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* SHEETS WITH SUFFIX "A" WERE FORMERLY WITHOUT A SUFFIX LETTER

SUPPORTING INFORMATION

CATEGORY	NO.
EQUIPMENT DRAWINGS	
FRAME EQPT	
MKR COMMON EQPT FR	J28754A
MKR TRNSL & ROUTE RELAY FR	J28754B
MKR TRK FR TEST LEAD CONN FR	J28754C
MKR CLASS-OF-SERVICE FR	J28754D
MKR SUPPL ROUTE REL FR FOR TWO MKRS	J28754E
MKR SUPPL ROUTE REL FR FOR ONE MKR	J28754F
MKR TDM CODE SCREENING FR	J28754G
MKR CODE CONVERSION & ROUTE RELAY FR	J28754H
MKR CAMA FR	J28754J

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 41 THIS DRAWING WAS CHANGED FROM THE ATTACHED TO THE DETACHED CONTACT ARRANGEMENT INCREASING THE NUMBER OF SHEETS FROM 169 TO 442.
7. TO ASSOCIATE CADS WITH SWITCHBOARD CABLE DETAILS DRAWINGS, IT IS NECESSARY TO ADD 200 TO THE CAD NUMBER WHICH CORRESPONDS TO THE (EQUIVALENT CROSS CONNECTION FIGURE NUMBER OF THE OLD ATTACHED FORM.

DWG ISS	EE OR CD ISSUE	DWG ISS	EE OR CD ISSUE
1	1	2A	1 APP 1A
3B	1 APP 2B	4A	1 APP 3A
5AR	1 APP 4AR	6A	1 APP 5A
7A	1 APP 6A	8D	1 APP 7D
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11A	2AR APP 2A	12A	3A
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15A	3A APP 3A	16A	3A APP 4A
17D	3A APP 5D	18B	4B
19D	4B APP 1D	20A	4B APP 2A
21B	4B APP 3B	22D	4B APP 4D
23B	4B APP 5B	24D	4B APP 6D
25D	4B APP 7D	26B	5B
27D	5B APP 1D	28B	5B APP 2B
29D	5B APP 3D	30B	5B APP 4B
31D	5B APP 5D	32D	5B APP 6D
33B	5B APP 7B	34D	5B APP 8D
35D	5B APP 9D	36D	5B APP 10D
37B	5B APP 11B	38D	5B APP 12D
39B	5B APP 13B	40B	5B APP 14B
41D	5B APP 15B	42D	5B APP 16D
43B	5B APP 17B	44B	5B APP 18B
45B	5B APP 19B	46D	5B APP 20D
47D	5B APP 21D	48D	5B APP 22D
49D	5B APP 23D	50A	5B APP 24B

DWG ISS	CD ISSUE	DATE ISSUED	DRAWN	APPR
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52A	5B APP 26A	12-1-65	ASL	
53A	5B APP 27A	10-28-66	ASL	
54D	5B APP 28D	10-28-66	ASL	
55A	5B APP 29A	11-14-67	MD	
56D	5B APP 30D	11-14-67	MD	

THIS DRAWING AND ACCOMPANYING CIRCUIT DESCRIPTION FOR USE IN BELL SYSTEM BUSINESS ONLY: NOT FOR PUBLICATION

REPLACED BY: SD-26001-01, DIAL TONE MARKER
SD-26002-01, COMPLETING MARKER

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SD-25550-01 3C02

CROSSBAR SYSTEMS

NO. 5
MARKER CIRCUIT

(MKR) (2)

MFR DISC.

SD-25550-01-A1
553 SHEETS

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 65

KIMBERLY
8-1996(1-61)

SD-25550-01-A1

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* SHEETS WITH SUFFIX "A" WERE FORMERLY WITHOUT A SUFFIX LETTER.

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45B	FK KC
46D	FK JWB MG
47D	FK CLB JWB
48D	BB LW
49D	LW
50A	LW AAL
51D	JWB AAL
52A	JWB AAL
53A	JWB AAL AMD
54D	JWB AAL AMD
55A	JK
56D	JK

MARKER CIRCUIT, (2)

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FS 53 CALLED NUMBER A4-H4, J4-L4 LEAD; COMB. AND COMPL MKR	866	41	41	43	43	43	43	43	43	43	43	43	43	43	54	54	54																																						866
FS 54 CALLED NUMBER A7-H7, J7-L7 LEAD; COMB. AND COMPL MKR	867	41	41	43	43	43	43	43	43	43	43	43	43	43	54	54	54																																						867
FS 55 CAMA TRUNK NUMBER COMB. AND COMPL MKR	868	41	41	43	43	43	43	43	43	43	43	43	43	43	43	43	43																																						868

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41D KF M.S.
42D KK M.S.
43B KK M.S.
44B JK KK
45B KK
46D CAN AND
47D RAB CLR AND
48D CLR LW AND
49D EM LW AND
50A EM HW AND
51D LR RAS AND
52A RAS AND
53A JEK KEL AND
54D JEK KEL AND
55A JK
56D JK

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BELL TELEPHONE LABORATORIES INCORPORATED 6S

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FS 57 SENDER GROUP IDLE TEST; COMBINED AND COMPLETING MARKERS FS 58 OUTGOING SENDER CONNECTOR SEIZURE; COMBINED AND COMPLETING MARKERS	B70	41	41	41	41																					
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	B72B		54	54	54																					
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FS 63 MISCELLANEOUS OUTGOING SENDER INFORMATION; COMBINED AND COMPLETING MARKERS	B75	41	54	54	56																					
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FS 70 OUTGOING SENDER, CALLED NO. CHECK; COMBINED AND COMPLETING MARKERS	B80	41	54	54	54																					
FS 71 OUTGOING SENDER OST CHECK; COMBINED AND COMPLETING MARKERS	B81	43	54	54	56																					
	B82	49	54	54	54																					
FS 72 TRUNK CLASS; COMBINED AND COMPLETING MARKERS	B83	43	43	55	55																					

*SHEETS WITH SUFFIX "A" WERE FORMERLY WITHOUT A SUFFIX LETTER

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53A JK DEL AND
54D JK DEL AND
55A JK
56D JK

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*SHEETS WITH SUFFIX "A" WERE FORMERLY WITHOUT A SUFFIX LETTER

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ISSUE	
53A	[illegible] TEL-AMO
54D	[illegible] TEL-MO
55A	LT
56D	LT

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*SHEETS WITH SUFFIX "A" WERE FORMERLY WITHOUT A SUFFIX LETTER

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41D	RKK M.S.
42D	RKK M.S.
43B	EEL M.S.
44B	EJB M.S.
45B	D.T. RKK
46D	DSW EEL AND
47D	RKK CLK AND
48D	PEC LW AND
49D	ELM GLW AND
50A	JRT GLW AND
51D	JRT MES AND
52A	EEL MES AND
53A	DSW EEL AND
54D	DSW EEL AND
55A	LT
56D	LT

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43B	
44B	
45B	
46D	
47D	CLK
48D	PEC LW AHD
49D	LF AHD
50A	LF AHD
51D	JR
52A	
53A	ABW REL AHD
54D	ABW REL AHD
55A	JK
56D	JK

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CKT NOTE 101	D2	41	42	42	42	45	46	47	48	49	49	51	>2	52	54	54	56	D2
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	D8B											51	51	51	54	54	56	D8B
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	D11B									49	49	51	52	53	54	54	56	D11B
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CROSS CONN INFO NOTE 400 PCHG INDEX CFTA1-4-FAR00-99	D16	41	42	42	42	45	46	47	47	49	49	51	51	51	54	54	56	D16
CROSS CONN INFO NOTE 400 PCHG INDEX FAT1-3-NRT	D17	41	41	41	41	45	45	47	47	49	50	51	51	51	54	54	56	D17
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CROSS CONN INFO NOTE 400 FEATURE 11-15	D20	41	41	41	41	41	46	46	46	49	49	49	49	49	54	54	56	D20
CROSS CONN INFO NOTE 400 FEATURES 15 (CONT)-18	D21	41	42	42	42	42	46	46	46	46	46	51	51	51	51	51	56	D21
CROSS CONN INFO NOTE 400 FEATURES 19-24	D22	41	41	43	43	43	43	43	43	43	43	43	43	43	43	43	43	D22
CROSS CONN INFO NOTE 400 FEATURES 25-30	D23	41	41	41	44	45	46	46	46	46	46	46	46	46	54	54	54	D23
CROSS CONN INFO NOTE 400 FEATURES 31-33	D24	41	41	43	43	45	46	46	48	49	49	51	51	51	51	51	56	D24
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* SHEETS WITH SUFFIX 'A' WERE FORMERLY WITHOUT A SUFFIX LETTER

ISSUE	
41D	RE MS
42D	RE MS
43B	RE MS
44B	RS MS
45B	RT MS
46D	TJA LW AMD
47D	RL LW AMD
48D	RL LW AMD
49D	LF MD AMD
50A	LF MD AMD
51D	JR MD AMD
52A	RSA MD AMD
53A	DR RCX AMD
54D	DR RD AMD
55A	JK
56D	JK

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CROSS CONN INFO NOTE 400 FEATURES 41 - 49	D26	41	41	43	43	43	46	46	46	46	46	46	46	46	46	46	56																																			D26
CROSS CONN INFO NOTE 400 - FEATURES 50-64	D27A*	41	42	43	43	45	46	47	47	49	49	51	51	51	54	54	56																																			D27A
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CROSS CONN INFO NOTE 401 OFFICE CODE DIGIT TRANSLATION	D28	41	41	41	41	45	45	45	45	45	45	45	45	45	45	45	45																																			D28
CROSS CONN INFO NOTE 402 FUNCTIONS CONTROLLED BY CODE POINTS	D29	41	41	41	41	45	46	46	46	46	46	46	46	46	46	46	46																																			D29
CROSS CONN INFO NOTE 402 (CONT) FUNCTIONS CONTROLLED BY CODE POINTS	D30	41	41	41	41	45	45	45	45	45	45	45	45	45	45	45	45																																			D30
CROSS CONN INFO NOTE 403 ROUTE SERIES CROSS CONN	D31	41	41	41	41	45	46	46	46	46	46	46	46	46	46	46	46																																			D31
CROSS CONN INFO NOTE 404, 405 DIAL TONE ROUTE RELAY OPERATION AND CLASS OF SERVICE INDICATIONS, TYPICAL ROUTE ADVANCE CROSS CONNECTION	D32	41	41	41	41	41	41	41	41	41	41	51	51	51	51	51	51																																			D32
CROSS CONN INFO NOTE 405 TYPICAL CONNECTION OF ROUTE RELAY CONTACTS	D33	41	42	42	42	42	46	46	46	46	46	46	46	46	46	46	46																																			D33
CROSS CONN INFO NOTE 407 TYPICAL VACANT, DENIED, FREE AND PARTIAL DIALTONE TREATMENT	D34	41	41	41	41	41	46	46	46	46	46	46	46	46	46	46	46																																			D34
CROSS CONN INFO NOTE 408 TYPICAL ROUTE, ROUTE SERIES AND TRUNK SERVICE OBSERVING OPERATIONS	D35	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																			D35
CROSS CONN INFO NOTE 409 ROUTE AND ROUTE SERIES OPERATION FROM CODE POINTS WITH OR WITHOUT CLASS SCREENING	D36	41	41	41	41	41	46	46	46	46	46	46	46	46	46	46	46																																			D36
CROSS CONN INFO NOTE 410 TYPICAL S RELAY CROSS CONNECTIONS FOR 36 SC PONT AND 15 CLASSES OF SERVICE	D37A*	41	41	41	41	41	41	41	41	49	49	49	49	49	49	49	49																																			D37A
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CROSS CONN INFO NOTE 411 TPYICAL CAMA ROUTE CROSS CONNECTIONS	D38	41	41	41	41	41	46	46	46	46	46	46	46	46	46	46	46																																			D38
CROSS CONN INFO NOTE 412 NUMBER SERIES ARRANGEMENT	D39	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																			D39
CROSS CONN INFO NOTE 413, 414 COIN ZONE DIALING FEATURE, DETECTION OF 2ND FOREIGN AREA CODE OR AN OPERATOR CODE (CUSTOMER 10 DIGIT DDD CALLS	D40	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																			D40
CROSS CONN INFO NOTE 415 CROSS CONNECTION FIELD FOR MARKER CONNECTOR FR PREFERENCE	D41	41	41	43	43	43	43	43	43	43	43	43	43	43	43	43	43																																			D41
CROSS CONN INFO NOTE 415 (CONT) CROSS CONNECTION FIELD FOR MARKER CONNECTOR FR PREFENCE	D42	41	41	43	43	43	43	43	43	43	43	43	43	43	43	43	43																																			D42
CROSS CONN INFO NOTE 416, 417, 418	D43	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																			D43
CROSS CONN INFO NOTE 419	D44			43	43	43	43	43	43	43	43	43	43	43	43	43	43																																			D44
CROSS CONN INFO NOTES 420, 421	D45		42	42	42	42	46	46	46	46	46	46	46	46	46	46	46																																			D45
CROSS CONN INFO NOTE 422	D46		42	42	42	42	46	46	46	46	46	46	46	46	46	46	46																																			D46
CROSS CONN INFO NOTE 423	D47					45	46	46	46	46	46	46	46	46	46	46	46																																			D47
CROSS CONN INFO NOTE 424	D48							47	47	47	47	47	47	47	47	47	47																																			D48
CROSS CONN INFO NOTE 425	D49							47	47	47	47	47	47	47	47	47	47																																			D49
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CROSS CONN INFO NOTE 427	D51									49	49	49	49	49	49	49	49																																			D51
CROSS CONN INFO NOTE 428	D52														54	54	54																																			D52
CROSS CONN INFO NOTE 429	D53																56																																		D53
CROSS CONN INFO NOTE 430	D54																56																																		D54
CROSS CONN INFO NOTE 431	D55																56																																		D55

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* SHEETS WITH SUFFIX "A" WERE FORMERLY WITHOUT A SUFFIX LETTER

DRAWING ISSUE	
41D	RPS MS
42D	RS MS
43B	RS MS
44B	STD MS
45B	RS MS
46D	RS GEN AMD
47D	MAR CLI BND
48D	RL LW AMD
49D	LF MAR AMD
50A	LF MAR AMD
51D	JR RPS AMD
52A	RSL RPS AMD
53A	LEA RCL AMD
54D	LEA RCL AMD
55A	VS
56D	VS

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SC 1 DIAL TONE CALL	E1	44	44	44	44	44	44																																													E1
SC 2 SUBSCRIBER OUTGOING CALL (SOG) NO SENDER (NSO)	E2	44	44	44	44	44	44																																												E2
SC 3 SUBSCRIBER OUTGOING CALL (SOG) WITH A SENDER (SON) AND WITH AMA	E3	44	44	44	44	44	44																																											E3
SC 4 TERMINATING (TER) INCOMING (FLG) TRUNK CALL	E4	44	44	44	44	44	44																																											E4
SC 5 INTRAOFFICE CALL (ITR) WITH A SENDER (SON)	E5	44	44	44	44	44	44																																											E5
SC 6 TOLL OR TANDEM INCOMING TRUNK TO OUTGOING TRUNK (TOG)	E6	44	44	44	44	44	44																																											E6
SC 7 PULSE CONVERSION PCR/PCDO/PCDI	E7	44	44	44	44	44	44																																											E7
E8-E19 RESERVED FOR FUTURE USE																																																	
SC 101 SEIZURE OF MARKER BY REGISTER MARKER CONNECTOR	E20	44	44	44	44	44	44																																											E20
SC 102 SEIZURE OF MARKER BY LINE LINK MARKER CONNECTOR	E21	44	44	44	44	44	44																																											E21
SC 103 ESTABLISHING THE DIALING CONNECTION	E22	44	44	44	44	44	44																																											E22
SC 104 TRANSLATION, TRUNK & CLASS SCREENING & ROUTE RELAY OPERATION	E23	44	44	44	44	44	44																																											E23
SC 105 SEIZURE OF TRUNK LINK FRAME & TRUNK	E24	44	44	44	44	44	44																																											E24
SC 106 INFORMATION REQUIRED FOR TYPE OF CALL AND LINKAGE	E25	44	44	44	44	44	44																																											E25
SC 107 LINE LINK FRAME SEIZURE AND CONTROL CALL BACK LINKAGE	E26	44	44	44	44	44	56																																											E26
SC 108 LINE LINK FRAME SEIZURE AND CONTROL CALL FORWARD LINKAGE	E27	44	44	44	44	44	44																																											E27
SC 109 INTRAOFFICE ADVANCE TO "CB" CALL BACK LINKAGE	E28	44	44	44	44	44	44																																											E28
PART OF SC 110 OUTGOING SENDER SELECTION AND CONTROL CKT	E29	44	44	44	44	44	44																																											E29
PART OF SC 110 OUTGOING SENDER SELECTION AND CONTROL CKT	E30	44	44	44	44	44	44																																											E30
E31 RESERVED FOR FUTURE USE																																																	
SC 112 AMA RECORDER NUMBER & OBS. NOB INFORMATION OR PULSE CONVERSION CLASS	E32	44	44	44	44	44	44																																											E32
SC 113 TRUNK CLASS INFORMATION	E33	44	44	44	44	44	44																																											E33
SC 114 TG TEST SC 115 NUMBER GROUP SEIZURE & TRANSLATION	E34	44	44	44	54	54	54																																											E34
SC 116 NON ALLOTTED TERMINAL HUNTING	E35	44	44	44	44	44	44																																											E35

DRAWING ISSUE		
51D	JR	
52A	JR	
53A	JEW	
54D	JEW	
55A	JK	CB
56D	JK	CB

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SC 117 PBX ALLOTTED TEMINAL HUNTING	E36	44	44	44	44	44	44																																													E36
SC 118 PBX RECYCLE	E37	44	44	44	44	44	44																																												E37
SC 119 INTERCEPTING	E38	44	44	44	44	44	44																																												E38
SC 120 CONTROL FOR CHANNEL TEST	E39	44	44	44	44	44	44																																												E39
SC 121 CHANNEL SELECTION AND HOLD MAGNET OPERATION SC 122 JUNCTOR STEP AND FAILURE TO MATCH	E40	44	44	44	44	44	44																																												E40
SC 123 LINKAGE CHECK CIRCUITS	E41	44	44	44	44	44	44																																												E41
SC 124 CONTROL OF MARKER DISCONNECTS & TROUBLE RECORDS	E42	44	44	44	54	54	54																																												E42
SC 125 DISCONNECT	E43	44	44	44	44	44	44																																												E43
SC 126 TRL & MRLI DISCONNECT	E44	44	44	44	44	44	44																																												E44
SC 127 RINGING SWITCH CONTROL, LINE IDLE, OVERFLOW & BUSY OPERATION	E45	44	44	44	44	44	44																																												E45
PART OF SC 128 ALTERNATE ACTIONS	E46	44	44	44	44	44	44																																												E46
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SC 129 RECYCLE ALL TYPES OF CALLS	E48	44	44	44	44	44	44																																												E48
SC 130 ROUTE ADVANCES ALL TYPES OF CALLS	E49	44	44	44	44	44	44																																												E49
SC 131 TRUNK GROUP ALOTTER SC 132 TRUNK NUMBER RECYCLE & NUMBER GROUP PREFERENCE SC 133 RINGER TEST CALL	E50	44	44	44	44	44	44																																													E50
SC 134 SPECIAL CALLS	E51	44	44	44	44	44	44																																												E51
SC 135 NO-TEST TRAIN	E52	44	44	44	44	44	44																																												E52
SC 136 RECYCLE FOR OVERLOAD ANNOUNCEMENT	E53	49	49	49	49	49	49																																												E53

ISSUE

51D	JR
52A	ASL AND MS
53A	LEA AND
54D	LEA AND
55A	JK
56D	JK

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CKT REQT TABLES GTLF TO AMA2	F2	41	41	41	41	41	46	47	47	47	47	47	47	47	54	54	54																																				F2
CKT REQT TABLES AMA3 TO BNB	F3	41	42	42	42	45	45	47	47	49	49	49	49	49	54	54	56																																				F3
CKT REQT TABLES BNTH TO CFA	F4	41	41	41	41	45	45	45	45	45	45	45	45	45	54	54	54																																				F4
CKT REQT TABLES CFA1 TO CMF2	F5	41	42	42	42	42	46	46	46	49	49	49	49	49	54	54	56																																				F5
CKT REQT TABLES CMF3,4 TO CT2	F6	41	41	41	41	41	46	46	46	46	46	51	51	51	54	54	54																																				F6
CKT REQT TABLES CTAD TO DL11-13	F7	41	41	41	41	41	41	41	41	49	49	51	51	51	54	54	54																																				F7
CKT REQT TABLES DLK1 TO FC-	F8	41	42	42	42	45	46	46	46	49	49	49	49	49	54	54	54																																				F8
CKT REQT TABLES FCA- TO FT3	F9	41	41	41	41	45	46	46	48	48	48	48	48	48	54	54	54																																				F9
CKT REQT TABLES FTBD TO GK	F10	41	41	41	41	41	41	41	41	49	49	49	49	49	49	49	49																																				F10
CKT REQT TABLES GLH TO H0,1,2,4,7	F11	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																				F11
CKT REQT TABLES HFA TO ITA	F12	41	41	41	41	41	46	47	47	47	47	47	47	47	47	47	47																																				F12
CKT REQT TABLES ITR1 TO KGS5	F13	41	41	41	41	41	41	41	41	41	41	41	41	41	54	54	54																																				F13
CKT REQT TABLES KHJ TO LLS	F14	41	41	43	43	43	43	43	43	49	49	49	49	49	54	54	54																																				F14
CKT REQT TABLES LNT TO MCB1	F15	41	41	41	41	41	46	46	46	46	46	46	46	46	54	54	56																																				F15
CKT REQT TABLES MCB2-6 TO MT11	F16	41	41	41	41	41	41	41	41	49	49	51	51	51	51	51	56																																				F16
CKT REQT TABLES MT12 TO NCRA	F17	41	41	41	41	41	41	47	47	49	49	51	51	51	54	54	56																																				F17
CKT REQT TABLES NCTD TO NTH	F18	41	41	41	41	41	41	47	47	47	47	47	47	47	54	54	56																																				F18
CKT REQT TABLES NTR TO ORK1	F19	41	41	41	41	45	46	46	46	46	46	46	46	46	54	54	54																																				F19
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CKT REQT TABLES PCD-19 TO PSR	F21	41	41	41	41	41	46	46	46	49	49	51	51	51	54	54	54																																				F21
CKT REQT TABLES PTC TO RCTA	F22	41	41	41	41	41	41	41	41	41	41	51	51	51	54	54	54																																				F22
CKT REQT TABLES RCTB TO RNK2	F23	41	41	41	41	41	41	41	48	49	49	49	49	49	54	54	54																																				F23
CKT REQT TABLES RNT TO S200-208	F24	41	41	41	41	41	41	41	49	49	49	49	49	49	54	55	56																																				F24
CKT REQT TABLES SA TO SLCK1	F25	41	41	41	41	41	41	41	41	41	41	41	41	41	54	54	54																																				F25
CKT REQT TABLES SLK TO SSA,SS8	F26	41	41	41	41	41	46	46	46	46	46	51	51	51	54	54	54																																				F26
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CKT REQT TABLES TC TO TNC	F28	41	41	41	41	41	46	46	48	48	48	48	48	48	48	48	56																																				F28
CKT REQT TABLES TIN TO TRIA	F29	41	41	41	41	41	46	46	46	46	46	51	51	51	54	54	54																																				F29
CKT REQT TABLES TR2 TO TST	F30	41	41	43	43	43	43	43	49	49	51	51	51	54	54	54																																				F30
CKT REQT TABLES TYD TO VFTO-4	F31	41	41	41	41	41	41	41	41	41	41	41	41	41	54	54	54																																				F31
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CKT REQT TABLES XAHG TO XF	F33	41	41	41	41	41	41	41	49	49	49	49	49	49	49	49	49																																				F33
CKT REQT TABLES XFG TO XNS	F34	41	41	41	41	41	41	41	41	41	41	41	41	41	54	54	54																																				F34
CKT REQT TABLES XOB TO XTG1	F35	41	41	41	41	41	41	41	41	41	41	51	51	51	51	51	51																																				F35
CKT REQT TABLES XTRK TO END;TIME REQT	F36	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																				F36
CKT REQT TABLES TIME REQT (CONT)	F37	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																				F37
CKT REQT TABLES TIME REQT (CONT)	F38	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																				F38

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46D
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48D
49D
50A
51D
52A
53A
54D
55A JK
56D JK

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CAD 1	G1	41	41	43	43	43	43	43	43	49	49	51	51	51	51	51	51																																				G1
CAD 2,3,4	G2	41	41	41	41	41	41	41	41	41	41	51	51	51	54	54	54																																				G2
CAD 5,6	G3	41	41	41	41	41	41	41	41	49	49	49	49	49	54	54	54																																				G3
CAD 7	G4	41	41	41	41	41	41	41	41	49	49	49	49	53	53	53	53																																				G4
CAD 8	G5	41	41	41	41	41	41	41	41	41	41	41	41	41	54	54	56																																				G5
CAD 9,10	G6	41	42	42	42	42	42	42	42	49	49	49	49	49	49	49	49																																				G6
CAD 11,12	G7	41	41	41	41	41	41	41	41	49	49	49	49	49	54	54	54																																				G7
CAD 13,14	G8	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																				G8
CAD 15	G9	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																				G9
CAD 16	G10	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																				G10
CAD 17	G11	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																				G11
CAD 18,19	G12	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																				G12
CAD 20	G13	41	41	41	41	41	41	41	41	49	49	49	49	49	49	49	49																																				G13
CAD 21,22	G14	41	41	41	41	41	41	47	47	49	49	49	49	49	49	49	49																																				G14
CAD 23,24	G15	41	41	41	41	41	41	47	47	49	49	51	51	53	54	54	56																																				G15
CAD 25	G16	41	41	43	43	43	43	47	47	47	47	51	51	51	54	54	54																																				G16
PART OF CAD 26	G17	41	41	43	43	43	43	47	47	49	49	51	51	51	54	54	56																																				G17
PART OF CAD 26	G18	41	41	43	43	43	43	47	47	49	49	51	51	51	54	54	56																																				G18
PART OF CAD 27	G19	41	41	43	43	45	45	47	47	49	49	51	51	51	54	54	54																																				G19
PART OF CAD 27, PART OF CAD 28	G20	41	41	43	43	45	45	45	48	49	49	51	51	51	54	55	56																																				G20
PART OF CAD 28	G21	41	41	41	41	41	41	41	48	49	49	51	51	51	54	55	56																																				G21
CAD 29,30,31,32,33,34,35	G22	41	41	41	41	41	46	46	46	46	46	51	51	51	54	54	54																																				G22
CAD 36,37,38,39	G23	41	41	41	41	45	46	47	47	47	47	47	47	47	54	54	54																																				G23
CAD 40	G24	41	41	41	41	41	41	47	47	47	47	47	47	47	54	54	54																																				G24
CAD 41,42,43,44	G25	41	41	41	41	41	41	47	47	47	47	51	51	51	54	54	54																																				G25
PART OF CAD 45	G26	41	41	41	41	41	41	47	47	47	47	51	51	51	54	54	56																																				G26
PART OF CAD 45, CAD 46	G27	41	41	41	41	41	41	41	41	41	41	41	41	41	54	54	56																																				G27
CAD 47,48	G28	41	41	41	51	41	41	41	41	49	49	49	49	49	54	54	56																																				G28
CAD 49	G29	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																				G29
CAD 50	G30	41	41	41	41	45	46	46	46	46	46	51	51	51	54	54	54																																				G30
CAD 51	G31	41	42	42	42	45	46	47	47	47	47	51	51	51	54	54	56																																				G31
CAD 52,53	G32	41	41	43	43	43	43	47	48	49	50	51	51	51	51	55	56																																				G32
CAD 54,55,56,57	G33	41	41	41	41	41	46	46	46	46	46	51	51	51	51	51	56																																				G33
CAD 58	G34	41	41	41	41	41	41	41	41	49	50	50	50	50	50	50	50																																				G34
CAD 58A,58B,58C,58D,58E,58F	G35	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																				G35
CAD 58G,58H,58J,58K,58L,58M	G36	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																				G36
CAD 58N,58P,58Q,58R,58S	G37	41	41	41	41	41	41	41	41	41	41	41	41	53	53	53	53																																				G37
CAD 59,61,62	G38	41	42	43	43	43	43	47	47	49	49	49	49	49	54	54	56																																				G38

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41D	WPR AES
42D	KE MA
43B	KE AES
44B	AES AES
45B	AES KE
46D	DJM GLA AMD
47D	WPR GLS AMD
48D	AES LW AES
49D	LF GLA AM
50A	LF GLA AM
51D	JR AES AMD
52A	GLA AES AM
53A	LEA GLL AMD
54D	LEA GLL AMD
55A	LT
56D	LT

SHEET NOTES:

1. INCREASE EACH CAD DESIGNATION BY 200 WHEN REFERENCE TO THE ATTACHED TYPE SCHEMATIC IS REQUIRED (MARKER ISSUES PRIOR TO 41D).

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CAD 60,63,64,65	G39	41	42	42	42	45	46	47	48	48	50	51	51	51	54	54	56																																					G39
CAD 66	G40	41	42	42	42	42	46	46	46	46	46	46	46	46	54	54	56																																					G40
CAD 67	G41	41	41	41	41	41	41	47	48	48	48	51	51	53	54	55	56																																					G41
CAD 68	G42	41	41	41	41	41	46	46	46	46	46	46	46	46	54	54	56																																					G42
CAD 69	G43	41	41	41	41	41	41	41	41	41	41	51	51	51	54	54	54																																					G43
CAD 70,71	G44	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																					G44
PART OF CAD 72	G45	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																					G45
PART OF CAD 72	G46	41	41	41	41	45	45	45	45	45	45	45	45	45	45	45	45																																					G46
PART OF CAD 72	G47	41	41	41	41	45	45	45	45	45	45	45	45	53	53	53	53																																					G47
CAD 73,74,75	G48	41	41	41	44	44	44	47	47	47	47	51	51	51	54	55	56																																					G48
CAD 76,77	G49	41	41	43	43	43	43	43	43	43	43	51	51	51	54	55	56																																					G49
PART OF CAD 78	G50	41	41	43	43	43	46	47	47	49	49	51	51	51	54	55	56																																					G50
PART OF CAD 78	G51	41	41	43	43	43	43	47	47	49	49	51	51	51	54	55	56																																					G51
PART OF CAD 78. CAD 80	G52	41	41	43	43	43	43	43	43	49	49	51	51	51	51	51	56																																					G52
CAD 81,82	G53	41	41	41	41	45	46	46	46	49	49	51	51	51	54	54	54																																					G53
CAD 83,84	G54	41	42	42	42	42	42	47	47	47	47	47	47	47	54	54	54																																					G54
CAD 85,86	G55	41	41	41	44	45	45	47	47	49	49	51	51	51	54	54	56																																					G55
CAD 87,88,89	G56	41	41	41	41	41	41	41	41	49	49	49	49	49	49	49	49																																					G56
CAD 90	G57	41	41	41	41	41	41	41	41	49	49	49	49	49	54	54	54																																					G57
CAD 91,92	G58	41	41	41	41	41	41	41	41	49	49	51	51	51	54	54	54																																					G58
CAD 93,94,95	G59	41	41	41	41	41	41	41	41	49	49	51	51	51	54	54	54																																					G59
CAD 96,97	G60	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																					G60
CAD 98,99	G61	41	41	41	41	45	45	45	45	45	45	45	45	45	54	54	56																																					G61
CAD 100,101,102,103	G62	41	41	41	41	45	46	46	46	49	49	49	49	49	49	49	49																																					G62
CAD 104	G63A*	41	42	43	43	43	46	47	47	47	47	47	47	47	54	54	54																																					G63A*
CAD 105, 106	G63B														54	54	56																																			G63B
PART OF CAD 107	G64	41	41	41	41	41	41	41	41	49	49	51	51	51	54	54	56																																					G64
PART OF CAD 107	G65	41	41	41	41	41	41	41	41	49	49	51	51	51	54	54	54																																					G65
PART OF CAD 107	G66	41	41	41	41	41	46	47	47	49	49	49	49	49	49	49	49																																					G66
PART OF CAD 107	G67	41	41	41	41	45	46	47	47	49	49	51	51	53	53	53	53																																					G67
PART OF CAD 107	G68	41	41	43	43	43	43	47	47	49	49	51	51	51	51	51	51																																					G68
PART OF CAD 107	G69	41	41	41	41	41	41	41	41	49	49	49	49	49	54	54	56																																					G69
PART OF CAD 107	G70	41	41	41	41	41	41	41	41	49	49	51	51	51	54	54	56																																					G70
PART OF CAD 107	G71	41	41	41	41	41	41	47	47	49	49	49	49	49	49	49	49																																					G71
PART OF CAD 107	G72	41	41	41	41	45	46	47	47	47	47	51	51	51	54	54	54																																					G72
PART OF CAD 107	G73	41	41	43	43	45	46	47	47	49	49	49	49	49	49	49	56																																					G73
PART OF CAD 107	G74	41	41	43	43	43	43	43	43	49	49	51	51	51	54	54	54																																					G74
PART OF CAD 107	G75	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																					G75

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* SHEETS WITH SUFFIX "A" WERE FORMERLY WITHOUT A SUFFIX LETTER

41D	KEL MJS
42D	KE MJS
43B	KE MJS
44B	KE MJS
45B	KE MJS
46D	TDW KAN MD
47D	MA ELK MD
48D	BB LW MD
49D	LF KAN MW
50A	LF KAN MD
51D	JR MJS MW
52A	KEL MJS MD
53A	SAV KEL MD
54D	SAV KEL MD
55A	JK
56D	JK

SHEET NOTES:

1. INCREASE EACH CAD DESIGNATION BY 200 WHEN REFERENCE TO THE ATTACHED TYPE SCHEMATIC IS REQUIRED (MARKER ISSUES PRIOR TO 41D).

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PART OF CAD 107	G76	41	41	41	41	41	41	41	41	49	49	51	51	51	54	51	51																																					G76
PART OF CAD 107	G77	41	41	41	41	41	41	41	41	49	49	49	49	53	53	53	53																																					G77
PART OF CAD 107	G78	41	41	43	43	43	43	43	43	49	49	49	49	49	49	49	49																																					G78
CAD 108,109,110,111,112,113	G79	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	56																																					G79
CAD 114,115,116	G80	41	42	43	44	44	46	46	46	49	49	51	51	51	54	54	56																																					G80
CAD 117, PART OF CAD 118	G81	41	41	41	41	41	46	46	46	46	46	46	46	46	46	46	46																																					G81
PART OF CAD 118	G82	41	42	42	42	42	46	46	46	46	46	46	46	46	54	54	56																																					G82
PART OF CAD 119	G83	41	41	41	41	45	46	46	48	48	50	50	50	50	50	50	50																																					G83
PART OF CAD 119	G84	41	42	42	42	42	46	46	46	46	46	46	46	46	54	54	56																																					G84
PART OF CAD 119	G85	41	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42																																					G85
CAD 120,121,122,123,124	G86	41	42	42	42	42	46	46	46	46	46	51	51	51	54	54	54																																					G86
CAD 125,126,127,128,129	G87	41	41	41	41	41	41	41	48	48	48	51	51	51	54	54	54																																					G87
CAD 130,131,132,133,134,135	G88	41	41	41	41	41	46	46	46	49	49	49	49	49	54	54	54																																					G88
CAD 136,137,138,139,140,141,142	G89	41	41	41	41	41	41	41	41	49	49	51	51	51	54	54	54																																					G89
CAD 143	G90	41	41	41	41	41	41	47	47	47	47	51	51	51	51	51	51																																					G90
CAD 144,145,146	G91	41	41	41	41	41	46	46	46	46	46	46	46	46	46	46	46																																					G91
CAD 147	G92	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																					G92
CAD 148,149,150	G93	41	41	41	41	41	41	41	41	41	41	51	51	51	54	54	56																																					G93
CAD 151,152	G94	41	41	41	41	41	46	46	46	46	46	46	46	46	46	46	46																																					G94
PART OF CAD 153	G95	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	56																																					G95
PART OF CAD 153	G96	41	42	42	42	42	46	46	46	46	46	46	46	46	54	54	56																																					G96
PART OF CAD 153	G97	41	42	42	42	42	46	46	46	46	46	46	46	46	46	46	46																																					G97
PART OF CAD 153	G98	41	42	42	42	45	46	46	48	48	50	50	50	50	50	50	56																																					G98
CAD 154,155,156,157,158	G99	41	41	43	43	43	43	43	43	43	43	43	43	43	43	43	43																																					G99
CAD 159,160	G100	41	41	41	41	41	46	46	46	49	49	49	49	49	49	49	49																																					G100
CAD 161,162,163,164	G101	41	41	43	43	43	43	43	43	43	43	43	43	43	54	54	56																																					G101
CAD 165,166,167,168,169,170	G102	41	41	41	41	41	46	46	46	46	46	46	46	46	54	54	54																																					G102
CAD 171	G103	41	41	41	44	44	44	44	44	44	44	44	44	44	44	44	44																																					G103
CAD 172,173	G104	41	41	41	41	41	41	41	49	49	49	49	49	49	54	54	54																																					G104
CAD 174	G105	41	41	41	41	41	41	41	41	41	41	51	51	51	51	51	51																																					G105
CAD 175	G106	41	41	41	41	45	46	46	46	49	49	49	49	49	49	49	56																																					G106
CAD 176	G107	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																					G107
CAD 177	G108	41	41	43	43	43	46	46	46	46	46	46	46	46	54	54	54																																					G108
CAD 178	G109	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41																																					G109
PART OF CAD 179	G110	41	41	43	43	43	43	43	43	43	43	45	45	43	43	43	43																																					G110
PART OF CAD 179	G111	41	41	43	43	43	43	43	43	43	43	45	45	43	43	43	43																																					G111
CAD 180,181,182,183	G112	41	41	41	41	41	46	46	46	46	46	46	46	46	46	46	46																																					G112

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46D
47D
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49D
50A
51D
52A
53A
54D
55A
56D

SHEET NOTES:

1. INCREASE EACH CAD DESIGNATION BY 200 WHEN REFERENCE TO THE ATTACHED TYPE SCHEMATIC IS REQUIRED (MARKER ISSUES PRIOR TO 41D).

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CAD 184, 185	G113	41	41	41	41	41	41	41	41	41	41	51	51	51	51	51	51																																			G113
CAD 186, 187	G114	41	41	41	41	41	41	47	47	47	47	51	51	51	51	51	51																																			G114
CAD 188	G115	41	42	42	42	45	46	46	46	46	46	46	46	46	54	54	54																																			G115
CAD 189	G116	41	42	42	42	42	46	46	46	46	46	46	46	46	46	46	46																																			G116
CAD 190	G117	41	41	41	44	45	45	45	45	45	45	45	45	45	54	54	56																																			G117
CAD 191	G118	41	41	41	41	41	41	41	41	49	49	49	49	49	49	49	56																																			G118
CAD 192, PART OF CAD 193	G119	41	41	41	41	41	46	47	47	47	47	47	47	47	54	54	56																																			G119
PART OF CAD 193 CAD 194	G120	41	42	42	42	42	46	46	46	46	46	46	46	46	54	54	54																																			G120
CAD 195	G121A	41	42	42	42	42	46	47	47	47	47	51	51	53	54	54	54																																			G121A
CAD 196, 197	G121B													53	54	54	56																																			G121B
CAD 198, 199, PART OF CAD 201	G122					45	46	47	48	49	50	51	51	51	54	54	54																																			G122
PART OF CAD 201, 202, 203, 204	G123					45	46	47	48	43	50	50	50	50	54	54	54																																			G123
CAD 205	G124						46	47	47	47	50	50	50	50	50	50	50																																			G124
CAD 206, 207, 208, 209	G125							47	48	49	49	51	51	51	54	54	54																																			G125
CAD 210, 211	G126									49	49	49	49	49	49	49	49																																			G126
CAD 212, 213	G127									49	49	51	51	53	53	53	56																																			G127
CAD 213A, 213B, 213C	G128									49	49	49	49	49	54	54	54																																			G128
PART OF CAD 213D	G129									49	49	49	49	49	54	54	56																																			G129
PART OF CAD 213D	G130									49	49	49	49	49	49	54	54																																			G130
CAD 214, 215, 216	G131									49	49	51	51	51	54	54	56																																			G131
PART OF CAD 217	G132									49	49	49	49	49	49	49	49																																			G132
PART OF CAD 217, CAD 218	G133									49	49	51	51	51	54	54	54																																			G133
PART OF CAD 219	G134									49	49	51	52	53	54	54	54																																			G134
PART OF CAD 219	G135									49	49	51	51	51	54	54	54																																			G135
CAD 219A	G136									49	49	49	49	49	49	49	49																																			G136
CAD 220 PART OF CAD 221	G137											51	51	53	54	54	54																																			G137
PART OF CAD 221 CAD 222	G138											51	51	53	53	53	53																																			G138
CAD 223, 224 PART OF CAD 225	G139														54	54	56																																			G139
PART OF CAD 225	G140														54	54	56																																			G140
PART OF CAD 226	G141														54	54	56																																			G141
PART OF CAD 226	G142														54	55	56																																			G142
PART OF CAD 226	G143														54	54	56																																			G143
CAD 227, 228, 229	G144														54	55	56																																			G144
CAD 230	G145																56																																			G145

CONT ON SHEET A41

SHEET NOTES:

1. INCREASE EACH CAD DESIGNATION BY 200 WHEN REFERENCE TO THE ATTACHED TYPE SCHEMATIC IS REQUIRED (MARKER ISSUES PRIOR TO 41D).

DRAWING ISSUE	
41D	M.S.
42D	M.S.
43B	M.S.
44B	M.S.
45B	
46D	AHD
47D	CLK
48D	LW AHD
49D	LF AHD
50A	LF AHD
51D	JR AHD
52A	AHD
53A	REL AHD
54D	REL AHD
55A	LT
56D	LT

MARKER CIRCUIT

SD-25550-01-A15

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(2)

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25550-01-A15

DESIG	LOCATION FS	APP FIG	EQPT
RELAYS			
ONN	83A5	65	T22L
ONN	83A5	126	T22L
1F	105C0	82	C6R
1FA	105B0	82	C6R
1SE	83B5	126	T23L
1TB	83B5	65	T23L
2DT2-9	23B7	115	T1R
2F	105C0	82	C6R
2FA	105A0	82	C6R
2G	55A2	27	C8L
2MB	83B5	65	T23L
2P	4D0	10	C27L
2SA	83B5	126	T23L
2SG	105D9	6W	T17L
2TLF	47B7	27	C8L
2-3TLF	47C7	27	C8L
3FB	83C5	65	T23L
3G	55E2	27	C8L
3NA	83C5	126	T23L
3TLF	47C7	27	C8L
4NE	83D5	126	T23L
4TLF	47D7	27	C8L
4TT	83D5	65	T23L
5MT	83E5	65	T23L
5ST	83E5	126	T23L
5TLF	47E7	27	C8L
6FT	83F5	65	T23L
6NT	83F5	126	T23L
6TLF	47E7	27	C8L
7G	57H4	17	C10L
7RN	83F5	126	T23L
7TLF	47F7	27	C8L
7TP	83F5	65	T23L
8MP	83G5	65	T23L
8SP	83G5	126	T23L
8TLF	47F7	27	C8L
9FP	83H5	65	T23L
9NP	83H5	126	T23L
9TLF	47G7	27	C8L
10TLF	47H7	27	C8L
11X	2186	38	T2R
20F	47G1	17	C10L
40F	47H1	17	C10L

DESIG	LOCATION FS	APP FIG	EQPT
RELAYS			
A	90C1	77	T4L
A0,1,2,4,7	63-67A7	49	T47L
ACO,1,2,4,7	63-67A3	35	T44L
ACD	16D2	151	CA30
AD	16B5	151	CA26
AIOD	128D3	169	TTR
AIS	129A4	186	RR--
AISI	129A7	186	RR--
AIS2	129B7	186	RR--
AIS3	129B7	186	RR--
AISC	129B4	186	RR--
AK	90G1	77	T4L
ALO-3	39G5	64	T17L
AMA	37G0	53	T26L
AMAI	81D2	9	C33L
AMA2	81E1	9	C33L
AMA3	84A9	67	T30L
AMA4	84A8	89	C13R
AMA5	84A7	89	C13R
AMA6	37G0	9	C32L
AMB	2B2	73	C3R
AMBI	2A2	73	C3R
AN	104E8	179	C45L,RR
ANI	103B7	179	C45L,RR
AN2	3H6	179	C45L,RR
AN3	3G6	179	C45L,RR
ANC	3G1	179	C45L,RR
ANI	37H3	164	T34L
ANIS	30C7	164	T34L
ANR	98D2	142	T13L
ANRI	98B2	142	T13L
ANTD	30C7	188	RR--
AO	4B0	10	C27L
AR	31B5	32	C21R
ARKI,2	79D0	122	CV3
ARNO-5	74B3	122	CV3
ARP	74B2	122	CV3
ARS	74C2	122	CV3
ASB	71H4	69	T11L
AST	86C9	125	T16L
AST	86D1	149	T16L
ASTA	86C9	125	T32L
ASTA	86D9	149	T32L
ATO-9	23A7	39	T3R
AVK	62G4	34	C12R
AVKI	72A/B1	34	C12R
AVK2	72B/H5	88	T34L
AVK2	72B/H3	171	T34L
BO,1,2,4,7	63-67B7	49	T48L
BC	39B6	21	T41R
BCO,1,2,4,7	63-67A3	A	T45L
BCA	39C6	22	C39R
BG	38G2	33	C16R
BL	30B2	53	T26L
BN	92B1	68	T14L
BNA	92A9	48	T40L
BNA	92A9	108	T40L
BNB	92D9	75	C8R
BNTH P	86A9	68	T16L
BNTH S	88G5		
BRI-3	101B8	184	RR--
BRG	101A8	184	RR--
BRKI,2	79G0	121	CV4
BRNO-4	74D3	121	CV4
BRP	74D2	121	CV4
BRS	74D2	121	CV4
BSO-5	126D6	166	RR
BST	8686	125	T16L
BSTA	86H6	125	T32L
BTO0-09	24H4	40	T3R
BTI0-99	24H4	41	T3R
BTO0-99	24H4	117	T3R
BX	115C4	91	C23L
BY	10368	75	C8R

DESIG	LOCATION FS	APP FIG	EQPT
RELAYS			
CO,1,2,4,7	63-67C7	49	T46L
CAA	30B5	53	T20L
CB	61E1	32	C20R
CBI	9A0	1	CW3L
CB2	9B0	1	CW4L
CB3	10G7	3	CW0L
CBW	11H3	5	C39L
CB5	52C8	29	C32R
CB7	11G4	9	C32L
CBC	61B5	8	C35L
CBDI	61B6	8	C35L
CBF	61H1	8	C35L
CCO,1,2,4,7	63-67B3	C	T45L
CCT	59F2	30	C28R
CCT	58H2	106	C25R
CDKO,1	69B6	143	T37L
CDRO-9	30B5	156	RR--
CEA	1E8	151	CA29
CEAI	16F	151	CA29
CFGO,1	34A3-B3	151	CA28
CGAB	3C6	177	SCS 21 22,23,43
CGAI	4C7	175	SCS 21 22,23,43
CGAI	4C7	177	C36L
CGBI	4D7	175	SCS 21 22,23,43
CGBI	4D7	177	C36L
CGT	59G3	30	C29R
CHO-9	49A4-A6	29	C33R
CHA	49A9	BI	C22R
CHA	49A9	BJ	C22R
CHAI	49F9	79	C22L
CHE	49E9	31	C25R
CHT	49G4	29	C31R
CIR	101C8	184	RR--
CKGI-3	108F2,G3	32	C21R
CKG4	40E5	31	C24R
CKG5	18H6	29	C31R
CKG6	108H3	32	C21R
CKG7	108H4	32	C20R
CKG8	18H7	29	C30R
CKG9	27A0	175	SCS21,22 32,33
CKO	90A9	68	T14L
CKR	87F0	68	T14L
CLO-5	73C2	67	T33L
CL6	73B2	163	T33L
CL7-8	73A2	168	T33L
CLG	38B3	33	C17R
CLK	37B1	33	C16R
CLKI-3	27E0-B0	67	C33L
CLP	73B1	67	T33L
CLS	73C1	67	T33L
CLT	38C3	33	C17R
CLTI,2	38G1,A6	33	C17R
CMCI-3	15D3	151	CA27
CMCA,B,C,	16F5,G5	151	CA27
CMFO-4	16B6-G6	151	CA31
CMJ	30C5	151	CA27
CMRO,1	29H0	151	CA26
CMSO-2	16D6-F6	151	CA31
CN	4D0	10	C27L
CNC	41E9	53	T25L
CON	59E2	30	C27R
CON	58F2	106	C26R
CONI	59C2	30	C27R
CONI	58E3	106	C26R
CON3	59E1	30	C27R
CON3	58F1	106	C26R
COX	114C0	91	C23L
CPO-4	73C2	67	T29L
CP5	73D2	67	T29L
CPKI	78D0	67	T29L

DESIG	LOCATION FS	APP FIG	EQPT
RELAYS			
CPK2	78A0	67	T29L
CPP	73D1	67	T29L
CPS	73D1	67	T29L
CR	20D6	37	T44L
CRO-9	74E3	67	T35L
CRIO	74G3	67	T34L
CRKI-2	76B0-C0	67	T34L
CRK3	127A0	67	T34L
CRP	74E2	67	T34L
CRRO-2	30H5	57	T24L
CRS	74E2	67	T34L
CSO-9	4F5	12	C28L
CSIO-19	4G5	14	C29L
CS20-29	4G5	16	C30L
CSW	102B/FO	182	RR--
CTO	4B9	11	C28L
CTI	4B9	13	C29L
CT2	4A9	15	C30L
CTAO	4C9	11	C28L
CTAI	4C9	13	C29L
CTA2	4D9	15	C30L
CTBO-2	4D9	175	SCS 21 22,23,43
CTFO,1,2,4,7	34C3-H3	151	CA28
CTGS	12H0	151	CA28
CTNA	68F3	BQ	CAN
CTNB	68G3	BQ	CAN
CTOB	119A0	151	CA26
CUO,1,2,4,7	4F5	10	C27L
CUBO,1,2,4,7	4E5	175	SCS 21 22,23,43
CVOO-99	29B5	118	CVS-10
CVS	30D2	119	CVN
CZ	30E1	156	RR--
CZT	30E1	156	RR--
D	3AI	32	C21R
D	3AI	174	C45L,RR
DO,1,2,4,7	63-67C7	49	T49L
DAC	67B/B4	181	RR--
DACI	67B/B7	181	RR--
DCI	92F0	159	C7R
DCIA	92A9	160	T2R
DCK	5B5	33	C15R
DCT	46G7	31	C25R
DCTI	62F0	31	C25R
DCT2	62F9	J	C25R
DCT3	62C9	J	C22R
DCTA	62D0	185	RR--
DISI	108D3	32	C20R
DIS2	108D4	32	C19R
DISA	2E7	32	C18R
DL	125C7	79	C13L
DLO-3	73E2	67	T27L
DL4-6	73F2	67	T27L
DL7-10	73G2	67	T28L
DLII-13	73G2	67	T28L
DLKI	77E4	67	T27L
DLK2	78F0	67	T27L
DLP	73E1	67	T27L
DLS	73G1	67	T27L
DNC	16D2	151	CA30
DRO-2	30H5	58	T24L
DRRO,1	2965	162	C9L
DTI	3G4	32	C21R
DT2,3	3G3	31	C23R
DTN	9C2	BY	C19R
DT5	3E6	179	C45L,RR
DTK	78A	33	C14R
DTK	78A	105	C17R
DTRO-3	3D1	174	C45L,RR
DXO	63D3	12N	T18L
DXI	64D3	12N	T18L
DX2	65D3	12N	T18L
DX4	66D3	12N	T18L
DX7	67C3	12N	T18L

DESIG	LOCATION FS	APP FIG	EQPT
RELAYS			
EO,1,2,4,7	63-67D7	49	T49L
ECN	88G8	47	T40L
EG	91G0	77	T4L
ELT	21A6	167	T18L
EN	88E8	126	T22L
ENA	88F8	186	RR--
EX	18D8	178	C42L
EX7	67D3	124	T18L
EXA	18H4	178	C42L
FO,1,2,4,7	63-67E7	49	T50L
FA	1EC	73	C4R
FAI	1G3	73	C4R
FAC	17A7	80	C30L
FACA	17A7	165	C39L
FACI	17G1	161	RR--
FAK	45H1	31	C24R
FBO	39A6	23	C44R
FB-(INT)	39A6	24	C44R
FB-(LAST)	39A6	25	C44R
FBK	45H1	J	C24R
FC	16E2	151	CA30
FC-	39H4	19	C2R
FCA-	3964	20	C2R
FCDO	39F5	174	C45L,RR
FCDIO	39E5	174	C45L,RR
FCG	5985	30	C27R
FCG	5885	106	C26R
FCGA	59C4	30	C27R
FCGA	58B4	106	C26R
FCK	39G2	18	C40R
FCKA	39B2	18	C40R
FCMO	39E5	174	C45L,RR
FCMIO	3905	174	C45L,RR
FCRO-3	3905	174	C45L,RR
FCRIO-13	39C5	174	C45L,RR
FDO,1	8605	161	RR--
FEO,1	93E7	161	RR--
FGO,1	34A3,B3	66	C39R
FGK	3405	63	C26L
FK	129H2	185	RR--
FKA	72A/E8	69	T11L
FLG	61B1	33	C16R
FLGI	61A1	33	C16R
FLG2	61A1	100	C29R
FLGA	61B1	172	C27R
FM	105A5	82	C6R
FM	105A5	105	C5R
FMO	40E1	23	C42R
FM-(INT)	40E1	24	C42R
FM-(LAST)	40F1	25	C42R
FMG	40F5	18	CW0R
FMK	40B7	18	CW0R
FML	40D1	18	CW0R
FMP	49A8	82	C6R
FMP	49A8	105	C5R
FN	96E8	AQ	T26L
FN	96E8	AR	T26L
FNA	96E8	AO	C8R
FNA	96E8	AP	C8R
FNB	96F8	75	C8R
FR	11G3	5	C38L
FSO	40B3	23	CW3R
FS-(INT)	40B5	24	CW3R
FS-(LAST)	40B6	25	CW3R
FSA	40C7	18	CW1R
FTO-3	12A6-C6	9	C31L
FTBC-3	1283-B3	17	C10L
FTCO	39B2	23	CW5R
FTC-(INT)	39A2	24	CW5R
FTC-(LAST)	39A2	25	CW5R

DESIG	LOCATION FS	APP FIG	EQPT
RELAYS			
FTCK	40G5	18	CW1R
FTCKI	40B1	18	CW1R
FTK	11D6	5	C38L
FTKI	11F8	5	C38L
FTL	12E3	68	T15L
FTNO-3	96A8	8	CW5L
FTTO-3	12A0-D0	8	C35L
FTTB	115H7	8	C35L
FUO,1,2,4,7	12F1	9	C31L
FUL	12F0	68	T15L
FUNO-9	96B6	8	CW5L
FUTO-9	12A0-F0	8	C34L
GO,1,2,4,7	63-67F7	49	T50L
GB	95A6	77	T3L
GBA	71A5	69	T11L
GBB	71B5	69	T11L
GC	49G9	17	C10L
GK	9GN	1	CW2L
GLH	46A0	30	C26R
GLH	46A0	106	C25R
GLHI	46B0	30	C26R
GLHI	46B0	106	C25R
GOS	71A0	69	T12L
GPI-3	105F7-G7	64	T17L
GPA	10505	6W	T17L
GPB	105E5	6W	T17L
GSI-5	3187-G7	50	T39L
GSAI-4	3188-F8	120	CV5
GT	60F5	3E	C27R
GT	60G5	BF	C27R
GTI,2	60E1	30	C28R
GTI,2	98E7	106	C25R
GT3	6006	30	C28R
GTN	60C5	G	C28R
GTN	60B5	H	C28R
GTS	60C5	30	C29R
GTL	14D7	32	C20R
GTLI	13E9	5	C39L
GTL2	81C1	9	C31L
GTL3-4	81D1	9	C33L
GTU	12G0	9	C31L
GW	105A9	6N	T17L
GZ	105C9	6N	T17L
HO,1,2,4,7	63-67F7	49	T51L
HFA	10E	73	CWR
HGO,1,2,4,7	13A0-D0	9	C32L
HGG	10D6	3	CW0L
HGK	10D7	31	C23R
HGL	10H1	68	T15L
HGLI	10G8	3	CW0L
HGNO-9	96B8	N	CW9L
HGR	10D7	3	CW0L
HGTO-9	10A0-G0	3	CW1L
HMC	96A6	31	C23R
HMS	96B6	31	C23R

DRAWING ISSUE	
41D	LT
42D	LT
43B	LT
45B	LT
46D	LT
47D	LT
48D	LT
49D	LT
51D	LT
54D	LT
56D	LT

* 1. COMMON EQUIPMENT C--L OR C--R

2. TRANSLATOR AND ROUTE RELAY T--L OR T--R

3. CAMA CA--

4. CLASS OF SERVICE CS--

5. CODE CONVERSION AND ROUTE RELAY CV--

6. SUPPLEMENTARY ROUTE RELAY SR--

7. TANDEM CODE SCREENING TS--

8. MISCELLANEOUS RELAY RACK RR--

9. SUPPLEMENTARY CLASS OF SERVICE SCS--

MARKER CIRCUIT ② SD-25550-01-A16

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-AIG

APPARATUS INDEX

DESIG	LOCATION FS	APP FIG.	EQPT
RELAYS			•
HMSI	M6D0	31	C23R
HMT	M6A3	31	C25R
HMTI	M6A3	31	C24R
HNO,1,2,4,7	63-67B5	48	T42L
HNO,1,2,4,7	63-67B5	108	T42L
HNAO,1,2,4,7	68E4	80	CA2
HTK	10E6	3	CW0L
HTKI	10F6	3	CW0L
HTR	128D7	30	C26R
HTR	128D7	106	C25R
HTT	11268	79	C11L
HTUK	8786	68	T15L
IMG	72A/E8	99	C11R
IMT	5D5	99	C11R
INC	18A6	43	T46L
INCO	17H1	110	TS7
INT	17H5	161	RR--
INTI	17H1	161	RR--
IRT	123C3	AL	C16R
ITA	15C6	82	C5R
ITC	92C8	170	RR--
ITCA	29F7	170	
ITNA	92D8	170	
ITNB	92E8	170	
ITRI	15A3	82	C5R
ITR2	15A3	J	C22R
ITR3	15A3	33	C17R
JO,1,2,4,7	63-67G7	49	T51L
JB	122B3	78	RR--
JCKO	145E1	29	C31R
JCKI	145E1	29	C33R
JGO-4	56A0-C0	17	C9L
JLE	53G1	27	C6L
JLO	53F1	27	C6L
JSE	53F1	27	C6L
JSO	53E1	27	C6L
JSQO-5	53A1-D4	27	C7L
JT	16E7	31	C25R
KO,1,2,4,7	63-67G7	49	T52L
KA	82B0	49	TN7L
KBC	82E0	49	TN8L
KCM	74F3	137	CV4
KCV	74E3	137	CV4
KDE	82C0	49	TN9L
KFG	82F0	49	T50L
KG	81C4	49	TN7L
KGS1	81D4	95	TN1L
KGS2	81D5	95	TN0L
KGS3-5	81C3	186	RR--
KHJ	82D0	49	T51L
KK	82A0	49	T47L
KKL	82F0	49	T52L
LO,1,2,4,7	63-67H7	49	T52L
LB	92F9	30	C26R
LBO-9	50G3	29	C30R
LBT	16F0	30	C27R
LCDO	16A2	151	CA30
LCDI	16B2	151	CA30

DESIG	LOCATION FS	APP FIG.	EQPT
RELAYS			•
LCD2	16C2	151	CA30
LCN	83B6	A0	C7R
LCN	83B6	AP	C7R
LCK	50G7	31	C23R
LDT	112E8	AG	C13L
LDT	112E8	AH	C13L
LE	53G1	7	C37L
LEA	29D5	44	TN6L
LEB	29F5	44	T46L
LFO-9	122H6-D6	78	RR--
LFK	787	32	C19R
LFK1	7A/G3	185	RR--
LFKA	7A6	173	C3L
LGT	14G6	H	C29R
LHT	M6C9	30	C26R
LHT	M6C9	106	C25R
LI	101E1	75	C7R
LIN	92G1	AU	C7R
LK	96F3	31	C23R
LKI	62A6	31	C25R
LK2	62AH	J	C22R
LLO,1,2,4,7	52A2-F2	29	C32R
LLB	6E3	82	C5R
LLC1,2	7H5	82	C19R
LLC4	129E1	185	RR--
LLI	87E0	68	T15L
LLS	72A/F1	185	RR--
LNT	122H1	73	RR--
LOD	53H1	7	C37L
LOT	61B7	33	C14R
LOT1	7F7	33	C14R
LP	12386	138	C11L
LPA	29C9	97	T46L
LPA	29C5	44	T46L
LPB	29E5	44	T46L
LPB	29D9	97	T46L
LR	5A5	33	C15R
LSC1	129A1	185	RR--
LSC2	129B1	185	RR--
LT2	21A6	167	T18L
LTA	29D5	44	T46L
LTA	29C9	97	T46L
LTB	29F5	44	T46L
LTB	29E9	97	T46L
LTI	129E1	185	RR--
LTR	46C0	30	C27R
LTR	46C0	106	C26R
LXP	46D7	31	C25R
LXP1	49A0	31	C24R
MO-1	122G5	84	RR--
M2-3	122F5	84	RR--
M4-5	122E5	84	RR--
M6-7	122D5	84	RR--
M8-9	122C5	84	RR--
MAK	189	73	C4R
MAK1	3465	33	C14R
MAK1	3465	103	C17R
MAN	4C0	10	C27L
MB	2C3	73	C4R
MBO-4	73C7-G7	67	T31L
MBA	71E0	151	CA26
MBK1-5	7780-G0	67	T30L
MBK6	12880	183	RR--
MBP	73C7	67	T31L
MBS	73G7	67	T31L
MBSO-9	3085	56	T32L
MCB1	284	73	C3R
MCB2-6	2C4	74	C3R
MCK	1A8	73	C4R
MCN	480	10	C27L
MDK	3466	32	C18R

DESIG	LOCATION FS	APP FIG.	EQPT
RELAYS			•
MF	3B1	32	C21R
MF	3C1	174	C45L
MFK	7B/E3	173	C3L
MFL	7B/E4	173	C3L
MLF	3E1	32	C21R
MN	122E4	84	RR--
MN1	122E1	84	RR--
MON	123B4	AI	C1NL
MONI	125A4	AI	C1NL
MPT	122H3	84	RR--
MRL	112B2	79	C11L
MRLI	112A2	79	C11L
MSK	180	73	C4R
MT	12386	79	C1NL
MTI	123D4	79	C1NL
MT2	123C6	69	T12L
MT3	123D6	21	CW1R
MT3A	123E6	22	C39R
MTH	123E6	21	CW1R
MTHA	123F6	22	C39R
MT5	4M66	26	C32R
MT6	4M66	26	C32R
MT7	55D0	28	C4L
MT8	54D4	27	C6L
MT8A	53H3	CD	C7L
MT9	123G6	18	C40R
MT10	97F7	77	T4L
MT11	11F6	5	C38L
MT12	123C5	79	C11L
MT13	123A4	79	C11L
MT14	123D4	79	C1NL
MT15	123E4	8	C35L
MT16	122G2	78	RR--
MT17	122H2	78	RR--
MT18	123C4	0	C22R
MT19	97F7	114	T3L
MT20	92E7	114	T3L
MT21	[redacted]	177	C36L
MT22	[redacted]	185	RR--
MT23	[redacted]	186	RR--
MT25,26	[redacted]	67	T27L
MT25A	174G2	186	RR--
MT27	12BD5	28	C3L
MT28	116G1	181	RR--
MT29	116G5	186	RR--
MT41	123A5	184	RR--
MXT	116B0	91	C23L
N1	85A/C6	46	T43L
N1A	85A/C7	46	T43L
N2	85A/D6	46	T43L
N2A	85A/D7	46	T43L
N3	85A/E6	46	T43L
N3A	85A/E7	46	T43L
N4	85A/F6	46	T43L
N4A	85A/F7	46	T43L
NAI	129E8	186	RR--
NANC	3H1	179	C45L,RR
NAR1-3	98A1-2	142	T13L
NCCN	30F5	53	T25L
NCNC	30C5	53	T25L
NCRA	87A/G2	187	C56L
NCTD	30B7	188	RR--
NDI	75B3	33	C15R
NDK	75F5	33	C15R
NE	85A/F2	46	T43L
NGB	86H[illegible]	82	C5R
NGC	87H0	68	T16L
NGK	87H4	68	T13L
NGKI	87H4	68	T13L
NGP	10310	82	C6R
NGPI	104J1	102	C4L

DESIG	LOCATION FS	APP FIG.	EQPT
RELAYS			•
NGP1	10NC1	109	C4L
NH	129C0	78	RR--
NIDA	128E6	169	T1R
NIOD	128E4	169	T1R
NOB	120B1	BG	T30L
NOB	120C1	BH	T30L
NOC	37A1	33	C16R
NR	87C1	M5	TN6L
NS	6986	102	C4L
NS-	6986	109	C4L
NSI	69C6	33	C16R
NSIA	129C4	185	RR--
NSO	69A6	E	C16R
NSO	69A6	F	C16R
NSSO	85B/B8	147	TN0L
NSS1	85B/C8	147	T40L
NSS2-5	85B/C8	148	RR--
NT	122E0	78	RR--
NT1-5	122E3-H2	78	RR--
NTC	122G0	78	RR--
NTD	130D3	188	RR--
NTH	122C1	78	RR--
NTR	122D1	78	RR--
NTT	122D3	78	RR--
OA	21E6	BM	T2R
OA	2156	BN	T2R
OAN	85B/E8	BK	TN0L
OAN	85B/D8	BL	TN0L
OAT	2D2	79	C11L
OATI	128D9	79	C11L
OB	21F6	BH	T2R
OB	21F6	BN	T2R
OBN	85B/H6	BK	TN0L
OBN	85B/H6	BL	TN0L
OBS	120E1	BG	T30L
OBS	120F1	BH	T30L
OBSI	121D5	33	C17R
OBSI	121D5	103	C17R
OBS2	121B3	33	C17R
OBS2	121B3	103	C17R
OC	3F3	32	C19R
OCI	3E3	32	C19R
OC2	3F3	32	C21R
OCN	88H8	M7	TN0L
OD	16C5	151	CA26
OFCO-5	129C6-G6	186	RR--
OFH	1010B	75	C8R
OFHI	10186	75	C7R
OFK	96F8	77	TNL
OGC	69F6	BM	C12R
ONW	7H5	32	C19R
ONX	11NF0	91	C23L
OPE	26G1	124	T18L
OPR	30A5	53	T26L
OPSO-3	2988	BM	T24L
OR	17B7	BD	TN6L
OR	17B7	BC	TN6L
ORC	84H8	151	CA26
ORCO-2	16E7,F7	151	CA26
ORD	3E7	165	C38L
ORK1	80C0	M9	TN7L
ORK2	80G0	M9	TN7L
ORM	3E7	165	C38L
OROA	17C5	110	TS7

DESIG	LOCATION FS	APP FIG.	EQPT
RELAYS			•
OROB,C,D	17C5	112	TS8
ORT	123C3	AL	C15R
OSO-4	7A3-G3	69	T12L
OSAO-4	69E6	70	T9L
OSA5-9	69E6	70	TOR
OSC	69E6	69	T10L
OSE	7105	69	T12L
OSGO-4	69D6	70	T10L
OSG5-9	69D6	70	TOR
OSK	72A/A1	69	T12L
OSKA	72A/F8	185	RR--
OST	81G3	BM	C12R
OST1,2	81E7,4	BM	C12R
OST4	129B1	185	RR--
OST5	129C1	185	RR--
OTT	75D3	33	C15R
OV	103F8	75	C8R
PO-9	M8BM	28	C5L
PA	55F6	28	C4L
PB	55A6	28	C4L
PBN	96H8	77	TNL
PBX1	90E1	68	T1NL
PBX2	90F1	77	TNL
PBXA	1NG6	G	C29R
PBXA	59E7	H	C29R
PBXB	59F7	G	C29R
PBY	30E2	53	T26L
PC	55B6	28	C4L
PCO-19	29A8	55	T37L
PCCL	8NF8	154	T36L
PCDO,1	18E6	96	TN5L
PCL1	15E3	BM	T36L
PCL2,3	15E3	BM	C11R
PCN	30C5	53	T25L
PCNO	84F3	154	T36L
PCN2,3,5	127A6-E8	154	T36L
PCR	18C6	95	T43L
PD	20E8	36	T44L
PEG	111F5	31	C24R
PEG1	111G9	31	C24R
PGRO	111G6	180	
PGR1	111G7	180	
PGR2	111G7	180	
PGR3	111G8	180	
PGR4	111G8	180	
PGR5	111G9	180	
PHC	21G6	65	T23L
PHC	21G6	126	T23L
PK	2006	36	T44L
PL	118D3	29	C31R
PMO P	9668	77	T3L
PMO S	92A1		
PN	88A8	65	T23L
PN	88A8	126	T23L
PNA	8888	186	RR--
PNC	30D5	53	T25L
PNR	55C6	28	C4L
PPX	30D5	53	T25L
PR	4785	17	C9L
PRL	7A5	173	C3L
PRLL	78/E3	173	C3L
PS	20F6	36	T44L
PSA	27E7	134	CSO
PSAO,1	2765	135	CSO
PSB	27E7	134	CSO
PSBO,1	2766	135	CSO
PSR	125E6	36	T44L
PTC	48C1	107	C3L
PTK	89B0	33	C15R
PTN	879/D2	181	RR

DESIG	LOCATION FS	APP FIG.	EQPT
RELAYS			•
PTN	88D8	65	T22L
PTN	98D8	125	T22L
PTNA	88D8	186	RR--
PU	59E5	30	C29R
PU1	92E1	68	T15L
PUL	92E1	68	T1NL
R-	29A5	SI	CV48, SR2,M6
R-	2985	52	TN7R
RAI-5	3B80	50	T39L
RA6	31C0	50	T39L
RAVI	10388	82	C6R
RAVI	10389	105	C5R
RAV2	10388	82	C6R
RBT	104A1	82	C6R
RCCK	125D5	79	C13L
RCK1	4184	75	C8R
RCK2	101F8	75	C7R
RCK3	101G8	33	C17R
RCL	101C5	68	T15L
RCLA	101F5	92	T6L
RCN1-15	96C8	76	CN5L
RCT	60G1	30	C28R
RCT	58H7	106	C25R
RCT1-8	101A1	75	C10R
RCT9	101B1	AO	C10R
RCT9	101B1	AP	C10R
RCT10	101D1	75	C10R
RCT11-13	101A1	75	C10R
RCT14,15	101A1	75	C9R
RCTA	60F1	30	C27R
RCTA	5867	106	C25R
RCTB	60A1	30	C26R
RCTB	58F7	106	C25R
RCY	103E8	82	C5R
RCY	103E8	105	C5R
RCYI	103D8	32	C21R
RCY2	92G9	68	T16L
RCY3,4	92C1,D1	68	T16L
RCY5	92C1	172	C28R
RCY6	104E8	179	C45L,RR
RD	3F7	104	C27R
RD	3F7	AT	C2R
RF	105F0	82	C6R
RF	105D0	105	C5R
RFA	105G0	82	C6R
RFA	105E0	105	C5R
RGT	29E0	147	T32L
RGTO	29F0	62	T26L
RGTO	29G0	147	T26L
RGTI	29F0	62	T25L
RGTI	29G0	147	T25L
RGT2-5	29G0	148	RR--
RGTA	87B7	69	T16L
RI	92C1	66	T14L
RIA	9289	M8	TN0L
RIA	9289	108	TN0L
RIB	9209	75	C8R
RK	56E6	31	C23R

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DESIG	LOCATION FS	APP FIG.	EQPT
RELAYS			*
RK1	1NA0	32	C20R
RK2	1NC0	32	C20R
RK3	1NE7	32	C20R
RLG	5H1	63	T24L
RMF	3F6	104	C27R
RMF	3G6	AT	C2R
RN	84G8	65	T22L
RN	84G8	126	T22L
RNO, 1, 2, 4, 7	84A1-A	65	T22L
RNC, 1, 2, 4, 7	84A1-A	126	T22L
RNG	89E0	6E	T1NL
RNK1	84D5	65	T22L
RNK1	84D5	126	T22L
RNK2	84D5	65	T22L
RNK2	84D5	126	T22L
RNT	84B4	89	C13R
RNT1	84C3	89	C13R
RNT2	84G5	89	C13R
RNT3	3785	151	CA27
RO	18F6	43	T46L
ROA	22E6	82	C5R
RON	12NG6	79	C13L
RP	5E1	L	T26L
RP	5E1	M	T26L
RPK	41GE	53	T26L
RQ	57G4	17	C10L
RR	30G5	63	T24L
RRC	5B1	63	T24L
NRK	5F1	63	T24L
RSO, 1	102A/B	75	C9R
RS2-9	102A/B	75	C9R
RSC	81G1	34	C12R
RSCA	129D1	185	RR--
RSK	10282	75	C7R
RTO-4	117D4,E4	60	T36L
RT5-9	117E4	60	T36L
RTC	11784	59	T36L
RTC1	117C4	59	T36L
RTST	12505	AK	C16R
RV	5A1	53	T25L
RV1	1205	33	C1NR
RV2	1108	33	C1NR
RV3	5G1	33	C1NR
RYC	103A6	33	C15R
RYT	113C2	79	C13L
RYT1	113A3	79	C13L
S00-4N	27E6	61	CS2
S100-1NN	27E6	61	C355
S200-208	27F6	155	CA25
S300-359	27D6	176	SCS25-32,54-63
SIK	41C4	33	C16R
SA	128H4	185	RR--
SAO-9	97A-H1	77	T5L
SAE	97A1	77	T5L
SCB	61D1	J	C25R
SCB1,2	61D1	33	C15R

DESIG	LOCATION FS	APP FIG.	EQPT
RELAYS			*
SCBAO-2	69H6	71	T9L
SCBA3	69H6	71	T0R
SCBBO-2	69H6	71	T9L
SCBB3	69H6	71	T0R
SCC	75G3	67	T30L
SCK	20C6	37	T4NL
SCN	2086	37	T4NL
SCR	91C1	77	T4L
SCT	125B4	AM	C11R
SDT	11289	AG	C13L
SDT	11289	AH	C13L
SE	53H5	7	C37L
SF	35C0, 36C7	AD	C13L
SF	35C0, 36C7	AE	C13L
SFR	122B1	78	RR--
SFT	11202	AD	C13L
SFT	112C2	AE	C13L
SIA	7082	69	T11L
SIB	70C2	69	T11L
SKA	70G4	69	T11L
SKA1	70C3	92	T6L
SKB	70F4	69	T11L
SKB1	70F3	92	T6L
SL	46D0	31	C25R
SLO-9	97A3-H8	77	T6L
SLC	90G1	77	T5L
SLCK	91E1	77	T4L
SLCK1	90A1	68	T15L
SLK	72B/F4	34	C12R
SLK1	72A/D1	34	C12R
SLK2	72A/C1	34	C12R
SNG1,2	87A/A3	68	T1NL
SNK	42F2	82	C5R
SNK	42F2	105	C5R
SNO	37D7	BH	T31L
SO	53G5	7	C37L
SOB	37D7	1NN	T31L
SOG1	15E4	82	C5R
SOG2	15E3	J	C22R
SOG3	15E3	33	C17R
SON	69G6	69	T11L
SONI	69G7	67	T33L
SOR	82B7	151	CA3I
SP	10888	91	C23L
SPC	122HO	78	RR--
SPH	12200	76	RR--
SPL	122F0	78	RR--
SPL1	122G0	78	RR--
SPL2	122G0	BS	CA27
SPLC	122F1	78	RR--
SPT P	9307	68	T16L
SPT S	90E9		
SQO-9	53A5-G5	7	C36L
SQA	5NB1	32	C19R
SQA1	5NC1	32	C19R
SQTO, 1	53F3,G3	7	C37L

DESIG	LOCATION FS	APP FIG.	EQPT
RELAYS			*
SRK	101EB	75	C7R
SSA	72A/E1	69	T12L
SSB	72A/G1	69	T12L
ST7	67H6	49	T47L
STF	4785	17	C9L
STP	49E7	27	C7L
STPA	49G6	173	C9L
STP1	49D9	27	C7L
STP2	49H2	27	C7L
STP3	49G7	27	C6L
STX	116C4	91	C23L
SW	7089	69	T11L
SZ	70C9	69	T11L
TO	63C5	48	T41L
T1	64C5	48	T41L
T2	65C5	48	T41L
T4	66C5	48	T41L
T7	67C5	48	T41L
TO	63C5	108	T41L
T1	64C5	108	T41L
T2	65C5	108	T41L
T4	66C5	108	T41L
T7	67C5	108	T41L
TAO-9	23D7	40	T3R
TA2-9	23C7	116	T1R
TAL	1F2	73	C4R
TAN	17D7	43	T46L
TANOA	17E5	110	TS7
TANOB, C, D	17E5	112	TS8
TAN1	17F7	145	T35L
TAN1A	17F5	110	TS7
TAN1B, C, D	17F5	112	TS8
TAN2A, 3A, 4A	17G5	111	TS7
TAN2B, C, D	17G5	113	TS8
TAN3B, C, D	17G5	113	TS8
TAN4B, C, D	17G5	113	TS8
TBO-2	32E2,F2	81	C37R
TB3-5	32F2	81	C38R
TB6,7	32F2	189	RR--
TBH	101C8	75	C8R
TBI	92F1	68	T14L
TBII	129D4	186	RR--
TBIA	92C9	48	T40L
TBIA	92C9	108	T40L
TBIB	92E8	75	C8R
TBK	43H6	33	C1NR
TBK	43H6	103	C17R
TBT	42B2	18	C40R
TBTA	42E2	18	C40R
TBTB	42E2	18	C40R
TBTC	11187	18	C41R
TBW	9NA1	68	T1NL
TC	21D2	53	T25L
TC5-7	21C6	39	T2R

DESIG	LOCATION FS	APP FIG.	EQPT
RELAYS			*
TCA	18B4	153	CA29
TCB	18B4	153	CA29
TCCN	30E5	53	T25L
TCH	83H6	75	C7R
TCHO-9	51A2-H2	28	C3L
TCHK	51H2	31	C23R
TCK	41E2	75	C8R
TCNC	30F5	53	T25L
TD	130D3	188	RR--
TDK	130C3	188	RR--
TEA	15C5	AY	C5R
TEA	15C5	AZ	C5R
TER1	15H3	82	C5R
TER2	15H3	J	C22R
TER3	15H3	33	C17R
TER4	15H0	J	C22R
TER5	15H0	172	C27R
TFO, 1, 2, 4, 7	84C3-H3	66	C39R
TFK1, 2	3385	18	C41R
TFK3	3383	33	C17R
TG	107E3	34	C11R
TGO-9	32B2-C2	81	C37R
TG10-19	32C2-D2	81	C38R
TGS1	81C2	67	T34L
TGS2	81C2	67	T31L
TGS3	81B2	119	CV4
TGT	108F5	34	C11R
TH0	63A5	48	T42L
TH1	64A5	48	T42L
TH2	65A5	48	T42L
TH4	66A5	48	T42L
TH7	67A5	48	T42L
TH0	63A5	108	T42L
TH1	64A5	108	T42L
TH2	65A5	108	T42L
TH4	66A5	108	T42L
TH7	67A5	108	T42L
THC	21G6	65	T23L
THC	21G6	126	T23L
TIM	92H1	AU	C7R
TIR	102B/G8	184	RR--
TJO-9	50G4	29	C34R
TK	49C0	31	C24R
TLCI-3	34A6	32	C18R
TLK	87B/C2	181	RR--
TLLO-9	50H3	29	C34R
TLS	72A/E1	185	RR--
TLT	87B/C2	181	RR--
TM	2E3	73	C4R
TMK	41C8	J	C23R
TMS	113C0	79	C13R
TN	88C8	65	T22L
TN	88C8	126	T22L
TNA	88C8	186	RR--
TNAO, 1, 2, 4, 7	6RD4	BQ	CA3
TNK	96C9	75	C9R
TNR	103C5	102	C4L
TNR	103C5	109	C4L
TOA	15E2	82	C5R
TOB	119B0	1NN	T31L
TOBS	119F0	1NN	T30L

DESIG	LOCATION FS	APP FIG.	EQPT
RELAYS			*
TOG1	15G3	AA	C5R
TOG1	15G3	AB	C5R
TOG2	15G3	J	C22R
TOG3	15G3	33	C17R
TOGN	41D8	151	CA31
TOL	17F7	43	T46L
TOLOA	17GN	111	TS7
TOLOB, C, D	17G7	113	TS8
TOLI	15F0	102	C4L
TOS	30E5	98	T26L
TP	5C1	L	T25L
TP	5D1	M	T25L
TPA	5E1	M	T25L
TPK	41F2	53	T25L
TPS	41G7	158	T28L
TRI	108A7	79	C1NL
TR1A	90H5	68	T13L
TR2	106E2	32	C20R
TR2A	90G5	68	T13L
TR2B	106B2	29	C31R
TR2C	106C2	30	C29R
TR2D	980	I	CN2L
TR2E	106D2	32	C20R
TR2F	106D2	33	C14R
TR2F	106D2	103	C17R
TR2G	106D3	178	C42L
TRA	1G1	73	C4R
TRB	125G5	79	C14L
TRBI	125G5	3	C40L
TRC	96B9	76	C45L
TRL	108H5	32	C20R
TRLI	108E8	79	C13L
TRLA	108H2	32	C20R
TRN	85A/H7	47	T40L
TRNI	81G9	47	T40L
TRR	10885	AF	C1NL
TRR	10885	N	C1NL
TRR	10885	O	C1NL
TRS	106F1	32	C19R
TRSA	125B5	79	C1NL
TRST	125H5	79	C1NL
TRT	112H3	79	C13L
TRTR	112F2	79	C1NL
TSO	44B1	26	C50R
TS1-9	44D1	26	C50R
TS10-19	44D1	26	C51R
TSC6-9	88B4-E4	153	CA29
TSE1	44E6	26	C51R
TSE2, 3	44F6	26	C52R
TST	5C5	79	C11L
TTO-19	43A4-B4	26	C54R
TTA	5C5	151	CA29
TTK	75C3	33	C15R
TTLC-9	50G5	29	C34R
TUR P	188	73	C3R
TUR S	115C2		
TVA	75H3	67	T30L

DESIG	LOCATION FS	APP FIG.	EQPT
RELAYS			*
TWTO-2	69D6	72	T9L
TX	114G0	91	C20L
TXC1-9	26F1	123	T19L
TXD	26F1	124	T18L
TYM	89G7	77	T4L
TYM1	98F2	142	T13L
UO	63D5	48	T41L
U1	64D5	48	T41L
U2	65C5	48	T41L
U4	66D5	48	T41L
U7	67D5	48	T41L
UO	63D5	108	T41L
U1	64D5	108	T41L
U2	65D5	108	T41L
U4	66D5	108	T41L
U7	66C5	108	T41L
UAO, 1, 2, 4, 7	68C4	BQ	CA4
UC	87D0	68	T13L
UK	87A/G4	68	T15L
UKA	87A/G4	187	C56L
UT	90D9	77	T4L
VCI	92E0	159	C7R
VCIA	9289	160	T2R
VFO-4	13A7-D7	9	C32L
VFG	11C6	5	C39L
VFL	11FO	68	T15L
VFLI	11H0	5	C39L
VFNO-4	96D8	6	C49L
VFTO-4	11A0-E0	5	C39L
VGO, 1, 2, 4, 7	13A3-D3	9	C33L
VG10	13E3	9	C33L
VGG1	9E0	1	CN3L
VGG2	9E0	1	CN4L
VGL	8A0	68	T15L
VGL1	9C0	1	CN3L
VGL2	9D0	1	CN4L
VGNO-11	96C8	2	C49L
VGN12, 13	96C8	2	C49L
VGR	8A0	1	CN2L
VGTO	8B0	1	CN3L
VGT1	8C0	1	CN3L
VGT2	8A0	1	CN3L
VGT3-6	8D0-F0	1	CN3L
VGT7-13	8B0-G0	1	CN4L
VP	30A2	53	T26L
VPO-2	3E1	174	C45L,RR
VPT	3F0	174	C45L,RR
VTC	16F2	151	CA30
VTK	9F3	1	CN2L
VTK1	983	1	CN2L
WKC	16F2	151	CA30
WT	113B2	AG	C13L
WT	113A2	AH	C13L

DRAWING ISSUE	
41D	ALL H.S.
43B	ALL H.S.
46D	T4N, 41N AND
47D	D.S. L.W. AND
48D	BB LW AND
49D	LF 4N AND
51D	JR AND AND
54D	LEA KEL AND
56D	LT

* SEE SHEET A16

SD-25550-01-A18

DESIG		LOCATION FS	APP FIG.	EQPT
RELAYS *				
XII		2186	38	T2R
XAB	P	45G0	91	C22L
	S	114E5		
XACH		114G3	83	C25L
XACL		114B3	91	C21L
XACP		114B5	91	C21L
XACR		114B3	91	C21L
XADL		114A5	91	C21L
XAF		114F3	91	C22L
XAFT		114E8	83	C25L
XAHG		114C5	83	C25L
XAJC		114G3	91	C21L
XAJG		114F8	91	C21L
XAJS		114D3	91	C21L
XALC		114E3	91	C21L
XALG		114D8	83	C25L
XALR		114F8	91	C21L
XALV		114D5	83	C25L
XAMB		114C3	91	C21L
XAPTN		114A3	91	C21L
XARN	P	7462	91	C20L
	S	115E7		
XARS		11587	83	C25L
XATS		114C3	91	C21L
XAVGA		114C5	83	C25L
XAVGP		114C6	83	C25L
XBRN	P	7402	91	C20L
	S	115E2		
XBT	P	107CH	83	C26L
	S	114A8		
XCH		5066	83	C24L
XCKR	P	3701	83	C26L
	S	114F5		
XCL	P	73C0	91	C19L
	S	115D1		
XCLC	P	17C7	91	C22L
	S	114E6		
XCP	P	7300	91	C19L
	S	115D2		
XCR	P	74E2	91	C19L
	S	115D1		
XCS	P	4F9	91	C22L
	S	114F5		
XDL	P	73E0	91	C19L
	S	115D2		
XDR	P	300	174	C45L,RR
	S	115A7		
XF		56E5	91	C20L
XF'		114G5	83	C26L
XFT		39A6	83	C24L
XFTN		115E7	91	C49L
XFTT		115F7	91	C22L
XFUN		115G7	91	C49L
XFUT		115F7	91	C22L
XHG		1007	83	C24L
XJC		5700	91	C19L
XJG		57D4	91	C19L
XJS		45F1	91	C19L

DESIG		LOCATION FS	APP FIG.	EQPT
RELAYS *				
XLC		50H8	91	C19L
XLF	P	129H3	185	RR--
	S	114A6		
XLG		7C7	83	C24L
XLH		46C7	91	C20L
XLO	P	7F7	83	C26L
	S	114G5		
XLR		56G5	91	C19L
XLS	P	45E1	83	C25L
	S	114B8		
XLV		45H2	83	C24L
XMB	P	73G6	91	C19L
	S	115D1		
XMRL	P	107C3	83	C26L
	S	114F6		
XN		98F1	83	C26L
XNS		858/D8	147	T2R
XOB	P	12000	91	C22L
	S	114A6		
XPG	P	55B4	91	C22L
	S	114E8		
XPT	P	83A6	91	C22L
	S	114B6		
XPTN		48B2	91	C19L
XRCN		101A0	91	C19L
XRCT		101B2	91	C22L
XRL	P	107D3	83	C26L
	S	11485		
XRS1,2		102F3	83	C24L
XRS3	P	102A/A9	83	C25L
	S	11587		
XRS4	P	102B/A9	83	C25L
	S	115A7		
XS	P	71C8	83	C25L
	S	114C6		
XSA	P	71G0	83	C25L
	S	114D6		
XSL	P	46E0	83	C26L
	S	114D6		
XSS		72B/A8	83	C25L
XT	P	21D6	91	C22L
	S	114E6		
XT1		76C0	83	C24L
XT2		78E0	83	C24L
XT5		115C7	83	C26L
XTAN	P	17D8	91	C22L
	S	114F6		
XTB	P	32E1	91	C22L
	S	114G6		
XTB1	P	43F5	83	C25L
	S	114G8		
XTC	P	2G5	83	C26L
	S	114G6		
XTC1	P	2F5	83	C26L
	S	114E5		
XTG	P	32A1	91	C22L
	S	114G8		
XTG1	P	43C5	83	C26L
	S	114C8		

DESIG		LOCATION FS	APP FIG.	EQPT
RELAYS *				
XTRK	P	9G0	83	C26L
	S	114C8		
XTRL	P	107A4	83	C26L
	S	114D8		
XTS		45G0	91	C19L
XTS1	P	45F0	83	C26L
	S	114B8		
XTV	P	75G4	91	C22L
	S	114B6		
XVGA		9D4	83	C24L
XVGB		9C5	83	C24L

DESIG		LOCATION FS	APP FIG.	EQPT
RELAYS *				

DESIG		LOCATION FS	APP FIG.	EQPT
RELAYS *				

DESIG	LOCATION FS	APP FIG.	EQPT
CAPACITORS *			
CHT	49G4	29	C31R
CLT	38E4	33	C16R
CON1	59D1	30	C28R
CON1	58D2	106	C26R
CON2	59C1	30	C28R
CON2	58C1	106	C26R
CON3	59F1	30	C28R
CON3	58F1	106	C26R
GTI	60G5	BF	C26R
HMT	4685	31	C24R
HTT	112G6	79	C11L
HTT1	112G5	79	C11L
JCK0	49G2	29	C31R
LBTB	46E3	30	C26R
LBTF	46E3	30	C26R
LDT	112E6	79	C12L
MFL	7B/E4	173	C3L
MP0A-E	16A3	151	CA30
MP1A-E	16B3	151	CA30
MP2A-E	16C3	151	CA30
OAT	112B1	79	C11L
OST	81F3	34	C11R
PRL	785	173	C3L
RNT	84C4	89	C13R
SA0-9	97B1-H1	77	T5L
SDT	112C6	79	C12L
SDT1	112B5	79	C12L
SDT2	112C5	79	C12L
SF	112D1	AD	C12L
SM	72B/D9	69	T10L
T0-19	44B5-D5	26	C52R
TBT	42C3	18	C40R
TL0-9	4903-D6	29	C33R
TRTR	112F1	79	C12L
TYM	89G9	77	T3L
TYM1	98E2	142	T16L
WT	113B1	79	C12L
XFTN	115E7	91	C47L
XFUN	115G7	91	C47L
XLF	129H3	185	RR--
XLH	46D5	30	C26R
XLH	46D5	106	C26R

* SEE SHEET A16

41D MP- MP-A MP-B P.D.
43B LXR MS
49D LF MD MD A11 CF
51D JR MD MD CP
54D BST KL AND CB
56D KS CB

SD-25550-01-A19

DESIG	LOCATION FS	APP FIG	EQPT
COMPONENT ASSEMBLIES			
CA0		183	
CA1		186	
CA2		186	
CA3	SEE APP FIG	186	
PGL		180	
PGR		180	

DIODES			
LC0-2	85B/B5	186	CA1
LC3-5	85B/B5	186	CA2
LC6,7	85B/B5	186	CA3
OC0-2	85B/F5	186	CA1
OC3-5	85B/F5	186	CA2
OC6,7	85B/F5	186	CA3

INDUCTORS			
CHT	49B2	29	C31R
CLT	38G6	33	C17R
CLT2	38C6	33	C16R
CON	59C2	30	C27R
CON	58D3	106	C26R
CON1	59A1	30	C29R
CON1	58A1	106	C27R
DCT	62H3	31	C25R
DCT3	62E1	31	C24R

DESIG	LOCATION FS	APP FIG.	EQPT
INDUCTORS			•
HMT	48A1	31	C25R
JT	48E5	31	C25R
LXP	49B1	31	C25R
OST	81D6	34	C12R
PL	110A2	29	C31R
PSA	27G5	134	CV0
PSB	27H5	134	CV0
RCK1	101F7	75	C8R
RHT	84D5	89	C13R
SLK	72A/D4	34	C12R
SLK2	72A/C4	34	C12R
TB0	43F5	81	C37R
TB1	43F5	81	C37R
TB2	43F5	81	C37R
TB3	43F5	81	C38R
TB4	43F5	81	C38R
TB5	43F5	81	C38R
TB6,7	43G5	189	RR--
TBT	42E3	18	CW0R
TBT1	42D3	18	CW0R
TCK	101F7	75	C8R
TMK	62C7	J	C23R
TYM	92A6	77	T4L

LAMPS			
AST	86B9	125	T2L
AST	86C6	149	T2L
CON	59B0	30	C29R
CON	58A0	106	C27R
CSB	27F7	151	CA26
F	56D5	91	C2L
FC	39H3	82	T2L
FN	96E0	75	C8R
HBS	93B0	68	T2L
HG	10D6	91	C21L
HGB	10B6	32	C18R
HGL	10H2	68	T2L
JC	57E0	91	C2L
JG	57D4	91	C2L
JS	45F0	91	C23L
LBS0	683	32	C18R
LBS1	683	32	C18R
LBS2	6A3	185	RR--
LC	50H7	91	C2L

DESIG	LOCATION FS	APP FIG.	EQPT
LAMPS			•
LF	129H3	185	RR--
LFS	6F9	91	C23L
LG	7C7	91	C21L
LOB	7F6	33	C14R
LR	56G4	91	C2L
LS	45DC	91	C23L
LSA	45E0	91	C2L
LV	45H2	91	C21L
MA	71D0	69	T10L
MB	71E0	69	T10L
MC	71EC	69	T10L
NBS1	87A/D3	68	T2L
NBS2	87A/E3	68	T2L
NBS3	87A/E3	68	T2L
NBS4	87A/F3	68	T2L
NGB	91E0	77	T3L
NGKB	87A/H0	68	T2L
NGS	86C2	91	C23L
NSS	85B/D9	147	T2L
OSA	71E3	91	C23L
OSB	71G3	91	C23L
RBL	30D2	53	T2L
RSL	30G7	53	T2L
S	71D7	91	C21L
SA	71G0	91	C2L
SAM	71F0	69	T9L
SBM	71F0	69	T9L
SCM	71F0	69	T9L
SF	35C6	91	C2L
SKA	70F3	69	T10L
SKB	70H3	69	T10L
SLCK	91C1	77	T3L
SMB	72B/G8	32	C18R
SP	122H0	78	RR--
ST	27E9	82	T2L
TB	43G3	81	C38R
TB	43G3	105	C5R
TBS	94A3	68	T2L
TBS0	34C5	32	C18R
TBS1	34C5	32	C18R
TBS2	34F5	32	C18R
TBS3	34F4	32	C18R
TBS4	34F5	32	C18R
TFS	3501,35C0	91	C23L
TS	128F9	183	RR--
TSM	45G2	91	C23L
UBS	95A0	77	T3L
VFL	11G1	68	T2L

DESIG	LOCATION FS	APP FIG.	EQPT
LAMPS			•
VGA	9D3	91	C21L
VGB	9D5	91	C21L
VGL	8A4	68	T2L
WF	96D0	68	T2L
WG	96B0	68	T2L
WL	96A0	68	T2L
XPTN	48B0	91	C2L

NETWORKS			
ONN	83A5	65	T22L
ONN	83A5	126	T22L
1SE	83B5	126	T23L
1TB	83B5	65	T23L
2DT2-9	23B7	115	TIR
2G	55B2	27	C8L
2MB	63B5	65	T23L
2P	4D0	10	C27L
2SA	83B5	126	T23L
2SG	105D9	64	T17L
3FB	83C5	65	T23L
3G	55B2	27	C8L
3NA	83C5	126	T23L
4NE	83D5	126	T23L
4TT	83D5	65	T23L
5NT	83E5	65	T23L
5ST	83E5	126	T23L
6FT	83F5	65	T23L
6NT	83F5	126	T23L
7Q	57H5	17	C10L
7RN	83E5	126	T23L
7TP	83E5	65	T23L
8MP	83G5	65	T23L
8SP	83G5	126	T23L
9FP	83H5	65	T23L
9NP	83H5	126	T23L
11X	21B6	38	T2R

DESIG	LOCATION FS	APP FIG.	EQPT
NETWORKS			•
20F	47G1	17	C10L
40F	47H1	17	C10L
A	90C1	77	T3L
A0,1,2,4,7		49	T47L
AC0,1,2,4,7		35	T44L
ACD	16D2	151	CA29
AD	16B5	151	CA26
AIOD	128D3	169	TIR
AIS	129A4	186	RR--
AIS1	129A7	186	RR--
AIS3	129B7	186	RR--
AISC	129B4	186	RR--
AK	90G1	77	T3L
ALO-3	39G5	64	T17L
AMA	37G0	53	T26L
AMA1	81D2	9	C33L
AMA2	81E1	9	C33L
AMA3	84B9	67	T30L
AMA5	84B8	151	CA27
AMB	2B2	73	C3R
AMB1	2A2	73	C8R
ANI	37H3	164	T33L
ANIS	80C7	164	T33L
ANR	88D2	142	T13L
ANR1	98B2	142	T13L
ANTD	30D7	188	RR--
AO	4B0	10	C27L
AR	31C5	32	C20R
AR(0-4)P	74B4	121	CV3
AR(0-4)S	74C4	122	CV3
ARSS	74C4	122	CV3
ARK1	79D0	122	CV3
ARK2	79C0	122	CV3
ASB	71H4	69	T11L
ASM	45C3	31	C25R
AST	86C9	125	T16L
AST	86D9	149	T16L
AT0-9	23A7	39	T3R
AVK1	72A/B1	34	C11R
AVK2	72B/H5	88	T33L
AVK2	72B/H5	171	T33L
BO,1,2,4,7	63-67B7	49	T48L
BC	39B6	21	C41R
BC0,1,2,4,7	63-67A3	A	T45L
BCA	39C6	22	C39R
BG	38G2	33	C16R
BL	30B2	53	T26L
BN	92B1	68	T14L
BNA	92A9	48	T40L
BNA	92A9	108	T40L
BNTH	88G5	68	T16L
BR(0-4)P	74D4	121	CV4
BR(0-4)S	74D4	121	CV4
BR1-3	101B8	184	RR--
BRG	101A8	184	RR--

DESIG	LOCATION FS	APP FIG.	EQPT
NETWORKS			•
BRK1	79G0	121	CV4
BRK 2	79F0	121	CV4
BSC-5	128C6	186	RR
BSM	45G3	J	C25R
BST	8686	125	T16L
BTCC-06	24H4	40	T3R
BTCC-96	24H5	117	T3R
BTIC-99	24H4	41	T3R
BX	115D4	91	C23L
BY	103G8	75	C8R
C0,1,2,4,7	63-67B7	49	T48L
CAA	30B5	53	T26L
CB	61E1	32	C20R
CB1	9A0	1	CW2L
CB2	980	1	CW2L
CB3	10G7	3	CW0L
CB4	11H3	5	C39L
CB5	52C8	29	C31R
CB7	11G4	9	C33L
CBD	8185	8	C35L
CBF	61H1	8	C35L
CC0,1,2,4,7	63-67B3	C	T45L
CCT	59F2	30	C28R
CCT	56H2	106	C25R
CDK0,1	69B6	143	T37L
CDR0-9	3065	156	RR--
CFG0	34A3	151	CA28
CFG1	34B3	151	CA28
CGA1	4C7	175	SCS2122 52.53
CGA1	4C7	177	C36L
CGB1	4D7	175	SCS2122 52.53
CGB1	4D7	177	C36L
CGT	59G3	30	C29R
CH	49A6	27	C8L
CHA1	49C9	79	C22L
CHE	49E9	31	C25R
CHT	49B2	29	C31R
CIR	101C8	184	RR--
CK01	108F2	32	C21R
CK02	108G3	32	C21R
CK04	40E5	31	C25R
CK05	18H6	29	C31R
CK06	108H3	32	C18R
CK09	27A0	175	SCS2L 22.53
CKC	90A9	68	T14L
CKR	87A/F0	68	T14L
CLOP-5P	73C3	67	T33L
CL6P	73B3	163	T33L
CL0S-5S	73C3	67	T33L
CL6S	73B3	163	T33L
CL7,8P	73A3	168	T33L
CL7,8S	73B3	168	T33L
CLG	38B3	33	C17R
CLK	37B1	33	C16R
CLK1,2	127D0-F0	67	T33L
CLK3	127C0	67	T34L
CLT	38F6	33	C17R
CLT1	38G1	33	C17R
CLT2	38C5	33	C17R
CMC	1502	151	CA27
CMCA	16F5	151	CA27
CMF	18G8	151	CA31
CMF0,1	18B6, 18C6,	151	CA31
CMJ	30C5	151	CA27
CMS0	18D6	151	CA31
CMS1	18F6	151	CA31
CMS2	18E6	151	CA31
CN	4E0	10	C27L

DRAWING ISSUE

41D	MJS
42D	MJS
43B	MJS
46B	WEC ABJ MCC AWD
46D	D.S. LW AWD
47D	LF MCC AWD
49D	CWC AWD RSW
51D	MCC AWD
54D	MCC AWD
56D	MJS

* SEE SHEET A16

SD-25550-01-A20

MARKER CIRCUIT (2)

SD-25550-01-A20

BELL TELEPHONE LABORATORIES INCORPORATED

DESIG	LOCATION FS	APP FIG	EQPT
NETWORKS			*
CNC	41F9	53	T25L
CON	59C2	30	C26R
CON	58D3	106	C26R
CONI	59C2	30	C26R
CONI	58E3	106	C26R
CON2	59B1	30	C29R
CON2	58B1	106	C27R
CPOP-4P	73C3	67	T29L
CPOS-4S	73D3	67	T28L
CP5P	73D3	67	I29L
CP5S	73D3	67	I29L
CPK1,2	78A0-00	67	I29L
CR	20D6	37	T14L
CROP-9P	74D3	67	T35L
CROS-9S	74E3	67	T35L
CRIOP	74F3	67	T34L
CRIOS	74G3	67	T34L
CRK1,2	7680,D0	67	T34L
CRK5	127B0	67	T34L
CRO-2	30H5	57	T24L
CSW	102B/F0	182	RR--
CTO	4B9	11	C28L
CTI	4B9	1	C29L
CT2	4A9	15	C30L
CTA0	4C9	14	C28L
CTA1	4C9	13	C29L
CTA2	4D9	15	C30L
CTF0,1,2,4,7	34C3-H3	151	CA28
CTGS	12H0	151	CA28
CTN	6EG3	B0	CA3
CU0,1,2,4,7	4F5	10	C27L
CV00-99	29B5	118	CV5
CZ	30E1	156	RR--
CZT	30E1	156	RR--
D	3A1	32	C2IR
D	3A1	174	C45L,RR
DO,1,2,4,7	63-67D7	49	T49L
DAC	87B/B4	181	RR--
DACI	87B/B7	181	RR--
DCI	92F0	159	C7R
DCIA	92A9	160	T2R
DCT	62H3	31	C24R
DCTI	62F8	34	C25R
DCT2	62G8	J	C25R
DCT3	62C8	J	C22R
DCT4	62E2	31	C24R
DCTA	62D0	185	RR--
DIS	108D3	32	C20R
DISA	2E7	32	C21R
DLOP-6P	73E3,F3	67	T27L
DLOS-6S	73E3,F3	67	T27L
DL7P-13P	73G3	67	T28L
DL7S-13S	73G3	67	T28L
DLK1	77E4	67	T27L
DLK2	78F0	67	T27L
DNC	16D2	151	CA30
DRO-2	30H5	58	T24L
DT1	3G4	32	C21R
DTN	9C2	BY	C19R
DT5	3E6	179	D45L,RR
DTK	7B4	33	C14R
DTK	7B4	103	C17R
DTRO-3	39D1	174	C45L,RR
DX0	65D3	124	T18L
DX1	6ND3	124	T18L
DX2	65D3	124	T18L
DXN	66D3	124	T18L
DXT	67D3	124	T18L
ELT	21A6	167	T18L
E0,1,2,4,7	63-67E7	49	T49L
ECN	8E3E	47	T40L
EG	91G0	77	T3L
EN	88F8	126	T22L
ENA	88F8	186	RR--
EX7	67D3	124	T18L

DESIG	LOCATION FS	APP FIG	EQPT
NETWORKS			*
F0,1,2,4,7	63-67E7	49	T50L
FAC	17A7	BD	T30L
FAC1	17G1	181	RR--
FAK	45H1	31	C24R
FBO	39A6	23	C44R
FB-(INT)	39A6	24	C44R
FB-(LAST)	39A6	25	C44R
FBK	45H1	J	C24R
FC-	39H4	19	C3R
FC		151	CA30
FCDO	39F5	174	C45L,RR
FCDIO	39E5	174	C45L,RR
FCGA	59C4	30	C28R
FCGA	58B4	106	C26R
FCK	39C2	18	C41R
FCKA	39B2	18	C40R
FCMO	39E5	174	C45L,RR
FCMIO	39D5	174	C45L,RR
FCRO-3	39D5	174	C45L,RR
FCRIO-13	39C5	174	C45L,RR
FGO	3NA3	66	C39R
FGI	3NB3	66	C39R
FGKP	34D5	83	C26L
FGKS	34D5	83	C26L
FK	129H2	185	RR--
FKA	72A/E8	69	T11L
FLG	61B1	33	C16R
FLGI	61A1	33	C15R
FLG2	61A2	100	C28R
FMO	40E1	23	C42R
FM-(INT)	40E1	24	C42R
FM-(LAST)	40F1	25	C42R
FMG	40F5	18	C41R
FMK	40B7	18	C41R
FML	40D1	18	C41R
FN	96F8	AQ	T26L
FN	96F8	AR	T26L
FR	11G3	5	C38L
FSO	40B3	23	C43R
FS-(INT)	40B5	24	C43R
FS-(LAST)	40B6	25	C43R
FSA	40C7	18	C41R
FTO	12B6	9	C31L
FT1	12B6	9	C31L
FT2	12B6	9	C31L
FT3	12C6	9	C31L
FTBO	12B3	17	C10L
FTB1	12C3	17	C10L
FTB2	12D3	17	C10L
FTB3	12E3	17	C10L
FTCO	39A2	23	C45R
FTC-(INT)	39A2	24	C45R
FTC-(LAST)	39A2	25	C45R
FTCK	40G5	18	C41R
FTK	11D6	5	C38L
FTK1	11E6	5	C38L
FTK2	40B1	18	C41R
FTL	12E3	68	T15L
FTN0,1	96A8	8	C47L
FTN2,3	96A8	8	C47L
FTT0	12A3	8	C35L
FTT1	12B3	8	C35L
FTT2	12C3	8	C35L
FTT3	12D3	8	C35L
FTTB	115H7	8	C35L
FU0,1,2,4,7	12C6-E6	9	C31L
FUL	12F0	68	T15L
FUNC-9	96B8	8	C47L
FUTC-9	12A0-F0	8	C34L

DESIG	LOCATION FS	APP FIG	EQPT
NETWORKS			*
G0,1,2,4,7	63-67F7	49	T50L
GB	95A6	77	T3L
GBA	71A5	69	T11L
GBB	71B5	69	T11L
GC	49G9	17	C10L
GK	9G4	1	C42L
GLH	46A0	30	C28R
GLH	46A0	106	C25R
GLH1	46B0	30	C26R
GLH1	46B0	106	C25R
GOS	71A0	69	T12L
GP1	105F7	64	T17L
GP2	105F7	64	T17L
GP3	105G7	64	T17L
GPA	105D5	64	T17L
GPB	105E5	64	T17L
GS1-5	31B7-G7	50	T39L
GT1	60E1	30	C28R
GT1	58E8	106	C25R
GT3	50E7	30	C26R
GT4	60C5	G	C28R
GT4	60B5	H	C28R
GTL	14D6	32	C20R
GTL1	13E9	5	C39L
GTL2	81D1	9	C31L
GTU	12G0	9	C31L
GWZ	10589	64	T17L
H0,1,2,4,7	63-67F7	49	T51L
HG0,1,2,4,7	13A0-D0	9	C32L
HGG	10D6	3	CN0L
HGK	10D7	31	C23R
HGL	10H1	68	T15L
HGL1	10G8	3	CN0L
HGN0-9	96B8	4	CN9L
HGR	10H2	3	CN0L
HGT0-9	10A0-G0	3	CN1L
HMC	46A6	31	C24R
HMS	46B6	31	C23R
HMS1	46D0	31	C23R
HMT	46A2	31	C24R
HMT1	46A3	31	C24R
HNC,1,2,4,7	63-67B5	48	T42L
HN0,1,2,4,7	63-67B5	108	T42L
HNA0,1,2,4	68E4	BQ	CA2
HNA7	68E4	BQ	CA3
HTK	10E6	3	CN0L
HTK1	10F6	3	CN0L
HTR	128C7	30	C26R
HTR	128C7	106	C25R
HTT	112G8	79	C12L
HTUK	87A/B6	68	T14L

DESIG	LOCATION FS	APP FIG	EQPT
NETWORKS			*
IF	5F7	75	C7R
IM3	72A/E8	99	C11R
INC	18A6	43	T46L
INC0	17H1	110	T5B
ITA	15C6	82	C6R
ITC	92C8	170	RR--
ITCA	29F7	170	
ITNA	92D8	170	
ITNB	92C8	170	
ITR1	15A3	82	C5R
JO,1,2,4,7	63-67G7	49	T51L
JGO	56A1	17	C9L
JG1	56B1	17	C9L
JG2	55B1	17	C9L
JG3	56C1	17	C9L
JGN	56C1	17	C9L
JH	46G6	29	C31R
JLE	53G1	27	C6L
JLO	53F1	27	C6L
JS1,2	45E1	29	C32R
JS3-9	45F2	29	C32R
JSE	53F1	27	C6L
JSO	53E1	27	C6L
JSQ0-5	53A1-D1	27	C7L
JT	46F6	31	C24R
KO,1,2,4,7	63-67G7	49	T52L
KA	82B0	49	T47L
KBC	82E0	49	T48L
KCM	74F3	137	CV4
KCV	74E3	137	CV4
KDE	82C0	49	T49L
KFG	82F0	49	T50L
KG	81CN	49	T47L
KGS1	81D4	95	T40L
KGS3-5	81C3	186	
KHJ	82D0	49	T51L
KK	82AC	49	T47L
KKL	82F0	49	T52L
LO,1,2,4,7	63-67H7	49	T52L
LB	92F9	80	C28R
LB0-9	50Q2	29	C31R
LCD0	16A2	151	CA30
LCD1	16B2	151	CA30
LCD2	16C2	151	CA30
LCD0A-2A	16A1-C1	151	CA30
LCH	83B6	A0,AP	C7R
LCK	50G7	31	C23R
LE	53G1	7	C37L
LEA	29E3	44	T46L
LEB	29F5	44	T46L
LF	122H6	78	RR--
LFK	787	82	C19R
LFKI	7A/G3	185	
LFKA	7A/A6	173	C3L
LFS	6E8	32	C19R
LGT	146B	H	C26R
LHT	46C9	30	C26R
LHT	46C9	106	C25R
LI	101E1	75	C7R

DESIG	LOCATION FS	APP FIG	EQPT
NETWORKS			*
LIN	92G1	AU	C7R
LK	56F5	31	C23R
LKI	62A5	31	C25R
LLO,1,2,4,7	82A2-G2	29	C31R
LLCI	7H5	32	C19R
LLC4	129E1	185	RR--
LLI	87A/E0	68	T15L
LLS	72A/F1	185	RR--
LNT	122H1	78	RR--
LOD	53H1	7	C37L
LOT	61B7	33	C14R
LOTI	7F7	33	C14R
LPA	29C5	44	T46L
LPA	29C8	97	T46L
LPB	29E5	44	T46L
LPB	29D8	97	T46L
LSCI	129E1	185	RR--
LT2	21A5	167	T18L
LTA	29D5	44	T46L
LTA	29C8	97	T46L
LTB	29F5	44	T46L
LTB	29E8	97	T46L
LTI	129E1	185	RR--
LTR	46C0	30	C28R
LTR	46C0	106	C26R
LXP	49G1	31	C24R
LXPI	49A0	31	C24R
MAK	1B8	73	CNR
MAK1	3NG5	35	C14R
MAK1	3NG5	103	C17R
MAN	4C0	10	C27L
MBOP-4P	73C8-G8	67	T31L
MBOS-4S	73C8-G8	67	T31L
MBK1-5	77B1-H1	67	T30L
MBK6	128B0	183	CA0
MBS0-9	30B5	56	T32L
MCB1	2B4	73	C3R
MCK	1A8	73	CNR
MCN	4C0	10	C27L
MDK	3NG5	32	C19R
MF	38I	32	C21R
MF	3CI	174	C45L,RR
MFK	78/E3	173	C3L
MLF	3E1	32	C21R
MN	122F4	B4	RR--
MN1	122E4	B4	RR--
MON	123B4	AI	C14L
MON1	125A4	AI	C14L
MSK	180	73	C3R
MT	123B6	79	C14L
MT1	123D4	79	C14L
MT3	123D6	21	CN1R
MT9	123G6	18	CN1R
MT11	11F6	5	C39L
MT13	123B4	79	C11L
MT14	123D4	79	C11L
MT21	123E4	177	C36L
N1	85A/C6	46	T43L
N1A	85A/D6	46	T43L
N2	85A/D6	46	T43L
N2A	85A/E6	46	T43L
N3	85A/E6	46	T43L
N3A	85A/F6	46	T43L
N4	85A/F6	46	T43L
N4A	85A/G6	46	T43L
NAI	12984	186	RR--

DESIG	LOCATION FS	APP FIG	EQPT
NETWORKS			*
NAR	98B1	142	T13L
NCCN	30F5	53	T25L
NCNC	30G5	53	T25L
NCR1	87A/F2	187	C56L
NCR2	87A/G2	187	C56L
NCTD	30B7	188	RR--
NDI	75A3	33	C15R
NDK	75F3	33	C15R
NE	85A/G6	46	T43L
NGC	87A/B0	68	T16L
NGK	87A/G4	68	T13L
NGK1	87A/H4	68	T14L
NGP	103H0	82	C6R
NGP1	104C1	102	C4L
NGP1	104C1	109	C4L
NGS	86F5	48	T43L
NGS	86F5	108	T43L
NH	122C0	78	RR--
NIOD	128C4	169	TIR
NIDA	128E6	159	
NOB	120B1	B6	T30L
NOB	120C1	BH	T30L
NOC	37A1	33	C16R
NP	87C0	45	T46L
NSI	69C6	33	C16R
NSIA	129C4	185	RR--
NSO	69A6	E	C16R
NSO	69A6	F	C16R
NSS0	85B/B8	147	T40L
NSS1	85B/C8	147	T40L
NSS2-5	85B/C8	148	RR--
NT	122E0	78	RR--
NT1	122E3	78	RR--
NT2	122E3	78	RR--
NT3	122F3	78	RR--
NTN	122G3	78	RR--
NT5	122H1	78	RR--
NTC	122G0	78	RR--
NTD	130D3	188	RR--
NTH	122C1	78	RR--
NTR	122D1	78	RR--
NTT	122D3	78	RR--
OA	21E6	BH	T2R
OA	21E6	BN	T2R
OAB	91D0	77	T3L
OAN	85B/E8	BK	T40L
OAN	85B/E8	BL	T40L
OAT1	128D9	79	C14L
OB	21F6	BH	T2R
OB	21F6	BN	T2P
OBN	85B/H6	BK	T40L
OBN	85B/H6	BL	T40L
OBS	120E1	BG	T30L
OBS	120F1	BH	T30L
OBS1	121D5	33	C14R
OBS1	121D5	103	C17R
OBS2	121B3	33	C14R
OBS2	121B3	103	C17R
OC	3F3	32	C19R
OC1	3E3	32	C20R
OC2	3F3	32	C21R
OCN	88H8	H7	T40L
OD	16C5	151	CA26
OFC0-5	129C6-G6	186	RR--

* SEE SHEET A16

DESIG	LOCATION FS	APP.FIG	EQPT
NETWORKS			*
OFK	101D8	75	C8R
OFKI	101B6	75	C7R
OFK	96F7	77	T3L
OGC	69F6	34	C12R
ONX	114F0	91	C23L
OPE	26G1	124	T16L
OPR	30A5	53	T26L
OPSO-3	29B8	54	T24L
OR	17B7	BC	T46L
OR	17B7	BD	T46L
ORC	84H7	151	CA26
ORCO-2	16E7-F7	151	CA26
ORD	3E7	165	T46L
ORK	6080	49	T47L
ORM	3E7	165	T46L
ORO	17C6	110	T38
OSO-4	71A3-C3	69	T12L
OSC	69F6	69	T10L
OSE	71D5	69	T12L
OSGO-4	69D6	70	T10L
OSG5-9	69D6	70	TOR
OSGAO-4	70F6	70	T10L
OSGA5-6	70F6	70	TOR
OSGBO-4	70H6	70	T10L
OSGB5-9	70H6	70	TOR
OSK	72A/A2	69	T12L
OSKA	72A/F8	185	RR--
OST1	81E6	34	C12R
OST2	81E4	34	C12R
OST3	81E6	34	C12R
OST4	129B1	185	RR--
OST5	129C1	185	RR--
OTB	91E1	77	T3L
OTT	75D3	33	C15R
OV	103F8	75	C8R
PO-9	48B4	28	C5L
PA	55F6	28	C4L
PB	55B6	28	C4L
PBN	96H8	77	T3L
PBXI	90E1	68	T14L
PBXA	14G6	G	C29R
PBXA	59E7	H	C29R
PBXB	59F7	G	C28R
PBY	30B2	53	T26L
PC	5586	28	C4L
PCO-19	29A8	55	T37L
PCDO,1	18E6	96	T45L
PCLI	15E4	94	T36L
PCN	30C5	53	T25L
PCR	18C6	95	T43L
PD	20E6	36	T44L
PEG	111F5	31	C24R
PEGI	111G9	31	C24R
PGLO	110C7	180	RR--
PGL1	111C8	180	
PGL2	110H5	180	
PGL3	110H4	180	
PGL4	110A2	180	
PGL5	110G4	180	
PGRO	11166	180	
PGR1	11167	180	
PGR2	11167	180	
PGR3	11168	180	
PGR4	11168	180	
PGR5	11169	180	
PHC	21G6	65	T23L
PHC	21G6	126	T23L
PK	20D6	36	T44L
PL	110A2	29	C31R
PMG	91A1	77	T3L
PN	8888	65	T23L
PN	8888	126	T23L
PNA	8888	186	RR--
PNC	30D5	53	T25L

* SEE SHEET A16

DESIG	LOCATION FS	APP.FIG	EQPT
NETWORKS			*
PNR	55C6	28	C4L
PNTA	88D8	186	RR--
PPX	30D5	53	T25L
PR	47B5	17	C9L
PRLL	78/E3	173	C3L
PS	20F6	36	T44L
PSA	27G5	134	CS##
PSB	27G5	134	CS##
PTK	89B0	33	C15R
PTN	88D8	65	T22L
PTN	88D8	126	T22L
PUI	92E1	68	T15L
PUL	92E1	68	T15L
			CVW6
R-	29A5	51	SR2,46
			TW7R
R-	29B5	52	TW7R
RAVI	103B8	82	C6R
RAVI	103P9	105	C5R
RAI-5	31B0	50	T39L
RA6	31C0	50	T39L
RBT	104A1	82	C5R
RCKI	101G7	75	C7R
RCK2	101F8	75	C7R
RCK3	101G8	33	C17R
RCL	101C5	68	T15L
RCN1-15	96C8	76	CW7L
RCT	60G1	30	C28R
RCT	58H7	106	C25R
RCTI-8	101A1	75	C10R
RCT9	101B1	AD	C10R
RCT9	101B1	AP	C10R
RCT10	101D1	75	C10R
RCT11-15	101A1	75	C10R
RCTA	60F1	30	C28R
RCTA	58G7	106	C26R
RCTB	60A1	30	C29R
RCTB	58F7	106	C26R
RCYI	103D8	32	C20R
RCY2	92G9	68	T16L
RCY3	92C1	68	T16L
RCY4	92D1	68	T16L
RD	3F7	104	C27R
RD	3F7	AT	C2R
RGT	29E0	147	T32L
RGTO,1	29F0	62	T26L
RGTO,1	29G0	147	T26L
RGT2-5	29G0	148	RR--
RI	92C1	68	T14L
RIA	92B9	48	T40L
RIA	92B9	108	T40L
RI8	92D9	75	C8R
RK	56E6	31	C23R
RK2	14B0	32	C20R
RK3	14E7	32	C20R
RMF	3F6	104	C27R
RMF	3G6	AT	C2R

