	B	64B2
BOT.	2,1	M	67E2	2,1	M	63F5	2,1	B	63B5	2,1	M	36C9	2,1	B	29F5	2,1	M	64D1	2,1	M	64D1
	4,3	M	36B6				4,3	M	63G5	4,3	M	63G5	5,4,3	BM	a						
	6,5	M	63D5										8,7,6	BM	36H2						
													10,9	M	63H6						
COIL			63D4			63E4			63F4			63G4			63H4			64B0			64C0

a 36D7
36G5

ISSUE 107A

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C23

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25016-01-C23

HIGGINS 4465

PART OF APP FIG 8

RELAY DESIG	TM8B			TM8C			TM9			TM10			TMS1			TMS2			TMS2		
CODE	U113			U113			U333			U207			U129			U129			U985		
OPTION																BD			BE		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
							10,9	M	64F1												
							8,7,6	BM	36H4	6,5	M	54F4									
							5,4,3	BM	54G4	4,3	M	64G3	5,4,3	BM	3686	5,4,3	BM	63F4	5,4,3	BM	63F5
	3,2,1	BM	64B3	3,2,1	BM	64C4	2,1	B	31A2	2,1	M	64H3	2,1	B	63E3	2,1	B	63B3	2,1	B	63B3
BOT.	2,1	M	64D2	2,1	M	64E2	2,1	B	29F4	2,1	M	36H2	3,2,1	MM	63B3	3,2,1	MM	63C2	3,2,1	MM	63C2
							5,4,3	BM	35G1	4,3	M	64H3	5,4	M	63D5	5,4	M	36A7	5,4	M	36A7
							8,7,6	BM	36H1	6,5	M	64G3									
							10,9	M	-												
COIL			64D0			64E0			64F0			64F0			63B0			63E0			63E0

RELAY DESIG	TMW			TMW						TMZ			TP1			TP1			TPK		
CODE	U519			U1210						U326			U262			U417			U365		
OPTION	CP			CQ									E			HQ			DC		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
																11,10	M	52D0			
													9,8	M	52D0	9,8,7	BM	52C0			
													7,6,5	BM	52C0	6,5	B	5CC1			
										5,4,3	BM	63B6	4,3	B	45E4	4,3	B	45E4			
	3,2,1	BM	63B6	3,2,1	BM	63B6				2,1	B	63E6	2,1	B	2C2	2,1	B	2C2	3,2,1	BM	45E4
BOT.	2,1,3	MB	63A2	2,1,3	MB	63A2				3,2,1	BM	63A1	2,1	M	45E4	2,1	M	45E4			
													5,4,3	BM	35G6	4,3	M	35G6			
													7,6	M	2C2	6,5	M	2C2			
																8,7	M	5CD2			
																10,9	M	51C9			
COIL			63A1			63A1						63A1			2B1			2B1			52FC

RELAY DESIG	TPK			TR			XC			XDC			XDC			XDF			XOF		
CODE	U1239			U198			S65			U329			U1235			S65			S65		
OPTION	DD									CY			CZ								
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
				12,11	M	66B1															
				10,9,8	BM	a															
				7,6	M	67E2															
				5,4	M	55E9				4,3	M	29C2	4,3	M	29C2						
	3,2,1	BM	45E4	2,1,3	MB	36G4	3,2,1	BM	61C5	2,1	M	29D2	2,1	M	29D2	3,2,1	BM	9G6	3,2,1	BM	61C5
BOT				2,1,3	MB	36A5				2,1	M	61B6	2,1	M	61B6						
				5,4	M	36D7															
				7,6	M	55F9															
				10,9,8	BM	36G2															
				12,11	M	66B2															
COIL			52FC			66AC			1A0			29D2			29D2			9A1			31D1

a	
	36E5
	64B7

RELAY DESIG	XRL			XTC			XTL			XTL1			XTL1			XTL2			XTL2		
CODE	U946			U368			S65			U537			U1255			U537			U1255		
OPTION										DA			DB			DA			DB		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
	5,4	M	64B6							4,3	M	31E4	4,3	M	31E4	4,3	M	31F4	4,3	M	31F4
	2,1,3	MB	9A8	2,1	M	61B6	3,2,1	BM	61C5	2,1	M	61B9	2,1	M	61B9	2,1	M	61B9	2,1	M	61B9
BOT.	2,1	M	36A9	2,1	M	52E2				2,1	M	39D3	2,1	M	39D3	2,1	M	39E2	2,1	M	39E2
	4,3	M	36E1																		
COIL			36F0			52E1			39B2			39C2			39C2			39D2			39D2

RELAY DESIG	XTL3			XTL3			XX1			XX2			XZ			XZS			ZL		
CODE	U537			U1255			U218			U93			U368			U368			U440		
OPTION	EJ			EK									FI			FI			AR		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP										12,11	M	64B6									
										10,9	M	36B9									
										8,7	M	-									
							6,5	M	64B6	6,5	B	36G9									
	4,3	M	31F4	4,3	M	31F4	4,3	M	36B9	4,3	B	54F6									
	2,1	M	61B9	2,1	M	61B9	2,1	B	36G9	2,1	B	44D5	2,1	M	61B5	2,1	M	61B5	3,2,1	BM	55D2
BOT.	2,1	M	39F2	2,1	M	39F2	2,1	B	36A6	2,1	B	44E8	2,1	M	55C	2,1	M	55F1	3,2,1	BM	55D3
							4,3	M	61B1	4,3	B	36A5									
										7,6,5	BM	29A3									
										9,8	M	39C3									
COIL			39E2			39E2			61B0			61B4			55C0			55F0			55B0

RELAY DESIG	ZL			ZL			ZO			ZO			DK'			ST1'			ZL		
CODE	U365			U1239			U460			U173			313A			313A			U735		
OPTION	DE			DF			AQ			AR			NA			NA			NE		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
										7,6	M	45F5									
							5,4	M	45F5	5,4,3	BM	52B1	5,3,10	BM	29E1	5,3,10	BM	37E8			
	3,2,1	BM	55D2	3,2,1	BM	55D2	3,2,1	BM	52B1	2,1	B	55D3	4,8,9	BM	29F8	4,8,9	BM	31A1	3,2,1	BM	55D2
BOT							3,2,1	BM	55D2	3,2,1	BM	55D2							3,2,1	BM	
							5,4	M	35G4	5,4	M	35G4									
										7,6	M	55F2									
COIL			55B0			55B0			55E0			55E0			29B7			35A1			55B0

ISSUE 107

ORIGINATING MARKER CIRCUIT

(2) SD-25016-01-C24

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25016-01-C24

PART OF APP FIG 8

RELAY DESIG / CODE / OPTION	CONT NO.	CONT ARR	LOC
TOP			
BOT.			
COIL			

RELAY DESIG / CODE / OPTION	CONT NO.	CONT ARR	LOC
TOP			
BOT.			
COIL			

CAPACITOR

OPTION	DESIG	LOC	CODE
CU	CG	46C3	441B
	CH	50F8	
	CS	35H1	
	CU	63C0	
	CW	63E0	
	F1	35E4	
	F2	35E4	
BD,FA	G1	1D3	441A
	G2	37D8	
	M1	59B3	
	M2	59C3	

NETWORK

OPTION	DESIG	LOC	CODE
CV	CG	46D4	1/2 177H
	CH	50E8	
	CU	63C0	
	CW	63E0	
CT	DA	59G7	1/2 177C
CT	DK	29C7	185A
	EA	29A3	1/2 177C
FN	KP1	1A1	185A
FB	NC1	2D1	
FB	OF1	10F1	
FP	OT1	1G1	
FG	RP1	2C1	
CV	RX	67F1	1/2 177C
	SR	35A0	185A
	ST1	35B0	
	ST3	35D0	
	ST4	35E0	1/2 177H

NETWORK

OPTION	DESIG	LOC	CODE
CV	ST5	35H0	185A
FN	TC1	1F1	
LM	TIB	55E7	
CT	TM1	63D4	
CT	TM4	63E4	
FG	TP1	2C1	
FB	XC	1A0	
CT	X0F	31E1	
LM	XX2	6184	

RESISTOR

OPTION	DESIG	LOC	CODE
	AA	31A1	18AG,226
	AF	63A0	19DY
	AG	66B1	18AG,226
	BG	38G2	19DY
CU	CH	50F8	18AJ,400
CU	CG	46C3	18AJ,400
CU	CS	35H1	18DH,700
CU	CU	63C0	18BH,1K
CU	CW	63E0	18BH,1K
CU	F	35E4	1/2 19EY
BD	G	1D3	19CY
FA	G	1D3	19AJ
FA	M	59C3	1/2 19AJ
BD	M	59C3	1/2 19EY
NC	TCK	55C7	KS-19150-L3,220K
	[10] TL0-9	3803,E3	19LE
AH	[5] TL10-14	38F3	19LE
NC	TPK	52F0	KS-19150-L3,220K

DRAWING ISSUE 107A

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C25

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-C1-C25

HIGGINS 4465

APP FIG 9

(SEE NOTE 102(b) PAR.3)

RELAY									
DESIG	G0A-11A								
CODE	U65								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	57E1						
	10,9	M	57E1						
	8,7	M	57E1						
	6,5	M	57E1						
	4,3	M	57E1						
	2,1	M	57E1						
BOT.	2,1	M	57E1						
	4,3	M	57E1						
	6,5	M	57E1						
	8,7	M	57E1						
	10,9	M	57E1						
	12,11	M	57E1						
COIL			57A0						

APP FIG 9A

(SEE NOTE 102(b) PAR.3)

RELAY									
DESIG	G0B-11B								
CODE	U65								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	57E4						
	10,9	M	57E4						
	8,7	M	57E4						
	6,5	M	57E4						
	4,3	M	57E4						
	2,1	M	57E4						
BOT.	2,1	M	57E4						
	4,3	M	57E4						
	6,5	M	57E4						
	8,7	M	57E4						
	10,9	M	57E4						
	12,11	M	57E4						
COIL			57A0						

APP FIG 9B

(SEE NOTE 102(b) PAR.3)

RELAY									
DESIG	G0C-11C								
CODE	U65								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	57E7						
	10,9	M	57E7						
	8,7	M	57E7						
	6,5	M	57E7						
	4,3	M	57E7						
	2,1	M	57E7						
BOT.	2,1	M	57E7						
	4,3	M	57E7						
	6,5	M	57E7						
	8,7	M	57E7						
	10,9	M	57E7						
	12,11	M	57E7						
COIL			57B0						

APP FIG 10

RELAY									
DESIG	0-								
CODE	U495								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	31C2						
	10,9	M	35A7						
	8,7	M	43F2						
	6,5	M	43B2						
	4,3	M	62A2						
	2,1	M	43H2						
BOT.	2,1	M	43E2						
	4,3	M	43B2						
	6,5	M	43E2						
	8,7	M	43A2						
	10,9	M	43E2						
	12,11	M	43A2						
COIL			31D3						

NETWORK

OPTION	DESIG	LOC	CODE
CT	0-	31E3	185A
CT	0S	31D2	1/2 177H

APP FIG 11

WIRING ONLY

APP FIG 12

RELAY									
DESIG	0F-								
CODE	U136								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	10,9	M	65E7						
	8,7	M	9A2						
	6,5	M	54H3						
	4,3	M	9F6						
	2,1	M	29H3						
BOT.	2,1	M	43G2						
	4,3	M	43C2						
	6,5	M	43Q2						
	8,7	M	43D2						
COIL			9A1						

NETWORK

OPTION	DESIG	LOC	CODE
CT	0F-	981	1/2 177C

DRAWING ISSUE NO. 2

101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C26

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-C28

HIGGINS 4465

PART OF APP FIG 13

RELAY DESIG	[illegible]91			ARI			DTI			DTI					
CODE	U254			U457			U6030			U6097					
OPTION	JC			JD			HR			HS					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP										9,8	M	-			
				8,7	M	10C3				7,6	M	34E6			
	5,4	M	10C3	6,5,4	BM	63C5	5,4	M	64B7	5,4	M	64B7			
	3,2,1	BM	29H2	3,2,1	BM	29H2	3,2,1	BM	50A6	3,2,1	BM	50A6			
BOT.	3,2,1	BM	29H2	2,1	B	-	3,2,1	BM	45A4	2,1	B	54A4			
	5,4	M	37F8	5,4,3	BM	29H2	5,4	M	50E6	4,3	M	50E6			
				7,6	M	37F8				6,5	M	-			
										8,7	M	-			
COIL			10B1			10B1			50C5			50C5			50E5

RELAY DESIG	GSE			NSE			NSE			NSO		
CODE	U460			U516			U1209			U516		
OPTION	GN			CP			CQ					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				6,5	M	37C7	6,5	M	37C7	6,5	M	37C7
	5,4	M	41A1	4,3	B	-	4,3	B	-	4,3	B	-
	3,2,1	BM	39F3	2,1	B	37C7	2,1	B	37C7	2,1	B	37C7
BOT	3,2,1	BM	[illegible]C0	2,1	B	37F6	2,1	B	37F6	2,1	B	37F6
	5,4	M	41A0	4,3	M	37F7	4,3	M	37F7	4,3	M	37F7
				6,5	M	58F3	6,5	M	58F3	6,5	M	29A4
COIL			52G8			37C1			37C1			37C1

RELAY DESIG	PT			PT			SPE			SPO			STX			TEL					
CODE	239FC			280A			U516			U516			U183			U6049					
OPTION	GE			GF																	
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC
TOP													10,9,8	BM	47F3						
							6,5	M	37C7	6,5	M	37C7	7,6,5	BM	44B1	8,7	M	49D9			
							4,3	B	46D2	4,3	B	46D2	4,3	B	47F3	6,5,4	BM	43C7			
	4,7,3	BM	37A7	4,7,3	BM	37A7	2,1	B	37C7	2,1	B	37C7	2,1	B	61B2	2,1,3	MB	29F3			
BOT							2,1	B	37G6	2,1	B	37F6	2,1	B	39G2	2,1,3	MB	41H0			
							4,3	M	47A8	4,3	M	58G3	5,4,3	BM	39G3	5,4	B	23A8			
							6,5	M	37F7	6,5	M	37G7	8,7,6	BM	9F5	7,6	M	29G3			
													10,[illegible]	M	41D0						
COIL			37B7			37B7			37B1			37B1			67F1			29F2			41G9

RELAY DESIG	XBE			XBO			XDF1			XDF1			XDF1			XGE			XGS		
CODE	U387			U387			U987			U1275			U1275			S65			S65		
OPTION							EI			ES			GB								
	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	5,4	M	37G5	5,4	M	37F5				4,3	M	-	4,3	M	-						
	3,2,1	BM	37D6	3,2,1	BM	37D6	2,1	M	9G3	2,1	M	9G3	2,1	M	9G3	3,2,1	BM	61E5	3,2,1	BM	61E5
BOT.	2,1	M	37F2	2,1	M	37E2	2,1	M	36B7	2,1	M	36B7	2,1	M	36B7						
	4,3	M	54G4	4,3	M	54G4															
COIL			37G5			37F5			9F3			9F3			9F3			40E6			40D6

RELAY DESIG	XK			XLC			XLC			XLC1			XLC1			XS			XS1		
CODE	U368			J537			U1255			U537			U1255			U260			U368		
OPTION				FU			FV			FU			FV								
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				4,3	M	61B7	4,3	M	61B7	4,3	M	61B7	4,3	M	61B7	5,4	M	45G3			
	2,1	M	61B7	2,1	M	61C6	2,1	M	61C6	2,1	M	61B6	2,1	M	61B6	3,2,1	BM	61B6	2,1	M	61B7
BOT.	2,1	M	47E3	2,1	M	42F5	2,1	M	42F5	2,1	M	42G4	2,1	M	62G4	2,1	B	36F8	2,1	M	39G3
																4,3	M	45B4			
COIL			47E2			42E4			42E4			42G4			42G4			45B4			39G3

RELAY DESIG	XSS		
CODE	S10		
OPTION			
	CONT NO	CONT ARR	LOC
TOP	3,2,1	BM	61F5
COIL			46F0

DRAWING ISSUE	
101D	CB
102D	CB

102

ORIGINATING MARKER CIRCUIT

2

SD-25016-01-C27

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25016-01-C27

HIGGINS 4406

PART OF APP FIG 13

RELAY

DESIG	BD
CODE	264A
OPTION	IC
CODE	288A
OPTION	ID
59	-
58	-
57	-
56	-
55	-
49	-
48	-
47	37C2
46	3782
45	4966
39	3905
38	3907
37	3905
36	3904
35	3905
29	3904
28	3905
27	3904
26	3902
25	3904
19	3908
18	3904
17	3905
16	3904
15	3905
9 OR 09	3904
8 OR 08	3905
7 OR 07	3904
6 OR 06	3905
5 OR 05	3901
COIL	37D1
DESIG	BE
54	-
53	-
52	-
51	-
50	-
44	-
43	-
42	3781
41	37C1
40	4966
34	3905
33	3907
32	3905
31	3904
30	3905
24	3904
23	3905
22	3904
21	3902
20	3904
14	3908
13	3904
12	3905
11	3904
10	3905
4 OR 04	3904
3 OR 03	3905
2 OR 02	3904
1 OR 01	3905
0 OR 00	3901
COIL	37F1

CAPACITOR

OPTION	DESIG	LOC	CODE
CU	CA	42F2	441A
	CB	4202	
	CD	4307	
	CF	9F5	441B
FA	CL	50C6	
CU	J	2962	
FA,BD	K1	37E1	1/2 441C
	K2	37F1	
	PT(PT.1)	3788	[3] 437QA
	PT(PT.2)		
	PT(PT.3)		

NETWORK

OPTION	DESIG	LOC	CODE
FB	AR1	10C1	185A
CV	CD	43C8	1/2 177H
	CF	9F5	1/2 177H
FB	CL	50C5	1/2 177C
CV	J	2962	1/2 177C
FB	K1	37D1	1/2 177H
	K2	37F1	1/2 177H
	KE	41F0	1/2 177A
GO	NSE	37C1	185A
	NSO	37D1	185A
	SPE	3781	185A
	SPO	37C1	185A
CV	STX	67F1	1/2 177C

RESISTOR

OPTION	DESIG	LOC	CODE
AI	BA	3786	13CR,2K
AO	BA	3786	18MM,1K
CA	BA	3786	19JW
NM	BA	3786	19WT
AI	BB	3786	180A,151G
AO	BB	3786	188N,340
CA	BB	3786	19CN
NM	BB	3786	19GT
AI	BF	3788	188M,1K
AO,CA	BF	3788	18G,200
EI	BN	9F4	18EC,6K
ES	BN	9E4	18CR,2K
GB	BN	9F4	19YN
ES	BN1	9E4	18CR,2K
CU	CD	43C7	18G,200
CU	CF	9G5	18CK,440
FA	CL	50D6	180H,700
CU	J	2962	19RL
FA	K	37E1	19CG
BD	K	37E1	19KY
	[10] LCO-9	4287-G7	19LE

APP FIG 13A

(SEE NOTE 102(b) PAR.4)

RELAY

DESIG	DT2		
CODE	U536		
OPTION	MZ		
	CONT NO.	CONT ARR	LOC
TOP			
	3,2,1	BM	50C7
BOT			
COIL			37H5

RELAY

DESIG	DT2			
CODE	AG35			
OPTION	NA			
	CONT ARR	LOC	CONT ARR	LOC
12	M			
11				
10	M			
9				
8	B			
7				
6	B	50D8		
5				
4	M	50G7		
3		-		
2	M	37H4		
1				
COIL		37H4		

NETWORK

OPTION	DESIG	LOC	CODE
CT	DT2	37H4,H5	185A

RESISTOR

OPTION	DESIG	LOC	CODE
NA	DT2	37H3	KS-19151,L1, ~~1.44Ω~~ 1.5K

APP FIG 13B

(SEE NOTE 102(b) PAR.4)

RELAY

DESIG	DT2								
CODE	U6044								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
	3,2,1	BM	50C7						
BOT									
COIL			37H5						

NETWORK

OPTION	DESIG	LOC	CODE
CT	DT2	37H5	185A

APP FIG 13C (MFR DISC)

RELAY

DESIG	DT3								
CODE	U460								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
	3,2,1	BM	44F8						
	2,1	M	36F8						
BOT	4,3	M	50E6						
COIL			50E5						

APP FIG 13D

RELAY

DESIG	DT3								
CODE	U159								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
	7,6,5	BM	36F8						
	4,3	B	44F9						
	2,1	B	44E9						
BOT	2,1	B	44E7						
	5,4,3	BM	50E6						
COIL			50E5						

SD-25016-01-C28

ISSUE 107A

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C28

BELL TELEPHONE LABORATORIES INCORPORATED 6S

PART OF APP FIG 14

RELAY DESIG	CODE	OPTION	SPRING	CONT NO.	CONT ARR	LOC
CL0	U508	DI	TOP	2,1	M	33C5
CL0	U508	DI	COIL			20A7
CL0	U1251	DJ	TOP	4,3	M	33C5
CL0	U1251	DJ	TOP	2,1	B	-
CL0	U1251	DJ	BOT.	2,1	M	-
CL0	U1251	DJ	COIL			20A7
CL1	U511		TOP	3,2,1	BM	23C4
CL1	U511		BOT.	2,1	M	33C6
CL1	U511		COIL			20B7
CL2	U513		TOP	6,5,4	BM	23B4
CL2	U513		TOP	3,2,1	BM	23C4
CL2	U513		BOT.	3,2,1	BM	23E4
CL2	U513		COIL			20B7
CL3	U512		TOP	5,4	M	33B6
CL3	U512		TOP	3,2,1	BM	23B4
CL3	U512		BOT.	3,2,1	BM	23E4
CL3	U512		COIL			20C7
CL4	U511		TOP	3,2,1	BM	23B3
CL4	U511		BOT.	2,1	M	33C6
CL4	U511		COIL			20D7
CL5	U513		TOP	6,5,4	BM	23B3
CL5	U513		TOP	3,2,1	BM	23E3
CL5	U513		BOT.	3,2,1	BM	23D3
CL5	U513		COIL			20E7

RELAY DESIG	CODE	OPTION	SPRING	CONT NO.	CONT ARR	LOC
CL6	U512		TOP	5,4	M	33B6
CL6	U512		TOP	3,2,1	BM	23B3
CL6	U512		BOT.	3,2,1	BM	23C3
CL6	U512		COIL			20F7
CL7	U513	AU	TOP	6,5,4	BM	23B2
CL7	U513	AU	TOP	3,2,1	BM	23E2
CL7	U513	AU	BOT.	3,2,1	BM	23D3
CL7	U513	AU	COIL			20F7
CLA	U528	DK	TOP	2,1	M	33B4
CLA	U528	DK	COIL			23A6
CLA	UA69	DL, HM	TOP	2,1	M	33B4
CLA	UA69	DL, HM	BOT.	2,1	M	33B5
CLA	UA69	DL, HM	COIL			23A6
CLB	U529	DM	TOP	2,1	M	33A5
CLB	U529	DM	COIL			23B6
CLB	UA72	DN	TOP	3,2,1	BM	33A5
CLB	UA72	DN	BOT.	2,1	M	-
CLB	UA72	DN	COIL			23B6
CLC	U529	DM	TOP	2,1	M	33A6
CLC	U529	DM	COIL			23C6

RELAY DESIG	CODE	OPTION	SPRING	CONT NO.	CONT ARR	LOC
CLC	UA72	DN	TOP	3,2,1	BM	33A6
CLC	UA72	DN	BOT	2,1	M	-
CLC	UA72	DN	COIL			23C6
CLD	U529	DM	TOP	2,1	M	33A6
CLD	U529	DM	COIL			23E6
CLD	UA72	DN	TOP	3,2,1	BM	33A6
CLD	UA72	DN	BOT	2,1	M	-
CLD	UA72	DN	COIL			23E6
CLP	U510		TOP	3,2,1	BM	23A5
CLP	U510		BOT	2,1	M	2F6
CLP	U510		COIL			20A8
CLS	U510		TOP	3,2,1	BM	33A4
CLS	U510		BOT	2,1	M	2F6
CLS	U510		COIL			20A8
CO1	U88		TOP	12,11	B	26B4
CO1	U88		TOP	10,9	B	25A5
CO1	U88		TOP	8,7	B	25A5
CO1	U88		TOP	6,5	B	25D5
CO1	U88		TOP	4,3	B	25C5
CO1	U88		TOP	2,1	C	25E5
CO1	U88		BOT	2,1	B	24G5
CO1	U88		BOT	4,3	B	24E5
CO1	U88		BOT	6,5	B	24E5
CO1	U88		BOT	8,7	B	24F5
CO1	U88		BOT	10,9	B	24F5
CO1	U88		BOT	12,11	M	66A8
CO1	U88		COIL			66E0
CO2	U88	N	TOP	12,11	B	-
CO2	U88	N	TOP	10,9	B	24A5
CO2	U88	N	TOP	8,7	B	24A5
CO2	U88	N	TOP	6,5	B	24B5
CO2	U88	N	TOP	4,3	B	24B5
CO2	U88	N	TOP	2,1	B	24B5
CO2	U88	N	BOT	2,1	B	26A4
CO2	U88	N	BOT	4,3	B	26G4
CO2	U88	N	BOT	6,5	B	26F4
CO2	U88	N	BOT	8,7	B	26E4
CO2	U88	N	BOT	10,9	B	26G4
CO2	U88	N	BOT	12,11	M	66A7
CO2	U88	N	COIL			66G0

RELAY DESIG	CODE	OPTION	SPRING	CONT NO	CONT ARR	LOC
CO3	U88		TOP	12,11	B	23G5
CO3	U88		TOP	10,9	B	23G5
CO3	U88		TOP	8,7	B	23F5
CO3	U88		TOP	6,5	B	23F5
CO3	U88		TOP	4,3	B	23G5
CO3	U88		TOP	2,1	B	23D5
CO3	U88		BOT.	2,1	B	23C5
CO3	U88		BOT.	4,3	B	23E5
CO3	U88		BOT.	6,5	B	23B5
CO3	U88		BOT.	8,7	B	23B5
CO3	U88		BOT.	10,9	B	23D5
CO3	U88		BOT.	12,11	M	66A5
CO3	U88		COIL			66F0
CR0	U508	DI	TOP	2,1	M	33A7
CR0	U508	DI	COIL			21A3
CR0	U1251	DJ	TOP	4,3	M	33A7
CR0	U1251	DJ	TOP	2,1	B	-
CR0	U1251	DJ	BOT.	2,1	M	-
CR0	U1251	DJ	COIL			21A3
CR1	U511	AM	TOP	3,2,1	BM	23G4
CR1	U511	AM	BOT.	2,1	M	33B7
CR1	U511	AM	COIL			21B3
CR2	U511	AM	TOP	3,2,1	BM	23F4
CR2	U511	AM	BOT.	2,1	M	33B7
CR2	U511	AM	COIL			21B3
CR3	U507	AM	TOP	3,2,1	BM	23F4
CR3	U507	AM	BOT.	3,2,1	BM	23H5
CR3	U507	AM	COIL			21C3
CR4	U511		TOP	3,2,1	BM	23G3
CR4	U511		BOT.	2,1	M	33B7
CR4	U511		COIL			21D3

RELAY DESIG	CODE	OPTION	SPRING	CONT NO.	CONT ARR	LOC
CR5	U507	AM	TOP	3,2,1	BM	23G3
CR5	U507	AM	BOT.	3,2,1	BM	23H4
CR5	U507	AM	COIL			21E3
CR6	U507		TOP	3,2,1	BM	23F3
CR6	U507		BOT.	3,2,1	BM	23H3
CR6	U507		COIL			21F3
CR7	U511		TOP	3,2,1	BM	23G2
CR7	U511		BOT.	2,1	M	33C7
CR7	U511		COIL			21F3
CR8	U507	AM	TOP	3,2,1	BM	23G2
CR8	U507	AM	BOT.	3,2,1	BM	23H3
CR8	U507	AM	COIL			21G3
CR9	U507		TOP	3,2,1	BM	23F1
CR9	U507		BOT.	3,2,1	BM	23H1
CR9	U507		COIL			21H3
CRA	U528	DK	TOP	2,1	M	33C6
CRA	U528	DK	COIL			23F6
CRA	UA69	DL	TOP	2,1	M	33C6
CRA	UA69	DL	BOT.	2,1	M	-
CRA	UA69	DL	COIL			23F6

RELAY DESIG	CODE	OPTION	SPRING	CONT NO	CONT ARR	LOC
CRB	U528	DK	TOP	2,1	M	33C7
CRB	U528	DK	COIL			23F6
CRB	UA69	DL	TOP	2,1	M	33C7
CRB	UA69	DL	BOT	2,1	M	-
CRB	UA69	DL	COIL			23F6
CRC	U528	DK	TOP	2,1	M	33C7
CRC	U528	DK	COIL			23H6
CRC	UA69	DL	TOP	2,1	M	33C7
CRC	UA69	DL	BOT	2,1	M	-
CRC	UA69	DL	COIL			23H6
CRP	U510		TOP	3,2,1	BM	23F4
CRP	U510		BOT	2,1	M	-
CRP	U510		COIL			21A4
CRS	U509	DO	TOP	2,1	M	33A6
CRS	U509	DO	COIL			21A4
CRS	U510	DP	TOP	3,2,1	BM	33A6
CRS	U510	DP	BOT	2,1	M	-
CRS	U510	DP	COIL			21A4

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ORIGINATING MARKER CIRCUIT

SD-25016-01-C29

BELL TELEPHONE LABORATORIES INCORPORATED

6S

PART OF APP FIG 14

RELAY	OB0			OB0			OB1			OB2			OB3			OB4			OB5		
DESIG																					
CODE	U508			U1251			U511			U511			U512			U511			U511		
OPTION	DJ			DJ			AM			AM			AM			AM					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				4,3	M	33G5							5,4	M	33F7						
	2,1	M	33G5	2,1	B	-	3,2,1	BM	25E4	3,2,1	BM	25C3	3,2,1	BM	25C2	3,2,1	BM	25D2	3,2,1	BM	25B3
BOT.				2,1	M	-	2,1	M	33F6	2,1	M	33F6	3,2,1	BM	25E3	2,1	M	33F7	2,1	M	33F6
COIL			20A1			20A1			20B1			20B1			20C1			20D1			20E1

RELAY	OB6			OB7			OB8			OB9			OBA			OBA			OBB		
DESIG																					
CODE	U512			U512			U513			U512			U528			UA69			U529		
OPTION	AM			AM			AM			AM			DK			DL			DM		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
	5,4	M	33F8	5,4	M	33F8	6,5,4	BM	25B2	5,4	M	33F8									
	3,2,1	BM	25B2	3,2,1	BM	25B2	3,2,1	BM	25C1	3,2,1	BM	25B1	2,1	M	33F5	2,1	M	33F5	2,1	M	33F5
BOT.	3,2,1	BM	25E2	3,2,1	BM	25C2	3,2,1	BM	25D2	3,2,1	BM	25E1				2,1	M	-			
COIL			20F1			20F1			20G1			20H1			25A6			25A6			25B6

RELAY	OBB			OBC			OBC			OBD			OBD			OBP			OBS		
DESIG																					
CODE	UA72			U529			UA72			U529			UA72			U510			U509		
OPTION	DN			ET			EU			ET			EU						DQ		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC
TOP																					
	3,2,1	BM	33F5	2,1	M	33F7	3,2,1	BM	33F7	2,1	M	33F9	3,2,1	BM	33F9	3,2,1	BM	25A4	2,1	M	33G5
BOT	2,1	M	-				2,1	M	-				2,1	M	-	2,1	M	-			
COIL			25B6			25E6			25E6			25D6			25D6			20A2			20A2

RELAY	OBS			OGO			OGO			OG1			OG2			OG3			OG4		
DESIG																					
CODE	U510			U509			U1251			U511			U511			U507			U511		
OPTION	DP			EL			EM			AM			AM			AM			AM		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP							4,3	M	33F3												
	3,2,1	BM	33G5	2,1	M	33F3	2,1	B	-	3,2,1	BM	24G4	3,2,1	BM	24F4	3,2,1	BM	24F4	3,2,1	BM	24F3
BOT.	2,1	M	-				2,1	M	-	2,1	M	33F3	2,1	M	33F4	3,2,1	BM	24H5	2,1	M	33F4
COIL			20A2			21A6			21A6			21B6			21B6			21C6			21D6

RELAY	OGS			OGB			OGC			OGC						SBO			SBO		
DESIG																					
CODE	U527			U528			UA69			U528			UA69			U509			U1251		
OPTION	AM, KD			EN			EO			EN			EO						DH		
	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC
TOP																					
	7,6	M	21E6																		
	5,4,3	BM	24G3																4,3	M	33D5
	2,1	B	-	2,1	M	33G2	2,1	M	33G2	2,1	M	33G3	2,1	M	33G3	2,1	M	33G4	2,1	M	33G4	2,1	B	-
BOT.	2,1	B	-				2,1	M	-				2,1	M	-				2,1	M	-	2,1	M	-
	5,4,3	BM	33B5																		
	7,6	M	33F4																		
COIL			21E6			24E6			24E6			24F6			24F6			24H6			24H6

RELAY	OSP			OSP			OSS			OSS						SBO			SBO		
DESIG																					
CODE	U510			U510			U509			U510						U509			U1251		
OPTION	AM			KD			EM			DX						DG			DH		
	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC
TOP																					
	3,2,1	BM	24E5	3,2,1	BM	24E5	2,1	M	33F2	3,2,1	BM	33F2									
BOT	2,1	M	-	2,1	M	-				2,1	M	-				2,1	M	33D5	2,1	B	-
																			2,1	M	-
COIL			21A7			21A7			21A7			21A7						22A1			22A1

PART OF APP FIG 14

RELAY	SB1			SB2			SB3			SB4			S35			SB6			SB7		
DESIG																					
CODE	U511			U511			U512			U511			U511			U512			U512		
OPTION	N			N			N			N			N			N			N		
	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC
TOP							5,4	M	33D7							5,4	M	33D7	5,4	M	33D7
	3,2,1	BM	24B5	3,2,1	BM	24B4	3,2,1	BM	24B4	3,2,1	BM	24C3	3,2,1	BM	24A3	3,2,1	BM	24A2	3,2,1	BM	24A2
BOT.	2,1	M	33D5	2,1	M	33D5	3,2,1	BM	24C5	2,1	M	33D6	2,1	M	33D6	3,2,1	BM	24C4	3,2,1	BM	24C4
COIL			22B1			22B1			22C1			22D1			22E1			22F1			22F1

RELAY	SB8			SB9			SBA			SBA			SBB			SBB			SBC		
DESIG																					
CODE	U513			U512			U529			U469			U529			U469			U529		
OPTION	N			N			EP			EQ			EP			EC			EP		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	6,5,4	BM	24A2	5,4	M	33D8															
	3,2,1	BM	24C3	3,2,1	BM	24B1	2,1	M	33E4	2,1	M	33E4	2,1	M	33E5	2,1	M	33E5	2,1	M	33E6
BOT.	3,2,1	BM	24D5	3,2,1	BM	24B3					M	-				2,1	M	-			
COIL			22G1			22H1			24A6			24A6			24A6			24A6			24C6

RELAY	SBC			SBD			SBD			SBP			JBS			SBS			SGD		
DESIG																					
CODE	UA69			U529			UA69			U510			U509			U510			U508		
OPTION	EQ			EP			EQ			N			DY			DZ			DG		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC
TOP																					
	2,1	M	33E6	2,1	M	33E8	2,1	M	33E9	3,2,1	BM	24A6	2,1	M	33D4	3,2,1	BM	33D4	2,1	M	33D2
BOT	2,1	M	-				2,1	M	-	2,1	M	-				2,1	M	-			
COIL			24C6			24D6			24D6			22A1			22A1			22A1			20B3

RELAY	SGD			SG1			SG1			SG2			SG3			SG4			SG5		
DESIG																					
CODE	U1251			U511			U511			U511			U507			U511			U511		
OPTION	DH			N			BJ			N			N			N			N		
	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	4,3	M	33D2																		
	2,1	B	- -	3,2,1	BM	26D5	3,2,1	BM	26D5	3,2,1	BM	26E3	3,2,1	BM	26E3	3,2,1	BM	26E2	3,2,1	BM	26D2
BOT.	2,1	M	-	2,1	M	33D5	2,1	M	33D3	2,1	M	33D3	3,2,1	BM	26H5	2,1	M	33D3	2,1	M	33D4
COIL			20B3			20C3			20C3			20D3			20D3			20E3			20F3

RELAY	SGA			SGA			SGB			SGB			SGC			SGC			SGP		
DESIG																					
CODE	U529			UA69			U529			UA69			U529			UA69			U510		
OPTION	EP,ER			EC			EP			EQ			EP			EC			N,BA		
	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC
TOP																					
	2,1	M	33E1	2,1	M	33E1	2,1	M	33E2	2,1	M	33E2	2,1	M	33E4	2,1	M	33E4	3,2,1	BM	26A3
BOT.				2,1	M	-				2,1	M	-				2,1	M	-	2,1	M	-
COIL			26A6			26A6			26D6			26D6			26G6			26G6			20B5

RELAY	SGS			SGS			SP			TWA			TWB			XCL			XCR		
DESIG																					
CODE	U509			U510			U309			U527			U527			S65			S65		
OPTION	DY			DZ						AM			S								
	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC
TOP										7,6	M	59B2	7,6	M	59B1						
							4,3	M	59C2	5,4,3	BM	23A5	5,4,3	BM	53A1						
	2,1	M	33D1	3,2,1	BM	33D1	2,1	M	59C2	2,1	B	59E2	2,1	B	59E1	3,2,1	BM	61B2	3,2,1	BM	61C2
BOT				2,1	M	-				2,1	B	31B7	2,1	B	31B6						
										5,4,3	BM	33A4	5,4,3	BM	-						
										7,6	M	58C4	7,6	M	58C4						
COIL			20B5			20B5			58C2			58A2			58B2			20A9			21A4

DRAWING ISSUE 100

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ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-C31

BELL TELEPHONE LABORATORIES INCORPORATED

SHEET 6S

SD-25016-01-C31

HIGGINS 4465

PART OF APP FIG 14

RELAY DESIG	CODE	OPTION		CONT NO.	CONT ARR	LOC
XOB	S65		TOP	3,2,1	BM	61D2
			COIL			20A2
XOG	S65	AM,KD	TOP	3,2,1	BM	61D2
			COIL			21A7
XSB	S65	N	TOP	3,2,1	BM	61E2
			COIL			22A2
XSG	S45	N	TOP	3,2,1	BM	61F2
			COIL			20B5
XT	L3		TOP	3,2,1	BM	61D1
			COIL			24G7
XT1	L3		TOP	3,2,1	BM	61E1
			COIL			26E7
XT2	U534	CQ	TOP	2,1	M	61E1
			BOT	2,1	M	61G2
			COIL			61DG
XT2	U1254	DR	TOP	4,3	M	-
			TOP	2,1	M	61E1
			BOT	2,1	M	61G2
			COIL			61D0

CAPACITOR DESIG	LOC	CODE
E	23A7	437A

OPTION	DIODE DESIG	LOC	CODE
	OG5	21F6	446K

OPTION	NETWORK DESIG	LOC	CODE
HK	CO1	66F1	177N
	F	36A2	1/2 177C

OPTION	RESISTOR DESIG	LOC	CODE
	E	23B7	18AC,500
KC	SO	24G2	18EF,2.5K

DRAWING ISSUE 10D

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ORIGINATING MARKER CIRCUIT ②

BELL TELEPHONE LABORATORIES INCORPORATED

ISSUE 6S

SD-25016-01-C32

APP FIG 15

RELAY DESIG	CHL0			CHL1			CHL2			CHL3			CHL4			CHL5		
CODE	U502,U1212			U502,U1212			U502,U1212			U502,U1212			U502,U1212			U502,U1212		
OPTION	CP,CQ			CP,CQ			CP,CQ			CP,CQ			CP,CQ			CP,CQ		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	6,5,4	BM	44B5	6,5,4	BM	44B5	6,5,4	BM	44B5	6,5,4	BM	44B5	6,5,4	BM	44B5	6,5,4	BM	44B5
	3,2,1	BM	44B6	3,2,1	BM	44B6	3,2,1	BM	44B6	3,2,1	BM	44B6	3,2,1	BM	44B6	3,2,1	BM	44B6
BOT	2,1,3	MB	48D1	2,1,3	MB	48D2	2,1,3	MB	48D4	2,1,3	MB	48D6	2,1,3	MB	48D8	2,1,3	MB	48G1
	6,5,4	BM	44B8	6,5,4	BM	44B8	6,5,4	BM	44B8	6,5,4	BM	44B8	6,5,4	BM	44B8	6,5,4	BM	44B8
COIL			44C1			44C2			48C4			48C6			48C7			48F0

RELAY DESIG	CHL6			CHL7			CHL8			CHL9			CHR0			CHR1		
CODE	U502,U1212			U502,U1212			U502,U1212			U502,U1212			U502,U1212			U502,U1212		
OPTION	CP,CQ			CP,CQ			CP,CQ			CP,CQ			CP,CQ			CP,CQ		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	6,5,4	BM	44B5	6,5,4	BM	44B5	6,5,4	BM	44B5	6,5,4	BM	44B5	6,5,4	BM	44B5	6,5,4	BM	44B5
	3,2,1	BM	44B6	3,2,1	BM	44B6	3,2,1	BM	44B6	3,2,1	BM	44B6	3,2,1	BM	44B6	3,2,1	BM	44B6
BOT	2,1,3	MB	48G2	2,1,3	MB	48G4	2,1,3	MB	48G6	2,1,3	MB	48G8	2,1,3	MB	48D2	2,1,3	MB	48D3
	6,5,4	BM	44B8	6,5,4	BM	44B8	6,5,4	BM	44B8	6,5,4	BM	44B8	6,5,4	BM	44B8	6,5,4	BM	44B8
COIL			48F2			48F4			48F6			48F7			48C1			48C3

RELAY DESIG	CHR2			CHR3			CHR4			CHR5			CHR6			CHR7		
CODE	U502,U1212			U502,U1212			U502,U1212			U502,U1212			U502,U1212			U502,U1212		
OPTION	CP,CQ			CP,CQ			CP,CQ			CP,CQ			CP,CQ			CP,CQ		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	6,5,4	BM	44B5	6,5,4	BM	44B5	6,5,4	BM	44B5	6,5,4	BM	44B5	6,5,4	BM	44B5	6,5,4	BM	44B5
	3,2,1	BM	44B6	3,2,1	BM	44B6	3,2,1	BM	44B6	3,2,1	BM	44B6	3,2,1	BM	44B6	3,2,1	BM	44B6
BOT	2,1,3	MB	48D5	2,1,3	MB	48D7	2,1,3	MB	48D8	2,1,3	MB	48G2	2,1,3	MB	48G3	2,1,3	MB	48G5
	6,5,4	BM	44B8	6,5,4	BM	44B8	6,5,4	BM	44B8	6,5,4	BM	44B8	6,5,4	BM	44B8	6,5,4	BM	44B8
COIL			48C5			48C6			48C8			48F1			48F3			48F5

RELAY DESIG	CHR8			CHR9		
CODE	U502,U1212			U502,U1212		
OPTION	CP,CQ			CP,CQ		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP						
	6,5,4	BM	44B5	6,5,4	BM	44B5
	3,2,1	BM	44B6	3,2,1	BM	44B6
BOT	2,1,3	MB	48G7	2,1,3	MB	48G8
	6,5,4	BM	44B8	6,5,4	BM	44B8
COIL			48F6			48F8

NETWORK

OPTION	DESIG	LOC	CODE
FP	CHR9	44C6	1/2 177C
FQ	CHR8	44C6	1/2 177H

APP FIG 16

RELAY DESIG	GW0			GW1			GW2			GW3			GZ0			GZ1		
CODE	U497			U497			U497			U497			U886			U192		
OPTION	AE,BE			AF			AF			AF			AE,BE			AF		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
													11,10	M	-			
													9,8,7	BM	58D1			
													6,5,4	BM	56A6	6,5,4	BM	57B6
	3,2,1	BM	58D1	3,2,1	BM	-	3,2,1	BM	-	3,2,1	BM	-	2,1,3	MB	56C6	3,2,1	BM	56DC
BOT	2,1,3	MB	56A1	2,1,3	MB	56D1	2,1,3	MB	56E2	2,1,3	MB	56G1	3,2,1	BM	56C2	3,2,1	BM	57C4
													6,5,4	BM	57C6	5,4	M	56C2
													9,8,7	BM	56B1			
COIL			56C1			56E1			56F1			56H1			56B1			56D1

RELAY DESIG	GZ2			GZ3														
CODE	U886			U886														
OPTION	AF			AF														
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	11,10	M	56G1	11,10	M	-												
	9,8,7	BM	57C3	9,8,7	BM	56C2												
	6,5,4	BM	56E0	6,5,4	BM	56G0												
	3,2,1	BM	57B4	2,1,3	MB	56D1												
BOT	3,2,1	BM	57B6	3,2,1	BM	57B5												
	6,5,4	BM	57D4	6,5,4	BM	57A6												
	9,8,7	BM	57C3	9,8,7	BM	57D4												
COIL			56F1			56G1												

CAPACITOR

OPTION	DESIG	LOC	CODE
EX	C1	57B5	1/2 441C
	C2	57B5	

NETWORK

OPTION	DESIG	LOC	CODE
EY	C1	57B6	1/2 177H
	C2	57C5	

RESISTOR

OPTION	DESIG	LOC	CODE
AE,BE	AB	56B1	19DY
	AC	56D1	
AF	AD	56F1	
	AE	56H1	
EX	C	57B5	19KY

DRAWING ISSUE
101D
102D

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ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C33

BELL TELEPHONE LABORATORIES INCORPORATED 65

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APP FIG 17

RELAY DESIG	BE1			BD1			CBA1			CBA2		
CODE	U517			U517			U391			U391		
OPTION							AJ			AJ		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	10,9,8	6M	49D9	10,9,8	6M	49C9						
TOP	7,6,5	6M	49H7	7,6,5	6M	49H7	7,6	4	43A4	7,6	4	43A4
TOP	4,3	4-6	49C6	4,3	4-6	49B6	5,4,3	6M	49A3	5,4,3	6M	49A4
TOP	2,1		43A8	2,1		43A8	2,1	6	49F4	2,1	6	49F1
BOT	2,1	4-B	41C0	2,1	4-B	41G1	3,2,1	6M	49E1	3,2,1	6M	49F1
BOT	4,3		49C7	4,3		49B7	5,4	4	43E4	5,4	4	43E4
BOT	7,6,5	6M	49E7	7,6,5	6M	49E7	7,6	4	29B7	7,6	4	29B7
COIL			49C6			49B6			49E0			49F0

RELAY DESIG	CBA3			CBA4			CBA5		
CODE	U391			U391			U391		
OPTION	AJ			AJ			AJ		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	7,6	4	43B4	7,6	4	43B4	7,6	4	43B5
TOP	5,4,3	6M	49A4	5,4,3	6M	49A5	5,4,3	6M	49A8
TOP	2,1	6	49G1	2,1	6	49G2	2,1	6	49G2
BOT	3,2,1	6M	49G1	3,2,1	6M	49G1	3,2,1	6M	49H1
BOT	5,4	4	43E4	5,4	4	43F4	5,4	4	43F5
BOT	7,6	M	29B7	7,6	M	29B7	7,6	4	-
COIL			49F0			49G0			49H0

RELAY DESIG	CBB1			CBB2			CBB3			CBB4		
CODE	U517			U517			U517			U517		
OPTION	AJ			AJ			AJ			AJ		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	10,9,8	6M	49E2	10,9,8	6M	49E2	10,9,8	6M	49E2	10,9,8	6M	49E3
TOP	7,6,5	6M	43C4	7,6,5	6M	49B1	7,6,5	6M	49C1	7,6,5	6M	49C2
TOP	4,3	4-6	49A1	4,3	4-6	49B1	4,3	4-6	49C1	4,3	4-6	49D1
TOP	2,1		43G5	2,1		43A5	2,1		43A5	2,1		43B5
BOT	2,1	4-6	43G5	2,1	4-6	43E5	2,1	4-6	43E5	2,1	4-6	43E5
BOT	4,3		43G4	4,3		49B1	4,3		49C1	4,3		49D1
BOT	7,6,5	6M	49H6	7,6,5	4B	49H6	7,6,5	4B	49H6	7,6,5	4B	-
COIL			49A0			49B0			49B0			49C0

RELAY DESIG	CBB5			CBC			CBH		
CODE	U517			U269			U310		
OPTION	AJ			AK					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	10,9,8	6M	49E3						
TOP	7,6,5	6M	49C2						
TOP	4,3	4-6	49D1	6,5,4	6M	49B3	6,5,4	6M	49B8
TOP	2,1		43A5	3,2,1	6M	49C3	3,2,1	6M	49F7
BOT	2,1	4-6	43E5	3,2,1	6M	49D2	2,1	4-6	49B2
BOT	4,3		49D1	5,4	4	49H6	4,3		49H6
BOT	7,6,5	4B	49D1				7,6,5	6M	43A8
COIL			49D0			49H5			49G5

RELAY DESIG	CBL			CRL			CRL		
CODE	U192			U156			U1228		
OPTION				DU			DV		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	6,5,4	6M	49F6	4,3	4	65G7	4,3	4	65G7
TOP	3,2,1	6M	49E4	2,1	4	62A1	2,1	4	62A1
BOT	3,2,1	6M	49E2	2,1	4	36F8	2,1	4	36F8
BOT	5,4	M	49G7						
COIL			49F6			49C7			49C7

CAPACITOR

OPTION	DESIG	LOC	CODE
CU	CN	49H4	441B

NETWORK

OPTION	DESIG	LOC	CODE
CV	CN	49H5	1/2 177H

RESISTOR

OPTION	DESIG	LOC	CODE
CU	CN	49H4	18DH,700

APP FIG 18

(SEE NOTE 102(b)PAR. 5)

RELAY DESIG	PO-13		
CODE	U64		
OPTION			
	CONT NO.	CONT ARR	LOC
TOP	12,11	M	29A7
TOP	10,9	M	44C4
TOP	8,7	M	44C4
TOP	6,5	M	44C4
TOP	4,3	M	44C4
TOP	2,1	M	44C4
BOT	2,1	M	44C4
BOT	4,3	M	44C4
BOT	6,5	M	44C4
BOT	8,7	M	44C4
BOT	10,9	M	44C4
BOT	12,11	M	54G4
COIL			43G0

APP FIG 19

RELAY DESIG	JC-				
CODE	U580				
OPTION					
	CONT NO.	CONT ARR	LOC 1ST	LOC INTER	LOC LAST
TOP	3,2,1	6M	43C8	43E8	43F8
BOT	3,2,1	6M	43C8	43E3	43F7
COIL			43A0	43A0	43A0

RESISTOR

OPTION	DESIG	LOC	CODE
BS	A	43C8	59G,60
BT	A	43C8	59E,150
CV	JC-	43F7	KS-19150,L1,5,1K

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ORIGINATING MARKER CIRCUIT

(2) SD-25016-01-C34

BELL TELEPHONE LABORATORIES INCORPORATED

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APP FIG 20

RELAY	K(E,0)--					P(E,0)--										TG(E,0)--				
CODE	U494					G103										U522				
OPTION						X														
	CONT NO.	CONT ARR	LOC 1ST	LOC INTER	LOC LAST	CONT NO.	CONT ARR	LOC 1ST	LOC INTER	LOC LAST	CONT NO.	CONT ARR	LOC 1ST	LOC INTER	LOC LAST	CONT NO.	CONT ARR	LOC 1ST	LOC INTER	LOC LAST
TOP	3,7	M	39A0	39A3	39B8															
TOP	6,5,4	EM	42A7	42D7	42G8											5,4	M	41C1	41D4	41C8
TOP	2,1,3	MB	41F0	41F4	41F9	2,3,1	MM	39C0	39C3	39C8						* 2,1	BM	41D0	41D3	41C9
BOT.	3,2,1	EM	39B0	39B3	39B8											2,1	M	40B2-P2	40B3-D3	40B5-D5
BOT.	5,4	M	42A1	42B1	42C1											4,3	M	54G5	54G7	54G9
COIL			41G0	41G5	41G8			39E0	39E4	39E7								40B1,C1	40B3,C3	40B5,C5

OPTION	CAPACITOR DESIG	LOC 1ST	INTER	LAST	CODE
EV	P(E,0)--	39C1	39C4	39C7	441C

OPTION	RESISTOR DESIG	LOC 1ST	INTER	LAST	CODE
EV	P(E,0)--	39D1	39D4	39D7	198M

APP FIG 20A

WIRING ONLY

APP FIG 21

(SEE NOTE 102(b)PAR. 6)

RELAY	PA		
CODE	U57		
OPTION			
	CONT NO.	CONT ARR	LOC
TOP	10,9	M	43C0
TOP	3,7	M	43C0
TOP	6,5	M	43C0
TOP	4,3	M	43C0
TOP	2,1	M	43C0
BOT.	2,1	M	43C0
BOT.	4,3	M	43C0
BOT.	6,5	M	43C0
BOT.	8,7	M	43C0
BOT.	10,9	M	43C0
COIL			43E0

ORIGINATING MARKER CIRCUIT

(2) SD-25016-01-C35

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BELL TELEPHONE LABORATORIES INCORPORATED 6S

DESIG	CIA	CIB	CIC	CID	CIE	
CODE	2648	2648	2648	2648	2648	
OPTION	IC	IC	IC	IC	IC	
CODE	288A	288A	288A	288A	289A	
OPTION	ID	ID	ID	ID	ID	
59	66F8	48B0	2D8	64C8	66F2	
58	66B5	48B0	2D8	61B3	6G2	
57	66C5	48B0	2D8	3681	2*E0	
56	66C5	48B0	2D5	55A2	4E2	
55	66C2	48B0	2D8	55G5	4D2	
48	66E6	48B0	52C4	61D6	5D7	
48	50G8	48B0	55E8	61D6	5D7	
47	32H2	48B0	2E8	31G4	5C7	
46	29C1	48B0	2E8	61C6	5B7	
45	67C2	48B0	2C8	52C3	5B7	
39	38C5	41E5	43B0	61E6	67G2	
38	38C5	41E9	43B0	61F6	5G2	
37	38C5	41E5	43B0	61C6	5G2	
36	38C5	41E5	43B0	44C0	5F2	
35	39C5	41E5	43B0	61C6	5E2	
29	31G5	41E5	43B0	45H5	66F6	
28	31G5	41E9	43B0	45H3	5D2	
27	31G5	41E5	43B0	61F6	5C2	
26	31G5	41E5	43B0	47E2	5B2	
25	31G5	41E5	43B0	39G3	5B2	
19	9H2	41E9	59E1	4601	13B1	
18	9H2	41E5	59G0	54A7	4G7	
17	9H2	41E5	59G1	50G8	4F7	
16	9H2	41E5	59G1	61G3	4E7	
15	9H2	41E5	59G3	61C3	4E7	
9 OR 09	9H2	41E9	43G0	61C3	12B8	
8 OR 08	9H2	41E5	43G0	61F3	4C7	
7 OR 07	9H2	41E5	43G0	61E3	4B7	
6 OR 06	9H2	41E5	43G0	61E3	4B7	
5 OR 05	9H2	41E5	43G0	61D3	4A7	
COIL	6690	66C0	66D0	66D0	66A4	
54	66D2	48B0	2D8	57C1	23A1	
53	66D2	49B0	2D8	57C1	23B1	
52	66A9	48B0	2D8	57C1	2301	
51	66E2	48B0	2D8	57C1	23E1	
50	66F8	48E0	2D8	57C1	23C1	
44	39C5	48B0	1H3	57C1	23E1	
43	38C5	48B0	1H2	57C1	23G1	
42	38C5	48B0	2C8	57C1	23H1	
41	38C5	48B0	2C9	57C1	23F1	
40	38C5	48B0	9H2	57C1	23G1	
34	33C5	41E5	43B0	57C1	26E1	
33	38C5	41E5	43B0	57C1	26A1	
32	38C5	41E5	43B0	54F7	26F1	
31	38C5	41E3	43B0	45C1	26E1	
30	39C5	41E5	43B0	45H2	26H1	
24	31G5	41E5	43B0	48C0	24A1	
23	31G5	41E5	43B0	29C1	24B1	
22	31G5	41E5	43B0	29C1	24B1	
21	31G5	41E3	43B0	5B00	24C1	
20	31G5	41E5	43B0	41F9	24C1	
14	9H2	41E5	46G7	37A3	24G1	
13	9H2	41E5	43G0	37B3	24E1	
12	9H2	41E5	43G0	37C3	24E1	
11	9H2	41E5	43G0	37C3	24F1	
10	9H2	41E3	43G0	45B1	24G1	
4 OR 04	9H2	41E5	43G0	45H1	25A1	
3 OR 03	9H2	41E5	43G0	33B0	25B1	
2 OR 02	9H2	41E5	43G0	29G7	25F1	
1 OR 01	9H2	41E5	43G0	35A2	25B1	
0 OR 00	9H2	41E3	43G0	35H1	25E1	
COIL	6680	66C0	66D0	6600	66A4	

RELAY

DESIG	CIG								
CODE	U495								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	63G7						
	10,9	M	4D2						
	9,7	M	4E2						
	6,5	M	14H1						
	4,3	M	14H1						
	2,1	M	23D1						
BOT.	2,1	M	27G1						
	4,3	M	27C1						
	6,5	M	27D1						
	9,7	M	27E1						
	10,9	M	27F1						
	12,11	M	27F1						
COIL			66F4						

OPTION	NETWORK DESIG	LOC	CODE
LN	CIA	66C1	1/2 177A
	CIB	66C1	
	CIC	66D1	
	CID	66E1	
	CIE	6685	

RELAY

DESIG	SDT(-)1								
CODE	U115								
OPTION	JX								
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	481						
	10,9	M	15G6						
	9,7	M	16G1						
	6,5	M	14G2						
	4,3	M	15G4						
	2,1	M	15G3						
BOT.	2,1	M	-						
	4,3	M	-						
	6,5	M	-						
	9,7	M	-						
	10,9	M	-						
	12,11	M	-						
COIL			67B1						

DESIG	SDT-		
CODE	263B		
OPTION	IA		
CODE	287A		
OPTION	IB		
59	-		
58	-		
57	-		
56	-		
55	-		
49	-		
48	-		
47	-		
46	-		
45	4A1		
39	6G2		
38	5G1		
37	5G1		
36	5F1		
35	5E1		
29	6G1		
28	5D1		
27	5C1		
26	5B1		
25	5B1		
19	6G1		
18	4C6		
17	4F6		
16	4E6		
15	4E6		
9 OR 09	6G1		
8 OR 08	4C6		
7 OR 07	4B6		
6 OR 06	4B6		
5 OR 05	4A6		
COIL	67A1		
54	-		
53	-		
52	-		
51	-		
50	-		
44	15G5		
43	16G2		
42	14G2		
41	15G4		
40	15G3		
34	14G3		
33	6G2		
32	4D1		
31	4E1		
30	4D1		
24	506		
23	506		
22	5C6		
21	586		
20	586		
14	14G3		
13	67A5		
12	67A5		
11	29F1		
10	67B2		
4 OR 04	4F1		
3 OR 03	59G3		
2 OR 02	59A8		
1 OR 01	55G4		
0 OR 00	67B2		
COIL	67A1		

* CODE 263B PROVIDES CONTACTS 0-39 ONLY

APP FIG 24

CAPACITOR

OPTION	DESIG	LOC	CODE
-FB	RO-9	12D8	441C

RESISTOR

OPTION	DESIG	LOC	CODE
BD	RO-4	12D9	19KY
FA	RO-4	12E8	19CG

NETWORK

OPTION	DESIG	LOC	CODE
FB	RO,2,4,6,8	12F8	[5] 177H
	R1,3,5,7,9	12E8	

APP FIG 25

RELAY

DESIG	TB5								
CODE	U480								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
	3,2,1	B4	36C3						
BOT	2,1	A	3DG5						
	4,3	M	36C6						
COIL			3DG4						

APP FIG 26

DESIG	CIF2
CODE	264B
OPTION	IC
CODE	2B9A
OPTION	ID
59	66E7
58	10G4
57	25F2
56	32G3
55	32H0
54	52C5
53	52C6
52	52C7
51	59A8
50	59G2
49	59G1
48	54E1
47	66A2
46	3609
45	54F7
44	36A1
43	52C3
42	5582
41	55G5
40	54F1
39	1A1
38	54E1
37	30H5
36	4908
35	50F8
9 OR D9	2967
8 OR D8	664
7 OR D7	663
6 OR D6	663
5 OR D5	663
COIL	66E4

DESIG	CIF1
58	55B2
53	55B2
52	55B2
51	55B2
50	55B2
44	55B2
43	55B2
42	55B2
41	55B2
40	55B2
34	55F5
33	9H6
32	9H5
31	52C4
30	52C7
24	52C7
23	54B7
22	29F1
21	45H7
20	35D7
14	45B1
13	6505
12	44C7
11	29F0
10	35H2
4 OR 04	66C8
3 OR 03	3661
2 OR 02	67H3
1 OR 01	68E6
0 OR 00	67C3
COIL	66D4

NETWORK

OPTION	DESIG	LOC	CODE
LN	CIF1	6605	1/2 177H
	CIF2	66E5	

APP FIG 27

REALY

DESIG	CBR			CBS			DA1			DA2			DB			DB		
CODE	U144			U144			U6044			U6044			U365			U1239		
OPTION				P									EG			EM		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	3C1	12,11	M	3E1												
	10,9	M	3C1	10,9	M	3E1												
	8,7	M	3C1	8,7	M	3E1												
	6,5	M	3C1	6,5	M	3E1												
	4,3	M	3C1	4,3	M	3E1												
	2,1	M	3C1	2,1	M	3E1	2,1,3	48	6285	2,1,3	48	67F3	3,2,1	B4	3B1	3,2,1	B4	3B1
BOT	2,1	M	3C1	2,1	M	3E1	2,1,3	46	63C8	2,1,3	46	63C8						
	4,3	M	3C1	4,3	M	3E1												
	6,5	M	3C1	6,5	M	3E1												
	8,7	M	3C1	8,7	M	3E1												
	10,9	M	3C1	10,9	M	3E1												
	12,11	M	3C1	12,11	M	3E1												
COIL			3B2			3C2			3A1			3A1			3B3			3B3

CAPACITOR

OPTION	DESIG	LOC	CODE
FA	CR	3C2	411B

NETWORK

OPTION	DESIG	LOC	CODE
FB	CR	3C2	1/2 177H

RESISTOR

OPTION	DESIG	LOC	CODE
FA	CR	3D2	18AJ,400

NOTES:

1. FOR ORDERING PURPOSES EACH APP FIG 24 CONTAINS ONE RESISTOR AND TWO CAPACITOR AND TWO NETWORKS.

DRAWING ISSUE: BOND

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C37

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-C37

HIGGINS 4465 K2E

APP FIG 28

RELAY				AK'			AK			AKI			AR2			B		
DESIG				313A			U6029			U6028			U457			2396G,JA;280ET,CG		
CODE				NA												AN,AP,GI,GJ		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP							8,7	M	36C4									
							6,5	M	35A5	8,7	M	44F7	8,7	M	54G4			
				5,3,10	BM	29A5	4,3	B	36A2	6,5,4	BM	29E3	6,5,4	BM	48H5			
				4,8,9	BM	35A5	2,1	B	67F2	3,2,1	BM	29E5	3,2,1	BM	48H5	4,7,3	BM	29E5
BOT.							2,1	B	45D2	3,2,1	MM	29E6	2,1	B	-			
							4,3	B	9A5	5,4	M	44F6	5,4,3	BM	58H0			
							6,5	M	44F3	7,6	M	63G1	7,6	M	37E3			
COIL			44E2			29C3			29D3			29E3			10C1			44F1

RELAY				CHE			CHE1			CHT			CHT			HMT			HMT		
DESIG				U6030			U6043			239FC			280A			239FC			280A		
CODE										GE			GF			GE			GF		
OPTION																					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP							6,5	M	46A3												
				5,4	M	48H2	4,3	B	47G6												
				3,2,1	BM	50D6	2,1	P	47G6	4,7,3	BM	48H5	4,7,3	BM	46H5	4,7,3	BM	46F8	4,7,3	BM	46F8
BOT.				3,2,1	BM	46E8	2,1	B	47C6												
				5,4	M	47B5	4,3	M	46C7												
COIL						48C0			47B2			47A2			47A2			46B5			46B5

RELAY				MR			S			SIK			SIK			SL			SPL		
DESIG				U139			U493			U534			U1254			U493			U181		
CODE				FI						DQ			DR			FJ					
OPTION																					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																			12,11	M	29A4
																			10,9	M	44D2
				9,8	M	54C2													8,7	M	44D2
				7,6	M	61B2													6,5	M	44D2
				5,4	M	59H6	5,4,3	BM	50A1				4,3	M	-	5,4,3	BM	59H7	4,3	M	44D2
				3,2,1	BM	29D6	2,1	B	46B3	2,1	M	50G7	2,1	M	50G7	2,1	B	46B3	2,1	M	44D2
BOT				2,1	B	54D5	2,1,3	MB	44F5	2,1	M	54F6	2,1	M	54F6	2,1,3	MB	44F5	2,1	M	44D2
				4,3	M	54F7	5,4	B	44G8							5,4	B	44E5	4,3	M	44D2
				6,5	M	54H4													6,5	M	44D2
				3,7	M	-													8,7	M	44D2
																			10,9	M	44D2
COIL						54B0			45A1			50A0			50A9			45E1			47B7

RELAY				SPR			XSL			XSM			MRA			S'			XMR			XMR1		
DESIG				U181			U368			U368			UA48			U192			UA84			U677		
CODE													QB			QB			QB			QB		
OPTION																								
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	2984																					
	10,9	M	44D3																					
	8,7	M	44D3																			8,7	M	54C1
	6,5	M	44D3																			6,5	M	1G7
	4,3	M	44D3													6,5,4	BM					4,3	B	1F1
	2,1	M	44D3	2,1	M	61B8	2,1	M	61B8	2,1	M	54B3	2,1	M	54B3	3,2,1	BM	54B3	2,1	M	54C0	2,1	B	55F5
BOT.	2,1	M	44D3	2,M	M	45G5	2,1	M	46D1	2,1	M					3,2,1	BM	54C0				3,2,1	BM	36H7
	4,3	M	44D3													5,4	B					6,5,4	BM	54B3
	6,5	M	44D3																			8,7	M	
	8,7	M	44D3																					
	10,9	M	44D3																					
COIL			47A7			45F4			46D0			54A0			45F1			54A1			54C1		

CAPACITOR

OPTION	DESIG	LOC	CODE
CU	BK	45D3	441B
	CC	46E8	
	CE	29D5	
	CG	46C3	
NG,NF	CHT(CHT.1)	47A4	[3] 437QA
	(CHT.2)		
	(CHT.3)		
BN	D	29D7	439A
BO	D	29D7	441B
BP	D	29D7	441A
	DSA	47H7	
	DSB	47G7	
	HMT(HMT.1)	46C7	[2] 437QA
	(HMT.2)		
	OPA	47F7	441A
	OPB	47F7	
	OSA	47E7	
	OSB	47D7	
CU	P	47C3	441B

DIODE

OPTION	DESIG	LOC	CODE
QB	XMR	54B3	446F

NETWORK

OPTION	DESIG	LOC	CODE
CV	AK	29D3	185A
	AKI	29E3	
FB	AR2	45D1	
CV [1]	CG	46D4	177H
	CHE	48C0	
CT	CHE	48D0	185A
CV	CHE1	47C2	
CT	CHT	48H0	1/2 177H
FM	MR	54C0	1/2 177A
QB	MRA	54A0	186A
CT	S	45B1	185A
	SL	45E1	
QB	XMR	54A1	186A
	XMR1	54C1	185A

RESISTOR

OPTION	DESIG	LOC	CODE
	AH	47D4	18JW, 10K
NF	BC	47B2	19CE
BY	BC	47B2	18BK, 1.3K
BZ	BD	47B1	19JW
BY	BD	47B1	18BM, 1K
	BE	47A4	18AG, 226
	BH	46C8	18AM, 250
BD	BK	47D2	18AT, 1.6K
FA	BK	47E2	18AN, 350
	BL	47F5	19GL
	BM	47D5	18AF, 300
CU	CC	46E8	18DH, 700
	CE	29D5	18AN, 350
	CG	46D3	18AJ, 400
BC	D	29E7	18AC, 500
BO	D	29E7	18AM, 350
BP	D	29E7	18E, 140
	DSA	47H7	
	DSB	47G7	
	OPA	47F7	
	OPB	47E7	18D, 12C
	DSA	47D7	
	OSB	47D7	
CU	P	47C3	18AT, 1.6K

DRAWING ISSUE: 101D, 102D

ISSUE 108D

ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-C38

BELL TELEPHONE LABORATORIES INCORPORATED — DWG SIZE 6S

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HIGGINS 1485

APP FIG 29 (MFR DISC)

SEE NOTE 137

DESIG	EA	
CODE	263B*	
OPTION	IA	
CODE	297A	
OPTION	IB	
59	-	
58	-	
57	-	
56	-	
55	-	
49	-	
48	-	
47	-	
46	-	
45	-	
39	11E4	
38	11E4	
37	11E4	
36	11E4	
35	11E4	
29	11E4	
28	11E4	
27	11E4	
26	11E4	
25	11E4	
19	11E4	
18	11E4	
17	11E4	
16	-	
15	-	
9 OR 09	11E4	
8 OR 08	11E4	
7 OR 07	11E4	
6 OR 06	-	
5 OR 05	-	
COIL	14B7	
DESIG	LA	
54	-	
53	-	
52	-	
51	-	
50	-	
44	-	
43	-	
42	-	
41	-	
40	-	
34	11C4	
33	11C4	
32	11C4	
31	11C4	
30	11C4	
24	11C4	
23	11C4	
22	11C4	
21	11C4	
20	11C4	
14	11C4	
13	11C4	
12	11C4	
11	-	
10	-	
4 OR 04	11C4	
3 OR 03	11C4	
2 OR 02	11C4	
1 OR 01	-	
0 OR 00	-	
COIL	14A7	

*CODE 263B PROVIDES CONTACTS 0-39 ONLY

RELAY

DESIG	EAR			LAR								
CODE	U6030			U6030								
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP												
	5,4	M	32A6	5,4	M	-						
	3,2,1	BM	14A8	3,2,1	BM	14B8						
BOT	3,2,1	BM	-	3,2,1	BM	-						
	5,4	M	-	5,4	M	14A7						
COIL			14B5			14A5						

CAPACITOR

OPTION	DESIG	LOC	CODE
CU	C21 C22	14B7 14A7	1/2 441C

NETWORK

OPTION	DESIG	LOC	CODE
CV	C21 C22	14B7 14A7	1/2 177H
CT	EAR LAR	14C5 14A5	185A

RESISTOR

OPTION	DESIG	LOC	CODE
CU	CZ	14A7	19C6

APP FIG 30

(SEE NOTE 1 & 102 (b) PAR.8)

RELAY

DESIG	CK4A			CK4B								
CODE	U503			U503								
OPTION												
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP												
	9,8,7	BM	60G1	9,8,7	BM	60G6						
	6,5,4	BM	60F2	6,5,4	BM	60F6						
	3,2,1	BM	60E2	3,2,1	BM	60E6						
BOT	3,2,1	BM	60D2	3,2,1	BM	60C6						
	6,5,4	BM	60D2	6,5,4	BM	60D6						
	8,7	M	60B4	8,7	M	10G2						
COIL			60A3			60B3						

CAPACITOR

OPTION	DESIG	LOC	CODE
CV	CX	60A3,C3	441B

NETWORK

OPTION	DESIG	LOC	CODE
CV	CK4A CK4B	60A3 60B3	185A

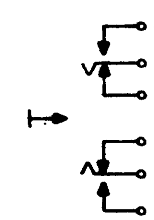
RESISTOR

OPTION	DESIG	LOC	CODE
CU	CX	60A3,C3	180H,700

APP FIG 31 (A & M ONLY)

(SEE NOTE 2 & 102(d) PAR.4)

KEY



DESIG	RT		RT		RT4-9		RT4-9			
CODE	406R		498AJ		[6]552A		[6]378A			
OPTION	BG		BH		CE		GK			
	ARR	LOC	ARR	LOC	ARR	LOC	ARR	LOC	ARR	LOC
	6,5	60C8	6,5	60C8	6,5	60C8	6,5	60C8		
	2,1	60G3	2,1	60G.	2,1	60E8	2,1	60E8		

KEYTOP

DESIG	RT	RT	RT4-9	RT4-9
CODE	406R	498AJ	[6]552A	[6]378A
OPTION	BG	BH	CE	GK

NOTES

1. FOR ORDERING PURPOSES EACH APP FIG 30 CONTAINS ONE (CK4-) RELAY
2. FOR ORDERING PURPOSES EACH APP FIG 31 CONTAINS ONE (RT) KEY OR ONE OF THE (RT4-9) KEYS, MAX SIX APP FIGURES 31.

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ORIGINATING MARKER CIRCUIT ②

BELL TELEPHONE LABORATORIES INCORPORATED | 6S

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DRAWING ISSUE
KOID

APP FIG 32 (A&M ONLY)

(SEE NOTE 102(d) PAR.4)

RELAY																							
DESIG	RT0			RT1			RT2			RT3			RT4										
CODE	U216			U216			U216			U216			U216										
OPTION																							
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																							
	5,4	M	60B8	5,4	M	60B8	5,4	M	60B8	5,4	M	60B8	5,4	M	60B8								
	3,2,1	BM	60A6	3,2,1	BM	60A6	3,2,1	BM	60A6	3,2,1	BM	60A6	3,2,1	BM	60A6								
BOT.	2,1	M	60B8	2,1	M	60B8	2,1	M	60B8	2,1	M	60B8	2,1	M	60B8								
	4,3	M	60D1	4,3	M	60E1	4,3	M	60E1	4,3	M	60F1	4,3	M	60G1								
COIL			60D0			60D0			60E0			60F0			60G0								

RELAY																							
DESIG																							
CODE																							
OPTION																							
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																							
BOT.																							
COIL																							

APP FIG 33

(SEE NOTE 102 (b) PAR.3)

RELAY																							
DESIG	RT0			RT1			RT2			RT3			RT4			RT5			RT6				
CODE	U53			U53			U53			U53			U53			U53			U53				
OPTION																							
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																							
	8,7	M	60A8	8,7	M	60A8	8,7	M	60A8	8,7	M	60A8	8,7	M	60A8	8,7	M	60A8	8,7	M	60A8		
	6,5,4	BM	60B6	6,5,4	BM	60B6	6,5,4	BM	60B6	6,5,4	BM	60B6	6,5,4	BM	60B6	6,5,4	BM	60A8	6,5,4	BM	60A8		
	3,2,1	BM	60A6	3,2,1	BM	60A6	3,2,1	BM	60A6	3,2,1	BM	60A6	3,2,1	BM	60A6	3,2,1	BM	60B6	3,2,1	BM	60B6		
	3,2,1	BM	-	3,2,1	BM	-	3,2,1	BM	-	3,2,1	BM	-	3,2,1	BM	-	3,2,1	BM	-	3,2,1	BM	-		
BOT	5,4	M	60B8	5,4	M	60B8	5,4	M	60B8	5,4	M	60B8	5,4	M	60B8	5,4	M	60B8	5,4	M	60B8		
	7,6	M	60D1	7,6	M	60E1	7,6	M	60E1	7,6	M	60F1	7,6	M	60G1	7,6	M	60D5	7,6	M	60D5		
COIL			60D0			60D0			60E0			60F0			60G0			60C5			60D5		

RELAY																							
DESIG	RT7			RT8			RT9																
CODE	U53			U53			U53																
OPTION																							
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																							
	8,7	M	60A8	8,7	M	60A8	8,7	M	60A8														
	6,5,4	BM	60A8	6,5,4	BM	60A8	6,5,4	BM	60A8														
	3,2,1	BM	60B6	3,2,1	BM	60B6	3,2,1	BM	60B6														
	3,2,1	BM	-	3,2,1	BM	-	3,2,1	BM	-														
BOT.	5,4	M	60B8	5,4	M	60B8	5,4	M	60B8														
	7,6	M	60E5	7,6	M	60F5	7,6	M	60G5														
COIL			60E5			60F5			60F5														

APP FIG 34 (A&M ONLY)

(SEE NOTE 102(b) PAR.5)

RELAY									
DESIG	SA-								
CODE	U6D36								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
	10,9	M	-						
	8,7	M	-						
	6,5	M	-						
	4,3	M	-						
	2,1	M	-						
BOT.	2,1	M	7D8						
	4,3	M	7D8						
	6,5	M	7D8						
	8,7	M	7D8						
	10,9	M	7D8						
COIL			7C0						

APP FIG 35

(SEE NOTE 102(b) PAR.8)

RELAY									
DESIG	TOC								
CODE	U421								
OPTION									
	CONT NO	CONT ARR		CONT NO	CONT ARR		CONT NO	CONT ARR	
TOP									
	4,3	M	-						
	2,1	B	-						
BOT	2,1	B	60B0						
	4,3	M	-						
COIL			60A0						

APP FIG 36

(SEE NOTE 102 (b) PAR.10)

RELAY									
DESIG	CMR								
CODE	U624								
OPTION	F1								
	CONT NO.	CONT ARR		CONT NO.	CONT ARR		CONT NO.	CONT ARR	
TOP									
	2,1	M	62E3						
BOT	2,1	M	62D3						
COIL			62G2						

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C40

BELL TELEPHONE LABORATORIES INCORPORATED 65

SD-25016-01-C40

NS 4468

APP FIG 37
(SEE NOTE 102(b)PAR. 11)

RELAY DESIG	CRR-								
CODE	U154								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT NO.	LOC	CONT NO.	CONT ARR	LOC
TOP	2,1	M	10H4						
BOT	2,1	M	-						
COIL			10H6						

APP FIG 38
(SEE NOTE 100)
WIRING ONLY

APP FIG 39
(SEE NOTE 102(b)PAR. 12)

RELAY DESIG	2L			4L			[9] MT 1-9			[9] MTA-H,J		
CODE	U295			U287			U1249			U1323		
OPTION												
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP										8,7	M	55G3
TOP							4,3	M	2F2	6,5,4	BM	a
TOP	3,2,1	BM	27G4	3,2,1	BM	34F5	2,1	M	2F1	3,2,1	BM	b
BOT	2,1	M	28E3	2,1	M	28E3	2,1	M	32C4	3,2,1	BM	-
BOT										5,4	M	2G2
COIL			29F5			29E5			1G9			2F1

a	27C2-F5
b	27C2-F5

RELAY DESIG	MTCK			MTKA			MTKB		
CODE	U460			U469			U469		
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	6,5,4	BM	2G1						
TOP	3,2,1	BM	45F6	2,1	M	34F5	2,1	M	34F5
BOT	3,2,1	BM	45E6	2,1	M	-	2,1	M	-
BOT	5,4	M	35G7						
COIL			2G1			27C7			27C7

RELAY DESIG	MTKC			MTPS								
CODE	U472			U1325								
OPTION												
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				8,7	M	59H3						
TOP				6,5,4	BM	36B2						
TOP	3,2,1	BM	34H4	3,2,1	BM	36G2						
BOT	2,1	M	-	3,2,1	BM	-						
BOT				5,4	M	34G7						
COIL			27F7			2F1						

NETWORK DESIG	LOC	CODE
2L	29F5	105A
4L	28E5	
MTA-H,J	2F1	
MTCK	2G1	
MTKA	27C7	
MTKB	27C7	
MTKC	27F7	
MTPS	2G1	

APP FIG 40
(SEE NOTE 102(b)PAR. 12)

DESIG	CO2																	
CODE	U88																	
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	B	27E6															
TOP	10,9	B	27C6															
TOP	8,7	B	27C6															
TOP	6,5	B	27F6															
TOP	4,3	E	27B6															
TOP	2,1	B	27F6															
BOT	2,1	B	27G6															
BOT	4,3	B	27B6															
BOT	6,5	B	27G6															
BOT	8,7	B	-															
BOT	10,9	B	-															
BOT	12,11	M	66B2															
COIL			66G0															

ORIGINATING MARKER CIRCUIT ②
SD-[illegible]
BELL TELEPHONE LABORATORIES INCORPORATED
6S

APP FIG 41

(SEE NOTE 102(b) PAR.12)

RELAY DESIG	ZA			ZA			ZA1			ZB			ZB			ZB1			ZC		
CODE	U483			U1249			U1323			U483			U1249			U1323			U483		
OPTION	CW			CX,GV						CW			CX,GV						CW		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP							8,7	M	2E2							8,7	M	2E2			
				4,3	M	-	6,5,4	BM	55C2				4,3	M	-	6,5,4	BM	55C2			
	2,1	M	2E2	2,1	M	2E2	3,2,1	BM	55E3	2,1	M	2E2	2,1	M	2E2	3,2,1	BM	55E3	2,1	M	2E2
BOT				2,1	M	32C3	3,2,1	BM	55F4				2,1	M	32C3	3,2,1	BM	55F4			
							5,4	M	35G7							5,4	M	35G7			
COIL			1F9			1F9			2E1			1F9			1F9			2E1			1F9

RELAY DESIG	ZC			ZC1						ZD			ZD			ZD1			ZE		
CODE	U1249			U1323						U483			U1249			U1323			U483		
OPTION	CX,GV									CW			CX,GV						CW		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				8,7	M	2E2										8,7	M	2E2			
	4,3	M	-	6,5,4	BM	55C2							4,3	M	-	6,5,4	BM	55C2			
	2,1	M	2E2	3,2,1	BM	55E3				2,1	M	2E2	2,1	M	2E2	3,2,1	BM	55E3	2,1	M	2E2
BOT	2,1	M	32C3	3,2,1	BM	55F4							2,1	M	32C3	3,2,1	BM	55F4			
				5,4	M	35G7										5,4	M	35G7			
COIL			1F9			2E1						1F9			1F9			2E1			1F9

RELAY DESIG	ZE			ZE1			ZF			ZF			ZF1			ZG			ZG		
CODE	U1249			U1323			U483			U1249			U1323			U483			U1249		
OPTION	CX,GV						CW			CX,GV						CW			CX,GV		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				8,7	M	2E2							8,7	M	2E2						
	4,3	M	-	6,5,4	BM	55C2				4,3	M	-	6,5,4	BM	55C2				4,3	M	-
	2,1	M	2E2	3,2,1	BM	55E3	2,1	M	2E2	2,1	M	2E2	3,2,1	BM	55E3	2,1	M	2E2	2,1	M	2E2
BOT	2,1	M	32C3	3,2,1	BM	55F4				2,1	M	32C3	3,2,1	BM	55F4				,1	M	32C3
				5,4	M	35G7							5,4	M	33G7						
COIL			1F9			2E1			1F9			1F9			2E1			1F9			1F9

RELAY DESIG	ZG1			ZH			ZH			ZH1			ZI			ZI			ZI1		
CODE	U1323			U483			U1249			U1323			U483			U1249			U1323		
OPTION				CW			CX,GV						CW			CX,GV					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	8,7	M	2E2							8,7	M	2E2							8,7	M	2E2
	6,5,4	BM	55C2				4,3	M	-	6,5,4	BM	55C2				4,3	M	-	6,5,4	BM	55C2
	3,2,1	BM	55E3	2,1	M	2E2	2,1	M	2E2	3,2,1	BM	55E3	2,1	M	2E2	2,1	M	2E2	3,2,1	BM	55E3
BOT	3,2,1	BM	55F4				2,1	M	32C3	3,2,1	BM	55F4				2,1	M	32C3	3,2,1	BM	55F4
	5,4	M	35G7							5,4	M	35G7							5,4	M	35G7
COIL			2E1			1F9			1F9			2E1			1F9			1F9			2E1

RELAY DESIG	ZJ			ZJ			ZJ1														
CODE	U483			U1249			U1323														
OPTION	CW			CX,GV																	
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP							8,7	M	2E2												
				4,3	M	-	6,5,4	BM	55C2												
	2,1	M	2E2	2,1	M	2E2	3,2,1	BM	55E3												
BOT				2,1	M	32C3	3,2,1	BM	55F4												
							5,4	M	35G7												
COIL			1F9			1F9			2E1												

OPTION	NETWORK DESIG	LOC	CODE
FB	ZA1	2E1	185A
	ZB1	2E1	
	ZC1	2E1	
	ZD1	2E1	
	ZE1	2E1	
	ZF1	2E1	
	ZG1	2E1	
	ZH1	2E1	
	ZI1	2E1	
	ZJ1	2E1	

DRAWING ISSUE: 101D, 102D

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ORIGINATING MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-C42

APP FIG 42
(SEE NOTE 102(b) PAR.13).

RELAY

DESIG	TP'								
CODE	U192								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
	6,5,4	BM	10C8						
	3,2,1	BM	10B8						
BOT	3,2,1	BM	10B8						
	5,4	M	6B6						
COIL			4C3						

NETWORK

OPTION	DESIG	LOC	CODE
FY	TP'	4C3	185A

APP FIG 43
(SEE NOTE 102(b) PAR.1)

DESIG	SA-		
CODE	263BH		
OPTION	IA		
CODE	287A		
OPTION	IB		
59	-		
58	-		
57	-		
56	-		
55	-		
49	-		
48	-		
47	-		
46	-		
45	-		
39	7E7		
38	7E7		
37	7E7		
36	7E7		
35	7E7		
29	7E7		
28	7E7		
27	7E7		
26	7E7		
25	7E7		
19	7E7		
18	7E7		
17	7E7		
16	7E7		
15	7E7		
9 OR 09	7C7		
8 OR 08	7C7		
7 OR 07	7C7		
6 OR 06	7C7		
5 OR 05	7C7		
COIL	7B1		
54	-		
53	-		
52	-		
51	-		
50	-		
44	-		
43	-		
42	-		
41	-		
40	-		
34	7E8		
33	7E8		
32	7E8		
31	7E8		
30	7E8		
24	7E8		
23	7E8		
22	7E8		
21	7E8		
20	7E8		
14	7D8		
13	7D8		
12	7D8		
11	7D8		
10	7D8		
4 OR 04	7C8		
3 OR 03	7C8		
2 OR 02	7C8		
1 OR 01	7C8		
0 OR 00	7C8		
COIL	7B1		

CODE 263B PROVIDES CONTACTS 0-39 ONLY.

CAPACITOR

DESIG	LOC	CODE
SA-	7E1	441B

APP FIG 44 (MFR DISC)
(SEE NOTE 191)

RELAY

DESIG	EAR			LAR								
CODE	U6030			U6030								
OPTION												
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP												
	5,4	M	32A6	5,4	M	-						
	3,2,1	BM	14C8	3,2,1	BM	14C8						
BOT	3,2,1	BM	17C3	3,2,1	BM	17D3						
	5,4	M	17D4	5,4	M	-						
COIL			14B5			14A5						

NETWORK

DESIG	LOC	CODE
EAR	14C5	185A
LAR	14A5	

APP FIG 45
(SEE NOTE 102(b) PAR.15)
WIRING ONLY

DRAWING ISSUE 101D

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ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C43

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-C43

HIGGINS 4465

APP FIG 46
(SEE NOTE 102(b) PAR.15)

RELAY

DESIG	OBT											
CODE	U1354											
OPTION												
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP												
	5,4	M	25F4									
	3,2,1	BM	25A5									
BOT.	3,2,1	BM	64B7									
	5,4	M	63C7									
COIL			20A4									

NETWORK

DESIG	LOC	CODE
OBT	20A4	185A

RESISTOR

DESIG	LOC	CODE
OBT	25F5	18AC,500

APP FIG 47
(SEE NOTE 102(b) PAR.15)

RELAY

DESIG	PRH											
CODE	U1364											
OPTION												
	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP												
	6,5	M	-									
	4,3	M	1381									
	2,1	B	-									
BOT	2,1	M	20A6									
	4,3	M	-									
COIL			30A9									

NETWORK

DESIG	LOC	CODE
PRH	30A9	185A

APP FIG 48
(SEE NOTE 102(b) PAR.16)

RELAY

DESIG	TUR											
CODE	U532											
OPTION												
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP												
	5,4	M	6289									
	3,2,1	BM	3564									
BOT.	3,2,1	BM	-									
	5,4	M	6289									
COIL			a									

a P- 382
S-3584

APP FIG 49
(SEE NOTE 102(b) PAR.17)

RELAY

DESIG	AN											
CODE	U53											
OPTION												
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP												
	8,7	M	1004									
	6,5,4	BM	10E7									
	3,2,1	BM	1009									
BOT	3,2,1	BM	10E7									
	5,4	M	-									
	7,6	M	1001									
COIL			1001									

APP FIG 50
(SEE NOTE 102(c) PAR.6)

RELAY

DESIG	FM2											
CODE	U66											
OPTION												
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP												
	4,3	M	-									
	2,1	M	1081									
BOT.	2,1	B	-									
	4,3	M	65F7									
COIL			1081									

APP FIG 51
(SEE NOTE 102(b) PAR.10)

RELAY

DESIG	PC--		PC--										
CODE	AK6												
OPTION													
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	
12			BM	-									12
11			BM	-									11
10			BM	-									10
9			BM	62F3									9
8			BM	62G2									8
7													7
6													6
5	BM	-											5
4	BM	-											4
3	BM	-											3
2	BM	62F3											2
1	BM	62G2											1
COIL		62F2		62F2									COIL

NETWORK

DESIG	LOC	CODE
PC--	62F2	185A

APP FIG 52
(SEE NOTE 102(b) PAR.10)

RELAY

DESIG	MF											
CODE	U990											
OPTION												
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP												
	6,5,4	BM	-									
	3,2,1	BM	62E2									
BOT.	3,2,1	BM	62C2									
	5,4	M	4G3									
COIL			4G3									

APP FIG 53 (A & M ONLY)
(SEE NOTE 102(d) PAR.7)

RELAY

DESIG	LA1					
CODE	U934					
OPTION						
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	8,7	M	-			
	6,5	M	13A6			
	4,3	M	13A6			
	2,1	M	13A6			
BOT	2,1	M	13A6			
	4,3	M	13A6			
	6,5	M	-			
COIL			16H3			

CAPACITOR

OPTION	DESIG	LOC	CODE
CU	CZ1	16E1	1/2 441C
	CZ2	16E1	

NETWORK

OPTION	DESIG	LOC	CODE
CV	CZ1	16B1	1/2 177H
	CZ2	16D1	
	LA1	16H3	185A

RESISTOR

OPTION	DESIG	LOC	CODE
CU	CZ	16F0	19CG

DESIG	ULA
CODE	2633
OPTION	
39	1184
38	1184
37	1184
36	1184
35	1184
29	1184
28	1184
27	1184
26	1184
25	1134
19	1184
18	1184
17	1184
16	-
15	16H4
9	1184
8	1184
7	1184
6	6282
5	-
COIL	16A1

DESIG	LLA
34	1184
33	1184
32	1184
31	1184
30	1184
24	1184
23	1184
22	1184
21	1184
20	1184
14	1184
13	1184
12	1184
11	-
10	16H4
4	1184
3	1184
2	1184
1	6232
0	-
COIL	1601

APP FIG 54
(SEE NOTE 102(d) PAR.18)

DESIG	ULA
CODE	287A
OPTION	
59	1386
58	1386
57	1386
56	1386
55	1386
49	-
48	-
47	-
46	-
45	-
39	1184
38	1184
37	1184
36	1184
35	1184
29	1184
28	1184
27	1184
26	1184
25	1184
19	1184
18	1184
17	1184
16	-
15	-
09	1184
08	1184
07	1184
06	62C2
05	-
COIL	16A1

DESIG	LLA
58	1386
53	1386
52	1386
51	1386
50	1386
44	-
43	-
42	-
41	-
40	-
34	1184
33	1184
32	1184
31	1184
30	1184
24	1184
23	1184
22	1184
21	1184
20	1184
14	1184
13	1184
12	1184
11	-
10	-
04	1184
03	1184
02	1184
01	6282
00	-
COIL	16D1

NETWORK

OPTION	DESIG	LOC	CODE
CV	CZ1	16B1	1/2 177H
IZ	CZ1	16B1	190A
CV	CZ2	16D1	1/2 177H
IZ	CZ2	16E1	190A

APP FIG 55
(SEE NOTE 102(b) PAR.19)

RELAY

DESIG	AR3			AR4			CC0			CC1			CC2			CC4			CC7		
CODE	U770			U1131			U809			U809			U809			U809			U809		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP							10,9	M	18A1	10,9	M	18A1	10,9	M	18B1	10,9	M	18B1	10,9	M	18C1
				9,10,11	BM	17G6	8,7	M	16D6	8,7	M	16C5	8,7	M	16C5	8,7	M	16D5	8,7	M	16D5
	8,7	M	1001	8,7,6	BM	17A6	6,5	M	16D6	6,5	M	16D6	6,5	M	16C5	6,5	M	16D5	6,5	M	16D5
	6,5,4	BM	16A2	5,4,3	BM	18C8	4,3	M	16C6	4,3	M	16D6	4,3	M	16E6	4,3	M	16D5	4,3	M	16E5
	3,2,1	BM	1602	2,1	M	16C7	2,1	M	16C6	2,1	M	16C6	2,1	M	16D6	2,1	M	16E6	2,1	M	16E5
BOT	3,2,1	BM	16A7	3,2,1	BM	19D6	3,2,1	BM	1484	3,2,1	BM	1484	3,2,1	BM	1484	3,2,1	BM	1484	3,2,1	BM	1483
	6,5,4	BM	-	6,5,4	BM	1937	5,4	M	1407	5,4	M	14C7	5,4	M	14C7	5,4	M	14C7	5,4	M	14C7
	9,7	M	10E0	9,8,7	BM	18B7	7,6	M	14C6	7,6	M	14C6	7,6	M	14C6	7,6	M	14C6	7,6	M	14D6
							9,8	M	1407	9,8	M	1407	9,8	M	14C7	9,8	M	14C7	9,8	M	14C7
COIL			a			10E1			15A4			15D4			14F3			16A8			15F9

a P-63C4 S-10E1

DESIG	CCK			CII			EAR			EAR			LAR			LAR			EAR		
CODE	U 26			U495			U6030			U844			U6030			U844			U678		
OPTION							JN			JO,NW			JN			JO,JP,JQ			NV		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				12,11	M	482															
				10,9	M	27H1															
				8,7	M	19E6													9,8	M	17B4
				6,5	M	1806				8,7	M	15B3				8,7	M	15B3	7,6	M	15B3
	5,4	M	63C5	4,3	M	18D6	5,4	M	15D3	6,5,4	BM	15D3	5,4	M	15E3	6,5,4	BM	15E3	5,4	M	15D3
	3,2,1	BM	32C5	2,1	M	19C6	3,2,1	BM	17B4	3,2,1	BM	17B4	3,2,1	BM	14E5	3,2,1	BM	14E5	3,2,1	BM	18F4
BOT	2,1	M	1001	2,1	M	15H1	3,2,1	BM	14F2	3,2,1	BM	14F3	3,2,1	BM	14D4	3,2,1	BM	14D4	3,2,1	BM	
	4,3	M	62E0	4,3	M	15H2	5,4	M	16A6	6,5,4	BM	16A6	5,4	M	16B6	6,5,4	BM	16B6	5,4	M	16A6
				6,5	M	14H1				8,7	M	15F8				8,7	M	15E7	7,6	M	15F8
				9,7	M	1660													9,8	M	14F3
				10,9	M	15H2															
				12,11	M	-															
COIL			18A2			66F4			1405			1405			1485			1485			1405

DIODE

OPTION	DESIG	LOC	CODE
NP	AR3	10D2	446F
	ARL	16D3	426G
	ARU	16B3	426G
JP	XA	14E5	426A
JQ	XA	14E5	426A

RESISTOR

DESIG	LOC	CODE
CC8	18A0	19AG,226

NETWORK

OPTION	DESIG	LOC	CODE
	ARL	16E3	185A
	ARU	16B3	
	CC0	15A4	
	CC1	15D4	
	CC2	14F3	
	CC4	16A8	
	CC7	15F9	
	CCK	18A2	
	CII	66F4	
JN,JO,NV,NW	EAR	1405	
JN,JO,JP,JQ	LAR	1485	

DRAWING ISSUE
106D

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C45

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25016-01-C45

HIGGINS 44165

APP FIG 56
(SEE NOTE 1 & 102(b) PAR.19)

RELAY									
DESIG	STR(1ST)			STR(2ND)					
CODE	U1252			U1252					
OPTION									
	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC
TOP									
	3,2,1	BM	17C6	3,2,1	BM	17E6			
BOT									
COIL			1745			1755			

NETWORK		
DESIG	LOC	CODE
STR(1ST)	1745	185A
(2ND)	1765	

APP FIG 57
(SEE NOTE 102(b) PAR.10)

RELAY									
DESIG	ST4A								
CODE	U1290								
OPTION									
	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC
TOP									
	11,10,9	BM	35F1						
	8,7,6	BM	-						
	5,4	B	462						
	2,1,3	MS	51C9						
BOT	3,2,1	BM	35E1						
	6,5,4	BM	50D4						
	9,8,7	BM	62F0						
COIL			35F0						

DIODE		
DESIG	LOC	CODE
ST4A	35E1	446K

APP FIG 58
(SEE NOTE 102(b) PAR.19)

RELAY						
DESIG	AS0	AS1	AS2	AS3		
CODE	286B	286B	286B	286B		
OPTION						
	LOC	LOC	LOC	LOC	LOC	LOC
54	15A7	15A7	15A7	15A7		
53	15A7	15A7	15A7	15A7		
52	15A7	15A7	15A7	15A7		
51	15A7	15A7	15A7	15A7		
50	15A7	15A7	15A7	15A7		
44	15A7	15A7	15A7	15A7		
43	15A7	15A7	15A7	15A7		
42	15A7	15A7	15A7	15A7		
41	15A7	15A7	15A7	15A7		
40	15A7	15A7	15A7	15A7		
34	15A7	15A7	15A7	15A7		
33	15A7	15A7	15A7	15A7		
32	15A7	15A7	15A7	15A7		
31	15A7	15A7	15A7	15A7		
30	15A7	15A7	15A7	15A7		
24	15A7	15A7	15A7	15A7		
23	15A7	15A7	15A7	15A7		
22	15A7	15A7	15A7	15A7		
21	15A7	15A7	15A7	15A7		
20	15A7	15A7	15A7	15A7		
14	15A7	15A7	15A7	15A7		
13	15A7	15A7	15A7	15A7		
12	15A7	15A7	15A7	15A7		
11	15A7	15A7	15A7	15A7		
10	15A7	15A7	15A7	15A7		
04	15A7	15A7	15A7	15A7		
03	15A7	15A7	15A7	15A7		
02	15A7	15A7	15A7	15A7		
01	15A7	15A7	15A7	15A7		
00	15A7	15A7	15A7	15A7		
COIL	1587	1587	1587	1587		

NETWORK		
DESIG	LOC	CODE
AS0	1587	180A
AS1	1587	
AS2	1587	
AS3	1587	

APP FIG 59
(SEE NOTE 102(b) PAR.19)

RELAY									
DESIG	CII								
CODE	U695								
OPTION									
	CONT NO	CONT ARR		CONT NO	CONT ARR		CONT NO	CONT ARR	
TOP	12,11	M	482						
	10,9	M	27H1						
	8,7	M	1826						
	6,5	M	1826						
	4,3	M	1826						
	2,1	M	1826						
BOT	2,1	M	15H1						
	4,3	M	15H2						
	6,5	M	14H1						
	8,7	M	1650						
	10,9	M	15H2						
	12,11	M	-						
COIL			56F4						

NETWORK		
DESIG	LOC	CODE
CII	66F4	185A

APP FIG 60
(SEE NOTE 102(b) PAR.19)

RELAY																	
DESIG	ACC0			ACC1			ACC2			ACC4			ACC7				
CODE	U64			U64			U64			U64			U64				
OPTION																	
	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC
TOP	12,11	M	15C5	12,11	M	1903	12,11	M	19E3	12,11	M	19E3	12,11	M	15C5			
	10,9	M	19E3	10,9	M	15F5	10,9	M	19E3	10,9	M	19A5	10,9	M	15F5			
	8,7	M	19E3	8,7	M	19A5	8,7	M	16E9	8,7	M	19A2	8,7	M	16E9			
	6,5	M	1903	6,5	M	19E3	6,5	M	19A2	6,5	M	16E9	6,5	M	16E9			
	4,3	M	1458	4,3	M	1458	4,3	M	1458	4,3	M	1458	4,3	M	1458			
	2,1	M	1457	2,1	M	1457	2,1	M	1457	2,1	M	1457	2,1	M	1457			
BOT	2,1	M	1456	2,1	M	1456	2,1	M	1456	2,1	M	1456	2,1	M	1456			
	4,3	M	14F7	4,3	M	14F7	4,3	M	14F7	4,3	M	14F7	4,3	M	14F7			
	6,5	M	17E2	6,5	M	17E2	6,5	M	17G2	6,5	M	17E2	6,5	M	17E2			
	8,7	M	17F2	8,7	M	17G2	8,7	M	17H2	8,7	M	17G2	8,7	M	17H2			
	10,9	M	17F2	10,9	M	17H2	10,9	M	17F2	10,9	M	17G2	10,9	M	17H2			
	12,11	M	17G2	12,11	M	17E2	12,11	M	17F2	12,11	M	17F2	12,11	M	17G2			
COIL			1585			15E5			1669			16C3			1508			

NETWORK		
DESIG	LOC	CODE
ACC0	1585	185A
ACC1	15E5	
ACC2	1669	
ACC4	16C8	
ACC7	1508	

NOTES:
1. FOR ORDERING PURPOSES EACH APP FIG 56 CONTAINS ONE (STR) RELAY

DRAWING ISSUE 10K0

SD-25016-01-C46

101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C46

BELL TELEPHONE LABORATORIES INCORPORATED 6S

APP FIG 61

(SEE NOTE 102(b) PAR.19)

RELAY																							
DESIG	DR1			DR2			DR3			DR4			DR5			DR6			DR7				
CODE	U154			U154			U154			U154			U154			U154			U154				
OPTION	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC		
TOP	2,1	M	19G7	2,1	M	19G7	2,1	M	19G7	2,1	M	19G7	2,1	M	19G7	2,1	M	19G7	2,1	M	19G7		
BOT	2,1	M	-	2,1	M	-	2,1	M	-	2,1	M	-	2,1	M	-	2,1	M	-	2,1	M	-		
COIL			19G7			19G7			19G7			19G7			19G7			19G7			19G7		

RELAY																							
DESIG	DR8			DR9																			
CODE	J154			J154																			
OPTION	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC		
TOP	2,1	M	19G7	2,1	M	19G7																	
BOT	2,1	M	-	2,1	M	-																	
COIL			19G7			18G7																	

APP FIG 62 (MFR DISC)

(SEE NOTE 256,267)

RELAY																							
DESIG	ACC2			ACC4			XAC																
CODE	U1375			U1375			S74																
OPTION	JY			JY																			
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC								
TOP	5,4	M	15C8	5,4	M	15C8																	
	3,2,1	B4	-	3,2,1	B4	-	3,2,1	B4	14F8														
BOT	3,2,1	B1	16E7	3,2,1	B4	16D7																	
	5,4	M	19A2	5,4	M	19A2																	
COIL			16F8			16D8			1589														

NETWORK

OPTION	DESIG	LOC	CODE
JY	ACC2	16F8	185A
	ACC4	16D8	

RESISTOR

OPTION	DESIG	LOC	CODE
JY	XAC	15C8	19P

APP FIG 63

(SEE NOTE 102(b) PAR.19)

RELAY																							
DESIG	PD1																						
CODE	U192																						
OPTION	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC								
TOP	6,5,4	B4	-																				
	3,2,1	B4	19A7																				
BOT	3,2,1	B4	17E6																				
	5,4	M	6B3																				
COIL			4A3																				

NETWORK

DESIG	LOC	CODE
PD1	4A3	185A

APP FIG 64

(SEE NOTE 102(b) PAR.19)

RELAY																							
DESIG	IIX			IIX*																			
CODE	U226			U226																			
OPTION	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC								
TOP	9,8,7	B4	12F6	9,8,7	B4	12H6																	
	6,5,4	B4	12F6	6,5,4	B4	12J6																	
BOT	3,2,1	B4	-	3,2,1	B4	12J6																	
	3,2,1	B4	12J6	3,2,1	B4	-																	
	6,5,4	B4	12F6	6,5,4	B4	12H6																	
	9,8,7	B4	12E6	9,8,7	B4	12H6																	
COIL			19A0			19B0																	

NETWORK

DESIG	LOC	CODE
IIX	19A0	185A
IIX*	19B0	

APP FIG 65

(SEE NOTE 102(b) PAR.19)

RELAY																							
DESIG	DCN			DCNK																			
CODE	U225			UA134																			
OPTION	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC								
TOP	10,9,8	B4	a																				
	7,6,5	B4	27F3																				
	4,3	B	3404																				
	2,1	B	34F2	2,1	M	3404																	
BOT	3,2,1	B4	27H4	2,1	M	-																	
	6,5,4	B4	27E3																				
	9,8,7	B4	3405																				
COIL			28A5			27H7																	

a	28A5
	28A4

NETWORK

DESIG	LOC	CODE
DCNK	27H7	186A

APP FIG 66

(SEE NOTE 102(b) PAR.20)

WIRING ONLY

DRAWING ISSUE

ADD

SD-25016-01-C47

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C47

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

HIGGINS 4485

APP FIG 67
(SEE NOTE 102(b)PAR. 20)

RELAY									
DESIG	TCV								
CODE	U1334								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	4,3	M	37G2						
	2,1	M	37G2						
BOT.	2,1	M	30H7						
	4,3	M	59F6						
COIL			24D6						

APP FIG 68
(SEE NOTE 102(c)PAR. 5)

RELAY									
DESIG	TRI								
CODE	U168								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	5,4	M	-						
	3,2,1	BM	-						
BOT.	2,1,3	MB	33B1						
COIL			66B0						

DIODE

DESIG	LOC	CODE
CCK	18D1	426A

APP FIG 69
(SEE NOTE 102(c)PAR. 1)

RELAY									
DESIG	GSE1								
CODE	U499								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	5,4	M	41A0						
	3,2,1	BM	35D6						
BOT.	2,1	B	38G4						
	4,3	M	35C6						
COIL			41B0						

NETWORK

OPTION	DESIG	LOC	CODE
LM	GSE1	41B0	185A

APP FIG 70
(SEE NOTE 102(b)PAR. 21)

RELAY															
DESIG	AID			AIDI			AIDK								
CODE	U1326			U532			UA138								
OPTION															
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	11,10	M	28G3												
	9,8,7	BM	28E4												
	6,5	M	28B4												
	4,3	M	28B4	5,4	M	-									
	2,1	M	28B4	2,1	BM	34G6	2,1	M	34G6						
BOT.	2,1,3	MB	-	3,2,1	BM	27G4	2,1	M	-						
	5,4	M	28D6	5,4	M	-									
	8,7,6	BM	34G5												
	10,9	M	28D3												
COIL			28B5			28D5			27G7						

DIODE

DESIG	LOC	CODE
AIDO	28B4	426A
AIDI	28B4	
AID2	28C4	

NETWORK

DESIG	LOC	CODE
AID	28B5	185A
AIDI	28D5	
AID2	28D5	
AIDK	27G7	

RESISTOR

OPTION	DESIG	LOC	CODE
	AID	28G3	18AF,300
LF	AIDI	28D3	18DH,700

APP FIG 71
(SEE NOTE 102(b)PAR. 19)

RELAY									
DESIG	OF2			TED					
CODE	U717			U154					
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	4,3	M	64B8						
	2,1	M	19F8	2,1	M	19F7			
BOT.	2,1	B	1B2	2,1	M	10F1			
	4,3	M	31B4						
COIL			10F1			19E6			

DRAWING ISSUE
VOID
104 AR
CB

APP FIG 72

(SEE NOTE 102(b) PAR.19)

DESIG	ASA0		ASA1		ASA2		ASA3							
CODE	AF506		AF506		AF506		AF506							
OPTION														
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12	M	19C1	M	19C1	M	19C1	M	19C1						
11	M	19D1	M	19D1	M	19D1	M	19D1						
10	M	19E4	M	19E4	M	19E4	M	19E4						
9	M	19E4	M	19E4	M	19E4	M	19E4						
8	M	19E4	M	19E4	M	19E4	M	19E4						
7	M	19E4	M	19E4	M	19E4	M	19E4						
6	M	19E4	M	19E4	M	19E4	M	19E4						
5	M	19E4	M	19E4	M	19E4	M	19E4						
4	M	19E4	M	19E4	M	19E4	M	19E4						
3	M	19E4	M	19E4	M	19E4	M	19E4						
2	M	19E4	M	19E4	M	19E4	M	19E4						
1	M	19E4	M	19E4	M	19E4	M	19E4						
COIL		1587		1587		1587		1587						

NETWORK

DESIG	LOC	CODE
ASA0	1587	185A
ASA1	1587	
ASA2	1587	
ASA3	1587	

APP FIG 73

(SEE NOTE 102(b) PAR.19)

DESIG	ASA4		ASA5		ASA6		ASA7							
CODE	AK25				AK25									
OPTION														
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12														
11			M	19E1			M	19E1						
10			M	19F1			M	19F1						
9														
8														
7														
6														
5														
4	M	19E1			M	19E1								
3	M	19F1			M	19F1								
2	M	-			M	-								
1	M	-			M	-								
COIL		19C4		19D4		19C4		19D4						

NETWORK

DESIG	LOC	CODE
ASA4	19C4	185A
ASA5	19D4	
ASA6	19C4	
ASA7	19D4	

APP FIG 74

(SEE NOTE 102(b) PAR.19)

RELAY

DESIG	ASB0	ASB1	ASB2	ASB3	ASB4	ASB5	ASB6	ASB7	ASC0	ASC1	ASC2	ASC3	ASC4	ASC5	ASC6	ASC7		DESIG
CODE	286H	286H	286H	286H	286H	286H	286H	286H	286H	286H	286H	286H	286H	286H	286H	286H		CODE
OPTION																		OPTION
	LOC	LOC	LOC	LOC	LOC	LOC	LOC	LOC	LOC	LOC	LOC	LOC	LOC	LOC	LOC	LOC	LOC	
54	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		54
53	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		53
52	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		52
51	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		51
50	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		50
44	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		44
43	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		43
42	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		42
41	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		41
40	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		40
34	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		34
33	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		33
32	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		32
31	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		31
30	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		30
24	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		24
23	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		23
22	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		22
21	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		21
20	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		20
14	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		14
13	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		13
12	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		12
11	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		11
10	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		10
04	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		04
03	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		03
02	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		02
01	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		01
00	19F4	19F4	19F4	19F4	19F4	19F4	19F4	19F4	1904	1904	1904	1904	1904	1904	1904	1904		00
COIL	19C0	19C0	19C0	19C0	19D0	19E0	19D0	19E0	19D0	19D0	19D0	19D0	19F0	19F0	19F0	19F0		COIL

NETWORKS

DESIG	LOC	CODE
ASB0	19C0	180A
ASB1	19C0	
ASB2	19C0	
ASB3	19C0	
ASB4	19D0	
ASB5	19E0	
ASB6	19D0	
ASB7	19E0	
ASC0	19D0	
ASC1	19D0	
ASC2	19D0	
ASC3	19D0	
ASC4	19F0	
ASC5	19F0	
ASC6	19F0	
ASC7	19F0	

DRAWING ISSUE

VOID	

SD-25016-01-C49

101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C49

BELL TELEPHONE LABORATORIES INCORPORATED 6S

HIGGINS 4465 M-E

APP FIG 75

RELAY (SEE NOTE 102(b) PAR.19)

DESIG	DR10		DR11		DR12		DR13		DR14		DR15					
CODE	AK23				AK23				AK23							
OPTION																
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12			BM	-			BM	-			BM	-				
11			BM	19C7			BM	19E7			BM	19E7				
10																
9																
8																
7																
6																
5																
4																
3																
2	BM	-			BM	-			BM	-						
1	BM	19E7			BM	19E7			BM	19E7						
COIL		19C6		19D6		19C6		19D6		19C6		19D6				

RESISTOR

DESIG	LOC	CODE
[6] DR10-15	19C7,D7	198M

APP FIG 76 (MFR DISC) (SEE NOTE 276,277)

RELAY

DESIG	TST1		TST2							
CODE	AJ12		AJ12							
OPTION										
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12	EBM	1289	EBM	3181						
11	EBM	1782	EBM	3586						
10	EBM	56D5	EBM	31D3						
9	EBM	56B5	EBM	31D3						
8	EBM	56C5	EBM	31D3						
7	EBM	56A5	EBM	31D3						
6	EBM	57C7	EBM	31D3						
5	EBM	1E2	EBM	31D3						
4	EBM	a	EBM	31D3						
3	EBM	66E2	EBM	31D3						
2	EBM	52E9	EBM	31D3						
1	EBM	16E9	EBM	31D3						
COIL		52D7		52D9						

a	53A1
	66B9

NETWORK

DESIG	LOC	CODE
TST	52G4	190A
TST1	52C7	186A
TSTA	52G7	180A

APP FIG 77 (MFR DISC)

(SEE NOTE 276)

RELAY

DESIG	TST3		TST4							
CODE	AJ12		AJ22							
OPTION										
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12	EBM	21D1	EBM	21E1						
11	EBM	21D1	EBM	21E1						
10	EBM	21F1	EBM	21E1						
9	EBM	21F1	EBM	21E1						
8	EBM	21F1	EMB	5B44						
7	EBM	21F1								
6	EBM	21F1	EMB	-						
5	EBM	21F1								
4	EBM	21F1	EBM	21D1						
3	EBM	21F1	EBM	21D1						
2	EBM	21F1	EBM	21D1						
1	EBM	21F1	EBM	21D1						
COIL		52G9		52G9						

NETWORK

DESIG	LOC	CODE
TST3	52G9	186A

DESIG	TST	TSTA		
CODE	288C	288C		
OPTION				
59	-	-		
58	53B1	-		
57	53B1	-		
56	53B1	53A1		
55	53B1	59E6		
49	53B1	53A1		
48	53B1	53A1		
47	53B1	53A1		
46	53B1	53A1		
45	53B1	53A1		
39	53B1	7G7		
38	53B1	7G7		
37	53B1	7G7		
36	53B1	7G7		
35	53B1	7G7		
29	53C1	7G7		
28	53C1	7G7		
27	53C1	7G7		
26	53C1	7G7		
25	53C1	7G7		
19	53D1	7F7		
18	53D1	7F7		
17	53D1	7F7		
16	53D1	7F7		
15	53D1	7F7		
09	53D1	7F7		
08	53D1	7F7		
07	53D1	7F7		
06	53D1	7F7		
05	53D1	7F7		
COIL	52G4	52G7		
54	53B1	59E6		
53	53B1	59E6		
52	53B1	59E6		
51	53B1	53A1		
50	53B1	53A1		
44	53B1	53A1		
43	53B1	53A1		
42	53B1	53A1		
41	53B1	53A1		
40	53B1	53B1		
34	53C1	7G7		
33	53C1	7G7		
32	53C1	7G7		
31	53C1	7G7		
30	53C1	7G7		
24	53C1	7F7		
23	53C1	7F7		
22	53C1	7F7		
21	53C1	7F7		
20	53C1	7F7		
14	53D1	7F7		
13	53D1	7F7		
12	53D1	7F7		
11	53D1	7F7		
10	53D1	7F7		
04	53D1	7F7		
03	53D1	7F7		
02	53F1	7F7		
01	53F1	7F7		
00	53F1	7F7		
COIL	52G4	52G7		

APP FIG 78 (MFR DISC)

(SEE NOTE 277)

WIRING ONLY

APP FIG 79 (MFR DISC)

(SEE NOTE 276,277)

WIRING ONLY

APP FIG 80 (MFR DISC)

(SEE NOTE 276,277)

WIRING ONLY

DRAWING ISSUE 101D

SD-25016-01-C50

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ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C50

BELL TELEPHONE LABORATORIES INCORPORATED 6S

HIGGINS 4465

APP FIG 81
(SEE NOTE 102(c)PAR. 7)

RELAY												
DESIG	ARA		PEG		PEGI							
CODE	AK500				AG10							
OPTION												
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12	B				M							
11	BM	67D4			M							
10	M	10A2			M							
9	B				B							
8	B				M							
7					B							
6					M							
5			B	988	B							
4			BM		M							
3			M	62D1	B							
2			BM		M							
1			M	67E4	M	67E3						
COIL		10B1		62C0		989						

DIODE		
DESIG	LOC	CODE
MR1	67D3	446F

APP FIG 82
(SEE NOTE 102(b)PAR. 10)

RELAY									
DESIG	TD								
CODE	U541								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
	3,2,1	BM							
BOT.	2,1	M	62F1						
	4,3	M	62F2						
COIL			62F0						

DRAWING ISSUE
IOID	

SD-25016-01-C51

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ORIGINATING MARKER CIRCUIT (2) SD-25016-01-C51

BELL TELEPHONE LABORATORIES INCORPORATED 6S

APP FIG 83

RESISTOR

OPTION	DESIG	LOC	CODE
	RG00-39	30B9	YS-16645,L1,47kΩ

APP FIG 84

RELAY

DESIG	[4] CKA-					
CODE	AJ137					
OPTION						
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12	EBM					
11	EMB					
10	EBM					
9	EMB	6881				
8	EBM					
7	EMB	6881				
6	EBM					
5	EMB	6881				
4	EBM					
3	EMB	6881				
2	EBM	68C1				
1	EMB	6881				
COIL		13C1				

DIODE

OPTION	DESIG	LOC	CODE
	CKA	13C1	446F

NETWORK

OPTION	DESIG	LOC	CODE
[4]	CKA-	13D1	185A

APP FIG 85

RELAY

DESIG	RT-(ODD)		RT-(EVEN)							
CODE	AK30									
OPTION										
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12	M	6851								
11	EBM									
10	EBM									
9	EMB									
8	EMB	68F1								
7										
6										
5			EMB	68F1						
4			EMB							
3			EBM							
2			EBM							
1			M	6881						
COIL		6843		6843						

NETWORK

OPTION	DESIG	LOC	CODE
	RT-	6843	185A

APP FIG 86

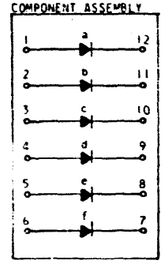
RELAY

DESIG	RTP					
CODE	AJ272					
OPTION						
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
24	M	68F3				
23	M	68F3				
22	M	68F3				
21	M	68F3				
20	M	68F3				
19	M	68F3				
18	M	68F3				
17	M	68F3				
16	M	68F3				
15	M	68F3				
14	M	68F3				
13	M	68F3				
12	M	68F3				
11	M	68F3				
10	M	68F3				
9	M	68F3				
8	M	68F3				
7	M	68F3				
6	M	68F3				
5	M	68F3				
4	M					
3	M					
2	M	68E2				
1	M					
COIL		68D0				

RELAY

DESIG	RTPA									
CODE	AJ504									
OPTION										
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12										
11	BM									
10	M									
9	BM									
8										
7	BM									
6	B									
5	BM									
4	M									
3	BM									
2	M									
1	BM	68D1								
COIL		68E0								

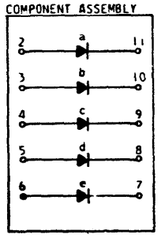
COMPONENT ASSEMBLY



DESIG	CA0
CODE	ED-94923-(),G277
OPTION	

COMPONENT		DESIG	LOC	CODE
DIODE	a	P10	68F3	446F
	b	P11	68F3	
	c	P12	68F3	
	d	P13	68F3	
	e	P14	68F3	
	f	RTP	63F1	

COMPONENT ASSEMBLY



DESIG	CA1		CA2		CA3		CA4		CA5		CA6		CA7	
CODE	[7] ED-94823-(),G217													
OPTION														
COMPONENT	CODE	DESIG	LOC	DESIG	LOC	DESIG	LOC	DESIG	LOC	DESIG	LOC	DESIG	LOC	DESIG	LOC
DIODE a	446F	P15	68F3	P20	68F3	P25	68F3	RT10	68F4	RT15	68F4	RT20	68F4	RT25	68F4
b		P16	68F3	P21	68F3	P26	68F3	RT11	68F4	RT16	68F4	RT21	68F4	RT26	68F4
c		P17	68F3	P22	68F3	P27	68F3	RT12	68F4	RT17	68F4	RT22	68F4	RT27	68F4
d		P18	68F3	P23	68F3	P28	68F3	RT13	68F4	RT18	68F4	RT23	68F4	RT28	68F4
e		P19	68F3	P24	68F3	P29	68F3	RT14	68F4	RT19	68F4	RT24	68F4	RT29	68F4

NETWORK

OPTION	DESIG	LOC	CODE
	RTP	68D0	185A
	RTPA	68E0	185A

DRAWING ISSUE
101D
102D

CIRCUIT NOTES:

101.

DES1G	FUSE AMP	POTENTIAL	ONE PER
A	1-1/3	-48 SIGNAL	CIRCUIT
B	1-1/3	-48 SIGNAL	CIRCUIT
C	1-1/3	-48 SIGNAL	CIRCUIT
D	1-1/3	-48 SIGNAL	CIRCUIT
E	1-1/3	-48 SIGNAL	CIRCUIT
F	1-1/3	-48 SIGNAL	CIRCUIT
G	1-1/3	-48 SIGNAL	CIRCUIT
H	1-1/3	-48 SIGNAL	CIRCUIT
J	1-1/3	-48 SIGNAL	CIRCUIT
K	1-1/3	-48 SIGNAL	CIRCUIT
L	1-1/3	-48 SIGNAL	CIRCUIT
M	1-1/3	-48 SIGNAL	CIRCUIT
N	1-1/3	-48 SIGNAL	CIRCUIT
P	1-1/3	-48 SIGNAL	CIRCUIT
R	1-1/3	-48 SIGNAL	CIRCUIT
S	1-1/3	-48 SIGNAL	CIRCUIT
T	1-1/3	-48 SIGNAL	CIRCUIT
U	1-1/3	-48 SIGNAL	CIRCUIT
V	1-1/3	-48 SIGNAL	CIRCUIT
W	1-1/3	-48 SIGNAL	CIRCUIT
X	1-1/3	-48 SIGNAL	CIRCUIT
Y	1-1/3	-48 SIGNAL	CIRCUIT
Z	1-1/3	-48 SIGNAL	CIRCUIT
AA	1-1/3	-48 SIGNAL	CIRCUIT
AB	1-1/3	-48 SIGNAL	CIRCUIT
AC	1-1/3	-48 SIGNAL	CIRCUIT
AD	1-1/3	-48 SIGNAL	CIRCUIT
AE	1-1/3	-48 SIGNAL	CIRCUIT
AF	3	-48 SIGNAL	CIRCUIT
AG	3	-48 SIGNAL	CIRCUIT
AH	1-1/3	-48 SIGNAL	CIRCUIT
** AL	1-1/3	-48 SIGNAL	CIRCUIT
** AM	1-1/3	-48 SIGNAL	CIRCUIT
** AN	1-1/3	-48 SIGNAL	CIRCUIT
+130	1/2 HV	+130 SUPPLY	CIRCUIT
TP	1/2 HV	+130 SUPPLY	CIRCUIT
VD	1/2 HV	+130 SUPPLY	CIRCUIT
A		GROUND	CIRCUIT
B		GROUND	CIRCUIT
C		GROUND	CIRCUIT
D		GROUND	CIRCUIT
E		GROUND	CIRCUIT
F		GROUND	CIRCUIT
G		GROUND	CIRCUIT
H		GROUND	CIRCUIT
J		GROUND	CIRCUIT
K		GROUND	CIRCUIT
L		GROUND	CIRCUIT
M		GROUND	CIRCUIT
N		GROUND	CIRCUIT
P		GROUND	CIRCUIT
R		GROUND	CIRCUIT
S		GROUND	CIRCUIT
T		GROUND	CIRCUIT
U		GROUND	CIRCUIT
V		GROUND	CIRCUIT
W		GROUND	CIRCUIT
X		GROUND	CIRCUIT
Y		GROUND	CIRCUIT
Z		GROUND	CIRCUIT
AA		GROUND	CIRCUIT
AB		GROUND	CIRCUIT
AC		GROUND	CIRCUIT
AD		GROUND	CIRCUIT

BATTERY SYMBOL	VOLTAGE RANGE
-48	45-50
+130	125-135

** PROVIDE "AL" BATTERY FOR 1ST 5 APP FIGURES 85 AND 1ST 2 APP FIGURES 84. PROVIDE "AM" BATTERY FOR LAST 5 APP FIGURES 85 AND LAST 2 APP FIGURES 84.

102.(a)

FEATURES ALWAYS PROVIDED	PROVIDE: APP FIG	APP OR WRG	QUANTITY	SEE NOTE
CODE RECEIVING AND CHECKING RELAYS	1		1 PER CKT	
FIFTIES RELAYS	3		8,16, OR 32 PER CKT	
GROUND SUPPLY (1-4)	6	AC,AD	4 PER CKT	
ROUTE RELAYS	7			107
CONTROL AND TIMING RELAYS	8		1 PER CKT	
OFFICE FRAME RELAY	10		1 PER MKR FR PAIR	
(CROSS CONNECTIONS TO INDICATE THE NO. OF THE OFFICE FRAME)	11		1 PER CKT	
DISTRICT FRAME LOCK RELAY	12		1 PER EACH DISTRICT LINK FR	120, 180
TRUNK CONTROL RELAYS	13		1 PER CKT	
TRANSMITTING RELAYS	14		1 PER CKT	
CHANNEL TESTING RELAYS	15		20 PER CKT	
TRUNK GROUP ADVANCE RELAYS	16		1 PER CKT	102(b) 3
DISTRIBUTING SUCCESSIVE CALLS OVER DIFFERENT GROUPS OF LINKS AND JUNCTORS	17		1 PER CKT	
JUNCTOR CONTROL RELAYS	19			120, 180
TRUNK TESTING RELAYS	20		10 PER CKT	
LC- LEADS TO OFFICE LINK & CONN	20A		1 PER CKT	
TROUBLE INDICATOR CONN RELAYS	22		1 PER CKT	
SENDER TEST CIRCUIT CONN	23		1 PER SDR TEST CKT (MAX) 2	
CONTACT PROTECTION FOR CODE POINTS	24		5 PER CKT	113
GROUND SUPPLY (S) FOR OVERFLOW AND PERMANENT SIGNAL	25		1 PER CKT	
ORIGINATING MARKER TEST	26		1 PER CKT	
ORIGINATING MARKER BUSY	27,S		1 PER CKT	
CHANNEL CONTROL RELAYS	28		1 PER CKT	

102.(b)

PAR	FEATURE OR OPTION			PROVIDE: APP FIG	APP OR WRG	QUANTITY	SEE NOTE
1	TENS RELAYS, FOR USE WITH ALL BUT 2 DIGIT SENDERS			2	E	1 PER CKT	
	CLASS OF SERVICE RELAYS			4		1 PER CLASS OF SERVICE (MAX 25)	
	AUXILIARY CLASS OF SERVICE RELAYS TO PROVIDE MORE THAN 20 SC- POINTS			43	H	1 PER CLASS OF SERVICE	102(e) 14; 102(d) 5
2	GROUPING RELAYS FOR TRUNK GROUPS HAVING 2 OR 3 SUB-GROUPS	1-15 GROUPS		5			122
		16-30 GROUPS					
3	3 TRUNK GROUPS WHICH ARE DIVIDED INTO 4,5,7, OR 13 SUB-GROUPS OR ANY COMBINATION OF THREE OF THESE TRUNK GROUPS			9		1 PER CKT	
	3 TRUNK GROUPS (IN ADDITION TO THOSE PROVIDED IN APP FIG 9) WHICH ARE DIVIDED INTO 4 SUB-GROUPS			9A		1 PER CKT	
	3 TRUNK GROUPS (IN ADDITION TO THOSE PROVIDED IN APP FIG 9) WHICH ARE DIVIDED INTO 5 SUB-GROUPS			9B		1 PER CKT	
	TRUNK GROUPS DIVIDED INTO	EXACTLY 2 SUB-GROUPS			AG		
		2 OR MORE SUB-GROUPS			BE		127
		OVERFLOW OR PERMANENT SIGNAL TRUNK GROUPS DIVIDED INTO 3 OR MORE SUB-GROUPS OR ANY OTHER TYPE TRUNK GROUP DIVIDED INTO 4 OR MORE SUB-GROUPS			AF		174
4	ORIGINATING MARKER TESTS OUTGOING TRUNKS OR GROUPS OF TRUNKS	USED IN COMMON WITH	PANEL SELECTORS	13A	AA,X	1 PER CKT	
			DECREASED MARKER HOLDING TIME		AO		174
			#1 DECREASED MARKER HOLDING TIME	AE	CA		
			MARKER GROUP 100		AB	1 PER CKT	102(e) 3,13
			MARKER GROUP 0	13B	AA	1 PER CKT	
		NOT USED IN COMMON			AA,Y		
5	PATTERN RELAYS			18			120 (A&M) & 180
6	PATTERN AUXILIARY RELAYS			21			
7	CHANNEL BUSY ARRANGEMENTS FOR JUNCTOR DISTRIBUTION				Z,W, AJ,AK		
8	"A" SWITCHBOARD ROUTE TRANSFER CONTROL OR TERMINATING SENDER LOAD CONTROL			30		1 PER MKR	
				33		1 ROUTE RELAY PER TERM. MKR GROUP	102(e) 7,14; 184;
	TERMINATING SENDER LOAD CONTROL				BX		
	ROUTE TRANSFER RELAY LAMP REQD				BW		102(d) 4;
	TERMINATING OVERLOAD ROUTE TRANSFER CANCELLED ON ATTENDANT CLASS CALLS			35	H		
		NOT REQD			G,A		259
9	OVERFLOW OR ANNOUNCEMENT ROUTE FOR PARTIAL DIAL OR STUCK SENDER IN OFFICE EQUIPPED WITH SENDERS PER SD-27810-01				BV		102(e) 8; 281
10	MARKER PEG COUNT ON A CLASS OF SERVICE BASIS FOR MESSAGE REGISTER OPERATION			36			166, 186
	INDIVIDUAL PEG COUNT FOR CODE POINTS WHICH OPERATE & ROUTE RELAY IN COMMON WITH A GROUP OF CODE POINTS			51		1 PER CODE POINT	
	SEPARATE PEG COUNT REGISTRATIONS FOR TOUCH-TONE AND ROTARY DIALED CALLS	REQUIRED		52,57	JB,JK, MK,MM, NQ,NR	1 PER CKT	286
		SUB-SENDER RECYCLE		82	JF,MQ	1 PER CKT	287
		NOT REQUIRED			JA		
		SUB-SENDER RECYCLE			JE		

102.(b)

PAR	FEATURE OR OPTION			PROVIDE: APP FIG	APP OR WRG	QUANTITY	SEE NOTE
11	REROUTE COIN ZONE CALLS THROUGH CROSSBAR TANDEM USING 7 DIGIT PCI OUTPULSING OR THROUGH PANEL SENDER TANDEM			37			168
12	OFFICE ARRANGED FOR A.M.A. OR MESSAGE REGISTER OPERATION	AUTOMATIC MESSAGE ACCOUNTING		39, 40	FJ	1 PER CKT	181
		TO CAUSE MARKER TO BLOCK ON A.M.A. OTI TEST CALL FAILURES			GZ		102(e) 4
		KEYPULSING SENDERS SERVED		AI		1 PER CKT	
		MESSAGE REGISTER OPERATION		41	EF,FI, FM,FN	1 PER CKT	102(e) 2,9;
			KEYPULSING SENDERS SERVED	AH		1 PER CKT	116, 174
			TROUBLE RECORD OF OPEN OR FALSE BATTERY ON "MR" LEAD	AC			
				BA	CX		102(e) 15; 128
13	SPLIT TWO PARTY SERVICE	FIRST CLASS			FC,FD, FQ		102(e) 2; 182
		ONE TO THREE ADDITIONAL CLASSES	REQUIRED	42	FX,FY	1 PER CKT	
			NOT REQUIRED		FW		
	TWO PARTY FLAT RATE SERVICE WITH 1IP PARTY IDENTIFICATION REQUIRED FOR AUTOMATIC NUMBER IDENTIFICATION				JI		
			NOT REQUIRED		JH		
14	SECOND SUBSCRIBER SENDER GROUP CLASS DISTINCTION		REQUIRED	AV	LI	1 PER CKT	185
			NOT REQUIRED	A		1 PER CKT	
15	HIGH 5 INCOMING GROUP FOR OFFICE "A" AND "B" ROUTING OVER A COMMON TRUNK GROUP AND USE OF SEPARATE ROUTE RELAYS FOR OFFICE "A" & "B" IS TO BE AVOIDED		REQUIRED	7,47		1 PER COMMON TRUNK GROUP ROUTE	198
				46	FK	1 PER CKT	
			NOT REQUIRED	45		1 PER CKT	
16	TRAFFIC USAGE RECORDER	PROVIDED			II		
		SEPARATE PLUGGED BUSY AND SERVICE BUSY INDICATIONS		48,M	IR	1 PER CKT	241
		NOT PROVIDED			IH		
17	INTER-SENDER TIMING	PROVIDED	WITH ANNOUNCEMENT	49	IE	1 PER CKT	237
			PROVISION FOR OPERATING "PC" REGISTERS OF OVERFLOW AND ANNOUNCEMENT TRUNK GROUPS		IG		238
		NOT PROVIDED, BUT REQUIRE PREVENTION OF FALSE "PC" REGISTRATIONS OF OVERFLOW TRUNK GROUPS BY LINES WHICH WERE DENIED SERVICE BY MEANS OF AN OPEN "MR" LEAD			IF		
18	THREE DIGIT TRANSLATORS REQUIRED			54	IZ	1 PER CKT	248, 102(d) 7
		RB BAY PROVIDED			IY		
		SUBSCRIBER SENDER RECYCLE	PROVIDED		BF,JD		
			NOT PROVIDED		JC		

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ORIGINATING MARKER CIRCUIT

(2) SD-25016-01-DI

BELL TELEPHONE LABORATORIES INCORPORATED

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CIRCUIT NOTES: (CONT)

102(b) (CONT)

PAR	FEATURE OR OPTION			PROVIDE APP FIG.	PROVIDE APP OR MPG	PROVIDE QUANTITY	SEE NOTE
19	SUBSCRIBER SENDER RECYCLE OR ACCESS CODE				JR		
	IF OPTION 1B IS FURNISHED				JM		102(d) 3
				:5	LM	1 PER CKT	
	DETECT "0" OR "1" FOLLOWING COMPRESSED CODE	REQUIRED		AZ		1 PER CKT	204
		NOT REQUIRED		AY			
	MARKER SERVES ORIGINATING TRAFFIC FROM	ONE NUMBERING PLAN AREA		AR		1 PER CKT	
		TWO NUMBERING PLAN AREA		AS		1 PER CKT	
		AND ONLY ONE AREA HAS DIALING PLAN WHICH USES N 0/1 X CODES AS OFFICE CODES, A "0" OR "1" PREFIX TO INDICATE 10 DIGITS AND NO PREFIX TO INDICATE 7 DIGITS	YES		MU	1 PER CKT	
			NO		MR		
	RECONSTRUCTION OF RECYCLED AREA CODES				KR		199, 266
	ROUTE RELAYS USED FOR COMPRESSED CODES REQUIRE SINGLE TANDEM OFFICE ROUTING OR ROUTING TO VACANT CODE OR OVERFLOW			56	GS	1 PER ROUTE RELAY	
	ACCESS CODES FEATURE	PROVIDED			JP,JT		
		ANNOUNCEMENT OF MISDIALING OF ACCESS 1 DIGIT REQUIRED	YES		MV		
			NO		MW		
		NOT PROVIDED			JO		
	ACCESS CODES OPERATION			58,60, 61,63, 64	JY		102(e) 12
	WITHOUT RECYCLE			59			
	INTERCHANGEABLE OFFICE AND AREA CODE OPERATION	WITHOUT TIMING					337
		WITH TIMING		71,72, 73,74	OMIT LD		
		KEYPULSING SENDERS NOT SERVED			LC		
		10 ADDITIONAL SETS OF SCREENING CONTACTS			LE		
		MORE THAN 9 DIVERTED ROUTE RELAYS REQUIRED		75		1 PER PAIR OF ADDITIONAL DIVERTED ROUTE RELAYS	
	PREFIX-CODES 01,10,11	REQUIRED			LQ		
		5 DIGIT TRANSLATORS	PROV		LR		
			NOT PROV		LS		102(e) 10
		NOT REQUIRED			LP		
	WITH AUTOMATIC MESSAGE ACCOUNTING			65	KB, OMIT KE	1 PER CKT	259
	4,8, OR 10 PARTY LINES	PROVIDED		AT		1 PER CKT	
		NOT PROVIDED		AU		1 PER CKT	
	ASSOCIATED SENDERS NOT EQUIPPED FOR FIRST OFFICE SELECTIONS				EC		102(e) 11; 102(c) 10
	AN OPTION PROVIDED				OMIT V		259
	AN OPTION NOT PROVIDED				DX,EM, EO		102(d) 2
20	ORIGINATING TROUBLE INDICATOR TESTS EXTRA LEADS IN MARKER			66	KL		262
20	ORIGINATING TROUBLE INDICATOR TESTS OUTGOING TRUNK GROUP PEG COUNT AND OVERFLOW REGISTERS			67	KP		
21	AUTOMATIC IDENTIFICATION OF 101 ESS PBX STATIONS	REQUIRED		70	LB, OMIT KE		
		ANA OFFICE WITH ACCESS CODES			LF		
		NOT REQUIRED			LA		
22	ASSOCIATED SENDERS SERVE DISTRICT FRAMES NUMBERED IN THE RANGE 10-19				F,FF		185

102(b).

PAR	FEATURE OR OPTION			PROVIDE APP FIG.	PROVIDE APP OR MPG	PROVIDE QUANTITY	SEE NOTE
23	DIVERSION OF RESTRICTED PBX TRAFFIC OR EXTRA CHARGE CALLS	REQUIRED		AH	GV	1 PER CKT	102(c) 4,5; 242
		WITH RECYCLE USING COMPRESSED CODES			JG		
		ANA OR ANT	PROVIDED		H1		199
			NOT PROVIDED		H8		
		ANA PROVIDED			IS		242
		NOT REQUIRED		AL		1 PER CKT	
24	CONFENSATING RESISTANCE CONTROL FOR ALTERNATE ROUTE THROUGH OFFICE SELECTOR OR CROSSBAR TANDEM	PROVIDED		AM	CG	1 PER CKT	170
		NOT PROVIDED			CF		
25	DISTRICT AND OFFICE LINK HOLD MAGNETS ARE RESTRICTED TO 1570Ω UNITS				GH, GJ		102(d) 6; 135
26	CALL COMPLETED THROUGH THREE WIRE OFFICE SELECTORS	PROVIDED			S		
		NOT PROVIDED			R		
27	MARKER CONNECTOR FRAMES 4,5,6, OR 7 ARE PROVIDED				P	1 PER APP FIG. 27	
28	OFFICE FRAME EXTENSION				AH,EK		118
29	ASSOCIATED WITH WIRESPRING DISTRICT JUNCTOR CIRCUITS				HC		
30	QUICK TIMEOUT			H,T	B		102(e) 2
	ZONE REGISTRATION PROVIDED				AR		102(e) 9
31	MARKER ASSOCIATED WITH KEYPULSING SENDERS				AL,FH		
	SENDER RELEASE						102(e) 15
	WHEN ALL OVERFLOW TRUNKS ARE BUSY, SENDER RELEASES ON	3RD TRIAL ONLY					102(d) 1
		1ST, 2ND OR 3RD TRIAL		AX		1 PER CKT	156
	RELEASE SENDER ON 3RD TRIAL TROUBLE RELEASE						
	ASSOCIATED SENDERS SERVE DIALING OPERATORS OR KEYPULSING OPERATORS AND/OR INTEROFFICE DISTRICTS (SXS)	REQUIRED		V		1 PER CKT	102(e) 15; 156
		NOT REQUIRED		U		1 PER CKT	
32	TO PREVENT FALSE (XT) RELAY OPERATIONS	GROUND SUPPLY RELAYS PROVIDED	GS1,2		BF		
			GS3,4		BI		
					BK		
33	PREVENT SENDER RELEASE BEFORE "DC" LEAD IS GROUNDED ON SENDER TEST CALLS				KK		
34	AUTOMATIC NUMBER IDENTIFICATION				VARIOUS		199
35	TO PROVIDE FOR A TROUBLE INDICATOR RECORD OF THE ZONE REGISTRATION CKT NUMBER				AZ		102(b) 38
36	COIN SERVICE IMPROVEMENT (DIAL TONE FIRST OPERATION)			0,8C		1 PER CKT	102(c) 9;289, 291, 292, 293
37	REDUCE POSSIBILITY OF OPERATION A FUSE ON AN IMPROPERLY PERFORMED BRIDGED MARKERS TEST				MS		
38	MARKER ARRANGED TO WORK WITH DYNAMIC OVERLOAD CONTROL	YES		86		1 PER 5 RT-SIGNAL PATHS	
				85		1 PER 2 RT-SIGNAL PATHS	
					MM		
		ROUTE TRANSFER PEG COUNTS TO BE TAKEN	YES	86	MY	1 PER CKT	
			NO		MX		
	NO				MV		
39	ANI WITH TIP PARTY CHARGE	PROVIDED			MV,MT		102(e) 3;199, 336
		NOT PROVIDED			IO		

102(b).

PAR	FEATURE OR OPTION		PROVIDE APP FIG.	PROVIDE APP OR MPG	PROVIDE QUANTITY	SEE NOTE
40	OFFICE ARRANGED FOR OPERATION WITH MESSAGE CHARGING SYSTEM (AT & T CO SPL)	REQUIRED		QB		338
		NOT REQUIRED		QA		

CIRCUIT NOTES: (CONT)

AFTER DATE STANDARDS

102(c)

PAR	FEATURE OR OPTION	PROVIDE APP FIG	PROVIDE APP OR WRG	PROVIDE QUANTITY	SEE NOTE
1	TO TEST THE GROUP START-GROUP END FEATURE FROM THE ORIGINATING TROUBLE INDICATOR	69, AO	GN, GX	1 PER CKT	102(e), 4
2	MARKER ASSOCIATED WITH WIRESPRING DISTRICT JUNCTORS		HC		
3	TO CAUSE ORIGINATING MARKER TO BLOCK ON DIRECT PANEL CLASS CALL IF RELAY (OG5) FAILS TO OPERATE		HM		
4	START AUXILIARY RELAY	57	JK	1 PER CKT	
5	IMPROVE ORIGINATING TROUBLE INDICATOR INDICATIONS OF OPEN TRANSMITTING LEADS BETWEEN MARKER AND SENDER	68	KU		102(e), 6
6	TO RECORD CALLS ROUTED TO OVERFLOW ON SECOND TRIAL MATCH FAILURES	50	BF, HW		
7	SERVICE RESULTS PLAN	81	NI		102(e), 16
8	TO OMIT CONNECTION TO ZONE REGISTRATION CONTROL CIRCUIT ON THIRD TRIAL		AT		102(e), 7
9	TO CAUSE THE MARKER TO BLOCK ON ORIGINATING TROUBLE INDICATOR AUTOMATIC MESSAGE ACCOUNTING TEST CALL FAILURES		GZ		102(e), 4
10	WHEN ALL OF THE ASSOCIATED SENDERS ARE ARRANGED FOR OTHER THAN FIRST OFFICE SELECTIONS		AM		
11	ON ISSUE 82D AND ALL SUBSEQUENT ISSUES		KE		102(b), 19, 21
12	CONTACT PROTECTION FOR "AK" LEAD TO DISTRICT LINK AND CONNECTOR		BP		
13	RELAY REPLACEMENT 263 TO 287		IB		
	RELAY REPLACEMENT 264 TO 288		ID		
14	INCREASED CURRENT FLOW VALUES TO IMPROVE PREFORMANCE OF Y TYPE RELAYS		DP, EU		
15	ALL MARKERS BUSY ALARM	S		1 PER CKT	
16	DECREASED OPERATE TIME OF JD-RELAYS TO REDUCE MARKER HOLDING TIME	57	JK	1 PER CKT	
17	CHANNEL LOCK RELAY	F		1 PER CKT	
18	SELECT MAGNET CROSS DETECTION	H		1 PER CKT	102(d), 10
19	AUXILIARY CHECK RELAY	Z		1 PER CKT	
20	REQUIRED FOR MARKER SPEED UP (SEE NOTE 334)	BE,BH, BI,BP, BT,BV 130	NA,NG	1 PER CKT	
		BK		10 PER CKT	
		BR		20 PER CKT	
		BV, BW	NC, NK	1 PER CKT	
	WHEN CT OPTION IS PROVIDED		ND		
	WHEN ZONE REGISTRATION IS PROVIDED	BM	NE	1 PER CKT	
	OFFICE CONTAINS OFFICE LINK FRAMES OR DISTRICT LINK FRAME EQUIPPED WITH ANY CROSSBAR SWITCH(ES) WITH THE FOLLOWING CODES: D-98093 D-178402 D-98096 D-178403 D-158339 301A D-158340 301D (SEE NOTE 333) — YES		NH		
	OFFICE CONTAINS OFFICE LINK FRAMES OR DISTRICT LINK FRAME EQUIPPED WITH ANY CROSSBAR SWITCH(ES) WITH THE FOLLOWING CODES: D-98093 D-178402 D-98096 D-178403 D-158339 301A D-158340 301D (SEE NOTE 333) — NO		NI		
	WHEN OFFICE IS ARRANGED FOR AM OFFICE LINK EXTENSION FRAME		NL		

102(c)

PAR	FEATURE OR OPTION	PROVIDE APP FIG	PROVIDE APP OR WRG	PROVIDE QUANTITY	SEE NOTE

A&M ONLY

102(d)

PAR	FEATURE OR OPTION	PROVIDE APP FIG	PROVIDE APP OR WRG	PROVIDE QUANTITY	SEE NOTE
1	RELEASE OF SUBSCRIBER SENDER ON 3RD TRIAL ONLY WHEN ALL OVERFLOW TRUNKS ARE FOUND BUSY	AJ		1 PER CKT	156
	WITH KEYPULSING		BM		102(b), 31
2	WHEN ACCESS CODE OPERATION IS PROVIDED IN AUTOMATIC MESSAGE ACCOUNTING OFFICES AND SENDERS ARE NOT EQUIPPED FOR FIRST OFFICE SELECTIONS AND AM APPARATUS IS NOT PROVIDED		KD		102(b), 19
3	SUBSCRIBER SENDER RECYCLE OR ACCESS CODES ARE PROVIDED AND "IB" APPARATUS IS NOT FURNISHED		JX		102(b), 19
4	TERMINATING SENDER OVERLOAD CONTROL OR "A" SWITCHBOARD ROUTE TRANSFER CONTROL	32		1 PER CKT	
	ROUTE TRANSFER KEYS	31	BG OR BH OR CE OR GR	1 PER SWITCH-BOARD	102(b), 8
5	CLASS OF SERVICE AUXILIARY RELAYS REQUIRED TO PROVIDE MORE THAN 20 SC- POINTS	34		1 PER CLASS (MAX 25)	102(b), 1
6	DISTRICT AND OFFICE LINK HOLD MAGNETS ARE RESTRICTED TO 1940Ω UNITS		GG,GI		102(b), 25; 135
7	3 DIGIT TRANSLATORS ARE PROVIDED IN OFFICES EQUIPPED WITH APP FIG 29 AND IA APPARATUS	53			102(b) 18; 248
8	IN OFFICES EQUIPPED WITH OPTION KH		KZ		174, 199
9	MESSAGE REGISTER OFFICES WITH KEYPULSING SENDERS SERVED	AG		1 PER CKT	102(b), 12, 31
10	CHANNEL AND SELECT MAGNET CONTROL	G		1 PER CKT	102(c), 18

COORDINATING OPTIONS

102(e)

PAR	FEATURE OR OPTION	PROVIDE APP FIG	PROVIDE APP OR WRG	PROVIDE QUANTITY	SEE NOTE
1	ORIGINATING MARKER TESTS OUTGOING TRUNKS OR GROUPS OF TRUNKS USED IN COMMON WITH ANOTHER NO.1 CROSSBAR MARKER GROUP		Y		102(b), 4
2	TWO PARTY SERVICE PROVIDED AND AUTOMATIC MESSAGE ACCOUNTING IS NOT FURNISHED		DD,FC, FD,FG, HQ		
3	WHEN HV OPTION IS FURNISHED		J		
	WHEN OPTION AA IS FURNISHED — WITH HV OPTION		IV		
	WHEN OPTION AB IS FURNISHED — WITH HV OPTION		IW		
4	ADDITIONAL TROUBLE INDICATOR CONNECTING RELAY REQUIRED	AO		1 PER CKT	102(b) 12,23
5	DIVERSION OF RESTRICTED PBX TRAFFIC ON EXTRA CHARGE CALLS — PCI AND MF OUT-PULSING — PROVIDED		IU		102(b) 23
	NOT PROVIDED		IT		
6	WHEN APP FIG AQ IS USED WITH APP FIG 68 AND OPTION KU		KO		102(c), 5
7	ROUTE TRANSFER RELAYS USED FOR REROUTE TO OVERFLOW		AT		102(c), 8; 186
8	WHEN COIN SERVICE IMPROVEMENT (DIAL TONE FIRST OPERATION) IS REQUIRED		BV		102(b), 9, 36
9	WHEN MESSAGE REGISTER OPERATION IS REQUIRED		AR		102(b), 12
10	PREFIX CODES REQUIRED WITHOUT 3 DIGIT TRANSLATORS		GS		102(b) 18,19
11	WHEN AM APPARATUS IS FURNISHED AND ANY OF THE ASSOCIATED SENDERS IS NOT EQUIPPED FOR 1ST OFFICE SELECTIONS		V		102(c), 10; 102(b), 19
12	WHEN APP FIG 63 IS NOT PROVIDED		JS		102(b) 19
13 OPER DISC	WHEN AUTOMATIC NUMBER IDENTIFICATION WITH OPTION HV IS PROVIDED AND THE MARKER IS EQUIPPED WITH — APP FIG 13A OR 13B		KG		102(b), 4; 39; 199
	OPTION AB		KV		
14	WHEN APP FIG. 35 OR 43 IS REQUIRED		H		102(b), 8
15	SENDER TROUBLE RELEASE	BA		1 PER CKT	102(b), 31; 156
16	SERVICE RESULTS PLAN REQUIRED		BF		102(c), 7

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ORIGINATING MARKER CIRCUIT (2) SD-25016-01-D3

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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CIRCUIT NOTES: (CONT)

116. CROSS CONNECT THE RWB, APP FIGURE 8, AND ZWR, APP FIGURE 28, PUNCHINGS THRU CONTACTS OF (SO-24) RELAYS FOR CLASSES OF SUBSCRIBERS THAT DO NOT HAVE MESSAGE REGISTERS AND FOR OPERATORS. (NOT REQUIRED WITH AMA).

117. CANCELLED

118. (MFR DISC) PROVIDE AH AND EJ APPARATUS (TL-10) TO (TL-14) INCLUSIVE, RELAYS AND RESISTANCE ONLY WHEN OFFICE FRAME EXTENSION IS PROVIDED. (SEE NOTE 102(b),28)

119. CANCELLED

120. (A&M ONLY) PROVIDE RELAYS AND CROSS CONNECTIONS INDICATED IN THE FOLLOWING TABLES IN ORDER TO OBTAIN ACCESS TO ALL AVAILABLE OFFICE JUNCTORS. USE THE TABLE CORRESPONDING TO THE NUMBER OF DISTRICT OR OFFICE FRAMES INSTALLED, WHICHEVER IS THE GREATER. WHERE THIS IS AN ODD NUMBER USE THE TABLE CORRESPONDING TO THE NEXT HIGHER EVEN NUMBER. (SEE NOTE 188)

2 FRAMES

(A) PROVIDE AJ APPARATUS (CBAI-5) AND (CBBI-5) RELAYS: OMIT AK APPARATUS (CBC) RELAY: PROVIDE Z WIRING AND OMIT W WIRING.

STRAP PUNCHINGS NP0 AND NP5 (APP FIG 17)

(B) OMIT APP FIGURES 18 AND 21.

(C) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIGURES 10 & 11 EA0 0A0 EB0 0B0 EC0 0C0 ED0 0D0 EE 0E
APP FIG 19 JC0 JC1 JC2 JC3 JC4 JC5 JC6 JC7 JC8 JC9

4 FRAMES

(A) PROVIDE AJ APPARATUS (CBAI-5),(CBBI-5) AND AK APPARATUS (CBC) RELAYS; PROVIDE Z WIRING AND OMIT W WIRING.

STRAP PUNCHINGS NP0,NP1,NP2,NP3 AND NP4 (APP FIG 17).

STRAP PUNCHINGS CB2 AND CB4 (APP FIG 17).

(B) PROVIDE (P0) AND (P1) RELAYS PER APP FIG 18.

PROVIDE (PA0) AND (PA1) RELAYS PER APP FIG 21.

(C) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW

APP FIG 15		bPL0	bPR0	bPL1	bPR1	bPL2	bPR2	bPL3	bPR3	bPL4	bPR4	bPL5	bPR5	bPL6	bPR6	bPL7	bPR7	bPL8	bPR8	bPL9	bPR9
APP FIG 18	(P0) REL		bP0	bP1			bP2	bP3			bP4	bP5			bP6	bP7			bP8	bP9	
	(P1) REL	bP0			bP1	bP2			bP3	bP4			bP5	bP6			bP7	bP8			bP9

(D) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 18 PA0 PA1
APP FIG 21 PA0 PA1

(E) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 21 PC0 PC1
APP FIG 18 P0 P1

(F) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 12: EEP0 EEP1; EEP2 EEP3; OEP1 OEP0; OEP3 OEP2
APP FIG 21: RELAY(PA0) P0 P1; RELAY(PA1) P1 P0

(G) CROSS CONNECT PUNCHINGS SHOWN THE SAME VERTICAL ROW

APP FIGURES 10 & 11: EC0 0C0 EC1 0C1 ED0 0D0 ED1 0D1; EA0 0A0 EA1 0A1 EB0 0B0 EB1 0B1 EE 0E
APP FIG 19: JC0 JC1 JC2 JC3 JC4 JC5 JC6 JC7 JC8 JC9

6 FRAMES

120. (CONT) (A&M ONLY) (A) PROVIDE AJ APPARATUS (CBAI-5),(CBBI-5) AND AK APPARATUS (CBC) RELAYS; PROVIDE Z WIRING, OMIT W WIRING.

STRAP PUNCHINGS NP0,NP2,NP3 AND NP4 (APP FIG 17).

STRAP PUNCHINGS CB2,CB3 AND CB4 (APP FIG 17).

(B) PROVIDE (P0) TO (P7) RELAYS INCLUSIVE, PER APP FIG 18.

PROVIDE (PA0) TO (PA2) RELAYS INCLUSIVE, PER APP FIG 21.

(C) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 15		bPL0	bPR0	bPL1	bPR1	bPL2	bPR2	bPL3	bPR3	bPL4	bPR4	bPL5	bPR5	bPL6	bPR6	bPL7	bPR7	bPL8	bPR8	bPL9	bPR9
APP FIG 18	(P0) REL		bP0	bP1			bP2	bP3			bP4	bP5			bP6	bP7			bP8	bP9	
	(P1) REL	bP0			bP1	bP2			bP3	bP4			bP5	bP6			bP7	bP8			bP9
	(P2) REL	bP0		bP1		bP2			bP3		bP4		bP5	bP6			bP7	bP8			bP9
	(P3) REL		bP0		bP1		bP2			bP3		bP4			bP5	bP6			bP7	bP8	
	(P4) REL			bP1		bP2		bP3		bP4		bP5			bP6		bP7		bP8		bP9
	(P5) REL		bP0		bP1		bP2		bP3		bP4		bP5		bP6		bP7		bP8		
	(P6) REL	bP0			bP1	bP2		bP3		bP4		bP5		bP6			bP8		bP9		
	(P7) REL		bP0		bP1		bP2		bP3				bP5		bP6		bP7		bP8		bP9
	(P8) REL	bP0		bP1		bP2		bP3				bP5		bP6		bP7		bP8		bP9	
	(P9) REL		bP0			bP2		bP3		bP4			bP5		bP6			bP8		bP9	
	(P10) REL	bP0		bP1		bP2		bP3		bP4				bP6		bP7		bP8		bP9	
	(P11) REL		bP0		bP1				bP3		bP4		bP5		bP6		bP7				bP9
	(P12) REL	bP0		bP1				bP3		bP4		bP5		bP6		bP7				bP9	
	(P13) REL		bP0		bP1		bP2		bP3		bP4				bP6		bP7		bP8		bP9

(D) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10 PA0 PA1 PA2
APP FIG 21 PA0 PA1 PA2

(E) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 21 PC0 PC1 PC2 PC3 PC4 PC5
APP FIG 18 P2 P4 P6 P8 P10 P12; P3 P5 P7 P9 P11 P13

(F) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 12: EEP0 EEP1 EEP2 EEP3 EEP4 EEP5; OEP1 OEP0 OEP3 OEP2 OEP5 OEP4
APP FIG 21: RELAY(PA0) P0 P1 P2 P3 P4 P5; RELAY(PA1) P2 P3 P4 P5 P0 P1; RELAY(PA2) P4 P5 P0 P1 P2 P3

(G) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 12: EAP0 EAP1; EAP2 EAP3; EAP4 EAP5; OAP1 OAP0; OAP3 OAP2; OAP5 OAP4
APP FIG 18 P0 P1

(H) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10 & 11: ED0 0D0 EB1 0B1 EB2 0B2; EC0 0C0 EC1 0C1 EC2 0C2 0B2 EA2 EA1 0A1; ED0 0D0 ED1 0B1 ED2 0D2 EA0 0A0 EE 0E
APP FIG 19 JC0 JC1 JC2 JC3 JC4 JC5 JC6 JC7 JC8 JC9

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ORIGINATING MANNER CIRCUIT

SD-25016-01-05

BELL TELEPHONE LABORATORIES INCORPORATED

65

8 FRAMES

CIRCUIT NOTES: (CONT)

120. (CONT) (A&M ONLY) (A) PROVIDE AJ APPARATUS (C6A1-5),(C6B1-5) AND (C6C) AK APPARATUS RELAYS; PROVIDE Z WIRING AND OMIT W WIRING.

STRAP PUNCHINGS NP0,NP1,NP2,NP3 AND NP4 (APP FIG 17).

STRAP PUNCHINGS CB1,CB2,CB3 AND CB4 (APP FIG 17).

(B) PROVIDE (P0) TO (P7) RELAYS INCLUSIVE; PER APP FIG 18.

PROVIDE (PA0) TO (PA3) RELAYS INCLUSIVE; PER APP FIG 21.

(C) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 15		bPL0	bPR0	bPL1	bPR1	bPL2	bPR2	bPL3	bPR3	bPL4	bPR4	bPL5	bPR5	bPL6	bPR6	bPL7	bPR7	bPL8	bPR8	bPL9	bPR9
APP FIG 18	(P0) REL			bP1		bP2		bP3				bP5		bP6		bP7				bP9	
	(P1) REL		bP0		bP1				bP3		bP4		bP5				bP7		bP8		bP9
	(P2) REL	bP0		bP1				bP3		bP4		bP5				bP7		bP8		bP9	
	(P3) REL				bP1		bP2		bP3				bP5		bP6		bP7				bP9
	(P4) REL	bP0				bP2		bP3		bP4				bP6		bP7		bP8			
	(P5) REL		bP0		bP1		bP2				bP4		bP5		bP6				bP8		bP9
	(P6) REL	bP0		bP1		bP2			bP4		bP5		bP6				bP8			bP9	
	(P7) REL		bP0				bP2		bP3		bP4				bP6		bP7		bP8		

(D) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10 PA0 PA1 PA2 PA3
APP FIG 21 PA0 PA1 PA2 PA3

(E) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 21 { PC4 PC5 PC6 PC7 / PC0 PC1 PC2 PC3
APP FIG 18 { P0 P2 P4 P6 / P1 P3 P5 P7

(F) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 12 { EEP0 OEP0 EEP1 OEP1 EEP2 OEP2 EEP3 OEP3 / EEP4 OEP4 EEP5 OEP5 EEP6 OEP6 EEF7 OEP7

APP FIG 21									
RELAY(PA0)	P0	P1	P5	P6	P2	P3	P7	P4
RELAY(PA1)	P2	P3	P7	P4	P0	P1	P5	P6
RELAY(PA2)	P1	P0	P6	P5	P3	P2	P4	P7
RELAY(PA3)	P3	P2	P4	P7	P1	P0	P6	P5

(G) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10 & 11 { EA0 OA0 EA1 OA1 EA2 OA2 EA3 OA3 / EB0 OB0 EB1 OB1 EB2 OB2 EB3 OB3 / EC0 OC0 EC1 OC1 EC2 OC2 EC3 OC3 / ED0 OD0 ED1 OD1 ED2 OD2 ED3 OD3 EE OE
APP FIG 19 JC0 JC1 JC2 JC3 JC4 JC5 JC6 JC7 JC8 JC9

10 FRAMES

120. (CONT) (A&M ONLY) (A) OMIT AJ APPARATUS (C6A1-5),(C6B1-5), AND AK APPARATUS (C6C) RELAYS; OMIT Z WIRING, PROVIDE W WIRING AND CONNECT NP0 PUNCHING TO NP5. (APP FIG 17)

(B) OMIT APP FIG 18 & 21.

(C) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10 EA0 OA0 EA1 OA1 EA2 OA2 EA3 OA3 EA4 OA4
APP FIG 19 JC0 JC1 JC2 JC3 JC4 JC5 JC6 JC7 JC8 JC9

12 FRAMES

(A) OMIT AJ APPARATUS (C6A1-5),(C6B1-5), AND AK APPARATUS (C6C) RELAYS; OMIT Z WIRING AND PROVIDE W WIRING (APP FIG 17).

(B) PROVIDE (P0) TO (P9) RELAYS INCLUSIVE, PER APP FIG 18, AND (PA0) TO (PA4) RELAYS INCLUSIVE PER APP FIG 21.

(C) CROSS CONNECT PUNCHINGS SHOWN THE SAME VERTICAL ROW.

APP FIG 15		bPL0	bPR0	bPL1	bPR1	bPL2	bPR2	bPL3	bPR3	bPL4	bPR4	bPL5	bPR5	bPL6	bPR6	bPL7	bPR7	bPL8	bPR8	bPL9	bPR9
APP FIG 18	(P0) REL			bP1							bP4					bP7			bP8		
	(P1) REL				bP1					bP4							bP7	bP8			
	(P2) REL		bP0					bP3							bP6					bP9	
	(P3) REL	bP0							bP3					bP6							bP9
	(P4) REL			bP1			bP2					bP5							bP8		
	(P5) REL				bP1	bP2							bP5					bP8			
	(P6) REL		bP0					bP3			bP4					bP7					
	(P7) REL	bP0							bP3	bP4							bP7				
	(P8) REL						bP2					bP5			bP6					bP9	
	(P9) REL					bP2							bP5	bP6							bP9

(D) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10 { PA0 PA1 PA2 PA3 PA4 / PA5
APP FIG 21 PA0 PA1 PA2 PA3 PA4

(E) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 21 PC0 PC1 PC2 PC3 PC4 PC5 PC6 PC7 PC8 PC9
APP FIG 18 P0 P1 P2 P3 P4 P5 P6 P7 P8 P9

(F) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 12 { EAP0 EAP1 EAP2 EAP3 EAP4 EAP5 EAP6 EAP7 EAP8 EAP9 / EAP10 EAP11 / OAP11 OAP10 / OAP1 OAP0 OAP3 OAP2 OAP5 OAP4 OAP7 OAP6 OAP9 OAP8

APP FIG 21										
RELAY(PA0)	P0	P1	P2	P3	P4	P5	P6	P7	P8	P9
RELAY(PA1)	P2	P3	P4	P5	P6	P7	P8	P9	P0	P1
RELAY(PA2)	P4	P5	P6	P7	P8	P9	P0	P1	P2	P3
RELAY(PA3)	P6	P7	P8	P9	P0	P1	P2	P3	P4	P5
RELAY(PA4)	P8	P9	P0	P1	P2	P3	P4	P5	P6	P7

(G) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10 EA0 OA0 EA1 OA1 EA2 OA2 EA3 OA3 EA4 OA4 EA5 OA5
APP FIG 19 JC0 JC1 JC2 JC3 JC4 JC5 JC6 JC7 JC8 JC9 JC10 JC11

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ORIGINATING MARKER CIRCUIT (2) SD-25016-01-D6

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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14 FRAMES

CIRCUIT NOTES: (CONT)

120. (CONT) (A&M ONLY)

(A) OMIT AJ APPARATUS (CBA1-5), (CBB1-5) AND AK APPARATUS (CBC) RELAYS, OMIT Z WIRING AND PROVIDE W WIRING (APP FIG 17)

(B) PROVIDE (P0) TO (P9) RELAYS INCLUSIVE, PER APP FIG 18, AND (PA0) TO (PA4) RELAYS INCLUSIVE, PER APP FIG 21.

(C) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 15		BPL0	BPR0	BPL1	BPR1	BPL2	BPR2	BPL3	BPR3	BPL4	BPR4	BPL5	BPR5	BPL6	BPR6	BPL7	BPR7	BPL8	BPR8	BPL9	BPR9
APP FIG 18	(P0) REL			BP1			BP2				BP4	BP5				BP7			BP8		
	(P1) REL				BP1	BP2				BP4			BP5				BP7	BP8			
	(P2) REL		BP0					BP3			BP4			BP6	BP7					BP9	
	(P3) REL	BP0							BP3	BP4				BP6		BP7					BP9
	(P4) REL			BP1			BP2					BP5			BP6				BP8	BP9	
	(P5) REL				BP1	BP2							BP5	BP6				BP8			BP9
	(P6) REL		BP0	BP1				BP3			BP4					BP7			BP8		
	(P7) REL	BP0			BP1				BP3	BP4							BP7	BP8			
	(P8) REL		BP0				BP2	BP3				BP5			BP6					BP9	
	(P9) REL	BP0				BP2			BP3				BP5	BP6							BP9

(D) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10	PA0	PA1	PA2	PA3	PA4
	PA5	PA6			
APP FIG 21	PA0	PA1	PA2	PA3	PA4

(E) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 21	PC0	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8	PC9
APP FIG 18	P0	P1	P2	P3	P4	P5	P6	P7	P8	P9

(F) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 12	EAP0	EAP1	EAP2	EAP3	EAP4	EAP5	EAP6	EAP7	EAP8	EAP9
	EAP10	EAP11	EAP12	EAP13						
	OAP11	OAP10	OAP13	OAP12						
	OAP1	OAP0	OAP3	OAP2	OAP5	OAP4	OAP7	OAP6	OAP9	OAP8
APP FIG 21	(PA0) RELAY	P0	P1	P2	P3	P4	P5	P6	P7	P8	P9
	(PA1) RELAY	P2	P3	P4	P5	P6	P7	P8	P9	P0	P1
	(PA2) RELAY	P4	P5	P6	P7	P8	P9	PC	P1	P2	P3
	(PA3) RELAY	P6	P7	P8	P9	P0	P1	P2	P3	P4	P5
	(PA4) RELAY	P8	P9	P0	P1	P2	P3	P4	P5	P6	P7

(G) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10	EA0	OA0	EA1	OA1	EA2	OA2	EA3	OA3	EA4	OA4	EA5	OA5	EA6	OA6	
APP FIG 19	JC0	JC1	JC2	JC3	JC4	JC5	JC6	JC7	JC8	JC9	JC10	JC11	JC12	JC13	

16 & 18 FRAMES

120. (CONT) (A&M ONLY)

(A) OMIT AJ APPARATUS (CBA1-5), (CBB1-5), AND AK APPARATUS (CBC) RELAYS; OMIT Z WIRING AND PROVIDE W WIRING (APP FIG 17)

(B) PROVIDE (P0) TO (P9) RELAYS INCLUSIVE, PER APP FIG 18, AND (PA0) TO (PA4) RELAYS INCLUSIVE, PER FIG 21.

(C) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW

APP FIG 15		BPL0	BPR0	BPL1	BPR1	BPL2	BPR2	BPL3	BPR3	BPL4	BPR4	BPL5	BPR5	BPL6	BPR6	BPL7	BLR7	BPL8	BPR8	BPL9	BPR9
APP FIG 18	(P0) REL			BP1			BP2				BP4	BP5			BP6	BP7			BP8	BP9	
	(P1) REL				BP1	BP2				BP4			BP5	BP6			BP7	BP8			BP9
	(P2) REL		BP0	BP1				BP3			BP4				BP6	BP7			BP8	BP9	
	(P3) REL	BP0			BP1				BP3	BP4				BP6			BP7	BP8			BP9
	(P4) REL		BP0	BP1			BP2	BP3				BP5			BP6				BP8	BP9	
	(P5) REL	BP0			BP1	BP2							BP5	BP6				BP8			BP9
	(P6) REL		BP0	BP1			BP2	BP3			BP4	BP5				BP7			BP8		
	(P7) REL	BP0			BP1	BP2			BP3	BP4			BP5				BP7	BP8			
	(P8) REL		BP0				BP2	BP3			BP4	BP5			BP6	BP7				BP9	
	(P9) REL	BP0				BP2			BP3	BP4			BP5	BP6			BP7				BP9

(D) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10	PA0	PA1	PA2	PA3	PA4
	PA5	PA6	PA7	*PA8	
APP FIG 21	PA0	PA1	PA2	PA3	PA4

(E) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 21	PC0	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8	PC9
APP FIG 18	P0	P1	P2	P3	P4	P5	P6	P7	P8	P9

(F) CROSS CONNECT PUNCINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 12	EAP0	EAP1	EAP2	EAP3	EAP4	EAP5	EAP6	EAP7	EAP8	EAP9
	EAP10	EAP11	EAP12	EAP13	EAP14	EAP15	*EAP16	*EAP17		
	OAP11	OAP10	OAP13	OAP12	OAP15	OAP14	*OAP17	*OAP16		
	OAP1	OAP0	OAP3	OAP2	OAP5	OAP4	OAP7	OAP6	OAP9	OAP8
APP FIG 21	(PA0) RELAY	P0	P1	P2	P3	P4	P5	P6	P7	P8	P9
	(PA1) RELAY	P2	P3	P4	P5	P6	P7	P8	P9	P0	P1
	(PA2) RELAY	P4	P5	P6	P7	P8	P9	P0	P1	P2	P3
	(PA3) RELAY	P6	P7	P8	P9	P0	P1	P2	P3	P4	P5
	(PA4) RELAY	P8	P9	P0	P1	P2	P3	P4	P5	P6	P7

(G) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10	EA0	OA0	EA1	OA1	EA2	OA2	EA3	OA3	EA4	OA4	EA5	OA5	EA6	OA6	EA7	OA7	*EA8	*OA8
APP FIG 19	JC0	JC1	JC2	JC3	JC4	JC5	JC6	JC7	JC8	JC9	JC10	JC11	JC12	JC13	JC14	JC15	*JC16	*JC17

* OMIT FOR 16 FRAME JOBS

20 FRAMES

120. (CONT) (A&M ONLY)

(A) OMIT AJ APPARATUS (CBA1-5),(CBB1-5), AND AK APPARATUS (CBC) RELAYS; OMIT Z WIRING AND PROVIDE W WIRING (APP FIG 17)

(B) PROVIDE (P0) AND (P1) RELAYS PER APP FIG 18, OMIT APP FIG 21.

(C) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 15		BPL0	BPR0	BPL1	BPR1	BPL2	BPR2	BPL3	BPR3	BPL4	BPR4	BPL5	BPR5	BPL6	BPR6	BPL7	BPR7	BPL8	BPR8	BPL9	BPR9
APP FIG 18	(P0) REL		BP0	BP1			BP2	BP3			BP4	BP5			BP6	BP7			BP8	BP9	
	(P1) REL	BP0			BP1	BP2			BP3	BP4			BP5	BP6			BP7	BP8			BP9

(D) CROSS CONNECT PUNCHINGS SHOWN IN THE VERTICAL ROW.

APP FIG 12	EAP0	EAP1
	EAP2	EAP3
	EAP4	EAP5
	EAP6	EAP7
	EAP8	EAP9
	EAP10	EAP11
	EAP12	EAP13
	EAP14	EAP15
	EAP16	EAP17
	EAP19	EAP19
	OAP1	OAP0
	OAP3	OAP2
	OAP5	OAP4
	OAP7	OAP6
	OAP9	OAP8
	OAP11	OAP10
	OAP13	OAP12
	OAP15	OAP14
	OAP17	OAP16
	OAP19	OAP18
APP FIG 18	P0	P1

(E) CROSS CONNECT PUNCHINGS SHOWN IN SAME VERTICAL ROW.
APP FIG 10 EA0 OA0 EA1 OA1 EA2 OA2 EA3 OA3 EA4 OA4 EA5 OA5 EA6 OA6 EA7 OA7 EA8 OA8 EA9 OA9
APP FIG 19 JC0 JC1 JC2 JC3 JC4 JC5 JC6 JC7 JC8 JC9 JC10 JC11 JC12 JC13 JC14 JC15 JC16 JC17 JC18 JC19

DRAWING ISSUE 101D

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ORIGINATING MARKER CIRCUIT (2) SD-25016-01-D7

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-D7

CIRCUIT NOTES: (CONT)

121. CROSS CONNECT THE SP TERMINAL OF THE ROUTE RELAYS OF APP FIG 7 AS FOLLOWS:

(A) FOR ORIGINAL ROUTE RELAYS ASSIGNED TO A GROUP OF TRUNKS WHICH IS NOT SUB-DIVIDED, OR WHICH IS SUB-DIVIDED INTO THREE OR MORE SUB-GROUPS OF TRUNKS, CROSS CONNECT TO:

A.1 SPB TERMINAL FOR GROUPS HAVING NO ALTERNATE, OR HAVING AN ALTERNATE WITHOUT OFFICE SELECTIONS.

A.2 OGSS TERMINAL FOR GROUPS HAVING AN ALTERNATE WITH OFFICE SELECTIONS.

(B) FOR ORIGINAL ROUTE RELAYS ASSIGNED TO A GROUP OF TRUNKS DIVIDED INTO TWO SUB-GROUPS OF TRUNKS, CROSS CONNECT TO:

B.1 SPA TERMINAL FOR GROUPS HAVING NO ALTERNATE, OR HAVING AN ALTERNATE WITHOUT OFFICE SELECTIONS.

B.2 OGSP TERMINAL FOR GROUPS HAVING AN ALTERNATE WITH OFFICE SELECTIONS.

(C) FOR ALTERNATE ROUTE RELAYS ASSIGNED TO A GROUP OF TRUNKS WHICH IS NOT SUB-DIVIDED OR WHICH IS SUB-DIVIDED INTO THREE OR MORE SUB-GROUPS OF TRUNKS, CROSS CONNECT TO:

C.1 SPB TERMINAL FOR ALTERNATE ROUTES NOT THRU OFFICE SELECTORS.

C.2 TWB TERMINAL FOR ALTERNATE ROUTES THRU DISTANT OFFICE SELECTORS OR CROSSBAR TANDEM.

C.3 TWD TERMINAL FOR ALTERNATE ROUTES THRU THREE WIRE OFFICE SELECTORS.

(D) FOR ALTERNATE ROUTE RELAYS ASSIGNED TO A GROUP OF TRUNKS DIVIDED INTO SUB-GROUPS OF TRUNKS. CROSS CONNECT TO:

D.1 SPA TERMINAL FOR ALTERNATE ROUTES NOT THRU OFFICE SELECTORS.

D.2 TWA TERMINAL FOR ALTERNATE ROUTES THRU DISTANT OFFICE SELECTORS OR CROSSBAR TANDEM.

D.3 TWC TERMINAL FOR ALTERNATE ROUTES THRU THREE WIRE OFFICE SELECTORS

(E) THE LOCATION OF THE ROUTE RELAYS WITH RESPECT TO GROUND SUPPLY GROUPS DOES NOT AFFECT THE ASSIGNMENT OF THE ABOVE CROSS CONNECTIONS.

(F) FOR OVERFLOW AND PERMANENT SIGNAL ROUTES, THE SP TERMINAL IS NOT CROSS CONNECTED.

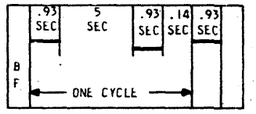
122. (A) PROVIDE (GP0A) AND (GP1A) RELAYS OF APP FIG 5 FOR 15 GROUPS OF TRUNKS EACH HAVING TWO OR THREE SUB-GROUPS.

(B) PROVIDE (GP0A),(GP0B),(GP1A), AND (GP1B) RELAYS OF APP FIG 5 FOR 30 GROUPS OF TRUNKS EACH HAVING TWO OR THREE SUB-GROUPS.

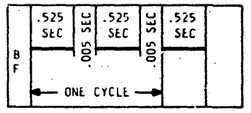
123. CANCELLED

124. FOR TRUNK GROUPS WHICH HAVE ROUTE RELAYS IN BOTH THE FIRST AND SECOND OR BOTH THIRD AND FOURTH GROUND SUPPLY GROUPS CROSS CONNECT THE PC AND NOT THE "OF" TERMINAL OF THE ROUTE RELAYS IN THE ODD NUMBERED GROUND SUPPLY GROUPS, AND CROSS CONNECT THE "OF" AND NOT THE PC TERMINAL OF THE ROUTE RELAYS IN THE EVEN NUMBERED GROUND SUPPLY GROUPS.

125. (A) THE (DB) INTERRUPTER SHALL HAVE CONTACT MAKE AND BREAK INTERVALS AS FOLLOWS:



(B) THE (TM) INTERRUPTER SHALL HAVE CONTACT MAKE AND BREAK INTERVALS AS FOLLOWS:



126. THE NUMERICAL DESIGNATIONS OF EACH OF THE (T),(TG),(P), AND (K) RELAYS OF ALL APP FIGURES 20 ARE GIVEN IN THE FOLLOWING TABLE.

	RELAY DESIGNATIONS FIRST	SECOND	THIRD	FOURTH
1ST APP FIG 20	EL0	OL0	ER1	OR1
2ND APP FIG 20	EL2	OL2	ER3	OR3
3RD APP FIG 20	EL4	OL4	ER5	OR5
4TH APP FIG 20	EL6	OL6	ER7	OR7
5TH APP FIG 20	EL8	OL8	ER9	OR9
6TH APP FIG 20	ER0	OR0	EL1	OL1
7TH APP FIG 20	ER2	OR2	EL3	OL3
8TH APP FIG 20	ER4	OR4	EL5	OL5
9TH APP FIG 20	ER6	OR6	EL7	OL7
10TH APP FIG 20	ER8	OR8	EL9	OL9

127. WHEN ANY TRUNK GROUP IS DIVIDED INTO 2 OR MORE SUB-GROUPS PROVIDE OPTION AE. (SEE NOTE 102(b),3) (MFR DISC)

128. FURNISH THE (ZA) AND (ZA1) TO (ZJ) AND (ZJ1) RELAYS IN APP FIG 41; ONE PAIR FOR EACH ZONE CHARGE CONDITION AS MAY BE REQUIRED. WHEN NONE OF THESE RELAYS ARE FURNISHED, THE (ZL),(ZO),(XZ), AND (XZS) RELAYS IN APP FIG 8 AND THE (ZCK) RELAY IN APP FIG 41 MAY BE OMITTED.

129. CANCELLED

130. THE ALLOWABLE RESISTANCE VARIATION OF THE WINDINGS OF THE (OBO-9),(OGO-5),(SBO-9),(SGO-5),(CRO-9), AND (CLO-6) RELAYS IS HELD TO ±5% IN ORDER TO MEET THE MARGINAL REQUIREMENTS FOR THE ASSOCIATED (X-) RELAYS.

131. CANCELLED

132. PROVIDE RESISTORS (BJ0),(BJ1),(BJ2), AND (BJ3) TO PERMIT CHANGING THE DELAY PERIOD AWAITING RELEASE OF HOLDING MAGNETS. (MFR DISC)

WITH BJ3 WIRING TOTAL TIMING IS 0.040 SEC.
SEE NOTE 171 WITH BJ2 WIRING TOTAL TIMING IS 0.045 SEC.
WITH BJ1 AND BJA WIRING TOTAL TIMING IS 0.050 SEC.
WITH BJ0 AND BJB WIRING TOTAL TIMING IS 0.055 SEC.
WITH BJ1 AND BJC WIRING TOTAL TIMING IS 0.060 SEC.
WITH BJ0 AND BJD WIRING TOTAL TIMING IS 0.065 SEC.

WHEN 1940D HOLDING MAGNETS ARE USED IN ASSOCIATED DISTRICT AND OFFICE SWITCHES CONNECT BJ1 AND BJA WIRING INITIALLY. WHEN 1570D HOLDING MAGNETS ARE USED CONNECT BJ1 AND BJC WIRING INITALLY PRIOR TO ISSUE 12D,BJ0-3 WIRING WAS NOT DESIGNATED.

133. THE F GROUND LEAD AS IT LEAVES THE SOURCE OF GROUND SHALL BE TAKEN FIRST TO THE (JC) RELAYS OF APP FIG 19 AND THEN TO THE (CK5) RELAY OF APP FIG 1.

134. WHEN NONE OF THE ASSOCIATED SENDERS ARE ARRANGED FOR FIRST OFFICE SELECTORS OMIT AM APPARATUS SHOWN IN APP FIG 14 AND LOOP LIKE DESIGNATED LEADS AT POSITION OF AM APPARATUS. PRIOR TO ISSUE 9D AM APPARATUS WAS NOT DESIGNATED. (SEE NOTE 102(c),10;144) (MFR DISC)

135. PROVIDE AN AND GI APPARATUS WHEN 1940D HOLDING MAGNETS ARE USED IN THE ASSOCIATED DISTRICT AND OFFICE SWITCHES. PROVIDE AP AND GJ APPARATUS WHEN 1570D HOLDING MAGNETS ARE USED. (SEE NOTE 102 (b)25). (MFR DISC)

136. RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	A8M	MD	SPL
12D	BJA OR BJC	BJA	132	BJA, BJC			
	BJB OR BJD	BJB	132	BJB, BJD			
	AN OR AP	AN	135	AP	AN		
13B	AR,AW, OR APP FIG 29		102(c), 9	AR,AW, APP FIG 29			
	AS OR AT	AT	102(c), 2,8	AT		AS	
	AU			AU			
	AY		102(b), 22	AY		AX	
	AZ			AZ			
16D	BA	NONE	102(c), 15				BA
	BB	NONE					BB
	BC	BC				BC	
19B	BD OR BE	BD & AX OR AY	174	BE		BD & AY	
	AE OR BE	AE	102(b) 3	BE		AE	
20D	APP FIG A & B	APP FIG A	102(b) 14	APP FIG A & B			
	APP FIG C OR D	APP FIG C		APP FIG D	APP FIG C		
	N	M OR BA & BB		M		N	
				APP FIG 30 & 31			
	BH			BH	BG		
						BJ	
21B	BK	NONE		BK			
22AR	APP FIG E OR F	APP FIG E		APP FIG F		APP FIG E	

ORIGINATING MARKER CIRCUIT

SD-25016-01-D8

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6S

SD-25016-01-D8

DRAWING ISSUE 10ID

CIRCUIT NOTES: (CONT)

136. (CONT)

RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	A&M	MD	SPL
248	APP FIG G OR H	APP FIG G	102(c) 18	APP FIG H	APP FIG G		
	BL OR BM	BL	102(d) 1		BM	BL	
	BM,BO, BP	BN OR BO	174	BP		BM,BO	
	BQ OR BR	BQ	248	BP		BQ	
	BS OR BT	BS		BT		BS	
258	BU OR BV	BU	102(c) 8	BV		BU	
	BW	NONE	102(b) 8	BW			
	BX	NONE	102(b) 8	BX			
			102(b) 8	APP FIG 33	APP FIG 32		
288	APP FIG L OR M	APP FIG L		APP FIG M		APP FIG L	
	APP FIG J OR K	APP FIG J	102(b) 30	APP FIG K		APP FIG J	
	B	BC OR NONE	102(b) 30	B			
	APP FIG P OR Q	APP FIG P		APP FIG Q		APP FIG P	
	APP FIG R OR S	APP FIG R	102(c) 15	APP FIG S		APP FIG R	
	APP FIG I OR T	APP FIG I		APP FIG T		APP FIG I	
	V	NONE	102(b) 19	V			
298	APP FIG M OR O	NONE		APP FIG M			APP FIG O
						BA,BB	
298	R OR S	R	102(b) 26	R OR S			
				263A	245A		
				263B	245B		
				263C	245D		
				264A	254A		
				264B	254B		
308	T OR Q	T		Q			
	K OR J	K		J			
			102(b) 19	P			
	APP FIG U OR V	APP FIG U	102(b) 31	APP FIG U OR V			
	APP FIG M OR X	APP FIG M	156	APP FIG X	APP FIG M		
328	APP FIG Y OR Z	APP FIG Y	102(c) 19	APP FIG Z		APP FIG Y	
	A,C,G,M, OR U	A,C,G, OR U	102(b) 1,8	G,M,A		C,U	
	AI OR AQ	X OR Y	102(b) 4	AQ		AI	
348	AQ OR AR	AQ	102(b) 30	AR		AQ	

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RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	A&M	MD
350	BF,BI, OR BK	BK	102(b) 32	BF,BI, BK		AV
			102(b) 10	APP FIG 36		
	APP FIG AC	APP FIG AA OR AB	102(b) 12	APP FIG AC		APP FIG AA,AB
			102(b) 11	APP FIG 37		
368	BY OR BZ	BY		BZ		BY
	CA	AQ OR AI	102(b) 4	AQ,CA		AI
	CB OR CC	CC	171	CB		CC
370	CD	NONE		CD		
	CE	BG OR BH		CE	BG & BH	
380	CF OR CG	CF	102(b) 24, 170	CF OR CG		
	CH OR CI	CH		CI		CH
390	CJ OR CM	CJ		CM		CJ
	CK OR CN	CK		CN		CK
	CL OR CO	CL		CO		CL
410	APP FIG AD OR AE	APP FIG AD	102(b) 4	APP FIG AE		APP FIG AD
	CP OR CQ	CP		CQ		CP
	CR OR CS	CR	173	CS		CR
420	CT	NONE	173	CT		
	CU OR CV	CU	173	CV		CU
	EV OR EW	EV	173	EW		EV
	EX OR EY	EX	173	EY		EX
	EZ,FA, FB,FG, OR FN	FA & EZ OR BD & EZ	102(b) 102(c) 2,31 155 174	FB, FG, FN		FA,EZ
	FD	NONE	102(b) 85,175	FD		
	FE	NONE	173	FE		
	FF	NONE	173	FF		
430	CW OR CX	CW OR NONE	102(b) 12	CX		CW
	CY OR CZ	CY		CZ		CY
	DA OR DB	DA		DB		DA
	DC OR DD	DC OR NONE	102(a) 2 174	DD		DC
	DF	AR,DE, OR NONE	161 174	DF		LE
	DG OR DH	DG OR NONE	284	DH		DG
	DI OR DJ	DI		DJ		DI
	DK OR DL	DK		DL		DK
	DM OR DN	DM		DN		DM
	DO OR DP	DO		DP		DO

136.

RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT S:D	A&M	MD	SPL	PROV
430	DS OR DT	DS		DT		DS		
	DU OR DV	DU		DV		DU		
	DW OR DX	DW OR NONE	102(b) 19 174	DX		DW		
	DY OR DZ	DY OR NONE		DZ		DY		
	EA OR EB	EA		EB		EA		
	EC OR ED	EC		ED		EC		
	EE OR EF	EE OR AT	102(b) 12	EF		EE		
	EG OR EH	EG		EH		EG		
	EJ OR EK	EJ OR NONE	102(b) 28	EK		EJ		
	EL OR EM	EL OR NONE	102(b) 19	EM		EL		
	EN OR EO	EN OR NONE	102(b) 19	EO		EN		
	EP,ER, OR EQ	EP,ER, OR NONE	174	EQ		EP	ER	
	ET OR EU	ET OR NONE	102(b) 4,174	EU		ET		
	EI OR ES	EI		ES		EI		
448			180	APP FIG 38				
450	FI,FN, FN,OR FJ	FI,AS, OR AT, AQ,AR, OR NONE & CW,CX, OR NONE	102(b) 12	FI,FN, FN				FJ
	FC	FC OR NONE	102(b) 13 174 182	FC				
	APP FIG AF	APP FIG M OR X	156					APP FIG AF
			102(b) 12 174	APP FIG 41				APP FIG 39 & 40
	FO	NONE	102(b) 13					FO
470	AL OR APP FIG AG,AH, OR AI	AL OR NONE	102(b) 12 31	APP FIG AH OR AI	APP FIG AG			
518	FR	FR OR NONE	173 174	FR				
528	FP OR FQ	FP OR NONE	173 174	FQ		FP		
	FS,FT	FS		FS,FT				
				APP FIG AF		APP FIG M & X		
	FU,FV	FU		FV		FU		
					CE, APP FIG 31			

136.

RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	A&M	MD
550	FW OR FX	FW	102(b) 13	FW,FX		
			102(b) 13	FY		
	FZ	NONE		FZ		
	APP FIG AJ OR AK	APP FIG C OR D	102(b) 31 156	APP FIG AK	APP FIG AJ	APP FIG C,D
	GA	NONE	173	GA		
	GB	ES OR EI		GB		ES
			102(b) 13	APP FIG 42		
560	GC OR GD	GC		GD		GC
	GE OR GF	GE		GF		GE
	GG OR GH,GI OR GJ	AN OR AP	102(b) 102(d) 6 25	GH,GJ	GG,GI	AM,AP
			102(b) 12	FO & APP FIG 39 & 40		
570	GL	Q OR T		GL		Q
			102(b) 12	FJ		
	GK	BG,BH OR CE			GK	
580	GM OR GN	GM	102(c) 1	GM		GM
	GO	NONE	173	GO		
	GP OR GQ	GP,FI, AS, OR AT,AQ, AR, OR NONE & CW, CX, OR NONE	174	GQ		GP
	APP FIG 43	APP FIG 34	102(b) 1	APP FIG 43	APP FIG 34	
590	RELAYS			U516		U1209
				U1323		U539
				U519		U1210
				U886		U501
600	GR OR GS & APP FIG 44	GR	102(b) 19	GS,GR, APP FIG 44		
	GT OR GU	GT	192	GU		GT
			190	BU		BV
						OF
						GM
						GZ
						EB
						EQ,EB
						FS,FT

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ORIGINATING MARKER CIRCUIT (2)

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CIRCUIT NOTES: (CONT)

136. (CONT)

RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	USE IN CIRCUIT A&M	USE IN CIRCUIT MD
61D	APP FIG AL OR APP FIG AM	APP FIG AL	102(b) 23	APP FIG AL, APP FIG AM		
	GV	CW,CX OR NONE	102(b) 23	GV,		
62B	APP FIG AN OR AO	APP FIG AN	102(c) 1	APP FIG AO		APP FIG AN
	GW OR GX	GN & GW OR GM	102(c) 1	GX		GW
	GY OR GZ	GY	102(c) 9	GZ		GY
	HA OR HB	HA OR NONE	102(b) 23	HB		HA
	HC	NONE	102(c) 2	HC		
						GU
64B			102(b) 15	APP FIG 45,46 & 47		
	FK	NONE	102(b) 15	FK		
65D	HD	NONE	173	HD		
67D	APP FIG AP OR AQ	APP FIG AP	199	APP FIG AP & AQ		
	HE,HF, HG,HH, HI,HJ	NONE	199	HE,HF, HG,HH, HI,HJ		
	HK	NONE	173	HK		
	HL,HM	HL	102(c) 3	HM		HL
	HN	NONE	232	HN		
			102(b) 16	APP FIG 48		
68B	HO,HP, HU	NONE		HO,HP, HU		
	HQ	D OR NONE	102(e) 2 199	HQ		D
	HR OR HS	HR		HS		HR
	HT	NONE	102(b) 23	HT		
	HW	B,BC OR NONE	102(c) 6	HW		
	HX OR HY	HX & E OR NONE	114 174	HY, E		HX
	HZ	AW OR NONE	137	HZ		AW
	IA OR IB	IA	102(c) 13	IB		IA
	IC OR ID	IC	102(e) 13	ID		IC
	IE	NONE	102(b) 17	1E		
			102(b) 17	APP FIG 49		

136.

RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	USE IN CIRCUIT A&M	USE IN CIRCUIT MD
68B	IF OR IG	IF OR NONE	102(b) 17	IF,IG		
			102(c) 6	APP FIG 50		
	IH OR II	IH	102(b) 16	IH,II		
	IJ,IK, IP	IJ,IP	199	IK,IP		IJ
	IM OR IN	IM	199	IN		IM
	IO OR HV	IO	102(b) 19 199	HV,IO		
70D	IT OR IU	IT	102(e) 5 174	IU,IT		
	IR OR HN	HN	102(b) 16	IR		HN
	IS	NONE	102(b) 23	IS		
71B	IV OR IW	IV WITH HV OR NONE	102(e) 3	IV,IW		
	IX	NONE		IX		
72D			102(b) 10	APP FIG 51		
	JA OR JB	JA	102(b) 10	JA,JB		
			102(b) 10	APP FIG 52		
73D			102(b) 18	IZ		
	IY	NONE	102(b) 18	IY		
	APP FIG 53,54, 55	APP FIG 29,44, OR NONE	102(b) 18 19	APP FIG 54,55	APP FIG 53	
			102(b) 19	APP FIG 56		
	APP FIG AS OR AR	NONE	102(b) 19	APP FIG AS OR AR		
	JC OR JD	JC	102(b) 18	JC,JD		
74D	JE OR JF	JE & JA OR JF & JB	102(b) 10	JE,JF		
	JG	NONE	102(t) 23	JG		
78AC	JH OR JI	JH OR NONE	102(b) 13	JI		JH
	JJ OR JK	JJ	102(b) 10	JK		JJ
			102(b) 10	APP FIG 57		

136.

RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	USE IN CIRCUIT A&M	USE IN CIRCUIT MD
79D	JN,JO, JP,JQ, JR	JN OR NONE	102(b) 19	JO,JP JQ,JR		JN
			102(b) 19	APP FIG 58,59, 60,61 62		
80AC	JS OR JT	JS	102(b) 19	JS,JT		
			256	APP FIG 63		
	JW,JX	NONE	102(b) 19	JW	JX	
	APP FIG 64	APP FIG 29,44, OR NONE	102(b) 19	APP FIG 64		APP FIG 29,44
	JY,JY	JY	102(b) 19	JY		JY
81AC	KF OR KG	KF & HV OR NONE	102(e) 13	KF,KG		
82D	KA OR APP FIG 65	KA OR NONE	102(b) 19 259	KA, APP FIG 65		
			102(b) 19	KB,KC, APP FIG AT,AU	KD	
	KE OR APP FIG 65	KE	102(b) 19 21	KE		
	KH OR KI	KH & HV OR NONE	102(b) 19	KI		KH
	KJ OR KK	KJ	102(b) 33	KK		KJ
			102(b) 20	KL, APP FIG 66		
			102(b) 20	APP FIG 67		
	KM OR KU & APP FIG 68	KM	102(c) 5	KU & APP FIG 68		KM
	KN OR KO	KN & IK OR IP	102(e) 6 199	KO & IK OR IP		KN
	KP	NONE	102(b) 20	KP		
	KQ OR KR	KQ OR NONE	102(b) 19	KR		KQ
	KS OR KT	KS OR NONE	267	KS,KT		
84AC	KV	KF & HV OR NONE	102(e) 13 199	KV		KF

136.

RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	USE IN CIRCUIT A&M	USE IN CIRCUIT MD
85B	APP FIG AV	APP FIG A OR B	102(b) 18 185	APP FIG A OR AV		APP FIG B
	KW OR APP FIG 69	KW	102(c) 1	APP FIG 69		KW
	KX OR KY	KX OR NONE	199	KX,KY		
	KZ	NONE	102(d) 8		KZ	
	LG,LH	LG	199 274	LG,LH		
	LJ	NONE	102(b) 14,173	LJ		
	LK	JN	268			LK
86D	LA OR LB,LF & APP FIG 70	LA OR NONE	102(b) 21	LA,LB, LF & APP FIG 70		
87D	LD OR APP FIG 71	LD	102(b) 19	LD, APP FIG 71		
			102(b) 19	LC,LE, APP FIG 72,73, 74,75		KS,KT, JQ & APP FIG 62
	LL OR LM	LL	276	LL,LM		
	APP FIG 78,79	APP FIG 78	277	APP FIG 78	APP FIG 79	
	APP FIG AW	NONE	102(b) 24	APP FIG AW		
			276	APP FIG 76,77	APP FIG 80	
	LN OR LQ	LN	199 274	LN,LQ		
	LP OR LQ	LP	102(b) 19	LP,LQ		
	LR OR LS	LR	102(b) 19	LR,LS		
88AC	LT OR LU	KI OR NONE	102(b) 19	LU		LT
	LV OR LW	LV	102(b) 19	LV,LW		
89D	APP FIG 0	NONE	155			APP FIG 0
	AU	NONE	139			AU
	BU OR BV	BV	102(b) 9	BV		BU
	LX OR LY	LX	102(e) 3	LY		LX

DRAWING ISSUE VOID

ISSUE 107A

ORIGINATING MARKER CIRCUIT (2)

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CIRCUIT NOTES: (CONT)

136. (CONT)

RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES						
CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT		
				STD	A&M	MD
90D	MF OR MG	MF	102(b) 37	MG		MF
91AC	ME	ME OR NONE	282	ME		
93B	APP FIG AZ	APP FIG AY	102(b) 19	AZ,AY		
	MJ OR MK	MJ WITH APP FIG 52 OR NONE	102(b) 10 286	MK		MJ
	MN OR MO	MN WITH APP FIG 52 OR NONE	102(b) 10 287	MN,MO		
	APP FIG 82	NONE		APP FIG 82		
94D	MI OR MH	MH	102(c)Z 102(e) 16			
	APP FIG 81	NONE	102(c)Z 102(e) 16	APP FIG 81		
95AC	ML OR MN	APP FIG 57 & ML OR NONE	102(b) 10 286	MM		ML
	LX OR LY	LX	102(e) 3	LX,LY		
97B	APP FIG AF OR APP FIG BA	APP FIG AF	102(e) 15 156	APP FIG BA		APP FIG AF
	MP OR MQ	MP	281	MQ		MP
98D						APP FIG 76,77, 78,79, 80
						LM
				BV		
	APP FIG BB OR APP FIG BC	APP FIG BB		APP FIG BC		APP FIG BB
			102(b) 36	APP FIG 0		
99AC	MR OR MS	MR		MR,MS		
100B	MT	NONE	102(b) 36	MT		
	APP FIG 83	APP FIG 83 OR NONE	295	APP FIG 83		
	JH OR JI	JH	102(b) 13	JH,JI		
102D	APP FIG BD,BE, BF	APP FIG BF & BD	102(c) 20 174	APP FIG BE		APP FIG BD & BF
	APP FIG BG OR BH	APP FIG BG	102(c) 20 174	APP FIG BH		APP FIG BG
	APP FIG BI	APP FIG AD,AE OR NONE	102(C) 20	APP FIG BI		APP FIG AE

136.

RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES						
CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT		
				STD	A&M	MD
102D	APP FIG BJ OR BK	APP FIG BJ	102(c) 20 174	APP FIG BK		APP FIG BJ
	APP FIG BL OR BM	APP FIG BL	102(c) 20 174	APP FIG BM		APP FIG BL
	MZ OR NA	MZ	102(c) 20	NA		MZ
	NB OR NC	NONE	102(c) 20	NC		NB
	ND	NONE	102(c) 20	ND		
	NE	AR,DE, DF, OR NONE	102(c) 20	NE		DF
	APP FIG BO,BP	APP FIG BO	102(c) 20 174	APP FIG BP		APP FIG BO
	APP FIG BQ OR BR	APP FIG BQ	102(c) 20 174	APP FIG BR		APP FIG BQ
	APP FIG BS OR BT	APP FIG BS	102(c) 20 174	APP FIG BT		APP FIG BS
	NF OR NG	NF	102(c) 20	NG		NF
	NI OR NH	NH	102(c) 20	NI,NH		
	APP FIG BU OR BV	APP FIG BU	102(c) 20 174	APP FIG BV		APP FIG BU
	APP FIG 13C OR 13D	APP FIG 13C	102(c) 20 174	APP FIG 13D		APP FIG 13C
	NK, NL OR NN	NN	102(c) 26	NK,NL		NN
	NM	CA,AD, AI OR NONE	102(c) 331	NM,CA		AO,NI
	APP FIG BX OR BY	APP FIG BX	102(c) 20 174	APP FIG BY		APP FIG. BX
	APP FIG BW	NONE	102(c) 20	APP FIG BW		
	MV OR MW	MV	102(b) 38	MV,MW		
	MX OR MY	NONE	102(b) 38	MX,MY		
	APP FIG 84,85, 86	NONE	102(b) 38	APP FIG 84,85, 86		

136.

RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES							
CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT			
				STD	A&M	MD	SPL
103B	NQ	ML OR NONE		NQ			
	NR OR NS	MK OR MJ OR NONE		NR		NS	
				ML			
	ND,NP	NO, OR NONE		NP		NO	
105B	NT OR KI, LU,KV, OR KG	KI,LU, KV OR KG	102(b) 39,199, 336	NT		KI,LU, KV,KG	
106D	NV OR NW	JP,JQ, OR NONE	102(b) 19,174	NV,NW			
	NU OR MU	MU OR NONE	102(b) 19	NU,MU			
108D	QA OR QB	QA		QA			QB

136.

RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES						
CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT		
				STD	A&M	MD

DRAWING ISSUE
101D
102D
103B

ISSUE 108D

ORIGINATING MARKER CIRCUIT (2)

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CIRCUIT NOTES: (CONT)

137. (MFR DISC) TO PROVIDE FOR CODES WITH PREFIX "ONE-ONE" REQUIRING INDIVIDUAL CODE POINTS, FURNISH APP FIG 29 AND AW OR HZ OPTION IN APP FIG 3. (SEE NOTES 102(b),18,19;136,248,258)

138. CANCELLED

139. (MFR DISC) TO PROVIDE FOR TWO STAGE PCI CLASS,FURNISH AU OPTION IN APP FIG 14, OTHERWISE OMIT AU OPTION AND LOOP LIKE DESIGNATED LEADS AT THE POSITION OF AU OPTION. (SEE NOTE 293)

140. CANCELLED

141. (MFR DISC) TO PROVIDE FOR REROUTING CALLS FOR SPECIAL CODE "OFF-9300",FURNISH BA AND ER APPARATUS AND BB WIRING. (SEE NOTE 152)

142. CANCELLED

143. CANCELLED

144. CANCELLED

145. CANCELLED

146. CANCELLED

147. CANCELLED

148. (MFR DISC) TO PROVIDE ORIGINATING SENDER LOAD CONTROL FURNISH BV AND AT WIRING. (SEE NOTE 190)

149. CANCELLED

150. CANCELLED

151. CANCELLED

152. (MFR DISC) TO PROVIDE THE "OVER FIVE OFFICE BRUSH" FEATURE WHERE THE "OFF-9300" FEATURE IS REQUIRED FURNISH APP FIG O. OTHERWISE FURNISH APP FIG N. WHERE APP FIG N IS FURNISHED BUT TEMPORARILY NOT USED PROVIDE M OPTION.

153. CANCELLED

154. CANCELLED

155. (MFR DISC) CROSS CONNECT THE SG TERMINAL, APP FIG 7, AS FOLLOWS:
(A) APP FIG N
TO (SGO)S FOR OFFICE BRUSH BELOW 5.
TO (SGI)S TO ADD 5 TO THE OFFICE BRUSH.
(B) APP FIG O
TO (SGO)P FOR OFF-9300 REROUTE AND OFFICE BRUSH BELOW 5.
TO (SGO)S FOR OFFICE BRUSH BELOW 5.
TO (SGI)P FOR OFF-9300 REROUTE AND TO ADD 5 TO THE OFFICE BRUSH.
TO (SGI)S TO ADD 5 TO THE OFFICE BRUSH.
(C) FOR NEITHER OFF-9300 REROUTE NOR ADD 5 TO OFFICE BRUSH,CROSS-CONNECT SG TO (SGO)S.

156. PROVIDE APP FIGURES AK,V, AND BA WHEN THE ASSOCIATED SUB-SENDERS ARE USED BY DIALING OPERATORS AND/OR ON CALLS FROM INTEROFFICE DISTRICTS (SXS); OTHERWISE FURNISH APP FIGURES U,AJ,AND BA WHEN SUBSCRIBERS SENDER RELEASES ON THIRD TRIAL ONLY. IF ALL OVERFLOW TRUNKS ARE FOUND BUSY; OR FURNISH APP FIGURES AK,U, AND BA WHEN SUBSCRIBERS SENDER RELEASES ON FIRST, SECOND,OR THIRD TRIAL IF ALL OVERFLOW TRUNKS ARE FOUND BUSY, AND FOR RELEASE OF SUBSCRIBER SENDER ON THIRD TRIAL TROUBLE RELEASE. CROSS CONNECT THE "Z(ODR)" TERMINAL OF APP FIG V THRU CONTACTS OF THE (S-)RELAY, APP FIG 4,WHICH SERVES THE DIAL OPERATOR AND INTEROFFICE DISTRICT CLASS TO THE "R" TERMINALS OF ALL ROUTE RELAYS FOR VACANT CODES AND DENIED ROUTES EXCEPT OVERFLOW AND PERMANENT SIGNAL. CROSS CONNECT THE "Z(OOV)" TERMINAL OF APP FIG V THRU CONTACTS OF THE SAME (S-) RELAY TO THE "R" TERMINALS OF THE ROUTE RELAYS FOR OVERFLOW AND THE ROUTE RELAY FOR PERMANENT SIGNAL USED FOR OPERATOR CLASS. FOR ROUTES WHICH ARE NOT DENIED CROSS CONNECT THE "R" TERMINALS OF THE ASSOCIATED ROUTE RELAYS TO TERMINAL "Z(NC)" THRU CONTACTS OF THE SAME (S-) RELAY. (SEE NOTES 131 & 181)

157. CANCELLED

158. CANCELLED

159. CANCELLED

160. CANCELLED

161. CANCELLED

162. CANCELLED

163. CANCELLED

164. CANCELLED

165. WITH BI OPTION, CROSS CONNECT SG TERMINALS OF ROUTE RELAYS IN GROUND SUPPLY GROUPS 3 AND 4 TO SPB TERMINAL AS REQUIRED.

166. PROVIDE APP FIG 36 AND THE FOLLOWING CROSS CONNECTIONS TO FURNISH MEANS FOR REGISTERING MARKER PEG COUNT ON A CLASS OF SERVICE BASIS FOR MESSAGE REGISTER OPERATION. CROSS CONNECT PUNCHINGS IN SAME VERTICAL ROW.
(A) FOR LINES NOT EQUIPPED WITH MESSAGE REGISTERS AND CALLS FROM OPERATORS.

APP FIG 8	RMR	APP FIG 36	PMR	CPC	CSP			
APP FIG 4 OR 34	SC		S	ANOTHER SC	ANOTHER S	APP FIG 28	MR ZMR	

(B) FOR LINES EQUIPPED WITH MESSAGE REGISTERS

APP FIG 8	RMR	APP FIG 36	CSP
APP FIG 4 OR 34	SC		S

FOR AMA SEE NOTE 186

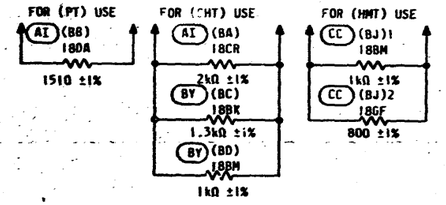
167. CANCELLED

168. FURNISH ONE (CRR-) RELAY FOR EACH OF THE FOLLOWING CONDITIONS IF REQUIRED:
(1) 10 OR 30 CENT CODES,NO STATIONS DELAY
(2) 10 OR 30 CENT CODES,WITH STATIONS DELAY
(3) 15 CENT CODES,NO STATIONS DELAY
(4) 15 CENT CODES,WITH STATIONS DELAY
(5) 20 CENT CODES,NO STATIONS DELAY
(6) 20 CENT CODES,WITH STATIONS DELAY
(7) 25 CENT CODES,NO STATIONS DELAY
(8) 25 CENT CODES,WITH STATIONS DELAY
THIS ARRANGEMENT MAY BE USED IN A SIMILAR PATTERN FOR OTHER THAN COIN LINES AS MAY BE REQUIRED.

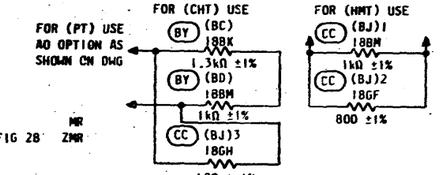
169. CANCELLED

170. (MFR DISC) THE SB TERMINALS PO-9 AND SO-9 OF APP FIG AW ARE CONNECTED TO THE CORRESPONDING CR PO-9, AND SO-9 TERMINALS IN APP FIG 14. [WHEN THE MARKER IS ARRANGED FOR OPERATION WITH THE ROUTE & RATE VERIFICATION TEST CKT THE SB AND CR TERMINALS ARE CONNECTED THRU APP FIG 77 (SEE NOTE 276).] CROSS CONNECT SB TERMINALS OF THE ORIGINATING ROUTE RELAY IN GROUND SUPPLY ONE AS REQUIRED FOR COMPENSATING RESISTANCE FOR THE FIRST ALTERNATE ROUTE RELAYS AND OMIT CROSS CONNECTIONS TO BOTH SB AND CR TERMINALS OF THESE ALTERNATE ROUTE RELAYS.

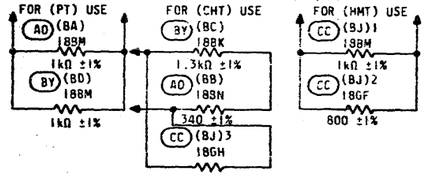
171. (MFR DISC) TO PROVIDE REDUCED MARKER TIMING FOR (PT),(CHT) AND (HMT) TIMING INTERVALS WHEN CA,BZ, AND CB OPTIONS ARE NOT AVAILABLE, UTILIZE AVAILABLE OPTIONS AS FOLLOWS:
(A) WHEN AI,BY AND CC OPTIONS ARE AVAILABLE AND TRUNKS ARE COMMON WITH PANEL.



(B) WHEN AO,BY AND CC OPTIONS ARE AVAILABLE AND TRUNKS ARE COMMON WITH PANEL:



(C) WHEN AO,BY AND CC OPTIONS ARE AVAILABLE AND TRUNKS ARE NOT COMMON WITH PANEL: (SEE NOTE 102(c),16)



USE BZ WIRING AT (BK) RELAY

172. CANCELLED

173.

NETWORK NO.	RESISTANCE IN OHMS	CAPACITANCE IN UF
1	470	0.11
2	150	0.5
3	150	1
4	470	0.5
5	150	0.3
6	120	0.3
7	150	0.5

174. (MFR DISC)

PRIOR TO ISSUE	OPTION	WAS PART OF OPTION
24B	3L	AL
	BN	BD
	BO	BE
32D	AI	X
	AO	Y
	A	BE
	C	AV
	U	AX
42D	EV	X
	EX	AF
	FA	BE
	EZ	BE
43D	DC	D
	DE	AQ
	DG	N
	DW	AM
	DY	N
	EE	AS
	EJ	AH
	EL	AM
	EN	AM
	EP	N
	ER	BA
	ET	AM
45D	FC	D
	FM	CV
	FN	FB
	APP FIG 41	APP FIG 8
51B	FR	CT
52D	FP	CT
58D	GP	FT
62B	GW	GN
68B	HX	E
70D	IT	GV
74D	JE	JA
	JF	JB
82D	KH	HV
85b	LK	JN
88AC	LT	KT
95AC	ML	JK
102D	APP FIG BD	APP FIG 13
	APP FIG BF	APP FIG 13
	APP FIG BG	APP FIG 8
	APP FIG BJ	APP FIG 20
	APP FIG BL	APP FIG 41
	APP FIG BO	APP FIG K
	APP FIG BQ	APP FIG 15
	APP FIG BS	APP FIG 28
	APP FIG BU	APP FIG 28
	APP FIG BX	APP FIG 28
	APP FIG 13C	APP FIG 13
103B	NQ	ML
	NR	MJ
	NS	MK
106D	NW	JP OR JQ

WHEN N OPTION IS PROVIDED FURNISH DG OR DH,EP OR EQ, AND DY OR DZ OPTIONS.

175. CANCELLED

176. CANCELLED

177. CANCELLED

178. THE (DMA) & (SA) RELAYS ARE IN THE MARKER CONNECTOR CIRCUIT. THE (MP), (MCA), & (MCB) RELAYS ARE IN THE DISTRICT LINK AND CONNECTOR CIRCUIT. THE (Z) RELAY IS IN THE ZONE REGISTRATION AND CONTROL CIRCUIT.

179. THE (MCA), (MCB), (TR), AND (TL) RELAYS ARE IN THE OFFICE LINK AND CONNECTOR CIRCUIT. THE (DC), (DS), (DT), (RD), AND (RTI) RELAYS ARE IN THE ORIGINATING TROUBLE INDICATOR CIRCUIT.

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ORIGINATING MARKER CIRCUIT (2) SD-25016-01-012

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CIRCUIT NOTES: (CONT)

180. FURNISH APP FIG 38, ONE PER (O-) RELAY PER APP FIG 10 PER PAIR OF OFFICE FRAMES AND ONE (DF-) RELAY PER APP FIG 12 PER DISTRICT FRAME FOR WHICH THE JUNCTOR DISTRIBUTION IS ARRANGED, (JCO-9) RELAYS OR MORE AS REQUIRED AND OTHER RELAYS AND CROSS CONNECTIONS INDICATED IN THE FOLLOWING TABLES. LOOP CONTACTS AS INDICATED ON (JC-) RELAYS INSTALLED BUT NOT USED AND AT POSITION OF UNEQUIPPED (JC-) RELAYS.

2 FRAMES

(A) PROVIDE AJ APPARATUS (CBAI-5),(CBBI-5),AND AK APPARATUS (CBC) RELAYS; PROVIDE Z WIRING AND OMIT W WIRING.

STRAP PUNCHINGS NP0 AND NP5 (APP FIG 17).

STRAP PUNCHINGS CB2 AND CB4 (APP FIG 17).

(B) OMIT APP FIGURE 18 AND 21.

(C) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10	EA0	OA0	EC0	OC0	EB0	OB0
APP FIG 19	JC0	JC1	JC4	JC5	JC6	JC7

4 FRAMES (AFTER AN ADDITION)

(A) PROVIDE AJ APPARATUS (CBAI-5),(CBBI-5), AND AK APPARATUS (CBC) RELAYS, PROVIDE Z WIRING AND OMIT W WIRING.

STRAP PUNCHINGS NP0 AND NP5 (APP FIG 17).

STRAP PUNCHINGS CB1,CB2,CB3 AND CB4 (APP FIG 17).

(B) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10	EA0	OA0	EA1	OA1	EC0	OC0	EC1	OC1
	EB0	OB0	EB1	OB1				
APP FIG 19	JC0	JC1	JC2	JC3	JC6	JC7	JC8	JC9

4 FRAMES (NEW OFFICES) OR 6 FRAMES (AFTER AN ADDITION)

(A) PROVIDE AJ APPARATUS (CBAI-5),(CBBI-5) AND AK APPARATUS (CBC) RELAYS, PROVIDE Z WIRING AND OMIT W WIRING.

STRAP PUNCHINGS NP0,NP1,NP2,NP3 AND NP4 (APP FIG 17).

STRAP PUNCHINGS CB1,CB2,CB3 AND CB4 (APP FIG 17).

(B) PROVIDE (P0) AND (P1) RELAYS PER APP FIG 18.

(C) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 15		BPL0	BPR0	BPL1	BPR1	BPL2	BPR2	BPL3	BPR3	BPL4	BPR4	BPL5	BPR5	BPL6	BPR6	BPL7	BPR7	BPL8	BPR8	BPL9	BPR9
APP FIG 18	(P0) REL		BP0	BP1			BP2	BP3			BP4	BP5			BP6	BP7			BP8	BP9	
	(P1) REL	BP0			BP1	BP2			BP3	BP4			BP5	BP6			BP7	BP8			BP9

(D) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 12	EAP0	EAP1
	EAP2	EAP3
	EAP4#	EAP5#
	OAP1	OAP0
	OAP3	OAP2
	OAP5#	OAP4#
APP FIG 18	P0	P1

(E) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10	EA0	OA0	EA1	OA1	EA2#	OA2#	EC0	OC0	EC1	OC1	EC2#	OC2#
	EB0	OB0	EB1	OB1	OB2#	OB2#						
APP FIG 19	JC0	JC1	JC2	JC3	JC4#	JC5#	JC6	JC7	JC8	JC9		
							OEP2#	EEP2#	OEP0#	EEP0#		
APP FIG 12							OEP3#	EEP3#	OEP1#	EEP1#		
									OEP4#	EEP4#		
APP FIG 11									OEP5#	EEP5#		
											EE	OE

ON 4 FRAME JOBS, THESE CROSS CONNECTIONS SERVE NO USEFUL PURPOSE.

6 FRAMES (NEW OFFICES) OR 8 FRAMES (AFTER AN ADDITION)

180. (CONT)

(A) PROVIDE AJ APPARATUS (CBAI-5),(CBBI-5) AND (CBC) AK APPARATUS RELAYS; PROVIDE Z WIRING AND OMIT W WIRING.

STRAP PUNCHINGS NP0 NP1 NP2 NP3 AND NP4 (APP FIG 17).

STRAP PUNCHINGS CB1 CB2 CB3 AND CB4 (APP FIG 17).

(B) PROVIDE (P0-7) RELAYS INCLUSIVE PER APP FIG 18.

PROVIDE (PAD,1) RELAY PER APP FIG 21.

(C) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 15		BPL0	BPR0	BPL1	BPR1	BPL2	BPR2	BPL3	BPR3	BPL4	BPR4	BPL5	BPR5	BPL6	BPR6	BPL7	BPR7	BPL8	BPR8	BPL9	BPR9
APP FIG 18	(P0) REL	BP0		BP1			BP2		BP3		BP4		BP5		BP6		BP7		BP8		BP9
	(P1) REL		BP0		BP1			BP2		BP3		BP4		BP5		BP6		BP7		BP8	
	(P2) REL	BP0				BP2		BP3		BP4			BP6		BP7		BP8				
	(P3) REL		BP0		BP1				BP3		BP4		BP5				BP7		BP8		BP9
	(P4) REL			BP1		BP2		BP3				BP5		BP6		BP7				BP9	
	(P5) REL		BP0				BP2		BP3		BP4				BP6		BP7		BP8		BP9
	(P6) REL	BP0		BP1		BP2				BP4		BP5		BP6				BP8		BP9	
	(P7) REL				BP1		BP2		BP3				BP5		BP8		BP7				BP9

(D) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10	PA0	PA1
	PA2	PA3
APP FIG 21	PA0	PA1

(E) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 21	PC0	PC1	PC2	PC3
APP FIG 18	P0	P2	P4	P6
	P1	P3	P5	P7

(F) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 12	EAP0	EAP1	EAP2	EAP3
	EAP4	EAP5	EAP6#	EAP7#
	OAP1	OAP0	OAP3	OAP2
	OAP5	OAP4	OAP7#	OAP6#
APP FIG 21 RELAY (PA0)	P0	P1	P2	P3
APP FIG 21 RELAY (PA1)	P2	P3	P0	P1

(G) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10	EA0	OA0	EA1	OA1	EA2	OA2	EA3#	OA3#	EC0	OC0
	EB0	OB0	EB1	OB1	EB2	OB2	EB3#	OB3#	EC1	OC1
									OC2	EC2
									OC3#	EC3#
APP FIG 19	JC0	JC1	JC2	JC3	JC4	JC5	JC6#	JC7#	JC8	JC9

ON 6 FRAME JOBS, THESE CROSS CONNECTIONS SERVE NO USEFUL PURPOSE.

8 FRAMES (NEW OFFICES) OR 10 FRAMES (AFTER AN ADDITION)

(A) OMIT AJ APPARATUS (CBAI-5),(CBBI-5), AND AK APPARATUS (CBC) RELAYS; OMIT Z WIRING, PROVIDE W WIRING.

CONNECT NP0 PUNCHING TO NP5 (APP FIG 17).

(B) OMIT APP FIGURES 18 AND 21.

(C) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10	EA0	OA0	EA1	OA1	EA2	OA2	EA3	OA3	EA4#	OA4#
APP FIG 19	JC0	JC1	JC2	JC3	JC4	JC5	JC6	JC7	JC8#	JC9#

ON 8 FRAME JOBS, THESE CROSS CONNECTIONS SERVE NO USEFUL PURPOSE.

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ORIGINATING MARKER CIRCUIT (2)

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10 FRAMES (NEW OFFICES) OR 12 FRAMES (AFTER AN ADDITION)

CIRCUIT NOTES: (CONT)

180. (A) OMIT AJ APPARATUS (CBAI-5),(CBBI-5), AND AK APPARATUS (CBC) RELAYS: OMIT Z WIRING, PROVIDE W WIRING (APP FIG 17)
(CONT)

(B) PROVIDE (P0-9) RELAYS INCLUSIVE, PER APP FIG 18, AND (PA0-4) RELAYS INCLUSIVE, (APP FIG 21).

(C) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 15		BPL0	BPR0	BPL1	BPR1	BPL2	BPR2	BPL3	BPR3	BPL4	BPR4	BPL5	BPR5	BPL6	BPR6	BPL7	BPR7	BPL8	BPR8	BPL9	BPR9
APP FIG 18	(P0) REL			BP1							BP4					BP7			BP8		
	(P1) REL				BP1					BP4							BP7	BP8			
	(P2) REL		BP0					BP3			BP4				BP6	BP7				BP9	
	(P3) REL	BP0							BP3	BP4				BP6			BP7				BP9
	(P4) REL			BP1			BP2				BP5							BP8			
	(P5) REL				BP1	BP2							BP5						BP8		
	(P6) REL		BP0					BP3			BP4					BP7					
	(P7) REL	BP0							BP3	BP4							BP7				
	(P8) REL						BP2				BP5				BP6					BP9	
	(P9) REL					BP2							BP5	BP6							BP9

(D) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10	PA0	PA1	PA2	PA3	PA4	
	PA5*					
APP FIG 21	PA0	PA1	PA2	PA3	PA4	

(E) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 21	PC0	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8	PC9
APP FIG 18	P0	P1	P2	P3	P4	P5	P6	P7	P8	P9

(F) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 12	EAP0	EAP1	EAP2	EAP3	EAP4	EAP5	EAP6	EAP7	EAP8	EAP9	
	EAP10	EAP11*									
	OAP11*	OAP10*									
	OAP1	OAP0	OAP3	OAP2	OAP5	OAP4	OAP7	OAP6	OAP9	OAP8	
APP FIG 21 RELAY (PA0)	P0	P1	P2	P3	P4	P5	P6	P7	P8	P9	
RELAY (PA1)	P2	P3	P4	P5	P6	P7	P8	P9	P0	P1	
RELAY (PA2)	P4	P5	P6	P7	P8	P9	P0	P1	P2	P3	
RELAY (PA3)	P6	P7	P8	P9	P0	P1	P2	P3	P4	P5	
RELAY (PA4)	P8	P9	P0	P1	P2	P3	P4	P5	P6	P7	

(G) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10	EA0	OA0	EA1	OA1	EA2	OA2	EA3	OA3	EA4	OA4	EA5*	OA5*
APP FIG 19	JC0	JC1	JC2	JC3	JC4	JC5	JC6	JC7	JC8	JC9	JC10*	JC11*

* ON 10 FRAME JOBS, THESE CROSS CONNECTIONS SERVE NO USEFUL PURPOSE.

12 FRAMES (NEW OFFICES) OR 14 FRAMES (AFTER AN ADDITION)

(A) OMIT AJ APPARATUS (CBAI-5),(CBBI-5) AND AK APPERATUS (CBC) RELAYS. OMIT Z WIRING AND PROVIDE W WIRING APP FIG 17.

(B) PROVIDE (P0-P9) RELAYS INCLUSIVE, PER APP FIG 18 AND (PA0-4) RELAYS INCLUSIVE, PER APP FIG 21.

(C) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 15		BPL0	BPR0	BPL1	BPR1	BPL2	BPR2	BPL3	BPR3	BPL4	BPR4	BPL5	BPR5	BPL6	BPR6	BPL7	BPR7	BPL8	BPR8	BPL9	BPR9
APP FIG 18	(P0) REL			BP1			BP2				BP4	BP5				BP7			BP8		
	(P1) REL				BP1	BP2				BP4			BP5				BP7	BP8			
	(P2) REL		BP0					BP3			BP4				BP6	BP7				BP9	
	(P3) REL	BP0							BP3	BP4				BP6			BP7				BP9
	(P4) REL			BP1			BP2				BP5				BP6			BP8	BP9		
	(P5) REL				BP1	BP2						BP5	BP6						BP8		BP9
	(P6) REL		BP0	BP1				BP3			BP4					BP7		BP8			
	(P7) REL	BP0							BP3	BP4							BP7	BP8			
	(P8) REL		BP0				BP2	BP3			BP5				BP6					BP9	
	(P9) REL	BP0				BP2			BP3				BP5	BP6							BP9

(D) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL LINE.

APP FIG 10	PA0	PA1	PA2	PA3	PA4	
	PA5	PA6*				
APP FIG 21	PA0	PA1	PA2	PA3	PA4	

180. (E) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.
(CONT)

APP FIG 21	PC0	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8	PC9
APP FIG 18	P0	P1	P2	P3	P4	P5	P6	P7	P8	P9

(F) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 12	EAP0	EAP1	EAP2	EAP3	EAP4	EAP5	EAP6	EAP7	EAP8	EAP9	
	EAP10	EAP11	EAP12*	EAP13*							
	OAP11	OAP10	OAP13*	OAP12*							
	OAP1	OAP0	OAP3	OAP2	OAP5	OAP4	OAP7	OAP6	OAP9	OAP8	
APP FIG 21 RELAY (PA0)	P0	P1	P2	P3	P4	P5	P6	P7	P8	P9	
RELAY (PA1)	P2	P3	P4	P5	P6	P7	P8	P9	P0	P1	
RELAY (PA2)	P4	P5	P6	P7	P8	P9	P0	P1	P2	P3	
RELAY (PA3)	P6	P7	P8	P9	P0	P1	P2	P3	P4	P5	
RELAY (PA4)	P8	P9	P0	P1	P2	P3	P4	P5	P6	P7	

(G) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10	EA0	OA0	EA1	OA1	EA2	OA2	EA3	OA3	EA4	OA4	EA5	OA5
APP FIG 19	JC0	JC1	JC2	JC3	JC4	JC5	JC6	JC7	JC8	JC9	JC10	JC11

APP FIG 10	EA6*	OA6*	EA7◆	OA7◆	EA8*	OA8*						
APP FIG 19	JC12*	JC13*	JC14◆	JC15◆	JC16*	JC17*						

* ON 12 FRAME JOBS, THESE CROSS CONNECTIONS SERVE NO USEFUL PURPOSE.

14 FRAMES (NEW OFFICES) OR 16 & 18 FRAMES (ALL OFFICES)

(A) OMIT AJ APPARATUS (CBAI-5),(CBBI-5) AND AK APPARATUS (CBC) RELAYS; OMIT Z WIRING AND PROVIDE W WIRING (APP FIG 17).

(B) PROVIDE (P0-9) RELAYS INCLUSIVE, PER APP FIG 18. AND (PA0-4) RELAYS INCLUSIVE, PER APP FIG 21.

(C) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 15		BPL0	BPR0	BPL1	BPR1	BPL2	BPR2	BPL3	BPR3	BPL4	BPR4	BPL5	BPR5	BPL6	BPR6	BPL7	BPR7	BPL8	BPR8	BPL9	BPR9
APP FIG 18	(P0) REL			BP1			BP2				BP4				BP6	BP7			BP8		
	(P1) REL				BP1	BP2						BP5	BP6				BP7	BP8			
	(P2) REL		BP0	BP1				BP3			BP4				BP6	BP7				BP9	
	(P3) REL	BP0			BP1			BP3		BP4					BP6						BP9
	(P4) REL		BP0	BP1			BP2	BP3			BP5				BP6						
	(P5) REL	BP0			BP1	BP2			BP3				BP5	BP6					BP8		BP9
	(P6) REL		BP0	BP1			BP2	BP3			BP4	BP5				BP7				BP8	
	(P7) REL	BP0			BP1	BP2			BP3	BP4			BP5				BP7	BP8			
	(P8) REL		BP0				BP2			BP4		BP5			BP6					BP9	
	(P9) REL	BP0				BP2			BP3	BP4			BP5	BP6			BP7				BP9

(D) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10	PA0	PA1	PA2	PA3	PA4	
	PA5	PA6	PA7◆	PA8*		
APP FIG 21	PA0	PA1	PA2	PA3	PA4	

(E) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 21	PC0	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8	PC9
APP FIG 18	P0	P1	P2	P3	P4	P5	P6	P7	P8	P9

(F) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 12	EAP0	EAP1	EAP2	EAP3	EAP4◆	EAP5◆	EAP6	EAP7	EAP8	EAP9	
	EAP10	EAP11	EAP12	EAP13	EAP14◆	EAP15◆	EAP16*	EAP17*			
	OAP11	OAP10	OAP13	OAP12	OAP15◆	OAP14◆	OAP17*	OAP16*			
	OAP1	OAP0	OAP3	OAP2	OAP5	OAP4	OAP7	OAP6	OAP9	OAP8	
APP FIG 21 RELAY (PA0)	P0	P1	P2	P3	P4	P5	P6	P7	P8	P9	
RELAY (PA1)	P2	P3	P4	P5	P6	P7	P8	P9	P0	P1	
RELAY (PA2)	P4	P5	P6	P7	P8	P9	P0	P1	P2	P3	
RELAY (PA3)	P6	P7	P8	P9	P0	P1	P2	P3	P4	P5	
RELAY (PA4)	P8	P9	P0	P1	P2	P3	P4	P5	P6	P7	

(G) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10	EA0	OA0	EA1	OA1	EA2	OA2	EA3	OA3	EA4	OA4	EA5	OA5
APP FIG 19	JC0	JC1	JC2	JC3	JC4	JC5	JC6	JC7	JC8	JC9	JC10	JC11

APP FIG 10	EA6	OA6	EA7◆	OA7◆	EA8*	OA8*						
APP FIG 19	JC12	JC13	JC14◆	JC15◆	JC16*	JC17*						

* ON 14 AND 16 FRAME JOBS
◆ ON 14 FRAME JOBS
} THESE CROSS CONNECTIONS SERVE NO USEFUL PURPOSE

DRAWING ISSUE 101D

101

ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-D14

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-D14

20 FRAMES

CIRCUIT NOTES: (CONT)

180. (A) OMIT AJ APPARATUS (CBAI-5),(CBBI-5) AND AK APPARATUS (CBC) RELAYS; OMIT Z WIRING AND PROVIDE W WIRING (APP FIG 17). (CONT)

(B) PROVIDE (PO,I) RELAYS, PER APP FIG 18; OMIT APP FIG 21.