** LOCATED IN FRAME BASE

DESIG	LOCATION FS	APP.FIG	EQPT
NETWORKS			*
RN	84G8	65	T22L
RN	84G8	126	T22L
RNO,1,2,4,7	84AI-FI	65	T22L
RNO,1,2,4,7	84AI-FI	126	T22L
RNG	89E0	68	T14L
RNK	84D5	65,126	T22L
RNTI	84C3	89	C13R
RNT2	84G5	89	C13R
RNT3	84E5	89	C13R
RNT4	3785	151	CA27
RO	18F6	43	T46L
RCA	22E6	82	C5R
RP	5EI	M	T25L
RP	5EI	L	T25L
RPK	41G2	53	T26L
RQ	57G5	17	C10L
RSO,i	102A/A8,B8	75	C9R
RS2-9	102B/A8-F8	75	C9R
RSA	102A/C3	33	C16R
RSB	102A/E3	33	C16R
RSC	81G1	34	C12R
RSCA	129DI	185	RR--
RSK	10282	75	C7R
RSMO-9	102CI-HI	75	C9R
RTO-4	117B6-G6	60	T36L
RTC	117B4	59	T36L
RTCI	117C4	59	T36L
RV	5AI	53	T26L
RVI	12E5	33	C14R
RV3	5G1	33	C14R
RYC	103A8	33	C15R
RYT	113C2	79	C14L
RYTI	113A3	79	C14L
S	71C8	69	T10L
SIK	41C4	33	C17R
S300-359	27D6	176	SCS23
SA	128H4	183	CAO
SAE	97AI	77	T3L
SALI	97C0	77	T5L
SAL2	97E0	77	T5L
SAL3	97H0	77	T5L
SCB	61D2	J	C23R
SCC	75G3	67	T30L
SCK	20C6	37	T44L
SCN	2086	37	T44L
SCR	91D1	77	T4L
SCT	125B4	AM	C11R
SDT3	112C8	79	C12L
SE	53H5	7	C37L
SF	3500	AD	C12L
SF	36C7	AE	C12L
SFR	122C1	78	RR--
SFT	112D2	AD	C12L
SFT	112C2	AE	C12L
SIA	70B2	69	T11L
SIB	70C2	69	T11L
SKA	70G4	69	T11L
SKB	70F4	69	T11L

DESIG	LOCATION FS	APP.FIG	EQPT
NETWORKS			*
SL	4600	31	C24R
SLC	90G1	77	T5L
SLCK	91C1	77	T3L
SLCKI	90A1	68	T15L
SLK	72B/D4	34	C12R
SLKI	72A/DI	34	C12R
SLK2	72A/C4	34	C12R
SM	72B/E9	69	T12L
SMO-9	45D2	29	C32R
SNGI	87A/A3	68	T13L
SNK	42F2	82	C8R
SNK	42F2	105	C5R
SNO	37D7	BH	T31L
SO	53G5	7	C37L
SOB	37D7	144	T31L
SOGI	16E4	82	C5R
SON	69G6	69	T11L
SOR	82B7	151	CA31
SPC	122H0	78	RR--
SPH	122E2	78	RR--
SPL	122F0	78	RR--
SPLC	122FI	78	RR--
SPT	93E7	68	T16L
SPTI	90F8	68	T16L
SQO-9	53A5-G5	7	C36L
SQA	54B1	32	C19R
SQAI	54C1	32	C19R
SQTO	53F3	7	C37L
SQTI	53G3	7	C37L
SRK	101E8	75	C7R
SSA	72A/E1	69	T12L
SSB	72A/G1	69	T12L
ST7	67H6	49	T47L
STA,8	7IF7,G7	69	T11L
STF	47B5	17	C9L
STP	49E7	27	C8L
STPI	49D9	27	C7L
STP2	49H2	27	C7L
STP3	49G7	27	C7L
STPA	49G6	173	C3L
STX	116C4	91	C23L
SWO-9	27A2-H2	11	C28L
SWIC-19	27A2-H2	13	C29L
SW20-29	27B2-H2	15	C30L
SWCMO	27E5	151	CA29
SWCMI	27F5	151	CA29
SWCM2	27F5	151	CA29
SWZ	70C8	69	T11L
SZA	47C6	27	C6L
SZB	47C6	27	C6L
SZC	47D6	27	C6L
SZD	47E6	27	C6L
TO,1,2,4,7	63-67C5	48	TWIL
TO,1,2,4,7	63-67C5	108	TWIL

DESIG	LOCATION FS	APP.FIG	EQPT
NETWORKS			*
TAO-9	23D7	40	T3R
TA2-9	23C7	116	T1R
TAN	17D7	43	T46L
TANO	17E4	110	TS8
TANI	17F4	110	TS8
TANI	17F7	145	T35L
TAN2-4	17G4	111	TS8
TBO-5	32E2-F2	81	C37R
TB6,7	32F2	189	RR--
TBH	101C8	75	C8R
TBI	92FI	68	T14L
TBII	129D4	186	
TBIA	92C9	48	T40L
TBIA	92C9	108	T40L
TBIB	92E8	75	C8R
TBK	43H6	33	C14R
TBK	43H6	103	C17R
TBS	94C3	65	T23L
TBS	94C3	126	T23L
TBT	42E3	18	CWIR
TBTI	42E3	18	CWIR
TBTB	42E2	18	CWIR
TC	41E2	53	T25L
TC5-7	21C6	38	T2R
TCA	18B4	153	CA29
TCB	18B4	153	CA29
TCCN	30E5	53	T25L
TCH	83H6	75	C7R
TCHC-9	5IA2-H2	28	C3L
TCHK	5IH2	31	C23R
TCK	101F6	75	C7R
TCNC	30F5	53	T25L
TD	130D3	188	RR--
TDK	130C3	188	RR--
TEA	15C5	AY	C6R
TEA	15C5	AZ	C6R
TERI	15H4	82	C5R
TERH	15HC	J	C22R
TFO,1,2,4,7	34G3-H3	66	C39R
TFKI	33B5	18	CWIR
TFK3	33B3	33	C17R
TFS	33E1	32	C19R
TG	107F	34	C11R
TGI	43C4	33	C14R
TGI	43D4	104	C27R
TGO-9	32B2-C2	81	C37R
TG10-19	32C2-D2	81	C38R
TGS	8182	67	T34L
THO,1,2,4,7	63-67A5	48	TW2L
THO,1,2,4,7	63-67A5	108	TW2L
THC	21G6	65	T23L
THC	21G6	126	T23L
TIN	92HI	AU	C7R
TIR	102B/G8	184	RR--
TK	49C0	31	C24R
TLC1	34A8	32	C18R
TLKP	87B/B2	181	RR--
TLKS	87B/C2	181	RR--
TLS	72A/E1	185	RR--
TM	2E3	73	C3R
TMK	62C7	J	C22R
TMS	113C0	79	C14L

DESIG	LOCATION FS	APP.FIG	EQPT
NETWORKS			*
TN	88C8	65	T22L
TN	88C8	126	T22L
TNA	88C8	186	
TNAO,1,2,4,7	68D4	BQ	CA3
TNK	96C9	75	C10R
TNR	103C5	102	CWL
TNR	103C5	109	CWL
TOA	15E2	82	C6R
TOBS	119F0	144	T30L
TOGI	15G4	82	C5R
TOG4	41D8	151	CA31
TOL	17F7	43	T46L
TOLO	17G4	111	TS8
TOLI	15F0	102	CWL
TOS	30E5	98	T26L
TP	5DI	M	T25L
TP	5CI	L	T25L
TPK	41F2	53	T25L
TPS	41G7	158	T26L
TRIA	90H5	68	T13L
TR2A	90G5	68	T13L
TR2D	980	I	CW2L
TR2E	106D2	32	C20R
TRBI	125G5	3	C40L
TRC	96B9	76	C45L
TRN	85A/H7	47	T40L
TRNI	81G8	47	T40L
TSO	44BI	26	C50R
TSI-5	44D1	26	C50R
TS6	44D1	26	C50R
TS7	44D1	26	C50R
TS8	44D1	26	C50R
TS9	44D1	26	C50R
TS10-19	44D1	26	C51R
TSC8-9	1884-E4	153	CA29
TSEI	44E6	26	C51R
TSEB	43B5	26	C51R
TSM	45F2	26	C50R
TTO	43A4	26	C52R
TTI-19	43B4	26	C52R
TTK	75C3	33	C15R
TWTO-2	8906	72	T9L
TXCI-9	26FI	123	T19L
TYM	92A6	77	T4L
UC,1,2,4,7	63-67D5	48	TWIL
UO,1,2,4,7	63-67D5	108	TWIL
UAO,1,2,4	68C4	BQ	CA4
UA7	68C4	BQ	CA3
UC	87A/DO	68	T13L
UK	87A/G4	68	T14L
UKA	87A/G2	187	C56L
UT	90D8	77	T3L

ISSUE		
41D	WB	
43B	WB, MJ	
48B	WB, RL	
49D	LF, WB, AND	
51D	WB, MJ, AND	ASL
53A	WB, KEL, AND	BDT
54D	WB, KEL, AND	BDT
56D	JK	

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DESIG	LOCATION FS	APP FIG	EQPT
NETWORKS			*
VO-4	4G1	5	C38L
VCI	92EO	158	C7R
VCIA	92B9	160	T2R
VFO-4	13A7-D7	9	C32L
VFG	11C6	5	C39L
VFL	11FO	68	T15L
VFLI	11HO	5	C39L
VFNO-4	96C8	6	C47L
VFTO-4	11A0-E0	5	C39L
VGO,1,2,4,7	13A3-D3	9	C33L
VGIO	13E3	9	C33L
VGA	9E6	1	C42L
VGG	9E0	1	C42L
VGL	8A0	68	T15L
VGLI	9C0	1	C42L
VGNO-11	96C8	2	C47L
VGN12-13	96C8	2	C47L
VGR	8A0	1	C42L
VGTO-	8B0	1	C43L
VGTI	8C0	1	C43L
VGT2	8A0	1	C43L
VGT3-7	8B0-F0	1	C43L
VGT8-13	8C0-G0	1	C44L
VP	3042	53	T26L
VPO-2	5E1	174	C45L_RR
VPT	3F0	174	C45L_RR
VTC	1EF2	151	CA30
VTK	9F3	1	C42L
VTKI	983	1	C42L
WKC	16F2	151	CA30
X11	2186	38	T2R
XFTT	115F7	91	C23L
XFUT	115G7	91	C23L
XRCN	1CAC	91	C23L
XRCT	10182	91	C23L
XTB0-3	43F5	81	C37R
XTB4,5	43F5	81	C38R
XTB6,7	43G4	189	RR--

REPEATING COILS			*
CON	59A1	30	C29R
CON	58A1	106	C27R

* SEE SHEET A16

DESIG	LOCATION FS	APP FIG	EQPT
RESISTORS			*
4DG	78H1	67	T27L
5DG	78E1	67	T27L
A0	8B0	1	C57L
A1	8C0	1	C57L
A2	8B0	1	C57L
A3-11	8B0-G0	1	C57L
AMA	77H1	67	T30L
AMA5	84B8	151	CA26
ARNO	79A1	122	CV3
ARN1	79B1	122	CV3
ARN2	79C1	122	CV3
ARN4	79C1	122	CV3
ARN7	79D1	122	CV3
AVK1	62G4	34	C11R
AVK2	62G4	34	C11R
B0-9	10A0-G0	3	C57L
B10	10G6	3	C57L
B11	10E6	3	C57L
BRNO	79E1	121	CV4
BRN1	79F1	121	CV4
BRN2	79F1	121	CV4
BRN4	7961	121	CV4
BRN7	79H1	121	CV4
C0-4	11A0-E0	5	C57L
C5	11D6	5	C57L
C6,7	9E0	1	C57L
C8	9G5	1	C57L
C9	8E5	1	C57L
C10	9F3	1	C57L
C11	983	1	C57L
CH	49B7	27	C8L
CHT	49H4	29	C31R
CHT1	49G5	29	C31R
CHT2	49G5	78	RR--
CL1	127A2	67	T34L
CL2	127B2	67	T33L
CL3	127C3	67	T33L
CL4	127D2	67	T33L
CL5	127E2	67	T33L
CL6	127F2	67	T33L
CL7	127F2	168	T33L
CL8	127G2	168	T33L
CLT1,2	38D2	33	C17R
CLT3	38E3	33	C17R
CLT4	38D4	33	C17R
CON1	59D2	30	C26R
CON1	58E2	106	C26R
CON2	59D2	30	C28R
CON2	58D2	106	C26R
CON3	59C2	30	C29R
CON3	58B2	106	C26R
CON4	59B2	30	C28R
CON4	58B2	106	C26R
CON5	59B2	30	C28R
CON5	58B3	106	C26R
CON6	59B3	30	C28R
CON6	58A3	106	C26R
CON7	59C3	30	C28R
CON7	58D3	106	C26R
CON8	59F3	30	C26R
CON8	58F3	105	C26R
CON9	59F2	30	C26R
CON9	58F2	106	C26R
CON10	59F3	30	C27R

DESIG	LOCATION FS	APP FIG	EQPT
RESISTORS			*
CON10	58F2	106	C26R
CP	115D2	91	C20L
CP0	78B1	67	T29L
CP1	78C1	67	T29L
CP2	78C1	67	T29L
CP4	78D1	67	T29L
CP7	78E1	67	T29L
CR0	76B1	67	T35L
CR1	7681	67	T35L
CR2	7681	67	T35L
CR4	76C1	67	T35L
CR7	76D1	67	T35L
D0	11G3	9	C57L
D1	11F8	5	C57L
D2	56C0	17	C57L
D3	4761	17	C57L
D4	39B6	21	C57L
D5	39C6	22	C57L
D6	4386	26	C57L
D7	55A2	27	C57L
D8	62E9	31	C57L
D9	62A6	31	C57L
D10	49A9	8I	C57L
D10	49A9	8J	C57L
D11	49C0	31	C57L
DAP	87B/E3	181	RR--
DCT	4663,4	31	C24R
DCT1	4666	31	C24R
DCT2	4666	31	C22R
DLI-6	77E5-G5	67	T27L
E0-9	48B4	28	C57L
E10	49E7	27	C57L
E11	10389	82	C57L
E11	103A9	105	C57L
EX	18D7	178	C42L
F	56E5	91	C20L
F0	60E0	30	C57L
F0	58E7	106	C57L
F1	92F9	30	C57L
F1	58E4	106	C57L
F2	61E1	32	C57L
F3	3B0	32	C57L
F4	14C0	32	C57L
F5	108D4	32	C57L
F6	5G7	33	C57L
F7	3A1	32	C57L
F8	2E7	32	C57L
F9	14E6	32	C57L
F10	3E1	32	C57L
F11	108G4	32	C57L
FGK -	34D6	83	C25L
FTNO-3	115E8	8	C46L
FUNO-9	11568	8	C46L

DESIG	LOCATION FS	APP FIG	EQPT
RESISTORS			*
GO	44F5	26	C57L
G1	3G3	31	C57L
G2	3HA5	32	C57L
G3	7H6	32	C57L
G4	15E2	33	C57L
G5	15A2	33	C57L
G6	15H2	33	C57L
G7	15F2	33	C57L
G8	84B7	89	C57L
G9	15E2	9H	C57L
G10	98A3	142	C57L
GT	59G5	H	C29R
GT	59G4	G	C29R
GT1	60F5	BE	C26R
GT3	60D7	30	C26R
GTT	59G5	79	C11L
GWZ	10589	64	T17L
H0	23A6	42	T61L
H1	24H5	42	T61L
H2	29F7	44	T61L
H2	29E9	97	T61L
H3	85A/C9	46	T61L
H4	39G5	64	T61L
H5	105F7	64	T61L
H6	102A2	91	T61L
H7	11F3	33	T61L
H8	72A/B1	34	T61L
H9	72B/A9	83	T61L
H10	40G5	18	T61L
H11	3384	18	T61L
HFA	1D6	73	C4R
HFA1	1D6	73	C4R
HGR	10H2	3	C40L
HHTO	4685	31	C24R
HHT1	46A4	J	C24R
HHT2	46A4	31	C24R
HTT1	112F6	79	C11L
HTT2	11266	79	C11L
HTT3	112F6	79	C11L
HTT4	112G7	79	C11L
IF	5E7	75	C7R
J0	6907	42	T61L
J1	9060	77	T61L
J2	85A/A2	68	T61L
J3	71C3	69	T61L
J4	7183	69	T61L
J5	71A3	69	T61L
J6	71C3	69	T61L
J7	71A3	69	T61L
J8	102C3	91	T61L
J9	111F3	31	T61L
J10	5981	30	T61L
J11	40C3	23	T61L

DESIG	LOCATION FS	APP FIG	EQPT
RESISTORS			*
JC	57E0	91	C20L
JCO	45E0	29	C32R
JC1	45E0	29	C32R
JCK0	49G2	29	C32R
JCK1	49G2	29	C32R
JG	57D4	91	C20L
JH	46G8	29	C31P
JS	45F1	91	C20L
JS2-9	45F3	29	C32R
JT	46F5	31	C24R
K0	108H4	32	T61L
K2	61D5	95	T61L
K3	26F0	124	T61L
K4	500	M	T61L
K5	5E0	M	T61L
L5D	78G1	67	T27L
L80-9	11886	29	C3CR
LBT	46G0	30	C27R
LC	50H7	91	C20L
LDT1	112E6	79	C12L
LDT2	112E6	79	C12L
LDT3	112E7	79	C12L
LDT4	112E7	79	C13L
LFS	6E8	32	C19R
LR	56H4	91	C20L
LR1	56H4	91	C20L
LST	78F1	67	T27L
MAK	189	73	C4R
MB0	77A1	67	T31L
MB1	7781	67	T31L
MB2	7781	67	T31L
MB4	77C1	67	T31L
MB7	77D1	67	T31L
MJ	1E9	73	C4R
MN	122F4	8H	RR--
MT8	53H3	CD	C7L
NGS	86F5	48	T43L
NGS	86F5	108	T43L
NOB	77F1	8G	T30L
NOB	77F1	8H	T30L
NSP	128B1	183	CAO
NTO	11984	8J	C22R
NT1	122G4	78	RR--
NT2	122G3	78	RR--
OA	91D1	77	T3L
OAT1	112A0	79	C12L
OAT2	112B0	79	C1EL
OAT3	112A1	79	C11L

DESIG	LOCATION FS	APP FIG	EQPT
RESISTORS			*
OAT4	112B2	79	C11L
OBS	77G1	8G	T30L
OBS	77G1	8H	T30L
OBS1	121C4	33	C16R
OBS1	121C4	103	C17R
OBS2	121B4	33	C14R
OBS2	121B4	103	C17R
OFK	9668	77	T4L
OST1-4	81G3	34	C11R
OTB	91E1	77	T3L
PBX	59G5	30	C29R
PTO-9	122H3	8H	RR--
PTL	122H3	8H	RR--
PTN	4882	91	C20L
R5	118C5	29	C32R
R6	118D5	29	C32R
R7	118D5	29	C32R
R8	118D5	29	C32R
RCK1	4185	75	C7R
RCK2	4187	75	C7R
RCLA	101F6	52	T6L
RCN1-15	10183	76	C46L
RNT1	8884	89	C13R
RNT2	6486	89	C13R
RNT3	8486	89	C13R
RNT4	84C4	89	C13R
RR	30G6	63	T24L
S	71C8	69	T10L
SA	37F0	183	RR--
SC	77F1	67	T30L
SDT1	11286	79	C12L
SDT2	11286	79	C12L
SDT3	11286	79	C12L
SDT4	112C8	79	C13L
SDT5	112A6	79	C12L
SFI-4	11200-2	AD	C12L
SKA1	70G4	92	T6L
SKB1	70F4	92	T6L
SLO-19	97A3-H3	77	T6L
SM	72B/E8	69	T10L
SNO-9	4503	29	C32R
SN10	72B/D9	69	T10L
SPC	128B1	183	CAO
STA	71F7	69	T11L
STB	71G7	69	T11L
SWZ	7088	69	T11L
TAN0	17D9	110	TS7
TAN1	17D9	110	TS7
TAN2	17E9	111	TS7
TAN3	17E9	111	TS7

DRAWING ISSUE
41D
43B
45B
46D
49D
51D
54D
56D JK

APPARATUS INDEX (CONT)

DESIG	LOCATION FS	APP FIG.	EQPT
RESISTORS			*
TAN4	17E9	111	T57
TBS	94C3	65	T23L
TBS	94C3	126	T23L
TBT	42C3	18	C40R
TCK1	41D7	75	C7R
TCK2	41E6	75	C7R
TFS	33E0	32	C10R
TFTO	42B3	18	C41R
TFT1	42C3	18	C41R
TG	43C4	33	C14R
TG	43E4	104	C26R
TGT	59H5	79	C11L
TJO-9	60G5	29	C36R
TLLO-9	60H3	29	C36R
TMK1	41C8	J	C22R
TMK2	41C9,D9	J	C22R
TOG	8E6	J	C22R
TRA	161	73	C1R
TRST	124D7	79	C14L
TRT1	112F0	79	C12L
TRT2	112F0	79	C12L
TRT3	112F1	79	C12L
TRT4	112G2	79	C14L
TS	45G1	91	C20L
TSM	45F3	26	C50R
TTLO-9	50G5	29	C36R
TUR	115C3	75	C3R
TVT	77E1	67	T30L
TYMO-2	89G8	77	T4L
TYMA	98E2	142	T16L
TYMB	98F1	142	T13L
VO-4	4G2	5	C38L
VGA	8E5	1	C42L
WT1	113A0	79	C12L
WT2	113B0	79	C12L
WT3	113A1	79	C12L
WT4	113B2	79	C13L
XBR	115E3	91	C20L
XLN	46C4	91	C20L
XLN1	4658	32	C10R
XLN2	4687	30	C26R
XLN2	4687	106	C26R
XLN3	46C8	32	C10R

DESIG	LOCATION FS	APP FIG.	EQPT
TUBES			*
CON	89E1	30	C29R
CON	88E1	106	C29R
HTT	11265	79	C11L
LDT	112E5	79	C12L
OAT	11280	79	C12L
PTO-9	122H4	84	RR--
PTL	122H4	84	RR--
SDT	11285	79	C12L
SF	11200	AD	C12L
TRTR	112F0	79	C12L
WT	11380	79	C12L

VARISTORS			
NP0A-E	16A3	151	CA30
NP1A-E	16B3	151	CA30
NP2A-E	16C3	151	CA30

*SEE SHEET A16

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DRAWING ISSUE	
41D	
49D	
54D	
56D	JK

MARKER CIRCUIT ②

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25550-01-A24A

LEAD INDEX CONNECTING CIRCUITS

CIRCUIT TITLE	CKT LEAD INDEX LOC
ALARM CKT	25A0
ALL MARKERS BUSY OR ALL TRANSVERTERS BUSY CKT	25B0
AUTOMATIC MONITOR REGISTER AND SENDER TEST CKT	25B0
AUTOMATIC PROGRESSION TRUNK TEST CKT	25F0
CALLED NO. DETECTOR CKT	24B/A6
CAMA SENDER CKT	29A4
FOREIGN AREA TRANSLATOR CONNECTOR CKT	25A2,G0
GROUP BUSY CKT	25F1
IMMEDIATE RING CONTROL CKT	24B/D6
INCOMING REGISTER MARKER CONNECTOR CKT	30A1,A3
INCOMING REGISTER TEST CKT	25G1
LINE INSULATION TEST CONTROL CKT	25B3
LINE INSULATION TEST CONTROL CKT (LINE LINK FRAME)	25C3
LINE INSULATION TEST CONTROL CKT (TRUNK LINK FRAME)	25A4
LINE,LINE LINK & CONNECTOR CKT	30A5
LINE LINK MARKER CONNECTOR CKT	30A7
MASTER TEST CONTROL CKT	25D4
MASTER TEST FRAME CONNECTOR CKT	25A6-28A5
MASTER TEST FRAME JACK, LAMP & KEY CKT	28A6
MASTER TRAFFIC CONTROL CKT	28A8
MISCELLANEOUS CKT (MARKER)	28A8
NO. GROUP AND CONNECTOR CKT	31A0,A2
ORIGINATING REGISTER MARKER CONNECTOR CKT	31A5,A7
OUTGOING PCI SENDER GROUP RELEASE CKT	28E8
OUTGOING SENDER CKT	29A0
OUTGOING SENDER CONNECTOR CKT (SENDER PART)	29G4
OUTGOING SENDER CONNECTOR CKT (MARKER PART)	32A0,A2
OUTGOING SENDER GROUP RELEASE CKT	29B0

CIRCUIT TITLE	CKT LEAD INDEX LOC
PBX ALLOTTER CKT	29A1,C0
PCI SENDER CKT	29C1
PLANT REGISTER CKT	28F6
POWER RINGING CKT	29B1
PREFERENCE CONTROL CKT	30A1,A3, A8,31A6
PREFERENCE CONTROL & MAKE BUSY CKT	30A6, 31A1,A3, 32A1-A8, 33A1
REMOTE OFFICE TEST CONTROL CKT	29B5
REMOTE OFFICE TEST LINE CKT	29D5
SERVICE OBSERVING REGISTER CONNECTOR CKT	29C3
SERVICE OBSERVING TRUNK SELECTION & CONTROL CKT	29G3
TRAFFIC REGISTER CKT	29A6
TRAFFIC SAMPLE CKT	24B/F6
TRAFFIC USAGE RECORDER CKT	29A3
TRUNK LINK CKT	33A1
TRUNK LINK & CONNECTOR CKT	32A4,A7, 33A0
TRUNK TEST REGISTER CKT	29B3

LEAD INDEX

DESIG	LOCATION FS	LOCATION CAD
CALLED NO. DETECTOR CKT		
A0-H0,J0,K0	63E9	63A/A0-A7 63B/F2, H0
A1-H1,J1,K1	64F9	
A2-H2,J2,K2	65F9	
A4-H4,J4,K4	66F9	
A7-H7,J7,K7	67D9	
H1	87A/G3	144B1
H2	87A/G3	144B1
H3	87A/G3	144B1
IMMEDIATE RING CONTROL CKT		
BR1-3	101B9	139G2
CIR	101C9	139G2
TRAFFIC SAMPLE CKT		
CT	128G4	17E3, 18H0
SA	128G4	156D, 139D0
SL	128H7	158D
T	128F7	158A2, 143H0
TA	128F4	
TS	128F4	

DRAWING ISSUE: 54D GM; 56D MD

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MARKER CIRCUIT (2) SD-25550-01-A24B

BELL TELEPHONE LABORATORIES INCORPORATED 85

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LEAD INDEX

DESIGNATION	LOCATION FS	LOCATION CAD
ALARM CKT		
MJ	1D8	45G0 46A8 47A8

DESIGNATION	LOCATION FS	LOCATION CAD
ALL MARKERS BUSY OR ALL TRANSVERTERS BUSY CKT		
AB	1DC	45C0 46B7 47B8

DESIGNATION	LOCATION FS	LOCATION CAD
AUTOMATIC MONITOR REG & SCR TEST CKT		
DIS	1C8C1	2088,2102
H	123E2	5088,5185, 52D0
MKB	124E7	5005, 5108
MON	123E2	5088, 5185
MON1	125A1	5005, 5108
MONL	123B2	20H0,19H5
MTR	125H1	5005, 5108
ORS	125C1	1788,18F7, 1988
OSM	123H2	50C5, 5108
OSS	125G1	5500
RA	125H1	50C5 51C8
RBT	1C1AB	2088,2102
RLT	1C7F7	2088,2102
RTST	125B1	5062,5188
SCT	125B1	50C5, 5108
SON	69G5	5005, 5188
ST	125F1	18G5, 18E7, 17G5

DESIGNATION	LOCATION FS	LOCATION CAD
AUTOMATIC PROGRESSION TRK TEST CKT		
MT3	123F7	50E4, 51F7
MT9	123F8	50E4, 51F7
MT25,26	74H1	50E8,51E5
TTO-19	43B2	14C0,D0, 14D2
TTA	78C8	117H7

DESIGNATION	LOCATION FS	LOCATION CAD
FOREIGN AREA TRANSLATOR CONN CKT		
A0,1,2,4,7	63-67E1	10003
B	284	100E3
B0,1,2,4,7	63-67E1	10003
C0,1,2,4,7	63-67E1	10083
CGC	2581	10011
CGD	29C1	10081
CMF	1888	117F7
CMSO	1888	117F7
CMSI	18C8	117F7
D0,1,2,4,7	63-67E1	10003

DESIGNATION	LOCATION FS	LOCATION CAD
FOREIGN AREA TRANSLATOR CONN CKT		
E0,1,2,4,7	63-67E1	100C3
F0,1,2,4,7	63-67E1	100B3
FAA	—	100E3
FAB	—	100E3
FAR00-99	2902	10087,D1
FAT1-3(A) GRP	26C7	100C1
FAT1-3(L) 0	26B7	100C1
FAT1-3(A) GRP	26C7	100B1
FAT1-3(L) 1	26B7	100B1
G0,1,2,4,7	63-67E1	10083
H0,1,2,4,7	63-67H3	100G3
HN0,1 2,4,7	63-67H4	100G3
J0,1,2,4,7	63-67H3	100G3
K0,1,2,4,7	63-67H3	100G3
LT	85A/G3	100G3
LT1	85A/G3	100G3
MB	284	100E3
NE	85A/G3	100G3
OR	17B7	100D1, 100B3
RO	2207	100A1
RYT	113B9	100A1
SF	35B3,	100E3
SFI	35B0 35B2, 36B0	100D3
T0,1,2,4,7,	63-67H4	100G3
TAN	17E6	100A3
TFA	—	100A0
TH0,1,2,4,7	63-67E1	10063
TOL	17E6	100A3
U0,1,2,4,7	63-67H4	100G3

DESIGNATION	LOCATION FS	LOCATION CAD
GROUP BUSY CKT		
RB	111A6	30C0
RB (DP ORG REG)	111A6	89C4, 102A0, 135C3
PB(MF ORG REG)	111A6	89B4, 102A0, 135C3
RB(NO-3 ORIG REG)	111A6	135C3

DESIGNATION	LOCATION FS	LOCATION CAD
INC REG TEST CKT		
B	125A8	50F2, 51B8
DIS	1C8D1	20C9, 21E2
MT13	123A2	50F2, 51A8
RBT	1C4B8	20C8, 21E2
RTST	125B8	50G2, 51B8
TRR	108C4	50F2, 51A8

DESIGNATION	LOCATION FS	LOCATION CAD

DESIGNATION	LOCATION FS	LOCATION CAD
LINE INS TEST CONTROL CKT		
LCC	—	99C4
MB	2D1	45C0 46D0, 47D0
MIT	2D1	80A0, 80A2, 80E0

DESIGNATION	LOCATION FS	LOCATION CAD
LINE INS TEST CONTROL CKT (LINE LINK FRAME)		
BS	7D3	58E1,E2
BS0,1	9C2	58F1,F2
CGA	9C7	58G4
CGB	9C7	58G4
CS0-9	4H5	58A5,A7,E4
CS10-19	4H5	58A5,A7,E4
CS20-29	4H5	58A5,A7,E4
DTK	7D3	58D5,D7, H5
G	7E3	58C5,C7, G5
HGC-9	10B8	58D1,D2
HGK	10D8	58D1,D2
LBC-9	50F3	58C1,C2
LCB	11CB1	58D5,D7,H5
LFK	7D3	58F1,F2
LHC-4	5CEC	58B5,B7,F5
LLO-9	50F2	58B1,B2
LO	7F3	58E5,E7,H5
LOB	7F3	58D5,D7,H5
LOK	7D3	58D5,D7,H5
NT	122B4	58E1,E2
OF	110C2	58D5,D7,H5
PL	110B1	58D5,D7,H5
SM0-9	45D2	58B1,B2
ST-	6D2	48D,C4,AB, A2,A6
TER	110B2	58C5,C7,G5
TMB	6D2	53C3,C4
V0-4	4H2	58B5,B7,F5
VFT0-4	11B6	58B5,F5
VGB0-11	9C7	58E1,E2

DESIGNATION	LOCATION FS	LOCATION CAD
LINE INS TEST CONTROL CKT (TRUNK LINK FRAME)		
BS0-4	34D6	99F4,B7
CK	33B8	99E4
JC-9	5CG4	99C7
L	56F7	99B4,C4
LCK	5CG8	99E4,B7
LH0-9	50G9	99D4
LK	56F7	99E4,G4
MDK	34D6	99E4,B7
PR	47D4	99B4,C4
R	56F7	99B4,C4
RK	56E7	99E4,G4
SF	47D3	99B4,C4
ST-	33C8	13D8,F0, 13G4
SZA	47D4	99B4,C4
SZB	47D4	99A4,B4
SZC	47D5	99A4,B4

DESIGNATION	LOCATION FS	LOCATION CAD
MASTER TEST CONTROL CKT		
ASB	71H2	55E0
BRI-3	101A8	139F2
CA0,1	87B/F6	137B2
CA2	87B/G6	137B2
CB0	87B/E6	137B2
CB1	87B/F6	137B2
CB2	87B/G6	137B2
CGA	9C5	13F4
CGAI	9C5	13F4
CGB	9C5	13F4
CGBI	9C5	13F4
CIR	101A8	139F2
CLI	108D1	50F5,5IC5
DIS		20D8, 21E2
DISC	108D1	117G7
FTC0-9	39A1	12C0,C3
FTC10-19	39A1	12G1,G3
LL0-9	122E8	49E8
LLF	123G8	101D5
LP	123D8	101B5,F5
MT2	123C8	50F5,5IF8
MT3	123C8	50E5,5IF7
MT9	54D5	50F5,5IF8
MT9	123G8	50E5,5IE7
MT10	97F8	50E5,5IE8
MT19	97F8	89E7
MT22	123A8	3G3,H0
MT23	123A8	14005
MT25	74H1	51E5
MT26	74H1	51E5
MT41	123A8	50E5,5IG5
NDT	75B5	50C8,5IB5
NGF	123H8	101C5
NTLH	122H9	49C8
NTR	62B6	49F4
OTT	75C5	117G7
POTS	87B/E4	137B2
RBT	104B8	21E2,20E8
RLT	107H7	21F2,2008
SA	128H2	15F0
SAC	128H2	15F0
SSC	128H2	15F0
SLB	97E8	14005
TCA,B,C	87B/F4	137B2
TNGA	98D8	5088, 5185
TRR	108C4	20D8, 21E2
TTO-19	43B2	14C0,C2, D0
TTM	75C5	117H7

DESIGNATION	LOCATION FS	LOCATION CAD
MASTER TEST FRAME CONN CKT		
ONN	83A4	73E6, 68D3
ISE	83A4	68D5, 73E8
ITB	83A4	68D5, 73E8
2DT	21C4	66D3, 71C7
2MB	83B4	68D5, 73E8
2P	4D0	64F0, 69B5, 75C5
2SA	83B4	68D5, 73D8
3FB	83C4	68D5, 73D8
3NA	83C4	68D5, 73E8
4DG	78H6	68B3, 73C8
4NE	83D4	68D5, 73D8
4TT	83D4	68D5, 73D8
5DG	78E6	68B3, 73B6
5MT	83D4	68D5, 73D8
5ST	83D4	68D5, 73D8
6FT	83E4	68C5, 73D8
6MT	83E4	68C5, 73D8
7RN	83F4	68C5, 73D8
7TP	83F4	68C5, 73D8
8MP	83G4	68C5, 73D8
8SP	83G4	67C5, 73D8
9FP	83H4	68C5, 73C8
9NP	83H4	68C5, 73C8
11	21A4	67E0,72E3
15	—	7502
16	—	7502
A	90B0	65C3, 70C7
A0,1,2,4,7	63-67A2	66G8, 72G2
A10,1,2,4,7	63-67A8	65F8, 71G2
ACD	16C4	117D7
AD	16C4	117D7
AD'	16C4	117A7
AIS	129A8	64G0,69G3
AK	90H0	65C3, 70B7
AL	105G4	68B0, 73C3
ALT	105F4	68C8, 74D4
AMA	77H2	6664 71F8

DESIGNATION	LOCATION FS	LOCATION CAD
MASTER TEST FRAME CONN CKT		
AN	—	66E0,71F3
AR0,1,2,4,7	79C7	67C2, 72C5
AVK1	72A/D0	67F2, 72F5
B0,1,2,4,7	63-67B2	66F8, 72F2
B10,1,2,4,7	63-67B8	65F8, 71F2
BLC	80H9	68E8, 74F4
BN	92A0	66F5,71F8
BR0,1,2,4,7	79C7	67C2, 7285
BST	46D2	67F3, 72F7
BT	107A6	67F2, 72G5, 76F5, 77F2
BY	103H9	67C7, 73C0
C0,1,2,4,7	63-67C2	66E8, 72E2
C10,1,2,4,7	63-67C8	65E8, 71E2
CAM	119H0	117D7
CAMA	37A0	117C7
CAMF	1862	11787
CAMS	1862	11787
CGA	4C6	73E5, 77F1
CGB	4C6	68D1,73E5, 77F1
CGT	59A5	67E3,72E7
CH0-9	49B3, 49B6	64E9, 69E7, 75F6
CHA	49C9	64F3, 69G7, 75F6
CHE	49C9	64F8, 70F2, 75E2, 76F2
CI	124F4	8080, 8082, 80F0
CK	33A8	64E6, 70E0, 75E0, 76C0
CKG	18F2	6484, 6988, 75C8
CKG1	1C8G0	6808, 74F4
CKG2	108G0	6808, 74F4, 78F3

ISSUE		
41D	ALA	
43D	JPF MJ	
47D	CLK Ann	
	LF	
49D	Ann JR	
51D	MS Ann	
54D	RBT DCL AMD	
56D	MD	

MARKER CIRCUIT (2)

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BELL TELEPHONE LABORATORIES INCORPORATED

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LEAD INDEX (CONT)

DESIGNATION	LOCATION FS	LOCATION CAD
MASTER TEST FRAME CONN CKT		
CKO	90A0	65D3, 70E7
CKR	87F0	65E3, 70E7
CL1	127A7	66E4, 71E8
CL2	127A7	66E4, 71E8
CL3	127A7	66E4, 71E8
CL4	127A7	66E4, 71E8
CL5	127A7	66E4, 71E8
CL6	127A7	66G4, 71G8
CL7	127A7	67F2
CL8	127A7	67F2
CL9	38C0	64C8, 70C2
CLK	37B0	64D8, 70D2
CLT1	38C0	6408,7002
CLT2	38B0	64D8, 7002
CN	460	64E8, 70E2, 75E2, 76E2
CNG	—	80A0,A2,E0
CNR	5F0	68E5 73F8
CNS	128E7	67G0 72G3
CON	58E9, 59A5	67E3 72E7, 77F2
CPO,1,2,4,7	78A7	68A5, 73F6
CR	20C5	67G0, 72F3
CRO,1,2,4,7	76A7	66C4, 71G7
CRRO-2	30E8	68B3, 73C6
CSO-9	4H0	67E8 73F2, 77F8
CS10-19	4H0	6708, 7302, 7708
CS20-29	4H0	67C8, 73C2, 77C8
CSG1	4G0	69F0, 74G6, 78F5
CSG2	4H0	69F0, 74G6, 78F5
CT0	4C6	64F0, 69G3, 75C5
CT1	4C6	64F0, 69G3, 75C5
CT2	4C6	64E0, 69F3, 75C5

DESIGNATION	LOCATION FS	LOCATION CAD
MASTER TEST FRAME CONN CKT		
CTA0	4D6	69F0, 74F6
CTA1	4D6	69F0, 74F6
CTA2	4D6	69E0, 74F6
CU0,1,2,4,7	4D6	67F7, 73F0, 77G6
D	3E0	67F7 73E0 77F6
DO,1,2,4,7	63-67C2	6608, 72D2
DO,1,2,4,7	63-67C8	6508, 7102
DAC	878/A7	67F2, 72D5, 137A5
DCK	5B5	66C1 71B5
DCT	62F0	6680, 73C3, 77D0, 77C2
DCT1	62E0	64F8, 70G2, 75F2, 76F2
DCT2	62E0	64F8, 70F2
DCT3	62E0	68D1, 73E5
DIS	108E0	6888, 7404, 78C3
DIS1	108E9	68C0, 73D3, 77C6, 7700
DL1-6	77H7	6604, 66G4, 71C8 71G8
DNC	16C4	117D7
DRO-2	30D8	65E5, 70F8
DTK	76B	67F3 72G7, 77G2
E0,1,2,4,7	63-67D2	6608, 72C2
E'0,1,2,4,7	63-67D8	65C8, 71D2
ECN	88F9	68E5, 73F8
EF	56A8	6480, 6983, 75C3
EG	91H0	6583 7087
EN	88E9	6503, 70D7
EXB	124G4	67D7, 7300, 77D6
EXG	124H4	67D7, 7300, 77D6

DESIGNATION	LOCATION FS	LOCATION CAD
MASTER TEST FRAME CONN CKT		
EXT	35B1 36D8,	6887, 74C2, 78C1, 102F0
F	5E5	6BE8, 74G4
F0,1,2,4,7	63-67E2	66C8, 72B2
F'0,1,2,4,7	63-67E8	6558, 71C2
FAA,FAB	—	68D1,73E5
FAC	17A3	65E3, 71E7
FAD	119F0	68E5, 73G8
FAK	45G0	66C1, 71C5 76C8
FBK	5H0	66C1 71C5
FC	16C4	117D7
FCG	58D9, 59A6	64E0, 69F3, 75F3
FCK	40A0	67F3, 72F7, 77G2
FGO	34A3	66E0, 71F3, 76E6
FGI	34B3	66E0, 71F3, 76E6
FK	129G0	64G0,68H3
FLG	61C1	67E3, 72E7
FM	105B4	64E6,70F0, 75E0,76C0
FML	4000	6480,6983, 75C3
FNA	96E9	6500,6707 7083,7300
FNB	96F9	6580,6707, 7083,73C0
FRG	—	80A0,A2,E0
FS0-19	34F3	66D0, 71D3 76C6
FTO-3	12D7	66D1, 71D5, 76D8
FT'O-3	12D6	64C1, 69D5, 75D5
FTC	40G0	6888, 74C4, 78C3
FTCK	40G0	6880 73C3, 7700, 7786
FTK1	11E6	6481, 6985, 75C5
FTTO-3	12D6	67C3 72C7, 77C2

DESIGNATION	LOCATION FS	LOCATION CAD
MASTER TEST FRAME CONN CKT		
FU0,1,2,4,7	12D7	66D1, 71E5, 76D8
FU'0,1,2,4,7	12D6	64D1, 6905 75E5
FUTC-9	12D1	67D3, 72D7, 77E2
FVD	21B4	67E0, 72D3
G	7D8	6808, 74E4, 78E3
GO,1,2,4,7	63-67E2	66G6, 72B2, 72F0
G'0,1,2,4,7	63-67E8	65F6, 71G0
GLH	46G8	64E0, 69F3, 75F3
GPA	105E4	68E5, 73F8
GPB	105E4	68E5, 73F8
GS1-5	31D9	68C3, 7306
GT2	58E9, 60D0	64E0, 69F3, 75F3
GT5	59A6	64E0, 69F3
GTL	14D8	64B4, 6988, 75C8
H0,1,2,4,7	63-67F2	66F6, 72E0
H'0,1,2,4,7	63-67F8	65E6, 71F0
HF	101D0	68B2 73C5
HFA	119D0	68F5, 73G8
HGO,1,2,4,7	13C1	66F1, 71G5, 76F8
HG'0,1,2,4,7	13C1	64E1, 69F5, 75F5
HGK	10G7	67C3, 72C7, 77C2
HGTO-9	10D3	67C5, 72C8, 77C4
HHSI	46D2	66C1, 71C5, 76C8
HHO-9	9307	6505, 70E8
HTO,1,2,4,7	63-67B2	67E0, 72D3
HTK1	10G7	6481, 6985, 75C5

DESIGNATION	LOCATION FS	LOCATION CAD
MASTER TEST FRAME CONN CKT		
HTR	128E7	64E0, 67E7, 69E3, 7300, 75E3, 77D6
HTUK	87D0	65C3, 70C7
INC	18A2	66C3, 7187
ITR	15A5	65F5, 70G8
JO,1,2,4,7	63-67F2	66E6, 72E0
J'O,1,2,4,7	63-67F8	65D6, 71E0
JCO-9	57A3	64C0, 6903, 75D3
JCK	49G1	64D3, 6907, 75D6
JGO-4	56A4	64C0, 69C3, 75C3
JSQO-5	53C0	6900, 74E6, 78D5
KO,1,2,4,7	63-67G2	66D6, 72D0
K'O,1,2,4,7	63-67G8	65D6, 71D0
KJSQ	5485	6900, 74D6, 78D5
LO,1,2,4,7	63-67G2	66C6, 72C0
L5D	78G6	68A3,73B6
L'O,1,2,4,7	63-67G8	65C6, 71D0
LB	92H0	64D0, 69E3
LCDO-2	16C4	117D7
LCH	83A4	65C0, 70C3
LCK	50G7	67C3, 72C7, 77C2
LDT	113E0	68D1, 73F5, 77B6, 77F1
LFK	7A/G2	64B4, 6988, 75C8
LFK1	7A/H2	64G0,68H3
LHM	46E2	69F0, 74F6, 78F5
LHMT	46E2	69F0, 74F6, 78F5
LT	101D0	67C7, 7380
LTM	92G0	65C0, 70C3
LK	56A6	64F8, 70F2, 75E2 76F2

DESIGNATION	LOCATION FS	LOCATION CAD
MASTER TEST FRAME CONN CKT		
LK1	62B0	68D1, 73E5, 77C6, 77F1
LK2	108G9	68D8, 74E4, 78E3
LK3	108H9	68D7, 74E2, 78E1, 102G0
LLO,1,2,4,7	52A2	64D3, 6907, 75E6
LLI	87E0	68B7, 74C2
LLJ	46G8	69D0, 74D6, 76D5
LR	5A5	66C1, 7185
LST	78F6	68A3, 7386
LT	21A4	67E0, 72E3
LTI	21A4	67D2, 72D5
LTA		64F0,6903
LTG	75E1	80E2,F2
LTM		64F0,6903
LVM	106E2	74C7
LXP1	49A0	6468, 70G2, 75F2, 76G2
M	123H3	68C0, 73D3 77C6, 7700
M7	67H2	65C6, 66C6, 71C0, 72C0
M'7	67H8	
MAK1	34G3	67E7, 73D0, 77E6
MAN	4C0	64F0, 6985, 75C5
MB	2D4	80B0, 80B2, 80G0,
MBO,1,2,4,7	77A7	6885, 7388
MF	3E0	67F7, 73E0 77F6
MIT	2D4	8080 8082 8080
MKA	124F4	80C0, 80C2, 80H0
MKB	124E4	80C0, 80C2, 80H0

DRAWING ISSUE	
40	MAT
43B	LAB
48B	ETC
46D	A&L AND
49D	LF AND CR
51D	DP AND
54D	REW REL AND
56D	JK

MARKER CIRCUIT (2) SD-25550-01-A26 56

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-A26

LEAD INDEX (CONT)

DESIGNATION	LOCATION	
	FS	CAD
MASTER TEST FRAME CONN CKT		
MKT	12WE4	80C0, 80C2, 80H0
MLF	3EO	67F7, 77F6
MLFA	3EO	7802,80B0
MOI	108EO	80G0 6888, 74B4, 78B3
MON	123A2,	67F2 72G5.
MPP	7B/C6	66E3,71E6
MPT	122C3	6880, 7383
MRL	107A6	6880, 73C3, 7782, 77C0
MT	12387	80C0, 80C2, 80H0
MTIK	12W4	68C8 74D4
MT2K	12WB4	68D7, 74F2, 78E1, 10260
MT3K	12WB4	68E0, 74E6, 78E5
MT5	W4G7	69E0. 74E6, 78E5
MT7	55D1	69C0, 74D6, 78C5
MT8K	12WD4	69EC, 74E6, 78E5
MT9K	12WC4	68C0, 74D6, 78D5
MTIOK	12WC4	68D7, 74E2
MTI2	123C7	6888,74C4
MT23	12388	143GO
NAMA	37F4	68F5,73G8
NDI	75E1	6408,7CC2
NDK	75E1	66GW, 71G8
NDT	75BW	67C3, 72B7
NE	85A/H4	65E3,70F8
NG,NGI		80A0,80A2, 80E0
NGK	87G0	66C6, 72B0
NGKI	87G0	65E3, 70E7
NH	122D0	68C2, 7305
NN	122D0	68C2, 7305
NOB	120G3	6803,6887, 73E6
NOB'	77G2	6883, 73C6
NOBT	120G7	74B2
NOC	37A0	64D8, 70D2

DESIGNATION	LOCATION	
	FS	CAD
MASTER TEST FRAME CONN CKT		
NR	87C0	65E5, 70F8
NSI	69C8	6408, 70C2
NSO	69B8	6408, 70C2
NT	122E0	68C2, 7305
NTH	122C3	6808, 74E4, 78E3
NTT	122D3	6880, 73C3
OA	21E4	67F0, 72E3
OB	21F4	67F0, 72E3
OBS	120G3	68C3,6803 73F6
OBS'	77G2	7306.
OBS1,2	121E2, 121G2	6801 73F5, 7706, 7761
OBST	120G7	68B7, 7482
OC1	3EO	68C8, 78E3
OCN	88G9	68E5, 73F8
OD	16C4	11787
OD'	16C4	11787
OFN	101F9	67C7,73C0
OPR	3CA7	65C6, 71C0
OR	178"	68E5, 73F8
ORC'0-2	1667	11787
OSO-4	71A4	66E4,7108
OSC	69F8	6887, 74C2
OSE	71D4	6803, 73E6
OSGO-9	6908	66CW, 67E2, 71C8, 72F5
OSK	72A/DO	6803, 73E6
OST2	81HW	64E8, 70E2
OTT	75D1	67C3, 72B7
OV	103F9	6707, 73C0
PO-9	48B6	6483, 69C7, 75C6
PA	55G6	64C3, 6907, 7506
PB	5586	64C3, 6907, 7506

DESIGNATION	LOCATION	
	FS	CAD
MASTER TEST FRAME CONN CKT		
PBN	96E9	65C3, 70C7
PBXI	90F0	68D5, 73E8
PC	55C6	64C3, 6907, 75D6
PCD	18E2	66E3,71D7
PCDI	18E2	66E3,71D7
PCR	18D2	66E2, 71D7
PD	20E5	66C6, 7280
PHC	21GW	66E3, 71E7
PK	2005	66C6, 7280
PLL	78/C6	66E3,71E6
PN	88A9	65D3, 70D7
PNR	55C6	64C3, 69C7, 75D6
PR	47B6	648C, 6983 75C3
PRCY	92C0	6883, 73C6
PS	20F5	66C6, 7280
PSR	20G5	65F5, 70G8
PTK	89B0	64C8, 67C7, 70C2, 73B0
PTN	88D9	6503, 70D7
PUL	92E0	6503, 70E7
RA	103C9	67E7, 73D0, 77E6
RBT	104B0	68A8, 74B4
RBTI	104A0	6880, 73C3
RC	41A1	6808, 74E4, 78E3
RCCK	125E6	8080, 8082, 80G0
RCK2	101F9	67C7, 73B0
RCK3	101F9	64D8,70D2
RCT	101D0	6888, 74C4
RCTI-8	101D0	6800, 73F3
RCT9	101D0	6800, 73E3
RCTIO-15	101B0, 101D0	68C0, 73D3
RCY	103D9	64E6, 70F0 75E0, 76C0

DESIGNATION	LOCATION	
	FS	CAD
MASTER TEST FRAME CONN CKT		
RF	56A8	6480,6983, 75C3
RGG	—	80A0,80A2 80E0
RI	92B0	66F5,71F8
RK	56A6	64F8,70F2 75F2,76C0
RKI	14GI	64CW, 69C8 75C8
RK2	14GI	64CW, 69C8, 75C8
RK3	14GI	64C4,69C8 75C8
RL	107A5	64F8, 70F2
RNO,1,2,4,7	84D0	6885, 73C8
RNG	89E0	65E3, 70E7
RNK	84H0	67G0, 72F3
RNT2	84H0	64C8, 70C2
RO	18F2	66C3, 70G2, 71B7
RO'	108B0	64F8
ROA	22E9	65E5, 70F8, 8080
ROG	108A0	6887, 74C2 -
RON	12WG4	8082, 80G0
ROT	10880	67F2,72F5
RP	5E0	67F0,72F3
RPO-4	—	66F3,71F7
RPAB	—	66F3,71F8
RPB	—	66G5,71F8
RPK	41G1	85C6,71C0
RPSA	—	66F3,71E7
RSO,1	102A/A8	6882,73C5
RS2-9	102B/H7	6882,73C5
RSC	81H1	64E8,70E2
RSK	102A0	68E0, 73F3
RTO-3	3EO	78D2,80B0
RTST	69F8	80D0,D2
RV	5E0	6586, 71BC
RVI	13083	70C2
SC-9	97H6	68C7, 74D2
SAE	97A6	65C3, 70C7
SB	105BW	6888, 74CW
SBT	105CW	68C8, 74DW
SC	77F2	68A3, 7386
SCB	61C1	6801, 73E5

DESIGNATION	LOCATION	
	FS	CAD
MASTER TEST FRAME CONN CKT		
SCK	20B5	67G0, 72F3
SCN	20B5	6760, 72F3
SDT	113E0	68D1, 73F5, 77C6, 77G1
SF	W7A6	6480, 69B3, 75C3
SIA	7081	68E7, 74F2
SIB	70C1	68D7, 74F2
SL	W6D2	67C3, 72B7, 77C2
SLCK	908C	68D5, 73E8
SLKI	72A/DO	64E8, 70E2
SLK2	72A/DO	64E8, 70E2
SNG	87G0	65E3, 70E7
SNK	W2F0	64E6, 70F0 75E0, 76C0
SOG	15H2	65F5, 70G8
SON	69G8	68D3, 73E6
SP	122H0	8080, 8082, 80F0
SPC	122H0	8080, 8082, 80F0
SPL	122E0	66E0, 71F3
SQA	54B0	6484 6988, 75C8
SRK	101F9	67C7, 73B0
SRT	5D5	64CW, 69C8
SSA	72A/DO	68C3, 73D6
SSB	72A/DO	68C3, 73D6
STPI	W9H0	67F3, 72F7, 77F2
STP2	W9H0	67F3, 72F7, 77F2
TO-9	9WG7	65C5 70C8
TAN	17E9	66C3 71C7
TANO,1	17E3	6603, 71D7
TAN2,3,OR W	17F3	6603, 71C7

DESIGNATION	LOCATION	
	FS	CAD
MASTER TEST FRAME CONN CKT		
TB	105DW	6888,74B4, 7883
TBO	32F0	64B8,70G0 75C2,76E2
TBI-5	32F0	64B8,70F0
TB6,7	32D0	145A2
TBH	101F9	67C7, 73C0
TBI	92F0	66E5,71F8
TBK	W3H6	64BW, 6988, 75C8
TBT	105CW	68C8,74D4, 78D3
TBTA	93A1	64G0,63G3
TBUA	94C4	64G0,63G3
TC	41D1	67F0,72F3
TCA	18C2	6702, 72D5
TCB	18C2	6702,72D5
TCC	—	6702,72D5
TCI	2F8	67E7, 77E6
TCH	83HW	65C0 70C3
TCHO-9	51D6	69B0, 74C6, 78B5
TCHK	51H6	67E3, 72F7, 77F2
TCKI	101F9	67C7, 7380
TDCT	62F0	68A8, 74BW, 78B3,
TER	15H2	65F5, 70G8
TFO,1,2,4,7	34E4	66F0,7163 76F6
TFA	—	68A7,74B2
TGC,1	32D0	75E0, 7680
TGO-19	32D0	64C6, 70C0
TG2-5	32D0	76D2
TGT	108F9	70B2, 64C8
THC	21GW	66E3, 71D7
THGTO-9	10D3	69C2, 78E7
TIN	92H0	65C0, 70C3
TK	W9C0	64F8, 70F2, 75F2, 76C0
TLH	W6G8	67F3 72G7, 7762
TLT	87B/C2	64E8, 70E2, 137A5

DRAWING ISSUE

41D	LAX WAS
43B	LAX ALS
49D	LF LEW ARD
51D	BL1 ARD FWS
54D	LEA ALS ARD
56D	JK

LEAD INDEX (CONT)

DESIG	LOCATION FS	LOCATION CAD
MASTER TEST FRAME CONN CKT		
TM	2D4	68A0, 73B3, 77B0, 7762
TMK	62C0	68A0, 73B3
TMK1	62D0	68A0, 73B3
TN	8889	65D3, 70D7
TNK	96C9	67D7, 73C0
TOB1	119F0	68F5, 73G8
TOB2	119G0	68E5, 73F8
TOG	15H2	65F5, 70F8
TOL	17E3	66C3, 71C7
TOSO-4	71A4	68E7, 74F2
TP	5D0	67F0
TP'	41F1	72B7, 72F3 67C3
TR1	108A9	68C8, 74E4, 78E3
TR2	106E2	67E7 73E0, 77E6
TRA	—	8080, 82, F0
TRB	125G8	80C0, 80C2, 8060
TRK	9H0	67E7, 73E0, 77F6
TRL	107A6	67E7, 73E0, 77E6
TRL1	108E9	68C8, 74E4
TRL2	108E9	68B0, 73D3
TRN	81H4	65E5, 70F8
TRR	108B0	68C8, 74D4, 78D3
TRS	106F2	67E7, 73E0, 77E6
TRST	124D4	80C0, 80C2, 80N0
TRT	58D9, 59A6	68E8, 74F4, 78F3
TSO-9	44C0	75E8
TSO-19	44C0	64D4, 69D8
TSE	44D0	68D1, 73E5, 77C6, 77F1
TSE1	44E7	68B6, 74C4, 78C3
TSE2	44F7	68B8, 74C4, 78C3
TSK	—	6887, 74D2, 78C1, 02B0

DESIG	LOCATION FS	LOCATION CAD
MASTER TEST FRAME CONN CKT		
TSR	81H4	65C6, 71C0
TST	585	67F2, 72F5, 8080, 8082, 80F0
TT	21C4	67E0, 72D3
TTO, 1, 2, 4, 7	63-67C2	67C0, 72C3
TTA	—	80C0, C2
TTC	41E1	68D8, 74F4
TTG	75C1	80D0, 80D2
TTK	75D1	64D0, 69E3
TTM	—	80C0, C2
TTT	58C8, 59A6	68E8, 74F4, 78F3
TVFTO-4	11C4	69E2, 78E7
TVGTO-13	8D5	69E2 78E7
TVT	77E2	68A3, 7386
TWT	6908	65C3, 70C7
UO-9	9566	65E3, 70F7
UK	87H0	65C3, 70C7
UTO, 1, 2, 4, 7	63-67D2	67C0, 7283
VFO-4	13C8	66E1, 71F5, 76E8
VF'O-4	13C8	64E1, 69E5, 75E5
VFTO-4	11C4	67D5, 72D8, 77D4
VGO, 1, 2, 4, 7	13B5	66C1, 71D5, 76C8
VG10	13D5	66D1, 71D5 76C8
VG'O, 1, 2, 4, 7	13D5	64B1, 69C5, 75D5
VG'10	13D5	64C1, 69C5, 75D5
VGA	9E5	6902, 78D7,
VGTO-13	8D5	67E5, 72F8, 77E4
VTC	16C4	117C7
VTK1	9B4	64C8, 70C2, 75C2, 76E2
WKC	16C4	117D7,
WT	113E0	68D1, 73F5, 77C6, 77G1
X11	21B4	67F0, 72E3
XAB	116A6	65C1, 70D5

DESIG	LOCATION FS	LOCATION CAD
MASTER TEST FRAME CONN CKT		
XAN	—	66E0, 71F3
XBT	116B7	65E0, 70E3 76E0
XCH	116B6	65E0, 70F3, 76F0
XCKR	116B7	65D0, 70D3
XCL	116B6	65E1, 76D2 70F5
XCLC	17C3, 116C7	65D1, 70D5
XCP	116B6	65E1 70E5
XCR	116C6	65E1, 70F5
XCS	116C7	65D1, 70E5, 76D2
XDL	116C6	65E1, 70E5
XF	116C6	65C1, 70D5, 76C2
XFG	116D7	65E0, 70F3, 76E0
XFT	116D6	67D5, 72D8, 77E4
XFTT	116G7	65F1, 70G5
XFUT	115H9	65F1, 7065
XHG	116D6	65C1, 70B5, 76B2
XJC	116D6	65C1, 70C5, 76C2
XJG	116G6	65C1, 70C5, 76C2
XJS	116E6	6581, 7085, 76B2
XLC	116G6	65C1, 70C5, 76D2
XLF	116D7	54E2, 70E2
XLG	116E6	65C1, 70C5, 76C2
XLH	116A7	64E8, 70E2, 75E2 76E2
XLO	116D7	65D0, 70D3
XLR	116G6	65C1, 70C5, 76C2
XLS	116E7	65F0, 70F3, 76F0
XLV	116E6	65F0, 70G3, 76G0
XMB	116F6	65E1, 70F5
XMRL	116E7	65D0, 70E3
XN	116E7	65E0, 70F3

DESIG	LOCATION FS	LOCATION CAD
MASTER TEST FRAME CONN CKT		
XOB	116E7	65E1, 70F5
XPG	116F7	65F1, 7065, 76F2
XPT	116F7	65D1, 70D5
XPTN	116F6	65E1, 7065, 76F2
XRCT	116G7	65D1, 70E5
XRL	116G7	65D0, 70D3
XRS	115C8	65C0, 70C3
XRS1	116A9	65C0, 70C3
XS	116B9	65F0, 7063
XSA	116B9	65F0, 7063
XSC	96DC	85E3, 70E6
XSL	116C9	65D0, 70D3, 76D0
XSS	116C9	65D0, 70D3
XT	116C9	65D1, 76E5
XT5	116D9	65E0, 70E3
XTB	116D9	65D1, 70E5
XTB1	116D9	65F0, 70F3
XTC	116E9	65D0, 70D3, 76D0
XTC1	116E9	65D0, 70D3, 76D0
XTG	116E9	65D1, 70E5
XTG1	116F9	65E0, 70E3, 76E0
XTRK	116F9	65E0, 70E3, 76E0
XTRL	116F9	65E0, 70E3, 76E0
XTS	116G6	65D1, 70D5, 76D2
XTS1	116G9	65E0, 70F3 76E0
XTV	116G9	65E1, 70F5
XVGA	116A7	65F0 7085, 7660
XVGB	116B7	65C1, 70D5, 76D2

DESIG	LOCATION FS	LOCATION CAD
MASTER TEST FRAME JACK, LAMP & KEY CKT		
AC-DC AUD	58E0,	16D8
OR ± AUD	59D0	16E4
AMB	2B1	4580, 46C0 47C0
AN	104D9	135E3
ANN	-	135E3
B	-	45C0
CCT	53H1, 59F1	16D8
CGT	59G1	16H0, 87E5, 87F8
CGT-PBX	59H1	16H0
CLI	107A/B1	144D0
CLPT	107B/G0	
DL	125D8	50F2, 51F2 5200
DLB	125D8	5085, 51C8
EX	18H2	131E4
EXA	18H2	131E4
FG	1F5	45C0, 46C0 47C0
FG1	1F4	1176 7
GD	10409	135E3
LK	10701	5085, 51C8
ME	2B1	45C0, 46C0 47C0
MB1	2A1	45C0, 46C0 47C0
MJ	1078 1	1684, D8
MN	107C1	1684, D8
PSR	125E8	55D0
RING, G	58E0, 59D0	18E7
RTO-9	117D2	33E4
SCBA(0-3)	69H5	44E7
SCBB(0-3)	69H5	44E7

PLANT REGISTER CIRCUIT		
DMST	1078/D0	13H7
DTPC	1078/C0	2E6, 2F2
DTR	1078/D0	13H7
EX	18H2	
GTF	1078/F0	50A8, 51A5
LRF	1078/C0	21H0, 21H4
MST	1078/F0	15F6, F8
OGO-9	1078/A0	43H7
SSO-9	1078/A0	43G7
TPC	1078/B0	15H2
TR	1078/E0	15F5, 15F8

DESIG	LOCATION FS	LOCATION CAD
MASTER TRAFFIC CONTROL CKT		
AMB	2F0	47D8
SLB	97E8	

MISCELLANEOUS CKT (MARKER)		
+130V	1D6	45-47AC
AR	1F6	50A0, 51A0, 52C0
B	1G6	45A0, 4580, 45D0, 4680, 47B0
DL	125D8	50F2, 51F2 5200
DLB	125D8	5085, 51C8
EX	18H2	131E4
EXA	18H2	131E4
FA	1D6	45-47A0 45D0
FG	1F5	45C0, 46C0 47C0
FA1	1E6	45-47B0 45D0
FA2-4	1G8 1E8	
FG	1F6	45A0, 45D0, 4680, 47B0
FG1	1G8	
TA	1F8	45A0, 4680, 47B0
TRT	1F8	45A0, 46-47B0

OUTGOING PCI SENDER GRP RELEASE		
1ST GROUP OF PCI SENDERS		
A0	72A/B8	42D6
B0	72A/B8	42D6
2ND GROUP OF PCI SENDERS		
A1	72A/A8	42C6
B1	72A/A8	42C6

41D	JK		
43B	JK		
45B	JK		
49D	JK	LK	
51D	JK	JR	
54D	JK	OK	
56D	JK		

MARKER CIRCUIT (2) SD-25550-01-A28

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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SD-25550-01-A28

DESIG	LOCATION FS	LOCATION CAD
OUTGOING SENDER CKT		
SUB GROUP A		1487
SIE OR SIO	7086	14F1
SUB GROUP B		1487
SIE OR SIO	70C6	14F1

OUTGOING SENDER GRP RELEASE CKT		
A0-9	72A/A8	43C7

PBX ALLOTTER CKT		
AHG	98B7	101A6
AN	——	101G6
ANBI	92F8	16C0
ANB2	92F7	16C0
ANK	——	101A6
ANON	98C7	19C3 19G8
ANR	98D7	101C6
ANRI	98B0	101B6
ANR2	98C0	10186
ANR3	98C0	4167
COX	98F7	5367
HB0-9	9363	89F1
HBA	99D6	27C0
HBA0-9	99F6	2760
HBB	9302	27D0
HBS	93F3	27D0
MXT	116A0	5367
NAR	98B0	10186
NGB	86C2	27D0
NGBI	86E2	10186
NGB2	86E2	10186
NGBA	86B2	27E0
NGS	86C2	27D0
NGSI	98G7	10186
NGS2	9857	10186
OAN	858/G8	27C0
OANI	858/G8	27B0
OBN	858/H8	27B0
OBNI	858/G8	27B0
TB0-9	94G4	58D1
TBA	99A6	27C0
TBA0-9	99C6	27F0
TBB	94D4	27D0
TBS	94E4	27D0
TN0-9	86F2	27C2
TNA	100A3	27A0
TNA0-9	10CD4	27H0
TNGA	98D7	50C8 51C5
UC	9561	27C0
VBB	9500	2700

DESIG	LOCATION FS	LOCATION CAD
PBX ALLOTTER CKT		
A(BAT)	—	101A9
B(BAT)	—	101A9
C(BAT)	—	101A9
D(BAT)	—	101B9
E(BAT)	—	101B9
A(GRD)	—	101B9
B(GRD)	—	101B9
UBS	95D1	27D0
UCG	8702	41F7
XAHG	98F7	15H6
XAN	—	10166
XN	88B1	2764

POWER RINGING CKT		
AC-DC AUD	5980	16C4
OR± AUD		
RING GRD	5980	1783, 1865

PCI SENDER CKT		
WA0	72A/C9	42C7
WAE	72A/C9	42C7
WAE0-9	72A/C9	43D7

DESIG	LOCATION FS	LOCATION CAD
TRAFFIC USAGE RECORDER CKT		
MB	1E0	45B0 46B0 47C0
MBM	1E0	45C0 46B0

TRUNK TEST REGISTER CKT		
MT3	123D7	51E7
MT9	123F7	51E7
MT25	74H1	51F5
MT26	74H1	51F5
TT0-9	43C2	14D0, 14C2
TT10-19	43C2	14B0, 14C2

SERVICE OBSERVING REG CONN CKT		
A0,1,2,4,7	63-67D1	113F0
B0,1,2,4,7	63-67D1	113F0
C0,1,2,4,7 CK	63-67D1 120F4	113B0 113H0
D0,1,2,4,7	63-67D1	113E0
E0,1,2,4,7	63-67D1	113D0
F0 F1,2,4,7	63D1 64-67D1	113F0 113C0
G0,1,2,4,7	63-67D1	113C0
H0,1,2,4,7	63-67D1	113C0
J0,1,2,4,7	63-67D1	113B0
K0,1,2,4,7	63-67D1	113B0
L0,1,2,4,7	63-67D1	113A0
M7	67C1	113F0
SOC	120G5	115H0

SERVICE OBSERVING TRK SELECTION AND CONTROL CKT		
CAMA	119H8	113H0
FAD	119F8	113H0
HFA	119F8	113H0

DESIG	LOCATION FS	LOCATION CAD
CAMA SENDER		
ACD	16D0	
AD	16B7	
DNC	16E0	
FC	16E0	
LCD0-2	16A0-C0	
OD	16D7	
VTC	16F0	
WKC	16G0	

REMOTE OFFICE TEST CONTROL CKT		
TT0-19	43D2	14C1, 14D3

REMOTE OFFICE TEST LINE CKT		
CGA	9C6	131F4
CGB	9C6	131F4
MT3	123E8	50E6, 51G9
MT9	123F8	50E6, 51G9
MT25	74H1	50E8, 51E5

OUTGOING SENDER CONN CKT SENDER PART		
ORC0	16E8	
ORC1	16F8	
ORC2	16F8	

DESIG	LOCATION FS	LOCATION CAD
TRAFFIC REGISTER CKT		
ASB0-9	111G0	43F7
BA	111D0	135F5
BD	111B0	7C0,7H3
BMF	111C0	7C0,7H3
BNA	111E0	26H3
BR0-3	111D0	135F5
DCI	111E0	48C4
DR0-9	110G0	121A/H1
FAD	9F7	122A0
FAM	9F7	122A0
FM	110G0	53C2
FMP	110E0	53C3,1765
FMPR	110F0	131B7
IFM	110E0	2008,21E2
IFMPR	110E0	131B7
IPC0-9	111G0	-
ITB	111A0	143H0
LTD	9F7	122A0
LTM	9F7	122A0
MFL	110H0	131B6
OF	111A0	3080,81B7
OSG	110H0	43D3
OSG0-9	110H0	43D3
PC	111E0	3080,81B7 8386,97C3
PCA	111A0	135F5
PCD	111B0	50H5,52H0
PCL	111F0	50A5,51B8
PCM	111F0	5062,51B8 52D0
PCMF	111C0	50H5,52F0
PCR0-3	111A0	135F5
PCSC	52E9	15E5
PCT0-19	110G0	33A0
PCV	110H0	93F1
PDD	9E7	122A0
PDM	9E7	122A0
PLSC	111F0	86E5
PTC0	111G0	131B7 131D7
PTOG	110H0	131B7
RIA	111E0	26H3
SD-9	110G0	38B1
SCPR	52E9	131B7
TBI	111E0	26H3
TC0	111G0	32H0
TCH	111G0	4D2,D6
TCHPR	111A0	131B7
TIP	111D0	5565
TIPR	111D0	131B7
TMOR	9C3	122A0
TOG	110H0	131B7
TOPR	9C3	131B7
TOR	983	1965
TPC	49H3	15C5,F8
VC1	110D0	

DRAWING ISSUE		
41D	ADT 4-71	
43B	ADS M5	
45B	ENG VEC	
47D	D.S. CLK AMD	
49D	E.M. 4-70 AMD	
51D	CR 1-70 AMD	
54D	LBA 12-70 AMD	
56D	MD	

SD-25550-01-A26

LEAD INDEX (CONT)

U TYPE CONNECTORS	WIRE SPRING CONNECTORS		LOCATION	
DESIGNATION	DESIGNATION	DESIGNATION		
INC REG MKR CONN CKT	INC REG MKR CONN CKT MKR PART	PRF CONTROL CKT FOR INC REG MKR CONN	FS	CAD
11	11		21D3	62A3
22T	22T		21C3	62C5
AO,1,2,4,7	AO,1,2,4,7		63-67F1	62G0
ACD	ACD		16D1	52G3
BO,1,2,4,7	BO,1,2,4,7		63-67F1	62F0
BT	BT		107E7	62A5
CO,1,2,4,7	CO,1,2,4,7		63-67F1	62D0
CB		CB	1C4	SH 112, 45F0, 46E0, 47D0, 48E0
CKG	CKG		108H1	62A3
CNG			—	62B5
D GRD		D GRD	1B5	110G8,111D4
DO,1,2,4,7	DC,1,2,4,7		63-67F1	62H0
DCK	DCK		5B7	62G5
DNC	DNC		16E1	62H3
EO,1,2,4,7	EO,1,2,4,7		63-67F1	62F0
ECN	ECN		88G7	62F5
F	F		9E7	62A5
FO,1,2,4,7	FO,1,2,4,7		63-67F1	62E0
FC	FC		16E1	62H3
FEO	FEO		34A1	62H5
FG1	FG1		34B1	62H5
FRG	FRG		—	62B5
FVD	FVD		21B3	62A3
GO,1,2,4,7	GO,1,2,4,7		63-67F1	62C0
HO,1,2,4,7	HO,1,2,4,7		63-67F1	62A0
HTO,1,2,4,7	HTO,1,2,4,7		63-67F1	62F5
INC	INC		18A2	62B0
JO,1,2,4,7	JO,1,2,4,7		63-67F1	62G3,H5
KO,1,2,4,7	KO,1,2,4,7		63-67F1	62F3
LO,1,2,4,7	LO,1,2,4,7		63-67F1	62E3
LCDO-2	LCDO-2		16A1-C1	62G3
LR	LR		5A7	62G5
LT	LT		21D3	62B3
M7	M7		67F1	62D3
MAK		MAK	1A5	110E2,111B1
MB	MB		2C8	62C3
MCK		MCK	1A5	110E5,111D1
MON	MON		12302	62H5
MRL	MRL		107F7	62A5
MSK		MSK	1B5	110E8,111B4

U TYPE CONNECTORS	WIRE SPRING CONNECTORS		LOCATION	
DESIGNATION	DESIGNATION	DESIGNATION		
INC REG MKR CONN CKT	INC REG MKR CONN CKT MKR PART	PRF CONTROL CKT FOR INC REG MKR CONN	FS	CAD
OA	OA		21E3	62C0
OB	OB		21F3	62C0
OCN	OCN		88H7	62F5
PCD	PCD		18E2	62B3
PCD1	PCD1		18E2	62B3
PCR	PCR		18D2	62B3
PNC	PNC		21G3	62D5
RO	RO		18F2	62D5
RQG	RQG		—	62B5
RPO-4			—	62E5
RPAB	RPAB		—	62D5
RPB	RPB		—	62C5
RPSA	RPSA		—	62B5
SPL	SPL		122F1	62H0
SRT	SRT		5D7	62B3
TAN	TAN		17D2	62B0
TAN1	TAN1		17F2	62B5
TAN2-4	TAN2-4		17F2	62B5
TCA	TCA	TCA	18B2	62E3
TCB	TCB	TCB	18C2	62E3
TCC	TCC	TCC	—	62E3
TFO,1,2,4,7	TFO,1,2,4,7		34D1-H1	62B5
THC	THC		21G3	62D5
TM	TM		2B8	62A5
TOL	TOL		17F2	62B0
TR2	TR2		106D5	62B5
TRK	TRK		9H2	62A5
TRL	TRL		107D7	62A3
TRS	TRS		106E5	62H5
TST	TST		5C7	62G5
TT	TT		21C3	62A3
TTO,1,2,4,7	TTO,1,2,4,7		63-67F1	62D5
UTO,1,2,4,7	UTO,1,2,4,7		63-67F1	62C5
VTC	VTC		16F1	62H3
WKC	WKC		16G1	62H3
X11	X11		21E3	62C3

U TYPE CONNECTORS	WIRE SPRING CONNECTORS		LOCATION	
DESIGNATION	DESIGNATION	DESIGNATION		
LINE, LINE LINK & CONN CKT	LINE LINK CONN CKT	PRF CONT & MAKE BUSY CKT FOR LINE LINK CONN	FS	CAD
BS	BS		7C2	58E0,E2
BSO,1	BSO,1		6B1	58F0,F2
BS2	BS2		6A1	57E7
CGA	CGA		9C9	58C4,84,104E5
CGB	CGB		9C9	58C4,84,104E5
CSO-9	CSO-9		4H4	58A5,A7,E5
CS10-19	CS10-19		4H4	58A5,A7,E5
CS20-29	CS20-29		4H4	58A5,A7,E5
DTK	DTK		7B2	58D5,D7,H5
FK	FK		129H2	57E7
G	G		7G2	58C5,C7,G5
HGO-9	HGO-9		10B8	58D0,D2
HGK	HGK		10D8	58D0,D2
LBO-9	LBO-9		50E3	58C0,C2
LCB	LCB		110A1	58D5,D7,E5
LF	LF		129G2	57E7
LFK	LFK		7A/G2	58F0,F2
LFK1	LFK1		7A/G2	58E7
LHO-4	LHO-4		50E0	58B5,B7,F5
LLO-9	LLO-9		50E2	58B0,B2
LLF	LLF		12365	58C5,C7,G5
LO	LO		7G2	58D5,D7,H5
LOB	LOB		7F2	58D5,D7,H5
LOK	LOK		7B2	58D5,D7,H5
LT	LT		75F1	57E7
MFK	MFK		7B/E4	58C4,C7,104E5
MPP	MPP		7B/D6	58C4,C7,104E5
NT	NT		122B4	58E0,E2
OF	OF		110C1	58D5,D7,H5
PL	PL		110A1	58D5,D7,H5
SLK	SLK		72B/B2	57E7
SMO-9	SMO-9		45D2	58B0,B2
SSO-9	SSO-9		72B/A2	57E7
STO-39		STO-39	6E1	4CD,4C4, 4A8,104C8
TER			110C1	58C5,C7,G5
TMB		TMB	6E1	53D4,10468
VO-4	VO-4		4H3	58B5,B7,F5
VFTO-4	VFTO-4		11B7	58B5,F5
VGBO-11	VGBO-11		9D7	58E0,E2
VGB12-13			9D7	58D0,D2

U TYPE CONNECTORS	WIRE SPRING CONNECTORS		LOCATION	
DESIGNATION	DESIGNATION	DESIGNATION		
LINE LINK MKR CONN CKT	LINE LINK MKR CONN CKT	PRF CONTROL CKT FOR LINE LINK MKR CONN	FS	CAD
AMB	AMB		2F1	46B8,47D8
BT	BT		107A7	92B3,B8 60F0,F2
CB		CB	1C4	45F0,46E0,47B0, 48E0, SHEET 112
CKG	CKG		108F1	92B3,B8 60G0,G2
CNG	CNG		—	60B5,B7 92A0,A5
D GRD		D GRD	1B5	110H8,111H6
DTK	DTK		7A2	92A3,A8 60F0,F2
FRG	FRG		—	60B5,B7,92A0,A5
FTO-3	FTO-3		12H7	60E5,E8,92E3,E8, 109B3
FUO,1,2,4,7	FUO,1,2,4,7		12H7	60D5,D8,92D3,D8, 109A3
HGTO-9	HGTO-9		10B8	92F0,F5 60C5,C8
LFS	LFS		661	92B3,B8 60G0,G2
MAK		MAK	1A5	110C2,111B9
MB	MB		2E8	60H0,H2 92C3,C8
MC(00-39)		MC(00-39)	3A6	19B4, 19H4 110G5
MCK		MCK	1A5	110C5,111B6
MSK		MSK	1B5	110C8,111F6
OBS	OBS		121D2	60D5,D8 92A3,A8
OC1,2	OC1,2		3B6	60G0,G2 92B3,B8
TC	TC		2G8	60F5,F8 92C3,C8
TC1	TC1		2F8	60F5,F8 92C3,C8
TM	TM		2E8	60B0,B2 92A0,A5
TR2	TR2		106E5	60B0,B2 92B0,B5
TRK	TRK		9H2	60B0,B2 92B0,B5
TRL	TRL		107A7	60B0,G2 92B3,B8
TRS	TRS		106F5	60E5,E8 92B0,B5
VGA0-11	VGA0-11		9E7	60F0,E2,92D0,D5
VGA12-13			9E7	60C0,C2
VGT0-11	VGT0-11		8A8	60D0,D2,92D0,D5
VGT12-13			8A8	60D0,D2

DRAWING ISSUE

41D	JRS HSH
45B	REC N.S.
45B	WLP DSC
49D	R.E.M. 4-6-70
54D	DK 4-6-70

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

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LEAD INDEX (CONT)

U TYPE CONNECTORS	WIRE SPRING CONNECTORS		LOCATION	
DESIGNATION	DESIGNATION	DESIGNATION		
NO. GRCUP & CONN CKT	NO. GROUP CONN CKT	PRF CONTROL & WAKE BUSY CKT FOR NO. GROUP	FS	CAD
AK	AK		90H3	59D7
ANK	ANK		——	59D1
BNK	BNK		88G3	59C1
BS1-4	BS1-4		87E4	59G1
EG	EG		91G2	59C7
EN	EN		88E3	59D4
EN1	EN1		88F3	59D4
FN	FN		96E1	59C7
FNA	FNA		96E4	59C7
FNB	FNB		96F4	59C7
FTO-3	FTO-3		96A4	59D1
FUO-9	FUO-9		96B4	59E1
HBO-9	HBO-9		93C7	59F1
HGO-9	HGO-9		96B4	59D4
L	L		96F1	59C7
LA	LA		91C2	5907
LHB	LHB		93A7	59C1
NG	NG			59E7
NG1	NG1			59E7
NGF	NGF		123H5	59E7
NGK	NGK		87G4	59G1
OA	OA		91D2	59E7
OFK	OFK		96G4	59C7
OHB	OHB		93A7	5987
OOF	OOF		111H1	59C7
OTB	OTB		91E2	59C7
PBN	PBN		96H4	5987
PHO	PHO		96G4	5987
PN	PN		88A3	59C1
PN1	PN1		88B3	5981
PTN	PTN		88D3	59C1
PTN1	PTN1		8803	5981
RC01-15	RC01-15		96D4	59C4
SO-9	SO-9		97D7	5907
SCK	SCK		91B2	59E7
SPT	SPT		93D7	59C1
STO-9 (OFF. A & B) (ONE PER NO. GRP)		STO-9 (OFF. A & B) (ONE PER NO. GRP)	86E8	113B2

U TYPE CONNECTORS	WIRE SPRING CONNECTORS		LOCATION	
DESIGNATION	DESIGNATION	DESIGNATION		
NO. GROUP & CONN CKT	NO. GROUP CONN CKT	PRF CONTROL & WAKE BUSY CKT FOR NO. GROUP	FS	CAD
STOO-39		STOO-39	86E8	105B6,E7 113A2, 114A4
STA & STB (ONE PER TRK NO. GROUP)		STA & STB (ONE PER TRK NO. GROUP)	86F8	25A8,26D7,H0 105H7
TBO-9	TBO-9		94C7	59D1
TMB		TMB	86E9	2CD7
TN	TN		88C3	59C1
TN1	TN1		88C3	5981
TNK	TNK		96C4	5987
UO-9	UO-9		95D7	59G1
UK	UK		87H4	59E4
VFO-4	VFO-4		96D4	59C4
VGOO-11	VGOO-11		96C4	59C4
VG12-13			96C4	5984
W	W		87H4	5981
WF	WF		96D1	59E4
WG	WG		9681	59E4
WL	WL		96A1	59E4
XSC	XSC		96D1	59C4

U TYPE CONNECTORS	WIRE SPRING CONNECTORS		LOCATION	
DESIGNATION	DESIGNATION	DESIGNATION		
ORIG REG MKR CONN CKT	ORIG REG MKR CONN CKT MKR PART.	PRF CONTROL CKT FOR ORIG REG MKR CONN	FS	CAD
11	11		21B3	61D1
A0,1,2,4,7	A0,1,2,4,7		63-67H1	61B1
CGA	CGA		4C5	62C8,10685
CGB	CGB		4D5	62C8,10685
B0,1,2,4,7	B0,1,2,4,7		63-67H1	61F0
BT	BT		107B7	61B3,B6
C0,1,2,4,7	C0,1,2,4,7		63-67H1	61D0
CB		CB	1C4	SH112,45F0
CKG	CKG		108G1	61D1
CNG	CNG		——	61C3,C6
CNR	CNR		5F3	61D3,D6
CR	CR		20C4	61D3,D6
CTA0	CTA0		4C5	61B0
CTA1	CTA1		4C5	61B0
CTA2	CTA2		4C5	61B0
CU0,1,2,4,7	CU0,1,2,4,7		4D5	61D3,D8
D	D		3E8	61A6,106H3,122A0
D GRD		D GRD	1B5	110G8,111D4
D0,1,2,4,7	D0,1,2,4,7		63-67H1	61C1
E0,1,2,4,7	E0,1,2,4,7		63-67H1	61B1
F0,1,2,4,7	F0,1,2,4,7		63-67H1	61E0
FAC	FAC		17A2	61D1
FRG	FRG		——	61C3,C6
FTO-3	FTO-3		12H6	61D4,D8
FU0,1,2,4,7	FU0,1,2,4,7		12H6	61C4,C8
G0,1,2,4,7	G0,1,2,4,7		63-67H1	61C0
H0,1,2,4,7	H0,1,2,4,7		63-67H1	61B0
HG0,1,2,4,7	HG0,1,2,4,7		13F3	61A4,A8
J0,1,2,4	J0,1,2,4		63-67H1	62C8
J7	J7			61E4,E8
K0,1,2,4,7	K0,1,2,4,7		63-67H1	62C8
L0,1,2,4,7	L0,1,2,4,7		63-67H1	6288
LL0,1,2,4,7	LL0,1,2,4,7		52E1	61E3,E6
LT	LT		21A3	61E1
LT1	LT1		21A3	67D2,106C6
M7	M7		67H1	62A8
MAK		MAK	1A5	110F2,111B1
MB	MB		208	61F1
MCK		MCK	1A5	110F5,111E1
MF	MF		3E8	61A1,106G1,122F1
MON	MON		123C2	61E4,E8
MRL	MRL		107C7	61B3,B6
MSK		MSK	1B5	110F8,111D4

U TYPE CONNECTORS	WIRE SPRING CONNECTORS		LOCATION	
DESIGNATION	DESIGNATION	DESIGNATION		
OFIG REG MKR CONN CKT	ORIG REG MKR CONN CKT MKR PART.	PRF CONTROL CKT FOR ORIG REG MKR CONN	FS	CAD
NOB	NOB		12087	61C3,C6
OBS	OBS		120E7	61C3,C6
OR	OR		17B2	61D1
PD	PD		20E4	61E1
PK	PK		20D4	61C0
PS	PS		20F4	61E1
RGG	RGG		——	61C3,C6
RL	RL		107D7	61A3,A6
RP	RP		5E3	61E1
RVI	RVI		130B3	61C3,C6
SCK	SCK		20C4	61C0
SCN	SCN		2084	61C3,C6
TM	TM		208	61B3,B6
TP	TP		5D3	61E1
TR2	TR2		106D5	61B3,B6
TRK	TRK		9H1	61D3,D6
TRL	TRL		107B7	61E1
TRS	TRS		10605	61D4,D8
VFO-4	VFO-4		13F4	61F3,F6
VGO,1,2,4,7	VGO,1,2,4,7		13F4	61C4,C8
VG10	VG10		13F4	61D4,D8
X11	X11		21B3	61E4,E8

ISSUE		
41D	RPS WM	WM
43B	PBS WS	RR
45B	WM	WM
49D	EM DG MD	
51D	CR MS AM	CR
54D	LEA KEL AMB	
56D	MD	

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MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

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LEAD INDEX (CONT)

U TYPE CONNECTORS	WIRE SPRING CONNECTORS		LOCATION	
DESIGNATION	DESIGNATION	DESIGNATION		
OUTGOING SDR CONN CKT	OUTGOING SDR CONN CKT MKR PART	PRF CONTROL & MAKE BUSY CKT FOR OUT SDR CONN	FS	CAD
NDG	NDG		78H7	63B/D5
5DG	5DG		78F7	63B/D5
AO,1,2,4,7	AO,1,2,4,7		63-67D8	63A/E0
	AD		16B6	117E7
AMA	AMA		77H3	63B/D5
ARO,1,2,4,7	ARO,1,2,4,7		79C7	63B/D0
AV	AV		62G8	79C0,108E6
BO,1,2,4,7	BO,1,2,4,7		63-67D8	63A/E3
BRO,1,2,4,7	BRO 1,2,4,7		79F7	63B/D0
C	C		123F5	63A/E0
CO,1,2,4,7	CO,1,2,4,7		63-67D8	63A/E3
CL1	CL1		127A7	63A/E0
CL2	CL2		127B7	63A/E0
CL3	CL3		127C7	63A/E0
CL4	CL4		127D7	63A/E0
CL5	CL5		127E7	63A/E0
CL6	CL6		127F7	63A/E0
CL7	CL7		127D8	63A/E0
CL8	CL8		127D8	63A/E0
CPO,1,2,4,7	CPO,1,2,4,7		78C7	63B/D5
CRO,1,2,4,7	CRO,1,2,4,7		76C7	63B/D0
DO,1,2,4,7	DO,1,2,4,7		63-67D8	63A/E0,E3
DL1-6	DL1-6		77F7	63G/D0
EO,1,2,4,7	EO,1,2,4,7		63-67D8	63A/E3
FO,1,2,4,7	FO,1,2,4,7		63-67D8	63A/C7
FTO-3	FTO-3		1263	63B/D7
FUO,1,2,4,7	FUO,1,2,4,7		1263	63B/D7
GO,1,2,4,7	GO,1,2,4,7		63-67D8	63A/C7
GBO OR GBE (SUB GRP A)	GBO OR GBE (SUB GRP A)		71A8	108B8,44E1
GBO OR GBE (SUB GRP B)	GBO OR GBE (SUB GRP B)		71B8	108B8,44E1
HO,1,2,4,7	HO,1,2,4,7		63-67D8	63B/C2
HGO,1,2,4,7	HGO,1,2,4,7		13F1	63B/D7
JO,1,2,4,7	JO,1,2,4,7		63-67D8	63B/C2
KO,1,2,4,7	KO,1,2,4,7		63-67D8	63B/D0
LO,1,2,4,7	LO,1,2,4,7		63-67E8	63B/D0
L5D	L5D		73C7	63B/D5
LST	LST		78F7	63B/D5

U TYPE CONNECTORS	WIRE SPRING CONNECTORS		LOCATION	
DESIGNATION	DESIGNATION	DESIGNATION		
OUTGOING SDR CONN CKT	OUTGOING SDR CONN CKT MKR PART	PRF CONTROL & MAKE BUSY CKT FOR OUT SDR CONN	FS	CAD
M	M		123G2	63A/E0
M7	M7		67C8	63A/C7
MA	MA		71D1	79AG,108E6
MB	MB		71E1	63A/E0
MBO,1,2,4,7	MBO,1,2,4,7		77C8	63B/D5
MC	MC		71E1	63A/E0
MON	MON		123E2	63A/E0
ND	ND		75F5	63A/E0
NOB	NOB		77F3	63B/D5
NSP	NSP		128B2	63B/D5
OBS	OBS		77G3	63B/D5
	OD		16D6	117F7
ONI	ONI		72B/H2	79C0,108F6
	ORCO-2		16F6	117E7
OSO-4	OSO-4		71C3	79B0,108E6
OSGAO-9 (SUB GRP A)	OSGAO-9 (SUB GRP A)		70F6	79A0,D0 108C6,D6
OSGBO-9 (SUB GRP B)	OSGBO-9 (SUB GRP B)		70H6	79A0,D0 108C6,D5
RNO,1,2,4,7	RNO,1,2,4,7		84G0	63B/G2,108B6
RO	RO		108A1	79C0,108E6
RP	RP		41G6	63B/D5
S	S		71C8	79D0,108F6
SO-4	SO-4		71C8	79B0,108D6
SAM	SAM		71F1	79C0,108F6
SBM	SBM		71F1	79C0,108F6
SC	SC		77F3	63B/D5
SCM	SCM		71F1	63B/G2,108B6
SKA (SUB GRP A)		SKA (SUB GRP A)	70F5	42F1 108G6
SKB (SUB GRP B)		SKB (SUB GRP B)	70G6	42G1 108G
SLP	SLP		123G5	63A/E0
SPC	SPC		128B2	63B/D5
ST(SUB GRP) A		ST(SUB GRP) A	71E8	44D1,E1,108B8
ST (SUB GRP B)		ST (SUB GRP B)	71G8	44D1,E1 108B8
TG	TG		107E1	79C0,108E6
TM	TM		41G7	79C0,108E6
TP	TP		41G6	63B/D5
TSR	TSR		81M4	63A/E0
TSRI	TSRI		81G7	63A/E0
TVT	TVT		77E3	63B/D5
VFO-4	VFO-4		13F1	63B/D7
VGO,1,2,4,7	VGO,1,2,4,7		13F1	63B/D7
VGIO	VGIO		13F1	63B/D7
XS	XS		71C8	79D0,108F6
XSA			71G1	63B/G2,108B6

U TYPE CONNECTORS	WIRE SPRING CONNECTORS			LOCATION	
DESIGNATION	DESIGNATION	DESIGNATION	DESIGNATION		
TRUNK LINK & CONN CKT	TRUNK LINK CONN CKT	PRF CONTROL & MAKE BUSY CKT TRUNK LINK CONN	TRUNK LINK CKT	FS	CAD
ONN	ONN			83A3	56E0,E3
ISE	ISE			83B3	56D0,D3
ITB	ITB			83B3	56D0,D3
2HB	2HB			83B3	56D0,D3
2P	2P			4G2	57C3,F3,104D0
2SA	2SA			83B3	56D0,D3
3FB	3FB			83C3	56D0,D3
3NA	3NA			83C3	56D0,D3
4NE	4NE			83D3	56D0,D3
4TT	4TT			83D3	56D0,D3
5NT	5NT			83E3	56D0,D3
5ST	5ST			83E3	56D0,D3
6FT	6FT			83F3	56D0,D3
6NT	6NT			83F3	56D0,D3
7RN	7RN			83F3	56C0,C3
7TP	7TP			83F3	56C0,C3
8HP	8HP			83G3	56C0,C3
8SP	8SP			83G3	56C0,C3
9FP	9FP			83H3	56C0,C3
9NP	9NP			83H3	56C0,C3
AD	AD			16B8	56G0,G3
ALC	ALC			50G9	55C5,C7
ART	ART			58D7 59B7	55C5 55C7
ASM	ASM			45G3	55C5,C7
AST	AST			50G9	55C5,C7
ATT	ATT			58A7 59B7	55C5 55C7
BLC	BLC			50G9	5585,87
BRT	BRT			59D7	5585,87
BSO-4	BSO-4			34C7,F7	5685,C5
BSM	BSM			45G3	5585,87
BST	BST			50G6	5585,87
BTO-19	BTO-19			43B7	5687,F7
BTT	BTT			59C7	5585,87
CGA	CGA			4E7	57B3,F3,104D0
CGB	CGB			4D7	57B3,F3,104 D0
CK		CK		33B8	5382,B4,10288
CM	CM			4G2	5505,D7
CTO	CTO			48B5	5780,B5
CTI	CTI			48B5	5780,B5
CT2	CT2			48B5	5780,B5
CUO,1,2,4,7	CUO,1,2,4,7			4E7	57C0,C5
DT	DT			110D1	55F5,E7
EF	EF			56C8	5680,83
FAK	FAK			45H3	5585,87
FBE OR FBO	FBE OR FBO			39A5	1280,83,86 12F0,F3,F6 10316
FBK	FBK			45H3	5535,87
FK	FK			1369	57B3,F3
FTO-3	FTO-3			12G5	57HC,H5
FTC-,D,MF,RO-3			FTC-,D,MF,RO-3	39A3, 39B3	8F0,8F5 9A5,963,135C5 1004,1105
FUO,1,2,4,7	FUO,1,2,4,7			12G5	57G0,G5

U TYPE CONNECTORS	WIRE SPRING CONNECTORS			LOCATION	
DESIGNATION	DESIGNATION	DESIGNATION	DESIGNATION		
TRUNK LINK & CONN CKT	TRUNK LINK CONN CKT	PRF CONTROL & MAKE BUSY CKT TRUNK LINK CONN	TRUNK LINK CKT	FS	CAD
GO-4	GO-4			57D5,F6	56F0,F3
GOA	GOA			57D6	56F0,F3
HF	HF			10160	55E5,E7
HGO,1,2,4,7	HGO,1,2,4,7			13F7	57E0,E5
INC	INC			110D1	55E5,E7
JO-9	JO-9			50G4	55E5,E7
JCO-9	JCO-9			5786	56F0,F3
JSO-9	JSO-9			45F3	55E5,E7
L	L			56H8	56E0,E3
LO-8	LO-8			48C5	56G0,G3
LCC	LCC			—	56A0,A3
LCK	LCK			50G7	55C5,C7
LHO-9	LHO-9			50G9	55E5,E7
LK	LK			56E8	56E0,E3
LLO,1,2,4,7	LLO,1,2,4,7			52D1	57D0,D5
LVK	LVK			45H3	55F5,F7
M	M			123F2	57C3,F3,104D0
MAK	MAK			34G7	56C7,G7
MAN	MAN			4F2	57C3,F3,104D0
MDK	MDK			34G7	57B3,F3,104D0
NH	NH			122B1	55G5,F7
NN	NN			122B1	55G5,F7
NT	NT			122B1	55G5,F7
OBS	OBS			12182	5780,B5
OD	OD			16D8	55F5
OF	OF			110D1	55F5,E7
PO-9	PO-9			48B6	56F0,F3
PR	PR			47B3	56E0,B3
R	R			56G8	56E0,E3
RC	RC			41A1	55C5,C7
RF	RF			56A8	5680,B3
RK	RK			56E8	56E0,E3
RSO-9	RSO-9			102C1,F1	56B7,E7
RSK	RSK			102B1	56C7,G7
SI	SI			50G9	55D5,D7
SF	SF			47A3	5680,B3
SLK	SLK			72B/F2	5780,B5
SSO-9	SSO-9			72B/E2	5780
ST-		ST-		33D8	1308,F0,G4 10256
SZA	SZA			47C3	56C0,C3
SZB	SZB			47C3	56C0,C3
SZC	SZC			47D3	56C0,C3

DRAWING ISSUE	
41D	KFJ H.M.
43B	RAS H.S.
46D	TJW GAM AND
49D	E.M. AMC AND
54D	LBA AM. AND

LEAD INDEX (CONT)

U TYPE CONNECTORS	WIRE SPRING CONNECTORS			LOCATION	
DESIGNATION	DESIGNATION	DESIGNATION	DESIGNATION		
TRUNK LINK & CONN CKT	TRUNK LINK CONN CKT	PRF CONTROL & MAKE BUSY CKT TRUNK LINK CONN	TRUNK LINK CKT	FS	CAD
TBO-5	TBO-5			43F7	56B5,D5
TB6,7	TB6,7			43F7	144B2
TBK	TBK			43H7	56C7,F7
TC	TC			41D1	55D5,D7
TCB	TCB			110D1	55F5,E7
TGO-19	TGO-19			43C7	56B7,F7
TLF	TLF			123H5	57B3,F3
TP	TP			41F1	55D5,D7
TRA	TRA			——	56C7,G7
TSK	TSK			——	56C7,G7
TST	TST				56C7,G7
TSX	TSX			45G3	56D7,G7
TT	TT			75E5	55D5,D7
TTA			TTA	75D6	56B0,B3
TTM			TTM	75D5	56B0,B3
VFO-4	VFO-4			13F6	57D0,E5
VGO,1,2,4,7	VGO,1,2,4,7			13F7	57F0,F5
VG10	VG10			1388	57G0,G5
XFT	XFT			39A5	55E5,C7

DIRECT ACCESS PRT CONN CKT	PREF CONTROL & MAKE BUSY CKT FOR DIRECT ACCESS PRT CKT	FS LOC	CAD LOC
BNK		88G3	59B1
BS1		87A/D4	59H1
BS2		87A/E4	59H1
BS3		87A/E4	59H1
BS4		87A/F4	59H1
DAC		87B/B2	137F2
EN		88E3	59B4
FN		96E1	59B7
FNA		96E4	59B7
FNB		96F4	59B7
FTO-3		96A4	59B1
FUO-9		96B4	59E0
HBO-9		93G6	59E0
HGO-9		96B4	59B4
MC-		87B/D2	137F2
	MP-	87B/F8	137F2
NGF		123H5	59B7
NGK		87A/G4	59H1
PRO		96G4	59B7
PN		88A3	59B1
POTS		87B/E2	137F2
PTM		87B/D2	137F2
PTN		88D3	59B1
RC7,15		96D4	59B4
RYT		112E3	137F2
STAO-9		86G7	138D4
TBO-9		94D7	59E0
TCA		87B/F2	137F2
TCB		87B/F2	137F2
TCC		87B/F2	137F2
TLK		87B/C2	137F2
TLT		87B/C2	137F2
	TMB	86E8	137F2
TN		88C3	59B1
UO-9		95F7	59H1
UK		87A/H4	59B4
VFO-4		96D4	59B4
VGO-11		96C4	59B4
W		87A/H4	59B1
WF		96D1	59B4
WG		96B1	59B4
WL		96A1	59B4

DRAWING ISSUE	
41D	WN
43B	WN
49D	EM AND ABD
51D	WN
54D	REL AND
56D	JK

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MARKER CIRCUIT (2) SD-25550-01-A33

BELL TELEPHONE LABORATORIES INCORPORATED 6S

FIGURE INDEX (APP & CAD)

APP FIG.	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	ASSOC CAD	EQUIPMENT DRAWING
1	✓	✓	✓	1	J26755BB
				91	
				96	
				147	
2•	✓	✓		2	J26755BA
				94	
3	✓	✓	✓	3	J26755BC
				91	
				97	
4•	✓	✓		4	J26755BA
				94	
5	✓	✓	✓	5	J26755BD
				92	
				157	
6•	✓	✓		5	J26755BA
				94	
7	✓	✓	✓	6	J26755BE
8	✓	✓	✓	7	J26755BA J26755BF
				93	
				157	
9	✓	✓	✓	8	J26755BG J26755BH
				90	
				99	
				106	
10	✓	✓	✓	9	J26755BK
				90	
				99	
11	✓	✓	✓	9	J26755BJ
				96	
12	✓	✓	✓	9	J26755BJ
				90	
				92	
13•	✓	✓	✓	9	J26755BJ
				98	
14•	✓	✓	✓	9	J26755BJ
				90	
				92	
15•	✓	✓	✓	9	J26755BJ
				98	
16•	✓	✓	✓	9	J26755BJ
				90	
				92	
17	✓	✓	✓	10	J26755BL
				157	
18	✓	✓	✓	11	J26755BU
19	✓	✓	✓	12	J26755AD J26755AE J26755CK J26755CN
				13	
				15	
				16	
				136	
				166	
20•	✓	✓	✓	12	J26755AD J26755CK J26755CN
				14	
				15	
				17	
				137	
				167	
21	✓	✓	✓	18	J26755BU
22•	✓	✓	✓	19	J26755BV
23	✓	✓	✓	20	J26755BT
24	✓	✓	✓	20	J26755BT
25	✓	✓	✓	20	J26755BT
26	✓	✓	✓	21	J26755BS
27	✓	✓	✓	22	J26755BH
				87	
				157	
28	✓	✓	✓	23	J26755BN
				66	
				87	

APP FIG.	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	ASSOC CAD	EQUIPMENT DRAWING
29	✓	✓	✓	24	J26755BZ
				86	
				90	
				91	
				92	
				99	
				157	
30•	✓	✓		25	J26755BX
31	✓	✓	✓	26	J26755BY
				86	
				87	
				90	
				91	
				99	
				101	
				114	
				157	
32	✓	✓	✓	27	J26755CA
				86	
				88	
				89	
				90	
				91	
				98	
				97	
				147	
				157	
33•	✓	✓		28	J26755CB
				66	
34•	✓	✓		29	J26755CC
35•	✓	✓		30	J26755E
				98	
36•	✓	✓		34	J26755E
				98	
37•	✓	✓		35	J26755E
				98	
				99	
38•	✓	✓		36	J26755AC
				100	
39•	✓	✓		33	J26755AB
				37	
				38	
				148	
40•	✓	✓		33	J26755AB
				37	
				39	
41•	✓	✓		33	J26755AB
				37	
				39	
42•	✓	✓		113	J26755A
43•	✓	✓		40	J26755D
				98	
				100	
				101	
44•	✓	✓		41	J26755D
45•	✓	✓		42	J26755D
46•	✓	✓		43	J26755G
				96	
				100	
47•	✓	✓		44	J26755G
				101	
48•	✓	✓		45	J26755G
				93	
49•	✓	✓		46	J26755B J26755C
				89	
				96	
				102	
				103	
				104	
				105	

APP FIG.	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	ASSOC CAD	EQUIPMENT DRAWING
50•	✓	✓		47	J26755H
51•	✓	✓		47	J26755AA
				48	
				49	
				50	
				116	
				119	
				153	
52•	✓	✓		47	J26755AA
				50	
53•	✓	✓		51	J26755R J26755AM
				52	
				98	
				106	
54•	✓	✓		51	J26755R
55•	✓	✓		54	J26755J
56•	✓	✓		51	J26755M
				52	J26755S
57•	✓	✓		51	J26755R
58•	✓	✓		51	J26755R
59•	✓	✓		55	J26755K
60•	✓	✓		56	J26755K
61•	✓	✓		57	J26755AF
				58	
				89	
				60	
62•	✓	✓		51	J26755R
				52	
				117	
63•	✓	✓		61	J26755R
				96	
64•	✓	✓		62	J26755T
65•	✓	✓		63	J26755S
				67	
				93	
				108	
66•	✓	✓		64	J26755BV
				101	
67•	✓	✓		65	J26755L J26755N J26755P J26755Q
				66	
				99	
				104	
				105	
				106	
68•	✓	✓		67	J26755U J26755AM
				93	
				94	
				95	
69•	✓	✓		68	J26755W
				90	
				108	
70•	✓	✓		66	J26755W J26755AU
				69	
				108	
71•	✓	✓		70	J26755W J26755AU
72•	✓	✓		66	J26755W
73	✓	✓	✓	72	J26755BR
				98	
				101	
74•	✓	✓	✓	73	J26755BR
75•	✓	✓		74	J26755BP
				89	
				95	
76•	✓	✓		75	J26755BA
				94	
77•	✓	✓		76	J26755V
				95	
78•	✓	✓		77	J26755AG
				114	

APP FIG.	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	ASSOC CAD	EQUIPMENT DRAWING
79	✓	✓	✓	78	J26755CD
				86	
				89	
				90	
				96	
				99	
				114	
				147	
81•	✓	✓		86	J26755BW
				80	
				88	
				89	
82•	✓	✓		61	J26755AH
				157	J26755BQ
83	✓	✓	✓	82	J26755CE
				86	
84•	✓	✓		109	J26755AH
85	✓	✓	✓	72	WIRING ONLY
86•	✓	✓		110	WIRING ONLY
87•	✓	✓		111	WIRING ONLY
88•	✓	✓			WIRING ONLY
89•	✓	✓		115	J26755CG
90•	✓	✓		56	WIRING ONLY
				58	
91	✓	✓	✓	116	J26755BA J26755CF J26755CM
92•	✓	✓		121	J26755V
93•	✓	✓			WIRING ONLY
94•	✓	✓		122	J26755K
				157	J26755CC
95•	✓	✓		123	J26755G
96•	✓	✓		124	J26755F
				125	
97•	✓			132	J26755D
98•	✓	✓			J26755R
99•	✓	✓		27	J26755CC
100•	✓	✓		131	J26755BX
101A	✓	✓	✓		WIRING ONLY
101B	✓	✓	✓		WIRING ONLY
102•	✓	✓		130	J26755BN
103•			✓	28	J26755CJ
104•			✓	138	J26755CK
105•			✓	81	J26755CH
				157	
106•			✓	25	J26755CK
107•	✓	✓	✓	133	J26755BN
108•	✓	✓		45	J26755G
109•	✓	✓		139	J26755BN
110•	✓	✓		143	J26755CL
111•	✓	✓		143	J26755CL
112•	✓	✓		143	J26755CL
113•	✓	✓		143	J26755CL
114•	✓	✓		140	J26755V
115•	✓	✓		101	J26755AL
				144	
				146	
116•	✓	✓		144	J26755AL
				146	
117•	✓	✓		37	J26755AB
				39	
				146	
118•	✓	✓		146	J26755AS
119•	✓	✓		146	J26755AQ
120•	✓	✓		150	J26755AS
121•	✓	✓		151	J26755AQ
122•	✓	✓		152	J26755AF
123•	✓	✓		154	J26755AI
124•	✓	✓		153	J26755AR
125•	✓	✓		63	J26755M J26755L
				156	J26755AH
126•	✓	✓		160	J26755AP
127	✓	✓	✓		WIRING ONLY
134•	✓	✓		161	J26755AT

• OPTIONAL FIGURE

DRAWING ISSUE: 4ID 1977 M3

NO. 5 MARKER CIRCUIT	41
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6S	

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FIGURE INDEX (APP & CAD) (CONT)

APP FIG.	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	ASSOC CAD	EQUIPMENT DRAWING
135+	✓	✓		161	J28755AT
137+	✓	✓		155	J28755AQ
138	✓	✓	✓	162	J28755CD
140+	✓	✓		159	WIRING ONLY
142+	✓	✓		163	J28755U
143+	✓	✓		168	J28755J
144+	✓	✓		183	J28755N
145+	✓	✓		182	J28755L
146+	✓	✓			WIRING ONLY
147+	✓	✓		185	J28755G J28755M J28755R J28755AC J28755AM
148+	✓	✓		186	J28755AV
149+	✓	✓		186	J28755U J28755AM
150+	✓	✓		193 194	WIRING ONLY
151+	✓	✓		188 189 190 191	J28755CQ J28755CP
152+	✓	✓		193	WIRING ONLY
153+	✓	✓		188 189 190	J28755CP
154+	✓	✓		122	J28755K
155+	✓	✓		190 191	J28755CR
156+	✓	✓		195	J28755CT
158+	✓	✓		65	J28755Q
159+	✓	✓		40 51 59 74 36	J28755BP
160+	✓	✓		36	J28755AC
161+	✓	✓		196	J28755CU
162+	✓	✓		10	J28755BL
163+	✓	✓		66	J28755L
164+	✓	✓		197	J28755L
165+	✓	✓		98,99,198	J28755BD
166+	✓	✓		201,2,3,4	J28755CV
167+	✓	✓		199	J28755AN
168+	✓	✓		202	J28755L
169+	✓	✓		208	J28755AL
170+	✓	✓		206,207	J28755CW
171+	✓	✓		65,66	J28755L
172+	✓	✓		209	J28755BX
173+	✓	✓		215	J28755BN
174+	✓		✓	217	J28755CZ
175+	✓	✓		210	J28755CX
176+	✓	✓		211	J28755CY
177+	✓		✓	212	J28755BE
178+	✓	✓		216	J28755BB
179+	✓		✓	218	J28755CZ
180+	✓	✓		222	J28755DA
181+	✓	✓		221	J28755DB
182+	✓	✓		196	J28755CU
183+	✓	✓		223	
184+	✓	✓		224	
185+	✓	✓		225	
186+	✓	✓		226	
187+	✓	✓		227	
188+	✓	✓		229	
189+	✓	✓		230	

APP FIG.	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	ASSOC CAD	EQUIPMENT DRAWING
L+	✓	✓		134	J28755R
M+	✓	✓		135	J28755R
N+	✓	✓	✓	78	J28755CD
O+	✓	✓	✓	78	J28755CD
P+	✓	✓	✓		J28755BY
Q+	✓	✓	✓		J28755BY
T+	✓	✓			WIRING ONLY
U+	✓	✓		81 141	WIRING ONLY
V+	✓	✓			WIRING ONLY
W+	✓	✓			WIRING ONLY
Z+	✓	✓			WIRING ONLY
AA+	✓	✓			J28755BQ
AB+	✓	✓			J28755BQ
AC+	✓	✓			WIRING ONLY
AD+	✓	✓	✓		J28755CD
AE+	✓	✓	✓		J28755CD
AF+	✓	✓	✓		J28755CD
AG+	✓	✓	✓		J28755CD
AH+	✓	✓	✓		J28755CD
AI+	✓	✓		78	J28755CD
AJ+	✓	✓	✓	78	WIRING ONLY
AK+	✓	✓		28	J28755CB
AL+	✓	✓		28	J28755CB
AM+	✓	✓		29	J28755CC
AN+	✓	✓		29	WIRING ONLY
AO+	✓	✓		74	J28755BP
AP+	✓	✓		74	J28755BP
AQ+	✓	✓			J28755R
AR+	✓	✓			J28755R
AS+	✓	✓	✓		WIRING ONLY
AT+	✓		✓	165	J28755CN
AU+	✓	✓		74	J28755BP
AV+	✓	✓		74	WIRING ONLY
AW+	✓	✓			WIRING ONLY
AX+	✓	✓			J28755U
AY+	✓	✓			J28755BQ
AZ+	✓	✓		81	J28755BQ
BA+	✓	✓		65	J28755L
BB+	✓	✓		65	J28755L
BC+	✓	✓		40 98	J28755D
BD+	✓	✓		40 98	J28755D J28755N
BE+	✓	✓			J28755BX
BF+	✓	✓			J28755BX
BG+	✓	✓		65	J28755N
BH+	✓	✓		65	J28755N
BI+	✓	✓	✓	26	J28755BY
BJ+	✓	✓		26	J28755BY
BK+	✓	✓			J28755BY
BL+	✓	✓			J28755BY
BM+	✓	✓		36	J28755AC
BN+	✓	✓		36	J28755AC
BO+	✓	✓			WIRING ONLY
BP+	✓	✓			WIRING ONLY
BQ+	✓	✓			J28755CS
BR+	✓	✓			WIRING ONLY
BS+	✓	✓		189	J28755CQ
BT+	✓	✓		185	WIRING ONLY
BU+	✓	✓		185	WIRING ONLY
BV+	✓	✓		185 186	WIRING ONLY
BW+	✓	✓	✓		WIRING ONLY
BX+		✓		24	WIRING ONLY
BY+	✓			27	J28755CA
CA+	✓	✓			WIRING ONLY
CB+	✓	✓			WIRING ONLY
CC+	✓	✓	✓	22	WIRING ONLY
CD+	✓	✓	✓	22	J28754A
CH+	✓	✓			WIRING ONLY
CI+	✓	✓			WIRING ONLY

APP FIG.	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	ASSOC CAD	EQUIPMENT DRAWING
A+	✓	✓		31,33 98,146	J28755F
B+	✓	✓		31	WIRING ONLY
C+	✓	✓		32,33 98,145	J28755F
D+	✓	✓		32	WIRING ONLY
E+	✓	✓		126	J28755CB
F+	✓	✓		28	J28755CB
G+	✓	✓		128	J28755BX
H+	✓	✓		114, 129	J28755BX
J+	✓	✓		26	J2J755BY
K+			✓	26	WIRING ONLY

+ OPTIONAL FIGURE

DRAWING ISSUE

48D	DB LV MD
49D	TC EM WD MD SEC MS AMC
54D	GM ACL AMD LT
56D	CB

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MARKER CIRCUIT (2) SD-25550-01-A35

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OPTION INDEX

APP OR WIRING	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	LOCATION
2	✓	✓		APP FIG 2
4	✓	✓		APP FIG 4
6	✓	✓		APP FIG 6
13	✓	✓	✓	APP FIG 13
14	✓	✓	✓	APP FIG 14
15	✓	✓	✓	APP FIG 15
16	✓	✓	✓	APP FIG 16
20	✓	✓	✓	APP FIG 20
22	✓	✓	✓	APP FIG 22
30	✓	✓		APP FIG 30,46C2, E5 103G5,106F4,108B7,B9, 128D3
33	✓	✓		APP FIG 33,6G1 ,121D2, 121E3
34	✓	✓		APP FIG 34
35	✓	✓		APP FIG 35
36	✓	✓		APP FIG 36
37	✓	✓		APP FIG 37, 128E3
38	✓	✓		APP FIG 38
39	✓	✓		APP FIG 39
40	✓	✓		APP FIG 40
41	✓	✓		APP FIG 41
43	✓	✓		APP FIG 43
44	✓	✓		APP FIG 44
45	✓	✓		APP FIG 45
47	✓	✓		APP FIG 47
48	✓	✓		APP FIG 48,68B1,85A/A0, 85A/B9
50	✓	✓		APP FIG 50
51	✓	✓		APP FIG 51
52	✓	✓		APP FIG 52
53	✓	✓		APP FIG 53,3F8,G7
55	✓	✓		APP FIG 55
56	✓	✓		APP FIG 56
57	✓	✓		APP FIG 57
58	✓	✓		APP FIG 58
59	✓	✓		APP FIG 59
60	✓	✓		APP FIG 60
61	✓	✓		APP FIG 61
62	✓	✓		APP FIG 62
63	✓	✓		APP FIG 63
64	✓	✓		APP FIG 64
65	✓	✓		APP FIG 45,85B/H2,89A7, 94B1,C1
66	✓	✓		APP FIG 66
67	✓	✓		APP FIG 67,73B9,81D9
68	✓	✓		APP FIG 68
69	✓	✓		APP FIG 69
70	✓	✓		APP FIG 70
71	✓	✓		APP FIG 71
72	✓	✓		APP FIG 72
74	✓	✓	✓	APP FIG 74
75	✓	✓		APP FIG 75
77	✓	✓		APP FIG 77
78	✓	✓		APP FIG 78
81	✓	✓		APP FIG 81
82	✓	✓		APP FIG 82,103C3,E7, 105B5,110F6
84	✓	✓		APP FIG 84
86	✓	✓		APP FIG 86,33F1,35B3, 35G3,36C5,E6,46E4, 49B2,H5,90F3,G5 92G4,98F7,100A0, 110A4, 112B7,114E3, 122C0
87	✓	✓		APP FIG 87,46E3,49B2, 90F4,G1,92G8, 95A6,102A/E8,102B/G0, 103H7
88	✓	✓		APP FIG 88,46F2,49B7,E8, 122D5,E2,E3
89	✓	✓		APP FIG 89
92	✓	✓		APP FIG 92
93	✓	✓		APP FIG 93,36D1,E1, 71G1,H1,81G2
94	✓	✓		APP FIG 94,33A7,36D1,E1 42F7,44B4,71G0,H0, 81G2,111F0,H4
95	✓	✓		APP FIG 95
96	✓	✓		APP FIG 96
97	✓			APP FIG 97,85A/D3
98	✓	✓		APP FIG 98,38E7
99	✓	✓		APP FIG 99,21E4
100	✓	✓		APP FIG 100
102	✓	✓		APP FIG 102
103			✓	APP FIG 103,6G1, 7A/D5 14A1,F8,18F5, 33D1,46G5 107A/B4,111H4,121D2,E3
104			✓	APP FIG 104,39H4,43G4
105			✓	APP FIG 105,33B8, 44B3,49B8, 107A/B4 114D2
106			✓	APP FIG 106,46D0, 106F4,108B7,B9,E2, 114F1
107	✓	✓	✓	APP FIG 107
108	✓	✓		APP FIG 108,86A5, 88C1
109	✓	✓		APP FIG 109
110	✓	✓		APP FIG 110,22E8
111	✓	✓		APP FIG 111
112	✓	✓		APP FIG 112
113	✓	✓		APP FIG 113
114	✓	✓		APP FIG 114
115	✓	✓		APP FIG 115,21C5
116	✓	✓		APP FIG 116
117	✓	✓		APP FIG 117
118	✓	✓		APP FIG 118
119	✓	✓		APP FIG 119
120	✓	✓		APP FIG 120
121	✓	✓		APP FIG 121
122	✓	✓		APP F15 122
123	✓	✓		APP FIG 123
124	✓	✓		APP FIG 124
125	✓	✓		APP FIG 125,88E7
126	✓	✓		APP FIG 126
134	✓	✓		APP FIG 134
135	✓	✓		APP FIG 135
137	✓	✓		APP FIG 137
140	✓	✓		APP FIG 140
142	✓	✓		APP FIG 142
143	✓	✓		APP FIG 143
144	✓	✓		APP FIG 144
145	✓	✓		APP FIG 145,17C5
146	✓	✓		APP FIG 146,17D4
147	✓	✓		APP FIG 147
148	✓	✓		APP FIG 148
149	✓	✓		APP FIG 149, 88E7
150	✓	✓		APP FIG 150,5C6,14A1, 15D4,D6,41D9,62G5, 71E0,76A5,B5,C5,D5, 79A6-H6,80C0,81B8,C8, 81D9,F6,F8,82C5, 82C7,83C8,84C6,E4,G6, 88C0,101G1,103C6,104E4, 104F6,F9,111H4,119B1,E2,E6 122D2,E1,12784,E6
151	✓	✓		APP FIG 151,17F9,22E8,F8, 81A8,B8,82C5,87A/G0 88C0,119E2,E7
152	✓	✓		APP FIG 152,17E8,18A3,D3, 18E3,F5
153	✓	✓		APP FIG 153,18F5
154	✓	✓		APP FIG 154
155	✓	✓		APP FIG 155
156	✓	✓		APP FIG 156
158	✓	✓		APP FIG 158
159	✓	✓		APP FIG 159
160	✓	✓		APP FIG 160
161	✓	✓		APP FIG 161
162	✓	✓		APP FIG 162
163	✓	✓		APP FIG 163
164	✓	✓		APP FIG 164
165	✓	✓		APP FIG 165
166	✓	✓		APP FIG 166
167	✓	✓		APP FIG 167