(C) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 15		BPL0	BPR0	BPL1	BPR1	BPL2	BPR2	BPL3	BPR3	BPL4	BPR4	BPL5	BPR5	BPL6	BPR6	BPL7	BPR7	BPL8	BPR8	BPL9	BPR9
APP	(PO) REL		BP0	BP1			BP2	BP3			BP4	BP5			BP6	BP7			BP8	BP9	
FIG 18	(PI) REL	BP0			BP1	BP2			BP3	BP4			BP5	BP6			BP7	BP8			BP9

(D) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 12	EAP0	EAP1
	EAP2	EAP3
	EAP4	EAP5
	EAP6	EAP7
	EAP8	EAP9
	EAP10	EAP11
	EAP12	EAP13
	EAP14	EAP15
	EAP16	EAP17
	EAP18	EAP19
	OAP1	OAP0
	OAP3	OAP2
	OAP5	OAP4
	OAP7	OAP6
	OAP9	OAP8
	OAP11	OAP10
	OAP13	OAP12
	OAP15	OAP14
	OAP17	OAP16
	OAP19	OAP18
APP FIG 18	P0	P1

(E) CROSS CONNECT PUNCHINGS SHOWN IN THE SAME VERTICAL ROW.

APP FIG 10	EA0	OA0	EA1	OA1	EA2	OA2	EA3	OA3	EA4	OA4	EA5	OA5	EA6	OA6	EA7	OA7	EA8	OA8	EA9	OA9
APP FIG 19	JC0	JC1	JC2	JC3	JC4	JC5	JC6	JC7	JC8	JC9	JC10	JC11	JC12	JC13	JC14	JC15	JC16	JC17	JC18	JC19

181. FOR AMA OPERATION PROVIDE RELAYS (MIA-J) AND (MI1-9) OF APP FIG 39 AS FOLLOWS:

(A) (MIA) AND (MI1) FOR MESSAGE UNIT FORMULA OF ONE MESSAGE UNIT (FOR JOBS INITIALLY INSTALLED FOR MESSAGE REGISTER OPERATION).

(B) (MIJ) AND (MI9) FOR CALLS THAT APPEAR ON THE SUBCRIBER TOLL STATEMENT.

(C) (MIA) AND (MI1) TO (MIH) AND (MIB) ONE PAIR EACH AS REQUIRED FOR EACH MESSAGE UNIT FORMULA ESTABLISHED FOR THE CENTRAL OFFICE ACCOUNTING PURPOSES.

182. FOR SPLIT TWO PARTY SERVICE MR OR AMA, CONNECT SPECIAL CLASS (D) PUNCHING TO PUNCHING TP, CONNECT TPO AND TPN PUNCHINGS TO (S-) RELAY WINDINGS (PUNCHINGS SWO-24) AS DESIRED, ONE OF WHICH MAY BE A REGULAR TWO PARTY CLASS. SIMILARLY, WHEN APP FIG 42 IS FURNISHED, PUNCHINGS STPO,STP3 AND STP6 ARE CONNECTED TO D PUNCHINGS, AND THE CORRESPONDING PAIRS OF PUNCHINGS STPI AND STP2,STP4 AND STP5, AND STP7 AND STP8, ARE CONNECTED TO PUNCHINGS SWO-24 AS DESIRED. (SEE NOTE 185)

183. CANCELLED

184. RELAYS (RTO-3) APP FIGURES 32 OR 33 ARE FURNISHED FOR TERMINATING SENDER LOAD CONTROL (ONE PER TERMINATING MARKER GROUP) AND FUNCTION WITH RELAY (CK4A) APP FIG 30.

RELAYS (RT5-9) APP FIG 33 ARE FURNISHED FOR "A" SWITCHBOARD ROUTE TRANSFER ONE PER ORIGINATING MARKER PER ROUTE TRANSFER AND FUNCTION WITH RELAY (CK4B) APP FIG 30.

RELAY (RT4) APP FIG 32 OR 33 IS USED FOR EITHER TERMINATING SENDER LOAD CONTROL, "A" SWITCHBOARD ROUTE TRANSFER, OR WITH A ROUTE TRANSFER CONTROL CIRCUIT AND IS ASSOCIATED WITH RELAY (CK4A) APP FIG 30.

185. PROVIDE OPTION FR WITH OPTIONS FD,FE,FF, FY AND LJ AS SPECIFIED ONLY WHEN THE CK1-4 LEADS ARE NOT FURNISHED WITH CONTACT PROTECTION IN THE MARKER CONNECTOR CIRCUIT. (SEE NOTE 182)

186. CANCELLED

187. CANCELLED

188. CANCELLED

189. CANCELLED

190. (MFR DISC) PROVIDE BU OPTION AND OMIT BY OPTION WHEN THE ORIGINATING SENDER LOAD CONTROL FEATURE IS NOT REQUIRED. (SEE NOTE 102(b),9;281)

191. (MFR DISC) TO PROVIDE FOR CODES WITH PREFIX "ONE-ONE" WHEN A SINGLE CODE POINT FOR A COMMON ROUTING IS REQUIRED, FURNISH APP FIG 44 AND GS OPTION IN APP FIG 1, OTHERWISE FURNISH GR OPTION. (SEE NOTES 136,248,258)

192. (MFR DISC) PROVIDE GU OPTION TO CAUSE THE ORIGINATING MARKER TO BLOCK WHEN THE TEST OF THE AUTOMATIC MESSAGE ACCOUNTING FEATURE BY THE TROUBLE INDICATOR FAILS TO CHECK CORRECTLY. (SEE NOTE 102(b),14;196)

193. THE (SB) AND (DMB) RELAYS ARE LOCATED IN THE MARKER CONNECTOR CIRCUIT.

194. WHEN THE FEATURE FOR DIVERSION OF RESTRICTED PBX TRAFFIC ON EXTRA CHARGE CALLS IS REQUIRED, STRAP THE IB CONTACT OF RELAYS (ZA-J) INCLUSIVE REPRESENTING ROUTES FOR WHICH COMPLETION OF CALLS IS TO BE DENIED AND WHICH, INSTEAD, WILL RETURN REVERSE BATTERY TOLL DIVERSION SIGNAL TO THE ORIGINATING TRUNK.

195. CANCELLED

196. CANCELLED

197. CANCELLED

198. CROSS CONNECT RC PUNCHING OF THE COMMON TRUNK GROUP ROUTE RELAY AND THE PRC PUNCHING OF THE ASSOCIATED (PRH) RELAY TO THE B OFFICE CODE POINT. CROSS CONNECT THE RC PUNCHING OF THE SAME (PRH) RELAY TO THE "A" OFFICE CODE POINT.

199. PROVIDE AUXILIARY RELAYS (RA-) ASSOCIATED WITH THE FOLLOWING TYPES OF TRAFFIC AS REQUIRED.

APP FIGURE AND FEATURE		TYPE OF CALL: DIGITS DIALED	TYPE OF CALL: DIGITS OUTPULSED	ANI IDENTIFICATION FOR ROUTES: OFFICE REQUIRED AND ARRANGED FOR: TIP AND RING PARTY CHARGE	ANI IDENTIFICATION FOR ROUTES: OFFICE REQUIRED AND ARRANGED FOR: RING PARTY CHARGE ONLY	ANI IDENTIFICATION FOR ROUTES: NOT REQD	PROVIDE OPTION	CROSS CONNECT CL OF APP FIG 7 TO	CROSS CONNECT CL8-D OF APP FIG AQ AS REQD
PROVIDE APP FIG AQ WHEN AUX SDR OR W SPG SDR IS	REQD FOR (MF OUTPULSING	10	10	✓			HO,HV, IK,NT	RA5	
		6	6						
		10	10						
		6	6		✓		HO,IO,IK		
		10	7	✓			HE,HJ,HV IK,NT	RA1	
					✓	✓	HE,HJ,IK IO		
				✓			LH,HI,HJ HV,IK,NT	** RA9	
		6	3	✓					
		7 OR 8	7 OR 8	✓			HI,HU,HV, IK,IN,NT	RA7	
		5 OR 6*	5 OR 6						
		7 OR 8	7 OR 8		✓		HI,HU,IN, IK,IO		
		5 OR 6*	5 OR 6						
		7 OR 8	7 OR 8			✓	HF,HI,IK, IO	RA2	
		5 OR 6*	5 OR 6						
		7	5			✓	HG,HI,HJ, IK,IO	RA3	
		7	4			✓	HH,HI,HJ, IK,IO	RA4	
	NOT REQD FOR (PCI PULSING)	7 OR 8	8	✓			HP,HV,IK, NT	RA6	CL3P OR CL3S
		5 OR 6*	8	✓			HV,IK, LO,NT	RA10	CK5P OR CL5S
		1	NONE	✓			HV,IK, KY,NT	RA8	CL6P OR CL6S
PROVIDE APP FIG AP WHEN APP FIG AQ IS NOT FURN & AUX SDR OR W SPG SDR IS	REQD ONLY FOR	10	10		✓	✓	IO,IP	CL3P OR CL3S	
	NOT REQD	7 OR 8	8		✓	✓	IO,IP	CL3P OR CL3S	
		5 OR 6*	8		✓	✓	IO,IP	CL5P OR CL5S	
PROVIDE APP FIG AQ WHEN AUX SDR OR W SPG IS REQD ONLY FOR		OTHER THAN 10	OTHER THAN 10		✓	✓	IK,IO AND PROVIDE REQUIRED OPTIONS AND CROSS CONNECT AS SHOWN ABOVE		

* 6 DIGITS DIALED, AREA CODE RECYCLED

** PROVIDES FOR 3 OR 7 DIGIT MF OUTPULSING OF RECYCLED AREA CODES WHEN RECONSTRUCTION IS PROVIDED. (SEE NOTE 266)

3 OR 6 DIGIT ROUTES IN TABLE ABOVE PROVIDED FOR INFORMATION CODE 411. (SEE NOTE 279)

230. CANCELLED

231. CANCELLED

232. (MFR DISC) PROVIDE HN OPTION AND APP FIG 48 TO SUPPLY PLUGGED BUSY AND SERVICE BUSY INDICATIONS TO THE TRAFFIC USAGE RECORDER CIRCUIT. (SEE NOTE 102(b),16;241)

233. WHEN RELAY (XDFI) OR (SPT) IS REPLACED, THE ASSOCIATED RESISTORS (BN) AND (BNI) OR (TM6) AND (TM7) MUST BE REPLACED TO AGREE OPTIONALLY WITH THE REPLACING RELAYS.

234. CANCELLED

235. CANCELLED

236. CANCELLED

237. WHEN OFFICE IS ARRANGED FOR INTERSENDER TIMING WITH ANNOUNCEMENT, CROSS CONNECT THE AC TERMINAL TO THE RA TERMINAL OF ROUTE RELAYS IN OTHER THAN GROUND SUPPLY 5 AS REQUIRED.

238. MULTIPLE THE RA TERMINALS OF THE OVERFLOW ROUTE RELAYS AS REQUIRED AND THE RA TERMINALS OF THE ANNOUNCEMENT ROUTE RELAYS IN GROUND SUPPLY 5 AS REQUIRED.

239. CANCELLED

240. CANCELLED

241. WHEN ANY MARKER IN A GROUP IS EQUIPPED WITH IR WIRING, ALL MARKERS IN THE GROUP MUST BE EQUIPPED WITH IR WIRING IN ORDER TO ENSURE CONSISTANT TRAFFIC USAGE RECORDER INDICATIONS.

242. WHEN THE FEATURE FOR DIVERSION OF RESTRICTED PBX TRAFFIC ON EXTRA CHARGE CALLS IS REQUIRED FOR LOCAL AMA CONNECT LEADS "STD" IS OPTION IN APP FIG 39 TO LEADS "1-9" AS FOLLOWS; TO ALL LEADS "1-9" INCLUSIVE REPRESENTING ROUTES FOR WHICH COMPLETION OF CALLS IS TO BE DENIED ON WHICH, INSTEAD, WILL RETURN REVERSE BATTERY TOLL DIVERSION SIGNAL TO THE ORIGINATING TRUNKS. (SEE NOTE 259)

243. CANCELLED

244. CANCELLED

245. CANCELLED

246. CANCELLED

247. CANCELLED

248. (MFR DISC) (A) PROVIDE APP FIG 54 IN MARKERS EQUIPPED WITH APP FIG 29 IB APPARATUS, PROVIDE IY WIRING WHEN RB RAY IS EQUIPPED.

(B) PROVIDE APP FIG 54 AND GR WIRING IN MARKERS EQUIPPED WITH APP FIG 44 AND GS WIRING.

249. CANCELLED

250. CANCELLED

251. CANCELLED

252. PRIOR TO ISSUE 74D, PUNCHING NCTD WAS DESIGNATED Z-NCTD.

253. CANCELLED

254. CANCELLED

255. CANCELLED

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CIRCUIT NOTES: (CONT)

256. WHEN RECYCLE OR ACCESS CODE FEATURE IS PROVIDED:

(MFR DISC)

(A) PROVIDE FIGURES 58, 59, 61, AND 62 IF THE ACCESS CODE FEATURE IS PROVIDED WITHOUT THE RECYCLE FEATURE AND ONLY ONE TRANSLATOR IS REQUIRED.

(B) PROVIDE FIGURES 55, 58, 61, 62, AND 63 AND OPTIONS JQ AND LW IF BOTH ACCESS CODE AND RECYCLE FEATURES ARE PROVIDED AND ONLY ONE TRANSLATOR IS REQUIRED FOR THE ACCESS CODE FEATURE.

257. CANCELLED

258. CANCELLED

259. WHEN THE ACCESS CODE FEATURE IS REQUIRED IN OFFICES ARRANGED FOR AMA, AND ANY SUBSCRIBER SENDERS ASSOCIATED WITH THE MARKER ARE NOT EQUIPPED FOR FIRST OFFICE SELECTIONS CROSS CONNECT OG PUNCHINGS OF ALL ROUTE RELAYS TO PUNCHING OGSS OR ODN AS REQUIRED.

260. CANCELLED

261. CANCELLED

262. CONNECT THE EXBG PUNCHING TO THE TERMINAL OR CONTACT UNDER TEST BY MEANS OF AN 893 OR EQUIVALENT TEST CORD.

263. CANCELLED

264. CANCELLED

265. CANCELLED

266. WHEN THE OFFICE IS ARRANGED FOR 6 DIGIT TRANSLATION (CODE COMPRESSION OR SENDER RECYCLE) AND THE FEATURE FOR RECONSTRUCTION OF RECYCLED AREA CODES IS REQUIRED, PROVIDE AUXILIARY RELAYS (RA-) ASSOCIATED WITH THE FOLLOWING TYPES OF TRAFFIC REQUIRING RECONSTRUCTION OF THE RECYCLED AREA CODES.

(A) CROSS CONNECT THE CL TERMINALS OF ROUTE RELAYS FOR MF TRUNK GROUPS TO THE RECYCLED FOREIGH AREA AS FOLLOWS:

OPTION PROVIDED WITH		NUMBER OF DIGITS		AUTOMATIC NUMBER IDENTIFICATION		CROSS CONN CL TO
AUX SDR	WIRE SPRING SDR	DIALED	OUTPULSED	REQD	NOT REQD	
B,E, OR F	A,Y OR Z	10	10	✓		RA7X
					✓	RA2X
		6	6	✓		RA7X
					✓	RA2X
B	Y	10	7		✓	RA4X
				✓		RA9X
			4		✓	RA3X
		6	3		✓	RA4X
				✓		RA9X
E	Z	10	7		✓	RA4X
				✓		RA9X
			5		✓	RA3X
		6	3		✓	RA4X
				✓		RA9X
F	X	10	5		✓	RA3X
			4		✓	RA4X

X PROVIDE OPTIONS FOR EACH RA- CONDITION FROM THE OPTIONS COLUMN ADJACENT TO SAME RA- CONDITION IN NOTE 199.

266. (CONT) (B) IF THE MARKER IS ARRANGED TO HANDLE ORIGINATING TRAFFIC FROM TWO NUMBERING PLAN AREAS, CROSS CONNECT THE CCC OR CST- TERMINAL FOR THE MAJOR AREA TO HT TERMINAL AND FOR THE MINOR AREA IT TERMINAL.

(C) WHEN APP FIG AS IS NOT PROVIDED, THE CCC OR CST- TERMINAL FOR THE HOME NPA CODE MAY BE CROSS CONNECTED TO STR TERMINAL TO ROUTE HOME AREA CALLS, WHEN THE HOME NPA CODE IS DIALED IN ERROR TO A TANDEM OFFICE.

(D) 3 OR 6 DIGIT ROUTES IN TABLE ABOVE PROVIDED FOR INFORMATION CODE 411. (SEE NOTE 279)

267. (MFR DISC) PROVIDE KT OPTION TO IMPROVE THE "XAC" CROSS DETETION FEATURE WHEN APP FIG 62 IS FURNISHED WITH APP FIG 55 AND JQ OPTION. WHEN APP FIG 62 IS FURNISHED WITH APP FIG 59 PROVIDE KS OPTION.

268. CANCELLED

269. CANCELLED

270. CANCELLED

271. WHEN INTERCHANGEABLE OFFICE AND AREA CODE IS SPECIFIED (SEE NOTE 102(b), 19 ASSIGN ONE ROUTE RELAY IN GROUND SUPPLY 3 FOR SIGNALING THE SENDER TO TIME FOR EXTRA DIGITS AND CROSS CONNECT AS FOLLOWS:

RC TO EDR	CL TO CLOS
R TO TW	CR TO CROS
OB TO OBOP	SG TO SGOS
OG TO OGOS	SP TO SPB

RR TO J-INTC FOR OVERFLOW ROUTE RELAY

PROVIDE APPARATUS FOR INTERCHANGEABLE OFFICE AND AREA CODE AS FOLLOWS:

(A) APPARATUS ALWAYS PROVIDED

APP FIG	RELAYS	QUANTITY
71	TED,DF2	1 PER CKT
72	ASA0-3	
73	ASA4,5	
74	ASB0,1,4,5	

(B) ADDITIONAL APPARATUS MAY BE REQUIRED AS FOLLOWS:

CONDITION	APP FIG	RELAYS	QUANTITY
ACCESS CODE 1 FOR ROUTING	73	ASA6,7	1 PER CKT
	74	ASB6,7	
ACCESS CODED ROUTING, NO SEPARATE TRANSLATOR	74	ASB2	
"A" SWITCHBOARD KEYPULSING SENDERS		ASB3	
MORE THAN 30 SCREENING POINTS		ASCO-7	ONE PER CORR (ASB-)REL

272. CANCELLED

273. CANCELLED

274. CANCELLED

275. CANCELLED

276. (MFR DISC) WHEN OPERATION WITH THE ROUTE AND RATE VERIFICATION TEST CIRCUIT IS REQUIRED PROVIDE THE FEATURE FOR "GROUP-START" AND "GROUP-END" TESTING (SEE NOTE 189) AND APP FIG 76 AND LM OPTION. IN ADDITION PROVIDE:

(A) APP FIG 77 WHEN THE MARKER IS ARRANGED FOR ALTERNATE ROUTE COMPENSATING RESISTANCE CONTROL. (SEE NOTE 170)

(B) APP FIG 80 WHEN R8 BAY IS EQUIPPED. THE T-RA PUNCHINGS OF APP FIG 80 ARE CROSS CONNECTED TO THE J PUNCHINGS OF APP FIG 79 TO PROVIDE ROUTE ADVANCE TESTING FOR THE R8 BAY.

WHEN OPERATION WITH THE ROUTE AND RATE VERIFICATION TEST CIRCUIT IS NOT REQUIRED PROVIDE LL OPTION.

277. (MFR DISC) PRIOR TO ISSUE 87D THE J-INTC PUNCHINGS, APP FIG 78 AND 79, WERE NOT SHOWN ON THE SCHEMATIC DRAWING. APP FIG 78 IS ALWAYS PROVIDED. APP FIG 79 IS PROVIDED WHEN THE EXTENDED AREA TRANSLATOR (R8 BAY) IS EQUIPPED.

278. WHEN OPERATION WITH PREFIX CODES 01, 10, & 11 IS REQUIRED STRAP PUNCHINGS ACTO-4,7-9 OF APP FIG 60 TOGETHER. TERMINALS ZO AND A12 OF APP FIG 2 SHALL CROSS CONNECT TO THE ASC TERMINALS OF APP FIGURES 58 OR 72 FOR ROUTING.

279. WHEN 3 OR 6 DIGIT MF OR 3 DIGIT PCI ROUTES ARE REQUIRED FOR INFORMATION CODE 411, PROVIDE OPTIONS AND CROSS CONNECT INFORMATION ROUTE RELAY CL TERMINALS AS SPECIFIED IN NOTES 199 AND 266.

280. NOT USED.

281. THE ROUTE RELAY ASSIGNED TO THIS ROUTING SHALL BE IN GROUND SUPPLY 5 AND SHALL BE WIRED FOR OVERFLOW WITH THE FOLLOWING EXCEPTION IN NON-LAMA OFFICES. WHEN OPTION MP IS PROVIDED AND OVERTIME IS NOT CHARGED ON NON-ZONE MESSAGES (SLOW RELEASE TC RELAYS USED IN DISTRICT JUNCTORS) THE TALK CHARGE CONDITION SHALL BE WIRED FOR NON-COIN CLASSES ONLY. THIS EXCEPTION DOES NOT EXIST WHEN OPTION MQ AND APP FIG 8A ARE PROVIDED, WHICH CANCEL THE TC LEAD FALSE GROUND CHECK ON OVERFLOW ROUTINGS.

282. THE Z GROUND CONNECTION TO 7T OF (TK) RELAY IN APP FIG 8, ORIGINALLY PROVIDED ONLY FOR APP FIG 55, IS MADE AN OPTION ME ON ISSUE 91AC TO PROVIDE FOR EITHER APP FIG 55 OR APP FIG 68 OR BOTH.

283. CANCELLED

284. PROVIDE APP FIG AZ TO DETECT 0 OR 1 FOLLOWING COMPRESSED AREA CODE TO AVOID OPERATION OF MORE THAN ONE ROUTE RELAY WHICH RESULTS IN CROSSES REGISTERING ON ORIGINATING TROUBLE INDICATOR FRAME.

285. CANCELLED

286. WHEN OPTION MK IN APP FIG 52 IS PROVIDED, OPTION JK AND APP FIG 57 MUST BE PROVIDED. THIS OPTION PREVENTS THE POSSIBILITY OF DOUBLE PEG COUNTS OCCURING DURING THE OVERLAP SEQUENCE OPERATION OF TOUCH-TONE AND ROTARY DIAL CALLS.

287. WHEN OPTION MO AND APP FIG 82 ARE PROVIDED, OPTION JF AND APP FIGURES 52,55, AND 57 MUST BE PROVIDED. THIS PREVENTS THE POSSIBILITY OF FALSE 10 DIGIT PEG COUNTS OCCURING DURING THE DECODING-MARKING OVERLAP INTERVAL.

288. CANCELLED

289. WHEN THE MARKER IS ARRANGED FOR COIN SERVICE IMPROVEMENT (DIAL TONE FIRST), THE OFF 9300 REROUTE OR OFFICE BRUSH OVER FIVE, APP FIG 0, MUST BE PROVIDED. THE FEATURE IS REUSED TO SIGNAL THE SENDER TO CANCEL COIN TEST. THE SG-PUNCHING OF ALL ASSIGNED ROUTE RELAYS SHALL BE CROSS CONNECTED TO THE SG-PUNCHINGS AS SHOWN IN THE FOLLOWING TABLE:

OFFICE BRUSH	CANCEL COIN TEST	SG- PUNCHING
0 TO 4 OR NONE	NO	OS
	YES	OP
5 TO 9	NO	IS
	YES	IP
WHEN THE ROUTE RELAY IS USED FOR AN ALTERNATE ROUTE VIA CROSSBAR TANDEM, LOCAL (3W) OR DISTANT (2W) OFFICE SELECTORS, AND THE MARKER IS WIRED TO SECOND OR THIRD TRIALS. (BI,BF, AND BK OPTIONS)		SPB

290. CANCELLED

291. ASSIGN ONE ROUTE RELAY IN GROUND SUPPLY 3 FOR SPECIAL DIAL TONE FIRST COIN ANNOUNCEMENT WHERE THIS ROUTE RELAY IS WIRED FOR OPERATOR DIRECT CLASS AND NO TALKING CHARGE, AND IS CROSS CONNECTED TO DTF PUNCHING.

292. WHEN THE MARKER IS ARRANGED FOR COIN SERVICE IMPROVEMENT (DIAL TONE FIRST), COIN ROUTE RELAYS SHALL NOT BE WIRED FOR TOLL DIVERSION (DTA OR NCTD) SERVICE. THE TOLL DIVERSION FUNCTION DOES NOT APPLY TO COIN LINES AND COULD INTERFERE WITH COIN TEST.

293. WHEN THE MARKER IS ARRANGED FOR COIN SERVICE IMPROVEMENT (DIAL TONE FIRST), TWO STAGE PCI CLASS MUST BE DISABLED IF PROVIDED. THIS CAN BE DONE BY CHANGING THE APPROPRIATE CROSS CONNECTS IN THE MARKER.

294. NOT USED

295. PRIOR TO ISSUE 100B, THE RG PUNCHINGS, APP FIG 83, EXISTED BUT WERE NOT SHOWN ON THE SCHEMATIC DRAWING. APP FIG 83 IS PROVIDED WHEN THE ACCESS CODE SCREENING FEATURE IS PROVIDED.

296. PROVIDE MT OPTION IN APP FIG 83 WHEN ACCESS CODE SCREENING IS PROVIDED AND NO SENDER RECYCLE CIRCUITS ARE ASSOCIATED WITH THIS MARKER GROUP. THIS PROVIDES A BLEEDER FOR ANY CHARGE WHICH MAY BE TRAPPED ON STRAY CAPACITANCE IN THE MARKER CROSS CONNECT FIELD. FAILURE TO BLEED OFF THE TRAPPED CHARGE COULD RESULT IN AN EXTRA ROUTE RELAY OPERATION GIVING AN "XT" INDICATION AT THE ORIGINATING TROUBLE INDICATOR.

297. PROVIDE ML OPTION ON ISSUE 101B AND ALL SUBSEQUENT ISSUES TO PREVENT THE LOSS OF TOUCH-TONE PEG COUNTS.

298. NOT USED

299. NOT USED

330. NOT USED

331. WHEN MARKER SPEEDUP IS PROVIDED AND OPTION X OF APP FIG 20 IS NOT USED, OPTION NM SHOULD BE PROVIDED AND THE STRAPPING OF BA AND BB RESISTORS SHOULD PROVIDE AN INTERVAL OF 15 MSEC FOR THE OPERATION OF THE (PT) RELAY WHEN THE BIAS PATH IS OPENED. WHEN MARKER SPEEDUP AND X OPTION ARE BOTH PROVIDED, USE OPTION CA.

332. NOT USED

333. THESE OPTIONS ARE PROVIDED IN CONJUNCTION WITH MARKER SPEEDUP TO PROVIDE AN ADJUSTABLE HOLD MAGNET TIMING INTERVAL. BY PROVIDING THIS ADJUSTABLE TIMING IT IS POSSIBLE TO REDUCE THE HOLD MAGNET TIMING INTERVAL. REDUCTION OF THIS INTERVAL REDUCES MARKER WORK TIME BY A CORRESPONDING AMOUNT. IT IS FEASIBLE TO REDUCE THIS INTERVAL WHEN CERTAIN COMBINATIONS OF OPTIONS ARE PROVIDED AS LONG AS FAILURES ARE NOT ENCOUNTERED THAT INDICATE A LACK OF CONTINUITY THROUGH THE SELECTED CHANNEL. (THIS NOTE CONT ON NEXT SHEET).

ORIGINATING MARKER CIRCUIT (2)

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BELL TELEPHONE LABORATORIES INCORPORATED 6S

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CIRCUIT NOTES: (CONT)

333. (CONT) THE AVERAGE HOLD MAGNET TIMING INTERVAL AND CORRESPONDING TIMING RESISTANCE IS SHOWN IN THE FOLLOWING TABLES. THE PROPER TIMING RESISTANCE IS OBTAINED BY STRAPPING THE REMAINING RESISTORS.

THESE STRAPS SHOULD BE APPLIED BY PROVIDING THE LONGEST TIMING INTERVAL AND REDUCING THE TIMING UNTIL FAILURES OCCUR THAT INDICATE A LACK OF CONTINUITY THROUGH THE SELECTED CHANNEL. THE TIMING RESISTANCE SHOULD THEN BE INCREASED TO THE NEXT HIGHER VALUE.

APP FIG BV PROVIDED

OPTION NI PROVIDED (SEE NOTE 102(b),38)

TIMING RESISTANCE		AVERAGE HOLD MAGNET TIMING INTERVAL (IN MSEC)
RESISTOR DESIG	VALUE (IN OHMS)	
HMT5	1700	48
HMT4	1260	40
HMT3	1000	35
HMT2	800	30
HMT1	600	25
BJO,1	441	20

OPTION NH PROVIDED (SEE NOTE 102(b),38)

TIMING RESISTANCE		AVERAGE HOLD MAGNET TIMING INTERVAL (IN MSEC)
RESISTOR DESIG	VALUE (IN OHMS)	
HMT3	1000	35
HMT2	800	30
HMT1	600	25
BJD,1	441	20

334. WHEN MARKER SPEEDUP IS PROVIDED, APP FIG K MUST BE USED. IN ADDITION THE ELIMINATION OF SHARING OUTGOING TRUNKS WITH THE PANEL OFFICE WOULD ALLOW THE REMOVAL OF THE (P-) RELAYS (X OPTION OF APP FIG 20) WHICH WOULD PERMIT A TIME SAVINGS SINCE THE (P-) RELAYS HAVE A MAXIMUM OPERATE TIME OF 29 MSEC IN SERIES WITH THE (T-) RELAYS. ALSO THE USE OF INTER FRAME ARRANGEMENTS OF ZONE REGISTRATION CIRCUITS CAUSES TWO OR MORE MARKERS TO ATTEMPT TO SEIZE THE SAME ZONE CIRCUITS THUS CAUSING MARKER DELAYS. INTRA FRAME ARRANGEMENTS WOULD PREVENT THIS DELAY SINCE THE DISTRICT LINK FRAME IS ONLY SEIZED BY ONE MARKER AT A PARTICULAR INTERVAL.

335. WHEN THE CODE COMPRESSION FEATURE IS PROVIDED, PROVIDE OPTION NP TO PREVENT POSSIBLE MARKER TIME OUT, WHICH MAY OCCUR ON THIRD TRIAL (OVERFLOW) CALLS DURING OVERLAP OPERATION OF THE MARKER.

336. OPTION NT REPLACES OPTION KI AND LU TO PROVIDE A MORE FLEXIBLE ROUTE ADVANCING FOR THE ANI TIP PARTY SERVICE. THE PARTY TEST RELAYS ARE ARRANGED TO LOCK AFTER THE IDLE TRUNK IS SEIZED. THIS PERMITS ROUTE ADVANCING FROM ANI IDENTIFIED ROUTES TO NON-ANI IDENTIFIED ROUTES, AS AN EXAMPLE A "ZERO-" TYPE CALL CAN BE ROUTE ADVANCED TO A LOCAL CORD OPERATOR UNDER ALL TSPS TRUNK BUSY CONDITION.

337. WHEN INTERCHANGEABLE OFFICE AND AREA CODE OPERATION WITHOUT TIMING IS PROVIDED, A DIALING PLAN IN WHICH A 0 OR 1 PREFIX INDICATES A 10 DIGIT CALL AND NO PREFIX INDICATES A 7 DIGIT CALL IS REQUIRED. IMPLEMENTATION OF THIS FEATURE MAY REQUIRE CROSS CONNECTION CHANGES PER TELEPHONE COMPANY INFORMATION.

338. WHEN MESSAGE CHARGING SYSTEM, OPTION QB, IS PROVIDED, APP FIG. AC AND OPTION FI MUST BE PROVIDED.

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ORIGINATING MARKER CIRCUIT (2) SD-25016-01-D17

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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EQUIPMENT NOTES:

201. PRIOR TO ISSUE 94D, OUTGOING LEADS WHICH REQUIRE NO FLEXIBLE INTERCONNECTIONS WERE SHOWN IN THE (K) CAD FIGURES, LEADS ON THE SCHEMATIC WHICH REQUIRE FLEXIBLE INTERCONNECTIONS WERE SHOWN IN THE (X) CAD FIGURES, AND LEADS NOT SHOWN ON THE SCHEMATIC BUT WHICH ARE REQUIRED TO PROVIDE THE SPECIFIED ACCESS WERE SHOWN IN THE (Y) CAD FIGURES. (SEE CROSS REFERENCE TABLE A)

202. CANCELLED

203. PRIOR TO ISSUE 9D, CAD FIG. 28X WAS PART OF CAD FIG. 13. (SEE CROSS REFERENCE TABLE A)

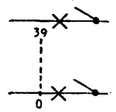
204. PRIOR TO ISSUE 9D, THE MR AND MRI LEADS OF CAD FIG. 29K WERE SHOWN IN CAD FIG. 8K. THE MPC LEAD OF CAD FIG. 8K WAS SHOWN IN CAD FIG. 1K. THE RMR LEAD OF CAD FIG. 8X WAS IN CAD FIG. 1X. (SEE CROSS REFERENCE TABLE A)

205. PRIOR TO ISSUE 42D, TERMINALS 50-59 ON THE 8 TERMINAL STRIP IN CAD FIG. 27K WERE NUMBERED 40-49, RESPECTIVELY. (SEE CROSS REFERENCE TABLE A)

206. MULTI-CONTACT RELAY REPLACEMENTS ARE INDICATED IN THE FS AS FOLLOWS:

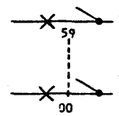
ON THE 245 AND 263 TYPE RELAYS, THE TERMINALS OF THE ARMATURE ARE ARRANGED FOR STRAPPING.

245 OR 263
(OPTIONS AW,HX,IA & APP FIG 53)



HORIZONTAL MULT ON THE ARMATURE

287
(OPTIONS HY,HZ,IB & APP FIG 54)



HORIZONTAL MULT ON THE FIXED SPRING

207. ADDITIONAL TERMINALS DESIGNATED 0A -59A ARE PROVIDED FOR EACH FIELD ON THE CROSS CONNECTION TERMINAL STRIP (GC) ON EACH ROUTE RELAY BAY TO PROVIDE BUNCHING POINTS FOR CONNECTING ROUTE RELAY CROSS CONNECTION POINTS GS,GE,TL & ST TO THE SIMILARLY DESIGNATED CROSS CONNECTING POINTS OF THE (GP) RELAYS. (SEE CROSS REFERENCE TABLE B)

208. LEADS ARU,ARL,ARO-3,ACR1,ACR2 & 11G SHALL BE RUN AS LOOSE WIRING BETWEEN TS (SD2) & TS (SD) ON LEFT BAY TO TS (D) ON RIGHT BAY OF COMMON EQUIPMENT FRAME. LEADS SHALL BE ON REAR OF FRAME AND TIED TO FRAME LOCAL CABLE EXCEPT AT TS (D) WHERE LEADS SHALL BE BROUGHT TO FRONT OF FRAME THROUGH THE FANNING STRIP EXISTING PUNCHINGS ON TS (D) SHALL BE USED AND ASSIGNED ACCORDING TO JOB CONDITIONS.

209. THE MULTIPLE CABLING BETWEEN THE ROUTE RELAY BAY, THE CLASS OF SERVICE BAY AND THE INTERCHANGEABLE CODE SCREENING UNIT FOR THE R PUNCHINGS OF CAD FIGURES 92, TS (R), 111, TS (R) AND 120, TS (A) SHALL BE AS FOLLOWS:

A. WHEN CLASS OF SERVICE BAYS AND INTERCHANGEABLE CODE SCREENING UNITS ARE INSTALLED ON THE SAME JOB OR WHEN INTERCHANGEABLE CODE SCREENING UNITS ARE ADDED IN OFFICES PREVIOUSLY EQUIPPED WITH CLASS OF SERVICE BAYS, PROVIDE THE CABLE BETWEEN CAD FIGURES 92 AND 111 AND BETWEEN CAD FIGURES 111 AND 120.

B. WHEN CLASS OF SERVICE BAYS ARE ADDED IN OFFICES PREVIOUSLY EQUIPPED WITH INTERCHANGEABLE CODE SCREENING UNITS, PROVIDE THE CABLE BETWEEN CAD FIGURES 92 AND 111 AND BETWEEN CAD FIGURES 111 AND 120. (SEE CROSS REFERENCE TABLE B)

210. THE BATTERY AND GROUND LEADS BETWEEN THE INTERCHANGEABLE CODE CONTROL UNIT AND THE INTERCHANGEABLE CODE SCREENING AND MARKER COMMON BAY UNITS SHALL BE 20 GAUGE WIRE.

211. THE STRAPS BETWEEN SEGMENTS OF J-INTC TERMINALS 3 TO 18 MAY BE CUT AS REQUIRED TO PROVIDE MORE THAN 35 J-INTC.

212. THE TST LEAD BETWEEN THE MARKER AND THE ORIGINATING TROUBLE INDICATOR FRAME AND THE TST LEAD MULTIPLE BETWEEN MARKERS SHALL BE 20 GAUGE WIRE.

213. LEADS A12.20 AND IKTC-RC 50-59 ARE PROVIDED IN CAD 76 WHEN OPERATION WITH PREFIX CODES 01,10,11, EMERGENCY CODE 00 OR INFORMATION CODE 411 IS REQUIRED. (SEE CROSS REFERENCE TABLE A)

214. TERMINALS RTC 10 TO 19 ARE LOCATED ON ROUTE RELAY BAYS WITH MULTIPLE APPEARANCES ON THE COMMON EQUIPMENT BAY AND CLASS OF SERVICE BAY. TERMINALS RTC 20 TO 29 ARE LOCATED ON ROUTE RELAY BAYS ONLY.

215. PREVIOUS TO ISSUE 108D, THE (AL--), (BL--), AND (CL--) RESISTORS AND DIODES WERE NOT MOUNTED ON MOLDED COMPONENT ASSEMBLIES.

INFORMATION NOTES:

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

ISSUE 108D

SD-25016-01-D18

ORIGINATING MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-D18

CROSS CONNECTING INFORMATION (CONDITION)

PART	CONDITION	CONNECT TERM.	CONNECT TO TERM.	CONDITION	REFERENCE
1	CHANNEL PREFERENCE	IN	1	INITIAL CONDITION (PREFERRED CHANNEL 0 LEFT)	SEE NOTE 110
		2	3		
		A	4		
		R	5		
		6	7		
		OT	8		
		IN	3	FIRST CHANGE (PREFERRED CHANNEL 2 RIGHT)	
		4	5		
		A	6		
		R	7		
		8	1		
		OT	2		
		IN	5	SECOND CHANGE (PERFERRED CHANNEL 5 LEFT)	
		6	7		
		A	8		
		R	1		
		2	3		
		OT	4		
		IN	7	THIRD CHANGE (PREFERRED CHANGE 7 RIGHT)	
		8	1		
		A	2		
		R	3		
		4	5		
		OT	6		
2	INTERCONNECTOR ANNOUNCEMENT (INTERSENDER TIMING)	A-	RC	TO ASSOCIATE A ROUTE RELAY WITH INTERSENDER TIMING FEATURE PUNCHINGS ON COMMON BAY	SEE NOTE 401
			RA	WHEN RA PUNCHING IS TO BE CONNECTED TO INTERSENDER TIMING FEATURE PUNCHINGS ON COMMON BAY	
			J-INTC	WHEN RA PUNCHINGS IN VARIOUS BAYS ARE TO BE CONNECTED TO AN AC-PUNCHING	
			AC1, 2,3	TO CONNECT RR BAYS TO COMMON BAY FOR ROUTES REQUIRING ANNOUNCEMENT AND OVERFLOW ROUTES (INTERSENDER TIMING FEATURE)	
			ANI, 2,3	TO CONNECT TO AN ANNOUNCEMENT ROUTE RELAY (INTERSENDER TIMING FEATURE)	
			NAI, 2,3	TO CONNECT TO AN OVERFLOW ROUTE (INTERSENDER TIMING, FEATURE)	
			AN9	TO CONNECT TO RA PUNCHING OF ANNOUNCEMENT ROUTE RELAY (INTERSENDER TIMING FEATURE)	
			AN10	TO CONNECT TO RA PUNCHING OF OVERFLOW ROUTE RELAY (INTERSENDER TIMING FEATURE)	
	ANNOUNCEMENT CUT-IN (INTERSENDER TIMING) (COMMON)	AC1, 2,3	A-	TO PROVIDE AN OVERFLOW OR ANNOUNCEMENT ROUTE DURING PERIODS OF INTERSENDER TIMING	
	ANNOUNCEMENT (INTERSENDER TIMING) (OPERATED)	ANI, 2,3	A-	ANNOUNCEMENT ROUTE (TRANSFERRED ROUTE)	
	INTERSENDER TIMING ANNOUNCEMENT PEG COUNT REGISTER	AN9	A-	ANNOUNCEMENT PEG COUNT (INTERSENDER TIMING FEATURE)	SEE NOTE 402
	INTERSENDER TIMING OVERFLOW PEG COUNT REGISTER	AN10	A-	OVERFLOW PEG COUNT (INTERSENDER TIMING FEATURE)	
	NON ANNOUNCEMENT (INTERSENDER TIMING NORMAL)	NAI, 2,3	A-	NO ANNOUNCEMENT ROUTE (OVERFLOW ROUTE) (NORMAL ROUTE)	SEE NOTE 401
P/O 3	ACCESS CODE 1 IN THE A REGISTER WHEN RECYCLE OR ACCESS CODES ARE PROVIDED	A12	ASC-	TO PROVIDE ACCESS CODE SCREENING WHEN ACCESS CODE IS FOLLOWED BY A ONE IN "A" DIGIT	
			SC	TO PROVIDE CLASS OF SERVICE SCREENING WHEN ACCESS CODE IS FOLLOWED BY A ONE IN "A" DIGIT	
			RC	TO ASSOCIATE A ONE IN "A" DIGIT WITH A ROUTE RELAY, (VIA INTC-RC)	

PART	CONDITION	CONNECT TERM.	CONNECT TO TERM.	CONDITION	REFERENCE
P/O 3	AREA CODE ROUTE	ACR	RC	TO PROVIDE VACANT CODE OR OTHER ROUTE FOR UNUSED COMPRESSED CODES OR FOR SINGLE TANDEM ROUTE WHEN 1-1 PREFIX AND COMPRESSED CODE REACH THE SAME AREA (VIA INTC-RC)	
	ACCESS CODE SCREENING	ACS 01,10	RC OR SC-	TO PROVIDE CONNECTION TO SPECIAL ROUTE FOR PREFIX CODES 01 AND 10 (VIA INTC-RC)	
		ACS6	11X	TO PROVIDE ACCESS TO CODE POINTS C110-119	
		ACS7, 8,9,0	ASW 0-3	TO ASSOCIATE ACCESS CODE CONDITION WITH WINDING OF SCREENING RELAY	
	INTERCHANGEABLE CODE SCREENING	ACS1-4	ASW 4-7	TO ASSOCIATE ACCESS CODE CONDITION WITH WINDING OF AUXILIARY SCREENING RELAY	
	UNASSIGNED	ACS5		UNASSIGNED	
	ACCESS CODE TRANSLATOR	ACT 0-9	AT	WHEN CONNECTION TO ALTERNATE AREA TRANSLATOR IS REQUIRED	SEE NOTE 278
			IT	WHEN CONNECTION TO EXTENDED AREA OR 3 DIGIT INDIVIDUAL TRANSLATOR IS REQUIRED	
			STS 0-3	WHEN CONNECTION TO 3 DIGIT COMMON TRANSLATOR IS REQUIRED	
	ALTERNATE ROUTE 3 DIGIT TRANSLATOR	ARO-3	RC-	TO PROVIDE AN ALTERNATE ROUTE FOR CODES ASSOCIATED WITH A COMPRESSED CODE NORMALLY ROUTED VIA 3-DCT, (VIA INTC-RC)	
			SC-	TO PROVIDE CLASS OF SERVICE TREATMENT FOR AN ALTERNATE ROUTE FOR CODES NORMALLY ROUTED VIA 3-DCT, (VIA INTC-RC)	
			CP	TO PROVIDE CONTACT PROTECTION FOR CERTAIN MARKER RELAYS AS REQUIRED	
	ALTERNATE ROUTE FOREIGN AREA, LOCAL TRANSLATOR ROUTES	ARL	RC-	TO PROVIDE AN ALTERNATE ROUTE FOR CODES ASSOCIATED WITH COMPRESSED CODE O AND NORMALLY ROUTED VIA LOCAL AREA TRANSLATOR (VIA INTC-RC)	
			SC-	TO PROVIDE CLASS OF SERVICE TREATMENT FOR ALTERNATE ROUTE FOR CODE ASSOCIATED WITH COMPRESSED CODE AND NORMALLY ROUTED VIA LOCAL AREA TRANSLATOR	
			CP	TO PROVIDE CONTACT PROTECTION FOR CERTAIN MARKER RELAY CONTACTS AS REQUIRED	
	ACCESS CODE, SCREENING (AS00-29)	AS-	SC-	TO PROVIDE DIFFERENT ROUTING ACCORDING TO ORIGINATING CLASS OF SERVICE	
	ACCESS CODE & INTERCHANGEABLE OFFICE & AREA CODE CONTROL (AS30-39)		DRC	TO DIVERT CALL TO OPERATOR, DENY ROUTE, OR OTHER ROUTES, AS DESIRED	
			RRC	TO PERMIT COIN CLASSES TO DIAL BEYOND THE LOCAL AREA CHARGES	
			Z-ZA-J	TO PROVIDE PROPER ZONE CHARGE CONDITION	
	ACCESS & INTERCHANGEABLE OFFICE & AREA CODE SCREENING (AS40-99)		NCTD	TO SET THE DISTRICT JUNCTOR IN THE NORMAL NO CHARGE CONDITION TO DIVERT THE CALL TO THE PBX OPERATOR	
			MI	TO PROVIDE PROPER AMA MESSAGE INDEX	
			RC	TO PROVIDE ROUTE RELAY FOR ACCESS CODE SCREENING	
	ACCESS & INTERCHANGEABLE OFFICE & AREA CODE SCREENING (WITH TIMING)	AS 40-99	TED	WHEN SENDER IS REQUIRED TO TIME FOR EXTRA DIGITS	

PART	CONDITION	CONNECT TERM.	CONNECT TO TERM.	CONDITION	REFERENCE
P/O 3	ALTERNATE ROUTE EXTENDED AREA OR 3 DIT ROUTES	ARU	RC-	TO PROVIDE AN ALTERNATE ROUTE FOR CODES ASSOCIATED WITH A COMPRESSED CODE AND NORMALLY ROUTED VIA EXTENDED AREA TRANSLATOR OR 3 DIT, (VIA INTC-RC)	
			SC-	TO PROVIDE CLASS OF SERVICE TREATMENT FOR ALTERNATE ROUTE FOR CODES ASSICIATED WITH COMPRESSED CODE AND NORMALLY ROUTED VIA EXTENDED AREA TRANSLATOR OR 3 DIT	
			CP	TO PROVIDE CONTACT PROTECTION FOR CERTAIN MARKER RELAY CONTACTS AS REQUIRED	
	ACCESS CODE SCREENING	ASC 00-29	RG-	FOR CONNECTION OF ROUTE RELAY WINDING TO COMMON CONTACT OF SCREENING RELAYS	
	ACCESS SCREENING & INTERCHANGEABLE OFFICE & AREA CODE CONTROL	ASC 00-39	A12	TO PROVIDE ACCESS SCREENING TREATMENT WHEN ACCESS CODE IS FOLLOWED BY ONE IN "A" DIGIT	
			ZO	TO PROVIDE ACCESS SCREENING FOR ZERO OPERATOR CODE POINT	
			C-	TO PROVIDE ACCESS SCREENING FOR CODE POINTS (ROUTE SERIES REL MUST BE HIGH RESISTANCE)	
			R	FOR CONNECTION OF ROUTE RELAY WINDING TO COMMON CONTACT OF SCREENING RELAYS (INTERCHANGEABLE CODES)	
	ACCESS SCREEN-COMMON	ASC 40-99	R	FOR CONNECTION OF ROUTE RELAY WINDING TO COMMON CONTACT OF SCREENING RELAYS (INTERCHANGEABLE CODES)	
	ACCESS SCREENING RELAY WINDING	ASW 0-3	ACS 7,8, 9,0	TO ASSOCIATE WINDING OF SCREENING RELAY WITH ACCESS CODE AS REQUIRED	
			NPD	NO ACCESS CODE PREFIX REQUIRED, SENDER RECYCLE IS REQUIRED	
			PDI	ACCESS CODE PREFIX 1,SENDER RECYCLE	
		ASW 4-7	ACS 1-4	TO PROVIDE SECOND SEIZURE INTERCHANGEABLE CODE SCREENING POINTS	
	NO PREFIX DIGIT	NPD	ASW-	NO ACCESS CODE PREFIX DIALED, SENDER RECYCLE REQUIRED	
			PDA1	MAJOR OFFICE WITH DIALING PLAN WHERE 0 OR 1 INDICATES 10 DIGIT AND NO PREFIX INDICATES 7 DIGITS	
			PDA2	MINOR OFFICE	
	CODES 11X	C110-119	RC OR SC	CODES ASSIGNED TO ROUTE RELAY OR CLASS OF SERVICE TREATMENT AS REQUIRED	
	CANCELLED CODE COMPRESSOR (NO PREFIX)	CCC	HT	TO ASSOCIATE CCC PUNCHING WITH HOME TRANSLATOR	
			IT	TO ASSOCIATE CCC PUNCHING WITH INDIVIDUAL TRANSLATOR	
			STS-	TO ASSOCIATE CCC PUNCHING WITH 3 DIGIT COMMON TRANSLATOR	
			STK-	TO ASSOCIATE CCC PUNCHING WITH A SINGLE TANDEM OFFICE ROUTING	

DRAWING ISSUE 106D

ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-D19A

BELL TELEPHONE LABORATORIES

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CROSS CONNECTING INFORMATION (CONDITION)

PART	CONDITION	CONNECT TERM.	CONNECT TO TERM.	CONDITION		REFERENCE
P/O 3	COMPRESSED CODE START	CST 1-9	STS-	TO CONNECT A PARTICULAR COMPRESSED CODE INDICATION TO A CONNECTOR START LEAD		
			STR	TO PROVIDE A ROUTING TO VACANT CODE OR SINGLE FOREIGN AREA ROUTE VIA TANDEM FOR A CUMPRESSED CODE		
			IT	TO CONNECT A COMPRESSED CODE WITH THE EXTENDED AREA TRANSLATOR OR 3 DIT FOR INDIVIDUAL TRANSLATIONS OF OFFICE CODES		
			HT	FOR COMPRESSED CODES WHICH REQUIRE HOME TRANSLATORS		
	EXTENDED AREA CODES	EA	RC	ONE-ONE CODES ROUTED TO A SINGLE CODE POINT (VIA INTC-RC)		
			SC-	ONE-ONE CODES ROUTED ACCORDING TO CLASS OF SERVICE		
	PREFIX DIGIT ONE	PDI	ASW-	TO ASSOCIATE WINDING OF ACCESS CODE SCREENING RELAY WITH ACCESS CODE PREFIX 1, SENDER RECYCLE		
			PDA1	MINOR OFFICE	WITH DIALING PLAN WHERE "0" OR "1" INDICATES 10 DIGIT AND NO PREFIX INDICATES 7 DIGITS	
			PDA2	MAJOR OFFICE		
	PREFIX DIGIT AUXILIARY 1	PDA1	PDI	MINOR OFFICE	WITH DIALING PLAN WHERE "0" OR "1" INDICATES 10 DIGIT AND NO PREFIX INDICATES 7 DIGITS	
			NPD	MAJOR OFFICE		
	PREFIX DIGIT AUXILIARY 2	PDA2	PDI	MAJOR OFFICE	WITH DIALING PLAN WHERE "0" OR "1" INDICATES 10 DIGIT AND NO PREFIX INDICATES 7 DIGITS	
			NPD	MINOR OFFICE		
	NO PREFIX ONE	CAP 50 NPO	DRC	TO PROVIDE ANNOUNCEMENT WHEN DIGIT ONE WAS NOT DIALED BEFORE A TEN DIGIT RECYCLED CODE		
	PREFIX ONE ANNOUNCEMENT	POA	AS (PREFIX ONE)	TO PROVIDE ANNOUNCEMENT TO INFORM CUSTOMER OF INCORRECT USE OF PREFIX 1 WHEN A DIALING PLAN USES N 0/1 X CODES AS OFFICE CODES AND "0" OR "1" PREFIX INDICATES 10 DIGITS AND NO PREFIX INDICATES 7 DIGITS		
	PREFIX ONE REQUIRED	CAP 50 POR	DRC	TO PROVIDE ANNOUNCEMENT WHEN DIGIT ONE IS DIALED BEFORE A 7 DIGIT CODE		
	IIX SERVICE CODE TRANSLATION	IIX	ACS6	WHEN PREFIX 11 CODES REQUIRE SCREENING		
	ALTERNATE TRANSLATOR	AT	ACT-	TO PROVIDE ALTERNATE AREA TRANSLATOR		
	HOME TRANSLATOR	HT	CCC	TO ROUTE CODES ASSOCICATED WITH CANCELED CODE COMPRESSOR VIA HOME TRANSLATOR		
			CST-	TO ASSOCIATE COMPRESSED CODES WITH HOME TRANSLATOR		
	INDIVIDUAL TRANSLATION	IT	ACT-	WHEN EA OR 3 DIT MAY BE REQD FOR ACCESS CODE FEATURE		
			CCC	TO ASSOCIATE A COMPRESSED CODE OR		
			CST-	THE ONE-ONE PREFIX CODE POINT WITH		
			IIB	THE EXTENDED AREA TRANSLATOR OR 3DIT		
	EXTRA DIGITS DELAY ROUTE	EDR	RC	TO OPERATE ROUTE RELAY FOR SIGNALING THE SENDER TO TIME FOR EXTRA DIGITS (VIA INTC-RQ		
	MISDIRECTED DIGIT	MSD	RC	TO ASSOCIATE A ROUTE RELAY WITH A "0" OR "1" FOLLOWING A COMPRESSED CODE (VIA INTC-RC)		

DRAWING ISSUE 106D

ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-D19B

BELL TELEPHONE LABORATORIES

SD-25016-01-D19B

CROSS CONNECTING INFORMATION (CONDITION)

PART	CONDITION	CONNECT TERM.	CONNECT TO TERM.	CONDITION	REFERENCE
P/O 4	II PREFIX CODE POINT (BATTERY)	IIB	IT	WHEN PREFIX II CODES REQUIRE INDIVIDUAL OFFICE CODE TRANSLATONS	
			STR-	WHEN PREFIX II CODES REQUIRE SINGLE TANDEM ROUTE	
	II PREFIX CODE POINT (GROUND)	IIG	RC	WHEN A II PREFIX CODE IS A SINGLE ROUTE OR IS AN UNASSIGNED CODE (VIA INTC-RC)	
	CODE POINTS	C 200-999	ASC 00-39	TO PROVIDE ACCESS SCREENING FOR CODE POINTS (ROUTE SERIES REL MUST BE HIGH RESISTANCE)	
			CG-	TO TREAT TWO OR MORE CODES IN AN IDENTICAL MANNER	
			CP	CONTACT PROTECTION FOR CODES HAVING HIGH CALLING RATE	
			PRC	FOR "B" OFFICE INDICATION OF COMMON TRUNK GROUP	
			RC 00-99	TO ASSOCIATE A ROUTE RELAY DIRECTLY WITH A CODE	
			RC 100-129	FOR "A" OFFICE INDICATION OF COMMON TRUNK GROUP	
			RP-	INDIVIDUAL PEG COUNT REQUIRED WHERE A NUMBER OF CODE POINTS USE THE SAME ROUTE RELAY	
			RT-	WHEN ROUTE TRANSFER IS REQUIRED	
			SC-	WHEN A CODE IS GIVEN VARIOUS ROUTING TREATMENTS	
	ZERO OPERATOR CODE POINT	ZO	RC	ONE GROUP OF SPECIAL SERVICE TRUNKS AND NO OPERATOR CLASSES (VIA INTC-RC)	
			SC	SPECIAL SERVICE TRUNKS SEGREGATED BY CLASS OF SERVICE	
			ASC 0-39	TO CONNECT ZERO OPERATOR PUNCHING TO COMMON CONTACT OF SCREENING RELAYS	
	OVERFLOW (LOAD CONTROL) CODE POINT	OF	CP	TO PROVIDE CONTACT PROTECTION	
			SC-	CALLS TO BE ROUTED TO DIFFERENT GROUPS OF TRUNKS	
			RC	CALLS TO BE ROUTED TO OVERFLOW (VIA INTC-RC)	

PART	CONDITION		CONNECT TERM.	CONNECT TO TERM.	CONDITION	REFERENCE
P/O 4	PERMANENT SIGNAL CODE POINT	PS		RC	TO PROVIDE A PERMANENT SIGNAL ROUTE (VIA INTC-RC)	
				SC	TO PROVIDE A PERMANENT SIGNAL ROUTE ON A CLASS OF SERVICE BASIS	
5	CLASS OF CALL	CL		CL-	SEE NOTE 403	SEE NOTE 199,266, 271,279
				RA-		
	CLASS OF CALL AUXILIARY	CLA, CLB, CLC, CLD		CL-		
6	CONTACT PROTECTION	CP		AR, ARL, ARU	FOR HIGH USAGE ALTERNATE ROUTES	
				C-	CONTACT PROTECTION FOR CODES HAVING HIGHEST CALLING RATE	
				RC	SERVES AS COMMON CONNECTING POINT BETWEEN BAYS (VIA INTC-RC)	
				OF	WHEN ORIGINATING SENDER LOAD CONTROL IS PROVIDED	
7	CLASS PEG COUNT	CPC		SC-	CLASS OF SERVICE PEG COUNT	
	MESSAGE REGISTER (CLASS PEG COUNT)	MR		ZMR		
	CLASS OF SERVICE PEG COUNT	CSP 0-9		S	CLASS OF SERVICE PEG COUNT PROVIDED	
	MARKER PEG COUNT	MPC			TO TRAFFIC REGISTER CIRCUIT	
	TOUCHTONE PEG COUNT	MPCI				
	EXTENDED AREA PEG COUNT	PC-MN				
	LOCAL AREA PEG COUNT	PC-MJ				
	PEG COUNT TRAFFIC REGISTERS	PC		TR-PC	OUTGOING TRUNK GROUP PEG COUNT (TRAFFIC REGISTER CIRCUIT)	SEE NOTE 124
				TR-J	ROUTE RELAYS IN DIFFERENT BAYS REQUIRE SAME TR-PC	
				S	INTC-PC ON LATER INSTALLATIONS ONLY (VIA INTC-PC)	
				IOD	IO DIGIT AUXILIARY SENDER ROUTE RELAYS ONLY	
				SC-	CLASS OF SERVICE PEG COUNT	
	PEG COUNT PREROUTE RELAY (CONTACT)	PR--		RC	INDIVIDUAL PEG COUNT REQUIRED WHERE A NUMBER OF	
	PEG COUNT PREROUTE RELAY (WINDING)	#RP--		C-	CODE POINTS USE THE SAME ROUTE RELAYS (VIA INTC-RC)	
8	COMPENSATING RESISTANCE	CR		CR-	CONSULT BSP 201-822-301 ON COMPENSATING RESISTANCE (SEE NOTE 403)	
P/O 9	CALLING LINE CLASS OF SERVICE	1ST GROUP OF SENDERS	00-15	SW-	TO PROVIDE DISCRIMINATION BY CLASS OF SERVICE	
				TOC	TO CANCEL TERMINATING SENDER LOAD CONTROL FOR PARTICULAR CLASSES	
				TP	SPLITS ONE GROUP OF 2-PARTY SERVICE	
				STP 0-3-6	TO PROVIDE FOR SPLITTING 3 GROUPS OF 2-PARTY SERVICE	
				DG-	WHEN ARRANGED TO HANDLE CALLS FROM TWO NUMBERING PLAN AREAS	
		2ND GROUP OF SENDERS	DA 1-6, 9-14	DI-	WHEN AUTOMATIC IDENTIFICATION OF 101 ESS PBX STATIONS IS REQUIRED	
				DP-	WHEN ACCESS CODE FEATURE IS REQUIRED IN AMA OFFICE ARRANGED FOR 4,8, OR 10 PARTY LINES	
	CALLING LINE NUMBERING PLAN AREA		DG 1-12	D-	TO DISTINGUISH BETWEEN LINES IN HOME AND ADJACENT NUMBERING PLAN AREAS	
				DA-		
	DI SERVICE		DIS 0-2	SW-	TO PROVIDE THE PROPER CLASS OF SERVICE RELAY	
	P MESSAGE REGISTER (CLASS OF SERVICE)		PMR	S-	CLASS OF SERVICE PEG COUNT PROVIDED	
	SERVICE RELAY	INDIVIDUAL CONTACT	S	Z-ZA, Z-ZJ	TO ESTABLISH PROPER ZONE CHARGE CONDITION	
				Z-OTA	OPERATOR TRANSMISSION AUXILIARY	
				NCTD	NO CHARGE RESTRICTED PBX TRAFFIC DIVERTED	

THESE CROSS CONNECTION PUNCHINGS ALSO APPEAR ON 3 DIT OR 3 DCT OR RG FRAMES.

PART	CONDITION		CONNECT TERM.	CONNECT TO TERM.	CONDITION	REFERENCE
P/O 9	SERVICE RELAY	INDIVIDUAL CONTACT	S	MI2-9	TO ESTABLISH PROPER MESSAGE INDEX, AMA EQUIPMENT	
				Z-OT	OPERATOR TRANSMISSION REQUIRED	
				Z-MC	TALKING "NO CHARGE" CONDITION REQUIRED	
				Z-TC	ONE MESSAGE UNIT CHARGE REQUIRED	
				MI-1	ONE MESSAGE UNIT CHARGE REQUIRED, AMA EQUIPMENT	
				ZMR	CANCEL MESSAGE REGISTER CHECK	
				CSP-	CLASS OF SERVICE PEG COUNT	
				PMR	P MESSAGE REGISTER PROVIDED	
				DRC	DENIED ROUTE BY CLASS OF SERVICE	
				Z-KP	KEYPULSE OPERATOR DENIED ROUTE	
				Z-OV	SUBSCRIBER OVERFLOW ROUTE	
				Z-TW	KEYPULSE OPERATOR ROUTES TO 2-WIRE OFFICE SELECTOR OR CROSSBAR TANDEM OFFICES VIA MANUALLY SELECTED OUTGOING TRUNK EQUIPMENT	
				Z-OOV	FOR DENYING DIAL OPERATORS ACCESS TO OVERFLOW OR PERMANENT SIGNAL	
				Z-OOR	FOR DENYING DIAL OPERATORS ACCESS TO OTHER THAN OVERFLOW AND PERMANENT SIGNAL	
				Z-PS	FOR PERMANENT SIGNAL ROUTING WHEN OPERATOR CLASSES ARE PROVIDED	
				SRC	TO PERMIT COIN CLASSES TO DIAL BEYOND LOCAL CHARGE AREA	
				RC	WHEN DIFFERENT ROUTE TREATMENT IS REQUIRED FOR DIFFERENT CLASSES OF SERVICE (VIA INTC-RC)	
				RT	ROUTE TRANSFER REQUIRED FOR DIFFERENT CLASSES OF SERVICE	
				TR-PC	CLASS OF SERVICE PEG COUNT REQUIRED (VIA INTC-PC)	
		COMMON CONTACT	SC-	R	WHEN VARIOUS CLASSES OF SERVICE ARE TO BE GIVEN DIFFERENT CHARGING TREATMENT	
				000-999	WHEN CODE IS GIVEN DIFFERENT ROUTING TREATMENT	
				CG	WHEN A CODE GROUP IS GIVEN DIFFERENT ROUTING FOR DIFFERENT CLASSES OF SERVICE	
				ZO	WHEN DIFFERENT CLASSES OF SERVICE HAVE DIFFERENT GROUPS OF ZERO OPERATOR TRUNKS	
				PS	PERMANENT SIGNAL TRUNKS SEGREGATED BY CLASSES OF SERVICE	
				AR-	WHEN ALTERNATE ROUTES OF COMPRESSED CODES ARE TO BE GIVEN DIFFERENT ROUTING TREATMENTS	
				OF	TO ROUTE ORIGINATING SENDER OVERLOAD CALLS TO DIFFERENT GROUPS OF ZERO OPERATOR TRUNKS	
				EA	TO ROUTE ONE-ONE CODE ACCORDING TO CLASS OF SERVICE	
				DR	TO REROUTE CALLS TO PROPER ZERO OPERATOR TRUNKS FOR ROUTES THAT ARE RESTRICTED TO CERTAIN CLASSES OF SERVICE	
				RMR	TO CANCEL MARKER CHECK FOR MESSAGE REGISTER GROUND	
				TR-PC	CLASS OF SERVICE PEG COUNT (VIA INTC-PC)	

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ORIGINATING MARKER CIRCUIT (2)

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BELL TELEPHONE LABORATORIES INCORPORATED

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CROSS CONNECTING INFORMATION (CONDITION)

PART	CONDITION		CONNECT TERM.	CONNECT TO TERM.	CONDITION	REFERENCE
P/O 9	SERVICE RELAY	COMMON CONTACT	SC-	CPC	MARKER PEG COUNT BY CLASSES OF SERVICE	
				A12	TO ROUTE CALLS ACCORDING TO CLASS OF SERVICE WHEN A ONE HAS BEEN REGISTERED IN THE "A" DIGIT	
				ACS 01-10	TO PROVIDE CONNECTIONS TO SPECIAL ROUTES ACCORDING TO CLASS OF SERVICE WHEN PREFIX CODES 01 OR 10 ARE DIALED	
				AS-	TO PROVIDE ACCESS CODE AND INTERCHANGEABLE CODE SCREENING FOR VARIOUS CLASSES OF SERVICE	
				DR-	TO DENY ROUTES FOR VARIOUS CLASSES OF SERVICE WHEN RECYCLE OR ACCESS CODE FEATURE IS PROVIDED	
				C110-119	TO PROVIDE CLASS OF SERVICE TREATMENT FOR 11X CODES OR PREFIX CODE 11	
		WINDING	SW-	D-OP DA-	SEGRAGATION BY CALLING LINE CLASS OF SERVICE	
				TPO OR TPN	SEGRAGATES CALLS FROM TIP OR RING PARTIES ON SAME LINE	
				STP-	FOR SPLITING 2-PARTY SERVICE	
				DIS-	SEGRAGATES CALLS IN AMA OFFICES WHEN AUTOMATIC IDENTIFICATION OF 101 ESS PBX STATIONS IS REQUIRED	
	SPLIT 2-PARTY		STPO, 3,6	D-DA	FOR SPLITING TWO PARTIES ON SAME LINE FOR DIFFERENT ROUTE TREATMENT, OR TO PROVIDE CLASS OF SERVICE SCREENING	
			STP 1,2,4, 5,7,8	SW-		
10	DENIED ROUTE	CONTACT	DR	RC OR SC-	REROUTES A DENIED ROUTE, VIA INTC-RC	
	DIVERTED ROUTE		DR 1-15		DENIES SOME CLASSES TO A DESTINATION	
	DENIED ROUTE	RELAY WINDING	DRC	S OR AS-	DENIES ROUTE TO PARTICULAR CLASSES OF SERVICE	
	DIVERTED ROUTE		DRC 1-15		DENIES ROUTE WHEN ACCESS CODE SCREENING OR INTERCHANGEABLE CODE SCREENING RELAY IS OPERATED	
11	ROUTE ASSIGNED TO:(OFFICE FRAME START AND TRUNK GROUP SELECTION)	ONE TRUNK GROUP OR COMMON SUBGROUP	GE	GE (1-39)	TRUNK GROUP END POINT	
			GS	GS (0-38)	TRUNK GROUP START POINT	
			ST	ST (0-18)	OFFICE FRAME START	
			TL	TL (0-14)	TRUNK LEVEL	
		TWO TRUNK GROUPS	GE	GCGE	GROUP COMMON END POINT	
			GS	GCGS	GROUP COMMON START POINT	
			ST	GCST	GROUP COMMON OFFICE FRAME START	
			TL	GCTL	GROUP COMMON TRUNK LEVEL	
			GPGE	GE(-)	TRUNK GROUP END POINT	
			GPGS	GS(-)	TRUNK GROUP START POINT	
			GPST	ST(-)	OFFICE FRAME START	
			GPTL	TL(-)	TRUNK LEVEL	
		MORE THAN TWO TRUNK SUBGROUPS	GE	GCGE	GROUP COMMON END POINT	
			GS	GCGS	GROUP COMMON START POINT	
			ST	GCST	GROUP COMMON OFFICE FRAME START	
			TL	GCTL	GROUP COMMON TRUNK LEVEL	
			G-GE	GE(-)	TRUNK GROUP END POINT	
			G-GS	GS(-)	TRUNK GROUP START POINT	
			G-ST	ST(-)	OFF CE FRAME START	
			G-TL	TL(-)	TRUNK LEVEL	
P/O 12	AMA MESSAGE INDICES		MI1-9	R-	TO ASSOCIATE A ROUTE WITH A PARTICULAR CHARGE CONDITION	
				S-	TO ASSOCIATE A ROUTE WITH DIFFERENT CHARGE CONDITIONS ON A CLASS OF SERVICE BASIS	
				AS-	TO ASSOCIATE A ROUTE WITH VARIOUS CHARGE CONDITIONS ON A ACCESS CODE BASIS	

PART	CONDITION		CONNECT TERM.	CONNECT TO TERM.	CONDITION	REFERENCE
P/O 12	AMA TYPE OF ENTRY		MIL 1-9	2L	TO CAUSE A PARTICULAR MESSAGE INDEX TO MAKE A TWO LINE INITIAL ENTRY	
				4L	TO CUASE A PARTICULAR MESSAGE INDEX TO MAKE A FOUR OR FIVE LINE INITIAL ENTRY	
13	OFFICE BRUSH		OB-	OB-	SEE NOTE 403	SEE NOTE 259,271
	OFFICE GROUP		OG	OG-		
				DDN	IN LAMA OFFICES FOR TSP GROUPS	
		SKIP OFFICE	OGSP OR OGSS	SP	SEE NOTE 403	
	SECOND OFFICE BRUSH (ALTERNATE ROUTE COMPENSATING RESISTANCE)		SB-	SB-		
	SECOND OFFICE GROUP (HIGH FIVE OB AND OFFICE 9300 REROUTE)		SG-	SG		SEE NOTE 155,165, 271
				SPB		
14	OUTPULSE DIRECTORY GROUND		ODG	OGSS	SEE NOTE 403	
	OUTPULSE DIRECTORY NUMBER		ODN	OG-		
15	OVERFLOW TRAFFIC REGISTERS		OF	TR-OF	OVERFLOW TRAFFIC REGISTERS ROUTE RELAY IN DIFFERENT BAYS REQUIRE SAME TR-OF	SEE NOTE 124
16A	PRE-ROUTE RELAY (COIL TERMINAL)		RC 100-129	C---	TO AVOID THE USE OF A SECOND ROUTE RELAY FOR OFFICE "A" WHEN BOTH OFFICE "A" & "B" ARE REACHED OVER THE SAME SHARED TRUNK GROUP	
	PRE-ROUTE RELAY (CONTACT TERMINAL)		PRC	RC	TO ASSOCIATE A PRE-ROUTE RELAY FOR OFFICE "A" WITH THE ROUTE RELAY FOR OFFICE "B" WHEN OFFICE "A" & "B" ARE REACHED BY MEANS OF A SHARED TRUNK GROUP	SEE NOTE 198
16B	ROUTE RELAY (COIL-OUTER END OF WINDING)		R	Z-PS	TO PROVIDE A PERMANENT SIGNAL ROUTE	
				Z-TC	NORMAL TRANSMISSION ONE MESSAGE UNIT INITIAL CHARGE	
				Z-TW	2-WIRE ROUTE THROUGH "A" SWITCHBOARD	
				Z-ODR	TO INDICATE AN OPERATOR DENIED ROUTE	
				Z-ODV	TO INDICATE AN OPERATOR OVERFLOW ROUTE	
				Z-AR	TO PROVIDE AN ALTERNATE ROUTE	
				ASC	TO PROVIDE ACCESS CODE SCREENING	
				DTF	TO PROVIDE A DIAL TONE FIRST ANNOUNCEMENT ROUTE	
				MI1	ONE MESSAGE UNIT CHARGE	
				MI2-9	TO INDICATE PROPER BILLING INFORMATION TO AMA EQUIPMENT	
				NCTD	DIVERSION OF RESTRICTED PBX TRAFFIC ON EXTRA CHARGE ROUTE	
				RG-	TO GROUP ROUTES REQUIRING IDENTICAL RATE TREATMENT	
				RRC	TO REROUTE A COIN CLASS CALL OUTSIDE THE LOCAL CHARGE AREA	
				SC-	TO PROVIDE CLASS OF SERVICE SCREENING FOR CHANGING PURPOSES	
				Z(A-J)	TO SET PROPER ZONE CHARGE CONDITION	
				Z-NC	TO SET DISTRICT JUNCTOR IN THE NO-CHARGE CONDITION	
				Z-OT	TO PROVIDE OPERATOR TRANSMISSION	
				Z-OTA	OPERATOR TRANSMISSION AUXILIARY	
				Z-OV	TO PROVIDE A SUBSCRIBER OVERFLOW ROUTE	
16C	ROUTE AUXILIARY		RAI-10CL		SEE NOTE 403	

PART	CONDITION	CONNECT TERM.	CONNECT TO TERM.	CONDITION	REFERENCE
P/O 16D	ROUTE RELAY (COIL- INNER END OF WINDING) CODE POINT SIDE	RC	NA-	TO PROVIDE A NON-ANNOUNCEMENT (OVERFLOW) ROUTE FOR INTER-SENDER TIMING (VIA INTC-RC)	
			OF	PROVIDES AN OVERFLOW ROUTE (VIA INTC-RC OR J-INTC)	
			PR--	PROVIDE ROUTE FOR CODE WHICH SHARES A ROUTE WITH OTHER CODE POINTS, BUT REQUIRES SEPERATE COUNT (VIA INTC- RC)	
			PS	PERMANENT SIGNAL ROUTE (VIA INTC-RC)	
			RA	PROVIDE AN ALTERNATE ROUTE	
			RR 0-7	PROVIDE RE-ROUTE FOR COIN CALL BEYOND LOCAL AREA (VIA INTC-RC)	
			RTA-	ROUTE TRANSFER (ORIGINAL ROUTE) (VIA INTC-RC)	
			RTB-	ROUTE TRANSFER (TRANSFERRED ROUTE) (VIA INTC-RC)	
			S-	PROVIDE ROUTE FOR CLASS OF SERVICE SCREENED CALL (VIA INTC-RC)	
			ZO	PROVIDE ROUTE TO ZERO OPERATOR (VIA INTC-RC)	
			11G	PROVIDE ROUTE FOR A ONE-ONE PREFIX (VIA INTC-RC)	
			A12	TO PROVIDE ROUTING FOR ACCESS CODE ONE (VIA INTC-RC)	
			ACR	TO PROVIDE VACANT CODE OR OTHER ROUTE FOR UNUSED COMPRESSED CODES OR FOR SINGLE TANDEM ROUTING WHEN ONE-ONE PREFIX AND A COMPRESSED CODE REACH THE SAME TANDEM OFFICE (VIA INTC-RC)	
			ACS 01,10	TO PROVIDE ROUTING FOR PREFIX CODES 01,10 (VIA INTC-RC)	
			AN-	TO PROVIDE ANNOUNCEMENT ROUTES FOR INTERSENDER TIMING (VIA A-INTC)	
			AR-	ALTERNATE ROUTE FOR CALLS NORMALLY ROUTED BY 3-DCT (VIA INTC-RC)	
			ARL	ALTERNATE ROUTE FOR CODES ASSOCIATED WITH A COMPRESSED CODE 0 AND NORMALLY ROUTED BY THE LOCAL AREA TRANSLATOR (VIA INTC-RC)	
			ARU	ALTERNATE ROUTE FOR CODE ASSOCIATED WITH A COMPRESSED CODE AND NORMALLY ROUTED VIA AN EXTENDED AREA TRANSLATOR OR A 3-DCT (VIA INTC-RC)	
			AS 00-29	ROUTING FOR ACCESS CODE SCREENING	
			AS 30-99	ROUTING FOR ACCESS CODE SCREENING OR INTERCHANGEABLE OFFICE AND AREA CODES	
			C11- (0-9)	ROUTING FOR 11X SERVICE CODES	
			C200- 999	ROUTING FOR OFFICE CODE	
			CG	ROUTE FOR CODES REQUIRING IDENTICAL TREATMENT	
			DR	RE-ROUTES A DENIED ROUTE (VIA INTC-RC)	
			DR1-15	ROUTE FOR A DIVERTED ROUTE (VIA INTC-RC)	
			EA	ROUTE FOR ONE-ONE CODE (VIA INTC-RC)	

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ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-D21

BELL TELEPHONE LABORATORIES INCORPORATED

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CROSS CONNECTING INFORMATION (CONDITION)

PART	CONDITION	CONNECT TERM.	CONNECT TO TERM.	CONDITION	REFERENCE
P/O 160	ROUTE RELAY (CODE POINT SIDE)	RC	EDR	PROVIDE A ROUTE TO SIGNAL THE SENDER TO TIME FOR EXTRA DIGITS WITH INTERCHANGEABLE OFFICE AND AREA CODES FEATURE (VIA INTC-RC)	SEE NOTE 271
			J-INTC	TO PROVIDE ROUTE RELAY COIL ACCESS FROM OTHER THAN COMMON BAY OR LOCAL AREA TRANSLATOR	
			MSD	TO PROVIDE AN ANNOUNCEMENT OR OVERFLOW ROUTE WHEN A ZERO OR ONE FOLLOWS THE COMPRESSED CODE (MISDIAL) (VIA INTC-RC)	
			PRC	TO AVOID USING A SECOND ROUTE RELAY WHEN OFFICE "A" & "B" ARE REACHED THRU A SHARED TRUNK GROUP	
17	ROUTE ADVANCE (ROUTE RELAY CONTACT)	RA	AC	TO PROVIDE AN ALTERNATE ROUTE TO OVERFLOW OR ANNOUNCEMENT WHEN INTER-SENDER TIMING IS PROVIDED	
			J-INTC	WHEN FIRST CHOICE ALTERNATE ROUTE IS A COMMON SUBGROUP	SEE NOTE 271
			OF	WHEN ALTERNATE ROUTE IS TO OVERFLOW	
			RC	FIRST CHOICE ALTERNATE ROUTE, INDIVIDUAL TRUNK GROUP	
18	ROUTE GROUPING TERMINALS	RG-	ASC-	TO ASSOCIATE AN ACCESS CODE SCREENING COMMON CONTACT WITH A GROUP OF ROUTES	
			R-	TO GROUP ROUTES WHICH REQUIRE IDENTICAL ROUTE SERIES OR ACCESS SCREENING TREATMENT	
19	CANCEL MESSAGE REGISTER CHECK	ZRR	S	FOR CLASSES WITHOUT A MESSAGE REGISTER	
		RR	RR	WHEN CLASS OF SERVICE PEG COUNT IS PROVIDED	
		RRR	SC-		
20	COIN REROUTE (CONTACT)	RRO-7	RC	TO PERMIT COIN CLASSES TO REACH ROUTES BEYOND THE LOCAL CHARGE AREA (VIA INTC-RC)	
	COIN REROUTE RELAY (COIN TERMINAL)	RCC 0-3	S	TO PERMIT RE-ROUTING OF COIN CLASS CALLS TO ROUTES BEYOND THE LOCAL CHARGE AREA	
			AS	TO PERMIT REROUTE OF SOME COIN CALLS ON A ACESS CODE SCREENING BASIS	
21	ROUTE TRANSFER (COMMON CONTACT)	RT(-) 0-19	C--	TO PROVIDE ROUTE TRANSFER CONTROL FOR 3 CODE	
			S-	TO PROVIDE ROUTE TRANSFER CONTROL ON A CLASS OF SERVICE BASIS	
	ROUTE TRANSFER (NORMAL ROUTE)	RTA(-)	RC-	TO PROVIDE A NORMAL ROUTE FOR ROUTE TRANSFERED CODES OR CLASSES OF SERVICE (VIA INTC-RC)	
	ROUTE TRANSFER (TRANSFERED ROUTE)	RTB(-)	RC-	TO PROVIDE A TRANSFER ROUTE FOR ROUTE TRANSFERED CODES OR CLASSES OF SERVICE (VIA INTC-RC)	
22	SPECIAL	SP	OGSP	SEE NOTE 403	SEE NOTE 271
			OGSS		
			SPA		
			SPB		
			T=A		
			T=B		
			T=C		
			T=D		
	SPECIAL A	SPA	SP		
	SPECIAL B	SPB	SP		
			SG		
P/O 23	SINGLE TANDEM ROUTE	STR-	CST-	TO ASSOCIATE A COMPRESSED CODE WITH A SINGLE TANDEM ROUTE OR WITH VACANT CODE	

PART	CONDITION		CONNECT TERM.	CONNECT TO TERM.	CONDITION	REFERENCE
P/O 23	SINGLE TANDEM ROUTE		STR-	CCC	TO ASSOCIATE A CANCELLED CODE COMPRESSOR CALL OR 1-1 PREFIX CALL WITH A SINGLE TANDEM ROUTE	
				11B		
24	START TRANSLATOR SEIZURE		STS 0-3	CST	TO ASSOCIATE A PARTICULAR CONNECTOR START LEAD WITH A COMPRESSED CODE START PUNCHING	
				ACT-	WHEN CONNECTION TO 3 DIGIT COMMON TRANSLATOR IS REQUIRED	
25	ROUTE SERIES RELAYS	ALTERNATE ROUTE	Z-AR	R	ASSOCIATED ROUTE RELAY REPRESENTS AN ALTERNATE ROUTE OF A COMMON SUBGROUP ORIGINAL ROUTE RELAY	
		OPERATORS DENIED ROUTE	Z-ODR	S	OPERATOR DENIED ACCESS TO ROUTE	SEE NOTE 156
		OPERATOR OVERFLOW	Z-OOV		OPERATOR DENIED OVERFLOW AND PERMANENT SIGNAL ROUTES	
		PERMANENT SIGNAL (RELAY WINDING)	Z-PS		PERMANENT SIGNAL TRUNKS SEGREGATED BY CLASS OF SERVICE	
		OPERATOR TRANSMISSION	Z-OT	R OR S	WHEN CLASS OF CALL REQUIRES OPERATOR TRANSMISSION	
		OVERFLOW SUBSCRIBER	Z-OV	R	SUBSCRIBER OVERFLOW AND INTERSENDER TIMING ROUTES	
				S	OVERFLOW ROUTING PROVIDED FOR SUBSCRIBER CLASSES	
		2-WIRE A-BOARD	Z-TW	R	WHEN CLASS OF CALL REQUIRES MARKING STAGE OF MARKER TO BE CANCELLED	
				S	FOR KEYPULSE OPERATOR ROUTES TO 2-WIRE OFFICE SELECTOR OR CROSSBAR TANDEM VIA MANUALLY SELECTED OUTGOING TRUNK EQUIPMENT	
		NO CHARGE	Z-NC	R OR S OR AS	WHEN DISTRICT JUNCTOR IS TO BE SET FOR NORMAL "NO CHARGE" CONDITION	
		OPERATOR TRANSMISSION AUXILIARY	Z-OTA	R OR S OR AS	TO DIVERT RESTRICTED PBX TRAFFIC AND SET TO DISTRICT IN "OPERATOR TRANSMISSION" ON ROUTES WITH ANI	
		TALKING CHARGE	Z-TC	R	WHEN ALL CLASSES OF SERVICE REQUIRE NORMAL TRANSMISSION AND ONE MESSAGE UNIT INITIAL CHARGE	
				S	WHEN ONE MESSAGE UNIT IS REQUIRED FOR THE PARTICULAR CLASS OF SERVICE	
				AS	WHEN ACCESS CONDITION REQUIRES NORMAL TRANSMISSION AND ONE MESSAGE UNIT INITIAL CHARGE	
		ZONE CHARGE	Z-ZA TO Z-ZJ	R	TO PROVIDE PROPER ZONE CHARGE FOR A ROUTE	
				S	TO PROVIDE PROPER ZONE CHARGE ACCORDING TO CLASS OF SERVICE	
				AS	TO PROVIDE PROPER ZONE CHARGE ACCORDING TO ACCESS CODE SCREENING OR INTERCHANGEABLE CODE SCREENING	
		KEY PULSING (DENIED ROUTES)	Z-KP	S OR AS OR A12	TO DENY KEYPULSE OPERATORS ACCESS TO CERTAIN ROUTES	
		NO CHARGE TOLL DIVERSION	NCTD	R OR S OR AS	WHEN DISTRICT JUNCTORS ARE TO BE SET FOR NORMAL NO CHARGE CONDITION AND TO DIVERT CALL WHERE OFFICE IS ARRANGED FOR DIVERSION OF RESTRICTED PBX TRAFFIC	

PART	CONDITION	CONNECT TERM.	CONNECT TO TERM.	CONDITION	REFERENCE
26	ROUTE TRANSFER RELAY	RTC	NA-	TO PROVIDE A NON-ANNOUNCEMENT (OVF) RTE FOR IST (VIA INTC-RC)	
			OF	PROVIDES AN OVF RTE (VIA INTC-RC OR J-INTC)	
			PR--	PROVIDE RTE FOR CD WHICH SHARES A RTE WITH OTHER CD POINTS, BUT REQ SEP CT (VIA INTC-RC)	
			PS	PERM SIG RTE (VIA INTC-RC)	
			RA	PROVIDE AN ALT RTE	
			RR 0-7	PROVIDE RE-RTE FOR CN CALL BEYOND LOC AREA (VIA INTC-RC)	
			S-	PROVIDE RTE FOR CLASS OF SRV SCREENED CALL (VIA INTC-RC)	
			ZO	PROVIDE RTE TO ZERO OPR (VIA INTC-RC)	
			11G	PROVIDE RTE FOR A ONE-ONE PREFIX (VIA INTC-RC)	
			A12	TO PROVIDE ROUTING FOR ACC CD ONE (VIA INTC-RC)	
			ACR	TO PROVIDE VAC CD OR OTHER RTE FOR UNUSED COMPRESSED CODES OR FOR SGL TDM ROUTING WHEN ONE-ONE PREFIX AND A COMPRESSED CD REACH THE SAME TDM OFF. (VIA INTC-RC)	
			ACS 61,10	TO PROVIDE ROUTING FOR PREFIX CODES 01, 10 (VIA INTC-PC)	
			AN-	TO PROVIDE ANNOUNCEMENT ROUTES FOR IST (VIA A-INTC)	
			AR-	ALT RTE FOR CALLS NORMALLY ROUTED BY 3-DCT (VIA INTC-RC)	
			ARL	ALT RTE FOR CODES ASSOC WITH A COMPRESSED CD 0 AND NORMALLY ROUTED BY THE LOC AREA TRANSLATOR (VIA INTC-RC)	
			ARU	ALT RTE FOR CD ASSOC WITH A COMPRESSED CD AND NORMALLY ROUTED VIA AN EXTENDED AREA TRANSLATOR OR A 3-DCT (VIA INTC-RC)	
			AS 00-29	ROUTING FOR ACC CD SCREENING	
			AS 30-99	ROUTING FOR ACC CD SCREENING OR INTCHG OFF. AND AREA CODES	
			C11- (0-9)	ROUTING FOR 11X SRV CODES	
			C200-999	ROUTING FOR OFF. CD	
			CG	RTE FOR CODES REQUIRING IDENTICAL TREATMENT	
			DR	RE-ROUTES A DENIED RTE (VIA INTC-RC)	
			DR1-15	RTE FOR A DIVERTED RTE (VIA INTC-RC)	
			EA	RTE FOR ONE-ONE CD (VIA INTC-AC)	
			EDR	PROVIDE A RTE TO SIG THE SDR TO TIME FOR EXTRA DIGITS WITH INTCHG OFF. AND AREA CODES FEATURE (VIA INTC-RC)	
			J-INTC	TO PROVIDE RTE REL COIL ACC FROM OTHER THAN COMMON BAY OR LOC AREA TRANSLATOR	
			MSD	TO PROVIDE AN ANNOUNCEMENT OR OVF RTE WHEN A ZERO OR ONE FOLLOWS THE COMPRESSED CD (MISDIAL) (VIA INTC-RC)	
			PRC	TO AVOID USING A SECOND RTE REL WHEN OFF. "A" & "B" ARE REACHED THRU A SHARED TRK GR	

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ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-022

BELL TELEPHONE LABORATORIES INCORPORATED 65

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CROSS CONNECTING INFORMATION (LOCATION)

TERMINAL	LOCATION FS	LOCATION TERM STRIP	LOCATION NO.	CROSS CONN TABLE PART	FUNCTIONAL DESIGNATION
1	48F0	B	1	1	CHANNEL PREFERENCE
2	48A4		2	1	
2L	29F3		2L	12	2 - LINE
3	48A5		3	1	CHANNEL PREFERENCE
4	48F9		4	1	
4L	29E3		4L	12	4 - LINE
5	48F0		5	1	CHANNEL PREFERENCE
6	48F4		6	1	
7	48E5		7	1	
8	48F9		9	1	
100	62F1	SD2	100	7	TEN DIGIT AUX SENDER ROUTE RELAY
11B	16A4	SD	53	3	1 - 1 PREFIX CODE POINT (BATTERY)
11G	14E7		52	3	1 - 1 PREFIX CODE POINT (GROUND)
11X	19A1	B	11X	3	11X SERVICE CODE TRANSLATION
A	48F9	B	A	1	CHANNEL PREFERENCE
			A1-10	2	INTERCONNECTOR ANNOUNCEMENT (INTERSENDER TIMING)
		RC	A0-9		
A12	1207	A	O8	3	RECYCLE OR ACCESS CODES
		D	A12		
AC1-3	10D7,E7	B	AC1-3	2	ANNOUNCEMENT CUT-IN (INTERSENDER TIMING) (COMMON)
ACR	17B7,F7	SD2	ACR1,2	3	AREA CODE ROUTE
ACS0	16E9	A	ACS0	3	ACESS CODE SCREENING
ACS1-4	19A7, 1903,E3		ACS1-4	3	
ACS5	19B7		ACS5	3	
ACS6	19A1		ACS6	3	
ACS7	15C6		SCS7	3	
ACS8	15F6,19B7		ACS8	3	
ACS9	16E9		ACS9	3	
ACS10	19A7		ACS10	3	
ACS01	19A7	A	ACS01	3	
ACT0-9	15D6 17E1-H1	B	ACT0-9	3	ACCESS CODE TRANSLATOR
AN1-3	10F8,G8		AN1-3	2	ANNOUNCEMENT (INTERSENDER TIMING) (OPERATED)
AN9		B	AN9	2	ANNOUNCEMENT PEG COUNT (INTERSENDER TIMING)
AN10		B	AN10	2	

TERMINAL	LOCATION FS	LOCATION TERM. STRIP	LOCATION NO.	CROSS CONN TABLE PART	FUNCTIONAL DESIGNATION
ARO-3	19A9-C8	SD2	13,23, 33,43	3	ALTERNATE ROUTE (3 DIGIT TRANSLATOR)
ARL	16D4		34	3	ALTERNATE ROUTE FOREIGN AREA, LOCAL TRANSLATOR ROUTES
ARU	16B4		44	3	ALTERNATE ROUTE EXTENDED AREA OR 3 DIGIT ROUTES
AS00-29	15A8	A	00-29	3	ACCESS SCREEN
AS30-39 AS40-99	19E5-G5	A B	30-39 40-99	3	
ASC00-29	15A6	A	ASC0-29	3	ACCESS SCREEN - COMMON
ASC30-39 ASC40-99	19E4-G4	B	30-39 40-99	3	
ASW0-3	1586	A	ASW0-3	3	ACCESS SCREENING RELAY WINDING
ASW4-7	19C4,D4	B	ASW4-7	3	
AT	16C4	SD	AT 26	3	AREA TRANSLATOR
BP0-9	44C3,C4	A,B	BP0-9		BLANKING PATTERN SEE NOTES 120,180
BPR0-9 BPL0-9	44C3	B	BP-R0-9 BP-L0-9		
C110-119	12E7-H7	D,RC	110-119	3	CODES 11X
C200-999	13D8-G9	C	200-999	4	CODE POINTS
CB1-4	49H6	B	CB1-4		CHANNEL BUSY SEE NOTES 120,180
CB5-7	49E4		CB5-7		
CB8	49E3		CB8		
CB9	49E4		CB9		
CB10-13	4988		CB10-13		
CB14	43A4		CB14		
CB15	43A5		CB15		
CB16	43E4		CB16		
CB17	43E5		CB17		
CCC	16E4	SD	14	3	CANCELLED CODE COMPRESSOR
CG0-2		D,RC,CG,GC	0-2	4	CODE GROUPING POINTS
CG-		CG,RA	0-36	4	
CL	30C3,C7	CL	00-99		CLASS (OF CALL)
CL(0-7)P	20A6-G6		CL(0-7)P	5	
CL(0-7)S	20A6-G6		CL(0-7)S		
CLA	22B6-D6	SG	CLA	5	CLASS (OF CALL) (AUXILIARY A)
CLB	22C6		CLB		CLASS (OF CALL) (AUXILIARY B)
CLC	22D6		CLC		CLASS (OF CALL) (AUXILIARY C)
CLD	22E6		CLD		CLASS (OF CALL) (AUXILIARY D)
CP	12D8	C	CP0-9	6	CODE POINT CONTACT PROTECTION

TERMINAL	LOCATION FS	LOCATION TERM. STRIP	LOCATION NO.	CROSS CONN TABLE PART	FUNCTIONAL DESIGNATION
CPC	62D2	D	CPC	7	C PEG COUNT
CR	30C3,C7	CR	00-99	8	COMPENSATING RESISTANCE
CR(0-9)P	21A2-H2		CR(0-9)P		
CR(0-9)S	21A2-H2		CR(0-9)S		
CSP0-9	62D2	D,Z	CSP0-9	7	CLASS OF SERVICE PEG COUNT
CST1	16C5-E5	SD	24	3	COMPRESSED CODE START
CST2			34		
CST3			44		
CST4			54		
CST5			15		
CST6			25		
CST7			35		
CST8			45		
CST9			55		
D0-6	9G0-G9	D	D1-6	9	CALLING LINE CLASS OF SERVICE REGISTERED (FIRST GROUP OF SENDERS)
		SD1	11,21, 31,41, 51,12		
D7,9		D	D7,9		
D9-14			D9-14		
		SD1	22,32, 42,52, 13,23		
D15		D	D15		
		SD1	26		
DA1-6	9G0-G9	SD1	33,43,53, 14,24,34	9	CALLING LINE CLASS OF SERVICE REGISTERED (SECOND GROUP OF SENDERS)
DA9-14			44,54,15 25,35,45		

DRAWING ISSUE

NUMB	PAR

ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-D23

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-D23

CROSS CONNECTING INFORMATION (LOCATION)

TERMINAL	LOCATION			CROSS CONN TABLE PART	FUNCTIONAL DESIGNATION
	FS	TERM. STRIP	NO.		
DGI-12	19E9	SDI	46,56,17-57, 19-59		CALLING LINE NUMBERING PLAN AREA (MAJOR OR MINOR)
DIO-2	29C3	D	DIO-2		PBX CLASS OF SERVICE FOR AUTOMATIC IDENTIFICATION
DISO-2	29B3,C3	D	DISO-2	9	CLASS OF SERVICE
DPO	29G3	SDI	36		MULTIPARTY CLASS OF SERVICE
DPI-5		SD2	19,29,39 49,59		
DR	19G9	D,S	DR		DENIED ROUTE (CONTACT)
		B	DRO		
DRI-9	19G9	B	DRI-9	10	
DRIO-15	19C6,D6, E7	B	DRIO-15		
DRCO	19F6	B,C	DRCO		DENIED ROUTE (RELAY WDG)
DRC1-9	19G6		DRC1-9	10	
DRC10-15	19D6		DRC10-15		
DTF	12A7	D	DTF	168	DIAL TONE FIRST ANNOUNCEMENT
EA	17D7	D	EA	3	EXTENDED AREA CODES
E(A-B)-	43A1,B1	A	E(A-B)-		SEE NOTES 120,180
EAP	43C1	B	0-19		SEE NOTES 120,180
EDR	19F7	D	EDR	3	EXTRA DIGIT REGISTRATION
EE	43C1	A	EE		SEE NOTES 120,180
EEP-	43D1	B	0-7		SEE NOTES 120,180
EXDG					EXTRA LEAD IDENTIFICATION SEE NOTE 262
G-GE	57F2-G9	G	0-9		G RELAY (IND) GROUP END
G-GS	57F2-H9		0-9		G RELAY (IND) GROUP START
G-ST	57E2-G9		0-9		G RELAY (IND) SELECTS OFFICE FRAMES
G-TL			0-9		G RELAYS (IND) TRUNK LEVEL
GC-GE	56F4-H4, 57F0,F3, F8,G0, G3,G6	GC	00-39	11	GROUP COMMON GROUP END
GC-GS	56E4,F4, 57F0-H0, F3-H3, F8-H8				GROUP COMMON GROUP START
GC-ST	56D7-F7, E0-G0, E3-G3, E8-G8 57E0-H0				GROUP COMMON SELECTS OFFICE FRAMES
GC-TL	57F7-H7, F0,F3,F6, G0,G3,G6, 57E0-H0				GROUP COMMON TRUNK LEVEL

TERMINAL	LOCATION			CROSS CONN TABLE PART	FUNCTIONAL DESIGNATION
	FS	TERM. STRIP	NO.		
GE	30E3,E7, 40B0,B2 B4,D0, D2,D4	GE	00-99	11	GROUP END TRUNK
GP-GE	56F6-H6	GP	00-29		GP RELAY (IND) GROUP END
GP-GS	56E6,F6				GP RELAY (IND) GROUP START
GP-ST	56D9-F9				GP RELAY (IND) SELECTS OFFICE FRAMES
GP-TL	56F9-H9				GP RELAY (IND) TRUNK LEVEL
GS	30E3,E7, 40B0,B2, B4,C0, C2,C4	GS	00-99		TRUNK GROUP START
HT	16D4	SD	56	3	HOME TRANSLATOR
IN	48F0	B	IN	1	CHANNEL PREFERENCE
IT	16A6	B	IT	3	INDIVIDUAL TRANSLATOR
		SD	16	3	
J3-34 (MD)	53C6-F6	J-INTC	3-34		
J(3-14)A-D (MD)	53B6-E6	J-INTC	J(3-14)A-D		
JC-	43A1	B	0-19		SEE NOTES 120,180
MI1-9	1C9	B,C,Z	1-9	12	AMA MESSAGE INDICES
MIL1-9	2F3	B	1-9		AMA TYPE OF ENTRY
MPC	62C3	DPTS	MPC	7	MARKER PEG COUNT
MPC1	62D3	MISC	16		
MR	62E2	A	MR		MESSAGE REGISTER (CLASS PEG COUNT)
MSD	12C7	D	MSD	3	DETECT MISDIAL
MAI-3	1DD9,E9	B	MAI-3	2	MON ANNOUNCEMENT (INTERSENDER TIMING) (NORMAL)

TERMINAL	LOCATION			CROSS CONN TABLE PART	FUNCTIONAL DESIGNATION
	FS	TERM. STRIP	NO.		
NCTD	32A0	B,C,SP,Z	NCTD	25	NO CHARGE TOLL DIVERSION
NPO-5	29C6-C8	B	NPO-5		SEE NOTES 120,180
NPO	17B7	A	NPO	3	NO PREFIX - RECYCLE CALL
NPO	18F4	A,SA	NPO	3	NO PREFIX ONE REQUIRED
O(A-B)-	43E1,F1	A	O(A-B)-		SEE NOTES 120,180
OAP-	43G1	B	0-19		
OB	30B3,B7	OB	00-99	15	OFFICE BRUSH SEE NOTE 403
OB(0-9)P	2DA0-H0		OB(0-9)P		
OB(0-9)S	2DA0-H0		OB(0-9)S		
ODG	28B5	OG	ODG	14	OUTPULSE DIRECTORY GROUND
ODN	28A3	OG	ODN		OUTPULSE DIRECTORY NUMBER
OE	43F1	A	OE		SEE NOTES 120,180
OEP	43G1	B	0-7		
OF	12C7, 30B3,G7, 62A5, 65F9	OF-PC	00-99	15	OVERFLOW TRAFFIC REGISTER
		D	OF	4	OVERFLOW (LOAD CONTROL CODE POINT)
OFO-2 (MD)	53F4,G4	J-INTC	OFO-2		OVERFLOW ROUTE (J-INTERCONNECTOR)
OG	30B3,B7	OG	00-99	13	OFFICE GROUP
OG(0-4)P	21A6-E6	OG	OG(0-4)P		OFFICE GROUP (SKIP OFFICE)
OGSP		OG,SD,SP	OGSP		
OG(0-4)S	21A6-E6	OG	OG(0-4)S		
OGSS		OG,SD,SP	OGSS		
OT	48F9	B,C	OT	1	CHANNEL PREFERENCE
P(0-9)-	43C1-E1	A	0-9		SEE NOTES 120,180
P10-29	60F4	P	10-29		
P-	43G1	A	00-19		
PA-	43E1,H8	A	PA(0-9)0-4		
		B	PA0-9		
PC	30F3,F7	OF-PC	00-99	7	PEG COUNT TRAFFIC REGISTERS
PC10-29	60F5	RTC	10-29		

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DRAWING ISSUE 106D

ORIGINATING MARKER CIRCUIT (2)

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BELL TELEPHONE LABORATORIES INCORPORATED

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CROSS CONNECTING INFORMATION (LOCATION)

TERMINAL	LOCATION FS	LOCATION TERM. STRIP	LOCATION NO.	CROSS CONN TABLE PART	FUNCTIONAL DESIGNATION
PC0-9	43C0-E0	B	0-9		SEE NOTES 120,160
PC-MN	62B3			7	PEG COUNT-EXTENDED AREA
PC-MJ	62B3			7	PEG COUNT-LOCAL AREA
PD1	17C7	A	PD1	3	PREFIX 1 - RECYCLE CALL
PDA1	17C7	B	PDA1	3	PREFIX DIGIT AUXILIARY 1
PDA2	17C7	B	PDA2	3	PREFIX DIGIT AUXILIARY 2
PMR	62G1	D,Z	PMR	9	P MESSAGE REGISTER (CLASS OF SERVICE)
POA	18F4	A	07(POA)	3	PREFIX ONE ANNOUNCEMENT
POR	18F4	A,SA	POR	3	PREFIX ONE REQUIRED
PR-	62G1	PC	00-79	7	PEG COUNT PREROUTE RELAY (CONTACT)
PRC	13B1	RC	100-129	16A	PREROUTE RELAY TRANSLATION CONNECTION (OFFICE B)
PS	12C7	D	PS	4	PERMANENT SIGNAL (CODE POINT)
R-	30A3,A7	A,R	00-99	16B	ROUTE RELAY (OUTER WINDING)
R	48F0	B	R	1	CHANNEL PREFERENCE
RA	30F3,F7	RA	00-99	17	ROUTE ADVANCE
RA1-10	22B3-G3	SG	RA1-10	16C	ROUTE AUXILIARY
RC	30A1,A5	RC	00-99	16D	ROUTE RELAY
	30A8		100-129	16A	PRE-ROUTE RELAY
RG-	30B8	RG	00-39	18	ROUTE GROUPING POINTS
RMR	38B5	D	RMR	19	CANCEL MR CHECK
		S		19	
RP-	62G1	PC	00-79	7	PEG COUNT PREROUTE RELAY (WINDING)
RR	10H5	D	0-7	20	COIN REROUTE RELAY (CONTACT)
RRC	10H4	B, C, D, Z		20	COIN REROUTE RELAY (WINDING)
RT0-19	60A5-C5, A7	C, D, SA	0-19	21	ROUTE TRANSFER (COMMON)
RTA0-29	60A6-C6, A8,60F1,G1	D			ROUTE TRANSFER (A) (NORMAL)
RTB0-29					ROUTE TRANSFER (B) (TRANSFERRED)
RTC10-29	60F1				
S-	7A9-E9 7B9-E9, 7D9	A, B, C	0-24	9	SERVICE RELAY (INDIVIDUAL CONTACT)
		SA	0-19		
		S			
SB	30B3, B7	SB	00-99	13	SECOND OFFICE BRUSH (ALTERNATE ROUTE COMP RES)

TERMINAL	LOCATION FS	LOCATION TERM. STRIP	LOCATION NO.	CROSS CONN TABLE PART	FUNCTIONAL DESIGNATION
SB(0-9)P	21C0-E0, 22A0-H0	SB	SB(0-9)P	13	SECOND OFFICE BRUSH (ALTERNATE ROUTE COMP RES)
SB(0-9)S	21E0, 22A0-H0		SB(0-9)S		
SC	7D4	SC	SC	9	SERVICE RELAY (COMMON CONTACT)
SC0-39	7A4-E4	B, C, D	SC0-39		
		SC	SC0-24		
SG	30C3,C7	SG	00-99	13	SECOND OFFICE GROUP (HIGH-FIVE 0B AND OFF 9300 REROUTE)
SG0,1	20H3		SG0,1		
SG(0-4)P	20B3-E3				
SG(0-5)S	20B3-F3				
SG(0,1)P	20G3,H3		SG-		
SG(0,1)S					
SP	30D3	SP	00-99	22	SPECIAL
SPA	58C1		SPA		SPECIAL A
SPB		SG,SP	SPB		SPECIAL B
ST-	30E3, E7 31C3	ST	00-99	11	START OFFICE LINK
STP0-8	10B7, B8, C7, C8	D	0-8	9	SPLIT 2-PARTY
STR-	17A7, G7	SD2	14, 24	23	SINGLE TANDEM ROUTE
STS0-3	18C8-E8	SO	13, 23 33, 43	24	START TRANSLATOR SEIZURE
		B	STS0-3		
SW-	7A3	D	0-24	9	SERVICE RELAY (WINDING)
TED	19F6	C, D	TED	3	
TL	30D3, D7, 38B5	TL	0-14	11	TRUNK LEVEL
TOC	60A1	D	TOC	9	TERMINATING OVERLOAD CANCELLED
TP	10A8		TP		2-PARTY
TPN	10A7	D	TPN	9	RING PARTY
TPO			TPO		TIP PARTY

TERMINAL	LOCATION FS	LOCATION TERM. STRIP	LOCATION NO.	CROSS CONN TABLE PART	FUNCTIONAL DESIGNATION
TWA	58A1-C1	SP	TWA	22	2-WIRE A
TWB			TWB		2-WIRE B
TWC			TWC		3-WIRE C
TWD			TWD		3-WIRE D
Z-ZA-J	1F8	B, C, Z	ZA-J	25	ZONE CHARGE
Z-AR	10D7	Z	AR	25	ALTERNATE ROUTE
Z-KP	12E7	Z	KP	25	KEYPULSING (DENIED ROUTE)
ZMR	54A1	Z	ZMR	19	CANCEL MR CHECK
Z-NC	1F8	B,C,Z	NC	25	NO CHARGE
Z-ODR	1E8	Z	ODR		OPERATOR DENIED ROUTE
Z-OOV	1E8	Z	OOV		OPERATOR OVERFLOW
Z-OV	1D8	Z	OV		OVERFLOW (SUBSCRIBER)
Z-OT	32B0	Z	OT		OPERATOR TRANSMISSION
Z-PS	55A7	D,Z	PS		PERMANENT SIGNAL
Z-TW	19D7	Z	TW		TWO WIRE "A" BOARD
Z-TC	52H1	BC,Z	TC		TALKING CHARGE
ZO	12E7	A	09	4	ZERO OPERATOR CODE POINT
		D,S	ZO		

DRAWING ISSUE 10CD

ORIGINATING MARKER CIRCUIT ②

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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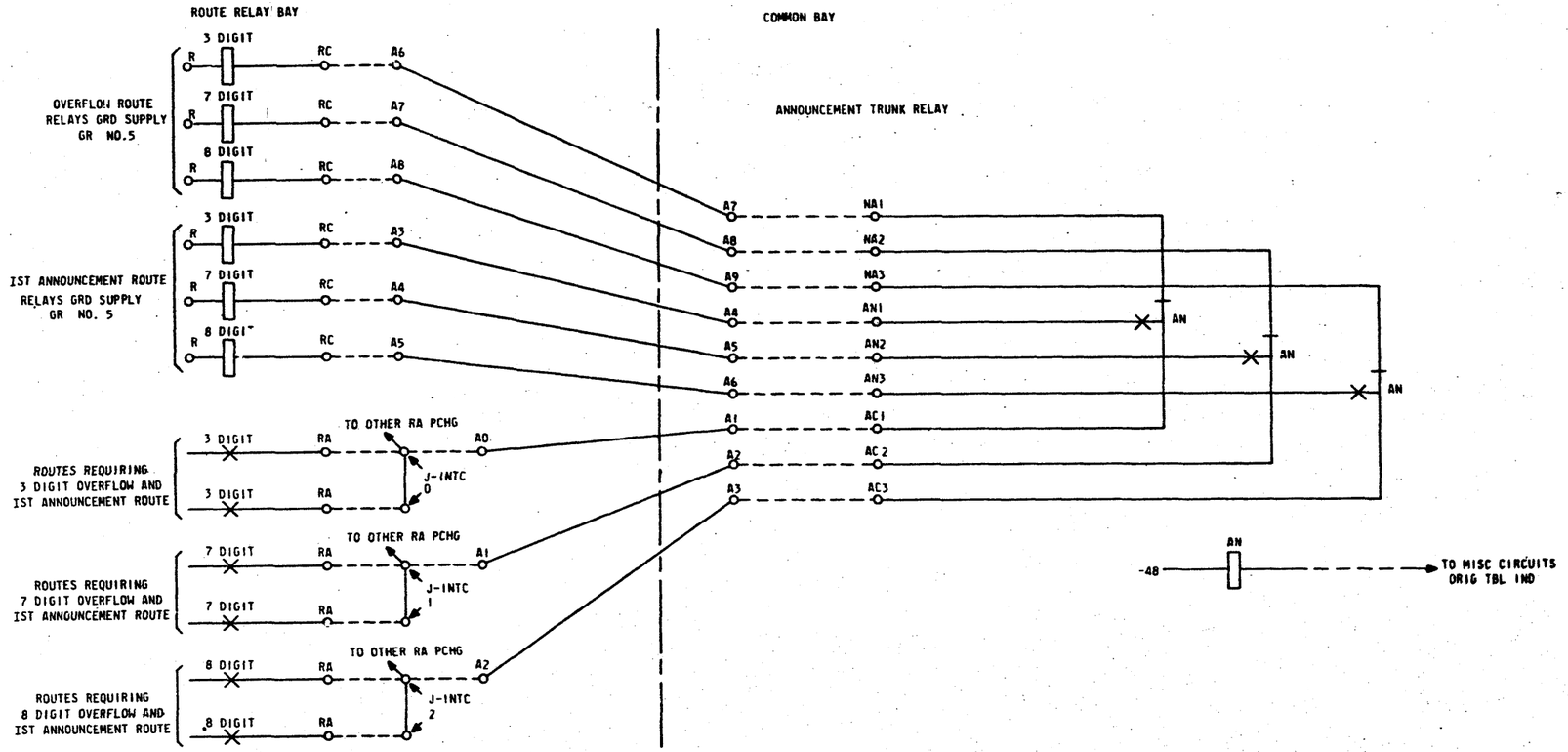
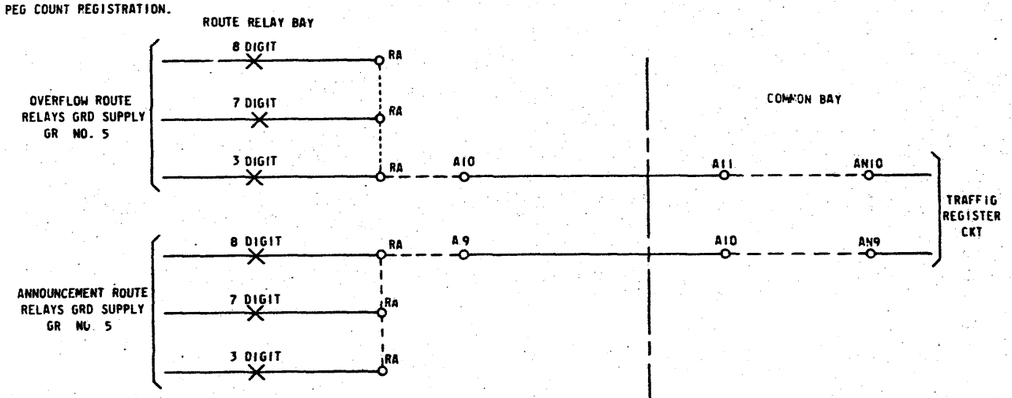
CROSS CONNECTION NOTES:

401. ASSIGNMENT FOR INTERSENDER TIMING ANNOUNCEMENT AND OVERFLOW ROUTES



402. ASSIGNMENT FOR INTERSENDER TIMING OVERFLOW AND ANNOUNCEMENT ROUTE PEG COUNT REGISTRATION.



DRAWING ISSUE 10ID

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ORIGINATING MARKER CIRCUIT (2)

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BELL TELEPHONE LABORATORIES INCORPORATED 6S

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CROSS CONNECTION NOTES: (CONT)

403.

ROUTE RELAY PUNCHING AND ASSOCIATED TRANSMITTING RELAY PUNCHING ASSIGNMENTS

CLASS OF CALL ROUTE AUX OPR, OPR TANDEM, MF & PCI ROUTES — SEE NOTES 1, 2, & 3		
NON-ANI	CL PCHG TO	CLA,CLB, CLC,CLD, PCHG TO
10 DGT (MF)	CL3S	
10 DGT-SKP3 (MF)	RA1	CLA TO CL3S
7 OR 8 DGT (MF)	RA2	
7 DGT-SKP2 (MF)	RA3	
7 DGT-SKP3 (MF)	RA4	
3 OR 6 DGT (MF) - 411 CALLS	RA2	
1 DGT- 0 - OPR ROUTES TO TSP	CL6P	
WITH ANI		
*10 DGT (MF)	RA5	CLA TO CL3S
10 DGT-SKP3 (MF)	RA1	
7 OR 8 DGT (MF)	RA7	
10 DGT-SKP3 (MF) RECONSTRUCTED CODES	RA9	
6 DGT (MF) 411 CALLS	RA5	
6 DGT-SKP3 (MF) 411 CALLS	RA9	
3 OR 6 DGT (MF) 411 CALLS	RA7	
7 DGT (PCI)	RA6	CLB TO CL3P
1 DGT-0-OPR ROUTES TO TSP	RA8	CLC TO CL6P
3 OR 6 DGT (PCI) 411 CALLS	RA10	CLD TO CL5P

*INCLUDING NONCOIN 0 + 10 DGT CALLS AND COIN 0 OR 1 + 10 DGT TO TSP

INCLUDING NONCOIN 0 + 7 DGT CALLS AND COIN 0 OR 1 + 7 DGT CALLS TO TSP

CLASS OF CALL SENDER TW RELAY RP & NON-ANI RCI ROUTES — SEE NOTE 4 & 10		
CLASS OF CALL	OPERATE SENDER TW RELAY	CL PCHG TO
PANEL	NO YES	OS OP
CSBR,NO.1 ESS, OR XBT (NON-PCI)	NO YES	1S 1P
DIR OR THRU RP (KDCI) (ADC1) TAN	NO YES	2S 2P
PCI TDM PAN SEN TDM PCI INTO TDM	NO YES	3S 3P
OPERATOR'S RES CODE	NO YES	4S 4P
OPERATOR TANDEM	NO YES	5S 5P
OPR DIRECT	NO YES	6S 6P
PAN SDR TDM 2-STAGE	YES	7P

CR OR SB COMPENSATING RES TRUNK GUARD RELAY — SEE NOTES 3 & 5			
COMPENSATING RESISTANCE OFF. SEL	COMPENSATING RESISTANCE BEY OFF.	TRUNK GUARD RELAY	CR OR SB PCHG TO
900	0	TG MTG	OB OP
600	0	TG MTG	1S 1P
300	0	TG MTG	2S 2P
0	0	TG MTG	3S 3P
900	300	TG MTG	4S 4P
600	300	TG MTG	5S 5P
300	300	TG MTG	6S 6P
900	600	TG MTG	7S 7P
600	600	TG MTG	8S 8P
900	900	TG MTG	9S 9P

OB OFFICE BRUSH STATION DELAY — SEE NOTES 2, 3, 4 & 6		
OFFICE BRUSH	STATION DELAY	OB PCHG TO
0,5 OR SKIP OFF.	A	OS
	B	5S
	C	5P
	D	OP
1 OR 6	A	1S
	B	6S
	C	6P
	D	1P
2 OR 7	A	2S
	B	7S
	C	7P
	D	2P
3 OR 8	A	3S
	B	8S
	C	8P
	D	3P
4 OR 9	A	4S
	B	9S
	C	9P
	D	4P

OG OFF. OR SKIP OFF. — SEE NOTES 3, 7, & 11	
OFFICE GROUP	OG PCHG TO
0	OS
1	1S
2	2S
3	3S
4	4S
5	OP
6	1P
7	2P
8	3P
9	4P
SKIP OFF.	5S OR 5P

SG HIGH FIVE OFFICE BRUSH, OFF. 9300, OR CANCEL COIN TEST — SEE NOTE 8		
OB	REROUTE CALLS TO OFF. 9300 OR CANCEL COIN TEST	SG PUNCHING
0 TO 4	NO	OS
	YES	OP
5 TO 9	NO	S
	YES	P
2-WIRE OR 3-WIRE OFFICE SELECTOR OR CROSSBAR TANDEM ALTERNATE ROUTE		SPB

SP SPECIAL FUNCTIONS — SEE NOTES 8, 9, & 10			
ROUTE RELAY	TYPE OF ROUTING	NUMBER OF TRUNK SUBGROUPS ON ROUTE REL	SP PCHG TO
ORIGINAL ROUTE	WITH ALTERNATE ROUTE VIA REVERTIVE PULSE CROSSBAR TANDEM, LOCAL (3-W) OR DISTANT (2-W) OFFICE SELECTORS	2	OGSP
		1,3 TO 12	OGSS
	WITH OTHER TYPES OF ALTERNATE ROUTES AND ROUTES NOT HAVING ALTERNATE ROUTES	2	SPA
		1,3 TO 12	SPB
ALTERNATE ROUTE REQUIRING INFORMATION CROSS-CONNECTED ON THE ORIGINAL ROUTE RELAY	VIA REVERTIVE PULSE CROSSBAR TANDEM OR DISTANT (2-W) OFFICE SELECTORS	2	TWA
		1,3 TO 12	TWB
	VIA LOCAL (3-W) OFFICE SELECTORS	2	TWC
		1,3 TO 12	TWD
OTHER ALTERNATE ROUTES	ALL OTHER TYPES OF ROUTINGS	2	SPA
		1,3 TO 12	SPB
I.T. ANNOUNCEMENT OVERFLOW PERM.SIG.	DIRECT	NOT CROSS-CONNECTED	

NOTES:

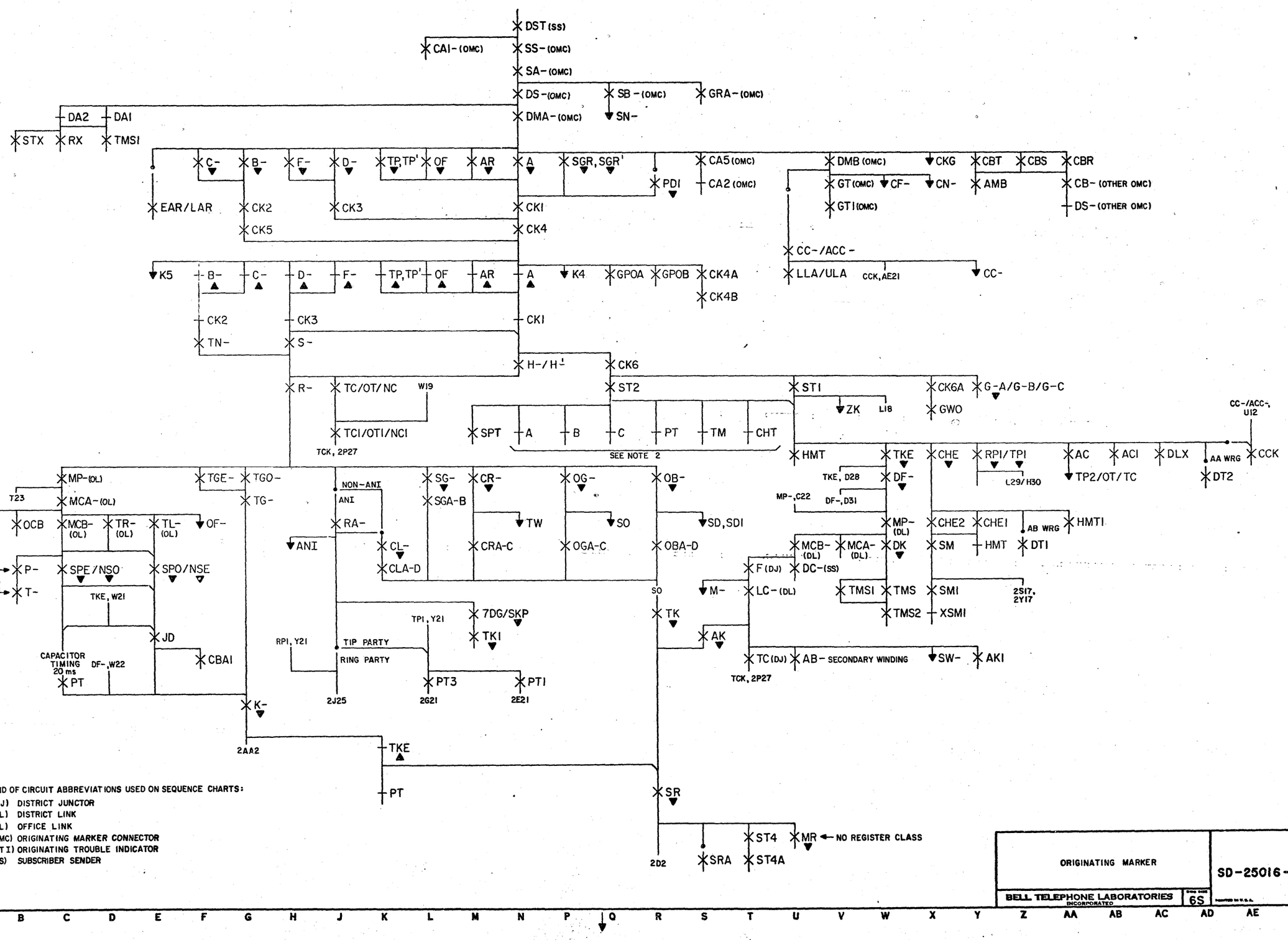
1. ONLY ONE CROSS CONNECTION PER MARKER IS REQUIRED FROM:
   (a) THE CLA PUNCHING TO CL3S PUNCHING.
   (b) THE CLB PUNCHING TO CL3P PUNCHING.
   (c) THE CLC PUNCHING TO CL6P PUNCHING.
   (d) THE CLD PUNCHING TO CL5P PUNCHING.
2. USE STATION DELAY C FOR ROUTES REQUIRING THE USE OF AN AUXILIARY SENDER ON SEVEN DIGIT CALLS WHERE SUBSCRIBER SENDERS ARE ARRANGED FOR NO STATION DELAY. USE STATION DELAY A FOR ALL OTHER ROUTES REQUIRING THE USE OF AN AUXILIARY SENDER. WHEN MARKERS SERVE SENDER GROUPS WHICH INCLUDE WIRE SPRING SENDERS (SD-27810-01), USE STATION DELAY A FOR 10-DIGIT MF CALLS, B FOR HIGH-5 CROSSBAR OFFICE CALLS, D FOR INTERCHANGEABLE OFFICE AND AREA CODE CALLS, AND C FOR ALL OTHER CLASSES.
3. WHEN THE SUBSCRIBER SENDER IS USED WITH THE AUXILIARY SENDER, OFFICE SELECTIONS ARE NOT REQUIRED AND COMP. RES. OF 900-600 SHOULD BE USED WITH THE TG RELAY.
4. USE STATION DELAY D TO CANCEL COIN TEST ON OPERATOR DIRECT AND OPERATOR TANDEM CLASS CALLS.
5. THE SB PUNCHINGS ARE ONLY USED ON ORIGINAL ROUTE RELAYS HAVING ALTERNATE ROUTES VIA CROSSBAR TANDEM OR DISTANT (2-W) OFFICE SELECTORS AND WHEN THE MARKER IS EQUIPPED WITH THE MULTIALTERNATE ROUTE FEATURE.
6. USE STATION DELAY B TO ADD FIVE ADDITIONAL PULSES IN INCOMING GROUP SELECTION FOR DIFFERENTIATING BETWEEN CROSSBAR OFFICE A AND B.

NOTES: (CONT)

7. FOR SKIP OFFICE, USE 5S PUNCHING WHEN THE ASSOCIATED SP PUNCHING IS CROSS-CONNECTED TO THE SPB PUNCHING, USE 5P PUNCHING WHEN SP PUNCHING IS CROSS-CONNECTED TO THE SPA PUNCHING.
8. WHEN THE ROUTE RELAY IS USED FOR AN ALTERNATE ROUTE VIA CROSSBAR TANDEM, LOCAL (3-W) OR DISTANT (2-W) OFFICE SELECTORS AND THE MARKER IS WIRED TO PREVENT XT TROUBLE INDICATIONS ON 2ND OR 3RD TRIALS (B1,BF AND BK OPTION), THE SG PUNCHING IS CROSS-CONNECTED TO THE SPB PUNCHING.
9. DO NOT USE SPA, OGSP, TWA OR TWC PUNCHINGS WHEN MORE THAN ONE ALTERNATE ROUTE IS PROVIDED AS SUBGROUP TESTING ON ALL TRUNK BUSY CONDITIONS MAY AFFECT MARKER HOLDING TIME ADVERSELY. USE SPB, OGSS, TWA OR TWD PUNCHINGS. (WHERE THE MULTI-ALTERNATE ROUTE FEATURE IS PROVIDED THE TWA PUNCHING MAY BE USED.)
10. THE TWA AND TWB PUNCHINGS PROVIDE FOR THE OPERATION OF THE TWA RELAY, SO THAT THE ORIGINAL ROUTE CLASS NEED NOT PROVIDE FOR ITS OPERATION.
11. FOR TSP TRUNK GROUPS IN LAMA OFFICES, USE ODN PUNCHING AND CROSS-CONNECT ODG PUNCHING TO OGSS.

PART OF SC 1

OVERALL OPERATION WITHOUT SPEEDUP (DECODING STAGE)



NOTES:

1. LEGEND OF CIRCUIT ABBREVIATIONS USED ON SEQUENCE CHARTS:
   - (DJ) DISTRICT JUNCTOR
   - (DL) DISTRICT LINK
   - (OL) OFFICE LINK
   - (OMC) ORIGINATING MARKER CONNECTOR
   - (OTI) ORIGINATING TROUBLE INDICATOR
   - (SS) SUBSCRIBER SENDER

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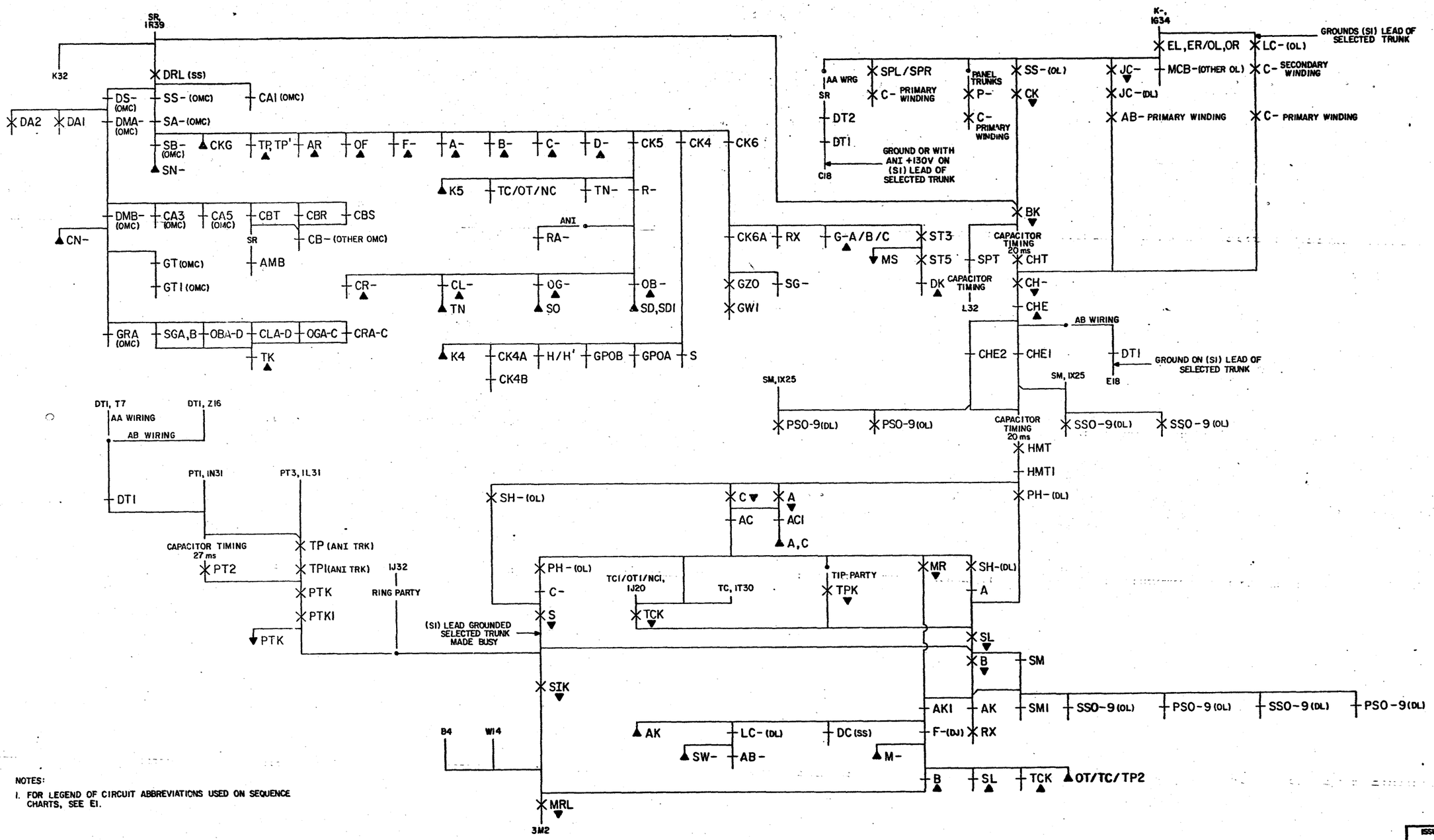
PART OF SC 1

OVERALL OPERATION WITHOUT SPEEDUP
(MARKING STAGE)



NOTES:

1. FOR LEGEND OF CIRCUIT ABBREVIATIONS USED ON SEQUENCE CHARTS, SEE E1.

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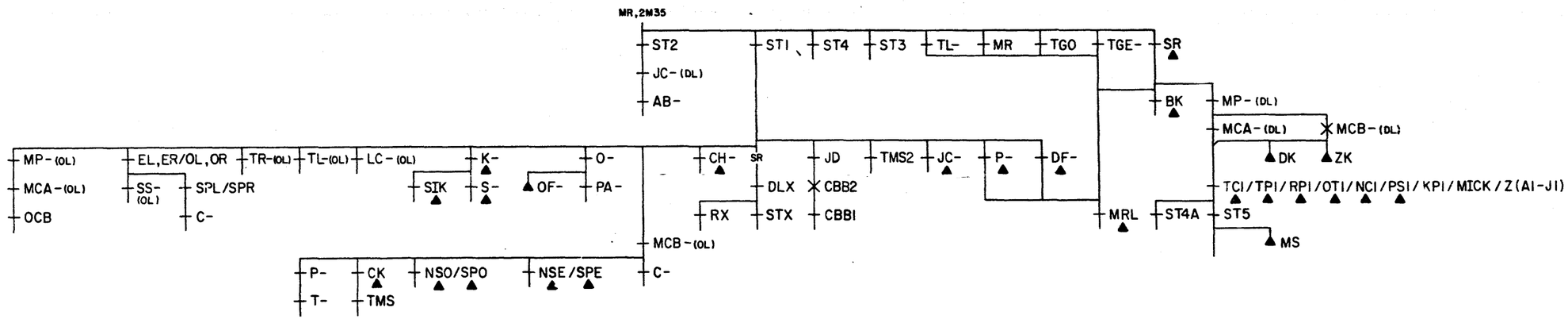
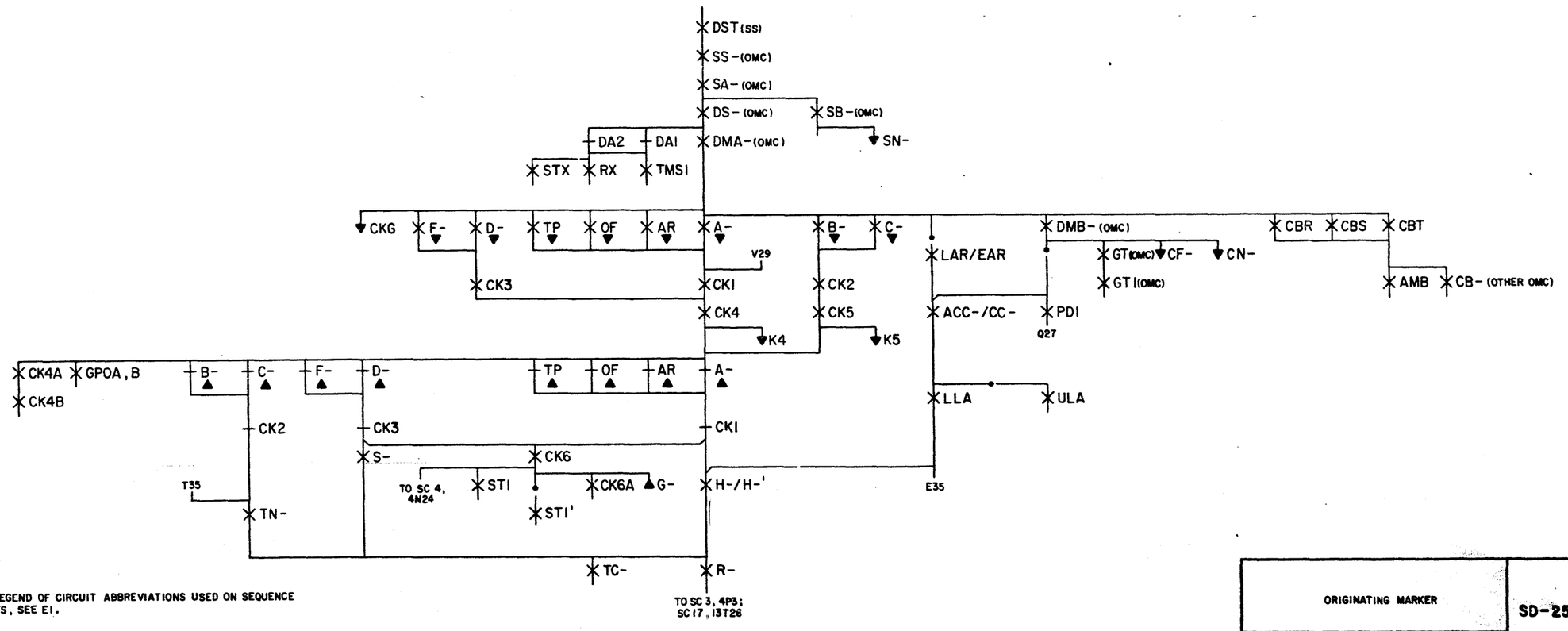
PART OF SC 1

OVERALL OPERATION WITHOUT SPEEDUP
(RELEASE STAGE)



SC 2

MARKER SEIZURE
CALL PROGESS CHECK



NOTES:

1. FOR LEGEND OF CIRCUIT ABBREVIATIONS USED ON SEQUENCE CHARTS, SEE E1.

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BELL TELEPHONE LABORATORIES INCORPORATED

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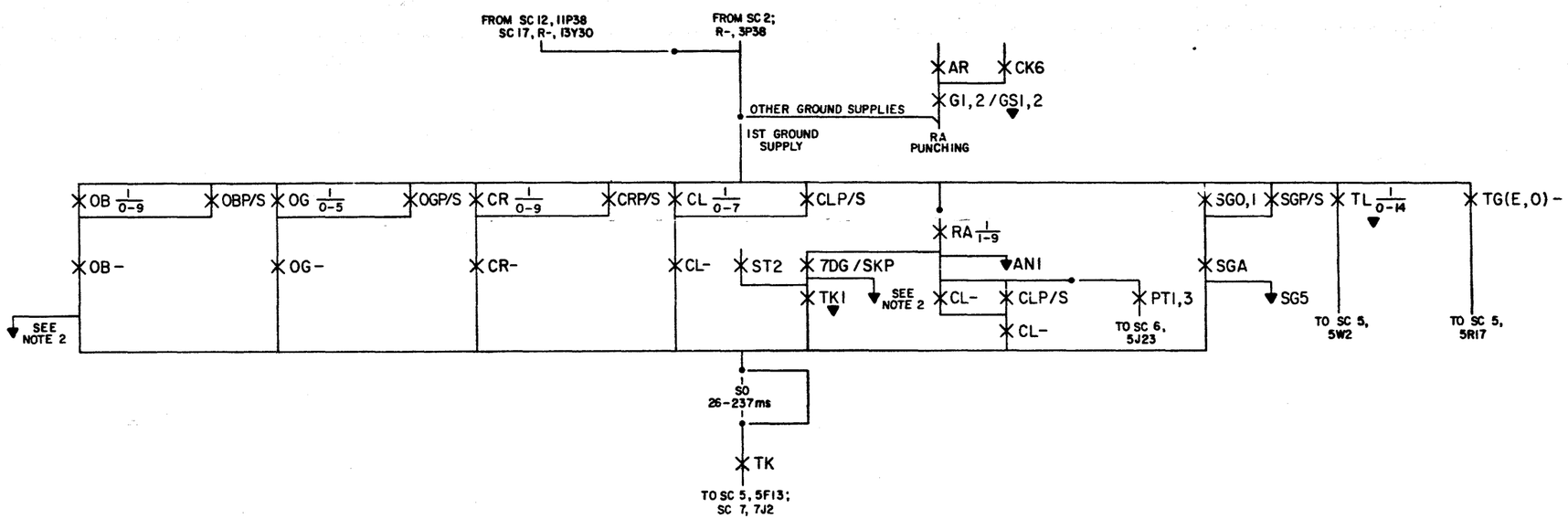
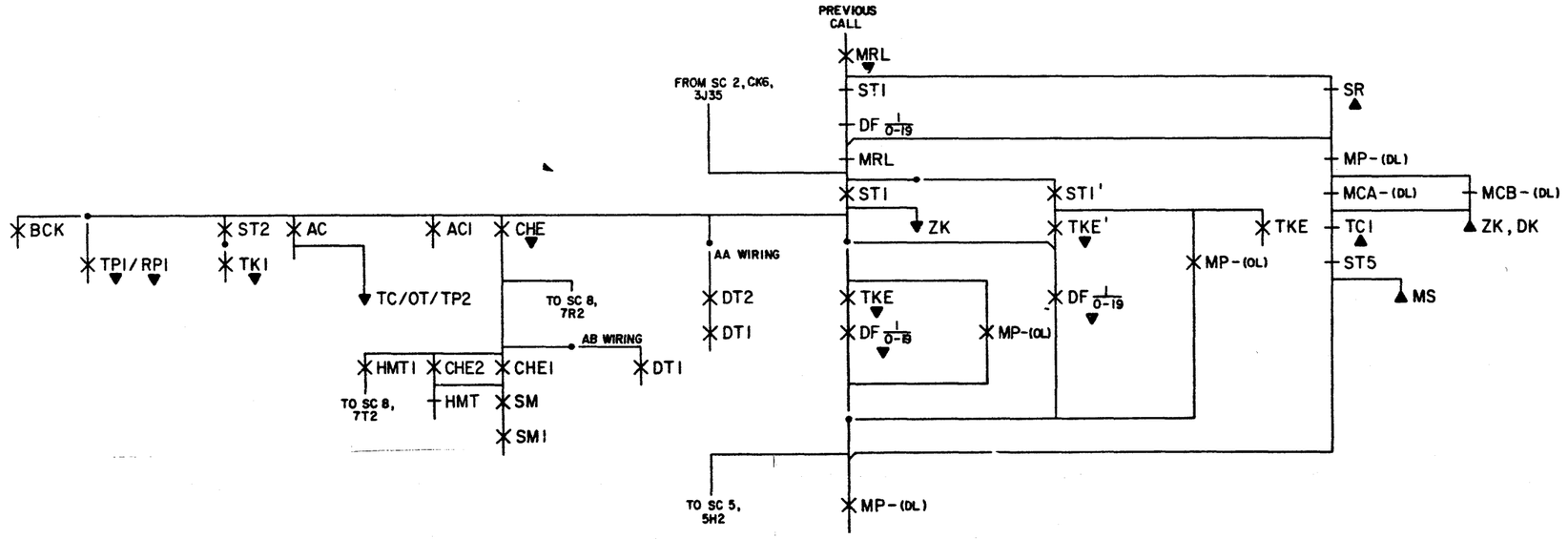
SC 3
ROUTE RELAY OPERATION
(TRANSMITTING INFORMATION TO SENDER)



SC 4
MARKING STAGE SEIZURE
(OVERLAP CONDITION)



NOTES:
1. FOR LEGEND OF CIRCUIT ABBREVIATIONS USED ON SEQUENCE CHARTS, SEE E1.
2. SENDER OUTPULSING INSTRUCTIONS (OB-, OG-, CR-, CL-, ETC).

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SC 5
OFFICE LINK AND DISTRICT LINK
FRAME SEIZURE AND
OUTGOING TRUNK TEST

FROM SC 4, 4N36

(SB) LEAD

MP-(DL)

DK'

DK

MCB-(DL)

MCA-(DL)

DK

DK

DC(SS)

F-(DJ)

LC-(DL)

SEE NOTE 10

CT-

AB- SECONDARY WINDING

PRI SEL(DL)

AK

AK'

AKI

SW-, M-

FROM SC 3, 4P16

TKE

SR

TO SC 6, AD23; SC 7, 6L2; SC 8, 7Q18

MP-(OL)

FROM SC 3, TL $\frac{1}{0-14}$ 4Y11

MCA-(EVEN OL)

MCA-(ODD OL)

MCB-(EVEN OL)

TL, TR (EVEN OL)

O $\frac{1}{0-9}$

MCB-(ODD OL)

OCB

TL, TR (ODD OL)

OF-

NSO, NSO'/SPO, SPO'

PO- SEE NOTE 9

TO- SEE NOTE 9

TO-

TE-

PE-

TE-

NSE, NSE'/SPE, SPE'

PA-

TO SC 7, 6G2

PANEL TIMING 20ms OR 15ms

JD

TO SC 6, P17

CBAI

PT

TO SC 6, T17

SC 6
TRUNK SELECTION AND CHANNEL TEST

FROM SC 5, JD U12

FROM SC 3, TG(E,O)-, 4AA10

FROM SC 5, Q14

TRUNK GROUP BUSY

TBL

TO SC 11, PT, 5P19

KEL-/KER-/KOL-/KOR-

EL/ER/OL/OR

SS $\frac{1}{0-9}$ (EVEN/ODD OL)

LC $\frac{1}{0-9}$ (EVEN/ODD OL)

TKE

TKE'

PT

(SI) LEAD SEE NOTE 5

SR

FROM SC 5, H18

AK'

MCB-(EVEN/ODD OL)

AA WIRING

FROM SC 3, 4V11

SR

DT2

SEE NOTE 2

DT3

RING PARTY

DT1

TO SC 9, 8X10

SPL/SPR

P $\frac{1}{0-13}$

JC $\frac{1}{0-19}$

JC $\frac{1}{0-19}$ (DL)

CK

C- PRIMARY WINDING

CT-

SEE NOTE 7

AB- PRIMARY WINDING

CT-

SEE NOTE 8

C- SECONDARY WINDING

CT-

SEE NOTE 6

TO SC 7, 6P2

ANI TIP PARTY TIMER 27ms

SEE NOTE 3

TP (ANI TRK)

TPI (ANI TRK)

PT2

PTK

SEE NOTE 4

PTKI

TO SC 8, SC 9, 8F23

PTK

SIK

TO SC 8, PTKI, 7U28

BK

TO SC 9, 8N2

BK'

TO SC 8, 7P2

NOTES:

1. FOR LEGEND OF CIRCUIT ABBREVIATIONS USED ON SEQUENCE CHARTS, SEE E1.
2. DOUBLE CONNECTION TEST FAILURE AA WIRING.
3. +130V APPLIED TO (SI) LEAD.
4. ANI TIP PARTY FAILURE.
5. SELECTED TRUNK MADE BUSY.
6. C LINK CHANNELS BUSY.
7. UNUSED CHANNELS BLANKED-OUT.
8. 8 LINK CHANNELS BUSY.
9. (P-/T-) RELAYS OPERATE IF ASSOCIATED TRUNKS ARE BUSY.
10. "A" LINK CHANNELS BUSY.

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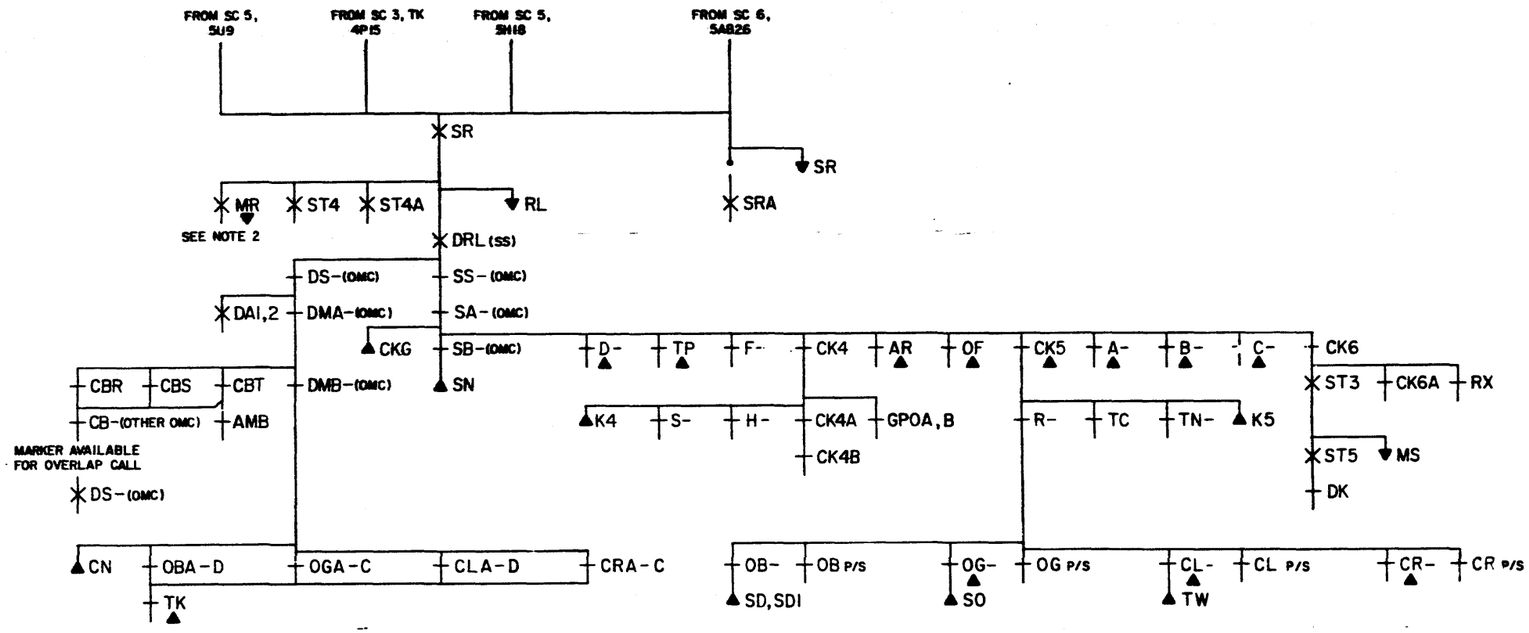
SC 7
SENDER RELEASE



NOTES:

1. FOR LEGEND OF CIRCUIT ABBREVIATIONS USED ON SEQUENCE CHARTS, SEE E1.
2. NO REGISTER CLASS.

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SC 8

CHANNEL SELECTION AND CROSSPOINT CLOSURE
(MARKER SPEEDUP)

FROM SC 6, BK', 5V27
FROM SC 4, CHE, 4K28
FROM SC 4, HMTI, 4H32
JD
OFFICE WITH STUD SWITCHES
OFFICE WITHOUT STUD SWITCHES
CHANNEL TIMING 12ms
CHT
FROM SC 10, CH-, 9L26, 9AB16, 9AB28; SC 15, CH-, 12N24
CHANNEL BUSY
CHLO-9/CHRO-9
CHL
TO SC 10, 9B12 OR SC 15, 12G2
CHE1
CHE2
S SELECT (DL)
P SELECT (OL)
S SELECT (OL)
HOLD MAGNET TIMING 20-48ms
POSITIVE BATTERY CHECK
ABCK
BBCK
CBCK
ABK
BBK
CBK
CHE
CHECK BATTERY FAILURE
BCK
BATTERY CHECK OK
HOLD MAGNET TIMING 20-35ms
FROM SC 5, 5H18
HMT
HMTI
A
P HOLD (OL)
S HOLD (DL)
C
P HOLD (DL)
AC
TO SC 16, MRK, 13K4
MR
ACI
A,C
S HOLD (DL)
ZL
TPK
TCK
ZCK
SL
B
AKI, AK
F- (DJ)
AK
LC- (DL)
DC (SS)
SW-, M-
MRL
TO SC 11, 11P2
FROM SC 6, SIK, 5H34
PTKI
PTK
SM
SMI
SELECT MAGNETS
SIK

NOTES:
1. FOR LEGEND OF CIRCUIT ABBREVIATIONS USED ON SEQUENCE CHARTS, SEE E1.

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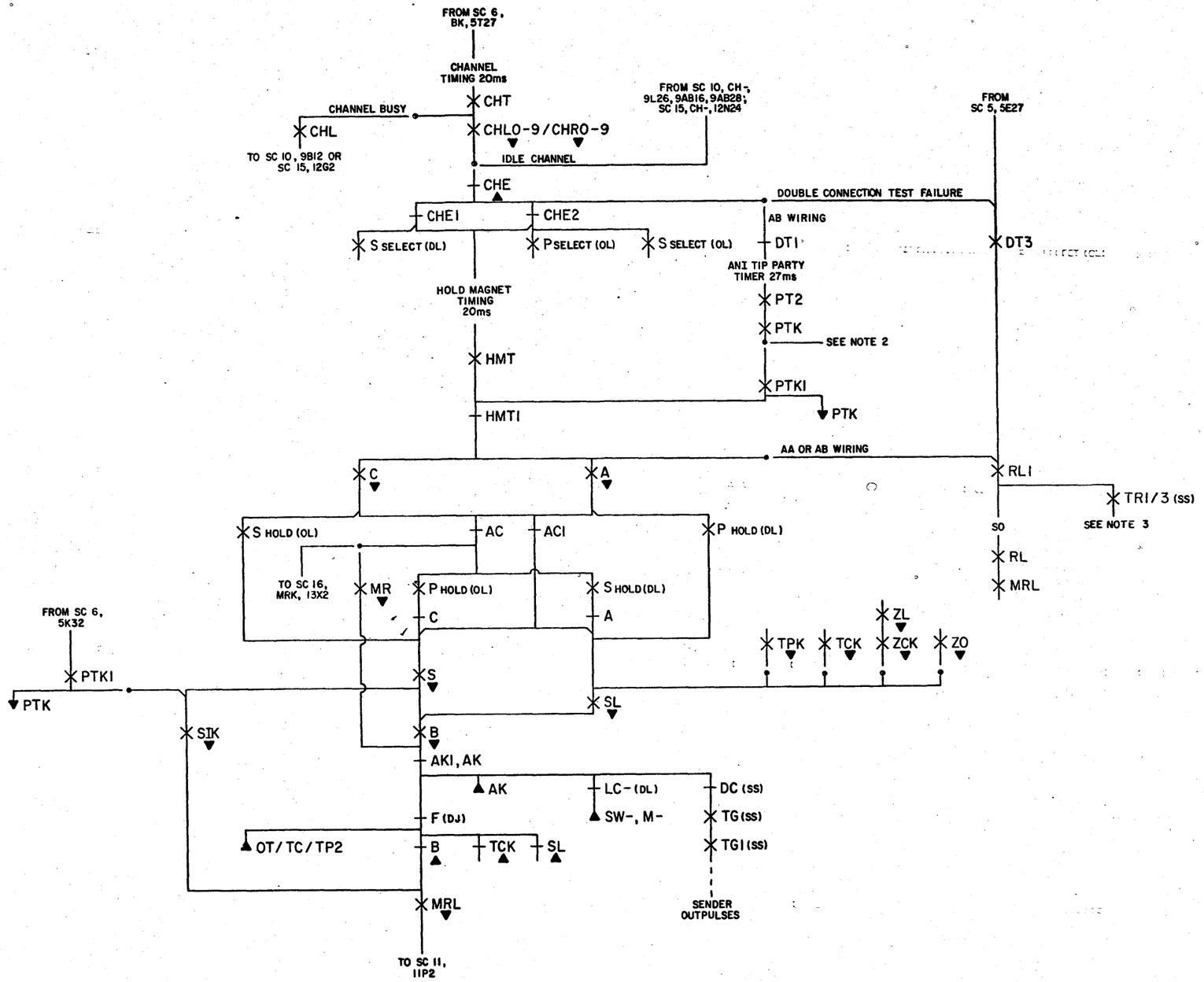
SC 9

CHANNEL SELECTION AND CROSSPOINT CLOSURE WITHOUT MARKER SPEEDUP



NOTES:

1. FOR LEGEND OF CIRCUIT ABBREVIATIONS USED ON SEQUENCE CHART, SEE E1.
2. ANI TIP PARTY FAILURE WITH AB OPTION.
3. SUBSCRIBER SENDER ATTEMPTS SECOND TRAIL.

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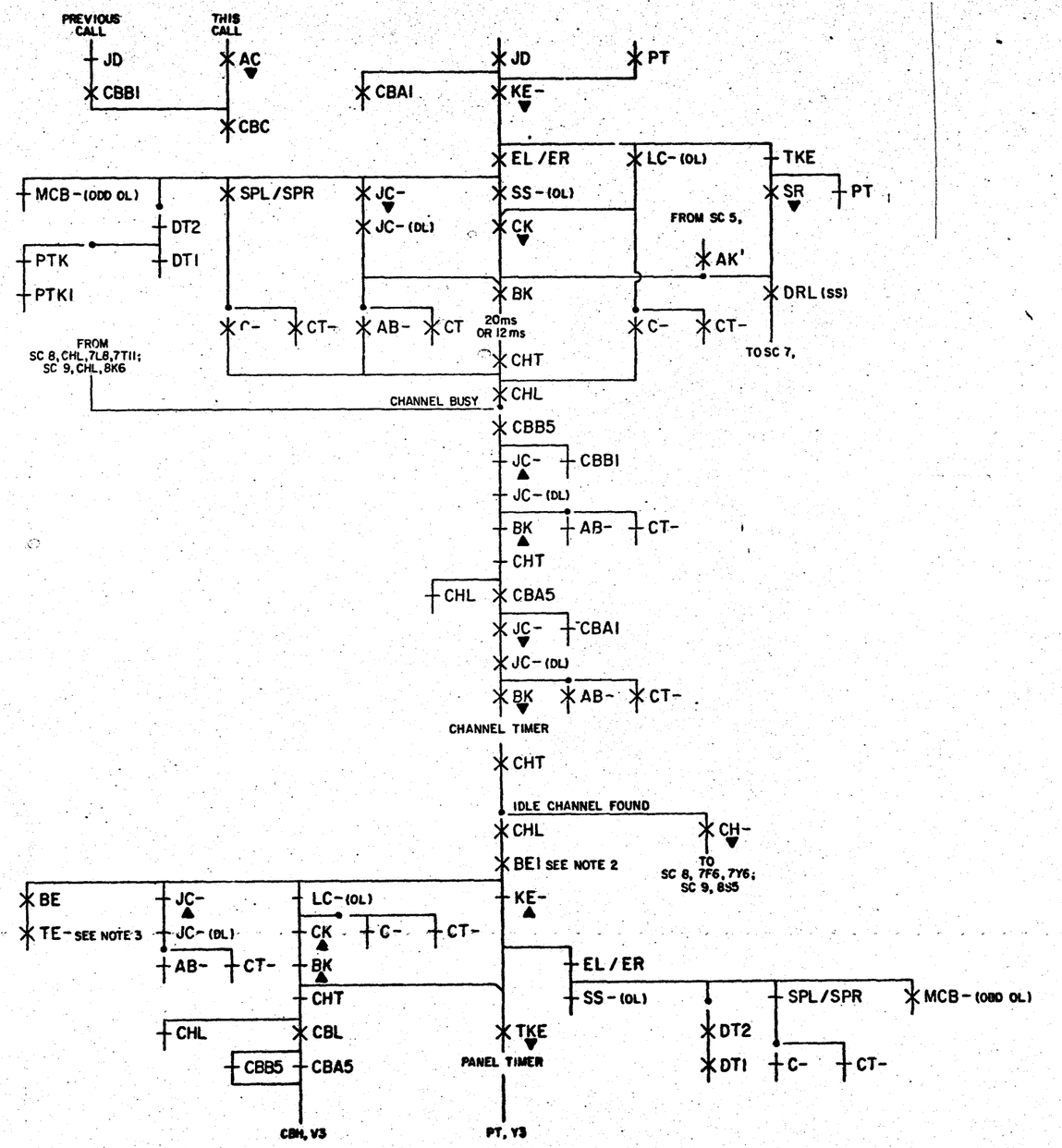
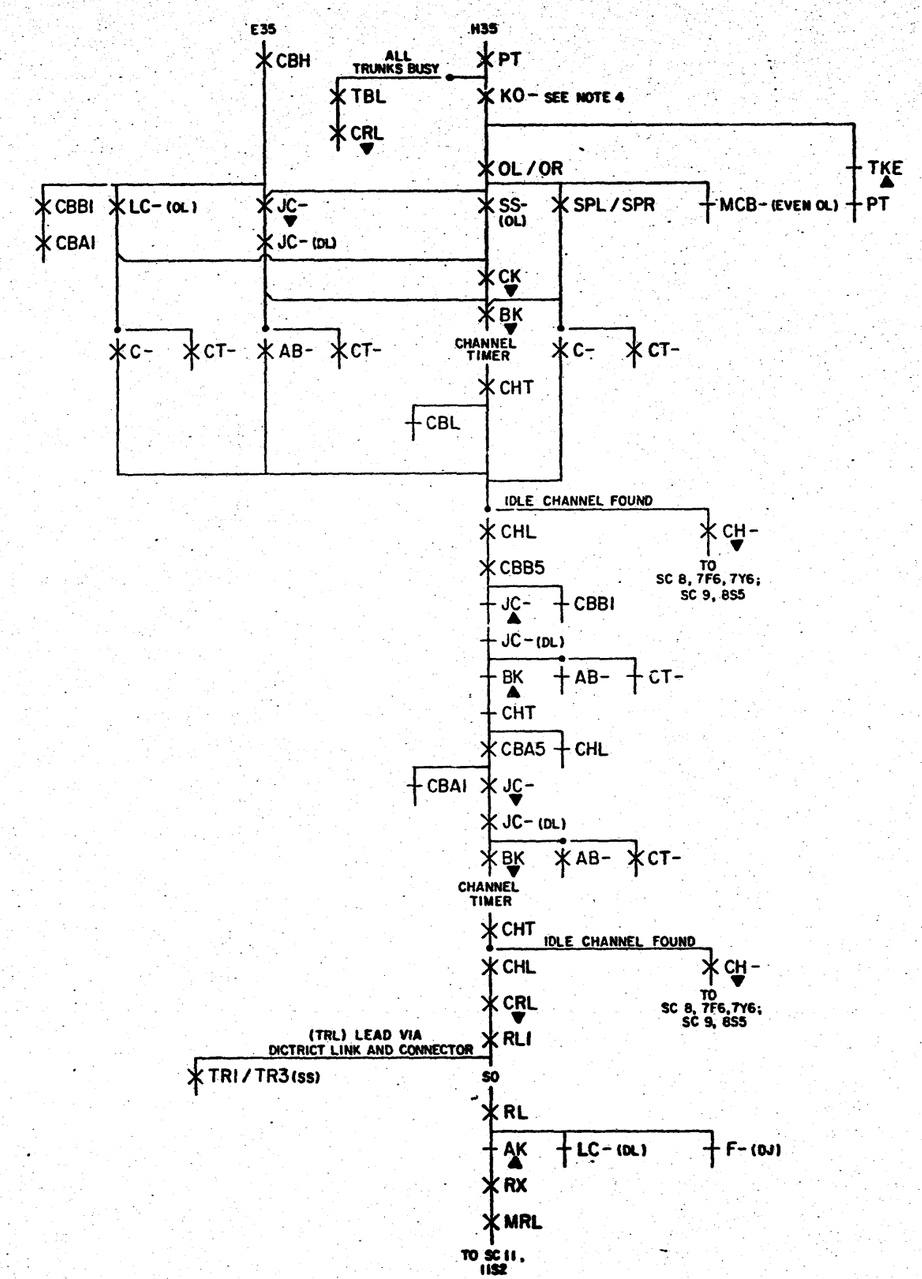
SC 10

ALL CHANNELS BUSY
(Z WIRING IN FIG. 17)





NOTES:

1. FOR LEGEND OF CIRCUIT ABBREVIATIONS USED ON SEQUENCE CHARTS, SEE E1.
2. ASSUME SELECTED TRUNK ON EVEN FRAME.
3. (TE-) RELAY OPERATES. JUSIES OUT ALL TRUNKS ON EVEN OFF LINK FRAME.
4. TRUNK SELECTED ON ODD OFF LINK FRAME.

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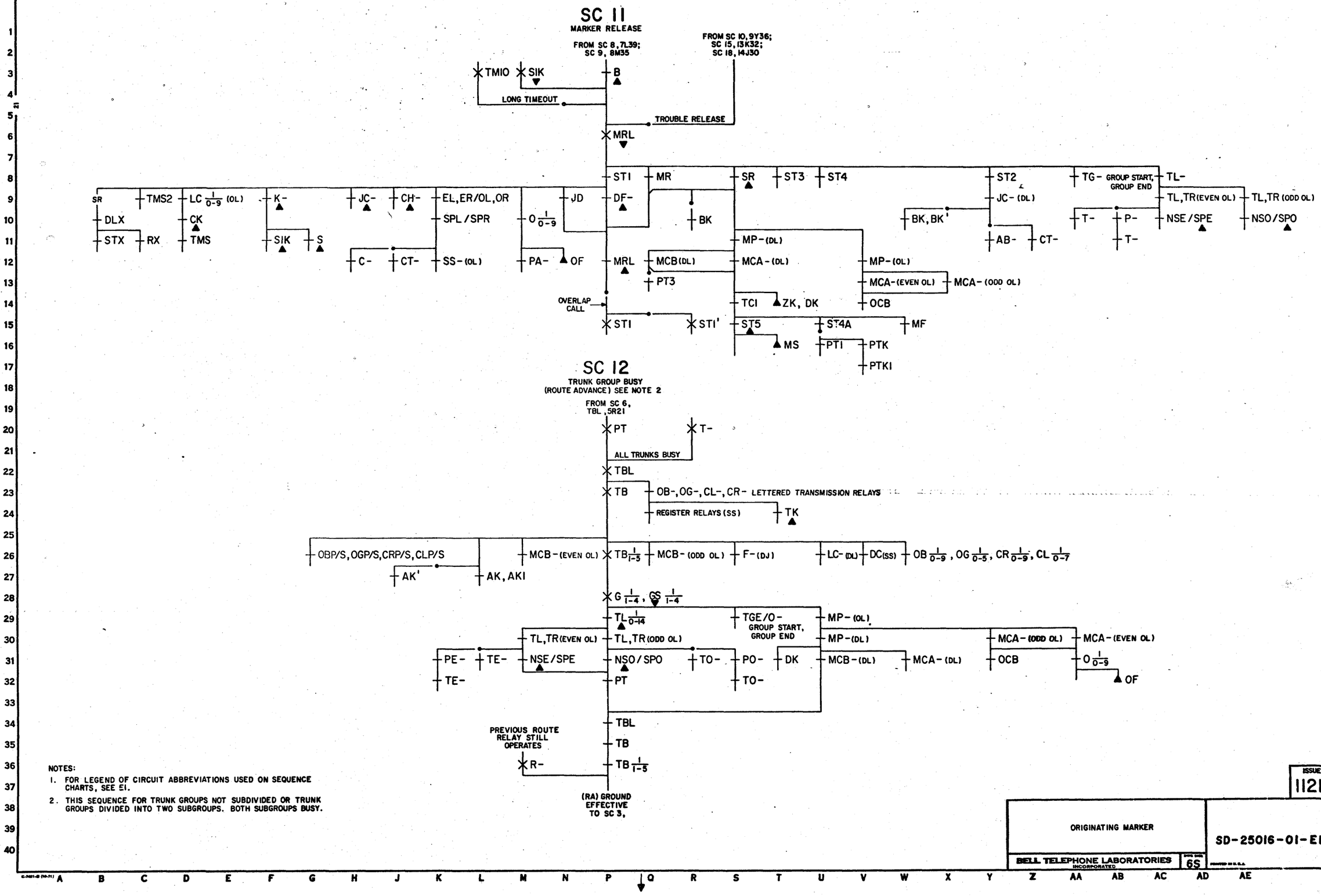
SC 11
MARKER RELEASE
FROM SC 8, 7L39; SC 9, 8M35
FROM SC 10, 9Y36; SC 15, 13K32; SC 18, 14J30
TMIO
SIK
B
LONG TIMEOUT
TROUBLE RELEASE
MRL
STI
MR
SR
ST3
ST4
ST2
JC- (DL)
AB-
CT-
TG- GROUP START, GROUP END
TL-
TL,TR(EVEN OL)
TL,TR (ODD OL)
T-
P-
NSE/SPE
NSO/SPO
BK, BK'
SR
TMS2
LC 1/0-9 (OL)
K-
JC-
CH-
EL,ER/OL,OR
DLX
STX
RX
CK
TMS
SIK
S
SPL/SPR
SS-(OL)
C-
CT-
JD
DF-
BK
O 1/0-9
PA-
OF
MP-(DL)
MCA-(DL)
MCB(DL)
PT3
MP-(OL)
MCA-(EVEN OL)
MCA-(ODD OL)
TCI
ZK, DK
OCB
OVERLAP CALL
STI
STI'
ST5
ST4A
MF
MS
PTI
PTK
PTKI
SC 12
TRUNK GROUP BUSY
(ROUTE ADVANCE) SEE NOTE 2
FROM SC 6, TBL, 5R21
PT
T-
ALL TRUNKS BUSY
TBL
TB
OB-,OG-,CL-,CR- LETTERED TRANSMISSION RELAYS
REGISTER RELAYS (SS)
TK
OBP/S,OGP/S,CRP/S,CLP/S
AK'
AK, AKI
MCB-(EVEN OL)
TB 1/1-5
MCB-(ODD OL)
F-(DJ)
LC-(DL)
DC(SS)
OB 1/0-9, OG 1/0-5, CR 1/0-9, CL 1/0-7
G 1/1-4, GS 1/1-4
TL 1/0-14
TGE/O- GROUP START, GROUP END
MP-(OL)
MP-(DL)
TL,TR(EVEN OL)
TL,TR(ODD OL)
MCA-(ODD OL)
MCA-(EVEN OL)
PE-
TE-
NSE/SPE
NSO/SPO
TO-
PO-
DK
MCB-(DL)
MCA-(DL)
OCB
O 1/0-9
OF
PT
TO-
TBL
TB
PREVIOUS ROUTE RELAY STILL OPERATES
R-
TB 1/1-5
(RA) GROUND EFFECTIVE TO SC 3,
NOTES:
1. FOR LEGEND OF CIRCUIT ABBREVIATIONS USED ON SEQUENCE CHARTS, SEE E1.
2. THIS SEQUENCE FOR TRUNK GROUPS NOT SUBDIVIDED OR TRUNK GROUPS DIVIDED INTO TWO SUBGROUPS. BOTH SUBGROUPS BUSY.
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SC 13
ANI TIP PARTY FAILURE TROUBLE RELEASE

AK' — SR
BK
CAPACITOR TIMING 20 ms
CHT
CH-
CHE
CHE1,2
CAPACITOR TIMING 20ms
PTK1 — HMT
TROUBLE RELEASE TO SENDER
TRI(SS)
DST(SS)
RER(SS) — MARKER INFORMATION RELAY — DRL(SS)
TI-4(SS) — DTR(SS) — ROR(SS) — OUTPULSING CLASS RELAY (SS)
TR2(SS) — LRI(SS)
TA-,TB-,TC-(SS) — DST(SS)

SC 14
ALL PERMANENT SIGNAL TRUNKS BUSY (NON-LAMA)

DST(SS)
A1, A4
R- PERMANENT SIGNAL
MP-(OL) — PS
MCA-(OL) — PS1
OCB — MCB-(OL) — OT1
(TM) CAPACITOR STARTS CHARGING — SP-/NS-
CAPACITOR TIMING
TELO-9 — PT — AC
TBL — PS2
TB
TB5
X2

C36
ORIGINATING TROUBLE INDICATOR IDLE
ORIGINATING TROUBLE INDICATOR BUSY — TIB
DL
TIB — TR
TAKES ORIGINATING TROUBLE INDICATOR DISPLAY
TIB
GROUNDS (TRL) OR (RO) LEAD TO SENDER — RLI
SO
TRI(SS) — RL — RX
DST(SS) — MRL
REMOVE BATTERY FROM (ST) AND (CBS) LEADS TO ORIGINATING MARKER CONNECTOR
(TM) CAPACITOR SHUNTED TIMING STOPS
SA-(OMC) — SB-(OMC) — SS-(OMC)
CK6 — CK5 — DS-(OMC)
ST2 — ST1 — R- — DMA-(OMC) — DA1 — DA2
CBR,CBT,CBS
REMOVE CHARGING PATH FOR (TM) CAPACITOR
OPENS (ST) LEAD TO OFFICE LINK
CB- ← OTHER CONNECTOR SAME MARKER
MP(OL)
MCA(OL) — DS-(OMC)
OCB — DMA-(OMC)
(TM) CAPACITOR SHUNTED AND COMPLETELY DISCHARGED
C- — B- — F- — D- — TP, TP' — OF — AR — A — SGR, SGR' — PDI
CK2 — CK3 — CKI
CK5 — CK4
B- — C- — D- — F- — TP, TP' — OF — AR — A
CK2 — CK3 — CKI
TN- — S- — H-/H' — CK6 — MRL
R- — STI — ST2
MP-(OL)
MCA-(OL)
OCB
(TM) CAPACITOR STARTS CHARGING
(TM) CAPACITOR SHUNTED AND COMPLETELY DISCHARGED

NOTES:
1. FOR LEGEND OF CIRCUIT ABBREVIATIONS USED ON SEQUENCE CHARTS, SEE E1.

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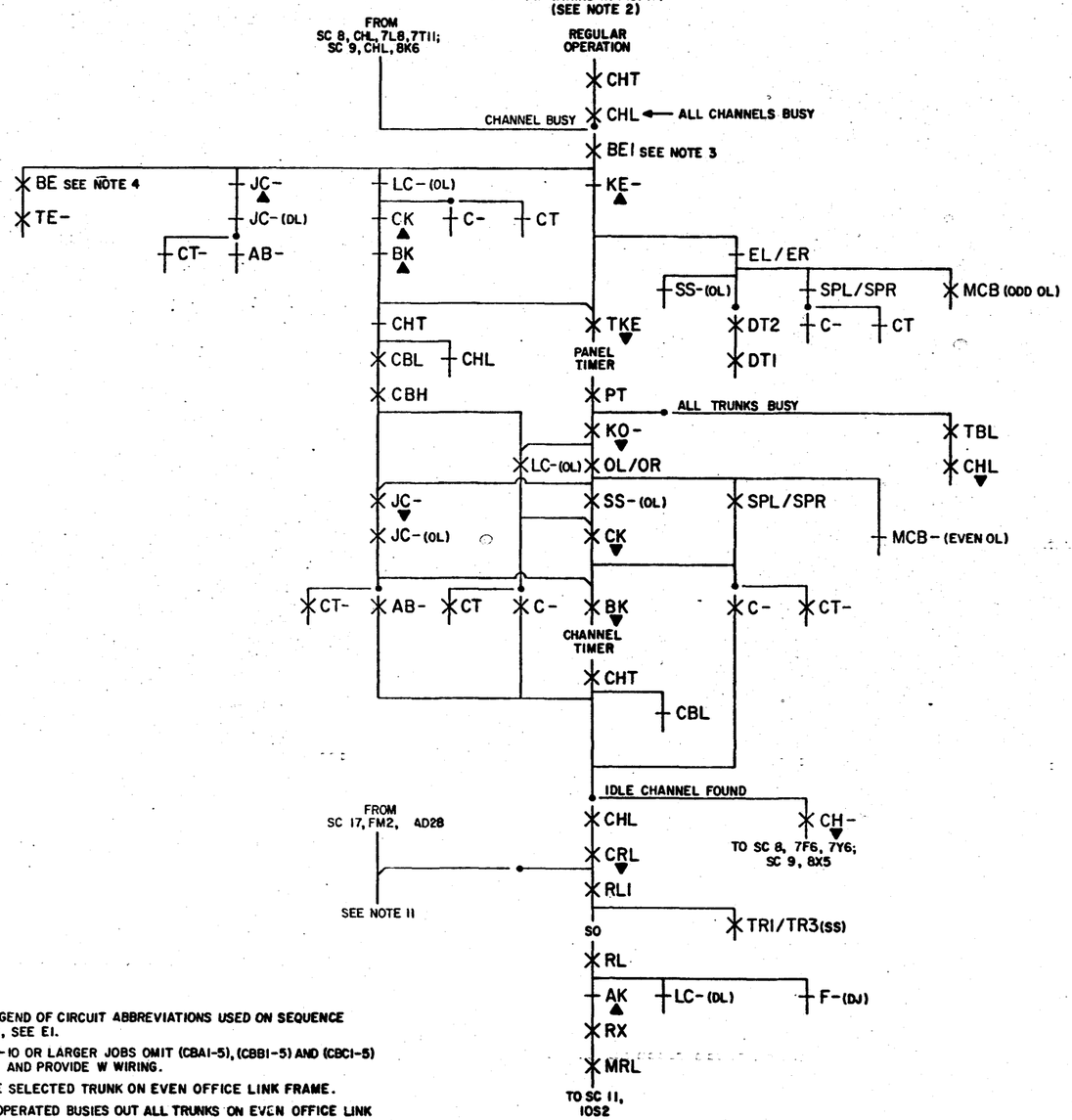
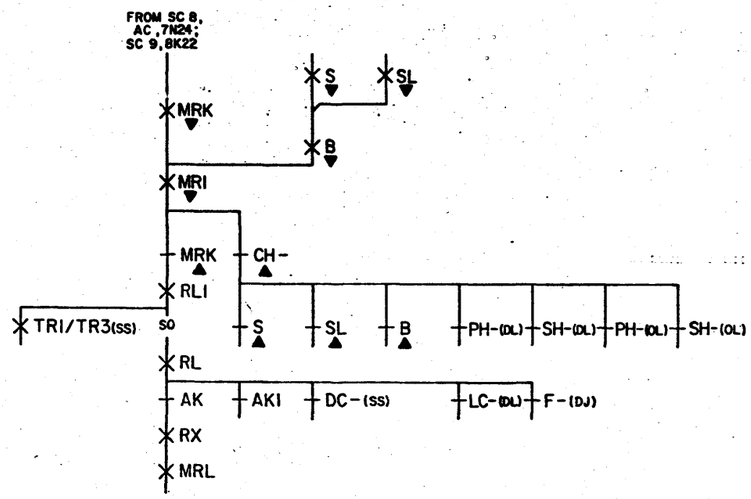
SC 15
ALL CHANNELS BUSY
(W WIRING IN FIG. 17)
(SEE NOTE 2)



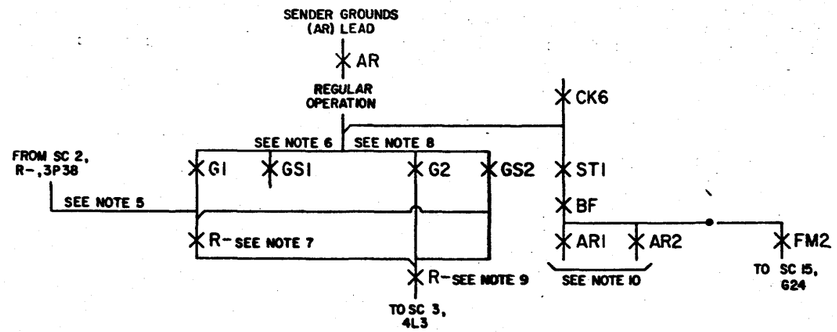
NOTES:

1. FOR LEGEND OF CIRCUIT ABBREVIATIONS USED ON SEQUENCE CHARTS, SEE E1.
2. FOR IO-IO OR LARGER JOBS OMIT (CBAI-5), (CBBI-5) AND (CBCI-5) RELAYS AND PROVIDE W WIRING.
3. ASSUME SELECTED TRUNK ON EVEN OFFICE LINK FRAME.
4. (TE-) OPERATED BUSIES OUT ALL TRUNKS ON EVEN OFFICE LINK FRAME.
5. ORIGINAL ROUTE IN GROUND SUPPLY 1.
6. (G1) AND (GS1) MAKE ALL CONTACTS OF ROUTE RELAY IN GROUND SUPPLY 1 INEFFECTIVE EXCEPT (RA).
7. FIRST ALTERNATE IN GROUND SUPPLY 2.
8. (G2) AND (GS2) MAKE ALL CONTACTS OF ROUTE RELAY IN GROUND SUPPLY 2 INEFFECTIVE EXCEPT (RA).
9. SECOND ALTERNATE ROUTE IN GROUND SUPPLY 3.
10. (ARI,2) OPERATING CAUSES TRUNKS AND CHANNELS TO BE SELECTED IN REVERSE ORDER.
11. SECOND TRIAL FAILURE-TO-MATCH PEG COUNT.

SC 16
FAILURE OF MESSAGE REGISTER CHECK DENIED SERVICE



SC 17
SECOND TRAIL



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ORIGINATING MARKER

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BELL TELEPHONE LABORATORIES INCORPORATED

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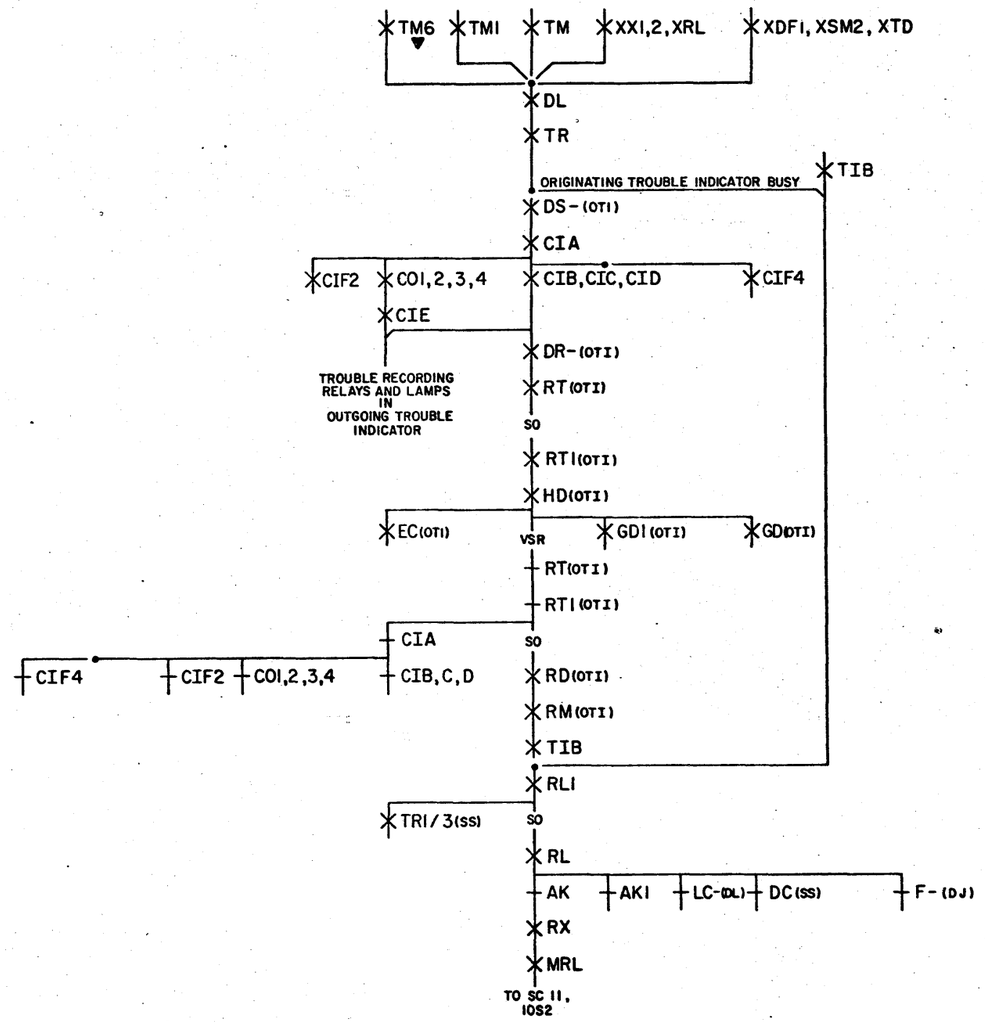
SC 18

ORIGINATION TROUBLE INDICATING SEIZURE



NOTES:

1. FOR LEGEND CIRCUIT ABBREVIATIONS USED ON SEQUENCE CHARTS, SEE E1.

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ORIGINATING MARKER

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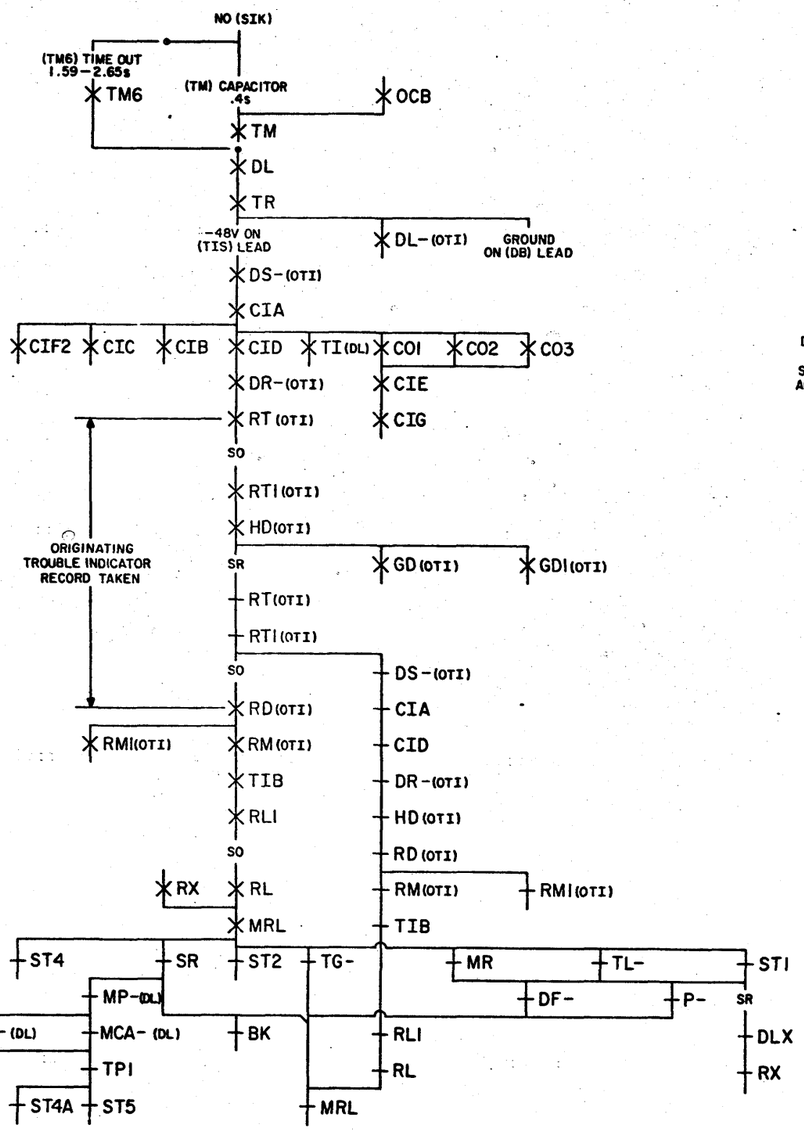
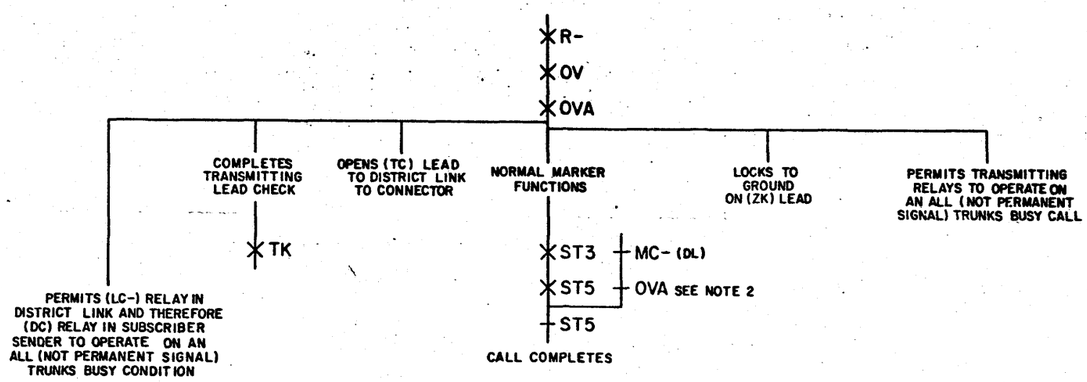
SC 19
(SIK) FAILURE–TROUBLE RELEASE



SC 20
PARTIAL DIAL TO OVERFLOW



NOTES:

1. FOR LEGEND OF CIRCUIT ABBREVIATIONS USED ON SEQUENCE CHARTS, SEE E1.
2. IF (OVA) FAILS TO RELEASE, (ST5) WILL NOT RELEASE AND MARKER WILL TIME OUT AND TAKE A RECORD.

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SD-25016-01-E14

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
RELAYS																	
2L, 4L	U285		39	132/101	H	47			T REL TST	GRD			0		15.5	14.5	
7DG	UA10	HT	AQ	120/110	H	35		B(7DG)	T(7DG)	B/G			0		22.5	21	
11X, 11X'	U226		64	139/139	H	59							0		49.5	47	WDG ALONE
									10T REL TST	GRD			0		110	105	PARALLEL COMB OF (11X) & (11X')
A	316C		BY	3								P	0	18	5.9		
												P	R	18	1.6		SEE BSP
												S	0	18	5.6		
A	239HF OR 280EC	AN	BX	A				5B(AK)	1T(ST2)	B/G	1	P	0	-30	1.4	0.7	
		GG						5B(AK)	1T(ST2)	B/G	1	P	NO	-30	OC	0.5	
								5B(AK)	1B(ST2)	B/G		S	0		1.2		
A	239HW OR 280EY	AP	BX	B				5B(AK)	1T(ST2)	B/G	1	P	0	-27		0.6	
		GH						5B(AK)	1T(ST2)	B/G	1	P	NO	-27		0.4	
								5B(AK)	1T(ST2)	B/G	1	P	0	-27	2.6	2.4	
								5B(AK)	1T(ST2)	B/G		P	R	27	0.5	0.6	
								5B(AK)	1B(ST2)	B/G		S	0		2.5		
A1,2	U500		1	118/121	H	50			T REL TST	GRD			0		23.5	22	
A4	U192		1	121/108	H	50			T(A4)	GRD			0		22.5	21	
A5	U192		BB	121/108	H	50			T(A5)	GRD			0		22.5	21	
A5	U500		BC	118/121	H	50			T(A5)	GRD			0		22.5	21	
ABCK	316A		BW	1									0	3	1		
													R	3	.26		
ABLO-9, ABRO-9	U538	DS	BQ	144/101	H	35			TF REL TST	GRD	2	P	0	FS	10.5	10	CONN DIRECT 48V BAT. TO BF (ABLO)
									TF REL TST	GRD	2	P	R	FS	0.6	0.7	
									TR	GRD	2	S	0		10.9		
ABLO-9, ABRO-9	UA74	DT	BQ	110/110	H	35			TF REL TST	GRD		P	0		9	8.5	CONN DIRECT 48V BAT. TO BF (ABLO)
									TR	GRD		S	0		9.2		
AC	AF110		BV	272									0		16.5	15.5	WDG ALONE
													R		5.3	5.6	
							2T(EL), (AC1)NO		U(AC)	GRD			0		37	34.5	PARALLEL COMB. OF (AC) & (AC1)
									U(AC)	GRD			R		9.6	10.2	
AC	U6031		BU	149/121	H	50							0		24.5	23	WDG ALONE
							2T(EL), (AC!)NO		T(AC)	GRD			0		54.5	51.5	PARALLEL COMB. OF (AC) & (AC1)
AC1	AF110		BV	272									0		16.5	15.5	WDG ALONE
													R		5.3	5.6	
							2T(EL), (AC)NO		U(AC1)	GRD			0		37	34.5	PARALLEL COMS. OF (AC) & (AC1)
									U(AC1)	GRD			R		9.6	10.2	
AC1	U6032		BU	121/121	H	50					2		0	FS	23	21.5	WDG ALONE
											2		R	FS	3.2	3.4	
							2T(EL), (A),(C)O		T(AC1)	GRD	2		0	FS	51.5	48	PARALLEL COMB. OF (AC1) & (AC)
									T(AC1)	GRD	2		R	FS	5.7	6.1	
ACC0,1, 2,4,7	U64		60	113/113	H	29			13T REL TST	GRD			0		20.5	19.5	
ACC2,4	U1375	JY	62	108/108	H	47			6T REL TST	GRD			0		17.5	16.5	
AID	U1326		70	178/141	H	53			12(AID)	GRD			0		22.5	21	
AID1	U532		70	108/108	H	47			6TF(AID1)	GRD		P	0		26	19	
							10T(ODN)	9B(AID)	7TR(AID1)	B/G		S	0		16.5	15.5	

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
AIDK	UA134		70	101/101	H	29		3B(AIDK)	3T(AIDK)	B/G			0		17.5	16.5	
AK	U6029		28	151/137	H	41					2		0	FS	18	17	WDG ALONE
											2		R	FS	2.8	3	
									T(AK)	GRD	2		0	FS	40	38	PARALLEL COMB. OF (AK) & (AK1)
									T(AK)	GRD	2		R	FS	5.1	5.4	
									T(AK)	GRD	26		0	FS	52.5	50	PARALLEL COMB. OF (AK),(AK1) & (AK')
									T(AK)	GRD	26		R	FS	3.6	3.3	
AK'	313A	NA	28	!									0	14	4.6		WDG ALONE
									T(AK')	GRD			0	71	24.5		PARALLEL COMB. OF (AK),(AK1) & (AK')
AK1	U6028		28	118/158	H	50							0		20	19	WDG ALONE
									T(AK1)	GRD			0		45	42.5	PARALLEL COMB. OF (AK1) & (AK)
									T(AK1)	GRD	26		0		59	56	PARALLEL COMB. OF (AK),(AK1) & (AK')
AMB	Y107		5	188/175	H	47			T(AMB)	GRD	2		0	FS	14.3	13.6	
									T(AMB)	GRD	2		H	FS	1.7	1.6	
									T(AMB)	GRD	2		R	FS	0.8	0.9	
AN	U53		49	118/145	H	50	3B(CKGA)		T(AN)	GRD			0		10.2	9.7	
AR	U504	AV	1	123/110	H	35			T(AR)	GRD			0		15.5	14.7	
AR	U980	BF	1	145/120	H	47			T(AR)	GRD			0		14.2	13.5	
AR1	U254	JC	13	108/108	H	47							0		17.5	16.5	WDG ALONE
							4T(AR1)		T(AR1)	GRD			0		29	26	PARALLEL COMB. OF (AR1) & (AR2)
AR1	U457	JD	13	118/148	H	50							0		14.2	13.5	WDG ALONE
							2T(AR1)		T(AR1)	GRD			0		33	30	PARALLEL COMS. OF (AR1) & (AR2)
AR2	U457		28	118/148	H	50					3		0		14.2	13.5	WDG ALONE
							(AR1)NO		T(AR2)	GRD	3		0		51.5	49	PARALLEL COMB. OF (AR2) & (AR1) OPT JC
							(AR1)NO		T(AR2)	GRD	3		0		31.5	30	PARALLEL COMB. OF (AR2) & (AR1) OPT JD
AR3	U770		55	118/118	H	50	(AR4)NO		9T(AR3)	GRD		P	0		22.5	21	
									10T(AR3)	GRD		S	0		24	22.5	
AR4	U1131		55	221/139	H	62	3B(AR3)	B(AR4)		BAT.	4		0		15.5	14.6	
ARA	1/2AK5CD		81	15					1U(APA)	GRD			0		14.5	13.8	MTD WITH (PEG)
ASO-3	286B		58						T REL TST	GRD			0		85	80	WDG ALONE
										GRD			0		130	120	PARALLEL COMB. OF (ASAO-3) IN APP FIG 72
ASAO-3	AF506		72	8					U REL TST	GRD			0		30.5	29	WDG ALONE
										GRD			0		130	120	PARALLEL COMB. OF (ASO-3) IN APP FIG 58
ASA4-7	AK25		73	11					1L OR 1U REL TST	GRD			0		14.2	13.5	(ASA4) MTD WITH (ASA5) & (ASA6) MTD WITH (ASA7)
ASBO-7, ASCO-7'	286H		74						1 REL TST	GRD			0		85	80	

DRAWING ISSUE
101D
102D

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ORIGINATING MARKER CIRCUIT (2)

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BELL TELEPHONE LABORATORIES INCORPORATED

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CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	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
B	239HG OR 280ET	AN	28	A				2T(AC)	5B(ST2)	B/G	1	P	0	-85	3.9	2	
								2T(AC)	5B(ST2)	B/G	1	P	NO	-85	OC	1.4	
		GI						2T(AC)	1B(ST2)	B/G		S	0		0.9		
B	239JA OR 280CG	AP	28	B				2T(AC)	5T(ST2)	B/G	1	P	0	-70		1.6	
								2T(AC)	5T(ST2)	B/G	1	P	NO	-70		1.2	
		GJ						2T(AC)	5T(ST2)	B/G	1	P	0	-70	6.7	6.3	
								2T(AC)	5T(ST2)	B/G		P	R	70	1.5	1.6	
								2T(AC)	1B(ST2)	B/G		S	0		2.6		
B1,2	U505	E	1	108/132	H	47		T REL TST	GRD				0		20.5	19.5	
B4	U499	E	1	108/110	H	47		T(B4)	GRD				0		20.5	19.5	
B5,B5'	U500	E	1	118/121	H	50							0		23.5	22	WDG ALONE
								T REL TST	GRD				0		52.5	49	PARALLEL COMB. OF (B5) & (B5')
BBCK	316A		BW	1									0	3	1		
													R	3	.26		
BCK	AC53		BW	2498					1U(BCK)	GRD		P	0	FS	65	62	
									1U(BCK)	GRD		P	H	FS	12	11.4	
									1U(BCK)	GRD		P	R	FS	5.9	6.6	
							2(BCK)	2L(BCK)	2U(BCK)	B/G		S	0		85	80	
BE	1/2 254A D-98159 OR	IC	13						T(BE)	GRD			0		80	72	WDG ALONE (TOP HALF)
	1/2 264A	IC	13						T(BE)	GRD			0		68	64.5	WDG ALONE (TOP HALF)
										GRD	5		0		80	72	
BE	1/2 288A	ID	13						T(BE)	GRD			0		80	75	WDG ALONE (TOP HALF)
BE1	U517		17	308/309	H	71	5T(BE1)		T(BE1)	GRD			0		35.5	33.5	
BF	Y66	CK	J	137/131	H	41			T(BF)	GRD	2		0	FS	18.5	17.5	
									T(BF)	GRD	2		H	FS	2.2	2.2	
									T(BF)	GRD	2		R	FS	0.7	0.8	
BF	Y280	CN	J	201/131	H	41			T(BF)	GRD	2		0	FS	19.5	18.5	
									T(BF)	GRD	2		H	FS	2.4	2.2	
									T(BF)	GRD	2		R	FS	1.2	1.3	
BF	Y135	CL	K	327/160	H	53			T(BF)	GRD	2		0	FS	42	40	
									T(BF)	GRD	2		H	FS	5.2	4.9	
									T(BF)	GRD	2		R	FS	1.1	1.2	
BF	Y277	CO	K	327/234	H	53			T(BF)	GRD	2		0	FS	42	40	
									T(BF)	GRD	2		H	FS	5.2	4.9	
									T(BF)	GRD	2		R	FS	1.6	1.7	
BK	AE55		BP	26			L(BK)	U(BK)		B/G			0		37	35	
BK	U898		J	137/110	H	41			T(BK)	GRD			0		19	18	CONN DIRECT 48V BAT. TO B(BK)
BK	U6029		BQ	151/137	H	41			T(BK)	GRD	2		0	FS	18	17	CONN DIRECT 48V BAT. TO B(BK)
									T(BK)	GRD	2		R	FS	2.8	3	
									T(BK)	GRD	26		0	FS	31	29.5	PARALLEL COMB. OF (BK) & (BK')
									T(BK)	GRD	26		R	FS	4.2	4.5	
BK'	313A	NA	K	1									0	14	4.6		WDG ALONE
									I(BK')	GRD			0	43	14		PARALLEL COMB. OF (BK) & (BK')
BQ	1/2 254A D-98159 OR	IC	13						T(BQ)	GRD			0		80	72	WDG ALONE (BOTTOM HALF)
	1/2 264A	IC	13						T(BQ)	GRD			0		68	64.5	WDG ALONE (BOTTOM HALF)
										GRD	5		0		80	72	
BQ	1/2 288A	ID	13						T(BQ)	GRD			0		80	75	WDG ALONE (BOTTOM HALF)
BQ1	U517		17	308/309	H	71	5T(BQ1)		T(BQ1)	GRD			0		35.5	33.5	

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	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
C	239HF OR 280EC	AN	BX	A				2B(S)	7T(ST2)	B/G	1	P	0	-30	1.4	0.7	
								2B(S)	7T(ST2)	B/G	1	P	NO	-30	OC	0.5	
		GG						2B(S)	1B(ST2)	B/G		S	0		1.2		
C	239HW OR 280EY	AP	BX	B				2B(S)	7T(ST2)	B/G	1	P	0	-27		0.6	
								2B(S)	7T(ST2)	B/G	1	P	NO	-27		0.4	
		GH						2B(S)	7T(ST2)	B/G	1	P	0	-27	2.6	2.4	
								2B(S)	7T(ST2)	B/G		P	R	27	0.5	0.6	
								2B(S)	1B(ST2)	B/G		S	0		2.5		
C	316C		BY	3								P	0	18	5.9		SEE BSP
												P	R	18	1.6		
												S	0	18	5.6		
C1,2	U192		1	121/108	H	50			T REL TST	GRD			0		22.5	21	
C4	U499		1	108/110	H	47			T(C4)	GRD			0		20.5	19.5	
C5	U505		1	108/132	H	47			T(C5)	GRD			0		20.5	19.5	
CBA1-4	U391	AJ	17	148/145	H	47	3T(JD), 2T(CBA5)		T REL TST	GRD			0		19	18	
CBA5	U391	AJ	17	148/145	H	47	3T(JD)		T(CBA5)	GRD			0		19	18	
CBB1-4	U517	AJ	17	308/309	H	71	3T(JD), 2T(CBB5)		T REL TST	GRD			0		35.5	33.5	
CBB5	U517	AJ	17	308/309	H	71	3T(JD)		T(CBB5)	GRD			0		35.5	33.5	
CBC	U269	AK	17	121/108	H	50			T(CBC)	GRD			0		13.5	12.8	
CBCK	316A		BW	1									0	3	1		
													R	3	.26		
CBH	U310		17	121/307	H	50			T(CBH)	GRD			0		25	23.5	
									T(CBH)	GRD			NO		13	13.7	
CBL	U192		17	121/108	H	50			T(CBL)	GRD			0		22.5	21	
CBR	U144		27	113/113	H	29	3T(DB)		T(CBR)	GRD	6		0		22	20.5	WDG ALONE
									T(CBR)	GRD	6		0		49	46	PARALLEL COMB. OF (CBR) & (CBS)
									T(CBR)	GRD	6		0		60	56	PARALLEL COMB. OF (CBR),(CBS) & (CBT)
CBS	U144	P	27	113/113	H	29	3T(DB)		T(CBS)	GRD	6		0		22	20.5	WDG ALONE
									T(CBS)	GRD	6		0		49	46	PARALLEL COMB. OF (CBS) & (CBR)
									T(CBS)	GRD	6		0		60	56	PARALLEL COMB. OF (CBS),(CBR) & (CBT)
CBT	U207		R	123/123	H	29							0		7.5	7.1	WDG ALONE
							3T(DB)		T(CBR)	GRD			0		56	53	PARALLEL COMB. OF (CBT),(CBR) & (CBS)
CBT	U318		S	150/179	H	50							0		11.7	11.1	WDG ALONE
							3T(DB)		T(CBR)	GRD			0		90	85	PARALLEL COMB. OF (CBT),(CBR) & (CBS)
CCO,1, 2,4,7	U809		55	112/117	H	47			T REL TST	GRD			0		19	18	
CCK	U216		55	108/111	H	47				GRD			0		7.6	7.2	
CHE	U6030		28	108/108	H	47			T(CHE)	GRD	2		0	FS	19	18	
									T(CHE)	GRD	2		R	FS	4.4	4.7	

DRAWING ISSUE: 101D, 102D

ISSUE 107A

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-F2

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-F2

CIRCUIT REQUIREMENTS

APPARATUS DESIG	CODE	OPT	FIG.	MECH REQT BSP FIG.	CONT PRES	ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
CHE1	U6043		28	137/110	H	41					2		0	FS	20.5	19.5	WDG ALONE
											2		R	FS	5.7	6	
									T(CHE1)	GRD	2		0	FS	45.5	43.5	PARALLEL COMB. OF
									T(CHE1)	GRD	2		R	FS	10.3	10.9	(CHE1) & (CHE2)
CHE2	U6043		G	137/110	H	41					2		0	FS	20.5	19.5	WDG ALONE
											2		R	FS	5.7	6	
									T(CHE1)	GRD	2		0	FS	45.5	43.5	PARALLEL COMB. OF
									T(CHE1)	GRD	2		R	FS	10.3	10.9	(CHE2) & (CHE1)
CHE2	U844		H	118/118	H	50							0		26.5	25	WDG ALONE
									T(CHE2)	GRD			0		59	56	PARALLEL COMB. OF (CHE2) & (CHE1)
CHL	U6034		E	110/101	H	35			T(CHL)	GRD	2		0	FS	24.5	23	
									T(CHL)	GRD	2		R	FS	6.4	6.8	
CHL	U717		F	111/110	H	35			T(CHL)	GRD			0		14.4	13.7	
CHLO-9, CHRO-9	U502 OR U1212	CP / CQ	15	121/102	H	53	3B(CHLO)		T REL TST	GRD			0		40.5	38.5	
CHI CHT	239FC	GE	28	A			2T(OR),	5(CHT)	2(CHT)	B/G	1,7,14	P	0	-65	3	1.5	INSULATE 1B, 2B &
	OR						3B(CHLO),	5(CHT)	2(CHT)	B/G	1,7,14	P	NO	-65	OC	1.1	3T(B) APP FIG
	280A	GF					2B(AK)	6(CHT)	1(CHT)	B/G	7,14	S	C		0.5		K OR J
CIA-E	254B	IC	22										0		85	80	WDG ALONE (TOP OR BOTTOM HALF)
	~~B-90160~~ OR								T REL TST	GRD			0		190	180	PARALLEL COMB. OF TOP & BOTTOM HALVES
	254B	IC	22										0		73.5	70	WDG ALONE (TOP OR BOTTOM HALF)
									T REL TST	GRD			0		170	160	PARALLEL COMB. OF TOP & BOTTOM HALVES
CIA-E	288A	ID	22										0		80	75	WDG ALONE (TOP OR BOTTOM HALF)
									T REL TST	GRD			0		180	170	PARALLEL COMB. OF TOP & BOTTOM HALVES
CIF1,2	[1] 254B ~~B-90160~~ OR	IC	26						T REL TST	GRD			0		85	80	WDG ALONE (TOP OR BOTTOM HALF)
	[1] 264B	IC	26						T REL TST	GRD	5		0		73.5	70	WDG ALONE (TOP OR BOTTOM HALF)
CIF1,2	[1] 288A	ID	26						T REL TST	GRD			0		80	75	WDG ALONE (TOP OR BOTTOM HALF)
CIF3	U566	GU	AN	110/110	H	35			T(CIF3)	GRD			0		6.5	6.2	
CIF3	U179		AO	117/145	H	47			T(CIF3)	GRD			0		19.5	18.5	
CIG	U495		22	113/113	H	29							0		17.5	16.5	WDG ALONE
									T(CIG)	GRD			0		39	37	PARALLEL COMB. OF (CIG) & (CIH) OR (CIG) & (CII)
									T(CIG)	GRD			0		57.5	54.5	PARALLEL COMB. OF (CIG),(CIH) & (CII)
CIH	U495		AQ	113/113	H	29							0		17.5	16.5	WDG ALONE
									T(CIH)	GRD			0		39	37	PARALLEL COMB. OF (CIH) & (CIG)
									T(CIH)	GRD			0		57.5	54.5	PARALLEL COMB. OF (CIH),(CIG) & (CII)
CII	U495		55	113/113	H	29							0		17.5	16.5	WDG ALONE
									T(CII)	GRD			0		39	37	PARALLEL COMB. OF (CII) & (CIG)
									T(CII)	GRD			0		57.5	54.5	PARALLEL COMB. OF (CII),(CIG) & (CIH)
CII	U495		59	113/113	H	29			13T(CII)	GRD			0		17.5	16.5	
CK	U6030		J,K	108/108	H	47			T(CK)	GRD	2		0	FS	19	18	CONN DIRECT 48V
									T(CK)	GRD	2		R	FS	4.4	4.7	BAT. TO B(CK)
CK1,3	U6033		1	120/110	H	35			T REL TST	GRD	2		0	FS	21	20	
										GRD	2		R	FS	3.7	3.9	
CK2	U6034		1	110/101	H	35	3B(CK5)		T(CK2)	GRD	2		0	FS	23.5	22	
									T(CK2)	GRD	2		R	FS	6.4	6.8	

CIRCUIT REQUIREMENTS

APPARATUS DESIG	CODE	OPT	FIG.	MECH REQT BSP FIG.	CONT PRES	ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
CK4	U6038		1	153/118	H	53	2T(CK3)		T(CK4)	GRD			0		25.5	24	
CK4A	U503		30	139/118	H	59	2B(CK1)		T(CK4A)	GRD			0		27.5	26	
CK4B	U503		30	139/118	H	59			T(CK4B)	GRD			0		27.5	26	
CK5	U6039		1	132/106	H	47			T(CK5)	GRD	2		0	FS	24	22.5	
									T(CK5)	GRD	2		R	FS	4.7	5	
CK6	U6087		1	127/117	H	47			T(CK6)	GRD			0		22	20.5	
CK6A	U6030		2	108/108	H	47			T(CK6A)	GRD	2		0	FS	19	18	
									T(CK6A)	GRD	2		R	FS	4.4	4.7	
CKA-	AJ131		84	336									0		44.5	42	WDG ALONE
									U REL TST	GRD			0		205	195	PARALLEL COMB. OF (CKA0) (CKA1),(CKA2) & (CKA3)
CLO	U508	DI	14	101/136	H	29			TF(CLO)	GRD	2,8	P	0	FS	13.4	12.7	
									TF(CLO)	GRD	2	P	R	FS	1.1	1.2	
									TR(CLO)	GRD	2	S	0		13.7		
CLO	U1251	DJ	14	110/101	H	35			TF(CLO)	GRD		P	0		14.3	13.6	
									TR(CLO)	GRD		S	0		14.5		
CLO-9	U538	DS	BQ	144/101	H	35			TF REL TST	GRD	2	P	0	FS	10.5	10	
									TF	GRD	2	P	R	FS	0.6	0.7	
									TR	GRD	2	S	0		10.9		
CLO-9	UA74	DT	BQ	110/110	H	35			[illegible] REL TST	GRD		P	0		[illegible]	[illegible]	
									TR	GRD		S	0		9.2		
CL1	U511		14	132/101	H	47			TF(CL1)	GRD		P	0		16.5	15.5	
									TR(CL1)	GRD		S	0		17.5		
CL2	U513		14	121/132	H	50			TF(CL2)	GRD		P	0		23	21.5	
									TR(CL2)	GRD		S	0		24.5		
CL3	U512		14	108/132	H	47			TF(CL3)	GRD		P	0		19	18	
									TR(CL3)	GRD		S	0		20		
CL4	U511		14	132/101	H	47			TF(CL4)	GRD		P	0		16.5	15.5	
									TR(CL4)	GRD		S	0		17.5		
CL5	U513		14	121/132	H	50			TF(CL5)	GRD		P	0		23	21.5	
									TR(CL5)	GRD		S	0		24.5		
CL6	U512		14	108/132	H	47			TF(CL6)	GRD		P	0		19	18	
									TR(CL6)	GRD		S	0		20		
CL7	U513	AU	14	121/132	H	50			TF(CL7)	GRD		P	0		23	21.5	
									TR(CL7)	GRD		S	0		24.5		
CLA	U528	DK	14	101/136	H	29		B(CLA)		BAT.	2		0	FS	12.3	11.7	CONN DIRECT GROUND
								B(CLA)		BAT.	2		R	FS	1	1.1	TO T(CLA)
CLA	UA69	DL, HM	14	101/101	H	29		B(CLA)		BAT.			0		10	9.5	CONN DIRECT GROUND TO T(CLA)
CLB-D	U529	DM	14	101/136	H	29		B REL TST		BAT.	2,9		0	FS	17	16	CONN DIRECT GROUND
										BAT.	2		R	FS	1.3	1.6	TO T(CLA)
CLB-D	UA72	DN	14	132/101	H	47		B REL TST		BAT.			0		16.5	15.5	CONN DIRECT GROUND TO T(CLA)
CLP, CLS	U510		14	132/101	H	47			T REL TST	GRD			0		30	28.5	
CMR	U624	FI	36	101/101	H	29			T(CMR)	GRD			0		6.7	6.3	

DRAWING ISSUE: 100D, 102D

ORIGINATING MARKER CIRCUIT

(2) SD-25016-01-F3

BELL TELEPHONE LABORATORIES INCORPORATED

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SD-25016-01-F3

CIRCUIT REQUIREMENTS

DESIG	CODE	OPT	FIG.		BSP FIG.	CONT PRES	ARM. TRVL	BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
APPARATUS					MECH REQT			CIRCUIT PREPARATION					DIRECT CURRENT FLOW REQT					
C01	U88		14		125/124	H	62							0		34	32	WDG ALONE
										T(C01)	GRD			0		75	71.5	PARALLEL COMB. OF
																		(C01) & (CC3)
										T(C01)	GRD			0		115	110	PARALLEL COMB. OF
																		(C01),(C02) & (C03)
C02	U88	FI	0		125/124	H	62							0		38	36	WDG ALONE
										T(C02)	GRD			0		135	125	PARALLEL COMB. OF
																		(C02),(C01) & (C03)
C02	U88	N	14		125/124	H	62							0		34	32	WDG ALONE
										T(C02)	GRD			0		115	110	PARALLEL COMB. OF
																		(C02),(C01) & (C03)
C02	U88		40		125/124	H	62							0		38	36	WDG ALONE
										T(C02)	GRD			0		135	125	PARALLEL COMB. OF
																		(C02),(C01) & (C03)
C03	U88		14		125/124	H	62							0		34	32	WDG ALONE
										T(C03)	GRD			0		75	71.5	PARALLEL COMB. OF
																		(C03) & (C01)
										T(C03)	GRD			0		115	110	PARALLEL COMB. OF
																		(C03),(C01) & (C02)
C04	U88		AQ		125/124	H	62							0		34	32	WDG ALONE
										T(C04)	GRD			0		115	110	PARALLEL COMB. OF
																		(C04),(C01) & (C03)
										T(C04)	GRD			0		160	150	PARALLEL COMB. OF (C04),
																		(C01),(C02) & (C03)
CR0-9	U538	DS	BQ		144/101	H	35			TF REL TST	GRD	2	P	0	FS	10.5	10	
										TF	GRD	2	P	R	FS	0.6	0.7	
										TR	GRD	2	S	0		10.9		
CR0-9	UA74	DT	BQ		110/110	H	35			TF REL TST	GRD		P	0		9	8.5	
										TR	GRD		S	0		9.2		
CR0	U508	DI	14		101/136	H	29			TF(CR0)	GRD	2,8	P	0	FS	13.4	12.7	
										TF(CR0)	GRD	2	P	R	FS	1.1	1.2	
										TR(CR0)	GRD	2,8	S	0		13.7		
CR0	U1251	DJ	14		110/101	H	35			TF(CR0)	GRD		P	0		14.3	13.6	
										TR(CR0)	GRD		S	0		14.5		
CR1,2	U511	AM	14		132/101	H	47			TF REL TST	GRD		P	0		16.5	15.5	
										TR	GRD		S	0		17.5		
CR3	U507	AM	14		132/132	H	47			TF(CR3)	GRD		P	0		19	18	
										TR(CR3)	GRD		S	0		20		
CR4	U511		14		132/101	H	47			TF(CR4)	GRD		P	0		16.5	15.5	
										TR(CR4)	GRD		S	0		17.5		
CR5,6	U507	AM	14		132/132	H	47			TF REL TST	GRD		P	0		19	18	
										TR	GRD		S	0		20		
CR7	U511		14		132/101	H	47			TF(CR7)	GRD		P	0		16.5	15.5	
										TR(CR7)	GRD		S	0		17.5		
CR8	U507	AM	14		132/132	H	47			TF(CR8)	GRD		P	0		19	18	
										TR(CR8)	GRD		S	0		20		
CR9	U507		14		132/132	H	47			TF(CR9)	GRD		P	0		19	18	
										TR(CR9)	GRD		S	0		20		
CRA-C	U528	DK	14		101/136	H	29		B REL TST		BAT	2		0	FS	12.3	11.7	CONN DIRECT GROUND
											BAT	2		R	FS	1	1.1	TO T(CLA)
CRA-C	UA69	DL	14		101/101	H	29		B REL TST		BAT			0		10	9.5	CONN DIRECT GROUND
																		TO T(CLA)
CRL	U156	DU	17		111/101	H	29			T(CRL)	GRD	2		0	FS	5.6	5.3	
										T(CRL)	GRD	2		R	FS	0.5	0.6	
CRL	U1228	DV	17		111/101	H	29			T(CRL)	GRD			0		6.3	6	
CRP	U510		14		132/101	H	47			T(CRP)	GRD			0		30	28.5	
CRR0-7	U154		37		101/101	H	29			T REL TST	GRD			0		5.3	5	
CRS	U509	DO	14		101/136	H	29			T(CRS)	GRD	2		0	53	25	23.5	
										T(CRS)	GRD	2		R	53	2.1	2.3	

CIRCUIT REQUIREMENTS

DESIG	CODE	OPT	FIG.		BSP FIG.	CONT PRES	ARM. TRVL	BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
APPARATUS					MECH REQT			CIRCUIT PREPARATION					DIRECT CURRENT FLOW REQT					
CRS	U510	DP	14		132/101	H	47			T(CRS)	GRD			0		30	28.5	
CT-	303E		BR		1									0	6	2		SEE BSP
														R	6	1		
D1	U503		1		139/118	H	59			T(D1)	GRD			0		28	26.5	
D2	U500		1		118/121	H	50			T(D2)	GRD			0		23.5	22	
D4	U503		1		139/118	H	59			T(D4)	GRD			0		28	26.5	
D8	U505		1		108/132	H	47			T(D8)	GRD			0		20.5	19.5	
DA1,2	U6044		27		106/106	H	44			T REL TST	GRD	2,10		0	FS	11.8	11.2	
											GRD	2,10		R	FS	2.2	2.4	
D8	U365	EG	27		132/136	H	47	3T(D8)		T(D8)	GRD	2,11		0	FS	8.2	7.8	
								3T(D8)		T(D8)	GRD	2,11		R	FS	0.4	0.5	
D8	U1239	EH	27		132/136	H	47			T(D8)	GRD	2,11		0	FS	8.1	7.7	
DF0-19	U136		12		112/109	H	29	4B(ST4)		T REL TST	GRD			0		17	16	INSULATE 7T(REL TST)
DK	U6030		8		108/108	H	47			T(DK)	GRD	2		0	FS	19	18	
										T(DK)	GRD	2		R	FS	4.4	4.7	
												26		0	FS	33.5	31.5	PARALLEL COMB. OF
												26		R	FS	6.6	7	(DK) & (DK')
DK'	3138	NA	8		1									0	14	4.6		WDG ALONE
										T(DK')	GRD			0	43	14		PARALLEL COMB. OF
																		(DK) & (DK')
DL	Y174	BR	8		102/203	H	53	(TR)NO		T(DL)	GRD	2		0	FS	17	16	
								(TR)NO		T(DL)	GRD	2		H	FS	2.6	2.4	
								(TR)NO		T(DL)	GRD	2		R	FS	0.7	0.9	
DL	Y53	BQ	8		115/115	H	29	(TR)NO		T(DL)	GRD	2		0	FS	19.5	18.5	
								(TR)NO		T(DL)	GRD	2		H	FS	1.9	1.7	
								(TR)NO		T(DL)	GRD	2		R	FS	0.9	1.2	
DLX	U484	EC	L		101/136	H	29			T(DLX)	GRD	2		0	FS	10.8	10.2	
										T(DLX)	GRD	2		R	FS	0.7	0.8	
DLX	Y288	ED	L		115/115	H	29			T(DLX)	GRD	2		0	FS	10.2	9.7	
										T(DLX)	GRD	2		H	FS	1.1	1	
										T(DLX)	GRD	2		R	FS	0.4	0.6	
DLX	Y52	CJ	M		108/131	H	47			T(DLX)	GRD	2		0	FS	21	20	
										T(DLX)	GRD	2		H	FS	2.5	2.3	
										T(DLX)	GRD	2		R	FS	0.7	0.8	
DLX	Y269	CM	M		203/131	H	47			T(DLX)	GRD	2		0	FS	21	20	
										T(DLX)	GRD	2		H	FS	2.5	2.3	
										T(DLX)	GRD	2		R	FS	1	1.3	
DMT	U183		8		107/150	H	50			T(DMT)	GRD			0		25	23.5	
DR	U154		8		101/101	H	29			T(DR)	GRD			0		5.2	4.9	
DR1-9	U154		61		101/101	H	29			3T REL TST	GRD			0		5.2	4.9	
DR10-15	AK23		75		3					1U OR 1L REL TST	GRD			0		7.8	7.4	(DR10)MTD WITH (DR11),
																		(DR12)MTD WITH (DR13) &
																		(DR14)MTD WITH (DR15)
DT1	U6030	HR	13		108/108	H	47			T(DT1)	GRD	2		0	FS	19	18	
										T(DT1)	GRD	2		R	FS	4.4	4.7	
DT1	U6097	HS	13		117/134	H	47			T(DT1)	GRD			0		21	20	
DT2	U536	MZ	13A		132/136	H	47	2T(EL)		T(DT2)	GRD			0		10.3	9.8	
DT2	AG35	NA	13A		678			2T(EL)		1U(DT2)	GRD		P	0		31.5	30	
														H	FS	4.7	4.4	
														R		3.3	3.6	
									2L(DT2)	2U(DT2)	B/G		S	0		32.5	30.5	

DRAWING ISSUE: 101D CB; 102C CB

ISSUE 107A

ORIGINATING MARKER CIRCUIT

(2) SD-25016-01-F4

BELL TELEPHONE LABORATORIES INCORPORATED

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SD-25016-01-F4

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	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
DT2	U6044		13B	106/106	H	44	2T(EL)		T(DT2)	GRD			0	FS	11.8	11.2	
									T(DT2)	GRD			R	FS	2.2	2.4	
DT3	U480		13C	132/111	H	47	2B(AK)		4T(DT3)	GRD			0		17.5	16.6	
							2B(AK)		4T(DT3)	GRD			NO		10.4	11	
DT5	U159		13D	166/160	H	47	2B(AK)		8T(DT3)	GRD			0		17.5	16.6	
							2B(AK)		8T(DT3)	GRD			NO		10.4	11	
EA	1/2 2458 ~~8-96185~~ OR 1/2 2638	IA	29						T(EA)	GRD			0		68.5	65	WDG ALONE (TOP OR BOTTOM HALF)
		IB	29						T(EA)	GRD			0		62.5	59.5	WDG ALONE (TOP HALF)
EA	1/2 287A	IB	29						T(EA)	GRD			0		80	75	WDG ALONE (TOP OR BOTTOM HALF)
EAH2-9, EAH2'-9'	245D ~~8-96244~~ OR	AW	3										0		80	72	WDG ALONE (TOP OR BOTTOM HALF)
									T REL TST	GRD			0		130	160	PARALLEL COMB. OF TOP & BOTTOM HALVES
	2630	AW	3										0		68	64.5	WDG ALONE (TOP OR BOTTOM HALF)
									T REL TST	GRD			0		155	145	PARALLEL COMB OF TOP & BOTTOM HALVES
EAH2-9, EAH2'-9'	287A	HZ	3										0		80	75	WDG ALONE (TOP OR BOTTOM HALF)
									T REL TST	GRD			0		180	170	PARALLEL COMB. OF TOP & BOTTOM HALVES
EAR	U6030		29, 44	108/108	H	47			T(EAR)	GRD			0		19	18	
EAR	U6030	JH	55	108/108	H	47			T(EAR)	GRD			0		19	18	
EAR	U844	JO, NJ	55	118/118	H	50			T(EAR)	GRD			0		26.5	25	
EAR	U678	NV	55	117/117	H	47			T(EAR)	GRD			0		19.5	18.5	
EL, ER	U506		8D	148/148	H	47			T REL TST	GRD			0		34.5	32.5	
										GRD			NO		16.5	17.5	
EL, ER	AF518		BE	224					U REL TST	GRD			0		100	95	
F1,2	U192		1	121/108	H	50			T REL TST	GRD			0		22.5	21	
F4	U499		1	108/110	H	47			T(F4)	GRD			0		20.5	19.5	
F5	U505		1	108/132	H	47			T(F5)	GRD			0		20.5	19.5	
F10, F10'	U503	F	1	139/118	H	59							0		28	26.5	WDG ALONE
									T REL TST	GRD			0		62.5	58	PARALLEL COMB. OF (F10) & (F10')
FM2	U66		5D	111/110	H	35	3T(MRL)		T(FM2)	GRD			0		6.3	6	
G0A-G11A	U65		9	113/113	H	29				GRD			0		20.5	19.5	WDG ALONE
									T REL TST	GRD			0		45.5	43	PARALLEL COMB. OF (G0A-G11A)&(G0B-G11B)
										GRD					71	67.5	PARALLEL COMB. OF (G0A-G11A,(G0B-G11B) & (G0C-G11C)
G0B-G11B	U65		9A	113/113	H	29				GRD			0		20.5	19.5	WDG ALONE
									T REL TST	GRD			0		45.5	43	PARALLEL COMB. OF (G0B-G11B)&(G0A-G11A)
										GRD			0		71	67.5	PARALLEL COMB. OF (G0B-G11B),(G0A-G11A) & (G0C-G11C)
G0C-G11C	U65		9B	113/113						GRD			0		20.5	19.5	WDG ALONE
									T REL TST	GRD			0		45.5	43	PARALLEL COMB. OF (G0C-G11C) & (G0B-G11B)
										GRD			0		71	67.5	PARALLEL COMB. OF (G0C-G11C),(G0A-G11A) & (G0B-G11B)
G1-4	U535		6	75/140	H	61		1T REL TST					0		37	35	WDG ALONE
									T REL TST	GRD			0		69	65	PARALLEL COMB. OF (G1-4) & (GS1-4)

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	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
GP0A, GP0B, GP1A, GP1B	245A ~~8-96185~~ OR 263A	IA	5						T REL TST	GRD			0		85	80	WDG ALONE (TOP OR BOTTOM HALF)
													0		190	180	PARALLEL COMB. OF TOP AND BOTTOM HALVES
		IA	5										0		73.5	70	WDG ALONE (TOP OR BOTTOM HALF)
									T REL TST	GRD			0		170	160	PARALLEL COMB. OF TOP AND BOTTOM HALVES
GP0A, GP0B, GP1A, GP1B	287A	IB	5										0		80	75	WDG ALONE (TOP OR BOTTOM HALF)
									T REL TST	GRD			0		180	170	PARALLEL COMB. OF TOP AND BOTTOM HALVES
GS1-4	U241		6	152/138	H	47							0		17	16	WDG ALONE
							1B REL TST		T REL TST	GRD			0		47	44	PARALLEL COMB. OF (GS1-4) & (G1-4)
GSE	U460	GN	13	108/108	H	47			T(GSE)	GRD	12		0		11.2	10.6	
GSE1	U499		69	108/110	H	47		B(GSE1)	T(GSE1)	B/G			0		20.5	19.5	
GT1	U175	AG	1	132/101	H	47			T(GT1)	GRD			0		8.2	7.8	
GT2	U485	AG	1	177/156	H	59	6B(GT2)		T(GT2)	GRD			0		30.5	27.5	
GT3	U430	AG	1	309/300	H	68			T(GT3)	GRD			0		29.5	28	
GW0	U497	AE, BE	16	132/106	H	47	2B(GW0), 9T(GZ0), (GZ0)NO		T(GW0)	GRD			0		23.5	22	WDG ALONE
													0		58	54.5	PARALLEL COMB. OF (GW0) & (GZ0) IN SERIES WITH (AB) RESISTOR
GW1	U497	AF	16	132/106	H	47	2B(GW1), 2T(GZ1), (GZ1)NO		T(GW1)	GRD			0		23.5	22	WDG ALONE
													0		46.5	43.5	PARALLEL COMB. OF (GW1) & (GZ1) IN SERIES WITH (AC) RESISTOR
GW2	U497	AF	16	132/106	H	47	2B(GW2), 6T(GZ2), (GZ2)NO		T(GW2)	GRD			0		23.5	22	WDG ALONE
													0		58	54.5	PARALLEL COMB. OF (GW2) & (GZ2) IN SERIES WITH (AB) RESISTOR
GW3	U497	AF	16	132/106	H	47	2B(GW3), 6T(GZ3), (GZ3)NO		T(GW3)	GRD			0		23.5	22	WDG ALONE
													0		58	54.5	PARALLEL COMB. OF (GW3) & (GZ3) IN SERIES WITH (AE) RESISTOR
GZ0	U501 OR U886	AE	16	163/139	H	59	3B(GW0), (GW0)NO		T(GZ0)	GRD			0		31	29.5	WDG ALONE
													0		60	57	PARALLEL COMB. OF (GZ0) & (GW0) IN SERIES WITH (AB) RESISTOR
GZ0	U886	BE	16	163/139	H	59	3B(GW0), (GW0)NO		T(GZ0)	GRD			0		31.5	30	WDG ALONE
													0		60	57	PARALLEL COMB. OF (GZ0) & (GW0) IN SERIES WITH (AB) RESISTOR
GZ1	U192	AF	16	121/108	H	50	3B(GW1), (GW1)NO		T(GZ1)	GRD			0		22.5	21	WDG ALONE
													0		56.5	51	PARALLEL COMB. OF (GZ1) & (GW1) IN SERIES WITH (AC) RESISTOR
GZ2	U501 OR U886	AF	16	163/139	H	59	3B(GW2), (GW2)NO		T(GZ2)	GRD			0		31	29.5	WDG ALONE
													0		60	57	PARALLEL COMB. OF (GZ2) & (GW2) IN SERIES WITH (AD) RESISTOR