ISSUE
54D JEK
56D LY CB

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MARKER CIRCUIT (2) SD-25550-01-A36

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OPTION INDEX

APP OR WIRING	TYPE OF MARKER: COMBINED	TYPE OF MARKER: COMPLETING	TYPE OF MARKER: DIAL TONE	LOCATION
168	✓	✓		APP FIG 168
169	✓	✓		APP FIG 169,128D0, 128D5,D6
170		✓		APP FIG 170,29C5-F6
171	✓	✓		APP FIG 171
172	✓	✓		APP FIG 172
173	✓	✓		APP FIG 173,4988,5507, 56A7,5682,D7,57A0
174	✓		✓	APP FIG 174,40E8
175	✓	✓		APP FIG 175
176	✓	✓		APP FIG 176
177	✓		✓	APP FIG 177,4D5
178	✓	✓		APP FIG 178
179	✓		✓	APP FIG 179
180	✓	✓		APP FIG 180
181	✓	✓		APP FIG 181
182	✓	✓		APP FIG 182
183	✓	✓		APP FIG 183,81A8,85A/B0, 103A7,128F8-H8
184	✓	✓		APP FIG 184,102B/D4
185	✓	✓		APP FIG 185
186	✓	✓		APP FIG 186
187	✓	✓		APP FIG 187,87A/H1, 89E5,F3
188	✓	✓		APP FIG 188
189	✓	✓		APP FIG 189
FIG.A	✓	✓		APP FIG A
FIG.B	✓	✓		APP FIG B,63B2,64B2, 65A2,66B2,67A2
FIG.C	✓	✓		APP FIG C
FIG.D	✓	✓		APP FIG D,63C2,64C2,65B2, 66C2,67B2
FIG.E	✓	✓		APP FIG E,41A2,C7, 62B4
FIG.F	✓	✓		APP FIG F,41A2
FIG.G	✓	✓		APP FIG G,46F4,59D2
FIG.H	✓	✓		APP FIG H
FIG.J	✓	✓		APP FIG J,110A7,C6,H6, 113D6
FIG.K			✓	APP FIG K,45H1,H2,49E0, 50G9,H9,62A5,B2,110C5, 113D6
FIG.L	✓	✓		APP FIG L
FIG.M	✓	✓		APP FIG M
FIG.N	✓	✓	✓	APP FIG N
FIG.O	✓	✓	✓	APP FIG O, 108A2
FIG.P	✓	✓	✓	APP FIG P,110C2,C6,D2,G7 111G4,123C5
FIG.Q	✓	✓	✓	APP FIG Q,110A6,A7,C6, 110D4,D6,F6,G6,H6,111G5
FIG.T	✓	✓		APP FIG T,15E0,E1,G1
FIG.U	✓	✓		APP FIG U,15D0
FIG.V	✓	✓		APP FIG V,35C3,36C4
FIG.W	✓	✓		APP FIG W,35C3,36C4
FIG.Z	✓	✓		APP FIG Z,8D8
FIG.AA	✓	✓		APP FIG AA
FIG.AB	✓	✓		APP FIG AB
FIG.AC	✓	✓		APP FIG AC,35B3,36C5
FIG.AD	✓	✓	✓	APP FIG AD
FIG.AE	✓	✓	✓	APP FIG AE
FIG.AF	✓	✓	✓	APP FIG AF,108A2
FIG.AG	✓	✓	✓	APP FIG AG
FIG.AH	✓	✓	✓	APP FIG AH
FIG.AI	✓	✓		APP FIG AI,123B2,D2 128D0,D4
FIG.AJ	✓	✓	✓	APP FIG AJ,107B/E2, 108E4, 125G6,H6
FIG.AK	✓	✓		APP FIG AK
FIG.AL	✓	✓		APP FIG AL,123B2
FIG.AM	✓	✓		APP FIG AM,125B2
FIG.AN	✓	✓		APP FIG AN,81E5,107A/D2
FIG.AO	✓	✓		APP FIG AO,102B/C1
FIG.AP	✓	✓		APP FIG AP,102B/D3
FIG.AQ	✓	✓		APP FIG AQ,37E5
FIG.AR	✓	✓		APP FIG AR
FIG.AS	✓	✓	✓	APP FIG AS,113D7
FIG.AT	✓		✓	APP FIG AT,33B7,B8,D1, 35E3,F2,G4,36E6,F4, 39H3,40E6,42F7,44B3, 103C6,E5,104A6,F6, 107A/F5,108D6,113D7
FIG.AU	✓	✓		APP FIG AU,102A/C7
FIG.AV	✓	✓		APP FIG AV,89A7,92B4,C4, D4,F4,102A/C7,D5
FIG.AW	✓	✓		APP FIG AW,111E3
FIG.AX	✓	✓		APP FIG AX,111E3
FIG.AY	✓	✓		APP FIG AY,33B6,4434
FIG.AZ	✓	✓		APP FIG AZ
FIG.BA	✓	✓		APP FIG BA,127A1-F1
FIG.BB	✓	✓		APP FIG BB
FIG.BC	✓	✓		APP FIG BC,17B3,B6,22B3
FIG.BD	✓	✓		APP FIG BD,29A3
FIG.BE	✓	✓		APP FIG BE
FIG.BF	✓	✓		APP FIG BF
FIG.BG	✓	✓		APP FIG BG,62H6,H7, 77G0,G1,84D4,120B3,E3
FIG.BH	✓	✓		APP FIG BH,62H6,H7, 77G0,G1,120B3,E3,E6
FIG.BI	✓	✓	✓	APP FIG BI
FIG.BJ	✓	✓		APP FIG BJ
FIG.BK	✓	✓		APP FIG BK,86F7
FIG.BL	✓	✓		APP FIG BL,86F7
FIG.BM	✓	✓		APP FIG BM,85B/E1,H0
FIG.BN	✓	✓		APP FIG BN,85B/A6-H7
FIG.BO	✓	✓		APP FIG BO,20G5,125E7
FIG.BP	✓	✓		APP FIG BP,125E7
FIG.BQ	✓	✓		APP FIG BQ
FIG.BR	✓	✓		APP FIG BR,122D2,E0
FIG.BS	✓	✓		APP FIG BS
FIG.BT	✓	✓		APP FIG BT,86D7,F7
FIG.BU	✓	✓		APP FIG BU,86D7,F7
FIG.BV	✓	✓		APP FIG BV,86D7,F7
FIG.BW	✓	✓	✓	APP FIG BW,9C1,52D2-H8, 110E2,E4
FIG.BX		✓		APP FIG BX,52E6,F5,G3, 110E2,E5
FIG.BY	✓			APP FIG BY,52D3-H8, 110E1,E2,E5
FIG.CA	✓	✓		APP FIG CA,119B1,D1,D3, 119E2,F1,F3,121D3,E3,G3
FIG.CB	✓	✓		APP FIG CB,119B1,C1,D7, 119D8,F1,F2,F3,121D3,E3, 121F3,G3
FIG.CC	✓	✓	✓	APP FIG CC,53A0-D0,124D4
FIG.CD	✓	✓	✓	APP FIG CD
FIG.CH	✓	✓		APP FIG CH,49G7,86E2
FIG.CI	✓	✓		APP FIG CI,49G7,86E2
Z	✓		✓	APP FIG 1
Y	✓	✓		22C6
X	✓	✓		22C6
W	✓	✓		22F6
V	✓	✓		APP FIG 44,97
U	✓	✓		APP FIG 44,97
T	✓	✓		APP FIG 44,97
S	✓	✓		APP FIG 49
R	✓	✓		APP FIG 49
Q	✓	✓		APP FIG 49
P	✓	✓		APP FIG 49
N	✓	✓		APP FIG 49
M	✓	✓		APP FIG 49
K	✓	✓		APP FIG 49
J	✓	✓		APP FIG 49
H	✓	✓		APP FIG 49
G	✓	✓		APP FIG 49
F	✓	✓	✓	APP FIG 18,66
E	✓	✓	✓	APP FIG 1,3,5,8,10,31,32, 83,91,2E8,3A4-E4,G9, 108D7,E7,110D9,14G7, 52E3-H9,107A/B6, 110E2,E4,121C6,E5, 125D4
D	✓	✓		APP FIG BK,5L,9M

DRAWING ISSUE
54D JEK, REL AND LY
56D

CB

56

SD-25550-01-A37

MARKER CIRCUIT (2) SD-25550-01-A37

BELL TELEPHONE LABORATORIES INCORPORATED 6S

OPTION INDEX

APP OR WIRING	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	LOCATION
B	✓	✓		6-D6,80D9,E9
A	✓	✓	✓	APP FIG 33,103
ZA	✓	✓		67E6,80D7,E7
ZB	✓	✓		1D6G3
ZC	✓	✓		67E6,80D5,E5
ZD	✓	✓	✓	APP FIG 10,12,14,16,91
ZE	✓	✓		67F6,80D3,E3
ZF	✓	✓		APP FIG 79,112B5
ZG	✓	✓		67G6,80D1,E2
ZH	✓			APP FIG 1
ZI	✓	✓		67G6,80G3
ZJ	✓			APP FIG 1,3,5,30,2F7,G7, 3F8,G7,7A/D5,9D1,10E7,E8, 3[illegible]4,36F4,61B8
ZK	✓	✓		67G6,80G5
ZL	✓	✓		45D1,89E7,97B5-H5
ZM	✓	✓		APP FIG 1,67H6,80F8,G7
ZN	✓			6C7,14D5,E2,F2,F3,59E2, 59G2,H1,60C6,107B/F2,G1, 108A8,125C5
ZO	✓	✓		14D2-F5,59E2,G3, 59H1,60B7,B8,D6,61A2 107B/F1,F2,G1,G2,108A8, 125C5
ZP	✓	✓		APP FIG 8,65,126
ZQ	✓	✓		APP FIG 65,126
ZR	✓	✓	✓	58A0,D1,59B0,C1
ZS	✓	✓		APP FIG 65
ZT	✓	✓	✓	39G5
ZU	✓	✓		39H5
ZV	✓	✓	✓	1D3
ZW	✓	✓		63A7,B7,C7,D6,64A7,B6, 64C6,D6,65A7,B6,C6,D6, 66A7,B6,C6,D6,67A7,B6, 67C6,D6
ZX	✓	✓		63A7,B7,C7,D6,64A7,B6, 64C6,D6,65A7,B6,C6,D6, 66A7,B6,C6,D6,67A7,B6, 67C6,D6,E6
YA	✓			APP FIG 1
YB	✓	✓	✓	APP FIG 1
YC	✓	✓	✓	APP FIG 1,9
YD	✓	✓	✓	APP FIG 1
YE	✓	✓	✓	58A0,D1,59B0,C1

APP OR WIRING	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	LOCATION
YF	✓			APP FIG 8,9,17
YG	✓	✓		15E1,17E8
YH	✓			75D3,107A/E1,108B7,125G2
YI	✓			42F7,44B3,75C2,104F3, 113B8
YJ	✓	✓	✓	APP FIG 8G,9,53,65,67,126
YK	✓	✓		APP FIG 67
YL	✓	✓		APP FIG 67
YM	✓	✓		APP FIG 67
YN	✓	✓		APP FIG 67
YO	✓	✓		APP FIG 67
YP	✓	✓		APP FIG 67
YQ	✓	✓		APP FIG 67
YR	✓	✓		APP FIG 67
YS	✓	✓		APP FIG 67
YT	✓	✓		APP FIG 67
YU	✓	✓		APP FIG 67
YV	✓	✓		APP FIG 65,126,104C2,C4
YW	✓	✓		APP FIG 5,107A/D4
YX	✓	✓		107A/D4
YY	✓	✓	✓	36B0-G7
YZ	✓	✓	✓	APP FIG 91 35A0-H9
XA	✓			APP FIG 1,3,5,7,8,9,11,13, 15,18,26,29,32,79,83,91,A1, 1D0-D2,2C8,D8,4D6,5E6, 7A/B3,D6,12B0-F1,D5,E5, 12G3,H6,13F1,F4,F8,14F8, 15B5,G9,18E7,20G7,29F2, 31D0,D5,34A1-H1,36C4,C5, 38F7,H3,41B3,B8,C6,E2, 41F4,44C6,46E1,E5,F4, 50G2,52G9,59E9,H4,60E5, 60F4,F7,61C4,D4,E2,62D2,D9, 71A1,C7,74D0,81C1,C3,E9, 84C9,86C5,89D1,G1,G6,92G8, 96F6,101E3,103B5,104A1,B1, 104B2,105B2,106E4,107A/B6, 107A/C5,C6,E2,108A1,A2,A3, 108A8,110A1,B3,D1,D3,111H1, 114C0,118D1,122E3,124B4, 125D0,D6,E6,128D4
XB	✓	✓		APP FIG 1
XC	✓	✓	✓	APP FIG 1
XD			✓	APP FIG 26,1D0-D2,6F6, 7A/H1,H3,42F7,46D3,F2, 48B3,49E9,H5,50G2,56G5, 57C0,104D3,108E7,112B7, 114E2,E3,124B5,C5,G5
XE	✓	✓		APP FIG 8
XF	✓	✓	✓	APP FIG 8,9,17
XG	✓	✓	✓	APP FIG 26

APP OR WIRING	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	LOCATION
XH	✓	✓	✓	APP FIG 26
XI	✓	✓	✓	APP FIG 26
XJ	✓	✓	✓	APP FIG 26
XK	✓	✓	✓	APP FIG 26
XL	✓			42C7
XM	✓	✓	✓	42C7
XN	✓		✓	APP FIG 32
XO	✓	✓	✓	APP FIG 83
XP	✓	✓		APP FIG 91
XQ	✓	✓		APP FIG 76,12B2-E2,89F8, 1D1B3,115E7,F8,G7,G9, 116B0,G7
XR	✓	✓		APP FIG 8,91,6F6,101A2
XS			✓	12B2-E2
XT	✓	✓		72A/F7,G7
XU			✓	14D5,E2,F3,108A8,125C5
XV	✓			APP FIG 29
XW	✓	✓		APP FIG 29
XX	✓			APP FIG 91
XY	✓	✓		APP FIG 91
XZ	✓	✓	✓	APP FIG 83
WA	✓	✓	✓	107A/B2,C2
WB	✓	✓	✓	107A/B2,C2
WC	✓	✓		15D0,61A2,87A/B6,103B4,E5, 103G0
WD	✓			APP FIG 75,78
WE	✓	✓		APP FIG 34,75,78
WF	✓			APP FIG 18,29,31,33,34, 77,89
WG	✓	✓	✓	APP FIG 18,29,31,33,34,77, 89
WH	✓			APP FIG 30
WJ	✓	✓	✓	APP FIG 30
WJ	✓			APP FIG 31
WK	✓	✓	✓	APP FIG 31
WL	✓			APP FIG 30
WM	✓	✓	✓	APP FIG 30
WN	✓			APP FIG BE
WO	✓	✓		APP FIG BE
WP	✓			APP FIG 31
WQ	✓	✓	✓	APP FIG 31
WR	✓			APP FIG 31
WS	✓	✓	✓	APP FIG 31

APP OR WIRING	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	LOCATION
WT	✓			APP FIG 91
WU	✓	✓	✓	APP FIG 91
WV	✓			APP FIG 34
WW	✓	✓		APP FIG 34
WX	✓			APP FIG J
WY	✓	✓		APP FIG J
WZ	✓			APP FIG 91
VA	✓	✓	✓	APP FIG 91
VB	✓			APP FIG 91
VC	✓		✓	APP FIG 91
VD	✓	✓	✓	APP FIG 91,48B1,C5
VE	✓	✓		APP FIG 91,48C1
VF	✓	✓		72A/C6-D7
VG	✓	✓		72A/C6-D7
VH	✓	✓		81E2,F2
VI	✓	✓		81E2,F2
VJ	✓	✓	✓	APP FIG 79
VK	✓	✓	✓	APP FIG 79
VL	✓	✓	✓	APP FIG 79
VM	✓	✓	✓	APP FIG 79
VN	✓	✓		88F5
VO	✓	✓	✓	APP FIG 79
VP	✓	✓	✓	APP FIG 79
VQ	✓	✓	✓	APP FIG 79
VR	✓	✓	✓	APP FIG 79
VS	✓	✓	✓	APP FIG 79
VT	✓	✓	✓	APP FIG 79
VU	✓	✓		88A5,C5,D5
VV	✓	✓	✓	APP FIG 79
VW	✓	✓	✓	APP FIG 79
VX	✓	✓	✓	62G2
VY	✓	✓	✓	62G3
VZ	✓	✓		103F2
UA	✓	✓		108F5
UB	✓	✓		89B0,108F5
UC	✓	✓		33G2

DRAWING ISSUE: JEK 54D

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MARKER CIRCUIT (2) SD-25550-01-A38

BELL TELEPHONE LABORATORIES INCORPORATED — 6S

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OPTION INDEX

APP OR WIRING	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	LOCATION
UD	✓	✓		33F2
UE	✓	✓		61A2,87A/B6,103E4,E5,G0
UF	✓	✓		APP FIG 111, 17D5,D6, 17D8,E8,F4
UG	✓	✓		APP FIG 46,85A/C7-F8
UH	✓	✓		APP FIG 46,85A/C7-F8 85B/A2,A7
UI	✓	✓		5G1
UJ	✓			5G1,69B5
UK	✓		✓	APP FIG 1,2,3A4,98S,D7
UL	✓	✓	✓	8F1,98S,D7
UM	✓	✓		17B5,D5,22F6
UN	✓	✓		APP FIG 91,17B5,D5,H1
UO	✓	✓	✓	58A2,59B2
UP	✓	✓	✓	58A2,59B2
UQ	✓	✓		62B7
UR	✓	✓		62C7
US	✓	✓		22B6,H7
UT	✓	✓		22B5,G7,H7
UU	✓	✓		15D7
UV	✓	✓	✓	15C7,D5,D7
UW	✓	✓		APP FIG 65,126
UX	✓	✓		37D2
UY	✓	✓		37D2
UZ	✓	✓	✓	APP FIG 73
TA	✓	✓		APP FIG 36
TB	✓	✓		APP FIG 36
TC	✓	✓	✓	APP FIG 83,46G7
TD	✓	✓		APP FIG 83
TE	✓	✓		75B3,C3
TF	✓	✓		37G4,43A2,69F5,75B2,C3 123E7,F8
TG	✓	✓		102A/D5
TH	✓	✓		102A/C5,D5
TI	✓	✓		84F3,F4,111G4
TJ	✓	✓		84F3,G4,110H7,111E2,F1, 111F3,H2,H4
TK	✓		✓	136G9
TL	✓		✓	136G9
TM	✓	✓		35C3,36C5,103H3
TN	✓	✓	✓	APP FIG 5,18,79

APP OR WIRING	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	LOCATION
TO	✓	✓		102A/B4,102B/D1
TP	✓	✓		102A/B4,102B/D1
TQ	✓	✓		APP FIG 91,79E0
TR	✓	✓		APP FIG 91
TS	✓	✓		87A/C5,90B6,D3,G7,H7
TT	✓	✓		APP FIG 68,90G7,H8
TV	✓	✓		113C6
TW	✓	✓		113B4,C6
TX	✓	✓		125G2
TY	✓	✓		125G2
TZ		✓		8B2-H2,10A1-G1,11B1-F1
SA	✓	✓	✓	54B2
SB	✓	✓		APP FIG 125
SC	✓	✓		87A/A1,A2,A7,A9,101D4
SD	✓	✓		APP FIG 68,87A/A1,A2,A9
SE	✓	✓		APP FIG 125
SF	✓	✓		85A/E2
SG	✓	✓		85A/D3
SH	✓	✓	✓	28I
SI	✓		✓	121D4
SJ	✓	✓		116B4
SK	✓	✓		APP FIG 77
SL	✓	✓		APP FIG 77
SM	✓	✓		49D0
SN	✓	✓		96E5,E8
SO	✓	✓		17G4-G6
SP	✓	✓		110H3
SQ	✓	✓		110H3
SR	✓	✓		APP FIG 70
SS	✓	✓		APP FIG 70,111G1
ST	✓	✓		APP FIG 29,116A2
SU	✓	✓		APP FIG 78,86E3,98C7,D0, 98D7,G2,F8,99A6,100A0
SV	✓	✓	✓	111F1,121D4
SW	✓	✓	✓	111F1
SX	✓	✓		6183,85B/E7,H7,86B4, 87A/D2,90C6,D7,92A7,F8, 92G5,93C3,94C5,95BI, 103A1,A2,B0,B1,122F0
SY	✓	✓		103H6
SZ	✓	✓		103H6

APP OR WIRING	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	LOCATION
RA	✓	✓		125H3,H4
RB	✓	✓		104B4,125A6
RC	✓	✓		104B3,B7,108C2,C4,123A5, 125A7,B6
RD	✓	✓		APP FIG 78,62A7,A8
RE	✓	✓		APP FIG 78,62A8,A9
RF	✓	✓		63A1,B1,64A1,B1,65A1,B1, 66A1,B1,67A1,B1
RG	✓	✓		63D1,E1,64E1,F1,65D1,E1, 65F1,66E1,F1,67D1,E1
RH	✓	✓	✓	46B3
RI	✓	✓	✓	46B3
RJ	✓	✓		43F5
RK	✓	✓		APP FIG 81
RL	✓	✓		89F6,F7,101A3
RM	✓	✓		89F5,F6,F7,101A3
RN	✓	✓		31C6,F6
RO	✓	✓		31C6,F6,115E1,E4
RP	✓	✓		APP FIG 68,108, 87A/E7, 90B6,92D2
RQ	✓	✓		APP FIG 68,108, 87A/E6, 90B5
RR	✓	✓		27E6
RS	✓	✓		27E6,E8
RT	✓	✓		APP FIG 69
RU	✓	✓		APP FIG 69
RV			✓	45D1,111G4
RW	✓	✓		APP FIG 82,103F1,105F1, 110F2
RX	✓	✓		APP FIG 82,103F1,105B6, 105F0,110F2
RY	✓	✓	✓	125C4,F4
RZ	✓	✓		123F5,H6
QA	✓	✓		APP FIG 33,82,89,94 12G3,13G1,69A5,74D4, 80H0,H1,110G5, 128D0,D3,D4
QB			✓	7A/H2,33E1,104F3,125B5,C5
QC	✓	✓	✓	111F2
QD	✓	✓	✓	111F2
QE	✓	✓		101E2
QF	✓	✓		101E2
QG			✓	APP FIG AT
QH	✓	✓		17G8
QI	✓	✓		17H8,28A7

APP OR WIRING	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	LOCATION
QJ	✓	✓	✓	SEE NOTE 101A
QK	✓	✓	✓	SEE NOTE 101A
QL	✓	✓		92C1
QM	✓	✓	✓	124B5,H5
QN	✓	✓	✓	SEE NOTE 101A
QO	✓	✓	✓	SEE NOTE 101A
QP	✓	✓		SEE NOTE 101A
QQ	✓	✓	✓	46A5
QR	✓	✓		SEE NOTE 101A
QS	✓	✓		116A2
QT	✓	✓	✓	54B2
QU	✓	✓		81B0, G6
QV	✓	✓	✓	46A5
QW	✓	✓	✓	APP FIG 27
QX	✓	✓	✓	CAD 92
QY	✓	✓		30A6-G7,30D2
QZ	✓	✓		APP FIG 53
PA	✓	✓		APP FIG 33,38E5
PB	✓	✓		APP FIG 33
PC	✓	✓		APP FIG 126,88E7,F7
PD	✓	✓		APP FIG 126
PE	✓	✓		APP FIG 126
PF	✓	✓		APP FIG 126
PG	✓	✓		APP FIG 44
PH	✓	✓		APP FIG 44
PI	✓	✓		APP FIG 125
PJ	✓	✓		APP FIG 125,86G5
PK	✓	✓		92G1,H3
PL	✓	✓		17G3
PM	✓	✓		APP FIG 75
PN	✓	✓		APP FIG 75
PO	✓	✓		15E1,17F9
PP	✓	✓		17F9
PQ	✓	✓		32E9
PR	✓	✓		32E9,F9
PS	✓	✓		110D3
PT	✓	✓		110D3

DRAWING ISSUE
54D HEX dec. HEX
56D LY

MARKER CIRCUIT (2) SD-25550-01-A39

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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APP OR WIRING	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	LOCATION
PU	✓	✓		86C8
PV	✓	✓		86C8,G6
PW	✓	✓	✓	58B5,59C5
PX	✓	✓	✓	58C5,59C5
PY	✓	✓	✓	44E6
PZ	✓	✓	✓	44E6
QA	✓	✓	✓	58A1,59B1
QB	✓	✓	✓	58B1,59B1
QC	✓	✓		69B5
QD	✓	✓	✓	SEE NOTE 101A
QE	✓	✓	✓	71E4,E5,E6,G4,G5,G6, 115D7,E7,11681,82
QF	✓	✓		71E4,G4,115D7,11681,82
QG	✓	✓		188,115C3
QH	✓	✓	✓	APP FIG 73,1E0,7480
QI	✓	✓		10365
QJ	✓	✓		10365
QK	✓	✓		90F2,92D6,D7,F5
QL	✓	✓		90F2,92D6,E6,F5,F6
QM	✓	✓		72A/C6-G7
QN	✓	✓	✓	APP FIG 91
QO	✓	✓		15D7
QP	✓	✓		15C7,D5
QQ	✓	✓		108F5
QR	✓	✓		728/H3,108F5
QS	✓	✓	✓	APP FIG 79
QT	✓	✓	✓	APP FIG 79
QU	✓	✓		APP FIG 30
QV	✓	✓		APP FIG 30,60F4
QW	✓	✓		37D6, D7,H1,11965,G6,122C0
QX	✓	✓		37D6,D7,H2,77G0,11965,G5, 11966,H3,122C0
QY	✓	✓		119E4
QZ	✓	✓		APP FIG 149
MA	✓	✓		15F0
MB	✓	✓		17E6
MC	✓	✓		APP FIG 153
MD	✓	✓		85B/A2 -H2
ME	✓	✓		102A/A3,A5

APP OR WIRING	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	LOCATION
MF	✓	✓		102A/A3,B4,102B/D1
MG	✓		✓	8H3,H4,9E1-G2
MH	✓		✓	2C7,8H3,H4,9E1-G2,9F4
MI	✓	✓		9586
MJ	✓	✓		37C7
MK	✓	✓		37C7
ML	✓	✓		15F4,77H2,84B8,B9
MM	✓	✓		12H1,15F4,77H1,84B8,103E4, 104G4,G5,H3
MN	✓	✓		29C6-G6,120E5
MO	✓	✓		29C5-G6,120E5
MR	✓	✓		92G6
MS	✓	✓		92G6
MT	✓	✓		16B1-D1
MU	✓	✓		34F4,F5
MV	✓	✓		34F4,F5
MW	✓	✓	✓	APP FIG 1,9B0,B1,49H4, 52F7,G8,110C3,E2-E4,F2,F5 110G2,111C6,C7,F1,F2
MX	✓	✓	✓	9B0-B2,49H4,52F7,G8, 110E3,G1,G2,111A1-C1,C3 111C6,D3,G0,G1
MY	✓	✓		15B9,85A/F4
MZ	✓	✓		15A9,29B1,B2,63E1,G3, 64F3,H3,65E3,H3, 66E3,H3,67E1,G3, 85A/F4
NA	✓	✓	✓	APP FIG 79,46C4
NB	✓	✓		77G1,H0,120B4
NC	✓	✓	✓	46B4,C4
NE	✓	✓		22C7,D6,F7,88C1,E1,92A8, 92B8,102A/E4
NF	✓	✓		22C7,D6,F7,88C1,E1,92A8, 92B8,102A/D7,E4
NH	✓	✓		29G3,H4,37A1,A2,F5 38C4,D6,41F3,G2,G6 52G9,81C0,F5,F6,G0,H0
NI	✓	✓		27G3,H3,37A1,A2,F5, 38C4,E6,41G2,G3,G7 52G8,81C0,H0,F6
NJ	✓	✓		37C4,E4,G4
NK	✓	✓		37A3,B4,37F5,G4,41G6
NL	✓	✓		37G5
NN	✓	✓		22F8,G8

APP OR WIRING	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	LOCATION
NN	✓	✓		22D8,F8,G9,23B7
NO	✓	✓	✓	APP FIG 18
NP	✓	✓		37C4
NQ	✓	✓		49C2,85A/G5
NR	✓	✓		17G0,G1,49C2,85A/G5
NS	✓			111C2
NT	✓	✓	✓	APP FIG AH
NU	✓	✓	✓	APP FIG AH,33B4
NV	✓	✓	✓	SEE NOTE 101A AND 104
NW	✓	✓	✓	SEE NOTE 101A AND 104
NX	✓	✓	✓	46D6
NY	✓		✓	46D6
LE	✓	✓		45H3,110D1
LF	✓	✓		45H3
LG	✓	✓		81D9
LH	✓	✓		81D9
LI	✓	✓		17B4
LJ	✓	✓		17A3
LK	✓	✓		49D0,E0
LO	✓	✓		9266,H6
LP	✓	✓		9266,H6
LQ	✓	✓		84B9
LR	✓	✓	✓	107B/E5
LS	✓	✓	✓	29B2,107B/E5
LT	✓	✓		APP FIG 165
LU	✓	✓		37C8
LV	✓	✓		37C8
LW	✓	✓		APP FIG 38,33G4,34D4,114G5
LX	✓	✓		APP FIG 38,83,34D4
LY	✓	✓		2B2
LZ	✓		✓	APP FIG 73
KA	✓	✓		40B1,42B4,F2
KB	✓		✓	309
KC	✓	✓		29B1,B2
KD	✓	✓		73C1,127B2,C4,C7,E5
KE	✓	✓		APP FIG 67 ,167,168,21A4
KF	✓	✓		APP FIG 36,126E4
KG	✓	✓		APP FIG 36

APP OR WIRING	TYPE OF MARKER: COMBINED	COMPLETING	DIAL TONE	LOCATION
KH	✓	✓		110F5
KI	✓	✓		110F5
KJ	✓	✓		77G1
KK	✓	✓		76A1,77G1
KL	✓	✓		SD1
KM	✓	✓		APP FIG M
KN	✓	✓		APP FIG 34,120B6
KO	✓	✓		APP FIG 34
KP	✓	✓		APP FIG 156
KQ	✓	✓		71A0
KR	✓	✓		127C4
KS	✓	✓		127C4
KT	✓	✓		APP FIG 67,43C2 123D7,F7
KU	✓	✓		126D5
KV	✓	✓	✓	SEE NOTES 101A AND 104
KW	✓	✓	✓	SEE NOTES 101A AND 104
KX	✓	✓	✓	SEE NOTES 101E AND 104
KY	✓	✓	✓	77G1,128C0,C5,D6
KZ	✓	✓		85A/G4,103E1,110E4
JA	✓	✓		92H8,103E1,110E3
JB	✓	✓	✓	APP FIG 31,91
JC			✓	APP FIG 177,4C5-D6
JD	✓	✓		27A0
JE	✓	✓		APP FIG 174,175,4C5,D5
JF	✓	✓	✓	APP FIG 31,46G6
JG	✓	✓	✓	APP FIG 28, 7A/C5,9B2,48B1 52E8, 56C6,57B0,110D3,E1,G1
JH	✓	✓		9B2,52E8,110D3,E1,G1
JI	✓	✓		9B2,52E8,110D3,E0,G0
JJ	✓	✓		APP FIG 79,18D9,H3,112G0 112G2,124H4
JK	✓	✓		APP FIG 178
JL	✓		✓	APP FIG 32, 3F1,32A6,E8 43C7,D7,E4,F7,G4,103C7, 111A4,B0,C1
JM			✓	APP FIG 174
JN	✓			APP FIG 174,32A2, 96,D1 111A4
JO	✓		✓	APP FIG 174

ISSUE

54D	JEK JEL AND
56D	JK

APP OR WIRING	TYPE OF MARKER			LOCATION
	COMBINED	COMPLETING	DIAL TONE	
JP	✓		✓	APP FIG 104,125C3
JQ	✓	✓	✓	110D2
JR	✓	✓		APP FIG 104,110H0
JS	✓			APP FIG 179,32A6,E8, 43C5,D7,G6,103B6,C8
JT			✓	43E4,F7,G4,G6,G7,103B6,C7
JU	✓		✓	32A6,E8,43C7,D7 43E4,F7,G4,103C7
JV	✓		✓	APP FIG 5
JW	✓		✓	APP FIG 5,29
JX	✓		✓	APP FIG 104
JY	✓	✓		APP FIG 28
JZ	✓	✓	✓	9G7,110E2
GA	✓	✓		APP FIG 79
GB	✓	✓		APP FIG 91
GC	✓	✓		APP FIG 94,15E6,69A2 69F5,107A/F3,107B/E1.E2, 108F3,110A6
GD	✓	✓		APP FIG 29, 67,94 69A2,107A/F3,107B/A1, 107B/B1,E1,E2,108F3, 110A6,111H2
GE	✓		✓	107B/C1
GF	✓	✓		113E7
GG	✓	✓		120C3
GH	✓	✓		29H5
GJ	✓	✓		87B/B2,B5,88F1,112E3
GK	✓	✓		111A1,G1
GL	✓	✓		APP FIG 31, 52E8 110D4,G4,G5
GM	✓	✓		APP FIG 31,52E7,110D4,G4, 110H0,H4,111A1,G1
GN	✓	✓		7B/F4,9B2
GO	✓	✓		29F7
GP	✓	✓		8A4,10H2,11G2
GQ	✓	✓		APP FIG 68
GR	✓	✓	✓	SEE NOTE 101A & 101F
GS	✓	✓		SEE NOTE 101A & 101F
GT	✓	✓		101A1,B1,D0
GU	✓			125C2,C3,D2,D3
GV	✓	✓		27A8
GW	✓	✓		APP FIG 9,56,67
GX	✓	✓		37E2
GY	✓	✓		APP FIG 169
GZ	✓	✓		111G4

APP OR WIRING	TYPE OF MARKER			LOCATION
	COMBINED	COMPLETING	DIAL TONE	
FA	✓	✓		APP FIG 29,31,111G8
FB	✓	✓		128C0
FC	✓	✓		APP FIG 56
FD	✓	✓	✓	APP FIG 33,68,102B/E4, 124B7
FE	✓	✓		APP FIG 33,68,123A7, 124B7
FF	✓	✓		APP FIG 33,15F5, 62F4,H3,72A/F8,81E7, 81F1,F4,82C4
FG	✓	✓		APP FIG 33,6A2,15F5, 62D7,F5,69E4,72B/F9, 92F2,97E7,103B5,123A7, 129C2,C5,D2
FH	✓	✓		15H7,81D2,87A/C1,C2, 90C6,96C8
FI	✓	✓		APP FIG 67,76,14F6,63A8, 63B8,64A8,B8,65A7,B7, 66A7,B7,67A7,B7,74F7,G1, 81D6,92B5,111A2,129A6,D5
FJ	✓	✓		85B/B5-F6
FK	✓	✓		92B5
FL	✓	✓		38E5
FM	✓	✓		38E5
FN	✓	✓		APP FIG 68,87A/H1,89F3
FO	✓	✓		APP FIG 68,9G4
FP	✓	✓		APP FIG 3
FQ			✓	APP FIG 104
FR	✓		✓	125C4,D2,F4
FS	✓			125F2,F3
FT			✓	APP FIG 104
FU	✓	✓		85A/E3
FV	✓	✓		63E8,64F8,65F8,66F8, 67D8,87A/F3
FX	✓	✓		APP FIG J
FW	✓	✓		APP FIG J,41D8
FY	✓	✓		127G4
FZ	✓	✓		127G4
EA	✓	✓		49A9
EB	✓	✓		APP FIG 9
EC	✓	✓		APP FIG 188,130D1
ED	✓	✓		APP FIG 56
EE	✓	✓		APP FIG 56
EF	✓	✓		130D1
EG	✓	✓		APP FIG 59,60
EH	✓	✓		APP FIG 59,60
EI	✓	✓	✓	APP FIG 79
EJ		✓		9B8
EK	✓	✓		102A/C4,D4

APP OR WIRING	TYPE OF MARKER			LOCATION
	COMBINED	COMPLETING	DIAL TONE	
EL	✓	✓		102A/C4,D4,D6

APP OR WIRING	TYPE OF MARKER			LOCATION
	COMBINED	COMPLETING	DIAL TONE	

DRAWING ISSUE

54D	JEN FEL AND
55A	LT
56D	LT

56

MARKER CIRCUIT (2)

SD-25550-01-A41

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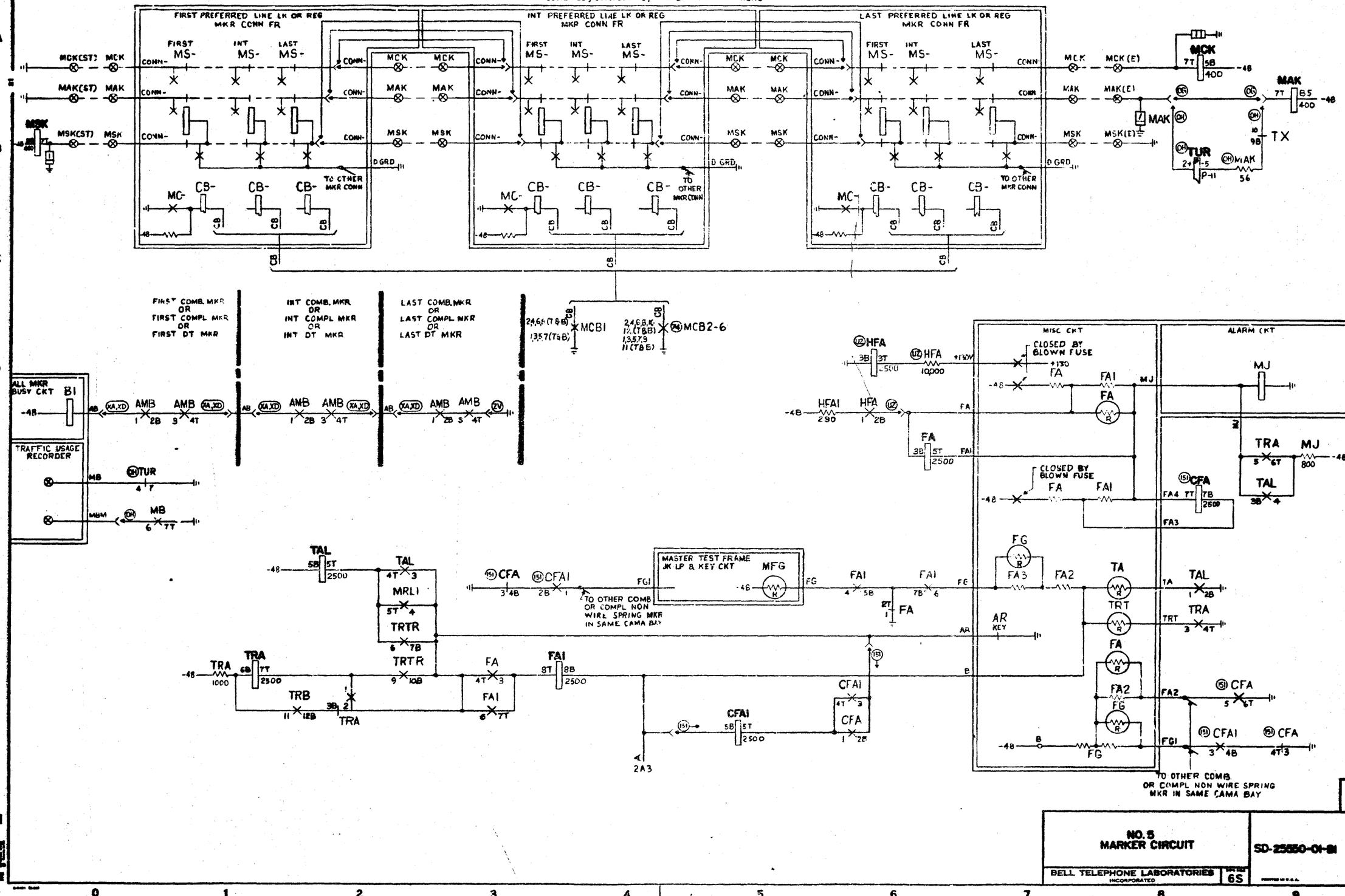
PRINTED IN U.S.A.

SD-25550-01-A41

PART OF FST

MARKER BUSY
COMBINED, COMPLETING, AND DIAL TONE MARKERS



NO. 5 MARKER CIRCUIT	SD-25550-01-01
BELL TELEPHONE LABORATORIES INCORPORATED	6S

43

18-10-09555-05

PART OF FS1

MARKER BUSY
COMBINED, COMPLETING, AND DIAL TONE MARKERS

MASTER TEST FRAME JACK, LAMP, AND KEY CIRCUIT

LINE INS TEST CONTROL

LINE LINK MKR CONNECTOR

MASTER TRAFFIC CONTROL

SEE NOTE 213

TO OTHER (MCB-) RELS

TO MASTER TEST FRAME CONNECTOR

FOREIGN AREA TRANS CONNECTOR

FIRST DT OR COMB MKR

INT DT OR COMB MKR

LAST DT OR COMB MKR.

INC REG MKR CONN

ORIG REG MKR CONN

LINE LINK MKR CONN

TO OTHER IRMC SERVED BY SAME MKR

TO OTHER ORMC SERVED BY SAME MKR

TO OTHER LLMC SERVED BY SAME MKR

TO MASTER TEST FR CONN

NO. 5
MARKER CIRCUIT

SD-25550-01-B2

BELL TELEPHONE LABORATORIES
INCORPORATED

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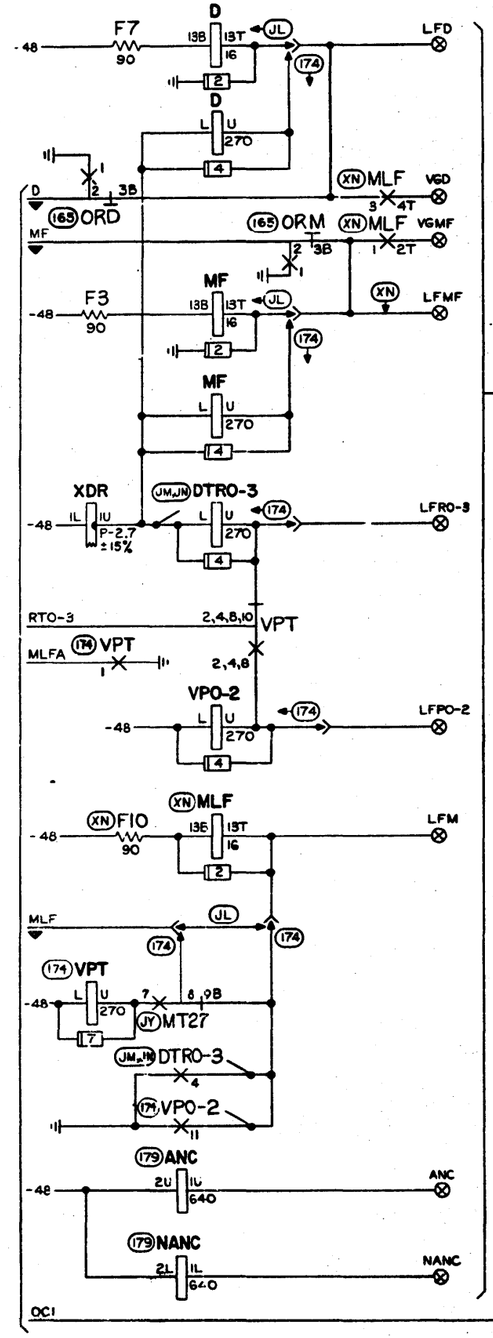
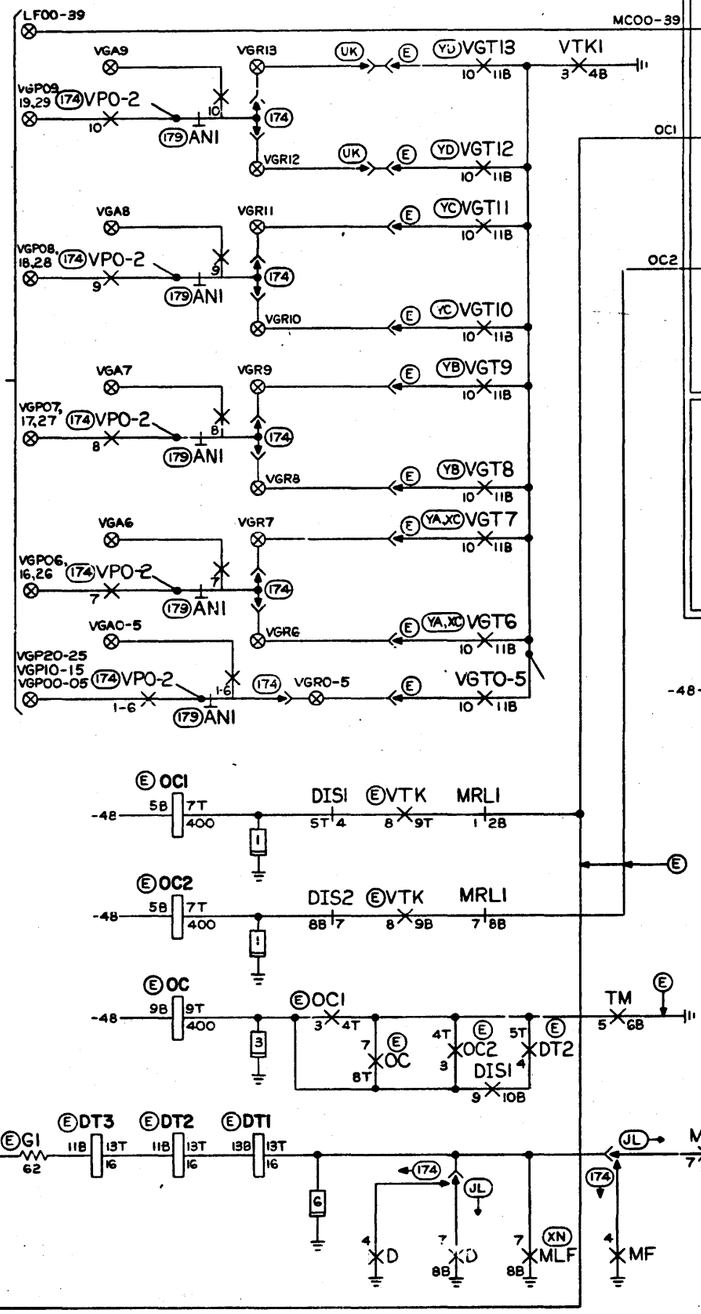
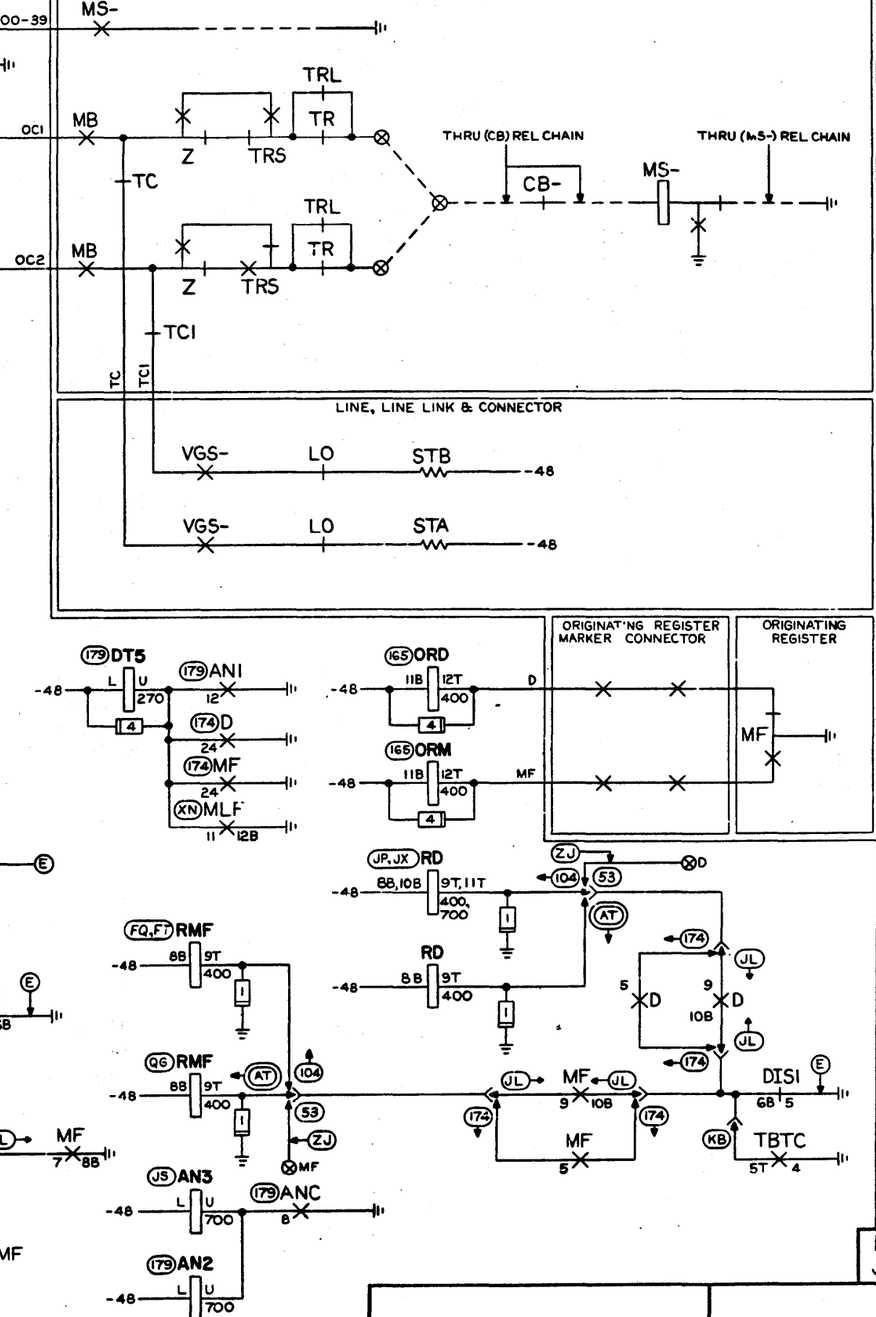
SD-25550-01-B2







SD-25550-01-B3

MARKER CIRCUIT (2) SD-25550-01-B3

BELL TELEPHONE LABORATORIES INCORPORATED

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FS 3

CLASS OF SERVICE REGISTER AND CHECKER COMEINED, COMPLETING, & DIAL TONE MARKERS

SHEET NOTES:
1. CTO → CS0-9, CT1 → CS10-19 (14), CT2 → CS20-29 (16)
2. CTO → CTAO, CT1 → CTA1, CT2 → CTA2

ORIG REGISTER
CTO-2 ON -48 F1

TRK LINK AND CONN
MCD CTO-2

ORIG REG MKR CONN
CT- RA MA CTAO-2
CGA RA MA CGA
CU- RC MC CU0,1,2,4,7
CGB RC MC CGB

TRK LINK AND CONN
MCD CGB (177)
MCD CGA (177)
MCD CU0,1,2,4,7

CUBO,1,2,4,7 (175)
CU0,1,2,4,7
XCS CS0-9 CS10-19 CS20-29

SEE NOTE 2 (XA) CTA-
SEE NOTE 1 (ZD) CS-
GTL4 (E)GTLI
(15) CT2 (14) CT1 CTO 7T 48 400
(17) CGA 5 2 CGB
(JC,JE) CGA1 L 270
(JC,JE) CGB1 U L 270
(YA) CTAO 13T 11B 400
(XA) CTA1 13T 11B 400
(XA) CTA2 15T 11B 400
(17) CTBO-2 U L 500

TO MASTER TEST FRAME CONNECTOR

(ZD) AO 4B 4T 400
(E) MCN 6B 6T 400
(E) MAN 8B 8T 400
(E) 2P 7B 7T 400
(ZD) CN 4B 4T 400
(E) GTL 5T
(E) MCN 7T 6 6 7T
(E) MCN 3 4B 4 5T
(E) MCN 6 7B 6 7T
(E) GTLI 7 8B
10T GTL4 9
(100) FLG2 10 11B
4T (ZD) CS0-9 3
(14) 4T (ZD) CS10-19 3
(16) 4T (ZD) CS20-29 3

AO MCN MAN 2P CN

CNC 41EB 3T 1 (E) DT2 2

(E) 2P MCD F 2P -48 ON
(E) MAN MCD F MAN -48 ON
CN MCB LV F CN -48 ON

TRK LINK AND CONN

CU- CGB -48
CN
CGA -48
F1

CSG1 LLC1 (NJK) FTK1 VFTO-4 VO-4 33,000
CSG2 2T 1 MT11 (100) FLG2 VO-4
(E) DT1 7 8T
CSO-29

LINE INS TEST CONTROL CO
LINE, LINE LINK AND CONNECTOR MCB VGBO-11 VO-4 CSO-29 MCB
LINE INS TEST CONTROL CO
SEE NOTE

(ZD) CS1,2,4,7,11,12 14,17,2,22,24,27 GTL4 (E)GTLI — CU0
(ZD) CS1,11,21 GTL4 (E)GTLI — CU1
(ZD) CS3,5,8,13,15, 18,23,25,28 GTL4 (E)GTLI — CU1
(ZD) CS2,3,12, 13,22,23 GTL4 (E)GTLI — CU2
(ZD) CS6,9,16, 19,26,29 GTL4 (E)GTLI — CU2
(ZD) CS4,5,6,14 15,16,24,25,26 GTL4 (E)GTLI — CU4
(ZD) CS0,10,20 GTL4 (E)GTLI — CU4
(ZD) CS0,7,8,9,10,17 18,19,20,27,28,29 GTL4 (E)GTLI — CU7

DRAWING ISSUE
410 WFO
433 FD
44L RA
49D JH

CROSSBAR SYSTEMS
NO.5
MARKER CIRCUIT
(2)
SD-25550-01-B4
49

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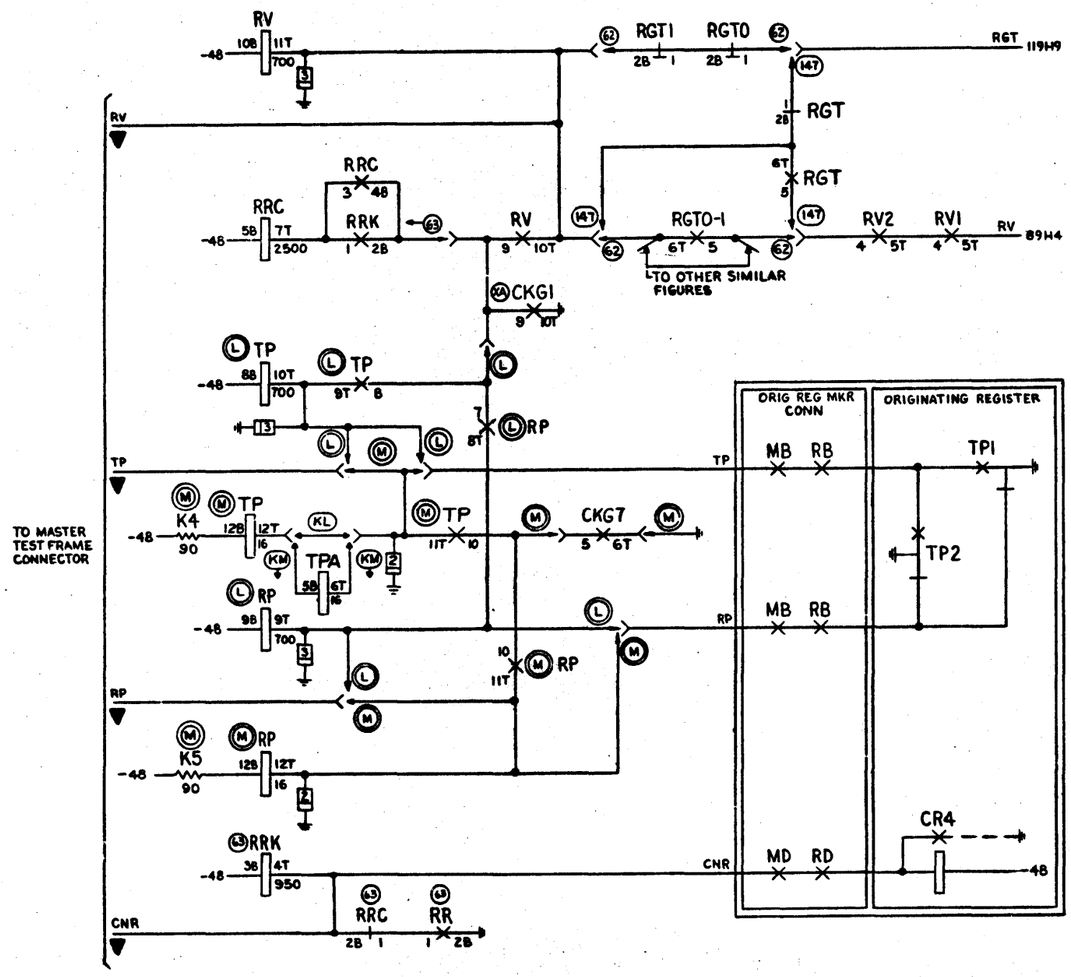
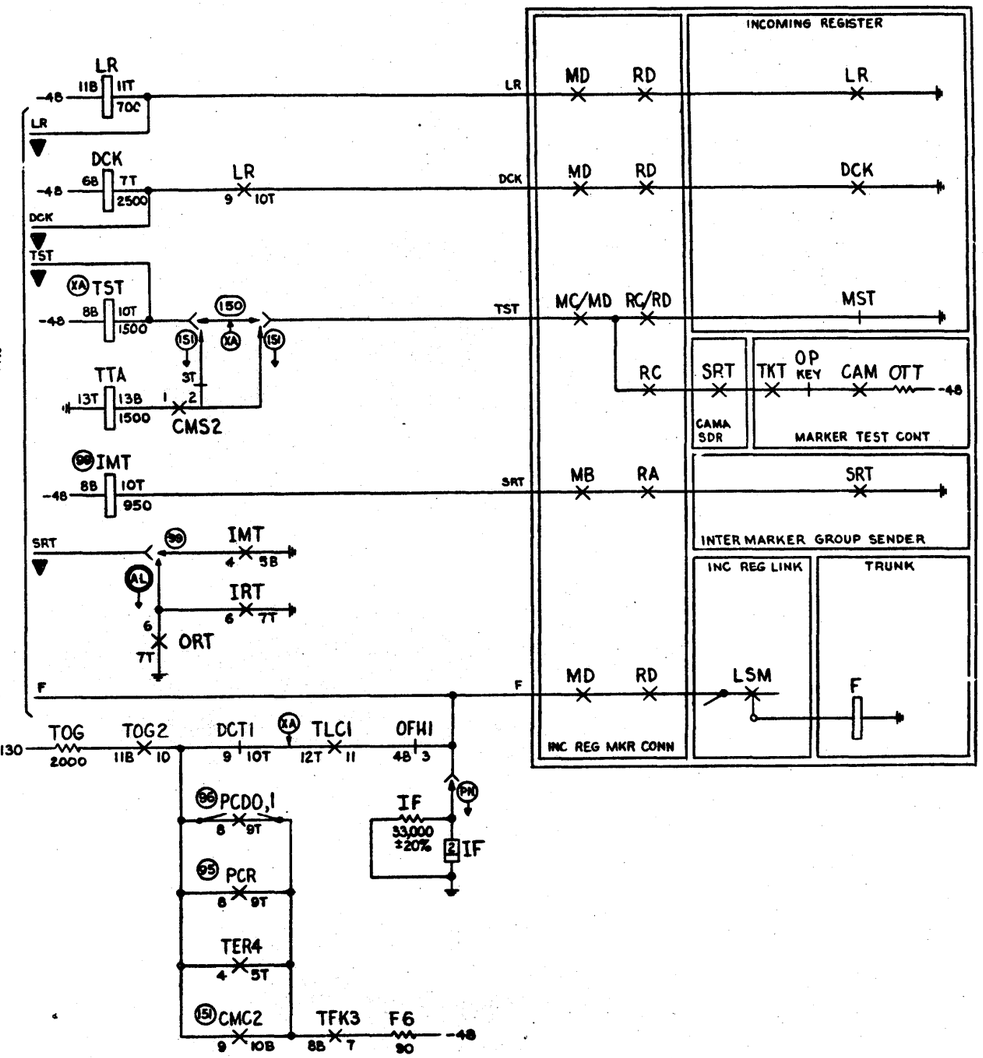
6S

SD-25550-01-B4

FS 4

CLASS OF SERVICE & OFF-NORMAL CONTROL COMBINED AND COMPLETING MARKERS





ISSUE	
41D	UP SAT
43B	EXC MAS
	LEA
46D	Com SAB
	JER
54D	REL AND
55A	MD

SD-25550-01-B5

MARKER CIRCUIT (2) SD-25550-01-B5 55

BELL TELEPHONE LABORATORIES INCORPORATED 65

PART OF FS 5

LINE LINK FRAME SEIZURE
COMBINED, COMPLETING & DIAL TONE MARKERS

LINE, LINE LINK & CONN

MCC MCB BS2 FG LLC1 LBS2 -16

(TOP) MCA MCA BSO LLC1 LBS0 -48

MCB MCA BSI LLC1 LBS1 -48

BSI BSO

CO

CO

(BOTTOM) MCA -48 TR E MP-

FTA ST-

CO TMB

LINE INS TEST CONTROL

82 LLB 3B 4T 700

TMB

MP TR MB- ST-

TR

LINE LINK MKR. CONN

MA / MB

33,103 LFS

YF, XF FTT3

ST39 9 10T
ST38 7 8T
ST37 5 6T
ST36 3 4T
ST35 1 2T
ST34 9 10B
ST33 7 8B
ST32 5 6B
ST31 3 4B
ST30 1 2B

YF, XF FTT2

ST29 9 10T
ST28 7 8T
ST27 5 6T
ST26 3 4T
ST25 1 2T
ST24 9 10B
ST23 7 8B
ST22 5 6B
ST21 3 4B
ST20 1 2B

FTT1

ST19 9 10T
ST18 7 8T
ST17 5 6T
ST16 3 4T
ST15 1 2T
ST14 9 10B
ST13 7 8B
ST12 5 6B
ST11 3 4B
ST 1 2B

ST9 FTTO 9 10T
ST8 FTTO 7 6T
ST7 FTTO 5 6T
ST6 FTTO 3 4T
ST5 FTTO 1 2T
ST4 FTTO 9 10B
ST3 FTTO 7 8B
ST2 FTTO 5 6B
ST1 FTTO 3 4B
ST0 FTTO 1 2B

FUT9 1 2B
FUT8 1 2B
FUT7 1 2B
FUT6 1 2B
FUT5 1 2B
FUT4 1 2B
FUT3 1 2B
FUT2 1 2B
FUT1 1 2B
FUT0 1 2B

XR XP XD

XRCT 2B 1 2T 1
XFUT 2B 1 2T 1
XFTT 2B 1 2T 1

EMT15 3 4T

TFK2 4 5T

LFS 18 LFS 33,000 ± 20%

LLC1 9 10B

LFK 1 2B

LFS -48

33 TFK3 6 7T

SP 4B 3

00 FLG.2 11 12T ZN ZN

185 LLC4 3

FKA 68 5 69
SKB 67 7 69
RCLA 1,2 5 92

33 SCBI 3T 2 1

SKA 69 7 8T 67

PTK 1 2B 33

165 LLC4 2

67 9T 7 8 YJ AMA3

185 LLC4 67 1

33 SOG3 8 9T

33

DRAWING ISSUE

41D	
43B	
44B	
54D	

MARKER CIRCUIT (2) SD-25550-01-B6

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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SD-25550-01-B6

PART OF FS 5

LINE LINK FRAME SEIZURE
COMBINED, COMPLETING, & DIAL TONE MARKERS

LINE LINK MKR CONNECTOR

MA

LINE, LINE LINK & CONN CKT

MCB

LO MCB

379 MCA

LGO-11 HGO-9 VGBO-11 MCA

TO OTHERS ON SAME LINE LINK FRAME

TO OTHERS FOR SAME LINE LINK FRAME

DTK

LOK

LFK

BS

HTK

DTK -48 5B 4T 400

LOT

PRL .01UF

LFKA -48 275

LFK -48 5B,6B 1500

TO MASTER TEST FRAME CONNECTOR

LLCI HGK

XLG -48 RBI 0.3

LG

CO

CO

CO

CO

LINE INS TEST CONTROL

LOB

LO

G

MCB DT

MCB

LO MCB

LOB

TK DT3 ONX

TCHK

LOT LOT1

LOT DT2 LOT1

LOT LOT1 LOB -48

TR2E

XLO -48

MCC LFKI 700 -48

TO MASTER TEST FRAME CONNECTOR CKT LFKI

CKG5 RCY4 92H7

LLC LLCI

CKG4 SCDI DISI TRLA MRLI LLCI LLC2 ONW G3 -48

LKI

OV BY

DRAWING ISSUE	
48D	
43B	BB
49D	
54D	REL

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

6S

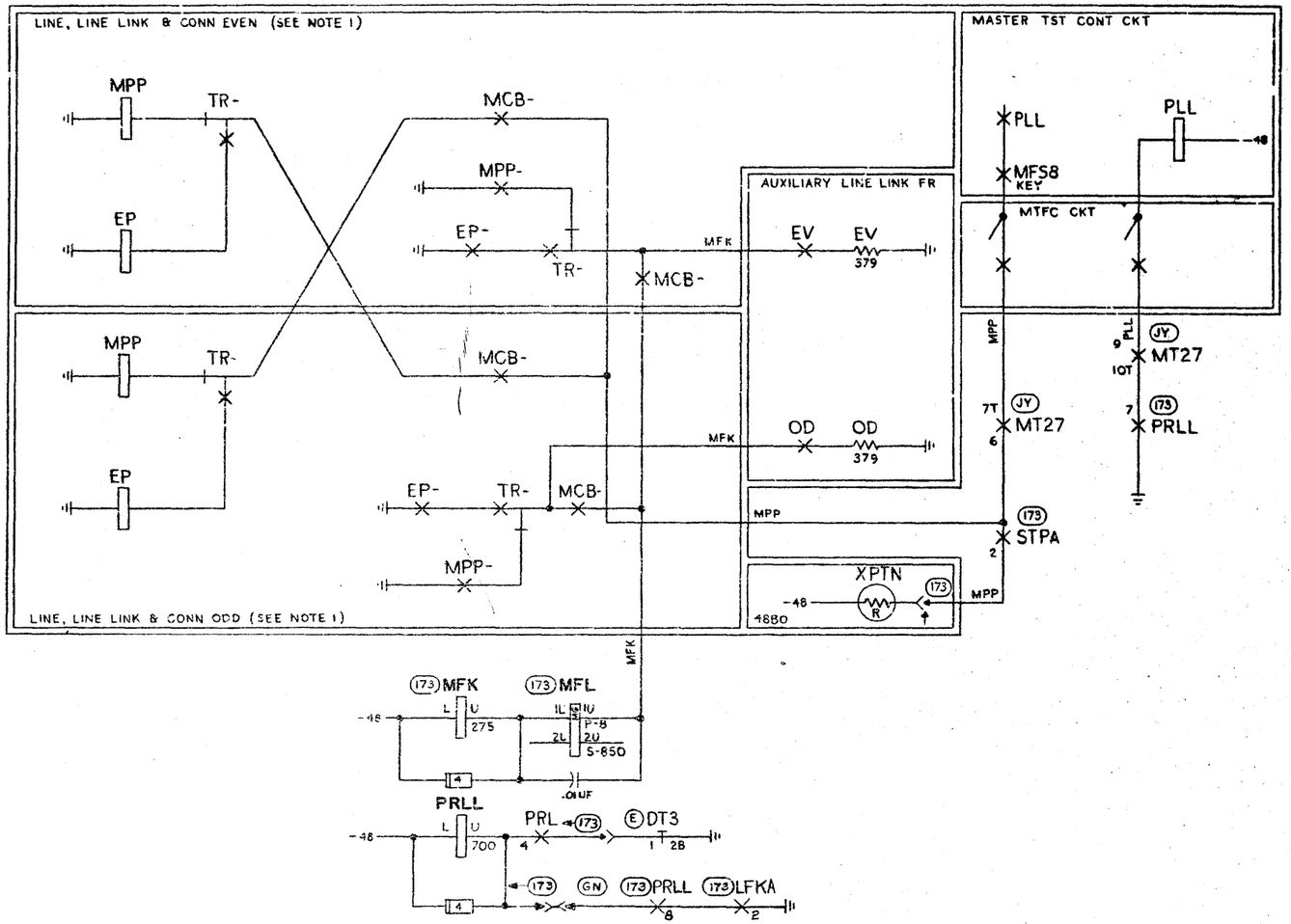
SD-25550-01-B7A

54

SD-25550-01-B7A

PART OF FS 5

LINE LINK FRAME SEIZURE COMBINED, COMPLETING, & DIAL TONE MARKERS



NOTES:

1. ASSOC OF MPP LEAD WITH (MCB-) & (MPP) RELAYS.

MCB- FOR LLFR.	CONNECTS TO MPP FOR LLFR.
00	01
01	00
02	03
03	02
04	05
05	04
06	07
07	06
08	09
09	08
-	-
-	-
-	-
-	-
30	31
31	30
32	33
33	32
34	35
35	34
36	37
37	36
38	39
39	38

DRAWING ISSUE

48D	E.M. Hall
51D	JR AB Hall
53A	LEA Kel Hall

53

MARKER CIRCUIT (2)

SD-25550-01-878

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25550-01-878

STABILO

PART OF FS 6

VERTICAL GROUP SELECTION
COMBINED, COMPLETING AND DIAL TONE
MARKERS

TO MASTER TEST FRAME CONNECTOR

VGTO-13 → LINE LINK MARKER CONN: MA → LINE, LINE LINK AND CONNECTOR: VGSO-13

SHEET NOTES:
(Z) 1. WIRING PASSES THROUGH APP FIG. Z WITH XA OPTION FOR (VGT12) AND (VGT13) RELAYS.

DRAWING ISSUE
43B
49D
51D
54D

54

MARKER CIRCUIT (2)

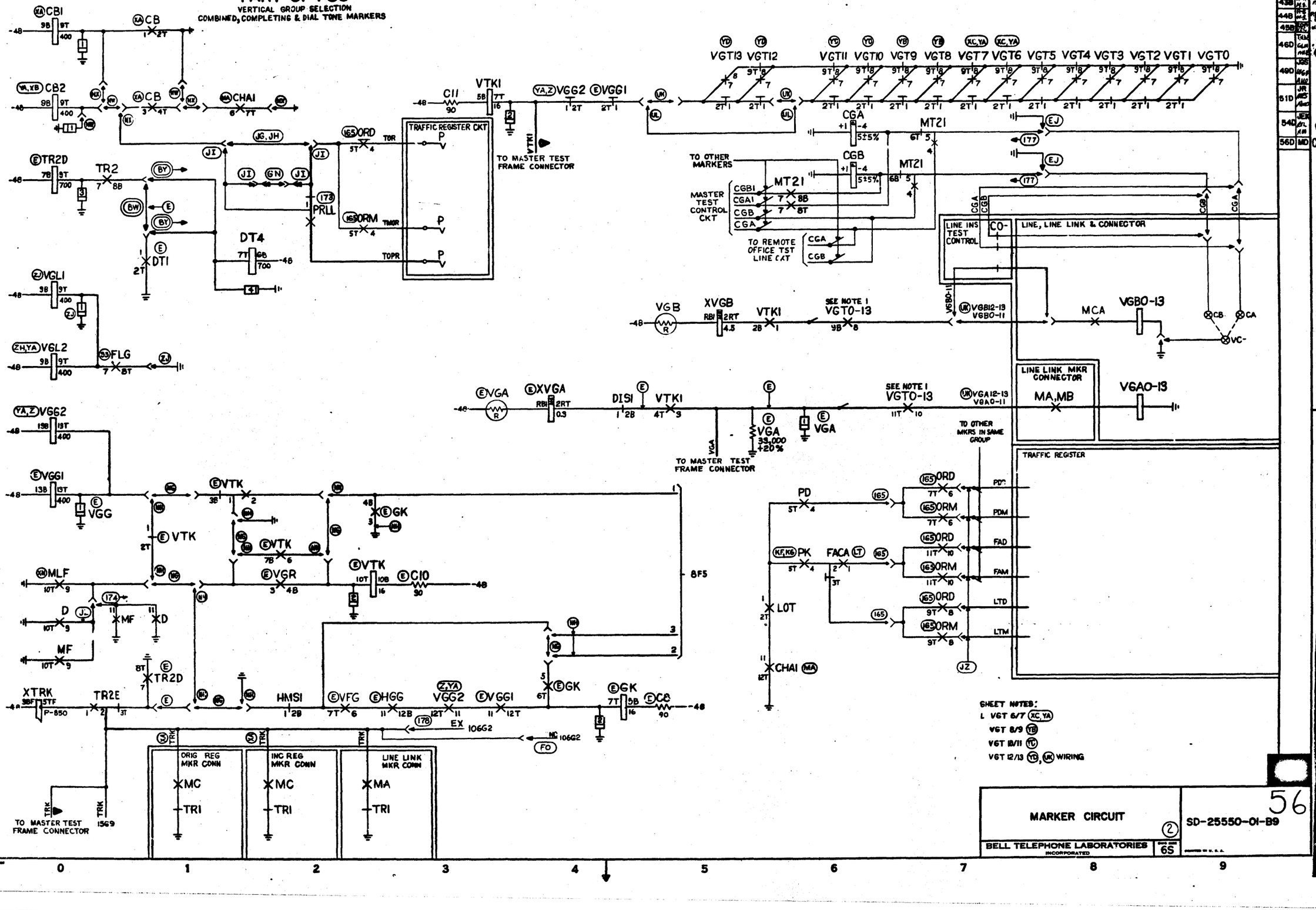
SD-25550-01-88

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-88

PART OF FS6

VERTICAL GROUP SELECTION
COMBINED, COMPLETING & DIAL TONE MARKERS



SHEET NOTES:
1. VGT 6/7 (XC, YA)
VGT 8/9 (YB)
VGT 10/11 (YC)
VGT 12/13 (YD, JK) WIRING

MARKER CIRCUIT	2	SD-25550-01-89
BELL TELEPHONE LABORATORIES INCORPORATED	6S	

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SD-25550-01-89

FS 7

HORIZONTAL GROUP SELECTION
COMBINED, COMPLETING AND DIAL TONE MARKERS

TO DISTRIBUTOR AND SCANNER CKT OR (ZXC) TO DISTRIBUTOR AND SCANNER APPLICATION
FOR ETS OR (ZXD) TO MKR DIST CONT CKT

TO MASTER TEST FRAME CONNECTOR

LINE LINK MARKER CONNECTOR

LINE, LINE LINK AND CONNECTOR

LINE INS TEST CONTROL CKT

TO MASTER TEST FRAME CONNECTOR

CB TO MKR DIST CONT CKT

DRAWING ISSUE: 428 JAN '67; 490 MAY '67; 510 OCT '67; 540 DEC '67; 59A

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

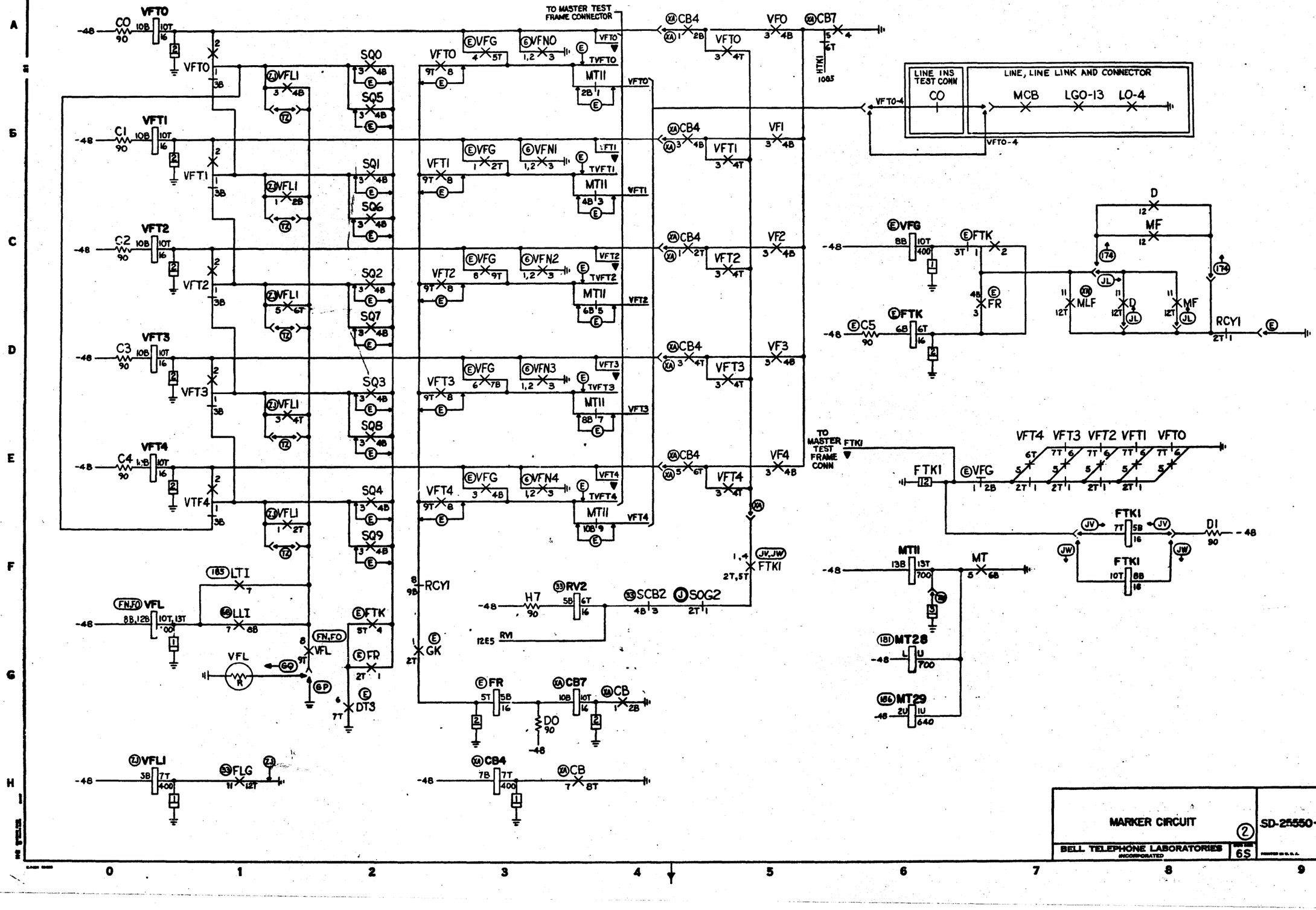
SD-25550-01-BIO

ISSUE 754

I-BIO

FS 8

VERTICAL FILE SELECTION
COMBINED, COMPLETING AND DIAL TONE MARKERS



FS 9

LINE LINK FRAME NUMBER REGISTRATION
COMBINED, COMPLETING, AND DIAL TONE MARKERS

TO MASTER TEST FRAME CONNECTOR

FUT0 FUT1 FUT2 FUT3 FUT4 FUT5 FUT6 FUT7 FUT8 FUT9 FUL

FUNO FUN1 FUN2 FUN3 FUN4 FUN5 FUN6 FUN7 FUN8 FUN9

CBD CB7 CBF CBDI DTI

FTTO FTT1 FTT2 FTT3 FTB0 FTB1 FTB2 FTB3 FTTB FTL LLI LTI

MTI5 FTNO FTN1 FTN2 FTN3 RVI CKGI

FT0 FT1 FT2 FT3 FU0 FU1 FU2 FU4 FU7

GTL2 GTU

CFGO CTGS CFGI CTGS CTFO CTGS CTF1 CTGS CTF2 CTGS CTF4 CTGS CTF7 CTGS

GTU GTLI OCI OC2 AMA4 CMC3

CTGS CMCI TGSI

FT0-3 ON FU0,1,2,4,7 — OUTGOING SENDER — SC MC — OUTGOING SENDER CONNECTOR

FT0-3/ FU0,1,2,4,7 — MCD — TRUNK LINK AND CONN

FI — -48 — RC/RD MC/MD — ORIG REG MKR CONNECTOR — ORIGINATING REGISTER

MB — LINE LINK MKR CONN

MARKER CIRCUIT	SD-25550-01-B12
BELL TELEPHONE LABORATORIES INCORPORATED	6S

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SD-25550-01-B12

FS 10

TRANSMITTAL AND CHECK OF HG-, VG-, AND VF- INFORMATION COMBINED, COMPLETING AND DIAL TONE MARKERS

DRAWING ISSUE
438 [illegible] R.D.
490 [illegible]

TO MASTER TEST FRAME CONNECTOR

HG0 HG1 HG2 HG4 HG7 VG0 VG1 VG2 VG4 VG7 VG10 VF0 VF1 VF2 VF3 VF4

OUTGOING SENDER CONNECTOR — MC SC

OUTGOING SENDER — HG 2/5 VGO/10 VFO-4 -48

ORIGINATING REGISTER MARKER CONNECTOR — MD RD MC RC MC RC

ORIGINATING REGISTER — HG 2/5 VGO/10 VFO-4

TRUNK LINK AND CONNECTOR — MCD

FI HG 2/5 VGO/10 VFO-4 ON -48

GTLI FTKI MDK DCTI CHA BT,BJ

CROSSBAR SYSTEMS
NO.5
MARKER CIRCUIT
SD-25550-01-BI3

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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SD-25550-01-BI3

FS II

CHECK OF REGISTER MEMORY
COMBINED, COMPLETING, & DIAL TONE MARKERS

RK1 · RK2 · CMC3 · 80A8 · 103,150 · FT0 FT1 FT2 FT3 · FU0 FU1 FU2 FU4 FU7 · VG0 VG1 VG2 VG4 VG7 VG10 · HG0 HG1 HG2 HG4 HG7 · AN2 · RCY6 · FTK1 · 80B1 · CB5 · MT · F4 · AIOD · NIOD · LL7 LL4 LL2 LL1 LL0 · CGA1 · CGB1 · CU7 CU4 CU2 CU1 CU0 · CT0 CT1 CT2 · VF4 VF3 VF2 VF1 VF0 · 59C3 · FLG · ITR3 · SOG3 · CN · 2P · MAN · MCN · A0 · FLG2 · 59D2 · 129A8 · CKR · PB XA · LGT · TO MASTER TEST FRAME CONNECTOR · GTL · CKG6 · 82C7 · ONX · DT1 · F9 · RK3 · GTU · OC · RYC · RAVI · RCY1 · CKG2 · 103A7 · 41A2

MARKER CIRCUIT (2) SD-25550-01-814

BELL TELEPHONE LABORATORIES INCORPORATED 6S

54

SD-25550-01-814

PART OF FS 12

TYPE OF CALL
COMBINED & COMPLETING MARKERS

ITR TO MASTER TEST FRAME CONNECTOR

ITR3 ITR2 ITR1 G5 -48 62 13B 15T 16 11B 15T 16 11B 12T 16

ITR1 11T 10 ITA 5T 1 2

CKG2 6B 5

103 HO TEA

RAVI 9T 8 ITR1 9T 8

SNK 8B 7 TEA 3T 1 2

TERI 9 10B 6 7T PCL3 9A AY,AZ TEA

ITA 6T 5B 950 -48 8T 9T 7B,9B -48 AY 700 AZ 450

CMC1 11T 10 BH

CMC1,2 12T 11B 400 -48 CMC

CMC3 10T 9B 400 -48

PCL3 11 12T 9A

CMC2 15A 3B 2 1 15A

PCDO-1 9A 4 5T

PCR 9A 4 5T

N50 F 10 11T E N50 1 2B

3184 RAL

TOLI 4 5T 3 4B TOA

SEE NOTE 105

RAVI 9 10B

RAV2 8 9 10T LTA

INC Y6,P0 5 6T

TOG1 5 6B 3 4B TOG1

TAN T 9 10T NA NA

TOLI 5T 7B 700 -48 3

TOS T 3 4B

TOA 2 1 3T

TOG1 AJ 11 12T AK 10 11T

CKG2 9 10B

TOA 8T 7B 700 -48 3

TER4 6B 10T 400 -48 11 1

TER2 3 4T

172 TER5 11B 12T 400 -48 4

TO MASTER TEST FR CONNECTOR

TER TOS SOS

PCL3 PCL2 PCL1 GC,GD G9 -48 62 11B 13T 16 13B 13T 16 10B 10T,12T 16 GC,GD PCL1

SOG3 SOG2 SOG1 G4 -48 62 10B 10T 16 10B 10T 16 8B 10T 16

OR 9 10T 15B FAC 6 7T 70

CMC OSGCO-9 TOS

OSGO-9 11 12B NW

TO ALL OSG RELS NM NL

TOG3 TOG2 TOG1 G7 -48 62 12B 12T 16 12B 12T 16 11B AS 13T AM 16

NSO F 8 9T E 1 2T

TER3 TER2 TER1 G6 -48 62 13B 13T 16 12B 12T 16 11B 15T 16

XLEA 5 6T PG 44 44 XLEB 5 6T PH 44 44 XPHC 3 4T XTHC 3 3,7 48,88 XOA 3,7 48,88 XOB D 5 6T XLTB T 5 6T 44,97 44,97 XLTA U 5 6T 44,97 44,97 XLPB V 5 6T 44,97 44,97 XLPA 6T 44,97 44,97 ZA

BD NZ NY BC OR 5 6T NY BD NZ BD 10 11T NSI

INC 8T 7 CA 10300 RCY 69A2 ONN 8462

UV,OP UV OP CMS2 15N 3B 2 15E TER4 3T 2 UV,OP XU UW,YJ,YV ONN 2B OP OQ

TER4 3 4 5B

N50 F 10 11T E N50 1 2B

70 OSGO-9 9 10B SONI GC GD 4 5T GD FF

NSI 3T 2

OSGO-9 FF FG 185 LTI 4 172 TER5 2 3B FG

CMF2 15J 7T 8T CMS0 15H 7T 6 CMS1 15G 7T 6 INC 1 2T TOL 5 6T TAN 5 6T 16S TANI 5 6T

ROA 7T 6

158 DCI 4 5T 159 VCI 4 5T FH 186 NAI 186 4 FH

DCK 4 5B

AL ORT 2B 1 AL IRT 2B 1 AK RTST 1 2T

LR 3T 2 TR2E XA TRK 9HO 4 5B 1 3 XA

ISSUE	
41D	
43B	
45B	
48D	
51D	
54D	
56D	

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

2

SD-25550-01-B15

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SD-25550-01-B15

(151) PART OF FS 12
TYPE OF CALL
COMBINED AND COMPLETING MARKERS

CAMA SENDER | INCOMING REGISTER MARKER CONN

ROI LCDO RD- MD- LCDO
LCDO 8B 10T 400 -48
LCDOA 6 6 (NT)
MPOA-E .1 UF 2 1 MPOA-E
LCDO

LCDI RD- MD- LCDI
LCDI 8B 10T 400 -48
LCDIA 6 6 (NT)
MPIA-E .1 UF 2 1 MPIA-E
LCDI

LCD2 RD- MD- LCD2
LCD2 8B 10T 400 -48
LCD2A 6 6 (NT)
MP2A-E .1 UF 2 1 MP2A-E
LCD2

ACD RD ME ACD
ACD 10T 8B 400 -48 1
ACD

DNC RC ME DNC
DNC 10T 8B 400 -48 1
DNC

FC RD ME FC
FC 10T 8B 400 -48 1
FC

VTC RD ME VTC
VTC 10T 8B 400 -48 1
VTC

WKC RD ME WKC
WKC 10T 8B 400 -48 1
WKC

TO MTFC

AD AD' OD OD'
AD 8B 10T 400 -48 1
OD 8B 10T 400 -48 1
7B 6 ORC
8 9B ORC
5 6T CMJ

TRUNK LINK & CONN | INCOMING TANDEM CAMA TRUNK
MCC MCB LF

OUT. SENDER CONN MKR PART | CAMA SENDER
S
AID AID ONI OID OID

OUT. SENDER CONN SENDER PART | OUT. CAMA SENDER
S
ORCO 6E 7T 950 -48 3 ORCO' OF CO ORCO -48
ORC 12T 11 ORCO
ORC1 6B 7T 950 -48 3 ORC1' ORC1 ORC1 -48
ORC 10T 9 ORC1
ORC2 6B 7T 950 -48 3 ORC2' ORC2 ORC2 -48
ORC 5B 4 ORC2
CMJ 4T 3 ORC
ORCO ORC1 ORC2 122F2 101H3
TO MTFC

MBA 2 1 CMCA 10 11T
CMCA 10B 12T 450 -48 2
CMCB 10B 12T 450 -48
CMCC 10B 12T 450 -48
8 9T CMC2

DRAWING ISSUE 49D BB

SD-25550-01-B16

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT (2)
SD-25550-01-B16
BELL TELEPHONE LABORATORIES INCORPORATED 6S

PART OF FS 13

TYPE OF CALL AND TANDEM SCREENING COMBINED AND COMPLETING MARKERS

ORIG. REG | ORIG REG MKR CONN | RA | MA | CMC | FAC | OR

INC. REG | INC REG MKR CONN | TAN | FVD | TOL | TAN- | RO | TAN 2,3,4

TO MASTER TEST FR CONN

FACA 15T 68 400 -48

FAC 12T 11B 400

OR 13T 11B 13B 400

OROA 12B 11 (110) (LW) (UM)

(110) OROA
(112) OROB,C,D
13T 13B 400 -48
(110) ORO 6

FAC (5C) (5T)

FOREIGN AREA TRNSL CONN CA2 | FOREIGN AREA TRNSL OR -48

XCLC 21E6 XT XCLC 18A7

XCLC P-2,2 3BF 5TF -48

TAN 13T 13B 400

FOREIGN AREA TRNSL CONN CA- | FOREIGN AREA TRNSL TAN/TOL -48

(141) XTAN 5TF 5BF P-2,2
(110) TANOA 12T 11 TANO 400±1% -48
(113) TANIA 12T 11 TANI 400±1% -48
(111) TAN2A,3A,4A 12T 11
TAN2,3,4 400±1% -48

TAN 2A,3A,4A/ TOLOA 11 12B

TANOA,1A 11 12B

TANOA
(112) TANOB,C,D
13T 13B 400 -48
(110) TANO 6

TANIA
(112) TANIB,C,D
13T 13B 400 -48
(110) TANI 6

TANI 9 10T
TAN 10T 9 NB

TOL 13T 13B 400

(135) TANI 13T 13B 400

(111) TOLOA / TAN 2A,3A,4A
TOLO/ TAN 2,3,4 6
13T 13B 400 -48

(113) TOLOB,C,D 13T 13B 400 -48

(113) TAN2B,C,D/TAN3B,C,D/TAN4B,C,D
(110) INCO 12T 11
13T 13B 400 -48

(161) FACI 8
FAC 18 9
SOGI 4 56
(161) FACI U L 700 -48
4
INCO
INC 2B 1
13T 13B 400 -48
NE FACI 9EAS

(161) FDO 8
(161) FDI 1
(161) FEO 8
(161) FEI 1
(161) INT 10 20 640 -48

SON INTI 7160
(161) FACI 2
(161) INT 11
(161) INTI 1L 2L 640 -48

SWTI (153) TSC6 4 5B (N2) TCA 1 2T
(152)
SWTA (YG) (PP) INC 7 8B (YG,P0)
TAN 12B (151) 50R 82C3
SWTX (145) TANI 11 12B

TOL 11 12B
(H) TOLO SWTO (21)

DRAWING ISSUE
41D
45B
49C

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)
SD-25550-01-817

BELL TELEPHONE LABORATORIES INCORPORATED
6S

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SD-25550-01-817

PART OF FS 13

TYPE OF CALL AND TANDEM SCREENING COMBINED AND COMPLETING MARKERS

INC REG | INC REG MKR CONN | OA, OB, ETC. | RA | MA | INC

RO CAMAI CAMAO | RD | ME | TCA

RD | ME | TCB

PCR | RB | MB | PCR

PCD | RB | MB | PCD

PCD1 | RB | MB | PCD1

RO

RO | RA | MD | RO

ROI | RE

CLI | RE

CL2 | RE

CAMA SENDER

INC REG MKR CONN REG PART

EXR -48 PLANT REG CKT

EXR JK, LP & KEY CKT

TO MASTER TEST FR CONNECTOR

INC | TCA | TCB | PCR | PCD | PCD1 | RO | CKG | CAMS | CAMF

TSC6 13T 12B -48 400

TCA 13T 13B -48 400

TCB 13T 13B -48 400

TSC7 13T 12B -48 400

TSC8 13T 12B -48 400

TSC9 13T 12B -48 400

17A8 XCLC

INC 9T 9B 400

TSC6 8T 7 | TCA 2B 1 | TCB 2B 1

CMFO 13T 13B 400

CMFI 13T 13B 400

TSC7 8T 7 | TCB 4B 3 | TCA 4B 3

PCR 10T 8B 400

CMSO 12T 11B 400

TSC8 8T 7 | TCB 6B 5 | TCA 6B 5

PCDO 10T 8B 400

PCDI 10T 8B 400

TSC9 8T 7 | TCA 8B 7 | TCB 8B 7

CMSI 12T 11B 400

CKG2 9T 8

RO 4T 4B 400

128F3 NIOD 169

CKG3 10T

CKG5 13T 13B -48 700

FA,6D,JW CKG8 8T 6B -48 700

EX 7T 5 | EXA 11T 10 | TR2G 4 5T | EXA 12T 11B -48 400

FOREIGN AREA TRANSLATOR CONN | FOREIGN AREA TRANSLATOR

CMF3 2B 1 CMF | MCA/MCB | CMF -48

CMSO 5B 4 CMSO | MCA/MCB | CMSO -48

CMSI 5B 4 CMSI | MCA/MCB | CMSI -48

EX -48 226 BAT. BWD GWD GND JJ

EX 9-P 1+ 30,500 ±5%

CMS2 12T 11B -48 400

CMSI 5T | CMSO 5T

CKG7 2B 1 AL 105G4

TSC7 9B 8 | TSC6 9B 8

TCB 7 8T

CMF2 9T 7B -48 400

CMF3 13T 12B -48 400

CMF4 13T 12B -48 400

CMF 21

4lD 43B 47D 49D 54D

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-818

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25550-01-818

PART OF FS 13

TYPE OF CALL AND TANDEM SCREENING
COMBINED AND COMPLETING MARKERS

TSC0 (10)OROA TS0 2B 1	TSC6 (10)OROA TS6 4T 3	TSC12 (11)OROB TS12 6B 5	TSC18 (11)OROB TS18 6T 5	TSC24 (11)OROC TS24 6B 5	TSC30 (11)OROC TS30 6T 5	TSC36 (11)OROD TS36 6B 5	TSC41 (11)OROD TS41 4T 3
(10)TANOA TS0 2B 1	(10)TANOA TS6 4T 3	(11)TANOB TS12 6B 5	(11)TANOB TS18 6T 5	(11)TANOC TS24 6B 5	(11)TANOC TS30 6T 5	(11)TANOD TS36 6B 5	(11)TANOD TS41 4T 3
(10)TANIA TS0 2B 1	(10)TANIA TS6 4T 3	(11)TANIB TS12 6B 5	(11)TANIB TS18 6T 5	(11)TANIC TS24 6B 5	(11)TANIC TS30 6T 5	(11)TANID TS36 6B 5	(11)TANID TS41 4T 3
(11)TAN 2A, 3A, 4A OR TOLOA TS0 2B 1	(11)TAN 2A, 3A, 4A OR TOLOA TS6 4T 3	(11)TAN 2B, 3B, 4B OR TOLOB TS12 6B 5	(11)TAN 2B, 3B, 4B OR TOLOB TS18 6T 5	(11)TAN 2C, 3C, 4C OR TOLOC TS24 6B 5	(11)TAN 2C, 3C, 4C OR TOLOC TS30 6T 5	(11)TAN 2D, 3D, 4D OR TOLOD TS36 6B 5	(11)TAN 2D, 3D, 4D OR TOLOD TS41 4T 3
TSC1 (10)OROA TS1 4B 3	TSC7 (10)OROA TS7 6T 5	TSC13 (11)OROB TS13 8B 7	TSC19 (11)OROB TS19 8T 7	TSC25 (11)OROC TS25 8B 7	TSC31 (11)OROC TS31 8T 7	TSC37 (11)OROD TS37 8B 7	TSC42 (11)OROD TS42 6T 5
(10)TANOA TS1 4B 3	(10)TANOA TS7 6T 5	(11)TANOB TS13 8B 7	(11)TANOB TS19 8T 7	(11)TANOC TS25 8B 7	(11)TANOC TS31 8T 7	(11)TANOD TS37 8B 7	(11)TANOD TS42 6T 5
(10)TANIA TS1 4B 3	(10)TANIA TS7 6T 5	(11)TANIB TS13 8B 7	(11)TANIB TS19 8T 7	(11)TANIC TS25 8B 7	(11)TANIC TS31 8T 7	(11)TANID TS37 8B 7	(11)TANID TS42 6T 5
(11)TAN 2A, 3A, 4A OR TOLOA TS1 4B 3	(11)TAN 2A, 3A, 4A OR TOLOA TS7 6T 5	(11)TAN 2B, 3B, 4B OR TOLOB TS13 8B 7	(11)TAN 2B, 3B, 4B OR TOLOB TS19 8T 7	(11)TAN 2C, 3C, 4C OR TOLOC TS25 8B 7	(11)TAN 2C, 3C, 4C OR TOLOC TS31 8T 7	(11)TAN 2D, 3D, 4D OR TOLOD TS37 8E 7	(11)TAN 2D, 3D, 4D OR TOLOD TS42 6T 5
TSC2 (10)OROA TS2 6B 5	TSC8 (10)OROA TS8 8T 7	TSC14 (11)OROB TS14 10B 9	TSC20 (11)OROB TS20 10T 9	TSC26 (11)OROC TS26 10B 9	TSC32 (11)OROC TS32 10T 9	TSC38 (11)OROD TS38 10B 9	TSC43 (11)OROD TS43 8T 7
(10)TANOA TS2 6B 5	(10)TANOA TS8 8T 7	(11)TANOB TS14 10B 9	(11)TANOB TS20 10T 9	(11)TANOC TS26 10B 9	(11)TANOC TS32 10T 9	(11)TANOD TS38 10B 9	(11)TANOD TS43 8T 7
(10)TANIA TS2 6B 5	(10)TANIA TS8 8T 7	(11)TANIB TS14 10B 9	(11)TANIB TS20 10T 9	(11)TANIC TS26 10B 9	(11)TANIC TS32 10T 9	(11)TANID TS38 10B 9	(11)TANID TS43 8T 7
(11)TAN 2A, 3A, 4A OR TOLOA TS2 6B 5	(11)TAN 2A, 3A, 4A OR TOLOA TS8 8T 7	(11)TAN 2B, 3B, 4B OR TOLOB TS14 10B 9	(11)TAN 2B, 3B, 4B OR TOLOB TS20 10T 9	(11)TAN 2C, 3C, 4C OR TOLOC TS26 10B 9	(11)TAN 2C, 3C, 4C OR TOLOC TS32 10T 9	(11)TAN 2D, 3D, 4D OR TOLOD TS38 10B 9	(11)TAN 2D, 3D, 4D OR TOLOD TS43 8T 7
TSC3 (10)OROA TS3 8B 7	TSC9 (10)OROA TS9 10T 9	TSC15 (11)OROB TS15 12B 11	TSC21 (11)OROB TS21 12T 11	TSC27 (11)OROC TS27 12B 11	TSC33 (11)OROC TS33 12T 11	TSC39 (11)OROD TS39 12B 11	TSC44 (11)OROD TS44 10T 9
(10)TANOA TS3 8B 7	(10)TANOA TS9 10T 9	(11)TANOB TS15 12B 11	(11)TANOB TS21 12T 11	(11)TANOC TS27 12B 11	(11)TANOC TS33 12T 11	(11)TANOD TS39 12B 11	(11)TANOD TS44 10T 9
(10)TANIA TS3 8B 7	(10)TANIA TS9 10T 9	(11)TANIB TS15 12B 11	(11)TANIB TS21 12T 11	(11)TANIC TS27 12B 11	(11)TANIC TS33 12T 11	(11)TANID TS39 12B 11	(11)TANID TS44 10T 9
(11)TAN 2A, 3A, 4A OR TOLOA TS3 8B 7	(11)TAN 2A, 3A, 4A OR TOLOA TS9 10T 9	(11)TAN 2B, 3B, 4B OR TOLOB TS15 12B 11	(11)TAN 2B, 3B, 4B OR TOLOB TS21 12T 11	(11)TAN 2C, 3C, 4C OR TOLOC TS27 12B 11	(11)TAN 2C, 3C, 4C OR TOLOC TS33 12T 11	(11)TAN 2D, 3D, 4D OR TOLOD TS39 12B 11	(11)TAN 2D, 3D, 4D OR TOLOD TS44 10T 9
TSC4 (10)OROA TS4 10B 9	TSC10 (11)OROB TS10 2B 1	TSC16 (11)OROB TS16 2T 1	TSC22 (11)OROC TS22 2B 1	TSC28 (11)OROC TS28 2T 1	TSC34 (11)OROD TS34 2B 1	TSC40 (11)OROD TS40 2T 1	TSC45 (11)OROD TS45 12T 11
(10)TANOA TS4 10B 9	(11)TANOB TS10 2B 1	(11)TANOB TS16 2T 1	(11)TANOC TS22 2B 1	(11)TANOC TS28 2T 1	(11)TANOD TS34 2B 1	(11)TANOD TS40 2T 1	(11)TANOD TS45 12T 11
(10)TANIA TS4 10B 9	(11)TANIB TS10 2B 1	(11)TANIB TS16 2T 1	(11)TANIC TS22 2B 1	(11)TANIC TS28 2T 1	(11)TANID TS34 2B 1	(11)TANID TS40 2T 1	(11)TANID TS45 12T 11
(11)TAN 2A, 3A, 4A OR TOLOA TS4 10B 9	(11)TAN 2B, 3B, 4B OR TOLOB TS10 2B 1	(11)TAN 2B, 3B, 4B OR TOLOB TS16 2T 1	(11)TAN 2C, 3C, 4C OR TOLOC TS22 2B 1	(11)TAN 2C, 3C, 4C OR TOLOC TS28 2T 1	(11)TAN 2D, 3D, 4D OR TOLOD TS34 2B 1	(11)TAN 2D, 3D, 4D OR TOLOD TS40 2T 1	(11)TAN 2D, 3D, 4D OR TOLOD TS45 12T 11
TSC5 (10)OROA TS5 2T 1	TSC11 (11)OROB TS11 4B 3	TSC17 (11)OROB TS17 4T 3	TSC23 (11)OROC TS23 4B 3	TSC29 (11)OROC TS29 4T 3	TSC35 (11)OROD TS35 4B 3		
(10)TANOA TS5 2T 1	(11)TANOB TS11 4B 3	(11)TANOB TS17 4T 3	(11)TANOC TS23 4B 3	(11)TANOC TS29 4T 3	(11)TANOD TS35 4B 3		
(10)TANIA TS5 2T 1	(11)TANIB TS11 4B 3	(11)TANIB TS17 4T 3	(11)TANIC TS23 4B 3	(11)TANIC TS29 4T 3	(11)TANID TS35 4B 3		
(11)TAN 2A, 3A, 4A OR TOLOA TS5 2T 1	(11)TAN 2B, 3B, 4B OR TOLOB TS11 4B 3	(11)TAN 2B, 3B, 4B OR TOLOB TS17 4T 3	(11)TAN 2C, 3C, 4C OR TOLOC TS23 4B 3	(11)TAN 2C, 3C, 4C OR TOLOC TS29 4T 3	(11)TAN 2D, 3D, 4D OR TOLOD TS35 4B 3		

ISSUE 438 PD

43

NO. 5
MARKER CIRCUIT

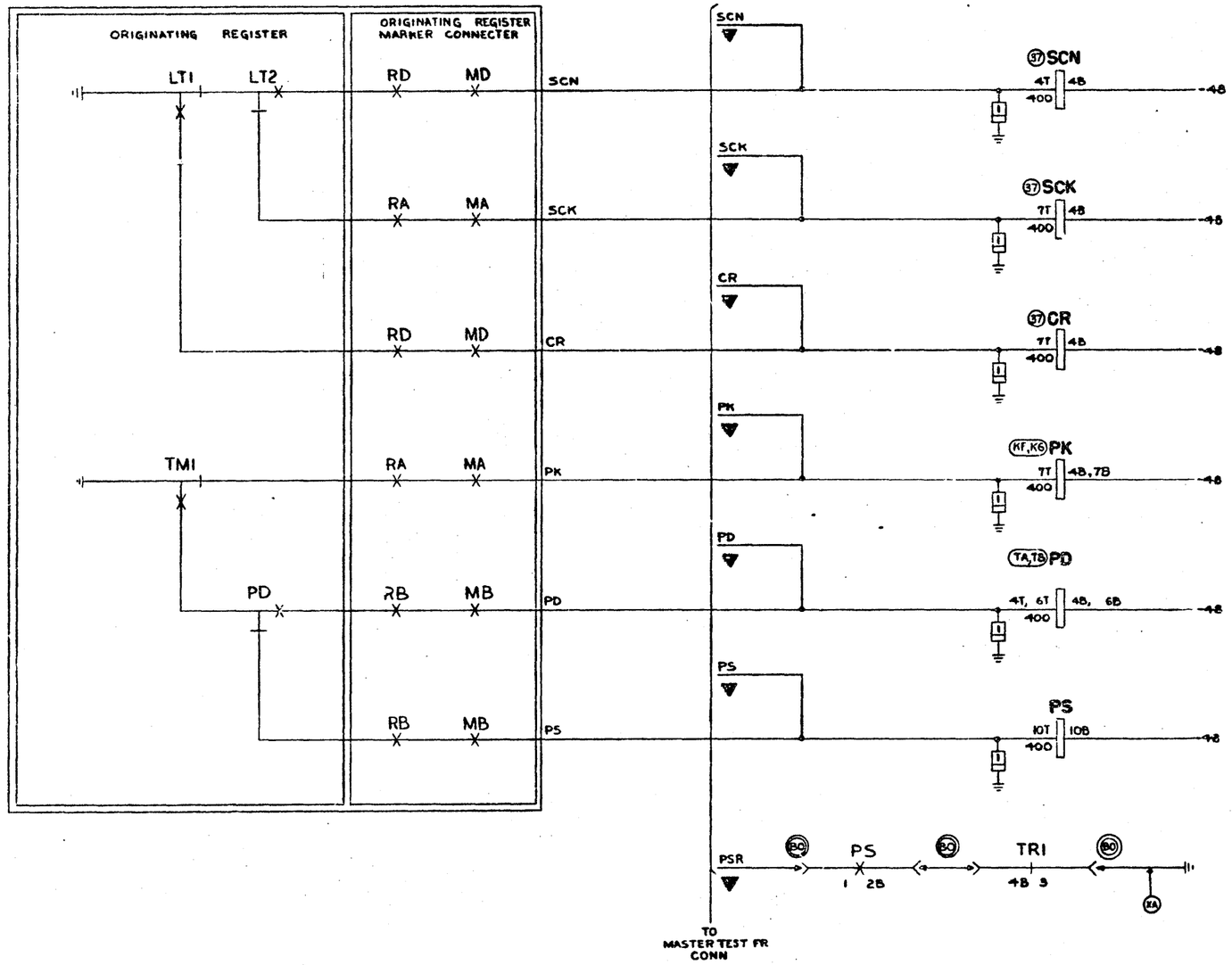
SD-25550-01-819

BELL TELEPHONE LABORATORIES
INCORPORATED

SD-25550-01-819

FS 14

CALLING LINE CONDITIONS INDICATED BY
ORIGINATING REGISTER
COMBINED AND COMPLETING MARKERS



SD-25550-01-820

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

46

SD-25550-01-820

FS 15

TYPE OF TRANSLATION COMBINED & COMPLETING MARKERS

ORIG REG

ORIG REG MKR CONN

MC

RA MA

OP MAN IIC SCI IIB OPI

IM GRP SDR

CL3 FVD 2DT TT II LT XII

INC REG MKR CONN

R- M-

INC REG

CL2 CL3 RO CL1 CL2

CAMA SENDER

INC REG MKR CONN REG PART

CLI CL2 ROI LT TT R-

LT2 LTI LT II XII FVD 2DT TT OA OB PHC THC

TO MA.TST FR CONN

LT2 (KE) 400 13T 13B

ELT 400 8T 13B

IIX (LW,LX) 400 IIT,I5T 11B,13B

XII 400 9T 9B

TC5,6 400 13T 11B

TC7 (LW,LX) 400 13T,13T 11B,13B

XT (XA) P-2.2 RO -48 38F 51F 3T XCLC 17A8

OA (BN, BM) 400 5T 5B 12T 11B

OB (D) 400 5T 5B 12T 11B

PHC (Z6) 400 5T 5B

THC (Z9) 400 5T 5B

DRAWING ISSUE		
41D	KLT RDA RCH	WEQ
45B	RCH RCC	
46D	TJH MGM AHP	
49D	JSS WAC LAF	

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)

BELL TELEPHONE LABORATORIES INCORPORATED

65

49

SD-25550-01-B21

SD-25550-01-B21

PART OF FS 16

A DIGIT TRANSLATION
COMBINED AND COMPLETING MARKERS

DRAWING ISSUE
46D
45B
43B
41D

PCR PCDO-1 SCN SCK CR PS PK PD OR FAC TANI TAN INC CKGI TOL TCA TCB TSC6 TSC7 TSC8 TSC9 HAT ACD LCDO LCDI LCD2 WKC FC VTC DNC INCO IC- LCDO LCDI LCD2 ACD WKC DNC FC VTC

LT2 ELT IIX TC5 TC6 TC7 OR TOL AC7 INC AC4 TAN TANI CMF3 RO MC- FOR AREA TRNSL CONN RO CMS2 FAC TOL TANI TAN ROA ROA TO MASTER TEST FR CONN TOA RAVI TEA INC INCO TANI TAN CMFO CMFI TOL ACO AC1 TC5 TC6 TC7 ELT LT2

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

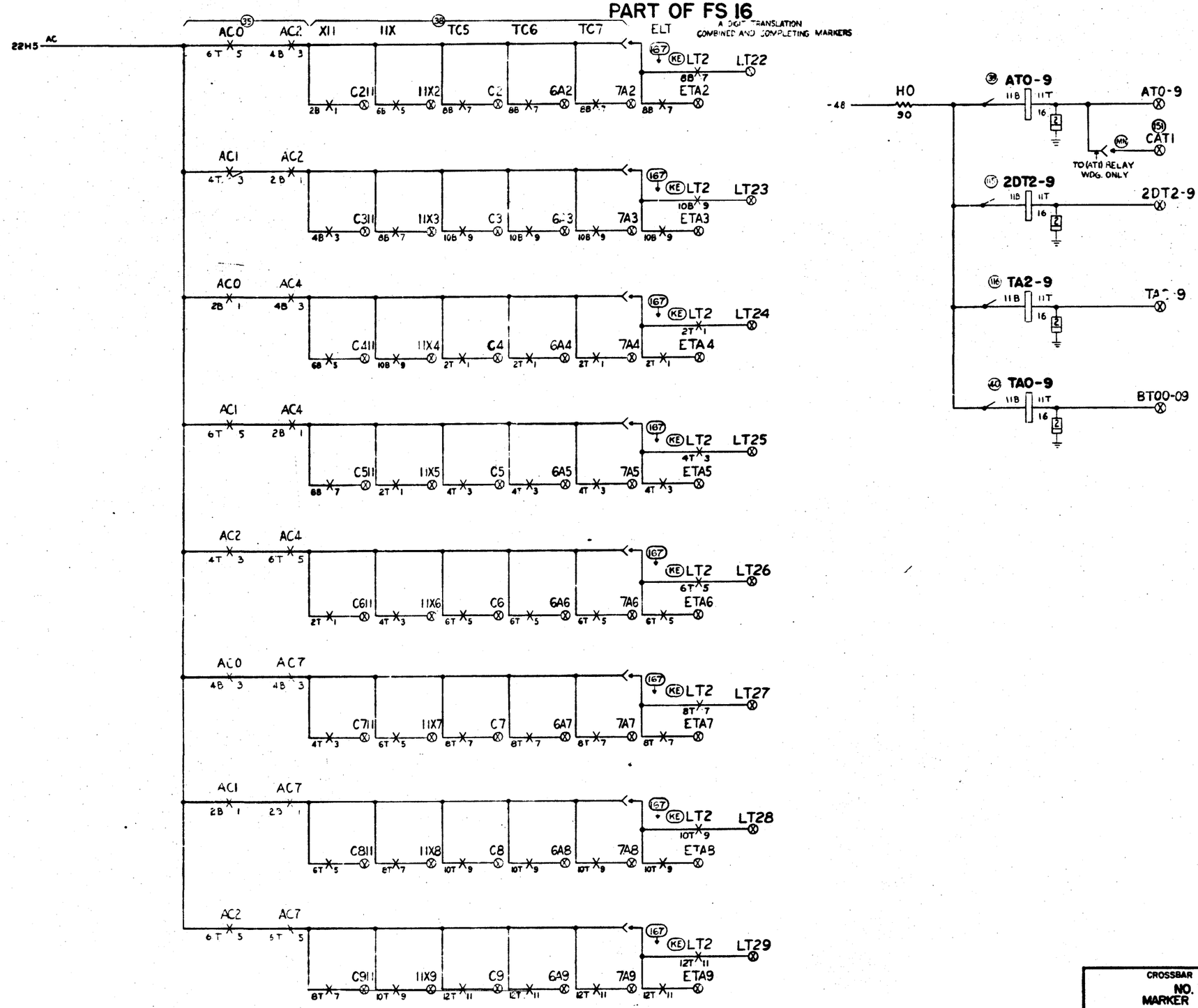
46

SD-25550-01-822

SD-25550-01-822

PART OF FS 16

A DIGIT TRANSLATION COMBINED AND COMPLETING MARKERS



DRAWING ISSUE
410 5XM
458 PIC 1EC
460 T-M 4-M AMD
490 3SS 8&9 MP

SD-25550-01-B23

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)

BELL TELEPHONE LABORATORIES INCORPORATED

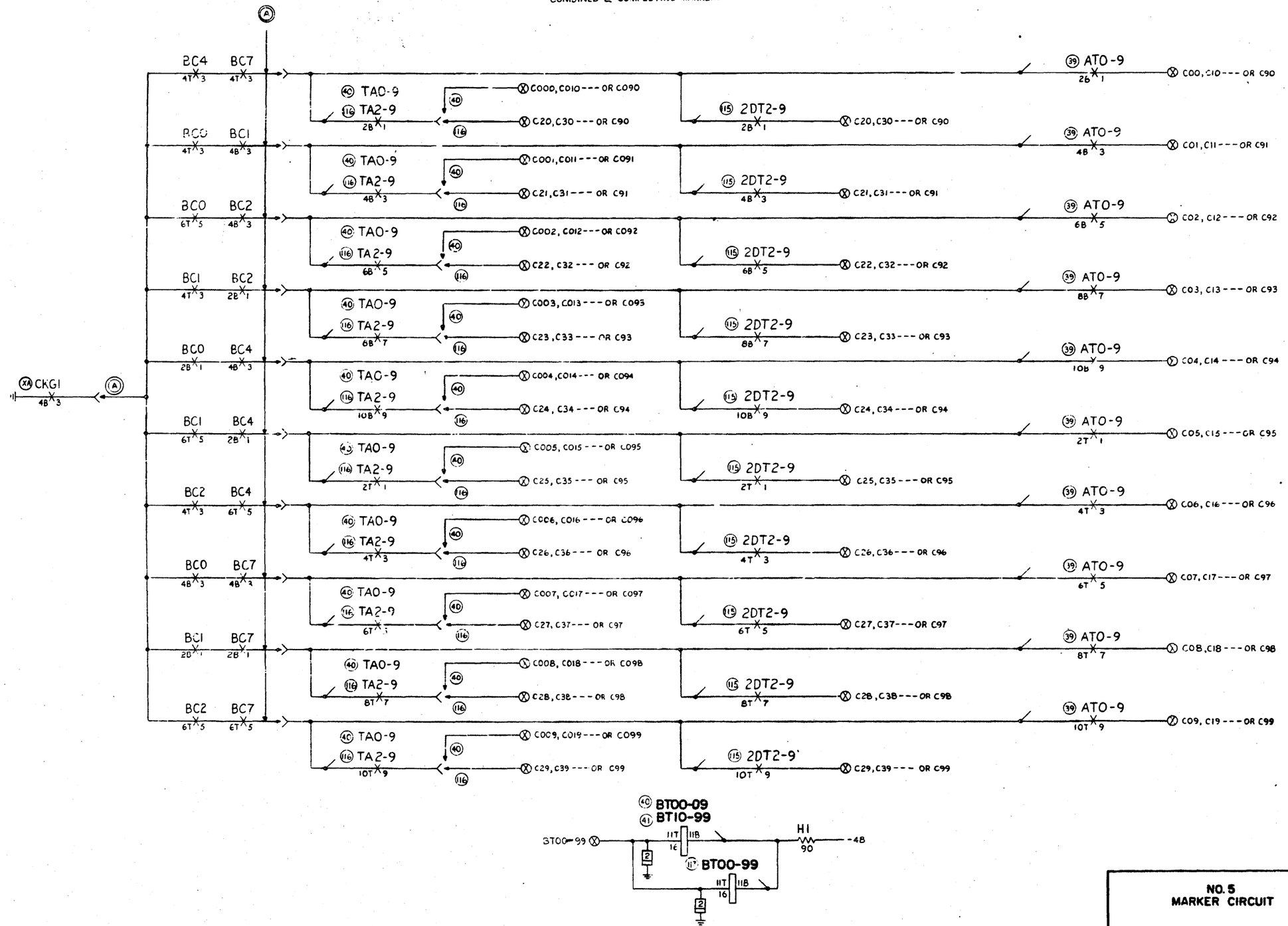
6S

49

SD-25550-01-B23

FS 17

TRANSLATION FOR 2 DIGIT CODE POINTS
COMBINED & COMPLETING MARKERS



NO. 5 MARKER CIRCUIT	SD-25550-01-824
BELL TELEPHONE LABORATORIES INCORPORATED	6S

DRAWING ISSUE 4:1D

41

SD-25550-01-824

FS 18

TRANSLATION FOR 3 DIGIT CODE POINTS
COMBINED & COMPLETING MARKERS

FOREIGN AREA
TRNSL CONN

ABC1
DEF1
-48

CGC

(XA) CKG1
6B 5

(C)