DRAWING ISSUE
1010 CF
1020

DRAWING ISSUE
106D

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-F5

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-F5

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
GZ3	U501 OR ~~U886~~	AF	16	163/139	H	59	3B(GW3), (GW3)MO		T(GZ3)	GRD			0		31	29.5	WDG ALONE
													0		60	57	PARALLEL COMB. OF (GZ3) & (GW3) IN SERIES WITH (AE) RESISTOR
H2-9	2450	IA	3										0		80	72	WDG ALONE (TOP OR BOTTOM HALF)
	~~D-96244~~ OR								T REL TST	GRD			0		180	160	PARALLEL COMB. OF TOP AND BOTTOM HALVES
	2638	IA	3										0		68	64.5	WDG ALONE (TOP OR BOTTOM HALF)
									T REL TST	GRD			0		155	145	PARALLEL COMB. OF TOP AND BOTTOM HALVES
H2-9	287A	IB	3										0		80	75	WDG ALONE (TOP OR BOTTOM HALF)
									T REL TST	GRD			0		180	170	PARALLEL COMB. OF TOP AND BOTTOM HALVES
H2°-9°	2450	HX	3										0		80	72	WDG ALONE (TOP OR BOTTOM HALF)
	~~D-96244~~ OR								T REL TST	GRD			0		180	160	PARALLEL COMB. OF TOP AND BOTTOM HALVES
	2630	HX	3										0		68	64.5	WDG ALONE (TOP OR BOTTOM HALF)
									T REL TST	GRD			0		155	145	PARALLEL COMB. OF TOP AND BOTTOM HALVES
H2°-9°	287A	HY	3										0		80	75	WDG ALONE (TOP OR BOTTOM HALF)
									T REL TST	GRD			0		180	170	PARALLEL COMB. OF TOP AND BOTTOM HALVES
HMT	239FC OR 280A	GE	28	A			2T(OR), 3B(CHLO), 2B(AK)	5(HMT)	2(HMT)	B/G	1,7	P	0	-65	3	1.5	INSULATE 1B,2B & 3T(BK) APP FIG K OR J
								5(HMT)	2(HMT)	B/G	1,7	P	NO	-65	0C	1.1	
		GF						6(HMT)	1(HMT)	B/G	7	S	0		0.5		
HMTI	U6043		BU	137/110	H	41			T(HMTI)	GRD	2		0	FS	20.5	19	
									T(HMTI)	GRD	2		R	FS	5.7	6	
HMTI	AJ12		BV							GRD			0		42.5	40.5	
JCD-19	U580		19	132/132	H	47			T(REL TST)	GRD			0		17.5	16.5	
JD	U921		AD	109/147	H	44	3B(CHLO)		T(JD)	GRD			0		11.9	11.3	
JD	U147		AE	161/172	H	53	3B(CHLO)		T(JD)	GRD			0		24	22.5	
JD	U295		BI	180/153	H	53	3B(CHLO)		10T(JD)	GRD			0		48	45.5	
KELO-9, KERO-9, KOLO-9	U494		20	153/108	H	53	3T(KELO), 3T(KOL9), (JD)O		T REL TST	GRD			0		43	40.5	
										GRD			NO		21	22.5	
KP	U154	BL	C	101/101	H	29			T(KP)	GRD			0		5.2	4.9	
KP	U787	BM	C	132/104	H	47			T(KP)	GRD			0		6.7	6.3	
KP	U787	AL	D	132/104	H	47			T(KP)	GRD			0		6.7	6.3	
KP	U787	BM	AJ	132/104	H	47			T(KP)	GRD			0		6.7	6.3	
KP	U686	AL	AK	160/108	H	47			T(KP)	GRD			0		7.6	7.2	
KP1	U460	AL	B	109/108	H	47	4B(KP1)		T(KP1)	GRD			0		11.2	10.6	
LA	1/2 2458 ~~D-96805~~ OR 1/2 2638	YB	29						T(LA)	GRD			0		68.5	65	WDG ALONE (TOP OR BOTTOM HALF)
		YA	29						T(LA)	GRD			0		62.5	59.5	WDG ALONE (BOTTOM HALF)

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
LA	1/2 287A	IB	29						T(LA)	GRD			0		80	75	WDG ALONE (TOP OR BOTTOM HALF)
LAI	U834		53	109/123	H	29			T(LAI)	GRD			0		21	20	
									T(LAI)	GRD			NO		14.2	15	
LAR	U6030		29, 44	108/108	H	47			T(LAR)	GRD	2		0	FS	19	18	
									T(LAR)	GRD	2		R	FS	4.4	4.7	
LAR	U6030	JN	55	108/108	H	47			T(LAR)	GRD			0		19	18	
LAR	U844	JO, JP, JQ	55	118/118	H	50			T(LAR)	GRD			0		26.5	25	
LLA	1/2 2458 ~~D-96105~~ OR 1/2 2638		53				(LAI)MO	B(LLA)		BAT			0		68.5	65	WDG ALONE (TOP OR BOTTOM HALF)
			53					B(LLA)		BAT			0		62.5	59.5	WDG ALONE (BOTTOM HALF)
LLA	1/2 287A		54					B(LLA)		BAT			0		80	75	WDG ALONE (TOP OR BOTTOM HALF)
MF	U880		52	121/108	H	50			T(MF)	GRD		P	0		19	18	
									T(MF)	GRO		S	0		23	21.5	
MI1-9	U1249		39	111/101	H	29			T(REL TST)	GRO			0		90		
MIA-C	U539 OR U1323		39	118/108	H	50			T(REL TST)	GRD					13.5	12.8	
MICK	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]			T(MICK)	GRD			0		11.2	10.6	
MID-H, MIJ	U539 OR U1323		39	118/108	H	50			T(REL TST)	GRD			0		13.5	12.8	
MIKA,B	UA69		39	101/101	H	29		B(REL TST)	T(REL TST)	B/G			0		10	9.5	
MIKC	UA72		39	132/101	H	47		B(MIKC)		BAT			0		16.5	15.5	CONNECT DIRECT GROUND TO T(CLA)
MIPS	U539 OR U1323		39	118/108	H	50			T(MIPS)	GRD			0		13.5	12.8	
MRA	UA48	QB	28	205/205	SPL	17	2B(MR1)	B(MR4)	T(MRA)	B/G	30		0		3.45	3.42	
MNR	U242		AS	108/132	H	47			T(MNR)	GRD			0		18.5	17.5	
MPY	U829		AT	121/130	H	50			T(MPY)	GRD			0		22.5	21	
MR	U139	FI	28	117/134	H	47	3T(KELO)		T(MR)	GRD			0		19	18	
							3T(KELO)		T(MR)	GRD			NO		10.2	10.8	
MR1	U366		AA	304/132	H	59			T(MR1)	GRD			0		22.5	21	

DRAWING ISSUE
10ID CF
02D

ISSUE 10BD CB

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-F6

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-F6

DRAWING ISSUE: HOLD | CF | 102D |

CIRCUIT REQUIREMENTS

APPARATUS DESIG	CODE	OPT	FIG.	MECH REQT BSP FIG.	CONT PRES	ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
MR1	U585		AB	108/304	H	59			T(MR1)	GRD			0		24	22.5	
MR1	U474	FI	AC	301/300	H	68			T(MR1)	GRD			0		26	24.5	
MRK	U747	FI	AC	110/110	H	35		B(MRK)		BAT.			0		5.3	5	
MRL	U6035		J	106/106	H	44			T(MRL)	GRD	2		0	FS	19	18	
									T(MRL')	GRD	2		R	FS	1.9	2	
MRL	U298		BO	130/130	H	44			T(MRL)	GRD			0		50	47.5	
MRL	AJ131		BP	336					U(MRL)	GRD			0		44.5	42	
MSD	U1313		AZ	177/149	H	59		BF(MSD)		BAT.		P	0		40	38	
									TR(MSD)	GRD		S	0		40	38	
NC	U483	CW	9	101/136	H	48			T(NC)	GRD	2,16		0		120	110	
									T(NC)	GRD	25		R	195	6.1	5.5	
									T(NC)	GRD			NO		85	90	
NC	U1249	CX	8	111/101	H	48			T(NC)	GRD	25		0		120	110	
									T(NC)	GRD			NO		85	90	
NCI	U542	JH	8	108/132	H	47	1T(NCI)		T(NCI)	GRD			0		8.7	8.2	
NCI	U530	JI	8	145/145	H	47	1T(NCI)		T(NCI)	GRD			0		9.2	8.7	
NCTD	U1249		AM	111/101	H	48			T(NCTD)	GRD	25		0		120	110	
									T(NCTD)	GRD			NO		85	90	
NSE	U516	CP	13	137/120	H	41							0		16.5	15.5	WDG ALONE
								B(NSE)	T(NSE)	B/G	26		0		28.5	27	PARALLEL COMB. OF (NSE) & (NSE')
NSE	U1709 OR U516	CC	13	137/120	H	41							0		16.5	15.5	WDG ALONE
								B(NSE)	T(NSE)	B/G	26		0		28.5	27	PARALLEL COMB. OF (NSE) & (NSE')
NSE'	313A	NA	BE	1									0	14	4.6		WDG ALONE
								6(NSE')	T(NSE')	B/G			0	43	14		PARALLEL COMB. OF (NSE) & (NSE')
NSO	U516		13	137/120	H	41							0		16.5	15.5	WDG ALONE
								B(NSO)	T(NSO)	B/G	26		0		28.5	27	PARALLEL COMB. OF (NSO) & (NSO')
NSO'	313A	NA	BE	1									0	14	4.6		WDG ALONE
								6(NSO')	T(NSO')	B/G			0	43	14		PARALLEL COMB. OF (NSO) & (NSO')
OO-9	U495		10	117/113	H	29		B(REL TST)	T(REL TST)	B/G			0		18	17	
OBO	U508	DI	14	101/136	H	29			TF(OBO)	GRD	2,9	P	0	FS	13.4	12.7	
									TF(OBO)	GRD	2	P	R	FS	1.1	1.2	
									TR(OBO)	GRD	2,9	S	0		13.7		
OBO	U1251	DJ	14	110/101	H	35			TF(OBO)	GRD		P	0		14.3	13.6	
									TR(OBO)	GRD		S	0		14.5		
OB1,2	U511	AM	14	132/101	H	47			TF REL	GRD		P	0		16.5	15.5	
									TR TST	GRD		S	0		17.5		
OB3	U512	AM	14	108/132	H	47			TF(OB3)	GRD		P	0		19	18	
									TR(OB3)	GRD		S	0		20		
OB4	U511	AM	14	132/101	H	47			TF(OB4)	GRD		P	0		16.5	15.5	
									TR(OB4)	GRD		S	0		17.5		
OB5	U511		14	132/101	H	47			TF(OB5)	GRD		P	0		16.5	15.5	
									TR(OB5)	GRD		S	0		17.5		
OB6,7	U512	AM	14	103/132	H	47			TF REL	GRD		P	0		19	18	
									TR TST	GRD		S	0		20		
OB8	U513	AM	14	121/132	H	50			TF(OB8)	GRD		P	0		23	21.5	
									TR(OB8)	GRD		S	0		24.5		
OB9	U512	AM	14	108/132	H	47			TF(OB9)	GRD		P	0		19	18	
									TR(OB9)	GRD		S	0		20		
OBA	U528	DK	14	101/136	H	29		B(OBA)		BAT.	2		0	FS	12.3	11.7	CONNECT DIRECT GROUND TO T(CLA)
								E(OBA)		BAT.	2		R	FS	1	1.1	
OBA	UA69	DL	14	101/101	H	29		B(OBA)		BAT.			0		10	9.5	CONNECT DIRECT GROUND TO T(CLA)
OBB	U529	DM	14	101/136	H	29		B(OBB)		BAT.	2,9		0	FS	17	16	CONNECT DIRECT GROUND TO T(CLA)
								E(OBB)		BAT.	2		R	FS	1.3	1.6	
OBB	UA72	DN	14	132/101	H	47		B(OBB)		BAT.			0		16.5	15.5	CONNECT DIRECT GROUND TO T(CLA)

CIRCUIT REQUIREMENTS

APPARATUS DESIG	CODE	OPT	FIG.	MECH REQT BSP FIG.	CONT PRES	ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
OBC,D	U529	ET	14	101/136	H	29		B PEL TST		BAT.	2		0	FS	17	16	CONNECT DIRECT GROUND TO T(CLA)
										BAT.	2		R	FS	1.3	1.6	
OBC,D	UA72	EU	14	132/101	H	47		B(REL TST)		BAT.			0		16.5	15.5	CONNECT DIRECT GROUND TO T(CLA)
OBP	U510		14	132/101	H	47			T(OBP)	GRD			0		30	28.5	
OBS	U509	DO	14	101/136	H	29			T(OBS)	GRD	2,13		0	FS	25	23.5	
									T(OBS)	GRD	2		R	FS	2.1	2.3	
OBS	U510	DP	14	132/101	H	47			T(OBS)	GRD			0		30	28.5	
OBT	U1354		46	109/109	H	47			T(OBT)	GRD			0		31	29.5	
OCB	U299		K	132/110	H	47			T(OCB)	GRD			0		21	20	
ODN	U325		65	107/139	H	59			T(ODN)	GRD			0		37	35	
ODNK	UA134		65	101/101	H	29		B(ODNK)	T(ODNK)	B/G			0		17.5	16.5	
ODR	U492		V	132/101	H	53			T(ODR)	GRD	25		0		120	110	
									T(ODR)	GRD			NO		85	90	
OF	U504	AV	1	123/110	H	35			T(OF)	GRD			0		15.5	14.7	
OF	U930	BF	1	145/120	H	47			T(OF)	GRD			0		14.2	13.5	
OF1	U914		9	146/151	H	44	7T(OF1)		T(OF1)	GRD			0		11.6	11	
OF2	U717		71	111/110	H	35			5T(OF2)	GRD			0		16	15	
OGO	U509	EL	14	101/136	H	29			TF(OGO)	GRD	2,9	P	0	FS	13.4	12.7	
									TF(OGO)	GRD	2	P	R	FS	1.1	1.2	
									TR(OGO)	GRD	2,9	S	0		13.7		
OGO	U1251	EM	14	110/101	H	35			TF(OGO)	GRD		P	0		14.3	13.6	
									TR(OGO)	GRD		S	0		14.5		
OG1,2	U511	AM	14	132/101	H	47			TF PEL	GRD		P	0		16.5	15.5	
									TR TST	GRD		S	0		17.5		
OG3	U507	AM	14	132/132	H	47			TF(OG3)	GRD		P	0		19	18	
									TR(OG3)	GRD		S	0		20		
OG4	U511	AM	14	132/101	H	47			TF(OG4)	GRD		P	0		16.5	15.5	
									TR(OG4)	GRD		S	0		17.5		
OG5	U527	AM, KD	14	149/149	H	47			TF(OG5)	GRD		P	0		22.5	21	
									TR(OG5)	GRD		S	0		24		
OGA-C	U529	EN	14	101/136	H	29		B PEL TST		BAT.	2		0	FS	12.3	11.7	CONNECT DIRECT GROUND TO T(CLA)
										BAT.	2		R	FS	1	1.1	
OGA-C	UA69	ED	14	101/101	H	29		B(REL TST)		BAT.			0		10	9.5	CONNECT DIRECT GROUND TO T(CLA)
OGP	U510	AM, KD	14	132/101	H	47			T(OGP)	GRD			0		30	28.5	

SD-25016-01-F7

CIRCUIT REQUIREMENTS

APPARATUS				MECH REQT			CIRCUIT PREPARATION			TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT					REMARKS
DESIG	CODE	OPT	FIG.	BBP FIG.	CONT PRES	ARM. TRVL.	BLOCK OR INSULATE	TEST CLIP DATA: CONN BAT.	TEST CLIP DATA: CONN GRD			TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	
OGS	U509	DL	16	101/136	H	29			T(OGS)	GRD	2,13		0	FS	25	23.5	
									T(OGS)	GRD	2		R	FS	2.1	2.3	
OGS	U510	DX	16	132/101	H	47			T(OGS)	GRD			0		30	28.5	
OL	U506		BD	148/143	H	47			T(OL)	GRD			0		34.5	32.5	
									T(OL)	GRD			NC		16.5	17.5	
OL	AF518		BE	224					U(OL)	GND			C		100	95	
OOV	U482		V	132/101	H	53			T(OOV)	GRD	25		0		120	110	
									T(OOV)	GRD			NO		85	90	
OOV1	U460		V	108/108	H	47	5T(OOV1)		T(OOV1)	GRD			0		11.2	10.6	
OR	U506		BD	148/148	H	47			T(OR)	GRD			0		34.5	32.5	
									T(OR)	GRD			NO		16.5	17.5	
OR	AF518		BE	224					U(OR)	GND			0		100	95	
OT	U482		B	132/101	H	53			T(OT)	GRD	25		0		120	110	
									T(OT)	GRD			NO		85	90	
OT1	U460		B	108/109	H	47	3T(NC1)		T(OT1)	GRD			0		11.2	10.6	
OTA	U1289	HT	BQ	111/101	H	48			T(OTA)	GRD	25		0		120	110	
									T(OTA)	GRD			NO		85	90	
OV	U482		B	132/101	H	53			T(OV)	GRD	25		0		120	110	
									T(OV)	GRD			NO		85	90	
OVA	U624	FS	X	101/101	H	29			T(OVA)	GRD			0		6.7	6.3	
OVA	U1229	FT	X	111/101	H	29			T(OVA)	GRD			0		9.4	8.9	
OVA	U1375		AF	109/108	H	47			T(OVA)	GRD			0		17.5	16.5	
OVA	U1054		dA	151/134	H	41			9T(OVA)	GRD			0			8	
PD-13	U64		1B	113/113	H	29			T(REL TST)	GRD			0		20.5	19.5	
PBO-4	U57		21	112/112	H	29			T(REL TST)	GRD			0		19	18	
PC—	1/2 AK6		51	2				1U OR 1L	REL TST	GRD			0		29	27.5	*PC00) MTD WITH (PC01) ETC
PD1	U192		63	121/108	H	50			7T(PD1)	GRD			0		21	20	
PEG	1/2AK50		B1	15					1L(PEG)	GRD			0		14.9	14.2	MTD WITH (ARA)
PEG1	AG10		B1	35B					U(PEG1)	GRD			0		10.8	10.2	
PELO-9, PERO-9, POLO-9, PORO-9	G103	X	20	5		50			3B ASSOC (K-)REL	GRD			0		1.6	1.5	
										GRD			R		0.3	0.4	
PRH	U1364		47	120/111	H	35			T(PRH)	GRD			0		31.5	30	
PR	1/2AK50	KD	BE	202					1L(PR)	GRD			0		23.5	22	MTD WITH (SPARE)
PS	U482		B	132/101	H	53			T(PS)	GRD	25		0		120	110	
									T(PS)	GRD			NO		85	90	
PS1	U575		T	129/117	H	47	9T(PS1)		T(PS1)	GRD			0		21	20	
PS1	U147		T	161/172	H	53	11T(PS1)		T(PS1)	GRD			0		24	22.5	
PS2	U172		J	106/136	H	44			T(PS2)	GRD			0		14.8	14.1	
PS2	Y88		K	175/168	H	47			T(PS2)	GRD	2		0	FS	10.1	9.6	
									T(PS2)	GRD	2		H	FS	1	0.9	
									T(PS2)	GRD	2		R	FS	0.5	0.6	
PT	239FC OR 280A	GE	13	A			2T(OR), 3B(CMLO), 2B(AE)	S(PT)	2(PT)	B/G	1,7	P	0	-65	3	1.5	INSULATE 3T(BK) IN APP FIG K
								S(PT)	2(PT)	B/G	1,7	P	NO	-65	OC	1.1	
		GF						6(PT)	1(PT)	B/G	7,14	S	0		0.5		
PT1	U67	HV	BQ	145/108	H	47			T(PT1)	GRD			0		18	17	
PT2	280A	HV	BQ	A				S(PT2)	2(PT2)	B/G	1	P	0	-65	3	1.5	INSULATE 1B & 2B(BK) IN APP FIG J OR K
								S(PT2)	2(PT2)	B/G	1	P	NO	-65	OC	1.1	
								6(PT2)	1(PT2)	B/G		S	0		0.5		
PT3	U254	HV	BQ	108/108	H	47			7(PT3)	GRD			0		17.5	16.5	
PT6	U610A	HV	BQ	101/101	H	29		8F(PT6)		BAT.		P	0		105	100	
								8F(PT6)		BAT.		P	NO		80	85	
									TR(PT6)	GRD		S	-0		7.6		
PT61	U311	HV	BQ	160/132	H	47			T(PT61)	GRD			0		28.5	25	

CIRCUIT REQUIREMENTS

APPARATUS				MECH REQT			CIRCUIT PREPARATION			TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT					REMARKS
DESIG	CODE	OPT	FIG.	BBP FIG.	CONT PRES	ARM. TRVL.	BLOCK OR INSULATE	TEST CLIP DATA: CONN BAT.	TEST CLIP DATA: CONN GRD			TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	
R	1/2 245C ~~9-96486~~ OR 1/2 263C	TA	7						T(R)	GRD			0		68.5	61	CONNECT DIRECT BAT. TO B(R)
		TA	7						T(R)	GRD			0		61	58	CONNECT DIRECT BAT. TO B(R)
R	1/2 287A	TA	7						T(R)	GRD			0		80	75	CONNECT DIRECT BAT. TO B(R)
RA1	U648	ME	AQ	163/189	H	59			T(RA1)	GRD			0		31.5	30	
RA2	U648	MF	AQ	163/189	H	59			T(RA2)	GRD			0		31.5	30	
RA3	U648	MG	AQ	163/189	H	59			T(RA3)	GRD			0		31.5	30	
RA4	U648	MH	AQ	163/189	H	59			T(RA4)	GRD			0		31.5	30	
RA5	U648	MJ	AQ	163/189	H	59			T(RA5)	GRD			0		31.5	30	
RA6	U648	MP	AQ	163/189	H	59			T(RA6)	GRD			0		31.5	30	
RA7	U648	MU	AQ	163/189	H	59			T(RA7)	GRD			0		31.5	30	
RA8	U648	MV	AQ	163/189	H	59			T(RA8)	GRD			0		31.5	30	
RA9	U648	LM	AQ	163/189	H	59			T(RA9)	GRD			0		31.5	30	
RA10	U648	LQ	AQ	163/189	H	59			T(RA10)	GRD			0		31.5	30	
RL	U660		B	117/145	H	47			T(RL)	GRD			0		28.5	27	
									T(RL)	GND			NO		18	19	
RL1	U1030	J	B	335/136	H	47			T(RL1)	GRD			0		34.5	34.5	
RP1	U480	D	B	132/111	H	47	2T(TP1), 3B(RP1)		T(RP1)	GRD			0		13.9	13.2	
RP1	U980	MG	B	145/120	H	47	2T(TP1), 3B(RP1)		T(RP1)	GRD			0		14.2	13.5	
RTO	U216		32	108/111	H	47			T(RTO)	GRD			0		7.6	7.2	
RTO	U53		33	118/145	H	50			T(RTO)	GRD			0		10.2	9.7	
RT1	U216		32	108/111	H	47			T(RT1)	GRD			0		7.6	7.2	
RT1	U53		33	118/145	H	50			T(RT1)	GRD			0		10.2	9.7	
RT2	U216		32	108/111	H	47			T(RT2)	GRD			0		7.6	7.2	
RT2	U53		33	118/145	H	50			T(RT2)	GRD			0		10.2	9.7	
RT3	U216		32	108/111	H	47			T(RT3)	GRD			0		7.6	7.2	
RT3	U53		33	118/145	H	50			T(RT3)	GRD			0		10.2	9.7	
RT4	U216		32	108/111	H	47			T(RT4)	GRD			0		7.6	7.2	
RT4-9	U53		33	118/145	H	50			T(REL TST)	GRD			0		10.2	9.7	
RT10, 12,14, --28	1/2AK30		85	202			(CX80),(CX81), (CX82),(CX83)		1L(REL TST)	GRD			0		23.5	22	MTD WITH (RT11,13,15—29)
RT11, 13,15, --29	1/2AK30		85	202			(CX80),(CX81), (CX82),(CX83)		1U(REL TST)	GRD			0		23.5	22	MTD WITH (RT10,12,14—28)

ISSUE 107A

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-FB

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-FB

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
RTP	AJ202		B6	500			1B(RTPA)		U(RTP)	GRD			0			40.5	
RTPA	AJ504		B6	57					U(RTPA)	GRD			0			11.2	
RX	U59		8	124/124	H	59	3T(2K)		13T(RX)	GRD			0		31	29.5	
S	U493		28	160/142	H	53			T(S)	GRD			0		25.5	24	
S'	U192	QB	28	121/108	H	50			T(S')	GRD			0		21	20	WDG ALONE
									T(S')	GRD			0		47	44.5	PAR COMB. OF (S)AND(S')
S1K	U534	DQ	28	101/101	H	29			T(S1K)	GRD	2		0	FS	9.4	8.9	
									T(S1K)	GRD	2		R	FS	0.6	0.8	
S1K	U1254	DR	28	111/101	H	29			T(S1K)	GRD	2		0		9.4	8.9	
SO-24	245B ~~B 96105~~	IA	4						T(REL TST)	GRD			0		68.5	65	WDG ALONE (TOP OR BOTTOM HALF)
									T(REL TST)	GRD			0		105	100	PARALLEL COMB. OF (S) & (TOC)
									T(REL TST)	GRD			0		105	100	PARALLEL COMB. OF (S) & (SA) APP FIG 34
									T(REL TST)	GRD			0		155	145	PARALLEL COMB. OF (S) & (SA) APP FIG 43
									T(REL TST)	GRD			0		140	130	PARALLEL COMB. OF (S), (SA) & (TOC) APP FIG 34
									T(REL TST)	GRD			0		165	175	PARALLEL COMB. OF (S), (SA)&(TOC) APP FIG 43
									T(REL TST)	GRD			0		125	115	PARALLEL COMB. OF (S) & (MNR)
									T(REL TST)	GRD			0		105	100	PARALLEL COMB. OF (S) & (MPY)
									T(REL TST)	GRD			0		155	145	PARALLEL COMB. OF (S),(MNR) & (MPY)
									T(REL TST)	GRD			0		155	145	PARALLEL COMB. OF (S), (SA) & (MNR) APP FIG 34
									T(REL TST)	GRD			0		140	130	PARALLEL COMB. OF (S), (SA) & (MPY) APP FIG 34
									T(REL TST)	GRD			0		190	180	PARALLEL COMB. OF (S), (SA),(MNR) & (MPY) APP FIG 34
									T(REL TST)	GRD			0		205	195	PARALLEL COMB. OF (S), (SA) & (MNR) APP FIG 43
									T(REL TST)	GRD			0		185	175	PARALLEL COMB. OF (S), (SA) & (MPY) APP FIG 43
									T(REL TST)	GRD			0		240	225	PARALLEL COMB.OF (S), (SA),(MNR) & (MPY) APP FIG 43
SO-24	263B	IA	4						T(REL TST)	GRD			0		62.5	59.5	WDG ALONE (TOP OR BOTTOM HALF)
									T(REL TST)	GRD			0		95	90	PARALLEL COMB. OF (S) & (TOC)
									T(REL TST)	GRD			0		95	90	PARALLEL COMB. OF (S) & (SA) APP FIG 34
									T(REL TST)	GRD			0		145	135	PARALLEL COMB. OF (S) & (SA) APP FIG 43
									T(REL TST)	GRD			0		130	120	PARALLEL COMB. OF (S), (SA) & (TOC) APP FIG 34
									T(REL TST)	GRD			0		170	160	PARALLEL COMB. OF (S), (S1) & (TOC) APP FIG 43
									T(REL TST)	GRD			0		110	105	PARALLEL COMB. OF (S) & (MNR)
									T(REL TST)	GRD			0		95	90	PARALLEL COMB. OF (S) & (MPY)
									T(REL TST)	GRD			0		145	135	PARALLEL COMB. OF (S), (MNR) & (MPY)
									T(REL TST)	GRD			0		145	135	PARALLEL COMB. OF (S), (SA) & (MNR) APP FIG 34
									T(REL TST)	GRD			0		130	120	PARALLEL COMB. OF (S), (SA) & (MPY) APP FIG 34
									T(REL TST)	GRD			0		175	165	PARALLEL COMB. OF (S), (SA), (MPY) & (MNR) APP FIG 34
									T(REL TST)	GRD			0		190	180	PARALLEL COMB. OF (S), (SA) & (MNR) APP FIG 43
									T(REL TST)	GRD			0		170	160	PARALLEL COMB. OF (S), (SA) & (MPY) APP FIG 43
									T(REL TST)	GRD			0		225	210	PARALLEL COMB. OF (S), (SA),(MPY) & (MNR) APP FIG 43

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
SO-24	287A	IB	4						T(REL TST)	GRD			0		80	75	WDG ALONE (TOP OR BOTTOM HALF)
									T(REL TST)	GRD			0		125	115	PARALLEL COMB. OF (S) & (TOC)
									T(REL TST)	GRD			0		125	115	PARALLEL COMB. OF (S) & (SA) APP FIG 34
									T(REL TST)	GRD			0		180	170	PARALLEL COMB. OF (S) & (SA) APP FIG 43
									T(REL TST)	GRD			0		160	150	PARALLEL COMB. OF (S), (SA) & (TOC) APP FIG 34
									T(REL TST)	GRD			0		220	205	PARALLEL COMB. OF (S), (SA) & (TOC) APP FIG 43
									T(REL TST)	GRD			0		145	135	PARALLEL COMB. OF (S) & (MNR)
									T(REL TST)	GRD			0		125	115	PARALLEL COMB. OF (S) & (MPY)
									T(REL TST)	GRD			0		175	165	PARALLEL COMB. OF (S), (MNR) & (MPY)
									T(REL TST)	GRD			0		175	165	PARALLEL COMB. OF (S), (SA) & (MNR) APP FIG 34
									T(REL TST)	GRD			0		160	150	PARALLEL COMB. OF (S), (SA) & (MPY) APP FIG 34
									T(REL TST)	GRD			0		220	205	PARALLEL COMB. OF (S), (SA),(MNR) & (MPY) APP FIG 34
									T(REL TST)	GRD			0		240	225	PARALLEL COMB. OF (S), (SA) & (MNR) APP FIG 43
									T(REL TST)	GRD			0		220	205	PARALLEL COMB. OF (S), (SA) & (MPY) APP FIG 43
									T(REL TST)	GRD			0		275	260	PARALLEL COMB. OF (S), (SA),(MNR) & (MPY) APP FIG 43
SA0-24	U6036		34	112/112	H	29			T(REL TST)	GRD			0		19	18	WDG ALONE
									T(REL TST)	GRD			0		80	75	PARALLEL COMB. OF (SA) & (S)
									T(REL TST)	GRD			0		105	100	PARALLEL COMB. OF (SA),(S) & (TOC)
									T(REL TST)	GRD			0		120	110	PARALLEL COMB. OF (SA), (S) & (MNR)
									T(REL TST)	GRD			0		105	100	PARALLEL COMB. OF (SA), (S) & (MPY)
									T(REL TST)	GRD			0		145	135	PARALLEL COMB. OF (SA),(S),(MNR) & (MPY)
SA0-24	263B	IA	43						T(REL TST)	GRD			0		62.5	59.5	WDG ALONE (TOP OR BOTTOM HALF)
									T(REL TST)	GRD			0		145	135	PARALLEL COMB. OF (SA) & (S)
									T(REL TST)	GRD			0		170	160	PARALLEL COMB. OF (SA),(S) & (TOC)
									T(REL TST)	GRD			0		190	180	PARALLEL COMB. OF (SA), (S) & (MNR)
									T(REL TST)	GRD			0		170	160	PARALLEL COMB. OF (SA), (S) & (MPY)
									T(REL TST)	GRD			0		225	210	PARALLEL COMB. OF (SA),(S),(MNR) & (MPY)

DRAWING ISSUE C.D CF 1020

ISSUE 1000

SD-25016-01-F9

ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-F9

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARML TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
SA0-24	207A	IB	43						T(REL TST)	GRD			0		80	75	WDG ALONE (TOP OR BOTTOM HALF)
									T(REL TST)	GRD			0		180	170	PARALLEL COMB. OF (SA) & (S)
									T(REL TST)	GRD			0		220	205	PARALLEL COMB. OF (SA),(S) & (TOC)
									T(REL TST)	GRD			0		240	225	PARALLEL COMB. OF (SA),(S) & (MMR)
									T(REL TST)	GRD			0		220	205	PARALLEL COMB. OF (SA),(S) & (MPY)
									T(REL TST)	GRD			0		275	260	PARALLEL COMB. OF (SA),(S),(MMR) & (MPY)
S80	U508	DG	14	101/136	H	29			TF(S80)	GRD	2,8	P	0	FS	13.4	12.7	
									TF(S80)	GRD	2	P	R	FS	1.1	1.2	
									TR(S80)	GRD	2,8	S	0		13.7		
S80	U1251	DH	14	110/101	H	35			TF(S80)	GRD		P	0		14.3	13.6	
									TR(S80)	GRD		S	0		14.5		
S81,2	U511	N	14	132/101	H	47			TF REL	GRD		P	0		16.5	15.5	
									TR TST	GRD		S	0		17.5		
S83	U512	N	14	108/132	H	47			TF(S83)	GRD		P	0		19	18	
										GRD		S	0		20		
S84,5	U511	N	14	132/101	H	47			TF REL	GRD		P	0		16.5	15.5	
									TR TST	GRD		S	0		17.5		
S86,7	U512	N	14	108/132	H	47			TF REL	GRD		P	0		19	18	
									TR TST	GRD		S	0		20		
S88	U513	N	14	121/132	H	50			TF(S88)	GRD		P	0		23	21.5	
									TR(S88)	GRD		S	0		24.5		
S89	U512	N	14	108/132	H	47			TF(S89)	GRD		P	0		19	18	
									TR(S89)	GRD		S	0		20		
S8A-D	U528	EP	14	101/136	H	29	B REL TST			BAT.	2		0	FS	12.3	11.7	CONNECT DIRECT GROUND TO T(CLA)
										BAT.	2		R	FS	1	1.1	
S8A-D	UA69	EQ	14	101/101	H	29	B(REL TST)			BAT.			0		10	9.5	CONNECT DIRECT GROUND TO T(CLA)
S8P	U510	N	14	132/101	H	47			T(S8P)	GRD			0		30	28.5	
S8S	U509	DY	14	101/136	H	29			T(S8S)	GRD	2,13		0	FS	25	23.5	
									T(S8S)	GRD	2,13		R	FS	2.1	2.3	
S8S	U510	DZ	14	132/101	H	47			T(S8S)	GRD			0		30	28.5	
S8T	U833		8	197/107	H	59			13T(S8T)	GRD			0		18	17	
S8T1,2	2458 0-70105 OR 2638	YA	23										0		68.5	65	WDG ALONE (TOP OR BOTTOM HALF)
									T(REL TST)	GRD			0		155	145	PARALLEL COMB. OF TOP AND BOTTOM HALVES
		YA	23										0		62.5	59.5	WDG ALONE (TOP OR BOTTOM HALF)
									T(REL TST)	GRD			0		145	135	PARALLEL COMB. OF TOP AND BOTTOM HALVES
S8T1,2	207A	XB	23										0		80	75	WDG ALONE (TOP OR BOTTOM HALF)
									T(REL TST)	GRD			0		180	170	PARALLEL COMB. OF TOP AND BOTTOM HALVES
S8TA,2A	U115	JX	23	113/113	H	29			13T(REL TST)	GRD			0		10.4	9.9	
S8TA	U270		8	137/110	H	41			7T(S8TA)	GRD			0		8.3	7.9	
SG0	U508	DI	N	101/136	H	29			TR(SG0)	GRD	2	S	0	FS	13.4	12.7	
									TR(SG0)	GRD	2	S	R	FS	12		
SG0	U1251	DJ	N	110/101	H	35			TR(SG0)	GRD	2	S	0		14.5	13.8	

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARML TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
SG0	U508	DI	0	101/136	H	29			TF(SG0)	GRD	2	P	0	FS	13.4	12.7	
									TF(SG0)	GRD	2	P	R	FS	1.1	1.2	
									TR(SG0)	GRD	2	S	0		14.1		
SG0	U1251	DJ	0	110/101	H	35			TF(SG0)	GRD	2	P	0		14.3	13.6	
									TR(SG0)	GRD	2	S	0		14.5		
SG0	U508	DG	14	101/136	H	29			TF(SG0)	GRD	2,8	P	0	FS	13.4	12.7	
									TF(SG0)	GRD	2	P	R	FS	1.1	1.2	
									TR(SG0)	GRD	2,8	S	0		14.1		
SG0	U1251	DH	14	110/101	H	35			TF(SG0)	GRD		P	0		14.3	13.6	
									TR(SG0)	GRD		S	0		14.5		
SG1	U511		N	132/101	H	47			TR(SG1)	GRD		S	0		17.5	16.5	
SG1	U511		0	132/101	H	47			TF(SG1)	GRD		P	0		16.5	15.5	
									TR(SG1)	GRG		S	0		17.5		
SG1	U511	N, BA	14	132/101	H	47			TF(SG1)	GRD		P	0		16.5	15.5	
									TR(SG1)	GRD		S	0		17.5		
SG2	U511	N	14	132/101	H	47			TF(SG2)	GRD		P	0		16.5	15.5	
									TR(SG2)	GRD		S	0		17.5		
SG3	U507	N	14	132/132	H	47			TF(SG3)	GRD		P	0		19	18	
									TR(SG3)	GRD		S	0		20		
SG4,5	U511	N	14	132/101	H	47		TF REL		GRD		P	0		16.5	15.5	
								TR TST		GRD		S	0		17.5		
SGA	U528	DK	0	101/136	H	SPL		B(SGA)		BAT.	2,15		0	FS	12.3	11.7	CONNECT DIRECT
								B(SGA)		BAT.	2,15		R	FS	1	1.1	GROUND TO T(CLA)
SGA	UA69	DL	0	101/101	H	29		B(SGA)		BAT.	2		0		10	9.5	CONNECT DIRECT GROUND TO T(CLA)
SGA	U528	EP, ER	14	101/136	H	29		B(SGA)		BAT.	2		0	FS	12.3	11.7	CONNECT DIRECT
								B(SGA)		BAT.	2		R	FS	1	1.1	GROUND TO T(CLA)
SGA	UA69	EQ, EP	14	101/101	H	29		B(SGA)		BAT.			0		10	9.5	CONNECT DIRECT GROUND TO T(CLA)
SGB	U528	DK	N	101/136	H	SPL		B(SGB)		BAT.	2,15		0	FS	12.3	11.7	CONNECT DIRECT
								B(SGB)		BAT.	2,15		R	FS	1	1.1	GROUND TO T(CLA)
SGB	UA69	DL	N	101/101	H	29		B(SGB)		BAT.	2		0		10	9.5	CONNECT DIRECT GROUND TO T(CLA)
SGB	U528	DK	0	101/136	H	SPL		B(SGB)		BAT.	2,15		0	FS	12.3	11.7	CONNECT DIRECT
								B(SGB)		BAT.	2,15		R	FS	1	1.1	GROUND TO T(CLA)
SGB	UA69	DL	0	101/101	H	29		B(SGB)		BAT.	2		0		10	9.5	CONNECT DIRECT GROUND TO T(CLA)

DRAWING ISSUE 101D CF

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ORIGINATING MARKER CIRCUIT (2) SD-25016-01-F10

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-F10

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARML TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	DC FLOW TEST FOR	DC FLOW AFTER SOAK MA	DC FLOW TEST MA	DC FLOW READJ MA	REMARKS
SGB,C	U528	EP	14	101/136	H	29		B REL / TST		BAT.	2		0	FS	12.3	11.7	CONNECT DIRECT
										BAT.	2		R	FS	1	1.1	GROUND TO T(CLA)
SGB,C	UA69	EQ	14	101/101	H	29		B(REL TST)		BAT.			0		10	9.5	CONNECT DIRECT GROUND TO T(CLA)
SGP	U510		D	132/101	H	47			T(SGP)	GRD			0		30	28.5	
SGP	U510	N. BA	14	132/101	H	47			T(SGP)	GRD			0		30	28.5	
SGR	U577		B	163/150	H	59							0		29.5	28	WDG ALONE
									T(SGR)	GRD			0		66	62	PARALLEL COMB. OF (SGR) & (SGR')
SGR	U1462		AV	221/139	H	62					4		0		30.5	29	WDG ALONE
									T(SGR)	GRD	4		0		67.5	64	PARALLEL COMB. OF (SGR) & (SGR')
SGR'	U577		B	163/150	H	59							0		29.5	28	WDG ALONE
									T(SGR')	GRD			0		66	62	PARALLEL COMB.OF (SGR') & (SGR)
SGR'	U1462		AV	221/139	H	62					4		0		30.5	29	WDG ALONE
									T(SGR')	GRD	4		0		67.5	64	PARALLEL COMB. OF (SGR') & (SGR)
SGS	U509	DD	D	101/136	H	29			T(SGS)	GRD	2		0	FS	25	23.5	
									T(SGS)	GRD	2		R	FS	2.1	2.3	
SGS	U510	DP	D	132/101	H	47			T(SGS)	GRD	2		0		30	28.5	
SGS	U509	DY	14	101/136	H	29			T(SGS)	GRD	2,13		0	FS	25	23.5	
									T(SGS)	GRD	2,13		R	FS	1.6	2.3	
SGS	U510	DZ	14	132/101	H	47			T(SGS)	GRD			0		30	28.5	
SKP	UA72	HJ	AQ	132/101	H	47		B(SKP)	T(SKP)	B/G			0		16.5	15.5	
SL	U493		28	160/142	H	53			T(SL)	GRD			0		25.5	24	
SM	U844		G	118/118	H	50	2T(S), 2T(SL)		T(SM)	GRD			0		26.5	25	
SM	U785		H	114/117	H	50	2T(S), 2T(SL)		T(SM)	GRD			0		44	41.5	
SMI	U534	DQ	H	101/101	H	29			T(SMI)	GRD	2		0	FS	9.4	8.9	
									T(SMI)	GRD	2		R	FS	0.6	0.8	
SMI	U1254	DR	H	111/101	H	29			T(SMI)	GRD	2		0		9.4	8.9	
SP	U309		14	111/187	H	29			T(SP)	GRD			0		6.3	6	
SPE	U516		13	137/120	H	41							0		16.5	15.5	WDG ALONE
								B(SPE)	T(SPE)	B/G	26		0		28.5	27	PARALLEL COMB. OF (SPE) & (SPE')
SPE'	313A	NA	BE	1									0	14	4.6		WDG ALONE
								6(SPE')	1(SPE')	B/G			0	43	14		PARALLEL COMB. OF (SPE) & (SPE')
SPL	U181		28	113/112	H	29			T(SPL)	GRD			0		20	19	
SPO	U516		13	137/120	H	41							0		16.5	15.5	WDG ALONE
								B(SPO)	T(SPO)	B/G	26		0		28.5	27	PARALLEL COMB. OF (SPO) & (SPO')
SPO'	313A	NA	BE	1									0	14	4.6		WDG ALONE
								6(SPO')	1(SPO')	B/G			0	43	14		PARALLEL COMB. OF (SPO) & (SPO')
SPR	U181		28	113/112	H	29			T(SPR)	GRD			0		20	19	
SPT	U791	EA	K	101/136	H	29					2		0	FS	7.1	6.7	WDG ALONE
											2		R	FS	0.4	0.6	
									T(SPT)	GRD	2		0	FS	9.2	8.7	PARALLEL COMB. OF
									T(SPT)	GRD	2		R	FS	0.5	0.7	(SPT) & (TM6,7) RES
SPT	U1268	EB	K	110/101	H	35					2		0		7.5	7.1	WDG ALONE
							4T(BK)		T(SPT)	GRD	2		0		15.6	14.8	PARALLEL COMB. OF (SPT) & (TM6) RES
SR	U1215		B	170/112	H	44	10T(SR), (MRL)0		T(SR)	GRD			0		23	21.5	
SRA	U743	NT	AQ	130/108	H	47	10T(SA) (MRL)0		T(SRA)	GRD			0		48	45.5	PARALLEL COMB OF (SR) & (SRA)
													0		21	20	WDG ALONE
													0		45	42.5	PARALLEL COMB OF (SRA) & (SR)

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARML TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	DC FLOW TEST FOR	DC FLOW AFTER SOAK MA	DC FLOW TEST MA	DC FLOW READJ MA	REMARKS
ST1	U144	NA	8	113/113	H	29							0		22	20.5	WDG ALONE
							3B(CK6)		T(ST1)	GRD			0		50	47.5	PARALLEL COMB. OF (ST1) & (ST2) APP FIG J
							3B(CK6)		T(ST1)	GRD			0		48.5	46	PARALLEL COMB. OF (ST1) & (ST2) APP FIG K
													0		69.5	66	PARALLEL COMB. OF (ST1),(ST2) & (ST1')
ST1'	313A	NA	8	1									0	14	4.6		WDG ALONE
									1(ST1')	GRD			0	56	18.5		PARALLEL COMB. OF (ST1),(ST2) & (ST1')
ST2	U6036		J	112/112	H	29							0		17.5	16.5	WDG ALONE
							3B(CK6)		T(ST2)	GRD			0		33.5	31.5	PARALLEL COMB. OF (ST2) & (ST1)
ST2	U144	NA	K	113/113	H	29							0		22	20.5	WDG ALONE
							3B(CK6)		T(ST2)	GRD			0		48.5	46	PARALLEL COMB. OF (ST2) & (ST1)
													0		56	53	PARALLEL COMB. OF (ST1),(ST2) & (ST1')
ST3	U496		8	157/149	H	50	3B(CK6)		T(ST3)	GRD			0		25.5	24	
ST4	U59		8	124/124	H	59							0		31	29.5	WDG ALONE
							10T(DMT)		T(ST4)	GRD			0		74	70.5	PARALLEL COMB. OF (ST4) & (ST4A)
ST4A	U1290		57	167/139	H	65							0		33	31	WDG ALONE
							10T(DMT)		T(ST4)	GRD			0		74	70.5	PARALLEL COMB. OF (ST4A) & (ST4)
ST5	U59		8	124/124	H	59			T(ST5)	GRD			0		31	29.5	
STR	U1252		56	132/136	H	47		B(STR)		BAT.			0		16.5	15.5	
STX	U183		13	107/150	H	50	2T(AK)		T(STX)	GRD			0		25	23.5	
TB	U515		1	149/148	H	47			T(TB)	GRD			0		21	20	
TB1-4	U6037		6	148/305	H	47			T(REL TST)	GRD			0		45	42.5	
TB5	U480		25	132/111	H	47			T(TB5)	GRD			0		14	13.2	
TBL	U6048		13	155/156	H	53			TF(TBL)	GRD		P	0		63	60	
									TR(TBL)	GRD		S	0		64		
TC	U483	EE	8	101/136	H	48			T(TC)	GRD	2,16,		0		120	110	
									T(TC)	GRD	25		R	195	6.1	8.5	
									T(TC)	GRD			NO		85	90	
TC	U482	AT, EF	8	132/101	H	53			T(TC)	GRD	2,25		0		120	110	
									T(TC)	GRD			NO		85	90	
TCI	U541	FI	8	132/111	H	47	3B(TCI)		T(TCI)	GRD			0		10.5	10	
TCK	U440		8	132/132	H	47			T(TCK)	GRD			0		8.7	8.2	
TD	U541		82	132/111	H	47	2B,4B(TD)		T(TD)	GRD			0		10.5	10	
TDV	U217		AM	108/132	H	47			T(TDV)	GRD			0		11	10.5	
TDVK	U422		AM	132/101	H	47		1B(TDVK)		BAT.			0		14.4	13.7	
TED	U154		71	101/101	H	29			3T(TED)	GRD			0		5.3	5	
TELO-9, TERO-9	U520		BJ	110/110	H	35			T(REL TST)	GRD			0		13.5	12.8	CONNECT DIRECT 48V BAT. TO B(REL TST)
TELO-9	1/2 AK6		BK	19					1L(REL TST)	GRD			0		26.5	25	MTG WITH (TOLO-9)
TERO-9	1/2 AK6		BK	19					1U(REL TST)	GRD			0		26.5	25	MTG WITH (TORO-9)
TGELO-9, TGERO-9, TGOLO-9, TGORO-9	U52?		20	108/111	H	47	3T(KOR9)		T(REL TST)	GRD			0		18.5	17.5	
TIB	U626		B	150/145	H	50			TF(TIB)	GRD		P	0		24.5	23	
									TR(TIB)	GRD		S	0		26		

DRAWING ISSUE: 10ND C, 102D

DRAWING ISSUE: 105E

SD-25016-01-F11

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-F11

BELL TELEPHONE LABORATORIES INCORPORATED 6S

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET. PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
TK	U546		BG	148/108	H	47			T(TK)	GRD			0		33.5	32	
									T(TK)	GRD			ND		14.2	15	
TK	U677		BH	151/118	H	50			T(TK)	GRD			0		22.5	21	
TK1	U66	TK	AQ	111/110	H	35			T(TK1)	GRD			0		6.3	6	INSULATE 4B & 5B OF ANY EQUIPPED (RA1-10) REL IN APP FIG AQ
TKE	U6019		BF	120/120	H	35	3T(KELO)		T(TKE)	GRD	2		0	FS	18	17	
							3T(KELO)		T(TKE)	GRD	2		NO	FS	11.8	11.2	
							3T(KELO)		T(TKE)	GRD	2		R	FS	5.3	5.6	
TKE	AF518	NC	BE	224									0		100	95	WDG ALONE
									U(TKE)	GRD			0		135	125	PARALLEL COMB. OF (TKE) & (TKE')
TKE'	313A	NA	BE	1									0	14	4.6		WDG ALONE
									1(TKE')	GRD			0	43	14		PARALLEL COMB. OF (TKE) & (TKE')
TLO-9	U521		B	108/108	H	47	3T(KELO)		T(REL TST)	GRD			0		21	20	
TL10-14	U521	BH	B	108/108	H	47	3T(KELO)		T(REL TST)	GRD			0		21	20	
TM	239FC OR 280A	GE	K	A			3T(BK), 3B(CHLO), 2B(AK), 2T(OR)	5(TM) 5(TM) 6(TM)	2(TM) 2(TM) 1(TM)	B/G B/G B/G	1,7,14 1,7,14 7	P P S	0 NO 0	-65 -65	3 OC 0.5	1.5 1.1	INSULATE 4B OF (ANY) EQUIPPED (RA1-9) REL IN APP FIG AQ
		GF															
TM1	U119		B	145/123	H	47			T(TM1)	GRD			0		16	14.9	
TM4	U113		B	132/101	H	47			T(TM4)	GRD			0		7.5	7.1	
TM5	U132		B	132/110	H	47			T(TM5)	GRD			0		17.5	16.5	
	U132		B	132/111	H	47			T(TM6)	GRD			0		9.6	9.1	
TM7	U333		B	150/150	H	50	2T(TMW)		1(TM7)	GRD			0		15.5	14.4	
TM8,8A	U6072		B	110/101	H	35			T REL TST	GRD			0		14.2	13.5	INSULATE 1B(TMS) APP FIG J
										GRD			R		3.8	4	INSULATE 4T(TMS) APP FIG K
TM8B	U113		B	132/101	H	47			T(TM8B)	GRD			0		7.5	7.1	
TM8C	U113		B	132/101	H	47			T(TM8C)	GRD			0		7.5	7.1	INSULATE 3T(TM8B) & 1T(TM8A)
TM9	U333		B	150/150	H	50			T(TM9)	GRD			0		15.5	14.4	
TM10	U207		B	123/123	H	29			T(TM10)	GRD	17		0		7.5	6.8	INSULATE 1T,3T, & 5B (TM10)
TMS	U980		J	145/120	H	47			T(TMS)	GRD			0		14.2	13.5	
TMS	U206		K	149/145	H	47			T(TMS)	GRD			0		9.6	9.1	
TMS1	U129		9	160/122	H	47	2T(DK)		T(TMS1)	GRD			0		15.5	14.6	
TMS2	U885	BE	B	160/122	H	47			T(TMS2)	GRD			0		14	13.3	
TMS2	U129	BD	B	160/122	H	47			T(TMS2)	GRD			0		15.5	14.6	
TMW	U519	CP	B	132/106	H	47							0		24	22.5	WDG ALONE
							3B(TMZ), (TMZ)MO		T(TMW)	GRD			0		46.5	43.5	PARALLEL COMB. OF (TMW) IN SERIES WITH 500 OHMS & (TMZ) IN SERIES WITH 500 OHMS
TMW	U1210 OR U519	CQ	B	132/106	H	47	3B(TMZ), (TMZ)NO		T(TMW)	GRD			0		24	22.5	WDG ALONE
													0		46.5	43.5	PARALLEL COMB. OF (TMW) IN SERIES WITH 500 OHMS & (TMZ) IN SERIES WITH 500 OHMS

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
TMZ	U326		8	160/132	H	47							0		20	19	WDG ALONE
							3B(TMW)		T(TMZ)	GRD			0		48.5	46	PARALLEL COMB. OF (TMZ) IN SERIES WITH 500 OHMS & (TMW) IN SERIES WITH 500 OHMS
TNO-4	U57	E	2	112/112	H	29			T(REL TST)	GRD			0		19	18	
TOC	U421		35	110/110	H	35			T(TOC)	GRD			0		13	12.3	WDG ALONE
									T(TOC)	GRD			0		54	51	PARALLEL COMB. OF (TOC) & (S)
									T(TOC)	GRD			0		70	66	PARALLEL COMB. OF (TOC),(S) & (SA) APP FIG 34
									T(TOC)	GRD			0		95	90	PARALLEL COMB. OF (TOC),(S) & (SA) APP FIG 43
TOLO-9	1/2AK6		BK	19					1L(REL TST)				0		26.5	25	MTD WITH (TELO-9)
TOLO-9, TORD-9	U520		BJ	110/110	H	35			T(REL TS1)	GRD			0		13.5	12.8	CONNECT DIRECT 48V BAT. TO B(REL TST)
TORD-9	1/2AK6		BK	19					1U(REL TST)	GRD			0		26.5	25	MTD WITH (TERO-9)
TOV	U1334		67	111/111	H	29			T(TOV)	GRD			0		14.3	13.6	
TP	U499	FC	1	108/110	H	47			T(TP)	GRD			0		20.5	19.5	WDG ALONE
									T(TP)	GRD			0		45.5	43.5	PARALLEL COMB. OF (TP) & (TP')
TP'	U192		42	121/108	H	50							0		21	20	WDG ALONE
									T(TP')	GRD			0		46.5	44.5	PARALLEL COMB. OF (TP') & (TP)
TPI	U268	D	8	149/183	H	47	7B(TPI)		T(TPI)	GRD			0		12.9	12.2	
TPI	U417	HQ	8	103/112	H	50	10B(TPI)		T(TPI)	GRD			0		9.8	9.3	
TPK	U365	DC	8	132/136	H	47			T(TPK)	GRD	2		0	FS	8.2	7.6	
									T(TPK)	GRD	2		R	FS	0.4	0.5	
TPK	U1239	DC	8	132/136	H	47			T(TPK)	GRD			0		8.1	7.7	
TR	U188		8	161/161	H	53			T(TR)	GRD			0		16.3	15.5	
TR1	U168		68	108/106	H	47			T(TR1)	GRD			0		19.5	18.5	
TST	298C		76										0		80	75	WDG ALONE (TOP OR BOTTOM HALF)
									T(TST)	GRD			0		180	170	PARALLEL COMB. OF TOP AND BOTTOM HALVES
TST1,2	AJ12		76	220									0		43	40.5	WDG ALONE
									U(REL TST)	GRD			0		9.5	90	PARALLEL COMB. OF (TST1) & (TST2)
TST3	AJ12		77	220									0		43	40.5	WDG ALONE
									U(TST3)	GRD			0		95	90	PARALLEL COMB. OF (TST3) & (TST4)
TST4	AJ22		77	234									0		40	38	WDG ALONE
									U(TST4)	GRD			0		90	85	PARALLEL COMB. OF (TST4) & (TST3)

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARML TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
TSTA	289C		76									0			80	75	WDG ALONE (TOP OR BOTTOM HALF)
									T(TSTA)	GRD			0		180	170	PARALLEL COMB. OF TOP AND BOTTOM HALVES
TUR	U532		48	108/108	N	47			TF(TUR)	GRD		P	0		20	19	
									TR(TUR)	GRD		S	0		16.5		
TW	U482	AL	AG	132/101	H	53			T(TW)	GRD	25		0		120	110	
									T(TW)	GRD			NO		85	90	
TW	U482	AL	AH	132/101	H	53			T(TW)	GRD	25		0		120	110	
		LC							T(TW)	GRD			NO		85	90	
TW	U482	AL	AI	132/101	H	53			T(TW)	GRD	25		0		120	110	
		LC							T(TW)	GRD			NO		85	90	
TWI	U539 OR U1323	AL, LC	AH	118/108	H	50			T(TWI)	GRD			0		13	12.3	
TWI	U539 OR U1323	AL, LC	AI	118/108	H	50			T(TWI)	GRD			0		13	12.3	
TWA	U527	AH	14	148/148	H	47			TF(TWA)	GRD		P	0		22.5	21	
									TR(TWA)	GRD		S	0		24		
TWB	U527	S	14	148/148	H	47			TF(TWB)	GRD		P	0		22.5	21	
									TR(TWB)	GRD		S	0		24		
ULA	1/2 245B ~~B-96185~~ OR 1/2 263B		53				(LAI)NO	B(ULA)		BAT.			0		68.5	65	WDG ALONE (TOP HALF)
			53					B(ULA)		BAT.			0		62.5	59.5	WDG ALONE (TOP HALF)
ULA	1/2 287A		54					B(ULA)		BAT.			0		80	75	WDG ALONE (TOP HALF)
XAC	S74		62						B(ASO)	GRD			0		275	260	
													NO		220	230	
XAE,O	U387		13	108/111	H	47			T(REL TST)	GRD			0		9.2	8.7	
XC	S65		8						B(TC1)	GRD			0		50.5	48	
									B(TC1)	GRD			NO		40.5	43	
XCH	U368		8S	101/101	H	29	1OT(TR), 3B(T1B)		TF(XCH)	GRD		P/S	0		6.5	6.2	
									TR(YCH)	GRD		S	0		11.9		
XCH	316B		8T	1			1OT(TR), 3B(T1B)						0	7.5	2.4		SEE BSP
XCH1	295A		8T				1OT(TR), 3B(T1B)		14(XCH1)	GRD	27		0		33		
XCL	S65		14						B(CLP)	GRD			0		53	50.5	
									B(CLP)	GRD			NO		43	45.5	
XCR	S65		14						B(CRP)	GRD			0		53	50.5	
									B(CRP)	GRD			NO		43	45.5	
XDC	U329	CY	8	111/101	H	29	1OT(TR), 3B(T1B)		TF(XDC)	GRD	2	P	0	FS	12.4	11.8	
									TF(XDC)	GRD	2	P	R	FS	1.3	1.6	
									TR(XDC)	GRD	2	S	0		10.1		
XDC	U1235	CZ	8	111/101	H	29	1OT(TR), 3B(T1B)		TF(XDC)	GRD		P	0		14.3	13.6	
									TR(XDC)	GRD		S	0		11.3		
XDF	S65		8						B(DFO)	GRD			0		105	100	
									B(DFO)	GRD			NO		85	90	
XDF1	U987	EI	13	101/101	H	SPL			T(XDF1)	GRD	15		0		3.6	3.4	
XDF1	U1275	ES, GB	13	111/101	H	SPL			T(XDF1)	GRD	15		0		4.9	4.6	
XGE	S65		13						B(TGOLO)	GRD			0		105	100	
									B(TGOLO)	GRD			NO		85	90	

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARML TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
XGS	S65		13						B(TGELO)	GRD			0		105	100	
									B(TGELO)	GRD			NO		85	90	
XK	U368		13	101/101	H	29	1OT(TR), 3B(T1B), 4T(STX), (XX2)NO		TF(XK)	GRD	18	P	0		15	14.1	
									TF(XK)	GRD	18	P	NO		9.9	10.5	
									TR(XK)	GRD	18	S	0		12.1		
XK1	S509		Q				4T(STX), (XX)NO		1OT(STX)	GRD			0		28.5	27	
									1OT(STX)	GRD			NO		22.5	24	
XLC, XLC1	U537	FU	13	111/101	H	29	(XX2)NO		T REL	GRD	2		0	195	85	80	
									T TST	GRD	2		NO	195	53.5	56.5	
										GRD	2		R	195	8.4	10	
XLC, XLC1	U1255	FV	13	111/101	H	29	(XX2)NO		T REL	GRD			0		90	85	
									T TST	GRD			NO		59.5	63	
XMR	U484	QB	28	205/136	H	23	2B(MR1)	2B(XMR)	3T(XMR)	B/G	30		0		6.2	6.1	
													NO		4.6	4.5	
XMR1	U677	QB	28	151/118	H	50			T(XMR1)	GRD			0		22.5	21	
XOB	S65		14						B(OBP)	GRD			0		53	50.5	
									B(OBP)	GRD			NO		43	45.5	
XOF	S65		8						8B(ST1)	GRD			0		50.5	48	
									8B(ST1)	GRD			NO		40.5	43	
XOG	S65	AM, KD	14						B(OGP)	GRD			0		53	50.5	
									B(OGP)	GRD			NO		43	45.5	
XRL	U946		8	130/111	H	44	1OT(TR), 3B(T1B)		TF(XRL)	GRD		P	0		17	16	
									TR(XRL)	GRD		S	0		105	100	
									TR(XRL)	GRD		S	NO		65	68.5	
XS	U260		13	108/110	H	47	1OT(TR), 3B(T1B)		TF(XS)	GRD		P	0		20	19	
									TR(XS)	GRD		S	0		16.5		
XS1	U368		13	101/101	H	29	1OT(TR), 3B(T1B)		TF(XS1)	GRD		P	0		14.3	13.6	
									TR(XS1)	GRD		S	0		10.7		
XSB	S65	N	14						B(SBP)	GRD			0		43	45.5	
XSG	S65	N							BR(SGO)	GRD			0		66	62.5	
									BR(SGO)	GRD			NO		53	56	
XSG	S65	O							B(SGP)	GRD			0		53	50.5	
									B(SGP)	GRD			NO		43	45.5	
XSG	S65	N	14						B(SGP)	GRD			0		53	50.5	
									B(SGP)	GRD			NO		43	45.5	
XSL,M	U368		28	101/101	H	29	1OT(TR), 3B(T1B)		TF REL	GRD		P	0		14.3	13.6	
									TR TST	GRD		S	0		10.7		
XSM1	239HH OR 280AF	GC GD	H	B				2T(SM1)	2B(SM1)	B/G	1	S	0	-45		1.1	
								2T(SM1)	2B(SM1)	B/G	1	S	NO	-45		0.8	
								2T(SM1)	2B(SM1)	B/G	1	S	0	-45	4.5	4.2	
								2T(SM1)	2B(SM1)	B/G		S	R	45	0.9	1	
									8B(SM1)	GRD		P	0		10.3		

DRAWING ISSUE: 101D CF, 102D

SD-25016-01-F13

ISSUE 108D

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-F13

BELL TELEPHONE LABORATORIES INCORPORATED 6S

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.		MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARR. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
XSM2	U516		H		137/120	H	41	ST(XSM2)		T(XSM2)	GRD			0		16.5	15.5	
XSS	S10		13						3B(EL)		BAT.			0		250	235	
									3B(EL)		BAT.			NO		195	210	
XT	L3		14							1T(CO1)	GRD			0		7.2	6.8	
										1T(CO1)	GRD			NO		5.7	6.1	
XT1	L3		14							3T(CO3)	GRD			0		7.2	6.8	
										3T(CO3)	GRD			NO		5.7	6.1	
XT2	U534	DC	14		101/101	H	29	1T(XT2)		T(XT2)	GRD	2		0	FS	9.4	8.9	
										T(XT2)	GRD	2		R	FS	0.6	0.9	
XT2	U1254	DR	14		111/101	H	29	1T(XT2)		T(XT2)	GRD			0		9.4	8.9	
XTC	U368		9		101/101	H	29	1DT(TR), 3B(T:8)		TF(XTC)	GRD		P	0		14.3	13.6	
										TR(XTC)	GRD		S	0		10.7		
XTD	U1235		AN		111/101	H	29			TF(XTD)	GRD		P	0		14.3	13.6	
										TR(XTD)	GRD		S	0		11.2	10.7	
XTL	S65		9							9(TLO)	GRD			0		105	100	
										8(TLO)	GRD			NO		85	90	
XTL1,2	U537	CA	9		111/101	H	29	(XX2)NC		T REL	GRD	2		0	195	85	80	
										T TST	GRD	2		NO	195	53.5	56.5	
											GRD	2		R	195	9.4	10	
XTL1,2	U1255	DB	9		111/101	H	29	(XX2)NC		T REL	GRD			0		90	85	
										T TST	GRD			NO		59.5	63	
XTL3	U537	EJ	9		111/101	H	29	(XX2)NO		T REL	GRD	2		0	195	85	80	
										T TST	GRD	2		NO	195	53.5	56.5	
											GRD	2		R	195	9.4	10	
XTL3	U1255	EK	9		111/101	H	29	(XX2)NO		T REL	GRD			0		90	85	
										T TST	GRD			NO		59.5	63	
XX1	U218		9		120/110	H	35	1DT(TR), 3B(T:8)		T(XX1)	GRD			0		6.6	6.2	
XX2	U93		9		154/149	H	47			T(XX2)	GRD			0		23	21.5	
XZ, XZS	U369	FJ	9		101/101	H	29	1DT(TR), 3B(T:8)		TF REL	GRD		P	0		14.3	13.6	
										TR TST	GRD		S	0		10.7		
ZA-J	U493	CW	41		101/136	H	48			T REL	GRD	2,16		0		120	110	
										T TST	GRD	25		R		6.1	8.5	
											GRD			NO		85	90	
ZA-J	U1249	CR, CV	41		111/101	H	48			T REL	GRD	25		0		120	110	
										T TST	GRD			NO		85	90	
Z(A-J)E	U539 OR U1323		41		119/108	H	50	7T(REL TST)		T(REL TST)	GRD			0		13.5	12.9	
ZCE	U440		DL		132/132	H	47			T(ZCK)	GRD			0		8.7	8.2	
ZCE	U293		BM		132/110	H	47			T(ZCK)	GRD			0		17.5	16.5	
ZL	U440	AR	9		132/132	H	47			T(ZL)	GRD			0		8.8	8.3	
ZL	U365	DE	9		132/136	H	47			T(ZL)	GRD	2		0	FS	8.2	7.9	
										T(ZL)	GRD	2		R	FS	0.4	0.5	
ZL	U1239	DF	9		132/136	H	47			T(ZL)	GRD			0		9.1	7.7	
ZL	U735	ME	8		132/132	H	47			T(ZL)	GRD			0		17.5	16.5	
ZO	U460	AC	9		108/108	H	47	1B(ZO)		T(ZO)	GRD			0		11.2	10.6	
ZO	U173	AR	8		148/145	H	47	1B(ZO)		T(ZO)	GRD			0		9.6	9.1	

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.		MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARR. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS

DRAWING ISSUE
1010 CF
1020

SD-25016-01-F14

102

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-F14

BELL TELEPHONE LABORATORIES INCORPORATED 6S

CIRCUIT REQUIREMENTS

APPARATUS					WHEN REQD			CIRCUIT PREPARATION			TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT					REMARKS
DESIG	CODE	OPT	FIG.		BSP FIG.	CONT WIRES	ARM TRVL.	BLOCK OR INSULATE	TEST CLIP DATA: CONN BAT.	TEST CLIP DATA: CONN GRD			TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	
BIODES																		
AHH	426F		5H									24						
AIDO-2	426A		70						2 DIODE		BAT.	19-21						
									1 TEST		BAT.	19,20,22						
AL-	426A		BR									24						
AR3	446F	NP	55									24						
BHH	326F		BH									24						
BL-	426A		BR									24						
CHH	426F		BH									24						
CKA	446F		84									24						
CL-	426A		BR									24						
HPYO-5	426A		AT						2 DIODE		BAT.	19-21						
									1 TEST		BAT.	19-21						
HRT	446F	MI	8T									24						
HS0	446K		AZ						2(MSD)		BAT.	19-21						FWD RES TEST
									1(MSD)		BAT.	19,20,22						REV RES TEST
OGS	446K		14						2 DIODE		BAT.	28,25						FWD RES TEST
									1 TEST		BAT.	28,29						REV RES TEST
P10-29	446F		86									24						
RT10-29	446F		86									24						
RTP	446F		86									24						
XA	426A	JF, JO	55						2(XA)		BAT.	20,21,23						
									1(XA)		BAT.	20,21,23						

TEST NOTES:

1. A NEGATIVE SIGN (-) PRECEDING A CURRENT FLOW INDICATES THAT THIS CURRENT SHALL FLOW IN A DIRECTION OPPOSITE TO THE DIRECTION OF THE CIRCUIT OPERATING CURRENT.
2. ADJACENT RELAYS SHALL NOT BE ENERGIZED, SEE BSP.
3. PRIOR TO ISSUE 750 THE REQUIREMENTS FOR THE (AR8) RELAY WERE AS FOLLOWS:

TEST FOR	TEST	READJ	REMARKS
0	14.9	14.1	WDG ALONE
0	56	51	PARALLEL COMB. OF (AR2) & (AR1)

4. WAIVE "NO MAKE REQUIREMENTS" ON CONTACTS 10T & 11T.
5. REQ FOR 264 TYPE RELAY.
6. GROUND SPRINGS 12T,B,10T,B,8T,B,6T,B,4T,B & 2T,B OF (CBA) & (CBS) RELAYS.
7. CONNECT 4.6K±1% RESISTOR IN SERIES WITH 4.28-4.36 MICROFARAD CAPACITOR ACROSS TEST LEADS.
8. PRIOR TO ISSUE 200 THE REQUIREMENTS FOR THE (CL0),(CR0), (OB0),(OG0), (SB0) & (SG0) RELAYS WERE AS FOLLOWS:

TEST WDG	TEST FOR	TEST	READJ
P	0	12.1	11.5
S	0	12.8	

9. PRIOR TO ISSUE 200 THE REQUIREMENTS FOR THE (CL0-0) & (OB0-0) RELAYS WERE AS FOLLOWS:

TEST	READJ
15.2	12.5

10. WHEN TESTING (DA1) RELAY INSULATE 3D(DS) RELAY OF LAST DR COMN CKT IN CHAIN. WHEN TESTING (DA2) RELAY INSULATE 3T(DS) RELAY OF FIRST DR COMN CKT IN CHAIN.
11. GROUND 2T(DB) RELAY, THEN REMOVE PLUG FROM (DB) JACK AT ORIGINATING TROUBLE INDICATOR FRAME.
12. INSULATE 4T & 4B, SHORT CKT 2T & 3T, 2B & 3B (6SE) RELAY.
13. PRIOR TO ISSUE 200 THE REQUIREMENTS FOR THE (OBS),(OGS), (SBS) & (SGS) RELAYS WERE AS FOLLOWS.

TEST	READJ
23	21.5

14. WHEN OPTION "K" IS PROVIDED, INSULATE 4B & 5B OF ONE OF THE (RA2-10) RELAYS.
15. ARMATURE TRAVEL 23.
16. PRIOR TO ISSUE 200 THE REQUIREMENTS FOR THE (HC),(TC) & (ZA-J) RELAYS WERE AS FOLLOWS:

TEST	READJ
85	80

17. PRIOR TO ISSUE 650 THE TEST REQUIREMENTS FOR THE (TH10) RELAY WERE AS FOLLOWS:

TEST	READJ
7.2	6.8

18. NON OPERATE REQUIREMENTS ARE FOR USE WHEN APP FIG P IS FURNISHED.
19. REMOVE FUSES (A0),(L),(C), AND (X).
20. USE KS-14510 VOLTMETER OR EQUIVALENT IN ADDITION TO RELAY TEST SET.
21. FORWARD RESISTANCE TEST:
CONNECT GROUND TO TERMINAL 1 OF DIODE.
ADJUST THE CURRENT TO 100 MA.
VOLTAGE MEASURED ACROSS TERMINALS 1 & 2 OF DIODE 426A SHALL NOT EXCEED 1 VOLT.
22. REVERSE RESISTANCE TEST:
CONNECT GROUND THROUGH 100K RESISTOR TO TERMINAL 2 OF DIODE UNDER TEST, MOMENTARILY GROUND TERMINAL 1 OF DIODE UNDER TEST AND ADJUST CURRENT FLOW IN TEST SET TO 100 MA.
REMOVE GROUND FROM TERMINAL 1 OF DIODE WITH TEST SET KEY OPERATED.
THE VOLTAGE ACROSS THE 100K RESISTOR SHOULD NOT EXCEED 10 VOLTS ON THE 50 OR 60 VOLT SCALE OF THE VOLTMETER.
23. REMOVE (L) FUSE ON ORIGINATING MARKER FRAME.
24. TEST DIODE PER BSP SECTION 032-173-301.
25. PRIOR TO ISSUE 960 ROUTE SERIES RELAYS (MC),(OT),(PS), (ZR-ZJ),(OTA),(TW),(TC),(MCTO),(ODR),(OV)&(30V) HAD DIFFERENT ADJUSTMENTS. IF THESE RELAYS HAVE NOT BEEN CHANGED TO THE PRESENT ADJUSTMENT (INDICATED BY 64 ARM. TRVL OF 53 FOR U482 RELAYS AND 48 FOR U483 AND U1209) IT IS RECOMMENDED THAT THEY ALL BE CHANGED AT THIS TIME TO PROVIDE IMPROVED FALSE CROSS DETECTION.
26. WHEN NA OPTION IS PROVIDED.
27. PREPARATION:
(A) PREPARE 35 TYPE TEST BOX AS INDICATED IN TABLE.
(B) CONNECT DIRECT BAT. TO L2 TERM. OF TEST SET.
(C) CONNECT DIRECT GROUND TO 5(XCHI) REL.
(D) CONNECT 0LV OF TEST (T) AND (R) JK TO 3(XCHI) REL.
(E) PLACE L KEY OF TEST SET IN NEUTRAL POS 1 CHECK THAT TEST SET IS EQUIPPED WITH 2T(MPE) LP.
(F) ADJUST RHEOSTAT (I) RES TO ALLOW PROPER TEST CURRENT TO FLOW.

PROCEDURE:

STEP	ACTION	LAMP	VERIFIES
A	CLOSE KEY 1	LIGHTS	CLOSURE OF LOAD CONTACT
B	OPEN KEY 1	EXTINGUISED	OPENING OF LOAD CONTACT

28. USE VOLTMETER WITH 20,000 OHMS/VOLT OR HIGHER SENSITIVITY DOTTED LINES INDICATE TEMPORARY TEST LEADS. IN FIG. 1 VOLTAGE ACROSS DIODE SHOULD NOT EXCEED 2 VOLTS. IN FIG. 2 VOLTAGE ACROSS 0.1 MEG RESISTOR SHOULD NOT EXCEED 2 VOLTS.

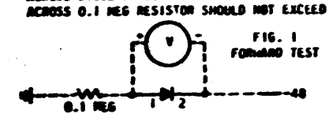

FIG. 1
FORWARD TEST

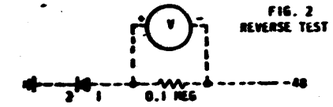

FIG. 2
REVERSE TEST

29. ISOLATE TERM. NO. 1 OF DIODE, SUPPLY BAT. TO TERM. NO. 2 AND MAKE FORWARD TEST AS SHOWN IN NOTE 28, FIG. 1 REMOVE BAT., AND SUPPLY GRD TO TERM. NO. 2 AND MAKE REVERSE TEST AS SHOWN IN NOTE 28, FIG. 2.
30. REMOVE (NO) FUSE.

SD-25016-04-FIS

ISSUE 10 8D

ORIGINATING MARKER CIRCUIT (2) SD-25016-04-FIS

BELL TELEPHONE LABORATORIES INCORPORATED 6S

TIMING REQUIREMENTS (SEE BSP 100-130-101)

APPARATUS				CIRCUIT PREPARATION				TEST SET PREP			SEE TEST NOTE	TIME REQT ms		REMARKS
DESIG	CODE	OPT	FIG.	BLOCK OR INSULATE	TEST CLIP DATA CONN BK	CONN R	CONN W	SEND KEY	REC SW START	REC SW STOP		MIN	MAX	
RELAYS														
CHT	239FC 2804	GE GF	28	(JD)C, (BK)NO	GRD	U(BK)	3(CHT)	MK	OC	GRD	1,2, 3,4	13	17	
HMT	239FC 280A	GE GF	28	(CHE1)NO, (CHE2)NO, (BK)O	GRD	4B(CHE1)	3(HMT)	BK	OC	GRD	1,2, 5,6, 8,9, 10			
PT	239FC 280A	GE GF	13	69(TKE)	GRD	7T(NSO), 7T(NSE)	3(PT)	MK	OC	GRD	1,2, 7	14 20	17 22	SEE NOTE 331

TEST NOTES

1. THE TIMES SHOWN ARE APPLICABLE ONLY TO OFFICES EQUIPPED WITH MARKER SPEED-UP.
2. CONNECT DIRECT GROUND TO 9T(ST2).
3. CONNECT DIRECT GROUND TO 1B(ST1).
4. CONNECT DIRECT BATTERY TO 9B(ST2).
5. CONNECT DIRECT BATTERY TO 5B(ST2).
6. CONNECT DIRECT GROUND TO 9T(ST1).
7. CONNECT DIRECT BATTERY TO 7B(ST2).
8. SHORT 1 AND 28(SR).
9. CONNECT DIRECT GROUND TO 5M(BK).
10. TIMING RESISTANCE

DESIG	VALUE OHM	TIME REQT(ms) MIN	MAX
NO STRAPS	5801	85	95
HMT5	1700	45	51
HMT4	1260	43	49
HMT3	1000	37	43
HMT2	800	32	38
HMT1	600	26	32
BJO,1	441	20	26

ISSUE 107A

ORIGINATING MARKER CIRCUIT

SD-25016-01-F16

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-F16

CROSS REFERENCE TABLES

OLD FIG.	NEW CAD STD	NEW CAD A&M	NEW CAD MD	TERM. STRIP	TERMINAL IDENTIFICATION	MTG LOC
AX	55			D	DI-6,D9-14	OM
BX			6	D	DI-6,D9-14,DAI-6, DA9-14	OM
CK		13		WIRING ONLY	-	OM
DK	69		14	WIRING ONLY	-	OM
GK		36		WIRING ONLY	-	OM
HK	58			DIST	03B	OM
IK			7	WIRING ONLY	-	OM
JK			11	OFF	04EB	OM
			12	OFF	040B	OM
KK	67			OFF	04EB,49EA	OM
	68			OFF	040B,490A	OM
NK	69			WIRING ONLY	-	OM
NX	91			SG	SGOS,SGIS	R REL
	92			SG	SG00-99	R REL
OK	69			WIRING ONLY	-	OM
OX		22		SG	SGOP,SGIP,SGOS,SGIS	R REL
			23	SG	SG00-99	R REL
RK			10,15	WIRING ONLY	-	OM
SK	66			MISC	76-79	OM
TK	58			WIRING ONLY	-	OM
AMK	69			OMC	8B	OM
AMX			37	SP	NCTD	R REL
AOX	79			TI	47,49	OM
			19	TI	55	OM
AVX	55			D	DI-6,D9-14,DAI-6,DA9-14	OM
BCX	55			D	DTF,OF	OM
IK	69			OMC	00A,01A,08A-24A,27A-39A	OM
			14	OMC	02A	OM
IX	55			D	0D,OF,7D,8D,15D,AI2, PS,TPJPN,TPO,ZO,MSD	OM
			6	D	AI2,ZO	OM
			16	S	PS,ZO	OM
3K	63			H2-H9 REL	00-49	OM
				H2'-H9' REL	00-49	OM
		25		EAH2-9 REL	00-49	OM
				EAH2'-9' REL	00-49	OM
3X	52			C UPPER	600C-999C	OM
	53			C LOWER	200C-599C	OM
	90	20		C UPPER	600C-999C	R REL
				C LOWER	200C-599C	R REL
3Y	54			CG UPPER	CG0-2,CG20-36	OM
				CG LOWER	CG0-19	OM
	101	30		RA	CG0-36	R REL
		5		D	CG0-2	OM
		26		GC	CG0-2	R REL
		32		RC UPPER	CG0-2	R REL
4K	72			S REL	00-39	OM
4X	50			A	0-19(S20-S23)	OM
		3		B	0-19(S24)	OM
	52			C UPPER	SC0-19	OM
	55			D	SW0-24	OM
		5		D	SC0-19	OM
	66			MISC	37,38	OM
	71			S	0-19(S0-19)	OM
	91	22		RG	RG0-19	R REL
				SC	SC0-19	R REL
		31		RC LOWER	SC0-19	R REL
		32		RC UPPER	SC0-19	R REL
4Y	55	5		D	INTC-PC0-59	OM
	101			RA	INTC-RC0-19	R REL
	102			RC LOWER	INTC-RC20-59	R REL
		30		RA	INTC-RC20-39	R REL
		31		RC LOWER	INTC-RC0-19	R REL
5K	62			GP-A,B REL	00-59	OM
5X	61			GP	00-29(GPGE,GS,ST,TL)	OM
6K	83			WIRING ONLY	-	R REL
6X	91	22		SG	SPB	R REL
	96	27		SP	SPB	R REL
7K	100			R00-99 REL	00-29	R REL
	101	30		RA	TB	R REL
7X	92			CL	CL00-99	R REL
				OG	OG00-99	R REL
				R	R00-99	R REL
	94			CR	CR00-99	R REL
				OB	OB00-99	R REL
				SB	SB00-99	R REL
				SP	SP00-99	R REL
	97			GE	GE00-99	R REL
				GS	GS00-99	R REL
				ST	ST00-99	R REL
				TL	TL00-99	R REL
	101	30		RA	RA00-99	R REL
	102	31		RC LOWER	RC00-99	R REL
	103	32		RC UPPER	RC00-99	R REL
			23	SG	SG00-99	R REL
		29		OF-PC	OF00-99,PC00-99	R REL
		33		TR	00-79(J,OF,PC)	R REL

OLD FIG.	NEW CAD STD	NEW CAD A&M	NEW CAD MD	TERM. STRIP	TERMINAL IDENTIFICATION	MTG LOC
7Y	55			D	INTC-PC0-5	OM
	98			J-INTC	OF0-2,J-INTC3-14A-D, J-INTC15-34	R REL
	99			OF-PC	INTC-PC0-5	R REL
		28		J-INTC	OF0-2,J-INTC3-34	R REL
7XA	99			OF-PC	OF00-99,PC00-99	R REL
	104			TR	J00-39,00-99(OF,PC)	R REL
8K	58			DIST	00A-03A,07A,51A,00E, 02B,26Z	OM
	66			MISC	18-24,27-30,32,9C 94	OM
	67			OFF	30EA-44EA	OM
	68			OFF	30(OA)-44(OA)	OM
	69			OMC	04A,00B,01B,06B	OM
	128			DPTS	DBA,B,F;MPC,TMA,B	
			7	DIST	03A	OM
		13		OMC	00B	OM
			14	OMC	27B,34B	OM
8X	55			D	DR,RMR,ZPS	OM
	59			TL	TL0-14	OM
	81 & 116			Z	DRC,KP,NC,NCTD,ODR, OOV,OT,OV,TC, TW,ZMR	OM & CS
	93			Z	AP,OT,OV,NC,PS,TC,TW	R REL
	96			Z	NCTD	R REL
		27		TL	TL0-14	R REL
			16	S	DR,RMR	OM
		22		Z	AR,NC,OT	R REL
9X	60			G	0-2[(GE,GS,ST,TL)0-11]	OM
	95	26		GC	30-32(GE,GS,ST,TL)	R REL
9AX	60			G	3-5[(GE,GS,ST,TL)0-2]	OM
	95	26		GC	36-38(GE,GS,ST,TL)	R REL
9BX	60			G	6-8[(GE,GS,ST,TL)0-3]	OM
	95	26		GC	36-38(GE,GS,ST,TL)	R REL
10K	66			MISC	40-69	OM
10X	59			ST	ST0-18	OM
	96	27		ST	ST0-18	R REL
10XA	59			ST	ST0-18	OM
	96	27		ST	ST0-18	R REL
11X	50			A	EE,OE	OM
12K	58			DIST	50B-54B,35Z-39Z, 45Z-49Z,55Z-59Z	OM
	66			MISC	100-119	OM
			10	MISC	70-89	OM
12X	51			B	EAP0-19,EEP0-7, OAP0-19,OEP0-7	OM
13K	67			OFF	01,03,04,07-09(EA)	OM
	68			OFF	01,03,04,07-09(OA)	OM
14K	69			OMC	02,03,10-23,25,26, 28-33,35-39(B)	OM
			14	OMC	00-02,10,11,25,26(B)	OM
14X	91	22		CL	CLOP-7P,CLOS-7S	R REL
				OG	OGOP-5P,OGOS-5S	R REL
		22		SG	SGOP-4P,SGOS-5S	R REL
	93	22		CR	CROP-9P,CROS-9S	R REL
				OB	OBOP-9P,OBOS-9S	R REL
			24	SB	SBOP-9P,SBOS-9S	R REL
	96	27		SP	OGSP,OGSS,SPA,TWA-C	R REL
14XA		22		SG	SGIP	R REL
			23	SG	SG00-99	R REL
15K	58			DIST	10-29(A),10-14,20-24, 30-34,40-44(B)	OM
	67			OFF	10-29(OB)	OM
	68			OFF	10-29(EB)	OM
15X				B	BPL0-9,BPR0-9	OM
17X		3		B	CB1-17,NP0-5	OM
17XA	51			B	CB1-17,NP0-5	OM
18K	58			DIST	04A	OM
18X	50			A	BP0-9(P0-9),P00-13	OM
	51			B	PA0-4,PC0-9	OM
19K	58			DIST	30-49(A)	OM
19X	51			B	JC0-19	OM
20K	67			OFF	10-29(EA),30-59(EB)	OM
	68			OFF	10-29(OA),30-59(OB)	OM
20X	59			GE	GE1,3,5,-,39	OM
				GS	GS0,2,4,-38	OM
	96	27		GE	GE1,3,5,-,39	R REL
				GS	GS0,2,4,-,38	R REL
20AX	67			OFF	EB30-39	OM
	68			OFF	OB30-39	OM
21X	50			A	P0-9(PA0-4)	OM
	51			B	PA0-4,PC0-9	OM
22K	58			DIST	50A,27Z	OM
	66			MISC	95,96	OM
	69			OMC	04,05,24(B)	OM
	77			TI	00A-49A,51A-59A,00B-59B	OM
	78			TI	00C-59C,00D-59D	OM
	79			TI	00E-59E	OM
			18	TI	15C,17C,03D,07D	OM
			19	TI	20E-24E,30E-32E	OM

OLD FIG.	NEW CAD STD	NEW CAD A&M	NEW CAD MD	TERM. STRIP	TERMINAL IDENTIFICATION	MTG LOC
23K	69			OMC	19A,07B	OM
	76			SCT	00-45	OM
24X	52			C UPPER	CP0-9	OM
	55			D	CP0-9	OM
25K	84			WIRING ONLY	-	R REL
26K	66			MISC	97	OM
	79			TI	00-59(F)	OM
			19	TI	47F,56F,57F	OM
27K	69			OMC	05A-07A,40A-59A,50B-59B	OM
			14	OMC	06A,44B-49B	OM
28K	58			DIST	05,06,08,52,58,59(A)	OM
	67			OFF	EB06-09	OM
	68			OFF	OB06-09	OM
			7	DIST	58A,59A	OM
28X	51			B	1-8,A,IN,OT,R	OM
29K	69			OMC	25A,26A	OM
			8	EA & OA REL	00-39	OM
30K			10	MISC	13,14,31,33-35,80-84	OM
			34	SDPTS	RT,RT0-4	
30L	66			MISC	13,14,31,33-35,80-84	OM
	129			SDPTS	RT,RT0-4	
30M	130			HMDF	RT4-9	
30N	131			VMDF	RT4-9	
32X		4		C UPPER	0-4(RT)	OM
		5		D	0-4(RT,RTA,RTB)	OM
		9		MISC	70-75	OM
33X	52			C UPPER	0-19(RT)	OM
	55			D	0-19(RT,RTA,RTB)	OM
	66			MISC	70-75,85-89	OM
34X		1		A	20-24(S20-23)	OM
		3		B	20-24(S24)	OM
		4		C UPPER	SC20-SC24	OM
		5		D	SC20-24,20-24(S0-19)	OM
		21,22		SC	SC20-24,RG20-24	R REL
		31		RC LOWER	SC20-24	R REL
		32		RC UPPER	SC20-24	R REL
35X	55			D	TOC	OM
36X	50			A	MR	OM
	55			D	CPC,CSP0-9,LCI,PMR	OM
37X	55			D	PR0-7,PRC0-7	OM
39K	69			OMC	40-44,49(B)	OM
39X	81			Z	MI1-9	OM
	93	22		Z	MI1-9	OM
	116			Z	MI1-9	CS
39Y	51			B	2L,4L,MIL1-9	OM
41K	58			DIST	53A,05-09,15-19(Z)	OM
			7	DIST	51A	OM
41X	81			Z	ZA-ZJ	OM
	93	22		Z	ZA-ZJ	R REL
	116			Z	ZA-ZJ	CS
42X	55			D	OTP-8TP	OM
43K	110			MISC	19,20	CS
	113			SA REL	00-39	CS
43X	52			C UPPER	SC20-39	OM
	55			C	SC20-39	OM
	111			R UPPER	00-99	CS
	112			RG	RG20-39	CS
				SC	SC20-39	CS
	114			SA UPPER	0-9,INTC-PC0-5, INTC-PC0-59,RT0-19	CS
	115			SA LOWER	10-19,INTC-PC0-5, INTC-RC0-59,PT0-19	CS
	116			Z	CSP0-9,PMR,PRC0-7	CS
43Y	55			D	ZPS	OM
	116			Z	DRC,KP,MI1-9,NC,NCTD, ODR,OOV,OT,TC,TW, ZA-ZJ,ZMR	CS
44X			6	D	EX	OM
47X	102	31		RC LOWER	PRC100-114,RC100-114	R REL
	103	32		RC UPPER	PRC100-114,RC100-114	R REL
	127			A & B	1-8	PRH
47XA	102	31		RC LOWER	PRC115-129,RC115-129	R REL
	103	32		RC UPPER	PRC115-129,RC115-129	R REL
	127			A & B	1-8	PRH
52K	66			MISC	16,19,25	OM
55K	69			OMC	02,10,11,25,26,34(B)	OM
		13		OMC	02,10,11,25,26(B)	OM
57K	66			MISC	25	OM
63K	69			OMC	34B	OM

OLD CAD	NEW CAD STD	NEW CAD A&M	NEW CAD MD	TERM. STRIP	TERMINAL IDENTIFICATION	MTG LOC
1	65			MA	1-3,6,8-12,36	OM
	69			OMC	45-47B,55-57B	OM
	81			Z	OTA	OM
	91	22		CL	OTA	R REL
				SG	CLA-0,RAI-10	R REL
	116			Z	OTA	CS
2	65			MA	4,5	OM
3	51			B	1-11A,1-3AC,1-3AN, 1-3NA,9AN,10AN	OM
	65			MA	7,40	OM
4	102	31		PC LOWER	0-10A	R REL
5	70			PC	PR00-79,RP00-79	OM
6	125			A	11,13,14,17,18,23,24, 27,28,33,34,37,38,43, 44,47,48,53,54,57,58	PC
	126			B	11-18,21-28,--,51-58	PC
7	73			SD	11-18,21-28,--,51-58	OM
7A	51			B	IT,ACT0-9,AT,STS0-3	OM
8	82			WIRING ONLY	-	
9	64			LLA & ULA	00-59	OM
10	74			SD1	11-18,21-28,--,51-58	OM
11	75			SD2	11-18,21-28,--,51-58	OM
12	69			OMC	25A,26A	OM
		35		WIRING ONLY	-	-
13	69			OMC	25A,26A	OM
	82			WIRING ONLY	-	-
14	50			A	0-9ACS,0-3ASW,01ACS, 10ACS,AE,NPD,PD1	OM
	51			B	4-7ASW,11X	OM
			2	A	0ACS,6ACS,9ACS	OM
15	51			B	DR0-15,DRC0-9	OM
16	107			A	(ASO,1,2 OR 3)00-39, ASC00-39,ASW00-03, INTC-RC50-59,MISC00, 08,09,RG00-39	AC
	108			B	DRC0-15,KP,MI1-9, NC,NCTD,OT,OTA, RRC0-7,SC0-39,TC,ZA-ZJ	AC
	109			ASL	00-04,10-14,--,50-54	AC
17		17		SD2	16,17,26,27,36,37,46,47, 53,54,56,57	OM
18	55			D	C110-119	OM
	102			RC	C110-119	R REL
19		22		OG	ODG,ODN	R REL
	69			OMC	58	OM
	73			SD	46	OM
	91			OG	ODG,ODN	R REL
20	57			DC	11-16,21-26	OM
	74			SD1	36	OM
	75			SD2	18,28,38,48,58	OM
21	55			D	EXBG	OM
22	55			D	DI0-2,DIS0-2	OM
	56			DD	11-13,21-23	OM
	65			MA	38,39	OM
	69			OMC	48	OM
23	117			A	11-18,21-28,--,51-58	ICC
	118			B	11-18,21-28,--,51-58	ICC
	119			C	11-18,21-28,31-38	ICC
24	55			D	EDR,TED	OM
	120			A	R00C-859,R900-999	ICS
	121			ASB	00-04,10-14,--,50-54	ICS
	122			ASC	00-04,10-14,--,50-54	ICS
	123			B	(ASO-7)40-99,ASC40-99 MISC00-15,18,19	ICS
	124			C	DRC0-15,KP,MI1-9, NC,NCTD,OT,OTA, RRC0-7,SC0-39, TC,TED,ZA-ZJ	ICS
25	80			TST	11,16,21,26,31,36,41	OM
26	80			TST	12-15,22-25,--,52-55	OM
27		28		J-INTC	OF0-2,J3-34	R REL
	55			D	0-5	OM
	98			J-INTC	OF0-2,J3-34	R REL
	99			OF-PC	INTC-PC0-5	R REL
28		30		RA	T-RA3-13	R REL
29	132			WRG ONLY		

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ORIGINATING MARKER CIRCUIT

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BELL TELEPHONE LABORATORIES INCORPORATED

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CROSS REFERENCE TABLES

TERM. STRIP	NEW CAD STD	NEW CAD A&M	NEW CAD MD	OLD FIG. OR CAD	MOUNTING LOC
A	50			4X,10XA,11X,18X,21X, 36X,CAD 14	ORIG MARKER FR
		1		10X,34X	
			2	CAD 14	
B	51			12X,15X,17XA,18X, 19X,21X,28X,39Y, CADS 3,7A,14,15	
		3		4X,17X,34X	
C UPPER	52			3X,4X,24X,33X,43X	
		4		32X,34X	
C LOWER	53			3X	
CG UPPER & LOWER	54			3Y	
D	55			AX,AVX,BCX,1X,4X,4Y, 8X,24X,33X,35X, 36X,37X,42X,43X, CADS 18,21,22,24,27	
		5		3Y,32X,34X,4X,4Y	
			6	8X, 44X	
DC	57			CAD 20	
DD	56			CAD 22	
DIST	58			HK,TK,8K,12K,15K, 18K,19K,22K,28K,41K	
			7	1K,28K,41K	
EA & LA REL			8	29K	
G	60			9X,9AX,9BX	
GE	59			20X	
GP	61			5X	
GP-A,B REL	62			5K	
GS	59			20X	
H2-H9 REL H2'-H9' REL	63			3K	
LLA	64			CAD 9	
MA	65			CADS 1,2,3,22	
MISC	66			SK,4X,8K,10K,12K, 22K,26K,27K,30L, 33X,52K,57K	
		9		32X	
			10	RK,12K,30K	
OFF(E)	67			KK,8K,13K,15K, 20K,20AK,28K	
			11	JK	
OFF(O)	68			KK,8K,13K,15K, 20K,20AK,28K	
			12	JK	
OMC	69			AMK,DK,NK,OK,1K, 8K,14K,22K,23K, 27K,29K,39K,55K, 63K,CADS 1,12,13, 19,22	
		13		CK,8K,55K	
			14	DK,1K,8K,14K,27K	
			15	PK	
PC	70			CAD 5	
S	71			4X	
			16	8X,8X	
SO-25 REL	72			4K	
SD	73			CAD 7,19	
SD1	74			CAD 10,20	
SD2	75			CAD 11,20	
		17		CAD 17	
SDT	76			23K	
ST	59			10X,10XA	
TI	77			22K	
	78		18	22K	
	79		19	AOX,22K,26K	
TST	80			CAD 25,26	
ULA	64			CAD 9	
Z	81			8X,39X,41X,CAD 1	
	82			CAD 8,13	
	83			6K	
		35		CAD 12	
	84			25K	
		36		GK	
TL	59			8X	

TERM. STRIP	NEW CAD STD	NEW CAD A&M	NEW CAD MD	OLD FIG. OR CAD	MOUNTING LOC
C UPPER & LOWER	90	20		3X	ROUTE RELAY BAY
CL	91	22		14X, CAD 1	
	92			7X	
CR	93	22		14X	
	94			7X	
EAH2-9 REL EAH2'-9' REL		25		3K	
GC	95			5X,9X,9AX,9BX	
		26		3Y,5X,9X,9AX,9BX	
GE	96	27		20X	
	97			7X	
GS	96	27		20X	
	97			7X	
J-INTC	98			CAD 27	
		28		7Y	
OB	93	22		14X	
	94			7X	
OF-PC	99			7XA,CAD 27	
		29		7X	
OG	91	22		14X,CAD 19	
	92			7X	
R	92			7X	
R00-99 REL	100			7K	
RA	101			3Y,4Y,7K,7X	
		30		3Y,4Y,7K,7X, CAD 28	
RC UPPER	103			7X,47X,47XA	
		32		3Y,4X,7X,34X, 47X,47XA	
RC LOWER	102			4Y,7X,47X,47XA, CAD 4,18	
		31		4Y,4X,7X,34X,47X, 47XA,CAD 4	
RG	91	22		4X	
SB	93		24	14X	
	94			7X	
SC	91			4X	
		21		34X	
		22		4X,34X	
SG	91			NX,6X,CAD 1	
	92			NX	
		22		OX,6X,14X,14XA, CAD 1	
			23	OX,7X,14XA	
SP	94			7X	
	96			6X,8X,14X	
		27		6X,14X	
			37	AMX	
ST	96	27		10X,10XA	
	97			7X	
TL	96	27		8X	
	97			7X	
TR	104			7XA	
		33		7X	
Z	93	22		8X,39X,41X	

TERM. STRIP	NEW CAD STD	NEW CAD A&M	NEW CAD MD	OLD FIG. OR CAD	MOUNTING LOC
A	107			CAD 16	ACCESS CODE UNIT
ASL	109			CAD 16	
B	108			CAD 16	
MISC	110			43K	CLASS OF SERVICE UNIT
R UPPER & LOWER	111			43X	
RG	112			43X	
SA00-25 REL	113			43K	
SA UPPER	114			43X	
SA LOWER	115			43X	
SC	112			43X	
Z	116			8X,39X,41X,43Y,43X	
A	117			CAD 23	INTER-CHANGE-ABLE CODE CONTROL UNIT
B	118			CAD 23	
C	119			CAD 23	
A	120			CAD 24	INTER-CHANGE-ABLE CODE SCREENING UNIT
ASB	121			CAD 24	
ASC	122			CAD 24	
B	123			CAD 24	
C	124			CAD 24	
A	125			CAD 6	PEG COUNT UNIT
B	126			CAD 6	
A B	127			47X,47XA	PRH UNIT
OPTS	128			8K,52K	
HMDF	130			30M	
SOPTS	129			30L	
			34	30K	
VMDF	131			30N	
	132			29	

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ORIGINATING MARKER CIRCUIT

(2) SD-25016-01-G2

BELL TELEPHONE LABORATORIES INCORPORATED

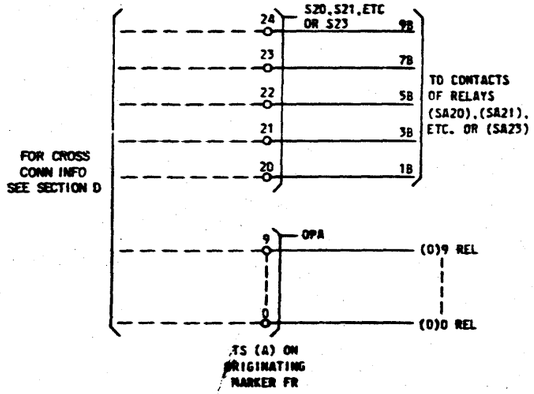
6S

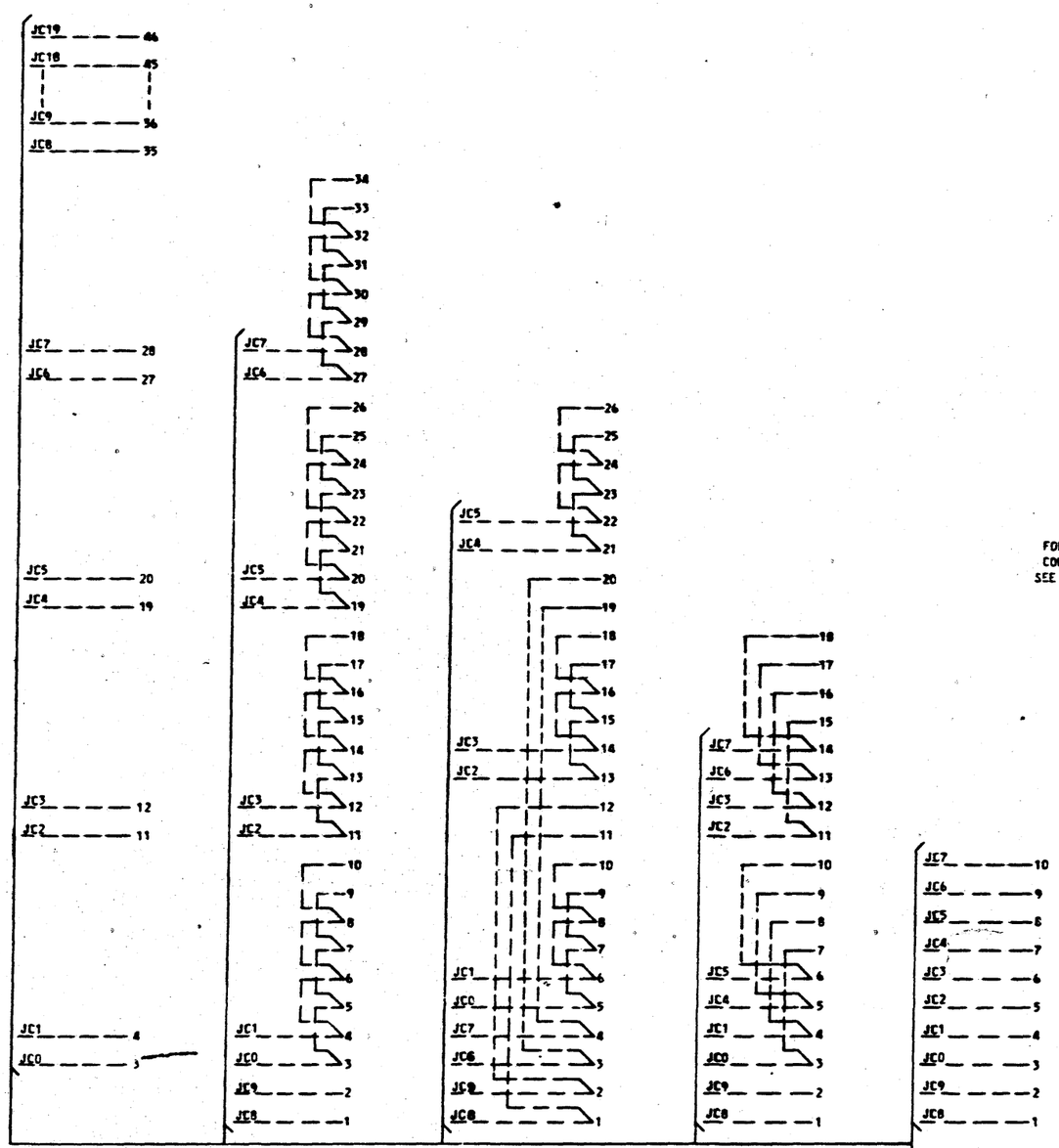
SD-25016-01-G2

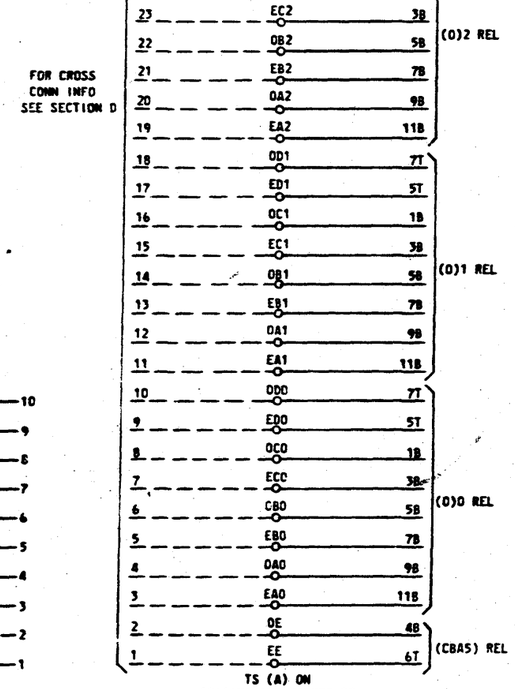
CAD I (A&M ONLY)

NUMBER OF OFFICE FRAMES IN INSTALLATION

10,12,14,16,18 OR 20 | 8 | 6 | 4 | 2







FOR CROSS CONN INFO SEE SECTION D

FOR CROSS CONN INFO SEE SECTION D

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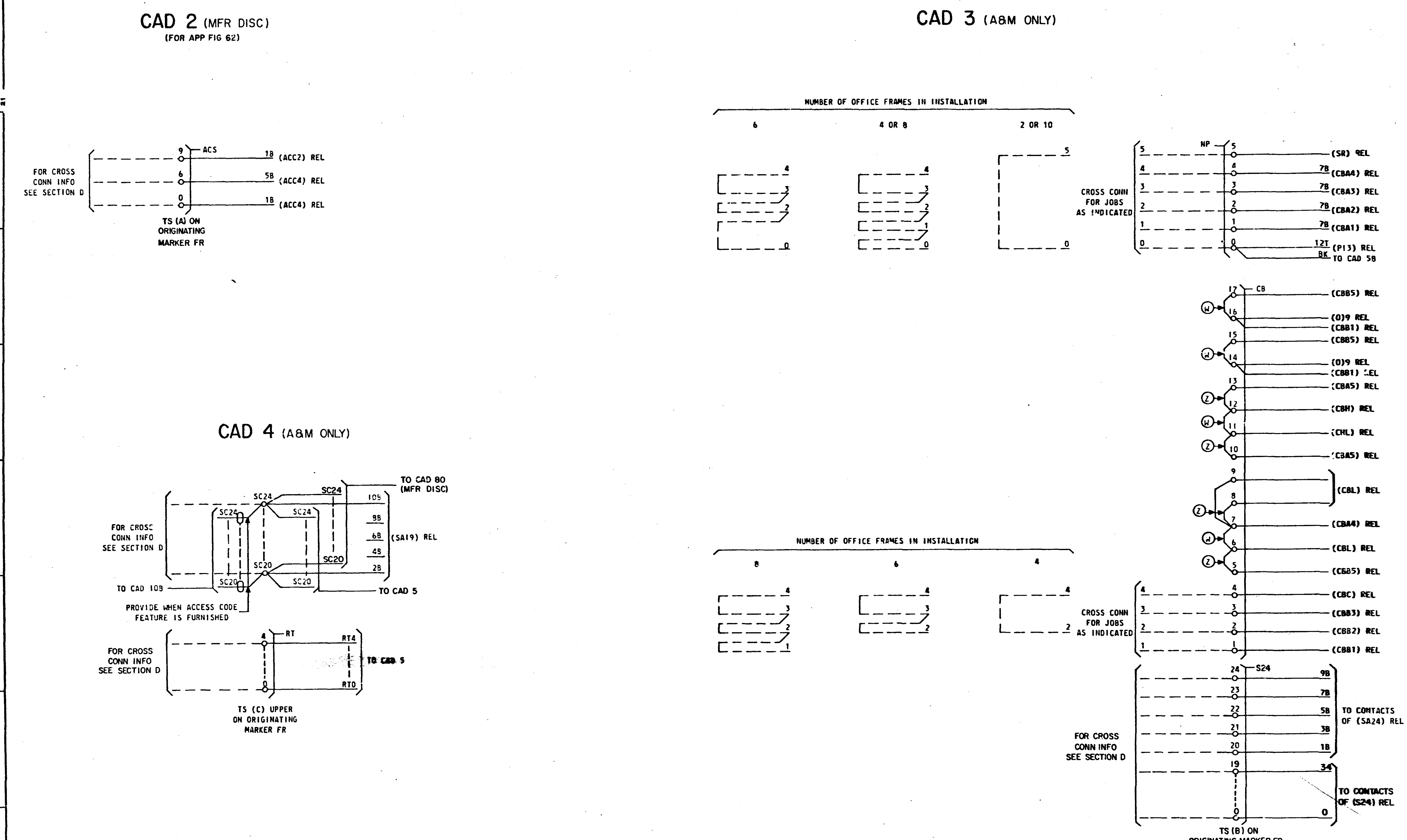
ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G3

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-G3

HIGGINS 4466



ORIGINATING MARKER CIRCUIT

(2) SD-25016-01-G4

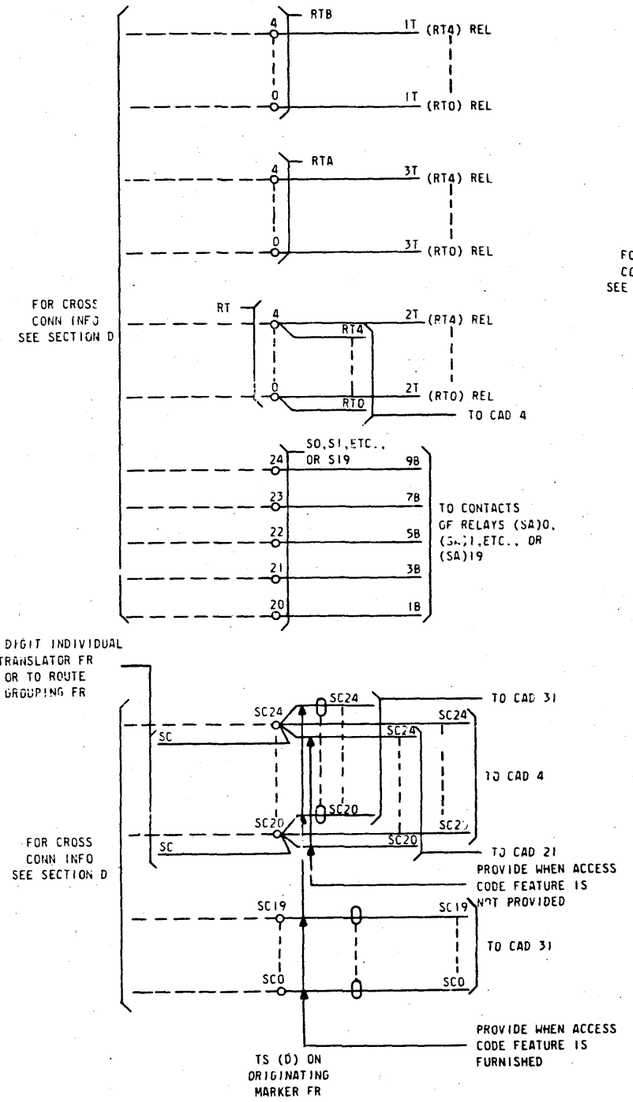
BELL TELEPHONE LABORATORIES INCORPORATED

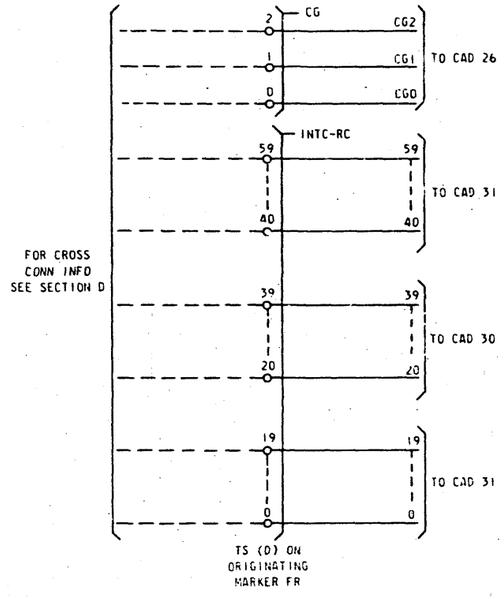
6S

101

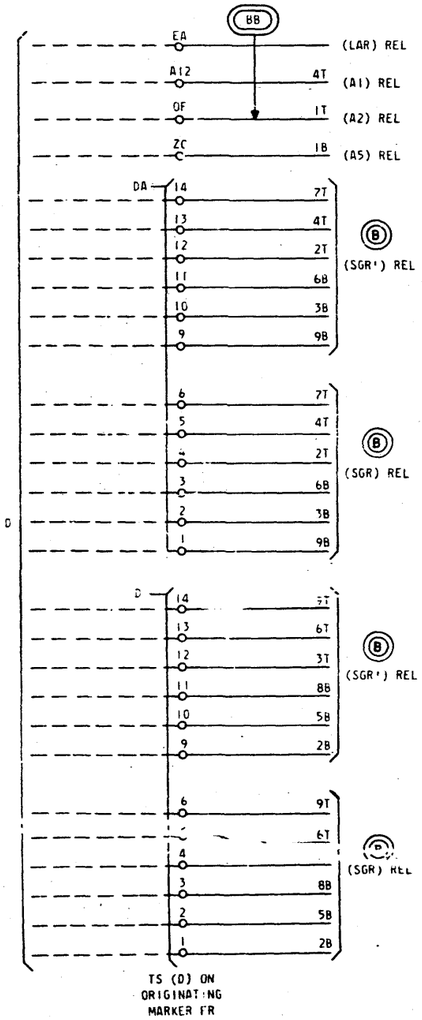
SD-25016-01-G4

CAD 5 (A&M ONLY)

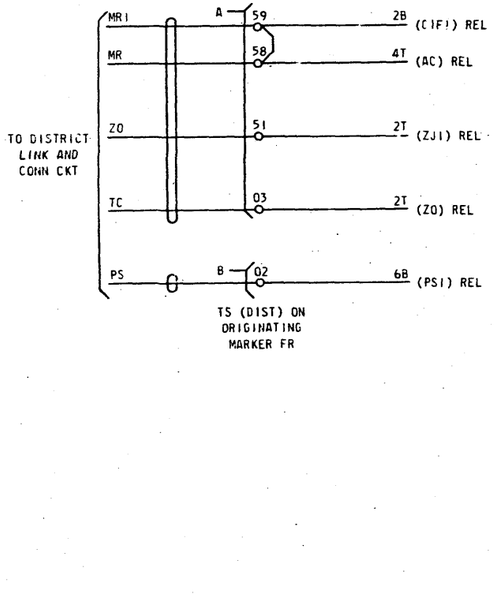




CAD 6 (MFR DISC)



CAD 7 (MFR DISC)