CC4 4T 3	CC7 4T 3	(40) BT00-09 (41) BT10-99 (117) BT00-99 2B 1	(X) C000, C010--- OR C990
CC0 4T 3	CC1 4B 3	(40) BT00-09 (41) BT10-99 (117) BT00-99 4B 3	(X) C001, C011--- OR C991
CC0 6T 5	CC2 4B 3	(40) BT00-09 (41) BT10-99 (117) BT00-99 6B 5	(X) C002, C012--- OR C992
CC1 4T 3	CC2 2B 1	(40) BT00-09 (41) BT10-99 (117) BT00-99 8B 7	(X) C003, C013--- OR C993
CC0 2B 1	CC4 4B 3	(40) BT00-09 (41) BT10-99 (117) BT00-99 10B 9	(X) C004, C014--- OR C994
CC1 6T 5	CC4 2B 1	(40) BT00-09 (41) BT10-99 (117) BT00-99 2T 1	(X) C005, C015--- OR C995
CC2 4T 3	CC4 6T 5	(40) BT00-09 (41) BT10-99 (117) BT00-99 4T 3	(X) C006, C016--- OR C996
CC0 4B 3	CC7 4B 3	(40) BT00-09 (41) BT10-99 (117) BT00-99 6T 5	(X) C007, C017--- OR C997
CC1 2B 1	CC7 2B 1	(40) BT00-09 (41) BT10-99 (117) BT00-99 8T 7	(X) C008, C018--- OR C998
CC2 6T 5	CC7 6T 5	(40) BT00-09 (41) BT10-99 (117) BT00-99 10T 9	(X) C009, C019--- OR C999

(C)

DRAWING ISSUE
41D

41

NO.5
MARKER CIRCUIT

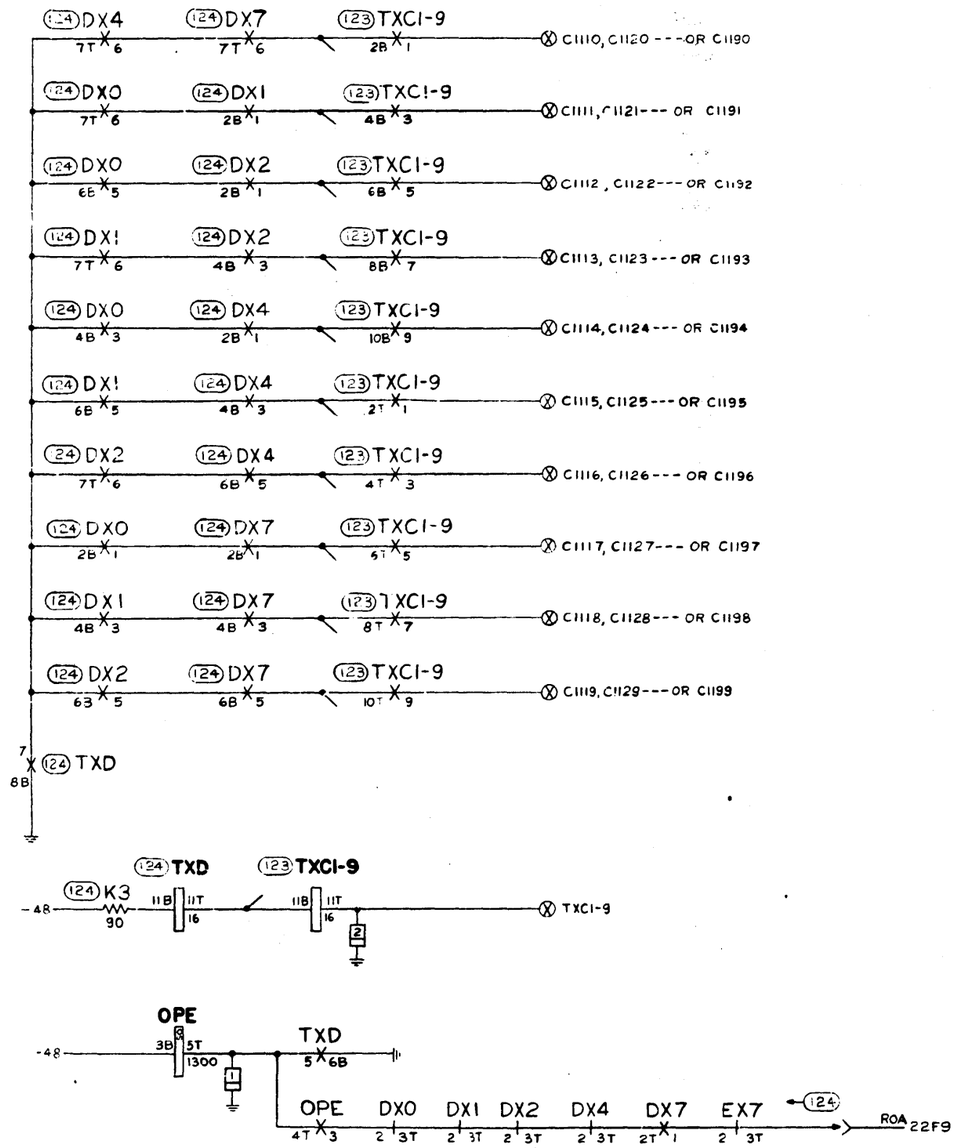
SD-25550-01-B25

BELL TELEPHONE LABORATORIES
INCORPORATED

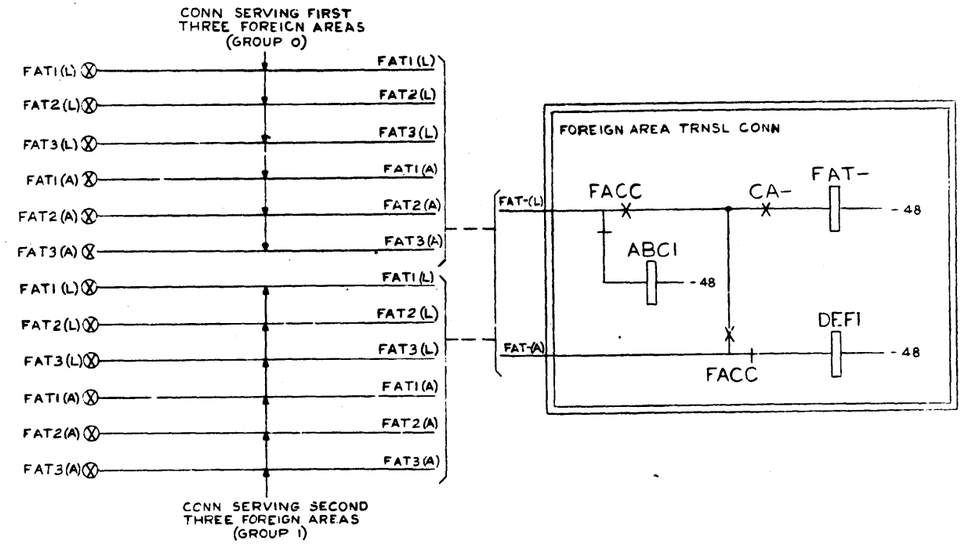
65

SD-25550-01-B25

FS 19
2 DIGIT OPERATOR IIXX TRANSLATION
COMBINED & COMPLETING MARKERS



(140) FS 20
FOREIGN AREA TRANSLATOR START LEAD
COMBINED & COMPLETING MARKERS



SD-25550-01-826

41

NO. 5 MARKER CIRCUIT	SD-25550-01-826
BELL TELEPHONE LABORATORIES INCORPORATED	6S

PART OF FS 21
CLASS OF SERVICE GROUPING
COMBINED & COMPLETING MARKERS

CKG9 U L 270 -48

CGAI CKG9

CTA0 SWC0
CTA1 SW0 SWC10
CTA2 SW10 SWC20
CTA0 SW20 SWC1
CTA1 SW1 SWC11
CTA2 SW11 SWC21
CTA0 SW21 SWC2
CTA1 SW2 SWC12
CTA2 SW12 SWC22
CTA0 SW22 SWC3
CTA1 SW3 SWC13
CTA2 SW13 SWC23
CTA0 SW23 SWC4
CTA1 SW4 SWC14
CTA2 SW14 SWC24
CTA0 SW24 SWC5
CTA1 SW5 SWC15
CTA2 SW15 SWC25
CTA0 SW25 SWC6
CTA1 SW6 SWC16
CTA2 SW16 SWC26
CTA0 SW26 SWC7
CTA1 SW7 SWC17
CTA2 SW17 SWC27
CTA0 SW27 SWC8
CTA1 SW8 SWC18
CTA2 SW18 SWC28
CTA0 SW28 SWC9
CTA1 SW9 SWC19
CTA2 SW19 SWC29

GR"A" SORT 1

CGAI CGBI CSBI

CUB7 CTBO-2 SWC09,19,29
CUB1 SWC08,18,28
SWC07,17,27
SWC06,16,26
SWC05,15,25
SWC04,14,24
SWC03,13,23
SWC02,12,22
SWC01,11,21
SWC00,10,20

GR"B" SORT 1

CAMA

CMF0 TSC6
CMF1 TSC7
CMS0 TSC8
CMS1 TSC9
TCB GV

CGA2 CGB2 CSB2

GR"B" SORT 2

S300-359 SW300-359 U L 700 -48

SWP SWT TP RP SWR
SWP3 SWP2 SWP1 SWP SWT1 TP SWT2 TP SWT3 SWR RP SWR1 RP SWR2 RP SWR3 RP
TPS 41G7
MH MI TP KM RP
KM TPA KM
N1 TGS2 MI MH MI
67 TPS1 41F4

TCB TSC6 TSC7 TSC8 TSC9
SWCM0 SWCM1 SWCM2
S200 S201 S202 S203 S204 S205 S206 S207 S208

S00-44, S100-144 SW00-44, SW100-144 -48
TO ALL (5-) RELAYS
SB0-8 SB10-18
AS SPEC IN NOTE 416
PSA TX ST
S200-208 SW200-208 -48
SB20-22
TO OTHER (5-) RELAYS SERVING SAME CALL CLASS
PSB CSB

PSA INDR PSA
TO ALL (PSA-)REL IN SAME MKR PSA0-1 -48

PSB INDR PSB
TO ALL (PSB-) REL IN SAME MKR PSB0-1 -48

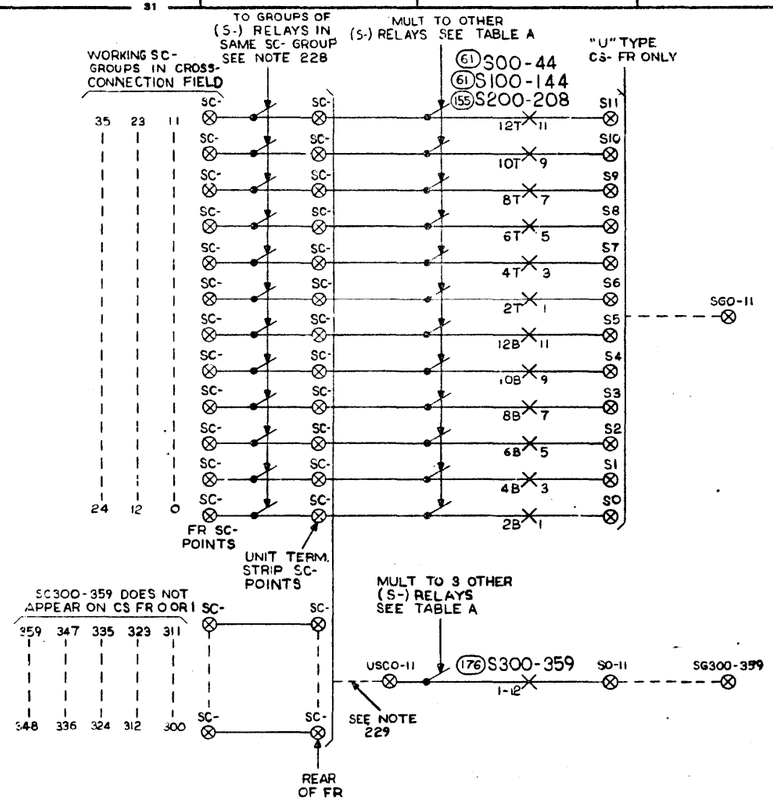
DRAWING ISSUE
41D
44B
46D
49D
53A
54D

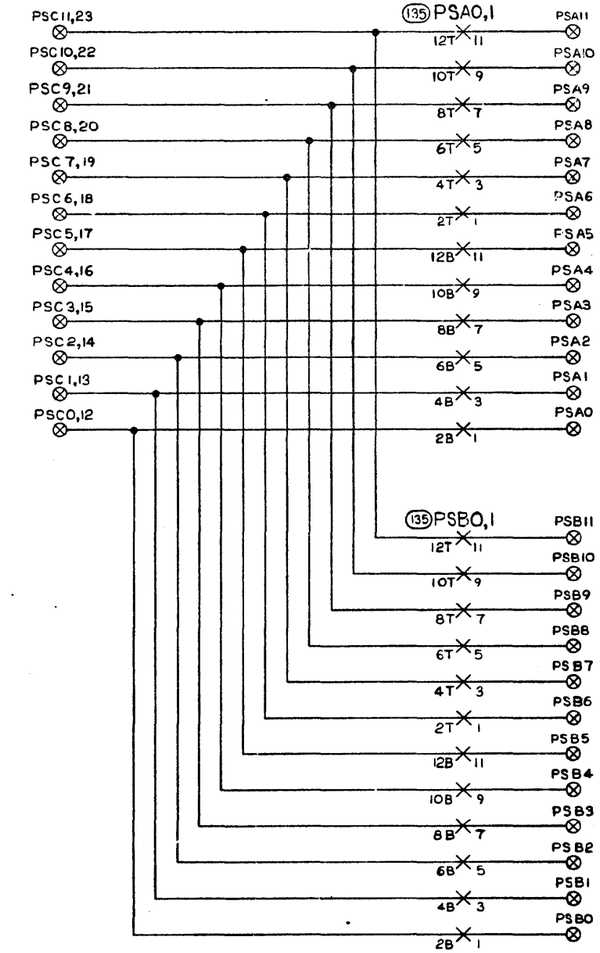
MARKER CIRCUIT (2) SD-25550-01-B27 54
BELL TELEPHONE LABORATORIES INCORPORATED 6S

5550-01-827

PART OF FS 21

CLASS OF SERVICE GROUPING
COMBINED AND COMPLETING MARKERS





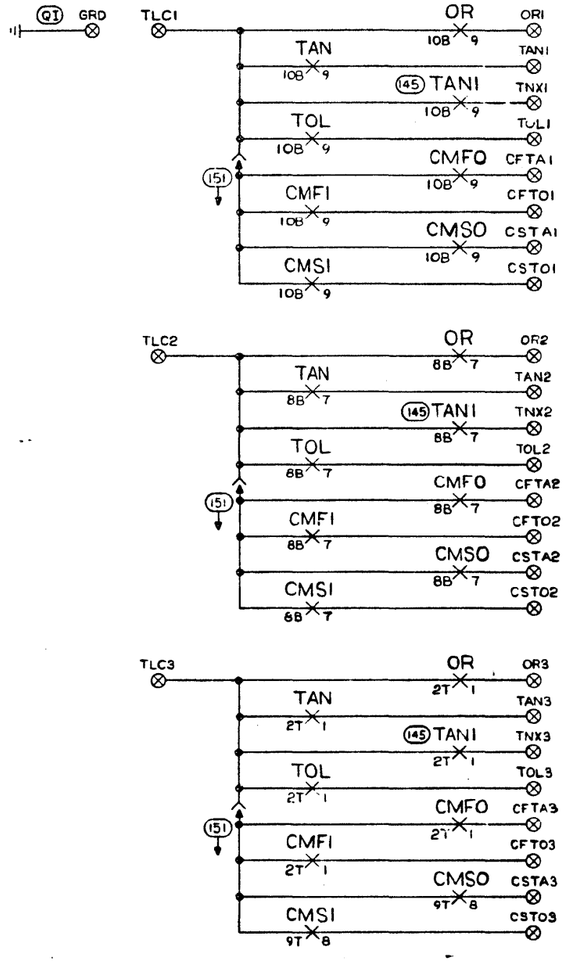


TABLE A

	EQUIPMENT ARRANGEMENT FOR GROUPS OF 5 (S-) RELAYS WITH FIXED SC- MULTIPLES				EQUIPMENT ARRANGEMENT FOR GROUPS OF 4 (S-) RELAYS WITH FIXED SC- MULTIPLES			EQUIPMENT ARRANGED FOR GROUPS OF 3 (S-) RELAYS WITH FIXED SC- MULTIPLES		
	CLASS OF SERVICE FR 0		CLASS OF SERVICE FR 1		SUPPLEMENTARY CS FR			CAMA FR		
	UNIT TERMINAL STRIP NO FOR SC- POINTS		UNIT TERMINAL STRIP NO. FOR SC- POINTS		TERMINAL STRIP NO. FOR USCO-11			CMC TERMINAL STRIP NO. FOR SC- POINTS		
	1-4,9-12,17-20	5-8,13-16,21-24	1-4,9-12,17-20	5-8,13-16,21-24	11-16,41-46	21-26,51-56	31-36,61-66	64-75	76-87	88-99
(S-) RELAYS	0-4	5-9	100-104	105-109	300-303	304-307	308-311	FOR SC0-11	FOR SC12-23	FOR SC24-35
	10-14	15-19	110-114	115-119	312-315	316-319	320-323	200,203,206	201,204,207	202,205,208
	20-24	25-29	120-124	125-129	324-327	328-331	332-335			
	30-34	35-39	130-134	135-139	336-339	340-343	344-347			
	40-44	-	140-144	-	348-351	352-355	356-359			

DRAWING ISSUE
490 125 4A6 4A9

49

CROSSBAR SYSTEMS
NO.5
MARKER CIRCUIT
(2)
SD-25550-01-828
BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-25550-01-828

STABLO

FS 22
ROUTE RELAYS
COMBINED AND COMPLETING MARKERS

PDP (66) PDR
VCP (150) VCR
(118) CV00-99 CVR00-99
4T X 3
(151) RC600-29
ER FAC 2B X 1
NZ, KC NZ, KC
BC OR 6B X 5
SCR B126C3
LX
XA CKG1 68 X 7
DIS2 3 X 10
SC OR 6B X 5
44, 97
44
FOREIGN AREA TRANSLATOR CONNECTOR
UCK
XTARI
TARO-9
UAR 2/3
TARO
FAR01-99
FAR00
FARO
KP CDR0-9 CRR0-9
1 X 2T
CGD
FE LPA APR 2T X 1
U LTA ATR 2T X 1
FC LEA AER 2T X 1
V LPB BPR 2T X 1
T LTB BTR 2T X 1
PH LEB BER 2T X 1
44
OPR OPS0-3 OPO-3
4 X 5B 2T X 1
(55) PC0-19 PR00-19 2T X 1
(58) DR0-2 NR0-2 2T X 1
(57) CRR0-2 RR0-2 2T X 1
XA CKG6 68 X 5
(151) CMR0 CMF0 CTAR 5 X 2 10T X 9
CMF1 CTOR 2T 10T X 9
58C7 CLT1
SOR
LCD0-2 UTA0-2 1 9T X 8
5 2
LCD0-2 UT00-2 7T X 6
(142) DRR0-1 NRS0-1 5 X 2

(147) RGT
-48 13B 13T 400 1
(147) RGT0,1 4 X 5B
(148) RGT2-5 4 X 5B
TO OTHER APP FIGS. 148

(62) RGT0-1
TR0-1 13T 13B 400 1 TRB0-1

(147) RGT0-1
TR0-1 9T 8B 400 1 TRB
TO OTHER APP FIGS. 148

(148) RGT2-5
TR2-5 9T 8B 400 1

(151) CMR0-1
-48 4- +1 6300±5% 2 CMR0-1

(51) R- RC- 13T 13B 400 1 R-
(52) R- RC- 13T 13B 400 1 R-
(118) CV00-99 CV00-99 7T 7B 400 1 CVB00-99

(44) LPA AP 7T 5B 16 2 PAB
(U) LTA AT 7T 5B 16 2 TAB
(FC) LEA AE 7T 5B 16 2 EAB
(V) LPB BP 7T 5B 16 2 PBB
(T) LTB BT 7T 5B 16 2 TBB
(PH) LEB BE 7T 5B 16 2 EBB
17C, NO
17C, NC
NN
(142) DRR0-1 DRR0-1 1- P -4 6300 -48
RVS (165) ORM RVMF 2 1 3T RVD GH

(55) PC0-19 RP0-19 4T 4B 400 1 -48
OPS0-3 OS0-3 4T 4B 400 1 -48

(97) LPA AP 11T 11B 16 2
(U) LTA AT 11T 11B 16 2
(V) LPB BP 11T 11B 16 2
(T) LTB BT 11T 11B 16 2
H2 90 -48

(17C) ITCA 5B 5T 16 ITCA
17 LCB
GO LCB TANDEM SCREENING FR
17C NO
NN
H2 90 -48

DRAWING ISSUE		
41D	OP LP BE	W.R.G.
42D	FC PC	P.D.
45B	BLP PC	W.J.G.
46D	TJV GLM ANP	
47D	WC LV AJS	
51D	PH WC AJS	

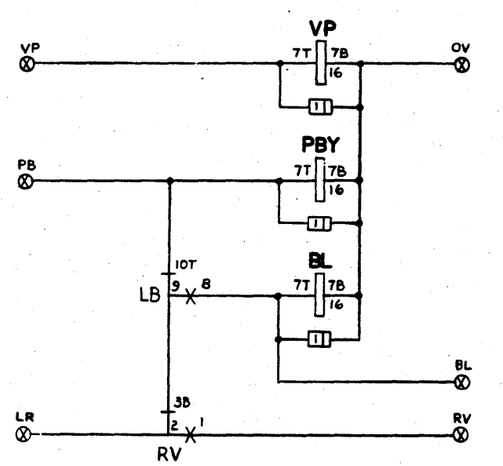
MARKER CIRCUIT (2)
SD-25550-01-B829
BELL TELEPHONE LABORATORIES INCORPORATED
6S
51

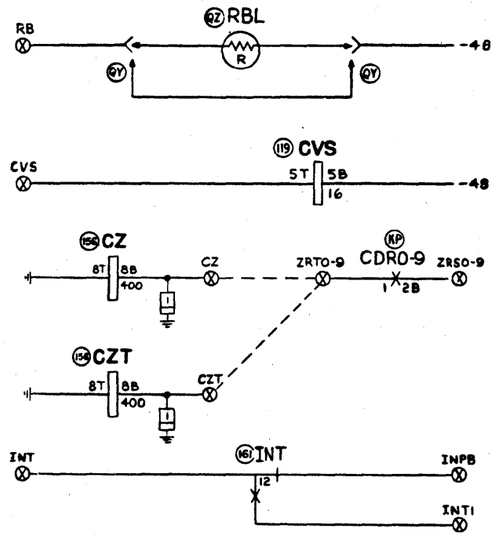
SD-25550-01-B829

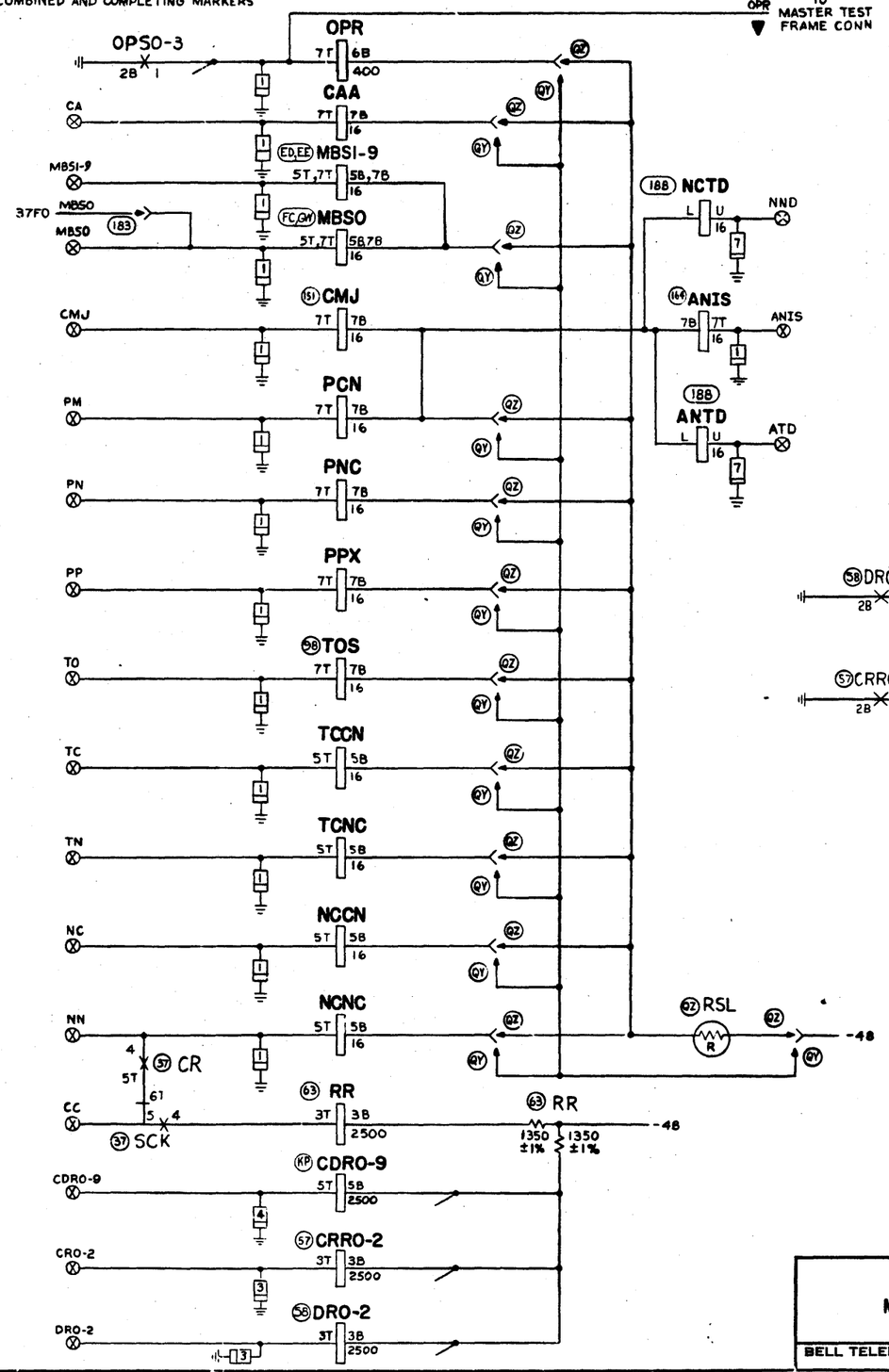
0 1 2 3 4 5 6 7 8 9
A B C D E F G H

FS 23

ROUTE SERIES RELAYS
COMBINED AND COMPLETING MARKERS







DRAWING ISSUE
41D
42D
46D
54D
56D N.F.

MARKER CIRCUIT

SD-25550-01-B30

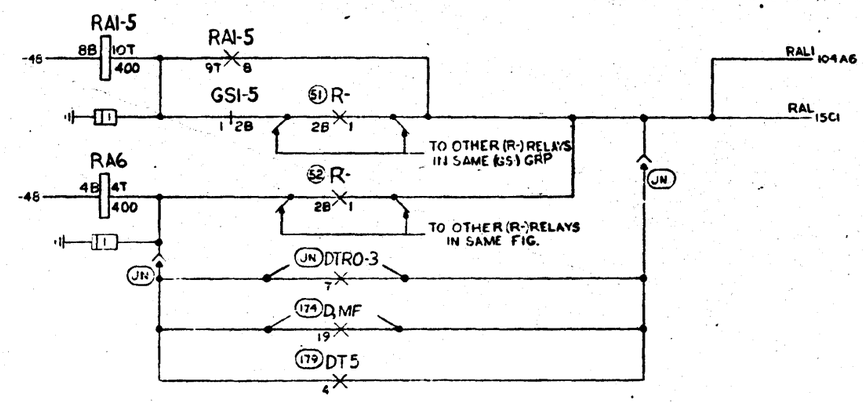
BELL TELEPHONE LABORATORIES INCORPORATED

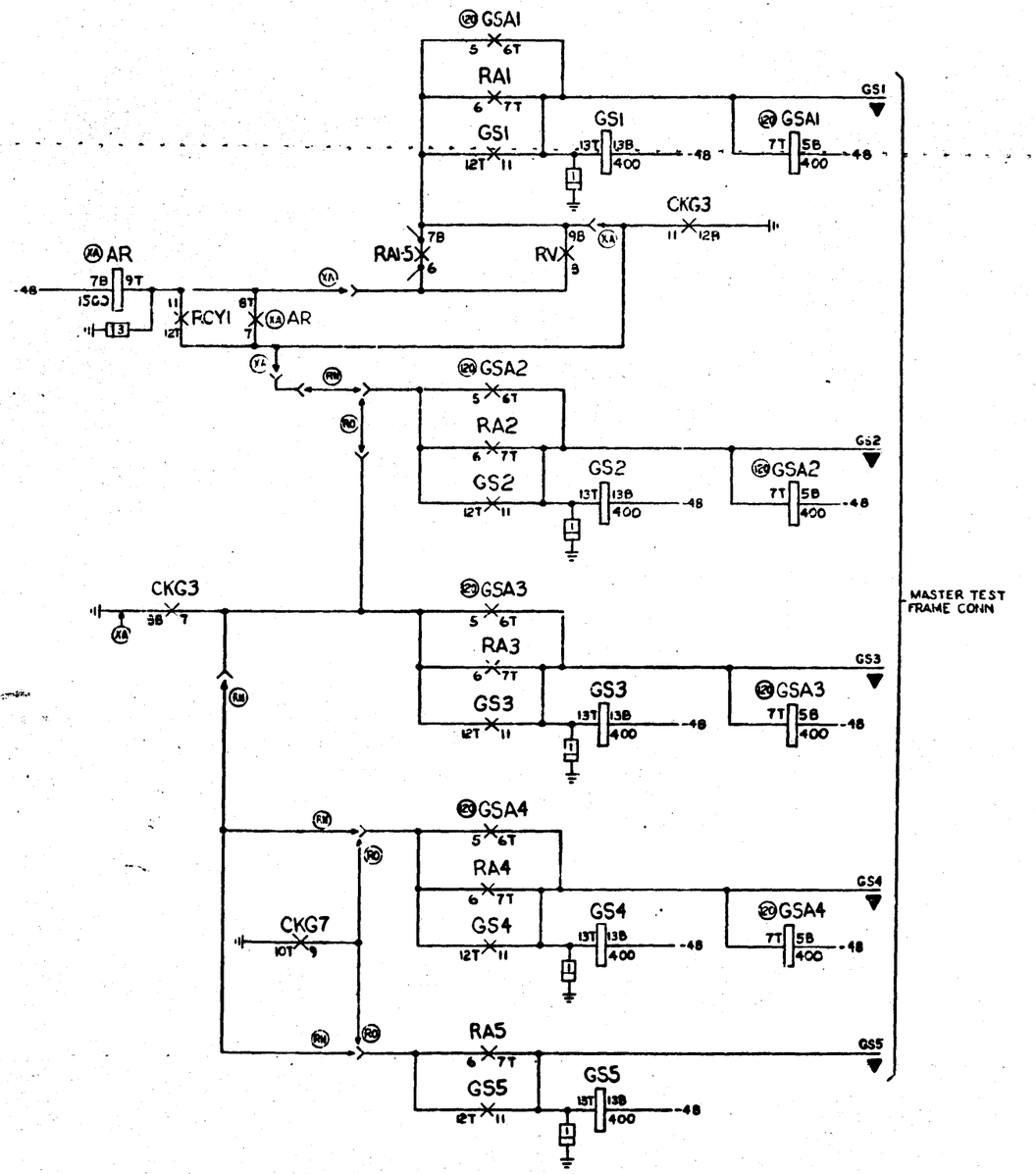
56

SD-25550-01-B30

FS 24

GROUND SUPPLY AND ROUTE ADVANCE
COMBINED, COMPLETING AND DIAL TONE MARKERS





CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

SD-25550-01-B31

49

SD-25550-01-B31

FS 25

TRUNK GROUP AND TRUNK BLOCK OPERATION
COMBINED, COMPLETING, AND DIAL TONE MARKERS

DRAWING ISSUE
41D
49D
54D
56D ALF

TO MASTER TEST FRAME CONNECTOR

TO OTHER (R-) RELAYS IN SAME (GS-) GRP

TO OTHER (GS-) RELAYS

SD-25550-01-B32

MARKER CIRCUIT (2)

SD-25550-01-B32

BELL TELEPHONE LABORATORIES INCORPORATED

56

PART OF FS 26

TRUNK LINK FRAME CONTROL
COMBINED, COMPLETING, AND DIAL TONE MARKERS

LDT
SDT
SP
FTCKI
TFK3
TFK2
TFKI
H11
TEA
TERI
PCL3
CK TO MASTER TEST FRAME CONNECTOR
TRUNK LINK & CONNECTOR
SEE NOTE 107.
T-
MP-
E-
LINE INSULATION TEST CONTROL CKT
CO
TFT
SKBI
SKAI
TSE3
TSE2
FTCK
TFKI
THRU OTHER (FS-) RELAYS
FSO
FS-
FS- (LAST)
ST-(LAST)
ST-
STO
STO-19
SEE NOTE 107
T
MP-
E-
MC-
T
MP
35EO OR 36EO
NSI
NSO
DTRO-3
MF
OSK
TFS
33,000 ±20%
MT5
MT9
TF2 TF7
TF1 TF7
TFO TF7
TF2 TF4
TF1 TF4
TFO TF4
TF1 TF2
TFO TF2
TFO TF1
TF4 TF7
FGI
FGO
ST19
ST16
ST17
ST16
ST15
ST14
ST13
ST12
ST11
ST10
ST9
ST8
ST7
ST6
ST5
ST4
ST3
ST2
ST1
STO
TFO TF1 TF2 TF4 TF7
TER3
TFK3
PCL2
SFR
SPLI
FGK
MT9

41D	
43B	
45B	
49D	
51D	CR

MARKER CIRCUIT (2)
BELL TELEPHONE LABORATORIES INCORPORATED
6S
SD-25550-01-B33
51

SD-25550-01-B33

PART OF FS 26

TRUNK LINK FRAME CONTROL COMBINED, COMPLETING, AND DIAL TONE MARKERS

INCOMING REGISTER OR INTER-MARKER GROUP SENDER

INCOMING REGISTER MARKER CONN

FGO RC- MC- FGO XA — (151)CMF3 8T 7 — CFG — CFGO — (151)CMF4 8T 7 — (151)CFGO 13T 13B 400 -48 — (66) — FGO — (F)FGO 13T 11B 400 -48

FGI RC- MC- FGI XA — (151)CMF4 10T 9 — (151)CFGI 13T 13B 400 -48 — (66) — FGI — (F)FGI 13T 11B 400 -48

TF- RC- MC- TFO XA — (151)CMF4 5B 4 — (151)CTFO 12T 11B 400 -48 — TFO — (66)TFO 10T 8B 400 -48

TF- RC- MC- TF1 XA — (151)CMF4 7B 6 — (151)CTF1 12T 11B 400 -48 — TF1 — (66)TF1 10T 8B 400 -48

TF- RC- MC- TF2 XA — (151)CMF4 9B 8 — (151)CTF2 12T 11B 400 -48 — TF2 — (66)TF2 10T 8B 400 -48

FS0-19 — 9T 8

TF- RC- MC- TF4 XA — (151)CMF4 11B 10 — (151)CTF4 12T 11B 400 -48 — TF4 — (66)TF4 10T 6B 400 -48

(33,103)MAKI 4B 3

TF- RC- MC- TF7 XA — (151)CMF4 12T 11 — (151)CTF7 12T 11B 400 -48 — TF7 — (66)TF7 10T 8B 400 -48

TO MASTER TEST FRAME CONNECTOR

-48 — G2 62 — TLC3 13B 13T 16 — TLC2 13B 13T 16 — TLC1 13B 13T 16 — (6)TLCI — MRLI 6B 5 — DISI 4B 3 — TRLA 8 9T — CKG3 3 4B

(95)PCR 6 7B

(33)TER3 9 10B

(92,105)RAVI 5 6B — (82,105)RCY 9B 8

(E)DTI 7 6B — (151)CMF3 6 7B — (154)TOG4 3T 2

(96)PCDO-1 6 7B

TRUNK LINK AND CONNECTOR

TBS0 TLCI 2B 1 — BSO — MC — MCA (BOT)

TBSI TLCI 4B 3 — BSI — MC — MCA (TOP)

JS1

LINE INS TEST CONTROL CKT TCO3

MP- T/TA/TR- MC -48

E-

BSO TCO3

MDK TCO3

BS4 TCO3

BS3 TCO3

BS2

TBS2 TLCI 6B 5 — BS2 — MC — MCB

TBS3 TLCI 8B 7 — BS3 — MC — MCC

TBS4 TLCI 10B 9 — BS4 — MC — MCD

MDK 5B 5T 400 — MDK — MCD MCD

(33,103)MAKI 5B 7T 400 — MAK — MCA MCA

XFG 5B 5T 350 — 4T 3 — XFG 114F5

FGK P-400 5T 3BF — 4BR 6TR 5400 — FGK 1000

FGKP 4 4 FGKS

FGI 12T

NT5 7T 6 — NT2 122G4 — NT5 10T 9

SD-25550-01-B34

NO. 5 MARKER CIRCUIT	SD-25550-01-B34
BELL TELEPHONE LABORATORIES INCORPORATED	6S

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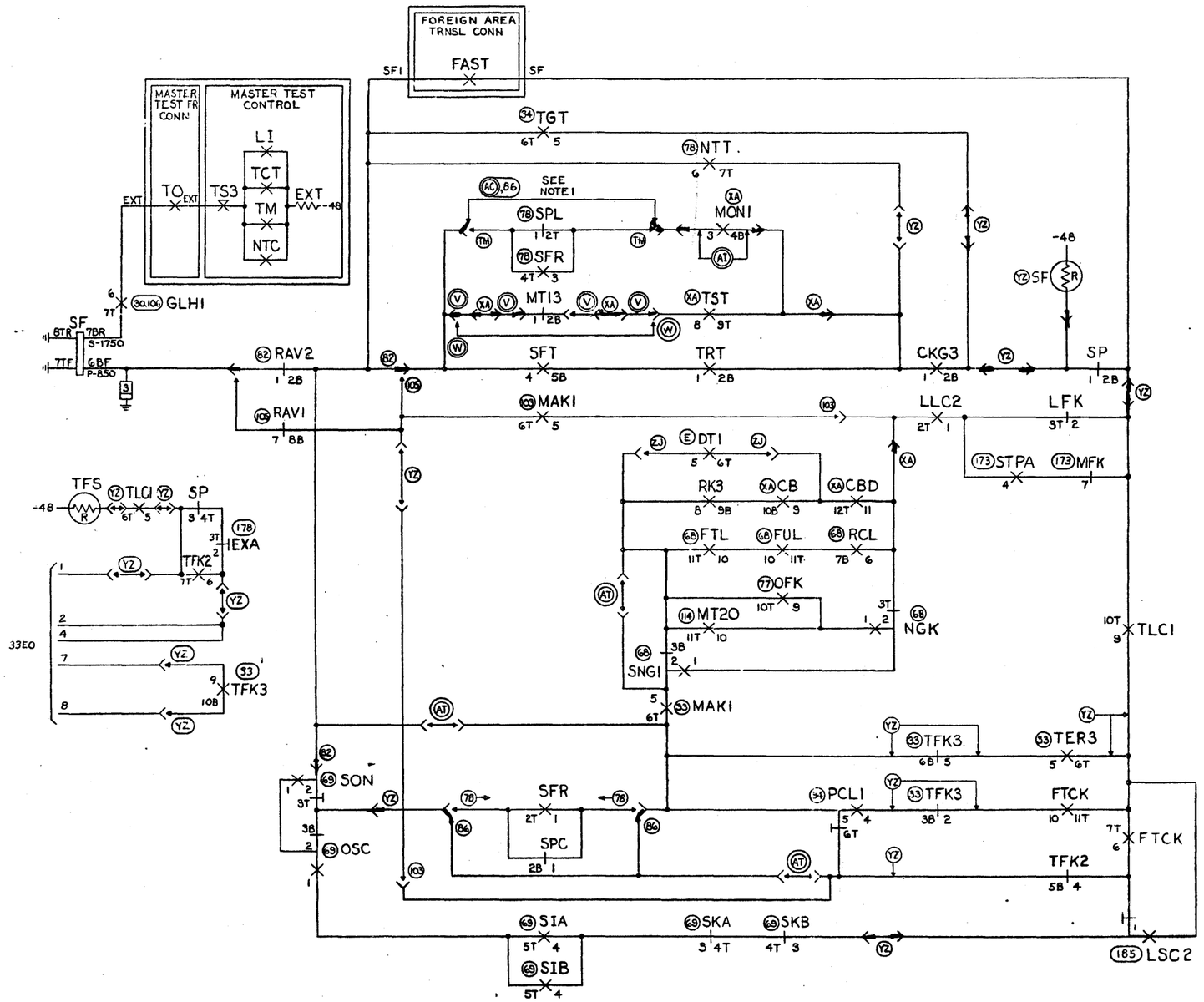
PART OF FS 27

TRUNK LINK FRAME START AND SEIZE FRAME TIMER
"YZ" OPTION PROVIDED, COMBINED, COMPLETING, AND
DIAL TONE MARKER'S
STD

10Z = DTM
103 = DTM1
105 = DTM1
104 = DTM

30 = CM
32 =
52 =
82 = ↓ A2-

DRAWING ISSUE	
41D	ESS #2 #2A
43B	NJ ESS
49D	MD W&D AND
54D	LEA REL AND



SHEET NOTES:

1. XA OPTION IS INCLUDED IN APP FIG. AC
   TM OPTION IS INCLUDED IN APP FIG. B6

MARKER CIRCUIT (2) SD-25550-01-B35

BELL TELEPHONE LABORATORIES INCORPORATED — TYPE PART 6S

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SD-25550-01-B35

PART OF FS 27

TRUNK LINK FRAME START AND
SEIZE FRAME TIMER
M.D. → YY OPTION IS PROVIDED
COMBINED, COMPLETING, AND DIAL TONE MARKERS

DRAWING ISSUE
41D
49D
54D

FOREIGN AREA TRANSLATOR CONNECTOR CKT
FAST
SF1
TFS
-48
SP
178 TEXA
TFK2
78 NTT
CKG3
TRT
SFT
82 RAV2
SF
6BF 7TF P-850
8TR 7BR S-1750
105 RAV1
GLHI
30,106
MASTER TEST FRAME CONN
TO
MASTER TEST CONTROL
TS3
LI
TGT
TM
NTC
EXT
-48
MT13
TST
MONI
SPL
SFR
TFK3
TLC1
TER3
PCL2
MFK
STPA
LFK
LLC2
TGT
MAKI
DTI
CBD
CB
RK3
SNG1
SPC
SFR
RCL
FUL
FTL
MT20
OFK
NGK
SON
SIA
SIB
FTCK
LSC2
SKB
SKA
OSC

MARKER CIRCUIT (2)
SD-25550-01-836
BELL TELEPHONE LABORATORIES INCORPORATED
6S
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SD-25550-01-836

PART OF FS 28

TRUNK CLASS CONTROL
COMBINED AND COMPLETING MARKERS

CAMA
NOC
CLK
TO MASTER TEST FR CONN
NOC
CLK
CLT1
AMA4
CLG
LSC2
NDK
NSI
SON
AR
FLG
TOG3
PBY
TC
BL
VP
CAA
OPR
RNT3
RNT4
CMJ
CMJ
CMC3
NCNC
NCTD
NCCN
CNC
TOS
CLT2
CLK
RSC
PD
CZ
CZT
AMA
MBS0
OBS
SNO
FN
SOB
MBSI-9
SVDI-P
XCKR
TER4
DT2
TP
RP
TPK
PCN
PPX
CAA
PNC
PCN
PPX
CAA
PNC
TPK
TO MASTER TEST FR CONN
NAMA
AMA3
AIOD
RPK
TPS
RP
TCCN
TOS
TCNC
CNC
PCN
SA
CPP
CPS
AMA6
MBS0
CP5
AMA6
AIS2
MBS0
MBSI
OBS
OBS
SA
AMA
MBSI-9
SNO
SOB
FN
ANIS
ANIS
ANI
ANTD
ANTD
VP

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-B37

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SD-25550-01-B37

DRAWING ISSUE
41D
42D
43B
45B
47D
54D
56D

PART OF FS 28

TRUNK CLASS CONTROL
COMBINED AND COMPLETING MARKERS

TO MASTER TEST FRAME CONNECTOR

CLT2 · CLG · CLT1

81G7 · CLG · RK3 · AMA4 · 81F8 · AMA4 · CLG · CLT1 · CLT2 4T 5B 400 -48

CLG 128 13T 700 -48 · 13

CLT 1+ -6 5-2600±1% 5- +2 P-200±1% · CLT1 500±1% · 10T CLG · 1 BG 2T · CLT1 28 1 98 9 CLG · CLT4 200±1% · CLT 8.56-8.72 UF · BG 8T

BG 4T 3 · CLT2 426±1% · CLT3 620±1% · 5 BG 6T · 86 CLT · AMA5 · BG -48 · 8488

CLT2 2 CLT2 INDR I · 0

CKG6 2962 · XA · CLT1 · 4B ITR3 3 · 6B, 7B PA, PB RCK3 5, 6

SOG1 6 7B · NS 3T 2 · SIK 28 1 FM FL FM · PA · PB RCK3 2 3B · PA · CLT1 8T 2 · RYC 1 28

CLT 4 · AMA4 28 1 · NOC 28 1 · CLT 7 3 · MZ

SOG3 5B 4 · 11B 10 TOG3 · FBK 6 7T · FAK 6 7T · XA

CLT1 -48 7B 400 9T

CLG 10 11B

CLT 1 I 2 CLT INDR 0

BG -48 13B 400 13T · CKG7 1 2T · XA · 13T · 87A/F1

SD-25550-01-838

MARKER CIRCUIT (2) SD-25550-01-838

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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FS 29

IDLE TRUNK LINK FRAME TEST
COMBINED, COMPLETING & DIAL
TONE MARKERS

DRAWING ISSUE 490 EN

MASTER TEST CONTROL CKT

FTC (R) KMT9 KFS -48

TO OTHER MARKERS

TO ALL OTHER (FC-/FCA-) RELAYS FOR THIS MARKER

TO CORRESPONDING (FC-/FCA-) RELAYS FOR OTHER MARKERS

MT- SEE TABLE A -48

FTC- 7B 8T 400 (1)

FC-/FCA- SEE TABLE A

(174) FCD0/FCD10 FCM0/FCM10 FCR0-3/FCR10-13 SEE TABLE A

(F) FCKA 6B 6T 400 (1) -48

(20) FCA- 11B 12T

(J0) FCD10, FCM10, FCR10-13 (J0)

FCK 6B 6T 400 (1) -48

FC- 11B 12T

(174) FCD0, FCM0, FCR0-3 (174)

TO CORRESPONDING (FCD-, FCM-, FCR-) RELAYS FOR OTHER MARKERS

TRUNK LINK & CONNECTOR CKT

FTC- FTC- FTC- FTC- D MF FTC-D FTC-MF FTC-R0-3

FT- XFT

MCA MCB

ORIGINATING REGISTER CKT — ON

TRUNK CKT — SI

FBO-/FBE- BC/BCA 4T 4B 400 -48 (1)

SEE TABLE B

XFT 2RT 1RB 250 -48

-48 D4 90 BC 11B 11T 16 (2) FML 3B 2

(22) D5 90 (22) BCA 11B 11T 16 (2) FML 6B 5

MF (JL) (174) D (JL) (174) TLC2 (JM,JN) DTR0-3 (179) DT5

FCR10-13 -48 L U 395 (4) (J0)

FCR0-3 -48 L U 395 (4) (174) FR0-3 (174)

FCM10 -48 L U 395 (4) (J0)

FCM0 -48 L U 395 (4) (174) FM (174)

FCD10 -48 L U 395 (4) (J0)

FCD0 -48 L U 395 (4) (174) FD (174)

FCAN (179) RCY6 (179) AN2 (82,105) RCY 2B 10T DISA

FCR0-3 (JM,JN) DTR0-3

FCM (JL) (174) MF 5 6B (174) (JL) MF 3

FCD (JL) (174) D 5 6B (174) (JL) D 3

(ZT) (52) (51) FCD0-04 FCRA00-04 (52) R00-04 TO OTHER (R)RELAYS IN SAME GROUP

(51) R05-09, 20-569 TO OTHER (R)RELAYS IN SAME GRD SUP GROUP GS1-5

(20) FCA- 11B 13T 400

(GA) FC (R) -48 (AT) (10B) (82)

FC- 11B 13T 400 (11)

-48 H4 90 (64) AL0-3 3B 3T 15 (2) FCG0-3 FCR10-19 (51) R10-19

(20) FCR10-19

FCA- (64) GPA SEE TABLE C

FCB- (5) GPB SEE TABLE C (68) AL-

TABLE A

FTC-LEADS	a	MT- REL	MT- OPT	b	c	FTC-	d	FC-OR FCA- REL	FC-OR FCA- OPT	e	FCD0/10 REL	FCD0/10 OPT	FCM0/10 REL	FCM0/10 OPT	FCR0-3/10-13 REL	FCR0-3/10-13 OPT	f
0	1	MT3		2B	3	0	1	FC-		2B	FCD0	174	FCM0	174	FCR0-3	174	1
1	4	MT3		5B	6	1	3	FC-		4B	FCD0	174	FCM0	174	FCR0-3	174	2
2	7	MT3		8B	9	2	5	FC-		6B	FCD0	174	FCM0	174	FCR0-3	174	3
3	1	MT3		2T	3	3	7	FC-		8B	FCD0	174	FCM0	174	FCR0-3	174	4
4	4	MT3		5T	6	4	9	FC-		10B	FCD0	174	FCM0	176	FCR0-3	174	5
5	1	MT4		2B	3	5	1	FC-		2T	FCD0	174	FCM0	174	FCR0-3	174	6
6	4	MT4		5B	6	6	3	FC-		4T	FCD0	174	FCM0	174	FCR0-3	174	7
7	7	MT4		8B	9	7	5	FC-		6T	FCD0	174	FCM0	174	FCR0-3	174	8
8	1	MT4		2T	3	8	7	FC-		8T	FCD0	174	FCM0	174	FCR0-3	174	9
9	4	MT4		5T	6	9	9	FC-		10T	FCD0	174	FCM0	174	FCR0-3	174	10
10	1	MT3A	22	2B	3	10	1	FCA-	20	2B	FCD10	J0	FCM10	J0	FCR10-13	J0	1
11	4	MT3A	22	5B	6	11	3	FCA-	20	4B	FCD10	J0	FCM10	J0	FCR10-13	J0	2
12	7	MT3A	22	8B	9	12	5	FCA-	20	6B	FCD10	J0	FCM10	J0	FCR10-13	J0	3
13	1	MT3A	22	2T	3	13	7	FCA-	20	8B	FCD10	J0	FCM10	J0	FCR10-13	J0	4
14	4	MT3A	22	5T	6	14	9	FCA-	20	10B	FCD10	J0	FCM10	J0	FCR10-13	J0	5
15	1	MT4A	22	2B	3	15	1	FCA-	20	2T	FCD10	J0	FCM10	J0	FCR10-13	J0	6
16	4	MT4A	22	5B	6	16	3	FCA-	20	4T	FCD10	J0	FCM10	J0	FCR10-13	J0	7
17	7	MT4A	22	8B	9	17	5	FCA-	20	6T	FCD10	J0	FCM10	J0	FCR10-13	J0	8
18	1	MT4A	22	2T	3	18	7	FCA-	20	8T	FCD10	J0	FCM10	J0	FCR10-13	J0	9
19	4	MT4A	22	5T	6	19	9	FCA-	20	10T	FCD10	J0	FCM10	J0	FCR10-13	J0	10

TABLE B

FBO-OR FBE-LEADS	a	BC OR BCA REL	BC OR BCA OPT	b	FB-
0	2B	BC		1	0
1	4B	BC		3	1
2	6B	BC		5	2
3	8B	BC		7	3
4	10B	BC		9	4
5	2T	BC		1	5
6	4T	BC		3	6
7	6T	BC		5	7
8	8T	BC		7	8
9	10T	BC		9	9
10	2B	BCA	22	1	10
11	4B	BCA	22	3	11
12	6B	BCA	22	5	12
13	8B	BCA	22	7	13
14	10B	BCA	22	9	14
15	2T	BCA	22	1	15
16	4T	BCA	22	3	16
17	6T	BCA	22	5	17
18	8T	BCA	22	7	18
19	10T	BCA	22	9	19

TABLE C

PUNCHING FCA-OR FCB-	a	b	AL-
0	9	10B	0
1	11	2B	1
2	1	2T	2
3	3	4T	3

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)
SD-25550-01-839

BELL TELEPHONE LABORATORIES INCORPORATED

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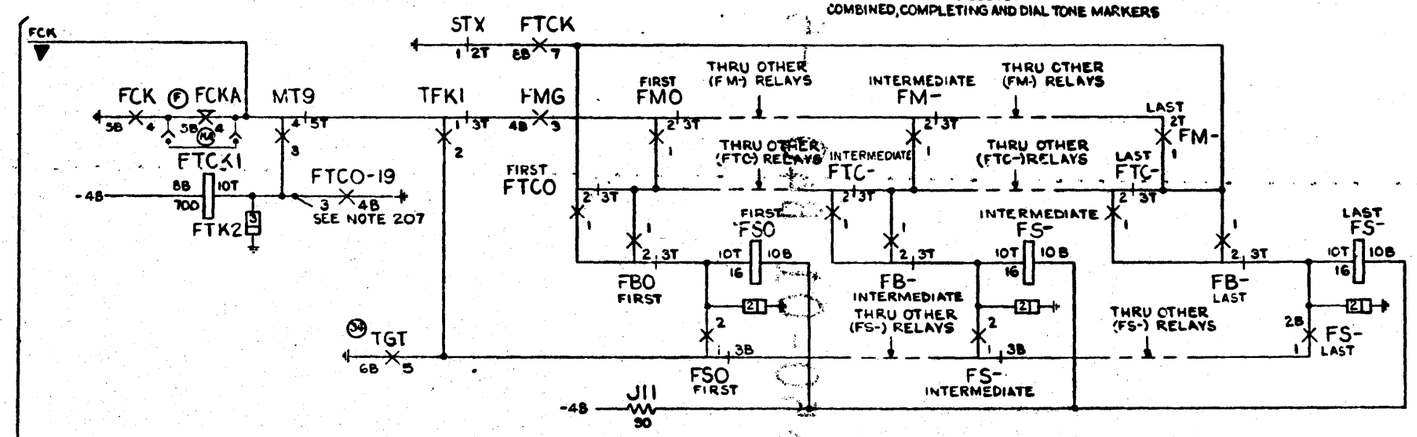
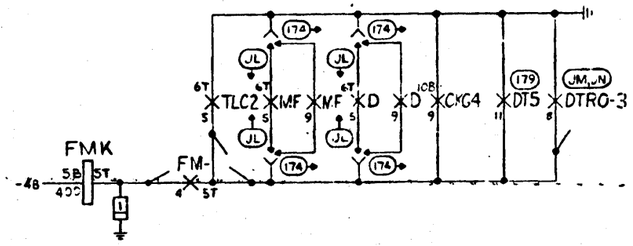
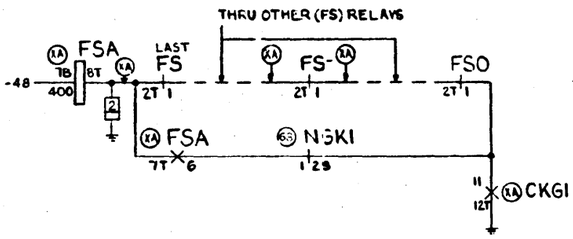
SD-25550-01-839

FS 30

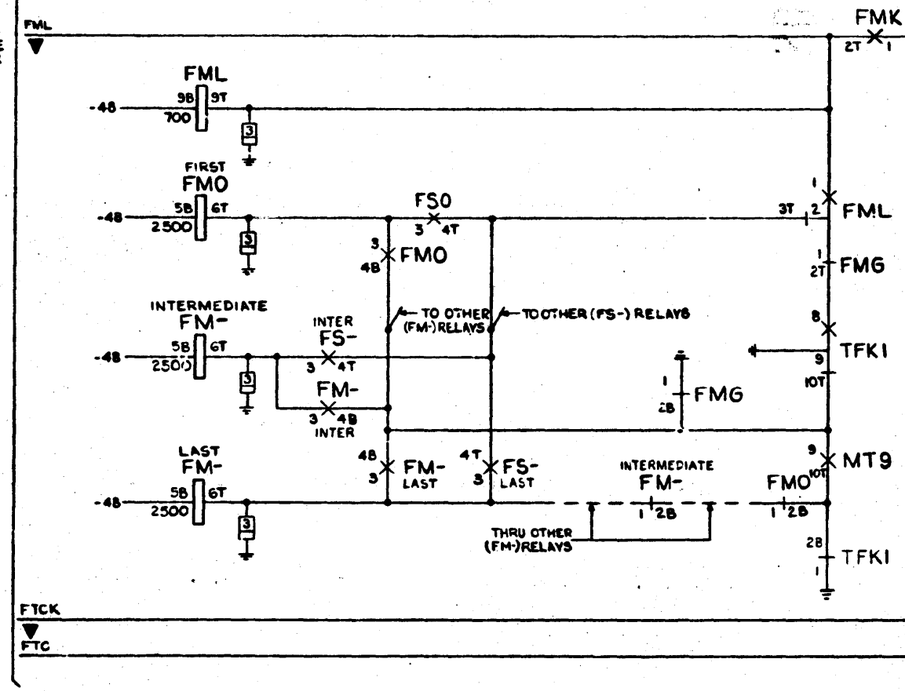
TRUNK LINK FRAME SELECT AND MEMORY COMBINED, COMPLETING AND DIAL TONE MARKERS

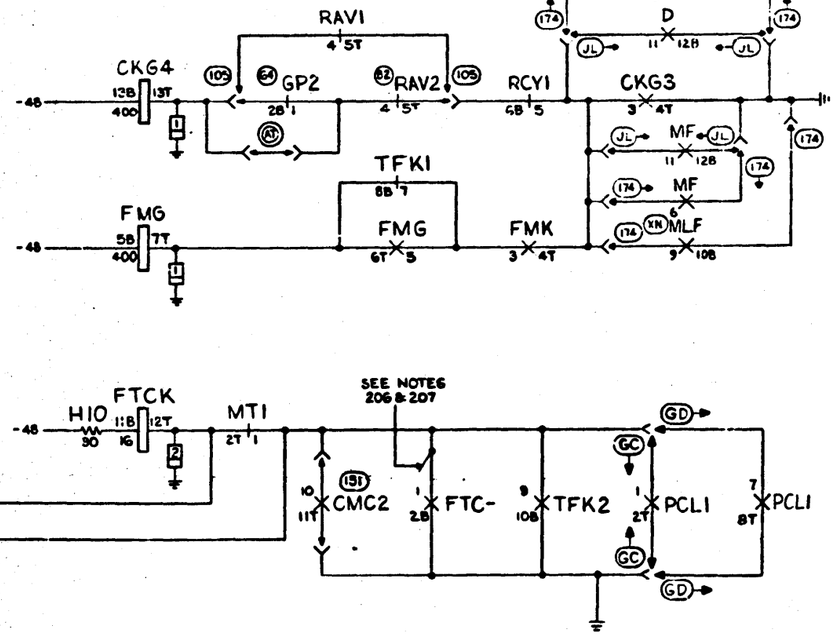






TO MASTER TEST FRAME CONNECTOR





ISSUE	
41D	
45B	
490	
51D	

MARKER CIRCUIT	(2)	SD-25550-01-340 51
BELL TELEPHONE LABORATORIES INCORPORATED	6S	

SD-25550-01-840

FS 31

CHARGING INFORMATION
TO THE TRUNKS
COMBINED & COMPLETING MARKERS

TO MASTER TEST FRAME CONN

TRUNK REQUIRING A RINGING SELECTION SWITCH

TRUNK LINK AND CONN

RC F -48 LV- MCB RC

RINGING SELECTION SWITCH

RC/TO -48 TM RC

TRUNK NOT REQUIRING A RINGING SELECTION SWITCH

TC,TCM LB,PB,PS F -48 TC LV- MCB TC

TRUNK

TP/CN/VP F -48 SI TP

TRUNK NOT REQUIRING A RINGING SELECTION SWITCH

HOLD MAG -48 F TP LV- MCB TP

RINGING SELECTION SWITCH

TRUNK REQUIRING A RINGING SELECTION SWITCH

14H7 RK3 OC RC 6B 9T TOG3 7 (E) (F) (182) CSW 4

RC

TC

TTC

TP

TP'

RPK

RCK1 2+ P -5 P-29 -6 S-950 ±2% 1+

SOG3 6 7T 5 -48 (XA) TLC2 4B 3

1 2B,3B (FD,FE) RV3

108,12B 9,11 (FD,FE) RV3

CKG6 12B 11

RCK1 20

RCK2 210±1% -48

3 4T LI (78) LNT (RE) 4 5B (RE)

1 2T (34) AVKI

(E,F) NSO 7T 6

2T RCK3

1 9 10T ITR3

(185) LSC1 8

6 (34) SLK2 7T

SIK 8T 8B 400 -48

8,7 (FE,FD) RV3 9T,8T

7 8T FLGI

MXT 3B 2 XARS XRS1 XRS2 FS11SC8

(XA) (XA)

3B 2 3 4T (F) NSO (98) TOS

OPR 5 6T (98) TOS

PPX 5 6T

TCCN 3 4T TCNC (AQ,AR) FN 1 2B

VP 2T 1 PBY 4 3B CAA 1 2T CLG 6 7T

6T 5 BL 3 4T CAA

PNC 3 4B

PPX 3 4T

PCN 5 6T

12B 11 TER3 2B LI 1 TCK1 20 (186) AIS2 4

TER2 (98) TOS 1 3B 2 -48 400 5B 7T TC 2T 1

TCK 2+ P -5 P-29 -6 S-950 ±2% 1+

(XA) TLC2 -48 6B 5 TER3 2T

TR2B 8 9B 7 6 RCK2 7T OFH 1 2B

PUL 2B 1 4T 3 5T PUL RCK2 4

TCH 4B 3 TCK2 210±1% -48

3 4B (AO,AP) LCH

3B 2 3B 2 (AO,AP) FNA

7B 6 TBH 2B 1 BNB 2B 1 RIB FNB

(78) LNT (RE) 7B 6 (RE) LI 5 6T MRL 6T 5 (XA)

TER2 (182) CSW 3 6 7 9T

TPK 5B 4T -48 400 1

(L,M) TP 4,3 5T,4T PPX 2B 1 PNC 2B 1 OPR 1 2T BL 1 2T PBY 2T 1 CLG 8 9T

(M) RP (MH) 6T 5 TPS1 27H3

37F6 RPK (YT)

(L) RP 8B 7 (MH) 4 5T CLG

RPK 5B 4T -48 400 1

(YJ) AMA 8T 7

11 (156) CZT 6 4B PCN 3 6B VP 5 (MH) (MK)

(MH) (M1) 5T (YJ) AMA 4 (169) AIOD 5T

(169) AIOD 2 1 4 5 6T

RP TP TM

FAK 8 9T (J) FBK 8 9T

4T AA TOG2 3 (J) DCT3 4 5T

(F) NSO (F) 4 5 6B (E) (F) (E)

-48 (XA) 2B TLC3 1 (J) TMKI 210±1% (J) DCT3 4 5B

(J) TMK 1+ P -4 42 ±1% 17 ±1% 15 (FX) (FX) (FX) TMK2 (FW) (FW) TMK2 20

(151) TOG4 1 2T (150) (151) (150)

TOG4 -48 11B 12T 1 11T 10 TOG2 11T

10 TOG4 10 CMF3 11B

(53) CNC 4E1 CNC 4T 4B 400 -48 1

1 (53) TCCN 4T 3 (53) NCCN

(33) CLG 2B 12T 11

(158) TPS 8T 8B 400 -48 1

TPS 2762

TS -48 D TS TF

INCOMING TRUNK

S LINE LINK FRAME & CONN

S TRUNK LINK FRAME & CONN FA-/FB-

TM -48 F TM S OUTGOING TRUNK

TM OUTGOING SENDER LINK

TP -48 TM RP -48 OUTGOING SENDER

RP SC- MC- TP SC- MC- TM S OUTGOING SENDER CONN

DRAWING ISSUE	
41D	SW XB
43B	
45B	
47D	LW
49D	
51D	PH
54D	CF REL AND
55A	NF
56D	NF

MARKER CIRCUIT (2)

SD-25550-01-B41

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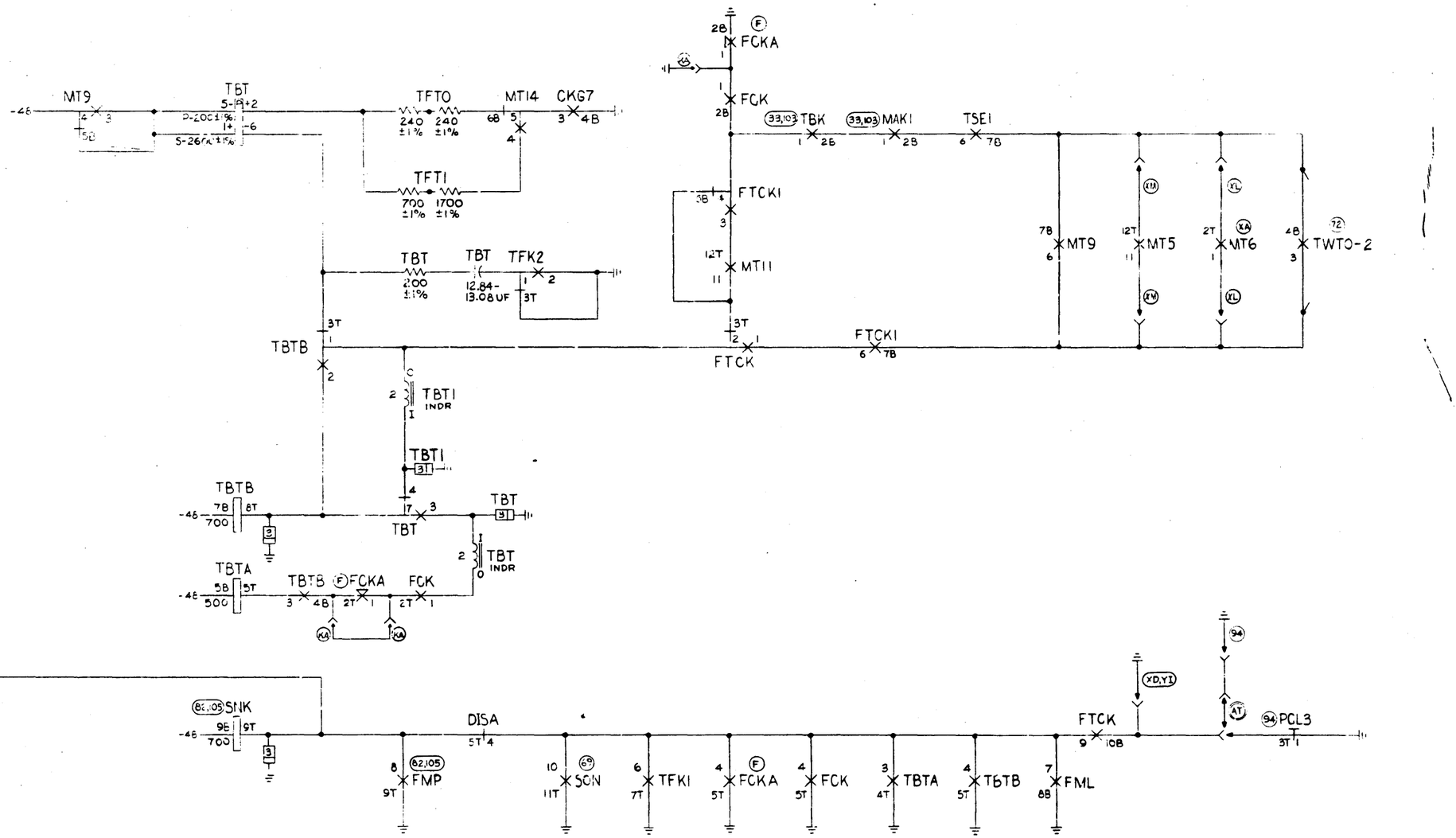
BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25550-01-B41

FS 32
TRUNK BUSY TIMING
COMBINED, COMPLETING AND DIAL TONE MARKERS



45

NO. 5
MARKER CIRCUIT

SD-25550-01-B42

BELL TELEPHONE LABORATORIES
INCORPORATED
6S

FS 33

TEST AND SEIZURE OF ~~NON-IDLE~~ TRUNK OR REGISTER COMBINED, COMPLETING & DIAL TONE MARKERS

AUTOMATIC PROGRESSION TRUNK TEST

MASTER TEST CONTROL

TRUNK TEST REGISTER CKT

REMOTE OFFICE TEST CONTROL CKT

TO OTHER MARKERS

SEE TABLE A

TO NEXT TS- REL NOTE: OPTIONS ON RELS TS5-TS19 SEE TABLE A

TRUNK LINK & CONNECTOR

TRUNK

ORIGINATING REGISTER

TABLE A

TT-LEADS	MT- OPTION	MT- RELAY	a	b	TSE- OPTION	TSE- RELAY	c	d	TT- OPTION	TT- RELAY	TS- OPTION	TS- RELAY	BT-LEADS OPTION	BT-LEADS RELAY
0			2B	1			1	2B		0		0		0
1			4B	3			3	4B		1		1		1
2			6B	5			5	6B		2		2		2
3			8B	7			7	8B		3		3		3
4			10B	9			9	10B		4		4		4
5		5	2T	1		2	1	2T	XG	5	XG	5		5
6			4T	3			3	4T	XH	6	XH	6		6
7			6T	5			5	6T	XI	7	XI	7		7
8			8T	7			7	8T	XJ	8	XJ	8		8
9			10T	9			9	10T	XK	9	XK	9		9
10	XL	5	12T	11			1	2B		10		10		10
	XA,XM	6	2T	1										
11			2B	1			3	4B		11		11		11
12			4B	3			5	6B		12		12		12
13			6B	5			7	8B		13		13		13
14	XA	6	8B	7	XA	3	9	10B	XA	14	XA	14	XA	14
15			10B	9			1	2T		15		15		15
16			5T	4			3	4T		16		16		16
17			7T	6			5	6T		17		17		17
18			9T	8			7	8T		18		18		18
19			11T	10			9	10T		19		19		19

DRAWING ISSUE

41D	MCA AMER. BELL
43B	PBX
47D	MLT CLK AND
49D	BB MCP AND
54D	LP KEL AND
56D	MD

MARKER CIRCUIT (2)

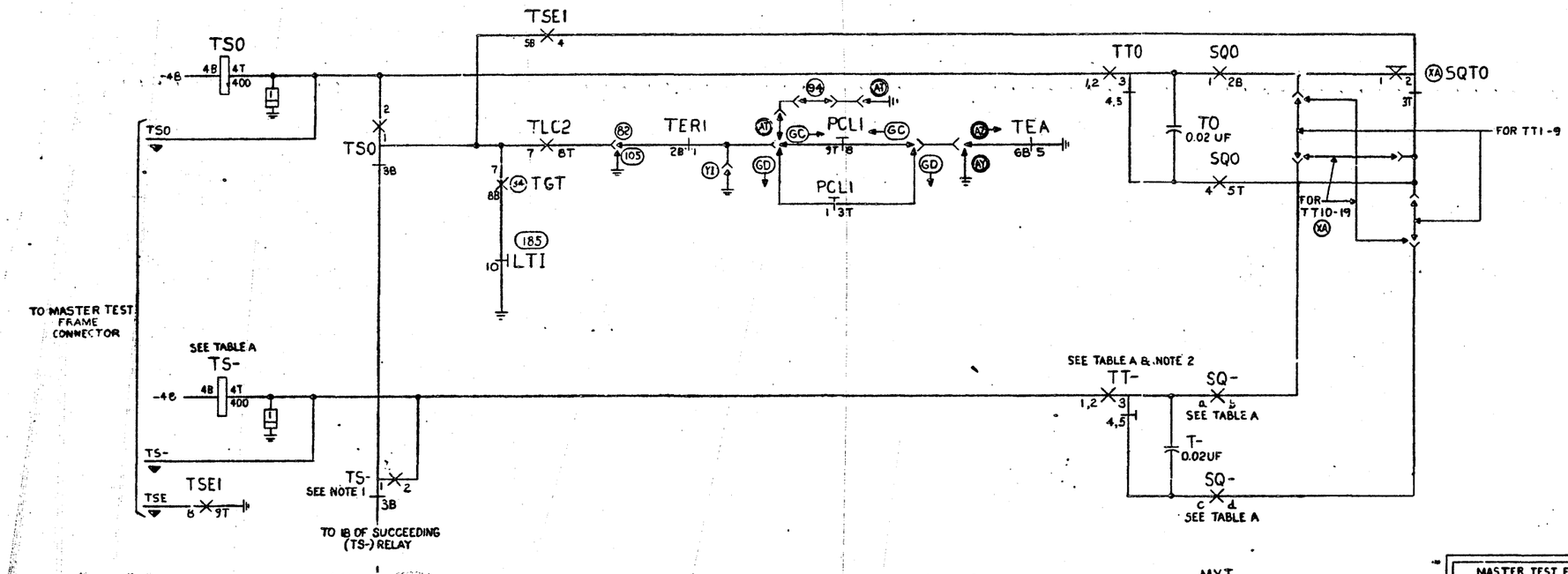
BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-B43

56

SD-25550-01-B43

FS 34
REGISTER OR TRUNK PREFERENCE
COMBINED, COMPLETING, & DIAL TONE MARKERS



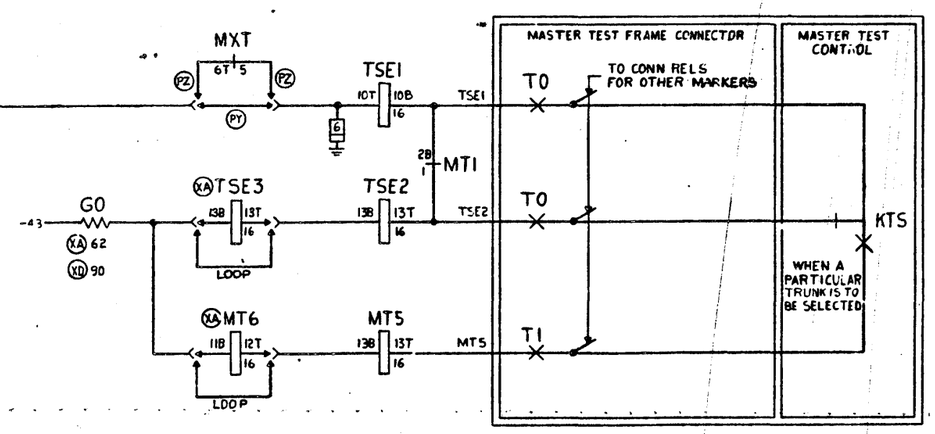


TABLE A

TS-LEADS	TS- OPTION	TS- RELAY	TS- CONTACTS	TT- OPTION	TT- RELAY	T- OPTION	T- CAPACITOR	WIRING OPTION	SQ- RELAY	SQ- a	SQ- b	WIRING OPTION	SQ- RELAY	SQ- c	SQ- d
0		0	0		0		0		0	1	2B	XA	0	4	5T
1		1	1		1		1		1	1	2B		1	4	5T
2		2	2		2		2		2	1	2B		2	4	5T
3		3	3		3		3		3	1	2B		3	4	5T
4		4	4		4		4		4	1	2B		4	4	5T
5	XG	5	5#	XG	5#	XG	5		5	1	2B		5	4	5T
6	XH	6	6#	XH	6#	XH	6		6	1	2B		6	4	5T
7	XI	7	7#	XI	7#	XI	7		7	1	2B		7	4	5T
8	XJ	8	8#	XJ	8#	XJ	8		8	1	2B		8	4	5T
9	XK	9	9#	XK	9#	XK	9		9	1	2B		9	4	5T
10	XA	10	10#	XA	10#	XA	10	XA	0	4	5T		5	1	2B
11		11	11#		11#		11		1	4	5T		6	1	2B
12		12	12#		12#		12		2	4	5T		7	1	2B
13		13	13#		13#		13		3	4	5T		8	1	2B
14		14	14#		14#		14		4	4	5T		9	1	2B
15		15	15#		15#		15		5	4	5T		2	1	2B
16		16	16#		16#		16		6	4	5T		3	1	2B
17		17	17#		17#		17		7	4	5T		4	1	2B
18		18	18#		18#		18		8	4	5T		0	1	2B
19		19	19#		19#		19		9	4	5T		1	1	2B

LOOP LEAD AT BREAK CONTACT IF RELAY IS NOT PROVIDED

SHEET NOTES:
1. LOOP LEAD AT BREAK CONTACT (RELAYS TS5-TS19) IF RELAY IS NOT PROVIDED.
2. LOOP LEAD AT BREAK CONTACT (RELAYS TT5-TT19) IF RELAY IS NOT PROVIDED

ISSUE
41D
43B
51D
54D

MARKER CIRCUIT (2)
BELL TELEPHONE LABORATORIES INCORPORATED
SD-25550-01-B44
54

SD-25550-01-B44

FS 35

SELECT MAGNET OPERATION
COMBINED, COMPLETING & DIAL TONE MARKERS

DRAWING ISSUE
41D

LINE, LINE LINK & CONN

VG2-11 LINE SWITCH VG1 VG0 JCTR SW

L9 HG9 LJ9 HG9 L0 HG9 LJ0 HG9 L9 HGO LJ9 HGO L0 HGO LJ0 HGO

TO JUNCTORS ON TRUNK LINK FR

TO JUNCTORS ON TRUNK LINK FR

LSA LSB LJ9 LJ0 SM9 SM0 SM0-9 MCA

LINE INS TEST CCNT CO-

SM0-9 SM0-9

LS ONX AV,ZL MT18 CH0-9 SM0-9 SM0-9 33,000

ON LSA

XLS STF 3BF P-5.5

JCO JCK0 JS0

JC1 JCK1 JS1

JS ONX XJS CH2-9 JS2-9 JS2-9 33,000

JS 1000 ±1%

XTSI STF P-850 TSE1 TSM TSM 33,000

OnX XTS TS ONX TSM ONX BSM

1070 ±1% S-200

FAK XAB FAK FBK

TO MASTER TEST FR CONNECTOR

ITR2 SCB LKI

LV XLV

TRUNK LINK & CONNECTOR

TRUNK SWITCH 9

LEFT HALF RIGHT HALF

J9 JC19 J0 JC10 J9 JC9 J0 JC0

EXTENSION JUNCTOR SWITCH 9

REGULAR JUNCTOR SWITCH 9

(SELECT 1) (SELECT 0)

LEFT HALF A B RIGHT HALF

T9 T2 B A

FB99 FA99 FB92 FA92

LV3 LV9 LV2 LV2

TO OTHER (FA) OR (FB) RELAYS ON SAME LEVEL ON OTHER TRK SWITCHES

TO OTHER LV RELAYS

TRUNK SWITCH 0

EXTENSION JUNCTOR SWITCH 0

REGULAR JUNCTOR SWITCH 0

T9 T2 B A

FB09 FA09 FB02 FA02

LC9 LC0

MC- MC- JS9 JS0

TSX MCA BSM MCB ASM MCB FAK MCB LCC LV2-9 FA-

MCB LCC LV2-9 FB-

TO OTHER (FA) OR (FB) RELAYS ON SAME LEVEL ON OTHER TRK SWITCHES

LVK MCB LV2-9 LV2-9

NO. 5 MARKER CIRCUIT

SD-25550-01-B45

BELL TELEPHONE LABORATORIES INCORPORATED

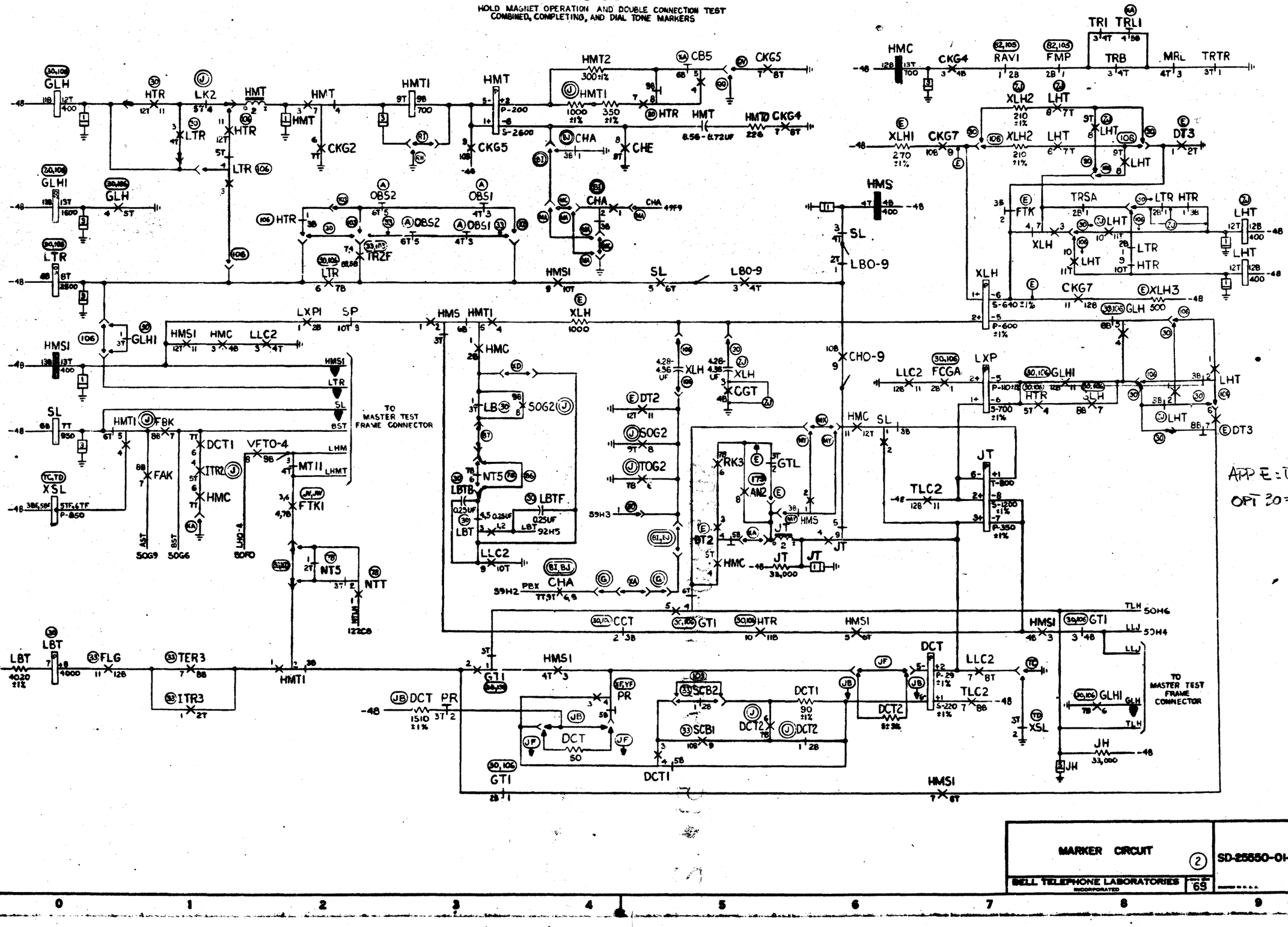
6S

41

SD-25550-01-B45

FS 36

HOLD MAGNET OPERATION AND DOUBLE CONNECTION TEST
COMBINED, COMPLETING, AND DIAL TONE MARKERS

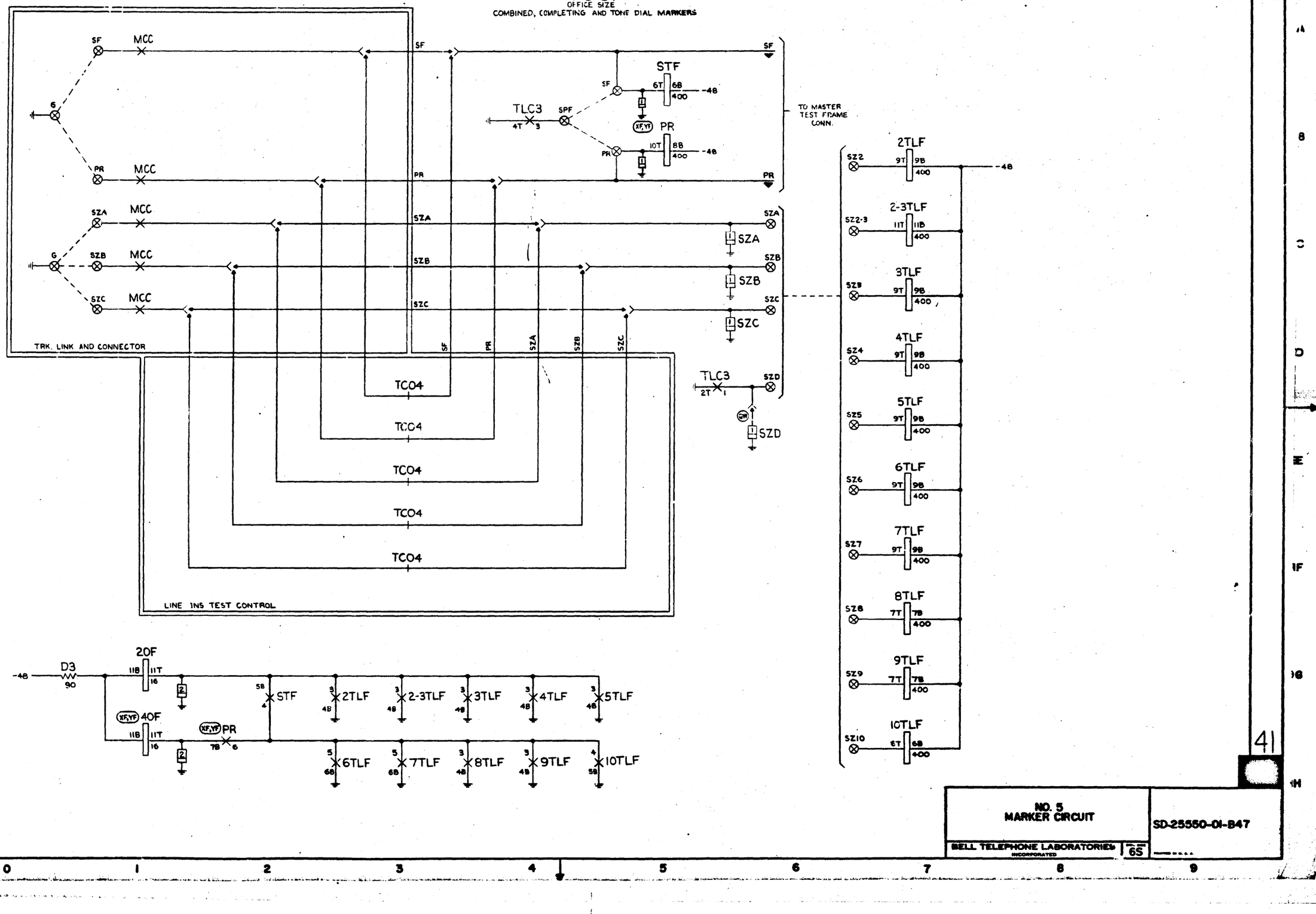


MARKER CIRCUIT (2)	SD-25550-01-946
BELL TELEPHONE LABORATORIES INCORPORATED	69

51

SD-25550-01-946

FS 37
OFFICE SIZE
COMBINED, COMPLETING AND TONE DIAL MARKERS



NO. 5
MARKER CIRCUIT

SD-25550-01-847

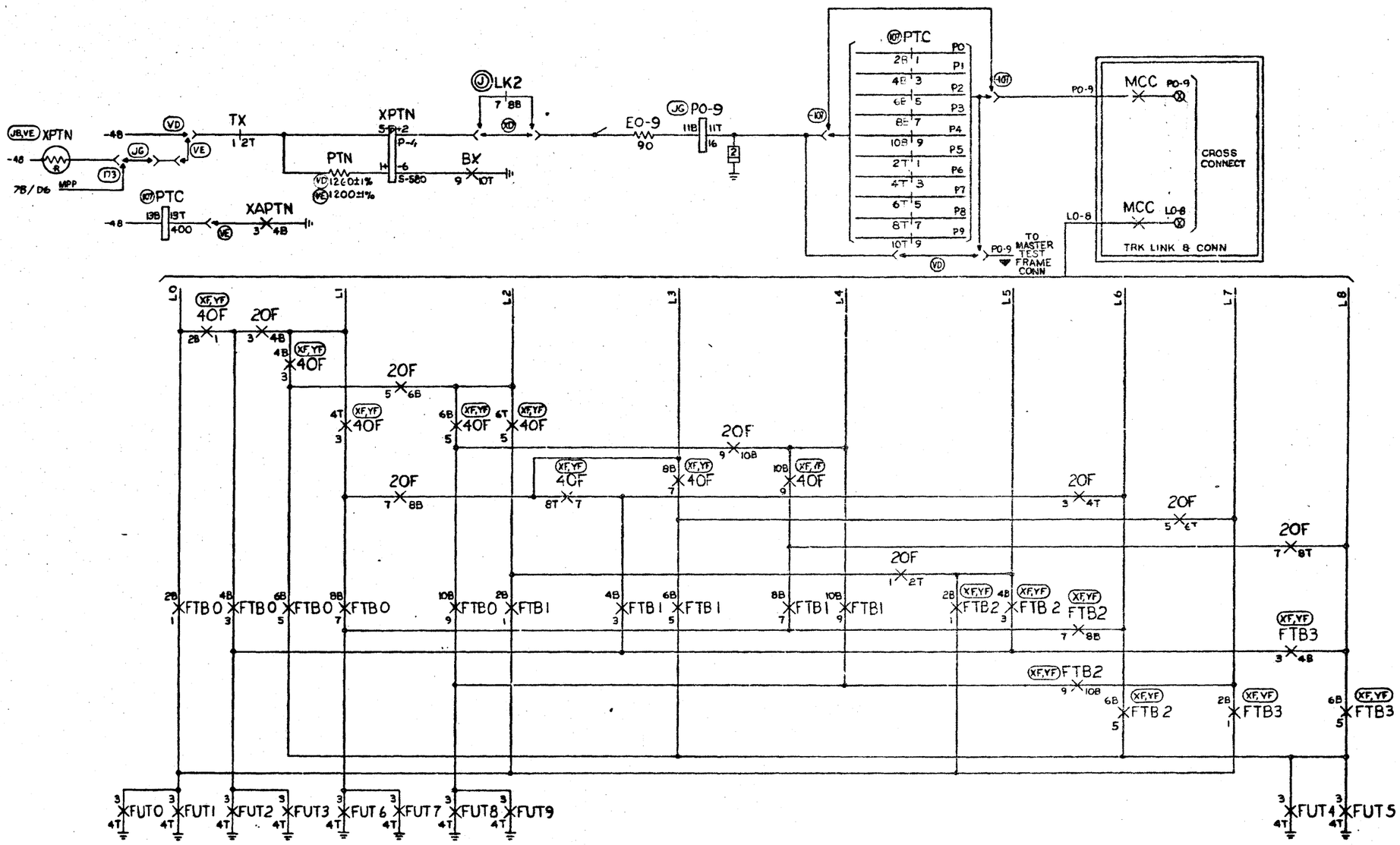
BELL TELEPHONE LABORATORIES INCORPORATED

65

SD-25550-01-847

FS 38

PATTERN RELAY CONTROL
COMBINED, COMPLETING & DIAL TONE MARKERS



DRAWING ISSUE
40D
43B
46D
48D

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-848

SD-25550-01-848

FS 39
CHANNEL RELAY OPERATION
COMBINED, COMPLETING AND
DIAL TONE MARKERS

DRAWING ISSUE
41D
43B
45B
49D
56D NLF

TO MASTER TEST FRAME CONN
LXPI
LXP
CHE
HMTI
TK
CHT
CHO
THRU CH1,2,3
TO (CH1-3) RELAYS
CH4
CH5
CH9
THRU CH6,7,8
TO (CH6-8) RELAYS
82,102 FMP
82,105 FMP
BI,BJ DIO 90
BI,BJ CHA
6B,10B
8T,10T
EA
EB AMA6
EC NTD
EC TD
188 NCTD
188 ANTD
188 TDK
188 EA
TO MASTER TEST FRAME CONN
CHA
CHE
LLCI
122H2
CH 33,000
84,88
105
173
MNI
SPLI
MFL
STP3
STP
STP2
PRLL
10TLF
STPI
GC
MN
BI,BJ CHA
88,XD
CHE
LLCI
LLC2
FLG
LLI
86E2
CH
STP3
GC
STP2
STPA
MFK
PRLL
STP3
110H2 MFL
CHA
CHA1
46C4 CHA
78 LFO-9
CHO
CH4
CH5
CH9
CHO-9
TTLO
TJO
TLLO
TL0
0.25UF
TCHO
THRU TCH1,2,3
TCH4
TTL4
TJ4
TLL4
TL4
TCH5
TTL5
TJ5
TLL5
TL5
THRU TCH6,7,8
TCH9
TTL9
TJ9
TLL9
TL9
IN0
OT4
IN5
OT9
S
M
MI
E
TR2B
TR2F
DTK
DII 90
DTK
TR2F
NTT
CBDI
INTI
122F3
FACI
103C9
SOG2
FBK
SCB
RK3
FAK
TLC3
GC
RK
LK
TCHK
HGK
LCK
TK
STPA
MFL
CHE
JCKO 33,000
JCKI 33,000
JCKO .025UF
JCK
MFK
STP2
STP
STPI
ONW
105A6
TO MASTER TEST FRAME CONN
TRAFFIC REG CKT
TPC
TRT
EXA
CKG5
CHT 8.56-8.7ZUF
CHT 226
CHT2 1100 ±1%
CHT1 300 ±1%
P-200
S-2600
78 NT
86,XD
107E3 TK
61C7 STP2
61D7 JCK

SD-25550-01-B49

MARKER CIRCUIT (2) SD-25550-01-B49
BELL TELEPHONE LABORATORIES INCORPORATED 6S
56

LINE LINE LINK AND CONN

LINE SWITCH

VG2-11 VG1 VG0 JUNCTOR SW

HORIZ GROUP B

HORIZ GROUP C

TO JUNCTOR DISTRIBUTING FRAME

TO JUNCTOR DISTG FR

JUNCTOR SWITCH

LEFT HALF RIGHT HALF

EXTENSION JUNCTOR SWITCH

REGULAR JUNCTOR SWITCH

JS0-9 JACK

MCA MCB

CO- LINE INS TEST CONTROL

TCO5

CH0-9

LB0-9

TJ0-9

TTL0-9

TLL0-9

XCH 5TX

LC TX XLC LKI BX SCB ITR2

TRUNK LINK AND CONNECTOR

TRUNK SWITCH

LEFT HALF RIGHT HALF

FA FB02-99 FA02-99 LC9

RLH9 RLH0 LLH9 LLH0

FB- LV- FB02-09 FA02-09

LCK TCO3 TCO2 LINE INS TEST CONT

TO MASTER TEST FR CONN

TO MASTER TST FR CONN

FS 40
CHANNEL TEST
COMBINED, COMPLETING & DIAL TONE MARKERS

DRAWING ISSUE
41D
43B
44B

NO.5 MARKER CIRCUIT

SD-25550-01-B50

BELL TELEPHONE LABORATORIES INCORPORATED

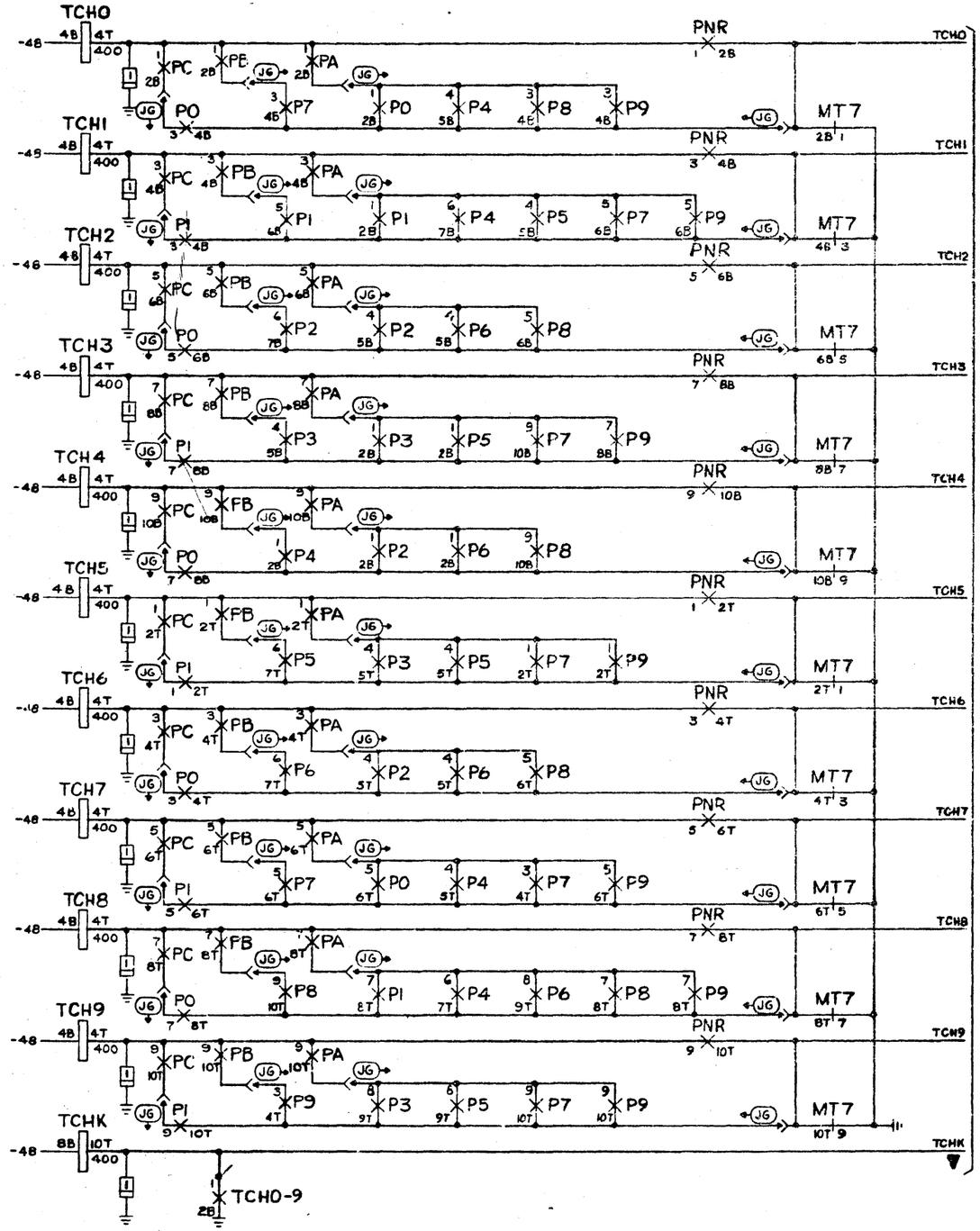
44

GRD BSY OPERATE

SD-25550-01-B50

FS 41

CHANNEL TEST INDICATOR
COMBINED, COMPLETING,
& DIAL TONE MARKERS



TO
MASTER TEST
FRAME CONNECTOR

BRAWING ISSUE		
41D		W.E.C.
490		

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT

BELL TELEPHONE LABORATORIES
INCORPORATED

65

SD-25550-01-S51

49

SD-25550-01-S51

FS42

TRANSMITTAL AND CHECK OF
GH- INFORMATION
COMBINED, COMPLETING AND DIAL TONE MARKERS

TO MASTER TEST FRAME CONNECTOR

ORIGINATING REGISTER

TRUNK LINK AND CONN

ORIGINATING REGISTER MARKER CONN

LL0,1,2,4,7 F1 ON

MCD

LL0,1,2,4,7 RD MD

LL0 LL1 LL2 LL4 LL7 -48 8B 10T 400

CB5 1X2T 4X5T 6X7T 8X9T 10X11T

CH0 CH1 CH2 CH3 CH4 CH5 CH6 CH7 CH8 CH9

DT4 DT3

GTL1 GTL2 GTL3 GTL4

CB 3X4B

PRLL PCSC SCPR

TRAFFIC REGISTER CNT

LFKA

PEG 110D4

LLG1 RSC1 RSC 81GO

SD-25550-01-B52

MARKER CIRCUIT (2)

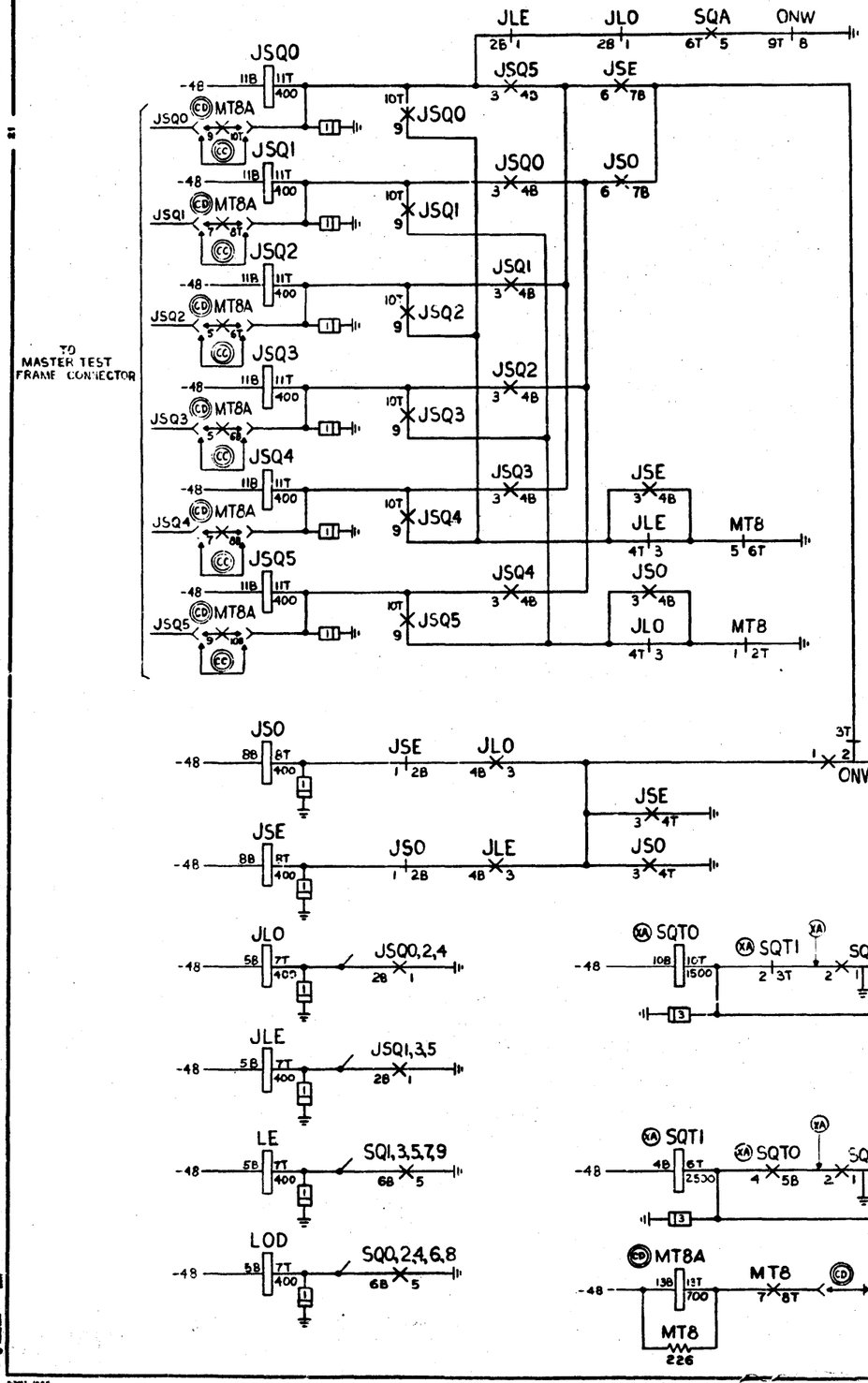
BELL TELEPHONE LABORATORIES INCORPORATED

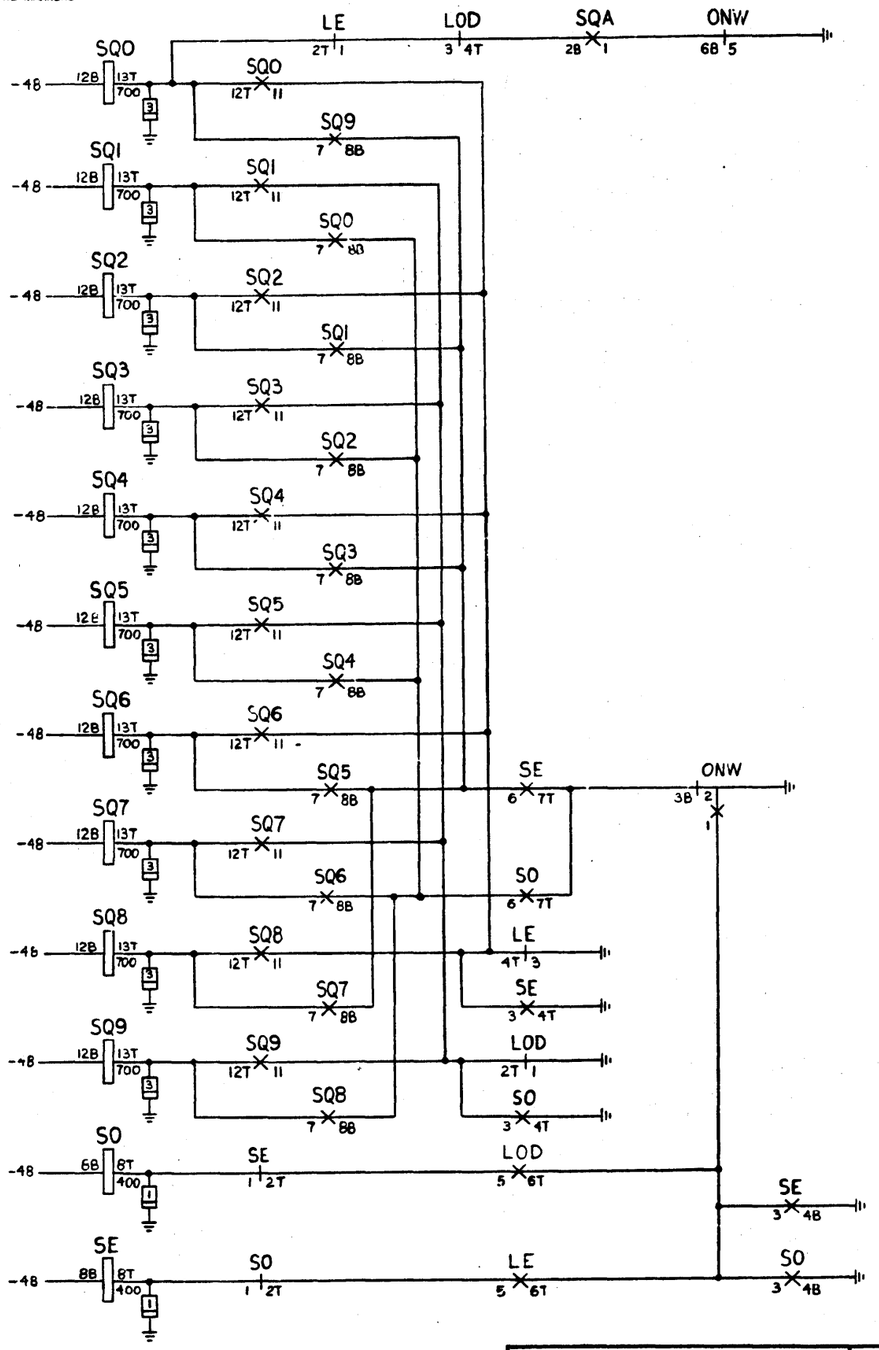
6S

51

PART OF FS 43

JUNCTOR SEQUENCE
COMBINED, COMPLETING & DIAL TONE MARKERS





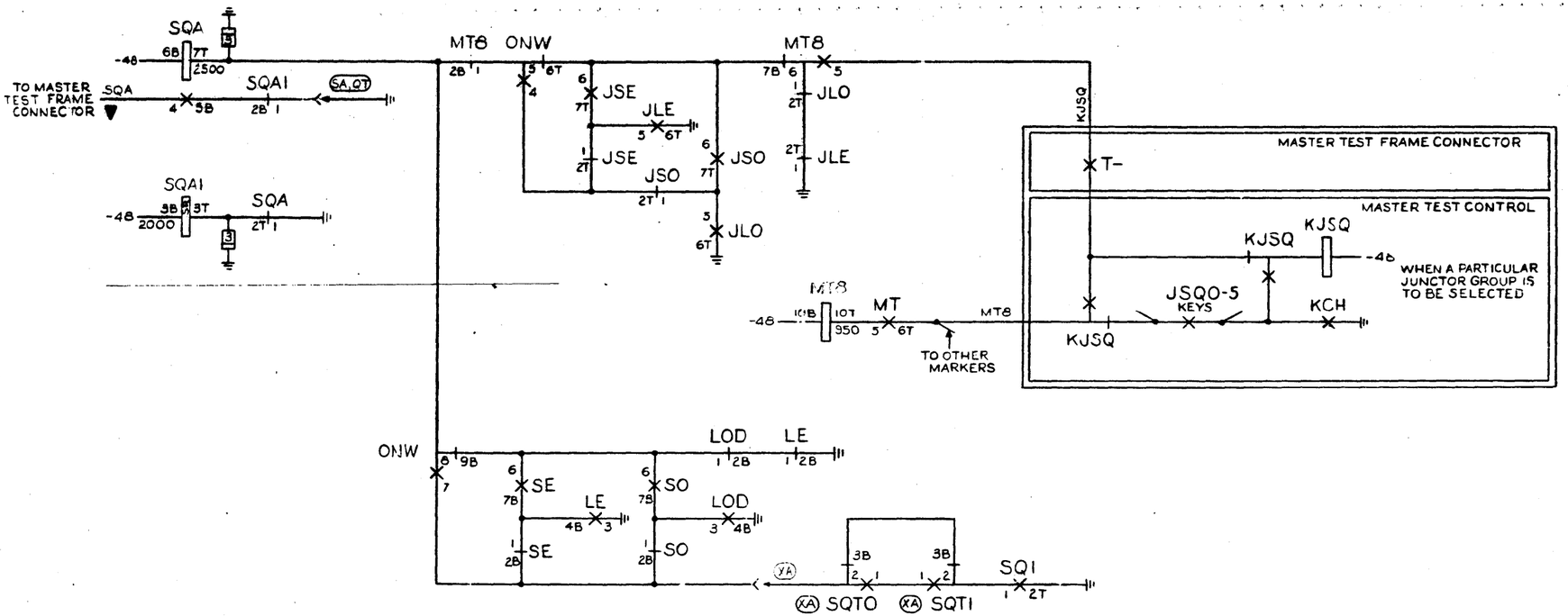
41

NO. 5 MARKER CIRCUIT	SD-25550-01-B53
BELL TELEPHONE LABORATORIES INCORPORATED	6S

SD-25550-01-B53

PART OF FS 43

JUNCTOR SEQUENCE
COMBINED, COMPLETING & DIAL TONE MARKERS



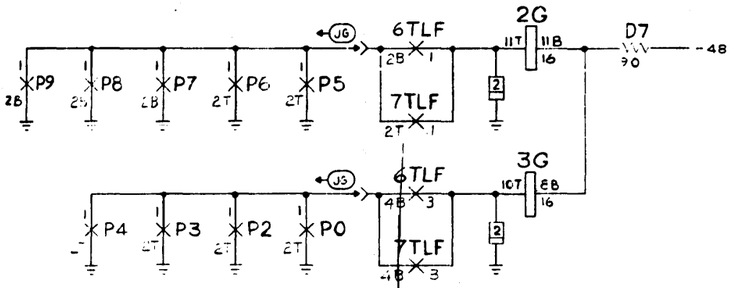
SD-25550-01-B54

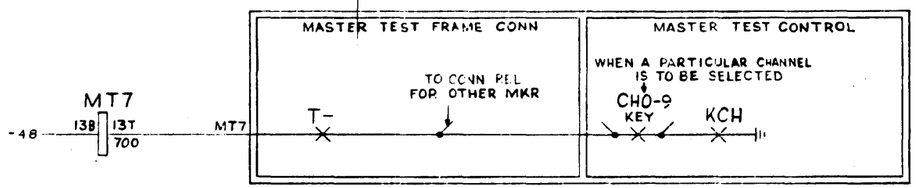
NO. 5 MARKER CIRCUIT	SD-25550-01-B54
BELL TELEPHONE LABORATORIES INCORPORATED	6S

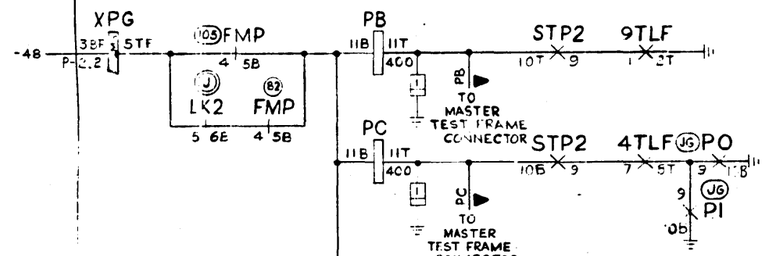
43

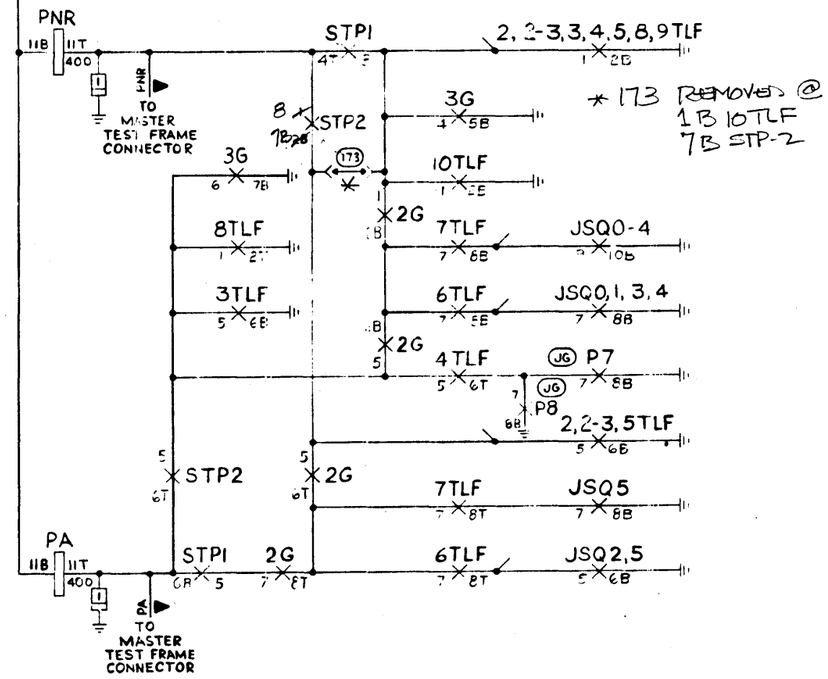
FS 44

JUNCTOR PATTERN GROUPING
COMBINED, COMPLETING, & DIAL TONE MARKERS









* 173 REMOVES @
1B 10TLF
7B STP-2

ISSUE		
41D	JAN 1968	M.R.B.
49D	JAN 1970	

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

49

SD-25550-01-B55

SD-25550-01-B55

FS 45

JUNCTOR GROUP SELECTION COMBINED COMPLETING, & DIAL TONE MARKERS

TO MASTER TEST FRAME CONNECTOR

JG0 JG1 JG2 JG3 JG4 LK RK EF RF

*173 REMOVED @
5T 9TLF
4T 10TLF

TRUNK LINK & CONNECTOR

LINE INSULATION TEST CONTROL

DRAWING ISSUE		
41D	2-W	WF.O
490	2-W	

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)
SD-25550-01-856

BELL TELEPHONE LABORATORIES INCORPORATED 6S

49

SD-25550-01-856

FS 46

TRUNK LINK FRAME JUNCTOR GROUP CONTROL
COMBINED, COMPLETING AND DIAL TONE MARKERS

TRUNK LINK & CONN

TO MASTER TEST FRAME CONNECTOR

JCO JC1 JC2 JC3 JC4 JC5 JC6 JC7 JC8 JC9

JCO-9

JG0 JG3 JG4 JG1 JG2

FTB0 FTB2 FTB1 FTB3

FUT0,1 FUT2,3 FUT4,5 FUT6,7 FUT8,9

20F 40F 7Q RQ

LK2 BX XJC JC

800 ± 1%
600 ± 1%

-48

JG TX JG 1260 ± 1% XJG S-200 P-10 BX GC TR2 JGO GC GO

GO, GOA

JG1 GC G1
JG2 GC G2
JG3 GC G3
JG4 GC G4

G1-4

XF,YF RQ 13B 950 13T 6TLF 8TLF 9TLF

XF,YF 7Q 13B 950 13T 7TLF

MCC GO GOA

MCC JC9 JC- JCO GO RF JCO-9 EF JC10-19 G1,2,3,4

MCC G1-4

DRAWING ISSUE
41D
49D

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)

SD-25550-01-B57

49

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25550-01-B57

PART OF FS 47

CONTINUITY AND GROUND TESTS
DIAL TONE MARKERS

SEE B-59.

DRAWING ISSUE
41D
45B
W.F.O.