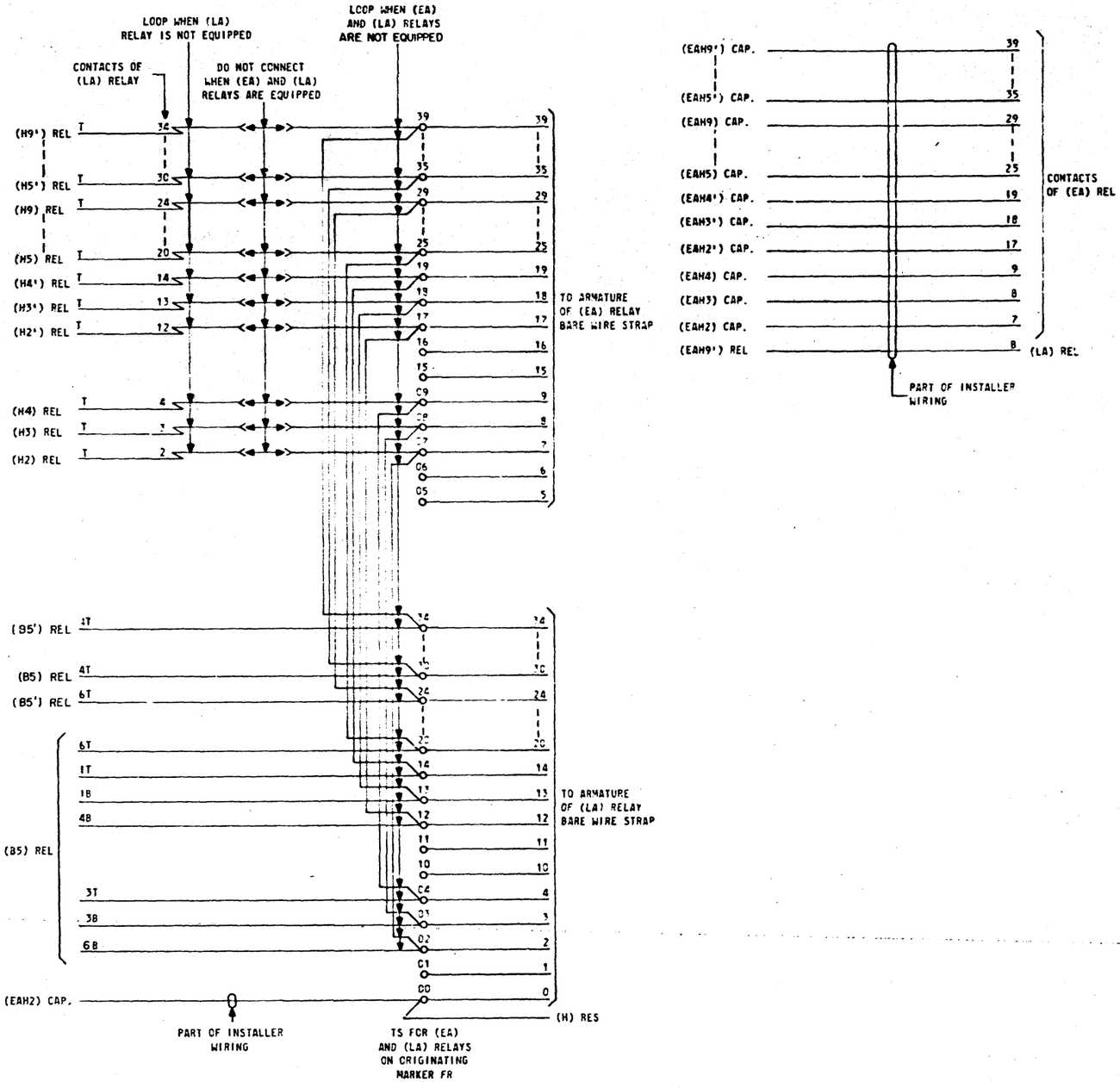
DRAWING ISSUE
ICID

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G5

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-G5

CAD 8 (MFR DISC)



DRAWING ISSUE: HOID TJD

SD-25016-01-G6

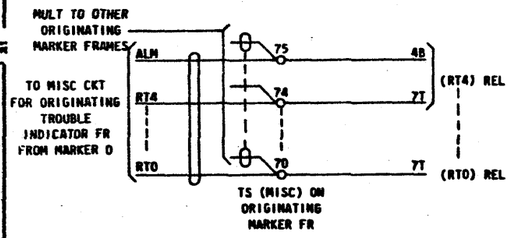
HIGGINS 4465 K&E

101

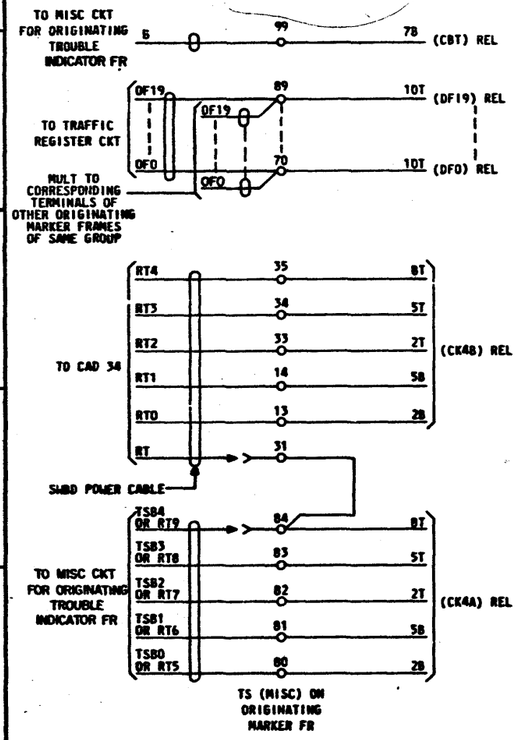
ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G6

BELL TELEPHONE LABORATORIES INCORPORATED 65

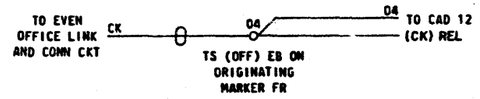
CAD 9 (A&M ONLY)



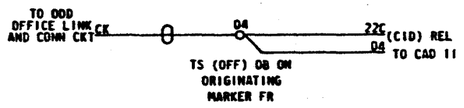
CAD 10 (MFR DISC)



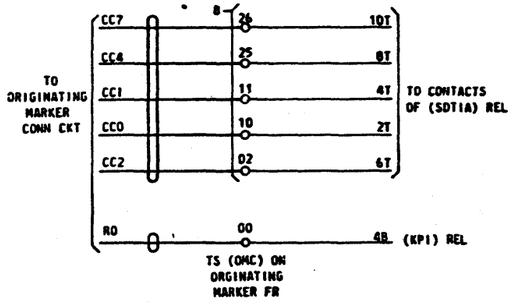
CAD 11 (MFR DISC)



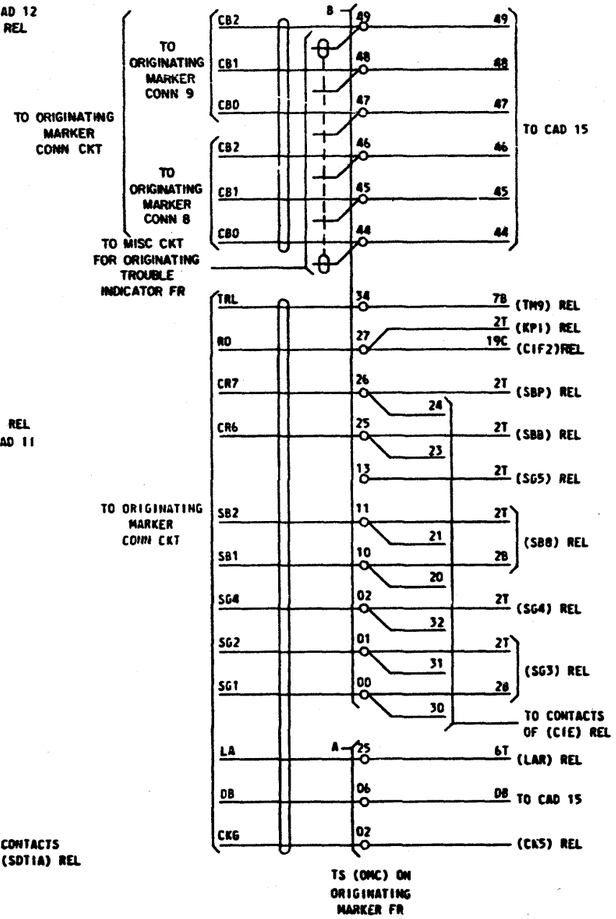
CAD 12 (MFR DISC)



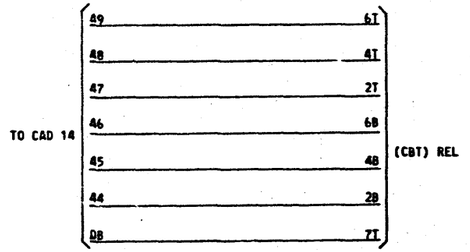
CAD 13 (A&M ONLY)



CAD 14 (MFR DISC)



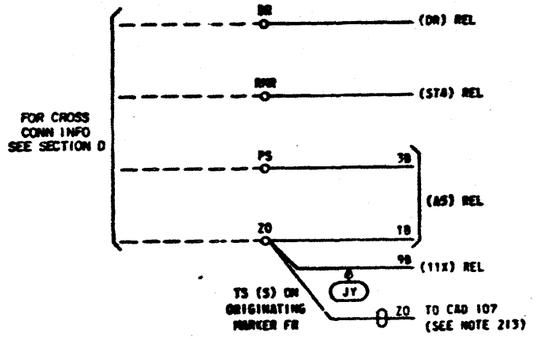
CAD 15 (MFR DISC)



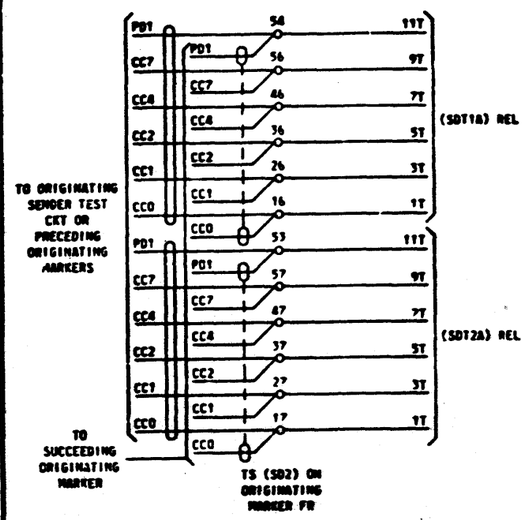
ORIGINATING MARKER CIRCUIT (2) SD-25016-01-07

BELL TELEPHONE LABORATORIES INCORPORATED 6S

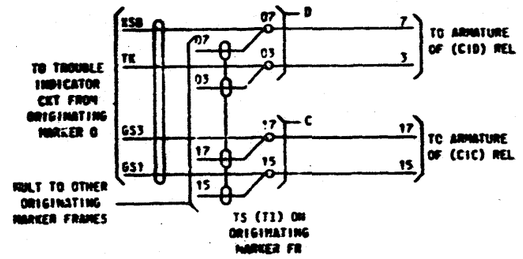
CAD 16 (MFR DISC)



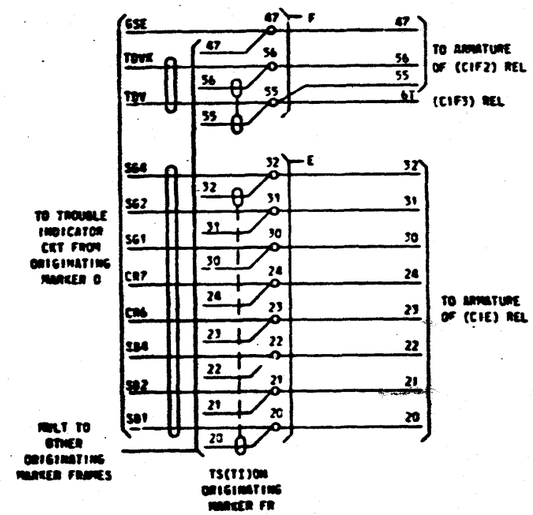
CAD 17 (A & M ONLY)
(FOR APP FIG 23, JX OPTION)



CAD 18 (MFR DISC)



CAD 19 (MFR DISC)



SD-25016-01-68

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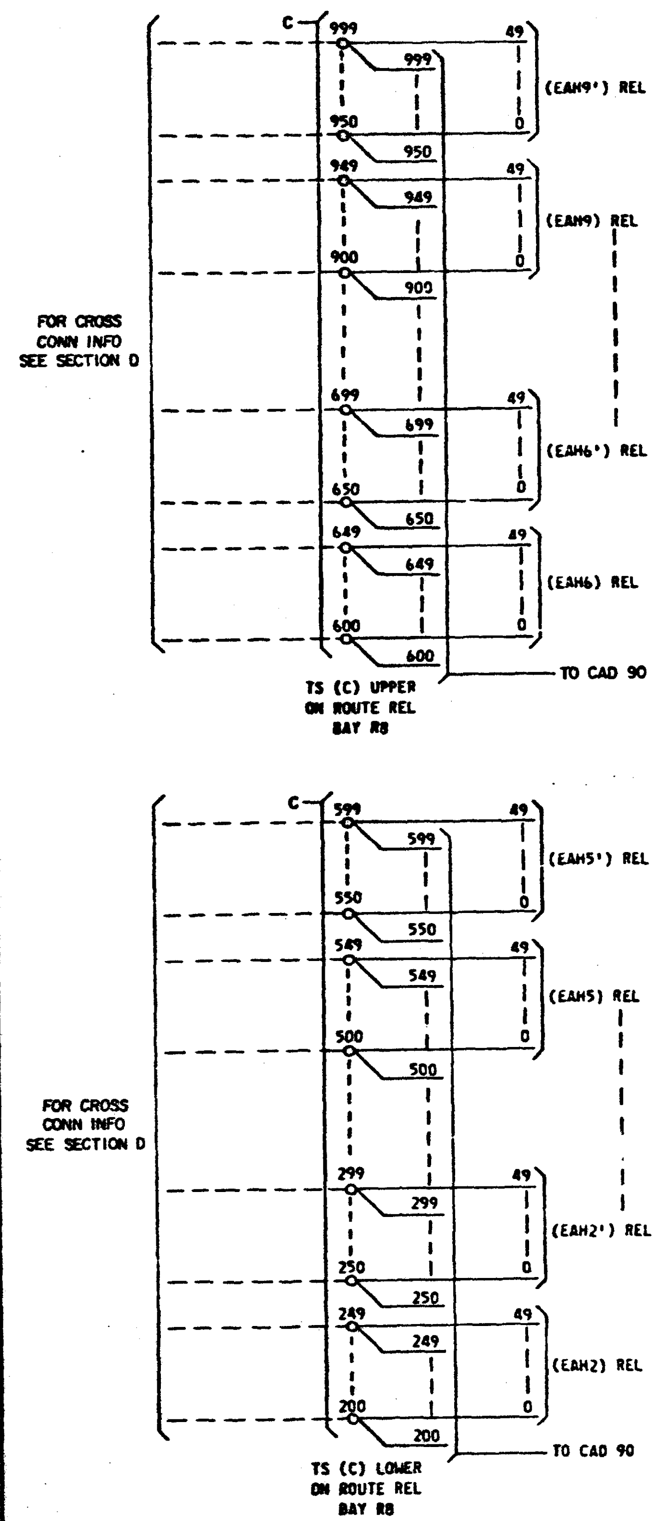
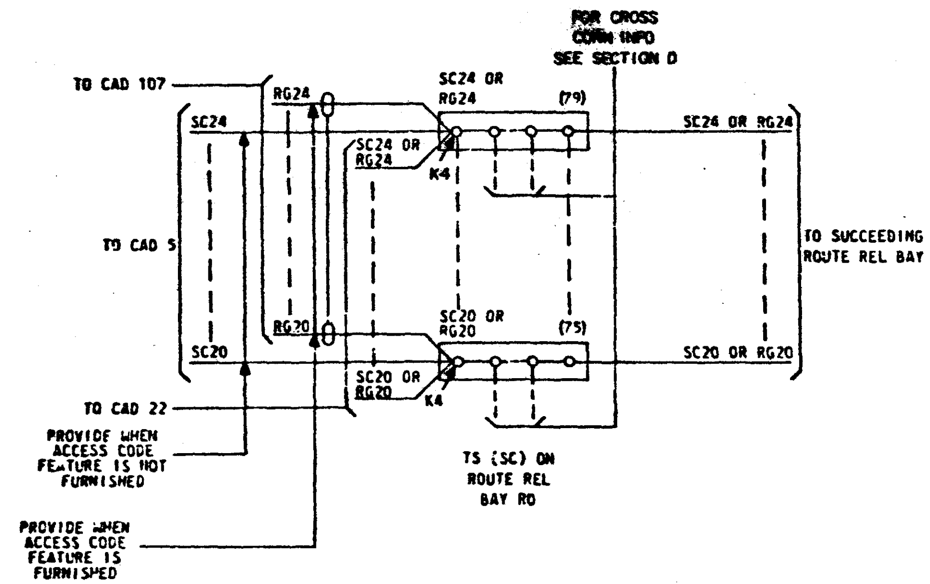
ORIGINATING MARKER CIRCUIT (2) SD-25016-01-68

BELL TELEPHONE LABORATORIES INCORPORATED 6S

CAD 20 (A&M ONLY)



CAD 21 (A & M ONLY)



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ORIGINATING MARKER CIRCUIT

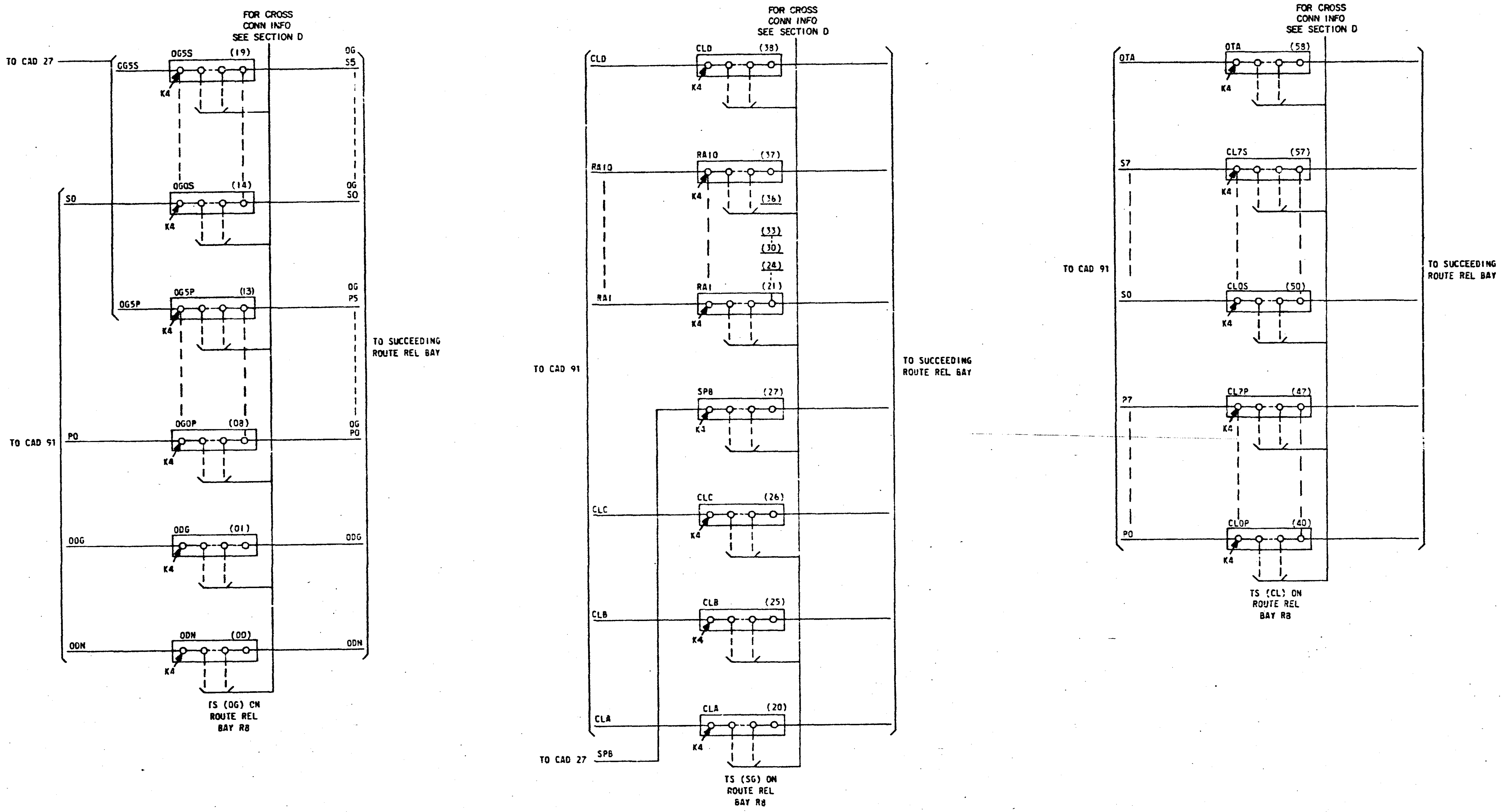
BELL TELEPHONE LABORATORIES INCORPORATED

(2) SD-25016-01-G9

6S

SD-25016-01-G9

PART OF CAD 22 (A&M ONLY)



101

ORIGINATING MARKER CIRCUIT

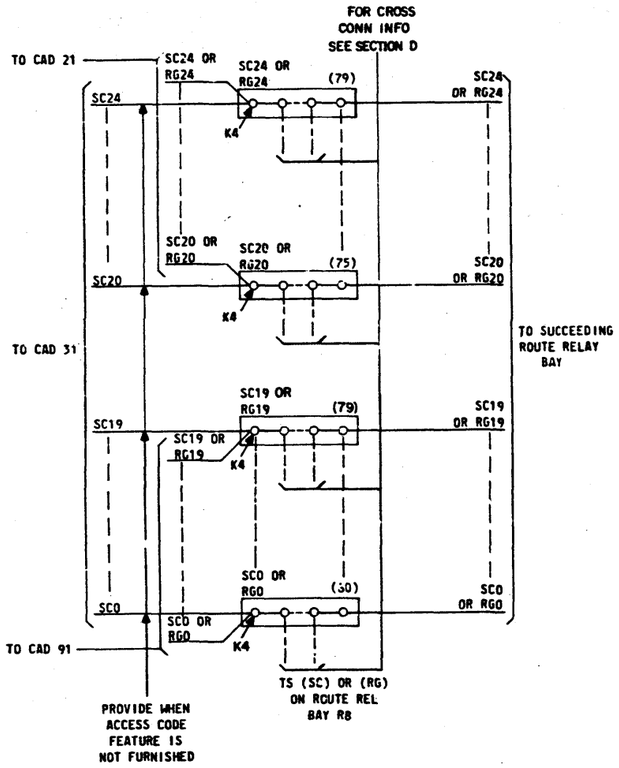
(2) SD-25016-01-G10

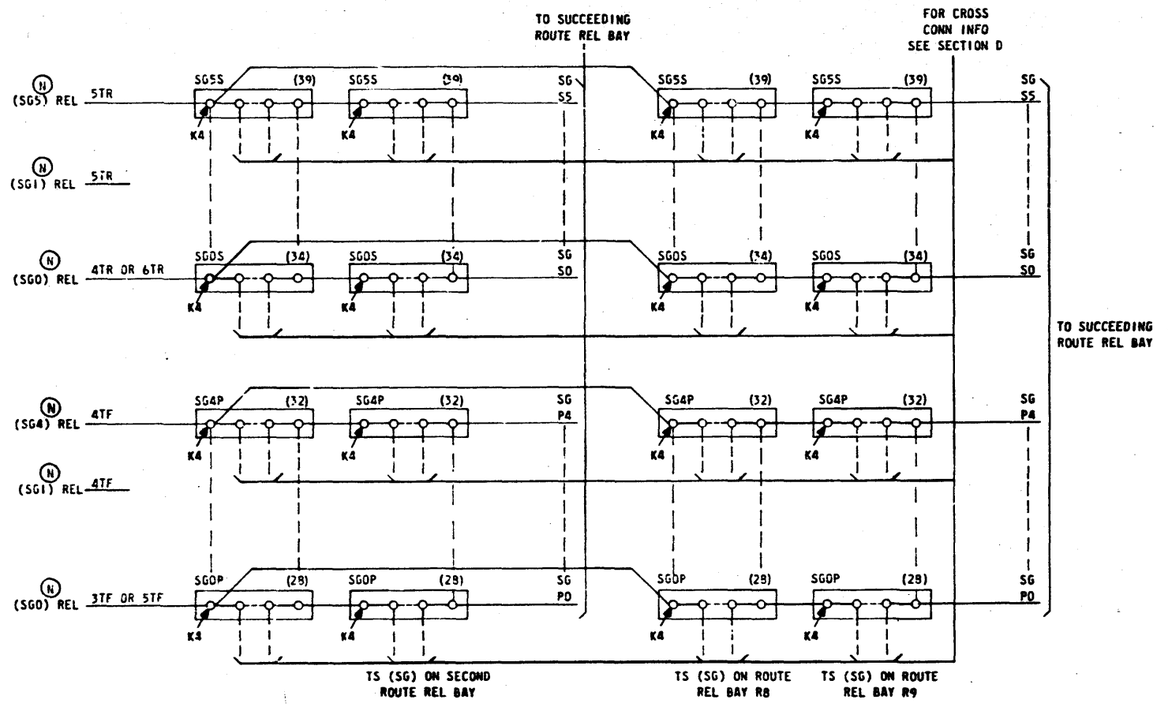
BELL TELEPHONE LABORATORIES INCORPORATED

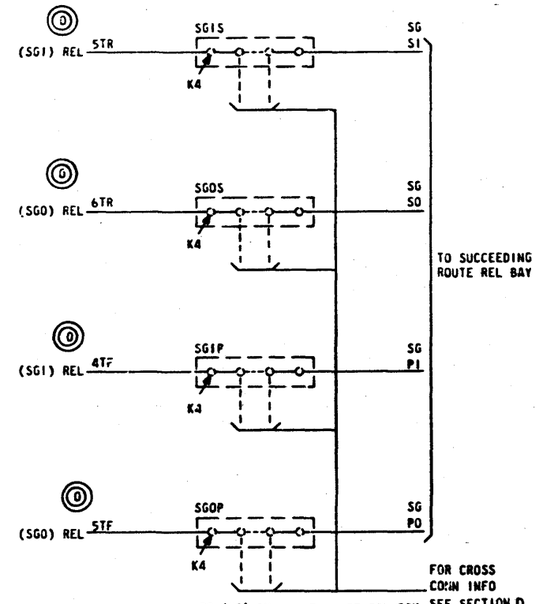
6S

SD-25016-01-G10

PART OF CAD 22 (A&M ONLY)







101

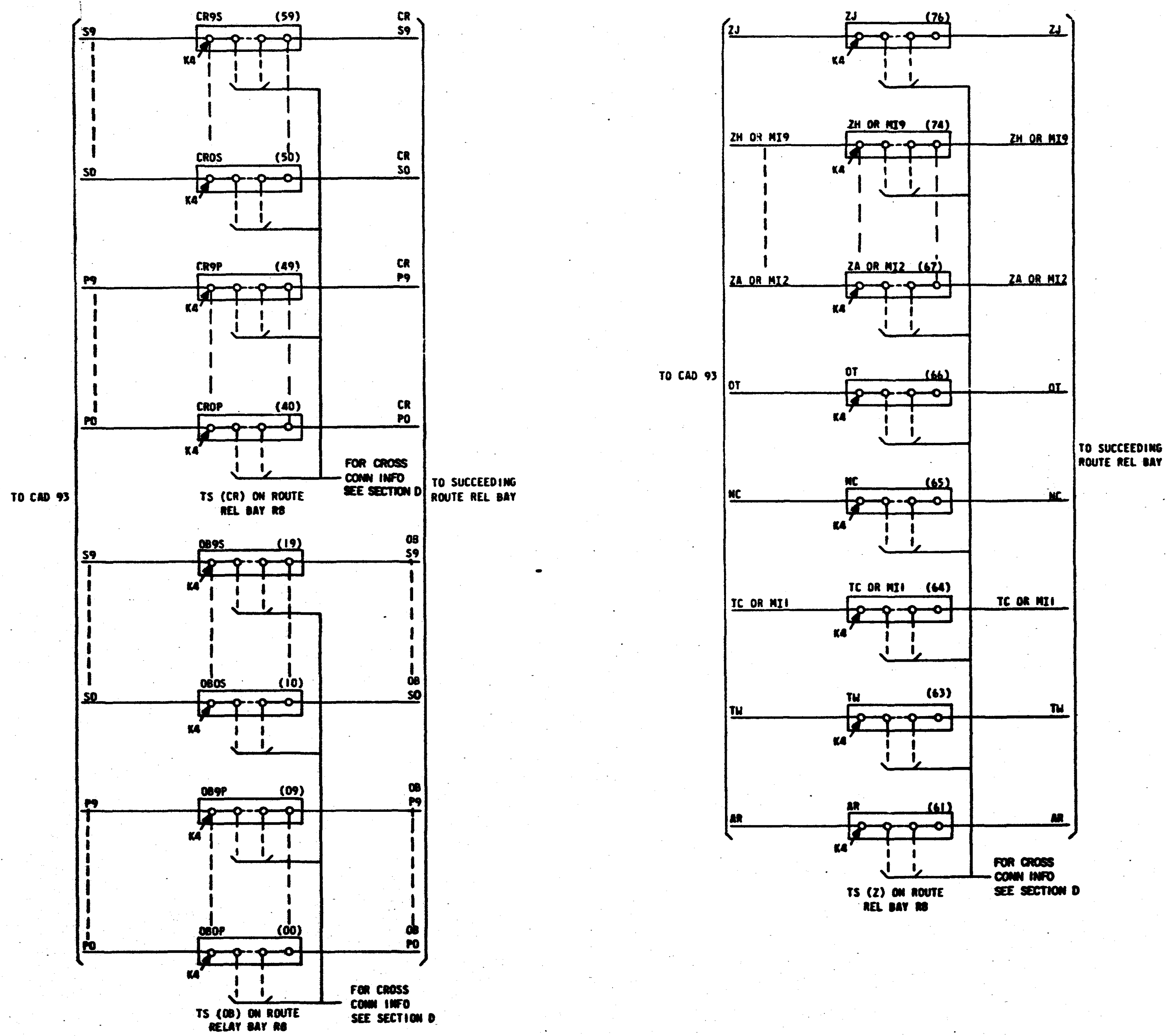
ORIGINATING MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25016-01-611

6S

PART OF CAD 22 (A&M ONLY)



ORIGINATING MARKER CIRCUIT

SD-25016-01-612

BELL TELEPHONE LABORATORIES INCORPORATED

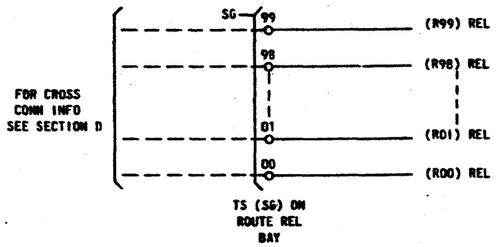
2

6S

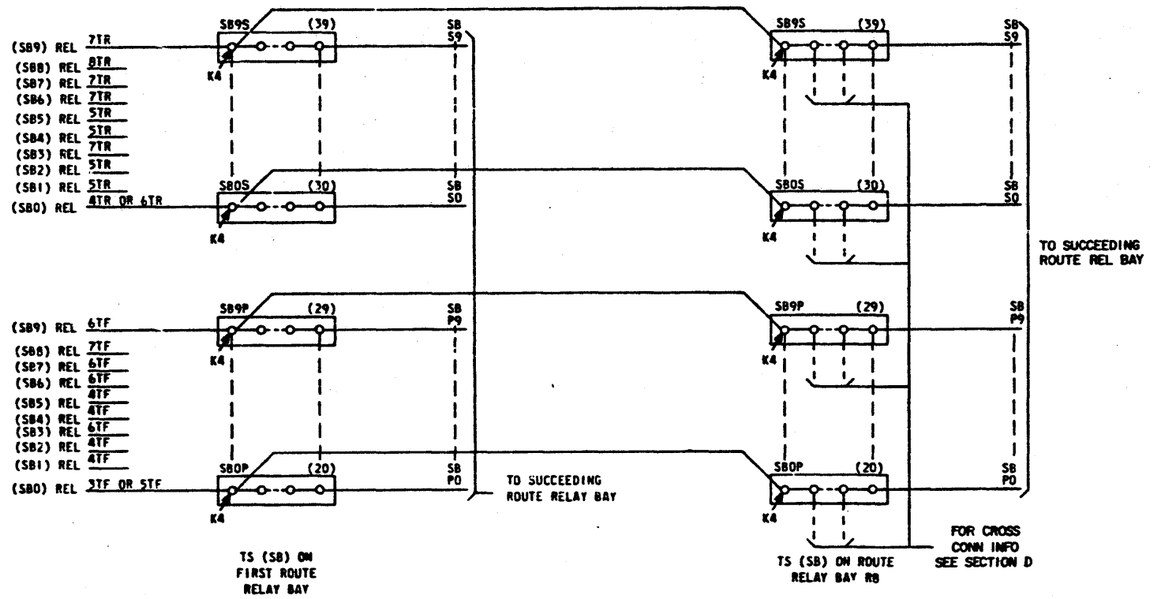
101

SD-25016-01-612

CAD 23 (MFR DISC)



PART OF CAD 24 (MFR DISC)



DRAWING ISSUE
IOID DM

101

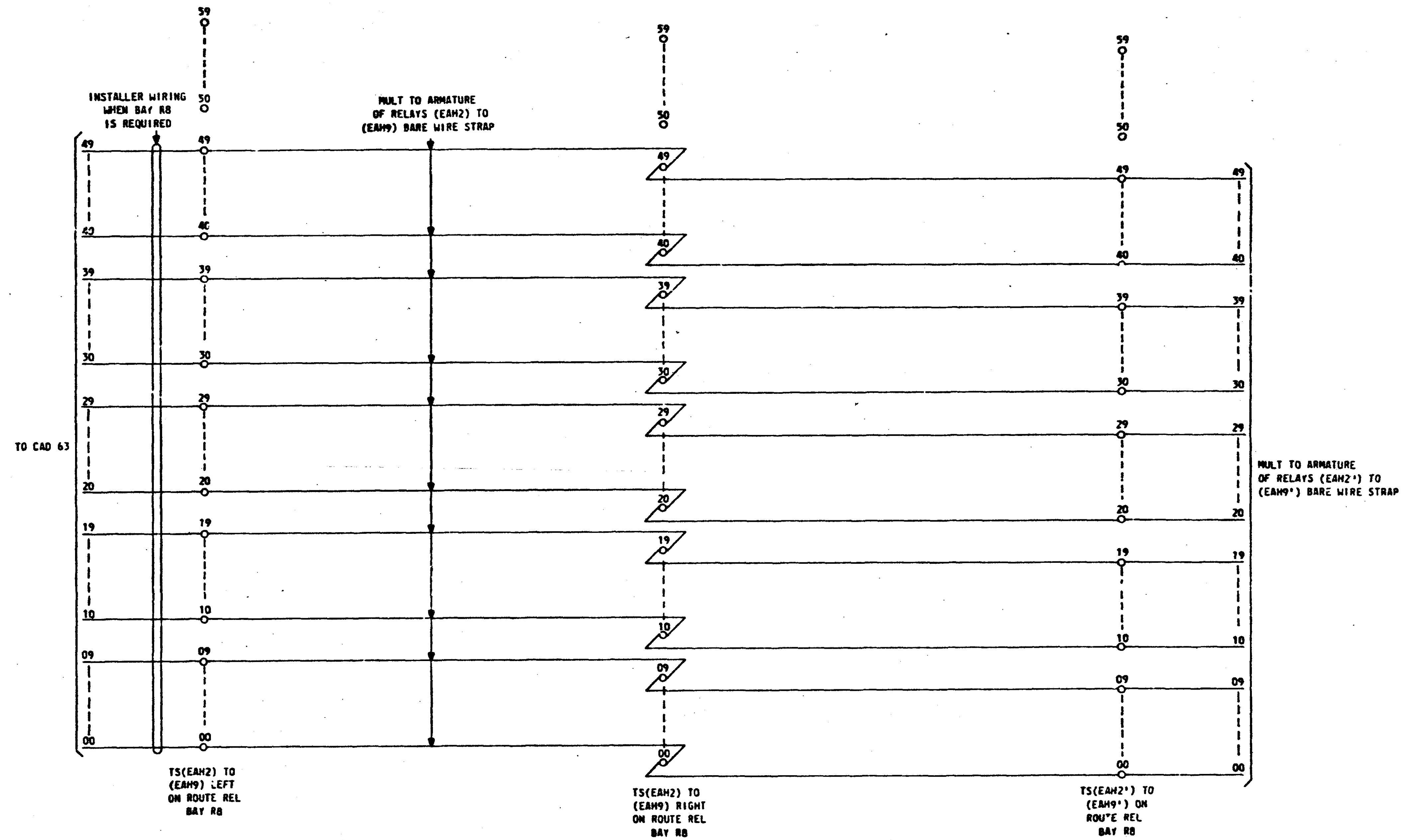
ORIGINATING MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25016-01-G13

CAD 25 (A&M ONLY)
(SEE NOTE 206)



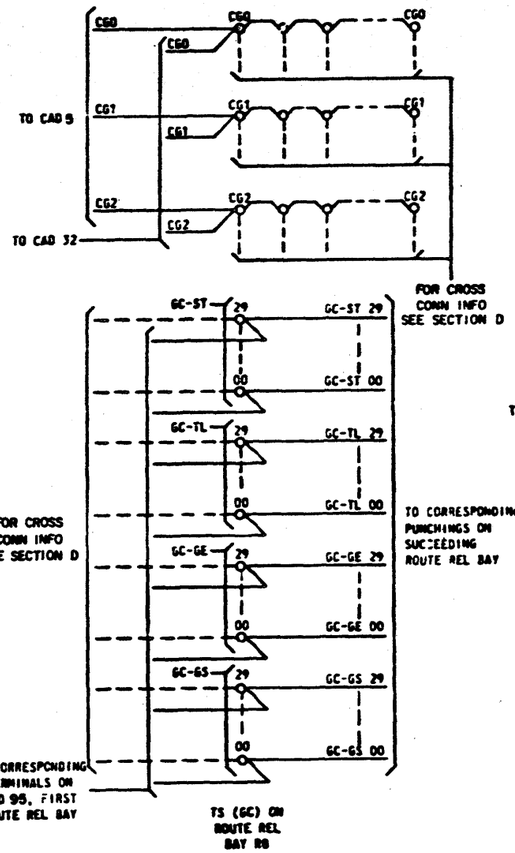
ORIGINATING MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25016-01-G14

101

CAD 26 (A&M ONLY)



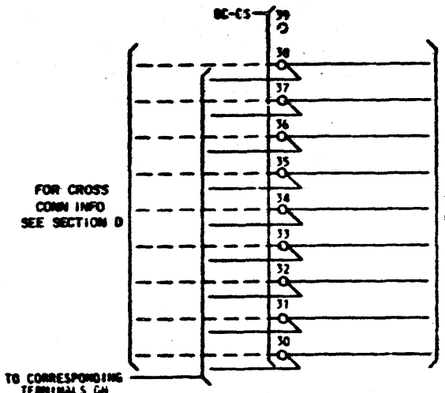
FOR CROSS CONN INFO SEE SECTION D

FOR CROSS CONN INFO SEE SECTION D

TO CORRESPONDING PUNCHINGS ON SUCCEEDING ROUTE REL BAY

TO CORRESPONDING TERMINALS ON CAD 95, FIRST ROUTE REL BAY

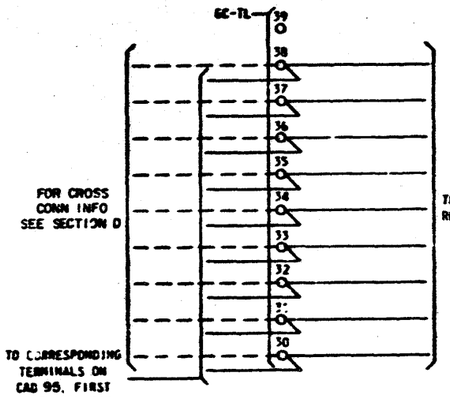
TS (6C) ON ROUTE REL BAY R8



FOR CROSS CONN INFO SEE SECTION D

TO SUCCEEDING ROUTE REL BAY

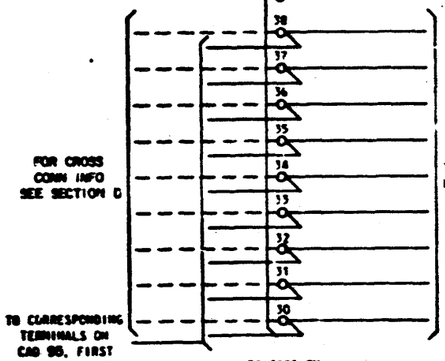
TO CORRESPONDING TERMINALS ON CAD 95, FIRST ROUTE REL BAY



FOR CROSS CONN INFO SEE SECTION D

TO SUCCEEDING ROUTE REL BAY

TO CORRESPONDING TERMINALS ON CAD 95, FIRST ROUTE REL BAY

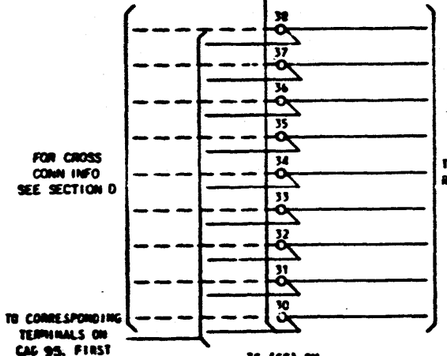


FOR CROSS CONN INFO SEE SECTION D

TO SUCCEEDING ROUTE REL BAY

TO CORRESPONDING TERMINALS ON CAD 95, FIRST ROUTE REL BAY

TS (6C) ON ROUTE REL BAY R8



FOR CROSS CONN INFO SEE SECTION D

TO SUCCEEDING ROUTE REL BAY

TO CORRESPONDING TERMINALS ON CAD 95, FIRST ROUTE REL BAY

TS (6C) ON ROUTE REL BAY R8

SD-25016-01-G15

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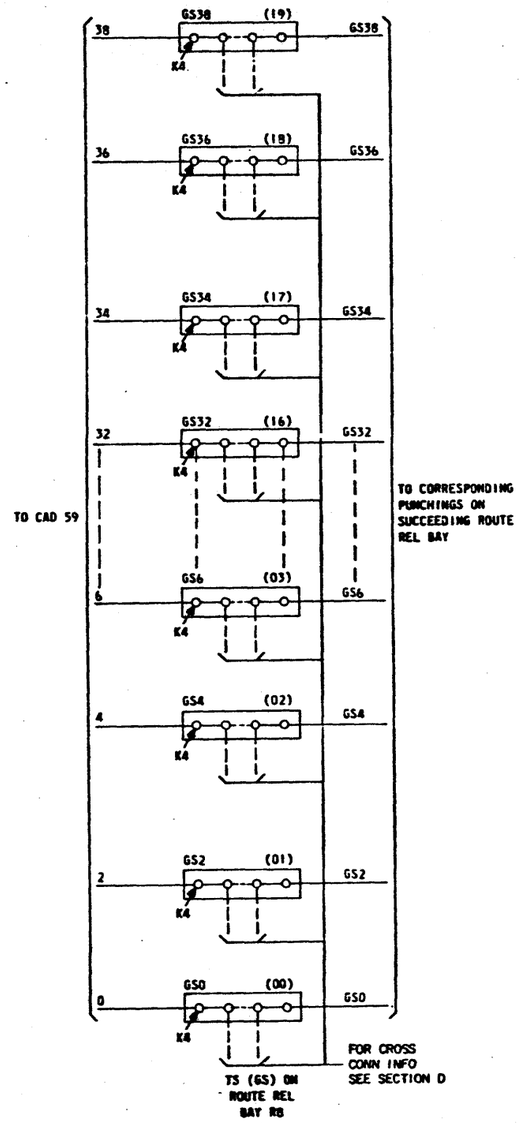
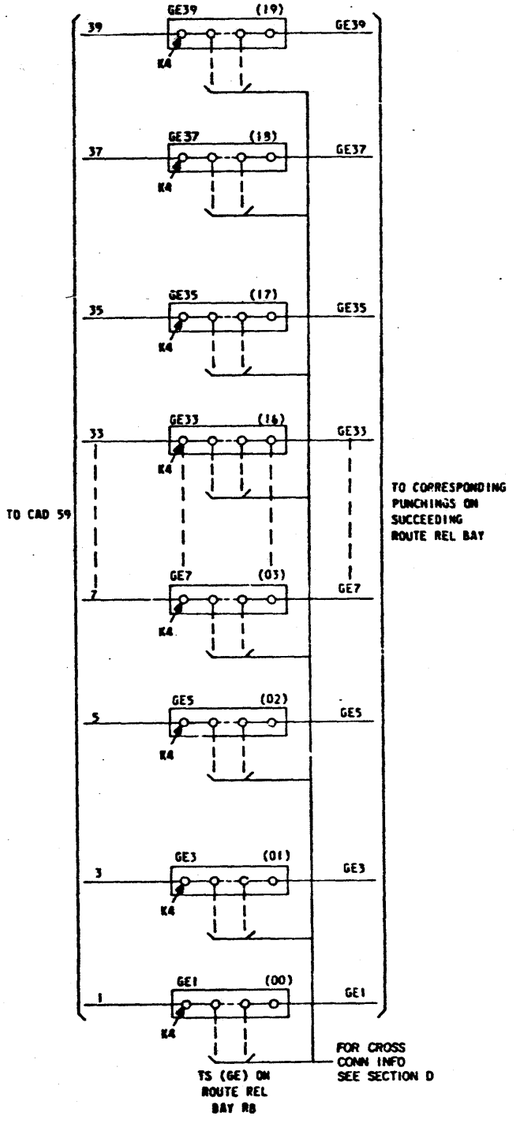
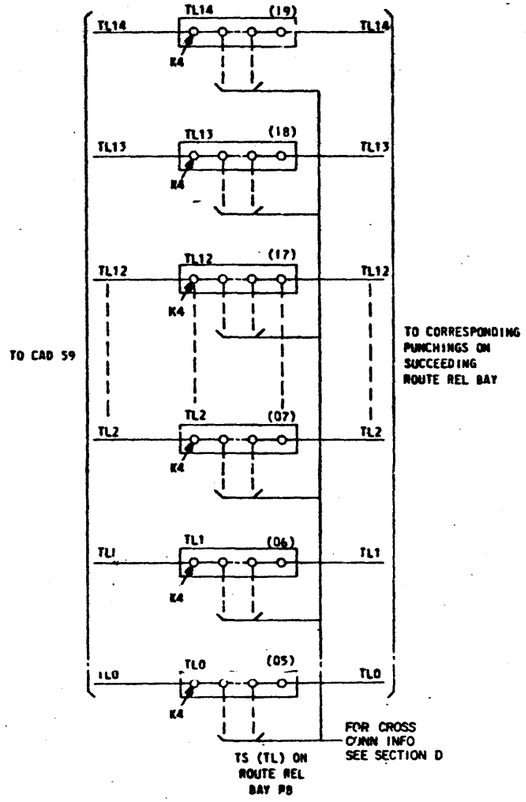
ORIGINATING MASTER CIRCUIT (2) SD-25016-01-G15

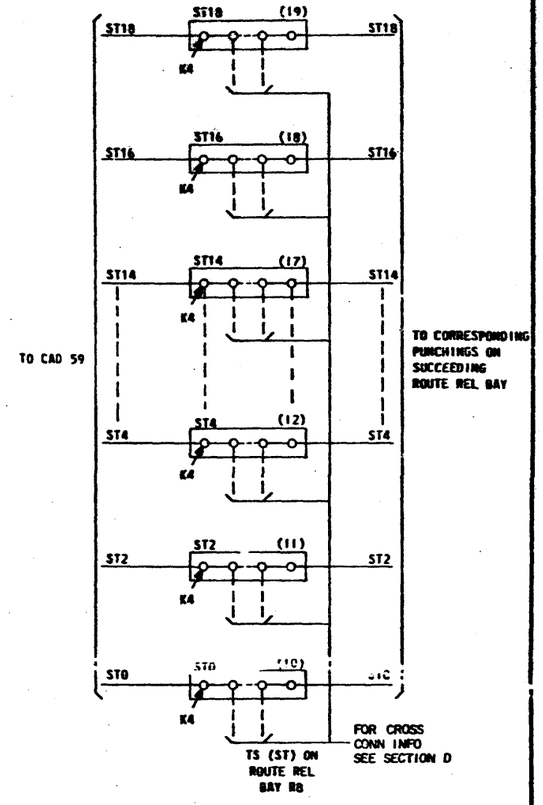
BELL TELEPHONE LABORATORIES INCORPORATED 6S

PART OF CAD 27 (A&M ONLY)









DRAWING ISSUE 3010 G.E.

SD-25016-01-616

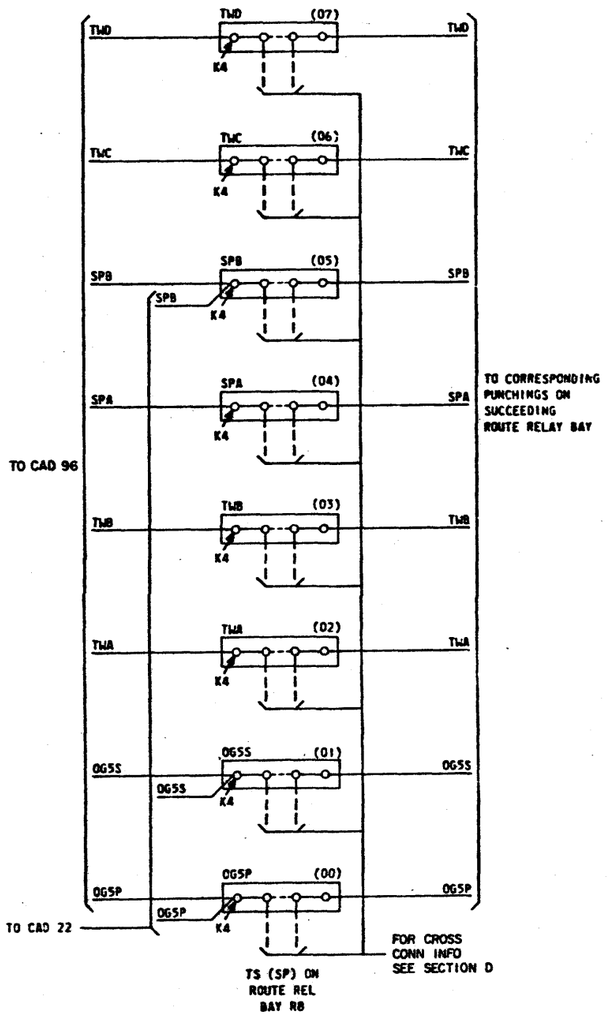
HIGGINS 4485 KNE

101

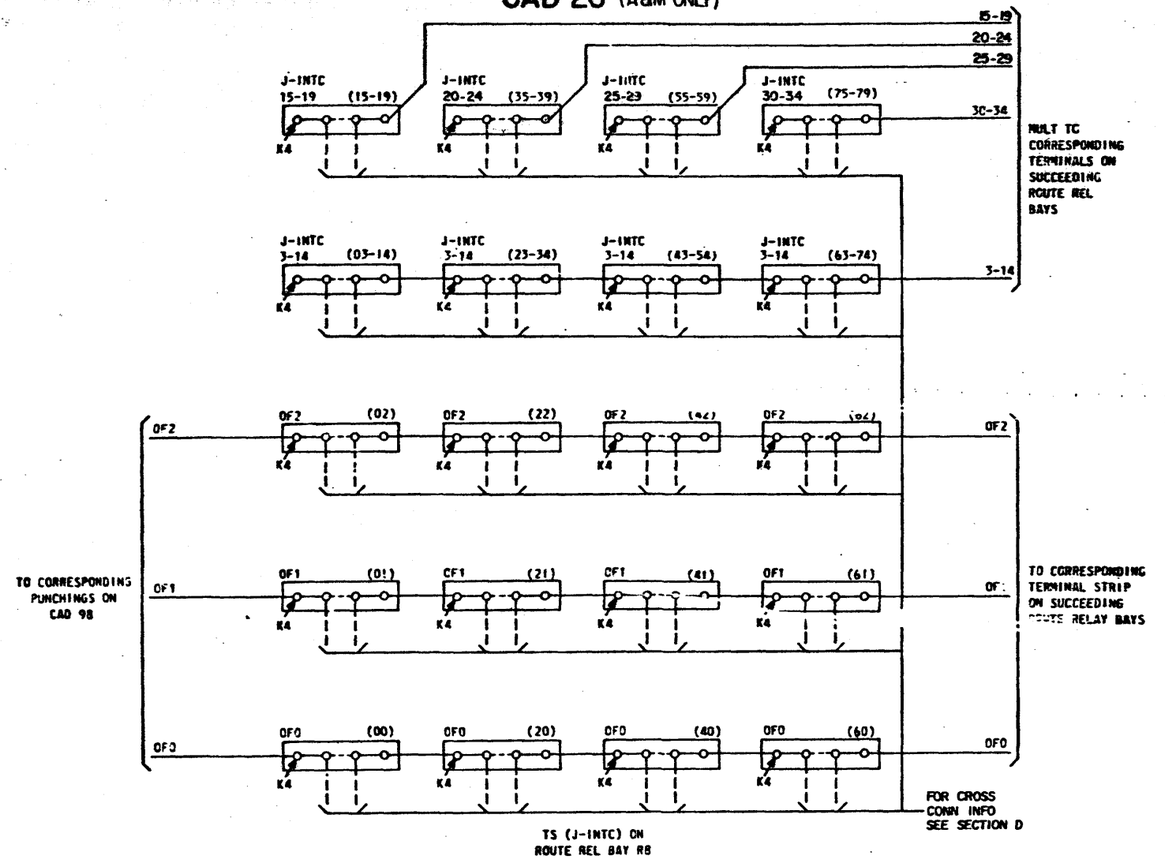
ORIGINATING MARKER CIRCUIT (2) SD-25016-01-616

BELL TELEPHONE LABORATORIES INCORPORATED 6S

PART OF CAD 27 (A&M ONLY)



CAD 28 (A&M ONLY)



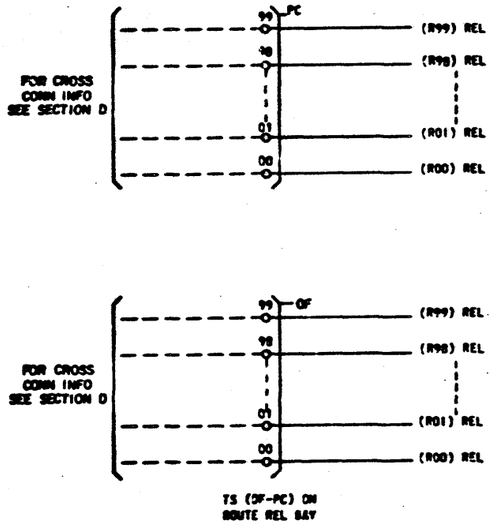
SD-25016-01-G17

101

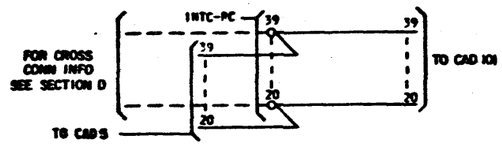
ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G17

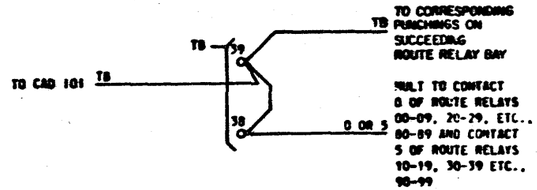
BELL TELEPHONE LABORATORIES INCORPORATED 6S

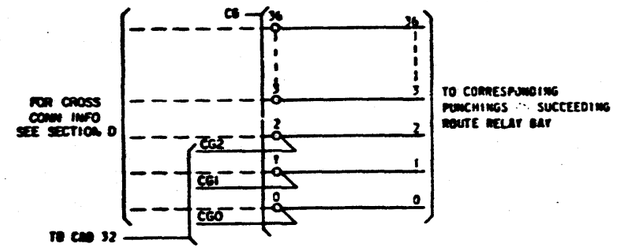
CAD 29 (A&M ONLY)

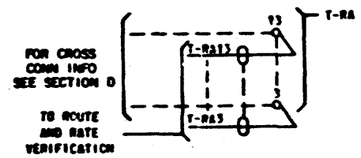


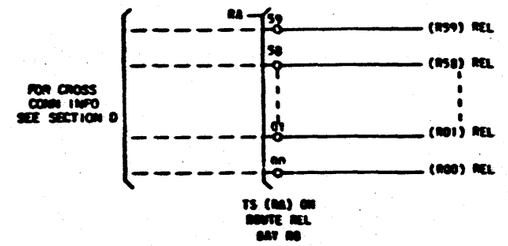
CAD 30 (A&M ONLY)









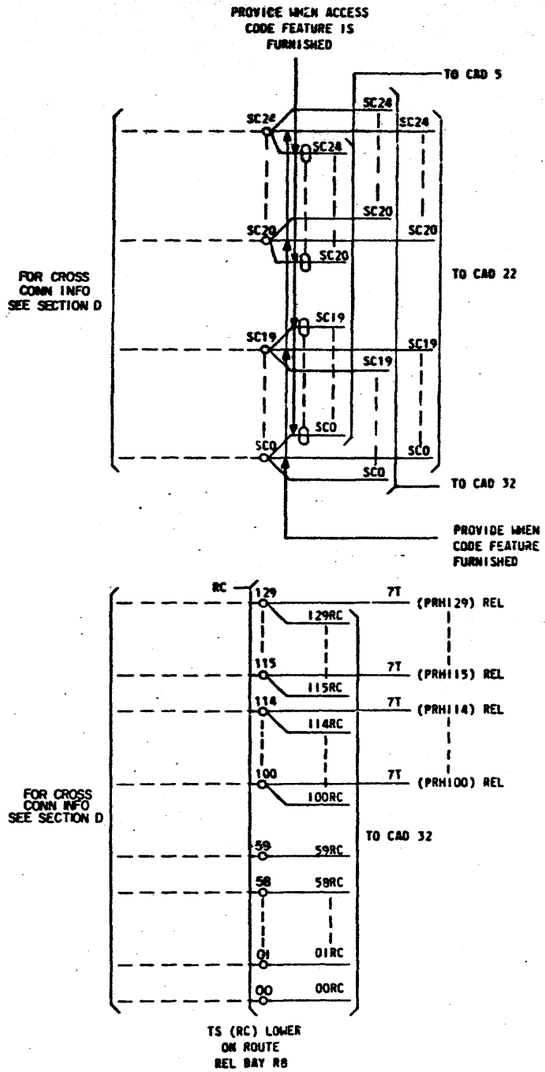


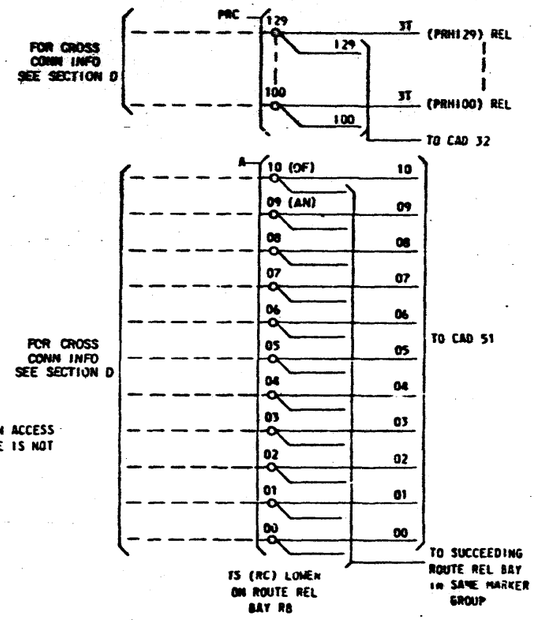
101

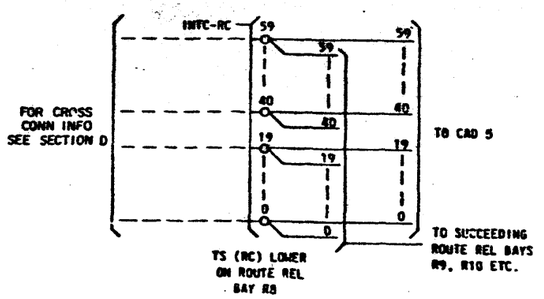
ORIGINATING MARKER CIRCUIT	SD-25016-01-GIB
BELL TELEPHONE LABORATORIES INCORPORATED	6S

810-10-8025-05

CAD 31 (A&M ONLY)







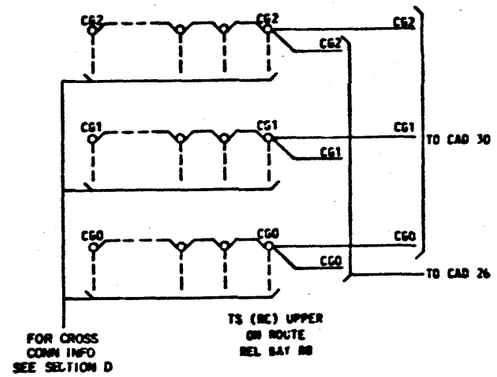
SD-25016-01-GI9

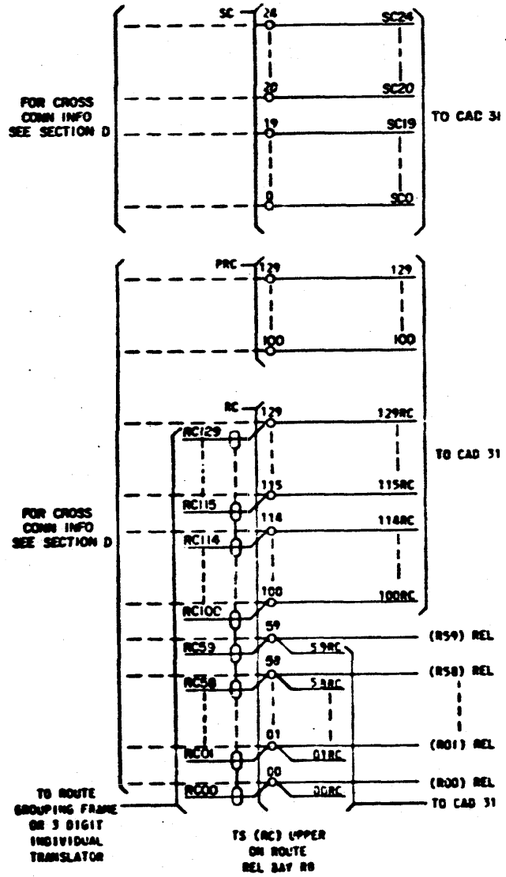
HIGGINS 4465

101

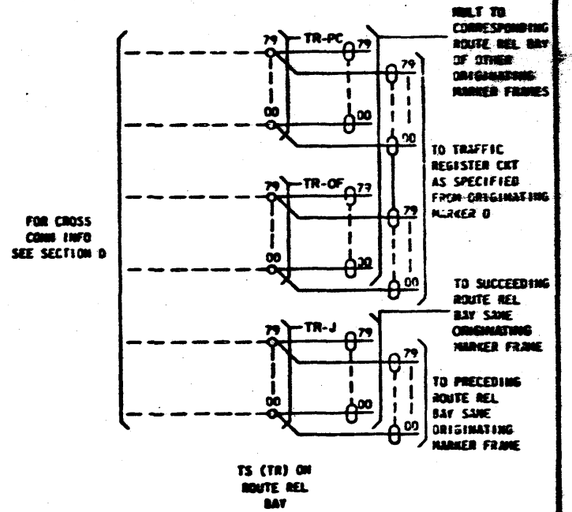
ORIGINATING MARKER CIRCUIT	(2) SD-25016-01-GI9
BELL TELEPHONE LABORATORIES INCORPORATED	6S

CAD 32 (A&M ONLY)





CAD 33 (A&M ONLY)



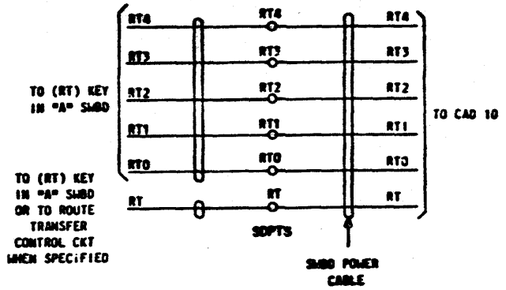
101

ORIGINATING MARKER CIRCUIT (2) SD-25006-01-620

BELL TELEPHONE LABORATORIES INCORPORATED 6S

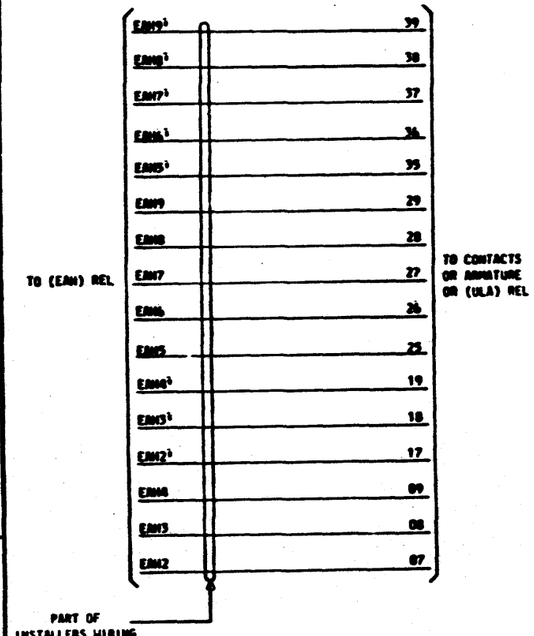
SD-25006-01-620

CAD 34 (MFR DISC)



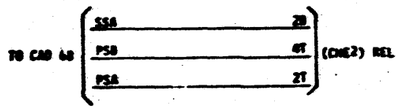
CAD 35 (A & M ONLY)

(FOR APP FIG. 53 & 54 WHEN ROUTE REL BAY RB IS FURNISHED)

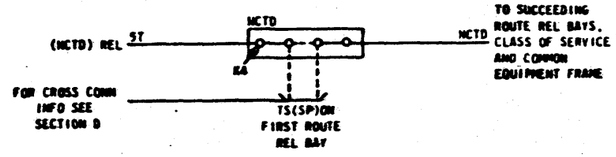


CAD 36 (A & M ONLY)

(FOR APP FIG. 6)



CAD 37 (MFR DISC)



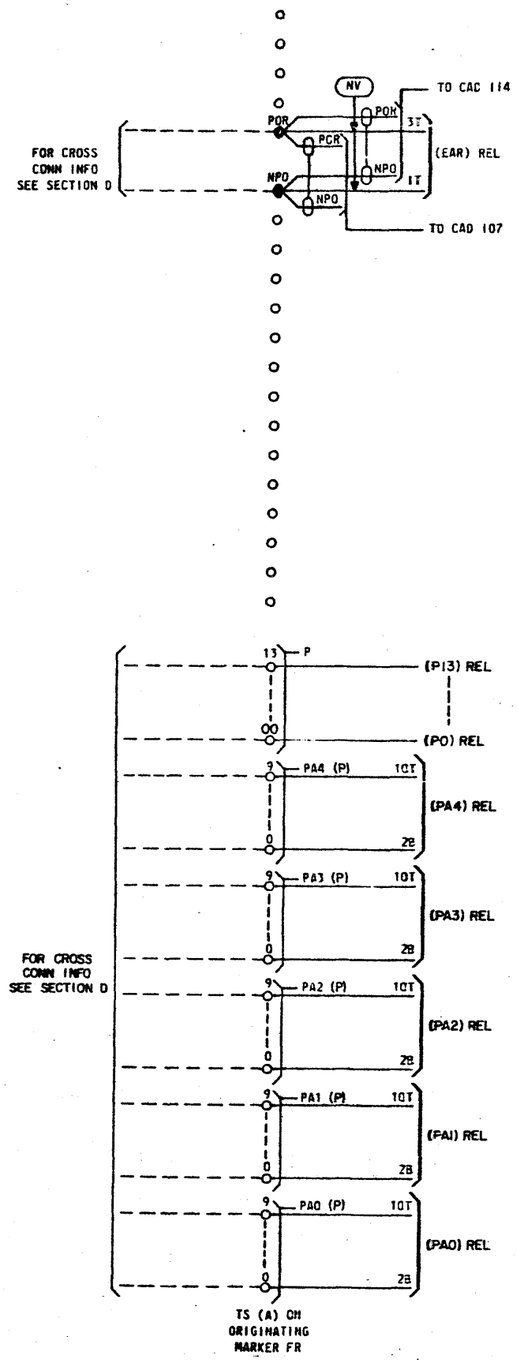
129-10-9062-DS

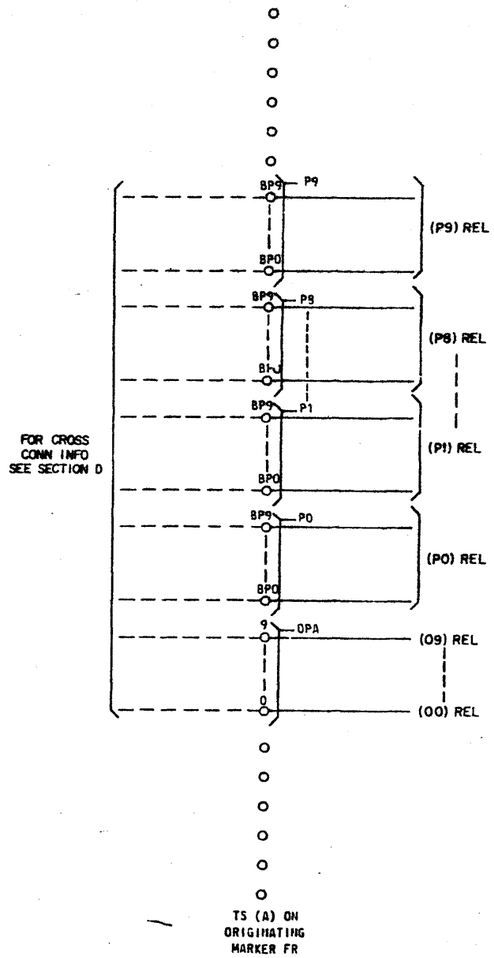
HIGGINS 4465 H-B

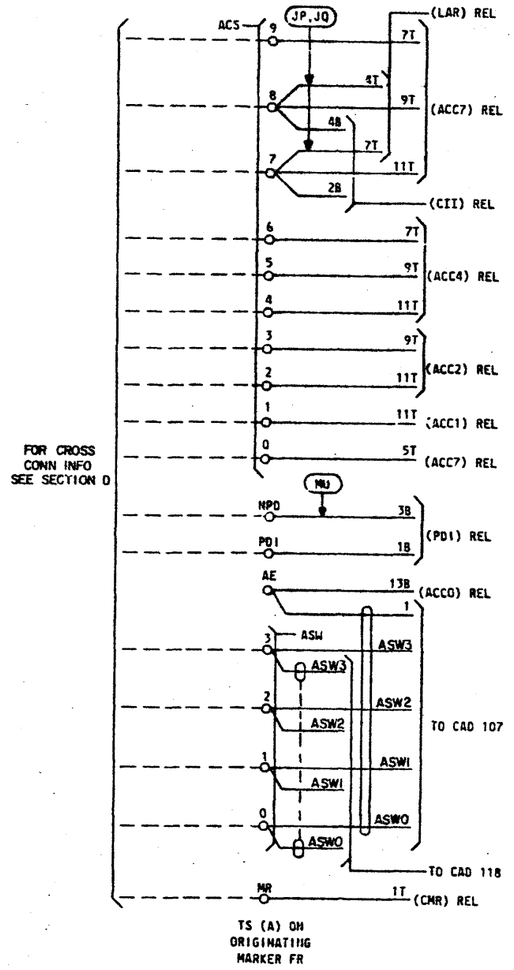
ORIGINATING MARKER CIRCUIT	(2)	SD-25016-01-G21
BELL TELEPHONE LABORATORIES INCORPORATED	6S	

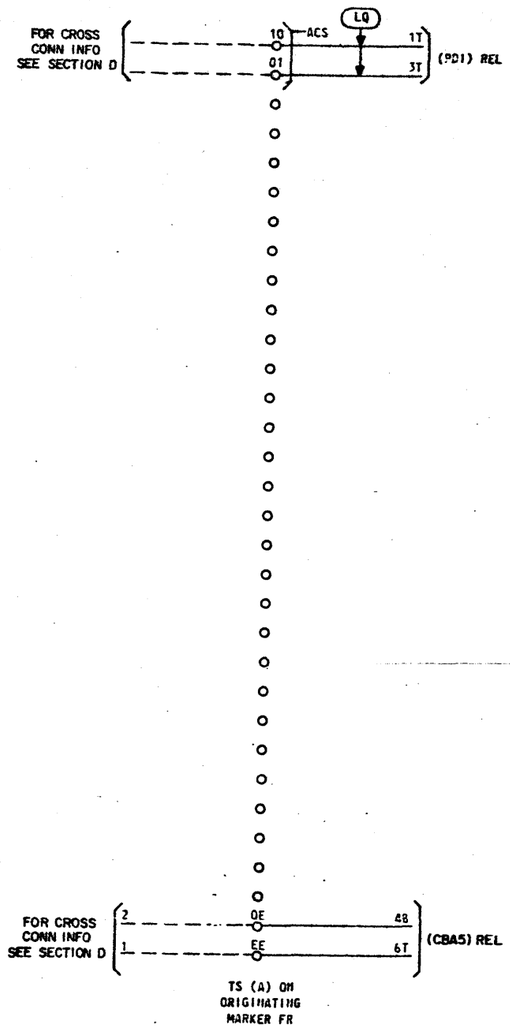
101

PART OF CAD 50









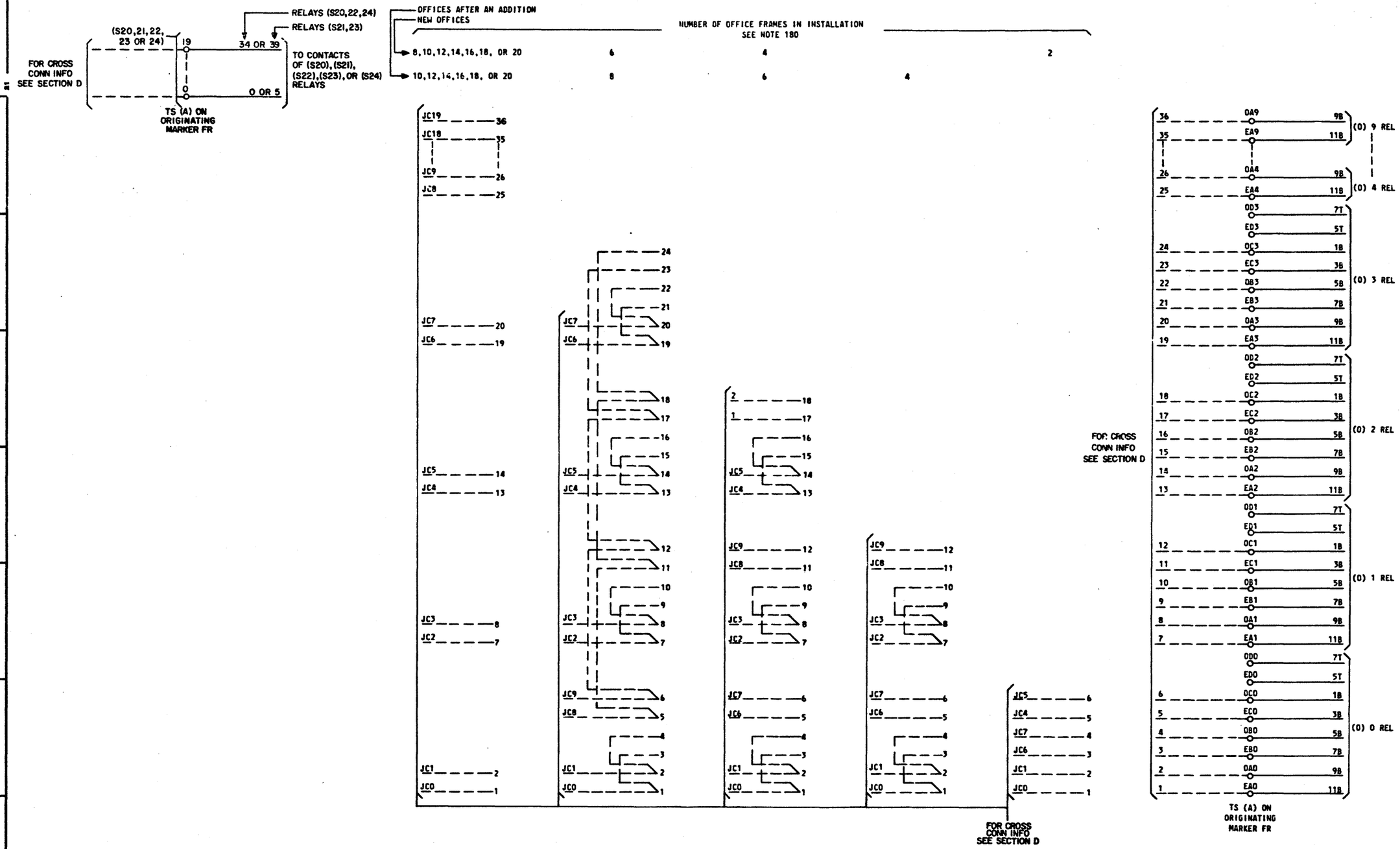
DRAWING ISSUE
106D

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G30

SD-25016-01-G30

GINS 4485

PART OF CAD 50



101

ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-G31

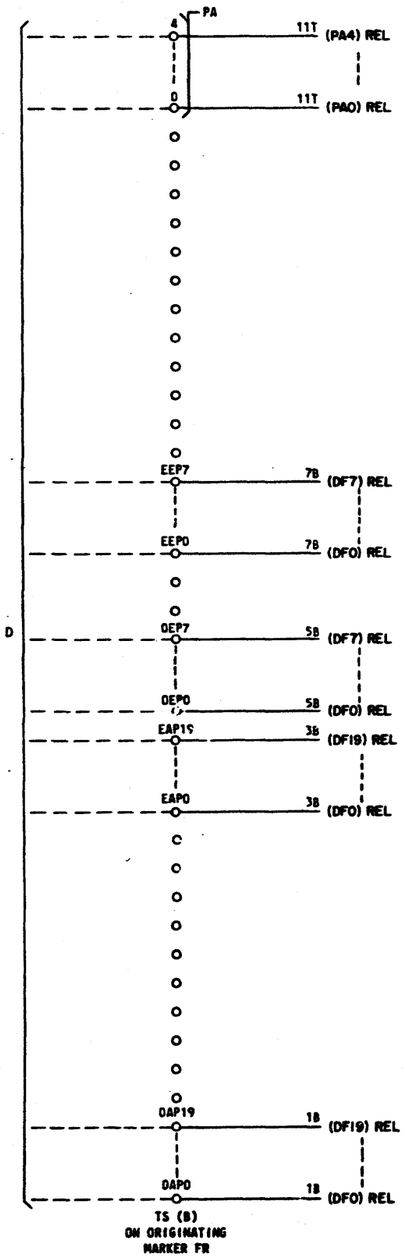
BELL TELEPHONE LABORATORIES INCORPORATED

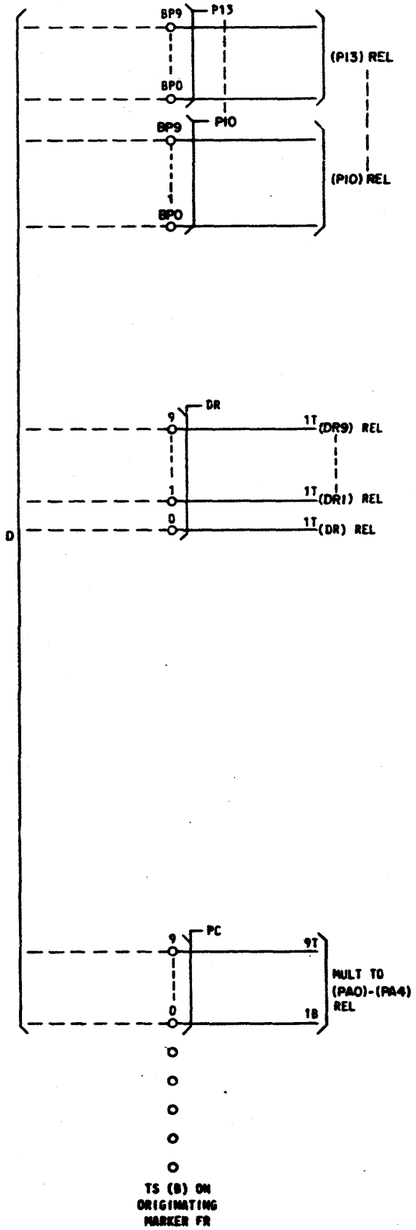
6S

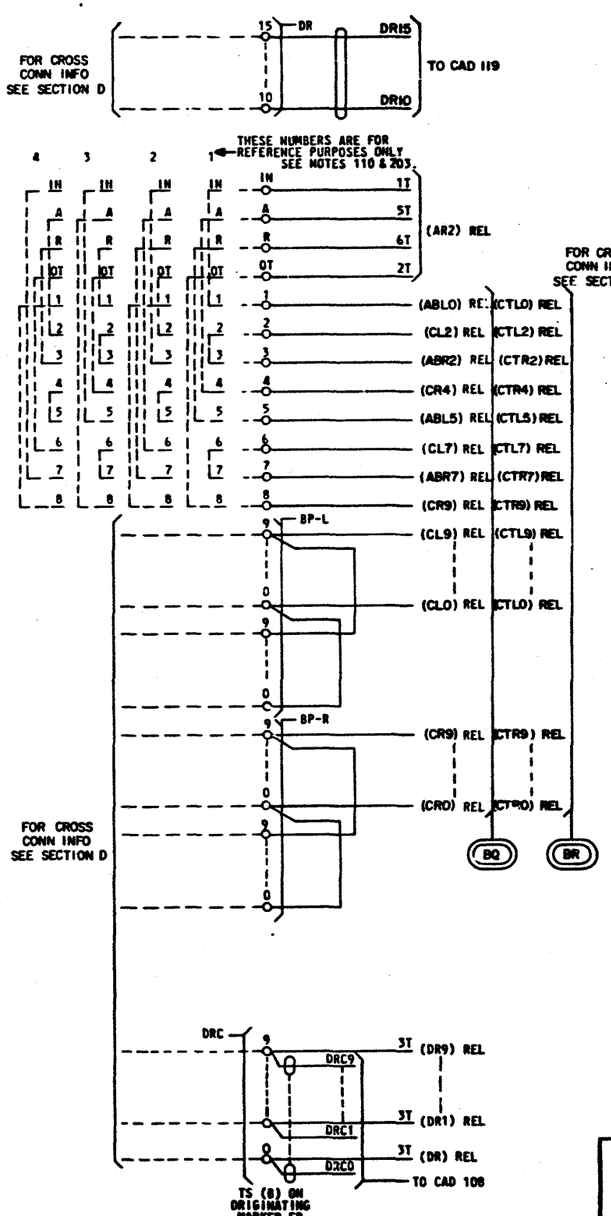
HIGGINS 4465 M-E

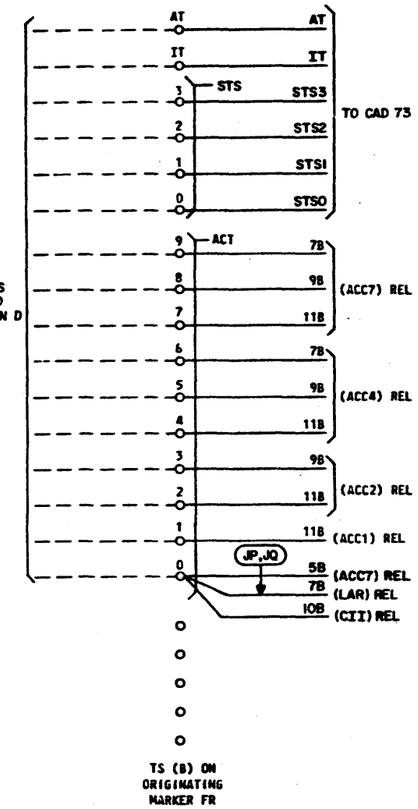
PART OF CAD 51

(SEE NOTES 110 AND 203)









DRAWING ISSUE
10ID G.E.
20ID J.S.

CB
CS

SD-25016-01-632

102

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-632

BELL TELEPHONE LABORATORIES INCORPORATED 6S

PART OF CAD 51

FOR CROSS CONN INFO SEE SECTION D

11X — 6T (11X) REL

17 CB — (CBB5) REL
16 (W) — (0) 9 REL, (CBB1) REL
15 — (CBB5) REL
14 (W) — (0) 9 REL, (CBB1) REL
13 — (CBA5) REL
12 (Z) — (CBH) REL
11 (W) — (CHL) REL
10 (Z) — (CBA5) REL

7 ASW — ASW7
6 — ASW6
5 — ASW5
4 — ASW4
TO CAD 118

FOR CROSS CONN INFO SEE SECTION D

PDA2
PDA1 — (PAR) REL

JC19 — 4T (JC19) REL, 22C
JC0 — 4T (JC0) REL, 20C, (C1C) REL

FOR CROSS CONN INFO SEE SECTION D

TS (8) ON ORIGINATING MARKER FR

10 AN — 0F
9 — AM
TO TRAFFIC REGISTER

11 A — 10
10 — 9
TO CAD 31 (A8M ONLY) OR TO CAD 102

3 HA
2
1 — (AN) REL

9 A — 8
8 — 7
7 — 6
TO CAD 31 (A8M ONLY) OR TO CAD 102

3 AN
2
1 — (AH) REL

6 A — 5
5 — 4
4 — 3
TO CAD 31 (A8M ONLY) OR TO CAD 102

3 AC
2
1 — (AM) REL

CROSS CONN AS REQUIRED

3 A — 2
2 — 1
1 — 0
TO CAD 31 (A8M ONLY) OR TO CAD 102

TS (8) ON ORIGINATING MARKER FR

FOR CROSS CONN INFO SEE SECTION D

4L — 4T (4L) REL
2L — 4T (2L) REL

MIL — 9 3T (MI9) REL, 8 3T (MI8) REL, 7 3T (MI7) REL, 6 3T (MI6) REL, 5 3T (MI5) REL, 4 3T (MI4) REL, 3 3T (MI3) REL, 2 3T (MI2) REL, 1 3T (MI1) REL

FOR CROSS CONN INFO SEE SECTION D

TS (8) ON ORIGINATING MARKER FR

OFFICES AFTER AN ADDITION
NEW OFFICES
NO. OF OFFICE FRAMES IN INSTALLATION
4 OR 6 — 2 OR 8
6 OR 8 — 4 OR 10

CROSS CONN FOR JOBS AS INDICATED

5 — 4 — 3 — 2 — 1 — 0

MP
5 — (SR) REL
4 — 7B (CBA4) REL
3 — 7B (CBA3) REL
2 — 7B (CBA2) REL
1 — 7B (CBA1) REL
0 — 12T (P13) REL, 8K TO CAD 58

OFFICES AFTER AN ADDITION
NEW OFFICES
NO. OF OFFICE FRAMES IN INSTALLATION
4 OR 6 — 2
4,6 OR 8

CROSS CONN FOR JOBS AS INDICATED

4 — 3 — 2 — 2 — 1

CB
9 — (CBL) REL
8 (Z) — (CBA4) REL
7
6 (W) — (CBL) REL
5 (Z) — (CBB5) REL
4 — (CBC) REL
3 — (CBB3) REL
2 — (CBB2) REL
1 — (CBB1) REL

FOR CROSS CONN INFO SEE SECTION D

RTC19 — RTC19
RTC18 — RTC18
RTC17 — RTC17
RTC16 — RTC16
RTC15 — RTC15
RTC14 — RTC14
RTC13 — RTC13
RTC12 — RTC12
RTC11 — RTC11
RTC10 — RTC10
RTC — TO CAD 115 (SEE NOTE 214)

TO CAD 137 (SEE NOTE 214)

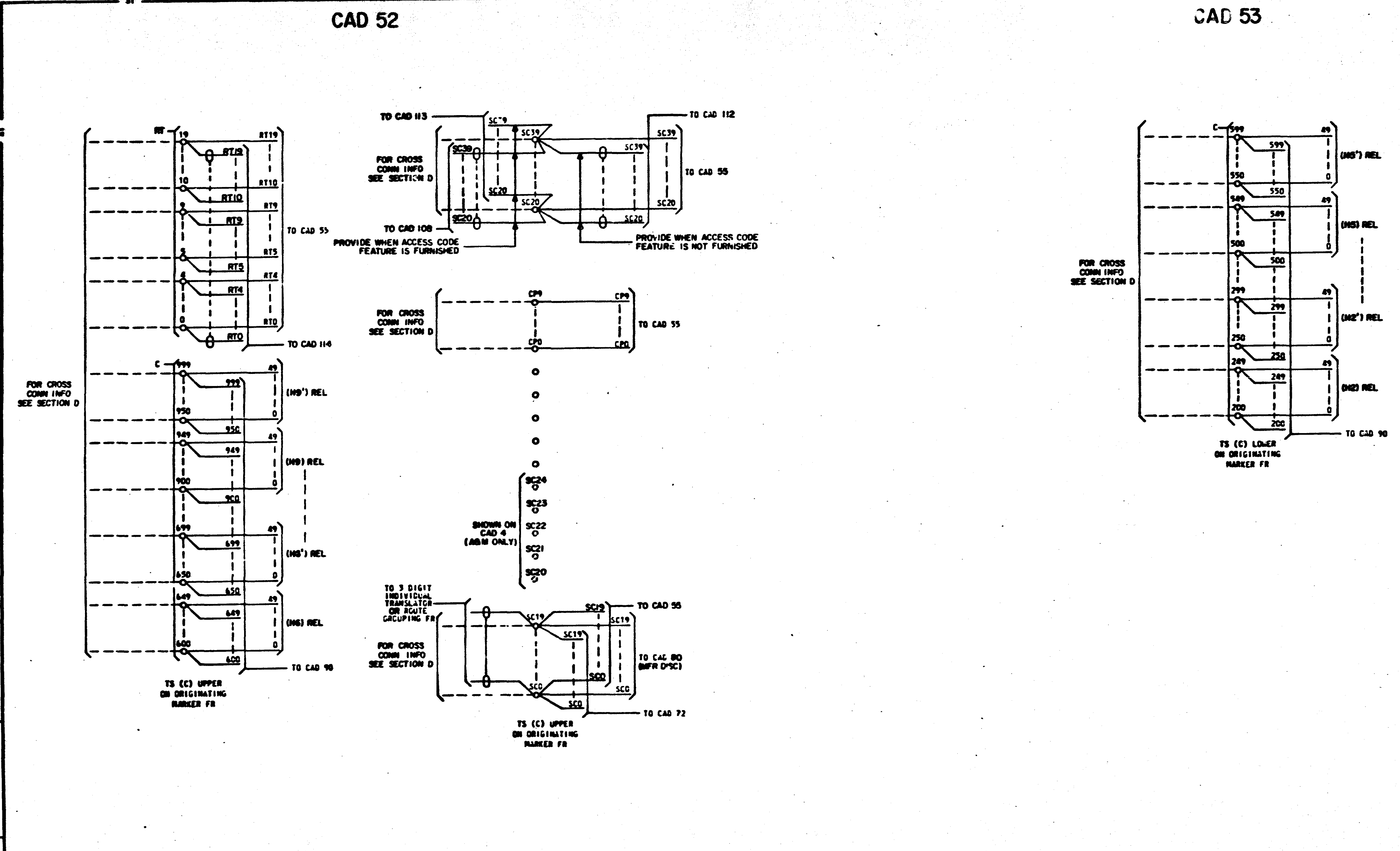
TS (8) ON ORIGINATING MARKER FR

DRAWING ISSUE 106D

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-633

BELL TELEPHONE LABORATORIES INCORPORATED — 6S

SD-25016-01-633



101

ORIGINATING MARKER CIRCUIT

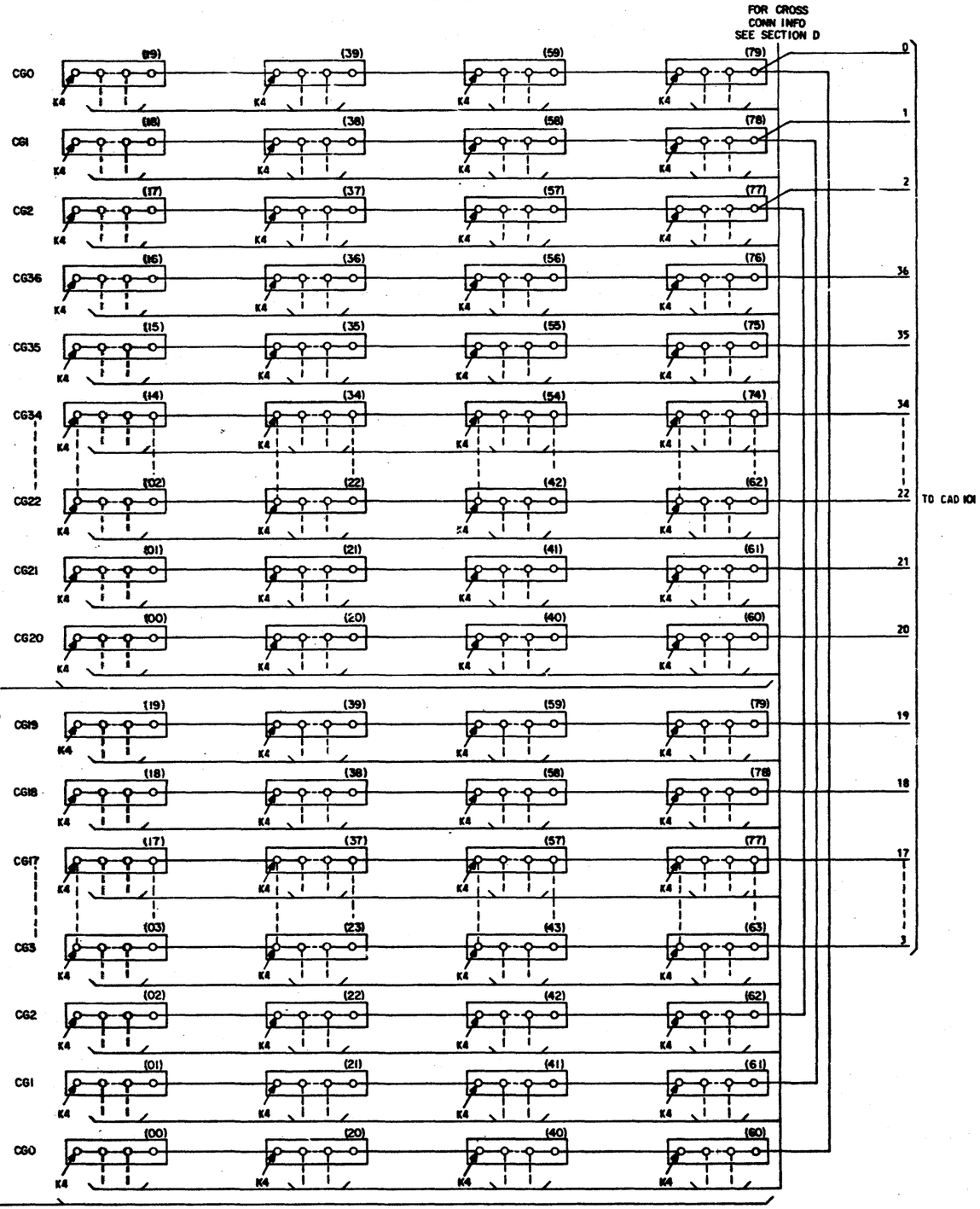
② SD-25016-01-G34

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25016-01-G34

CAD 54



DRAWING ISSUE
101D G.E. CB

101

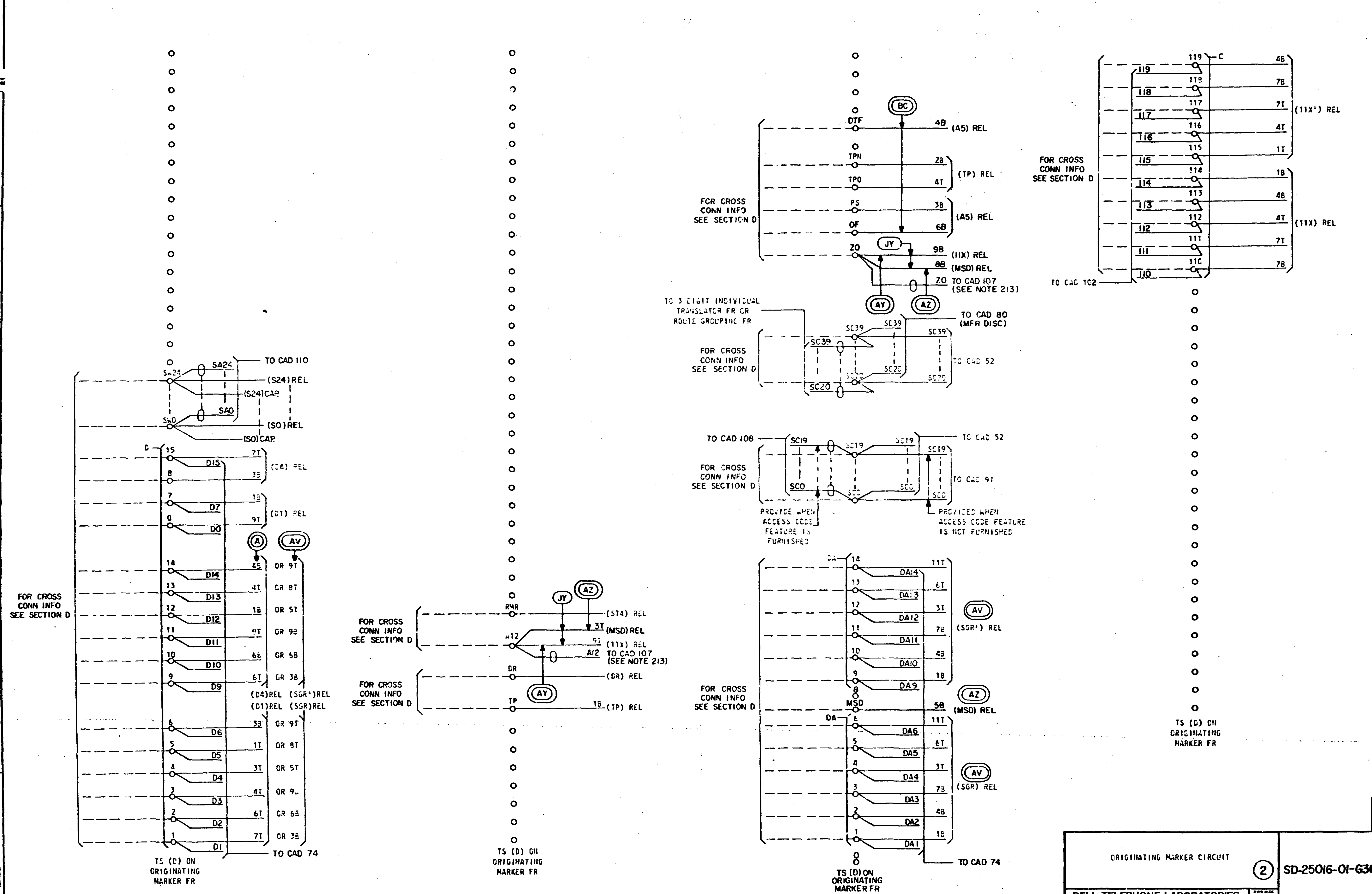
ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-635

BELL TELEPHONE LABORATORIES INCORPORATED

SECTION 6S

PART OF CAD 55
(SEE NOTE 208)



ORIGINATING MARKER CIRCUIT

2 SD-25016-01-G36

BELL TELEPHONE LABORATORIES INCORPORATED

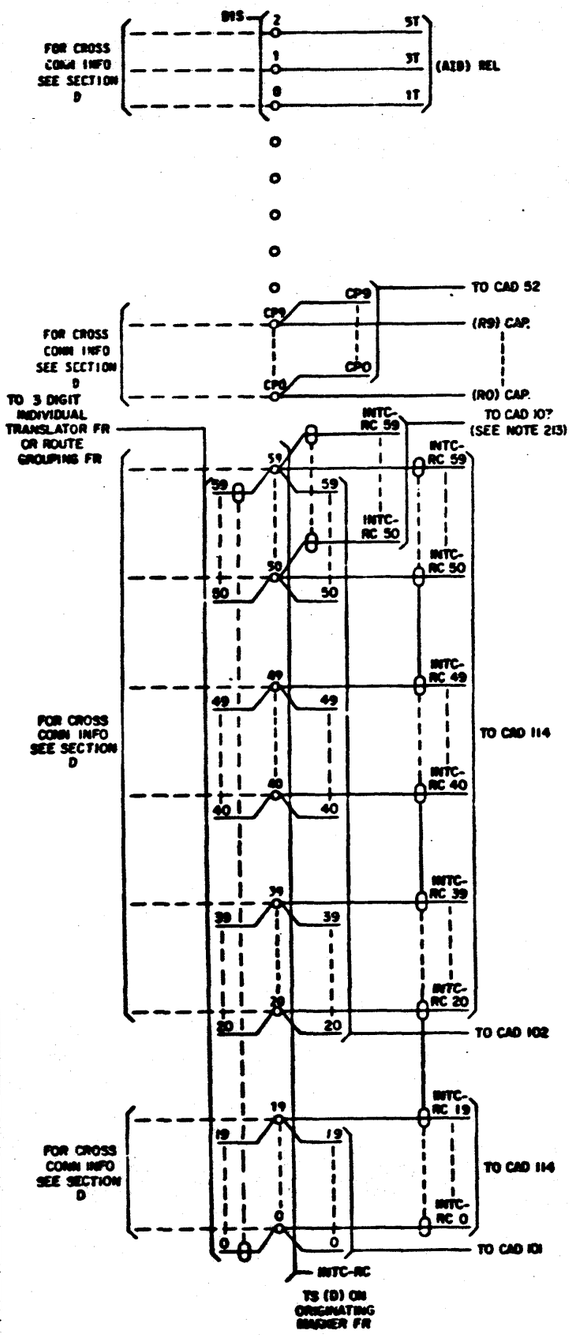
6S

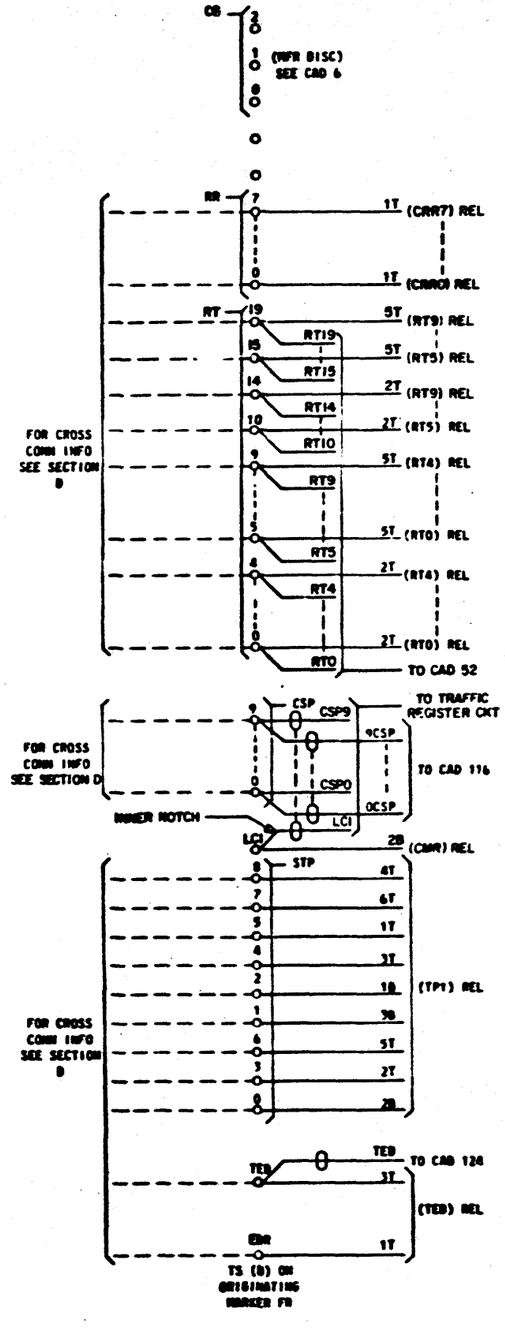
SD-25016-01-G36

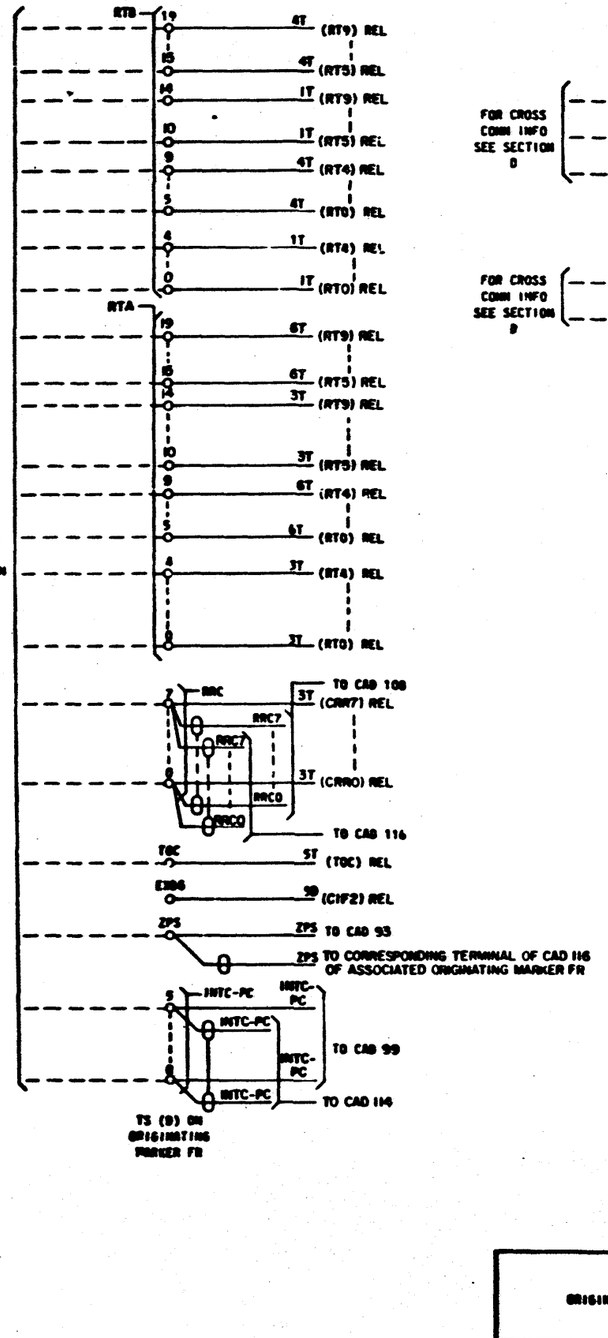
HIGGINS 4465 K+E

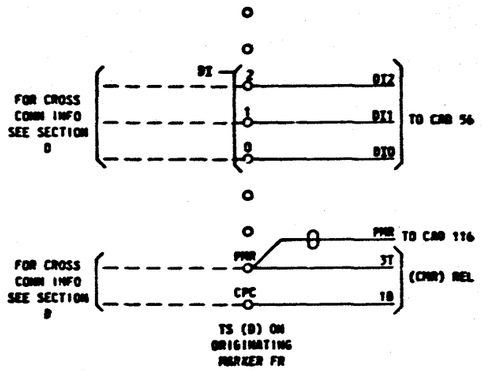
PART OF CAD 55

(SEE NOTE 208)









SD-25016-01-637

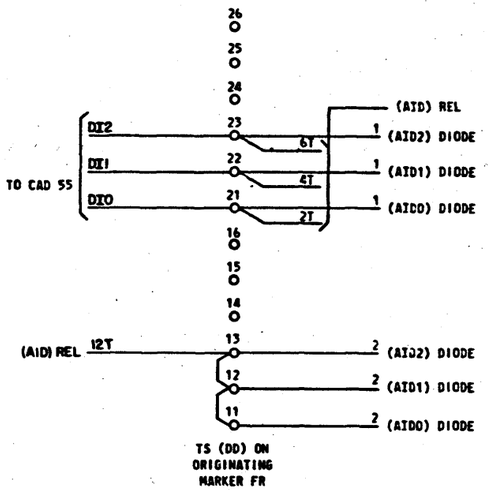
101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-637

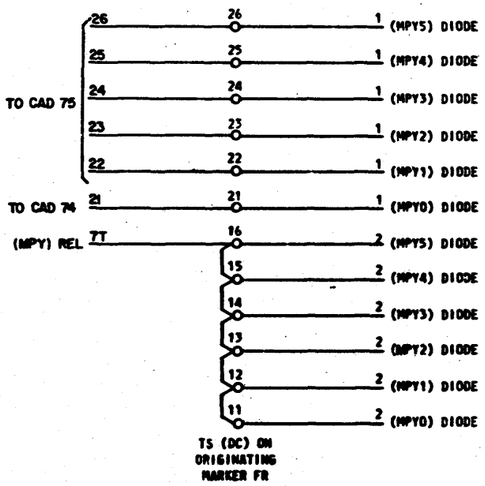
BELL TELEPHONE LABORATORIES INCORPORATED 6S

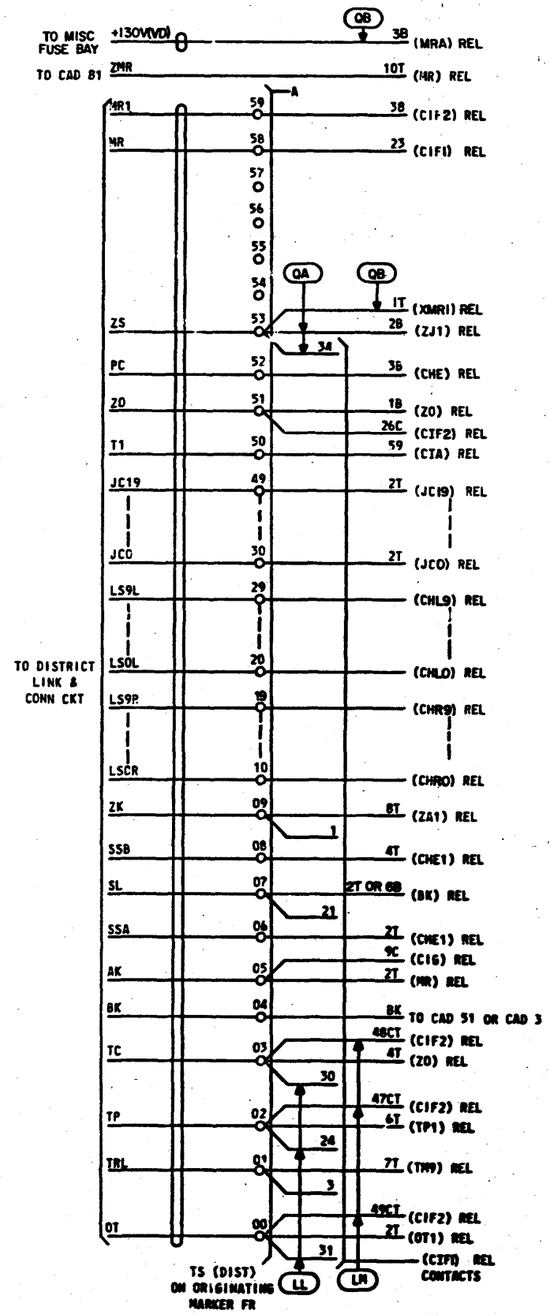
CAD 56

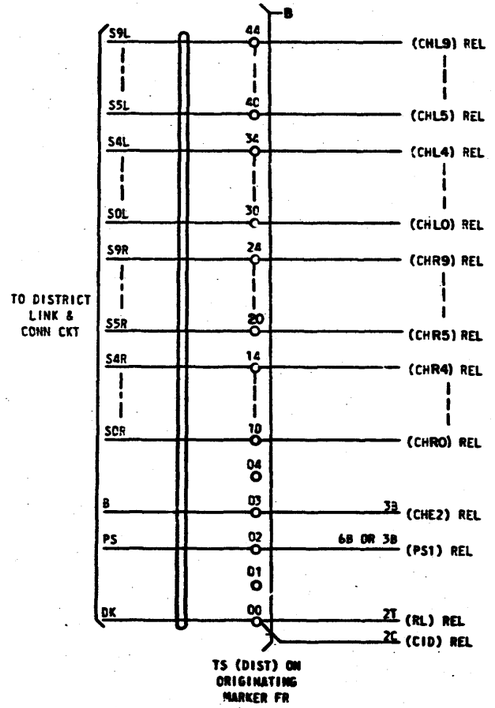
PART OF CAD 58
(SEE NOTES 204 AND 205)



CAD 57







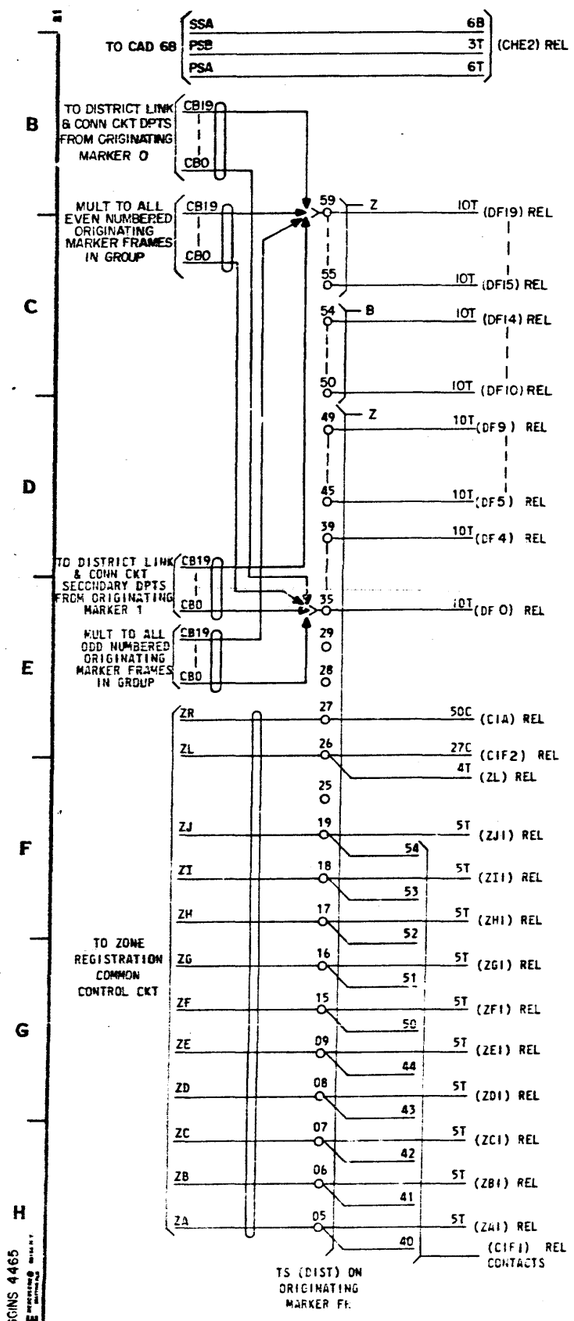
DRAWING ISSUE	
101D	JFZ
102D	JS

ISSUE 108D

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-638

BELL TELEPHONE LABORATORIES INCORPORATED 6S

PART OF CAD 58
(SEE NOTES 204 AND 205)



DRAWING ISSUE
10ID JD

101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G39

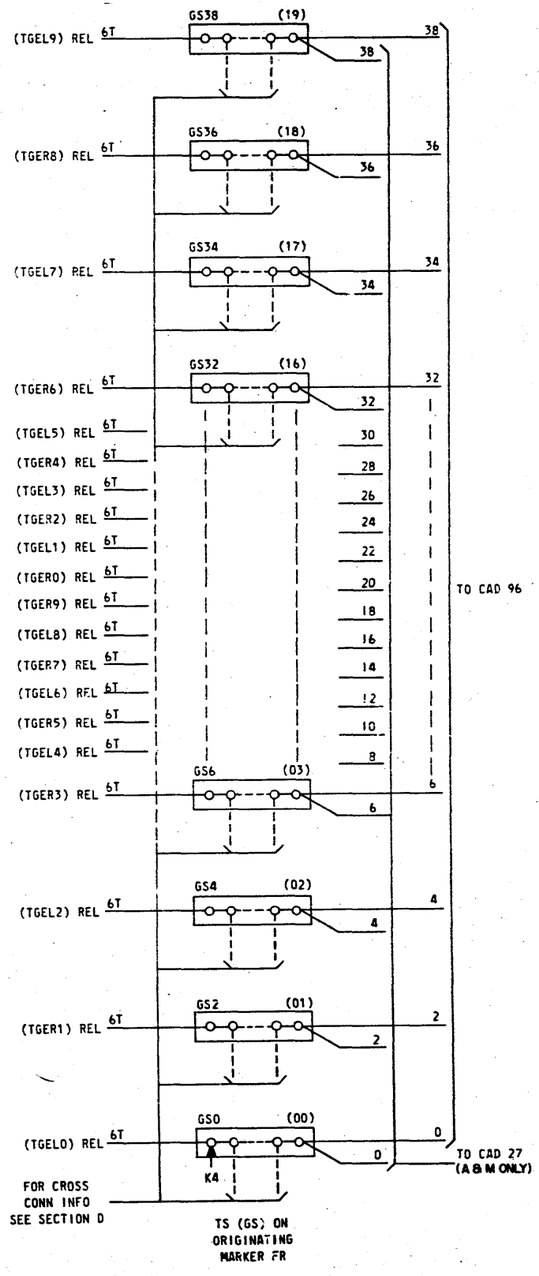
BELL TELEPHONE LABORATORIES INCORPORATED 6S

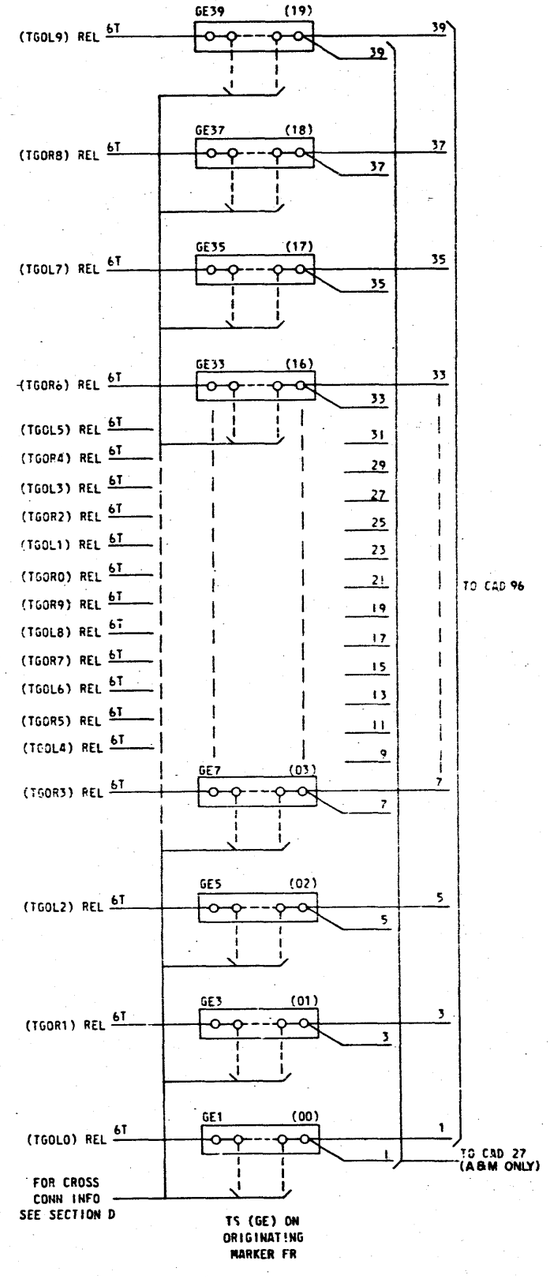
SD-25016-01-G39

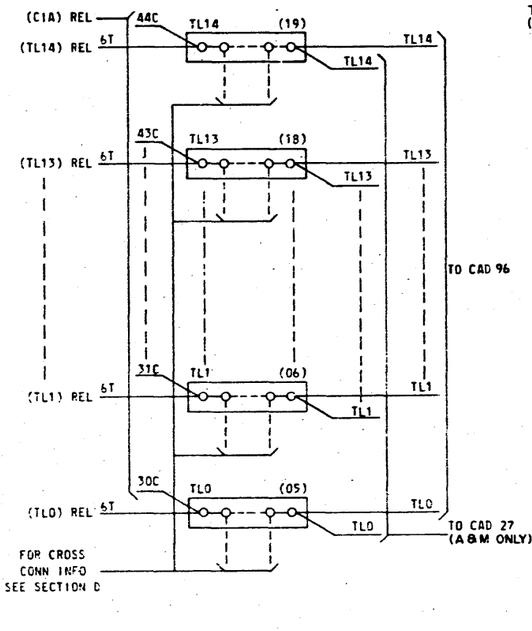
HIGGINS 4465

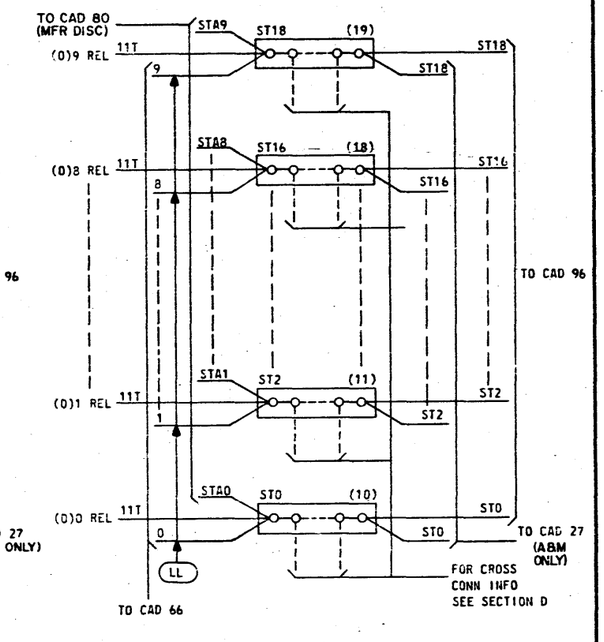
CAD 59
(SEE NOTE 1)

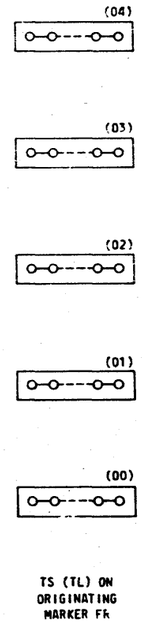
DRAWING ISSUE: 101D | 5S1

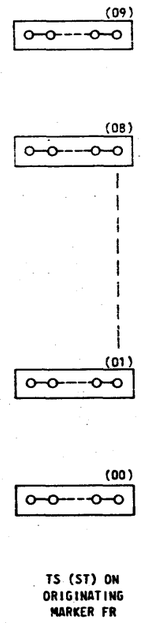












NOTES:
1. ALL GROUPS OF COMMON TERMINALS ON THIS SHEET HAVE TERMINALS IDENTIFIED AS SHOWN ON GROUP (GSO) BY THE DESIGNATION K4.