TRUNK LINK & CONN
LINE, LINE LINK & CONNECTOR
SUB LINE
MCB LV- FA- T- T- J-
J- L-
ATT
ART

CON REP COIL
CON1 INDR 400
CCT
CON3
CON6 500 ±1%
RCT
GT2
GLHI
FAK
FCG
TLCI
FCGA
CKG5
LTR
LLC2
GLH
CON7 500 ±1%
CON4 2.2 MEG
CON5 5100
CON2 20,000
CON2 .2058-.2142 UF
CKG2
CHA
CON2 0.15 MEG
CON1 .02025-.02045UF
CON1 1000
CON1 INDR
CON2 [2T]
LLC1
CON1
F1 90
FROM LAST COMPLETING MKR TO FIRST DIAL TONE MKR
TO OTHER DIAL TONE MARKERS
FROM LAST DIAL TONE MARKER
AC-DC AUD ± AUD
RING
CON3 .004-.006 UF
CON3 CON GT2 GLH CON8 3200 ±1% +130
CON9 12,000
CON10 12,000
ACV
ACVI
MASTER TEST FRAME JACK, LAMP & KEY CKT
TR2F
TTT
TRT
FCG
CON
GT2
TO MASTER TEST FRAME CONNECTOR
FO 90
GT1
RCTB
DT2
SP
RCTA
ONX

45

NO. 5
MARKER CIRCUIT

SD-25550-01-858

BELL TELEPHONE LABORATORIES
INCORPORATED
6S

SD-25550-01-858

PART OF FS 47

CONTINUITY & GROUND TEST
COMBINED & COMPLETING MKR

MASTER TEST FRAME CONNECTOR

TRUNK LINE & CONNECTOR | LINE, LINE LINK AND CONNECTOR | MAIN DISTRIBUTING FRAME | LINE | SUB TEL SET OR LINE LA FR AMP OF INC TANDEM OR INTERTOLL TRUNK

DRAWING ISSUE
41D WF
43B PI
44B PD
45B WLK
WORN DRAWING REPRODUCED WITHOUT CHANGE 12-9-60 PGJ
49D MD
51D JR

TO PRECEDING MKR OR TO POWER RINGING CKT

TO SUCEEDING MKR OR LAST MKR

MASTER TEST FRAME JK, LAMP & KEY CKT

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

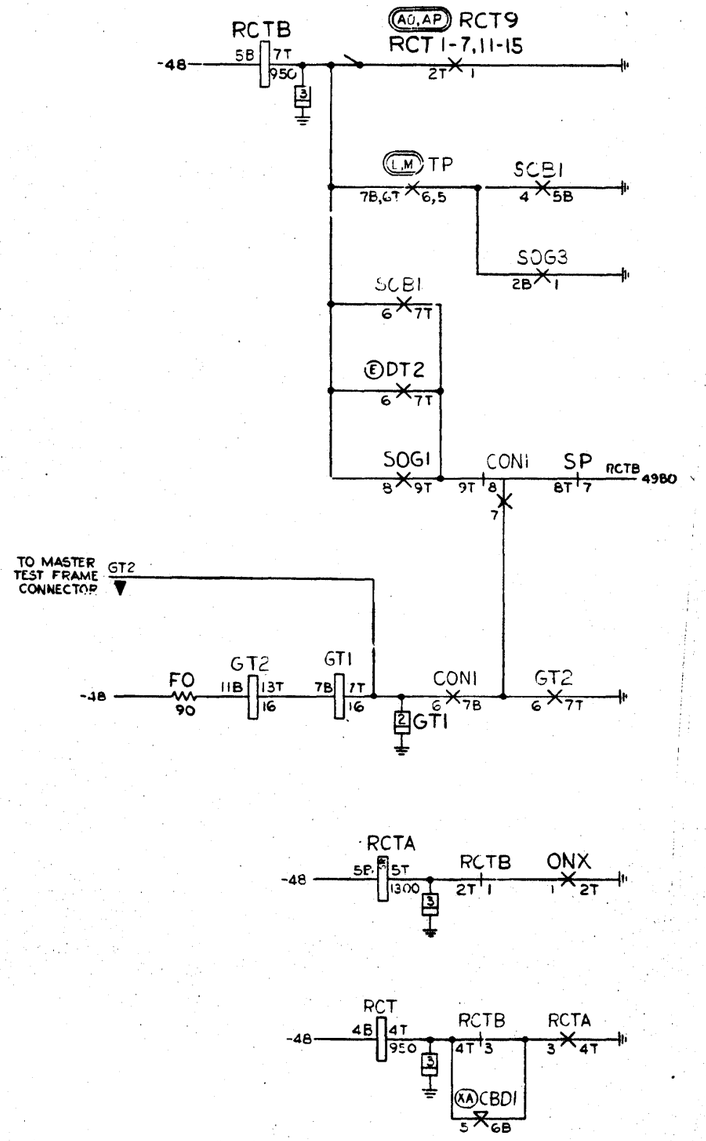
SD-25550-01-B59

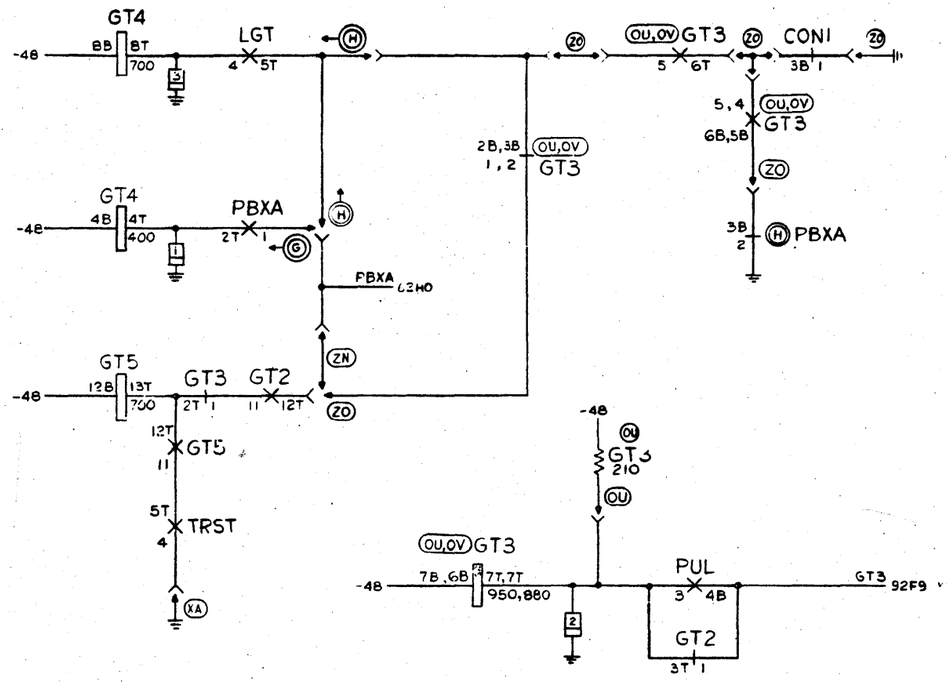
51

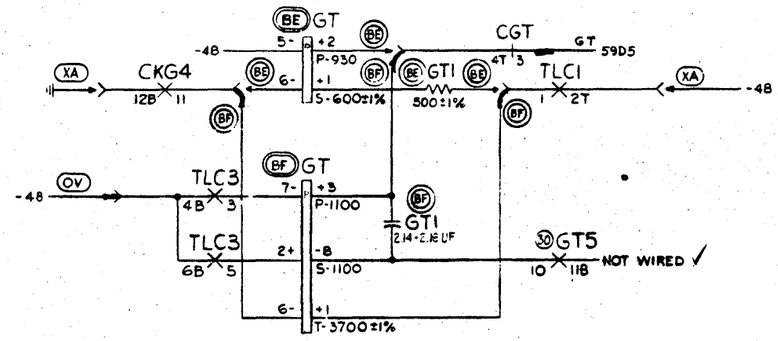
SD-25550-01-B59

PART OF FS 47

CONTINUITY AND GROUND TEST
COMBINED AND COMPLETING MARKERS







SD-25550-01-B60

41

NO. 5 MARKER CIRCUIT	SD-25550-01-B60
BELL TELEPHONE LABORATORIES INCORPORATED	6S

FS48

CLASS OF LINKAGE
COMBINED & COMPLETING MARKERS

DRAWING ISSUE	
41D	GB, FB, H.M.
43B	H.M., M.S.
48D	DS, LW, ABD
51D	JR, MS, RMG
54D	CF, JEW, ZEL, AJD

FLG2 (100) 12B 13T 700 — FLG1 3 4B (Z0)
FLG1 13B 13T 400 — (WC,UE) (102,109) TNR 3T 2 (WC,UE)
(172) FLGA 11B 12T 400
FLG 13B 13T 400
(142) ANR 2B 1
2T RCY3 (SX) 2B NARI
RCY4 3 4T — NAR3 1 2B — NAR2 1 2B (142)
LKI 2B 1
TER2 4 5B — ITR2 6 7T — TOG2 4 5B — CKG3 5 6T (XA)
FL6 → TO MASTER TEST FR CONN
SCB

(XA) CBD 11B 13T 400 — (XA) CBDI 7B 8T 400
(E) DTI (ZJ) 3 4T (ZJ)
LOT 10B 10T 700 — (XA) CB 9 10T

SCB 11B 12T 400
SCB1 11B 12T 400
SCB2 7B 9T 400

ITR2 11 12T — LKI 1 2T (XA) — TK 1 2B — RK 6T 5 — LK 6T 5 — TCHK 3T 2 — HGK 2B 1 (XA)
11T 10 SCB — (GM) PEG 5 6B — CKG4 6B (XA)
(XA) 5 — 7T 6 PUL — 7T 6 RCY3 2T 1 — CONI 8B 7 — GT2 3B 1 — GLHI 2T 1 — SL (XA) — HMTI 7 8B — TBI

LK 1 3B — RK 1 3B — STP2 — STP — STP2 — 48
2B TCHK 1
3T 2 LCK — JCK — JCK1 — JCK0
2B (XA) LCK 1
RCY3 3 4T
TER2 11T 10
JCK1 33,000 — 48
4960-3

PU1 — TBI — 48
RCY3 — RCY4 — 48
92F1

(XA) F2 90 — (XA) CB 13B 13T 16 — DIS2 4 5T — SCB2 7 8T
3 SOG2 4T — 2B RV2 1 — 3T RV1 2
11T SCB1 10 — 11 (XA) CB 12T
8 SCB 9T
5T CKO 4 3 — CKR 87F3
TOG3 103E8

RV 2T 1 — FTL 2 3T — FUL 2 3T — VGL 2 3T — HGL 2 3T — (FN,FO) VFL 2,5 3T,6T — RCL 2 3T
(62) (147) RGTI 1 2T — RGT0 1 2T
RV 6 7B
(126) PN 3T 2 — (PC) EN 3T 2 — (ZP) TN 3T 2 — (ZP) PTN (126) 3T 2
(65) PN 1 2B — (ZP) TN 2 5T — (ZP) PTN 1 2B
(62) (147) 8T RGTO,1 7 — 6 RGTO 7B — (147) 6 RGTI 7B — (147) 6 (148) RGT2-5 7B
(XA) RGTO,1 — (XA) RGT
RGT 1 2T (147) — (62) RCTIO 3T 2 — (182) CSW 6 — (181) TLK 9
(186) AISI 8

(XA) CBF 7B 8T 400 — (XA) CB 11 12B
FLG 5 6B

MARKER CIRCUIT (2) SD-25550-01-B61 54
BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-B61

FS 49
LINKAGE CHECK
COMBINED, COMPLETING, & DIAL TONE MARKERS

DRAWING ISSUE
41D
42D
43B
51D
54D
55A N.F.

TO MASTER TEST FRAME CONNECTOR

TO OTHER SPECIAL COMB AND COMPL MARKERS

MASTER TEST CONTROL NTR

NOTES:
1. IN APP FIG.BE PROVIDE WN OR WO OPTION.

OUTGOING SENDER CONNECTOR

OUTGOING SENDER

MARKER CIRCUIT (2)

SD-25550-01-862

BELL TELEPHONE LABORATORIES INCORPORATED

55

SD-25550-01-862

FS 50

CALLED NUMBER AO-HO, JO-LO LEAD COMBINED AND COMPLETING MARKERS

DRAWING ISSUE: 41D, 43B, 54D

SERVICE OBS REG CONN — AO-HO, JO-LO — CO-

FOREIGN AREA TRNSL CONN — AO-GO — CA- ABC- — CB- DEF- — GHJ1 — AO-FO — THO — GO

INCOMING REG — AO-HO, JO-LO DIGITS — LT- LU-

INCOMING REG MKR CONN — R- M- — AO-HO, JO-LO HTO, TTO, UTO

ORIG REG — AO-HO, JO-LO DIGITS — R- M-

ORIG REG MKR CONN — AO-HO, JO-LO

TO MASTER TEST FR CONN

FOREIGN AREA TRNSL CONN — GHJ2 — GHJ2 — GHJ1

OUTGOING SENDER CONN CKT — OUTGOING SENDER CKT — LO DIGIT — AO-HO JO,KO DIGITS — M- S-

AO-HO,JO,KO TO CALLED NUMBER DETECTOR CKT

TO MASTER TEST FR CONN

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED — 6S

SD-25550-01-863

54

FS 51

CALLED NUMBER AI-HI, JI-LI LEAD COMBINED & COMPLETING MARKERS

TO MASTER TEST FRAME CONNECTER

SERVICE OBS REG CONN

AI-HI JI-LI -48 CO- AI-HI JI-LI

FOREIGN AREA TRNSL CONN

AI-GI -48 CA- ABC- AI-FI; CB- DEF- GHJI THI; GI

INCOMING REG

AI-HI JI-LI DIGITS LT; LU- R- M- AI-HI,JI-LI,HI,TTI,UTI

INCOMING REG MKR CONN

ORIG REG

AI-HI JI-LI DIGITS R- M- AI-HI, JI-LI

ORIG REG MKR CONN

ACI 77 5B 400 -48 (35) ACI 2T 1

3CI 77 5B 400 -48 BCI 2T 1

CCI 77 5B 400 -48 CCI 2T 1

TXD 4T 3 DXI 8T 7B 400 -48

(47) TRN 4B 3

(47) TRNI 4T 3

(47) TRNI 4B 3

(47) TRNI 4T 3

NI 4T 3 THI 400 10T 8B RP RQ 48 -48 (108 108 48)

N2 4T 3 NI 4B 3 HNI 400 10T 8B RP RQ 48 -48 (108 108 48)

N2 NIA 4B 3 N3 4T 3 TI 400 10T 8B RP RQ 48 -48 (108 108 48)

N4 4T 3 NIA 4T 3 N3 4B 3 N2A 4B 3 UI 400 10T 8B (108) 5T 5B (48)

N4 4B 3 N3A N2A 4T 3 N4A N3A 4T 3 N4A 4T 3

KA 4B 3 (55) KGS1 3 (ZW) (ZX) KBC 4B 3 (95) KGS1 2T 1 (ZW) (ZX) KBC 4T 3 (93) KGS2 3 (ZW) (ZX) (186) KGS3 3 KDE 4B 3 (98) KGS2 2T 1 (ZW) (ZX) (186) KGS3 KDE 4T 3 (186) KGS4 3 (J) KFG 4B 3 (95) (J) KFG 4T 3 (186) KGS4 4 (H) KHJ 4B 3 (H) KHJ 4T 3 (C) KKL 4B 3 (G) KKL 4T 3

(K) LI 6T 6B 950 -48

(S) EI 6T 6B 950 -48

(R) FI 6T 6B 950 -48

(Q) GI 6T 6B 950 -48

(P) HI 6T 6B 950 -48

(N) JI 6T 6B 950 -48

(M) KI 6T 6B 950 -48

AI 6T 6B 350 -48 (DA1) (FI) (DB1) (FI)

BI 6T 6B 350 -48 (DB1) (FI) (DC1) (FI)

CI 6T 6B 950 -48 (DC1) (FI)

DI 6T 6B 950 -48

OUTGOING SENDER CONN CKT

OUTGOING SENDER CKT

M- S- LI DIGIT -48

M- S- AI-HI JI,KI DIGITS -48

(FV) AI-HI, JI, KI TO CALLED NUMBER DETECTOR CKT

FOREIGN AREA TRNSL CONN

(N2) KI GHJ2 UI (N2)

JI GHJ2 TI

HI GHJI HNI

76A6, 79H7, 68B1

HNI TTI UTI

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-864

54

ISSUE 41D 43B 54D

SD-25550-01-864

CALLED NUMBER A2-H2, J2-L2 LEAD COMBINED & COMPLETING MARKERS

ISSUE 4D, 43B, 54D

SERVICE OBS REG CONN
A2-H2 J2-L2
-48 CO- A2-H2 J2-L2

FOREIGN AREA TRNSL CONN
A2-G2 -48 CA- ABC- A2-F2
XCB- GHJI TH2
DEF- G2

INCOMING REG
A2-H2 J2-L2 DIGITS
LT-, LU-

INCOMING REG MKR CONN
R- M- A2-H2, J2-L2, HT2, TT2, UT2

ORIG REG
A2-H2 J2-L2 DIGITS

ORIG REG MKR CONN
R- M- A2-H2, J2-L2

TO MASTER TEST FR CONN

FOREIGN AREA TRNSL CONN
GHJ2 K2 U2 UT2
GHJ2 J2 T2 TT2
GHJI H2 HN2 HN2
7CA6 79H6 68C1

35 AC2 7T 5B 400 -48
BC2 7T 5B 400 -48
CC2 7T 5B 400 -48
DX2 8T 7B 400 -48
TXD 6T 5
TRN 6B 5
TRNI 6T 5
TRNI 6B 5

TH2 400 10T 8B -48 RP RQ 48
12T 11B
10T 8B
HN2 400 10T 8B -48 RP RQ 48
5T 5B
T2 400 10T 8B -48 RP RQ 48
12T 11B
5T 5B
U2 400 10T 8B -48
5T 5B 48

N1 6T 5
N2 N1 6T 5 6B 5
N2 NIA 6B 5 6B 5 N3 6T 5
N4 6T 5 NIA 6T 5
N3 6B 5 N2A 6B 5
N4 6B 5 N3A
N2A 6B 5 6T 5
N4A 6B 5 N3A 6T 5
N4A 6T 5

kA 6B 5
KGS1 6B 5
KBC 6B 5
HN2 KGS1 4T 3
KBC 6T 5
T2 KGS2 6B 5
186 KGS3 5
kDE 6B 5
U2 KGS2 4T 3
186 KGS3 6
KDE 6T 3
186 KGS4 5
J kFG 6B 5
186 KGS4 6
J kFG 6T 5
H kHJ 6B 5
H kHJ 6T 5
G kkL 6B 5
G kkL 6T 5

FI DA2
A2 6T 6B 950 -48
FI DB2
B2 6T 6B 950 -48
FI DC2
C2 6T 6B 950 -48
D2 6T 6B 950 -48
5 E2 6T 6B 950 -48
3 R F2 6T 6B 950 -48
3 Q G2 6T 6B 950 -48
3 P H2 6T 6B 950 -48
3 N J2 6T 6B 950 -48
3 M K2 6T 6B 950 -48
3 K L2 6T 6B 950 -48

OUTGOING SENDER CONN CKT
OUTGOING SENDER CKT
L2 DIGIT M- S- -48
A2-H2 J2,K2 DIGITS M- S- -48
FV
A2-H2, J2, K2 TO CALLED NUMBER DETECTOR CKT

MARKER CIRCUIT (2)
BELL TELEPHONE LABORATORIES INCORPORATED
SD-25550-01-865
54
65

SD-25550-01-865

FS 55

CALLED NUMBER A4-H4, J4-L4 LEAD COMBINED AND COMPLETING MARKERS

SERVICE OBS REG CONN

A4-H4 J4-L4 -48 CO-

FOREIGN AREA TRNSL CONN

A4-G4 -48 CA- ABC- CB- DEF- GHJ1

INC REG

A4-H4 J4-L4 DIGITS LT- LU-

INC REG MKR CONN

R- M-

ORIG REG

A4-H4 J4-L4

ORIG REG MKR CONN

R- M-

A4-H4 J4-L4

A4-F4

A4-H4, J4-L4 HT4, TT4, LT4

A4-H4 J4-L4

TO MASTER TEST FR CONN

AC4 TT 5B 400 -48

BC4 TT 5B 400 -48

CC4 TT 5B 400 -48

DX4 8T 7B 400 -48

TXD 8T 7

TRN 8B 7

TRN! 8B 7

TRN! 8B 7

TH4 400 10T 8B PT 12T 11B RQ 10T 8B -48

HN4 400 10T 8B RP 12T 11B RQ 5T 5B -48

T4 400 10T 8B RP 12T 11B RQ 5T 5B -48

U4 400 10T 8B 10B 5T 5B -48

N1 8T 7

N2 8T 7

N3 8T 7

N4 8T 7

NIA 8B 7

N2A 8B 7

N3A 8T 7

N4A 8T 7

KA 2T 1

KBC 8B 7

KDE 8T 7

KGS1 8B 7

KGS2 8B 7

KGS3 7

KGS4 7

KFG 8B 7

KHJ 8T 7

KKL 8B 7

KKL 8T 7

FOREIGN AREA TRNSL CONN

GHJ2 K4 U4 UT4

GHJ2 J4 T4 TT4

GHJ1 H4 HN4 HN4

76A6 79H6 68D1

DA4 DB4 DC4

A4 6T 6B 950 -48

B4 6T 6B 950 -48

C4 6T 6B 950 -48

D4 6T 6B 950 -48

E4 6T 6B 950 -48

F4 6T 6B 950 -48

G4 6T 6B 950 -48

H4 6T 6B 950 -48

J4 6T 6B 950 -48

K4 6T 6B 950 -48

L4 6T 6B 950 -48

OUTGOING SENDER CONN CKT

OUTGOING SENDER CKT

L4 DIGIT -48

M- S-

A4-H4 J4,K4 DIGITS -48

A4-H4 J4,K4

FV A4-H4, J4, K4

TO CALLED NUMBER DETECTOR CKT

TO MASTER TEST FR CONN

ISSUE 4W 43B 54D

MARKER CIRCUIT

SD-25550-01-B66

54

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25550-01-B66

FS 54

CALLED NUMBER A7-H7, J7-M7 LEAD COMBINED & COMPLETING MARKERS

SERVICE OBS REG CONN
A7-H7, J7-L7
CO-
A7-H7 J7-M7

FOREIGN AREA TRNSL CONN
A7-G7
CA-
ABC-
A7-F7
CB-
GHJI
TH7
DEF-
G7

INCOMING REG
A7-H7, J7-M7
DIGITS
LT-LU-

INCOMING REG MKR CONN
R-
M-
A7-H7, J7-M7 HT7, TT7, UT7

ORIG REG
A7-H7 J7-M7
DIGITS

ORIG REG MKR CONN
R-
M-
A7-H7, J7-M7

TO MASTER TEST CONN FR

FOREIGN AREA TRNSL CONN
K7 GHJ2 UT7
J7 GHJ2 TT7
H7 GHJ1 HN7
76AG 79W6 68D1

OUTGOING SENDER CONN CKT
L7,M7 M- S-
A7-H7 J7,K7 M- S-

OUTGOING SENDER CKT
L7,M7 DIGITS
A7-H7 J7,K7 DIGITS

FV A7-H7,J7,K7 TO CALLED NUMBER DETECTOR CKT

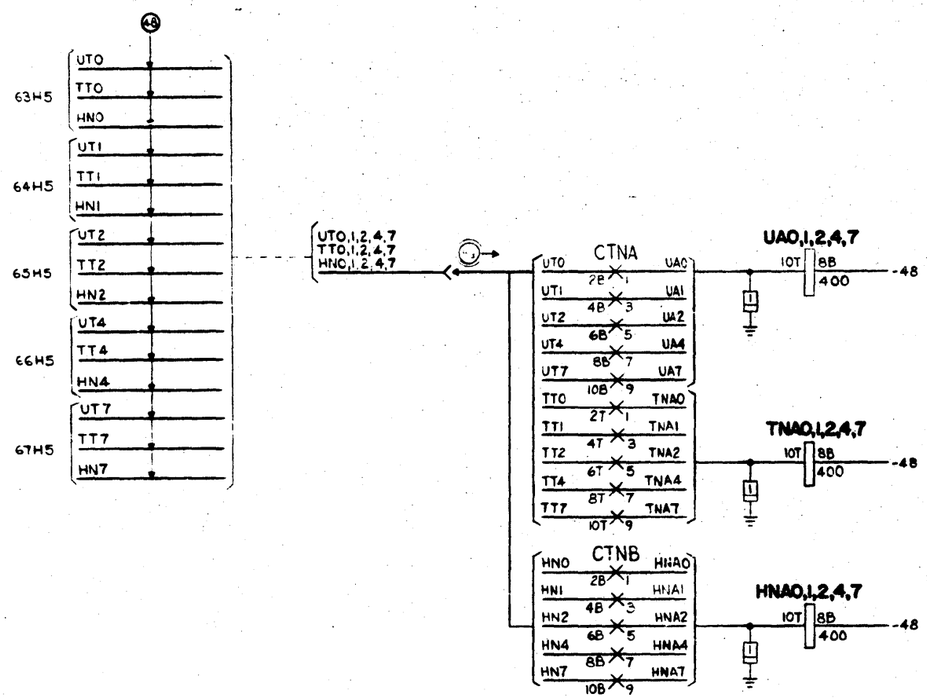
DRAWING ISSUE
40D
43B
54D

MARKER CIRCUIT
BELL TELEPHONE LABORATORIES INCORPORATED
SD-25550-01-867
54

SD-25550-01-867

FS 55

CAMA TRUNK NUMBER
COMBINED AND COMPLETING MARKERS



SD-25550-01-868

NO.5 MARKER CIRCUIT	SD-25550-01-868
BELL TELEPHONE LABORATORIES INCORPORATED	6S

43

FS 56
OUT. SENDER CLASS
COMBINED AND COMPLETING MARKERS

TO 15CB RCY

RTST (AK) 1 3B — (GD) LR (GD) 2 3B — (GC) (GC) — RCY 5 6B — GS1-5 5 6B — TO OTHER (GS) RELAYS

TO OTHER (R) RELAYS IN SAME GS GROUP
(51,52) R- 12T 11 — OS-

(AL) — OS — ORT IRT (12306) 1 3T 1 3T

(43) CDKO,1 SDGO,1 2T 1

(72) TWTO-2 SGO-2 2T 1

GS GROUP 6

(151)

CSG

CTF4 5T 4 CTF7 5T 4 — CFG0 CMS0C 2T 1
CTF0 7T 6 CTF1 7T 6 — CFG0 CMS01 4T 3
5T CTF2 4 — CFG0 CMS02 6T 5
7T CTF2 6 — CFG0 CMS03 8T 7
7T CTF4 6 — CTF0 5T 4 CTF4 11T 10 — CFG0 CMS04 10T 9
7T CTF7 6 — CTF1 11T 10 CTF4 9T 8 — CFG0 CMS05 2B 1
CFG0 CMS06 4B 3
CTF0 11T 10 CTF7 11T 10 — CFG0 CMS07 6B 5
CFG0 CMS08 8B 7
CFG0 CMS09 10B 9
CFG1 CMS10 2T 1
CFG1 CMS11 4T 3
CTF0 9T 8 CTF2 11T 10 — CFG1 CMS12 6T 5
CTF1 9T 8 CTF2 9T 8 — CFG1 CMS13 8T 7
CFG1 CMS14 10T 9
CFG1 CMS15 2B 1
CFG1 CMS16 4B 3
CFG1 CMS17 6B 5
CTF1 5T 4 CTF7 9T 8 — CFG1 CMS18 8B 7
CFG1 CMS19 10B 9

(64)
OSG0 GPA 6T 5 OSA0 — GPB 6T 5 OSB0
OSG1 GPA 8T 7 OSA1 — GPB 8T 7 OSB1
OSG2 GPA 10T 9 OSA2 — GPB 10T 9 OSB2
OSG3 GPA 12T 11 OSA3 — GPB 12T 11 OSB3

NSO (64) — (ET) NSO 8T,12T 7B,11B 400 -48 — NSO ▼
NSOR (FD,FE) RV3 6B,5B 5,4 — (JJ) (F) (E) (DC) (E)
(102,109) NS 8T 7B 400 -48

CDKO,1 — (143) CDKO,1 4T 4B 400 -48
AMA — (89) AMA4 10B 9 — SCB 7 8B — NSI 6 7T
NSI — (XA) FSA 3 4B — NSI 8 9T
NSI 12T 11B 400 -48 — NSI ▼

TWTO-2 — (72) TWTO-2 5T 5B 16 — JO 90 -48
(72) TWTO-2 4T 3 — TWT ▼

OSGO-9 — (70) OSGO-9 13T 13B 400 -48
6T (70) OSAO-9 5 (34) — 11 TGT 12B
OSGO-9 ▼
(SR,SS) OSAO-9 7T,7T 5B,7B 400 -48

(SGCO-3) — (F6) (185) LSC1 10
AI (186) AIS1 6 — RCY2 6B 5 — RYC 6B 5
(172) RCY5 4 5B
(69) OSC 12T 11B 400 -48
12T 11 MRLI (34) — 3B RSC 2
OSC

ORT IRT (AL) 9 10T 9 10T — DCK CKGG 1 2T 4B 3 — (GC) (70) OSGO-9 11 12T — (6C)
(AK) 8T 7 G — (GL) SONI 6 7T — (GD) — (TF)
(34) OGC 15T 13B 400 -48
TO OTHER MARKERS
RTST ▼
RTST
SON ▼

AUTO MON REG & SDR TEST CKT.
SON -48 P RPS1 STM — SON 5 6B MON (XA) — (AI)
TO OTHER MARKERS

(69) SON 12T 11B 400 -48
(GD) SONI 12T 11B 400 -48
10T (70) OSGO-9 9 (71) SCBAO-3 7T 7B 2500 -48

MASTER TEST FRAME JK, LP, & KEY CKT
SCMB
SCBAO-3 — (71) SCBBO-3 7T 7B 2500 -48

TO MASTER TEST FRAME CONNECTOR

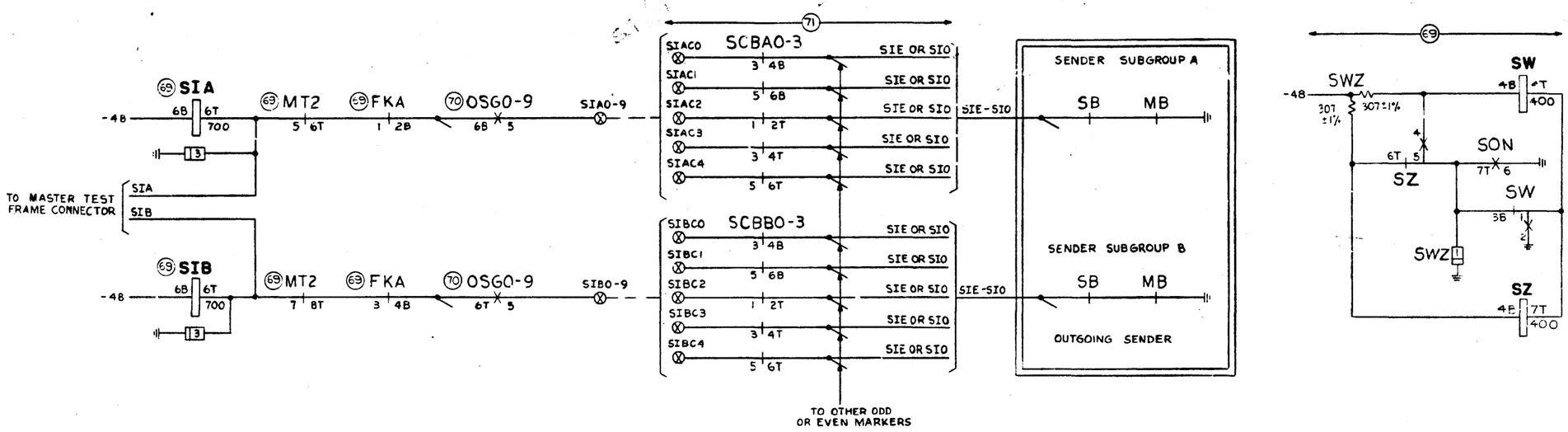
41D	F3 L8
43B	H3 K8 P
51D	P1 M85 AMO
54D	CF K6L AMO
55A	NF

MARKER CIRCUIT (2)
SD-25550-01-B69
55
BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-25550-01-B69

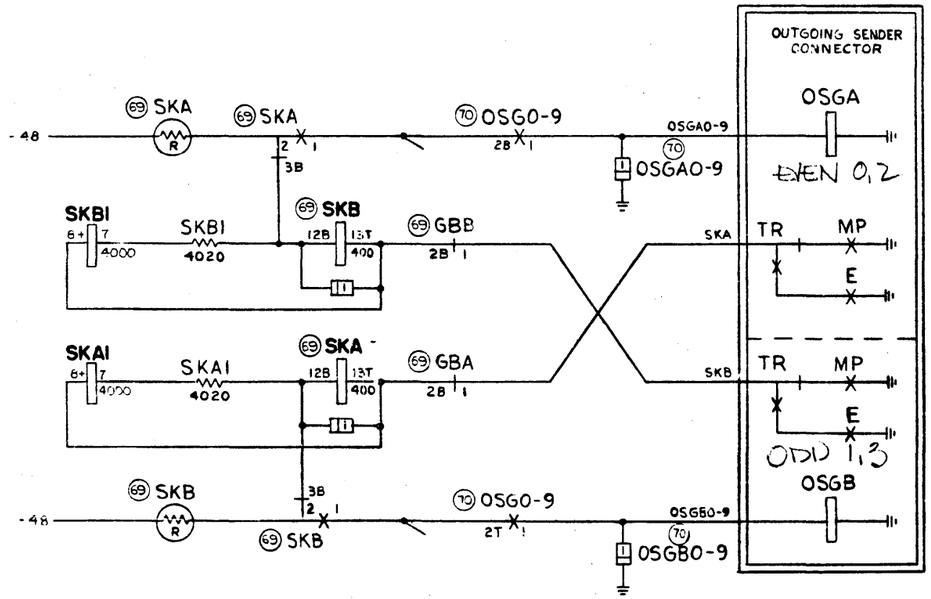
FS 57

SENDER GROUP IDLE TEST
COMBINED AND COMPLETING MARKERS



FS 58

OUTGOING SENDER CONNECTOR SEIZURE
COMBINED AND COMPLETING MARKERS



SIA = SKA = SDRS - 0 - 4 = HEV 0 - 4 -
SIB = SKB = " - 0 - 4 = HEV 0 - 9

SKA = EVEN CONN 0, 2
SKB = ODD CONN 1, 3.

NO. 5 MARKER CIRCUIT	SD-25550-01-B70
BELL TELEPHONE LABORATORIES INCORPORATED	6S

SD-25550-01-B70

FS 59
OUTGOING SENDER CONTROL
COMBINED AND COMPLETING MARKERS

DRAWING ISSUE	
41D	JF HM
46D	TMV EPH AMD
54D	LEA KEL AMD

TO MASTER TEST FRAME CONNECTOR

TO OTHER MARKERS SERVED BY SAME PAIR OF A & B OUTGOING SENDER CONNECTOR

OUTGOING SENDER CONNECTOR

OUTGOING SENDER CONNECTOR

MASTER TEST CONTROL

OUTGOING SENDER

A-EVEN Q1,2

B-ODD 1,2

TO OTHER MARKERS

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

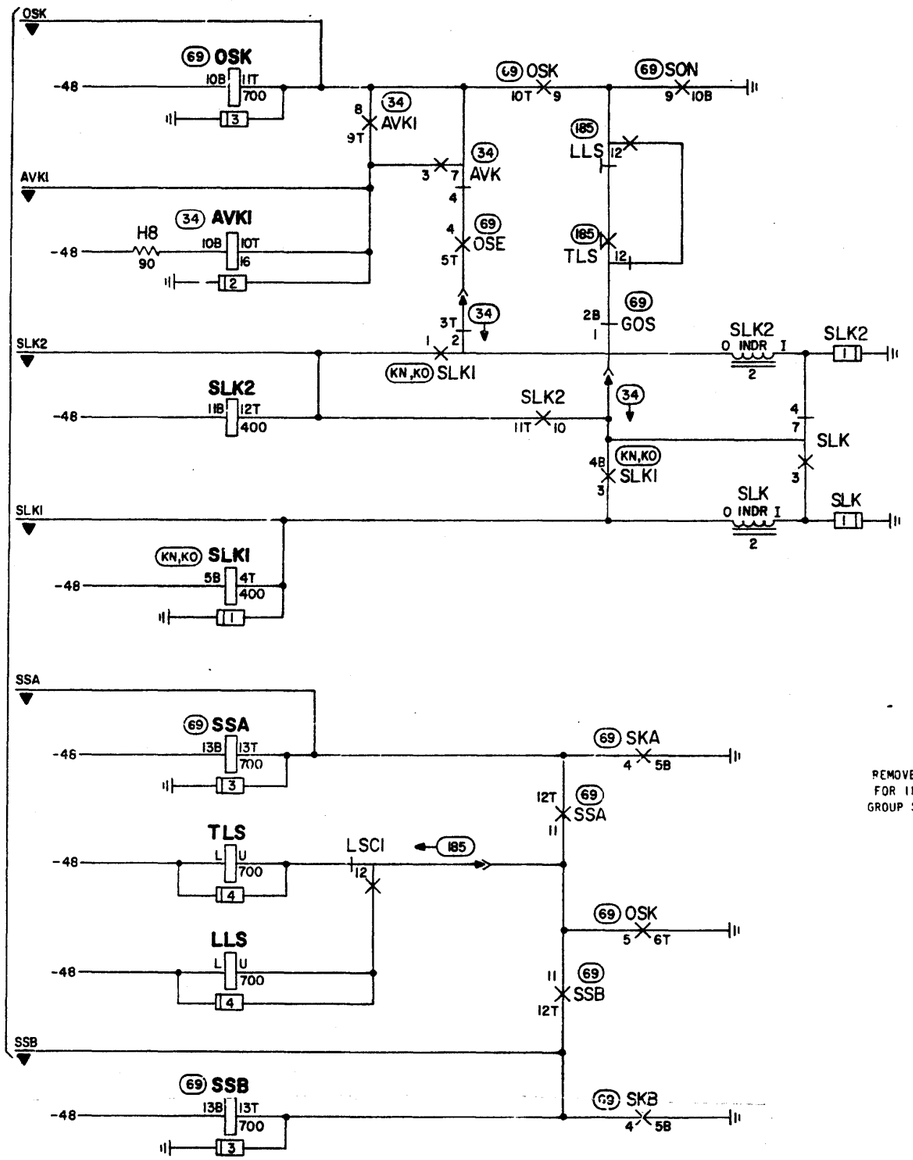
SD-25550-01-B71

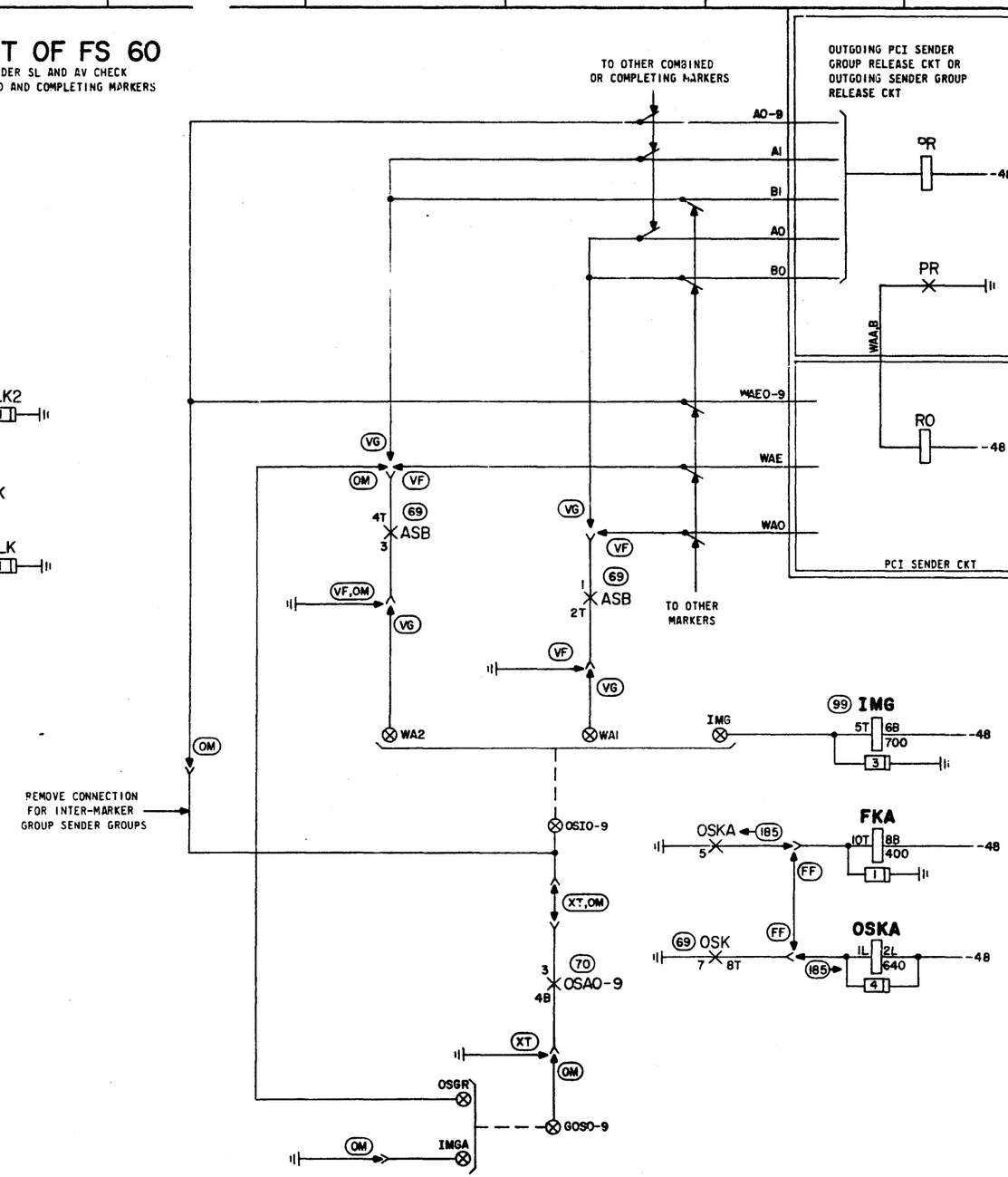
54

SD-25550-01-B71

PART OF FS 60

SENDER SL AND AV CHECK
COMBINED AND COMPLETING MARKERS





DRAWING ISSUE
54D RCE CK. REL. AND

54

MARKER CIRCUIT (2) SD-25550-01-B72A

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-B72A

HIGGINS 4465

PART OF FS 60

SENDER SL AND AV CHECK
COMBINED AND COMPLETING MARKERS

OUTGOING SENDER CKT | LINE CKT | OUTGOING SENDER LINK CKT | LINE LINK AND CONNECTOR CKT

SSO-9 — MC- — SSO-9

F — SC — SS- — MC- — SLK — LLS

ON — LR — SH — HM — -48

ON — -48

OUTGOING SENDER CKT | TRUNK CKT | OUTGOING SENDER LINK CKT | TRUNK LINK AND CONNECTOR CKT

SSO-9 — MCD — SSO-9

F — SC — SS- — MCD — SLK

ON — LR — SH — HM — -48

ON — -48

ONI — -48

OUTGOING SENDER CONNECTOR CKT

S- — ONI

SEE TABLE A → LLS

OSKA — 185

185 TLS

SEE TABLE A

TABLE A

CONT o	SS- LEAD
1	0
2	1
3	2
4	3
5	4
6	5
7	6
8	7
9	8
10	9

SLK — S-1000±5% — BG — -48

OGC — XA XSS — P-29 WV — P-31 WW

SLK2 — OR — TGT

AVK2 — DISA

AVK2 — AVKI

ONX — XA XSS — XA H9 90 -48

XA 3T — 86

SSA / SSB pairs:

	SSA	SSB
SS9	9 10T	9 10T
SS8	7 8T	7 8T
SS7	5 6T	5 6T
SS6	3 4T	3 4T
SS5	11 12B	11 12B
SS4	9 10B	9 10B
SS3	7 8B	7 8B
SS2	5 6B	5 6B
SS1	3 4B	3 4B
SS0	1 2B	1 2B

OS4 — OS3 — OS2 — OSI — OSO

SMIO 100 — SM 2 — RU — RT — SM 33K ±20% — SM 2

OSK 4T — 69 — FG — FLGA 172 — LFKI 185 — LSCI — MDK — TLCI 125 — XA SMB

54

MARKER CIRCUIT | 2 | SD-25550-01-8728

BELL TELEPHONE LABORATORIES INCORPORATED | 65

SD-25550-01-8728

HIGGINS 4465

FS6I

CROSS CONNECTIONS FOR CL, DP, DL AND MB
FOR OUTGOING SENDERS - COMBINED AND COMPLETING MARKERS

DRAWING ISSUE	
41D	SP AND MB
42D	H.P., M.F.
43B	M.F., M.S.
46D	TWX, CL, AND DP
47D	MB, CL, DL
51D	CR MFS AND DP
54D	DP, CL, AND
56D	N.F.

CL7-8 4BF 4TF P-1100 5BR 5TR S-1100 — CL7P-8P, CL7S-8S
CL6 4BF 4TF P-1100 5BR 5TR S-1100 — CL6P, CL6S
CLP 7B 7T 220
XCL 5-P +2 P-10
CLP 3B 4T 200
CLS 3B 4T 200
CLO-5 4BF 4TF P-1100 5BR 5TR S-1100 — CLOP-5P, CLOS-5S
CAI
CL- R- GSI-5 AIS3
TO OTHER (R-) RELAYS IN SAME GS- GROUP
XCP 5-P +2 P-10
CPP 6B 6T 220
CPS 6R 6T 220
CPO-4 7BF 7TF P-1100 8BR 8TR S-1100 — CPOP-4P, CPOS-4S
CP5 7BF 7TF P-1100 8BR 8TR S-1100 — CP5P, CP5S
CP- R- GSI-5
NDI 7581
TO ALL OTHER (DLO-6) RELAYS
XDL 5-P +2 P-10
DLP 6B 6T 220
DLO-3 7BF 7TF P-1100 8BR 8TR S-1100 — DLOP-3P, DLOS-3S
ON (DLO) ONLY
ON (DL3) ONLY
TX -48 7481
MT25 AIS3 MT26
DL4-6 8BR 8TR S-1100 — DL4S-6S
DL4S-6S ON (DL4) ONLY — ON (DL6) ONLY
DL4P-6P
DL7-10 DL11-13 7BF 7TF P-1100 8BR 8TR S-1100 — DL7P-13P, DL7S-13S
DLS 6B 6T 220
TO ALL OTHER (DL7-13) RELAYS
DL- R- GSI-5 MT25 AIS3
TO OTHER (R-) RELAYS IN SAME GS- GROUP
XMB 5-P +2 P-10
MBS 6B 6T 220
MBP 6B 6T 220
MBO 7BF 7TF P-1100 8BR 8TR S-1100 — MBOP, MBOS
MBI 7BF 7TF P-1100 8BR 8TR S-1100 — MBIP, MBIS
MB2 7BF 7TF P-1100 8BR 8TR S-1100 — MB2P, MB2S
MB3 7BF 7TF P-1100 8BR 8TR S-1100 — MB3P, MB3S
MB4 7BF 7TF P-1100 8BR 8TR S-1100 — MB4P, MB4S
AMA FN FN MBSO MBS5 MBSO MBS1 MBS6 MBS2 MBS7 MBS3 MBS8 MBS4 MBS9

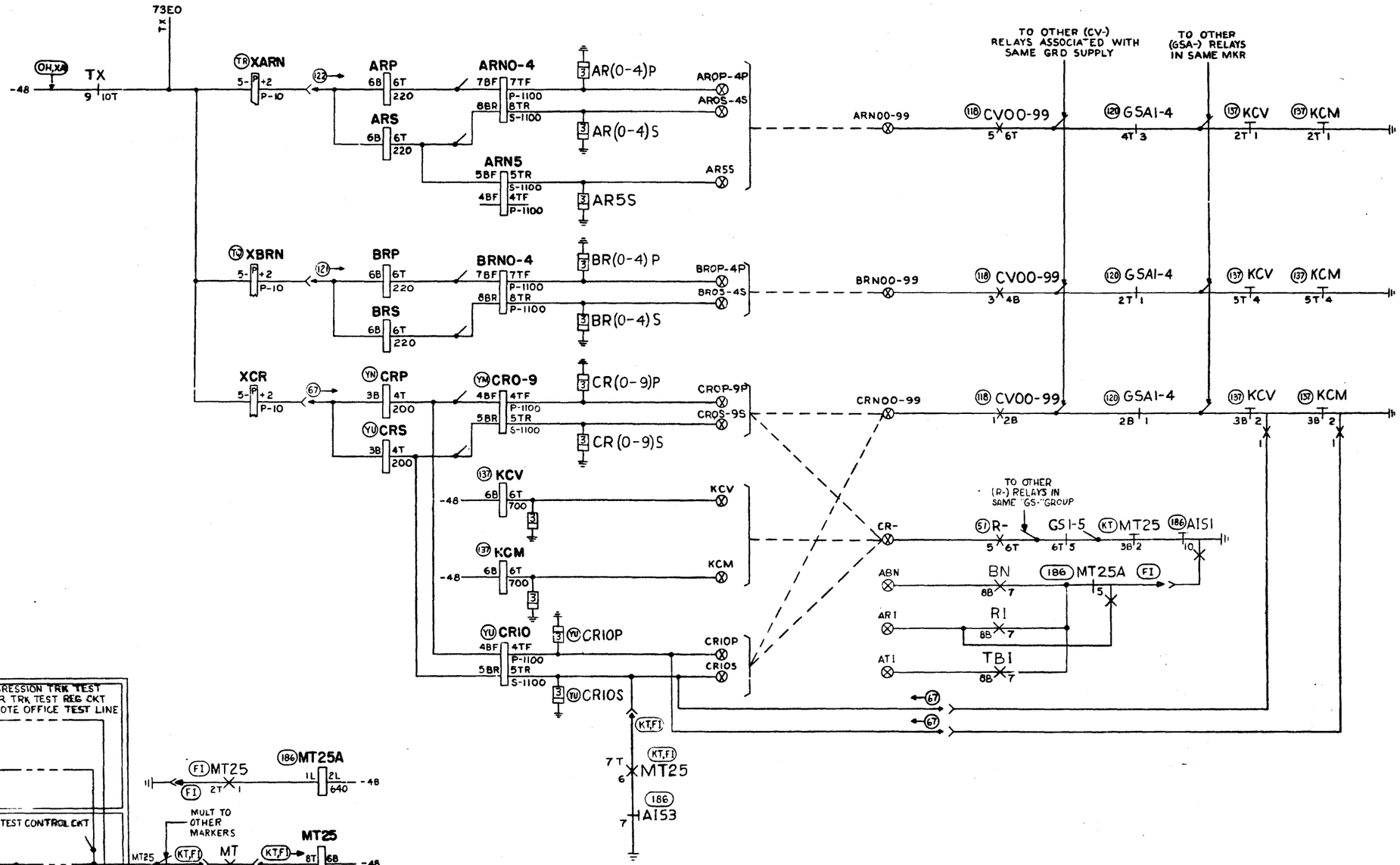
MARKER CIRCUIT (2)	SD-25550-01-B73
BELL TELEPHONE LABORATORIES INCORPORATED	6S

56

SD-25550-01-B73

FS 62

CROSS CONNECTIONS FOR (ARN-), (BRN-), (CR-)
TO OUTGOING SENDERS
COMBINED AND COMPLETING MARKERS



DRAWING ISSUE	
41D	C.O. T.C.T. M.F.
43B	R-4 E M.S.
47D	2A-C CLK. AND REG M.S. AND
51D	M.S. AND
54D	MM REL. AND
56D	N.F.

SD-25550-01-B74

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

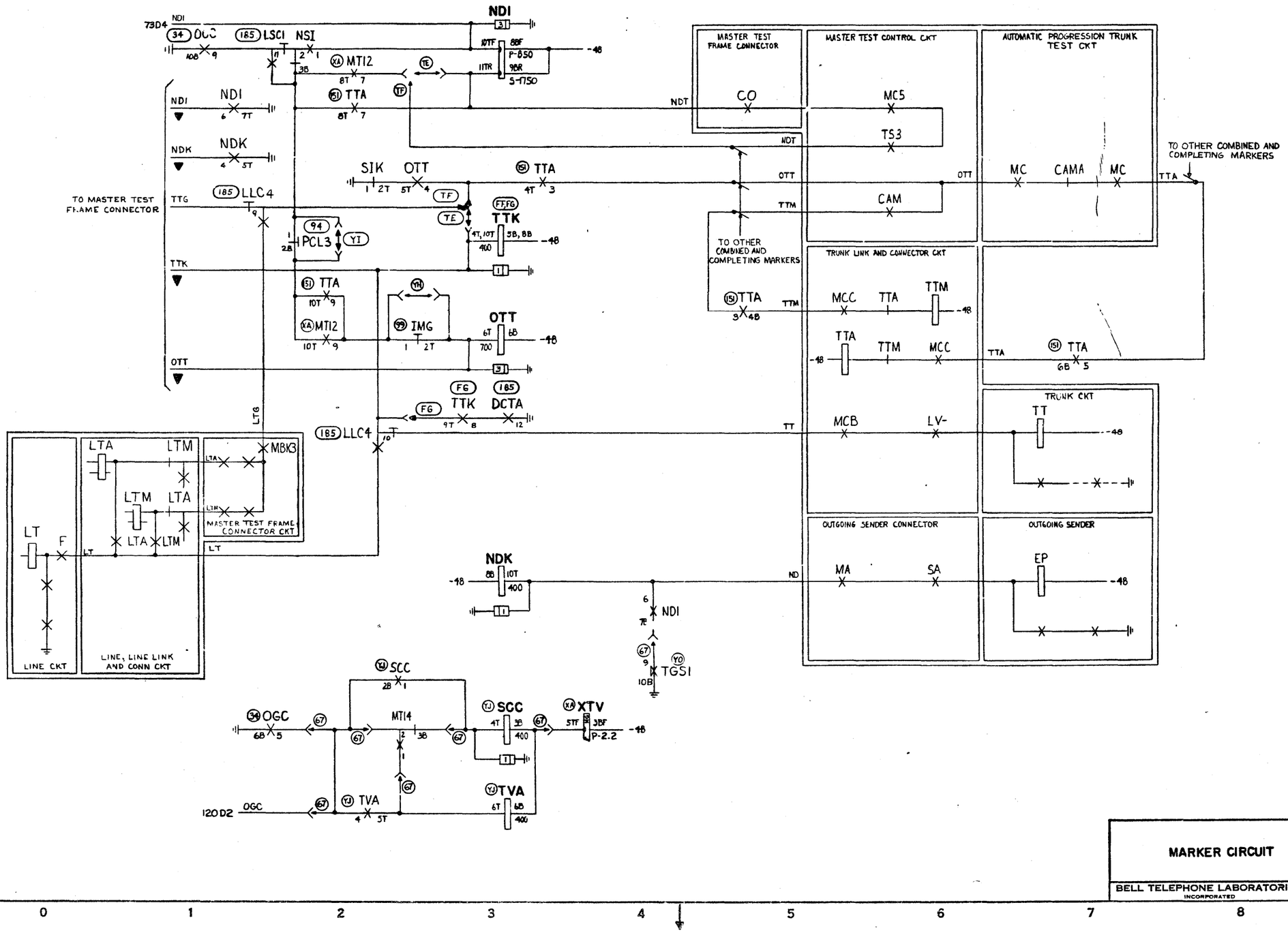
SD-25550-01-B74

56

65

FS 63

MISCELLANEOUS OUTGOING SENDER INFORMATION
COMBINED AND COMPLETING MARKERS



DRAWING ISSUE	
41D	J.S. CLE
54D	LSR ALL AMD
56D	MD

SD-25550-01-B75

MARKER CIRCUIT (2)

SD-25550-01-B75

BELL TELEPHONE LABORATORIES INCORPORATED

6S

56

FS 64

TRANSMITTING CR- INFORMATION
TO OUTGOING SENDERS COMBINED
AND COMPLETING MARKERS

79A0
77H0
XT1
127A1

77F0 XT1 (KK)

(YC) TGS1
8T 7

(KE,YM) CRK1
-48 1B 950 3T 7,3

(XA) XT1
-48 6B1 250 2RT (67)

(KE,YM) CRK2
-48 1B 950 3T 7,3

(YC) TGS1
10T 9

(YM) CR0 1500±5%
(YM) CR1 1500±5%
(YM) CR2 1500±5%
(YM) CR4 1500±5%
(YM) CR7 1500±5%

(YM) CR7 3T 2 (YM) CR4 3T 2 (YM) CR2 3T 2 (YM) CR1 3T 2
(YM) CR8 3B 2 (YM) CR5 3B 2 (YM) CR3 3B 2 (YM) CR1 3B 2
(YM) CR9 3T 2 (YM) CR6 3T 2 (YM) CR3 3B 2 (YM) CR2 3B 2
(YM) CR6 3B 2 (YM) CR5 3T 2 (YM) CR4 3B 2 (YM) CR0 3T 2
(YM) CR9 3B 2 (YM) CR8 3T 2 (YM) CR7 3B 2 (YM) CR0 3B 2

(67)

(150) 6T 5 4 UT0 (51) CMCC
(50) 9T 6 7 UT1 (51) CMCC
(152) 3B 2 1 UT2 (51) CMCC
(150) 6B 5 4 UT4 (51) CMCC
(154) 9B 8 7 UT7 (51) CMCC

63-67 H5

TO MASTER TEST FRAME CONNECTOR
CR0
CR1
CR2
CR4
CR7

CR0,1,2,4,7

OUTGOING SENDER CONNECTOR
MB SB

OUTGOING SENDER
CR0,1,2,4,7
-48
ON1

DRAWING ISSUE
41D
42D
43B
46D

CROSSBAR SYSTEMS
NO.5
MARKER CIRCUIT

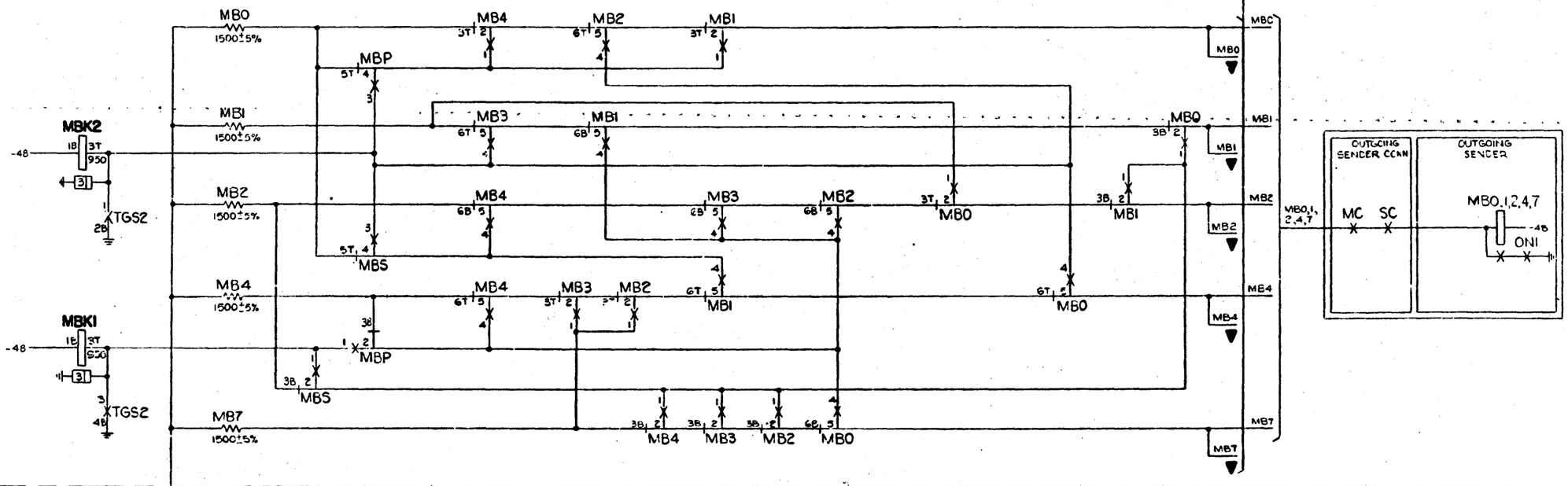
BELL TELEPHONE LABORATORIES INCORPORATED

46
SD-25550-01-B76

SD-25550-01-B76

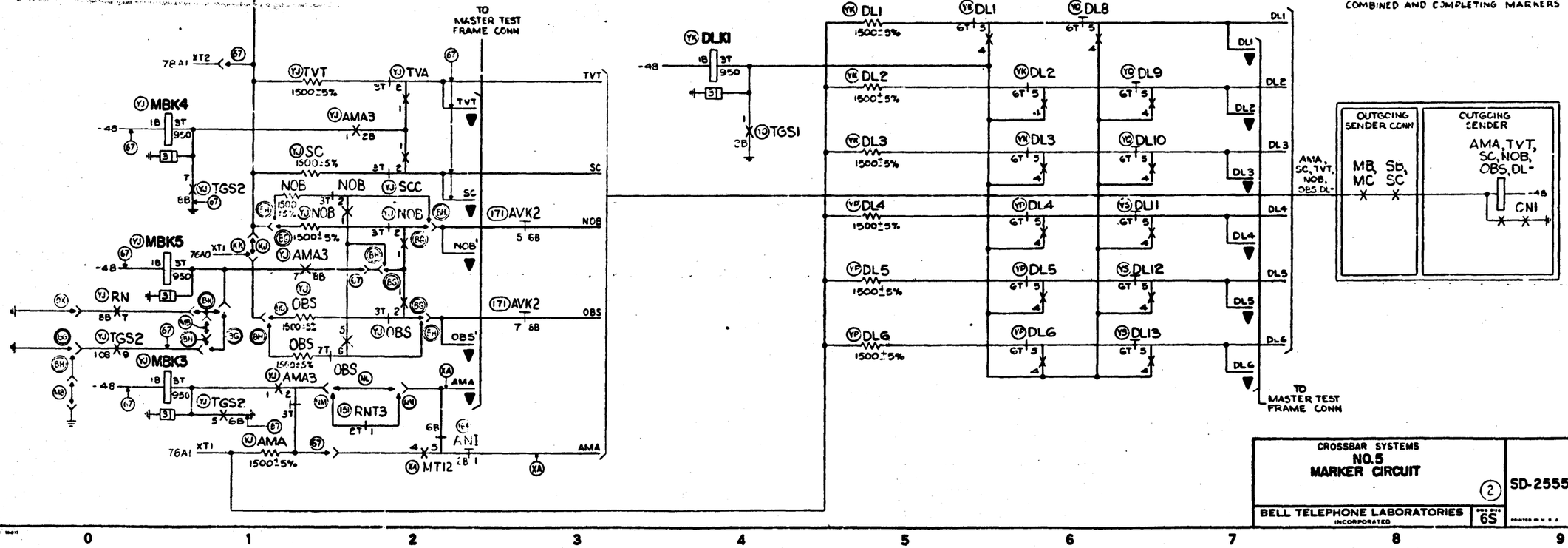
(67 AND YJ) FS 66

TRANSMITTING (MB-) INFORMATION TO OUTGOING SENDER COMBINED AND COMPLETING MARKERS



FS 67

TRANSMITTING (DL-) AND MISCELLANEOUS INFORMATION TO OUTGOING SENDER COMBINED AND COMPLETING MARKERS



ISSUE
41D
42D
46D
47D

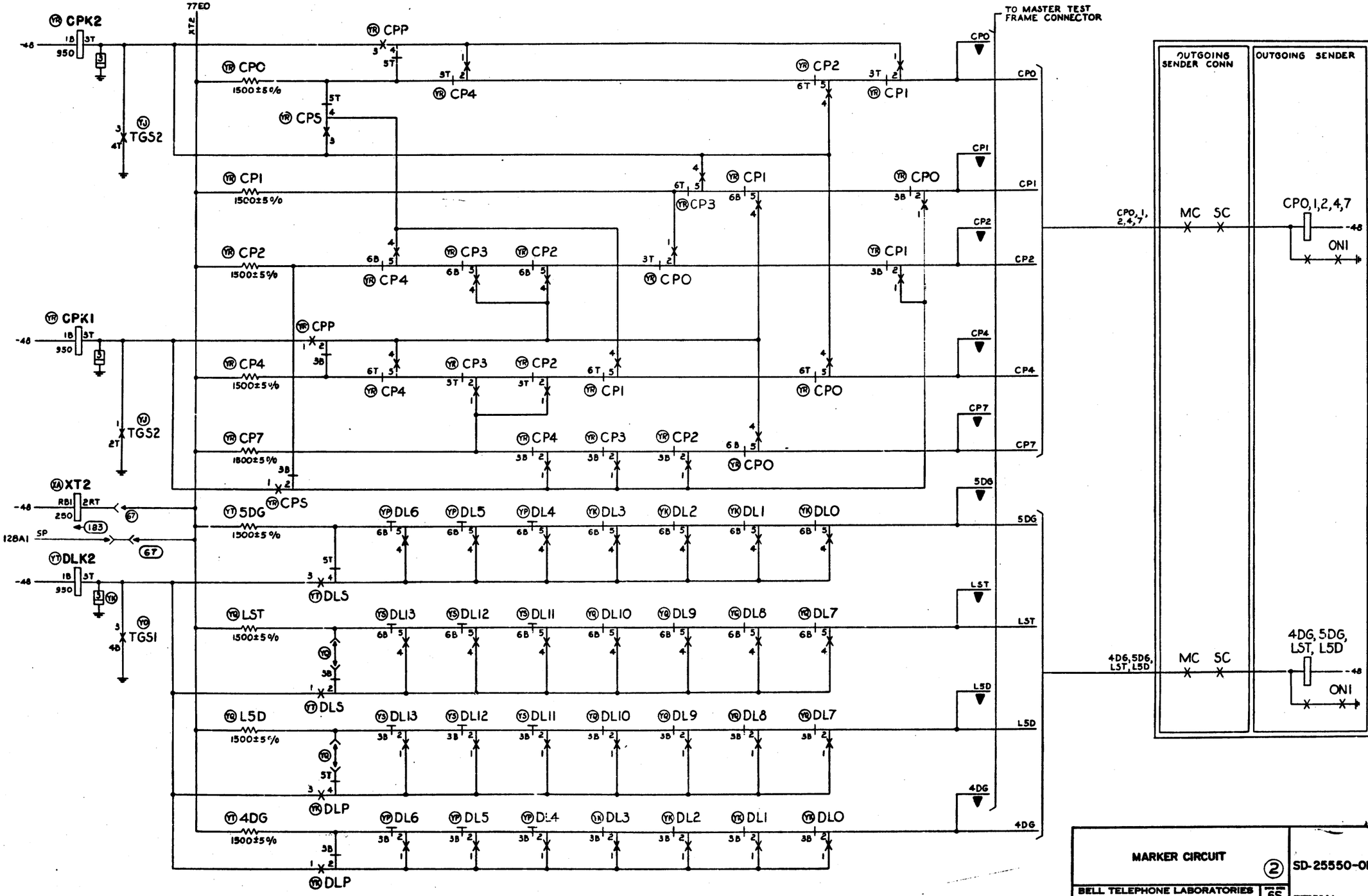
CROSSBAR SYSTEMS
NO.5
MARKER CIRCUIT
(2)
SD-25550-01-877
47

BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-25550-01-877

FS 68

TRANSMITTING CP- AND NS INFORMATION TO
OUTGOING SENDER COMBINED AND COMPLETING MARKERS



FS 69

TRANSMITTING ARN & BRN INFORMATION TO OUTGOING SENDER COMBINED & COMPLETING MARKERS

DRAWING ISSUE 41D

ARN0 1500 ± 5 %
ARN1 1500 ± 5 %
ARN2 1500 ± 5 %
ARN4 1500 ± 5 %
ARN7 1500 ± 5 %
BRN0 1500 ± 5 %
BRN1 1500 ± 5 %
BRN2 1500 ± 5 %
BRN4 1500 ± 5 %
BRN7 1500 ± 5 %

ARK2 (122) ARK1 (122) BRK2 (121) BRK1 (121)

(119) TGS3

ARP ARS BRP BRS

(51) CMCA HN0 HN1 HN2 HN4 HN7
(51) CMCB TT0 TT1 TT2 TT4 TT7

AR0 AR1 AR2 AR4 AR7
BR0 BR1 BR2 BR4 BR7

AR0,1,2,4,7 BR0,1,2,4,7

OUTGOING SENDER CONN — MB SB

OUTGOING SENDER — AR0,1,2,4,7 ON1

TO MASTER TEST FRAME CONN 65-67H5

NO. 5 MARKER CIRCUIT	SD-25550-01-879
BELL TELEPHONE LABORATORIES INCORPORATED	6S

41

SD-25550-01-879

FS 70

OUTGOING SENDER
CALLED NUMBER CHECK
COMBINED AND COMPLETING MARKERS

DRAWING ISSUE	
41D	CMC, CMC, CMC
54D	LSA, LSA, LSA

HNA0 HNA1 HNA2 HNA4 HNA7 TNA0 TNA1 TNA2 TNA4 TNA7 UA0 UA1 UA2 UA4 UA7

A0 A1 A2 A4 A7 B0 B1 B2 B4 B7 C0 C1 C2 C4 C7 D0 D1 D2 D4 D7

H7 H4 H2 H1 H0 G7 G4 G2 G1 G0 F7 F4 F2 F1 F0 E7 E4 E2 E1 E0

J0 J1 J2 J4 J7 K0 K1 K2 K4 K7 L0 L1 L2 L4 L7

85A/A2 HNA 108 120 150 151 CMC3 CMC3 CMC3 14B4 RK2 ORKI 48 400 4T 4B OSA0-9 SKO-9 SKDO-1 SA SAB SABC 85A/A8 UA 108 150 CMC5 RKI RK 14B1 CDKO-1 ORK2 ORK ST7 SPC PCL3 PRV

MARKER CIRCUIT	SD-25550-01-880
BELL TELEPHONE LABORATORIES INCORPORATED	6S

54

PART OF FS 71

OUTSENDER OST CHECK
COMBINED AND COMPLETING MARKERS

DRAWING ISSUE	
41D	CSP, MF, MS, LNE
42-D	MF, MS, LNE
43B	MS
54D	TS, REL, AND
56D	MD

CVS ARK2 ARK1 BRK2 BRK1 KCM KCV CVS
ARN5
CRIO CRK3 CLK1 CLK2 CLK3 DLK1 DLK2 CPK1 CPK2 RNK2 MBK5 62H6 AMA5 RNT3 MBK6 MBK4 MBK3 MBK2 MBK1 ANI
CRK1 CRK2 CRS CLO CL3 CLS DLO CL4 CL2 CL5 DL7 AMA3 RNT3 ANI
TGS3 TGS TGS2 TGS1 KGS3-5 TRST MT25A RSC PCR KG AIS2 OST2 KGS1 KGS2 K2 ORK1 ORK2 OST OST1 KK TGS1 TGS2 TGS3 RYC RNT3 AMA5 GTL
NDK NDI RPK TPS RK1 RK2 GTL2 AMA1
DIS2 GTL GTL3 GTL2 GTL4 AMA1 RSC
OGC OST2
AMA2 AMA4 AMA4
OST4 GTL1 GTL2 GTL3 GTL4 OSTI LLG1 52G9
RSC RSC OSTI OST 5.35 - 5.45 UF OST4 200 ±1% S-2600±1% P-200±1%
OGC OST2
BG OST2 400 50 ±1% ±1%
OST3 500±1%
OGC OSTI
BG OSTI 500±1%
CLK
XT5
OST3 OSTI
SCT MON
OST2 OST5 TSR 84D6
CLG AMA5 CLG 38B4
CMJ CMC3 CMJ RNT3
CMCB TRNI TRNI 88DO
CMC1 TGS2 TRNI
TRN
AMA DIS2 84B9
ALL OTHER SENDER CONN RELAYS
OUTGOING SENDER CONNECTOR
MA MB MB SB SR SA SA MA SC SC MC MC
INTERMARKER GRP SENDER CONN RELAY
SA SA
NO AMA
TSR TSRI
TO MASTER TEST FRAME CONNECTOR
RSC OST2 TSR TRN

MARKER CIRCUIT (2) SD-25550-01-881

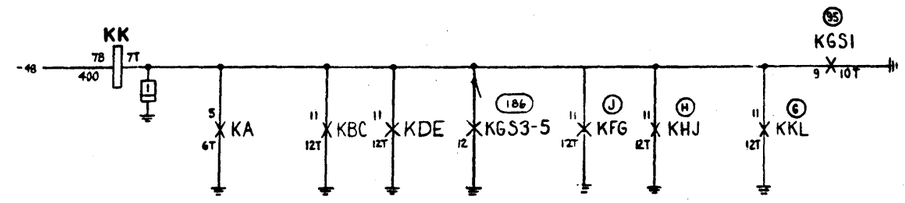
BELL TELEPHONE LABORATORIES INCORPORATED

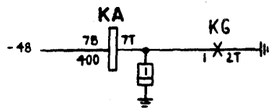
56

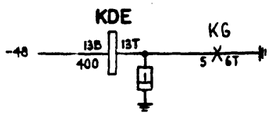
SD-25550-01-881

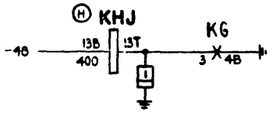
PART OF FS 71

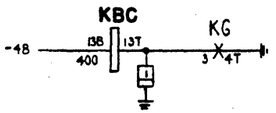
OUTSENDER OST CHECK
COMBINED AND COMPLETING MARKERS

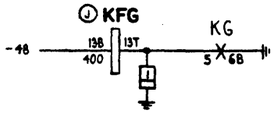


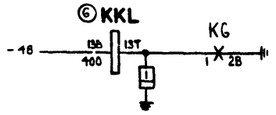


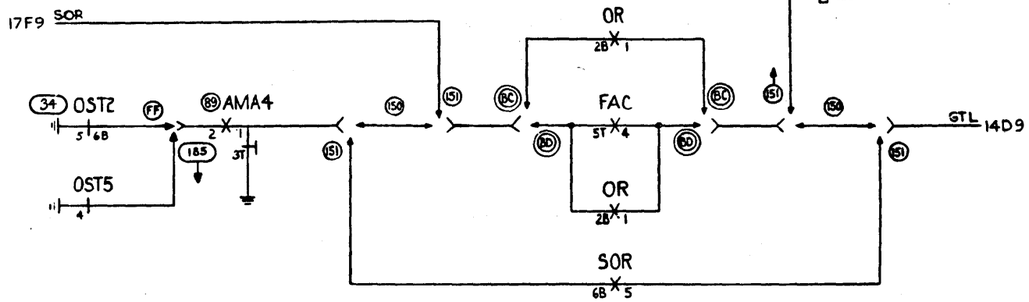












DR. WIRING ISSUE	
41D	LT, AR
44B	LT, AR
49D	EM, AR, LRA, LRL
54D	LRL, ARD

SD-25550-01-B82

MARKER CIRCUIT	(2)	SD-25550-01-B82
BELL TELEPHONE LABORATORIES INCORPORATED		65

54

FS 72
TRUNK CLASS
COMBINED AND COMPLETING MARKERS

TRUNK LINK AND CONNECTOR

TO MASTER TEST FRAME CONNECTOR

LCH

TRUNK

TSC
TKT
TRN

FA- RN

FB- KT

ONN MCC ONN (126,65)

ITB ISE MCC ITB (65) ISE (126)

2MB 2SA MCC 2MB (65) 2SA (126)

3FB 3NA MCC 3FB (65) 3NA (126)

4TT 4NE MCC 4TT (65) 4NE (126)

5MT 5ST MCC 5MT (65) 5ST (126)

6FT 6NT MCC 6FT (65) 6NT (126)

7TP 7RN MCC 7TP (65) 7RN (126)

8MP 8SP MCC 8MP (65) 8SP (126)

9FP 9NP MCC 9FP (65) 9NP (126)

ONN (UW,YV,YX) ONN 4T 3B 400

XPT 5TF 3BF P-2.2 -48

ITB (65) ISE (126)
(ZS) ITB
(PE) ISE 7T 5B 400

2MB (65) 2SA (126)
(ZS) 2MB
(PD) 2SA 7T 5B 400

3FB (65) 3NA (126)
(ZS) 3FB
(PD) 3NA 7T 5B 400

4TT (65) 4NE (126)
(ZS) 4TT
(PE) 4NE 7T 5B 400

5MT (65) 5ST (126)
(ZS) 5MT
(PD) 5ST 7T 5B 400

6FT (65) 6NT (126)
(ZS) 6FT
(PD) 6NT PROV 7T 5B 400

7TP (65) 7RN (126)
7TP
(PF) 7RN 7T 5B 400

8MP (65) 8SP (126)
(65) 8MP
(126) 8SP PROV 7T 5B 400

9FP (65) 9NP (126)
(65) 9FP
(126) 9NP PROV 7T 5B 400

(AO,AP) LCH 5B,5B 4T,6T 1500, 950 -48

(FD,FE) RV3 7,6 8B,7B

ITR3 7 8T

DW DX

(151) 4 CMS2 5 68

(151) (150) 48 TER3 3 (126)

(PD) 3NA 4B 3 (126) (65)

(PE) 4NE 4B 3
(PD) 6NT 4B 3
9NP 4B 3
(PE) ISE 4B 3
(FD) 2SA 4B 3
(FD) 5ST 4B 3
8SP 4B 3

(ZS) 3FB 3 4B
(ZS) 6FT 3 4B
LCH 9FP 3 4B
(ZS) 2MB 3 4B
(ZS) 5MT 3 4B
MAN 8MP 3 4B
TCH (ZS) 1TB 3 4B
(ZS) 4TT 3 4B
7TP 3 4B

TCH (126) (65)
5B 4T 1500
-48
3

DRAWING ISSUE	
41D	F1 F2 F3 F4 M3
43B	M3
55A	NF

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-B83

55

65

SD-25550-01-B83

FS 72
TRUNK CLASS
COMBINED AND COMPLETING MARKERS

TRUNK LINK AND CONNECTOR

TRUNK CKT — TSC TKT TRN — FA- RN — FB- KT

MCC / MCD/MCE pairs: ONN RNI0; ITB ISE RNI1; 2MB 2SA RNI2; 3FB 3NA RNI3; 4TT 4NE RNI4; 5MT 5ST RNI5; 6FT 6NT RNI6; 7TP 7RN RNI7; 8MP 8SP RNI8; 9FP 9NP RNI9

RUNA (200) — ONN (65,126); ITB (65), ISE (126); 2MB (65), 2SA (126); 3FB (65), 3NA (126); 4TT (65), 4NE (126); 5MT (65), 5ST (126); 6FT (65), 6NT (126); 7TP (65), 7RN (126); 8MP (65), 8SP (126); 9FP (65), 9NP (126)

RUN (200)

LCH — ONN — RTNA (200)

UW,YV,YJ ONN 4T 38 400 1

XA XPT 5TF 38F P-2.2 -48

ZS ITB, PE ISE — 7T 58 400 1

2MB, PD 2SA — 7T 58 400 1

3FB, PD 3NA — 7T 58 400 1

4TT, PE 4NE — 7T 58 400 1

5MT, PD 5ST — 7T 58 400 1

6FT, PD 6NT — 7T 58 400 1

7TP, PF 7RN — 7T 58 400 1

8MP, 8SP — 7T 58 400 1

9FP, 9NP — 7T 58 400 1

RTN — RTNA U L 700 4 -48

TLC2 — RUN — RUNA U L 700 4 -48

RTN (200) — TLC3 10T — IL 2L 640 4 -48 — AD 16F5

RUN (200) — TLC2 12T — IU 2U 640 4 -48 — OD 16G5

AO,AP LCH 6T,4T 58,58 1500,950 -48

ITR3 8T 7

FD,FE RV3 7B,8B, 6,7

DW — DX

151 — CMS2 5 6B — 151

150 48 — TER3 3

65 — 126

126 — PU 3NA 3 48

ZS 3FB 65 48 3

PE 4NE 3 48

ZS 6FT 48 3

PD 6NT 3 48

9FP 48 3 — LCH

9NP 3 48

ZS 2MB 48 3

PE ISE 3 48

ZS 5MT 48 3

PD 2SA 3 48

8MP 48 3 — MAN

PD 5ST 3 48

ZS ITB 48 3 — TCH

8SP 3 48

ZS 4TT 48 3

7TP 48 3

126 — TCH 4T 58 1500 -48 — 3

65

TO MASTER TEST FR CONNECTOR CKT

DRAWING ISSUE 64D

64

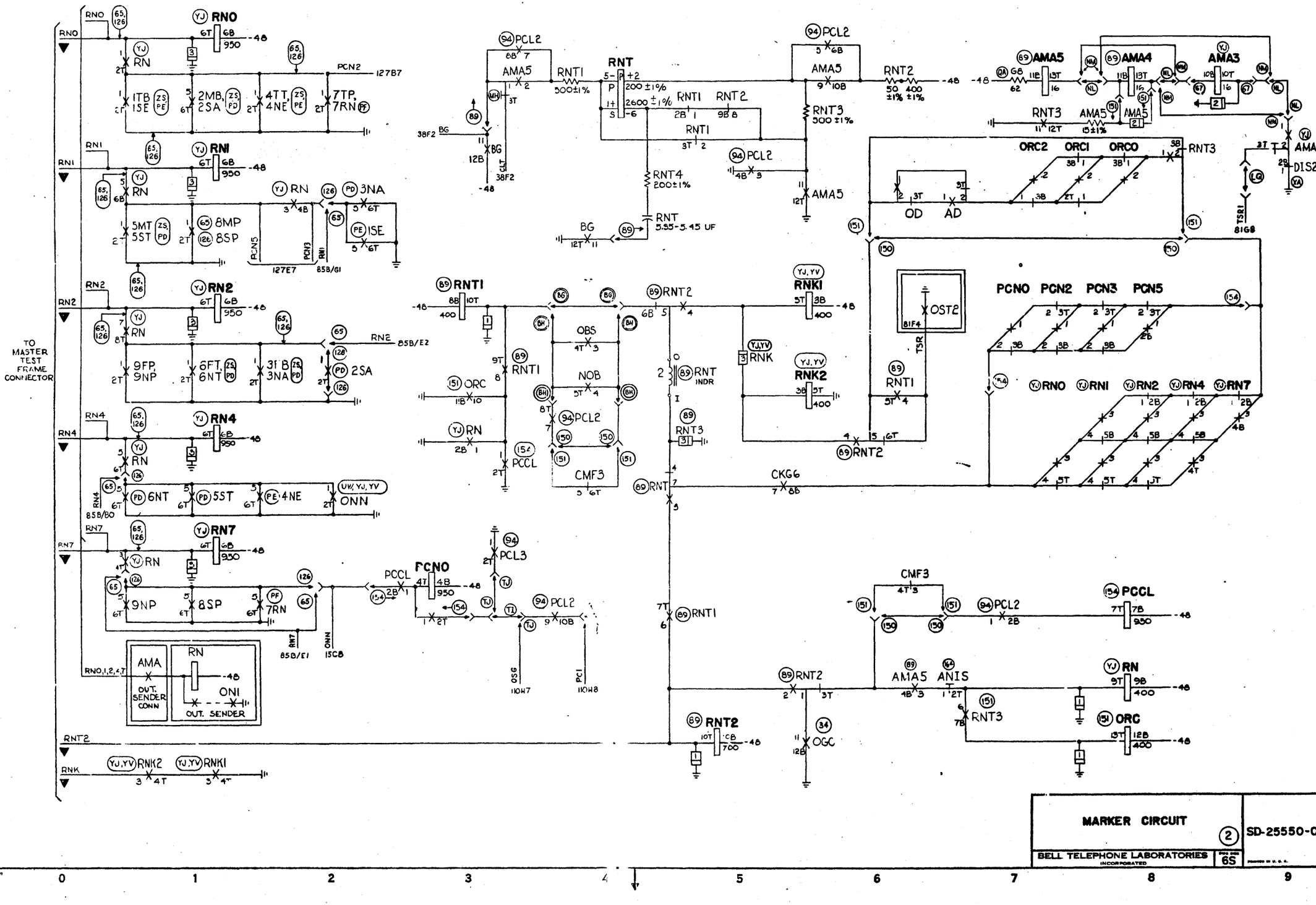
MARKER CIRCUIT (2) SD-25550-01-883

BELL TELEPHONE LABORATORIES INCORPORATED 65

SD-25550-01-883

FS 73

TRANSMITTING AND CHECKING RECORDER
AND PULSE CONVERSION NUMBER
COMBINED AND COMPLETING MARKERS



DRAWING ISSUE
41D
42D
43B
46D
54D

MARKER CIRCUIT (2)

SD-25550-01-B84

BELL TELEPHONE LABORATORIES INCORPORATED

54

SD-25550-01-B84

PART OF FS 74

CALLED NUMBER CONNECTOR
COMBINED AND COMPLETING MARKERS

XA CKGI 108 9

108 48

THO THI TH2 TH4 TH7 80A0 HNA
HNO HNI HN2 HN4 HN7 TO TI T2 T4 T7 UO UI U2 U4 U7 80A7

SEE TABLE A

183 9 HSA 1 2T SOG3 33 183

5 6T NR

108 NR 2 3T NR 85B/A2

BM,BN OA 2B,108 1,9

D OB 2B 1

OB 108 9

ZQ THC 2B 1

ZQ PHC 2B 1

LPA 10T 9 — 97 — NPA
V LPB 10T 9 — NPB
U LTA 10T 9 — NTA
T LTB 10T 9 — NTB
LN

147 RGT 12T 11 147

62 RGTO,1 12T 11 62

44 SG 97 — NS

SF

44 PG LEA 4T 3

44 PH LEB 4T 3

TC5 2B 1 — NS5

KE LT2 — NS9

TC6 FU 2B 1 — NS6

167 ELT 2B 1 — NS8

44,97 LPA 4T 3 — 44,97

V LPB 4T 3

U LTA 4T 3

T LTB 4T 3

TC7 2B 1 NY — NS7

NZ

NSA

FU

FOREIGN AREA TRANSLATOR CONNECTOR CKT
GHJI -48 DEF3 LT
GHJ2 -48 LTI
GHJI NE

KZ

NIA-3A 12T 11

TOG3 7B 6

151 67 YJ TGS2 9 10T 67 151 CMCI 8 9T

TO MASTER TEST FRAME CONNECTOR CKT

N1 — 13T 11B 16 — 2 — UH — UG — UH,UG N1A 13T 11B 16,400 — UH — UG — H3 90 — 48
12T 11 — 1 N1A

N2 — 13T 11B 16 — 2 — UH — UG — UH,UG N2A 13T 11B 16,400 — UH — UG — 48
12T 11 — 1 N2A

N3 — 13T 11B 16 — 2 — UH — UG — UH,UG N3A 13T 11B 16,400 — UH — UG — 48
12T 11 — 1 N3A

N4 — 13T 11B 16 — 2 — UH — UG — UH,UG N4A 13T 11B 16,400 — UH — UG — 48
12T 11 — 1 N4A

151 FAC1 6
MR
MQ
12T N4A

NE 4T 5B 950 — 48
3

TRN 11T 11B 16 — 2

TABLE A

OPTION	RELAYS (TH1),(TH2),(TH4),(TH7),(HN1),(HN2),(HN4),(HN7),(T1),(T2),(T4),(T7)			(TH2),(TH4),(TH7),(HN2),(HN4),(HN7),(T2),(T4),(T7)	
	a	b	c	d	e
RP	3	48	58	1	28
RQ	4	58	68	2	38

54

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-B85A

6S

54D

ISSUE REL NBC

HIGGINS 4465 M

SD-50-01-B85A

PART OF FS 74

CALLED NUMBER CONNECTOR COMBINED AND COMPLETING MARKERS

DRAWING ISSUE 54D NSC REL AND

85A/B9 NR

UH

ND 126

2B PE 4NE 2B PE 1SE 2B PD 6NT 2B PD 5ST 2B 9NP 2B 8SP

84E0 RN4

5 ZS 6FT 6T

ZS 5MT 6T 5

ZS 4TT 6T 5

UW,YJ,YV ONN 2T 1

9FP 6T 5

8MP 6T 5

7TP 6T 5 RN7 84G2

ZS 2MB 2T 1 65

RN2 84D3

3T 2 OA 2 3T OB 1 1

1 OA 2B OB 2B

ZS 1TB 6T 5 65

ZS 3FB 6T 5 RN1 84C2

PD 3NA 1 2B PD 2SA 2B 126

65 BN OA 5 4 6B 4 5 6B OB

BM

126 ND 65 125 65 126

BN

BM OA 4T 3

LPA 44,97 2B 44,97

(U) LTA 44,97 2B 1 44,97

PG LEA 44 2B 1 44

7T OA 6

6 OB 7T

5T OA 4

4 OB 5T

9T OA 8

8 OB 9T

(D) OB 4T 3

(V) LPB 44,97 2B 1 44,97

(T) LTB 44,97 2B 1 44,97

PH LEB 44 2B 1 44

62 RGTI 12B

FJ LC0 186 OC0 186 APN

LC2 OC2 ATN

LC4 OC4 AEN

LC5 OC5 BEN

LC3 OC3 BTN

LC1 OC1 BPN

LC6 OC6 AAN

LC7 OC7 BAN

ZQ PHC 3 4B

ZQ THC 3 4B

62 RGTO 62 11 12B 147

RGTO 1 2T

NSSO 13B 13T 400 1

RGTI 1 2T 147

NSSI 13B 13T 400 1

RGT2-5 1 2T 148

NSS2-5 148 13B 13T 400 1

XMS 2P 5 RBI 0.3 NSS R -48

129C8-GB

BL BK SX

(D) OAN 13T 11B 400 -48

OAN 13T 13B 400 -48

ASA

ASAI

BSAI

BSA

PBX ALLOTTER CKT

ANON

OAN OANI OAN2

OANI OBNI OBN2 -48

OBN OBNI OBN2

(D) OBN 11B 13T 400 -48

(D) OBN 13B 13T 400 -48

54

MARKER CIRCUIT 2

SD-25550-01-B85B

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-B85B

HIGGINS 4465

FS 75

NUMBER GROUP SEIZURE
COMBINED AND COMPLETING MARKERS

PBX ALLOTTER

TABLE A								RELAYS					
								OAN, OBN		NSS-			
TH-LEAD	TH-RELAY	(48) a-b	(108) c-d	TH-RELAY	(48) e-f	(108) g-h	TH-LEAD	i-j	k-ℓ	m-n	ST-PCHG	ST-STO-9 LEAD	STIO-19 LEAD
0	4	9T-8	9T-8	7	7B-6	RQ 88-7 / RP 7B-6	0	2B-1	2B-1	2B-1	0	0	10
1	0	7B-6	RQ 88-7 / RP 7B-6	1	7B-6	RQ 88-7 / RP 7B-6	1	4B-3	4B-3	4B-3	1	1	11
2	0	5T-4	5T-4	2	5T-4	5T-4	2	6B-5	6B-5	6B-5	2	2	12
3	1	5T-4	5T-4	2	7B-6	RQ 88-7 / RP 7B-6	3	8B-7	8B-7	8B-7	3	3	13
4	0	7T-6	7T-6	4	5T-4	5T-4	4	10B-9	10B-9	10B-9	4	4	14
5	1	7T-6	7T-6	4	7B-6	RQ 88-7 / RP 7B-6	5	4T-3	2T-1	4T-3	5	5	15
6	2	7T-6	7T-6	4	7T-6	7T-6	6	6T-5	4T-3	6T-5	6	6	16
7	0	9T-8	9T-8	7	5T-4	5T-4	7	8T-7	6T-5	8T-7	7	7	17
8	1	9T-8	9T-8	7	7T-6	7T-6	8	10T-9	8T-7	10T-9	8	8	18
9	2	9T-8	9T-8	7	9T-8	9T-8	9	12T-11	10T-9	12T-11	9	9	19

DRAWING ISSUE	
41D	
43B	
47D	
51D	
54D	

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

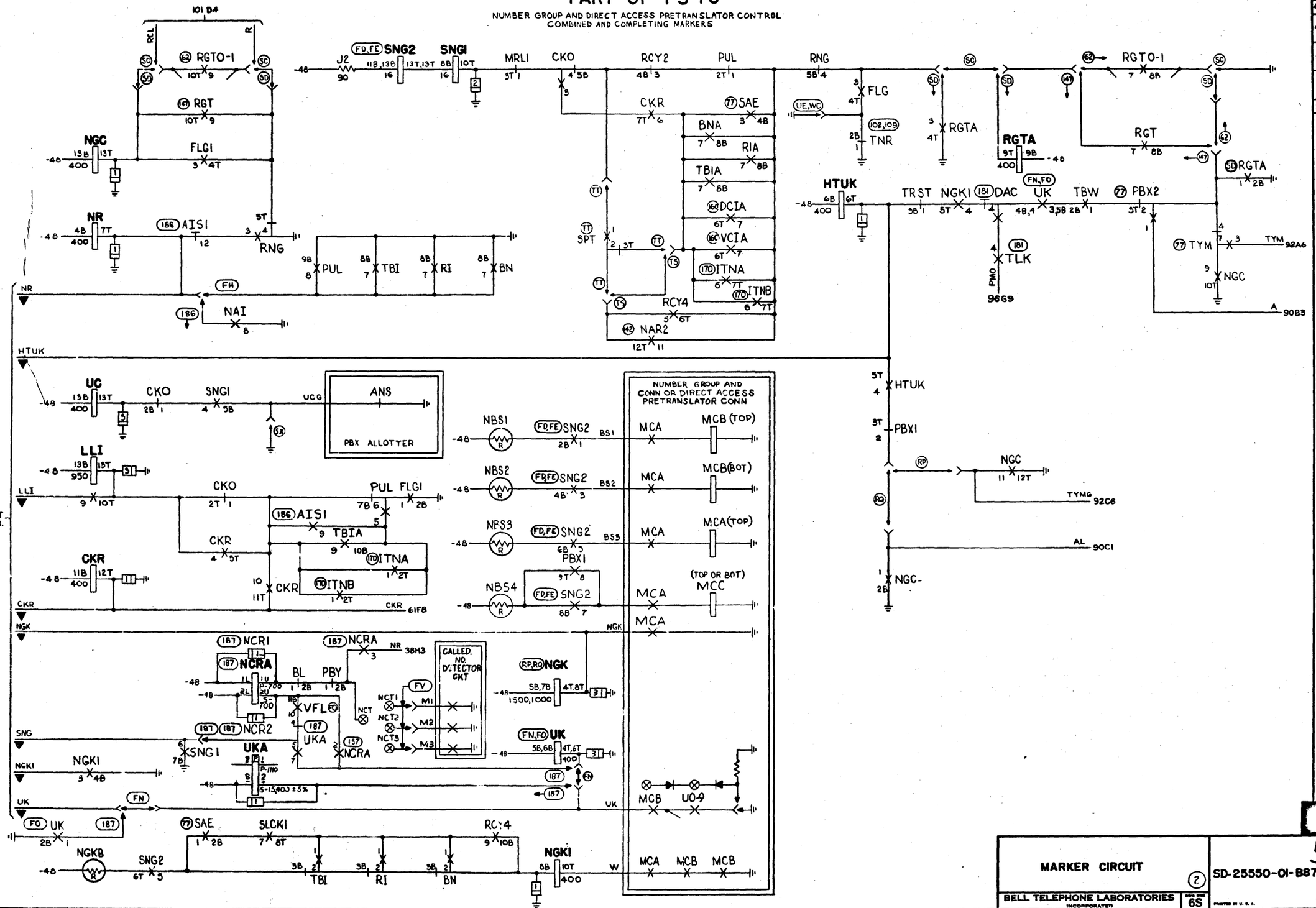
SD-25550-01-886

54

SD-25550-01-886

PART OF FS 76

NUMBER GROUP AND DIRECT ACCESS PRETRANSLATOR CONTROL
COMBINED AND COMPLETING MARKERS



NUMBER GROUP AND CONN OR DIRECT ACCESS PRETRANSLATOR CONN

ISSUE	
41D	
43B	
47D	
51D	
54D	
55A	

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-B87A

55

SD-25550-01-B87A

PART OF FS 76

NUMBER GROUP AND DIRECT ACCESS PRETRANSLATOR CONTROL COMBINED AND COMPLETING MARKERS

DIRECT ACCESS PRETRANSLATOR CKT

DIRECT ACCESS PRETRANSLATOR CONN CKT

DRAWING ISSUE 51D PH WES Hand

MC-

DAC (181) DAC U L 270 -48 4

GJ RYTI 3 4T (181) DACI 11 (181) DAC 11

DAC TO MTFC

GJ RYTI GT 5 (181) DAC 12 (181) DACI U L 270 -48 4

LLI 8T 7 (181) DACI 12

TLKP 4

TLK 1L 1U 2L 2U S-700 P-700 TLK 8 DACI 8 TLT (181) 8

TLKS 4

ET CT CT

RT2 -48 CTA

ET OT CT

(181) TLT 2U 1U 640

(181) TLT 12 TLT TO MTFC

RTI -48 PTO

PTM (181) PTM 2L 1L 640

MCA-A PSI

MCA-B PS2

POTS -48

TCC -48

TCB -48

TCA -48

(181) MT28 12 (181) DAP 190

(181) MT28 5

(181) MT28 4

(181) MT28 3

TO OTHER COMBINED OR COMPLETING MARKERS

MASTER TEST CONTROL CKT

POTS TCLC KEY

TCLB KEY

DAC

DAC

DAC

CB0 CA0 CB1 CA1 CB2 CA2

(181) MT28 12

(181) MT28 11

(181) MT28 10

(181) MT28 9

(181) MT28 8

(181) MT28 7

MC0 MC1 MC2

MP0 MP1 MP2 MP

TO OTHER COMBINED OR COMPLETING MARKERS

PREFERENCE CONTROL FOR DAPC CKT

TR- MP- E-

51

MARKER CIRCUIT 2 SD-25550-01-B87B

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-B87B

KIMBERLY

PART OF FS 76

NUMBER GROUP AND DIRECT ACCESS PRETRANSLATOR CONTROL COMBINED AND COMPLETING MARKERS

PBX ALLOTTER
ANS
AN
NANS
OBN2
OAN2
XN
(160) DCIA
(12) DCIA
VCIA (160)
TRNI
(150)
(151)
BNA
RIA
TBIA
TRN
(160) VCIA
(160) VCIA
TBIA
RIA
BNA
RIA
BNA
(186) AIS
(184) NAI
(X4) XN
(X4) XN
COX
(GJ)
XRY
TRNI
KK
OCN
ECN
NE
(186) AIS3
OAN
(D) OBN
(ER)
(BL)
(D) OBN
(D) OAN
(147)
XNS

NUMBER GROUP AND CONN OR DIRECT ACCESS PRETRANSLATOR CONN CKT
PN MCA
PNI MCA
TN MCA
TNI MCA
HBO-9 PT
PTN MCA
PTNI MCA
EN MCB
ENI MCB
BNK MCA
AST
BST
ASTA
BSTA
HTKI
BNTH
6TR 6BR S-700

INCOMING REGISTER MARKER CONNECTOR
MD
MD

PN
TN
PTN
EN
ECN
OCN

SNGI
PN
PNA
AISC
(ZP) TN
TNA
(ZP) PTN
PTNA
(PC) EN
ENA
LLI
TRN
ECN
OCN

TO MASTER TEST FRAME CONN.

ISSUE
41D
44B
51D
54D

MARKER CIRCUIT (2)
BELL TELEPHONE LABORATORIES INCORPORATED
6S
SD-25550-01-888
54

SD-25550-01-888

PART OF FS 76

NO. GROUP AND DIRECT ACCESS
PRETRANSLATOR CONTROLL COMBINED
AND COMPLETING MARKERS

PTK
PTK
TO MASTER TEST FRAME CONN
TER4
BNA
RIA
TBIA
ITNA
ITNB
TOG3
TN
PTN
VCIA
DCIA
LEA
EN
LEB
ISE
4NE
PN
TN
PHC
LPA
LPB
EN
NMI 92A3
NM 92A3
EN
PN
THC
ITB
2MB
3FB
3NA
2SA
7TP
8MP
9FP
9NP
8SP
6NT
5MT
5ST
4TT
6FT
OA,OB
OA
OB
LTA
LTB
DCTI
RNG
SAE
FTL
FUL
VGL
HGL
OFK
UK
VFL
RCL
LLI
MT20
FTTB
XFTN
XFUN
RGTA
PTK
PBN
LB
ANR
OFK
HMSI
PMO
TER3
XITA
TOA
DT2
RCY
ROA
RGTQ1
RV
TEA
RGT
EG
OFK
iNGB
RGT
RGTO-1
TLC2
TYM
TYMO
TYM
PBX2
TYMI
TYM2
AK
HTUK
NGC
S-2600±1%
P-200±1%
200±1%
2108±1%
12.96UF ±1%
400±1%
350±1%
RV 584
RBT 104 CO
RGTQ 101 AB

DRAWING ISSUE		
41D	SWR	WHR
43B	WAC	P.E.
47D	DB	CL
54D	JEK	
55A	MD	

MARKER CIRCUIT

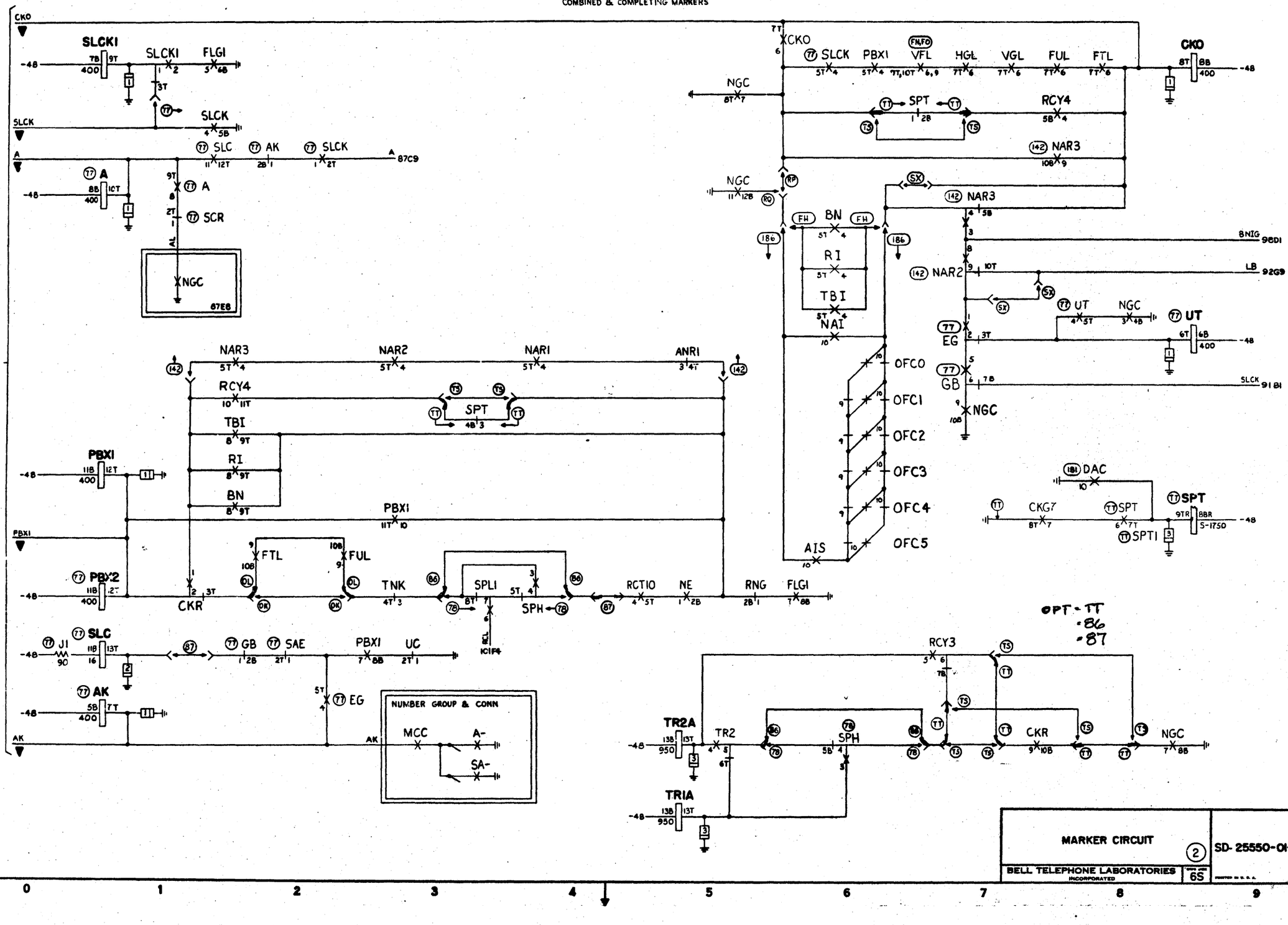
BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-889

55

PART OF FS 77

NUMBER GROUP CONTROL APPLIQUE
FOR USE WITH PBX HUNTING
COMBINED & COMPLETING MARKERS



MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-890

54

SD-25550-01-890

PART OF FS 77

NUMBER GROUP CONTROL APPLIQUE
FOR USE WITH PBX HUNTING
COMBINED & COMPLETING MARKERS

NUMBER GROUP & CONN

CONN TO XSC FOR MORE THAN ONE HUNTING GROUP IN SAME TENS BLOCK, OTHERWISE CONN TO GRD

SC- XC GRD

NGC GB 90D9 SLCK 77 SLCK 7T 7B 400

77 PBX2 4 5T FBX1 9 10B SCK MCC SC- TB-

77 OFK 7 8T

48 77 PBX2 77 6 77 SLCK 1 2 77 SLCK R

3B 77 SCR 3B 5T 400 LA MCC

SA-

(SEE 94 B9) TB00-99

77 OAB OA MCC SC

77 OA 33,000 ±20%

5 6T 77 OFK

77 NGB -48 R 1 2 3T 77 A 77 OTB OTB 77 OTB 33,000 ±20%

77 UT 2T 1 77 SCR OTB 2B 1 MCC

96FO NGB

6 7B 77 EG

77 EG 96HB PBN 10T BB 400 EG MCC

3 4T LLI

TO MASTER TEST FRAME CONNECTOR EG 77 EG 3 4B

CKT REQUIRED FOR MORE THAN ONE HUNTING GROUP IN SAME TENS BLOCK

XSC SCO-9 TBA- U- XSC XSC TBA- TBA- SCK TBA- SCK

CKT REQUIRED FOR HUNTING GROUP IN TWO OR MORE TENS BLOCK FOR "BLOCK HUNT" OPERATION

A- A- A/3D- A-

CROSS CONN TO PRECEDING TENS BLOCK "A-"

TA- A-

CROSS CONN TO SAME TENS BLOCK "TBA-" FOR TENS BLOCK HAVING MORE THAN ONE HUNTING GROUP

CA- A-

CROSS CONN TO SAME TENS BLOCK "TB-" FOR INTERMEDIATE AND LAST TENS BLOCK

TB- A-

A- OA A NCK B

AE TBT AF POF

CROSS CONN TO "A-" FOR HUNTING GROUP IN ONE TENS BLOCK OR FOR LAST TENS BLOCK FOR "BLOCK HUNT" OPR OR TO "AT-" FOR LAST TENS BLOCK FOR "BLOCK SELECT" OPR

EG

LAST TENS BLOCK INTERMEDIATE TENS BLOCK SECOND TENS BLOCK

AS- SA- BA- AT- TBT- T- LA LSA- B-

CKT REQUIRED FOR HUNTING GROUP IN TWO OR MORE TENS BLOCK FOR "BLOCK SELECT" OPERATION

DRAWING ISSUE 41D

41

SD-25550-01-B91

NO. 5 MARKER CIRCUIT	SD-25550-01-B91
BELL TELEPHONE LABORATORIES INCORPORATED	6S

FS 78

NUMBER GROUP CONTROL
APPLIQUE FOR USE WITH INTERCEPT AND BLANK NUMBER CALLS COMBINED AND COMPLETING MARKERS

TO MASTER TEST FRAME CONN

DRAWING ISSUE
41D
43B
47D
48D
51D
54D
56D MD

MARKER CIRCUIT (2)
SD-25550-01-B92
56
BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-B92

FS 79
HUNDREDS DIGIT
NUMBER GROUP INFORMATION
COMBINED AND COMPLETING MARKERS

TO MASTER TEST FRAME CONNECTOR CKT — I8TA

(177)A 1 28
(177)GB 3 48

HBS (R) 48
9T 8 (177)PBX2
(FD,FE)SNG2 12T 11 3 48
SLCKI
FLGI 1 2T
(186)AI5I 1
TFK3 8T 8
(161)FAC1 4
TFK1 12T 11
(186) 2 HMT23

BNA 6T 5 BN-HB
RIA 6T 5 RI-HB
TBIA 6T 5 TBI-HB
(160)DCIA 7B 6 DC-HB
(160)VCIA 7B 6 VC-HB
(170)ITNA 7B 6 INA-HB
(170)ITNB 7B 6 INB-HB

HBB

PBX ALLOTTER
OANI
OBNI
NANS AN
NGSK
NGSA
NGSB ANA0-9 HBB
NGSC ANB0-9 HBC
NGSD ANB0-9 HBD
NGSE ANC0,4,8 HBE
NGSF ANC0,4,8 HBF
NGSG AND0,4,8 HBG
NGSH AND0,4,8 HBH

HBO-9 → HBO-9

HN4 2T 1	HN7 2T 1	HB0
HN0 2T 1	HN1 4B 3	HB1
HN0 4T 3	HN2 4B 3	HB2
HN1 2T 1	HN2 2B 1	HB3
HN0 2B 1	HN4 4B 3	HB4
HN1 4T 3	HN4 2B 1	HB5
HN2 2T 1	HN4 4T 3	HB6
HN0 4B 3	HN7 4B 3	HB7
HN1 2B 1	HN7 2B 1	HB8
HN2 4T 3	HN7 4T 3	HB9

HN4 9T 8	(RP,RQ)HN7 7B,8B 6,7	HB0
(RP,RQ)HN0 7B,8B 6,7	(RP,RQ)HN1 7B,8B 6,7	HB1
HN0 5T 4	HN2 5T 4	HB2
HN1 5T 4	(RP,RQ)HN2 7B,8B 6,7	HB3
HN0 7T 6	HN4 5T 4	HB4
HN1 7T 6	(RP,RQ)HN4 7B,8B 6,7	HB5
HN2 7T 6	HN4 7T 6	HB6
HN0 9T 8	HN7 5T 4	HB7
HN1 9T 8	HN7 7T 6	HB8
HN2 9T 8	HN7 9T 8	HB9

NUMBER GROUP AND CONNECTOR

OHB MCC SA HBS — CROSS CONN HBO-9 TO HBA FOR INTERMEDIATE AND LAST TENS BLOCK FOR BLOCK HUNT OPERATION OR TO HBS FOR BLOCK SELECT OPERATION
A HBA
LHB MCA HBO-9 HBO-9
TBA- PROVIDED ONLY WHERE MORE THAN ONE HUNTING GROUP IN SAME TENS BLOCK
MCA
HBO-9 MCA HBO-9 P

HN0-9 TO MASTER TEST FRAME CONNECTOR
HBO-9
(177)SPT 8TF 7BF P-850 3
(161)FAC1 7
(161)FE1 2L 1L 640
(161)FAC1 5
(161)FE0 2U 1U 640

HBO-9
DIRECT ACCESS PRETRANSLATOR CONN CKT
MC-
DIRECT ACCESS PRETRANSLATOR CKT
HBO-9

MARKER CIRCUIT (2) SD-25550-01-B93 54
BELL TELEPHONE LABORATORIES INCORPORATED 65

SD-25550-01-B93

ISSUE		
41D	[illegible]	
44B	[illegible]	
47D	[illegible]	
51D	[illegible]	
54D	[illegible]	

FS 80

TENS DIGIT
NUMBER GROUP INFORMATION
COMBINED AND COMPLETING MARKERS

SLCKI · TBW · BNTH · RNG · FD,FD SNG2 · TBS · -48

PN · EN · TN · PTN

MT23 · AIS1

INA-TB ITNA VCIA VC-TB
INB-TB ITNB TBIA TBI-TB
RIA RI-TB
BNA BN-TB
DCIA DC-TB

TBS 35,000 · TBS

TO MASTER TEST FRAME CONNECTOR CKT

T2 T7 T1 T7 T0 T7 T2 T4 T1 T4 T0 T4 T1 T2 T0 T2 T0 T1 T4 T7

TB- · TBO-9

NUMBER GROUP AND CONNECTOR
SEE 9IC5 FOR CROSS CONN INFORMATION
TBO0-99
MCA · HBO-9 · TBO0-99

DIRECT ACCESS PRETRANSLATOR CONN CKT
MC-

DIRECT ACCESS PRETRANSLATOR CKT
TBO-9

PBX ALOTTER

OAN2 · OBN2 · NANS · AN · NGSK · NGSA

NGSB ANAO-9 TNB
NGSC ANBO-9 TNC
NGSD ANBO-9 TND
NGSE ANCO,4,8 TNE
NGSF ANCO,4,8 TNF
NGSG ANDO,4,8 TNG
NGSH ANDO,4,8 TNH

TBO-9 · TBS

TO MASTER TEST FRAME CONNECTOR

41D · 43B · 47D · 51D · 54D

SD-25550-01-B94

MARKER CIRCUIT (2) SD-25550-01-B94 54

BELL TELEPHONE LABORATORIES INCORPORATED 6S

FS 81

UNITS DIGIT
NUMBER GROUP INFORMATION
COMBINED & COMPLETING MARKERS

(77)UBS — 48 — R — (77)GB 8T 7 — (77)UT 2 1 3B

TRIA — 10T 9 — TR2A 10T 9

(77)GB 8B 10T 400 — (77)A 6 7B — (77)AK 3 4B GB — FBX2 TYM TYM — 92A7 — TYM NGC — 87C9

(87)

(186)AISI 3 — (48) (108) SX (108) (48)

U2 U7 — 4T 3 (48) 4T 3 — 9T 8 (108) 9T 8 — TR2A 8T 7 — U9

U1 U7 — 2B 1 (48) 2B 1 — 9T 6 (108) 7T 6 — TR2A 6T 5 — U8

U0 U7 — 4B 3 (48) 4B 3 — 9T 8 (108) 5T 4 — TR2A 4T 3 — U7

U2 U4 — 2T 1 (48) 4T 3 — 7T 6 (108) 7T 6 — TR2A 2T 1 — U6

U1 U4 — 4T 3 (48) 2B 1 — 7T 6 (108) 7B 6 — TR2A 12B 11 — U5

U0 U4 — 2B 1 (48) 4B 3 — 7T 6 (108) 5T 4 — TR2A 10B 9 — U4

U1 U2 — 2T 1 (48) 2B 1 — 5T 4 (43) . . . — TR2A 6B 7 — U3

U0 U2 — 4T 3 (48) 4B 3 — 5T 4 (108) 5T 4 — TR2A 6B 5 — U2

U0 U1 — 2T 1 (48) 4B 3 — 7B 6 (108) 7B 6 — TR2A 4B 3 — U1

U4 U7 — 2T 1 (43) 2T 1 — 9T 8 (108) 7B 6 — TR2A 2B 1 — U0

UC — 9 10T — TRIA 8T 7 — (77)SA9 — 3B 2 1 — 1 2 3T — (77)SA9 — U9

UC — 7 6T — TRIA 6T 5 — (77)SA8 — 3B 2 1 — 1 2 3T — (77)SA8 — U8

UC — 5 6T — TRIA 4T 3 — (77)SA7 — 3B 2 1 — 1 2 3T — (77)SA7 — U7

UC — 3 4T — TRIA 2T 1 — (77)SA6 — 3B 2 1 — 1 2 3T — (77)SA6 — U6

UC — 11 12B — TRIA 12B 11 — (77)SA5 — 3B 2 1 — 1 2 3T — (77)SA5 — U5

UC — 9 10B — TRIA 10A 9 — (77)SA4 — 3B 2 1 — 1 2 3T — (77)SA4 — U4

UC — 7 8B — TRIA 8B 7 — (77)SA3 — 3B 2 1 — 1 2 3T — (77)SA3 — U3

UC — 5 6B — TRIA 6B 5 — (77)SA2 — 3B 2 1 — 1 2 3T — (77)SA2 — U2

UC — 3 4B — TRIA 4B 3 — (77)SA1 — 3B 2 1 — 1 2 3T — (77)SA1 — U1

UC — 1 2B — TRIA 2B 1 — 3B 2 1 — (77)SA0 — 1 2 3T — (77)SA0 — U0

TO MASTER TEST FRAME CONNECTOR

U0-9 — NUMBER GROUP & CONN — MCA P U0-9 S

DIRECT ACCESS PRETRANSLATOR CONN CKT — MC-

DIRECT ACCESS PRETRANSLATOR CKT — U0-9

UBB — UBS — PBX ALLOTTER

OAN2 — OBN2 — NANS AN — NGSK — ANS — AHG — NGSA — U0 (106)

(184) VC-U VCIA 10 11B — TBIA 2T 1 — TBI-U

INA-U (170)ITNA 10 11B

(185) DC-U DCIA 10 11B — RIA 2T 1 — RI-U

INB-U (170)ITNB 10 11B — BNA 2T 1 — BN-U

41D — 47D — 51D — 54D

SD-25550-01-895

MARKER CIRCUIT (2) SD-25550-01-895

BELL TELEPHONE LABORATORIES INCORPORATED — 6S

54

FS 82

NUMBER GROUP TRANSLATION
COMBINED AND COMPLETING MARKERS

NUMBER GROUP AND CONNECTOR OR DIRECT ACCESS PRETRANSLATOR CONN

DRAWING ISSUE
41D LGM MD
49D MD
51D JR MD
54D MD

WL MCB U0-9 TB00-99 L- LL- FT MCA FTO,1 FT2,3
WG MCB U0-9 TB00-99 G- VHG- HG MCB HGO-9
TN VG MCB VGO-11 VG12,13
TNRC MCC TNK
WF MCB U0-9 TB00-99 F- RF- RC MCB RCO1-15
RFTN- TNVF
CONNECTIONS FOR SPECIAL TREATMENT
VF MCB VFO-4
XSC SCK XSC MCB TO MTFC XSC XSC
FREE NUMBERS
L LL
G VHG
F F FN
RF RF
FNA MCC FNA
FN FNK FNB MCC FNB
OVERFLOW FOR NON HUNTING NUMBERS
L LL
F RF
G G OF
VHG VHG
PERMANENT BUSY AND PERMANENT OVERFLOW
L LL
G OMIT VHG
POF PBX NUMBERS
OF MCC OFK
F PMO MCC PMO
PBN MCC PBN
TO OTHER(FN) RELS IN NO GRP
TO MTFC

FN FN FNB (AO,AP) FNA FN MCC FN
(AQ) (AR) 5T 6B 3T 2 1
-48 WL R FD,FE SNG2 4T 3 NGK1 9T 8 WL

NGB -48 R 91EO NGB (77) OFK 4T 3 L MCC OF

(XA) FTNO,1
(XE,YF) FTN2,3
(XA) FUNO-9
HGNO-9
VGNO-11
(UK) VGN12,13
RCN1-15
VFNO-4
TRC
TRC 1,2 3
TNK TO MASTER TEST FR CONNECTOR CKT
FI FI FH TNK 1 101E1
TNK 7T 5B 400 -48
(186) AIS2 5
(77) FBN 4B 3 PBN
FNA (AO) 8T 6B (AP) 9T 8B 700 -48
(AP) (SN) (AP) FNA
(AO)
TO MASTER TEST FRAME CONNECTOR
FN (AQ) 10T 8B (AR) 10T 10B 700 -48
FNB 11T 9B 700 -48 FNB
(77) OFK 13T 12B 2500 -48
(77) OFK 11 12T 250 -48 PMO 87A/CT
(77) PMO 5BF 6TF P-700
(181) DAC T3
(77) PBN 5B 5T PBN 400
LLI 91GC
2B 1 (77) PBN

2T 1 RCT8 4T 3 (AP) RCT9
(AO) (AP) 5T 7B 4 6 FNA
CKG5 10T 9 XA
(XA) CKG6 10B 9 (AQ,AR) FN 8 9T
9 10T FNB 7 8T FNB
LB 7 8B
6 7 FNA

D-25550-01-B96

MARKER CIRCUIT (2)
SD-25550-01-B96
BELL TELEPHONE LABORATORIES INCORPORATED
6S

FS 83
PBX HUNTING
COMBINED AND COMPLETING MARKERS

DRAWING ISSUE:
46D
54D
56D MD

SAE -48 400 5B 7T SAE

SAO-9 4 5B

NGC 2T 1 GB 1 2T

SAO 4 5T -48 6B 400 6T SAO 0.25UF

SAI 4 5T -48 6B 400 6T SAI 0.25UF

SAL1 16

SA2 4 3T -48 6B 400 6T SA2 0.25UF

NGC 4T 3 GB 3 4T

SA3 4 5T -48 6B 400 6T SA3 0.25UF

SA4 4 5T -48 6B 400 6T SA4 0.25UF

SAL2 16

SA5 4 5T -48 6B 400 6T SA5 0.25UF

NGC 6T 5 GB 5 6T

SA6 4 3T -48 6B 400 6T SAG 0.25UF

SA7 4 5T -48 6B 400 6T SA7 0.25UF

SA8 4 5T -48 6B 400 6T SA8 0.25UF

SAL3 16

SA9 4 5T -48 6B 400 6T SA9 0.25UF

	SL	SLO	SLC	MT10	MT19 / MT20	
A	SL0	4020±1%	8+ T 4000 2B 1	1 2B	3 (14) 5T 4 (14)	50
B	SL1	4020±1%	8+ T 4000 4B 3	3 4B	6 (14) 8T T (14)	51
C	SL2	4020±1%	8+ T 4000 6B 5	5 6B	1 (14) 3B 2 (14)	52
D	SL3	4020±1%	8+ T 4000 8B T	7 8B	4 (14) 6B 5 (14)	53
	SL4	4020±1%	8+ T 4000 10B 9	9 10B	7 (14) 9B 8 (14)	54
E	SL5	4020±1%	8+ T 4000 2T 1	1 2T	4 (14) 6T 5 (14)	55
	SL6	4020±1%	8+ T 4000 4T 3	3 4T	7 (14) 9T 8 (14)	56
F	SL7	4020±1%	8+ T 4000 6T 5	5 6T	1 (14) 3B 2 (14)	57
G	SL8	4020±1%	8+ T 4000 8T 7	7 8T	4 (14) 6B 5 (14)	58
	SL9	4020±1%	8+ T 4000 10T 9	9 10T	7 (14) 9B 8 (14)	59
H	SL10	12,000±1%				
	SL11	12,000±1%				
	SL12	12,000±1%				
	SL13	12,000±1%				
	SL14	12,000±1%				
	SL15	12,000±1%				
	SL16	12,000±1%				
	SL17	12,000±1%				
	SL18	12,000±1%				
	SL19	12,000±1%				

SL0 1 (185) MT22 — SL1 2 — SL2 3 — SL3 4 — SL4 5 — SL5 6 — SL6 7 — SL7 8 — SL8 9 — SL9 10

ZL MT19 ZL — ZL MT20 ZL

50 51 52 53 54 55 56 57 58 59

TO MASTER TEST FRAME CONNECTOR

50-9

NUMBER GROUP AND CONNECTOR: MCC SC NS-

LINE, LINE LINK AND CONNECTOR: LS- LINE HOLD MAGNET -48

MASTER TEST CONTROL

(68) FG SLCKI 5T 4 (185) MT22 11 SL8

NTLS L KEY — SO-9 L KEY

(114) MT20 -48 10B 950 12T

(114) MT19 -48 10B 700 11T

(77) MT10 12T 11 MT19

TO MARKERS 0 & 1

VER6 KVG3

PBX LINE SLEEVE VERIFICATION

(77) MT10 -48 13B 700 13T

MT 9 10T MT10

TO OTHER MARKERS

VER6 LV2

CONTROLS PBX HUNTING

MKT1

PBXH KEY

EBH KEY

CONTROLS END OF BLOCK HUNTING

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

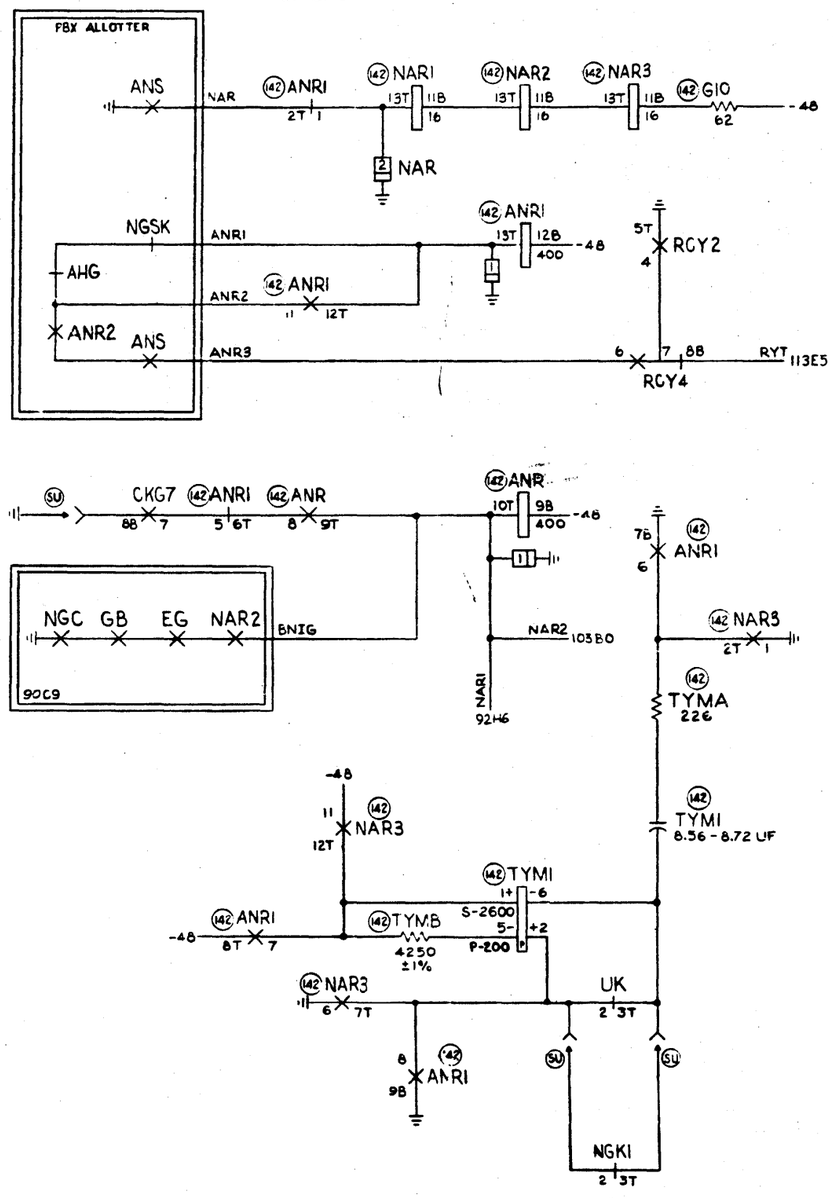
SD-25550-01-897

56

25550-01-897

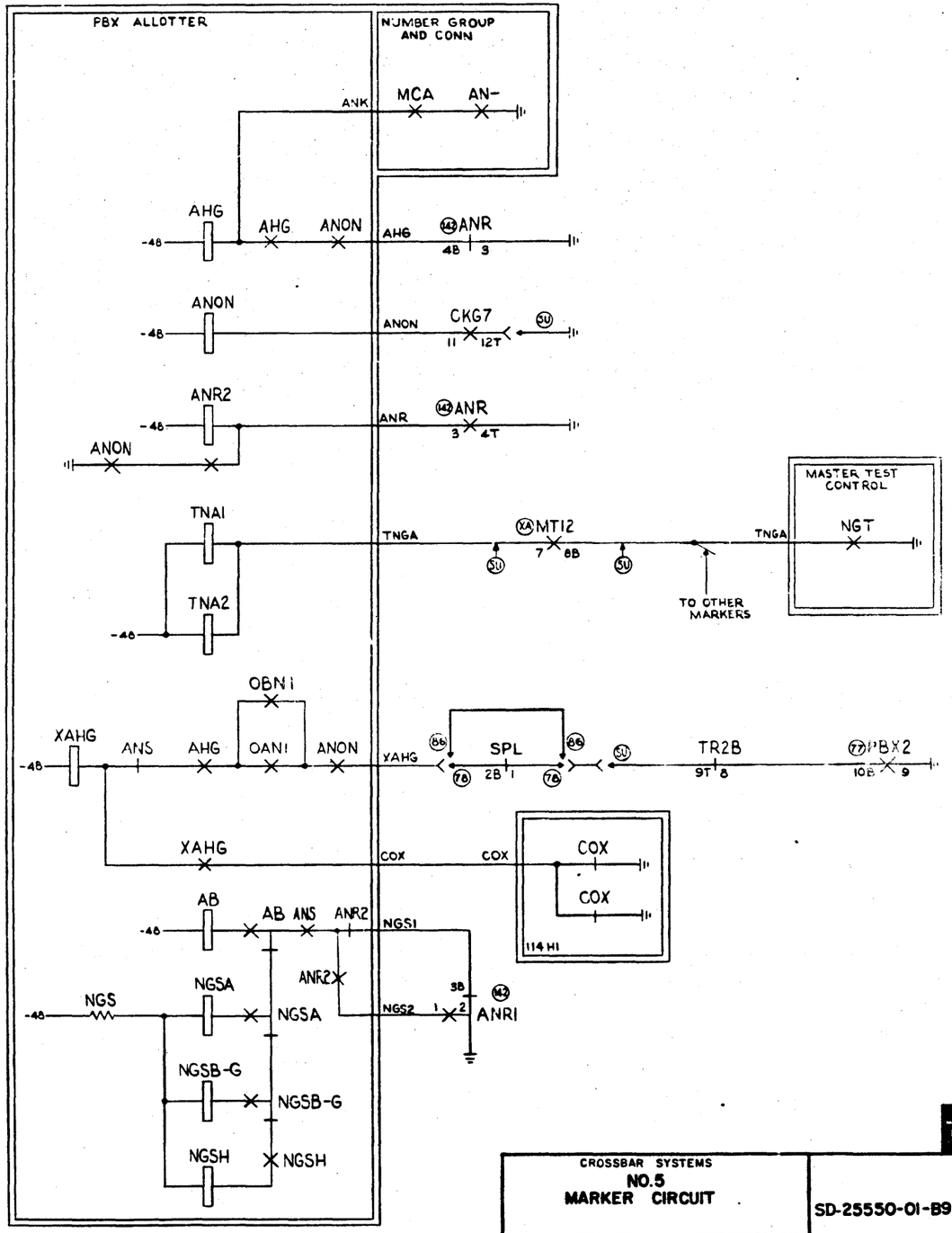
FS 84

NUMBER GROUP CONTROL
APPLIQUE FOR USE WITH ALLOTTED PBX HUNTING
COMBINED AND COMPLETING MARKERS



FS 85

PBX ALLOTTER CONTROL
COMBINED AND COMPLETING MARKERS



ISSUE
41D
43B
46D

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

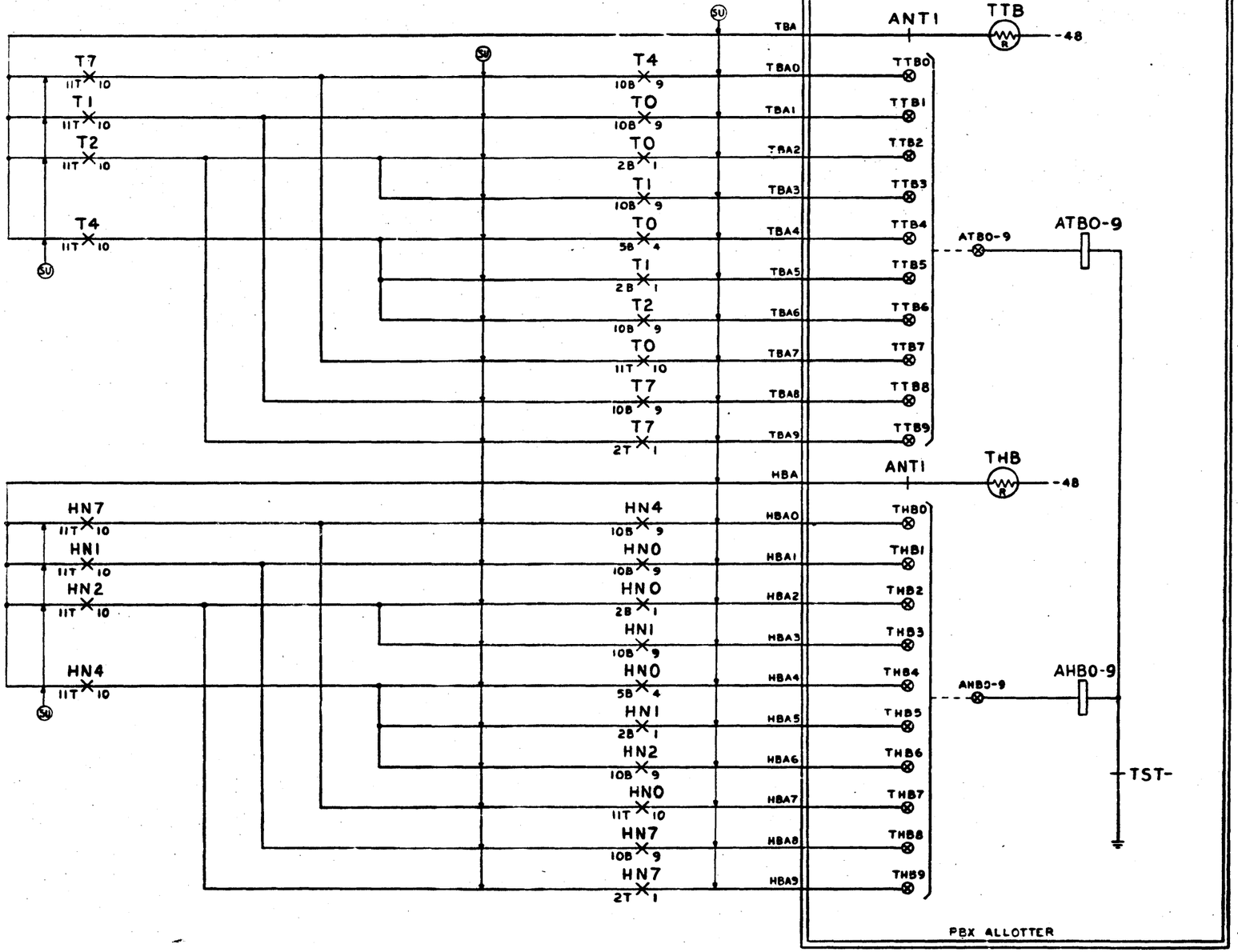
46

SD-25550-01-B98

SD-25550-01-B98

(108, RQ) FS 86

HUNDREDS AND TENS DIGIT IDENTIFIER
FOR PBX ALLOTTING
COMBINED AND COMPLETING MARKERS



DRAWING ISSUE	
41D	JULY
43B	DEC

NO.5 MARKER CIRCUIT	SD-25550-01-B89
BELL TELEPHONE LABORATORIES INCORPORATED	65

43

669-10-09

FS 87

THOUSANDS DIGIT IDENTIFIER FOR FBX ALLOTTER CKT
COMBINED AND COMPLETING MARKERS

DRAWING ISSUE
41D
43B

FBX ALLOTTER

ANTI NANS ANS ANON ANI -48

THA

THA0 TH7 11T×10 TH4 10B×9 OANI TTHA0 OBNI TTHB0
THA1 TH1 11T×10 TH0 10B×9 OANI TTHA1 OBNI TTHB1
THA2 TH2 11T×10 TH0 2B×1 OANI TTHA2 OBNI TTHB2
THA3 TH1 10B×9 OANI TTHA3 OBNI TTHB3
THA4 TH4 11T×10 TH0 5B×4 OANI TTHA4 OBNI TTHB4
THA5 TH1 2B×1 OANI TTHA5 OBNI TTHB5
THA6 TH2 10B×9 OANI TTHA6 OBNI TTHB6
THA7 TH0 11T×10 OANI TTHA7 OBNI TTHB7
THA8 TH7 10B×9 OANI TTHA8 OBNI TTHB8
THA9 TH7 2T×1 OANI TTHA9 OBNI TTHB9

AN

ATH0-9 ATB0-9 AHB0-9 AH0-9 ANA0-9 AN

NO. 5
MARKER CIRCUIT

SD-25550-01-B100

43

BELL TELEPHONE LABORATORIES
INCORPORATED

SIZE 6S

SD-25550-01-B100

FS 88

RINGING SWITCH CONTROL
COMBINED AND COMPLETING MARKER

DRAWING ISSUE
54D LP KS-14,402
55A MD

XRCN 39F 5TF P-2.2 GB GT -48
RCTI-8 RCTII-15 5B 5T 400
RCNI-15 2 3 XR XQ RM RCTG RL
89H6 RGTA PTK
114HI COX COX
RCNI-15 2.8K ±1%
AQAP RCT9 5B 5T,7T 400
XP XRCT 5B 7T 400
XP XRCT 4T 3 XQ COX
RCT9
RCTI-8 RCTII-15
RCT
RCTI-8 RCTII-15 4T 3
RV 8T 7
48 147 RGT 3
RCL 10T 8B 400
RCTIO 8B 10T 400
MTI 3 48
AQAP RTC9 41,6T 3,5
62 RGTO,I 3 48
SC RCL
87A/AI 62 RGTO,I
SC R
RCTIO 9T 8
TO MASTER TEST FRAME CONNECTOR CKT
96D9 TNK 6T 5 QE QF TRN 10T 9 QF QE
181 DACI 10 181 TLK 10
9 IR6 AIS2
LLI 10B 9
G PBXB 2B 1
H LGT 12T H PBXA 7
RCL 6 9T
NH 3 4B 76
NT 7 6B RCL 90G3
78
SD RGTA 1 2T
RCLA 6 7 4K RCLA 4020 ±1% -48
LI -48 5B 7T 400 SRK 6 7B TBIB 3B 2 1 7T TBH 6 3 4B OV 1 2T HMSI 7 8B XA
LT 5B 7T 400
OFH 3 4B CKG7 3 4T
LI
HF
I50 I51 RCTIO 1 2T
I51 I50
3T 1 2 CMCA
AU 9T 8 OD 9T 8
ORC2 ORC CMJ 1666
TRUNK LINK AND CONNECTOR CKT MCB
TRUNK CKT HF -48 F
HF

FE SNG2 11 12B RCL 6 7T
184 BRI BR2 BR3 1 1
BR6 L U 270 4 -48
BRI-3 L U 270 4 -48
12
BRG 1-3 MT41
TO MASTER TEST CONTROL CKT
BRI-3 CIR
TO OTHER COMBINED OR COMPLETING MARKERS
184
BSI-3 XG -48 ALM IMMEDIATE RING CONTROL CKT
SRK 5T 4 OFHI 7 8T 9T 7B 400 -48
PN 3 PM 1
CIR L U 270 4 -48
BRG 5 4 MT41
102B/H8 CIR 12
TO OTHER COMBINED OR COMPLETING MARKERS
RCL 10T 8B 400 -48
2B 1 TBH
RCK2 2 3T
OV 4 5T 9 TBIB 10T TBH 10T 8B 400 -48
8 9T TBH 3 4T BY 3
108F4 LK 4 5 OFHI 6T
3T 2 RSK
182 CSW 8
RSK 182 CSW 10 SRK 1 2B RCK2 1 2B OV 108 9 OFH 10T 8B 400 -48
OFH 7B 6 BY 9T 8 OFH
RSK 2T 9 182 CSW TCK 7 4 3 RCKI 4 7 3
SRK 10T 8B 400 -48
9T SRK 6 LI 2T 1 LNT 3 4T RE
SRK
TO MASTER TEST FRAME CONNECTOR CKT
TCK 1
TCK INDR 2 1 0
RCKI INDR 2 1 0
RCKI 1
RCK2 10T 8B 400 -48
RCK2
LI 48 3 AQAP LCH 1 2B AQAP FNA 5B 4 RIB 1 2T TBH 3T 2 J TER4 7T 6
TCKI
196 AIS2 3 FNB 8B 7
2T 1 TBIB
RCK2 7B 6
3T 2 1 TCH 3T 1 2 AQAP LCH
PA,PB RCK3 7T,9T 7B,8B -48
ITR3 4T 3
5,6 FD,FE RV3 6T,7T
RYC 2T 1 ITR3 2B 1 PA,PB RCK3 5 6T
RCK3

MARKER CIRCUIT (2) SD-25550-01-8101
BELL TELEPHONE LABORATORIES INCORPORATED 6S
55

SD-25550-01-8101

HIGGINS 4465

PART OF FS 89

RINGING SWITCH OPERATE
COMBINED AND COMPLETING MARKERS

TO MASTER TEST FRAME CONNECTOR RSK

RINGING SELECTION SW

TRUNK LINK CONNECTOR

SEL0-9 LV- MCA RSK

SEL0,1 LV- MCA RS0,1

SEL2-9 LV- MCA RS2-9

-48V (XA) H6 90 ONX 48 3

RSK 10T 8B 400 -48

FLG 8B 7

RV3 12T,13T FD,FE 11,12

RSA

RS0 RSM0

RS1 RSM1

RS2 RSM2

RS3 RSM3

RS4 RSM4

RS5 RSM5

RS6 RSM6

RS7 RSM7

RS8 RSM8

RS9 RSM9

-48V (XA) J8 90 6B ONX 5

FLG 9 10B

RV3 FD,FE 9,10 10T, 11T

RSB

(XA) XRS1 RBI 2RT 0.86

(XA) XRS2 RBI 2RT 0.86

SQTO (XA) 9B 8 7 TO TP NF

RSK 9T 8 NF NE

RCT10 6 7T 1 2B TNK

RCT1-6 RCT 8 1 2B OV 2B 1

RCT 9 RCT 7, 11-15 1 2B

TO MASTER TEST FRAME CONNECTOR

RS0 4T 1B 700 (XA) XRS3 5TF 3BF -48V P.S.5

RS1 4T 1B 700

FNB 3T 2 1

HCSW 182 12

BNB 8T 7 6 BNB EL EK AV AU MF

RIB 8T 7 6 RIB EL EK AV AU TH TG

TBIB 8T 7 6 TBH 4B 3 TBIB EL EK TH TG ID

TIN 2B 1 3 LIN 48 LIN 2B 1 TIN 4B 3 C L T AU AV MF

MF ME 159 DCI 3B 2 1 DCA

159 VCI VCA

8 9T OFH 7T 6 OFH 5 7B 6 BY 3 5B 4 OV

87

BM - ALL JUMPERS OUT - [illegible]
R1 - TOP " IN - [illegible]
TS - P1 S-B, F-G JUMPERS - [illegible]

DRAWING ISSUE

41D		
43B		
49D		
51D		
54D		
55A	NLF	
56D	NLF	

SD-25550-01-B102A

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25550-01-B102A

56

PART OF FS 89

RINGING SWITCH OPERATE
COMBINED AND COMPLETING MARKERS

DRAWING ISSUE
540 AL AND
55A MD

TBH 4 5T
TBIB 3 4 5T
RIB 3 4 5T
BNB 9 10 11T
RCT2,12 48 3
RCT3,13 3 48
RCT4,14 3 48
RCT5,15 3 48
RS2 4T IB 700 3
RS3 4T IB 700 3
RS4 4T IB 700 3
RS5 4T IB 700 3
RS6 4T IB 700 3
RS7 4T IB 700 3
RS8 4T IB 700 3
RS9 4T IB 700 3
XA XRS4 5TF 3BF P-5.5 -48
(AO) (186) AISI 11 FNB 5 6T 4 (AP) TCH 2B 1 (181) DACI 5 (AP)
(AO) (182) TO TR NF TO (AP) FNA 4 5 6T (AP)
XA SQTO 8 9T 7 5T LCH 4 (AP) RSK 7T 6
RCT1,11 3 48
RCT10 6 7B TNK 1 2T
RCT6,7 3 48
RCT9 3 48 (AO) RCT9 3 48 RCT8 3 48
CSW L U 700 4 -48 (182) (181) DACI 4 1 (AP) (AP)
BY 7T 6 5
OFH 5T 4
(87)
(FE) RV3 108 9 8
(184) (184) (184) (184) (184) (184) (184) (184) (184) (184) (184) (184) (184)
CIR TIR BRG 4 BR3 BRI 4 5 BR2 BR3 4 5 BR2 BRI 4 5 BRI BR2 4 5
(FD) (FD)
BRI 2 BR2 2 BR3 2 BR2 3
TIR U L 700 4 -48 (FA) CKGB 3 4T (184) 3 CIR 101C7
TO MASTER TEST FRAME CONNECTOR CKT

55

MARKER CIRCUIT (2)
BELL TELEPHONE LABORATORIES INCORPORATED
SD-25550-01-B102B
6S

SD-25550-01-B102

RIGHTS 4465

PART OF FS 90

ROUTE ADVANCE, RECYCLE AND BUSY CONTROL COMBINED, COMPLETING AND DIAL TONE MARKERS

DRAWING ISSUE: 41D, 43B, 44B, 48D, 49D, 51D, 54D

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-B103

54

SD-25550-01-B103

PART OF FS 90

ROUTE ADVANCE, RECYCLE AND BUSY CONTROL
COMBINED, COMPLETING AND DIAL TONE MARKERS

TO MASTER TEST FRAME CONNECTOR

RBT1 (XA) — RBT (82) 6B 6T 400 -48 — RBT (XA)

MT13 48 3 (XA) (XA)

103C3 4 — ITRI (82) 5T 4 — OC 109E2

SOGI (82) 2T 1

RA6 1 2T (S9) — RALI 3184 (A7)

2FA (A2) 7 8B

FM (82) 4 5T

RTST (AK) 8 9B

179

RBT 4 5T — TM 7 6B (KA)

(AL) (RC) (F8)

ORT 11B 10 (RC)

IRT 11B 10 (AL)

TO OTHER MARKERS

AUTO. MON REG. AND SDR TEST
MKR RBT — DOR3 BT -48

MASTER TEST CONTROL
RBT KEY — TRR KEY — ORT

INC REG TEST
IRBT KEY — ITRR KEY — ML

ANNOUNCEMENT TRUNK -48

ANNOUNCEMENT MACH -48

MA TEST FR JK, LF & KEY CKT
AN — AN — AN KEY -48
AN
AN -48
AN

89H5 92C6 RBT — ROA (82) 5 6B (YV) (YV)

TEA 4 5 6T (AY)
TEA (AZ) 3 6B (AZ)
TEA 1 2B (AY)

102,109 NGPI -48 6B 6T 700 3
NGP (82) 4 5B 102,109

RBT (82) 5B 4

TOA (82) 2B 1 (A2)

TRTR 10 11T — TRB 8T 7 — TRSA 7 6T — TRI 11 12T (XD) (XA)

TRLI (XA) 6 7B

TRL 108G4

TOGI (AA) 10T 9 8 — 3T 2 1 (AA)

(N) (O)

TRR 2T 1 — TRR 4 5T (AF) — TRR 11 12T

MO 108E1

DCK (33) 2 1 3B

TR2C 5 4 6T

(154) (151) — TERI (82) 101 9 8

CMC2 3T 2 1 (151)

YI,0B

ROA (82) 1 2 3T

103G3 OV

103D6 (AT)

PCD1 (96) 5B 4 3 — 5B 4 3

PCL3 (94) 8 9 10T

PCR (95) 3 4 5B

PCDO (96)

CMF4 (151) 1 2 3B

CMC1 (151) 6B 5 4

SLK2 (34) 3B 2 1

TSC 103E4 (53) — TSC9 7B 6 — TSC8 6 7B

TSC7 7B 6

TCB (NC) 9 10T — TSC6 6 7B

103C3 TCB

AN — AN — AN (179) GD
AN2 (9) — AN2 (9) — AN2 (9)
LAST MKR — INTER. MKR — FIRST MKR

(179) AN 2U 1U -48 640 — 3B 1 — (179) AN2 (JW) CKC8 2

(179) RCY6 2L 1L -48 640 — (179) ANC 10 — (179) AN 8 2

(179) RCY6 1 — SNK 7 8T

TBTB 6 7T — (105) FM 1 2T

(179) AN — (179) AN2

DRAWING ISSUE

41D	GM	WOR...
43B		ITR...
49D	AD	
51D	GM	

SD-25550-01-B104

MARKER CIRCUIT (2)

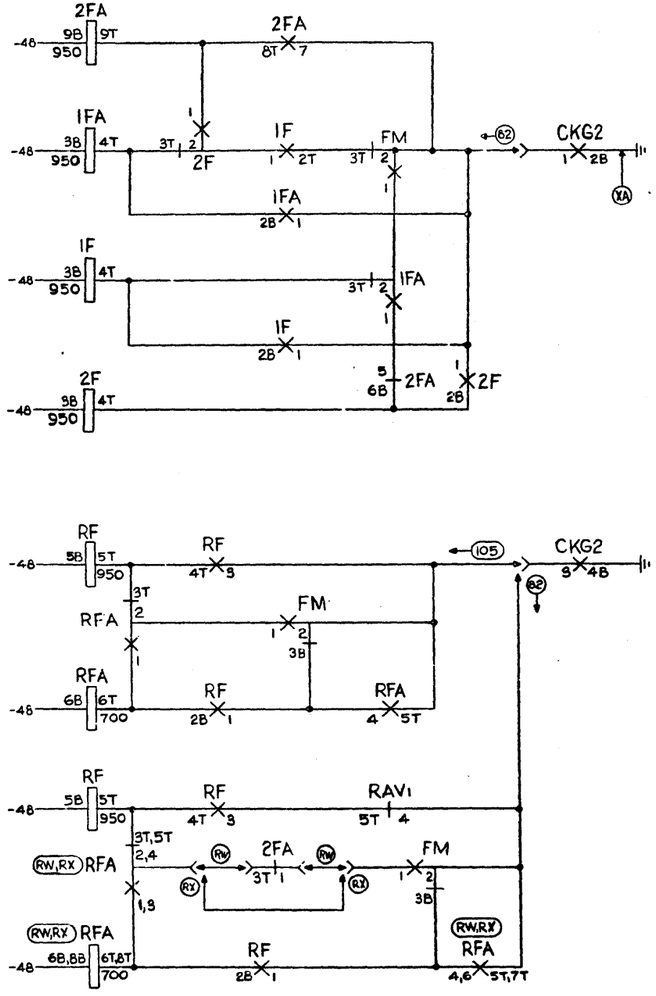
BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-B104

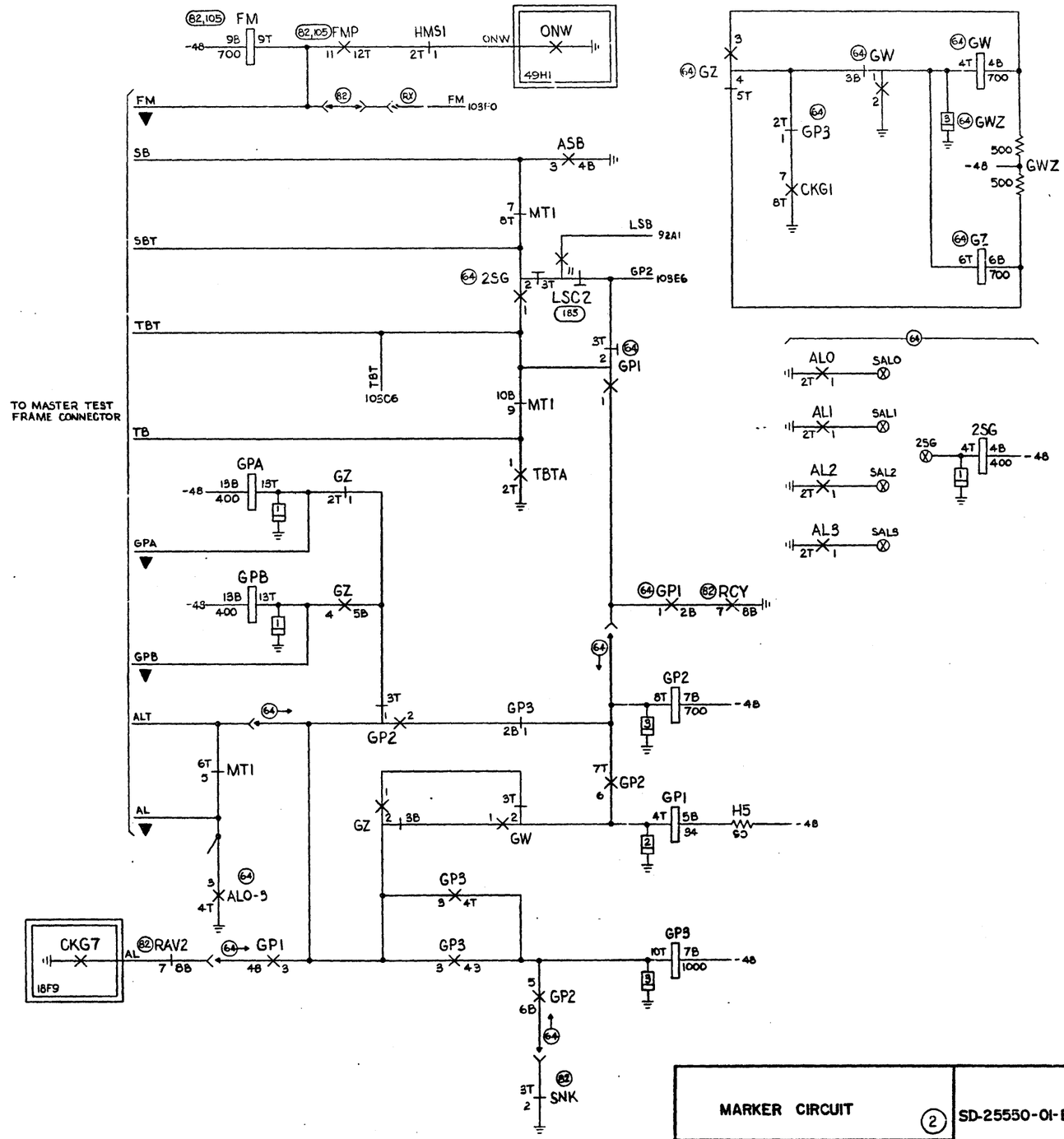
51

0 1 2 3 4 5 6 7 8 9

FS 91
FAILURE TO MATCH COUNTER
COMBINED, COMPLETING, AND DIAL TONE MARKERS

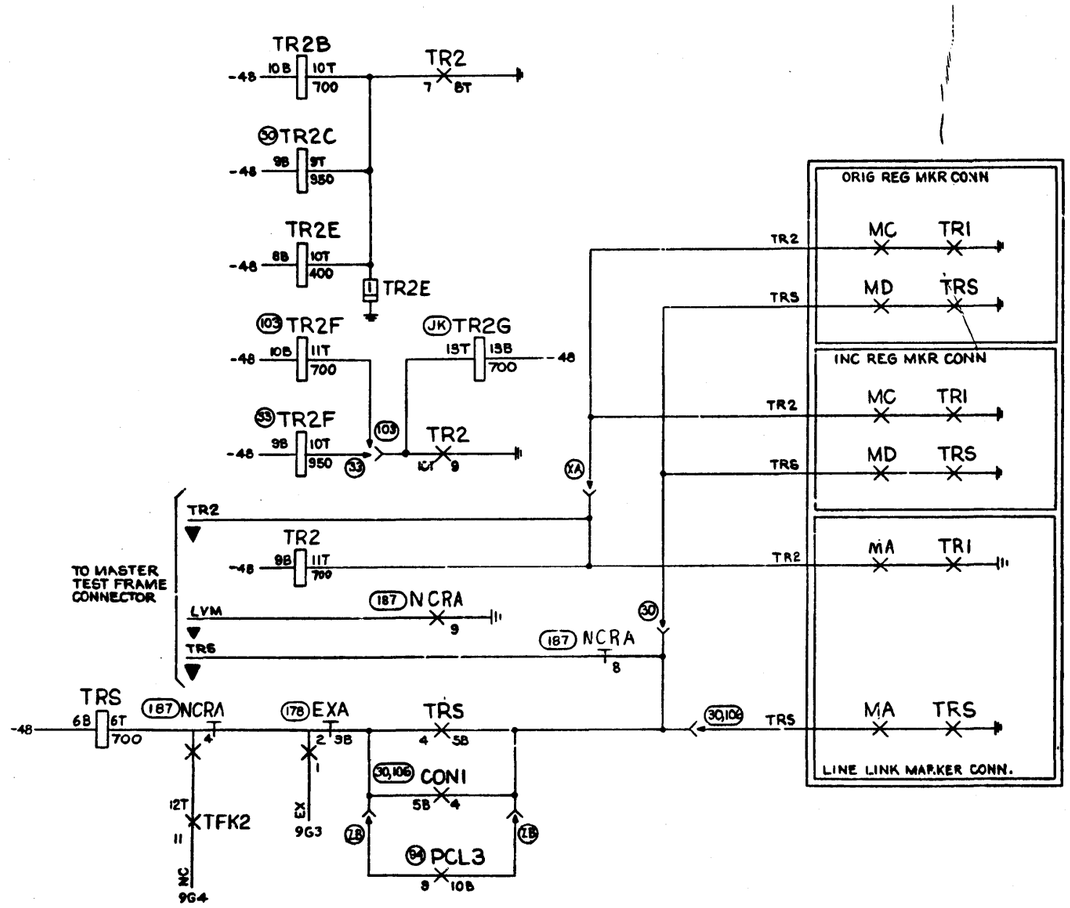


FS 92
GROUP ALOTTER
COMBINED, COMPLETING AND DIAL TONE MARKERS



FS 93

SECOND TRIAL AND TRANSFER START
COMBINED, COMPLETING AND DIAL TONE MARKERS



DRAWING ISSUE	
41D	
43D	
49D	LF AND
54D	CF ALL AND
56D	MD

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25550-01-B106

56

SD-25550-01-B106

FS 94

REGULAR & TROUBLE RELEASE
COMBINED, COMPLETING, & DIAL TONE MARKERS

MASTER TEST FRAME JACK, LAMP, & KEY CKT

MASTER TEST FRAME CONNECTOR

TO OTHER MARKERS

MF OUT SENDER

OUT. SENDER CONN

INTER MARKER GROUP SENDER

LINE LINK MARKER CONN

ORIGINATING REGISTER (DP)

ORIGINATING REGISTER MARKER CONN

INCOMING REGISTER MARKER CONN

INCOMING REGISTER (MF)

AUTOMATIC MONITOR
REGISTER AND SENDER TEST

MASTER TEST CONT

TO OTHER MARKERS

107B/D8

MARKER CIRCUIT	(2)	SD-25550-01-B107A
BELL TELEPHONE LABORATORIES INCORPORATED	6S	54

SD-25550-01-B107A

PART OF FS 94

REGULAR & TROUBLE RELEASE COMB. COMPLETING, & DIAL TONE MARKERS

PLANT REGISTER CKT

SS- -48 — SS0-9 — (GD) TO OTHER COMB. OR COMPL MARKERS — (70) OSG0-9 11 X 12T — TGT 9 X 10B — SS — SDT — MT18 — 110 BG

OSG- -48 — OG0-9 — (GD) — (70) OSG0-9 9 X 10B — PEG 11 X 12B — SLK2 4 X 5B — OG — MT13 5 6T — 111 H2

(GD) PCL1 10 X 11T

TPC -48 — TPC — (GD) — (GD) CKG8 4 X 5B

DTPC -48 — DTPC — (GE) — (E) HGR 6 X 7T

LRF -48 — LRF — TO OTHER COMB. OR COMPLETING MARKERS — LR 1 X 2 3B

DMST -48 — DMST — TO OTHER COMB. MARKERS

DMTR -48 — DTR — 10B 8 X 9 — (E) HGR 1 X 2 3T — (JK) TR2G

DMTR/ MTR -48 — TR — TR2B 6B 5 X 4 — (GD) — (GC) — (GD) — (GC) — (GD) — (GD) — (AJ) — (AI) — XA MONI 1 2T — (AI) — (AJ)

TRI 7 X 8B — (N) TRR 4 X 5B — (O) TRR 7 X 8B — (AF) TRR 5B X 4 — (187) NCRA T 6

MT13 8T 7 — (LR) — (LS) MB 3 4B — (LS) — (LR) DISA 7 8B — (30) — GLH 3T 2 — FCGA 2T 1 — CONI 5 X 6T

(106) — 3T GLH 2 — 2T FCGA 1 — 5 X 6T CONI

10TA/F5 RP — (30) — GT5 3B 1 X 2 — (30)

DMST/ CMST -48 — MST — TO OTHER MARKERS IN SUBGROUP

GTF -48 — GTF — (ZO) — MT13 9 10B — (ZO) — (ZN) — (ZN) — (ZN) — (ZO) — (ZN)

TO OTHER COMB. OR COMPLETING MARKERS

MASTER TEST FR, JK, LAMP & KEY CKT

CLPT — CLPT — (ZO) — (30) GT5 1 2T — (ZO) — GT 59H1

DRAWING ISSUE

51D JR DIES AND

54D JBK REL AND

54

MARKER CIRCUIT (2) — SD-25550-01-B107B

BELL TELEPHONE LABORATORIES INCORPORATED — 65 — PRINTED IN U.S.A.

KIMBERLY CLARK CORP. — D-25550-01-B107B

PART OF FS 95

DISCONNECT AND TROUBLE RELEASE CONTROL COMBINED, COMPLETING AND DIAL TONE MARKERS

SENDER
ONI
RO
-48
SDR CONN
S
RO
RO'
ROT
TRR
(187) NCRA TRB
(184) TIR TRS
MT14
(O,AF) FMP (O,AF)
(J) DCT2
(187) (187) NCRA (FP) TRBI
(82) RAV2
(82) RCY
(34) SLK2
(NO,AF) TRR
3,5,9T
4T,6T,8
62E5 NCR (187)
(181) TLT
(181) PTM
(178) EXA
(AH,AG) WT
(AH,AG) LDT
(AH,AG) SDT
TRT
(AF) TRR
(99) IMT
(36) PS
(63) RR (63) RLG (63) RRC (63) RRK (63) RRC
(96) PSR
TRI (138 13T 700) (20) (XA) TRLI (O,AF,N) TRR
(XU,ZN)
(33) LR (33) DCK (33) TFK3 COX
(XA) MXT (106)
(30,106)
SP 13T 13B 400 -48
(30) TR2C
(XA) CB5
CHE
TK
(H) LGT
(G) PBXA
(30) GT5 (30) CGT (30) TR2C
TR2 62A0
DISI
(YH)
AUTO MON REG AND SDR TEST
XMRI
MTR MKR
RBT
TO OTHER MARKERS
INC REG TEST
ML ITRR KEY
MASTER TEST CONTROL
ORT TRR KEY
INC REG TEST
KEY ITRR ML
KEY IRBT
MASTER TEST CONTROL
ORT TRR KEY RBT KEY
ATT
(AK) RTST
(AL) IRT
(AL) ORT
(191) TTA
(AI) MON (O,N,AF) TRR 13T,12T,14T 13B 11B,15B 700 -48
(AL) IRT
(AL) ORT TRI 2T
TO OTHER MARKERS
TRI (106) 62A0
DIS1 1ST 11B 16 DIS2 1ST 11B 16 F5 90 -48
DIS (12)
125H4
(XA) TRLI (O,N,AF) TRR TRI
(XA) MONI
2B,6B,10B 1,7,9
(AJ)
(35) HTR
(34) TGT (34) TGT
TRS
(184) TIR
(XD)
(34) TGT 13B 13T 1500 -48
(171) (58) AVK2 (OR) 12B,8B 11,7
(34) TG
(184) TIR
TGT
(XA) TRLI 8B 8T 950 -48
MTI 8B 7
(H) LGT 118 10
59H2 TR2C
DISI
LK1 62A2
(106) (J) ITR2 (J) DCT2 DCT1 (106)
LK2
LK3
(106) GTL4 GTL3 GTL2 RK3
109C2 TOG3
FMK FML
MT14
LINK LINE MKR CONN
MA
CKG SEE NOTE 106
(XA) CKG1 19T 19B 16 2
DIS2 3T 1 DIS2 2 12T 11
CKG2
CKG1 (XA)
12T DISI 11
(6D) (34) TG 1 2B
(6C) (34) TGT 9 10B
DISI 2 1 3T 12T CKG2 11B 16 CKG3 13T 13B 16 F11 90 -48
2
5T 1 TRLA 2
ORIG REG MKR CONN
MC-
INC REG MKR CONN
MC-
CKG
3B 1 TRLA 2
6T 5 TM TRL 10 11T
104E3 TRL
TRL 12T 11B 700 -48
101D5 LR 5 6T 4
(33) 11 (34) PCL2 12B
7 TER3 8T (YA) (U8) 4B PTK 3 (U8) (YA) (23)
8 9B SOG3 7 6B ITR3
(33)
TRL 1OT 10B 700 -48
TRLA
CKG3 6B 5 DIS2 5 6B 3
CKG6 1ST 13B 16 CKG7 1ST 13B 16 2
KO 90 -48

DRAWING ISSUE
41D
43B
47D
48D
51D
54D

SD-25550-01-8108

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

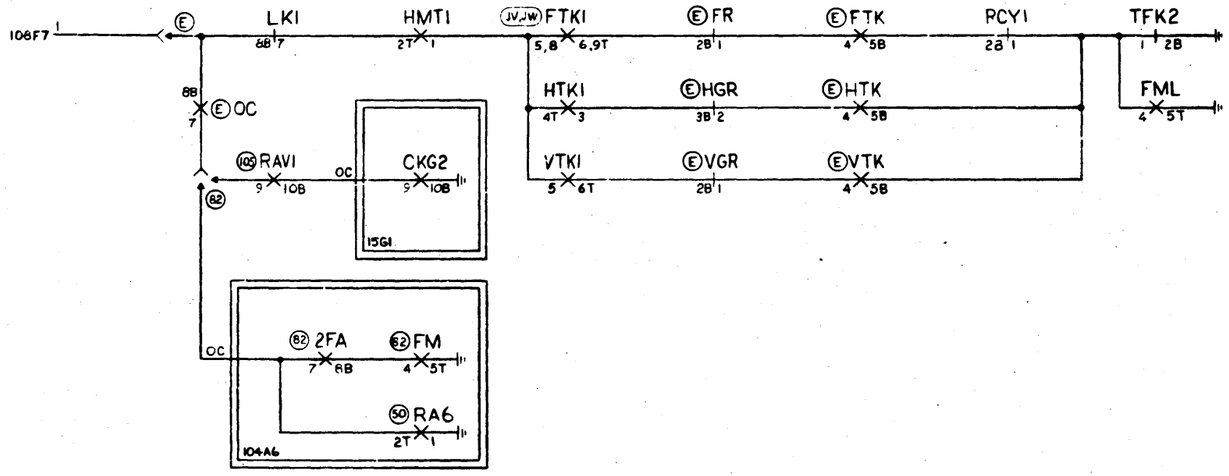
6S

54

SD-25550-01-8108

PART OF FS 95

DISCONNECT AND TROUBLE RELEASE CONTROL
COMBINED, COMPLETING & DIAL TONE MARKERS



DRAWING ISSUE
41D W.F.Q.
43B P.Q.
49D LF

SD-25550-01-B109

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)
SD-25550-01-B109
49
BELL TELEPHONE LABORATORIES
INCORPORATED
6S

PART OF FS 96

PEG COUNT

COMBINED, COMPLETING, AND DIAL TONE MARKERS

TRAFFIC REGISTER CIRCUIT

LINE LINKCONN.

LINE INSULATION TEST CONTROL

TRUNK LINK CONN

TRAFFIC REGISTER CIRCUIT

TO OTHER MARKERS IN SAME MARKER GROUP

TO OTHER COMBINED MARKERS

TO CORRESPONDING (CDR-) RL AY3 IN OTHER MARKERS

TO CORRESPONDING (PC-) RELAYS IN OTHER MARKERS

TO CORRESPONDING (CV) RELAYS IN OTHER MARKERS

TO CORRESPONDING (OSA-) RELAYS IN OTHER MARKERS

TO OTHER SIMILAR FIGURES

TO OTHER SIMILAR FIGURES

TO OTHER MARKERS IN SAME MARKER GROUP

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-BI10

SD-25550-01-BI10

PART OF FS 96

PEG COUNT
COMBINED, COMPLETING, AND DIAL TONE MARKERS

TRAFFIC REGISTER CIRCUIT
LINE LINK CONN
TRUNK LINK CONN
LINE INSULATION TEST CONTROL
MCB
CO
TER
OF
IMC
TCB
DT
TIPR
TIP
FMP
IFMPR
IFM
FMPR
FM
SO-9
DRO-9
PCTO-19
PCV
OSG
JSGO-9
TOG
PTOG
MFL
LCB
PL
PEG
GLHI
SPLI
CB1
TOG1
CB
MT18
SDT
1078/A3
ITR2
SCB
TER2
MT13
OV
BY
LFKA
PRLL
CB2
CB4
DT3
RFA
FM
TER3
PBXA
RCY5
RA1
RA2
RA3
RA4
SOG1
ITR1
2FA
PCSO-9
CDRO-9
PCO-19
CVOO-99
OSAO-9
PGR5
PGL5
PGR2
PGL2
PGR3
PGL3
PGLO
PGRO
SLK2
PRLL STP3
TO CORRESPONDING (CDR-) RELAYS IN OTHER MARKERS
TO CORRESPONDING (PC-) RELAYS IN OTHER MARKERS
TO CORRESPONDING (CV) RELAYS IN OTHER MARKERS
TO CORRESPONDING (OSA-) RELAYS IN OTHER MARKERS
TO OTHER SIMILAR FIGURES
TO OTHER COMB OR DIAL TONE MARKERS
TO OTHER MARKERS IN SAME MARKER GROUP
ALL PAIRED
NOT ALL LINE LINKS PAIRED

DRAWING ISSUE	
41D	
43B	
46D	
48D	
49D	
51D	
54D	

MARKER CIRCUIT (2)
BELL TELEPHONE LABORATORIES INCORPORATED
SD-25550-01-B110
54
SD-25550-01-B110

PART OF FS 96

PEG COUNT
COMBINED, COMPLETING & DIAL TONE MARKERS

TRAFFIC REGISTER CKT

GROUP BUSY CIRCUIT

TO CORRESPONDING ROUTE RELAYS IN OTHER MARKERS

TO OTHER (R-) RELAYS IN SAME (GS-) GROUP

TO OTHER MARKERS

TO ALL MARKERS

IN SAME MARKER GROUP MULT ALL DIAL TONE MARKERS TOGETHER, COMPLETING MARKERS TOGETHER, COMB. MARKERS TOGETHER

TO OTHER MARKERS IN SAME MARKER GROUP

TO ALL OTHER MKRS

TO OTHER (OSA) RELAYS IN M.R

TO CORRESPONDING (R-) RELAYS IN OTHER MARKERS

TO OTHER (R-) RELAYS IN SAME (GS-) GROUP

NO. GROUP CONNECTOR

DRAWING ISSUE

41D		
43B		
49D		
51D		
54D		
56D	MD	

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

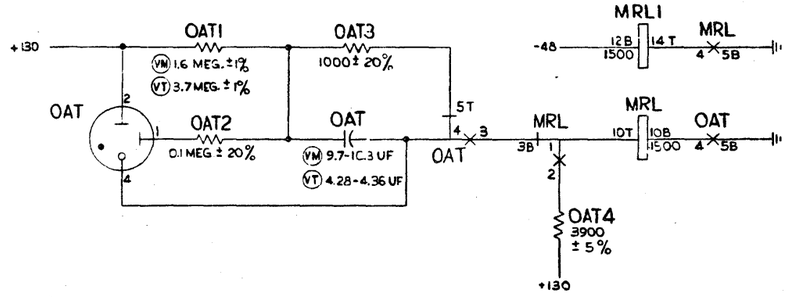
SD-25550-01-BIII

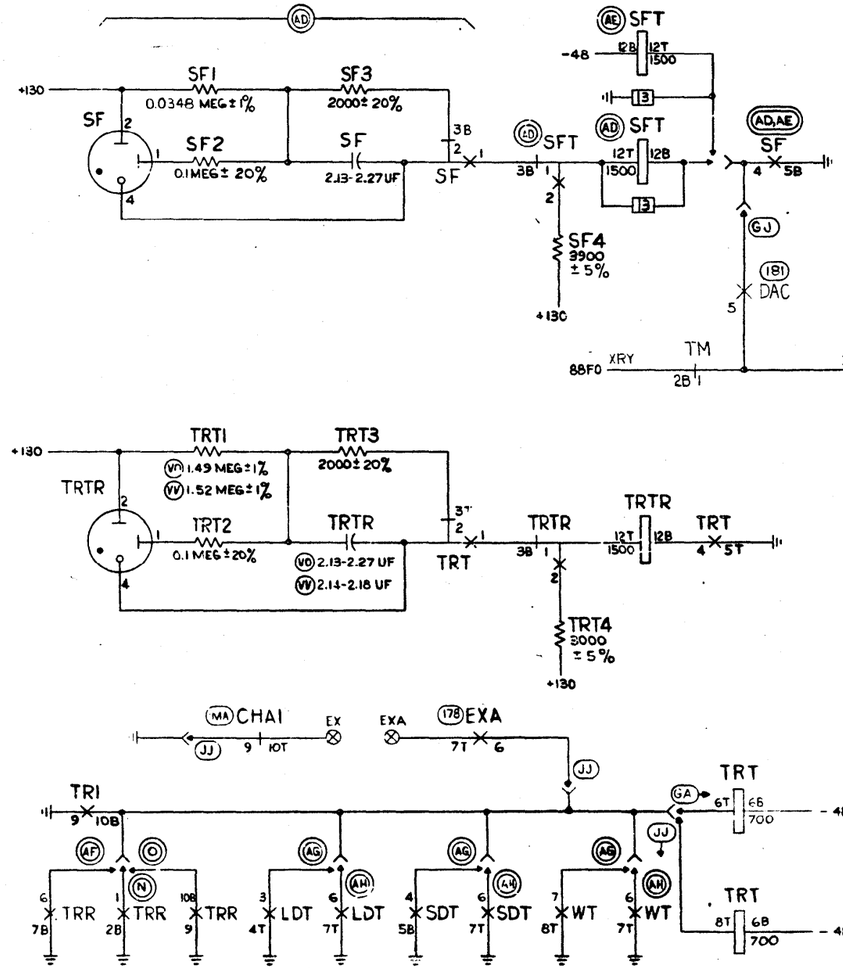
56

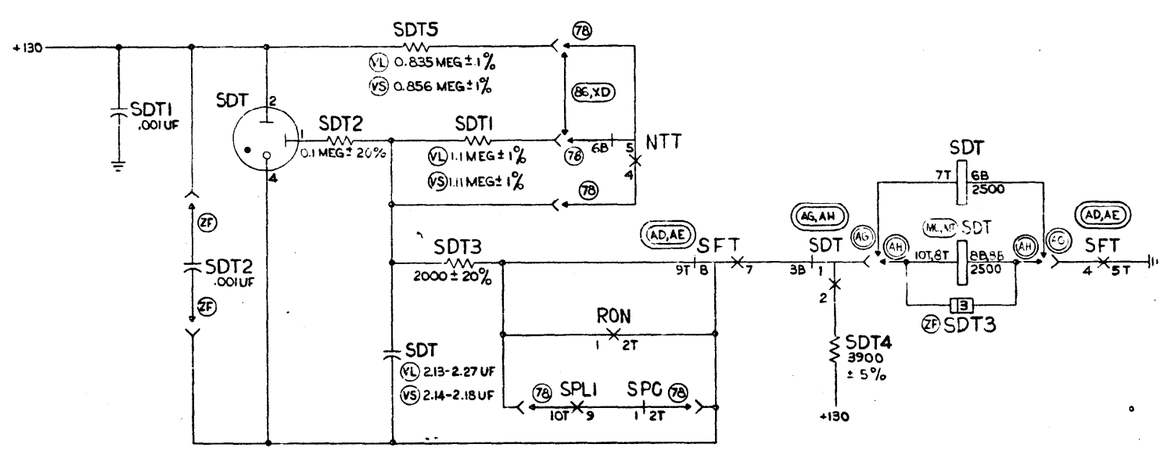
SD-25550-01-BIII

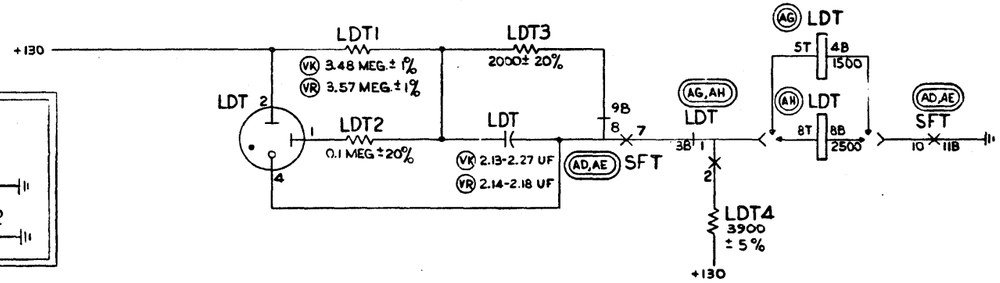
PART OF FS 97

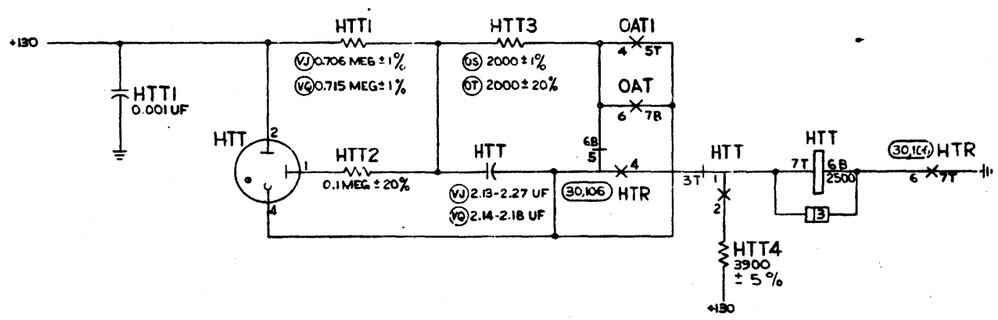
TIMING CIRCUITS
COMBINED, COMPLETING & DIAL TONE MARKERS











DRAWING ISSUE

41D	1 AUG 67 WP 3
49D	EM 4WK AHC
51D	MB 1173 AHC

SD-25550-01-8112

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

65

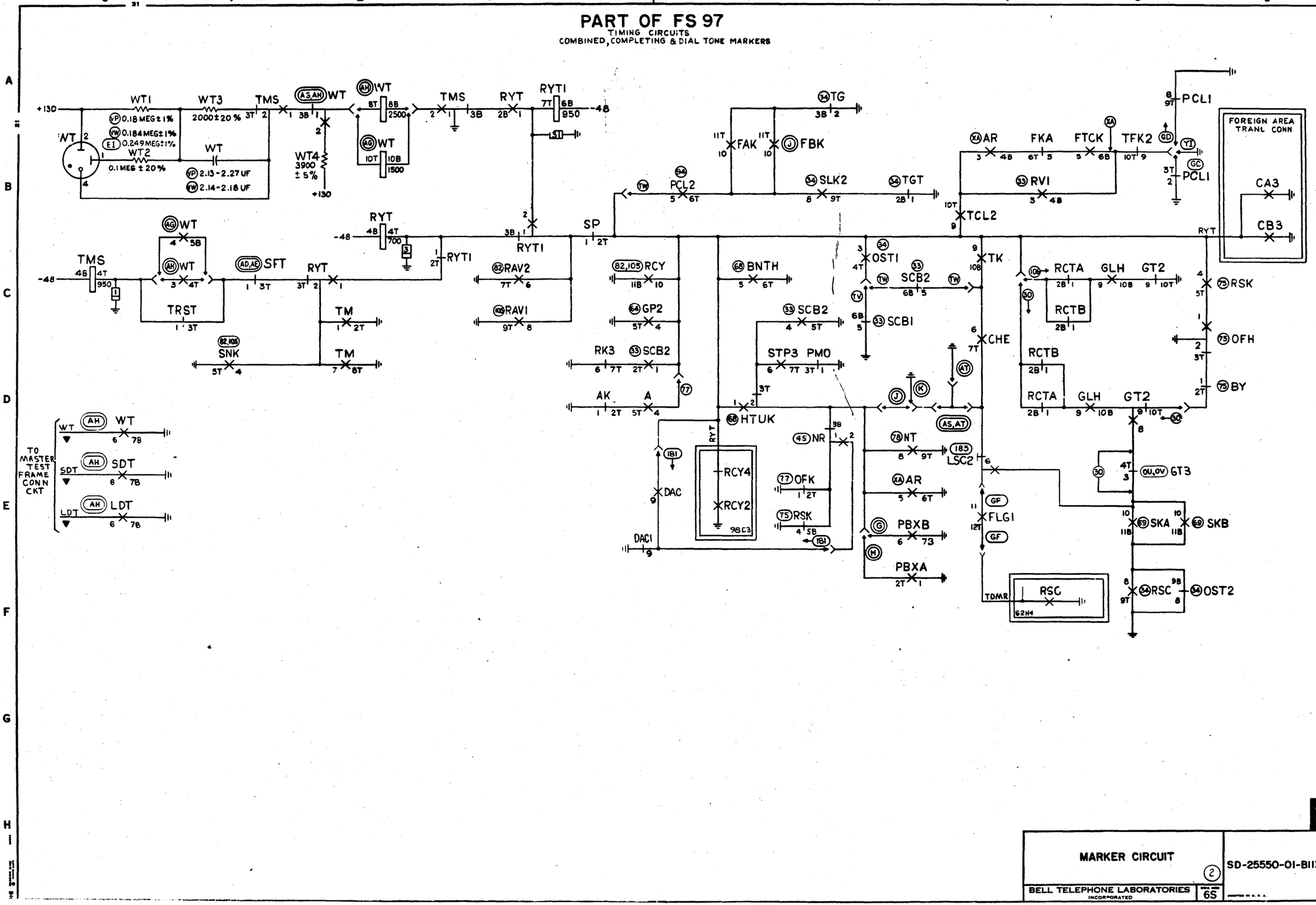
SD-25550-01-8112

51

PART OF FS 97

TIMING CIRCUITS
COMBINED, COMPLETING & DIAL TONE MARKERS

DRAWING ISSUE	
41D	4-F 7-F
43B	DIT M.S.
47D	MMR LDV AMP
51D	ECG MOS PMO
54D	CF REL MHF
56D	MD

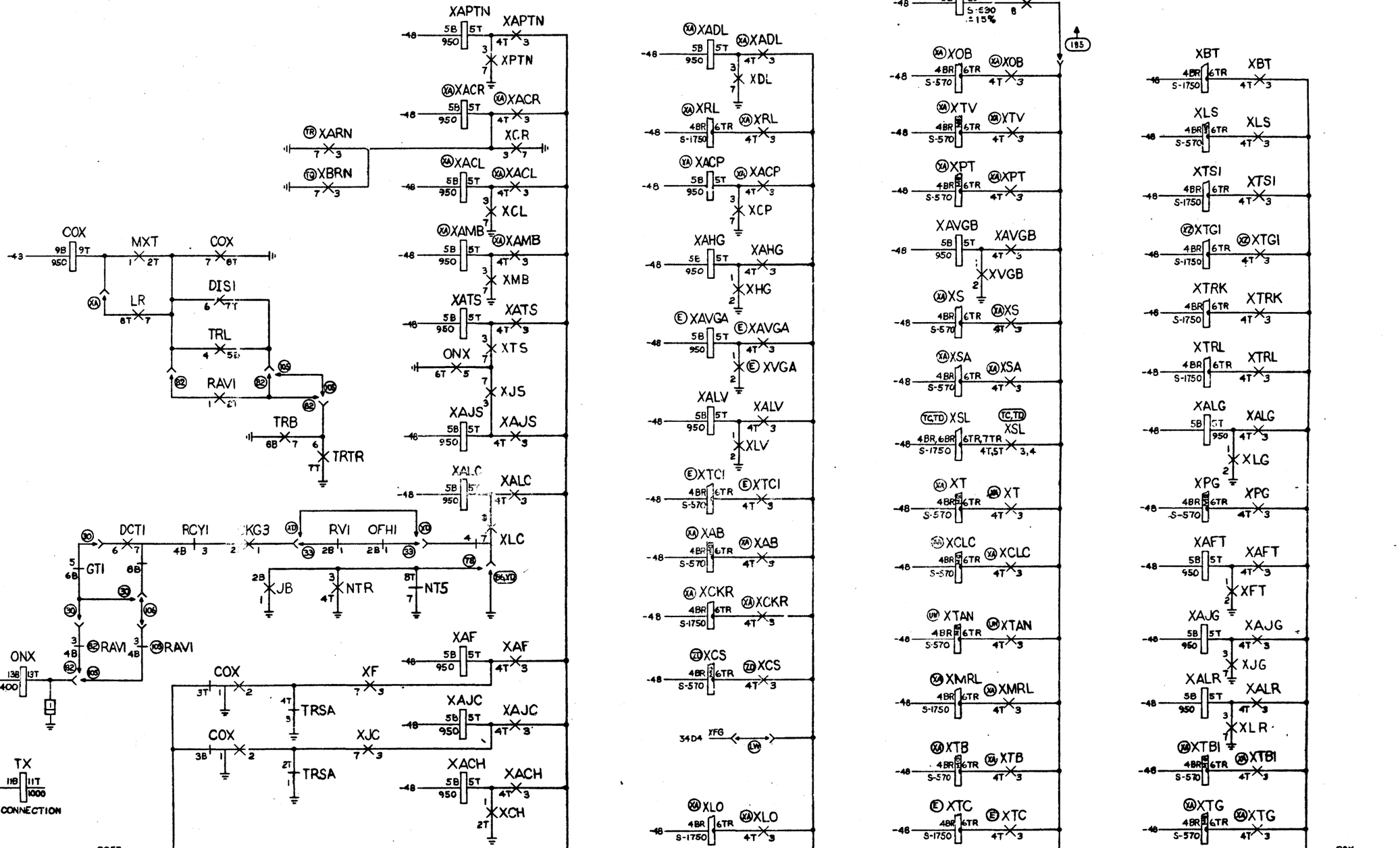


SD-25550-01-8113

MARKER CIRCUIT (2)		SD-25550-01-8113
BELL TELEPHONE LABORATORIES INCORPORATED	6S	56

PART OF FS 98

CROSS DETECTION RELAY CIRCUITS
COMBINED, COMPLETING, AND DIAL TONE MARKERS



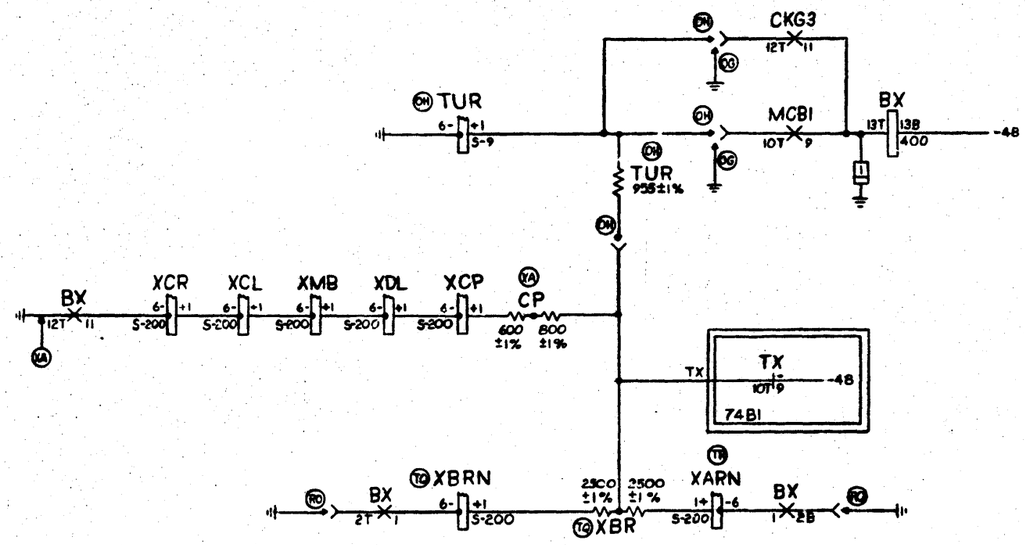
MARKER CIRCUIT	2	SD-25550-01-8114
BELL TELEPHONE LABORATORIES INCORPORATED		65

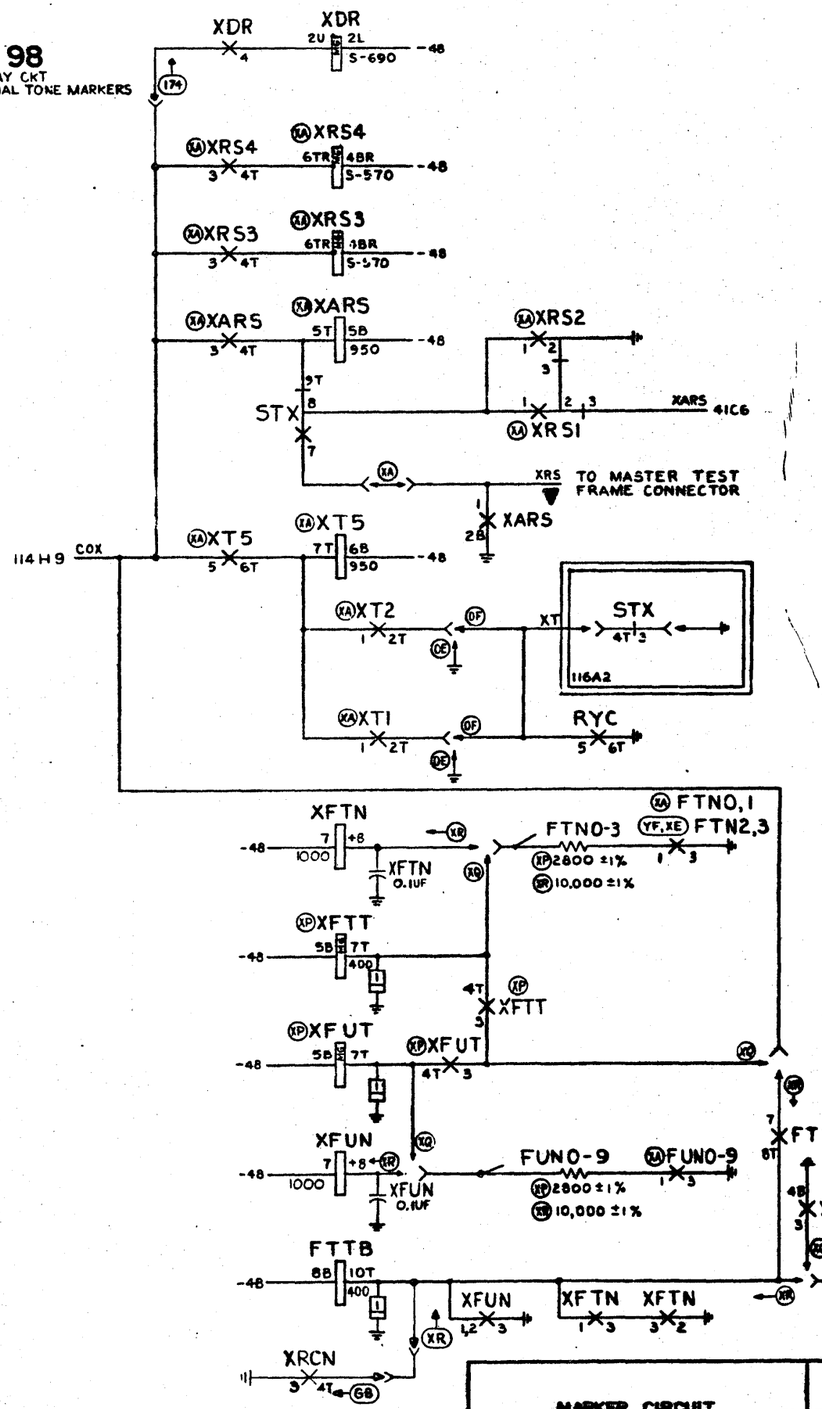
54

SD-25550-01-8114

PART OF FS 98

CROSS DETECTION RELAY CKT
COMBINED, COMPLETING, AND DIAL TONE MARKERS





MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

SD-23350-01-8115

51

SD-23350-01-8115

FS 99

CROSS DETECTION CONTACT FUNCTIONS
COMBINED, COMPLETING, AND DIAL TONE MARKERS

PBX ALLOTTER
XAHG
MXT
SQA
SQAI
ST,QS
MXT
-48
108
110T
400
OE
STX
OF
FTCK
XT
115F7
STX
FTTB
XR
XQ
XFTT
XFUT
XRCT
XAB
XACH
XACL
XACP
XACR
XADL
XAF
XAFT
XAHG
XAJC
XAJG
XAJS
XALC
XALG
XALR
XALV
XAMB
XAPTN
XARS
XATS
XAVGA
XAVGB
XBT
XCKR
XCLC
XCS
XFG
XLO
XLS
XMRL
XN
XOB
XPG
XPT
XRL
XRS3
XRS4
XS
XSA
XSS
XT
XT5
XTAN
XTB
XTBI
XTC
XTCI
XTG
XTGI
XTRK
XTRL
XTSI
XTV
XDR
XSL
XLF
MDK
LFK
MAK
MCK
DISA
DTI
MTI
STX
8B
110T
11
XAB
XACH
XACL
XDR
XACP
XACR
XADL
XAF
XAFT
XAHG
XAJC
XAJS
XALG
XALV
XAMB
XAPTN
XALR
XATS
XAJG
XALC
XLF
TO MASTER TEST FRAME CONNECTOR
LHT
XLH
XAVGA
XAVGB
XBT
XCKR
XCLC
XTAN
XCS
XFG
XLO
XLS
XMRL
XN
XOB
XPG
XPT
XFTT
XRL
XRCT
TO MASTER TEST FRAME CONNECTOR
XRCN
XRS3
XRS4
XS
XSA
XSL
XSS
XT
XT5
XTB
XTBI
XTC
XTCI
XTG
XTGI
XTRK
XTRL
XTSI
XTV
TO MASTER TEST FRAME CONNECTOR

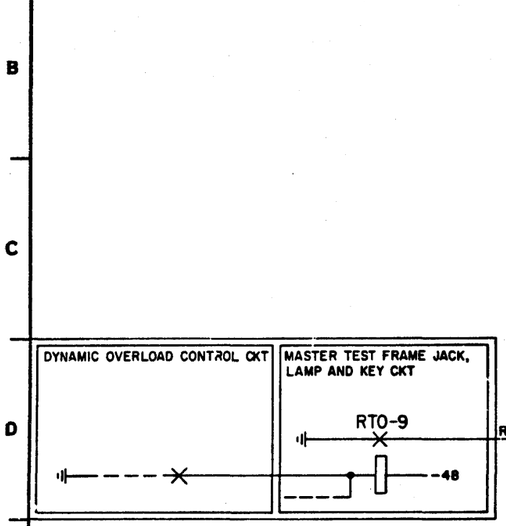
DRAWING ISSUE
41D
49D
51D
54D

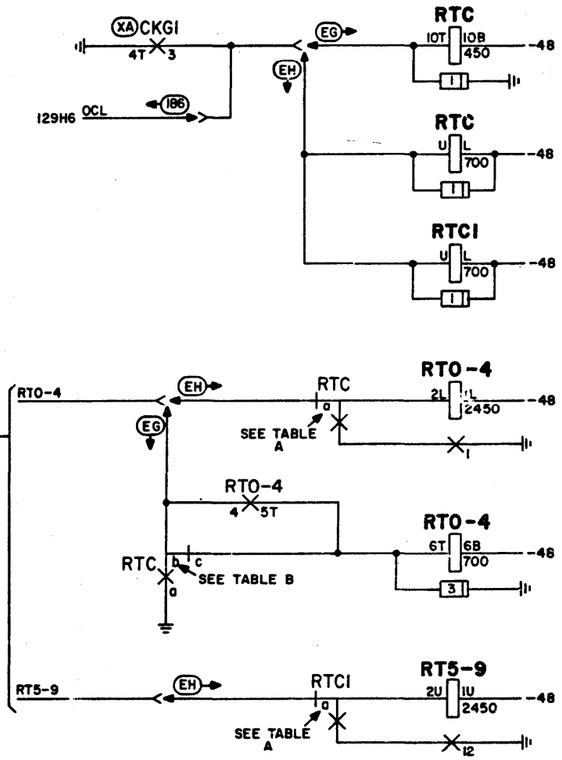
MARKER CIRCUIT (2)
SD-25550-01-B116
BELL TELEPHONE LABORATORIES INCORPORATED
6S
54

SD-25550-01-B116

FS 100

ROUTE TRANSFER
COMBINED AND
COMPLETING MARKERS





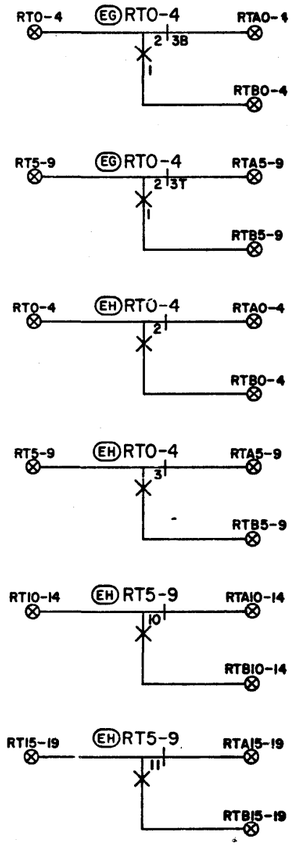


TABLE A (EH)

LEAD	CONTACT a
RT0	1
RT1	3
RT2	5
RT3	7
RT4	9
RT5	1
RT6	3
RT7	5
RT8	7
RT9	9

TABLE B (EG)

LEAD	CONTACT		
	a	b	c
RT0	4	5	6B
RT1	7	8	9B
RT2	1	2	3T
RT3	4	5	6T
RT4	7	8	9T

DRAWING ISSUE 56D

CB

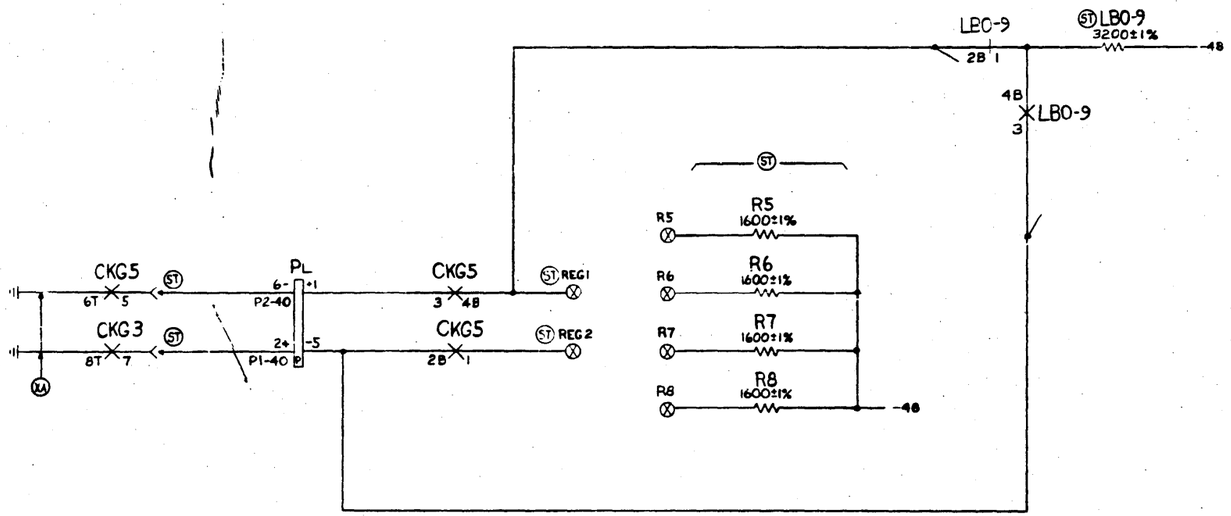
SD-25550-01-B117

56

MARKER CIRCUIT (2) SD-25550-01-B117

BELL TELEPHONE LABORATORIES INCORPORATED 6S

FS 101
PERCENT LOAD INDICATOR
COMBINED AND COMPLETING MARKERS



DRAWING ISSUE
41D
43B

SD-25550-01-B118

NO. 5 MARKER CIRCUIT	SD-25550-01-B118
BELL TELEPHONE LABORATORIES INCORPORATED	6S

PART OF FS 102

SERVICE OBSERVING
COMBINED & COMPLETING MARKERS

CTOB
CMCI
CTOB
CMF3
TOB
NOB
NTO
TOBS
TOB
QBSZ
TOBS
NH
SPLIT
MCB
NO TEST TRK CKT
FA-
FA-
FA-
NOB
OBS
CK
TRUNK LINK AND CONN
SERVICE OBSERVING TRK SEL & CONTROL CKT
SERVICE OBSERVING REG & MF PULSING CKT

HFA

TO MASTER TEST FR CONN

SOB
OR
FAC
SNO
SOB
FAC
MTII
SERVICE OBSERVING TRK SEL & CONT
FAD-
HFA-
CAMA-

FAD
TOBI
TOBS
MTII
SOGI
RV2
TBK
RV2
RVI
RNT3
TOBZ
RVC
TOBS
CMF3
RNT3
MTII
CHA
CAM
RGT
CAMA

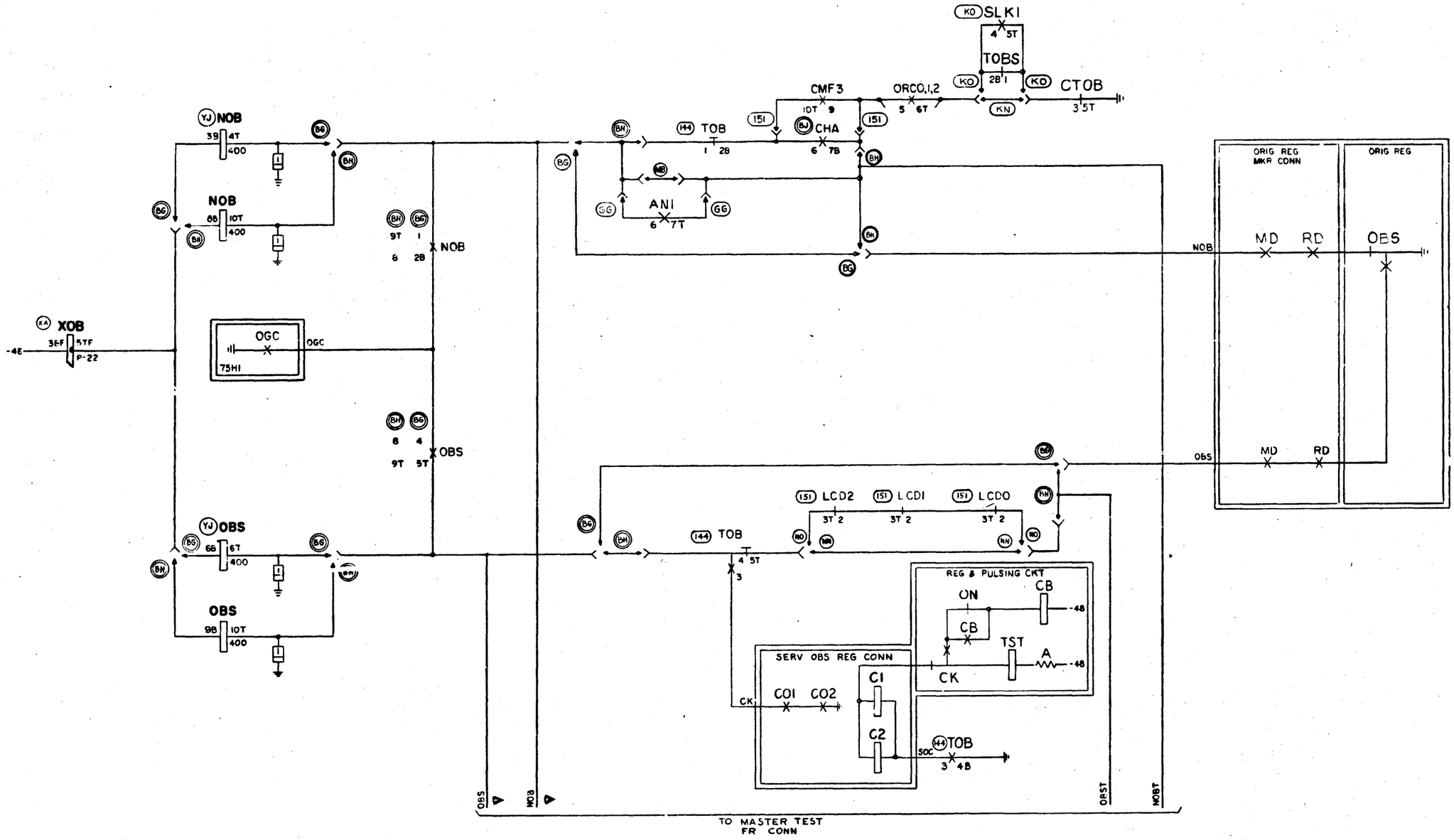
45

NO.5 MARKER CIRCUIT	SD-25550-01-B119
BELL TELEPHONE LABORATORIES INCORPORATED	6S

SD-25550-01-B119

PART OF FS 102

SERVICE OBSERVING
COMBINED AND COMPLETING MARKERS

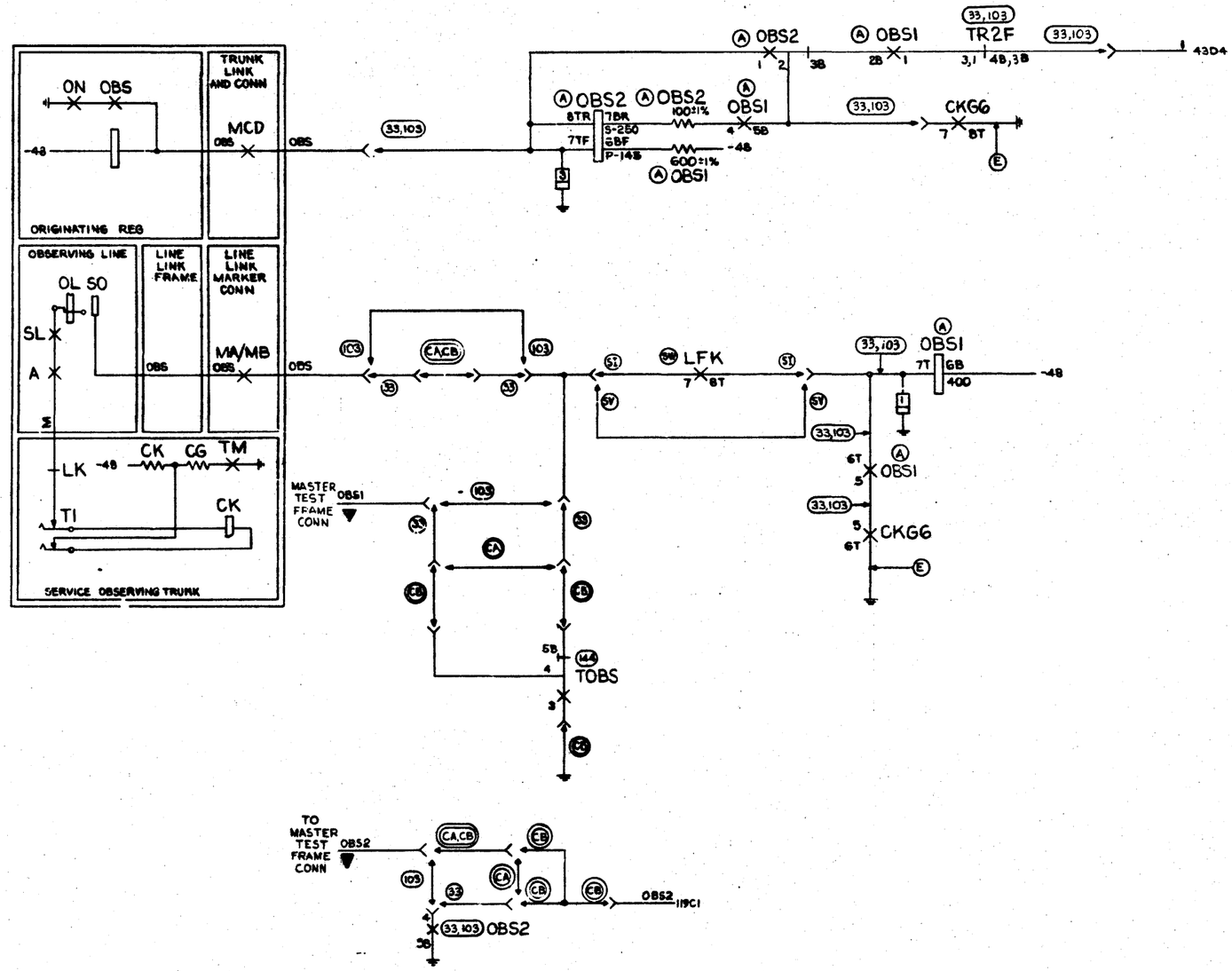


MARKER CIRCUIT	51
BELL TELEPHONE LABORATORIES INCORPORATED	SD-25550-01-B120

SD-25550-01-B120

FS 103

SERVICE OBSERVING
COMBINED, COMPLETING, AND DIAL
TONE MARKERS



NO. 5
MARKER CIRCUIT

SD-25550-01-B121

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

SD-25550-01-B121

NO TEST TRUNK

TRUNK LINK FRAME CONNECTOR

MCB

NO TEST CONNECTOR

LINE LINK FRAME AND CONNECTOR

HG5-9

HGO-4

MCA

TRUNK LINK FRAME AND CONNECTOR

TRUNK

MCB

MCA

LRO-4

50FO

46F2

50F1

LLO-9

NTLH

LINE INS. TEST CONTROL

CO

VFT- MTII FTKI

NT5

NTT

HMTI TER3 FLG LBT

ITR3

LBT

FS 104

NO TEST CONTROL
COMBINED AND COMPLETING MARKERS

MASTER TEST CONTROL

S- S-

MPT MPT

CILA KEY

LFI

NTT

KNT

+130

TO OTHER SPL MKRS

TO OTHER SPL MKRS

TO MASTER TEST FRAME CONN.

MASTER TEST FRAME CONN.

TO MASTER TEST FRAME COMM

INCOMING REG. MARKER COMM.

1666

49C2

49FB

LLO

LLC1

M8-9 M6-7 M4-5 M2-3 MOH

LF9 LF8 LF7 LF6 LF5 LF4 LF3 LF2 LF1 LFO LF

NT3 NT1 MT17 MT16

PT9 PT8 PT7 PT6 PT5 PT4 PT3 PT2 PT1 PTC

P-29±10% S-950±2% P-0.45 ±15% S-125 ±5% 2RT

PTL 5600 ±5%

PTO-9 5600 ±5%

MN 51,000 ±5%

NT4 NT2 NT2 NT2 NT1 120 ±5%

NTT 92H5

NT2 3465 40±5%

P-200 ±30 ±3%

CROSSBAR SYSTEMS
NO.5
MARKER CIRCUIT
(2)

SD-25550-01-8122

BELL TELEPHONE LABORATORIES INCORPORATED

49

SD-25550-01-8122

DRAWING ISSUE
41D
43B
47D
49D

FS105
MARKER TEST RELAYS
COMBINED, COMPLETING, AND DIAL TONE MARKERS

AUTOMATIC MONITOR REGISTER AND SENDER TEST CIRCUIT

MASTER TEST FRAME CONNECTOR

INCOMING REG TEST CKT

ST2

TO OTHER MARKERS

MT13

(XA) MON 9 X 10T (RC)

MT MT13 138 13T 400 -48

(TN) MT13 1

MT 11 X 12B

(99) IMT 6 X 7B

(YA) MON (AI) 13T 13B 400 -48 1

12T X MT13 11

(P) TRSA 5 X 6T

MT18 (Q) 78 8T 700 -48

MT18 68 X 5

MT1 138 13T 400 -48

MT 3 X 4B

MT14 108 11T 700 -48

(TN) MT14 3

MT 7 X 8B

(JY) MT27 11T 108 700 -48

(E) MT15 108 11T 700 -48

MT14 9 X 10T

(E) DT1 9 X 10B

MT21 9B 9T 700 -48 (177) 7

(YA) MON 3 X 45

MON

MONL

TO OTHER MARKERS

(AT) (YA) CKGI 11 X 12B (AI) (AL)

(XA) MON 8B X 7

ORT 13T 12B 700 -48

12T X ORT 11

IRT 13T 12B 700 -48

12T X IRT 11

ORT 2 1 3T 2 1 IRT 3T

69A2

MTR RPE2 DOR2

PEA DOR IR IR2 STT STM

ORIG REG M

ORIG REG MKR CONN RD MD

INCOMING REG M

INCOMING REG MARKER CONN RD MD

INC REG TEST CKT RON

OUT. SDR CONN SA MA

MM STM SRS KEY SG

MSRI OR OS CMS MP

OR CMS MP

ORIG REG M -48

TRUNK LINK AND CONNECTOR MCD

SENDER M

OUTGOING SENDER CONNECTOR SA MA

-48

(AT) (YA) 10B 9 MON (AI)

SON SONI OSM

-OSI

TO OTHER MARKERS

M TO MASTER TEST FRAME CONNECTOR

MASTER TEST FRAME JACK, LAMP, AND KEY CKT

SC SCSP LLF NGC TLC -48

OUTGOING SENDER CONNECTOR

MA MA

C (RZ) LP 2T 1

SLP (RZ) LP 41 3

LINE LINK AND CONN MCB

LLF LP 2B 1

NUMBER GRP & CONN OR DIRECT ACCESS PRETRANSLATOR CONN CKT MCC

NGF (RZ) LP 6T 5 (RZ)

TRK LINK AND CONN MCD

TLF LP 4B 5

TO OTHER MARKERS IN THE SAME MARKER GROUP

TO OTHER COMB. OR COMPL MARKERS IN THE SAME MARKER GROUP

(184) MT41 L U 700 -48 (FE) MT1 11 X 12B (FE) TO OTHER MARKERS MT41

(135) MT22 L U 700 -48 MT11 11 X 12B (FG) MT22

MT23 2L 1L 640 -48 MT29 12 (186) MT23

MT 138 13T 700 -48 3 MT

(YA) MT12 11B 11T 700 -48 MT12

MT2 138 13T 700 -48 MT 1 X 2T MT2

LP 7B 7T 2500 -48 LP

MT3 10B 10T 1500 -48 (KT) MT3 TO TRUNK TEST REG CKT MT 3 X 4T (TT) MT3

MT4 10B 10T 1500 -48 22

MT3A 10B 10T 1500 -48

MT4A 10B 10T 1500 -48

MT9 11B 11T 1500 -48 (TN) 3 MT9 TO TRUNK TEST REG CKT (KT) MT 7 X 8T (TT) MT9

TO OTHER MARKERS

FOR TESTING IMMEDIATE RING TSII RMBK SW

NTLS L KEY NG2K L KEY

MASTER TEST CONTROL CKT

MASTER TEST FRAME CONNECTOR MKT TS

TO (MKT) RELAY FOR OTHER MARKERS

TO

MKT1

ITNP MARKER TEST AND INCOMING TRUNK TEST CALLS

KOS WHEN A PARTICULAR SENDER IS TO BE SELECTED

LP KEY LP KEY LP KEY TO OTHER MARKERS

KFS WHEN A PARTICULAR TRUNK LINK FRAME IS TO BE SELECTED

REMOTE OFFICE TEST LINE CKT TS

REMOTE OFFICE TEST CONTROL CKT

AUTO. PROG TRK TEST CKT XTSO XTSO

TS

WHEN A PARTICULAR TRUNK LINK FRAME IS TO BE SELECTED WITHOUT FIRST TESTING FOR IDLE TRK ON THE FRAME

KMT9

LLF LP LLF +130

NGF LP NGF +130

ISSUE	
41D	OSS, 3S3, MF, M.S.
43B	MF, M.S.
47D	ELS, BMP
490	LF, MF, MP
51D	CR, MF, RMF
54D	R.S. ICC, 1MD
56D	MD

MARKER CIRCUIT (2)

SD-25550-01-B123

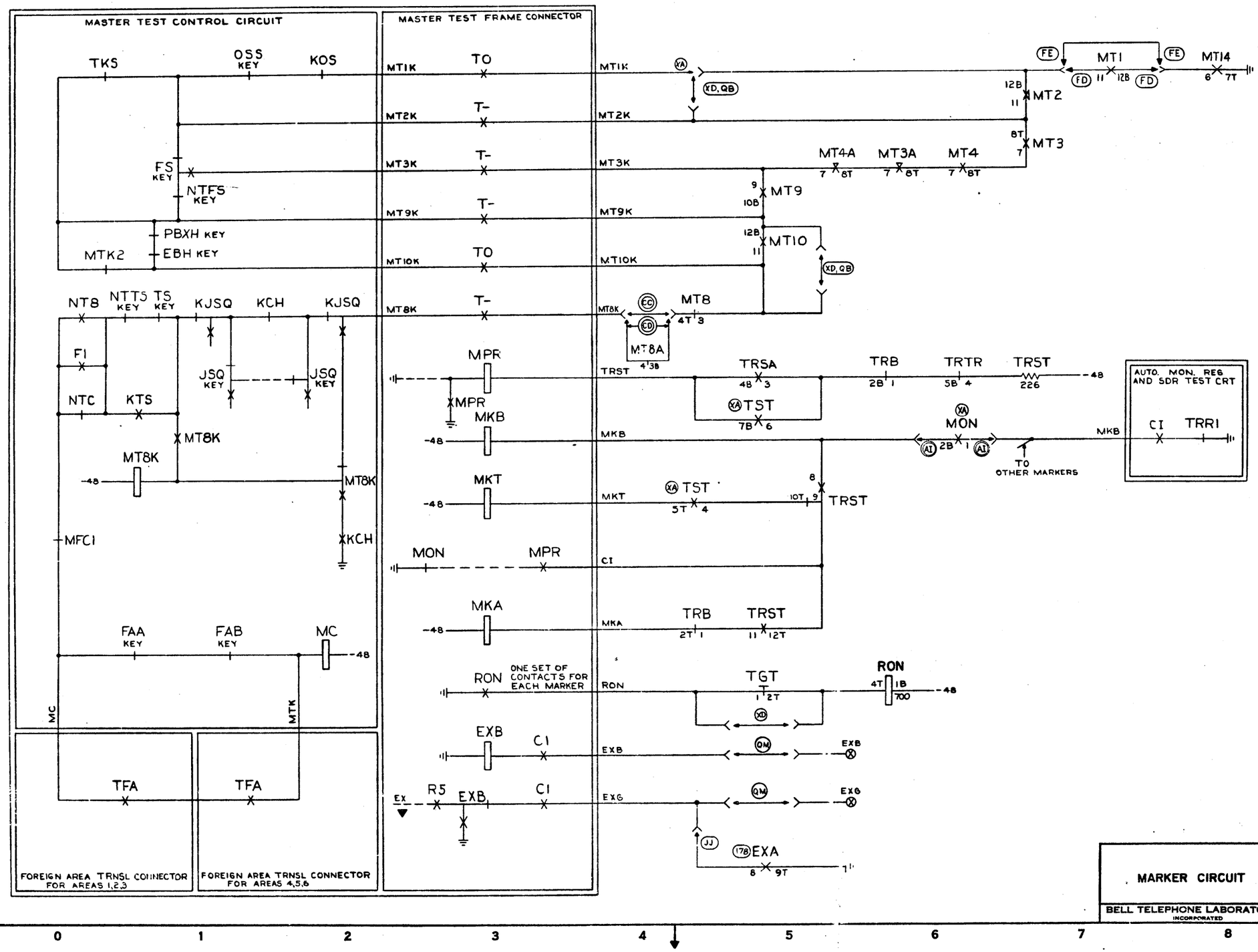
BELL TELEPHONE LABORATORIES INCORPORATED 6S

56

SD-25550-01-B123

FS 106

MASTER TEST CONTROL OPERATION
COMBINED, COMPLETING AND DIAL TONE MARKERS



MARKER CIRCUIT (2) SD-25550-01-B124

BELL TELEPHONE LABORATORIES INCORPORATED 6S

51

SD-25550-01-B124

FS 107

MARKER CONTROL OF AUTOMATIC MONITOR
COMBINED, COMPLETING, AND DIAL TONE MARKERS

AUTOMATIC MONITOR REGISTER AND SENDER TEST CKT

MASTER TEST FRAME CONN CKT

MTRI TMI NRR RCTI BI MCI MCJ RPSI DORI DIRI MIRI RIRI CBRI IR OR

MONI SCT RTST ORS MTR

AK RTST 1 2B AI

XA MON 7 8T

XA MONI 10T 10B 700 3I

AM SCT 7T 5B 400 1I -48

AM CKG2 11T 10 AM SCT 5 6T

TRSA -48 7B 9T 1.5K TRST 11 12B

RB -48 RC

TO OTHER MARKERS

INCOMING REGISTER TEST CKT

ML -48

RTST RC ST2

MASTER TEST FRAME JACK, LAMP, AND KEY CKT

DLB -48

DL -48

PSR

TRMB

MASTER TEST FRAME CONNECTOR CKT

TRBI MKA MKT RMI RM

JX RD 10T 9 E DT3 5T 4 JP JP GU GU

174 D 20 52 R- 10B 9 SEE NOTE 1

FR STD GU,FS JX RD 10T 9 GU,FS 174 D 20 52 R- 10B 9 SEE NOTE 1

STM STRO-3 174 FCRO-3 12 STMF FT RMF 10T 9 FS FS 174 MF 20 52 R- 10B 9 SEE NOTE 1

RY FR 9 10B HMSI E RYFR

MB -48 MP- -48 MP MB- ST

OS OSS 185 LSC2 8T TY OSM OSMO-9 SS OSA0-9 1 2T TY

YH TX TX SON 2B 1 TX 99 IMG 4T 3

MTR -48 TLGI SONI RA XA MONI 8 9T AI RA 64 GP2 3 48 82 RAV2 2T 1 82 FM 8T 7

XA MONI 3 4T AI MTR 10SH2 12BD5 RA XA TST 6 7T XA TRLI 4T 3

TO OTHER MARKERS

ZN,XU TRI 5 6B ZO XA TRLI 5T 4 AI AK RTST 10T 9 RCCK 1 2 3T

XA MON 4T 3 AI

AF TRR 2B 1 O TRR 6B 5 N TRR 10B 9

TRB 9 10T DL 3T 3B 2.5K 2T 1 DL 2B 1 DL 48

AK RTST 11T 10B 700 48

RCCK 18 4T 700 -48 RCCK

TO MASTER TEST FRAME CONNECTOR CKT

XA TRST 5B 4 PSR 4 5T PS 6 9B BQBP PSR

PSR -48 6B 6T 500 PSR 4 5B

TRTR 1 2T TRSA 6B 5

187 NCRA 11 TRST 8 9B

TRB 12T

TRB 13B 13T 700 -48 AI XA MONI T 2B AI AJ

FP TRBI 13B 13T 700 -48 1I

XA TRLI 6 7T

N TRR 10 11T AF TRR 12B 11 TRI 12B

O TRR 11 12B TRB

TRA 4 5B

O TRR 7 8T

N TRR 5 6T

TRST 13B 13T 1.5K -48 AJ AF TRR 13T 12

AI 7B 5 6 XA MONI 108D4 AI 7 TRI 8T

SHEET NOTES:

1. PROVIDE WIRING ONLY TO ROUTE RELAYS ASSIGNED TO ORIGINATING REGISTERS THAT CAN BE MONITORED.

55

MARKER CIRCUIT (2) SD-25550-01-B125

BELL TELEPHONE LABORATORIES INCORPORATED 6S

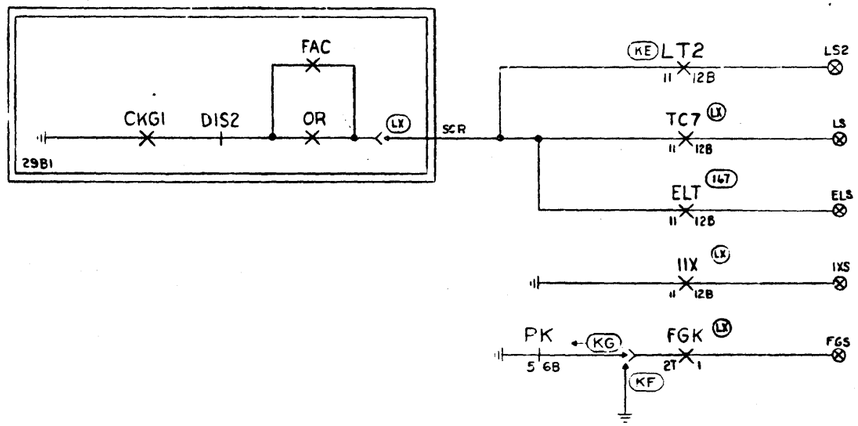
DRAWING ISSUE
54D LP Rel Ant
55A NP

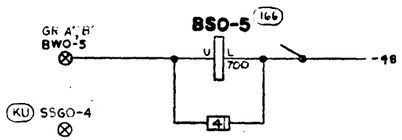
SD-25550-01-B125

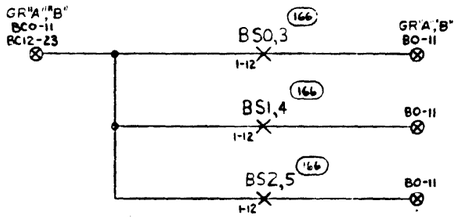
HIGGINS 4465

FS 108

ACCESS CODE SCREENING
COMBINED AND COMPLETING MARKER







AGOO-35

DRAWING ISSUE

45B	CLMK REC	WJG
46D	PVS CLMK AP7	
47D	JME CLK AWD	CF
50A	LF CLMK AWD	

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

50

SD-25550-01-8126

FS 65

TRANSMITTING CL-INFORMATION TO OUTGOING SENDER COMBINED AND COMPLETING MARKERS

KE
KS

ISSUE	
46D	RSL
47D	DS CLK AND
56D	MD

TO MASTER TEST FRAME CONNECTOR

CLI CL2 CL3 CL4 CL5 CL6 CL7 CL8

CLI-8

OUTGOING SENDER CONNECTOR — MA SA

OUTGOING SENDER — CLO 1,2,4,7 — 48 — ON1

CRK3 CLK3 CLK2 CLKI — -48 — 1B 3T 950 — 3 YO,KE — TGSI

AVK2 — BA BB 171 — 1 2T; 3 4T; 5 6T; 7 8T; 1 2B; 3 4B; 3 4B; 1 2B; 3 4B

CLI 1500±5% — CRP 3T 2 1

CL2 1500±5% — CLP 3T 2 1

CL3 1500±5% — CLI 3T 2 1 — CLO 3T 2 1

CL4 1500±5% — CL3 3B 2 1 — CLI 3B 2 1

CL5 1500±5% — CL4 3B 2 1 — CL6 3B 2 1

CL6 1500±5% — CL5 3B 2 1

CL7 1500±5% — CL6 3T 2 1 — CL8 6T 5 4 — CL7 6T 5 4

CL8 1500±5% — 167 CL8 — 167 CL7

CMF2 1 2 3B

PCN2 4T 48 950 — PCCL 3 4B — PCN2 84A2

PCN3 4T 48 950 — PCCL 5 6B

PCN5 4T 48 950 — PCCL 3 4T — PCN5 84C1

PCLI 94 — 3B 2 1 — 6B 5 4 — 9B 8 7

MTI2 1 2 3B

ANIS 164 10 28 1 — 3 4B

ANTD 188

CLP KE 4 5 6T

CL6 163 3T 2 1

CL7 168 6T 5 4

CL8 168 6T 5 4

CL7 168 3B 2 1

CL8 167 6B 5 4

CL5 168 3B 2 1

CMF2 151 1 2 3B

PCLI 94 6B 5 4

PCN2 4T 48 950 — 48

PCCL 3 4B — 154 — PCN2

PCCL 3 4T — 154 — PCN5

PCN3 4T 48 950 — 48

PCCL 5 6B — 154 — PCN3

PCN5 4T 48 950 — 48

CLKI 1B 3T 950 — 3 — 1 2T — TGSI

56

MARKER CIRCUIT (2) SD-25550-01-B127

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-B127

STABILO

FS 109

TRAFFIC SAMPLE CONTROL

XT2 -48 5DG 183 78FO

SPC 1.5K ±5% SA 183 SPC MC- SC- OUTGOING SENDER CONNECTOR CKT SENDER CKT SPC -48 ONI

NSP 1.5K ±5% NSP MC- SC- NSP -48 ONI

MBK6 L U 950 4 -48 183 119 TGS3 3 48 FB 183 SA 2 FB

SA 1

KY 169 HTG SC- S- S- HTR QA 30 169 NIOD 4 3 5T KY KY 169 SOG2 J J 4 5B TK 4 5T 169 KY 30,106 HTR 13T 12B 700 3 -48

AI QA,XA SCG AID 169 AIOD 11T 10B 500 4 -48 169 AIOD 7 8T SCB 4 5T KY XA

OATI 4B 3 OAT 3B 2 1

MTR 169 NIOD 4 3 5B QA,XA AI MTR 12563

CNS 37 169 NIOD 7 6 8T 30,106 HTR 2 1 3T OATI 6 7T OATI 8T 7B 400 1 -48

HTR CNS TO MASTER TEST FRAME CONNECTOR CKT 3B 2 HTT

AOS 169 NIOD 1 2T 169 NIOD 11T 11B 220 7 -48

GY NIDA 169 NIOD 18H4 NIOD 10T 9 GY 169 NIDA 7 11T 11B 220 -48

TO OTHER TRAFFIC SAMPLE CIRCUITS ASSOCIATED WITH SAME MARKER

183 TSAO-4 TA TS TRAFFIC SAMPLE CKT

TRSO-4 TS TS 270 T 186 AIS3 T1 183 FA CKG8 6 7T 183 TS R -48

TO OTHER TRAFFIC SAMPLE CIRCUITS ASSOCIATED WITH SAME MARKER

JY MT27 1 2T JK TR2G 11 12T 183 SA 3 4 5 6T 183 SA 4 J DCT2 6 7T FA PEGI 3 4T AVKI 4 5B CT TS SA -48 CTR COUNTER STEP TRANSFER CT R -48

EB AMA6 TO OTHER COMBINED OR COMPLETING MARKERS SAC 8T 7 6 GY NIDA SA RES -48 SR RES TS SA RES RESET -48 TS

MASTER TEST CONTROL CKT SAC -48 SSC -48 KEY SAC SSC SA 183 JY MT27 4T 3 JY MT27 1 2 3B 183 SA 5 JY MT27 6B 5 4 183 SA U L 270 4 -48

TO OTHER TRAFFIC SAMPLE CIRCUITS ASSOCIATED WITH SAME MARKER SL 183

2881

54D K.B Rel Ant 56D MD

CB

56

MARKER CIRCUIT (2) SD-25550-01-B128

BELL TELEPHONE LABORATORIES INCORPORATED 6S

HIGGINS 4465

SD-25550-01-B128

FS 110
SENDER CONTROL FOR LINE CIRCUITS

FS 111
AUTOMATIC INTERCEPT CONTROL

DRAWING ISSUE 54D KEG ACL AND

AIS TO MASTER TEST FRAME CONNECTOR CKT

185 LSC1 L U 270 — 4 — 186 AIS2 10

185 LSC2 L U 270

185 OST4 2U IU 640 — 4 — 34 OST1 5 6B FG

185 OST5 2L IL 640 — 4 — 34 OST2 7 8B FG

185 RSCA 2U IU 640 — 4 — RSC 6 7T FG

185 LLC4 L U 700 — 4 — 186 AIS2 11 — 172 FLGA 9T 8 LLC — FG ONW TNR (10385)

LTI L U 700 — 4 — LTI 12 — LTI — 185 SON (71H5)

3 NSIA

LSC2 7 DCTA 10

TO MASTER TEST FRAME CONNECTOR CKT — FK — 185 FK 2

186 AIS L U 270 — 4 — BN 4 5T — RI 4 5T — 159 DCI 6T 5 4 — 159 VCI 6T 5 4 — FI

186 AISC L U 270 — 4 — 7 186 AISI — AIS — 10 186 TBII — ITB

186 NAI L U 270 — 4 — NAI

185 NSIA 2L IL 640 — 4 — 33 NSI 4 5T FG

186 TBII 2U IU 640 — 4 — TBI 4 5T FI

1A0-5 — 186 OFCO-5 7 — 186 KGS5 7

1B0-5 6 6

1C0-5 5 5

2A0-5 4 4

2B0-5 3 3

2C0-5 2 2

186 AIS1 L U 700 — 4 — 186 AIS 12 — AIS — FI — CKR (14F6)

186 AIS2 L U 700 — 4 — 186 AIS2 12 — CKG4 1 2B

186 AIS3 L U 270 — 4 — 186 AIS2 2

OFC0 L U 270 — 4 — 12 — AISC 12 — APN — OFCO — OC0 — 186 — BN — LC0 — FJ — APN

OFC2 L U 270 — 4 — 12 — AISC 10 — ATN — OFC2 — OC2 — BN — LC2 — FJ — ATN

OFC4 L U 270 — 4 — 12 — AISC 8 — AEN — OFC4 — OC4 — BN — LC4 — FJ — AEN

OFC1 L U 270 — 4 — 12 — AISC 11 — BPN — OFC1 — OC1 — BN — LC1 — FJ — BPN

OFC3 L U 270 — 4 — 12 — AISC 9 — BTN — OFC3 — OC3 — BN — LC3 — FJ — BTN

OFC5 L U 270 — 4 — 12 — AISC 7 — BEN — OFC5 — OC5 — BN — LC5 — FJ — BEN

OC6 — BN — LC6 — FJ — AAN

OC7 — BN — LC7 — FJ — BAN

85B/D7

PNA 12 — TNA 5 — ENA 12 — PTNA 5

UOA — 186 BNTH 68 5 — 186 — TBII 12 — AAN

UOB — 186 BNTH 48 3 — 186 — 4 PTNA — 11 TBII — BAN

11 PNA — 4 TNA — 11 ENA

CKG1 4T 3 — 166 — OCL (117A6)

LINE CKT

F SL F — -48

OF F — MCC

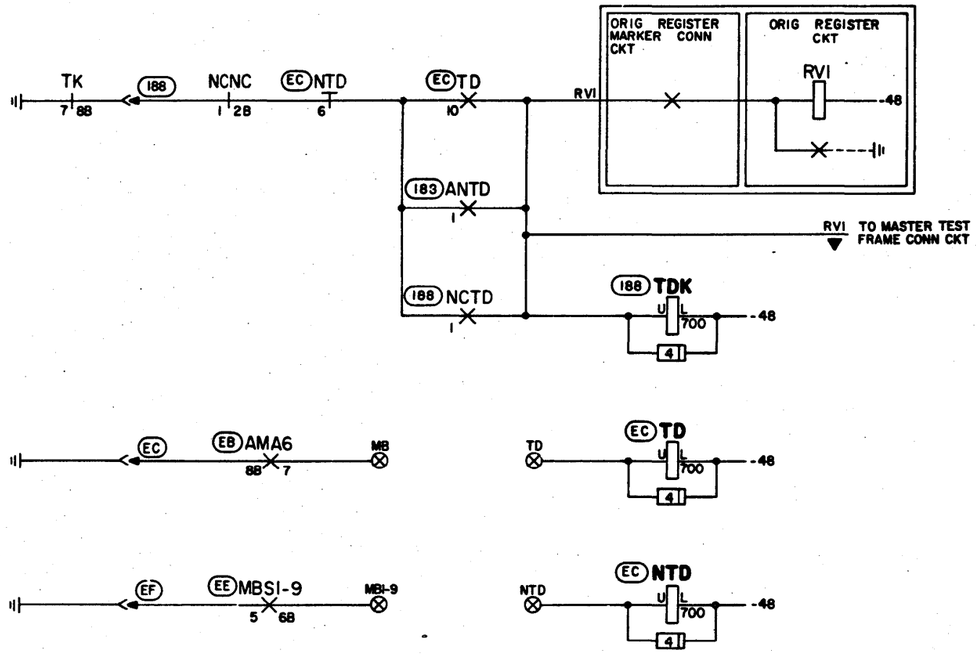
LINE, LINE LINK AND CONNECTOR CKT

HG- VF- MCC — LF — 185 LLC4 12 — DCTA 12

FK — 185 — FK U L 16 — 7 — XLF IU IL P-2.7 ±15% .01 — LF R — -48

SD-25550-01-8129

FS 112
PBX TOLL DIVERSION



DRAWING ISSUE 56D MD

CB

56

MARKER CIRCUIT	SD-25550-01-B130
BELL TELEPHONE LABORATORIES INCORPORATED	SHEET 6S

SD-25550-01-B130

APP FIG. I

RELAY
(1) U1349
(2) UB21

	CB1 (XA)	CB2 (YA,XB)	VGL1 (ZJ)	VGL2 (YA,ZN)
8 ↑7	8F6	8E6	8F3	8F3
10 ↑5	8F6	8F6	8G3	8F3
4 ↑3	8E6	8G6	8E3	8G3
2 ↑1	110A6	110D3	8D3	8H3
	9A0	980	9C0	9D0
2 ↓1	886	865	883	8C3
4 ↓3	5C6	8C6	8C3	8D3
6 ↓5	886	8D6	883	8E3
6 ↓7	8D6	866		

RELAY
U1394

	GK (E)	VTK1
6 ↑5	9GN	109DN
4 ↑3	10H2	9D5
2 ↑1	11G2	8H7
	9GN	983
2 ↓1	8A1	9D6
4 ↓3	9E2	3A5

RELAY
U500

(E) TR2D

8 ↑7	9G1
5 ↑4	8H2
2 ↑3	8H2
↑1	980
2 ↓1	8H1
5 ↓4 ↓6	8H1

RELAY
U1381

	VGG1 (E)	VGG2 (YA,Z)
12 ↑11	9G3	9G3
10 ↑9		
8 ↑7	8FN	8EN
6 ↑5	8GN	8FN
4 ↑3	8EN	8GN
1 ↓2	98N	98N
	9E0	9E0
2 ↓1	8EN	8CN
4 ↓3	8CN	8DN
6 ↓5	8B4	8DN
8 ↓7	8DN	8HN
10 ↓9		
12 ↓11		

RELAY
U1371

(E) VGR

4 ↑3	8H3
2 ↑1	8A0
1 ↓2	109D5
4 ↓3	9F2

RELAY
U1405

	VGT0	VGT1	VGT2	VGT3	VGT4	VGT5	VGT6 (XC,YA)	VGT7 (XC,YA)	VGT8 (YB)	VGT9 (YB)	VGT10 (YC)	VGT11 (YC)	VGT12 (YD)	VGT13 (YC)
10 ↑10	9D7	9D7	9D7	9D7	9D7	9D7	9D7	9D7	9D7	9D7	9D7	9D7	9D7	9D7
8 ↓9 ↑7	9A9	9A9	9AB	9A8	9A8	9A8	9A7	9A7	9A7	9A7	9A6	9A6	9A5	9A5
6 ↑5	8B4	8C4	8B4	8D4	8E4	8G4	8F4	8B4	8 DN	8D4	8H4	8G4	8F4	8E4
4 ↑3	886	8C6	8B6	8D6	8E6	8G6	8F6	8C6	8D6	8E6	8H6	8G6	8F6	8E6
10 ↓2	9A9	9B9	9B8	9B8	9B8	9B8	9B7	9B7	9B7	9B7	9B6	9B6	9B5	9B5
2 ↓1 ↑3	8B0	8C0	8B0	8D0	8E0	8F0	8E0	8B0	8C0	8D0	8G0	8G0	8F0	8E0
	8B1	8C1	8B1	8D1	8E1	8G1	8F1	8C1	8D1	8E1	8C1	8C1	8F1	8E1
5 ↓4	13E6	13B6	13C6	13C6	13D6	13D5	13D6	13E5	13E5	13E6	13E5	13E5	13E5	13E6
7 ↓6	13D5	13B5	13B5	13B5	13B5	13B5	13C5	13B6	13B5	13C5	13B6	13B6	13C5	13E5
9 ↓8	9D6	9D6	9D6	9D6	9D6	9D6	9D6	9D6	9D6	9D6	9D6	9D6	9D6	9D6
11 ↓10	3E5	3E5	3E5	3E5	3E5	3E5	3D5	3D5	3D5	3C5	3C5	3B5	3B5	3A5