101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G40

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-G40

CAD 60
(SEE NOTE 207)

STRAP CORRESPONDING PUNCHINGS AS REQUIRED TO OBTAIN SPECIFIED NO. OF SUBGROUPS

G-GEO,1, 2,OR 3 — 8→5T, 7→11B, 6→3B — (GOC),(GIC), (G2C),OR (G3C) REL

G-GEO,1, OR 2 — 5→5T, 4→11B, 3→3B — (GOB),(GIB), OR (G2B) REL

G-GEO,1, ETC, OR 11 — 2→5T, 1→11B, 0→3B — (GOA),(GIA), ETC, OR (GIIA) REL

FOR CROSS CONN INFO SEE SECTION D

G-GSO,1, 2,OR 3 — 8→7T, 7→9B, 6→1B — (GOC),(GIC), (G2C),OR (G3C) REL

G-GSO,1, OR 2 — 5→7T, 4→9B, 3→1B — (GOB),(GIB), OR (G2B) REL

G-GSO,1, ETC, OR 11 — 2→7T, 1→9B, 0→1B — (GOA),(GIA), ETC, OR (GIIA) REL

STRAP CORRESPONDING PUNCHINGS AS REQUIRED TO OBTAIN SPECIFIED NO. OF SUBGROUPS

TS (G) ON ORIGINATING MARKER FR

STRAP CORRESPONDING PUNCHINGS AS REQUIRED TO OBTAIN SPECIFIED NO. OF SUBGROUPS

G-STO,1, 2,OR 3 — 8→1T, 7→9T, 6→7B — (GOC),(GIC), (G2C),OR (G3C) REL

G-STO,1, OR 2 — 5→1T, 4→9T, 3→7B — (GOB),(GIB), OR (G2B) REL

G-STO,1, ETC, OR 11 — 2→1T, 1→9T, 0→7B — (GOA),(GIA), ETC, OR (GIIA) REL

FOR CROSS CONN INFO SEE SECTION D

G-TLO,1, 2,OR 3 — 8→5T, 7→11T, 6→5B — (GOC),(GIC), (G2C),OR (G3C) REL

G-TLO,1, OR 2 — 5→5T, 4→11T, 3→5B — (GOB),(GIB), OR (G2B) REL

G-TLO,1 ETC, OR 11 — 2→5T, 1→11T, 0→5B — (GOA),(GIA), ETC, OR (GIIA) REL

TS (G) ON ORIGINATING MARKER FR

CAD 61
(SEE NOTE 207)

O,GP-GE OR 1,GP-GE — 29→19, 20→10, 19→54, 15→50, 14→54, 10→50, 09→19, 00→10 — TO CONTACTS OF (GPOB) OR (GPIB) REL / TO CONTACTS OF (GPOA) OR (GPIA) REL

O,GP-GS OR 1,GP-GS — 29→9, 20→0, 19→44, 15→40, 14→44, 10→40, 09→9, 00→0 — TO CONTACTS OF (GPOB) OR (GPIB) REL / TO CONTACTS OF (GPOA) OR (GPIA) REL

TS (GP) ON ORIGINATING MARKER FR

FOR CROSS CONN INFO SEE SECTION D

O,GP-ST OR 1,GP-ST — 29→39, 20→30, 19→59, 15→55, 14→59, 10→55, 09→39, 00→30 — TO CONTACTS OF (GPOB) OR (GPIB) REL / TO CONTACTS OF (GPOA) OR (GPIA) REL

O,GP-TL OR 1,GP-TL — 29→29, 20→20, 19→49, 15→45, 14→49, 10→45, 09→29, 00→20 — TO CONTACTS OF (GPOB) OR (GPIB) REL / TO CONTACTS OF (GPOA) OR (GPIA) REL

TS (GP) ON ORIGINATING MARKER FR

DRAWING REVISE: BOARD | PAD

101

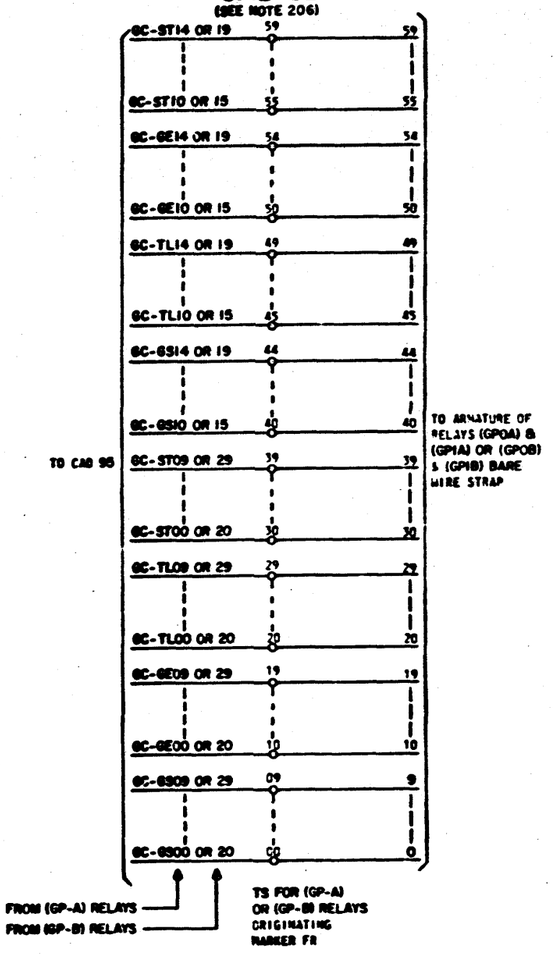
ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G41

BELL TELEPHONE LABORATORIES INCORPORATED — SHEET SIZE 6S

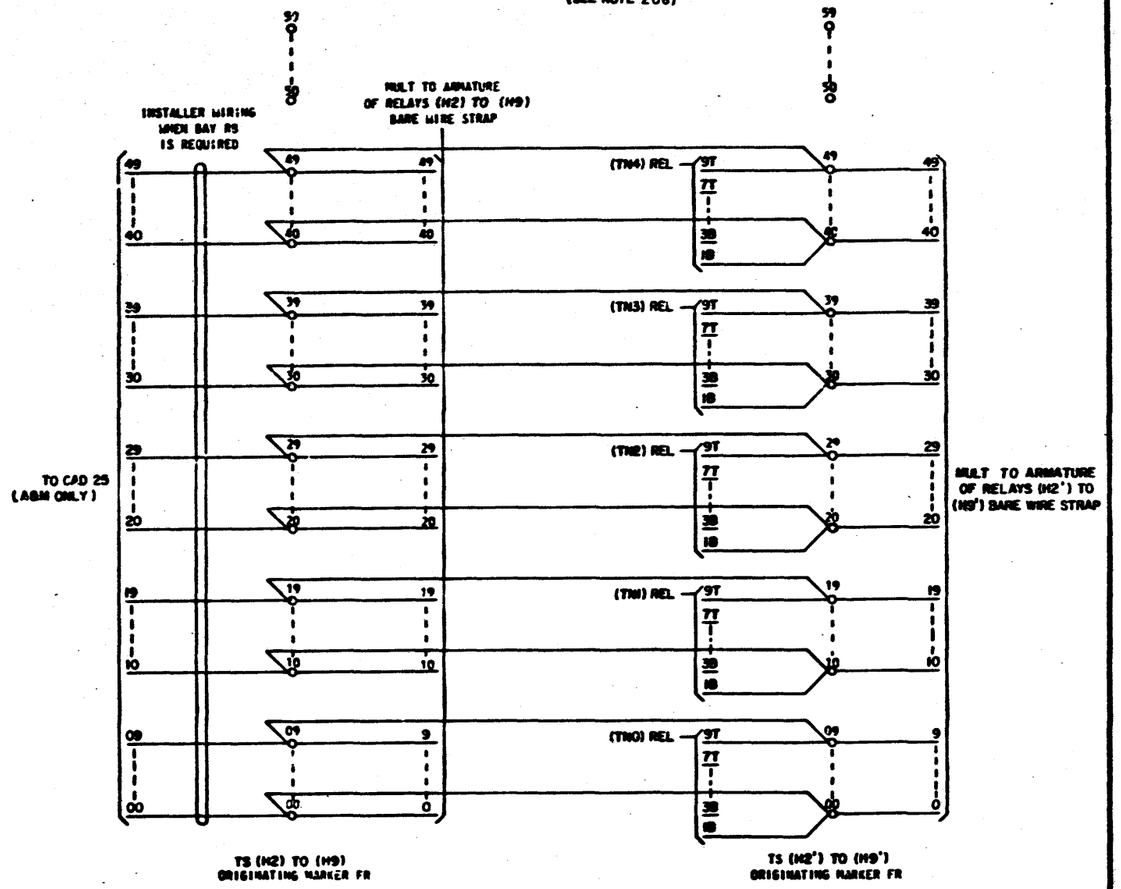
SD-25016-01-G41

HIGGINS 4465 M.E.

CAD 62
(SEE NOTE 206)



CAD 63
(SEE NOTE 206)

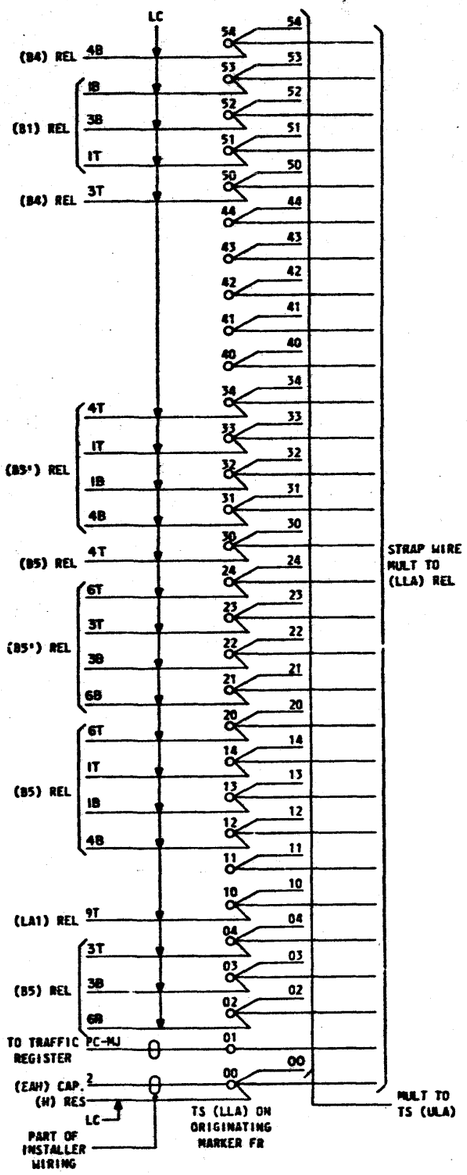


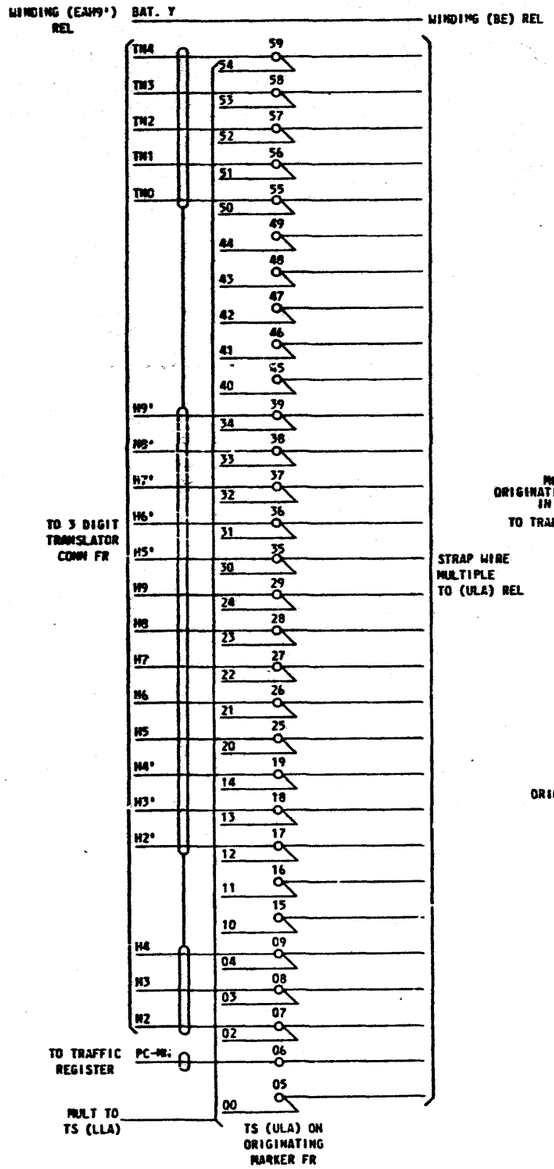
ORIGINATING MARKER CIRCUIT ② SD-25016-01-642

BELL TELEPHONE LABORATORIES INCORPORATED 6S

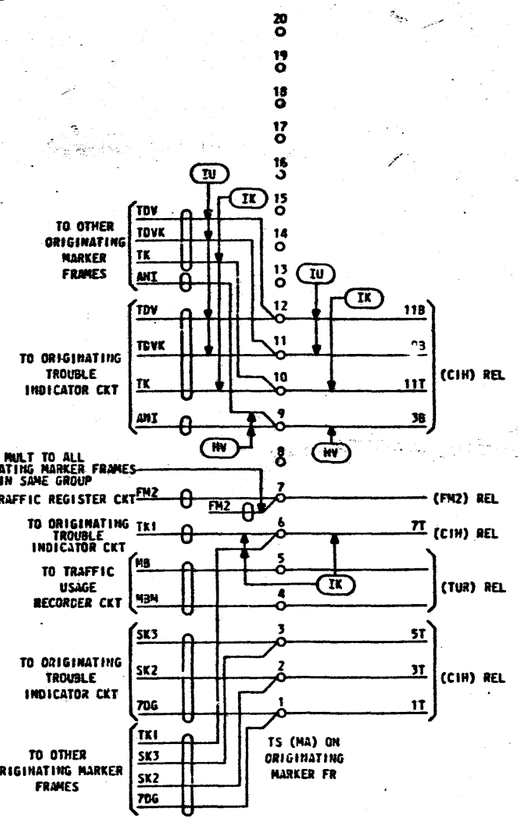
SD-25016-01-642

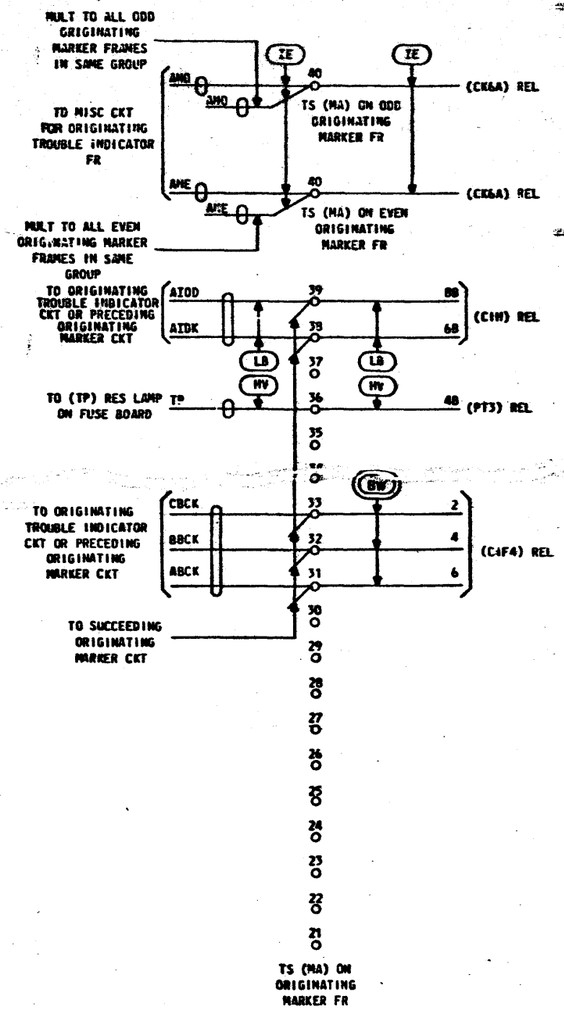
CAD 64





CAD 65





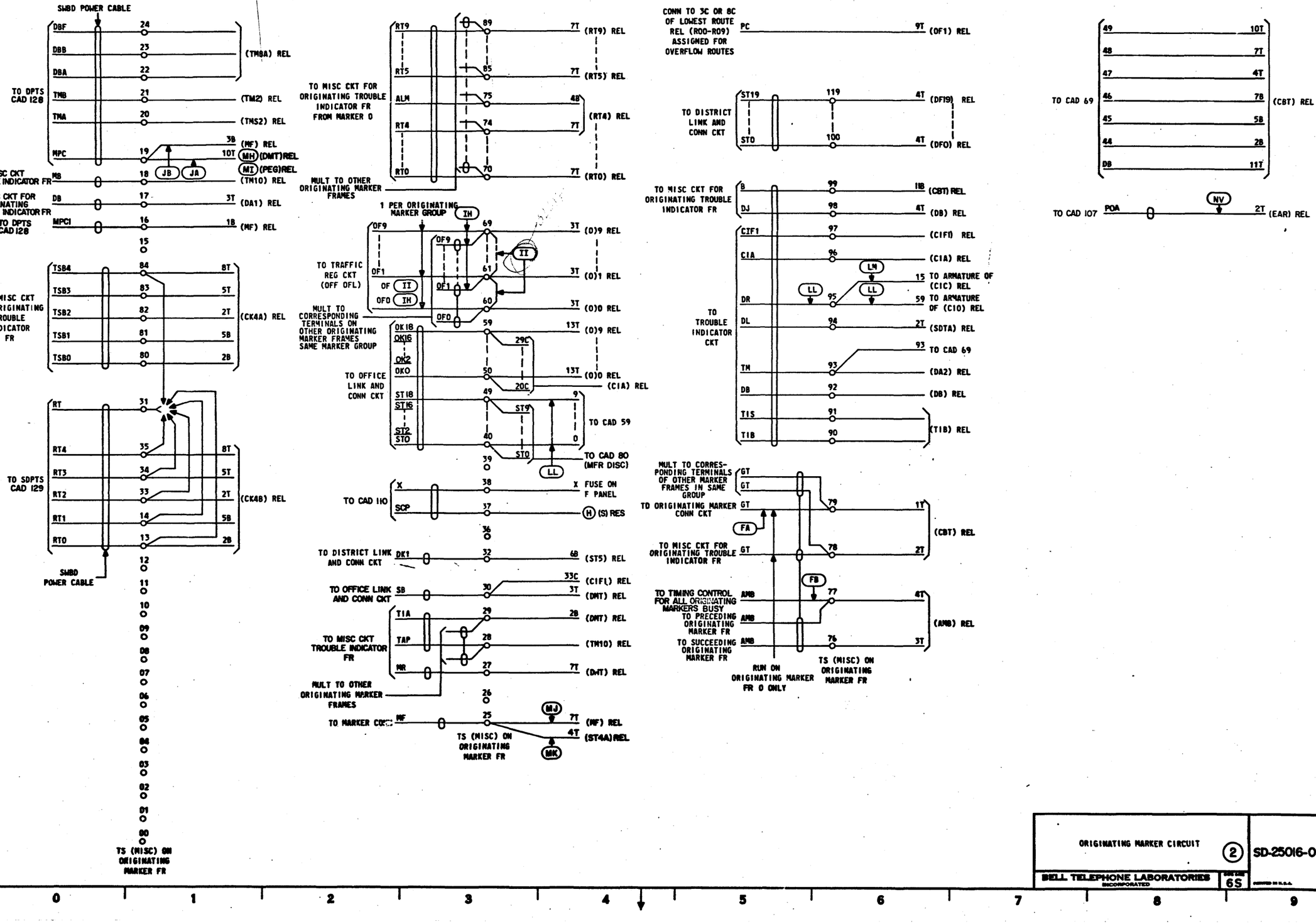
SD-25016-01-643

ISSUE 107A

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-643

BELL TELEPHONE LABORATORIES INCORPORATED 6S

CAD 66



DRAWING ISSUE 10ID TJO CB

ISSUE 107A C3

G-44

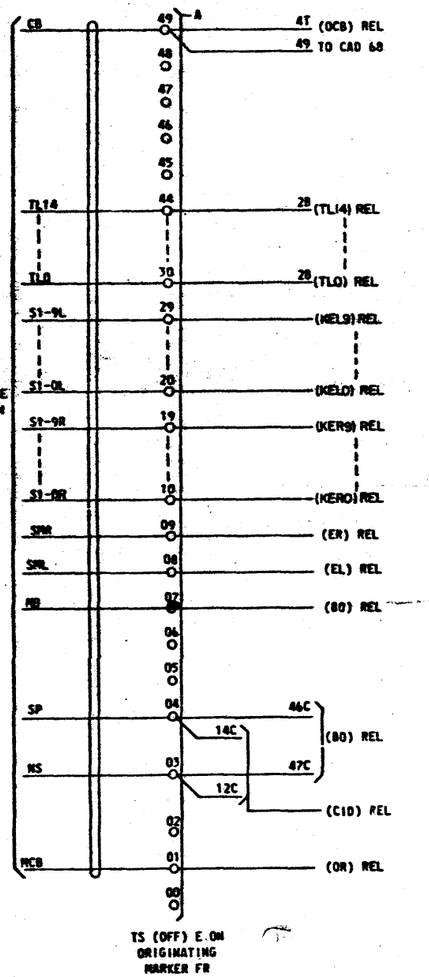
ORIGINATING MARKER CIRCUIT (2) SD-25016-01-644

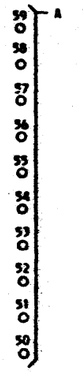
BELL TELEPHONE LABORATORIES INCORPORATED 6S

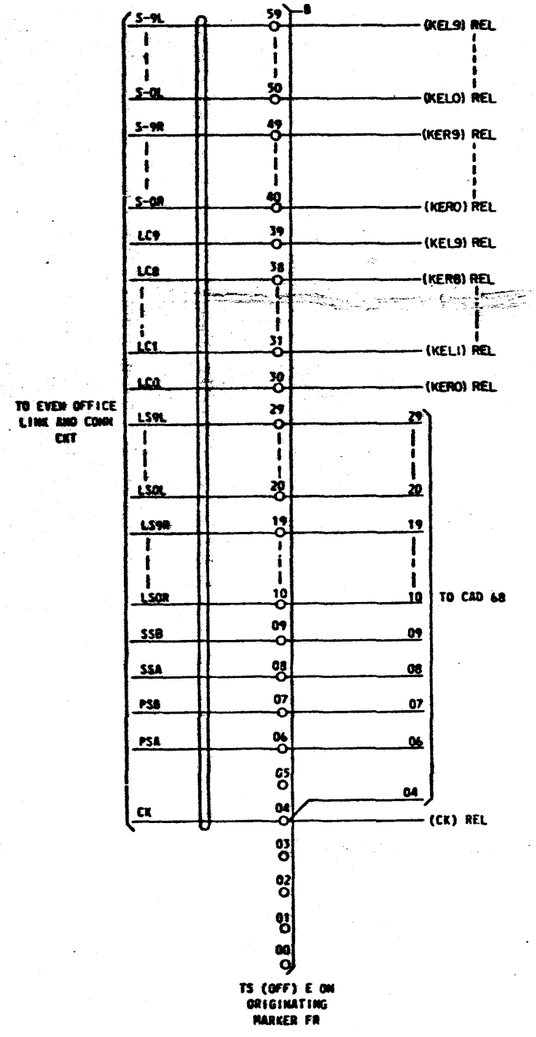
25016-01-644

HIGGINS 4465

CAD 67







101

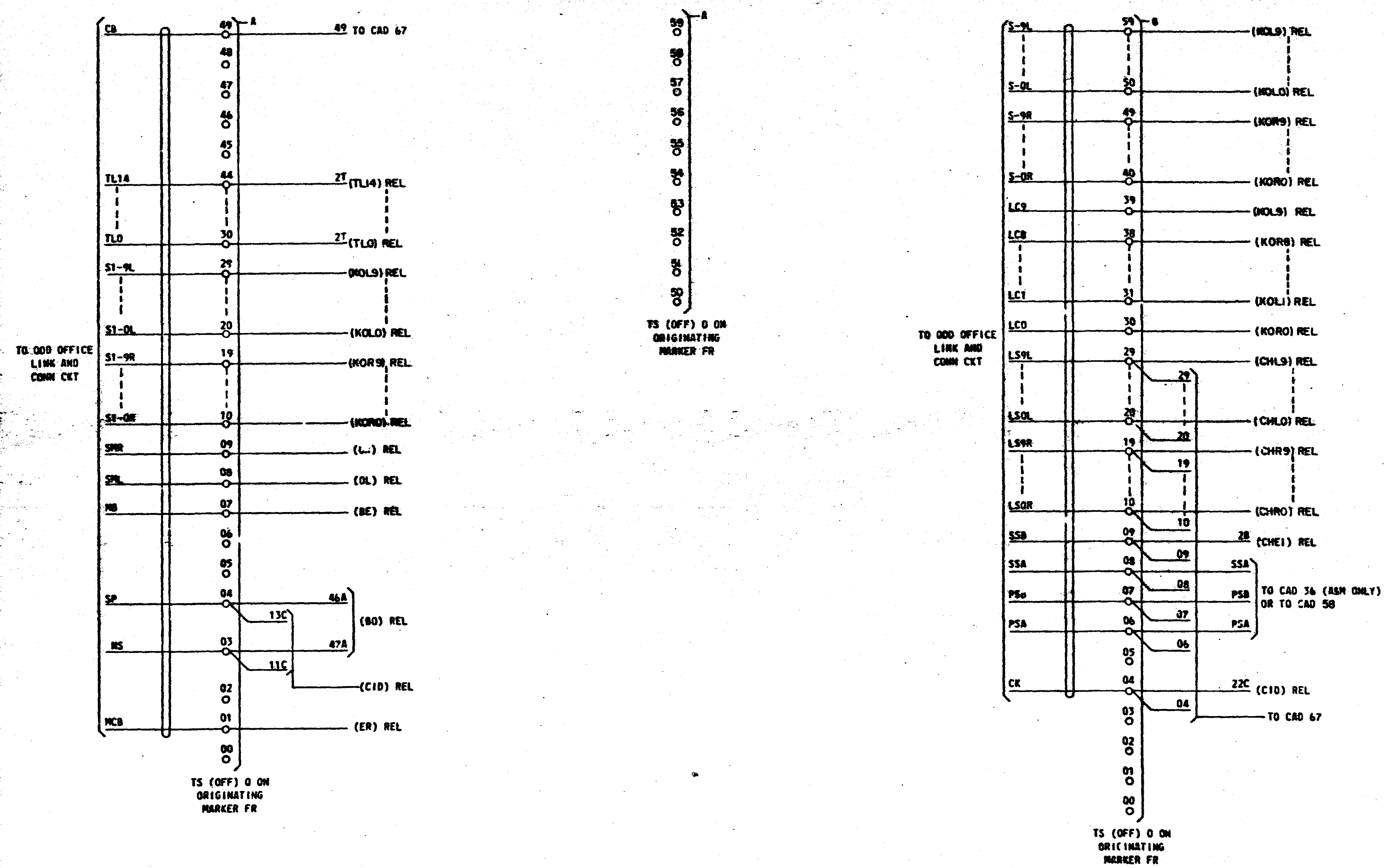
ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G45

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-045

HIGGINS 4465

CAD 68



ORIGINATING MARKER CIRCUIT

SD-25016-01-G46

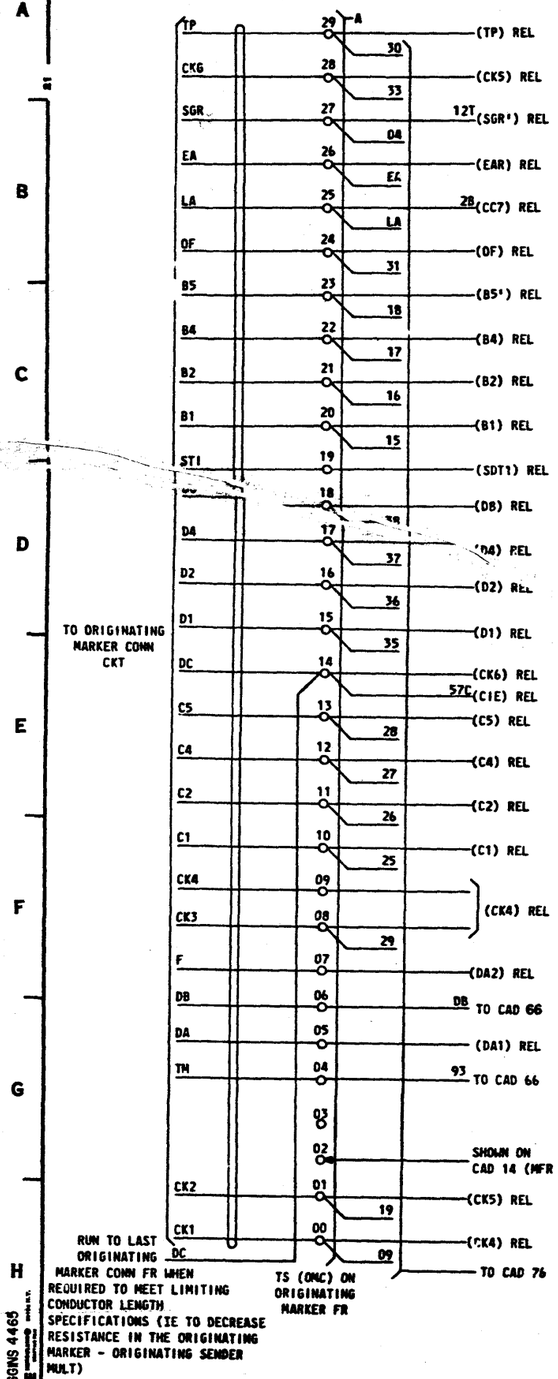
BELL TELEPHONE LABORATORIES INCORPORATED

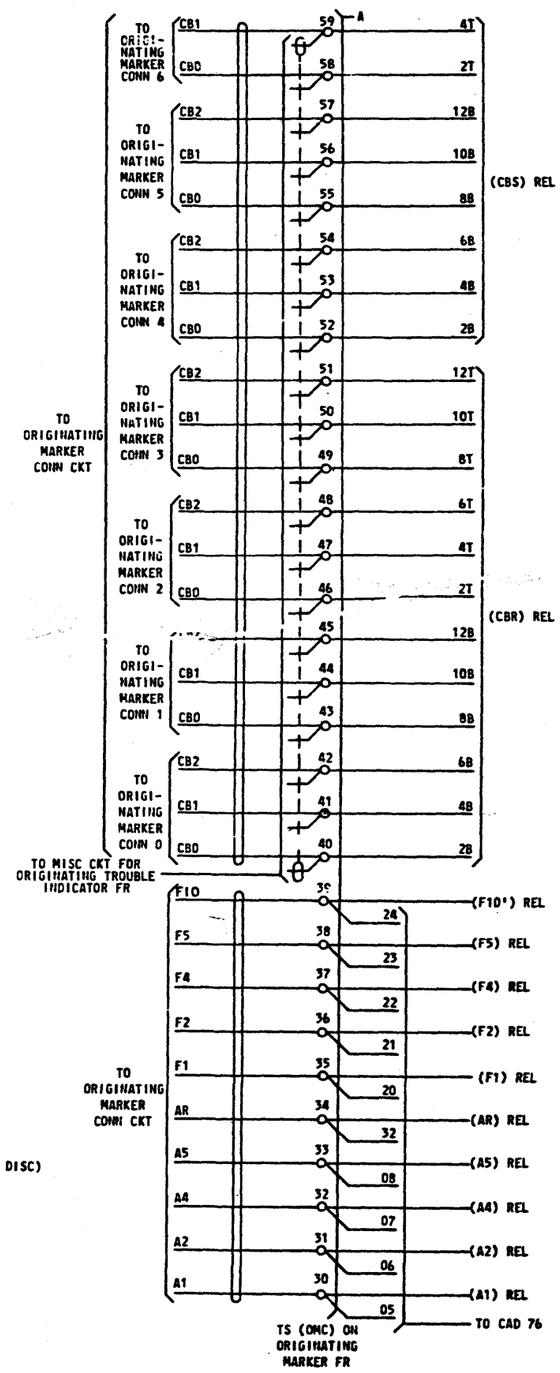
6S

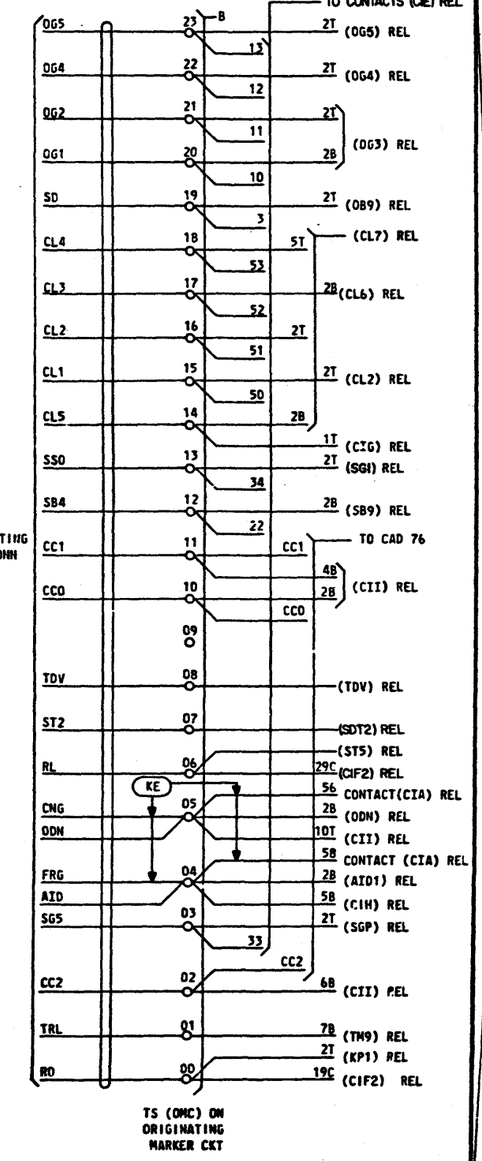
101

SD-25016-01-G46

PART OF CAD 69







DRAWING ISSUE
106D

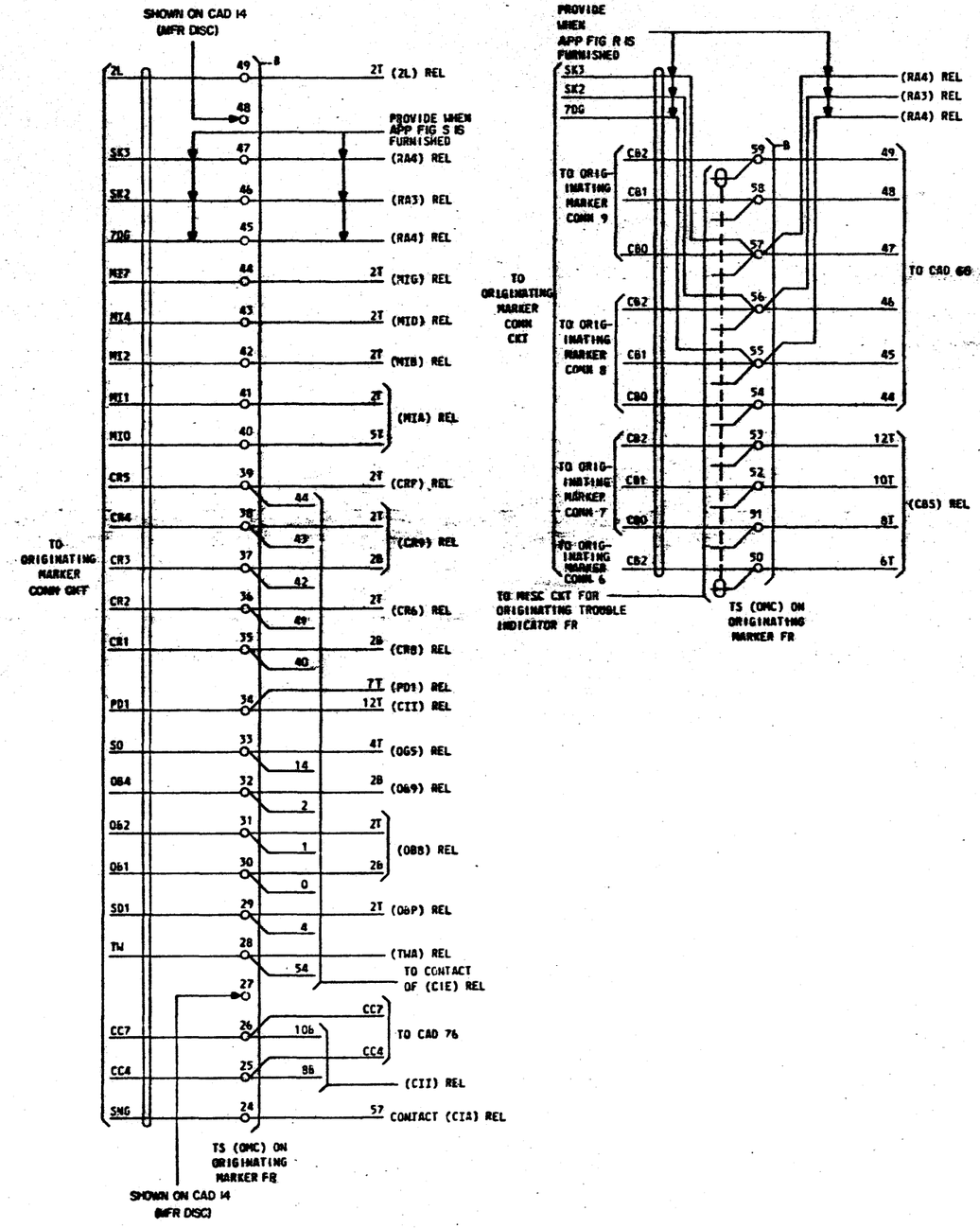
ORIGINATING MARKER CIRCUIT (2) SD-25016-01-647

BELL TELEPHONE LABORATORIES INCORPORATED 6S

HIGGINS 4465

SD-25016-01-647

PART OF CAD 69



DRAWING ISSUE
10ID

101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G48

BELL TELEPHONE LABORATORIES INCORPORATED

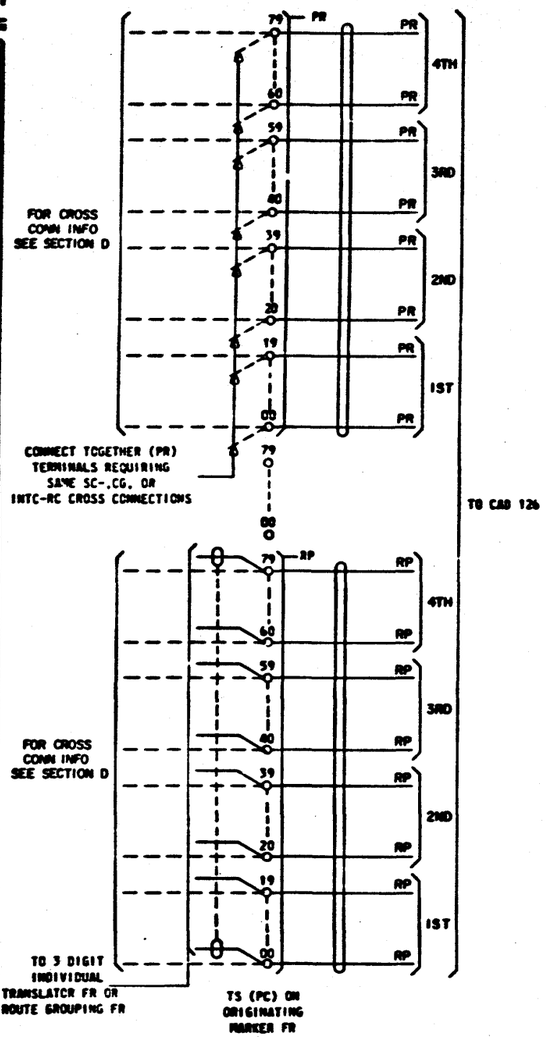
PAGE 65

PRINTED IN U.S.A.

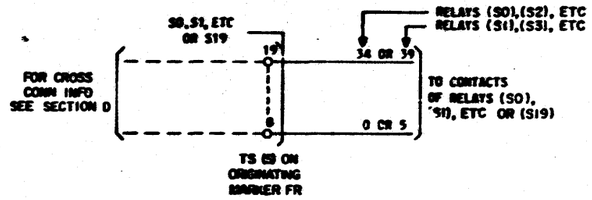
SD-25016-01-G48

HIGGINS 4465 K-E

CAD 70

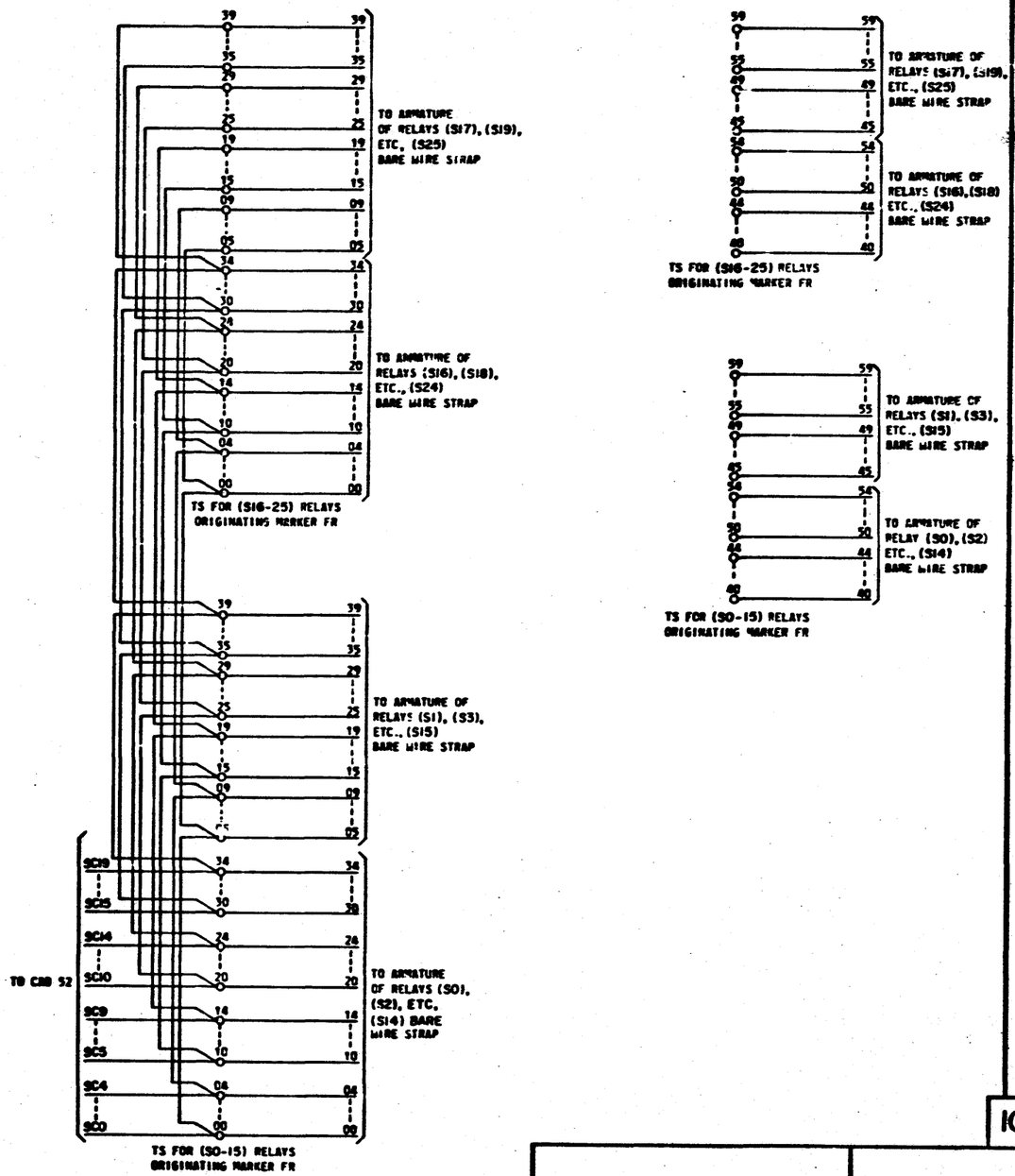


CAD 71



CAD 72

(SEE NOTE 206)



ORIGINATING MARKER CIRCUIT

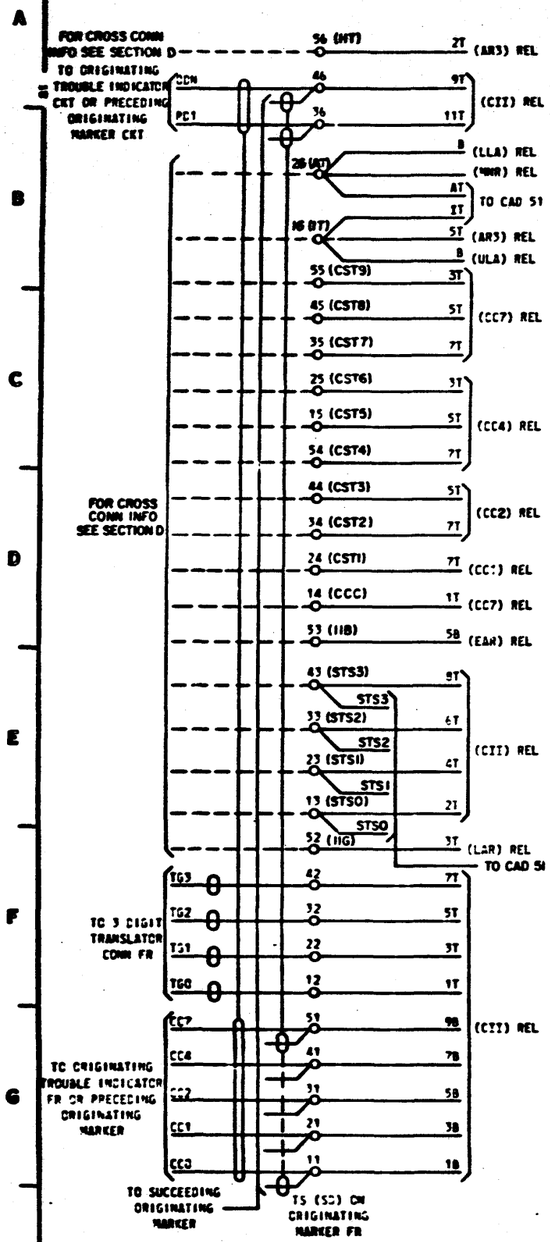
SD-25016-01-G49

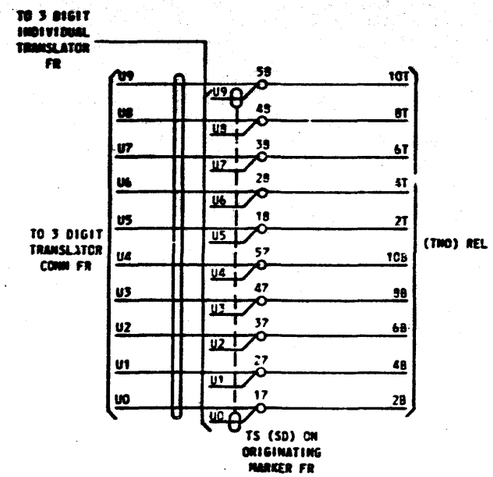
BELL TELEPHONE LABORATORIES INCORPORATED

6S

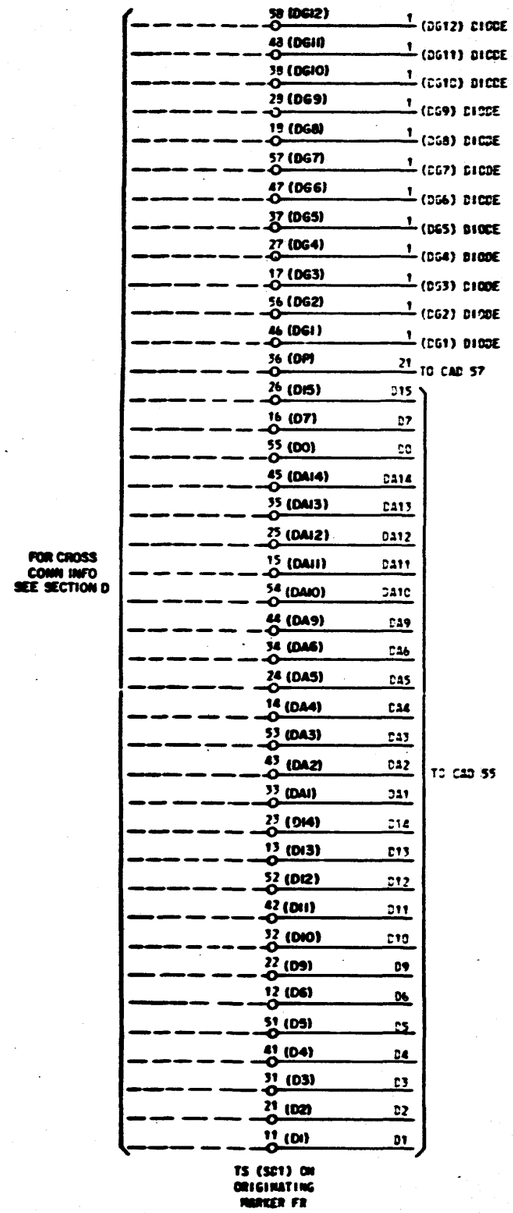
SD-25016-01-049

CAD 73


FOR CROSS CONN INFO SEE SECTION D
TO ORIGINATING TROUBLE INDICATOR CKT OR PRECEDING ORIGINATING MARKER CKT
CON
PC1
56 (HT)
2T (AR3) REL
46
9T
36
11T
(CII) REL
B (LLA) REL
(MMR) REL
28 (HT)
AT
1T
TO CAD 51
16 (HT)
5T (AR3) REL
B (ULA) REL
55 (CST9) 3T
45 (CST8) 5T
35 (CST7) 7T
(CC7) REL
25 (CST6) 3T
15 (CST5) 5T
54 (CST4) 7T
(CC4) REL
FOR CROSS CONN INFO SEE SECTION D
44 (CST3) 5T
34 (CST2) 7T
(CC2) REL
24 (CST1) 7T (CC1) REL
14 (CCC) 1T (CC7) REL
53 (IIB) 5B (EAR) REL
43 (STS3) 9T
STS3
33 (STS2) 6T
STS2
23 (STS1) 4T
STS1
13 (STS0) 2T
STS0
52 (IIG) 3T (LAR) REL
TO CAD 51
(CII) REL
TG3 42 7T
TG2 32 5T
TG1 22 3T
TG0 12 1T
TO 3 DIGIT TRANSLATOR CONN FR
CC7 59 9B
CC6 49 7B
CC2 39 5B
CC1 29 3B
CC0 19 1B
(CII) REL
TO ORIGINATING TROUBLE INDICATOR FR OR PRECEDING ORIGINATING MARKER
TO SUCCEEDING ORIGINATING MARKER
TS (SC) ON ORIGINATING MARKER FR


TO 3 DIGIT INDIVIDUAL TRANSLATOR FR
U9 58 10T
U8 48 8T
U7 38 6T
U6 28 4T
U5 18 2T
U4 57 10B
U3 47 9B
U2 37 6B
U1 27 4B
U0 17 2B
(TNO) REL
TO 3 DIGIT TRANSLATOR CONN FR
TS (SD) ON ORIGINATING MARKER FR

CAD 74


58 (DGI2) 1 (DG12) DIODE
48 (DGII) 1 (DG11) DIODE
38 (DGIO) 1 (DG10) DIODE
29 (DG9) 1 (DG9) DIODE
19 (DG8) 1 (DG8) DIODE
57 (DG7) 1 (DG7) DIODE
47 (DG6) 1 (DG6) DIODE
37 (DG5) 1 (DG5) DIODE
27 (DG4) 1 (DG4) DIODE
17 (DG3) 1 (DG3) DIODE
56 (DG2) 1 (DG2) DIODE
46 (DGI) 1 (DG1) DIODE
56 (DPI) 2T TO CAD 57
FOR CROSS CONN INFO SEE SECTION D
26 (DI5) DI5
16 (D7) D7
55 (DO) DO
45 (DAI4) DA14
35 (DAI3) DA13
25 (DAI2) DA12
15 (DAII) DA11
54 (DAIO) DA10
44 (DA9) DA9
34 (DA8) DA8
24 (DA5) DA5
14 (DA4) DA4
53 (DA3) DA3
43 (DA2) DA2
TO CAD 55
33 (DAI) DA1
23 (DI4) DI4
13 (DI3) DI3
52 (DI2) DI2
42 (DII) DI1
32 (DIO) DI0
22 (D9) D9
12 (D6) D6
51 (D5) D5
41 (D4) D4
31 (D3) D3
21 (D2) D2
11 (DI) DI
TS (SD1) ON ORIGINATING MARKER FR

CAD 75

SEE NOTE 203

DPI-5

FOR CROSS CONN INFO SEE SECTION D

TO CAD 57

SHOWN ON CAD 17 (A&M ONLY)

TO 3 DIGIT TRANSLATOR CONN FR

(LA1) REL

(MSD)REL

(AR4) TERM PCHG

(AR4) REL

FOR CROSS CONN INFO SEE SECTION D

TO TRAFFIC REGISTER FR

TO 3 DIGIT TRANSLATOR CONN FR

(CII) REL

(MF) REL

(CCK) REL

(MF) REL

(STR2) REL

(STR1) REL

TS (SD2) ON ORIGINATING MARKER FR

CAD 76

(SEE NOTE 206)

TO CAD 69

(CII) REL

(CK4) REL

TO CONTACTS OF (SOT) REL

(TK) REL

TO CAD 69

TO CONTACTS OF (CIF) RELAY

TO ARMATURE OF (SDT1) AND (SDT2) RELAYS BARE WIRE STRAP

TO CONTACTS OF (CIE) RELAY

(CIG) REL

(GI) REL

(CK6) REL

TS FOR (SDT) RELAYS ON ORIGINATING MARKER FR

TO ORIGINATING SENDER TEST CKT FROM ORIGINATING MARKER 0

CONTACTS OF (SDT1) OR (SDT2) REL

TO (SDT1A) OR (SDT2A) REL

MULT TO OTHER ORIGINATING MARKER FRAMES

TO ORIGINATING SENDER TEST CKT FROM ORIGINATING MARKER 0

CONTACTS OF (SDT1) OR (SDT2) REL

MULT TO OTHER ORIGINATING MARKER FRAMES

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SD-25016-01-G51

101

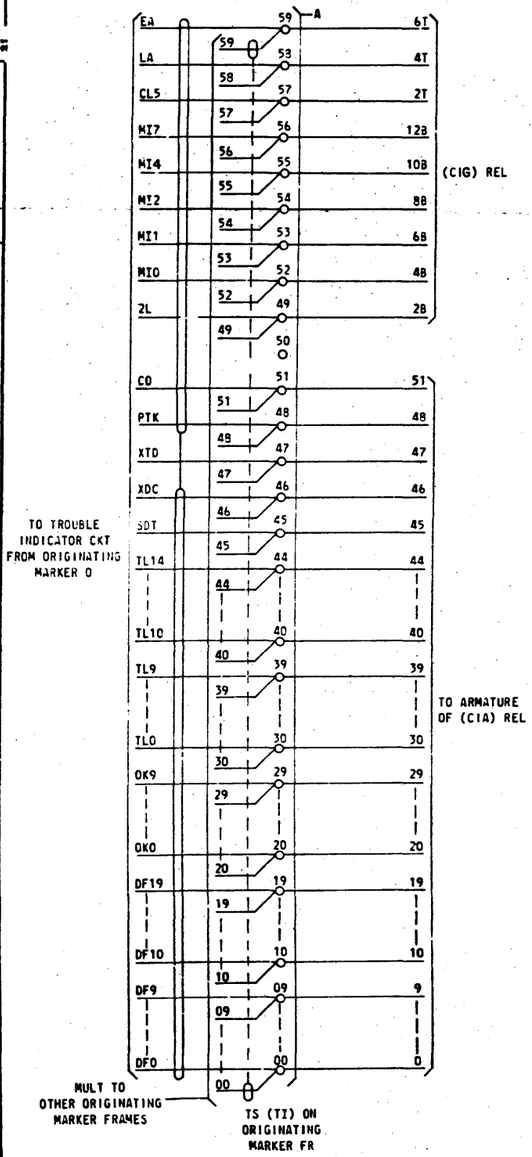
ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G51

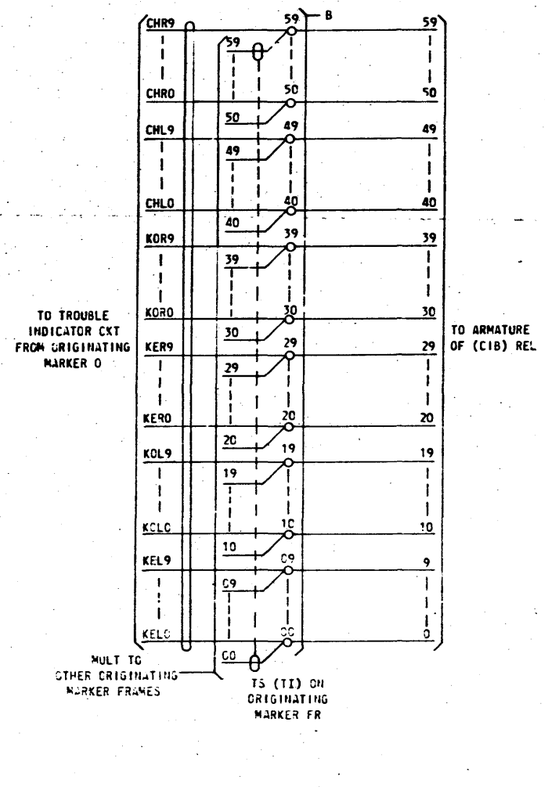
BELL TELEPHONE LABORATORIES INCORPORATED 65

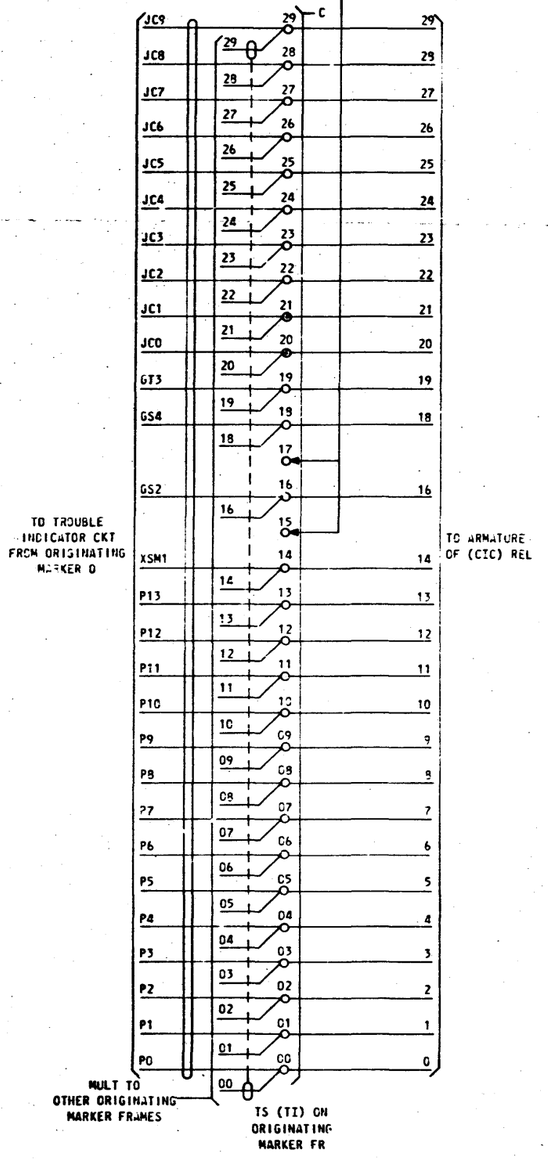
CAD 77

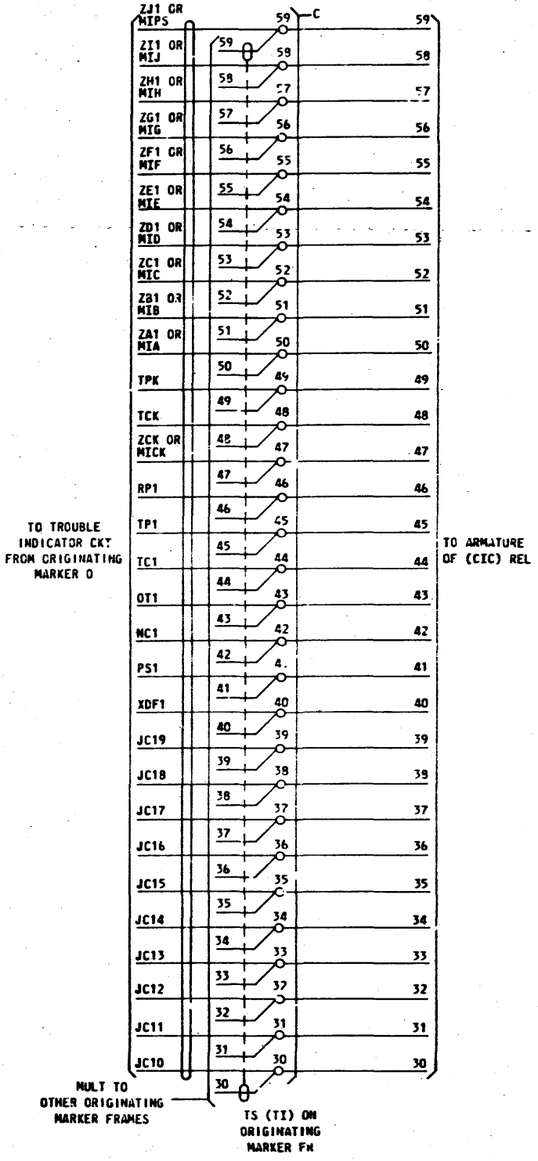
PART OF CAD 78

SHOWN ON CAD 18 (MFR DISC)









DRAWING ISSUE

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SD-25016-01-G52

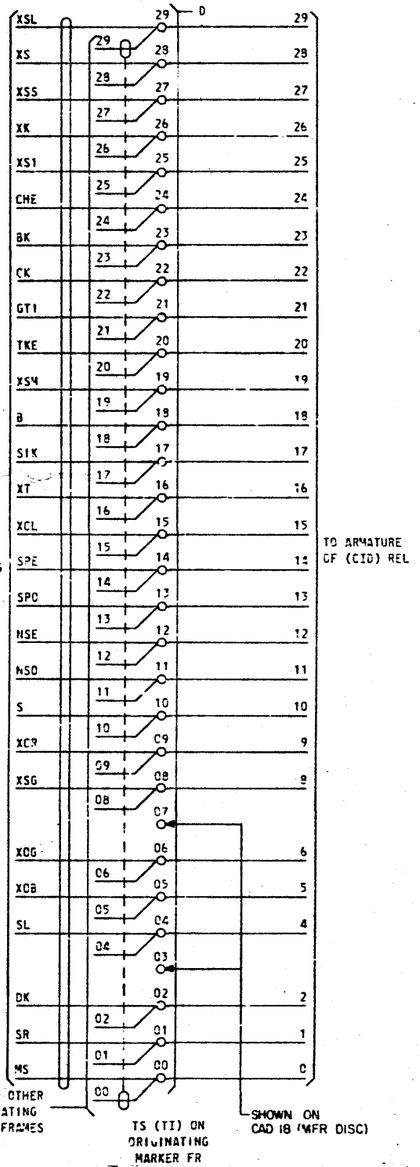
HIGGINS 4465

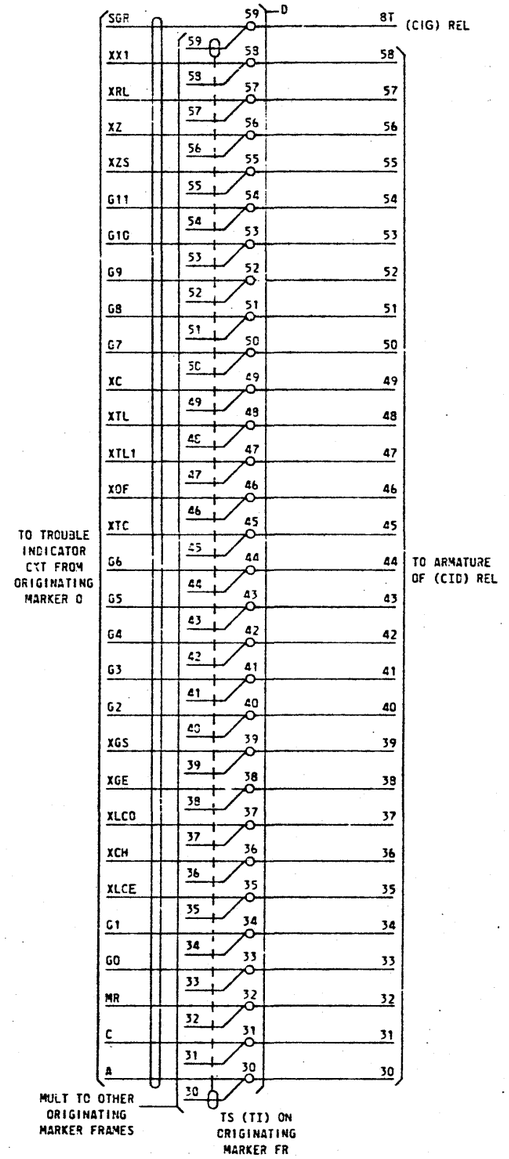
101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G52

BELL TELEPHONE LABORATORIES INCORPORATED 6S

PART OF CAD 78





101

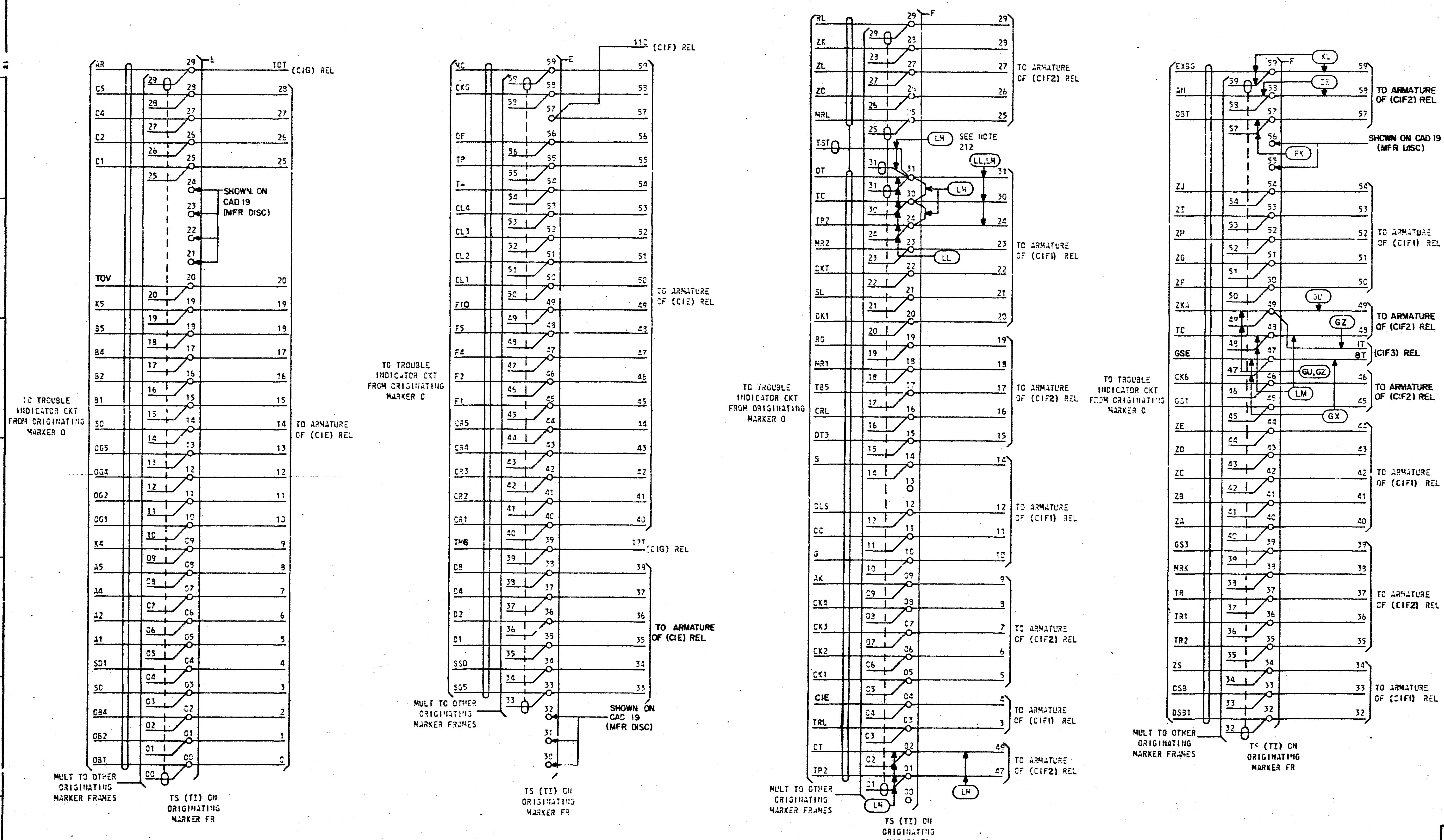
ORIGINATING MARKER CIRCUIT (2) SD-25016-01-653

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-653

HIGGINS 4465 K-E

CAD 79



ORIGINATING MARKER CIRCUIT

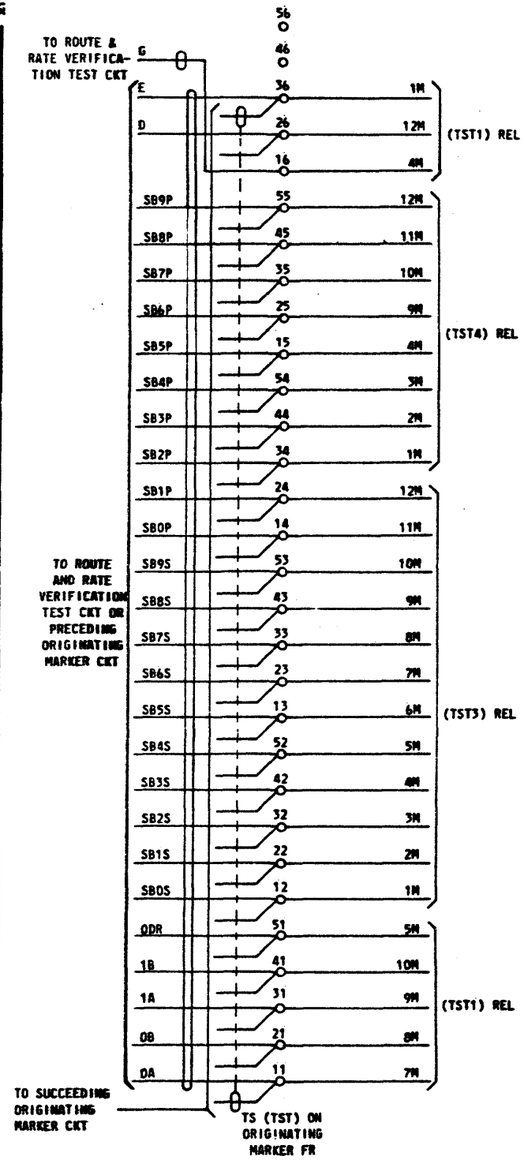
2 SD-25016-01-G54

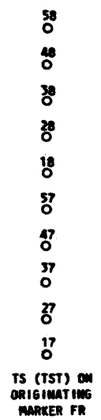
BELL TELEPHONE LABORATORIES INCORPORATED

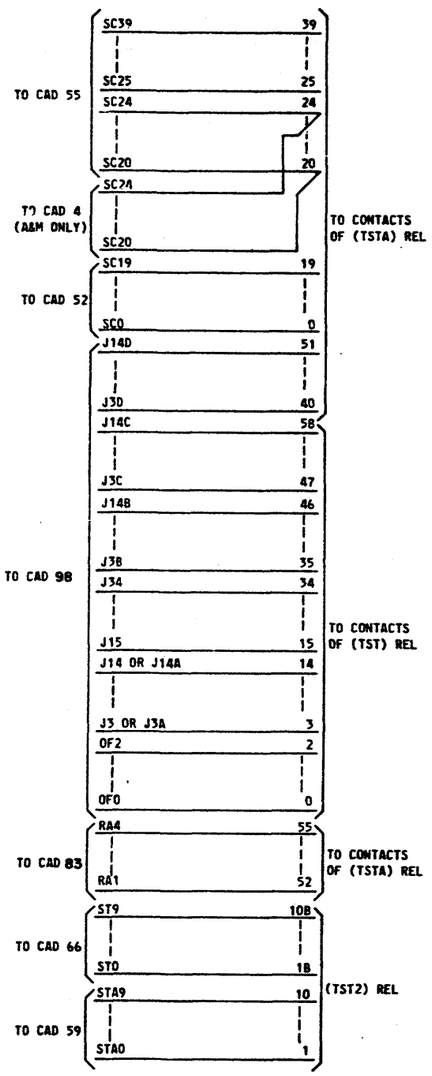
6S

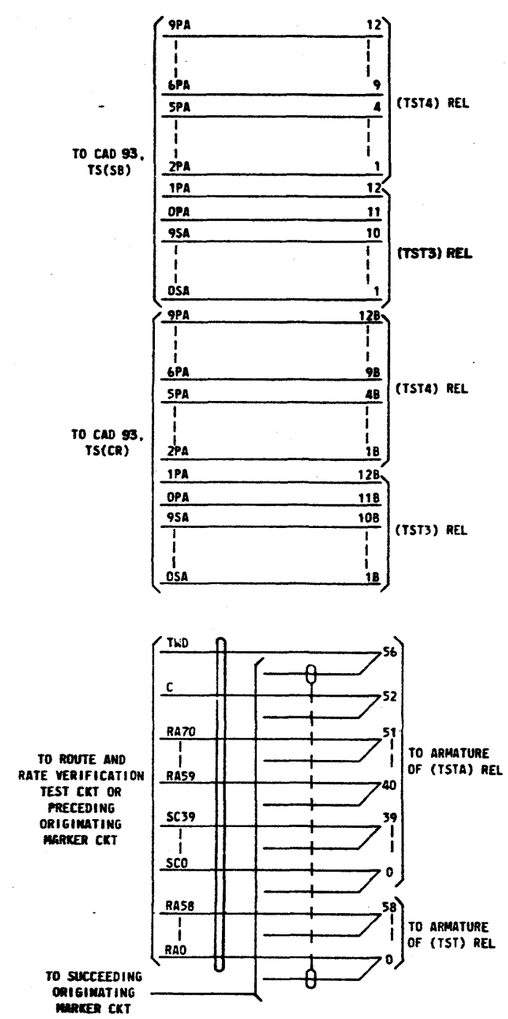
101

SD-25016-01-G54









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ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G55

BELL TELEPHONE LABORATORIES INCORPORATED 6S

HIGGINS 4465

CAD 81

TO CORRESPONDING TERMINALS OF CAD 116 OF ASSOCIATED ORIGINATING MARKER FR

FOR CROSS CONN INFO SEE SECTION D

DO NOT CONN WHEN APP FIG. 34 IS EQUIPPED

(OT) REL 4T — OT (09) (29) (49) (69) — OT
(NC) REL 3T OR 5T — NC (08) (28) (48) (68) — NC
(MI1) OR (TC) REL 5T OR; 3T OR 4T — MI1 OR TC (07) (27) (47) (67) — MI-1 OR TC
TO CAD 58 — ZMR (06) (26) (46) (66)
(DR) REL 3T — DRC (05) (25) (45) (65)
(KP) REL 3T OR 4T — KP (04) (24) (44) (64)
(OV) REL 4T — OV (03) (23) (43) (63) — OV
(TW) OR (TW1) REL 1B OR 2T — TW (02) (22) (42) (62) — TW
(OCV) REL 4T — OOV (01) (21) (41) (61)
(ODR) REL 4T — ODR (00) (20) (40) (60)

TO CAD 108

TS (Z) ON ORIGINATING MARKER FR

TO CAD 93

(OTA) OR (ZJ) REL 5T OR; 3T OR 5T — OTA OR ZJ (19) (39) (59) (79) — OTA TO CAD 91; ZJ TO CAD 93
(NCTD) OR (ZI) REL 5T OR; 3T OR 5T — NCTD OR ZI (18) (38) (58) (78) — NCTD TO CAD 96
(MI9) OR (ZH) REL 5T OR; 3T OR 5T — MI9 OR ZH (17) (37) (57) (77) — MI9 OR ZH
(MI8) OR (ZG) REL 5T OR; 3T OR 5T — MI8 OR ZG (16) (36) (56) (76) — MI8 OR ZG
(MI7) OR (ZF) REL 5T OR; 3T OR 5T — MI7 OR ZF (15) (35) (55) (75) — MI7 OR ZF
(MI6) OR (ZE) REL 5T OR; 3T OR 5T — MI6 OR ZE (14) (34) (54) (74) — MI6 OR ZE
(MI5) OR (ZD) REL 5T OR; 3T OR 5T — MI5 OR ZD (13) (33) (53) (73) — MI5 OR ZD
(MI4) OR (ZC) REL 5T OR; 3T OR 5T — MI4 OR ZC (12) (32) (52) (72) — MI4 OR ZC
(MI3) OR (ZB) REL 5T OR; 3T OR 5T — MI3 OR ZB (11) (31) (51) (71) — MI3 OR ZB
(MI2) OR (ZA) REL 5T OR; 3T OR 5T — MI2 OR ZA (10) (30) (50) (70) — MI2 OR ZA

TO CAD 93

TO CORRESPONDING TERMINALS OF CAD 116 OF ASSOCIATED ORIGINATING MARKER FR

TO CAD 108

TS (Z) ON ORIGINATING MARKER FR

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101

ORIGINATING MARKER CIRCUIT (2) — SD-25016-01-656

BELL TELEPHONE LABORATORIES INCORPORATED — SIZE 6S

HIGGINS 4466

CAD 82
(FOR APP FIG 54 WHEN 3 DIGIT INDIVIDUAL TRANSLATOR IS FURNISHED)

TO 3 DIGIT INDIVIDUAL TRANSLATOR

TN4	59
TN3	58
TN2	57
TN1	56
TN0	55
H9'	39
H8'	38
H7'	37
H6'	36
H5'	35
H9	29
H8	28
H7	27
H6	26
H5	25
H4'	19
H3'	18
H2'	17
H4	09
H3	08
H2	07

TO CONTACTS OR ARMATURE OR (ULA) REL

CAD 83
(FOR APP FIG 6)

TO CAD 100

1(OB)	4T
2(OG)	6T
3(SB)	6B
4(SG)	4B
5(CL)	2B
6(CR)	4T
7(SP)	6T
8(TL)	8T
9(GS)	10T
10(GE)	12T
11(ST)	2T
12(PC)	5B
13(OF)	
14(RA)	7B
15(TB)	9B

(GSI,2,3 OR 4) REL

(GI,2,3 OR 4) REL

TO CAD 80 (MFR DISC) RA1-4

3T (TB1),(TB2),(TB3), OR (TB4) REL

FOR (AD) WIRING
OR 4B (TWA) REL
FOR (AC) WIRING

CAD 84
(FOR APP FIG 25)

TO CAD 100 FOR ROUTE RELAYS 00, 01 ETC, TO 09 ON FIRST ROUTE REL BAY ONLY

1(OB)	
2(OG)	
3(SB)	
4(SG)	
5(CL)	
6(CR)	
8(TL)	7T
9(GS)	9T
10(GE)	11T
11(ST)	1T
12(PC)	3B
13(OF)	1B
15(TB)	4T

Y GRD ON FUSE PANEL

(G4) REL

(OFI) REL

(G4) REL

DRAWING ISSUE: 10ID 10JD

101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-657

BELL TELEPHONE LABORATORIES INCORPORATED — 65

SD-25016-01-657

CAD 90

TO CAD 52

C 999 999 950 950 949 949 900 900 699 699 650 650 649 649 600 600

FOR CROSS CONN INFO SEE SECTION D

TO CORRESPONDING PUNCHINGS ON OTHER ROUTE REL BAYS ASSOCIATED WITH SAME ORIGINATING MARKER FR

TS (C) UPPER ON FIRST ROUTE REL BAY

TO CAD 20 (A&M ONLY)

C 999 999 950 950 949 949 900 900 699 699 650 650 649 649 600 600

FOR CROSS CONN INFO SEE SECTION D

TO CORRESPONDING PUNCHINGS ON OTHER ROUTE REL BAYS ASSOCIATED WITH SAME ORIGINATING MARKER FR

TS (C) UPPER ON ROUTE REL BAY R9

C 599 599 550 550 549 549 500 500 299 299 250 250 249 249 200 200

FOR CROSS CONN INFO SEE SECTION D

TO CORRESPONDING PUNCHINGS ON OTHER ROUTE REL BAYS ASSOCIATED WITH SAME ORIGINATING MARKER FR

TO CAD 53

TS (C) LOWER ON FIRST ROUTE REL BAY

C 599 599 550 550 549 549 500 500 299 299 250 250 249 249 200 200

TO CAD 20 (A&M ONLY)

TS (C) LOWER ON ROUTE REL BAY R9

PART OF CAD 91

TO CAD 96

(OG5) REL S5 — OG5S (19) — K4

(OGO) REL S0 — OGOS (14) — K4

(OG5) REL P5 — OG5P (13) — K4

(OGO) REL P0 — OGOP (08) — K4

H (07) — K4

G (06) — K4

D (03) — K4

C (02) — K4

(ODN) REL 8T — ODG (01) — K4

(ODN) REL 11T — ODN (00) — K4

FOR CROSS CONN INFO SEE SECTION D

TS (GG) ON FIRST ROUTE REL BAY

TS (OG) ON SECOND ROUTE REL BAY

TO CAD 22 (A&M ONLY)

FOR CROSS CONN INFO SEE SECTION D

TO PRECEDING ROUTE REL BAY

TO SUCCEEDING ROUTE REL BAY

FOR CROSS CONN INFO SEE SECTION D

TO SUCCEEDING ROUTE REL BAY

OG S5 — OG5S (19) — K4

OG S0 — OGOS (14) — K4

OG P5 — OG5P (13) — K4

OG P0 — OGOP (08) — K4

H (07) — K4

G (06) — K4

D (03) — K4

C (02) — K4

ODG (01) — K4

ODN (00) — K4

FOR CROSS CONN INFO SEE SECTION D

TS (OG) ON ROUTE REL BAY R9

DRAWING ISSUE: IOID | PEC

CF

101

ORIGINATING MARKER CIRCUIT

(2) SD-25016-01-661

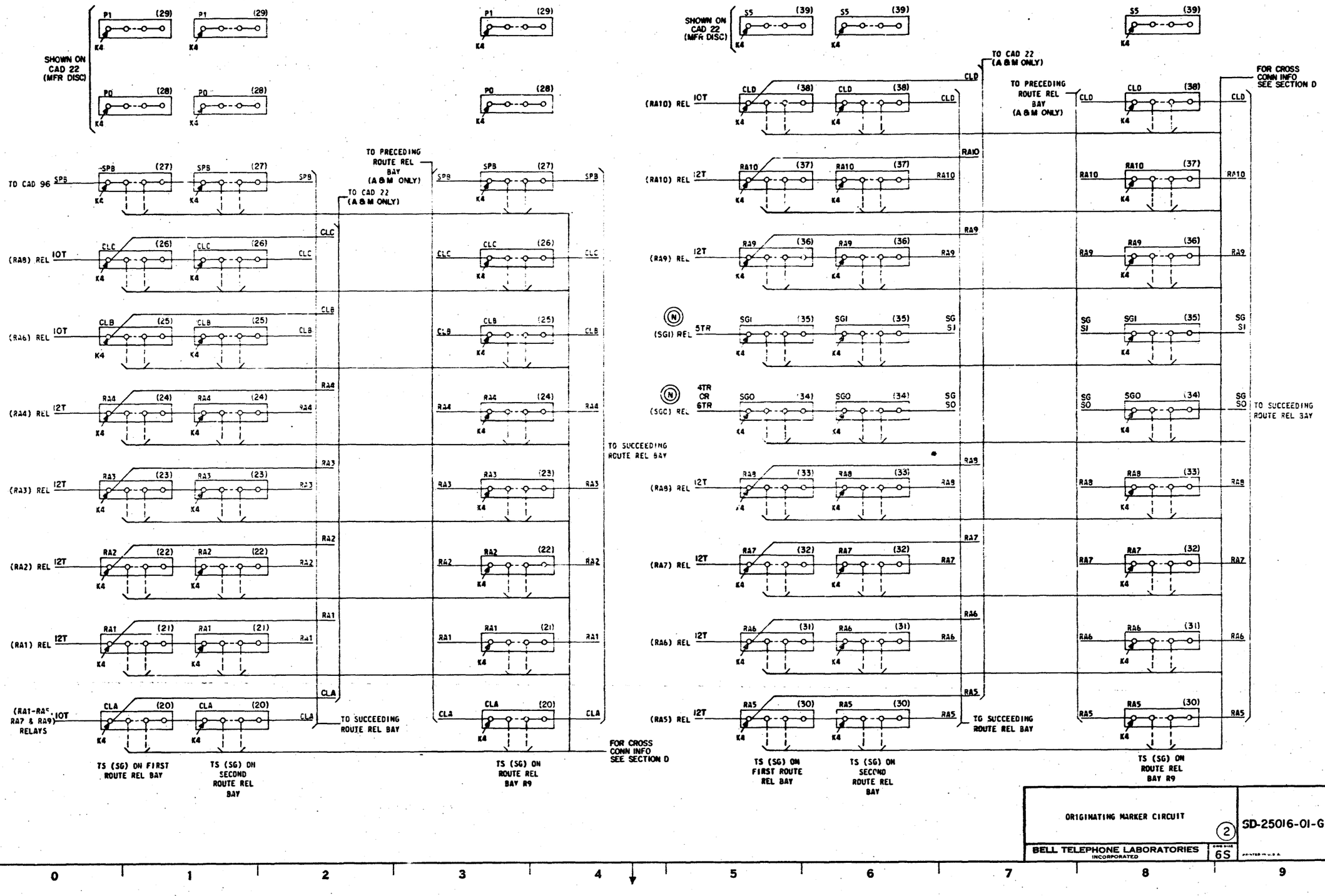
BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25016-01-661

HIGGINS 4465

PART OF CAD 91



DRAWING ISSUE

VOID	SEC

101

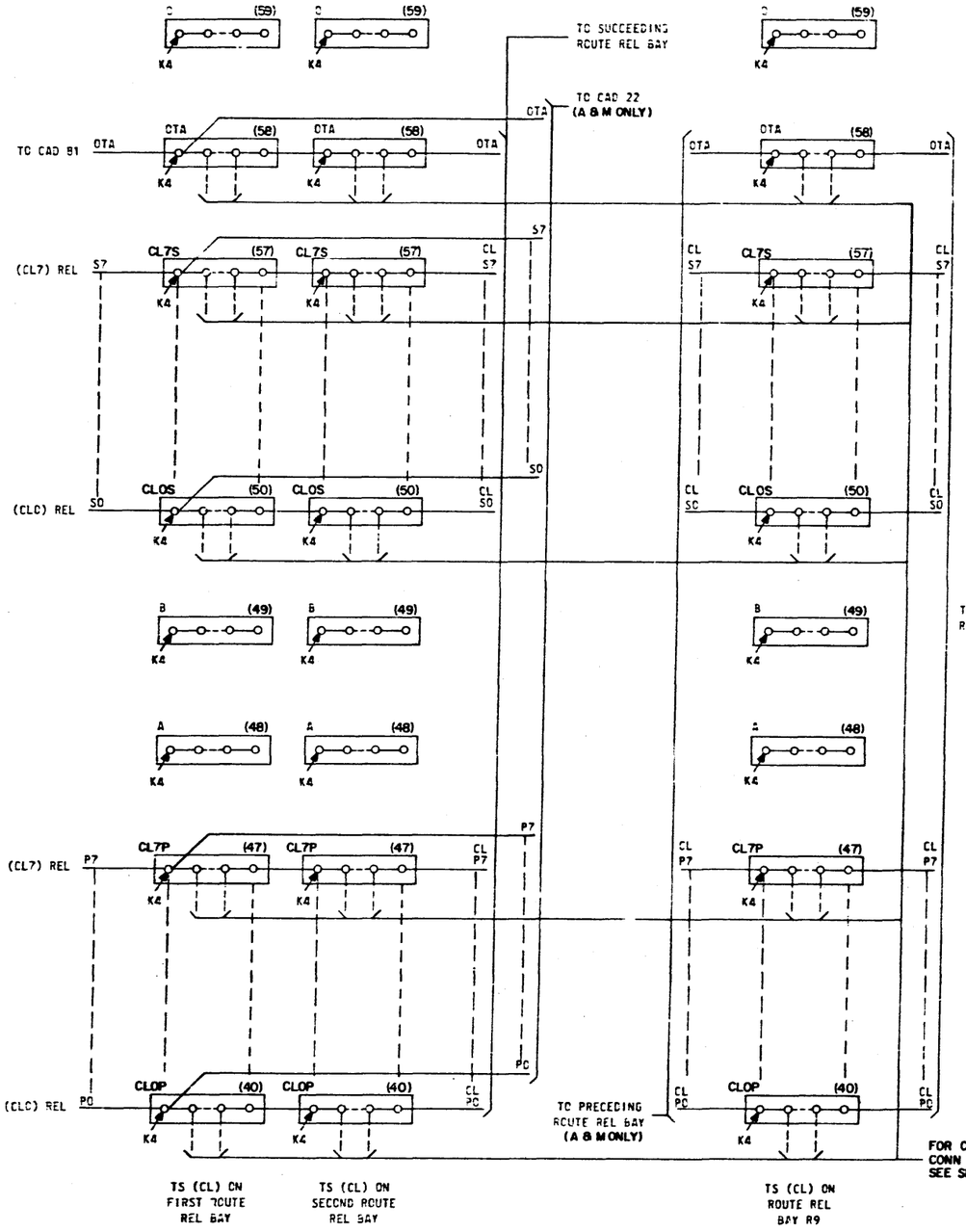
ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G62

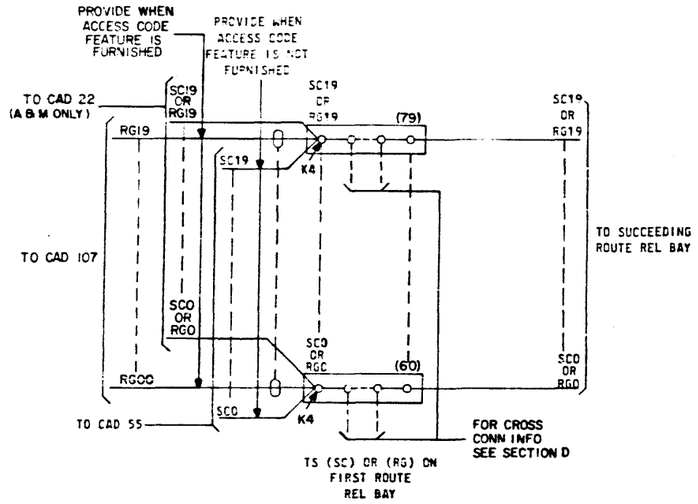
BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-G62

HIGGINS 4465 H/E

PART OF CAD 91





DRAWING ISSUE
IOID | PEC

101

ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-G63

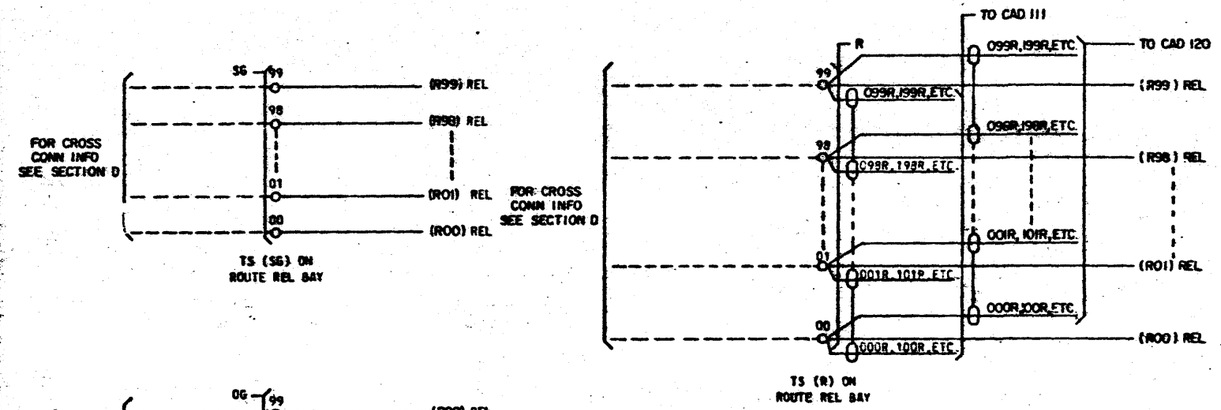
BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25016-01-G63

HIGGINS 4465 K&E

CAD 92
(SEE NOTE 209)



SD-25016-01-664

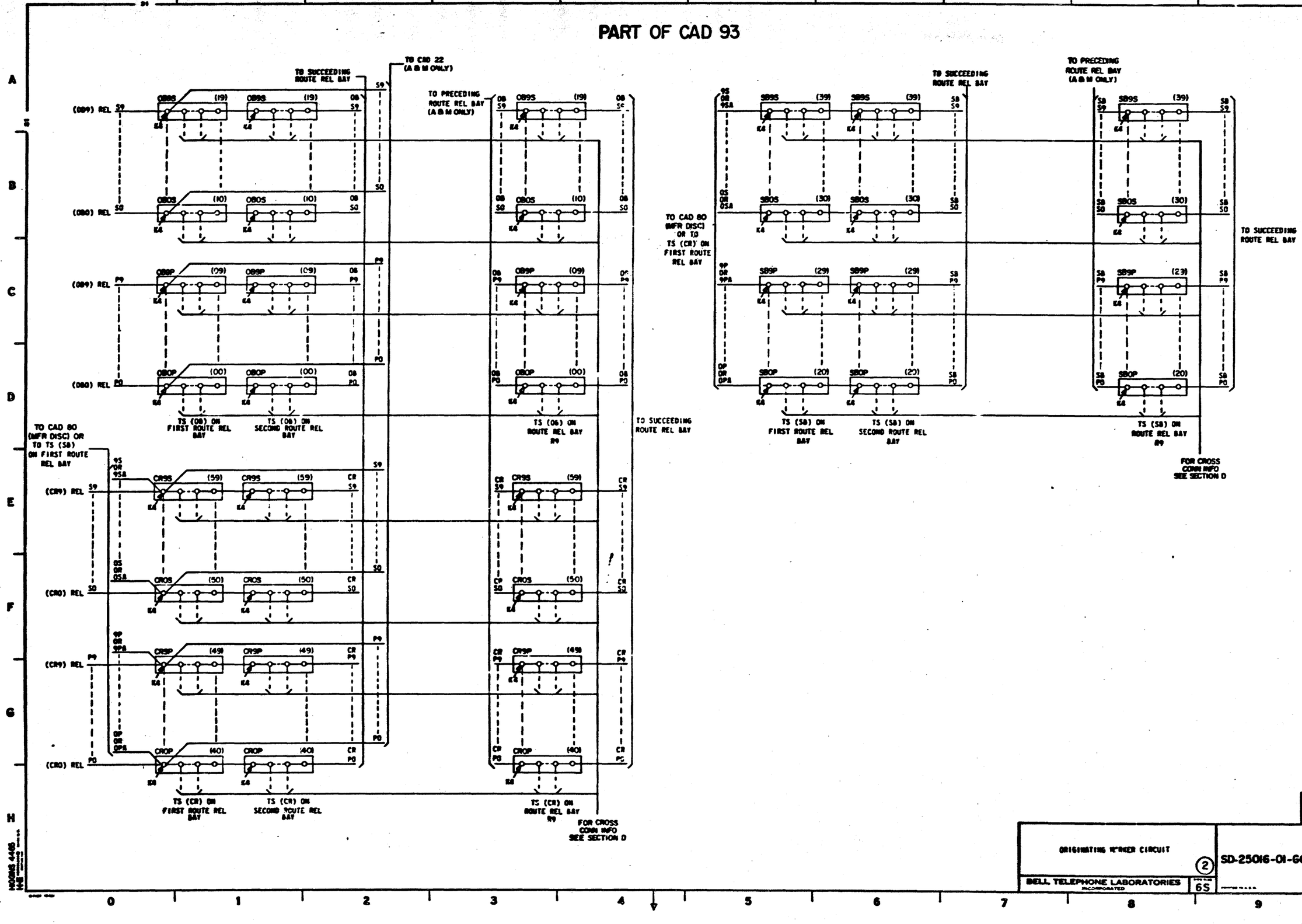
HIGGINS 4465 N.Y.