RELAY
U1404

(E) VTK

9 ↑8	3E4
6 ↓7 ↑5	2C6
4 ↑3	8H3
1 ↓2	9F1
	9F3
2 ↓3 ↑1	9E1
5 ↓4	109D5
7 ↓6	9F2
9 ↓8	3F4

NETWORK

DESIG	LOC	CODE
YA CB1	9A0	[1/2]177H *
MM CB2	9B0	[1/2]177H *
(E) GK	9GN	[1/2]177K
(E) TR2D	9B0	[1/2]177C *
(E) VGA	9E6	177E *
(E) VGG	9E0	[1/2]177H *
ZJ VGL1	9C0	[1/2]177H *
(E) VGR	8A0	
VGT0	8B0	
VGT1	8C0	
VGT2	8B0	
VGT3	8D0	
VGT4	8E0	[1/2]177K
YA VGT5	8F0	
XA,XC VGT6	8E0	
VGT7	8B0	
YB VGT8	8C0	
VGT9	8D0	
YC VGT10	8G0	
VGT11	8G0	

NETWORK (CONT)

DESIG	LOC	CODE
YD VGT12	8F0	[1/2]177K
VGT13	8E0	
(E) VTK	9F3	
VTK1	9B3	

* SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
A0	8E0	
A1	8C0	
A2	8F0	
A3	8D0	
A4	8E0	
A5	8F0	
A6	8F0	
A7	8B0	
A8	8C0	KS-5643,L427,00
A9	8D0	
A10	8G0	
A11	8G0	
UK C6	8F0	
UK C7	8E0	
(E) C8	9G5	
(E) C9	8A0	
(E) C10	9F3	
C11	9B3	

RESISTOR (CONT)

DESIG	LOC	CODE
(E) VGA	9E5	KS-13460,L3,33,000

DRAWING ISSUE

41D	J.E. LAY	W.F.B.
43B	A.A. M.S.	P.R.
49D	E.M. Wag AMP	

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2) SD-25550-01-CI

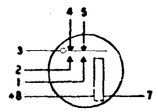
BELL TELEPHONE LABORATORIES
INCORPORATED
6S

49

SD-25550-01-CI

APP FIG. 2

RELAY



DESIG	VGN0	VGN1	VGN2	[9]VGN3-11	VGN12	VGN13
CODE	276A	276A	276A	276A	276A	276A
OPTION					UK	UK
8	96C6	96C8	96C8	96C8	96C3	96C8
7	96C8	96C8	96C8	96C8	96C9	96C8
6						
5						
4						
3	8B3	8C3	8B3	8C3-H3	8F3	8E3
2	8B3	8C3	8B3	8C3-H3	8F3	8E3
1	8B3	8C3	8B3	8C3-H3	8F3	8E3

NETWORK

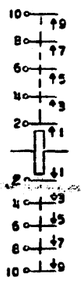
DESIG	LOC	CODE
[12]VGN0-11	96C8	[1/2]177C *
(UK) [12]VGN12,13	96C8	[1/2]177C *

* SEE NOTE 104

APP FIG. 3

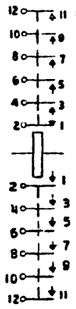
RELAY
(-1) U1368
(-2) U818

CB3 (XA) HGL1 (ZJ)



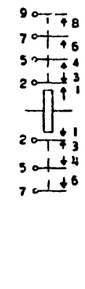
10GN	10G1
10FN	10G1
10EN	10F1
10EN	10E1
10DN	1CE1
10G7	10G8
10AN	10A1
10AN	10B1
10BN	10C1
10CN	10C1
10CN	10E1

RELAY
U1381
(E) HGG



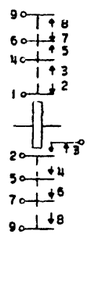
10G2
10F2
10F2
10E2
10D2
10F6
10D8
10A2
10B2
10B2
10C2
10D2
963

RELAY
(-1) U1347
(-2) U822
(E) HGR



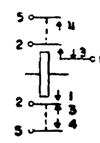
10H2
10C5
10F8

RELAY
U1404



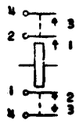
HGT0	HGT1	HGT2	HGT3	HGT4	HGT5	HGT6	HGT7	HGT8	HGT9
10A2	10B2	10B2	10C2	10D2	10D2	10E2	10F2	10F2	10C2
10F9	10F9	10F9	10F8	10F8	10F8	10F7	10F7	10F7	10F7
10A5	10A5	10B5	10C5	10D5	10D5	10E5	10F5	10F5	10G5
	10F9	10F9	10F8	10F8	10F8	10F7	10F7	10F7	10F7
10A0	10A0	10B0	10C0	10C0	10D0	10E0	10E0	1CF0	10G0
10A1	10E1	10B1	10C1	10D1	10D1	10E1	10F1	1CF1	10G1
13E1	13B2	13B2	13B2	13D2	13D2	13D2	13E2	13E2	13E2
13D1	13B1	13C1	13C2	13B1	13B2	13C2	13B2	13B2	13C2
10B7	10B7	10B7	10B7	10B7	10B7	10B7	10B7	10B7	10B7

RELAY
U6124
(E) HTK



10CH3
10E8
10E6
783
109C5

RELAY
U1371
HTKI



109C4
10B7
10F6
88F5
10G5

NETWORKS

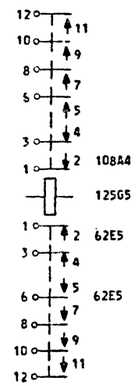
DESIG	LOC	CODE
(XA) CB3	10G7	[1/2]177H *
(E) HGG	10D6	177E *
(ZJ) HGL1	10G8	[1/2]177H *
(E) HGR	10H2	
HGT0	10A0	
HGT1	10A0	
HGT2	10B0	
HGT3	10C0	
HGT4	10C0	[1/2]177K
HGT5	10D0	
HGT6	10E0	
HGT7	10E0	
HGT8	10F0	
HGT9	10E0	
(E) HTK	10E6	
HTKI	10F6	
(FP) TRB1	12565	185A

* SEE NOTE 104

RESISTORS

DESIG	LOC	CODE
B0	10A0	
B1	10A0	
B2	10B0	
B3	10C0	
B4	10C0	
B5	1CD0	
B6	10E0	
B7	10E0	
B8	10F0	
B9	10G0	
B10	10G6	
(E) B11	10E6	
(E) HGR	10H2	18AG

RELAY
U338
(FP) TRBI



ISSUE
41D VGR, HGT
43B RAM, M.S.
54D SEQ, PPS, AMD
54D GM REL. AND

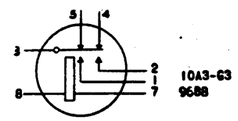
MARKER CIRCUIT (2) SD-25550-01-C2

BELL TELEPHONE LABORATORIES INCORPORATED 6S

APP FIG. 4

RELAY 276A

[10] HGNO-9



10A3-G3
9688

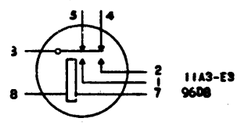
NETWORKS DESIG	LOC	CODE
[10] HGNO-9	9688	[1/2] 177C *

* SEE NOTE 104

APP FIG. 6

RELAY 276A

[5] VFNO-4



11A3-E3
9608

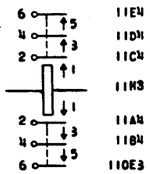
NETWORKS DESIG	LOC	CODE
[5] VFNO-4	96C8	[1/2] 177C *

* SEE NOTE 104

APP FIG. 5

RELAY
(1) U1389
(2) UB19

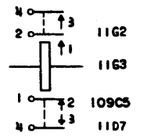
(NA) CB4



11E4
11D4
11C4
11H3
11A4
11B4
110E3

RELAY U1371

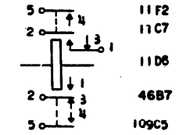
(E) FR



11G2
11G3
109C5
11D7

RELAY U6124

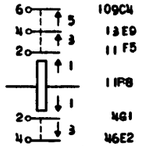
(E) FTK



11F2
11C7
11D6
46B7
109C5

RELAY U1394

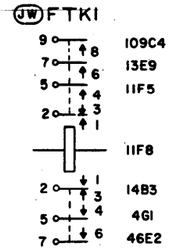
(JV) FTKI



109C4
13E9
11F5
11F8
4G1
46E2

RELAY U1347

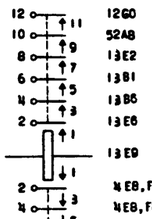
(JW) FTKI



109C4
13E9
11F5
11F8
14B3
4G1
46E2

RELAY
(1) U1325
(2) UB12

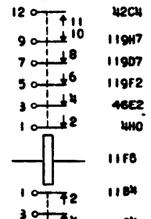
(E) GTLI



12G0
52A8
13E2
13B1
13B6
13E6
13E9
4E8,F8,G8
4E8,F8,G8,H8
4G8
4A2
52H9
13B9

RELAY U59

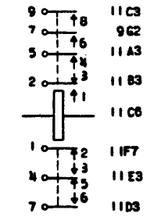
MTII



N2C4
11G7
11D7
11F2
46E2
4H0
11F6
11B4
11C4
11D4
11E4
11F4
123A7

RELAY
(1) U1355
(2) UB15

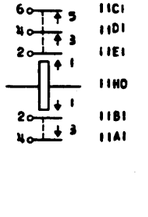
(E) VFG



11C3
9G2
11A3
11B3
11C6
11F7
11E3
11D3

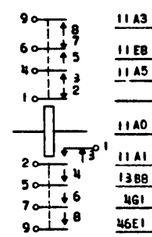
RELAY
(1) U1366
(2) UB16

(ZJ) VFLI



11C1
11D1
11E1
11H0
11B1
11A1

RELAY U1404



VFT0	VFT1	VFT2	VFT3	VFT4
11A3	11B3	11C3	11D3	11E3
11E8	11E8	11E7	11E7	11E7
11A5	11B5	11C5	11D5	11E5
	11E8	11E7	11E7	11E7
11A0	11B0	11C0	11D0	11E0
11A1	11B1	11C1	11D1	11E1
13B8	13B8	13C8	13D8	13E8
4G1	4G1	4G1	4G1	4G1
46E1	46E1	46E1	46E1	46E1

NETWORKS DESIG	LOC	CODE
(NA) CB4	11H3	[1/2] 177H *
(E) FR	11G3	[1/2] 177K
(E) FTK	11D6	[1/2] 177K
FTKI	11E6	[1/2] 177K
(E) GTLI	13E9	[1/2] 177H *
(TN) MTII	11F6	[1/2] 177C *
V0	4G1	[1/2] 177H *
V1	4G1	[1/2] 177H *
V2	4G1	[1/2] 177H *
V3	4G1	[1/2] 177H *
V4	4G1	177E *
(E) VFG	11C6	[1/2] 177H *
(ZJ) VFLI	11H0	[1/2] 177H *
VFT0	11A0	[1/2] 177K
VFT1	11B0	[1/2] 177K
VFT2	11C0	[1/2] 177K
VFT3	11D0	[1/2] 177K
VFT4	11E0	[1/2] 177K

RESISTORS DESIG	LOC	CODE
C0	11A0	KS-5643,L427,90
C1	11B0	KS-5643,L427,90
C2	11C0	KS-5643,L427,90
C3	11D0	KS-5643,L427,90
C4	11E0	KS-5643,L427,90
(E) C5	11D6	KS-5643,L427,90
D1	11F8	KS-5643,L427,90
V0	4G2	KS-13490,L3,33000
V1	4G2	KS-13490,L3,33000
V2	4G2	KS-13490,L3,33000
V3	4G2	KS-13490,L3,33000
V4	4G2	KS-13490,L3,33000

* SEE NOTE 104

DRAWING ISSUE
41D
43B
49D
54D

SD-25550-01-C3

MARKER CIRCUIT
(2)
SD-25550-01-C3
54
BELL TELEPHONE LABORATORIES INCORPORATED
85

APP FIG. 7

RELAY (-1) U1390 (-2) UB20

LE LOD

	LE	LOD
6-5	53H7	53G7
3-4	53F7	53A7
1-2	53A6	53F7
	53G1	53H1
1-2	54E4	54E4
4-3	54E3	54E4

RELAY (-1) U506 (-2) UB9

SE SO

	SE	SO
7-6	53E7	53F7
4-5	53F7	53G7
1-2	53G6	53H6
	53H5	53G5
1-2	54E3	54E3
4-5	53G8	53H8
7-6	54E3	54E3

RELAY U675

SQ0	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7	SQ8	SQ9
53A6	53B6	53B6	53C6	53C6	53D6	53E6	53E6	53F6	53F6
8B2	8C2	8D2	8E2	8F2	8G2	8H2	8C2	8D2	8E2
10A2	10A2	10B2	10C2	10D2	10D2	10E2	10F2	10F2	10G2
44B6	44D6	44D6	44D6	44D6	44D6	44D6	44D6	44D6	44D6
53F3	54E5	53G3							
53A5	53B5	53B5	53C5	53C5	53D5	53D5	53E5	53F5	53G5
44B6	44D6	44D6	44D6	44D6	44D6	44D6	44D6	44D6	44D6
11A2	11B2	11C2	11D2	11E2	11B2	11C2	11D2	11E2	11F2
53H1	53G1	53H1	53G1	53H1	53G	53H1	53G1	53H1	53G1
53B6	53C6	53C6	53D6	53D6	53E6	53F6	53F6	53G6	53A6
71D2	71C2	71B2	71C2	71B2	71C2	71B2	71A2	71C2	71B2

RELAY U177 (XA) SQTO

8-9	102B/E1
5-6	53F4
2-3	4487
	53F3
2-1	54E4
5-4	53G3
8-7	102B4

RELAY U157 (XA) SQTI

5-4	53G4
2-1	53F3
	53G3
2-3	54E5

NETWORK

DESIG	LOC	CODE
LE	53G1	[1/2]177H *
LOD	53H1	[1/2]177H *
SE	53H5	[1/2]177H *
SO	53G5	[1/2]177H *
SQ0	53A5	[1/2]177C *
SQ1	53B5	[1/2]177C *
SQ2	53B5	
SQ3	53C5	
SQ4	53C5	
SQ5	53D5	
SQ6	53E6	[1/2]177C *
SQ7	53E5	
SQ8	53F5	
SQ9	53G5	
(XA) SQTO	53F3	
(XA) SQTI	53G3	

* SEE NOTE 104

APP FIG. 8

RELAY (-1) U1345 (-2) UB13

(XA) CBD

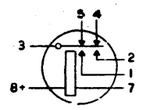
12-11	35D5,36F3
10-9	12F1
8-7	12E1
6-5	12E1
4-3	12D1
2-1	12D1
	61B5
2-1	12A1
4-3	12B1
6-5	12B1
8-7	12C1
10-9	12C1

RELAY U1362

CBD1 (XA) CBF (XA)

	CBD1	CBF
7-6	12E4	12E3
5-4	12D4	12D3
2-3	48C1	
	61B6	61H1
2-1	12B4	12B3
4-3	12C4	12C3
6-5	60G2	111A2

RELAY



DESIG	FTN0	FTN1	FTN2	FTN3	[10]FUN0-9
CODE	276A	276A	276A	276A	276A
OPTION	XA	XA	YF,XE	YF,XE	XA
8	96A8	96A8	96A8	96A8	96B8
7	96A8	96A8	96A8	96A8	96B8
6					
5					
4					
3	12B5, 115E8	12C5, 115E8	12D5, 115E8	12E5, 115E8	128O-F0 115G8
2	12B5	12C5	12D5	12E5	128O-F0
1	115E8	115E8	115E8	115E8	115G8

RELAY (-1) U1325 (-2) UB12

FTT0 FTT1 FTT2 (YF,XF) FTT3 (YF,XF)

	FTT0	FTT1	FTT2 (YF,XF)	FTT3 (YF,XF)
12-11	12A5	12B5	12C5	12D5
10-9	6F4	6D4	6B4	6A4
8-7	6F4	6D4	6B4	6A4
6-5	6F4	6D4	6C4	6A4
4-3	6G4	6E4	6C4	6A4
2-1	6G4	6E4	6C4	6A4
	12A3	12B3	12C3	12D3
2-3	6H4	6E4	6D4	6B4
4-3	6H4	6E4	6D4	6B4
6-5	6H4	6E4	6C4	6B4
8-7	6G4	6E4	6C4	6B4
10-9	6G4	6E4	6C4	6A4
12-11	12A4	12B4	12C4	12D4

RELAY U1377

(XR) FTTB

8-9	115G9
5-6	89F8
3-4	12B3
1-2	12A3
	115H7
1-2	12C3
3-4	12D3
6-5	11680

RELAY (-1) U1349 (-2) UB21

[10]FUT0-9

8-7	128I-F1
6-5	57A1
4-3	48G1-G5,48G8
2-1	128Z-F2
	12A0-F0
2-1	8F5-H5
4-3	56G5,56F5
6-5	57C1-H1
8-7	5781

RELAY U809

(E) MT15

10-9	
8-7	
6-5	
4-3	8F7
2-1	12D4
	123E4
2-3	
5-4	12A4
7-6	12B4
9-8	12C4

NETWORK

DESIG	LOC	CODE
(XA) CBD	61B5	[1/2]177H *
(XA) CBF	61H1	[1/2]177H *
(XA) [2]FTN0,1	96A8	[1/2]177C *
(YF,XE) [2]FTN2,3	96A8	[1/2]177C *
[2]FTT0,1	12A3,B3	[1/2]177H *
(YF,XF) [2]FTT2,3	12C3,D3	[1/2]177H *
(XR) FTTB	115H7	[1/2]177H *
(XA) [10]FUN0-9	96B8	[1/2]177C *
[10]FUT0-9	12A0-F0	[1/2]177H *

* SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
[4]FTN0-3	115E8	107A, (XP) 2800 (XR) 10,000
[10]FUN0-9	115G8	107A, (XP) 2800 (XR) 10,000

DRAWING ISSUE		
41D	JK, MLY	
43B	MPX, KE	
49D	BB, WAD, AHD	
51D	WB, MPX, AMD	
53A	GM, REL, AND	
54D	GM, REL, AND	

SD-25550-01-C4

MARKER CIRCUIT (2) SD-25550-01-C4

BELL TELEPHONE LABORATORIES INCORPORATED 6S

RELAY
(-1) U1325
(-2) UB12
(YJ) AMA1

12 11	13E0
10 9	13D0
8 7	13C0
6 5	13B0
4 3	13A0
2 1	81D0
	81D2
2 1	13AN
4 3	13BN
6 5	13CN
8 7	13DN
10 9	13EN
12 11	13E4

RELAY
(-1) U1366
(-2) UB16
(YJ) AMA2

6 5	13C7
4 3	13B7
2 1	13A7
	81E1
2 1	13D7
4 3	13D7

RELAY
U1399
(XA) CB7

8 9 7	10G8
5 6 4	11A5
2 3 1	8G8
	11G4
2 1 3	12E5
5 4 6	12A2
8 7 9	62A3

RELAY
U1356

	FT0	FT1	FT2 (YF,XF)	FT3 (YF,XF)	VF0	VF1	VF2	VF3	VF4
2 3 1	14A2	14A2	14A2	14A3	14C9	14C9	14C8	14C8	14C8
	12B6	12B6	12B6	12C6	13A7	13B7	13C7	13D7	13D7
1 2		14B2	14B2	14B3		14C9	14C8	14C8	14C8
4 3	12B4	12C4	12D4	12E4	11A5	11B5	11C5	11D5	11E5

RELAY
(-1) U1355
(-2) UB15

	FU0	FU1	FU2	FU4	FU7	HG0	HG1	HG2	HG4	HG7	VG0	VG1	VG2	VG4	VG7	VG10 (YC)
9 8	12E2	12E2	12F2	12A2	12F2	10E5	10F5	10G5	10A5	10G5	8G7	8C7	8D7	8B7	8B7	8G7
7 6	12C2	12D2	12D2	12D2	12E2	10C5	10D5	10E5	10E5	10F5	8E7	8F7	8F7	8F7	8C7	8G7
5 4	12B2	12C2	12B2	12C2	12E2	10B5	10C5	10B5	10C5	10E5	8B7	8D7	8B7	8E7	8D7	8F7
2 3 1	14A3	14A3	14A3	14A4		14A6	14A7	14A7	14A7		14A5	14A5	14A5	14A5	14A6	
	12C6	12D6	12D6	12E6	12E6	13A0	13B0	13C0	13D0	13D0	13A3	13B3	13C3	13D3	13D3	13E3
1 2			14B3	14B4	14B4			14B7	14B7	14B7			14B5	14B5	14B6	14B6
4 3 5		14B3	14B3	14B4	14A4		14B7	14B7	14B7	14A7	8B7	14B5	14B5	14B5	14B6	14A6
7 6	12B2	12B2	12C2	12D2	12A2	10A5	10A5	10C5	10D5	10A5	8C7	8C7	8D7	8F7	8B7	8E7

RELAY
U591

	GTL2	GTL3	GTL4
12 11	52A7	13E0	13E4
10 9	12C6	13D0	14B2
8 7	12C6	13C0	14C7
6 5	12B6	13B0	4E8,F8,G8,H8
4 3	12B6	13B0	4E8,F8,G8
1 2	10B67	10B67	10BF7
	81C1	81D1	81D1
2 1	12D6	13BN	13B7
4 3	12D6	13BN	13B7
6 5	12E6	13CN	13C7
8 7	12E6	13DN	13D7
10 9	12F6	13EN	13E7
12 11	52G8	52G8	52G8

RELAY
(-1) U1368
(-2) UB18

GTU

10 9	12C7
8 7	12C7
6 5	12B7
4 3	12B7
2 1	14G7
	12G0
2 1	12C7
4 3	12D7
6 5	12D7
8 7	12E7
10 9	12E7

RELAY
U844
(EB) AMA6

8 7	
5 6 4	12BG1
2 3 1	37F2
	37G0
1 2	
2 3	
1 4	
5 6	49A9
8 7	130D1

NETWORK

DESIG		LOC	CODE
(YJ)	AMA1	81D2	[1/2]177H*
	AMA2	81E1	[1/2]177H*
(XA)	CB7	11G4	[1/2]177K
	[2]FT0,1	12B6	[1/2]177C*
(YF,XF)	[2]FT2,3	12B6,C6	[1/2]177H*
	[5]FU0,1,2,4,7	12C6,E6	[1/2]177H*
	GTL2	81D1	177E*
	GTU	12G0	[1/2]177H*
	[5] HG0,1,2,4,7	13A0-D0	[1/2]177H*
	[5] VF0-4	13A7-D7	[1/2]177H*
	[5] VG0,1,2,4,7	13A3-D3	[1/2]177H*
(YC)	VG10	13E3	[1/2]177H*

* SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
D0	11G3	KS-5643,L427,90

RELAY
U1212
(E) 2P

5 6 4	14G4
2 3 1	14F3
	4D0
2 3 01	14H5
5 4 6	14E4

RELAY
U1299

	AO (ZD)	CN (ZD)
2 3 1	14E5	14E3
2 3 01	4B0	4D0
	4A1	14G5

RELAY
(-1) U1355
(-2) UB15

	CU0	CU1	CU2	CU4	CU7
9 8	27F0	27G0	27H0	27A0	27H1
7 6	27D0	27E0	27F0	27F1	27G1
5 4	27C0	27D0	27C1	27D1	27F1
2 3 1	14C6	14C6	14C6	14C5	
	4F5	4F5	4F5	4F5	4F5
1 2			14D6	14D5	14D5
4 3 5		14C6	14C6	14C5	14C5
7 6	27B0	27B1	27D1	27E1	27A1

RELAY
(-1) U506
(-2) UB9

	MAN (E)	MCN (E)
7 6	4B1	4B1
4 5 3	14F4	14F4
1 2	14E4	14E5
	4C0	4B0
1 2	14G4	
4 3 5	14G4	4C1
7 6	14F4	4D1

NETWORK

DESIG	LOC	CODE
(E) 2P	4D0	[1/2]177H*
(ZD) AO	4B0	
(ZD) CN	4E0	
CU0,1,2,4,7	4F5	
(E) MAN	4C0	
MCN	4C0	

* SEE NOTE 104

DRAWING ISSUE

41D	LE 1A1	W.C.
43B	TTC M.S.	P.D.
49D	E.M. 6BY AMD	CB
54D	LP XEL AMD	CA
56D	MD	CB

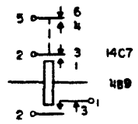
MARKER CIRCUIT (2)
SD-25550-01-C5
BELL TELEPHONE LABORATORIES INCORPORATED
6S
56

SD-25550-01-C5

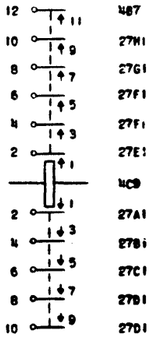
APP FIG. 11

RELAY
U1298

CTO



RELAY
(-1) U1345
(-2) UB13
(XA) CTAO



NETWORK

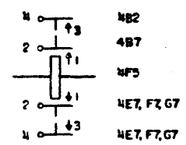
DESIG	LOC	CODE
CTO	4B9	
(XA) CTAO	4C9	
SW0	27A2	
SW1	27B2	
SW2	27C2	
SW3	27D2	
(XA) SW4	27D2	
SW5	27E2	
SW6	27F2	
SW7	27G2	
SW8	27G2	
SW9	27H2	

[1/2] 177H *

* SEE NOTE 104

APP FIG. 12
SEE NOTE 105, PARAGRAPH 3

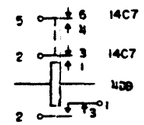
RELAY
(-1) U1367
(-2) UB17
(20) (10) CSO-9



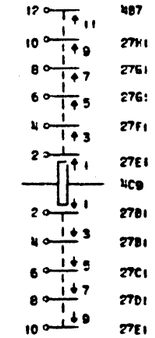
APP FIG. 13

RELAY
U1298

CTI



RELAY
(-1) U1345
(-2) UB13
(XA) CTAI



NETWORK

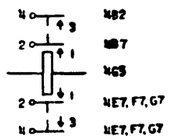
DESIG	LOC	CODE
CTI	4B9	
(XA) CTAI	4C9	
SW10	27A2	
SW11	27B2	
SW12	27C2	
SW13	27D2	
(XA) SW14	27E2	
SW15	27E2	
SW16	27F2	
SW17	27G2	
SW18	27H2	
SW19	27H2	

[1/2] 177H *

* SEE NOTE 104

APP FIG. 14
SEE NOTE 105, PARAGRAPH 3

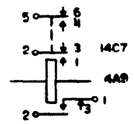
RELAY
(-1) U1367
(-2) UB17
(20) (10) CS10-19



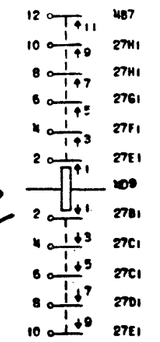
APP FIG. 15

RELAY
U1298

CT2



RELAY
(-1) U13[illegible]
(-2) UB13
(XA) CTA2



400

NETWORK

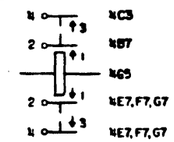
DESIG	LOC	CODE
CT2	4A9	
(XA) CTA2	4D9	
SW20	27B2	
SW21	27C2	
SW22	27C2	
SW23	27D2	
(XA) SW24	27E2	
SW25	27F2	
SW26	27F2	
SW27	27G2	
SW28	27H2	
SW29	27H2	

[1/2] 177H *

* SEE NOTE 104

APP FIG. 16
SEE NOTE 105, PARAGRAPH 3

RELAY
(-1) U1367
(-2) UB17
(20) (10) CS20-29



DRAWING ISSUE
41D
43B
49D

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)
SD-25550-01-C6
49
BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-25550-01-C6

APP FIG. 17

RELAY
(1) U1424
(2) U81

7Q (YF, XF)	RQ (YF, XF)
57H2	57D2
57C2	57H2
	57H2
	57G2
57G2	57C2
57F2	57H2
57H4	57J4
57H2	57E2
57C2	57F2
57D2	57D2
57F2	57E2
57G2	57F2
57E2	57G2

RELAY
(1) U1360
(2) U824

20F	40F (YF, XF)
57B0	57C0
48E7	48E8
48E7	48D3
48E6	48D2
48E5	56C7
47G1	47H1
56B6	48C1
48C1	48D1
48D2	48D2
48E2	48E4
48D4	48E4

RELAY
(1) U1325
(2) U812

FTB0	FTB1	FTB2 (YF, XF)	FTB3 (YF, XF)
56A6	56A6	56D6	56E6
57H1	57H1	57H1	
57G1	57G1	57G1	
57E1	57E1	57E1	57E1
57D1	57D1	57E1	57E1
57C1	57C1	57C1	57D1
12B3	12C3	12D3	12E3
48E1	48E3	48E6	48F7
48E1	48E4	48E6	48F8
48E1	48E4	48F6	48F8
48E2	48E5	48F6	
48E3	48E5	48F6	
57A0	57A0	57A0	57B0

RELAY
U1381

GC

49C8
57D5
49G8
49G9
57D6
57D6
57E6
57F6
57F6
57G5

RELAY
U1348

JG0

56F6
57D6
56G6
57A0
56A4
56A0
57E6
56A7
56D7

RELAY
(1) U1347
(2) U822

JG1	JG3	JG4
56F6	56A5	56A5
56H6	56G6	56G5
57B0	57A0	57A0
56A4	57F6	57C6
56B0	56C0	56C0
57E6	56F6	56D7
56D7	56E7	56H6
56E7		56B7

RELAY
U1405

JG2

56B7
57F6
56C7
57C0
56B0
56H6
56F6
56C7
56C7
56A5

RELAY
(1) U1355
(2) U815

(YF, XF) PR

56B6	
46G3	
47B5	
46G4	
47H2	

RELAY
U1354

STF

56B7	
47B5	
56H4	
47G2	

NETWORK

DESIG	LOC	CODE
(YF, XF) 7Q	57H5	[1/2] 177C *
20F	47G1	[1/2] 177K
(YF, XF) 40F	47H1	[1/2] 177K
[2] FTB0,1	12B3,C3	[1/2] 177H *
[2] (YF, XF) FTB2,3	12D3, E3	[1/2] 177H *
GC	49G9	177E *
JG0	56A1	[1/2] 177K
JG1	56B1	[1/2] 177K
JG2	56B1	[1/2] 177K
JG3	56C1	[1/2] 177K
JG4	56C1	[1/2] 177K
(YF, XF) PR	47B5	[1/2] 177H *
(YF, XF) RQ	57G5	[1/2] 177C *
STF	47B5	[1/2] 177H *

RESISTOR

DESIG	LOC	CODE
D2	56C0	KS-5643, L427, 90
D3	47G1	KS-5643, L427, 90

* SEE NOTE 104

ISSUE
41D
43B
49D
51D

MARKER CIRCUIT (2)
SD-25550-01-C7
51
BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-C7

A B C D E F G H

0 1 2 3 4 5 6 7 8 9

APP FIG. 18

RELAY U1354

FCK FCKA (F)

5	42G5	42G4
2	42F3	42F2
	39C2	39B2
2	42B4	42B4
5	40A1	40A1

RELAY (-1) U1390 (-2) U820

FMG

6	40F6
3	40D4
1	40E4
	40F5
1	40F3
4	40A2

RELAY (-1) U1367 (-2) U817

FMK

4	40F7
2	40D4
	40B7
2	108G7
4	

RELAY U844

FML

8	108H7
5	109D7
2	40E4
	40D1
2	39B7
5	39C7
8	42G6

RELAY U1362

(XA) FSA

7	40C7
5	
2	40C7
2	86E4
4	69C5
6	

RELAY U1401

FTCK

11	35F6
9	33D2
7	36H4, 35G6
5	11682
2	42D4
	40G5
2	71E5
4	71G5
6	11388
8	40A2
10	42F7

RELAY U1317

FTCKI

9	43H7
7	
5	33B5
	40B1
4	42C4
7	42D5

RELAY U333

MT9

10	40F4
7	33E2
4	40A1
1	33G2
	123G6
4	42B1
7	42C6
10	124C5

RELAY (MF) 239FC (MG) 280A

TBT

7	42E3
	42B2
P	
S	42B2

RELAY (-1) Y188 (-2) Y311

TBTA

4	42G5
2	105D6
	42E2
4	111C6

RELAY U1406

TBTB

7	104E9
5	42G6
2	42D2 42E2
1	43H6
4	42F2
6	

RELAY U675

(MG) TBTC

12	111C6
9	
7	
5	369
2	
	111B7
2	111B1
4	111C1
6	
8	
11	111D2

RELAY U1348

TFKI TFK2

12	
9	93C2 106G2
7	40E4 113B8
5	42G4 35E1 36C2
2	40D5 6F8
	40A2 42C3
1	33B5 33B5
4	40G4 109C7
7	33C2 35G6
10	40E6
	86D3 40G7

CAPACITOR

DESIG	LOC	CODE
TBT	42C3	(3)4370A

INDUCTOR

DESIG	LOC	CODE
TBT	42E3	200CL
TBTI	42D3	200CL

NETWORK

DESIG	LOC	CODE
FCK	39C2	(1/2)177H *
(F) FCKA	39B2	177E *
FMG	40F5	(1/2)177H *
FMK	40B7	(1/2)177H *
FML	40D1	(1/2)177C *
(XA) FSA	40C7	(1/2)177K
FTCK	40G5	(1/2)177K
FTK2	40B1	(1/2)177C *
(TN) MT9	123G6	(1/2)177C *
TBT	42E3	(1/2)177C *
TBTI	42E3	(1/2)177C *
TBTB	42E2	(1/2)177C *
TFKI	33B5	(1/2)177K

* SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
H1C	40G5	KS-5843, L427, 90
H1I	33B4	KS-5843, L427, 90
TBT	42C3	198T
TFTO	42B3	19LE
TFTI	42C3	19TU

DRAWING ISSUE

41D	CKT 1&T TSK
46D	ckt ANP
49D	BB ckt ANP
54D	BBK ckt ANP

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-C8 (2)

54

SD-25550-01-C8

APP FIG. 19

RELAY
+1 U1385
-2 UB13

[570] FC –

12	39C3
10	39A3
8	39A3
6	39A3
4	39A3
2	39A3
	39A6
2	39A3
4	39A3
6	39A3
8	39A3
10	39A3

NETWORK

DESIG	LOC	CODE
[570] FC-	39A4	[1/2] 177M *

* SEE NOTE 104

APP FIG. 20

RELAY
+1 U1385
-2 UB13

FCA

12	39B3
10	39A3
8	39A3
6	39A3
4	39A3
2	39A3
	39G4
2	39A3
4	39A3
6	39A3
8	39A3
10	39A3

APP FIG. 21

RELAY
+1 U1389
-2 UB24

BC

10	39A6
8	39A6
6	39A6
4	39A6
2	39A6
	39B6
2	39A6
4	39A6
6	39A6
8	39A6
10	39A6

RELAY
U177

	MT3	MT4
8	12H7	12H6
5	39A2	39A2
2	39A2	39A2
	12J06	12J06
2	39A2	39A2
5	39A2	39A2
8	39A2	39A2

NETWORK

DESIG	LOC	CODE
BC	39B6	[1/2] 177K
MT3	12J06	[1/2] 177M *

* SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
D4	39D6	KS-5643,L427,9C

APP FIG. 22

RELAY
+1 U1389
-2 UB24

BCA

10	39A6
8	39A6
6	39A6
4	39A6
2	39A6
	39C6
2	39A6
4	39A6
6	39A6
8	39A6
10	39A6

RELAY
U177

	MT3A	MT4A
8	12H6	12H5
5	39A2	39A2
2	39A2	39A2
	12J06	12J0b
2	39A2	39A2
5	39A2	39A2
8	39A2	39A2

NETWORK

DESIG	LOC	CODE
BCA	39C6	[1/2] 177K

RESISTOR

DESIG	LOC	CODE
D5	39C6	KS-5643,L427,9C

APP FIG. 23

RELAY
U988

FBO

2	MCB3
	39A6
2	MCE1

RELAY
U143

FMO

5	MCB7
2	MCA3
	MCE1
1	MCF4
4	MCE2

RELAY
U1404

FSO

9	34F3
6	33C7
4	MCE2
1	MCC9
	MCB3
2	MCC3
5	
7	88C3
9	

RELAY
U1382

FTCO

7	
5	
2	MCB5
	39A2
2	MCG7
4	MCE1
6	

NETWORK

DESIG	LOC	CODE
FBO	39A6	[1/2] 177M *
FMO	MCE1	[1/2] 177C *
FSO	MCB3	[1/2] 177K
FTCO	39A2	[1/2] 177M *

* SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
J11	MCC3	KS-5643,L427,9C

APP FIG. 24

RELAY
U988

FB –

2	MCB4
	39A6
2	

RELAY
U143

FM –

5	MCB7
2	MCA4
	MCE1
1	MCF3
4	MCF1

RELAY
U1404

FS –

9	34F3
6	33C7
4	MCF1
1	MCC8
	MCB5
2	MCC4
5	
7	88C3
9	

RELAY
U1382

FTC –

7	
5	
2	MCB4
	39A2
2	MCG7
4	MCE1
6	

NETWORK

DESIG	LOC	CODE
FB-	39A6	[1/2] 177M *
FM-	40E1	[1/2] 177C *
FS-	MCB5	[1/2] 177K
FTC-	39A2	[1/2] 177M *

* SEE NOTE 104

APP FIG. 25

RELAY
U988

FB –

2	MCC6
	39A6
2	

RELAY
U143

FM –

5	MCB7
2	MCA5
	MCF1
1	
4	MCF2

RELAY
U1404

FS –

9	34F3
6	33C7
4	MCF2
1	MCC7
	MCB6
2	MCC8
5	
7	88C3
9	

RELAY
U1382

FTC –

7	
5	
2	MCB5
	39A2
2	MCG7
4	MCB1
6	

NETWORK

DESIG	LOC	CODE
FB-	39A6	[1/2] 177M *
FM-	40F1	[1/2] 177C *
FS-	40B6	[1/2] 177K
FTC-	39A2	[1/2] 177M *

* SEE NOTE 104

DRAWING ISSUE
410 2/78 MET
490 2/78 Comp Arch

APP FIG. 26

RELAY U1384

	MT5	TSE2	TSE3 (XA)
12 — 11	43C3, 42C7	33D2	33D1
10 — 9	43A3	43B4	43B4
8 — 7	43A3	43B4	43B4
6 — 5	43A3	43B4	43B4
4 — 3	43A3	43B4	43B4
2 — 1	43A3	43B4	43B4
1	44G6	44F6	44F6
2 — 1	43A3	43B4	43B4
4 — 3	43A3	43B4	43B4
6 — 5	43A3	43B4	43B4
8 — 7	43A3	43B4	43B4
10 — 9	43A3	43B4	43B4
12 — 11	33D2		

RELAY U1401

(XA) MT6	
11 — 10	43B3
9 — 8	43B3
7 — 6	43B3
5 — 4	43E3
3 — 2	42C7
1	44G6
2 — 1	43B3
4 — 3	43B3
6 — 5	43B3
8 — 7	43B3
10 — 9	43B3

RELAY U1299

	[5] TS0-4	TS5 (XG)	TS6 (XH)	TS7 (XI)	TS8 (XJ)	TS9 (XK)	[10] TS10-19 (XA)
2 — 3 — 1	44B5	43C5	43C5	43C5	43C5	43C5	43C5
2 — 3 — 1	44B1, 44D1	44D1	44D1	44D1	44D1	44D1	44D1
2 — 3 — 1	44B1, 44D1	44D1	44D1	44D1	44D1	44D1	44D1

NETWORK

DESIG.	LOC	CODE
[5] TS0-4	44B1	
(XG) TS5	44D1	
(XH) TS6	44D1	
(XI) TS7	44D1	[1/2] 177H*
(XJ) TS8	44D1	
(XK) TS9	44D1	
(XA) [10] TS10-19	44D1	
TSE1	44E6	177J*
TSE3	43B5	[1/2] 177K
TSM	45F2	[1/2] 177C*
[5] TT0-4	43A4	
(XG) TT5	43B4	
(XH) TT6	43B4	
(XI) TT7	43B4	[1/2] 177C*
(XJ) TT8	43B4	
(XK) TT9	43B4	
(XA) [10] TT10-19	43B4	

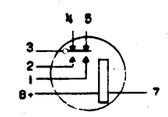
*SEE NOTE 104

RELAY U1404

TSE1

9 — 8	44D0
6 — 7 — 5	45F1
4 — 3	
1 — 2	43B6
	44E6
2 — 3 — 1	
5 — 4	44A2
7 — 6	42B6
9 — 8	

RELAY



DESIG	TT0-4	TT5	TT6	TT7	TT8	TT9	TT10-19
CODE	275A	275A	275A	275A	275A	275A	275A
OPTION		XG	XH	XI	XJ	XK	XA
8	43A4-B4	43B4	43B4	43B4	43B4	43B4	43B4
7	43A4-B4	43B4	43B4	43B4	43B4	43B4	43B4
6							
5	44B5, 44D5	44D5	44D5	44D5	44D5	44D5	44D5
4	44B5, 44D5	44D5	44D5	44D5	44D5	44D5	44D5
3	44B5, 44D5	44D5	44D5	44D5	44D5	44D5	44D5
2	44B5, 44D5	44D5	44D5	44D5	44D5	44D5	44D5
1	44B5, 44D5	44D5	44D5	44D5	44D5	44D5	44D5

CAPACITOR

DESIG	LOC	CODE
[5] T0-4	44B5	
(XG) T5	44D5	
(XH) T6	44D5	
(XI) T7	44D5	[1/2] 441H
(XJ) T8	44D5	
(XK) T9	44D5	
(XA) [10] T10-19	44D5	

RESISTOR

DESIG	LOC	CODE
D6	43B6	KS-5643, L427, 90
(XA) G0	44F5	KS-5643, L427, 62
(XG) G0	44F5	KS-5643, L427, 90
TSM	45F3	KS-13490, L3, 33,000

APP FIG. 27

RELAY
(1) U1369
(2) UB24

2G

10 — 9	55F7
8 — 7	55F7
6 — 5	56F3
4 — 3	56F3
2 — 1	55A2
2 — 1	55D7
4 — 3	56E3
6 — 5	47E7
8 — 7	56D3
10 — 9	

RELAY
(1) U1347
(2) UB22

3G

9 — 8	56A3
7 — 6	56D3
5 — 4	56E1
2 — 3 — 1	
2 — 1	55B2
2 — 1	
4 — 3	55D7
5 — 6	55D6
7 — 8	
9	

RELAY
(1) U1349
(2) UB21

2TLF 3TLF 4TLF 5TLF 6TLF 7TLF

8 — 7	56D1	56E3	55B7	56D3	55F7	55F7
6 — 5	56G3	56G3	55E7	56C3	56F3	56F3
4 — 3	56C0	56C3	56B3	56E1	56E3	56D3
2 — 1	56H3	56H3	56F1	56E1	57G5	55B1
2 — 1	47B7	47C7	47D7	47E7	47E7	47F7
4 — 3	55C8	55C6	55C8	55C8	55A1	57H5
6 — 5	47G3	47G4	47G4	47G4	55B1	55C1
8 — 7	55E8	55E7		55E9	47H3	47H3
	56E3		56C3		55E7	55D7

RELAY
(1) U1368
(2) UB18

2-3TLF JSQ0 JSQ1 JSQ2 JSQ3 JSQ4 JSQ5 STP1

10 — 9	56E3	53A1	53B1	53B1	53C1	53C1	53D1	
8 — 7	56F3	56C4	56F1	56C4	56F1	56C4	56F1	49D7
6 — 5	56G3	56E4	56E4	56F4	56E4	56E4	56F4	49MC
4 — 3	56H3	56C4	56C4	56C4	56C4	56C4	56C4	55C7
2 — 1	56H3	56D4	56C4	56D4	56D4	56C4	56F4	56A2
1	47C7	53A1	53B1	53B1	53C1	53C1	53D1	49B9
2 — 3 — 1	55C8	53F1	53G1	53F1	53G1	53F1	53G1	56B2
4 — 5	47G3	53B2	53B2	53C2	53C2	53C2	53A2	56C1
6 — 7	55E8	56F4	56H4	55F8	56F4	56H4	55F8	55F6
8 — 9	56G3	55E8	55E8		55E8	55E8	55F8	
		55D8	55D8	55D8	55D8	55D8		

RELAY
(1) U1389
(2) UB19

8TLF 9TLF

6 — 5	56B3	56B3
4 — 3	56A3	56A3
2 — 1	55D6	55A7
2 — 1	47F7	47C7
4 — 3	55C8	55C8
6 — 5	47H4	47H4
	57G5	57G6

RELAY
U1354

10TLF

5 — 4	56A3
2 — 3 — 1	49D7
1	47H7
2 — 3 — 1	55C7
5 — 4	47H4

RELAY
(1) U1390
(2) UB26

JLE JLO

6 — 5	54C3	54C4
3 — 4 — 2	53D2	53D2
1 — 2	54C4	54B4
1	53G1	53F1
2 — 1	53A2	53A2
4 — 3	53F2	53E2

RELAY
(1) U506
(2) UB9

JSE JSO

7 — 6	54B2	54C4
4 — 5 — 3	53E2	53F2
1 — 2	54C3	54C3
1	53F1	53E1
1 — 2	53F1	53F1
4 — 3	53C2	53D2
7 — 6	53A2	53B2

RELAY
U1330

MT8

8 — 9	53H3
5 — 6	53D3
3 — 4	12AD4
1 — 2	53D3
1 — 2	54D4
3 — 4	54B2
6 — 5 — 7	
9 — 8	54B4

RELAY
UB124

STP

5 — 4	49H1
2 — 3 — 1	49D8
	49E7
2 — 1	49G9
3 — 4	
6 — 5	49C7

RELAY
(1) U1325
(2) UB12

STP2

12 — 11	49H1
10 — 9	55A7
8 — 7	49G8
6 — 5	55F6
4 — 3	56B2
2 — 1	56B2
	49N2
2 — 1	56A2
4 — 3	56C1
6 — 5	56C1
8 — 7	55D7
10 — 9	55B7
12 — 11	49C7

RELAY
(1) U1355
(2) UB15

STP3

8 — 9	46G8
7 — 6	11B05
5 — 4	49D7
2 — 3 — 1	49B9
	49C7
1 — 2	
4 — 3 — 5	49B8
7 — 8	49G7

NETWORK

DESIG	LOC	CODE
2G	55B2	[1/2] 177K
3G	55B2	[1/2] 177K
CH	49A6	[1/2] 177K
JLE	53G1	[1/2] 177H*
JLO	53F1	[1/2] 177H*
JSE	53F1	[1/2] 177H*
JSO	53E1	[1/2] 177H*
[6] JSOC-5	53A1-D1	[1/2] 177H*
STP	49E7	[1/2] 177K
STP1	49B9	177E*
STP2	49H2	[1/2] 177H*
STP3	49G7	[1/2] 177H*
SZA	47C6	[1/2] 177H*
SZB	47C6	[1/2] 177H*
SZC	47D6	[1/2] 177H*
(XW) SZD	47E6	[1/2] 177H*

* SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
CH	49B7	KS-13490, L3, 33,000
D7	55A2	KS-5643, L427, 90
E1C	49E7	KS-5643, L427, 90

DRAWING ISSUE
41D RZG UKT W.P.O.
49D BB

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2) SD-25550-01-C10

BELL TELEPHONE LABORATORIES INCORPORATED

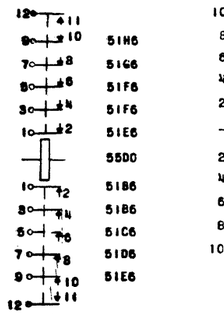
49

SD-25550-01-C10

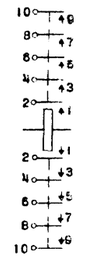
APP FIG. 28

RELAY
U59

MT7

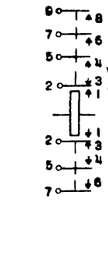


RELAY
JG (1) U1369
(2) U824



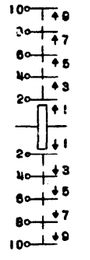
P0	P1	P7	P8	P9
56B7	51H3	51H4	51G3	51H5
51G3	51G3	56D7	51G5	51G6
51F3	51F3	51F3	51F4	51F6
5581	51E3	51E4	56D7	51E5
4884	4884	4884	4884	4884
51B3	51B3	5580	5580	5586
51B3	51B3	51B3	51B4	5186
51C3	51B3	51B5	51C4	5185
51D3	51D3	55E8	55E8	51D5
5587	5587	51D4	51D4	

RELAY
JG (1) U1347
(2) U822



P2	P3	P4	P5	P6
	51H3	56C7	51H4	51G4
56C7	56C7	51G4	51E3	51F3
51F3	51E3	51F4	51E4	51F4
5581	5580	5580	5581	5581
4884	4884	4884	4884	4884
51D3	51D3	51D3	51D4	51D4
51C3	51D3	5184	5184	51C4
51C3		5184		

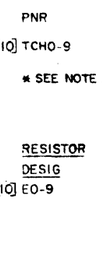
RELAY
(1) U1868
(2) U818



PA	PB	PC	PNR
51G3	51G3	51G3	51G5
51G3	51G3	51G3	51G5
51F3	51F3	51F3	51F6
51E3	51E3	51E3	51E5
51E3	51E3	51E3	51E5
55F6	55A6	5586	55C6
51A3	51A3	51A3	51A5
51B3	51B3	51B3	5185
51C3	51C3	51C3	51C5
51C3	51C3	51C3	51C5
51D3	51D3	51D3	51D5

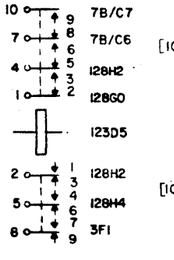
RELAY
U988

[10] TCHO-9



RELAY
JY (1) U934
(2) UB5

MT27



NETWORK

DESIG	LOC		CODE
JG [10] F0-9	48		[1/2] 177K
PA	55		[1/2] 177H *
PB	55		[1/2] 177H *
PC	55		[1/2] 177H *
PNR	55		[1/2] 177H *
[10] TCHO-9	51A	H2	[1/2] 177H *

* SEE NOTE 104

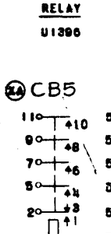
RESISTOR

DESIG	LOC	CODE
[10] E0-9	48	KS-5643,L427,90

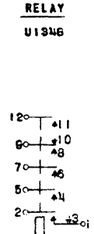
APP FIG. 29

RELAY
U1396

CB5



RELAY
U1348



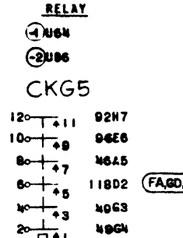
CH0	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	CH9
45E2	45F2	45F2	45F2	45F2	45F2	45F2	45F2	45F2	45F2
45D2	45D2	45D2	45D2	45D2	45D2	45D2	45D2	45D2	45D2
52C6	52D3	52D4	52D5	52E4	52F5	52E5	52G4	52G5	52G5
52D7	52A6	52A6	52B6	52B6	52C6	52C6	52B6	52C6	52D6
49A3	49A4	49A4	49A4	49A4	49A5	49A6	49A6	49A6	49A6
49A4	49A4	49A4	49A4	49A4	49A5	49A6	49A6	49A6	49A6
50F2	50F2	50F2	50F2	50F2	50F2	50F2	50F2	50F2	50F2
50G6	50G6	50G6	50G6	50G6	50G6	50G6	50G6	50G6	50G6
50G4	50G4	50G4	50G4	50G4	50G4	50G4	50G4	50G4	50G4
46D6	46D6	46D6	46D6	46D6	46D6	46D6	46D6	46D6	46D6

RELAY
MP 239FC
MG 280A

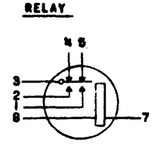
CHT

RELAY
(1) U64
(2) UB6

CKG5

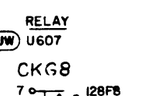


RELAY



RELAY
FA,GD,JW U607

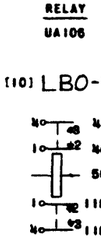
CKG8



DESIG	JCK0	JCK1	[10]TJ0-9	[10]TLL0-9	[10]TTL0-9
CODE	2768	2768	2768	2768	2768
OPTION					
8	45E1	45E1	50G4	50H3	50G5
7	45E1	45E1	50G4	50H3	50G5
6					
5	49G2	49G2	49C3-C6	49C3-C(	9C3-C6
4	49G2	49G2	49C3-C6	49C3-C(	9C3-C6
3	49G2	49G2	49C3-C6	49C3-C(	9C3-C6
2	49G2	49G2	49C3-C6	49C3-C(	9C3-C6
1	49G2	49G2	49C3-C6	49C3-C(	9C3-C6

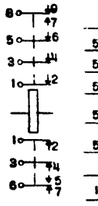
RELAY
UA106

[10] LB0-9



RELAY
U1377

LL0 LL1 LL2 LL4 LL7



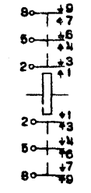
	1NC2	1NC2	1NC1	
50F0	50F0	50G0	50G0	50F0
50F1	50F1	50F1	50F2	50G2
50G0	50G0	50G1	50G0	50G1
52A2	52B2	52C2	52E2	52F2
50F0	50G1	50F1	50F0	50G1
		1ND2		
1NC2	1NC2	1NC2	1NC1	1NC1

RELAY
XV 239FA
XW 280BH

PL

RELAY
U811

TR2B



CAPACITOR

DESIG	LOC	CODE
CHT	49G4	[2]437CA
JCKO	49G2	441D
[10]TLO-9	49D3-D6	[1/2]441E

INDUCTOR

DESIG	LOC	CODE
CHT	49B2	200CL
ST PL	110A2	200CL

NETWORK

DESIG	LOC	CODE
XA C85	52C8	[1/2]177H*
CHT	49B2	[1/2]177K
CKG5	18H6	[1/2]177C*
JH	46G8	177A*
JS0	45E1	[1/2]177C*
JS1	45E1	[1/2]177C*
[8]JS2-9	45F2	[1/2]177C*
[10]LB0-9	50G2	[1/2]177C*
[5]LLO,1,2,4,7	52A2-G2	[1/2]177H*
ST PL	110A2	[1/2]177K
[10]SM0-9	46D2	[1/2]177K

* SEE NOTE 104

RESISTOR

DESIG	LOC	C	E
CHT	49H4	1	G
CHT1	49G5	1	U
JC0	45E0	1	A,3010
JC1	45E0	1	A,3010
JCK0	49G2	K	13490,L3,33,000
JCK1	49G2	K	13490,L3,33,000
JH	46G8	K	13490,L3,33,000
[8]JS2-9	45F3	K	13490,L3,33,000
ST [10]LB0-9	11886	1	R
R5	118C5	1	E
R6	11805	1	E
ST R7	11805	1	E
R8	11805	1	E
[10]SM0-9	4503	K	13490,L3,33,000
[10]TJ0-9	50G5	1	A,4020
[10]TLL0-9	50H3	1	A,4020
[10]TTL0-9	50G5	1	A,4020

HD	43A	43B	49D	51D	53A	54D
	MK MS 7	MK MS	BB MKR AND	JEG MES AND	JEK REL AND	JEK REL AND

M IKER CIRCUIT

BELL TELEPH E LABORATORIES INCORPORATED

SD-25550-01-C11

54

SD-25550-01-C11

APP FIG 30

RELAY U1323

CCT

59A2	
59F2	
46F4	
59C2	

RELAY U898

CGT RCTB

59HN	
60F6	60G2
108D8	60F2
59G3	60A1
	113D7
46D5	

RELAY (WH) 239HN (WI) 280F

CON CON3

59C3	59A3
59E2	59E1

RELAY U1405

CON1

59D3	
60D2	
107B/F7	
59G3	
61E4	
59C2	
60B8	
59E2	
106F3	
60E2	
59D4	
59D5	

RELAY (WL) 239FW (WH) 280AE

FCG

59C5	
59B5	
59B5	

RELAY U1105

FCGA

107B/E7	
59C4	
46D7	

RELAY U1396

GLH LHT (24)

59F2	46C8
59D2	46B8
59H5	46B7
46B0	116A7
107B/E7	
46A0	46C9
59D6	46D8
46C9	62A1
46D8	
1.3D8	

RELAY (-1) U1199 (-2) U188

GLH1

59B6	
36C8, 35C1	
110A3	
46D1	
46B0	
61E5	
59A2	
46G8	
59C6	
45D8	

RELAY U1382

GT1

46F5	
46G3	
60E1	
46H3	
46F8	
114E0	

RELAY U1383

GT2

60C5	
113D8	
60E2	
59H5	
60E7	
60E1	
59A3	
59C4	
59F2	
61E4	
62H1	

RELAY (OV) Y20N (OU) U1018

GT3

60B7	60B7
113E8	113E8
60D6	60C5
60B7	60D6
60B8	60B7
	60B8

RELAY U1073

GT5 HTR

60D5	46A1
107B2	108E6
108D8	112D8
59A5	46D7
107B/G2	128D8
60C5	128C7
107B/E8	46B8
62G1	112G7
108E2	46A4
60G6	46F5

RELAY U1348

LB

92F8	
30B1	
103G4	
111H1	
46D3	
92F8	
103F4	
96G7	
83F4	

RELAY 276B

LBT

46E3	
46E3	
46E3	
46E3	
46F0	

RELAY U189

LTR

59C5	
46B1	
46C0	
46B8	
46C2	

RELAY S10

PU

62G0	
92D1	
59E5	

RELAY U141

RCT

59C3	
60G1	
59A3	

RELAY (-1) U901 (-2) U1273

RCTA

60G2	
60F1	
113D7	

RELAY U98

TR2C

59H2	
104F2	
107B2	
106C2	
108E9	
108B8	
59G1	

CAPACITOR

DESIG	LOC	CODE
CON1	59D1	475AC
CON2	59C1	475F
CON3	59F1	441P
LBTB	46E3	441D
LBTF	46E3	441D
(ZJ) XLH	46D5	437QA

RESISTOR

DESIG	LOC	CODE
CON1	59D2	KS-13490,L3,1000
CON2	59D2	107A,180,000
CON3	59C2	107A,20,000
CON4	59B2	107A,200,000
CON5	59B2	KS-13492,L3,5100
CON6	59B3	18AP
CON7	59C3	18AP
CON8	59F3	18FR
CON9	59F2	107A,12,000
CON10	59F3	107A,12,000
FO	60E0	KS-5643,L427,90
FI	92F9	KS-5643,L427,90
(OU) GT3	60D7	18FD
J10	59B1	KS-5643,L427,90
LBT	46G0	107A,4020
PBX	60G5	18A6
(ZJ) XLH2	46B7	18FD

INDUCTOR

DESIG	LOC	CODE
CON	59C2	200CL
CON1	59A1	221H

TUBE

DESIG	LOC	CODE
CON	59E1	313CA

LAMP

DESIG	LOC	CODE
CON	59B0	13D

NETWORK

DESIG	LOC	CODE
CCT	59F2	[1/2]177C*
CGT	59G3	[1/2]177C*
CON	59C2	[1/2]177K
CON1	59C2	[1/2]177K
CON2	59B1	[1/2]177C*
FCGA	59C4	[1/2]177C*
GLH	46A0	[1/2]177H*
GLH1	46B0	[1/2]177C*
GT1	60E1	[1/2]177K
GT3	60E7	[1/2]177K
HTR	128C7	[1/2]177C*
LB	92F8	[1/2]177K
(ZJ) LHT	46C9	177E*
LTR	46C0	[1/2]177C*
RCT	60G1	[1/2]177C*
RCTA	60F1	[1/2]177C*
RCTB	60A1	[1/2]177C*

*SEE NOTE 104

REPEATING COIL

DESIG	LOC	CODE
CON	59A1	94H

ISSUE

41D	ATE	MFD
51D	MFD	CP
	MFD	
54D	JEK	
	ATE	
	KRD	

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

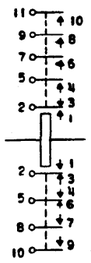
SD-25550-01-C12

54

SD-25550-01-C12

APP FIG. 31

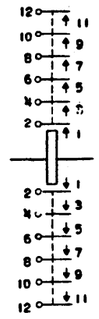
RELAY U1396



	CHE	FAK
11	12202	11385
9	4684	4188
7	113C7	38F7
5	49A1	107D5
2	4986	45G2
	49E9	45H1
2	107D4	58A6, 5987
5	108C8	58C6, 5987
8	4961	46E1
10	103H7	4900

RELAY (-1) U1325 (-2) UB12

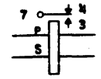
CKG4



12	62E9
10	43D3
8	4685
6	7H2
4	62B4
2	62E9
	40E5
2	129B8
4	46A7
6	61D2
8	62H1
10	40A9
12	60F4

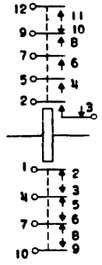
RELAY (WJ) 239KF (WK) 280AK

DCT



7	62H2
P	46G7
S	46G7

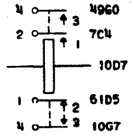
RELAY U1348



DCT1	DT2 (E)	DT3 (E)	TK
89E1	4604	110D3	49C0
5E6	62G3	110F3	108D8
46E1	58F8, 60C1	11G2	7D6
6282	3G5	125C3	128C6
43D3, 62E9	4E1	4688	49A1
62F9	3G3	3G3	49C0
13F9	89G3	7B/F4	61D4
46H5	46E5	7D6	107E4
114E1	7F6	46D9	49G0, 13080
6200	37E2	52H8	113C7

RELAY U1371

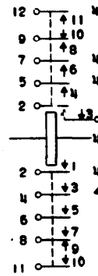
HGK



4	49G0
2	7C4
	10D7
1	61D5
4	10G7

RELAY U675

HMC



12	46D6
9	46E1
7	46F5
5	46A6
2	46D3
	46D1

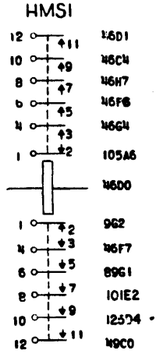
RELAY U1299

HMS

2	46C3
	46B6
2	46E6

RELAY U6117

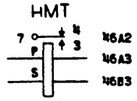
HMSI



12	46D1
10	46C4
8	46H7
6	45F8
4	46G4
1	105A6
	4600
1	9G2
4	46F7
6	89G1
8	101E2
10	12504
12	49C0

RELAY (WF) 239FC (WG) 280A

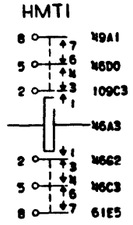
HMT



7	46A2
P	46A3
S	46B3

RELAY UB44

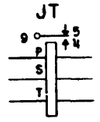
HMTI



8	49A1
5	46D0
2	109C3
	46A3
2	4662
5	46C3
8	61E5

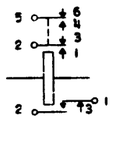
RELAY (WP) 239JP (WQ) 280AL

JT



9	46E6
S	46E7
T	46E7

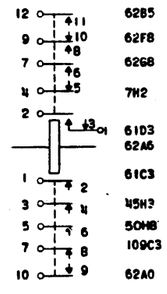
RELAY U1298



LCK	LK	RK
4960	61D4	61D4
61D5	49F0	49E0
50G7	56F5	56E6
61D6	61C6	61C6

RELAY U1383

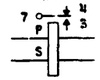
LKI



12	6285
9	62F8
7	62G8
	7H2
2	61D3
	62A6
1	61C3
3	45H3
5	5CH8
7	109C3
10	62A0

RELAY (WR) 239KG (WS) 280AM

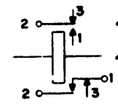
LXP



7	4980
P	46D7
S	46D7

RELAY U6039

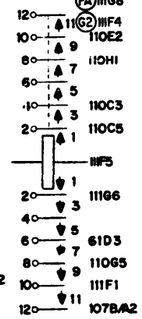
LXPI



2	4980
	49A0
	46C2

RELAY (GM) U1384

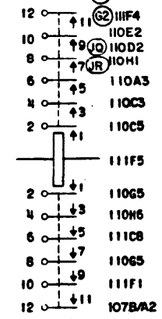
PEG



(FA)	111G8
(G2)	111F4
	110E2
(JQ)	110D2
(JR)	110H1
	110A3
	110C3
	110C5
	111F5
3	111G6
5	61D3
7	110G5
9	111F1
11	107B/A2

RELAY (GL) U1384

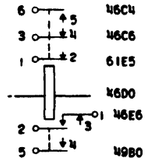
PEG



(FA)	111G8
(G2)	111F4
	110E2
(JQ)	110D2
(JR)	110H1
	110A3
	110C3
	110C5
	111F5
3	110G5
5	110H6
7	111C8
9	110G5
11	111F1
	107B/A2

RELAY U1412

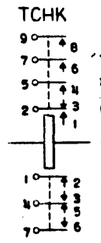
SL



6	46C4
3	46C6
	61E5
	4600
2	46E6
5	4980

RELAY (-1) U1355 (-2) UB15

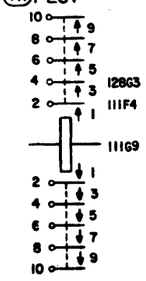
TCHK



9	7D6
7	49F0
5	6105
2	51H2
	61C6

RELAY U57

(FA) PEGI



10	
8	
6	
4	128G3
2	111F4
	111G9

CAPACITOR

DESIG	LOC	CODE
MMT	4685	(2) 437QA

INDUCTOR

DESIG	LOC	CODE
DCT	62H3	200CL
DCT3	62E1	200CL
MMT	46A1	200CL
JT	46E5	200CL
LXP	4981	200CL

NETWORK

DESIG	LOC		CODE
ASM	45G3		177J*
CHE	49E9	[1/2]	177H*
CKG4	40E5	[1/2]	177H*
DCT	62H3	[1/2]	177K
DCT1	62F8	[1/2]	177K
DCT4	62E2	[1/2]	177K
FAK	45H1	[1/2]	177H*
HGK	10D7	[1/2]	177K
HMC	46A6	[1/2]	177C*
HMS	46B6	[1/2]	177H*
HMSI	46D0	[1/2]	177H*
HMT	46A2	[1/2]	177H*
HMTI	46A3	[1/2]	177C*
JT	46F6	[1/2]	177H*
LCK	50G7	[1/2]	177H*
LK	56F5	[1/2]	177H*

NETWORK (CONT)

DESIG	LOC		CODE
LKI	62A5	[1/2]	177K
LXP	4981	[1/2]	177K
LXPI	49A0	[1/2]	177C*
(GL,GM) PEG	111F5	[1/2]	177K
(FA) PEGI	11169		185A
RK	56E6	[1/2]	177H*
SL	46D0	[1/2]	177C*
TCHK	51H2	[1/2]	177H*
TK	49C0	[1/2]	177K

*SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
D8	62E9	KS-56N3, L427,90
D9	62A5	
D11	49C0	
(JF) DCT	46G4	18T
(JB) DCT	46G3	18DA
DCT1	46G5	18BS
(JB) DCT2	46G6	18CJ
(E) G1	363	KS-4653, L427,62
MMT0	4685	18AG
MMT2	46AN	18BU
J9	111F5	KS-4633, L427,90
JT	46F5	KS-13490, L3, 33,000

ISSUE		
41D	F.T.	
43B	M.S.	
47D	D.S.	
49D	M.S.	
51D	JR	
54D	DP	
56D	MD	

MARKER CIRCUIT (2) SD-25550-01-C13

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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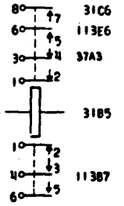
SD-25550-01-C13.

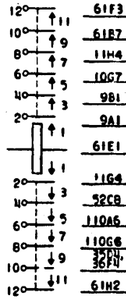
APP FIG. 32

RELAY U4159

(XA) AR



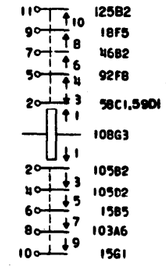
RELAY U1384



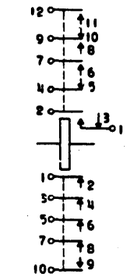
CB (XA)	CKG1 (XA)	CKG3	CKG6	CKG7	D (JL)	DTI (E)	LLC1	LLC2	MF (JL)	MLF (XN)	TLC1	TLC2	TLC3
61F3	40D9	115CN	14D7	98C7	11D8	8A2	111GN	59C5, 58C5	11D8	11J7	5E6		
61B7	5C2	18H5	59E9	31F6	9F0	10H0	49E8	46F3	9G0	9F0	36F1, 35E6		
11H4	10598	118D2	12185	90E7	6H5	4H0	50D3, 58E2	46G7	8H6	8H4	86C3	4H62	
10G7	7A0	61CN	121E5	502	40AB	35DN, 36F4	49B8	49F8	40AB		36E1, 35D1	40AB	49D0
981	117A5	40E8	71G0	101F2	39D8	61B7	4G0	46D1	39D8	3B2	5985,5885	39C8	47B4
9A1	12E5	11NE2	2C6	38H3	39A7	9C1	4980	36F2, 35D5	39A7	3B2	60F6	39B7	47D5
61E1	109F2	108G3	108H3	108H4	3A1	3G4	7H5	7H5	3B1	3E1	34A6	34A6	34A6
11G4	22D0	35D5, 36C3	71C7	18E7	10E9	116C5	7C4	56A1	10D9	10F8	34C6		41C8
52C8	24D0	34A8	69F5	42B4	10H4	12B2	682	56B1	10H3	10H3	34C6	41B4	60F4
110A6	2500	108H3	29G2	52H4	39F8	12E4	682	56B1	39E8		34F6	41E2	60G4
110G8	2980	31D5	84E5	98D0	3H5	3488	6A2	56C1	3G6	3H5	34F8	46G7	
35DN, 36F1	85A/A0	18H5, 31D0	96E7	46B7	3F9	123E5	6F8	56C1	3GB	40F8	34F6	8966	
61H2	12383	3188	41B5	46C8	40D8	34D8	1086	46D6	40E8	3E6	72B/G8	46E6	

RELAY U1401

CKG2



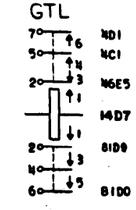
RELAY U1383



DIS1	DIS2	DISA
108F3	108F3	208
107C5	81D0, 2D7	39E9, 116C5
11NC1	107CN	72B/H4
3E4	61E2	42G3
108G3	108F2	32E9
108D3	109DN	2E7
9DN	8489	107A5
34A7	2980	107CN
309	108H3	107CN
7HN	3F4	107B/E8
305	2C6	

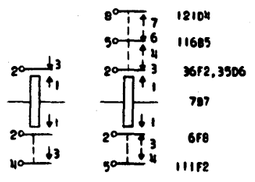
RELAY U1362

GTL



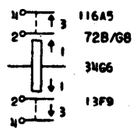
RELAY (SV) U541 (SW) U323

LFK



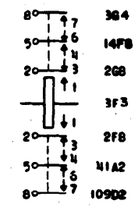
RELAY (J1) U1367 (J2) U817

MDK



RELAY U844

(E) OC

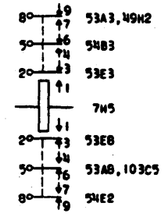


RELAY U6033

OC1 (E)	OC2 (E)
3F4	3G5
3E3	3F3
12GI	12GI

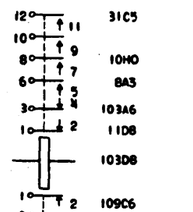
RELAY U1399

ONW



RELAY U92

RCY1



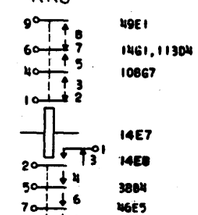
RELAY U1394

RK1 RK2

RK1	RK2
1NG1	1NG1
14F7	14E7
1NA0	1NC0
81C0	81C0
62F5	62F6

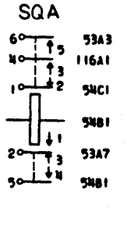
RELAY U1404

RK3



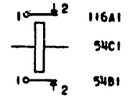
RELAY U148

SQA



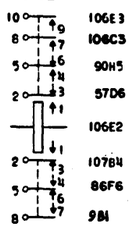
RELAY Y119

SQA1



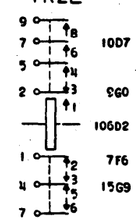
RELAY (J) U1289 (2) UBC

TR2



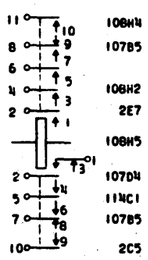
RELAY (J) U1355 (2) UB15

TR2E



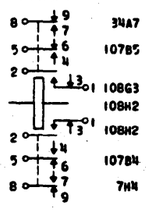
RELAY U1326

TRL



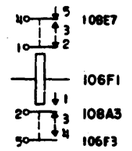
RELAY U1333

TRLA



RELAY U234

TRS



LAMP DESIG	LOC	CODE
HGB	10B6	13J
LBS0	683	13J
LBS1	683	13J
(XA) SMB	72B/G8	13J(RES)
TBS0	34C5	13J
TBS1	34C5	13J
TBS2	34F5	13J
TBS3	34F4	13J
TBS4	34F5	13J

NETWORK DESIG	LOC	CODE
(XA) AR	31C5	(1/2) 177C*
(XA) CB	61E1	(1/2) 177K
CKG1	108F2	(1/2) 177K
CKG2	108G3	(1/2) 177K
CKG6	108H3	(1/2) 177K
(JL) D	3A1	(1/2) 177K
DIS	108D3	(1/2) 177K
DISA	2E7	(1/2) 177K
(E) DTI	3G4	177J*
GTL	14D6	(1/2) 177H*
LFK	787	(1/2) 177C*
LFS	6E8	(1/2) 177C*
LLC1	7H5	177J*
MDK	3H66	177E*
(JL) MF	3B1	(1/2) 177K
(XN) MLF	3E1	(1/2) 177K
(E) OC	3F3	(1/2) 177C*

NETWORK DESIG	LOC	CODE
(E) OC1	3E3	(1/2) 177H*
(E) OC2	3F3	(1/2) 177H*
RCY1	103D8	(1/2) 177H*
RK2	1NB0	(1/2) 177K
RK3	14E7	(1/2) 177K
SQA	54B1	(1/2) 177C*
SQA1	54C1	(1/2) 177C*
TFS	33E1	(1/2) 177C*
TLC1	34A6	177J*
TR2E	106D2	(1/2) 177H*

* SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
(XA) F2	61E1	KS-5643, L427, 90
(JL) F3	3B0	KS-5643, L427, 90
F4	1NC0	KS-5643, L427, 90
F5	108D4	KS-5643, L427, 90
(JL) F7	3A1	KS-5643, L427, 90
F8	2E7	KS-5643, L427, 90
F9	14E6	KS-5643, L427, 90
(XN) F10	3E1	KS-5643, L427, 90
F11	108G4	KS-5643, L427, 90
G2	34A5	KS-5643, L427, 62
G3	7H6	KS-5643, L427, 62
K0	108H4	KS-5643, L427, 90
LFS	6E8	KS-13490, L3, 33, 000
TFS	33E0	KS-13490, L3, 33, 000
(E) XLN1	4686	1BFA
(E) XLN3	46C8	1BAC

MARKER CIRCUIT

(2) SD-25550-01-C14

BELL TELEPHONE LABORATORIES INCORPORATED

SHEET 6S

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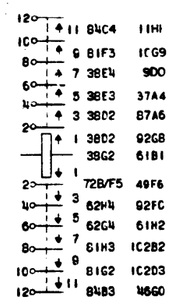
PART OF APP FIG. 33

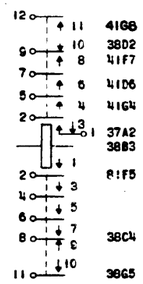
RELAY
(-1) U1325
(-2) UB12

BG FLG



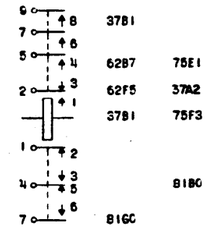
RELAY
U675

CLG



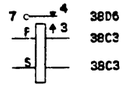
RELAY
(-1) U1355
(-2) UB15

CLK NDK



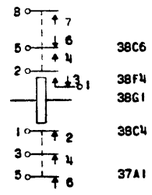
RELAY
(WF) 239FC
(WG) 28CA

CLT

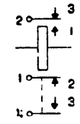


RELAY
U1408

CLT1 SCB2



RELAY
U1356

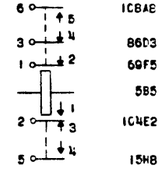


CLT2 DTK NOC

		62F5
38A6	7B4	37A1
	10E7	38D6
3781	49CC	62C7

RELAY
U142

DCK



RELAY
U1381

FLG1

RELAY
U1384

ITR3 TER3

RELAY
U611

LOT

RELAY
(-1) U1367
(-2) UB17

LOT1 PTK

RELAY
U1113

LR

RELAY
U1364

MAKI TBK

586 114C1 1CBF4 15G8 5A5 69A2, 107B/C2 1C7B3 1CBA7

RELAY
U892

NDI

RELAY
U1396

NSI SCBI TFK3

15C8	61E3	1CBA8
69C5	7H3	93B2
69C6	6CC1	6F8
129C5, 62F4 62G7		86D3
15E5	6D7	33F0
69C6	61D1	33E3
75B2	1C3B3	35F8, 36E2
	60B2	
37A2	113C6	35F8
3782	59H3	5G6
33D1	4665	35E1, 36D1

RELAY
U1360

(A) OBS1

RELAY
U290

(A) QBS2

RELAY
U1375

OTT

RELAY
(PA-1) U1389
(PA-2) UB19
(PB) U1392

RCK3

RELAY
U1389

RV1 RV2

RELAY
(-1) U1368
(-2) UB18

RYC

115E8 14F9 1C1H6 1C3A8 38F5 119G0 69E6

RELAY
(-1) U506
(-2) UB9

S1K

RELAY
U1404

SOG3

RELAY
U1405

TOG3

RELAY
U132C

TR2F

DRAWING ISSUE			
41D	R.S.		
43B			PD
45B			
48D	BB LW		
49D			
51D	JR		
54D	DK		

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MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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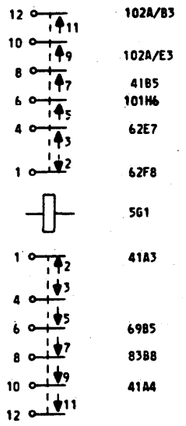
DRAWING ISSUE
54D OR ACL AND
55A MD

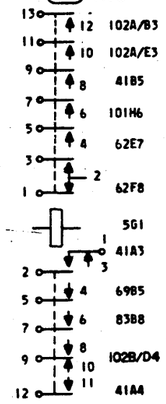
RELAY U6117

(FD) RV3



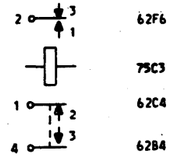
RELAY U9B2

(FE) RV3



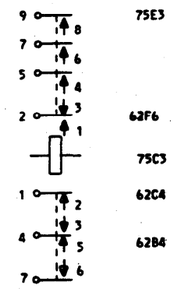
RELAY U1356

(FF) TTK



RELAY U1355

(FG) TTK



CAPACITOR		
DESIG	LOC	CODE
CLT	38E4	[2]437QA

INDUCTOR		
DESIG	LOC	CODE
CLT	38G6	200CL
CLT2	38C6	200CL

LAMP		
DESIG	LOC	CODE
LOB	7F6	13J (RES)

NETWORK		
DESIG	LOC	CODE
BG	38G2	[1/2]177H*
CLG	38B3	[1/2]177C*
CLK	37B1	[1/2]177H*
CLT	38F6	[1/2]177H*
CLT1	38G1	[1/2]177H*
CLT2	38C5	[1/2]177H*
DTK	7B4	[1/2]177H*
FLG	61B1	[1/2]177H*
FLG1	61A1	[1/2]177H*
LOT	61B7	[1/2]177C*
LOT1	7F7	[1/2]177H*
MAK1	34G5	[1/2]177H*
ND1	75A3	[1/2]177C*
NDK	75F3	[1/2]177H*
NOC	37A1	[1/2]177H*
NS1	69C6	[1/2]177H*

* SEE NOTE 104

NETWORK			
	DESIG	LOC	CODE
(A)	OBS1	121D5	[1/2]177H
(A)	OBS2	121B3	[1/2]177C
	OTT	75D3	[1/2]177C
	PTK	89B0	[1/2]177H
	RCK3	101GB	[1/2]177H
	RSA	102A/C3	[1/2]177K
	RSB	102A/E3	[1/2]177K
	RV1	12E5	[1/2]177K
(FD,FE)	RV3	5G1	[1/2]177H
	RYC	103A8	[1/2]177H
	SIK	41C4	[1/2]177H
	TBK	43H6	[1/2]177H
	TFK3	33B3	[1/2]177H
	TG1	43C4	[1/2]177K
	TTK	75G3	[1/2]177H

RESISTOR		
DESIG	LOC	CODE
CLT1	38D2	18AP
CLT2	38D2	18DG
CLT3	38E3	18FL
CLT4	38D4	18BT
F6	5G7	KS-5643,L427,90
(QA) G4	15E2	KS-5643,L427,62
(QA) G5	15A2	KS-5643,L427,62
(QA) G6	15H2	KS-5643,L427,62
(QA) G7	15F2	KS-5643,L427,62
H7	11F	KS-5643,L427,90
(A) OBS1	121C4	18GH
(A) OBS2	121B4	18BW
TG	43C4	KS-13490,L3,33,000

MARKER CIRCUIT

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BELL TELEPHONE LABORATORIES INCORPORATED

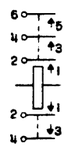
SD-25550-01-C16

HIGGINS 4465

APP FIG. 34

APP FIG. 35

RELAY
(1) U1366
(2) U816



AC0	AC1	AC2	AC4	AC7
23A2	23D2	23H2	23E2	23H2
22H6	23B2	23E2	22C5	22C5
63A3	64A4	65A3	66A4	67A3
63A3	64A3	65A3	66A3	67A3
23C2	23G2	23B2	23D2	23G2
23J2	22H6	23A2	23C2	23F2

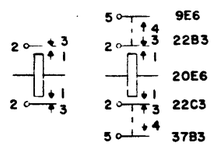
NETWORK

DESIG	LOC	CODE
AC0	63A2	(1/2)177H*
AC1	64A3	
AC2	65A3	
AC4	66A3	
AC7	67A3	

* SEE NOTE 104

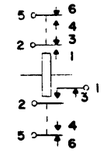
APP FIG. 36

RELAY
(TA) U988 (TB) U1354
PD



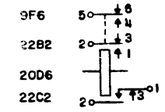
9E6	
22B3	
20E6	
22C3	
37B3	

RELAY
(KG) U1212
PK



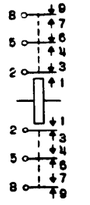
9F6
22B2
20D6
22C2
126D4

RELAY
(KF) U1298
PK



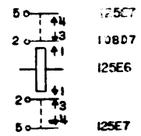
9F6	
22B2	
20D5	
22C2	

RELAY
U226
PS



107D5
108D7
22C3
20F6
20G5
22B2
125E7

RELAY
U460
PSR



125C7	
108D7	
125E6	
125E7	

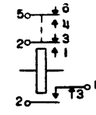
NETWORK

	DESIG	LOC	CODE
(TA,TB)	PD	20E6	(1/2)177H*
	PK	20D6	(1/2)177H*
	PS	20F6	(1/2)177H*

* SEE NOTE 104

APP FIG. 37

RELAY
U1298



CR	SCK
30G4	30G4
22B1	22B1
20D6	20C6
22B1	22B1

RELAY
U988
SCN

22D2
20B6
22B1

NETWORK

DESIG	LOC	CODE
CR	20D6	177E*
SCK	20C6	(1/2)177H*
SCN	20B6	(1/2)177H*

* SEE NOTE 104

DRAWING ISSUE

41D	J.K. J.M.S.
45B	G.L.P. W.C.
46D	T.D.V. G.M.M. A.M.B.
54D	J.E.K. E.L. J.M.S.

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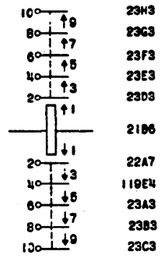
MARKER CIRCUIT (2) SD-25550-01-C18 54

BELL TELEPHONE LABORATORIES INCORPORATED 6S

APP FIG. 38

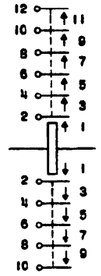
RELAY
(-1) U1366
(-2) UB18

(LM) 11Y



23H3	
23G3	
23F3	
23E3	
23D3	
21B6	
22A7	
119E4	
23A3	
23B3	
23C3	

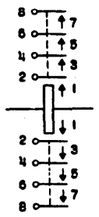
RELAY
(-1) U1345
(-2) UB13



TC5	TC6	(LM) TC7
23H3	23H3	23H4
23G3	23G3	23G4
23F3	23F3	23F4
23E3	23E3	23E4
23D3	23D3	23D4
23C3	23C3	23C4
21C6	21C6	21C6
85A/E3	85A/E3	85A/F3
22B6	22B6	22B6
22H6	22G7	22G6
23A3	23A3	23A4
23B3	23B3	23B4

RELAY
(-1) U1349
(-2) UB21

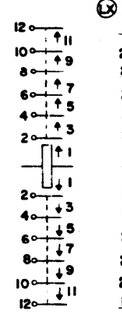
X11



23H3	
23H3	
23F3	
23E3	
21B6	
23A3	
23B3	
23C3	
23E3	

RELAY
U1325

(LM) 11X (LM) TC7



	23H4
23H3	23G4
23G3	23F4
23F3	23E4
23E3	23D4
23D3	23C4
21B6	21C6
22A7	85E1
119E4	22B6
23A3	22A6
23B3	23A4
23C3	23B4
126D4	126C4

NETWORK

DESIG	LOC	CODE
11X	21B6	[1/2] 177HX
TC5	21C6	[1/2] 177HX
TC6	21C6	[1/2] 177HX
TC7	21C6	[1/2] 177HX
X11	21B6	[1/2] 177HX

* SEE NOTE 104

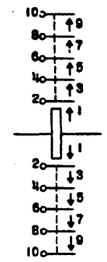
APP FIG. 39

RELAY
(-1) U1369
(-2) UB24

NETWORK

DESIG	LOC	CODE
[10] ATO-9	23A7	[1/2] 177K

[10] ATO-9



24G7
24F7
24F7
24E7
24D7
23A7
24A7
24B7
24C7
24C7
24D7

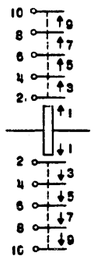
APP FIG. 40 (MFR DISC)

RELAY
(-1) U1369
(-2) UB24

NETWORK

DESIG	LOC	CODE
[10] BTCC-09	24H4	[1/2] 177K
[10] TAO-9	23D7	[1/2] 177K

[10] BT00-09 [10] TAO-9



25G4	24G2
25F4	24G2
25F4	24F2
25E4	24E2
25E4	24E2
24H4	23D7
25B4	24B2
25B4	24B2
25C4	24C2
25C4	24D2
25D4	24D2

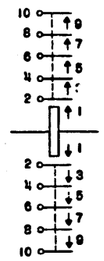
APP FIG. 41 (MFR DISC)

RELAY
(-1) U1366
(-2) UB24

NETWORK

DESIG	LOC	CODE
[90] BT10-99	24H4	[1/2] 177K

[90] BT10-99



25G4
25F4
25F4
25E4
25E4
24H4
25B4
25B4
25C4
25C4
25D4

DRAWING ISSUE
41D
45B
54D

SD-25550-01-C19

MARKER CIRCUIT (2) SD-25550-01-C19

BELL TELEPHONE LABORATORIES INCORPORATED 6S

APP FIG. 42

RESISTOR

DESIG	LOC	CODE
H0	23A6	KS-5643,L427, 90
H1	24H5	KS-5643,L427, 90
J0	69D7	KS-5643,L427, 90

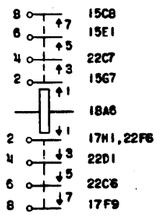
APP FIG. 43

RELAY
(-1) U1349
(-2) U821

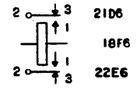
RELAY
U988

RELAY
(-1) U1325
(-2) U812

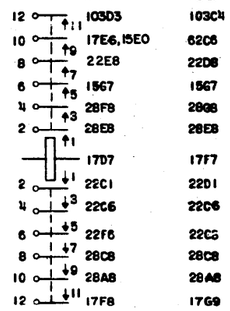
INC



RO



TAN TOL



NETWORK

DESIG	LOC	CODE
INC	18A6	(1/2) 177H*
RO	18F6	(1/2) 177H*
TAN	17D7	(1/2) 177H*
TOL	17F7	(1/2) 177H*

* SEE NOTE 104

APP FIG. 44

RELAY
U1394

	LEA (PG)	LEB (PH)	LPA	LPB (V)	LTA (U)	LTB (T)
	15H4	15H4	15H6	15H6	15H6	15H5
6 5	85A/E1	85A/E1	85A/F1	85A/F1	85A/F1	85A/G1
4 3	29C3	29D3	29B3	29C3	29B3	29C3
2 1	29D5	29F5	29C5	29E5	29D5	29F5
2 1	85B/C3	85B/H3	85B/B3	85B/G3	85B/C3	85B/H3
4 3	89A3	89A4	89B6	89B6	89D2	89E2

NETWORK

DESIG	LOC	CODE
(PG) LEA	29E5	(1/2) 177K
(PH) LEB	29F5	(1/2) 177K
LPA	29C5	(1/2) 177K
(V) LPB	29E5	(1/2) 177K
(U) LTA	29D5	(1/2) 177K
(T) LTB	29F5	(1/2) 177K

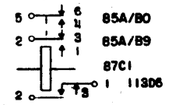
RESISTOR

DESIG	LOC	CODE
H2	29F7	KS-5643,L427, 90

APP FIG. 45

RELAY
U1298

NR



NETWORK

DESIG	LOC	CODE
NR	87C0	(1/2) 177H*

* SEE NOTE 104

DRAWING ISSUE
41D
49D
54D

SD-25550-01-C20

MARKER CIRCUIT (2)
SD-25550-01-C20
BELL TELEPHONE LABORATORIES INCORPORATED
6S
54

APP FIG. 46

RELAY
(1) U1357
(2) U823

	N1	N2	N3	N4
12 11	85A/C6	85A/D6	85A/E6	85A/F6
10 9	67AN	67AN	67CN	67CN
8 7	66AN	66BN	66CN	66DN
6 5	65AN	65BN	65CN	65CN
4 3	64AN	64BN	64CN	64DN
2 1	63AN	63BN	63CN	63CN
1 2	85A/C6	85A/D6	85A/E6	85A/F6
3 4	63BN	63CN	63DN	63EN
5 6	64BN	64CN	64DN	64EN
7 8	65BN	65BN	65DN	65EN
9 10	66BN	66CN	66DN	66E4
	67BN	67BN	67DN	67DN

RELAY
(UH-1) U1357
(UH-2) U823
(UG-1) U1345
(UG-2) U813

	N1A	N2A	N3A	N4A
12 11	95A/G4	85A/G4	85A/G4	95A/G5
10 9	67CN	67EN	67EN	67EN
8 7	66DN	66EN	66EN	66FN
6 5	65DN	65EN	65EN	65FN
4 3	64DN	64EN	64FN	64FN
2 1	63DN	63EN	63EN	63EN
1 2	85A/C7	85A/D7	85A/E7	95A/F7
3 4	63CN	63DN	63DN	63EN
5 6	64CN	64DN	64EN	64FN
7 8	65CN	65DN	65EN	65EN
9 10	66CN	66DN	66EN	66EN
	67BN	67DN	67DN	67EN

RELAY
U1180

NE
2 3 1 9287
85A/G6
2 1 3 90F5
4 3 8861

NETWORK

DESIG	LOC	CODE
N1	85A/C6	[1/2]177K
N2	85A/D6	[1/2]177K
N3	85A/E6	[1/2]177K
NN	85A/F6	[1/2]177K
UG N1A	85A/D7	[1/2]177H *
UG N2A	85A/E7	[1/2]177H *
UG N3A	85A/F7	[1/2]177H *
UG NNA	85A/G7	[1/2]177H *
NE	85A/G6	[1/2]177C *

* SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
N3	85A/C9	KS-5643,L427,90

APP FIG. 47

RELAY
(-1) U1367
(-2) UB17

	ECN	OCN
4 3	86F6	86F7
2 1	86F7	86F6
2 3	88G8	88H8
4 3	88G0	88G0

RELAY
(-1) U1369
(-2) UB24

	TRN
10 9	1012
8 7	88D0
6 5	88G7
4 3	86H7
2 1	8108
	85A/H7
2 1	63B4
4 3	64B3
6 5	6583
8 7	66B4
10 9	6783

RELAY
(-1) U64
(-2) U86

	TRNI
12 11	88C0
10 9	67C3
8 7	66CN
6 5	65C3
4 3	64C3
2 1	63CN
	8108
2 1	63B4
4 3	64B3
6 5	65B3
8 7	66B4
10 9	67B3
12 11	8861

NETWORK

DESIG	LOC	CODE
ECN	88G8	[1/2]177H *
OCN	88H8	[1/2]177H *
TRN	85A/H7	[1/2]177K
TRNI	8108	[1/2]177C *

* SEE NOTE 104

APP FIG. 48 (MFR DISC)

RELAY
(-1) U1368
(-2) UB18

	BNA	RIA	TBIA
10 9	89C1	89C1	89C2
8 7	86B7	86B7	86C7
6 5	93C3	93B5	93C3
4 3	94B5	94B5	94A5
2 1	95H3	95H3	95H3
	92A9	9289	92C9
1 2	88C1	88D1	88D1
3 4	88E1	88D1	88E0
5 6	88E1	88E0	111E1
7 8	87B5	87B5	87B5
9 10	111E1	111E1	87E2

RELAY
(-1) U1367
(-2) UB17

	HN0	HN1	HN2	HN4	HN7	T0	T1	T2	T4	T7	U0	U1	U2	U4	U7
4 3	93B4	93C4	93E4	93D5	93E5	94D5	94D5	94C5	94D6	94C6	95F2	95D2	95B2	95D2	95B2
2 1	93B4	93C4	93D4	93B4	9385	94E5	94D5	94D5	94E5	94E6	95F2	95E2	95D2	95G2	95G2
1 2	63B5	64B5	6585	6685	6785	63C5	64C5	65C5	66C5	67C5	63D5	64D5	65C5	6605	67D5
3 4	93C4	93D4	93C5	93C5	9305	94D5	94C5	94D6	94D6	94C6	95E2	9582	95E2	95D2	9582
	93D4	9385	9385	93C5	9305	94C5	94E6	94D6	94D6	94C6	95C2	95F2	95F2	95E2	95C2

NETWORK (CONT)

DESIG	LOC	CODE
TH7	67A5	
U0	6305	
U1	6405	
U2	6505	[1/2]177H *
U4	6605	
U7	6705	

* SEE NOTE 104

RELAY
1355
(-2) UB15

	THO	TH1	TH2	TH4	TH7
9 8	86D6	86D6	86D6	86D6	86E6
7 6	86D6	86D6	66D6	86E6	86E6
5 4	86D6	86D6	86E6	86E6	86E6
2 3 1	86C5	86C5	86C5	86C6	86C6
	63A5	64A5	65A5	66A5	67A5
1 2			86D5	86D6	86D6
4 3 5		86C5	86C5	86C6	86C6
7 6	86D6	86E6	86E6	86E6	86E5

RESISTOR

DESIG	LOC	CODE
NGS	86F5	KS-13490,L3,33000

NETWORK

DESIG	LOC	CODE
BNA	92A9	
HN0	6385	
HN1	6485	
HN2	6585	[1/2]177H *
HN4	6685	
HN7	6785	
NGS	86F5	[1/2]177C *
RIA	9289	
T0	63C5	
T1	64C5	[1/2]177H *
T2	65C5	
T4	66C5	
T7	67C5	
TBIA	92C9	177E *
TH0	63A5	
TH1	64A5	
TH2	65A5	[1/2]177H *
TH4	66A5	

MARKER CIRCUIT	②	SD-25550-01-C21
BELL TELEPHONE LABORATORIES INCORPORATED	6S	54

SD-25550-10-C21

41D	G.E. ANS
43B	ANS
49D	GM ANS AMD
54D	GM AGL AMD

P.D.

APP FIG. 49

RELAY U1387

	A0	A1	A2	A4	A7	B0	B1	B2	B4	B7	C0	C1	C2	C4	C7	D0	D1	D2	D4	D7	E0 (S)	E1 (S)	E2 (S)	E4 (S)	E7 (S)	F0 (R)	F1 (R)	F2 (R)	F4 (R)	F7 (R)	G0 (Q)	G1 (Q)	G2 (Q)	G4 (Q)	G7 (Q)	H0 (P)	H1 (P)	H2 (P)	H4 (P)	H7 (P)	J0 (N)	J1 (N)	J2 (N)	J4 (N)	J7 (N)
N 5 3	80C2	80C2	80C2	80C3		80C4	80C4	80C4	80C5	80C5	80C6	80C6	80C6	80C6	80C7	80C7	80C8	80C8	80C8	80C9	80E8	80E8	80E8	80E8	80E7	80E7	80E6	80E6	80E6	80E6	80E5	80E5	80E4	80E4	80E4	80E3	80E3	80E2	80E2	80E2	80G2	80G2	80G2	80G3	80G3
1 2											80C6	80C6	80C6	80C6	80C7	80C7	80C8	80C8	80C8	80C8	80E8	80E8	80E8	80E8	80E7	80E7	80E6	80E6	80E6	80E6	80E5	80E5	80E4	80E4	80E4	80E3	80E3	80E2	80E2	80E2	80G2	80G2	80G2	80G3	80G3
1 2	63A7	64A7	65A7	66A7	67A7	63B7	64B7	65B7	66B7	67B7	63B7	64C7	65C7	66C7	67C7	63D7	64D7	65C7	66C7	67C7	63D7	64E7	65E7	66E7	67D7	63E7	64F7	65E7	66E7	67E7	63E7	64F7	65F7	66F7	67F7	63F7	64G7	65F7	66F7	67F7	63F7	64G6	65G7	66G7	67G7
1 2			80B2	80B3	80B3			80B4	80B5	80B5			80B6	80B6	80B7			80B8	80B8	80B9			80D8	80D8	80D7			80D6	80D6	80D6			80D4	80D4	80D4			80D2	80D2	80D2			80F2	80F3	80F3
N 3 5		80C2	80C2	80C3	80C3		80C4	80C4	80C5	80C5		80C6	80C6	80C6	80C7		80C8	80C8	80C8	80C9		80E8	80E8	80E8	80E7		80E6	80E6	80E6	80E6		80E5	80E4	80E4	80E4		80E3	80E2	80E2	80E2		80F2	80F2	80F3	80F3

RELAY U1387

	K0 (M)	K1 (M)	K2 (M)	K4 (M)	K7 (M)	L0 (K)	L1 (K)	L2 (K)	L4 (K)	L7 (K)
N 5 3	80G4	80G4	80G4	80G5	80G5	80G6	80G6	80G6	80G6	80G7
1 2	80G4	80G4	80G4	80G5	80G5	80G6	80G6	80G6	80G6	80G7
1 2	63G7	64H6	65G7	66G7	67G7	63G7	64H7	65H7	66H7	67H7
1 2			80F4	80F5	80F5			80F6	80F6	80F7
N 3 5		80F4	80F4	80F5	80F5		80F6	80F6	80F6	80F7

RELAY (1) U1389 (2) UB19

	KA	KG	KK
6 5	82B1	82C1	
N 3	67A6	82E1	
2 1	66A6	82B1	81GN
2 1	82B0	81CN	82A0
2 3	63A6	82F1	88G1
N 3	64A7	82D1	
6 5	65A6	82F1	81D7

RELAY (1) U1325 (2) UB12

	KBC	KDE	KFG (J)	KHJ (H)	KKL (G)
12 11	82B1	82B2	82B2	82B3	82B3
10 9	67B6	67D6	67E5	67F5	67G6
8 7	66C6	66D6	66F6	66G6	66G6
6 5	65B6	65D6	65F6	65G6	65H6
N 3	64B6	64E5	64F5	64G5	64H5
2 1	63B6	63D6	63E6	63F6	63G6
2 1	82E0	82C0	82F0	82D0	82F0
2 3	63B6	63C6	63E6	63F6	63G6
N 5	64B6	64C6	64E5	64G5	64H5
6 7	65B6	65C6	65E6	65F6	65G6
8 9	66B6	66C6	66E6	66F6	66G6
10 11	67A6	67C6	67E5	67F5	67G5
12		67E6	67F6	67G6	67H6

RELAY U1299

	ORK1	ORK2
2 3	81GN	81G5
1	80C0	80G0
2 1 3	81C5	81D6,92F2

RELAY U1393

	ST7
2 3 1	80G1
	67H6

NETWORK

DESIG	LOC	CODE
A0	63A7	
A1	64A7	
A2	65A7	
A4	66A7	
A7	67A7	
B0	63B7	
B1	64B7	
B2	65B7	
B4	66B7	
B7	67B7	
C0	63B7	
C1	64B7	(1/2)177C*
C2	65B7	
C4	66B7	
C7	67B7	
D0	63D7	
D1	64D7	
D2	65D7	
D4	66D7	
D7	67D7	
E0	63E7	
E1	64E7	
(S) E2	65E7	
E4	66E7	
E7	67E7	

NETWORK (CONT)

DESIG	LOC	CODE
F0	63E7	
F1	64F7	
(R) F2	65E7	
F4	66E7	
F7	67E7	
G0	63F7	
G1	64F7	
(Q) G2	65F7	
G4	66F7	
G7	67F7	
H0	63F7	
H1	64F7	(1/2)177C*
(P) H2	65F7	
H4	66F7	
H7	67F7	
J0	63G7	
J1	64G6	
(N) J2	65G7	
J4	66G7	
J7	67G7	
K0	63G7	
K1	64G7	
(M) K2	65G7	
K4	66G7	
K7	67G7	
KA	82B0	(1/2)177H*
KBC	82E0	177E*
KDE	82C0	177E*

NETWORK (CONT)

DESIG	LOC	CODE
(J) KFG	82F0	177E*
KG	81C4	(1/2)177H*
(H) KHJ	82D0	177E*
KK	82A0	177E*
(G) KKL	82F0	177E*
L0	63H7	
L1	64H7	
(K) L2	65H7	
L4	66H7	
L7	67H7	(1/2)177C*
ORK	80G0	
ST7	67H6	

* SEE NOTE 104

DRAWING ISSUE
41D
54D

MARKER CIRCUIT (2)
SD-25550-01-C22
BELL TELEPHONE LABORATORIES INCORPORATED
6S

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APP FIG. 50

RELAY	
	U1337

	GS1	GS2	GS3	GS4	GS5
12	31B7	31D7	31E7	31F7	31G7
11					
10	32F7	32F7	32F7	32F7	32F7
9					
8	32C5	32C5	32C5	32C5	32C5
7					
6	74F6	74F6	74F6	74F6	74F6
5					
4	73C5	73C5	73C5	73C5	73C5
3					
2	73F5	73F5	73F5	73F5	73F5
1					
	31B7	31D7	31E7	31F7	31G7
1					
2	31B1	31B1	31B1	31B1	31B1
3					
4	111F6	111E6	111E6	111D6	111D6
5					
6	69A3	69A3	69A3	69A3	69A3
7					
8	39G8	39G8	39G8	39G8	39G8
9					
10	73D5	73D5	73D5	73D5	73D5
11					
12	31F1	31E1	31E1	31D1	31D1

RELAY	
(1)	U1355
(2)	UB16

[5] RA1-5

9	31B1
7	31A7-G7
5	111D6, 111E6
2	110F2-F3
11	31B0
1	30D1-F1
4	111A4-C4
7	31B6

RELAY	
	U0888

RA6

104A5	GS5	31G7
31C0	[4] RA1-4	31B0
	RA5	31B0
111C7	RA6	31C0

* SEE NOTE 104

NETWORK DESIG	LOC	CODE
GS1	31B7	
GS2	31D7	
GS3	31E7	
GS4	31F7	
GS5	31G7	[1/2]177H*
RA1-4	31B0	
RA5	31B0	177E*
RA6	31C0	[1/2]177H*

APP FIG. 51

SEE NOTE 415

RELAY	
(1)	U1326
(2)	UB12

[570] R-

12	69A3
11	
10	32F5
9	
8	32C4
7	
6	74F6
5	
4	73C5
3	
2	73F5
1	
	29A5
1	
2	31B1
3	
4	111D5-F5
5	
6	111A3-C3
7	
8	39G7
9	
10	73D5
11	
12	31D2-F2

NETWORK DESIG	LOC	CODE
[570] R-	29A5	[1/2]177H*

* SEE NOTE 104

APP FIG. 52

SEE NOTE 415

RELAY	
(1)	U1326
(2)	UB12

[570] R-

12	69A3
11	
10	32F5
9	
8	32C4
7	
6	
5	111C2
4	
3	
2	
1	29B5
1	
2	31C1
3	
4	111C5
5	
6	111A3
7	
8	39G7
9	
10	125D3-F3
11	
12	

NETWORK DESIG	LOC	CODE
[570] R-	29B5	[1/2]177H*

* SEE NOTE 104

APP FIG. 53

RELAY	
	U0844

(7) AMA

8	
7	41G3
6	
5	41G7
4	
3	84B9
2	
1	37G0
2	
1	37C5
3	
5	4
4	37B5
6	
5	7
6	73B9
7	

RELAY	
	UA89

	BL	PBY
6		
5	41D5	37A8
4	5G3	5G2
3		
2	41F6	41F6
1		
	30B2	30B2
1		
2	87A/G2	87A/G2
3		
4	37B8	41D6
5		
6	37B8	111G2

RELAY	
	U1370

	CAA	PCN	PNC	PPX	VP
6	37G3	41E6	37G3	41D4	
5					
4	41D6	37G3	37N3	41D6	
3					
2	41D6	37E4	37F4	37F4	41D5
1					
	30B5	30C5	30D5	30D5	30A2
1					
2	37B9		41F5	41F6	37B8
3					
4	37F3	41G5	41D6	37G3	37B9
5					
6		37H8			41G6

RELAY	
	U0888

CNC

3	
2	37F7
1	
	41E6
1	
2	37C6
3	

RELAY	
	U1371

	NCCN	NCNC	TCNC
4			
3	41F9		41D4
2			
1			
	30F5	30G5	30F5
1			
2		130B1	
3			
4	37C6	37B6	37F8

RELAY	
	U1360

OPR

6	
5	41D3
4	
3	5G3
2	
1	41F5
	30A5
1	
2	37B8
3	
4	29E2
5	

RELAY	
	U1356

	RPK	TPK
3		
2	37F5	37E5
1		
	41G2	41F2
1		
2	81C0	
3	81C0	37H4
4		

RELAY	
	U0809

RV

10	582
9	
8	101C2
7	
6	103G6
5	
4	5G2
3	
2	61G2
1	
	5A1
1	
2	30C1
3	
4	
5	89H4
6	
7	61G4
8	
9	31B7

RELAY	
	U1364

TC

6	37G3
5	
4	37F4
3	
2	37C5
1	
	41D2
1	
2	37B5
3	
4	37E5

RELAY	
	U1300

TCCN

4	41D3
3	
2	
1	30E5
	41F8
1	
2	37E8
3	
4	

LAMP DESIG	LOC	CODE
(92) RBL	30D2	13J
(93) RSL	30G7	13J

NETWORK DESIG	LOC	CODE
(7) AMA	37G0	[1/2]177C*
BL	30B2	
CAA	30B5	
CNC	41F8	
NCCN	30F5	
NCNC	30G5	[1/2]177H*
OPR	30A5	
PBY	30B2	
PCN	30C5	
PNC	30D5	
PPX	30D5	
RPK	41G2	
RV	5A1	[1/2]177C*
TC	41E2	
TCCN	30E5	
TCNC	30F5	[1/2]177H*
TPK	41F2	
VP	30A2	

* SEE NOTE 104

41D	J-K LAT
43B	RCT INV
47D	D-S LAT AND
48D	EM REQ AND
51D	MB REV AND
54D	LEA REL AND
55A	MD
56D	MD

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

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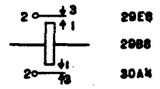
APP FIG. 54

RELAY U988

[4] OPS0-3



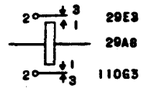
NETWORK DESIG	LOC	CODE
[4]OPS0-3	29B8	[1/2]177N *

* SEE NOTE 104

APP FIG. 55

RELAY U988

[20]PCO-19



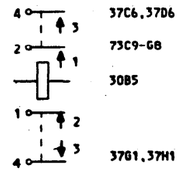
NETWORK DESIG	LOC	CODE
[20]PCO-19	29A8	[1/2]177N *

* SEE NOTE 104

APP FIG. 56

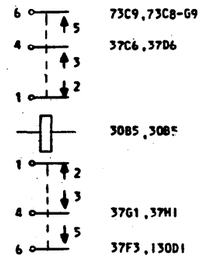
RELAY U1371

FC MBS0
ED [9] MBS1-9



RELAY U1370

GM MBS0
EE MBS1-9



NETWORK DESIG	LOC	CODE
FC,GW MBS0	3085	[1/2]177H*
ED,EE [9]MBS1-9	3085	[1/2]177H*

*SEE NOTE 104

APP FIG. 57

RELAY U6005

[3] CRR0-2

NETWORK DESIG	LOC	CODE
[3] CRR0-2	30H5	[1/2]177C *

* SEE NOTE 104

APP FIG. 58

RELAY U6005

[3] DRO-2

NETWORK DESIG	LOC	CODE
[3]DRO-2	30H5	[1/2]177C *

* SEE NOTE 104

DRAWING ISSUE

41D	24C	
49D	2M	
54D	GM	
56D	MD	

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MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

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APP FIG 59

RELAY																	
DESIG	RTC																
CODE	U76																
OPTION	EG																
	CONT 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	117E3														
	6,5,4	BM	117E3														
	3,2,1	BM	117E3														
BOT	2,1,3	MB															
	6,5,4	BM	117E3														
	9,8,7	BM	117E3														
COIL			11784														

RELAY								
DESIG	RTC		RTC1					
CODE	AJ131		AJ131					
OPTION	EH		EH					
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12	EBM		EBM					
11	EMB		EMB					
10	EBM		EBM					
9	EMB	117D3	EMB	117E3				
8	EBM		EBM					
7	EMB	117D3	EMB	117E3				
6	EBM		EBM					
5	EMB	117D3	EMB	117E3				
4	EBM		EBM					
3	EMB	117D3	EMB	117E3				
2	EBM		EBM					
1	EMB	117D3	EMB	117E3				
COIL		11784		117C4				

NETWORK

	DESIG	LOC	CODE
(EG)	RTC	11784	177E (SEE NOTE 104)
(EH)	RTC	11784	185A
(EH)	RTC1	117C4	185A

APP FIG 60

RELAY																	
DESIG	[5] RTO-4																
CODE	U321																
OPTION	EG																
	CONT 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	117D3														
	3,2,1	BM	117C6														
BOT	3,2,1	BM	11786														
	5,4	M															
COIL			117E4														

RELAY								
DESIG	[5]RTO-4		[5]RT5-9					
CODE	AK 4							
OPTION	EH		EH					
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12			M	117E4				
11			EBM	117F6				
10			EBM	117E6				
9			EMB					
8			EMB					
7								
6								
5	EMB							
4	EMB							
3	EBM	117D6						
2	EBM	117C6						
1	M	117D4						
COIL		117D4		117E4				

NETWORK

	DESIG	LOC	CODE
(EG)	[5] RTO-4	117E4	177C (SEE NOTE 104)

APP FIG 61

RELAY									
DESIG	[90]S00-44,100-144								
CODE	U1325,U812								
OPTION	-1,-2								
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	28A2						
	10,9	M	28A2						
	8,7	M	28A2						
	6,5	M	28A2						
	4,3	M	28A2						
	2,1	M	28A2						
BOT	2,1	M	28A2						
	4,3	M	28A2						
	6,5	M	28A2						
	8,7	M	28A2						
	10,9	M	28A2						
	12,11	M	28A2						
COIL			27E6						

DRAWING ISSUE 56D MD

MARKER CIRCUIT (2) SD-25550-01-C24B

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APP FIG. 62
(A & M ONLY)
SEE NOTE 105 PARAGRAPH 27

RELAY U6117

	RGTO	RGTI
12 ↑11	85A/D1	85A/D1
10 ↑9	87A1	87A1
8 ↑7	61G6	61G6
6 ↑5	5B3	5B3
4 ↑3	89H3	89H3
1 ↑2	61G3	61G2
	29F0	29F0
1 ↓2	5A3	5A2
4 ↓3	101D3	101D3
6 ↓5	89H5	89H5
8 ↓7	87A8	87A8
10 ↓9	86D2	86D2
12 ↓11	85B/A9	85B/H3

NETWORK

DESIG	LOC	CODE
[2]RGTO,I	29F0	[1/2] 177H *

* SEE NOTE 104

APP FIG. 63

RELAY U620 — RLG

2 ↑3	10BD5	
↑1		5H1
2 ↓1		
4 ↓3		

RELAY U6005 — RR

2 ↑1	10BD5	
	30G5	
2 ↓1		5F1

RELAY U218 — RRC

6 ↑5	10BD6	
		5H1
4 ↑3		
1 ↑2	10BD7	
		5B1
1 ↓2		5F1
4 ↓3		5B1

RELAY U165 — RRK

2 ↑3	10BD6	
↑1		5F1
2 ↓1		5B1

RESISTOR

DESIG	LOC	CODE
RR	30G6	19RH

APP FIG. 64

RELAY U988 — 2SG

2 ↑3	10SC6
↑1	
2 ↓1	10SD9
↓3	

RELAY U1371 — [4] ALO-3

4 ↑3	10SG5
2 ↑1	10SC8-D8
	39G5
1 ↓2	
4 ↓3	39H7

RELAY U1350 — GP1

2 ↑3	10SC7
↑1	10SF7
2 ↓1	10SF7
4 ↓3	10SG5

RELAY U1406 — GP2

7 ↑6	10SF7
5 ↑4	113C4
2 ↑3	10SF6
↑1	10SE7
1 ↓2	40E6
4 ↓3	125H3
6 ↓5	10SH6

RELAY U474 — GP3

9 ↑8	103E6
6 ↑7	
↑5	10SG6
4 ↑3	
↑2	10SB8
↑1	10SG7
2 ↑1	10SF6
↑3	
4 ↓3	10SG6
6 ↓5	

RELAY (-1) U1326 (-2) UB12 — GPA / GPB

	GPA	GPB
12 ↑11	69H0	69H0
10 ↑9	69G0	69H0
8 ↑7	69GC	69GC
6 ↑5	69FC	69G0
4 ↑3	39H7	39H7
2 ↑1	39H7	39H7
	10SD5	10SE5
2 ↓1	32F4	32G4
4 ↓3	32G4	32G4
6 ↓5	32H4	32H4
8 ↓7	32H4	32H4
10 ↓9	39H7	39H7
12 ↓11	39H7	39H7

RELAY U497 — GW

2 ↑3	10SF6
↑1	10SA9
↓3	
2 ↓1	10SA8

RELAY U234 — GZ

4 ↑5	10SA7
↑3	
1 ↑2	10SD5
	10SC9
2 ↓1	10SF6
↓3	
5 ↓4	10SE5

NETWORK

DESIG	LOC	CODE
2SG	10SD9	177E *
[4] ALO-3	39G5	[1/2] 177K
GP1	10SF7	[1/2] 177K
GP2	10SF7	[1/2] 177C *
GP3	10SE7	[1/2] 177C *
GPA	10SD5	[1/2] 177H *
GPB	10SE5	[1/2] 177H *
GWZ	10SB9	[1/2] 177C *

RESISTOR

DESIG	LOC	CODE
GWZ	10SB9	19DY
H4	39G5	KS-5643, L427, 90
H5	10SF7	KS-5643, L427, 90

* SEE NOTE 104

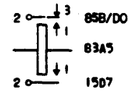
DRAWING ISSUE

41D	S. M. MAY
49D	S EM 8&O AMP
54D	DP KEL AMP

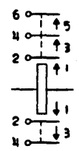
DRAWING ISSUE
41D RT, WJT
45B RT, WJT, EC
54D DP, LEL, WJT

APP FIG. 65 (A & M ONLY)

RELAY
(-1) U1346
(-2) UB14
(YJ,YV,UW) ONN

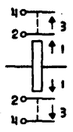


RELAY
(-1) U1366
(-2) UB16



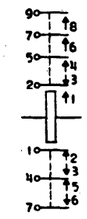
ITB (ZS)	2MB (ZS)	3FB (ZS)	4TT (ZS)	5MT (ZS)	6FT (ZS)	7TP	8MP	9FP
85B/GO	84B1	85B/GO	85B/CO	85B/CO	85B/CO	85B/EO	85B/DO	85B/DO
89C4	89C4	89C5	89D8	89C9	89D9	89C6	89C6	89C7
84B1	85B/EO	84D1	84B1	84C0	84D1	84B2	84C1	84D1
83B5	83B5	83C5	83D5	83E5	83F5	83F8	83G5	83H5
92H2	92G3	92G3	92H2	92G3	92G2	92H2	92G2	92G2
83G7	83F7	83D7	83G7	83F7	83E7	83H7	83F7	83E7

RELAY
(-1) U1367
(-2) UB17



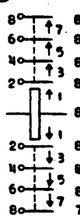
PHC (ZO)	THC (ZO)
15G4	15G5
89B5	89B9
21G6	21G6
85A/D1	85A/C1
85B/A6	85B/A6

RELAY
(-1) U1355
(-2) UB15

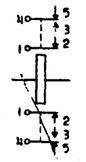


PN	PTN (ZP)	TN (ZP)
88B8	88D8	88C8
89B4	89B3	89C3
		61G5
88A8	88D8	88C8
61G4	61G5	94C2
94B0	94C2	94B2
89B8		89B7

RELAY
(-1) U1349
(-2) UB21
(YJ) RN

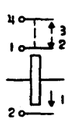


RELAY
U1387



RN0 (YJ)	RN1 (YJ)	RN2 (YJ)	RN4 (YJ)	RN7 (YJ)
84E7	84E8	84E8	84E8	
84A1	84B1	84D1	84E1	84F1
		84D8	84D8	84D9
	84E8	84E8	84E8	84E9

RELAY
U6034



RNK1 (YJ,YV)	RNK2 (YJ,YV)
84H1	84H1
84D5	84D5
62G7	62G7

NETWORK

	DESIG	LOC	CODE
(YJ,YV,UW)	ONN	83A5	[1/2]177H *
(ZS)	1TB	83B5	[1/2]177H *
	2MB	83B5	[1/2]177H *
	3FB	83C5	[1/2]177H *
(ZS)	4TT	83D5	[1/2]177H *
	5MT	83E5	[1/2]177H *
	6FT	83F5	[1/2]177H *
	7TP	83E5	[1/2]177H *
	8MP	83G5	[1/2]177H *
	9FP	83H5	[1/2]177H *
(ZO)	PHC	21G6	[1/2]177H *
	PN	88B8	[1/2]177H *

	DESIG	LOC	CODE
(ZP)	PTN	88D8	[1/2] 177H *
	RN	84G8	[1/2] 177H *
(YJ)	RN0	84A1	[1/2] 177C *
	RN1	84C1	[1/2] 177C *
	RN2	84D1	[1/2] 177C *
(YJ)	RN4	84E1	[1/2] 177C *
	RN7	84F1	[1/2] 177C *
(YJ,YV)	RNK	84D5	[1/2] 177C *
	TBS	94C3	177J *
(ZC)	THC	21G6	[1/2] 177H *
(ZP)	TN	88C8	[1/2] 177H *

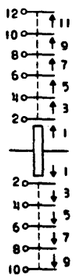
RESISTOR

DESIG	LOC	CODE
TBS	94C3	KS-13490,L3,33000

* SEE NOTE 104

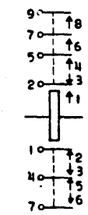
APP FIG. 66

RELAY
(-1) U1345
(-2) UB13



FGO (F)	FGI (F)
34D5	34D5
33G6	33D6
33G6	33D6
33G6	33D6
33G6	33E6
33G6	33E6
34A3	34B3
33H6	33F6
33H6	33F6
33H6	33F6
33H6	33F6
33G6	33E6

RELAY
(-1) U1355
(-2) UB15



TFO	TF1	TF2	TF4	TF7
33D4	33D4	33D4	33F4	33D4
33E4	33E4	33E4	33E4	33D4
33F4	33F4	33F4	33E4	33D4
33F2	33F3	33F3	33F3	
34C3	34E3	34F3	34G3	34H3
		33F3	33F3	33F3
	33F3	33F3	33F3	33F3
33F4	33F4	33F4	33E4	33F4

NETWORK

	DESIG	LOC	CODE
(F)	FGO	34A3	[1/2]177H *
(F)	FGI	34B3	[1/2]177H *
	TFC	34C3	[1/2]177H *
	TF1	34E3	[1/2]177H *
	TF2	34F3	[1/2]177H *
	TF4	34G3	[1/2]177H *
	TF7	34H3	177E *

* SEE NOTE 104

SD-25550-01-C26

MARKER CIRCUIT (2) SD-25550-01-C26

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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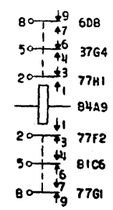
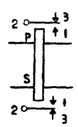
APP FIG. 67

RELAY U1399

(YJ) AMA3



RELAY
(-1) U1372
(-2) UB32



CL0 (YL)	CL1 (YL)	CL2 (YL)	CL3 (YL)	CL4 (YL)	CL5 (YL)	CR0 (YM)	CR1 (YM)	CR2 (YM)	CR3 (YM)	CR4 (YM)	CR5 (YM)	CR6 (YM)	CR7 (YM)	CR8 (YM)	CR9 (YM)	CR10 (YU)
127C3	127C3	81C4	81B5	81C5	81C4	76C3	76A3	76A3	76B3	76A2	76C2	76B2	76A2	76D2	76B2	81B3
73C2	73C2	73C2	73C2	73C2	73C2	74E3	74E3	74E3	74E3	74E3	74E3	74E3	74E3	74E3	74E3	74G3
81B4	127D3		127D3	127E3	127F3	76D3	76B4	76B3	76B3	76C3	76B2	76C2	76D3	76B2	76D2	

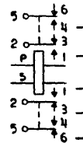
RELAY U1373

CLK1 (YL)	CLK2 (YL)	CLK3 (KE,YL)	CPK1 (YR)	CPK2 (YR)	CRK1 (KE,YM)	CRK2 (KE,YM)	CRK3 (KE,YN)	DLK1 (YK)	DLK2 (YT)	MBK1 (YJ)	MBK2 (YJ)	MBK3 (YJ)	MBK4 (YJ)	MBK5 (YJ)
81B4	81B5	81B5	81B6	81B7	81B3	81B3	81B4	81B5	81B6	81C9	81B9	81B9	81B8	62H6
127E0	127C0	127B0	78D0	78A0	76B0	76C0	127A0	77E4	78F0	77C0	77B0	77H0	77F0	77G0

RELAY U899

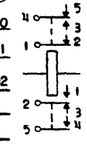
CLP (YL)	CLS (YL)	CRP (YN)	CRS (YU)
76F3	81B5	127A3	81B4
73C1	73C1	74E2	74E2

RELAY U1374



CP0 (YR)	CP1 (YR)	CP2 (YR)	CP3 (YR)	CP4 (YR)	DL0 (YK)	DL1 (YK)	DL2 (YK)	DL3 (YK)	DL4 (YP)	DL5 (YP)	DL6 (YP)	DL7 (YQ)	DL8 (YQ)	DL9 (YQ)	DL10 (YQ)	DL11 (YS)	DL12 (YS)	DL13 (YS)	MB0 (YJ)	MB1 (YJ)	MB2 (YJ)	MB3 (YJ)	MB4 (YJ)	CP5 (GW)
78D5	78D4	78B5	78B5	78D2	81B5	77E5	77E6	77F6	77G6	77G6	77G6	81C5	77E6	77E6	77F6	77G6	77G6	77G6	77C6	77C4	77A3	77B3	77C3	37FQ
78C4	78B6	78D3	78D3	78B3															77B5	77A4	77C4	77C3	77A3	37F1
73C2	73C2	73C2	73C2	73C2	73E2	73E2	73E2	73E2	73F2	73F2	73F2	73G2	73G2	73G2	73G2	73G2	73G2	73G2	73C7	73D7	73E7	73F7	73G7	73D2
78C6	78C6	78E4	78E4	78E3	78H5	78H5	78H4	78H4	78H3	78H3	78H2	78G5	78G5	78G4	78G4	78G3	78G3	78G3	77B7	77B6	77D4	77D4	77D4	
78E5	78C5	78C3	78C3	79C2	78E5	78E5	78E4	78E4	78E3	78E3	78E3	78F5	78F5	78F4	78F4	78F3	78F3	78F3	77D5	77B3	77B5	77B4	77B3	

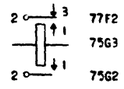
RELAY U977



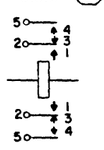
CPP (YR)	CPS (YR)	DLP (YK)	DLS (YT)	MBP (YJ)	MBS (YJ)
78A2	78B2	78H2	78F2	77A2	77C2
73D1	73D1	73E1	73G1	73C7	73G7
78D2	78E2	78H2	78G2	77C2	77D2
37F1	37F1				

RELAY U1346
(-1) U1346
(-2) UB14

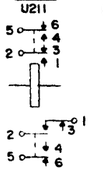
(YJ) SCC



RELAY U1375 (KT) MT26



RELAY U211 (KE) CLP

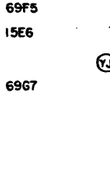


NOTE 1
CONTACTS 1,2,3B OF CLP RELAY U211 NOT AVAILABLE FOR USE.