101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-664

BELL TELEPHONE LABORATORIES INCORPORATED SIZE 6S

PART OF CAD 93



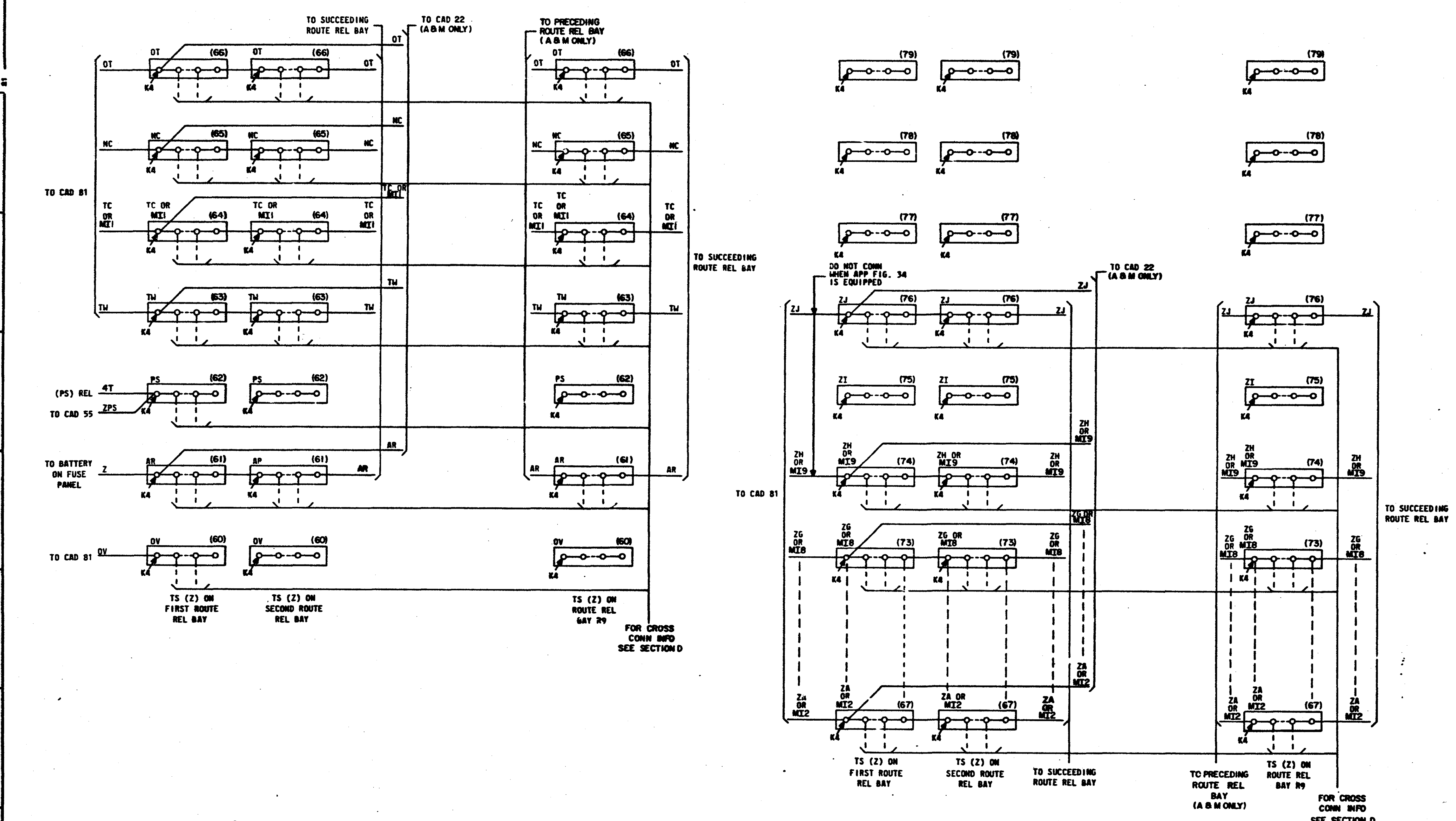
SD-25016-01-665

101

ORIGINATING NUMBER CIRCUIT (2) SD-25016-01-665

BELL TELEPHONE LABORATORIES INCORPORATED 6S

PART OF CAD 93



101

ORIGINATING MARKER CIRCUIT

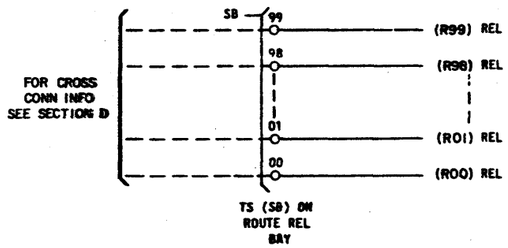
SD-25016-01-G66

2

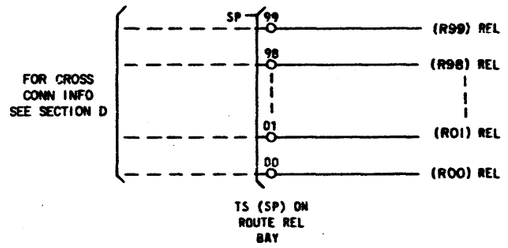
BELL TELEPHONE LABORATORIES INCORPORATED

6S

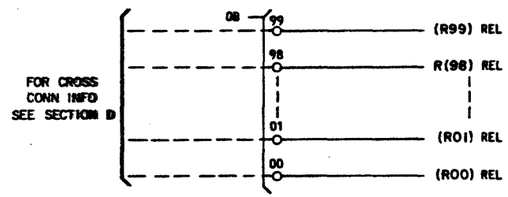
CAD 94



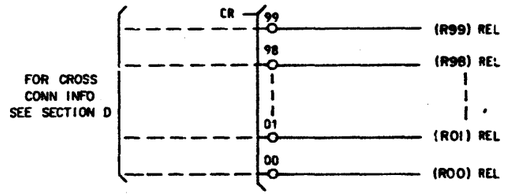
TS (SB) ON ROUTE REL BAY



TS (SP) ON ROUTE REL BAY



TS (OB) ON ROUTE REL BAY



TS (CR) ON ROUTE REL BAY

DRAWING ISSUE 1010 5SL CB

101

ORIGINATING MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

65

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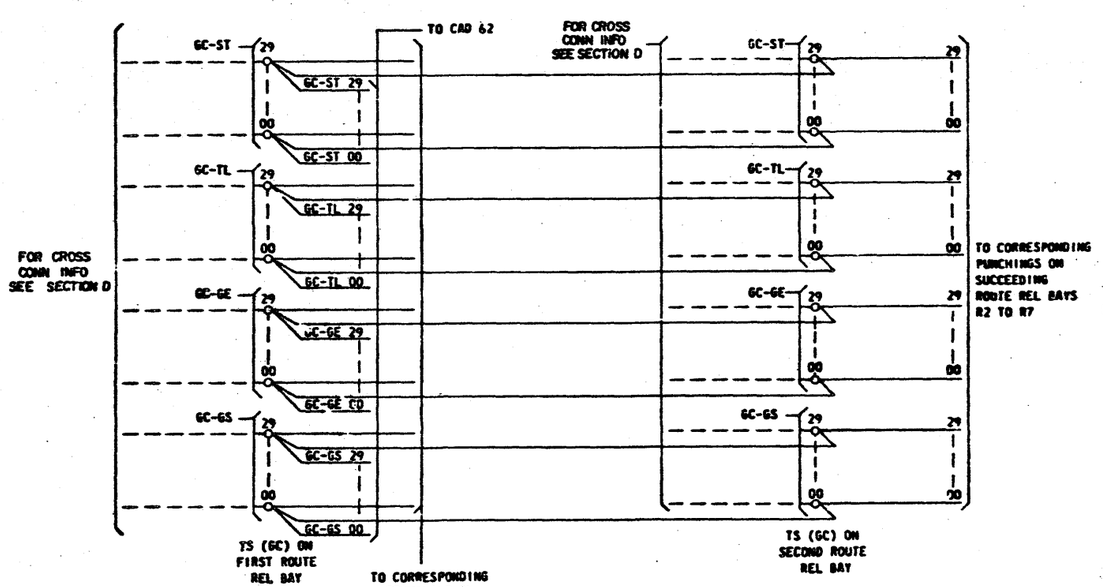
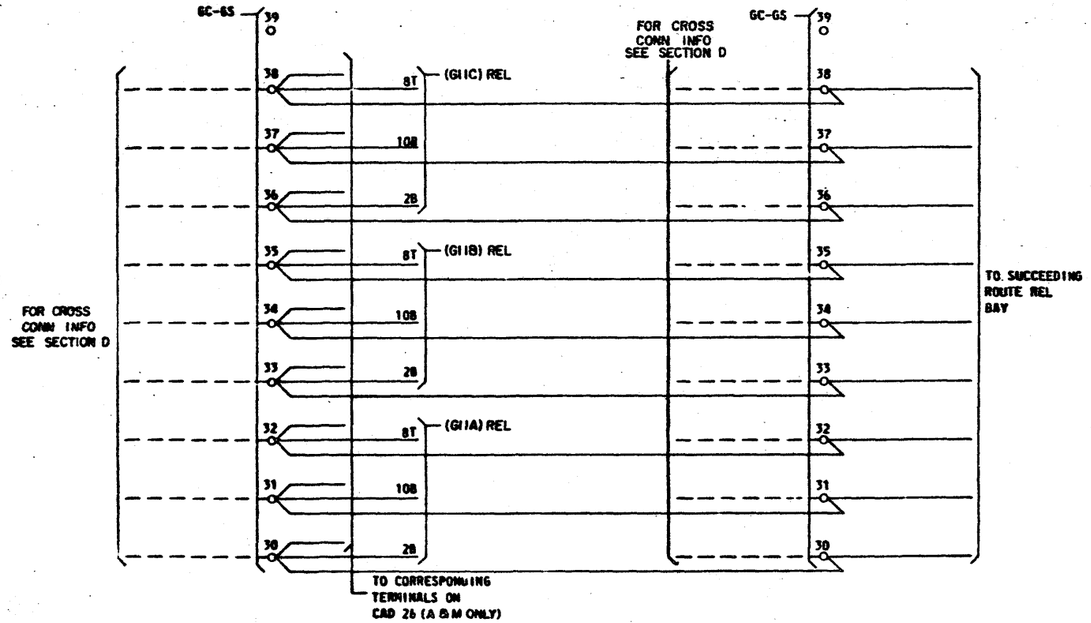
SD-25016-01-667

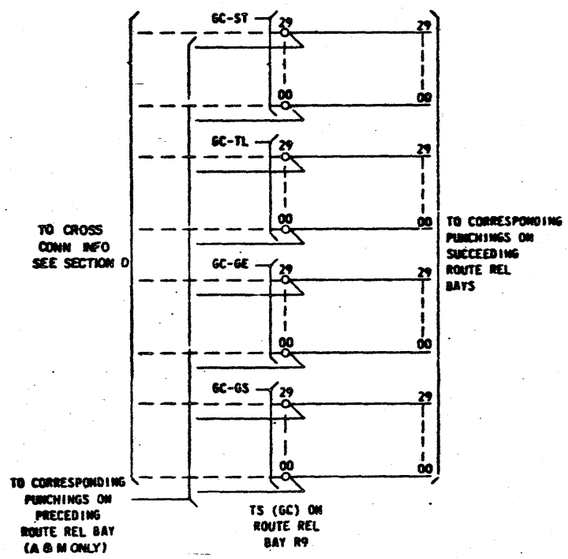
HIGGINS 4445 H-B

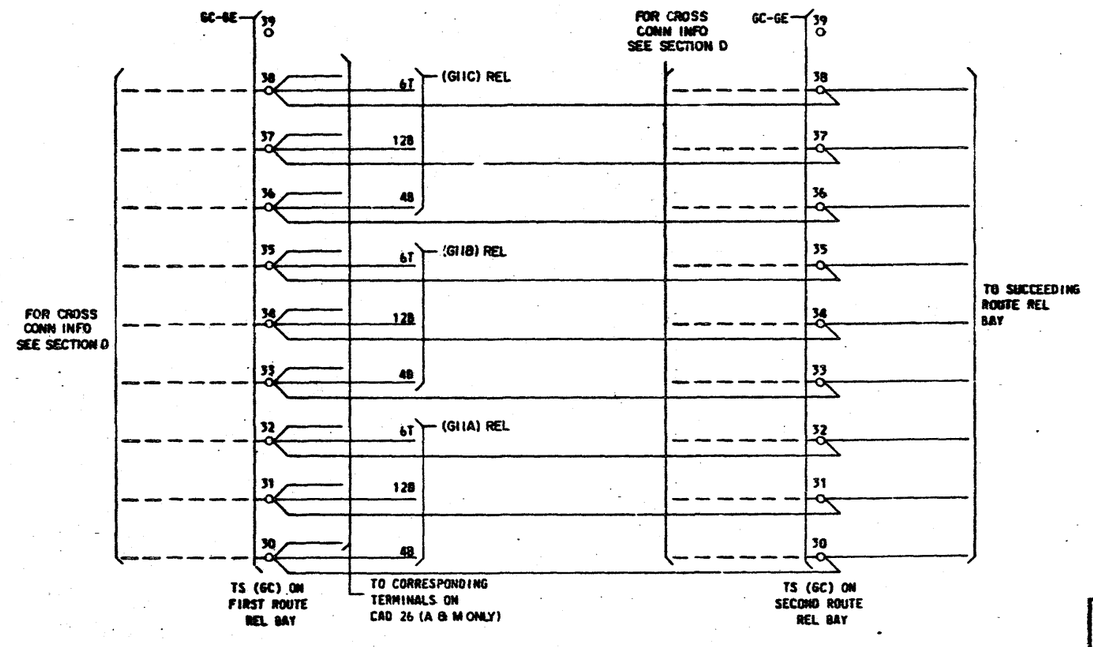
PART OF CAD 95

(SEE NOTE 207)









ISSUE

SD-25016-01-G68

IIGGINS 4465

ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-G68

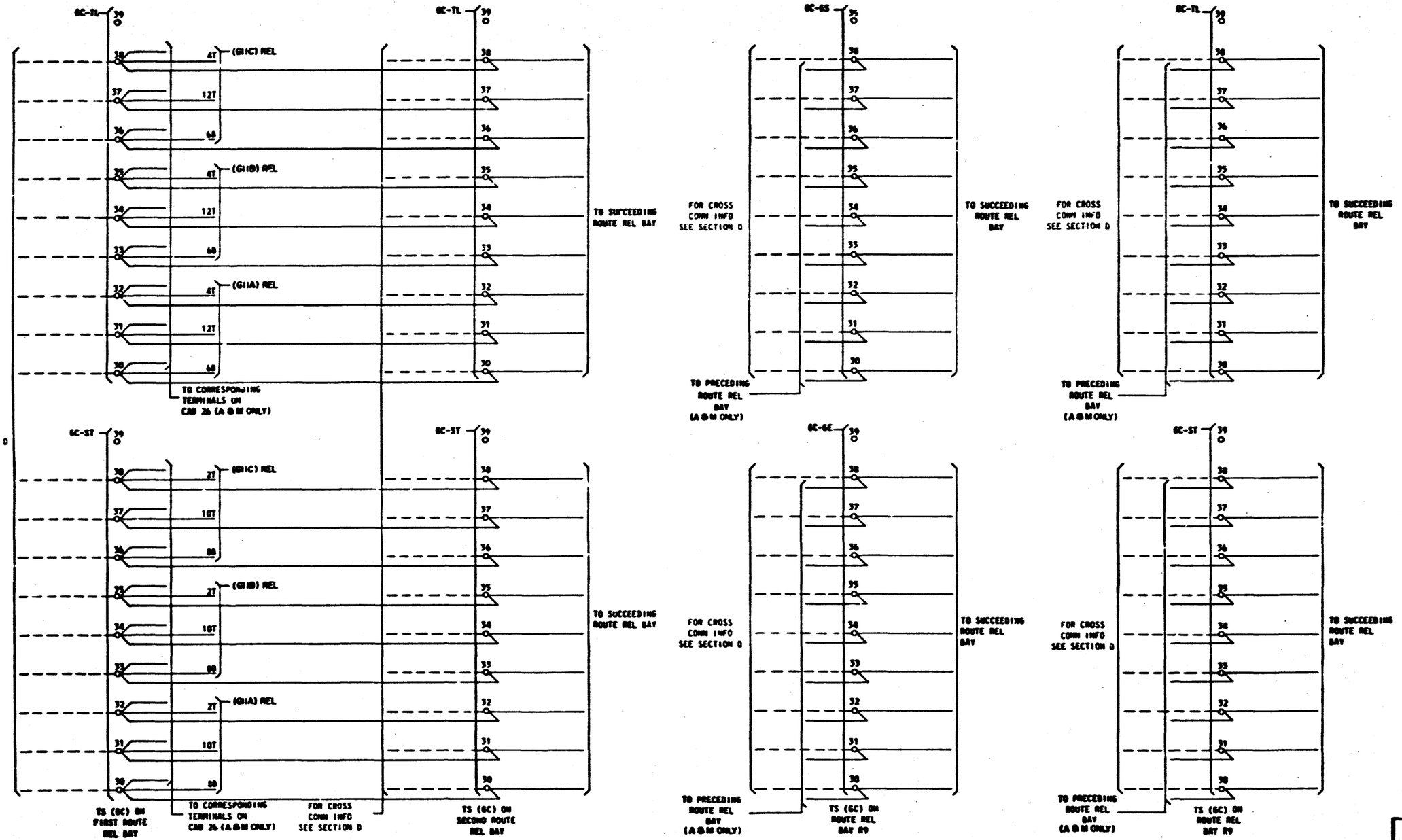
BELL TELEPHONE LABORATORIES INCORPORATED

6S

101

PART OF CAD 95

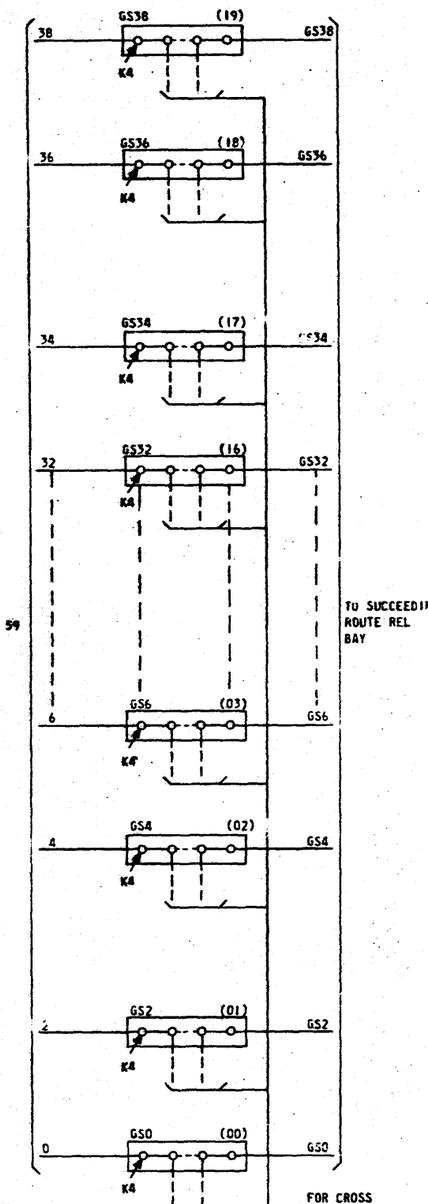
(SEE NOTE 207)

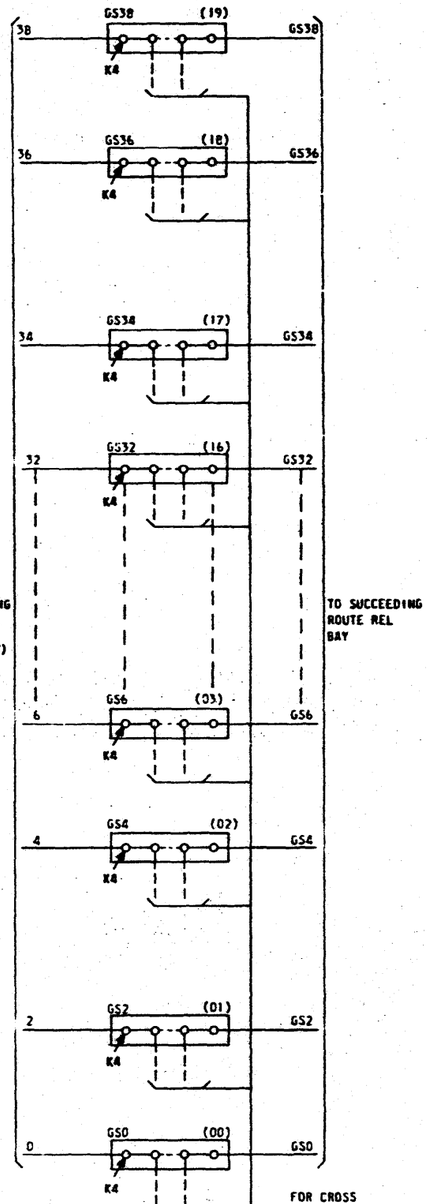


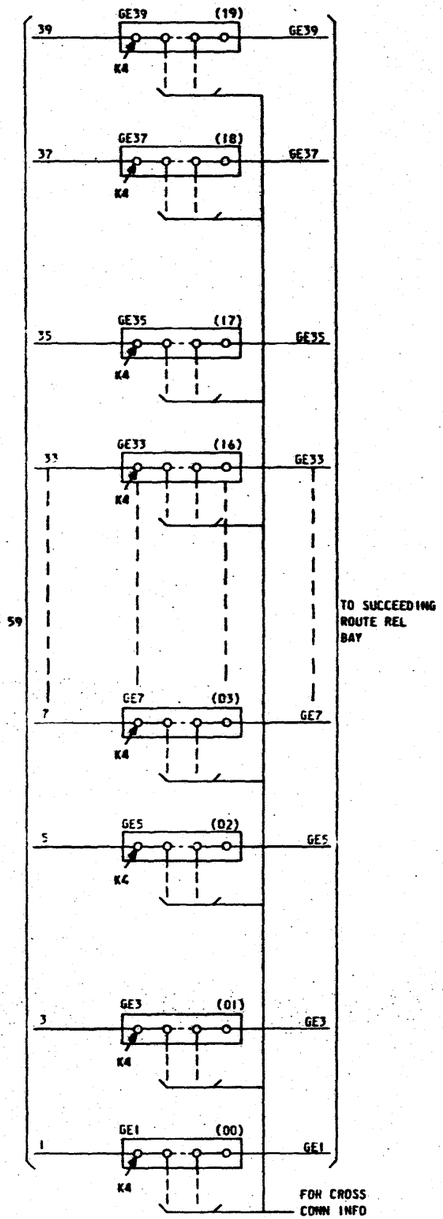
SD-25016-01-G69

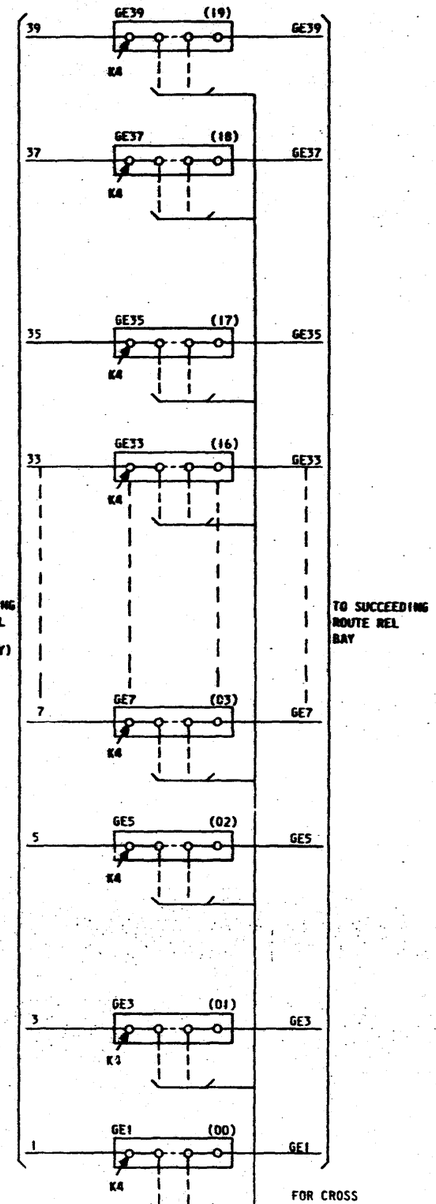
ORIGINATING TRUNK CIRCUIT	(2)	SD-25016-01-G69
BELL TELEPHONE LABORATORIES INCORPORATED	6S	

101

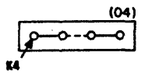

38 GS38 (19) GS38
K4
36 GS36 (18) GS36
K4
34 GS34 (17) GS34
K4
32 GS32 (16) GS32
K4
6 GS6 (03) GS6
K4
4 GS4 (02) GS4
K4
2 GS2 (01) GS2
K4
0 GS0 (00) GS0
K4
TO CAD 59
TO SUCCEEDING ROUTE REL BAY
FOR CROSS CONN INFO SEE SECTION D
TS (GS) ON FIRST ROUTE REL BAY

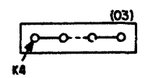

38 GS38 (19) GS38
K4
36 GS36 (18) GS36
K4
34 GS34 (17) GS34
K4
32 GS32 (16) GS32
K4
6 GS6 (03) GS6
K4
4 GS4 (02) GS4
K4
2 GS2 (01) GS2
K4
0 GS0 (00) GS0
K4
TO PRECEDING ROUTE REL BAY (A&M ONLY)
TO SUCCEEDING ROUTE REL BAY
FOR CROSS CONN INFO SEE SECTION D
TS (GS) ON ROUTE REL BAY R9

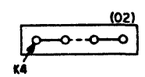

39 GE39 (19) GE39
K4
37 GE37 (18) GE37
K4
35 GE35 (17) GE35
K4
33 GE33 (16) GE33
K4
7 GE7 (03) GE7
K4
5 GE5 (02) GE5
K4
3 GE3 (01) GE3
K4
1 GE1 (00) GE1
K4
TO CAD 59
TO SUCCEEDING ROUTE REL BAY
FOR CROSS CONN INFO SEE SECTION D
TS (GE) ON FIRST ROUTE REL BAY

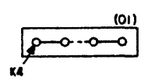

39 GE39 (19) GE39
K4
37 GE37 (18) GE37
K4
35 GE35 (17) GE35
K4
33 GE33 (16) GE33
K4
7 GE7 (03) GE7
K4
5 GE5 (02) GE5
K4
3 GE3 (01) GE3
K4
1 GE1 (00) GE1
K4
TO PRECEDING ROUTE REL BAY (A&M ONLY)
TO SUCCEEDING ROUTE REL BAY
FOR CROSS CONN INFO SEE SECTION D
TS (GE) ON ROUTE REL BAY R9

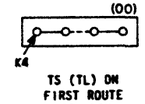
PART OF CAD 96



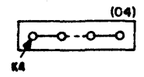


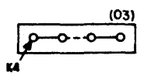


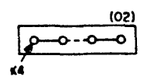


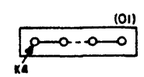


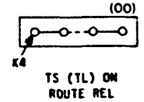
TS (TL) ON
FIRST ROUTE
REL BAY



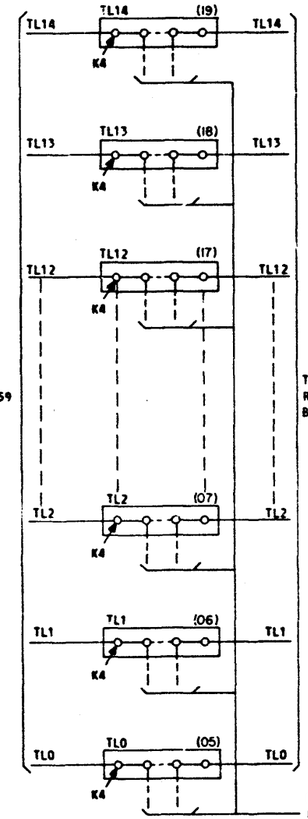








TS (TL) ON
ROUTE REL
BAY R9

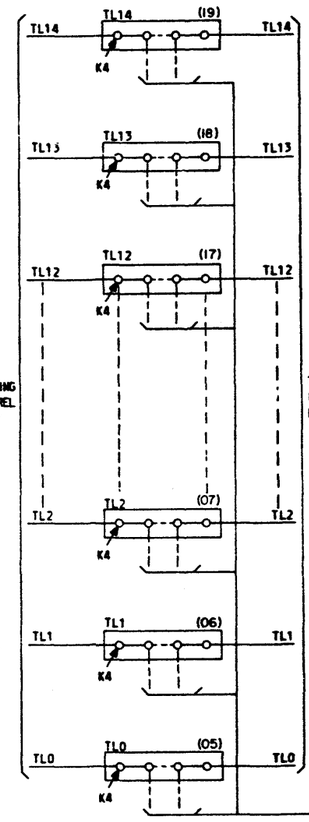


TO CAD 59

TO SUCCEEDING
ROUTE REL
BAY

FOR CROSS
CONN INFO
SEE SECTION D

TS (TL) ON
FIRST ROUTE
REL BAY



TO
PRECEDING
ROUTE REL
BAY

TO SUCCEEDING
ROUTE REL
BAY

FOR CROSS
CONN INFO
SEE SECTION D

TS (TL) ON
ROUTE REL
BAY R9

DRAWING ISSUE
VOID | REL
C9

101

ORIGINATING MARKER CIRCUIT

SD-25016-01-G71

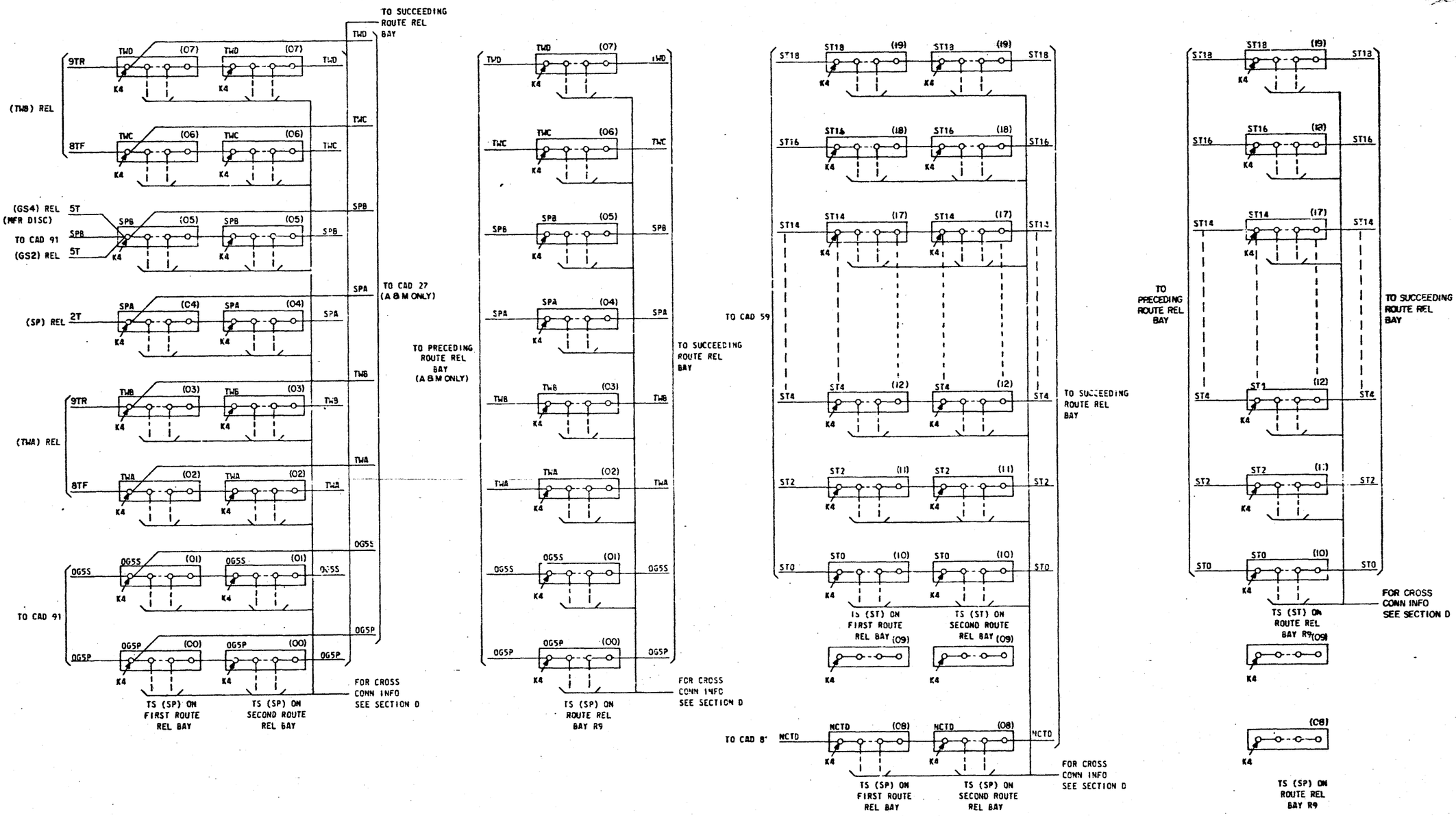
(2)

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

HIGGINS 4465

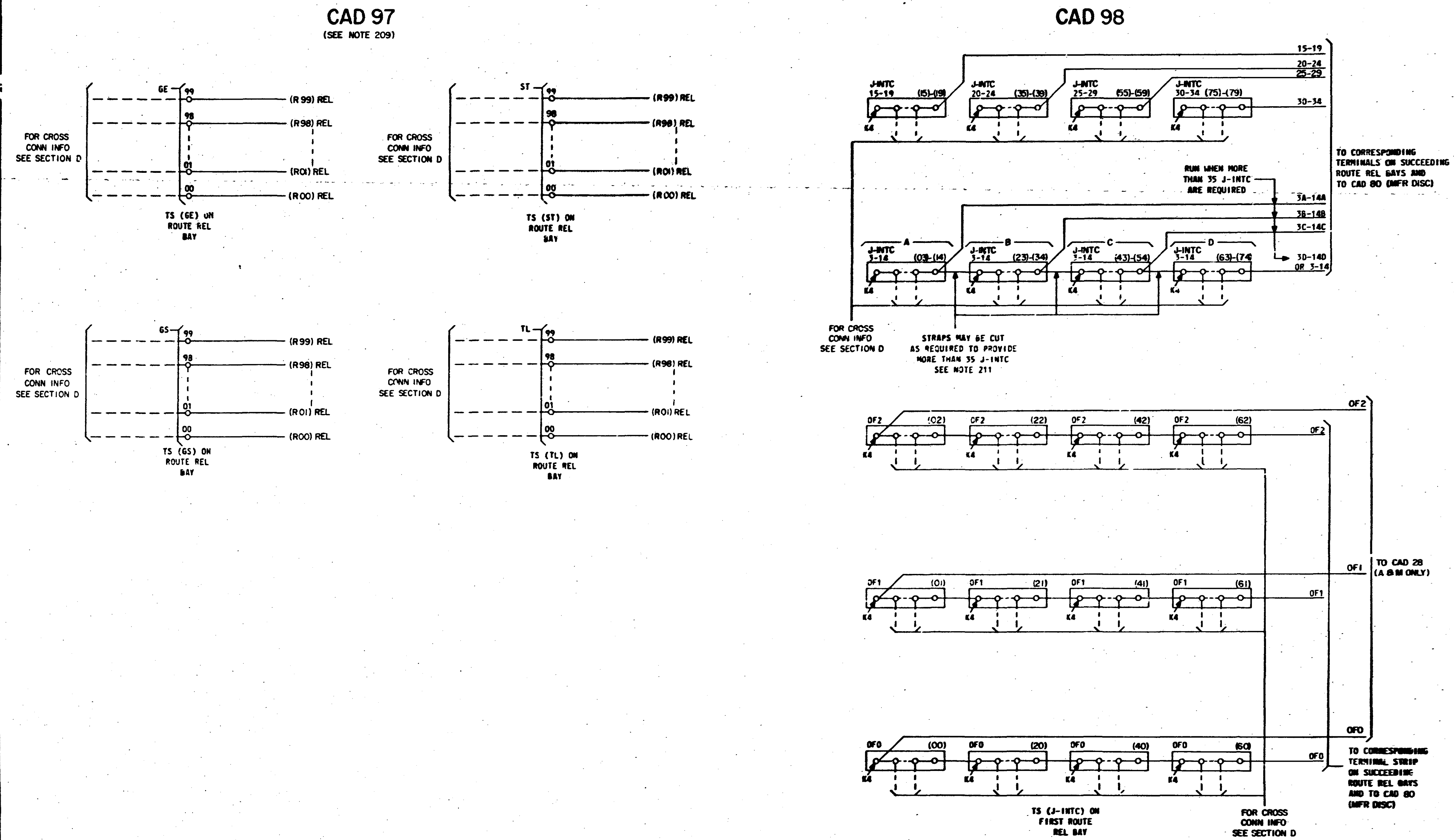
PART OF CAD 96



SD-25016-01-G72

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G72

BELL TELEPHONE LABORATORIES INCORPORATED 6S



101

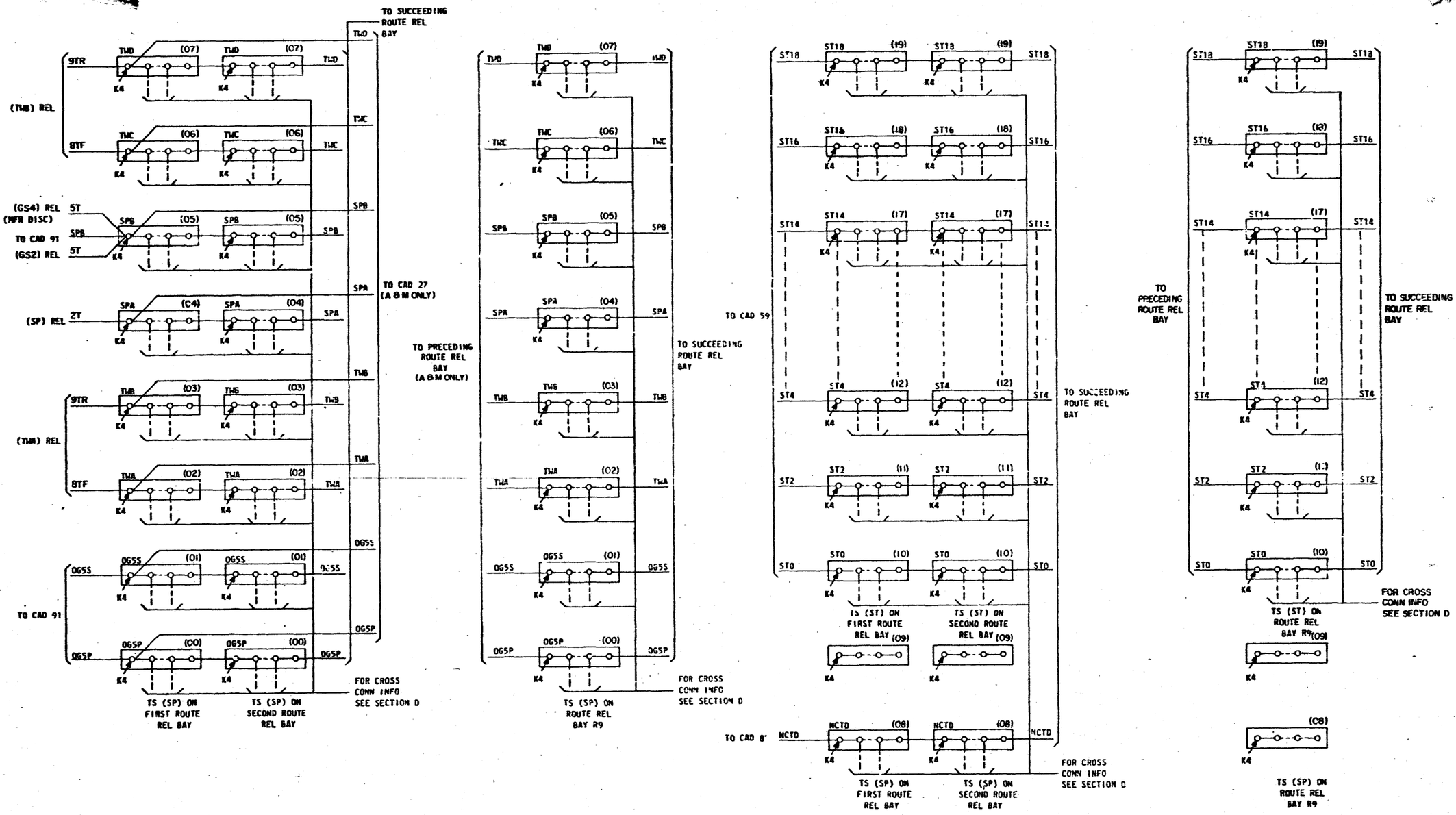
ORIGINATING MARKER CIRCUIT

(2) SD-25016-01-G73

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25016-01-G73



ORIGINATING MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25016-01-G72

SIZE 6S

SD-25016-01-G72

GOINS 4465

CAD 100
(SEE NOTE 206)

BARE WIRE STRAP TO ARMATURES OF 10 ROUTE RELAYS NUMBERED 00-09,20-29,40-49,60-69 OR 80-89

BARE WIRE STRAP TO ARMATURES OF 10 ROUTE RELAYS NUMBERED 10-19 30-39,50-59,70-79 OR 90-99

1(OB)	29		29		(OB)1
2(OG)	1 28		28	1	(OG)2
3(SB)	2 27		27	2	(SB)3
4(SG)	3 26		26	3	(SG)4
5(CL)	4 25		25	4	(CL)5
1(OB)	5 24		24	5	(OB)1
2(OG)	1 23		23	1	(OG)2
3(SB)	2 22		22	2	(SB)3
4(SG)	3 21		21	3	(SG)4
5(CL)	4 20		20	4	(CL)5
6(CR)	5 19		19	5	(CR)6
7(SP)	6 18		18	6	(SP)7
8(TL)	7 17		17	7	(TL)8
9(GS)	8 16		16	8	(GS)9
10(GE)	9 15		15	9	(GE)10
6(CR)	10 14		14	10	(CR)6
7(SP)	6 13		13	6	(SP)7
8(TL)	7 12		12	7	(TL)8
9(GS)	8 11		11	8	(GS)9
10(GE)	9 10		10	9	(GE)10
11(ST)	10 09		09	10	(ST)11
12(PC)	11 08		08	11	(PC)12
13(OF)	12 07		07	12	(OF)13
14(RA)	13 06		06	13	(RA)14
15(TB)	14 05		05	14	(TB)15
11(ST)	15 04		04	15	(ST)11
12(PC)	11 03		03	11	(PC)12
13(OF)	12 02		02	12	(OF)13
14(RA)	13 01		01	13	(RA)14
15(TB)	14 00		00	14	(TB)15
	15			15	

TO PRECEDING CAD 100 AS SPECIFIED OR TO CAD 83 OR CAD 84

TO SUCCEEDING CAD 100 AS SPECIFIED

TO SUCCEEDING CAD 100 AS SPECIFIED

TO PRECEDING CAD 100 AS SPECIFIED

TS AT LEFT OF STRIP FOR ROUTE RELAYS 00-99

TS AT RIGHT OF STRIP FOR ROUTE RELAYS 00-99

BARE WIRE STRAP TO ARMATURES OF 10 ROUTE RELAYS NUMBERED 00-09,20-29,40-49,60-69 OR 80-89

BARE WIRE STRAP TO ARMATURES OF 10 ROUTE RELAYS NUMBERED 10-19,30-39,50-59,70-79, OR 90-99

59	59
58	58
57	57
56	56
55	55
54	54
53	53
52	52
51	51
50	50
49	49
48	48
47	47
46	46
45	45
44	44
43	43
42	42
41	41
40	40
39	39
38	38
37	37
3-	36
35	35
34	34
33	33
32	32
31	31
30	30

TS AT LEFT OF STRIP FOR ROUTE RELAYS 00-99

TS AT RIGHT OF STRIP FOR ROUTE RELAYS 00-99

DRAWING ISSUE 1123

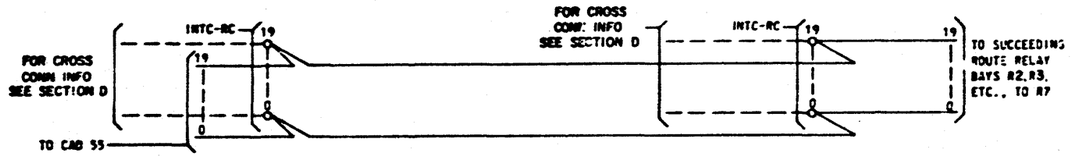
101

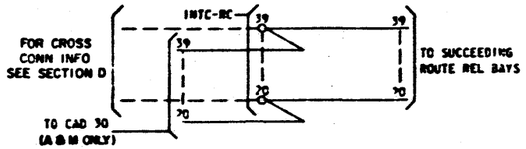
ORIGINATING NUMBER CIRCUIT (2) SD-25016-01-G75

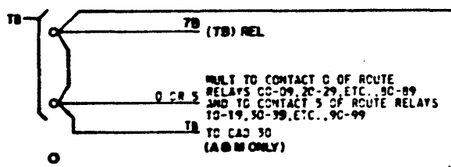
BELL TELEPHONE LABORATORIES INCORPORATED 6S

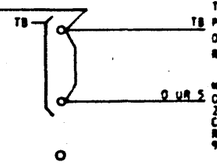
SD-25016-01-G75

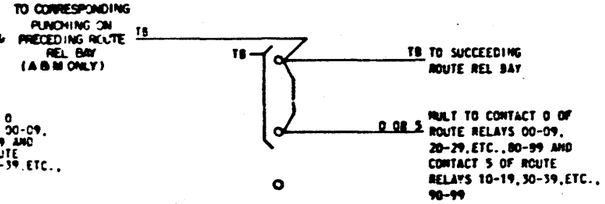
CAD 101

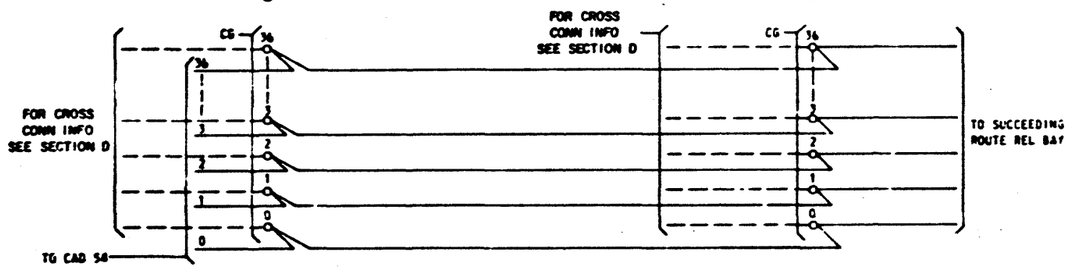


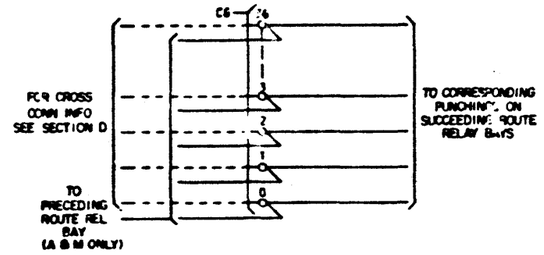


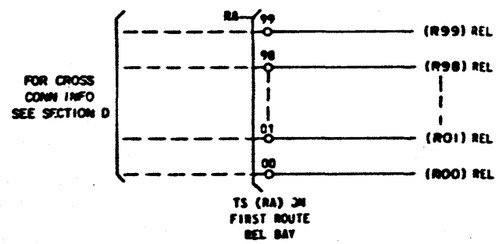


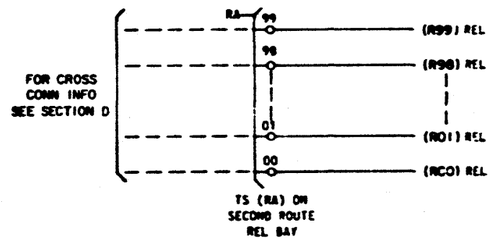


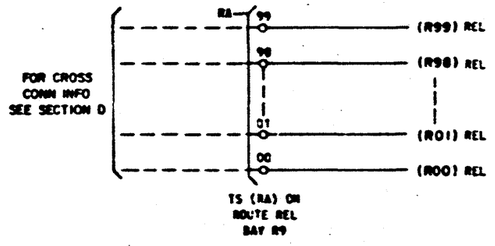












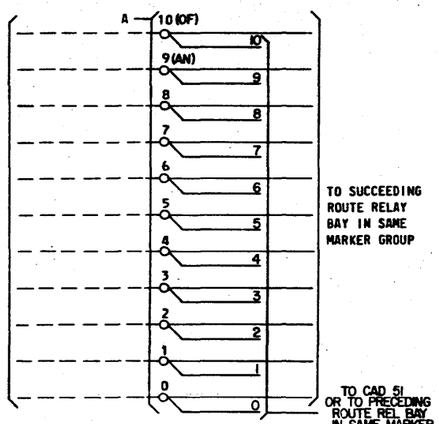
SD-25016-01-G76

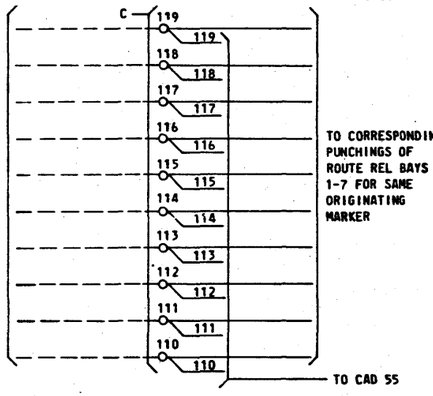
HIGGINS 4469

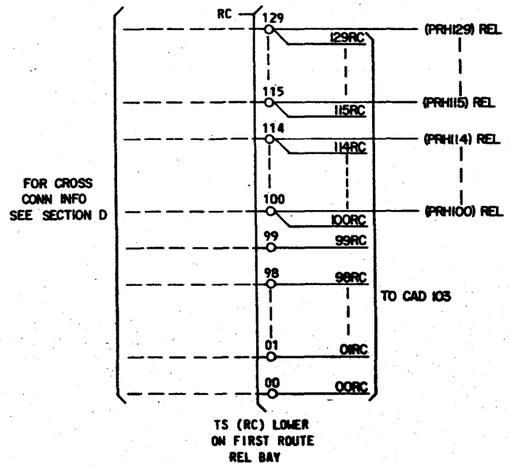
101

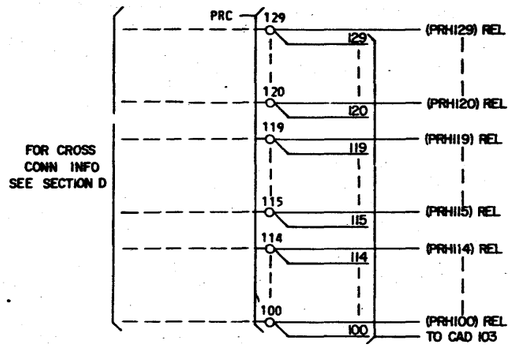
ORIGINATING MARKER CIRCUIT	SD-25016-01-G76 (2)
BELL TELEPHONE LABORATORIES INCORPORATED	6S

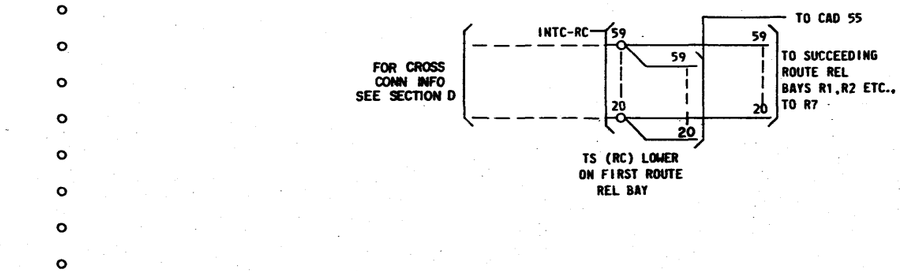
CAD 102











TS (RC) LOWER ON FIRST ROUTE REL BAY

SD-25016-01-G77

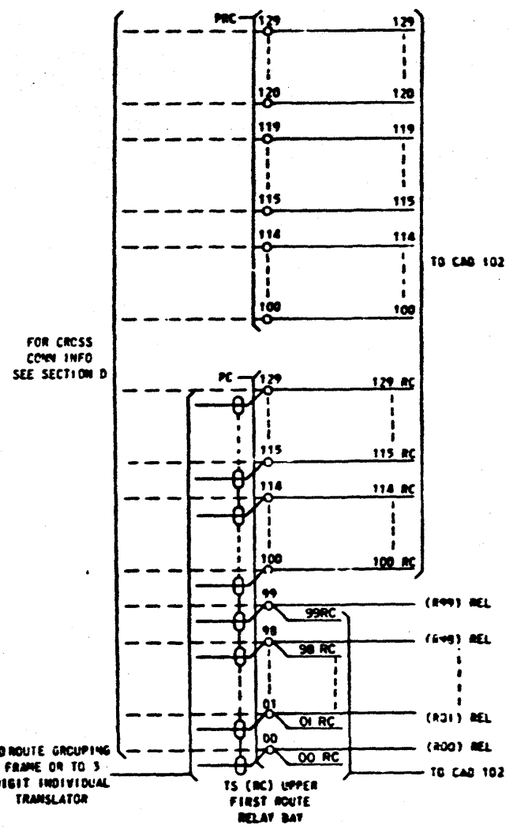
IGGNS 4465

DRAWING ISSUE
106D

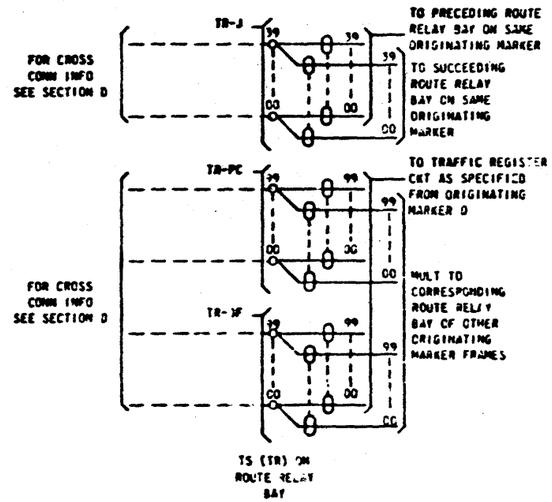
ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G77

BELL TELEPHONE LABORATORIES 65

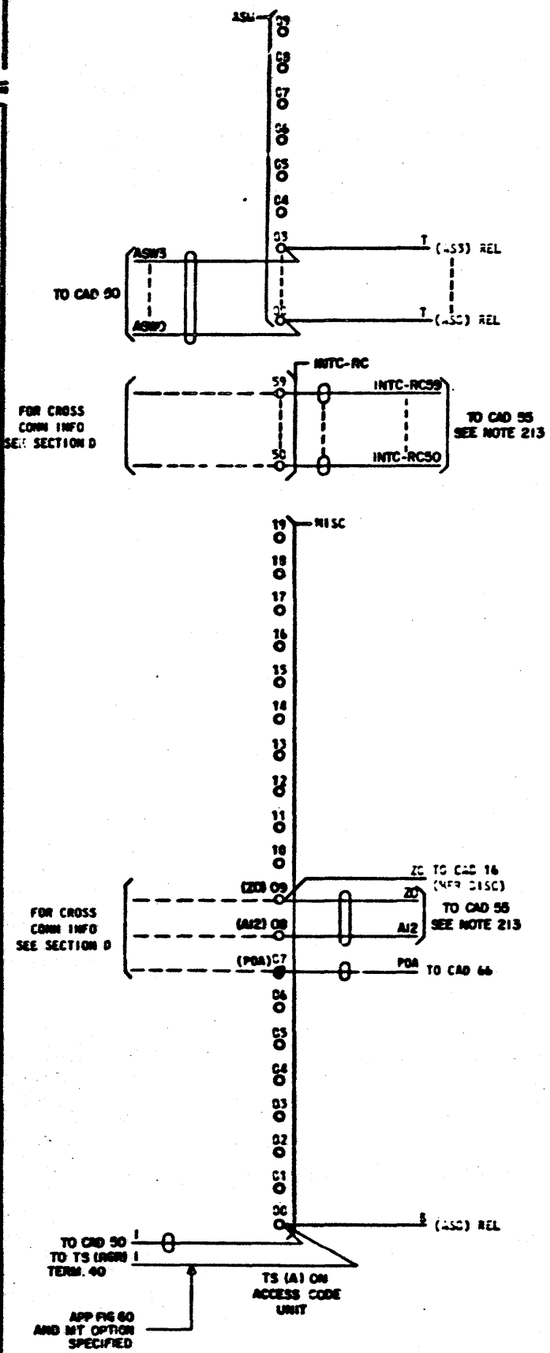
CAD 103

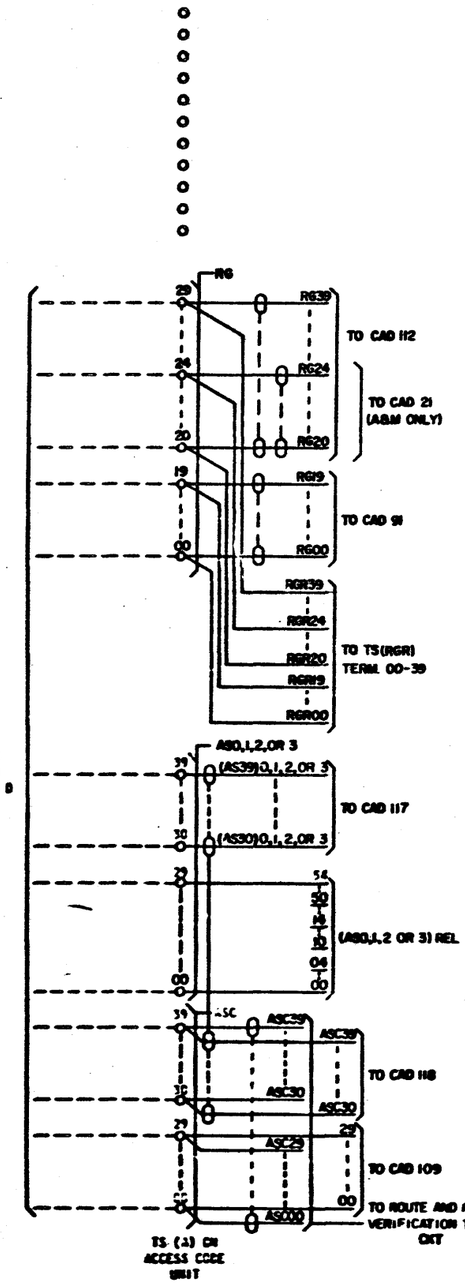


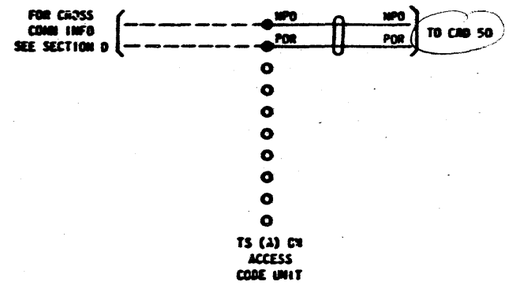
CAD 104

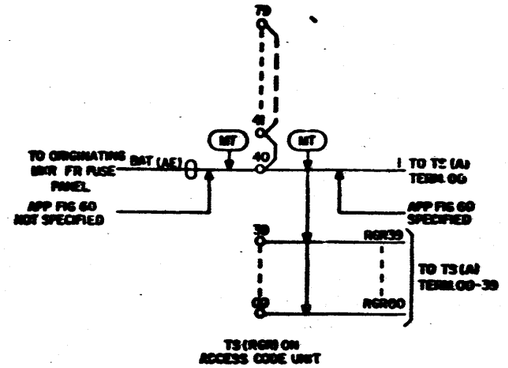


CAD 107







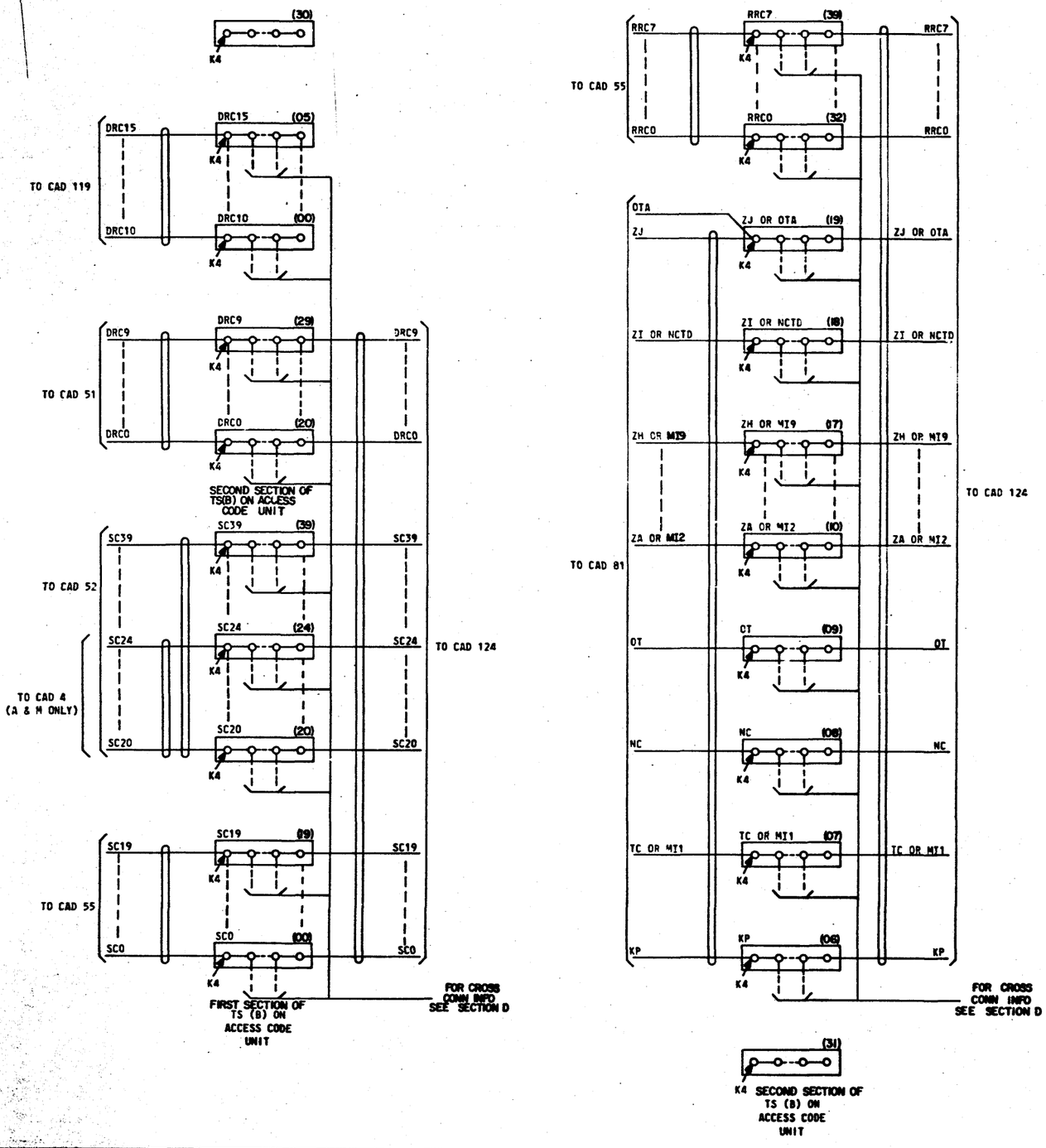


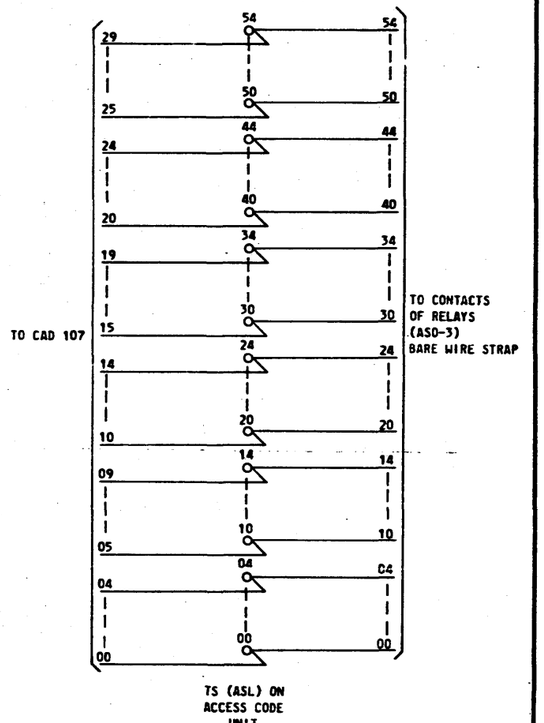
DRAWING ISSUE 106D

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G79

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-G79





ICB

101

ORIGINATING MARKER CIRCUIT (2)

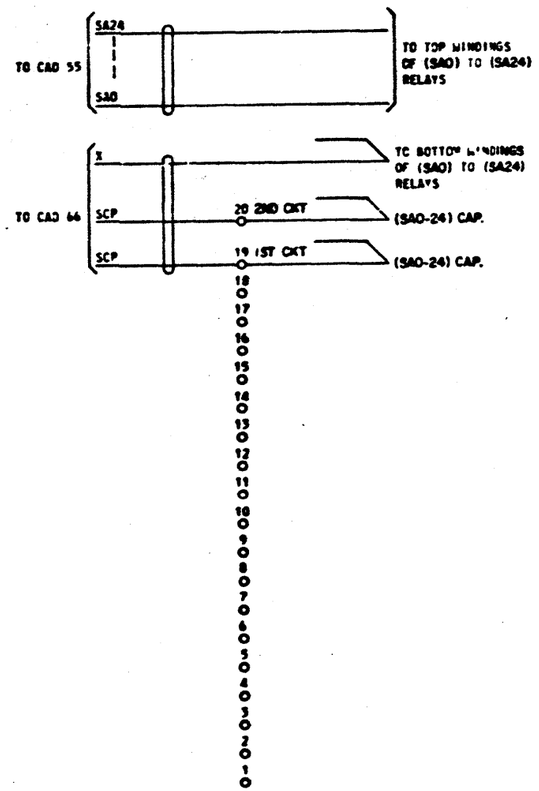
SD-25016-01-680

BELL TELEPHONE LABORATORIES INCORPORATED 6S

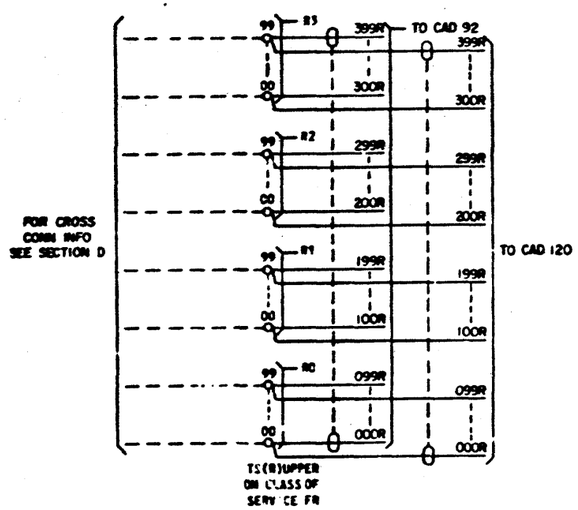
SD-25016-01-680

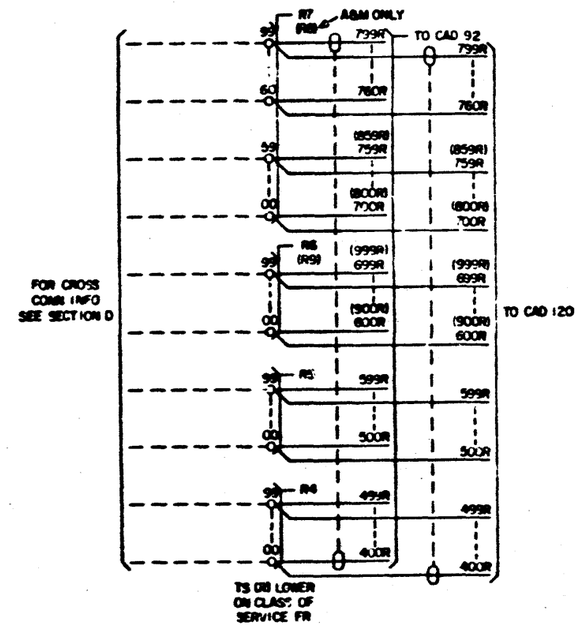
HOGINS 4465

CAD 110



CAD 111
(SEE NOTE 209)



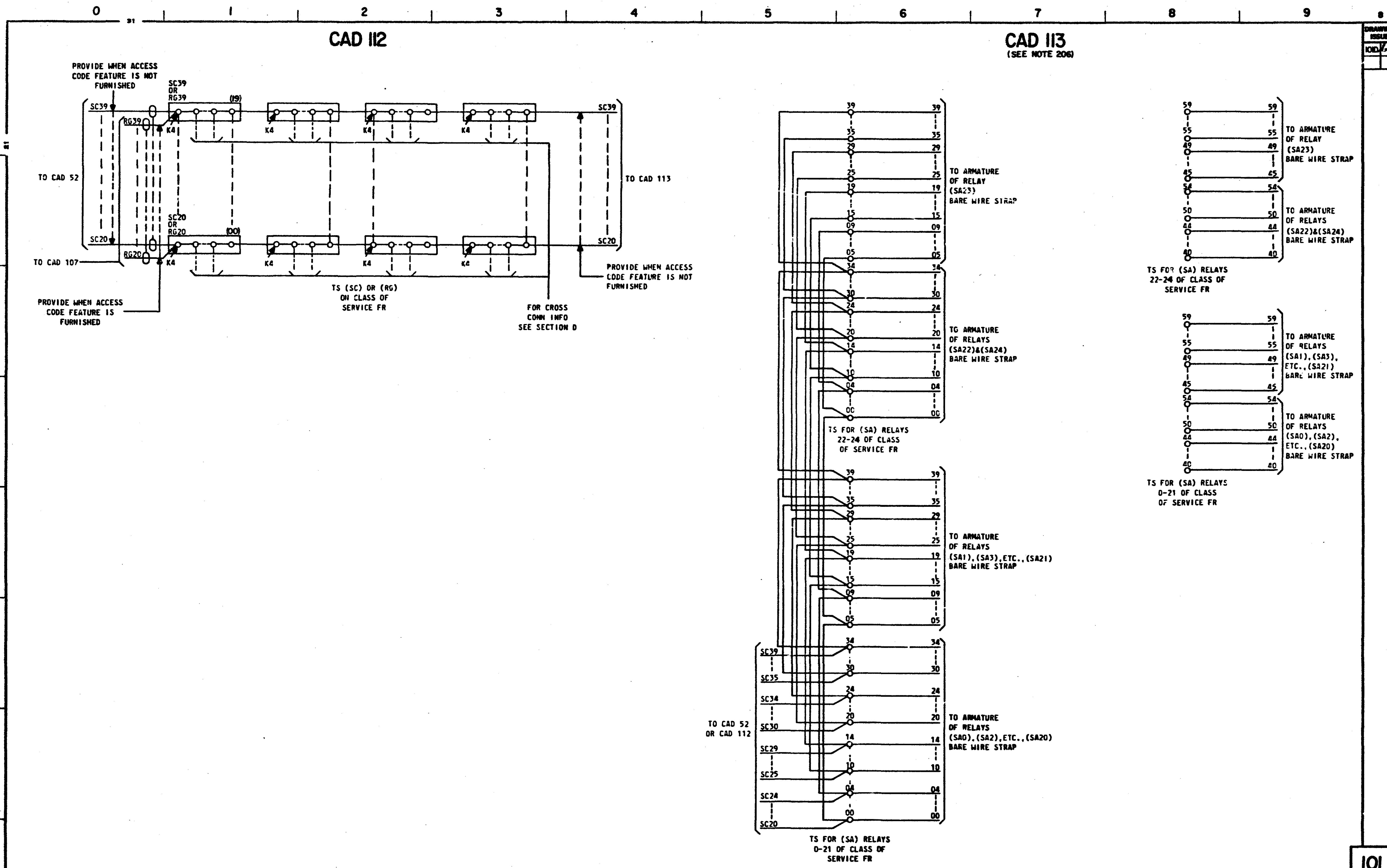


SD-25016-01-681

101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-681

BELL TELEPHONE LABORATORIES INCORPORATED 6S



101

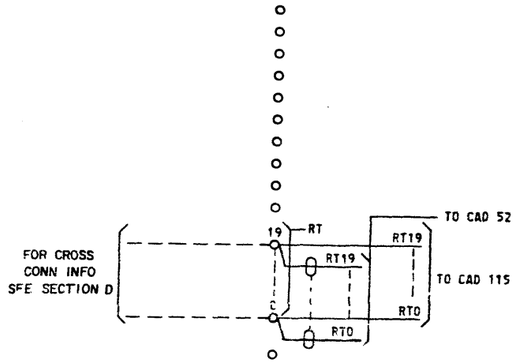
ORIGINATING MARKER CIRCUIT

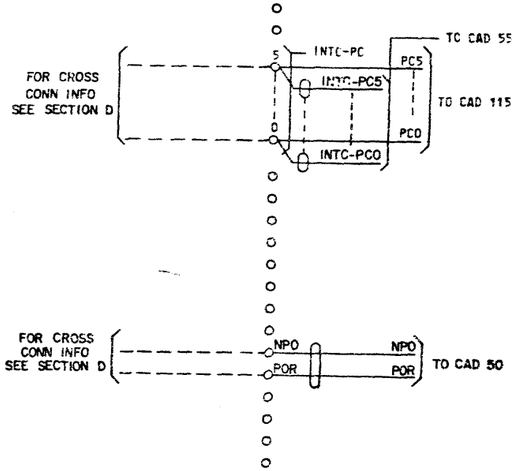
SD-25016-01-682

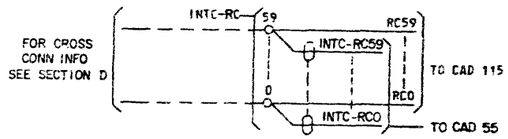
BELL TELEPHONE LABORATORIES INCORPORATED

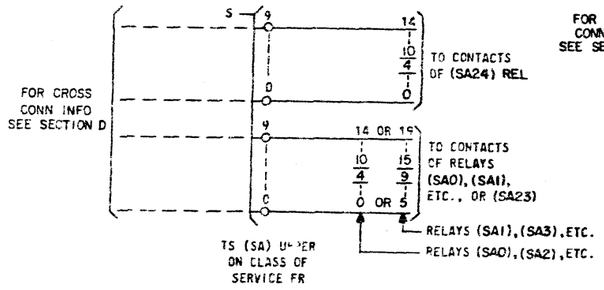
6S

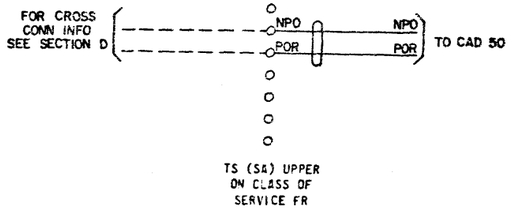
CAD 114

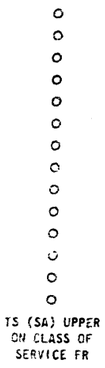












DRAWING ISSUE
101D G.E

DRAWING ISSUE
106D

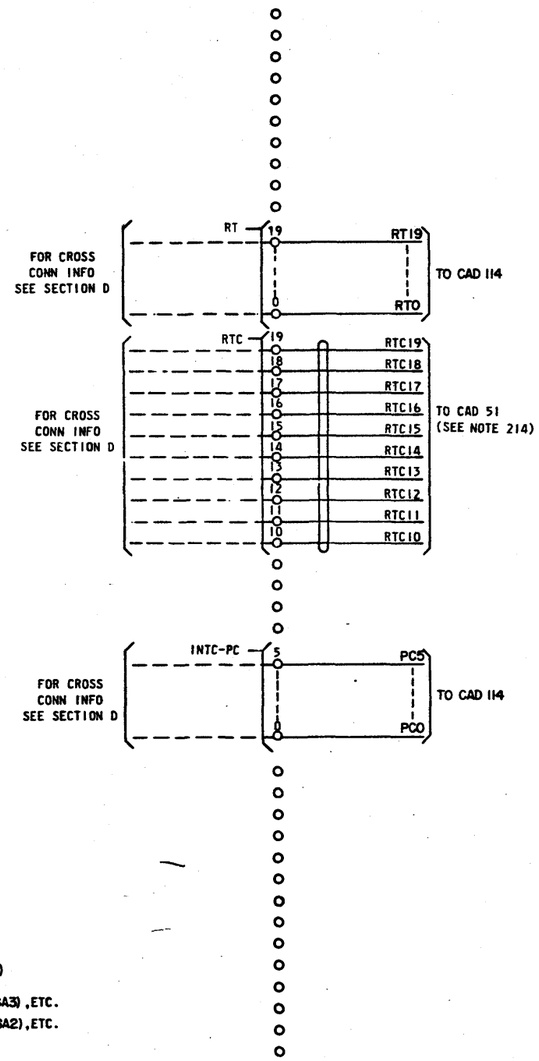
ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G83

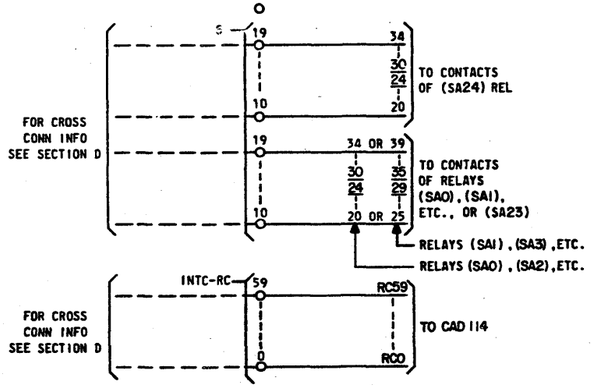
BELL TELEPHONE LABORATORIES INCORPORATED — PROJECT 65

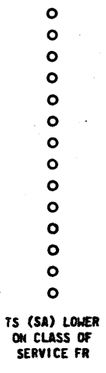
SD-25016-01-G83

HIGGINS 1415

CAD 115







DRAWING ISSUE
VOID XX
CB

DRAWING ISSUE
106D

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G84

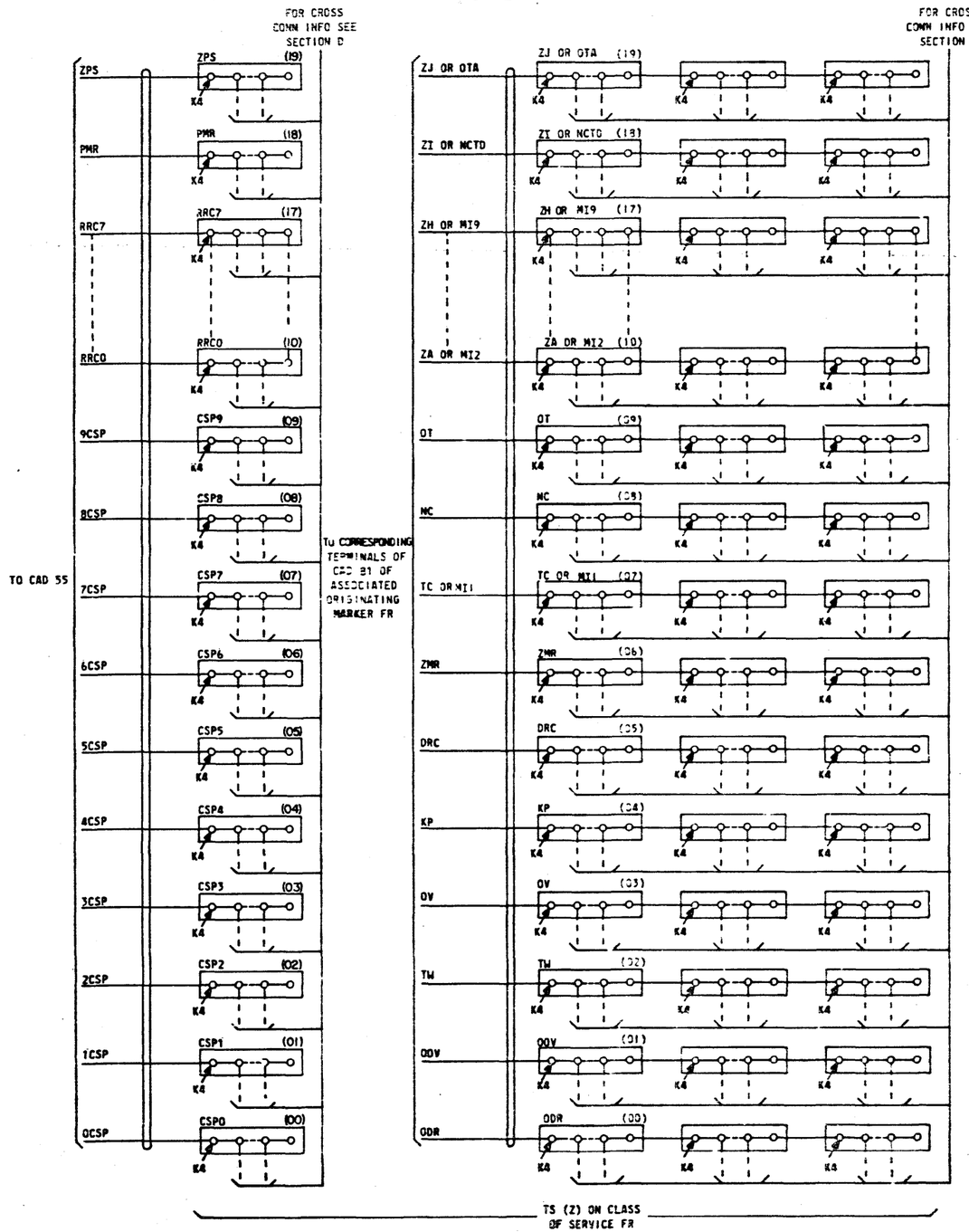
BELL TELEPHONE LABORATORIES INCORPORATED

SHEET SIZE 6S

SD-25016-01-G84

HIGGINS 4485 M/E

CAD 116



ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-G85

BELL TELEPHONE LABORATORIES INCORPORATED

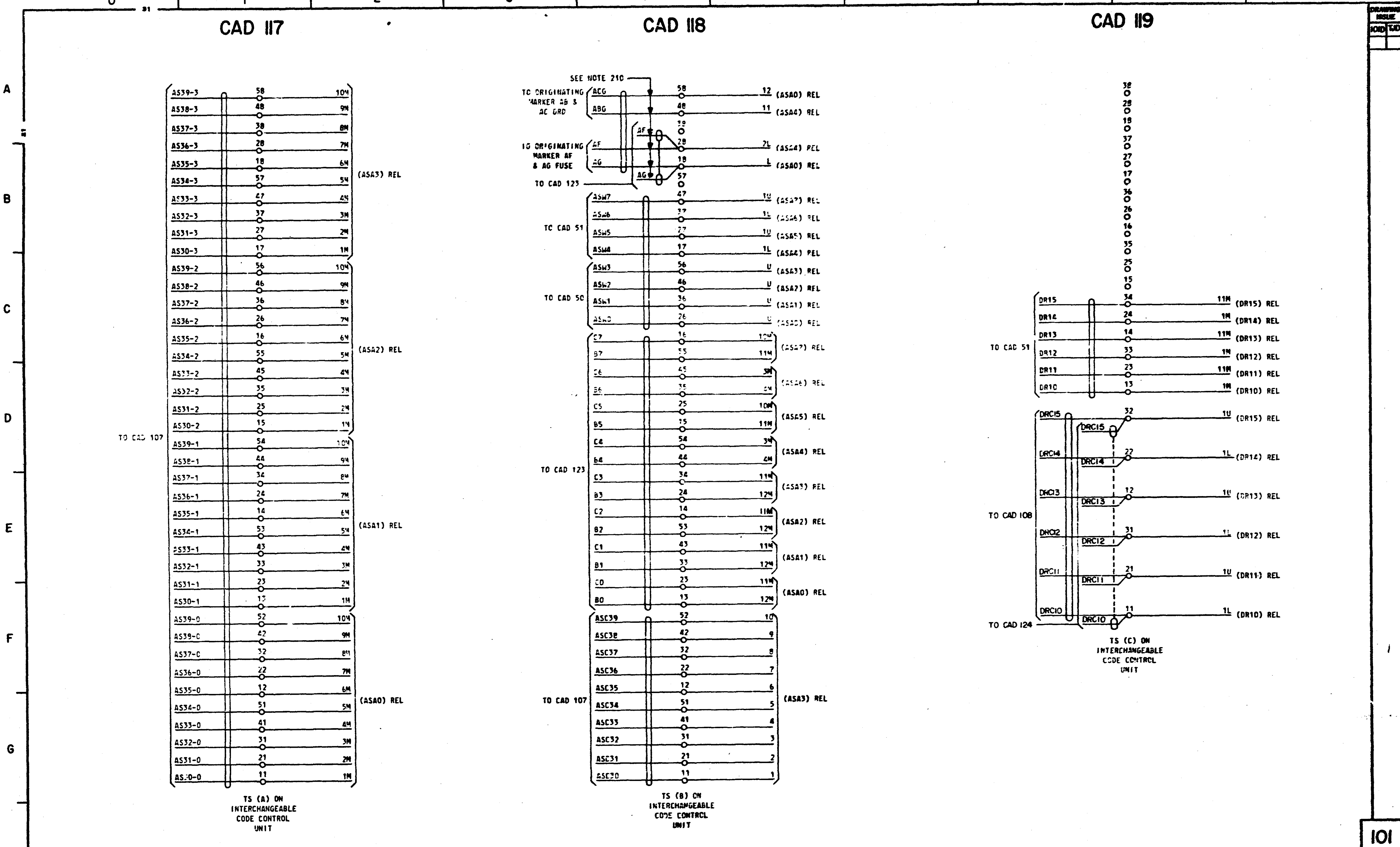
6S

101

SD-25016-01-G85

DRAWING ISSUE

ECSD | Date



101

ORIGINATING MARKER CIRCUIT

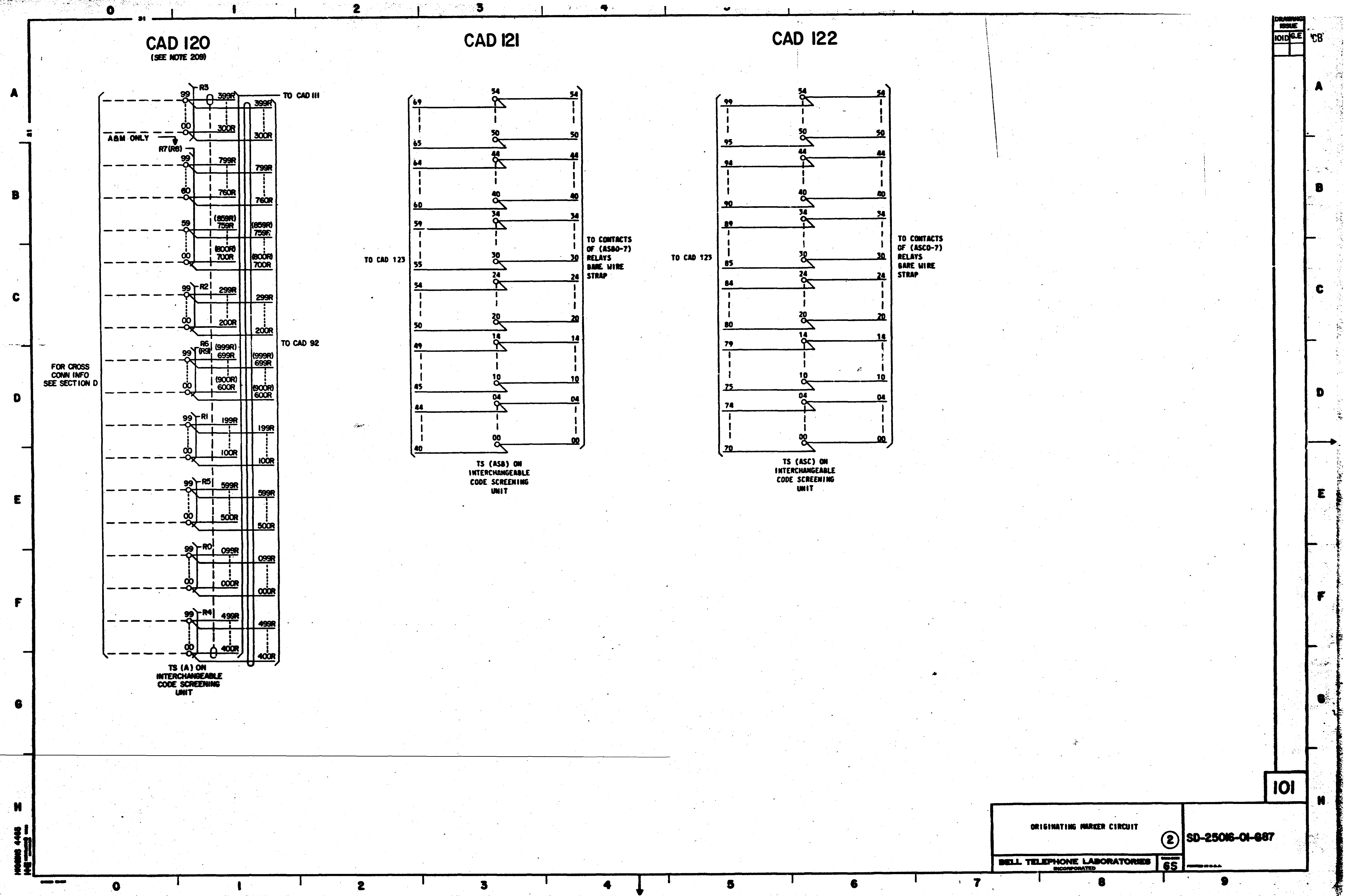
SD-25016-01-G86

ISSUE 2

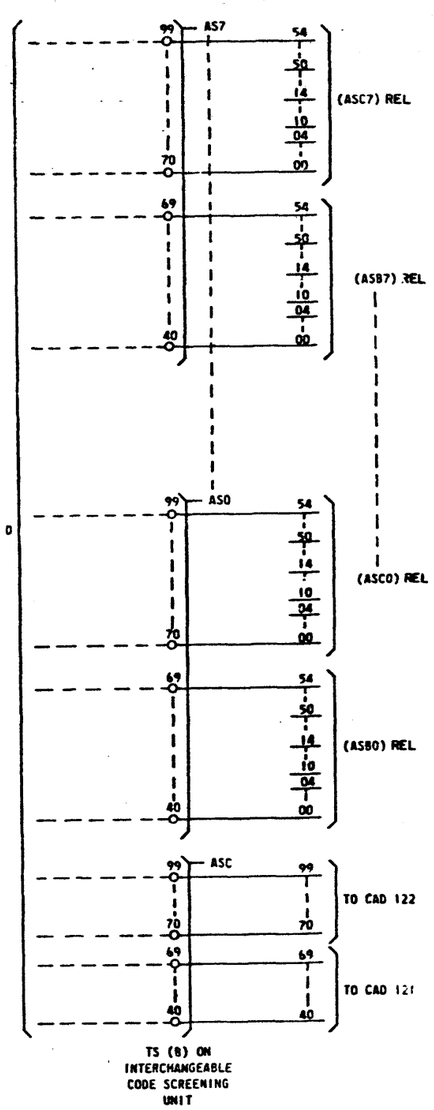
BELL TELEPHONE LABORATORIES INCORPORATED

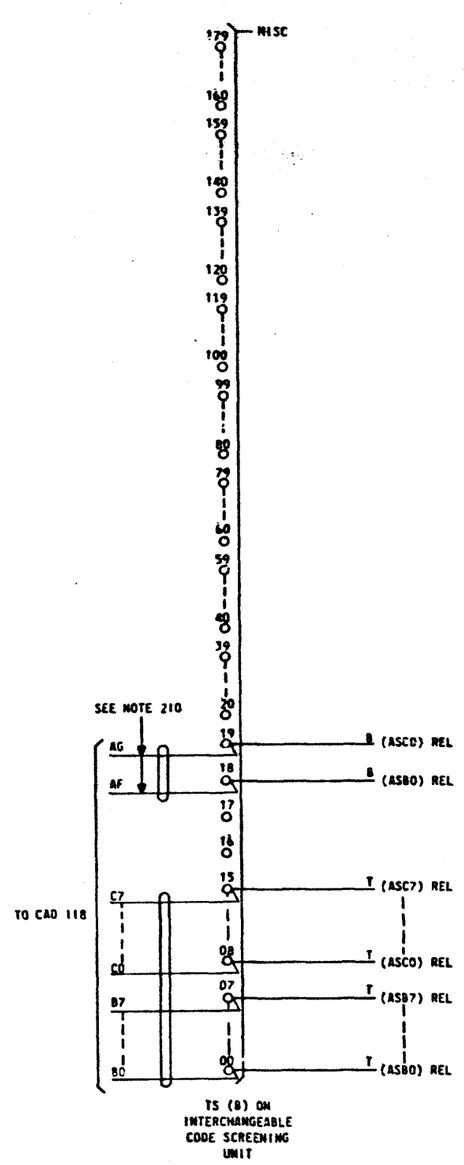
6S

SD-25016-01-G86


CAD 120
(SEE NOTE 209)
CAD 121
CAD 122
TO CAD 111
A&M ONLY
TO CAD 92
FOR CROSS CONN INFO SEE SECTION D
TS (A) ON INTERCHANGEABLE CODE SCREENING UNIT
TO CAD 123
TO CONTACTS OF (ASB0-7) RELAYS BARE WIRE STRAP
TS (ASB) ON INTERCHANGEABLE CODE SCREENING UNIT
TO CAD 123
TO CONTACTS OF (ASC0-7) RELAYS BARE WIRE STRAP
TS (ASC) ON INTERCHANGEABLE CODE SCREENING UNIT
101
ORIGINATING MARKER CIRCUIT
SD-25016-01-687
BELL TELEPHONE LABORATORIES
6S

CAD 123





DRAWING ISSUE 200 177

101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G88

BELL TELEPHONE LABORATORIES INCORPORATED SHEET SIZE 6S

SD-25016-01-G88

HIGGINS 4465 H.E.

CAD 124

TO CAD 52 TED

TED (01) — K4 — SECOND SECTION OF TS (C) ON INTERCHANGEABLE CODE SCREENING UNIT
TED (21) — K4 — THIRD SECTION OF TS (C) ON INTERCHANGEABLE CODE SCREENING UNIT
TED (00) — K4 — FIRST SECTION OF TS (C) ON INTERCHANGEABLE CODE SCREENING UNIT
TED (20) — K4 — FOURTH SECTION OF TS (C) ON INTERCHANGEABLE CODE SCREENING UNIT

TO CAD 108

SC39 (39) — K4
SC39 (19) — K4
SC20 (20) — K4
SC20 (00) — K4
SC19 (19) — K4
SC19 (39) — K4
SC0 (00) — K4
SC0 (20) — K4

TO CAD 108

DRC9 (29) — K4
DRC9 (09) — K4
DRC0 (20) — K4
DRC0 (00) — K4
ZJ OR OTA (19) — K4
ZJ OR OTA (39) — K4
ZI OR NCTD (18) — K4
ZI OR NCTD (38) — K4
ZH OR MT9 (17) — K4
ZH OR MT9 (37) — K4
ZA OR MT2 (10) — K4
ZA OR MT2 (30) — K4
OT (09) — K4
OT (29) — K4
NC (08) — K4
NC (28) — K4
TC OR MTI (07) — K4
TC OR MTI (27) — K4
EP (06) — K4
EP (26) — K4

SECOND SECTION OF TS (C) ON INTERCHANGEABLE CODE SCREENING UNIT
THIRD SECTION OF TS (C) ON INTERCHANGEABLE CODE SCREENING UNIT

TO CAD 119

(19) — K4
(18) — K4
(17) — K4
(16) — K4
DRC15 (15) — K4
DRC10 (10) — K4

THIRD SECTION OF TS (C) ON INTERCHANGEABLE CODE SCREENING UNIT

TO CAD 108

RRC7 (39) — K4
RRC0 (32) — K4
(31) — K4
(30) — K4

SECOND SECTION OF TS (C) ON INTERCHANGEABLE CODE SCREENING UNIT

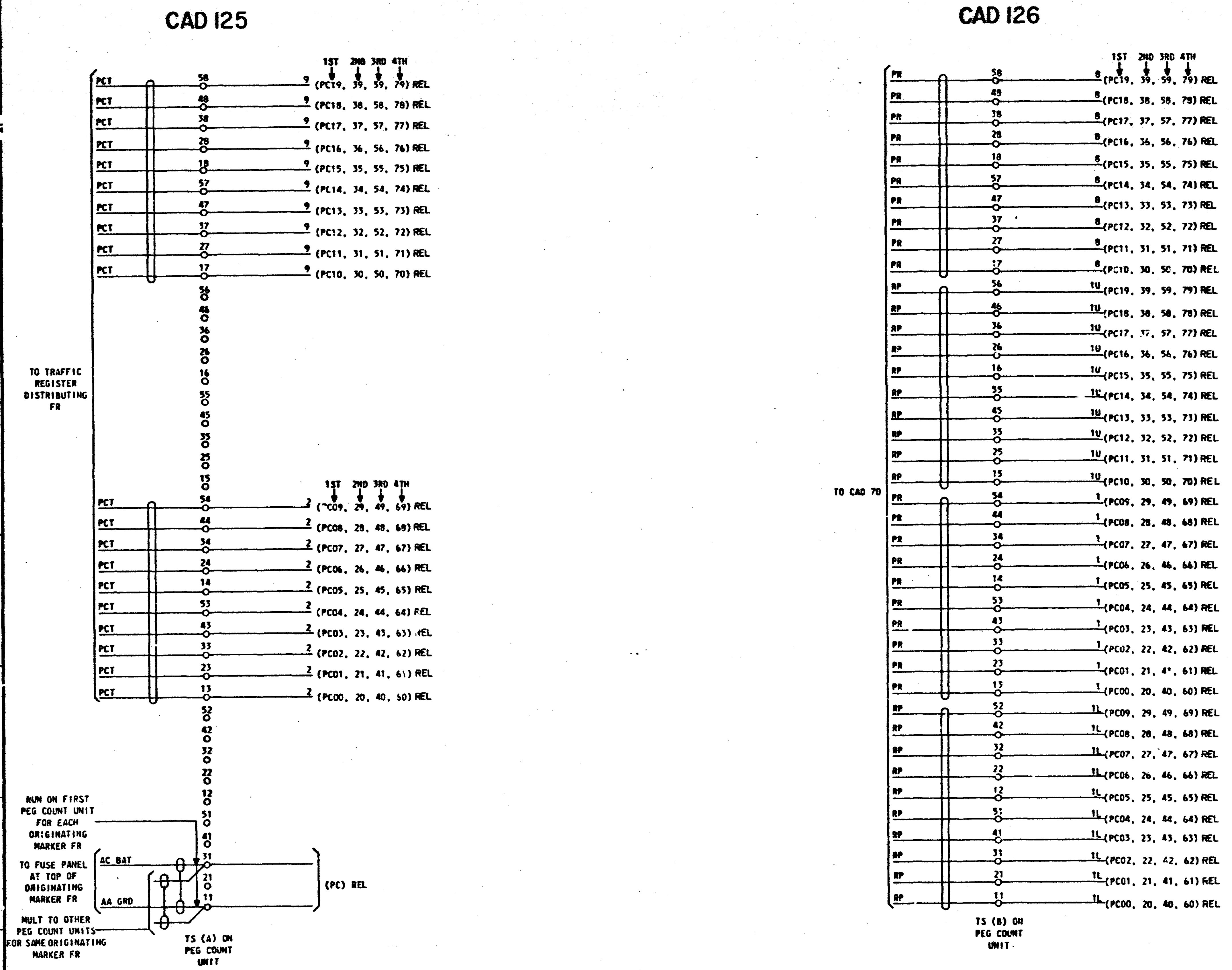
FOR CROSS CONN INFO SEE SECTION B

101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G89

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25016-01-G89



101

ORIGINATING MARKER CIRCUIT

(2) SD-25016-01-G90

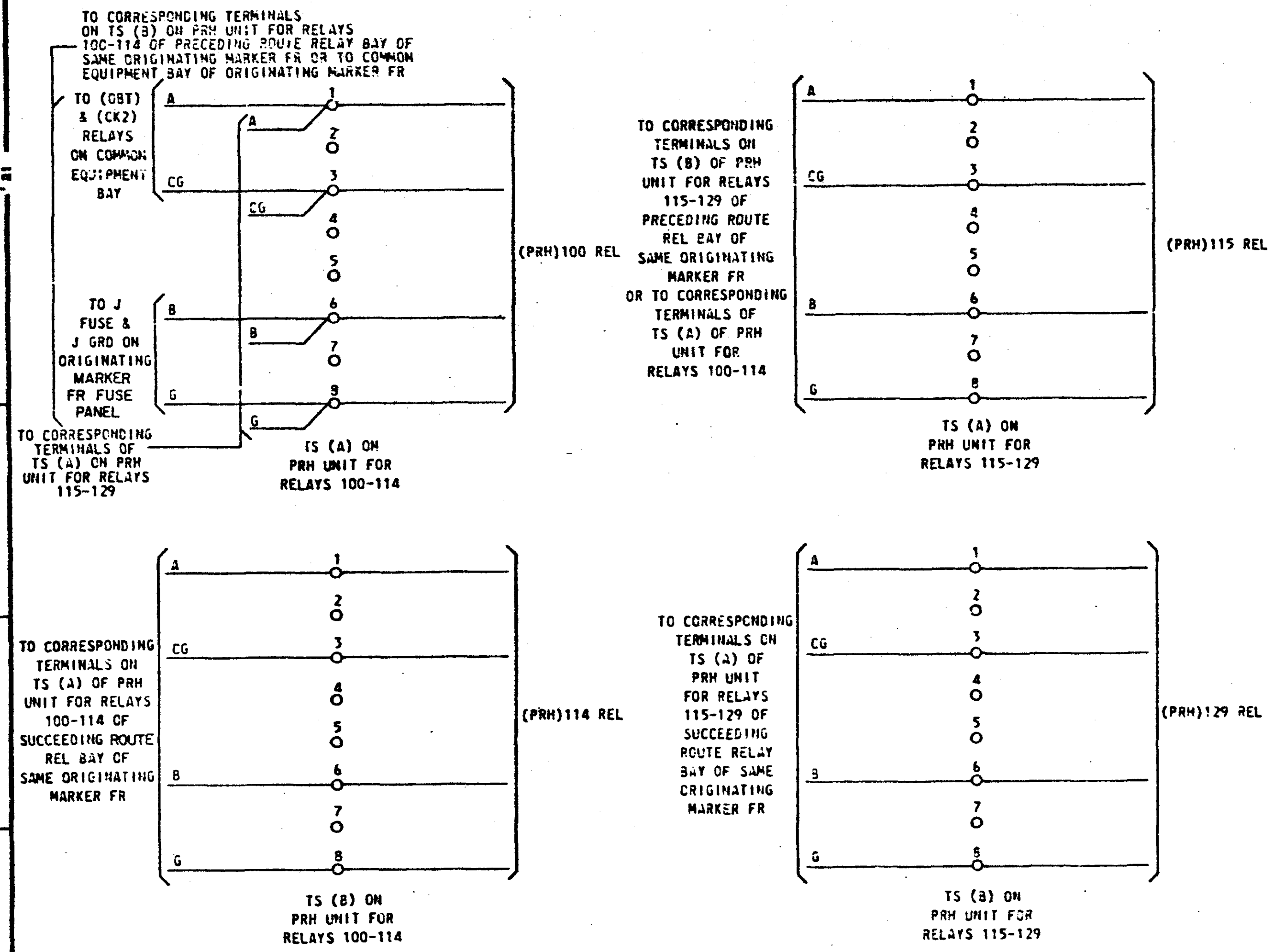
BELL TELEPHONE LABORATORIES
INCORPORATED

6S

SD-25016-01-G90

HIGGINS 4465

CAD 127



101

ORIGINATING MARKER CIRCUIT

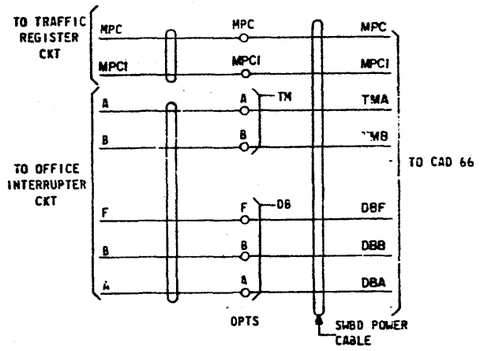
(2) SD-25016-01-G91

BELL TELEPHONE LABORATORIES INCORPORATED

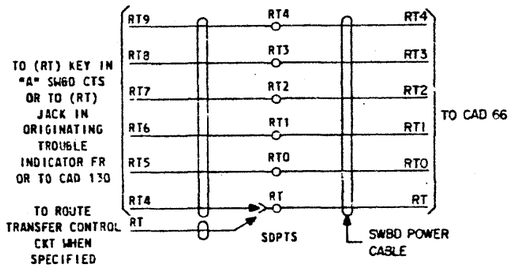
6S

SD-25016-01-G91

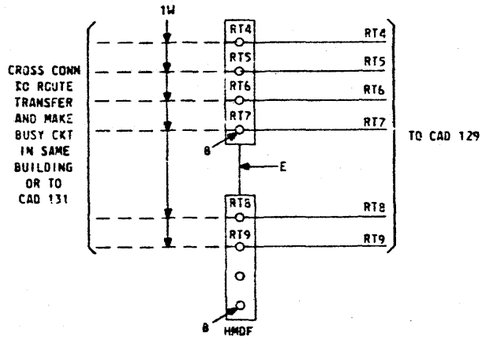
CAD 128



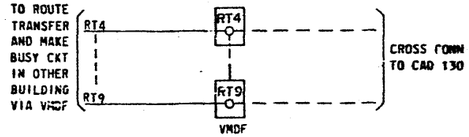
CAD 129



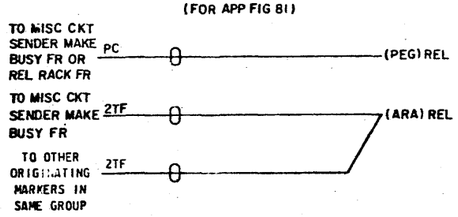
CAD 130



CAD 131



CAD 132
(FOR APP FIG 81)



DRAWING ISSUE

ICKD	G.E

101

ORIGINATING MARKER CIRCUIT (2) SD-25016-01-G92

BELL TELEPHONE LABORATORIES INCORPORATED — SIZE 6S

SD-25016-01-G92

COINS 4465

CAD 133

(FOR APP FIG 84 & 85)

TO FRAME GRD WIRE — AD — 58 — 12M (RT10,20)

TO CAD 137 FOR ASSOC ROUTE RELAY BAY

RTC19,29	57	8	(RT19,29)
RTC18,28	47	5	(RT18,28)
RTC17,27	37	8	(RT17,27)
RTC16,26	27	5	(RT16,26)
RTC15,25	17	8	(RT15,25)
RTC14,24	56	5	(RT14,24)
RTC13,23	46	8	(RT13,23)
RTC12,22	36	5	(RT12,22)
RTC11,21	26	8	(RT11,21)
RTC10,20	16	5	(RT10,20)

TO CAD 135 OR ROUTE TRANSFER PEG COUNT UNIT (SWBD CA OR LW)

MY — MX

C19,29	55	RTB19,29	8M	(RT19,29)
C18,28	45	RTB18,28	5M	(RT18,28)
C17,27	35	RTB17,27	8M	(RT17,27) REL
C16,26	25	RTB16,26	5M	(RT16,26)
C15,25	15	RTB15,25	8M	(RT15,25)
C14,24	54	RTB14,24	5M	(RT14,24)
C13,23	44	RTB13,23	8M	(RT13,23)
C12,22	34	RTB12,22	5M	(RT12,22)
C11,21	24	RTB11,21	8M	(RT11,21)
C10,20	14	RTB10,20	5M	(RT10,20)

TO CAD 137 FOR ASSOC ROUTE RELAY BAY

RTA19,29	53	8B	(RT19,29)
RTA18,28	43	5B	(RT18,28)
RTA17,27	33	8B	(RT17,27)
RTA16,26	23	5B	(RT16,26)
RTA15,25	13	8B	(RT15,25)
RTA14,24	52	5B	(RT14,24)
RTA13,23	42	8B	(RT13,23)
RTA12,22	32	5B	(RT12,22)
RTA11,21	22	8B	(RT11,21)
RTA10,20	12	5B	(RT10,20)

TO CAD 134

51 41 31 21

TO MISC FUSE BAY — -48V(AL) OR (AR) — 11 — 2U (RT10 OR 20) REL

TS (A0)-[FIRST ON]
TS (A1)-[SECOND ON]
TS (A2)-[THIRD ON]
TS (A3)-[FOURTH ON]
ON ROUTE TRANSFER UNIT

NOTES:
1. CONNECT LOOSE WIRE ON REAR OF TERMINAL STRIP.

58 48 38 28

TO SECOND ROUTE TRANSFER UNIT FOR SAME MARKER (SWBD CA OR LW)

TO CAD 136 FOR ASSOCIATED COMMON BAY — 1A — 1A — 18 — U (CKA2) REL, U (CKA0) REL (CKT 1 OR 3)

57 47 37

TO ORIG TROUBLE INDICATOR FRAME — DOC — 27 — 2 TO OTHER (B-) TS ON SAME UNIT

17 — 28 (CKA0) REL (CKT 1 OR 3)

TO DYNAMIC OVERLOAD ROUTE TRANSFER CONTROL UNIT (SWBD CA OR LW)

RT19,29	56	9B	
RT18,28	46	7B	
RT17,27	36	5B	(CKA1,3) REL
RT16,26	26	3B	
RT15,25	16	1B	(CKT 1 OR 3)
RT14,24	55	9B	
RT13,23	45	7B	
RT12,22	35	5B	(CKA0,2) REL
RT11,21	25	3B	
RT10,20	15	1B	

58 48 38 28

TO CAD 136 FOR ASSOCIATED COMMON BAY — 1A — 1A — 14 — U (CKA2) REL, U (CKA0) REL (CKT 0 OR 2)

53 43 33

TO ORIG TROUBLE INDICATOR FRAME — DOC — 23 — 2 (CKA0) REL (CKT 0 OR 2)

CRT — 13 — 28

TO DYNAMIC OVERLOAD ROUTE TRANSFER CONTROL UNIT

RT19,29	52	9B	
RT18,28	42	7B	
RT17,27	32	5B	(CKA1,3) REL
RT16,26	22	3B	
RT15,25	12	1B	(CKT 0 OR 2)
RT14,24	51	9B	
RT13,23	41	7B	
RT12,22	31	5B	(CKA0,2) REL
RT11,21	21	3B	
RT10,20	11	1B	

MULT TO OTHER (CKA0) REL ON OTHER ROUTE TRANSFER UNITS (SWBD CA OR LW) — CRT

TS (B0)-[CKT 0,1]
TS (B1)-[CKT 2,5]
ON ROUTE TRANSFER UNIT

DRAWING ISSUE 106D

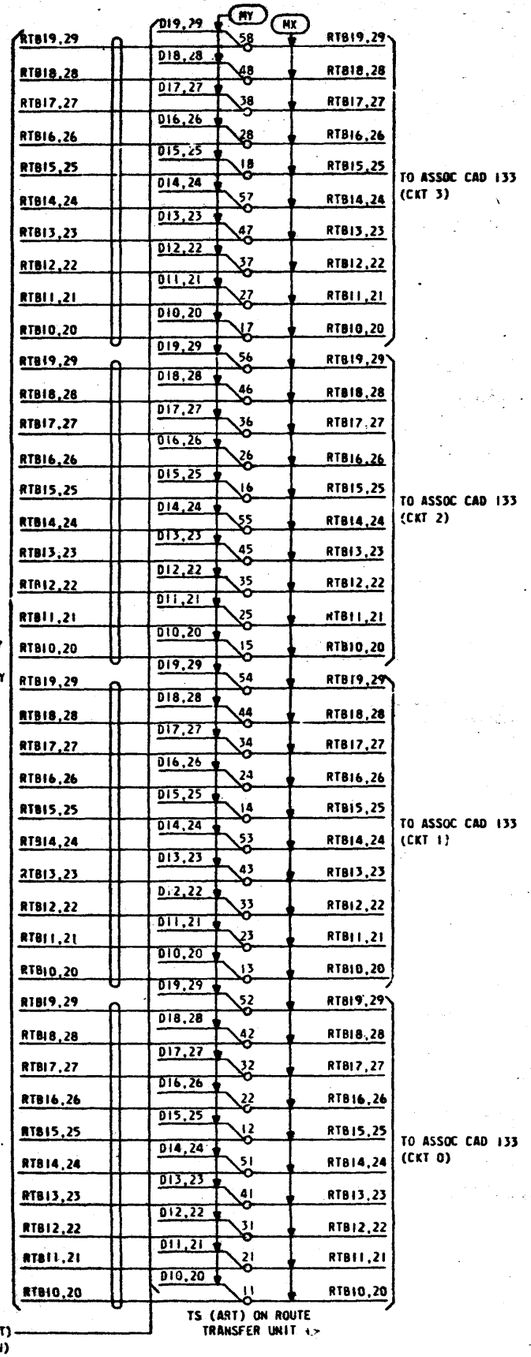
ORIGINATING MARKER CIRCUIT (2)

SD-25016-01-693

BELL TELEPHONE LABORATORIES INCORPORATED — SHEET 65

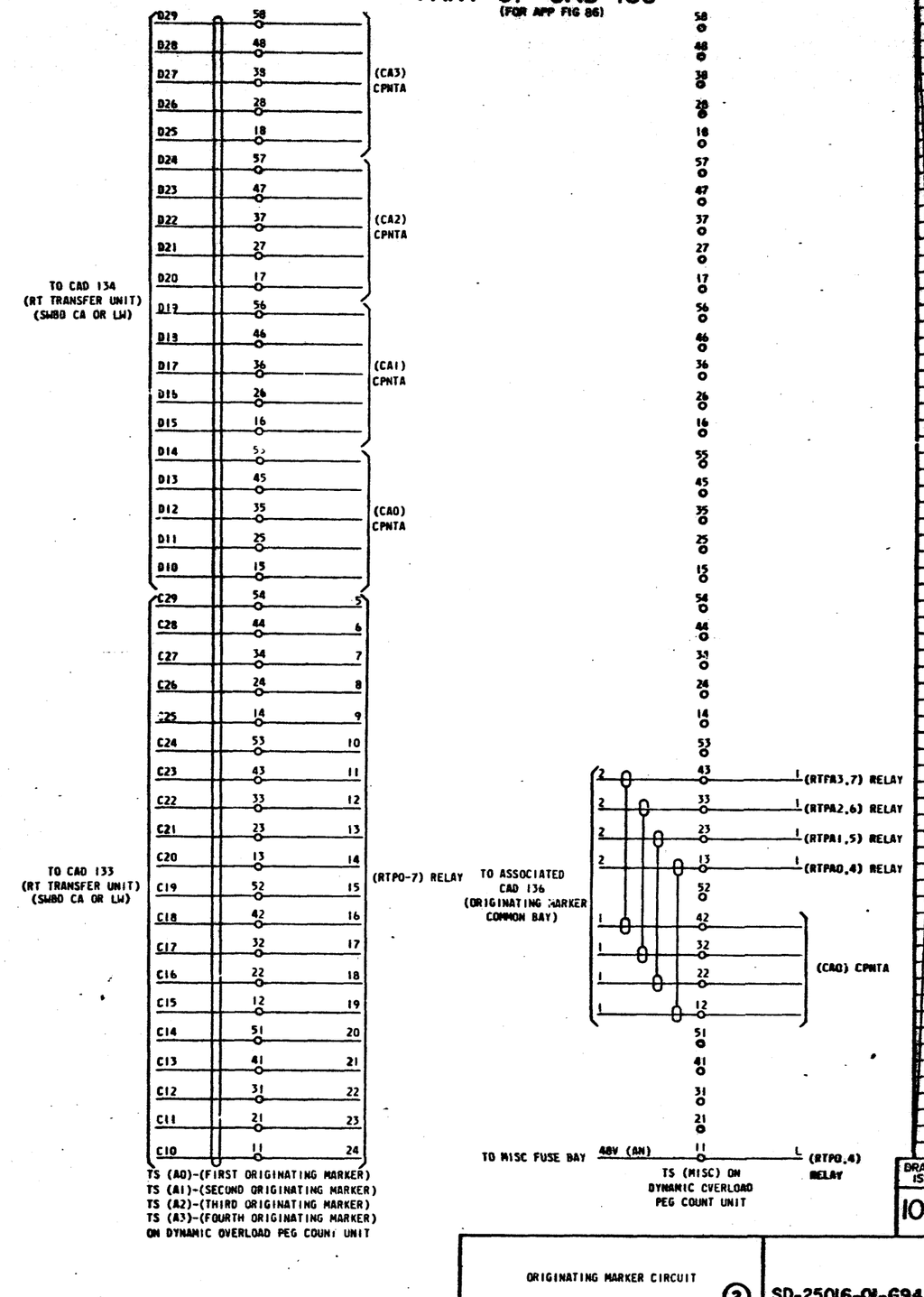
SD-25016-01-693

CAD 134
(FOR APP FIG 85)



NOTES:
1. CONNECT SWITCHBOARD CABLE ON FRONT OF TERMINAL STRIP. CONNECT LOOSE WIRE ON REAR OF TERMINAL STRIP.

PART OF CAD 135
(FOR APP FIG 86)



DRAWING ISSUE 102D

DRAWING ISSUE 106D

ORIGINATING MARKER CIRCUIT (2)

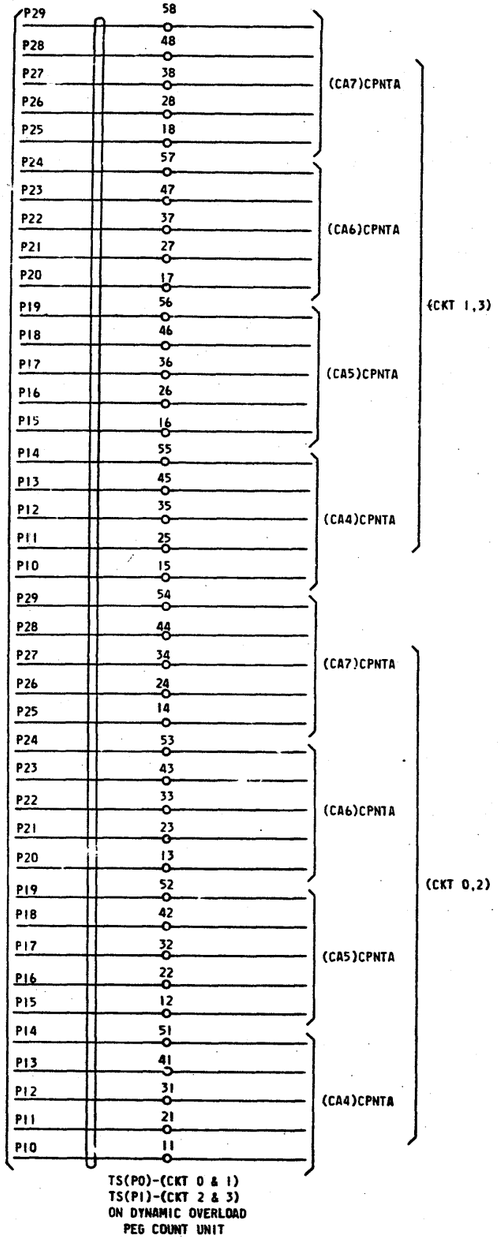
SD-25016-01-694

BELL TELEPHONE LABORATORIES INCORPORATED

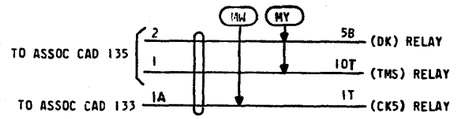
65

SD-25016-01-694

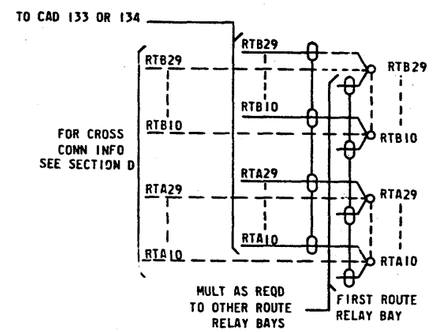
PART OF CAD 135
(FOR APP FIG 86)

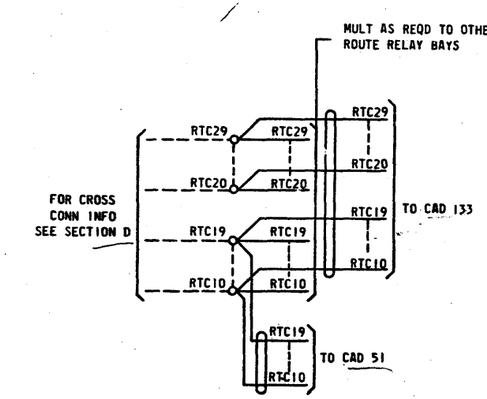


CAD 136
(FOR APP FIG 188)



CAD 137
(FOR APP FIG 85)





NOTES:
1. CONNECT SWITCHBOARD CABLE ON FRONT OF TERMINAL STRIP.
   CONNECT LOOSE WIRE ON REAR OF TERMINAL STRIP.

DRAWING ISSUE 102D

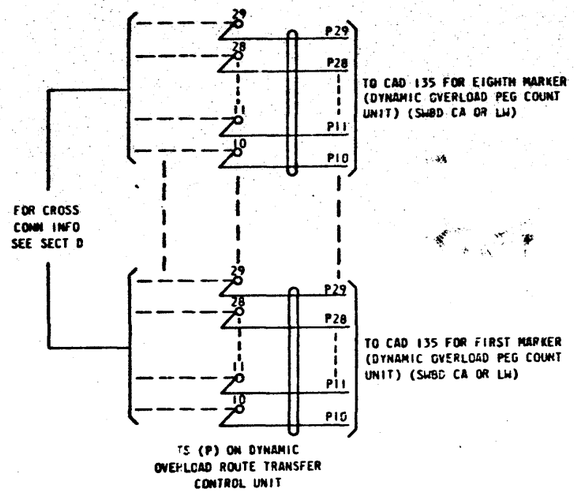
DRAWING ISSUE 106D

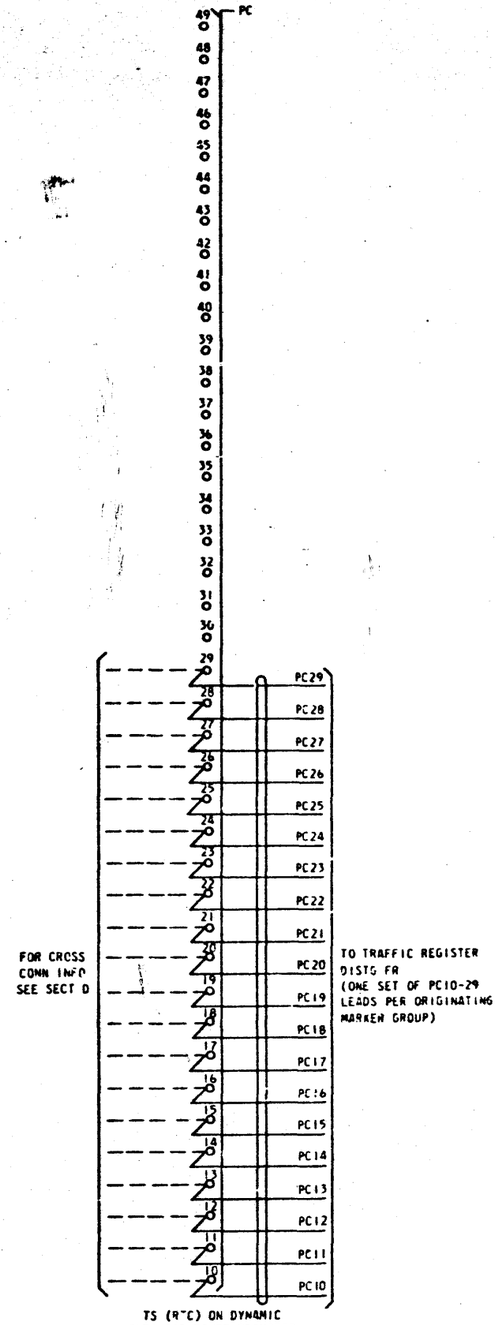
ORIGINATING MARKER CIRCUIT (2) SD-25016-01-695

BELL TELEPHONE LABORATORIES INCORPORATED 6S

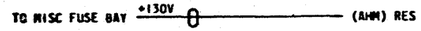
SD-25016-01-695

CAD 138
(FOR APP FIG 86)





CAD 139
(FOR APP FIG 84)



NOTES:
1. CONNECT SWITCHBOARD CABLE ON FRONT OF TS OR CONNECT LOOSE WIRE ON REAR.

SD-25016-01-G96

DRAWING ISSUE 102D

102

ORIGINATING MARKER CIRCUIT (2) SD-25016-CI-G96

BELL TELEPHONE LABORATORIES INCORPORATED 6S