RELAY U1325
(-1) U1325
(-2) UB12

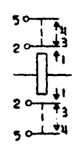
TGS1 (Y0)	TGS2 (YJ)
127B0	27H3
76D0	85A/H1
76A0	81D8
127C0	81G5
127D0	78B0
127F0	78E0
81C2	81C2
77F4	77B1
78F0	77D1
81G5	77H1
81D7	77F1
75G4	77G0
12H1	81F9

RELAY U67 (KT,F1) MT25

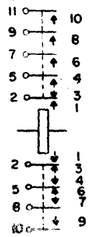


RELAY U1354

(YJ) TVA



RELAY U1396 (GD) SONI



NETWORK

DESIG	LOC	CODE
(YJ) AMA3	84B9	[1/2] 177K
[6] CL0P-5P	73C3	
(YL) [6] CL0S-5S	73C3	[1/2] 177C *
CLK1	127E0	
CLK2	127C0	
(KE,YO) CLK3	127B0	186A OR [1/2] 177C *
(YR) [5] CP0P-4P	73C3	
CP0S-4S	73D3	
(GW) CP5P	73D3	
CP5S	73D3	
(YR) CPK1	78D0	
CPK2	78A0	[1/2] 177C *
(YM) [10] CR0P-9P	74D3	
[10] CR0S-9S	74E3	
(YU) CR9P	74F3	
CR9S	74G3	
CRK1	76B0	
(KE,YM) CRK2	76D0	186A OR [1/2] 177C *
(KE,YO) CRK3	127A0	
(YK) [4] DL0P-3P	73E3	
[4] DL0S-3S	73E3	
(YP) [3] DL4P-6P	73F3	
[3] DL4S-6S	73F3	
(YQ) [4] DL7P-10P	73G3	
[6] DL7S-10S	73G3	
(YS) [3] DL11P-13P	73G3	
[3] DL11S-13S	73G3	
(YK) DLK1	77E4	[1/2] 177C *
DLK2	78F0	
(YJ) [5] MB0P-4P	73C8-G8	
[5] MB0S-4S	73C8-G8	
MBK1	77D1	
MBK2	77B1	
(YJ) MBK3	77H1	
MBK4	77F1	
MBK5	77G1	
(YJ) SCC	75G3	[1/2] 177H *
(Y0) TGS	81B2	177E *

* SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
(YT) 4DG	78H1	
(YT) 5DG	78E1	
(YJ) AMA	77H1	
(YN) CL1	127A2	
(YL) [5] CL2-6	127B2-F2	
(YR) [5] CP0,1,2,4,7	78B1-D1	
(YM) [5] CR0,1,2,4,7	76B1-D1	
(YK) [3] DL1-3	77E5-F5	KS-13492,L1,1500
(YP) [3] DL4-6	77G5	
(Y0) L5D	78G1	
(Y0) L5T	78F1	
(YJ) [5] MB0,1,2,4,7	77A1-D1	
(YJ) SC	77F1	
(YJ) TVT	77E1	

41D	4 0 1 Q 7
43B	RLK M-S
46D	YJL ← AMP
47D	MAB CLK AND
51D	MBS MBS AND
54D	DP DEL AND
56D	MD

MARKER CIRCUIT (2) SD-25550-01-C27

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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25550-01-C27

0 1 2 3 4 5 6 7 8 9

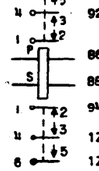
PART OF APP FIG.68

RELAY
U1396

BN	CKR	FTL	FUL	PBX1	RI	TBI
92B1	87F2	35E4, 36F4	35E4, 36F4	90E3	92B1	92F1
90E1	14G5	12F5	12G1	87F4	90E1	90E1
92D8	87A5	90A8	90A8	86F3	92E8	92E8
90C6, 129A5	87E1	89F2	89F2	90A6	90C6, 129A5	90D6, 129D5
92F3	90F1	61G2	61G2	87D6	92F3	92C1
92B1	87F0	12E3	12F0	90E1	92C1	92F1
87H3	92E2	92E6	92E6	86E2	87H3	87H2
92C2	92H5	92F4	92F4		92B2	92B1
74F6, 87A/C3	59E8	92F4	92F4	90G2	74F6, 87C3	74F6, 87C3
92A8	90G7	90F2	90F2	91B2	92B8	92C8

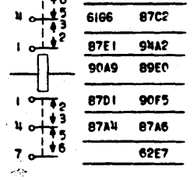
RELAY
U1175

BNTH



RELAY
-1 U1506
-2 UB9

CKO RNG



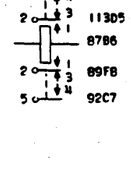
90A6	89E1
6166	87C2
87E1	94A2
90A9	89E0
87D1	90F5
87A4	87A6
	62E7

RELAY
-1 U1355
-2 UB15

	HGL	NGKI	PUI	RCL	VGL
10H1	96A1	92D1	101E5	8A3	
90A7	96B1		101B6	90A7	
89F3	87B7	105E6	89E4	89F3	
61G3	98G2		61G4	61G3	
10H1	87H4	92E1	101C5	8A0	
92F5	40C8		92E7	92F5	
92F5	87G0	92F1	92D6	92F5	
92F6	96D1	92F2	35E5, 36F5	92E6	

RELAY
U1354

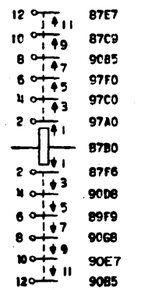
HTUK



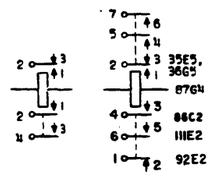
RELAY
-1 U1144
-2 UB1

LLI	TRIA	TR2A
89F5		
87E0	95A3	95A3
87B/B6	95B4	95B2
49G7	95B4	95B2
9IH0	95C4	95C2
12E3	95D4	95D2
87E0	90H5	90G5
12F0	95G4	95G2
8A1	95F4	95F2
10H1	95F4	95F2
11E1	95E4	95E2
101E5	95E4	95E2
88F9	95D4	95D2

RELAY
-1 U1325
-2 UB12
NGC

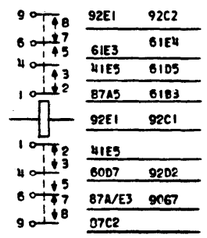


RELAY
RP U541 PD U195
NGK



RELAY
U1307

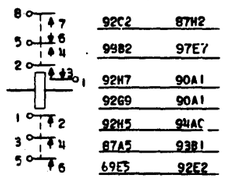
PUL RCY3



92E1	92C2
61E3	61E4
41E5	61D5
87A5	61B3
92E1	92C1
41E5	
60D7	92D2
87A/E3	90G7
07C2	

RELAY
U1408

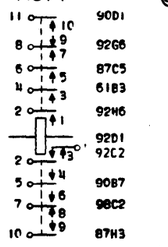
RCY2 SLCKI



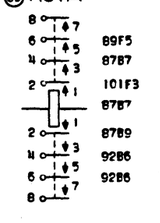
92C2	87H2
99B2	97E7
92H7	90A1
92G9	90A1
92H5	94AC
87A5	93B1
69E5	92E2

RELAY
U1326

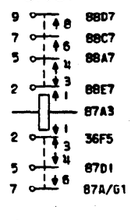
RCY4



RELAY
-1 U1349
-2 UB21
SD RGTA

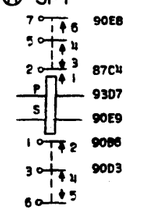


RELAY
-1 U1347
-2 UB22
SNGI



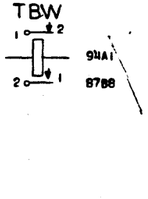
PELAY
U984

SPT



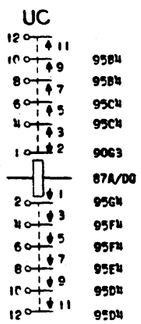
RELAY
U6059

TBW



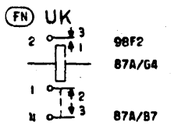
RELAY
U1381

UC

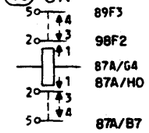


RELAY
U1356

FN UK

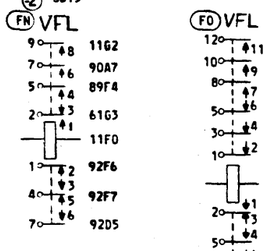


U1354
FO UK

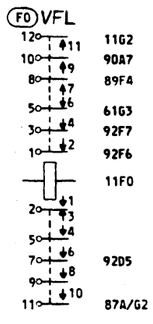


RELAY
-1 U1355
-2 UB15
U1415

FN VFL

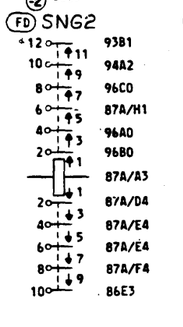


FO VFL

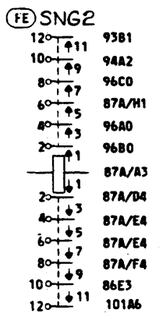


RELAY
-1 U1357
-2 UB23
U1384

FD SNG2



FE SNG2



DRAWING ISSUE	
41D	4ESS MAX
43B	4ESS
49D	ZXD 4A/1 AXD
51D	1AB 4BSS 4AM
54D	PVS ASL AHD
55A	MD
56D	MD

MARKER CIRCUIT
(2) SD-25550-01-C28A
BELL TELEPHONE LABORATORIES INCORPORATED
SIZE 6S
56

SD-25550-01-C28A

PART OF APP FIG. 68

LAMP		
DESIG	LOC	CODE
HBS	93B0	
(GQ) HGL	10H2	
NBS1	87A/D3	
NBS2	87A/E3	
NBS3	87A/E3	
NBS4	87A/F3	
NGKB	87A/H0	13J(RES)
TBS	94A3	
(GQ) VFL	11G1	
(GQ) VGL	8A4	
WF	96D0	
WG	96B0	
WL	96A0	

NETWORK		
DESIG	LOC	CODE
BN	92B1	[1/2]177H*
BNTH	88G5	[1/2]177C*
CKO	90A9	
CKR	87A/F0	
FTL	12E3	[1/2]177H*
FUL	12F0	
HGL	10H1	
HTUK	87A/B6	
LLI	87A/E0	[1/2]177C*
NGC	87A/B0	[1/2]177H*
(RP,RQ) NGK	87A/G4	[1/2]177C*
NGK1	87A/H4	
PBX1	90E1	[1/2]177H*
PU1	92E1	
PUL	92E1	[1/2]177C*
RCL	101C5	
RCY2	92G9	[1/2]177H*
RCY3	92C1	
RCY4	92D1	[1/2]177C*
RI	92C1	
RNG	89E0	[1/2]177H*
SLCK1	90A1	
SNG1	87A/A3	[1/2]177K
(TT) SPT	93E7	
(TT) SPT1	90F8	[1/2]177C*
TBI	92F1	[1/2]177H*
TR1A	90H5	
TR2A	90G5	[1/2]177C*
UC	87A/D0	
UK	87A/G4	
VFL	11F0	[1/2]177H*
VGL	8A0	

RESISTOR		
DESIG	LOC	CODE
J2	87A/A2	KS-5643,L427,90

* SEE NOTE 104

DRAWING ISSUE
54D PVS

SD-25550-01-C28B

HIGGINS 4465

54

MARKER CIRCUIT (2) SD-25550-01-C28B

BELL TELEPHONE LABORATORIES INCORPORATED 6S

APP FIG. 69

RELAY U594

ASB
6 71H4
4 72A/C6
2 72A/D7
71H4
1
4 10587
6 11161

RELAY U1377

FKA
8 11H4
5 11387
3 7186
1 71A6
72A/E8
1 7083
3 70C3
6 6C7

RELAY U6043

GBA GBB
6 71H6 71F6
3
1
71A5 71B5
1 7065 7CF5
4

RELAY
U1355
UB15

GOS
9 71B4
7 71C4
5 71A4
2 71B4
71AC
1 72A/C3
4 71D4
7 71H3

RELAY U59

MT2
12 71H3
9
7 70C2
5 70B2
3 71H3
1 71B4
12306
1 71D4
3 71B4
5 71A4
7 71C4
9
12 12487

RELAY U6124

	OS0	OS1	OS2	OS3	OS4
5	71D4	71C4	71A5	71C4	71B4
2	71D2	71B2	71A2	71C2	71B2
	71C3	71B3	71A3	71C3	71A3
2	72B/D3	72B/C8	72B/C8	72B/B8	72B/B8
5	71C8	71C8	71C8	71C8	71C8

RELAY U1396

	OSC	SON
11	71E1	4263
9	71E1	71H4
7	71F1	7089
5	71F1	71B1
2	71F1	35F2, 3666
	69E6	6966
2	3502, 3665	1254
5	71G4	37A3
8	71E4	71D5
10	71D1	72A/A3

RELAY U1406

OSE
7 71D4
5 72A/B2
2 71A1
7105
1 81E7
4 71E6
6 7166

RELAY U809

OSK
10 72A/A3
8 72A/F8
6 72A/F3
4 72B/E8
2 71C8
72A/A1
2 71A0
5 33E1
7 71F6
9 7168

RELAY U1375

SIA SIB
5 35G3, 3666 35H3, 36H6
2 71H3 71H3
7082 70C2
2 71H6 71F6
5 71E6 7166

RELAY U1415

SKA SKB
12
10 71E6 7166
8 608 6C7
6 7165 71E5
5 35G4, 36H5 35G4, 36H4
1 71A6 7186
7064 70F4
2 70F4 70H4
5 72A/E3 72A/G3
7 71E3 7163
9
11 113E8 113E8

RELAY U591

SSA SSB
12 72A/E3 72A/F3
10 72B/A7 72B/B7
8 72B/B7 72B/B7
6 72B/C7 72B/C7
4 72B/C7 72B/C7
1 6205 6205
72A/E1 72A/G1
2 72B/F8 72B/F7
4 72B/F7 72B/F7
6 72B/E7 72B/F7
8 72B/E7 72B/E7
10 72B/D7 72B/E7
12 72B/D7 72B/D7

RELAY U1299

SW
2 7089
2 5 7089

RELAY U1298

SZ
5 7088
2 7176
7009
2 3 7166

CAPACITOR

	DESIG	LOC	CODE
RU	SM	72B/D9	N39A

LAMP

DESIG	LOC	CODE
MA	71D0	13J
MB	71E0	13J
MC	71E0	13J
SAM	71F0	13J
SBM	71F0	13J
SCM	71F0	13J
SKA	70F3	13J
SKB	70H3	13J

NETWORK

DESIG	LOC	CODE
ASB	71H4	[1/2] 177H *
FKA	72A/E8	[1/2] 177H *
GBA	71A5	[1/2] 177H *
GBB	7185	[1/2] 177H *
GOS	71A0	177E *
OS0	71C3	[1/2] 177K
OS1	71B3	[1/2] 177K
OS2	71A3	[1/2] 177K
OS3	71C3	[1/2] 177K
OS4	71B3	[1/2] 177K
OSC	69F6	[1/2] 177H *
OSE	71D5	[1/2] 177C *
OSK	72A/A1	[1/2] 177C *
S	71C8	[1/2] 177C *
S1A	7082	[1/2] 177C *
S1B	70C2	[1/2] 177C *
SKA	7064	[1/2] 177H *
SKB	70F4	[1/2] 177H *
RT SM	72B/E9	[1/2] 177K
SON	6966	[1/2] 177H *
SSA	72A/E1	[1/2] 177C *

NETWORK (CONT)

DESIG	LOC	CODE
SSB	72A/G1	[1/2] 177C *
STA	71F7	[1/2] 177C *
STB	7167	[1/2] 177C *
SWZ	7008	[1/2] 177H *

* SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
J3	71C3	KS-5843, L427, 90
J4	7183	KS-5843, L427, 90
J5	71A3	KS-5843, L427, 90
J6	71C3	KS-5843, L427, 90
J7	71A3	KS-5843, L427, 90
S	71C8	KS-13490, L3, 33,000
SM	72B/E8	KS-13490, L3, 33,000
RU SM10	72B/D9	KS-8512, L1A, 100
STA	71F7	KS-13490, L3, 33,000
STB	7167	KS-13490, L3, 33,000
SWZ	7088	190W

DRAWING ISSUE
41D
54D

MARKER CIRCUIT (2)
BELL TELEPHONE LABORATORIES INCORPORATED
6S
SD-25550-01-C29
54

SD-25550-01-C29

APP FIG.70

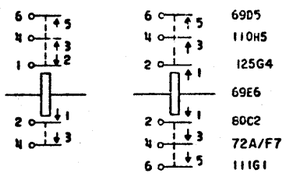
RELAY

(SR) U1364

(SS-1) U1389

(SS-2) UB19

(10) OSA0-9

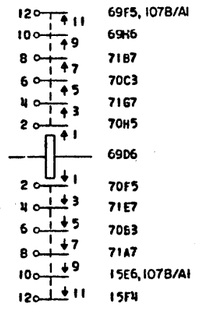


RELAY

(-1) U1325

(-2) UB12

(10) OSG0-9



NETWORK DESIG	LOC	CODE
(10) OSG0-9	69D6	(1/2) 177H *
(10) OSGA0-9	70F6	(1/2) 177H *
(10) OSGB0-9	70H6	(1/2) 177H *

* SEE NOTE 104

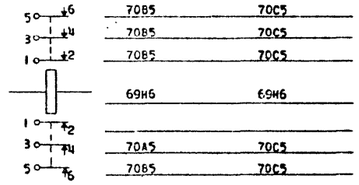
APP FIG.71

RELAY

(-1) U133

(-2) UB25

(4) SCBA0-3 (4) SCBB0-3

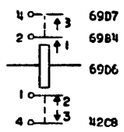


APP FIG.72

RELAY

U1371

(3) TWT0-2



NETWORK DESIG	LOC	CODE
(3) TWT0-2	69D6	(1/2) 177K

DRAWING ISSUE

41D

51D

54D

SD-25550-01-C30

MARKER CIRCUIT (2) SD-25550-01-C30

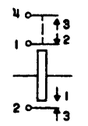
BELL TELEPHONE LABORATORIES INCORPORATED

6S

54

RELAY
Y107

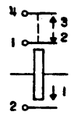
AMB



1D1-3
2B2
1D1-3

RELAY
UA15

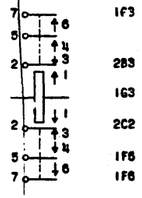
FA



1G3
1F6
1E6
2C1

RELAY
U530

FAI



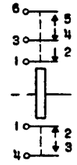
1F3
2B3
1G3
2C2
1F5
1F6

RELAY
U624

(U2) HFA

1D6
1D6

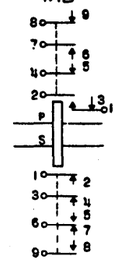
RELAY
(-1) U1390
(-2) UB20



MAK	MCK	MSK
2G6		
2E3	2E3	2E3
1B9	1A8	1B0
11685	11685	
2F6		

RELAY
U1313

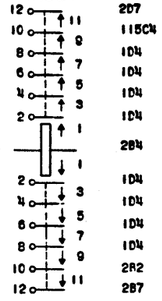
MB



1E0
2A1
2B4
2C3
2D7
107B/E5
2D3
2D8

RELAY
(-1) U1344
(-2) UB1

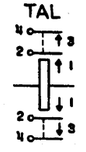
MCB1



2D7
115C4
1D4
1D4
1D4
1D4
2B4
1D4
1D4
1D4
1D4
1D4
2B2
2B7

RELAY
(-1) U340
(-2) UB26

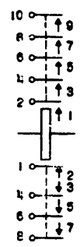
TAL



1F2
1F2
1F8
1E9

RELAY
U1363

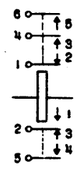
TM



113D2
108H3
2C7
113C2
2E3
112E3
2B2
3F5
10482

RELAY
U1148

TRA



1E9
1F8
1G1
1G2
12568

RELAY
2908M

(DH) TUR

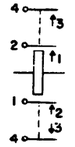
1E0
1B8
11502

NETWORK DESIG	LOC	CODE
AMB	2B2	[1/2] 177C *
AMBI	2A2	185A
MAK	1B8	[1/2] 177H *
MCB1	2B4	[1/2] 177H *
MCK	1A8	[1/2] 177H *
MSK	1B0	[1/2] 177H *
TM	2E3	[1/2] 177C *

*SEE NOTE 104

RESISTOR DESIG	LOC	CODE
(U2) HFA	1D6	KS-13492, L1, 10,000
(U2) HFAI	1D6	1BDF
(DH) MAK	1B9	1BFH
MJ	1E9	1BCN
TRA	1G1	1BBH
(DH) TUR	11503	1BCB

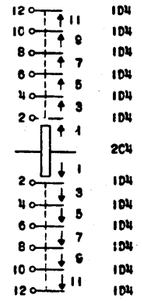
RELAY
U717
(U2) AMBI



2E1
2A2
2A2

APP FIG. 74

RELAY
(-1) U1344
(-2) UB1
[5] MCB2-6



1D4
1D4
1D4
1D4
1D4
1D4
2C4
1D4
1D4
1D4
1D4
1D4

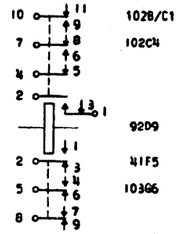
DRAWING ISSUE
41D A.C. JAY
44B D.K. M.S.
45B S.J.P. DEF W.G.P. AHD
49D W.B. MES M.M. GM KEL AHD
51D
54D

SD-25550-01-C31

MARKER CIRCUIT
(2) SD-25550-01-C31
BELL TELEPHONE LABORATORIES INCORPORATED
6S
54

RELAY U1290

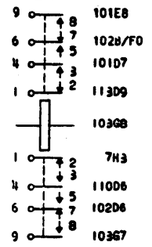
BNB



102B/C1	
102C4	
92D9	
41F5	
103G6	

RELAY U1307

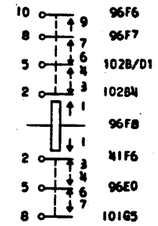
BY



101E8	
102B/F0	
101D7	
113D9	
103G8	
7H3	
110D6	
102D6	
103G7	

RELAY U1289 U88

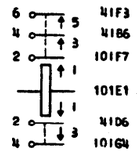
FNB



96F6	
96F7	
102B/D1	
102B4	
96F8	
41F6	
96E0	
101G5	

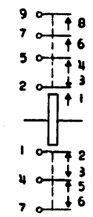
RELAY U1366 UB16

LI



41F3	
41B6	
101F7	
101E1	
41D6	
101G4	

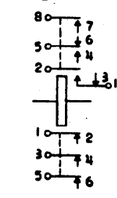
RELAY U1355 UB15



OFH	RCK2	RCTIO	RSK	SRK	TBH
102D6	62A9	101D2	102A5	101F6	101D6
102D7	41E4	102A6	102B/E1	102B/E1	101F2
102B/F4	41F5	90F5	113C9	101C5	102B/B0
113C9	101C6	61G3 101G2	101D6 101E6		101G6
101D8	101F8	101D1	102B2	101E8	101C8
41E4	101D7		101D6	101D7	101C6
101F2		92D6	113E5		102D4
101E7	101G6	102B/E3		101E1	41F4

RELAY U1408

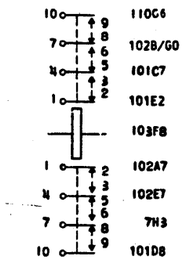
OFHI



101B6	
101D6	
101B6	
114E2	
5E7	

RELAY U333

OV

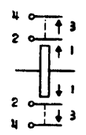


110C6	
102B/G0	
101C7	
101E2	
103F8	
102A7	
102E7	
7H3	
101D8	

RELAY
(WD) 239NL
(WE) 280AS

RCKI	TCK
101E7	101E7
41B4	41E2
41B4	41E2

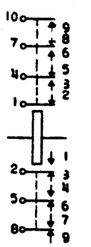
RELAY (-1) U1367 (-2) UB17



[8] RCTI-8 [5] RCTII-15

101C2	101C2
60B2,96E5	60B2
101A1	101A1
102A/B6	102A/B6
102B/A3-E3	102B/A3-E3

RELAY (-1) U934 (-2) UB5



RIB TBIB

	101C7
102C4	102D4
102B/C0	102B/C0
101G5	101G6
92D9	92E8
41F5	101E2
103G7	103G7
	92D0

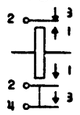
RELAY U1393

[10] RSO-9

102G2-H2
102A/B8
102B/A8-F8

RELAY U541

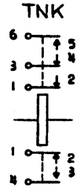
TCH



101G7
83H6
102B/D2
41E6

RELAY (-1) U390 (-2) UB20

TNK



101E1
90F3
102B/E3
96C9
102A5
92B4

INDUCTOR

DESIG	LOC	CODE
RCKI	101F7	200CL
TCK	101F7	200CL

LAMP

DESIG	LOC	CODE
FN	96E0	13J

NETWORK

	DESIG	LOC		CODE
	BY	103G8	[1/2]	177C*
(PN)	IF	5F7	[1/2]	177K
	LI	101E1	[1/2]	177H*
	OFH	101D8	[1/2]	177H*
(PN) (PM)	OFHI	101B6	[1/2]	177C*
(PM)	OV	103F8	[1/2]	177H*
	OV	103F8	[1/2]	177C*
	RCKI	101G7	[1/2]	177H*
	RCK2	101F8	[1/2]	177H*
[8]	RCTI-8	101A1	[1/2]	177H*
	RCTIO	101D1	[1/2]	177H*
[5]	RCTI-15	101A1	[1/2]	177H*
	RIB	92D9	[1/2]	177C*
[10]	RSO-9	102A/B8 102B/A8-F8	[1/2]	177C*

NETWORK (CONT)

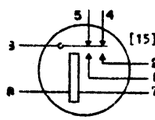
	DESIG	LOC		CODE
	RSK	1'282	[1/2]	177H*
[10]	RSMO-9	102G1-H1	[1/2]	177K
	SRK	101E8	[1/2]	177H*
	TBH	101C8	[1/2]	177H*
	TBIB	92E8	[1/2]	177C*
	TCH	83H6	[1/2]	177C*
	TCK	101F6	[1/2]	177H*
	TNK	96C9	[1/2]	177H*

*SEE NOTE 104

RESISTOR

	DESIG	LOC	CODE
(PM)	IF	5E7	KS-13430, L3, 33000
	RCK1	41B5	18S
	RCK2	41B7	18FD
	TCK1	41D7	18S
	TCK2	41E6	18FD

RELAY 276A



[15] RCN1-15 (FI) TRC

101A2	96B9
96C8	96B9

NETWORK

DESIG	LOC	CODE
[15] RCN1-15	96C8	[1/2]177C*
(FI) TRC	96B9	185A

RESISTOR

	DESIG	LOC	CODE
(XQ)	[15] RCN1-15	10183	107A, 2800±1%

DRAWING ISSUE

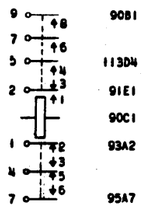
41D	NO LOAD
51D	JR WES AND
54D	CK REL AND

APP FIG. 77

DRAWING ISSUE	
41D	4-K 1&E
54D	CK 1&E AND
56D	MD

RELAY ① U1355 ② U815

A

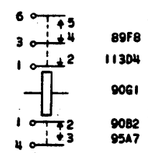


90B1	89G3
	111A1
113D4	90G2
91E1	90D7
90C1	91G0
93A2	
	91H1
95A7	91F0

EG

RELAY ① U1390 ② U820

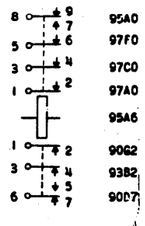
AK



89F8	
113D4	
90G1	
90B2	
95A7	

RELAY U1377

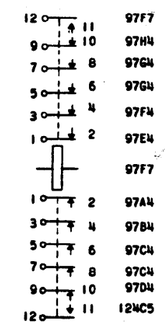
GB



95A0	
97F0	
97C0	
97A0	
95A6	
90G2	
93B2	
90D7	

RELAY U59

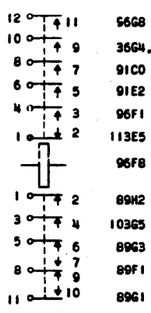
MT10



97F7	
97H4	
97G4	
97F4	
97E4	
97F7	
97A4	
97B4	
97C4	
97C4	
97D4	
124C5	

RELAY U227

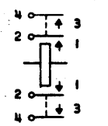
OFK



56G8	
36G4,35E4	
91C0	
91E2	
96F1	
113E5	
96F8	
89H2	
103G5	
89G3	
89F1	
89G1	

RELAY ① U1367 ② U817

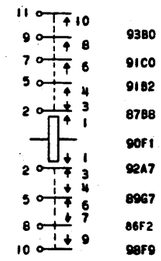
PBN



92G8	
89F3	
96H8	
96H6	
96E8	

RELAY U1396

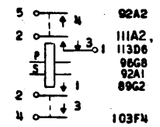
PBX2



93B0	
91C0	
91B2	
87B8	
90F1	
92A7	
89G7	
86F2	
98F9	

RELAY U1411

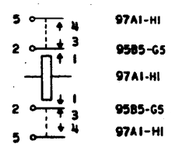
PM0



92A2	
111A2, 113D6	
98G8	
92A1	
89G2	
103F4	

RELAY U1354

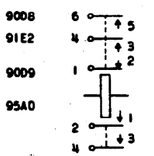
SA0-9 UT



97A1-H1	90D8
95B5-G5	91E2
97A1-H1	90D9
95B5-G5	95A0
97A1-H1	

RELAY U1364

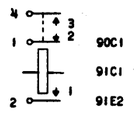
SAE



89F1	
90G2	
97A1	
87H1	
87B5	

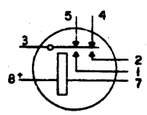
RELAY U5034

SCR



90C1	
91C1	
91E2	

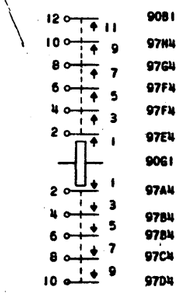
RELAY



DESIG	SL0-9	
CODE	276B	
OPTION		
8	97A3-H3	
7	97A3-H3	
6		
5	97A2-H2	
4	97A2-H2	
3	97A2-H2	
2	97A2-H2	
1	97A2-H2	

RELAY ① U1357 ② U823

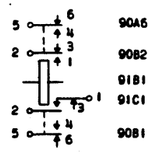
SLC



90B1	
97H4	
97G4	
97F4	
97F4	
97E4	
90G1	
97A4	
97B4	
97B4	
97C4	
97D4	

RELAY U1212

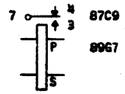
SLCK



90A6	
90B2	
91B1	
91C1	
90B1	

RELAY MF 239FC MG 280A

TYM



87C9	
89G7	

CAPACITOR

DESIG	LOC	CODE
[10] SA0-9	97B1-H1	[1/2] 441E
TYM	89G9	[3] 437QA

INDUCTOR

DESIG	LOC	CODE
TYM	92A6	200CL

LAMP

DESIG	LOC	CODE
MGB	91E0	13J
SLCK	91C1	13J
UBS	95A0	13J

NETWORK

DESIG	LOC	CODE
A	90C1	[1/2] 177H*
AK	90G1	[1/2] 177H*
EG	91G0	[1/2] 177H*
GB	95A6	[1/2] 177H*
OAB	91D0	[1/2] 177H*
OFK	96F7	[1/2] 177C*
OTB	91E1	[1/2] 177H*
PBN	96H8	[1/2] 177H*
PM0	92A1	[1/2] 177C*
SAE	97A1	[1/2] 177H*
SAL1	97C0	177J*
SAL2	97E0	177J*
SAL3	97H0	177J*
SCR	91D1	[1/2] 177H*
SLC	90G1	[1/2] 177K
SLCK	91C1	[1/2] 177H*
TYM	92A6	[1/2] 177H*
UT	90D8	[1/2] 177H*

RESISTOR

DESIG	LOC	CODE
J1	90G0	KS-5643,L427,90
OA	91D1	18AM
OFK	96G8	KS-13490-L3,33000
OTB	91E1	KS-13490-L3,33000
[10]SL0-9	97A3-H3	106A,4020 ±1%
[10]SL10-19	97H3-A3	106A,12,000 ±1%
TYM0	89G8	18BT
TYM1	89G8	19WR
(MF) TYM2	89G8	18BG
(MG) TYM2	89G8	18AS

*SEE NOTE 104

SD-25550-01-C33

MARKER CIRCUIT ②

BELL TELEPHONE LABORATORIES INCORPORATED

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SD-25550-01-C33

6S

APP FIG. 78

RELAY U1N12

JB

6	122C3
3	122C3
1	122E3
	122B3
2	11NE2
5	103F5

RELAY
(MB) 239NL
(ME) 280AS

(10) LFD-9

7	40B4
	122H6-D6

RELAY U722

(RE) LNT

7	62A7
4	101F8
1	122H1
2	41B6
5	41F3
7	

RELAY U177

	MT16	MT17
8	122H8	62A6
5	122F7	122D7
2	122F7	122D7
	122G2	122H2
2	122H7	122E7
5	122G7	122E7
8	122G7	122E7

RELAY U293

NH

2	92HN
	122C0
1	101E4
4	

RELAY U1N07

NT

9	113E6
7	122D4
5	122C2
2	49H5
	122E0
2	122H5
4	103H5
6	122G3
8	101F4

RELAY
(-1) U1HN
(-2) UBI

	NT1	NT3
12	122H7	122G4
10	122D7	122D6
8	122D7	122D6
6	122D7	122D6
4	122E7	122E6
2	122E7	122E6
	122E3	122F3
2	122H7	122H6
4	122G7	122G6
6	122G7	122G6
8	122F7	122F6
10	122F7	122F6
12	122E3	122H1

RELAY U112

	NT2	SFR
6	122F3	122C1
4	122G3	35C3, 36C6
2	122G3	35F3, 36F6
	122E3	122B1
2	122G4	33G2
4	122H6	

RELAY U576

	NT4	SPH
7	122G3	92HN
4		90FN
1	122G0	
	122G3	122D2
1	122D4	
4	122G3	90G6
7	122G3	

RELAY U1N26

NT5

10	34G5
7	34F5, 11NE3
4	122G1
1	46F2
	122H2
2	122H1
5	103H6
6	46E3
9	122H2

RELAY Y303

NTC

3	
1	122G0
1	103H7
4	122G1

RELAY
(RD) U620 (ME) U665

NTH

122C3	
	122H1
122C3	122C1
	122D2
122D2	122D2

RELAY Y107

NTR

4	11NE2
1	62A7
	122D1
2	

RELAY U1305

NTT

11	122D4
9	122H1
7	35B4, 36B4
5	103F6
2	46F2
	122D3
2	49C2
5	11287
8	122C3
10	62A6

RELAY U421

SPC

4	122B1
1	112C7
	122H0
1	35G3, 36F6
4	

RELAY U588

SPL

12	122F4
10	122G1
8	59H4
6	59G1
4	62A8
1	35C3, 36C5
	122F0
1	90F7
4	122G1
6	122C3
8	122C2
10	122D4
12	

RELAY U333

SPLI

10	112C7
7	90F3
4	122C0
1	110B5
	122G0
1	49C7
4	33G1
7	92HN
10	122N0

RELAY
(-1) U13N6
(-2) UB1N
(RD) SPLC

2	100A0
	122F1
2	122F0

LAMP

DESIG	LOC	CODE
SP	122H0	13J

NETWORK

DESIG	LOC	CODE
LF	122H6	(1/2)177K
(RE) LNT	122H1	
NH	122C0	
NT	122E0	
NT1	122E3	
NT2	122E3	
NT3	122F3	(1/2)177C*
NT4	122G3	
NT5	122H1	
NTC	122G0	
(RD,RE) NTH	122C1	
NTR	122D1	
NTT	122D3	(1/2)177N*
SFR	122C1	
SPC	122H0	(1/2)177C*
SPH	122E2	
SPL	122F0	
(SU) SPLC	122F1	(1/2)177N*

RESISTOR

DESIG	LOC	CODE
CNT2	49G5	19SE
NT1	122G4	KS-5643, L319, 420
NT2	122G3	KS-8512, L39A, N0

*SEE NOTE 104

DRAWING ISSUE
41D W.F.O.
43B P.O.
54D

SD-25550-01-C34

MARKER CIRCUIT (2) SD-25550-01-C34

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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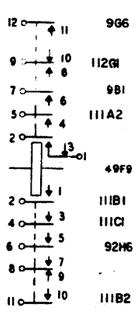
PART OF APP FIG. 79

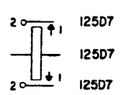
RELAY U675

(MA) CHAI



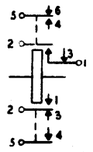
RELAY U624

DL



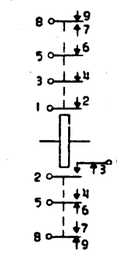
RELAY U540

HTT



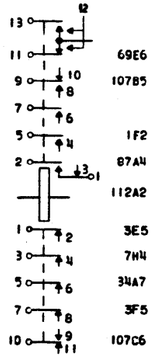
RELAY U52

MRL



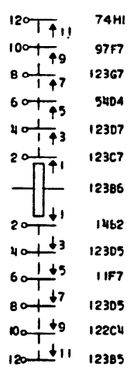
RELAY U1193

MRLI

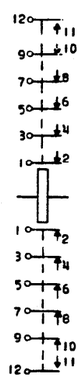


RELAY (-1) U64 (-2) U86

MT



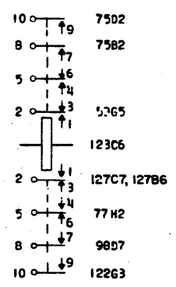
RELAY U1337



MTI	MTI3
116C5	123B4
108E3	107D2
105B6	107B/E5
105F5	111H1
108E3	110C6
4066	110D2
123D4	123A4
44F7	35C3, 36C4
101D1	104A3
62C7	111D8
108E8	111C7
105D6	107B/F2
12487, 123A7	111F1

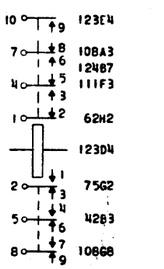
RELAY U1113

(MA) MTI2



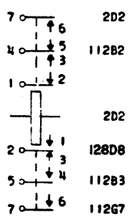
RELAY (-1) U934 (-2) U85

MTI4



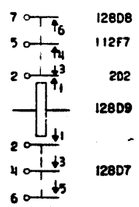
RELAY U722

OAT



RELAY U1367

OATI

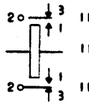


RELAY U1393

RCCK	RON
125D6	112C7
125D5	124G6

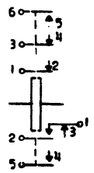
RELAY U735

RYT



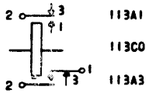
RELAY U1412

RYTI



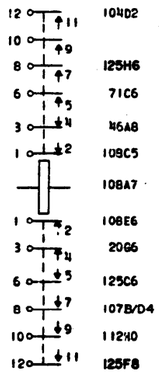
RELAY U6039

TMS



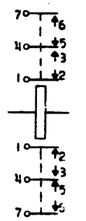
RELAY U338

TRI	TRB
104D2	125F5
	125D6
125H6	104D1
71C6	59H3
46A8	46A8
108C5	124FN
108A7	125G5
108E6	124D6
2066	107E2
125C6	108A2
107B/D4	11402
11240	10385
125F8	162



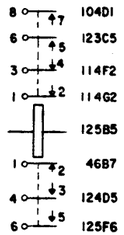
RELAY U576

(MA) TRLI



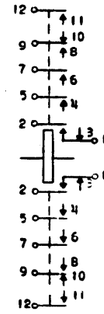
RELAY U459

TRSA



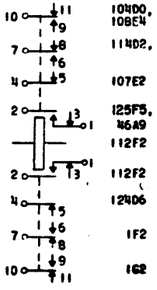
RELAY U188

TRST



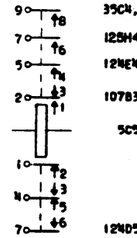
RELAY U1047

TRTR



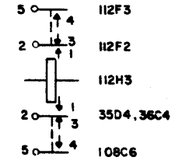
RELAY U1319

(MA) TST



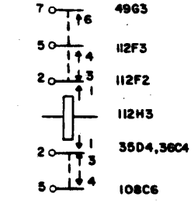
RELAY U1375

(6A) TRT



RELAY U67

(JJ) TRT



DRAWING ISSUE

41D	W.F.G.
43B	P.D.
45B	ASL
46D	ASL, CLM, AMD
47D	MB, CLM, AMD
49D	DB, KEL, AMD
51D	MB, MD, AMD
54D	DF, KEL, AMD

MARKER CIRCUIT

(2) SD-25550-01-C35

BELL TELEPHONE LABORATORIES INCORPORATED

6S

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SD-25550-01-C35

PART OF APP FIG. 79

CAPACITOR

DESIG	LOC	CODE
HTT	11266	(VJ) 228B
		(VQ) 439QA
HTT1	11265	KS-13368,L3,0.001 UF
LDT	11266	(VK) 228B
		(VR) 439QA
OAT	11281	(VK) 228C
		(VT) 437QA
SDT	11266	(VL) 228B
		(VS) 439QA
SDT1	11285	KS-13368,L3,0.001 UF
(ZF) SDT2	11266	KS-13368,L3,0.001 UF
TRTR	11281	(VQ) 228B
		(VV) 439QA
WT	11381	(VP) 228B
		(VW) 439QA

NETWORK

DESIG	LOC		CODE
(MA) CHAI	49F9	[1/2]	177C*
HTT	11268	[1/2]	177C*
MT	12386	[1/2]	177C*
MT1	12304	[1/2]	177H*
(TN) MT13	12384		177E*
(TN) MT14	12304	[1/2]	177C*
OAT1	12809	[1/2]	177H*
RYT	11302	[1/2]	177C*
RYT1	11303	[1/2]	177C*
(ZF) SDT3	11268	[1/2]	177C*
TMS	11300	[1/2]	177H*

* SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
(XA) GTT	59G5	18EP
HTT1	11266	(WJ) 140A,0.706 MEG
		(VQ) 145A,0.715 MEG
HTT2	11266	KS-13490,L3,0.1 MEG
HTT3	11266	(QS) KS-13490,L1,2000
		(QT) KS-13490,L3,2000
HTT4	11267	KS-8512,L6A,3900
LDT1	11266	(VK) 141A,3.48 MEG
		(VR) 145A,3.67 MEG
LDT2	11266	KS-13490,L3,0.1 MEG
LDT3	11267	KS-13490,L3,2000
LDT4	11267	KS-8512,L6A,3900
OAT1	11240	(VK) 141A,1.6 MEG
		(VT) 145A,3.7 MEG
OAT2	11280	KS-13490,L3,0.1 MEG
OAT3	11241	KS-13490,L3,1000
OAT4	11282	KS-8512,L6A,3900

RESISTOR (CONT)

DESIG	LOC	CODE
SDT1	11286	(VL) 141A,1.1 MEG
		(VS) 145A,1.11 MEG
SDT2	11286	KS-13490,L3,0.1 MEG
SDT3	11285	KS-13490,L3,2000
SDT4	11208	KS-8512,L6A,3900
SDT5	11246	(VL) 141A,0.835 MEG
		(VS) 145A,0.856 MEG
(XA) TGT	59H5	18FS
TRST	12407	18AG
TRT1	11270	(VQ) 141A,1.49 MEG
		(VV) 145A,1.52 MEG
TRT2	11270	KS-13490,L3,0.1 MEG
TRT3	11271	KS-13490,L3,2000
TRT4	11262	KS-8512,L6A,3900
WT1	11340	(EI) 145A,0.249 MEG
		(VP) 140A,0.18 MEG
		(VW) 145A,0.184 MEG
WT2	11380	KS-13490,L3,0.1 MEG
WT3	11341	KS-13490,L3,2000
WT4	11382	KS-8512,L6A,3900

TUBE

DESIG	LOC	CODE
HTT	11265	313CC
LDT	11265	313CC
OAT	11260	313CC
SDT	11285	313CC
TRTR	11270	313CC
WT	11380	313CC

DRAWING ISSUE

41D	J.F.	
54D	PVS	
56D	MD	

SD-25550-01-C36

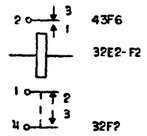
MARKER CIRCUIT (2) SD-25550-01-C36

BELL TELEPHONE LABORATORIES INCORPORATED 65

APP FIG. 81

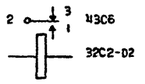
RELAY U814

[6] TB0-5



RELAY U1393

[20] TG0-19



INDUCTOR

DESIG	LOC	CODE
(RK) [6] TB0-5	43F5	200CL

LAMP

DESIG	LOC	CODE
TB	43F5	13J

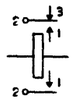
NETWORK

DESIG	LOC	CODE
[6] TB0-5	32E2-F2	[1/2] 177C *
[20] TG0-19	32C2-02	[1/2] 177C *
(RK) [6] XTB0-5	43F5	[1/2] 177K

* SEE NOTE 104

APP FIG. 82

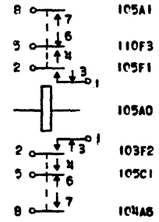
RELAY U165



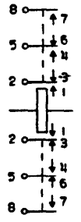
IF	IFA	2F
105B1	105C1	105B0
105C0	105B0	105C0
105C1	105B1	105C2

RELAY U1341

2FA

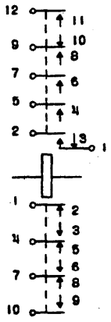


RELAY U814



FM	SNK
125H4	
104A6	113D1
105B1	2C7, 105H6
105A5	42F2
105F1	103B5
110F4	103D8
103F1	15C3

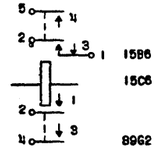
RELAY U1348



FMP	TERI
105A5	10366
42C3	104E5
110C2	103A0
110D2	103F3
49A7	103A3
49A8	15H3
46A8	44B3
5585	33B7
108A2	103E2
49C7	15C4

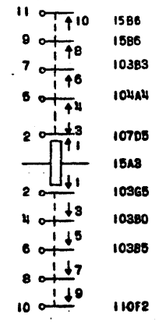
RELAY U287

ITA



RELAY U1401

ITRI

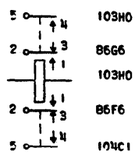


RELAY U422

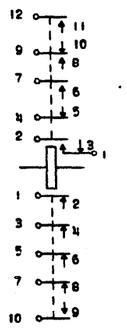
LLB	NGB
103A4	89G5
6E3	86D9
	103A0

RELAY U521

NGP



RELAY U1383

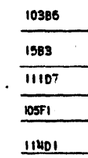


RAVI / RAV2

RAVI	RAV2
10386	59H3
1583	15D1
111D7	113C3
105F1	40E7
114D1	125H4
103B8	103B8
46A7	35D2, 36C7
114F0	103A7
34A8	71G0
22E6	105G4
15D1	108B2

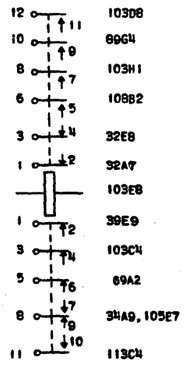
RELAY U1354

RBT



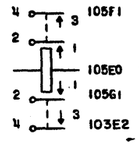
RELAY U92

RCY



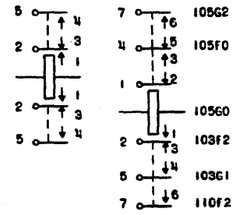
RELAY U1334

RF



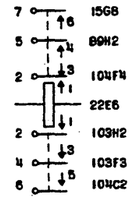
RELAY (RW) U521 (RK) U722

RFA



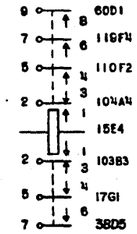
RELAY U1362

ROA



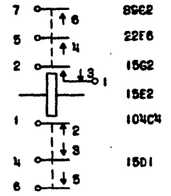
RELAY (-1) U1347 (-2) U822

SOGI



RELAY U1406

TOA



LAMP

DESIG	LOC	CODE
(04) FC	39H3	13J
(04) ST	27E9	13J

NETWORK

DESIG	LOC	CODE
ITA	15C6	[1/2] 177C *
ITRI	15A3	177J *
NGP	103H0	[1/2] 177C *
RAVI	10388	[1/2] 177K
RBT	104A1	[1/2] 177H *
ROA	22E6	[1/2] 177H *

NETWORK(CONT)

DESIG	LOC	CODE
SNK	42F2	[1/2] 177C *
SOGI	15E4	177J *
TERI	15H4	177J *
TOA	15E2	[1/2] 177C *
TOGI	15G4	177J *

* SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
E11	10389	KS-5643, L427, 90

DRAWING ISSUE

41D	KLM JAF	WFO
49D	ZB MGG AHD	SB
51D	JR MCS AHD	
54D	DP KEL AHD	

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-C37 (2)

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6S

SD-25550-01-C37

APP FIG. 83

RELAY U1314

	XACH	XAFT	XAHG	XALG	XALV	XARS (XA)	XAVGA (E)	XAVGB	XFG (XO)	XN (XA)
	11N63	11NE8	11NC5	11ND8	11ND5	115B6	11NC5	11NC7	34D4	88F0
	116C1	116E1	116E1	116F1	116G1	116H1	116C2	116C2	116D2	116F2
	11NG3	11NE6	11NC5	11ND8	11ND5	115B7	11NC5	11NC6	34D4	88F1
	11686	116D6	116D6	116E6	116E6	115C7	116A7	11687	11607	116E7

RELAY U1235

	XBT	XCKR (XA)	XLO (XA)	XMRL (XA)	XRL (XA)	XSL (TC)	XTC (E)	XTC1 (E)	XTG1 (XZ)	XTRK	XTRL	XTS1
	11NA8	11NF5	11NG5	11NF7	11NB5	11ND7	11NG7	11NE5	11NC8	11NC8	11ND8	11N88
	11GC2	11602	116E2	116E2	11662	11663	11603	116E3	116E3	116F3	116F3	116F3
	107C4	37C1	7F7	107C3	10703	46E0	265	2F5	43C5	960	107A4	45F0
	11NA8	11NF5	11NG5	11NF6	11NB5	11ND6	11NG6	11NE5	11NC8	11NC9	11ND8	11N88
	11687	11687	11607	116E7	11667	116C8	116E8	116E8	116F8	116F8	116F8	116F8

RELAY U1137 (LX) FGK

	126D4
	34D5
	34D5
	3364

NETWORK

DESIG	LOC	CODE
(LX) FGKP	34D5	185A
(LX) FGKS	34D5	185A

RESISTOR

DESIG	LOC	CODE
(LX) FGK	34D6	188H

RELAY S514 XCH

	11NG3
	5066

RELAY S504

	XFT	XT1 (XA)	XT2 (XA)
	114F8	115E7	11507
	39A6	76C0	78E0

RELAY S68

	XHG	XLG	XLV	XVGA (E)
	11NC5	11NE8	11ND5	11ND5
	10D7	7C7	45H2	904

RELAY U1409

	XLS	XRS3 (XA)	XRS4 (XA)	XS (XA)	XSA (XA)	XTB1 (XA)
	11N88	11586	115A6	11NC7	11ND7	11NG8
	116E2	116G2	116H2	116H2	11683	116D3
	45E1	102A9	102B/A9	71C8	71G0	43F5
	11N88	115B7	115A7	11NC6	11ND6	11NG8
	116E7	116A8	11686	11688	11686	116D8

RELAY S533

	XRS1 (XA)	XRS2 (XA)
	115C8	11588
	102F3	102F3

RELAY U260

	XSL (TD)
	11ND7
	46G7
	46E0
	11ND6
	116C8

RELAY U1316

	XSS (XA)
	116G3
	116G8
	72B/A8
	72B/A8
	72B/F5

RELAY U220

	XT5 (XA)
	11506
	116C3
	81N1
	115C7
	116D8

RELAY S65

	XVGB
	11NC7
	9C8

RESISTORS

DESIG	LOC	CODE
(XA) W9	72B/A9	KS-3643, L427, 90

DRAWING ISSUE

41D	F.S. AW
43B	F.C. W.F. RLL
45B	W.F. RLL ED AW AD
49D	AW AD
54D	CM AW AD

SD-25550-01-C38

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

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SD-25550-01-C38

APP FIG. 84

RELAY
S89

	M0-1	M2-3	M4-5	M6-7	M8-9
2 ○ ↓3 P ↑1 S	122G5	122F5	122E5	122D5	122C5
	122G5	122F5	122E5	122D5	122C5
	122G5	122F5	122E5	122D5	122C5

RELAY
U1358

MN

4 ○ ↑3 — 122D2
1 ○ ↓2 — 4908
— 122E4
1 ○ ↑2 — 122F4

RELAY
① U1244
② U827

MN1

4 ○ ↑3 — 4987
1 ○ ↓2 — 122E4
2 ○ ↑1 — 122F4

RELAY
S29

MPT

2 ○ ↓3 — 122F3
↑1 — 122C4
122H3

NETWORKS

DESIG	LOC	CODE
MN	122F4	177E*
MN1	122E4	(1/2)177C*

RESISTOR

DESIG	LOC	CODE
MN	122F4	KS-13490,L2,51,000
(10)PTC-9	122H3	KS-13492,L1,5,600
PTL	122H3	KS-13492,L1,5,600

TUBES

DESIG	LOC	CODE
(10)PTC-9	122H4	313C
PTL	122H4	313C

*SEE NOTE 104

APP FIG. 85 (A&M ONLY)

WIRING ONLY
SEE NOTE 106

APP FIG. 86

WIRING ONLY

APP FIG. 87

WIRING ONLY

APP FIG. 88

WIRING ONLY

41

NO. 5
MARKER CIRCUIT

SD-25550-01-C39

BELL TELEPHONE LABORATORIES INCORPORATED

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SD-25550-01-C39

APP FIG. 89

RELAY
U1348

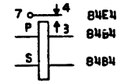
RELAY
WF 239FC
WG 280A

RELAY
-1 U1355
-2 UB15

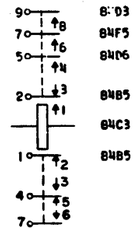
RELAY
U1333

	AMA4	AMA5
12	81E2	84C6
9	37A1	81G6
7	81E1	81F6
5	12G0	81D8
2	82C4	84B3
	84A8	84A7
1	38D6	62F5
4	38C5	84G6
7	81C0	62H5
10	69C5	84B6

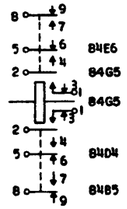
RNT



RNT1



RNT2



CAPACITOR

DESIG	LOC	CODE
RNT	84C4	437QA 441QA

INDUCTOR

DESIG	LOC	CODE
RNT	84D5	200CL

NETWORK

DESIG	LOC	CODE
RNT1	84C3	(1/2)177H*
RNT2	84G5	(1/2)177H*
RNT3	84E5	177E*

*SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
QA GB	84B7	KS-5643,L427,62
RNT1	84B4	18AP
RNT2	84B6	19TN
RNT3	84B6	18AP
RNT4	84C4	18BT

APP FIG. 90

WIRING ONLY

DRAWING ISSUE
41D R.C. J.AM
43B RAC M.S. PD
45B R.P. D.F.C. 9-26
54D GM. K.L. AHD

MARKER CIRCUIT (2) SD-25550-01-C40

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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SD-25550-01-C40

PART OF APP FIG. 91

RELAY
(-) U1325
(-) U812

BX	ONX (JL,JU) (179)
115D0	728A7, 4E8
4BB3	45G0
2A2	45F2
86H5	114D3
86C8	7D7 (179)
115E2	58G9, 60F2, 728A7
115C4	114F0
115E3	4561
57D0	102A2
57D5	102D3
56H5	4562
50H6	45F0
56E5	4500

RELAY
U1341

COX	
	114C1
114F1	
114C0	
114G1	
10888	

RELAY
U226

MXT	
	2C5
44E6	
114C1	
11680	
41C6	
71A0	
10888	

RELAY
U1337

SP	
	46C2
58F9, 60D2	
62G3	
3501	
113C4	
10888	
3506, 36C1	
6F8	
86C2	
71E3	
71G3	

RELAY
U1377

STX	
	115C6
286	
11681	
40A2	
116C4	
2F6	
11681	
50H5	

RELAY
U100

TX	
	7NB1
57E0	
57D4	
56G4	
4881	
11460	
50H7	
56D4	
27E8	
8688	
189	

RELAY
U1410

XAB (XA)	XCLC (XA)	XCS (ZD)	XOB (XA)	XPG	XPT (XA)	XRCN (GB)	XT (XA)	XTAN (BN)	XTV (ZA)
11NE5	11NE7	11NF5	11NA7	11NE8	114B7	115H6	11NE7	11NF7	11NB7
11681	11602	11602	11602	11662	11662		116C3	116D3	11663
45G0	17C7	4F5	12000	55B4	83A6	10140	2106	1708	75G4
11NE5	11NE6	11NF5	11NA6	11NF8	114B6		11NE6	11NF6	11NB6
116A6	17C4, 116C7	116C7	116F7	116F7	116F7	116A8	116C8	116C7	116G8

RELAY
U1334

XACL (XA)	XACP (XA)	XACR (XA)	XADL (XA)	XAF	XAJC	XAJG	XAJS	XALC	XALR	XAMB (XA)	XAPTN	XATS
11NB3	11NB5	11NB3	11NA5	11NF3	11NG3	11NF8	11ND3	11NE3	11NF8	11NC3	11NA3	11NC3
116C1	116C1	116D1	116D1	116D1	116E1	116F1	116F1	116F1	116G1	116G1	116H1	116B2
11NB3	11NB5	11NB3	11NA5	11NF3	11NG3	11NF8	11ND3	11NE3	11NF8	11NC3	11NA3	11NC3
116B6	116B6	116C6	116C6	116C6	116D6	116E6	116E6	116G6	116F6	116F6	116F6	116G6
											48C1	

RELAY
280AF

XARN (TR)	XBRN (TQ)
11NB2	11NB2
7NB2	7ND2
115E3	115E2

RELAY
(XK) 239HH
(XY) 280AF

XCL	XCP	XCR	XDI	XMB
11NB3	11NB5	11NB3	11NA5	11NC3
73C0	73D0	7NE2	73E0	7386
11501	11502	11501	11502	11501

RELAY
(XT) 239HH
(XU) 280AF

XF	XJG	XJS	XLR	XTS
11NF2	11NF8	11ND3	11NG8	11ND3
56E5	57D4	45F1	5665	4560
56E5	57D4	45F1	5665	4560

RELAY

DESIG	XFTN	XFUN	
CODE	276U	276U	
OPTION	XR	XR	
8	115E7	115G7	
7	115E7	115G7	
6			
5	89F8	89F8	
4	89F8	89F8	
3	89F8, 115H8	89F8, 115H7	
2	115H8	115H7	
1	115H8	115H7	

DRAWING ISSUE
41D
46D
49D
51D
54D

MARKER CIRCUIT
BELL TELEPHONE LABORATORIES INCORPORATED
SD-25550-01-C41
54
2
6S

25550-01-C41

PART OF APP FIG. 91

RELAY
U6033

	XFTT (XF)	XFUT (XF)	XRCT (XF)
6 ○ ↑5	11680	116C0	116C0
4 ○ ↑3	115F7	115F7	10183
	6F7	6F6	6F6
1 ○ ↓2	115F7	115F7	10182
	6F7	6F6	6F6
4 ○ ↓3	116G7	115G9	116G7

RELAY
(WZ) 239HP
(VA) 280BJ

	XJC	XLC	XPTN
7 ○ ↕4 ↑3 P S	11462	114E3	114A3
	57D0	50H8	4882
	57D0	50H8	4882

RELAY
(VB) 239KJ
(VC) 280BE

XLH

7 ○ ↕4 ↑3 P S	46C7
	46C7
	46C7

RELAY
U1409

	XTB (XA)	XTG (XA)
4 ○ ↑3	11467	11468
2 ○ ↑1 P	116D3	116E3
S ↓1 2 ○	32E1	32A1
	11468	11468
	116D8	116E8

LAMP DESIG	LOC	CODE
F	56D5	
HG	10D6	
JC	57E0	
JG	57D4	
JS	45F0	
LC	50N7	
LFS	6F9	
LG	7C7	
LR	56G4	
LS	45D0	
(ZN) LSA	45E0	13J
LV	45H2	
(XA) NGS	86C2	
(WA) OSA	71E3	
(WA) OSB	7163	
(XA) S	71D7	
(WA) SA	7160	
(YZ) SF	35C6	
TFS	35D1, 36C0	
TSM	45G2	
(E) VGA	903	
VGB	905	
(JB,VE) XPTN	4880	

CAPACITOR

DESIG	LOC	CODE
(XR) XFTN	115E7	(1/2)441T
(XR) XFUN	115G7	(1/2)441T

NETWORK

DESIG	LOC	CODE
BX	115D4	(1/2)177M*
ONX	114F0	(1/2)177M*
STX	116C4	(1/2)177M*
(XP) XFTT	115F7	(1/2)177M*
(XP) XFUT	115G7	(1/2)177M*
(XP) XRCT	10182	(1/2)177M*

* SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
(XA) CP	115D2	19SR
F	56E5	18DS
(XA) H5	102A2	KS-5643,L427,90
(XA) J8	102C3	KS-5643,L427,90
JC	57E0	19SR
JG	57D4	18CP
JS	45F1	18BM
LC	50N7	19SR
LR	56N4	18AU
LR1	56N4	19FP
PTN	4882	(VD) 18CP
		(VE) 19TF
TS	45G1	18NA
(TQ) XBR	115E3	19UA
(E) XLH	46C4	18BH

DRAWING ISSUE

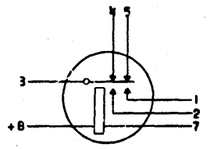
41D	A.M. J.G.T.	M.F.D.
43D	P.R. A.E.	F.D.
49D	E. EM W.G.P. A.W.D.	CB
54D	C.K. L.L. A.W.D.	

MARKER CIRCUIT
(2) SD-25550-01-C42
BELL TELEPHONE LABORATORIES INCORPORATED
6S
54

25550-01-C42

APP FIG. 92

RELAY



DESIG	RCLA	SKA1	SKB1			DESIG
CODE	276B	276B	276B			CODE
OPTION						OPTION
8	101F5	70G3	70F3			8
7	101F5	70G3	70F3			7
6						6
5						5
4						4
3	6C8	33D1	33C1			3
2	6C8	33D1	33C1			2
1	6C8	33D1	33C1			1

RESISTOR

DESIG	LOC	CODE
RCLA	101F6	106A,4020
SKA1	70G4	106A,4020
SKB1	70F4	106A,4020

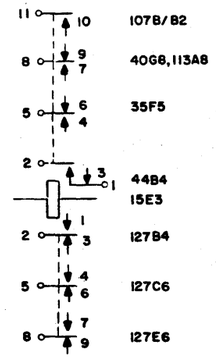
APP FIG. 93

WIRING ONLY

APP FIG. 94

RELAY U1439

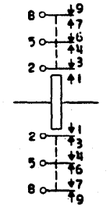
(GD) PCL1



107B/B2
40G8,113A8
35F5
44B4
15E3
127B4
127C6
127E6

RELAY U1399

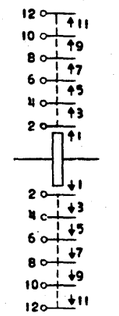
(GC) PCL1



44B4
35F5
40G8, 113B8
15E3
127B4
127C6
127E6

RELAY U1384

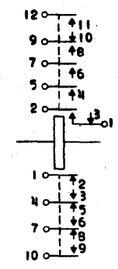
PCL2



36F1
33E1
84E4
113B5
62E3
62H3
15E3
84F7
84B5
84A6
84A4
84F4
108G5

RELAY U1348

PCL3



15C4
10G7
15C5
80H1
42G8, 84F3
15E3
75C2
33B7
62G5
106G5

NETWORK

DESIG	LOC	CODE
(GC,GD) PCL1	15E4	177J*

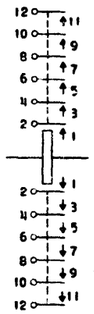
RESISTOR

DESIG	LOC	CODE
(QA) G9	15E2	KS-5643, L427, 62

*SEE NOTE 104

APP FIG. 95

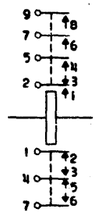
RELAY U1384



KGS1	KGS2
111F2	
82A4	67D5
67B5	67C5
66B6	66C6
65B6	65C6
64B6	64D6
81D4	81D5
63A6	63C6
64A6	64C6
65A6	65C6
66A6	66C6
67A5	67B5
63B6	63C6

RELAY
(1) U1355
(2) U815

PCR



5F6
22A2
15E4
81C4
18C6
111F3
104G7
34A9

NETWORK

DESIG	LOC	CODE
KGS1	81D4	(1/2)177K
PCR	18C6	(1/2)177H*

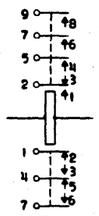
*SEE NOTE 104

RESISTORS

DESIG	LOC	CODE
K2	81D5	KS-5643, L427, 90

APP FIG. 96

RELAY
(1) U1355
(2) U815



PCDO	PCDI
5E6	5E6
22B2	22B2
15D4	15D4
111G2	111G2
18D6	18E6
104G8	104F8
34B9	34B9

NETWORK

DESIG	LOC	CODE
PCDO	18E6	(1/2)177H*
PCD1	18E6	(1/2)177H*

*SEE NOTE 104

41D TAT MAT
46D GAA AAB
51D SEG PBS AAD
54D DP CCL AAD
56D MD

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

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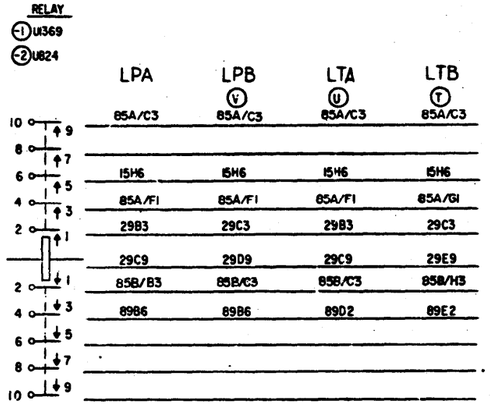
56

SD-25550-01-C43

0 1 2 3 4 5 6 7 8 9

A B C D E F G H

APP FIG. 97 (MFR DISC)



NETWORK

DESIG	LOC	CODE
LPA	29C8	[1/2] 177K
(V) LPB	29D8	[1/2] 177K
(U) LTA	29C8	[1/2] 177K
(T) LTB	29E8	[1/2] 177K

RESISTOR

DESIG	LOC	CODE
H2	29E9	KS-5243,L427,90

DRAWING ISSUE

41D	LAB ASST
54D	USER RELEASED

CD. CH CB

MARKER CIRCUIT (2) SD-25550-01-C44

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

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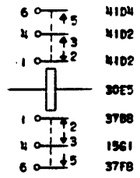
SD-25550-01-C44

APP FIG.98

RELAY
U1370
TOS

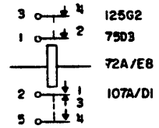


NETWORK DESIG	LOC	CODE
TOS	30E5	[1/2] 177H *

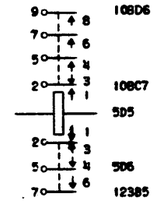
* SEE NOTE 104

APP FIG.99

RELAY
U174
IMG



RELAY
U179
IMT

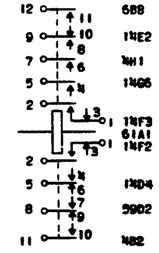


NETWORK DESIG	LOC	CODE
IMG	72A/E8	[1/2] 177C *

* SEE NOTE 104

APP FIG.100

RELAY
U1073
FLG2



NETWORK DESIG	LOC	CODE
FLG2	61A2	[1/2] 177C *

* SEE NOTE 104

APP FIG. 101A (A & M ONLY)

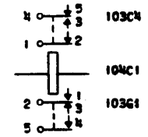
WIRING ONLY
SEE NOTE 106 & 105 PARAGRAPH 19

APP FIG. 101B

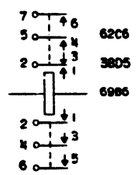
WIRING ONLY
SEE NOTE 106

APP FIG.102 (MFR DISC.)

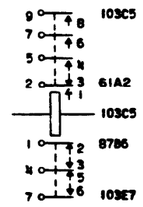
RELAY
U234
NGPI



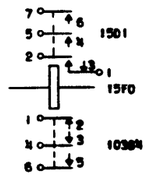
RELAY
U1362
NS



RELAY
U1317
TNR



RELAY
U1406
TOLI



NETWORK DESIG	LOC	CODE
NGPI	104C1	[1/2] 177C *
TNR	103C5	[1/2] 177C *
TOLI	15F0	[1/2] 177C *

* SEE NOTE 104

DRAWING ISSUE	
41D	
48D	BB
49D	LF
54D	DP

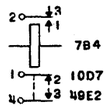
MARKER CIRCUIT
(2)
BELL TELEPHONE LABORATORIES INCORPORATED
65
54
SD-25550-01-C45

SD-01-C45

APP FIG.103

RELAY U1356

DTK

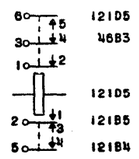


RELAY U1364

	MAK1	TBK
	35D3, 36E3	43H7
	43C4	43C4
	34G5	43H6
	42B5	42B5
	34G3	

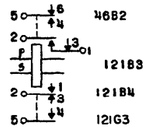
RELAY U1360

Ⓐ OBS1



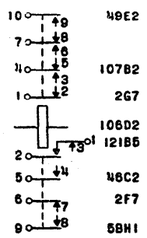
RELAY U290

Ⓐ OBS2



RELAY U1426

TR2F



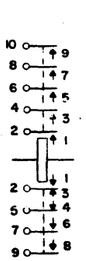
NETWORK DESIG	LOC	CODE
DTK	7B4	[1/2] 177H*
MAK1	34G5	[1/2] 177H*
Ⓐ OBS1	12ID5	[1/2] 177H*
Ⓐ OBS2	12IB3	[1/2] 177C*
TBK	43H6	[1/2] 177H*

* SEE NOTE 104

RESISTOR DESIG	LOC	CODE
Ⓐ OBS1	12IC4	18GA
Ⓐ OBS2	12IB4	188W

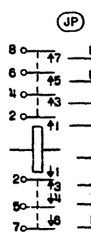
APP FIG.104

RELAY U809



	(JX) RD	(FT) RMF
	125C3, D3	125F3
	111E8	111E7
	111B5	111A5
	32FI	32FI
	32BI	32CI
	3F7	3F6
	43E6	43E6
	43G5	43G5
	111B2	111C2

RELAY U1392



	(JP) RD	(FQ) RMF
	111E8	111E7
	111B5	111A5
	32FI	32FI
	32BI	32CI
	3F7	3F6
	43E6	43E6
	43G5	43G5
	111B2	111C2

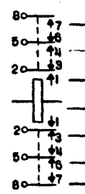
NETWORK DESIG	LOC	CODE
(JR, JX) RD	3F7	[1/2] 177H *
(FQ, FT) RMF	3F6	[1/2] 177H *
TG1	43D4	[1/2] 177K

* SEE NOTE 104

RESISTOR DESIG	LOC	CODE
TG	43E4	KS-13491, L3, 33,000

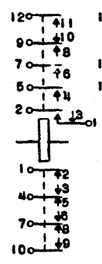
APP FIG.105

RELAY U8144



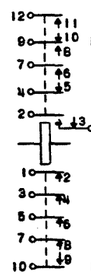
FM	SNK
110E6	104F8
40B7	113D1
104F9	2C7
105A5	42F2
105D1	103C8
	103D8
103D7	15CH

RELAY U1348



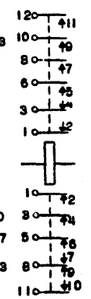
FMP	
105A5	
42G3	
110C2	
110D2	
49A7	
46A8	
46A8	
55A5	
108A2	
49C7	

RELAY U1383



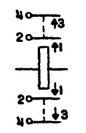
RAVI	
103B8	
1584, 113C3	
111D7	
40D6	
14G8	
103B8	
46A7	
114F1	
34A8, 71G0	
35D2, 36C7	
15D1, 109D3	

RELAY U92



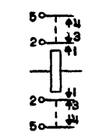
RCY	
103D8	
89G4	
103H2	
43G4	
43D4	
103E8	
39E9	
69A2	
34A9	
113CH	

RELAY U1334



RF	
105D1	
105E1	
105D0	
103D7	

RELAY U521



RFA	
105E1	
105E0	
105E0	
103D7	
110E5	

LAMP DESIG	LOC	CODE
TB	43G5	13J

NETWORK DESIG	LOC	CODE
RAVI	10388	[1/2] 177K
SNK	42F2	[1/2] 177C*

* SEE NOTE 104

RESISTOR DESIG	LOC	CODE
E11	103A9	KS-5643, L427, 90

DRAWING ISSUE		
41D	TAP LGT	WKO
43B	TRC WB	P.D.
44B	TAP ADD	P.D.
49D	E&M 6WD AND	CA
51C	JEG 1025 AND	CB
54D	GM ALL AND	

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

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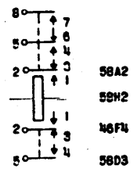
6S

APP FIG. 106

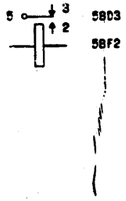
RELAY U1323

CCT



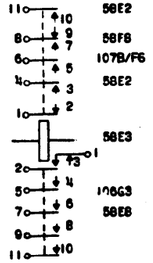
RELAY 280F

CON CON3



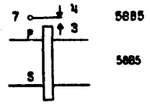
RELAY U1405

CONI



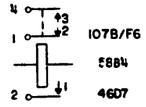
RELAY 280AE

FCG



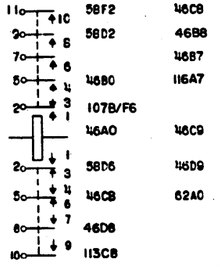
RELAY U1105

FCGA



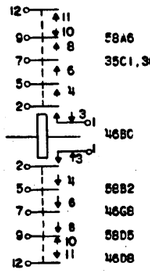
RELAY U1396

GLH LHT



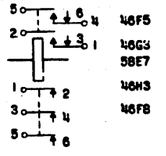
RELAY U188 U1199

GLH1



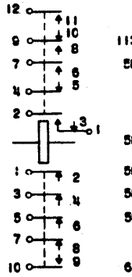
RELAY U1382

GT1



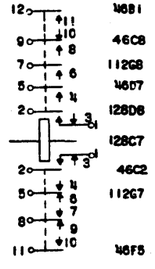
RELAY U1383

GT2



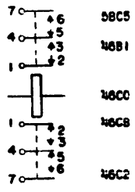
RELAY U1073

HTR



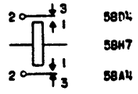
RELAY U189

LTR



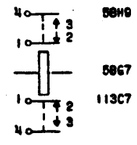
RELAY U1411

RCT



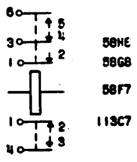
RELAY U901 U1273

RCTA



RELAY U898

RCTB



CAPACITOR

DESIG	LOC	CODE
CONI	58D2	475AC
CON2	58C1	475F
CON3	58F1	441P
XLH	46B5	437QA

INDUCTOR

DESIG	LOC	CODE
CON	58D3	200CL
CONI	58A1	221N

LAMP

DESIG	LOC	CODE
CON	58A0	130

NETWORK

DESIG	LOC	CODE
CCT	58H2	[1/2] 177C*
CON	58D3	[1/2] 177K
CONI	58E3	[1/2] 177K
CON2	58B1	[1/2] 177C*
FCGA	58B4	[1/2] 177C*
GLH	46A0	[1/2] 177H*
GLH1	46B0	[1/2] 177C*
GTI	58E8	[1/2] 177K
HTR	128C7	[1/2] 177C*
LHT	46C9	177E*
LTR	46CC	[1/2] 177C*
RCT	58H7	[1/2] 177C*
RCTA	58G7	[1/2] 177C*
RCTB	58F7	[1/2] 177C*

* SEE NOTE 104

REPEATING COIL

DESIG	LOC	CODE
CON	58A1	91M

RESISTOR

DESIG	LOC	CODE
CONI	58E2	KS-13490, L3, 1000
CON2	58D2	107A, 180,000
CON3	58B2	107A, 20,000
CON4	58B2	107A, 200,000
CON5	58B3	KS-13492, L3, 5100
CON6	58A3	18AP
CON7	58D3	18AP
CON8	58F3	18FR
CON9	58F2	107A, 12,000
CONIO	58F2	107A, 12,000
FO	58E7	KS-5643, L427, 90
FI	58E4	KS-5643, L427, 90
XLH2	46B7	18FD

TUBE

DESIG	LOC	CODE
CON	58E1	313CA

DRAWING ISSUE

41D	4-ESS	
51D	1A2 1025 AMC	
54D	DP 5E6 6A2	

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

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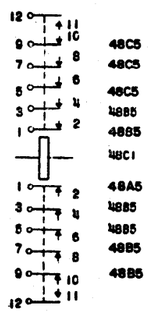
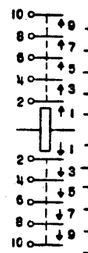
APP FIG. 107

RELAY
U1337

PTC



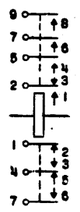
RELAY
① U1358
② UB18



BNA	RIA	TBIA
89C1	89C1	89C2
86B7	86B7	86C7
93B3	93B3	93C3
94B5	94B5	94A5
95H3	95H3	95H3
92A9	92B9	92C9
88C1	88D1	88D1
88E1	88D1	88E0
88E1	88E0	111E1
8785	8785	8785
111E1	111E1	87E2

APP FIG. 108

RELAY
① U1355
② UB15 — MD



HN0 (RP)	HN1 (RP)	HN2 (RP)	HN4 (RP)	HN7 (RP)	T0 (RP)	T1 (RP)	T2 (RP)	T4 (RP)	T7 (RP)	TH0 (RP)	TH1 (RP)	TH2 (RP)	TH4 (RP)	TH7 (RP)
93G4	93H4	93H4	93E4	93H5	94F5	94E5	94E5	94G5	94E6	86D4	86D4	86D4	86D5	86E4
93F4	93G4	93G4	93G5	93H5	94F5	94F5	94F5	94F6	94E6	86D4	86D4	86D4	86E7	86E4
93F4	93F4	93F5	93F5	93G5	94G5	94G5	94G6	94F6	94F6	86D4	86D4	86E4	86E4	86E4
85A/A3	85A/A3	85A/A3	85A/A4		85A/A4	85A/A5	85A/A5	85A/A5	99D5	85A/A1	85A/A1	85A/A1	85A1	
6385	6485	6585	6685	6785	63C5	64C5	65C5	66C5	67C5	63A5	64A5	65A5	66A5	67A5
		85A/A3	85A/A4	85A/A4			85A/A5	85A/A5	85A/A6			85A/A1	85A/A2	85A/A2
	85A/A3	85A/A3	85A/A4	85A/A4		85A/A5	85A/A5	85A/A5	85A/A6		85A/A1	85A/A1	85A/A2	85A/A2
93E4	93F5	93F5	93G5	93E5	94G5	94G6	94G6	94F6	94G6	86D4	86E4	86E4	86E4	86E4

RELAY
U1356

HN0 (RQ)	HN1 (RQ)	HN2 (RQ)	HN4 (RQ)	HN7 (RQ)	T0 (RQ)	T1 (RQ)	T2 (RQ)	T4 (RQ)	T7 (RQ)	TH0 (RQ)	TH1 (RQ)	TH2 (RQ)	TH4 (RQ)	TH7 (RQ)
99G5	99E2	99E2	99F2	99E2	99D5	99B2	99B2	99C2	99B2	100F3	100B1	100C1	10CD1	100B1
93G4	93H4	93H4	93E4	93H5	94F5	94E5	94E5	94G5	94E6	86D4	86D4	86D4	86D5	86E4
93F4	93G4	93G4	93G5	93H5	94F5	94F5	94F5	94F6	94E6	86D4	86D4	86E4	86E4	86E4
93F4	93F4	93F5	93F5	93G5	94G5	94G5	94G6	94F6	94F6	86D4	86D4	86E4	86E4	86E4
85A/A3	85A/A3	85A/A3	85A/A4	99G5	85A/A4	85A/A5	85A/A5	85A/A5	99D5	85A/A1	85A/A1	85A/A1	85A/A1	100N3
6385	6485	6585	6685	6785	63C5	64C5	65C5	66C5	67C5	63A5	64A5	65A5	66A5	67A5
99E5	99F5	85A/A3	85A/A4	85A/A4	99B5	99C5	85A/A5	85A/A5	85A/A6	100C3	100E3	85A/A1	85A/A2	85A/A2
99F5	85A/A3	85A/A3	85A/A4	85A/A4	99C5	85A/A5	85A/A5	85A/A5	85A/A6	100D3	85A/A1	85A/A1	85A/A2	85A/A2
93E4	93F5	93F5	93G5	93E5	94G5	94G6	94G6	94F6	94G6	86D4	86E4	86E4	86E4	86E4
99E5	99F5	99F5	99E5	99G5	99B5	99B5	99C5	99B5	99D5	100B3	100D3	100F3	100B3	100G3

RELAY
① U1358
② UB15

U0	U1	U2	U4	U7
95C2	95B2	95B2	95G2	95B2
95E2	95D2	95C2	95C2	95B2
95F2	95E2	95F2	95E2	95C2
85A/A6	85A/A6	85A/A7	85A/A7	
6305	6405	6505	6605	67C5
		85A/A7	85A/A7	85A/A7
	85A/A6	85A/A7	85A/A7	85A/A7
95F2	95F2	95[illegible]	95D2	95G2

NETWORK

DESIG	LOC	CODE
BNA	92A9	
HN0	6385	[1/2] 177H *
HN1	6485	
(RP,RQ) HN2	6585	
HN4	6685	
HN7	6785	
NGS	86F5	[1/2] 177C *
RIA	9289	
T0	63C5	[1/2] 177H *
T1	64C5	
(RP,RQ) T2	65C5	
T4	66C5	
T7	67C5	

NETWORK (CONT)

DESIG	LOC	CODE
TBIA	92C9	177E *
TH0	63A5	[1/2] 177H *
TH1	64A5	
(RP,RQ) TH2	65A5	
TH4	66A5	
TH7	67A5	
U0	6305	
U1	6405	
U2	6505	
U4	6605	
U7	6705	

* SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
NGS	86F5	KS-13480, L3, 39,000

MARKER CIRCUIT ②

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BELL TELEPHONE LABORATORIES INCORPORATED 6S

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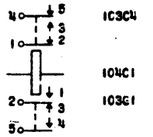
DRAWING ISSUE
41D
43B
46D
49D
54D

0 1 2 3 4 5 6 7 8 9

APP FIG. 109

RELAY U234

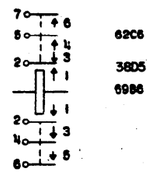
NGPI



1C3C4
1O4C1
1O3G1

RELAY U1382

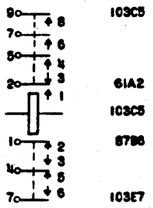
NS



62C6
38D5
69B6

RELAY U1317

TNR



103C5
61A2
103C5
87B6
103E7

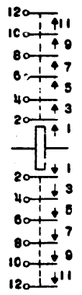
NETWORK

DESIG	LOC	CODE
NGP1	104C1	[1/2] 177C*
TNR	103C5	[1/2] 177C*

* SEE NOTE 104

APP FIG. 110

RELAY UB12



INCO	OROA	TANOA	TANIA
17G3		17D9	17D9
22G3	19E2	19E2	19E2
22G3	19C2	19D2	19D2
22G3	19B2	19B2	19C2
22G3	19A2	19A2	19A2
22G4	19G0	19H0	19H0
17H1	17C5	17E5	17F5
22G4	19A0	19A0	19AC
22G4	19B0	19B0	19B0
22G4	19C0	19D0	19D0
22G4	19E0	19E0	19E0
22G4	19F0	19F0	19G0
22G6	1785	17D4	17D4

NETWORK

DESIG	LOC	CODE
INCO	17H1	177E*
ORO	17C4	177J*
TANO	17E4	177J*
TANI	17F4	177J*

RESISTOR

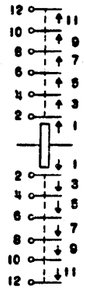
DESIG	LOC	CODE
TANO	17D9	188G
TANI	17D9	188G

* SEE NOTE 104

APP FIG. 111

RELAY UB12

[3]TAN2A,3A,4A TCLOA



[3]TAN2A,3A,4A	TCLOA
17E8	
19F2	19F2
19D2	19D2
19C2	19C2
19B2	19B2
19H0	19H0
17G5	17G5
19B0	19B0
19C0	19C0
19D0	19D0
19F0	19F0
19G0	19G0
17D5	17D5

NETWORK

DESIG	LOC	CODE
[3]TAN2,3,4	17G4	177J*
TOLO	17G4	177J*

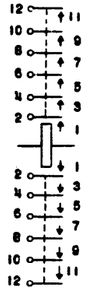
* SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
(UF)[3]TAN2,3,4	17E9	188G

APP FIG. 112

RELAY UB12



OROB	OROC	OROD	TANOB	TANOC	TANOD	TANIB	TANIC	TANID
19E4	19E6	19F8	19E4	19E6	19F8	19E4	19E6	19F8
19C4	19C6	19E8	19D4	19D6	19E8	19D4	19D6	19E8
19B4	19B6	19C8	19B4	19B6	19D8	19C4	19C6	19D8
19A4	19A6	19B8	19A4	19A6	19B8	19A4	19A6	19C8
19G3	19G5	19A8	19H3	19H5	19A8	19H3	19H5	19A8
19F3	19F5	19F7	19F3	19F5	19F7	19G3	19G5	19G7
17C5	17C5	17C5	17E5	17E5	17E5	17F5	17F5	17F5
19F2	19F4	19F6	19F2	19F4	19F6	19G2	19G4	19G6
19G2	19G4	19G6	19G2	19H4	19H6	19H2	19H4	19H6
19A3	19A5	19A7	19A3	19A5	19A7	19A3	19A5	19A7
19B3	19B5	19B7	19B3	19B5	19B7	19D3	19C5	19C7
19C3	19C5	19C7	19D3	19D5	19D7	19D3	19D5	19D7
19E3	19E5	19E7	19E3	19E5	19E7	19E3	19E5	19E7

DRAWING ISSUE	
41D	1,6,7
43B	1,4,5,6,7 AND 8
48D	1,4,5,6,7 BB AND 8
54D	1,4,5,6,7 JEK AND 8

P.D. CR B A

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MARKER CIRCUIT (2)

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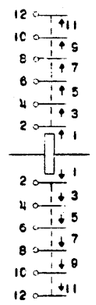
BELL TELEPHONE LABORATORIES INCORPORATED 6S

APP FIG. 113

RELAY
UB12

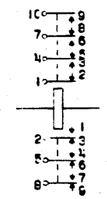


[3] TAN2B,3B,4B	[3] TAN2C,3C,4C	[3] TAN2D,3D,4D	TOLOB	TOLOC	TOLOD
19F4	19F6	19G8	19F4	19F6	19G8
19D4	19D6	19F8	19D4	19D6	19F8
19C4	19C6	19D8	19C4	19C6	19D8
19E4	19E6	19C8	19B4	19B6	19C8
19H3	19H5	19B8	19H3	19H5	19B8
19G3	19G5	19G7	19G3	19G5	19G7
17G5	17G5	17G5	17G7	17G7	17G7
19G2	19G4	19G6	19G2	19G4	19G6
19H2	19H4	19H6	19H2	19H4	19H6
19B3	19B5	1997	19B3	19B5	19B7
19C3	19C5	19C7	19C3	19C5	19C7
19D3	19D5	19D7	19D3	19D5	19D7
19F3	19F5	19F7	19F3	19F5	19F7

APP FIG. 114

RELAY
(1) U934
(2) UB5

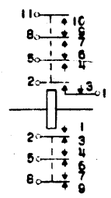
MT19



6207
9785
97A5
45D1
97F7
97C5
97D5
97D5

RELAY
U1C24

MT20



36G4, 35E4
97F5
97E5
89E7
97E7
97G5
97H5
97H5

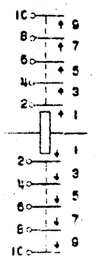
APP FIG. 115

RELAY
(1) U1369
(2) UR24

NETWORK

DESIG	LOC	CODE
[8] 2DT2-9	23B7	[1/2] 177K

[8] 2DT2-9



24G5
24G5
24F5
24E5
24E5
23B7
24B5
24B5
24C5
24C5
24D5

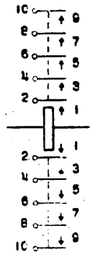
APP FIG. 116

RELAY
U1369

NETWORK

DESIG	LOC	CODE
[8] TA2-9	23C7	[1/2] 177K

[8] TA2-9



24G2
24G2
24F2
24E2
24E2
23C7
24B2
24B2
24C2
24C2
24D2

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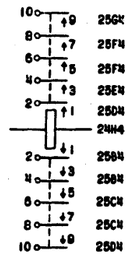
NO. 5 MARKER CIRCUIT	SD-25550-01-C50
BELL TELEPHONE LABORATORIES INCORPORATED	6S

APP FIG. 117

RELAY	NETWORK DESIG	LOC	CODE
U1369	[100] BT00-99	24H5	[1/2] 177K

[100] BT00-99

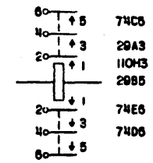


APP FIG. 118

RELAY	NETWORK DESIG	LOC	CODE
(-1) U1389 (-2) UB19	[100] CV00-99	2U85	[1/2] 177H*

* SEE NOTE 104

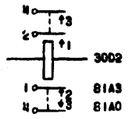
[100] CV00-99



APP FIG. 119

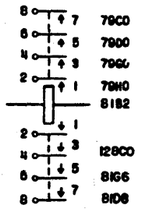
RELAY
U1371

CVS



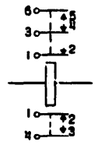
RELAY
(-1) U1389
(-2) UB21

TGS3



APP FIG. 120

RELAY
(-1) 1390
(-2) UB20



GSA1	GSA2	GSA3	GSA4
31A7	31C7	31D7	31E7
74C7	74C7	74C7	74C7
74D7	74D7	74D7	74D7
31B8	31D8	31E8	31F8
74E7	74E7	74E7	74E7

DRAWING ISSUE
41D REV 1ST JEK
54D REV

W.E.CO. Cb Cb

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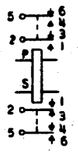
MARKER CIRCUIT (2)
SD-25550-01-C51
54
BELL TELEPHONE LABORATORIES INCORPORATED
6S

APP FIG. 121

RELAY U1373

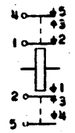
BRK1	BRK2
81A2	81A1
79D0	79F0

RELAY U1374



BRN0	BRN1	BRN2	BRN3	BRN4
79C4	79C3	79C3	79C2	79C2
79F4	79E3	79E2	79F3	79E2
74D3	74D3	74D3	74D3	74D3
79F5	79G5	79H3	79H3	79H3
79H4	79F3	79G4	79F3	79F2

RELAY U077



BRP	BRS
79E2	79F1
74D2	74D2
79G1	79H1

NETWORK DESIG	LOC	CODE
[5]BROP-4P	74D4	[1/2]177C *
[5]BROS-4S	74D4	[1/2]177C *
BRK1	79G0	[1/2]177C *
BRK2	79F0	[1/2]177C *

* SEE NOTE 104

RESISTOR DESIG	LOC	CODE
BRN0	79E1	KS-13492,L1,1500
BRN1	79F1	KS-13492,L1,1500
BRN2	79F1	KS-13492,L1,1500
BRN4	79G1	KS-13492,L1,1500
BRN7	79H1	KS-13492,L1,1500

APP FIG. 122

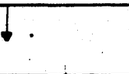
RELAY U1373

ARK1	ARK2
81A1	81A0
79D0	79CC

RELAY U1374

ARN0	ARN1	ARN2	ARN3	ARN4
79C4	79C3	79C3	79C2	79C2
79C4	79A3	79A2	79B3	79A2
74B3	74B3	74B3	74B3	74B3
79B5	79C5	79D3	79D3	79D3
79D4	79B3	79C4	79C3	79C2

RELAY
(1) U1372
(2) U832



ARN5	81A1
	74B3

RELAY U077

ARP	ARS
79B2	79C1
74B2	74C2
79D1	79D1

NETWORK DESIG	LOC	CODE
[5] AROP-4P	74B4	[1/2]177C *
[5] AROS-4S	74C4	[1/2]177C *
AR5S	74C4	[1/2]177C *
ARK1	79D0	[1/2]177C *
ARK2	79C0	[1/2]177C *

* SEE NOTE 104

RESISTOR DESIG	LOC	CODE
ARN0	79A1	KS-13492,L1,1500
ARN1	79B1	KS-13492,L1,1500
ARN2	79C1	KS-13492,L1,1500
ARN4	79C1	KS-13492,L1,1500
ARN7	79D1	KS-13492,L1,1500

ISSUE 4ID

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NO. 5 MARKER CIRCUIT

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BELL TELEPHONE LABORATORIES INCORPORATED 6S

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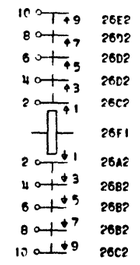
APP FIG. 123

RELAY
(-1) U1369
(-2) UB24

NETWORK

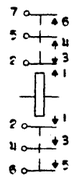
DESIG	LOC	CODE
(9) TXC1-9	26F1	[1/2] 177H

(9) TXC1-9



APP FIG. 124

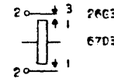
RELAY
U1362



DX0	DX1	DX2	DX4	DX7
26B0	26B0	26D0	26A0	26A1
26G2	26G2	26G2	26G3	26G3
63D3	64D3	65D3	66D3	67C3
26D0	26B1	26B1	26C1	26D1
26C0	26D0	26B1	26C1	26D1
26B0	26C0	26E0	26D1	26E1

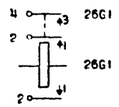
RELAY
(-1) U1346
(-2) UB14

EX7



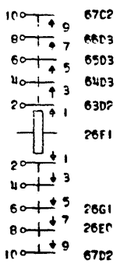
RELAY
U1271

OPE



RELAY
(-1) U1369
(-2) UB24

TXD



NETWORK

DESIG	LOC	CODE
DX0	63D3	[1/2] 177H*
DX1	64D3	[1/2] 177H*
DX2	65D3	[1/2] 177H*
DX4	66D3	[1/2] 177H*
DX7	67D3	[1/2] 177H*
EX7	67D3	[1/2] 177H*
OPE	26G1	[1/2] 177H*

RESISTOR

DESIG	LOC	CODE
K3	26F0	KS-5543,L427,90

* SEE NOTE 104

APP FIG. 125 (A & M ONLY)
SEE NOTE 105 PARAGRAPH 27

RELAY
U886

AST (SE)	BST (SB)
88B8	88C8
88B6	88B6
88C6	88C6
88E6	88E6
86C9	86G6
88B4	88B4
88D4	88D4
88E4	88E4

RELAY
U1354

ASTA (PI)	BSTA (PJ)
88F6	88F6
86C9	86H6
88G4	88G4

LAMP

DESIG	LOC	CODE
AST	86B9	13J

NETWORK

DESIG	LOC	CODE
(SE) AST	86C9	[1/2] 177H*
(SB) BST	86G6	[1/2] 177H*

* SEE NOTE 104

DRAWING ISSUE
41D J&T
51D JR

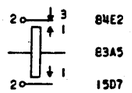
SD-25550-01-C53

MARKER CIRCUIT (2)
BELL TELEPHONE LABORATORIES INCORPORATED
6S
SD-25550-01-C53
51

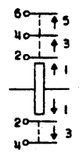
APP FIG. 126

RELAY
(-1) U1346
(-2) UB14

(YJ,YV,JW) ONN

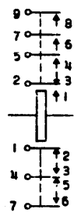


RELAY
(-1) U1366
(-2) UB16



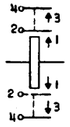
ISE (PE)	2SA (PD)	3NA (PD)	4NE (PE)	5ST (PD)	6NT (PD)	7RN (PF)	8SP	9NP
84C2	84B1	84C2	84E1	84E1	84E0	84F2	84F1	84F0
89A5	89C4	89C3	89A5	89D8	89C8		89C5	89C5
84B1	84D2	84D1	84B1	84C0	84D1	84B2	84C1	84D1
83B5	83B5	83C5	83D5	83E5	83F5	83F5	83G5	83H5
85B/BO	85B/G2	85B/GI	85B/BO	85B/BI	85B/BI		85B/B2	85B/BI
83F6	83F6	83D6	83E6	83F6	83E6		83G6	83E6

RELAY
(-1) U1355
(-2) UB15



EN (PC)	PN	PTN (ZP)	TN (ZP)
88F8	88B8	88D8	88C8
89B8	89A6		89A6
89A3	89B4	89B3	89C3
61G5	61GN	61G5	61G5
98E8	88A8	88D8	88C8
94C1			94C2
94B1	94B0	94C2	94B2
8987	8988		8987

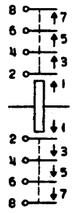
RELAY
(-1) U1367
(-2) UB17



PHC (ZQ)	THC (ZQ)
15H4	15H5
89B5	8989
21G6	21G6
85A/DI	85A/CI
85B/A6	85B/A6

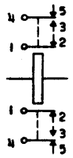
RELAY
(-1) U1349
(-2) UB21

(YJ) RN



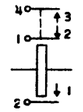
RN (YJ)
84D0
84E0
84F0
84B0
84G8
84E3
84C2
84C0
7760

RELAY
U1387



RN0 (YJ)	RN1 (YJ)	RN2 (YJ)	RN4 (YJ)	RN7 (YJ)
84E7	84E8	84E8	84E8	
84A1	84B1	84D1	84E1	84F1
		84D8	84D8	84D9
	84E8	84E8	84E8	84E9

RELAY
U6034



RNK1 (YJ,YV)	RNK2 (YJ,YV)
84H1	84H1
84D5	84D5
62H7	62H7

NETWORK

	DESIG	LOC	CODE
(YJ,YV,JW)	ONN	83A5	[1/2]177H*
(PD)	1SE	83B5	[1/2]177H*
(PD)	2SA	83B5	[1/2]177H*
(PD)	3NA	83C5	[1/2]177H*
(PE)	4NE	83D5	[1/2]177H*
(PD)	5ST	83E5	[1/2]177H*
(PD)	6NT	83F5	[1/2]177H*
(PF)	7RN	83E5	[1/2]177H*
	8SP	83G5	[1/2]177H*
	9NP	83H5	[1/2]177H*
(PC)	EN	88F8	[1/2]177H*
(ZQ)	PHC	21G6	[1/2]177H*
	PN	8888	[1/2]177H*
(ZP)	PTN	88D8	[1/2]177H*
	RN	34G8	[1/2]177H*
	RN0	84A1	[1/2]177C*
(YJ)	RN1	84B1	[1/2]177C*
	RN2	84D1	[1/2]177C*
	RN4	84E1	[1/2]177C*
	RN7	84F1	[1/2]177C*
(YJ,YV)	RNK	84H5	[1/2]177C*
	TBS	94C3	177J*
(ZQ)	THC	21G6	[1/2]177H*
(ZP)	TN	88C8	[1/2]177H*

RESISTOR

DESIG	LOC	CODE
TBS	94C3	KS-13490,L3,33000

* SEE NOTE 104

APP FIG. 127
WIRING ONLY
SEE NOTE 106

DRAWING ISSUE
41D RL 1&T DR
54D ACL AND

SD-25550-01-C54

MARKER CIRCUIT (2)
BELL TELEPHONE LABORATORIES INCORPORATED
6S
54
SD-25550-01-C54

APP FIG. 134

RELAY

280BA

PSA	PSB
27G5	27G5
27E7	27E7

INDUCTOR

DESIG	LOC	CODE
PSA	27G5	200CL
PSB	27G5	200CL

NETWORK

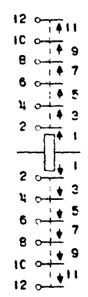
DESIG	LOC	CODE
PSA	27G5	[1/2] 177H*
PSB	27G5	[1/2] 177H*

*SEE NOTE 104

APP FIG. 135

RELAY

UB12

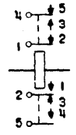


PSAO	PSAI	PSBO	PSBI
28A6	28A6	28D6	28D6
28A6	28A6	28D6	28D6
28A6	28A6	28D6	28D6
28A6	28A6	28D6	28D6
28A6	28A6	28D6	28D6
28A6	28A6	28D6	28D6
27G6	27G6	27G6	27G6
28A6	28A6	28D6	28D6
28A6	28A6	28D6	28D6
28A6	28A6	28D6	28D6
28A6	28A6	28D6	28D6
28A6	28A6	28D6	28D6
28A6	28A6	28D6	28D6

APP FIG. 137

RELAY

U234



KCM	KCV
74D8	74D7
74B8	74B7
74F3	74E3
74E8	74E7
B1A2	B1A2

NETWORK

DESIG	LOC	CODE
KCM	74F3	[1/2] 177C*
KCV	74E3	[1/2] 177C*

*SEE NOTE 104

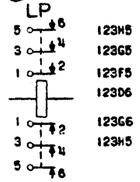
APP FIG. 138

RELAY

(1) U133

(2) UB25

LP



	123H5
	123G5
	123F5
	123D6
	123G6
	123H5

APP FIG. 140

WIRING ONLY

DRAWING ISSUE

41D	FJB UGT	NEG
49D	EM DJ60 AHO	

SD-25550-01-C55

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

SD-25550-01-C55

49

APP FIG. 142

RELAY
U1386

ANR

	98D1
	98C7
	98D2
	61B3
	98B7
	89G1
	92H6

RELAY
U1415

ANRI

	98B1
	86E2
	98F1
	98DC
	9CD5
	98A1
	98B2
	98G7
	92C7
	98D2
	98G1

RELAY
U1348

NAR1	NAR2	NAR3
86E2	87D5	98E1
92H6	9CC7	
		98F1
9CD4	9CD3	9CD1
92A7		98C3 92E8
98A1	98A2	98A2
61B4	61B3	61B3
1C3B1	1C3B1	9CC7
1C3B2	1C3A1	92C7
		9C8B

RELAY
28CA

TYMI

	92C6
	98F2

CAPACITOR

DESIG	LOC	CODE
TYMI	98E2	[2] 4370A

NETWORK

DESIG	LOC	CODE
ANR	98D2	[1/2] 177H*
ANRI	98B2	[1/2] 177H*
NAR	98E1	[1/2] 177K

* SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
GIC	98A2	KS-5643, L427, 62
TYMA	98E2	18AG
TYMB	98F1	18FS

APP FIG. 143

RELAY
U688

CDKO	CDKI
69A3	69A3
69B6	69B6
8CE1	8CE1

NETWORK

DESIG	LOC	CODE
CDKO	69B6	[1/2] 177H*
CDKI	69B6	[1/2] 177H*

* SEE NOTE 104

APP FIG. 144

RELAY
U1384

SOB

	119E5
	119D5
	37D7
	37H1
	37D6

RELAY
U1C13

TOB

	12CE4
	119BC
	12CB4
	12CG6
	119C1

RELAY
① U1355
② UB15

TOBS

	119G1
	119B3
	119F0
	120B6
	121F3
	119C1

NETWORK

DESIG	LOC	CODE
SOB	37D7	[1/2] 177H*
TOBS	119FC	[1/2] 177H*

* SEE NOTE 104

APP FIG. 145

RELAY
① U1325
② UB12

TANI

	1C3C3
	17E5
	22E8
	15G7
	28G9
	28E9
	17F7
	22C1
	22D6
	22G6
	28C9
	29A9
	17F9

NETWORK

DESIG	LOC	CODE
TANI	17F7	[1/2] 177H*

* SEE NOTE 104

APP FIG. 146
WIRING ONLY

ISSUE
41D
46D
47D
49D

APP FIG. 147

RELAY
U1381

	NSS0	NSS1
12 o 11	86D7	86D7
10 o 9	86D7	86D7
8 o 7	86D7	86D7
6 o 5	86D7	86D7
4 o 3	86D7	86D7
1 o 2	8685	8686
	858/B8	858/C8
2 o 1	86D7	86D7
4 o 3	86D7	86D7
6 o 5	86D7	86D7
8 o 7	86D7	86D7
10 o 9	86D7	86D7
12 o 11	86C7	86C7

RELAY
U6117

	RGT	
12 o 11		85A/D1
10 o 9		87A1
8 o 7		
6 o 5		583
4 o 3		89H3
1 o 2		61G2
		29E0
1 o 2		585
4 o 3		101D3
6 o 5		89G5
8 o 7		8788
10 o 9		8602
12 o 11		

RELAY
U1382

	RGT0	RGTI
8 o 7		
6 o 5		
4 o 3		
2 o 1	858/B9	858/C9
	29G0	29G0
1 o 2		
3 o 4		
5 o 6	29E1	29E1
7 o	61G6	61G7

RELAY
868

XNS
2 o 3 o 1
86H1
858/D8

LAMP

DESIG	LOC	CODE
NSS	858/D9	13J (RES)

NETWORK

DESIG	LOC	CODE
NSS0	858/B8	[1/2] 177H*
NSS1	858/C8	[1/2] 177H*
RGT	29E0	[1/2] 177H*
RGT0	29G0	[1/2] 177H*
RGTI	29G0	[1/2] 177H*

* SEE NOTE 104

APP FIG. 148

RELAY
U1381

	NSS2	NSS3	NSS4	NSS5
12 o 11	86D7	86D7	86D7	86D7
10 o 9	86D7	86D7	86D7	86D7
8 o 7	86D7	86D7	86D7	86D7
6 o 5	86D7	86D7	86D7	86D7
4 o 3	86D7	86D7	86D7	86D7
1 o 2	8686	8686	8687	8687
	858/C8	858/C8	858/C8	858/C8
2 o 1	86D7	86D7	86D7	86D7
4 o 3	86D7	86D7	86D7	86D7
6 o 5	86D7	86D7	86D7	86D7
8 o 7	86D7	86D7	86D7	86D7
10 o 9	86D7	86D7	86D7	86D7
12 o 11	86C7	86C7	86C7	86C7

RELAY
U1382

	RGT2	RGT3	RGT4	RGT5
8 o 7				
6 o 5				
4 o 3				
2 o 1	858/C9	858/C9	858/C9	858/C9
	29G0	29G0	29G0	29G0
1 o 2				
3 o 4				
5 o	29E1	29E1	29E1	29E1
7 o 6	61G7	61G7	61G7	61G7

NETWORK

DESIG	LOC	CODE
[4] NSS2-5	858/C8	[1/2] 177H*
[4] RGT2-5	29G0	[1/2] 177H*

* SEE NOTE 104

APP FIG. 149

RELAY
U886

AST
11 o 10
8 o 9 o 7 o 6 o 4
5 o 2 o 3 o 1
2 o 1 o 3 o 5 o 4 o 6
8 o 7 o 9

86C7
88A6
88C3
88D6
86D9
8883
88C3
88D4

RELAY
U1384
(2)

ASTA
5 o 4
2 o 3 o 1
2 o 1 o 3
8 o 4

88E6
86D9
88F4

LAMP

DESIG	LOC	CODE
AST	88C8	13J

NETWORK

DESIG	LOC	CODE
AST	86D9	[1/2] 177H*

* SEE NOTE 104

APP FIG. 150
WIRING ONLY

DRAWING ISSUE
41D
54D

MARKER CIRCUIT
(2)
BELL TELEPHONE LABORATORIES INCORPORATED
6S
SD-25550-01-C57
54

SD-25550-01-C57

PART OF APP FIG. 151

RELAY ① U1355 ② UB15

	ACD	DNC	FC	LCD0	LCD1	LCD2	VTC	WKC
				29G3	29G3	29G3		
				29H3	29H3	29H3		
	22E4	22G5	22F5	22E5	22E5	22F5	22F5	22F4
				120E6	120E8	120E5		
	16D2	16D2	16E2	16A2	16B2	16C2	16F2	16F2
		22G3	22G3		22G2	22G2		
	22F2	22F3	22F3	22F2	22F2	22F2	22F4	22F3

RELAY ① U1355 ② UB15

	AD	OD
	101G2	101H2
	122E1	122E1
	122E2	122E2
	84C7	84C6
	16B5	16C5

RELAY UA9N

	CFA
	1G9
	1G9
	1E8
	1G5
	1F3
	2C1

RELAY U5A3

	CFAI
	1G5
	2C1
	1G5
	1F4
	1G8

RELAY ① U1325 ② UB12

	CFGO	CFGI	CMFO	CMFI	CTGS	SOR
	12F9	12F9			12G9	
	69D3	69G3	29G3	29G3	12G9	
	69C3	69F3	22G8	22G8	12G9	
	69C3	69F3			12G9	
	69C3	69F3	28G9	28G8	12F8	
	69B3	69F3	28E9	28E8	12F9	29G3
	34A8	34B3	18B6	18C6	12H0	82B7
	69D3	69G3		62C5	12H9	
	69D3	69G3				
	69E3	69H3				82C5
	69E3	69H3	28C9	28D8		
	69E3	69H3	28B9	28B8		

RELAY U1396

	CMC1	CMC2	CMSO	CMSI	CMS2	CTFO	CTF1	CTF2	CTF4	CTF7	TOG4
	15C3	40G6	28G9	28H8		69E2	69D2	69F2	69D2	69E2	41D8
	85A/H1	16G5	28F9	28F8		69F2	69G2	69F2	69D2	69H2	
	111H3	68F2	15F7	15F7		69C2	69C2	69C1	69C1	69D1	
	81E8		18E8	18E7	22C8	69D2	69H2	69C1	69B2	69B2	
	81F8	104F5			5C6						34B9 41C9
	15D3	15D3	18D6	18F6	18E8	34C3	34D3	34E3	34G3	34H3	41D8
		15D4		62C5	15D6						
	104G7	62H5	18B8	18C8	83C7						
	12H0		28D9	28D8							
	119A1	5G6	28B9	28B8		12G9	12G9	12G9	12G9	12G9	

RELAY U1396

	CMC3
	89C1
	80A7
	12GO
	15D3
	81F6
	80C1
	80C0
	37B7

RELAY U886

	CMCA	CMCB	CMCC
	16E5	81E8	
	79B6	79E6	76B5
	79A6	79E6	76A5
	101G2		
	16F5	16F5	16G5
	79C6	79F6	76C5
	79C6	79G6	76D5
	79D6	79G6	76D5

RELAY U1430

	CMF2
	15F7
	127E6
	18F8
	127A4

RELAY U1415

	CMF3	CMF4	ORC	RNT3
	22D6	34H2	16E7	81A7
	12085	34B2	16F7	81A8
	34A1	34A2		11B66
	84E6			11B63
	84F6			8109
	11981			77H2
	18F8	18G8	84H8	3785
	1888 111G3	104G9		84C8
	119G2	34C2	16G7	
	34B8	34D2	1686	84G7
	22C8	34E2	16D6	8108
	41E8	34G2	84D3	81F7

RELAY U1370

	CMJ
	16D5
	16F6
	81F7
	30C5
	81F7
	3786
	3786

RELAY 280E

	CMRO	CMRI
	29G3	29H3
	29H0	29H0

RELAY 2808Y

	CTOB
	12086
	11981
	119A0

RELAY S533

	MBA
	16E5
	71E0

RELAY U1N12

	ORCO	ORC1	ORC2
	12085	12085	12085
		84C8	
	16E7	16E7	16F7
	84C8	84C7	84C7

RELAY U588

	TTA
	7502
	7582
	10802
	75C3
	9C5
	7505
	7507

DRAWING ISSUE

41D	1A1	W.F.
43B	1A3	RD.
46D	2B1	
49D	2B3	
54D	3B1	

MARKER CIRCUIT ②

SD-25550-01-C58

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BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25550-01-C58

PART OF APP FIG. 151

CAPACITOR

DESIG	LOC	CODE
(5) MPOA-E	16A3	N417
(5) MP1A-E	16B3	N417
(5) MP2A-E	16C3	N417

DIODE

SEE VARISTOR

LAMP

DESIG	LOC	CODE
CSB	27F7	13J

NETWORK

DESIG	LOC	CODE
ACD	16D2	(1/2) 177N*
AD	16B5	(1/2) 177N*
AMA5	8488	(1/2) 177K
CFGD	34A3	(1/2) 177N*
CFGI	34B3	(1/2) 177N*
CHC	15D2	(1/2) 177K
CHCA	16F5	(1/2) 177K
CHF	18G8	(1/2) 177K
CHFO	18B6	(1/2) 177N*
CHFI	18C6	(1/2) 177N*
CHJ	30C5	(1/2) 177N*
CHSO	18D6	(1/2) 177N*
CHSI	18F6	(1/2) 177N*
CHS2	18E8	(1/2) 177N*
CTFC	34C3	(1/2) 177N*
CTFI	34D3	(1/2) 177N*
CTF2	34E3	(1/2) 177N*
CTFN	34G3	(1/2) 177N*
CTF7	34H3	(1/2) 177N*
CTGS	12H0	(1/2) 177N*
DNC	16D2	(1/2) 177N*
FC	16E2	(1/2) 177N*
LCDO	16A2	177J*
LCDOA	16A1	177J*
LCDI	16B2	177J*
LCDIA	16B1	177J*

NETWORK(CONT)

DESIG	LOC	CODE
LCD2	16C2	177J*
LCD2A	16C1	177J*
OD	16C5	(1/2) 177N*
ORC	8NH7	(1/2) 177N*
ORCO	16E7	(1/2) 177C*
ORCI	16E7	(1/2) 177C*
ORC2	16F7	(1/2) 177C*
RNTN	37E5	(1/2) 177N*
SCR	62B7	(1/2) 177N*
SWCNO	27E5	(1/2) 177N*
SWCN1	27F5	(1/2) 177N*
SWCN2	27F5	(1/2) 177N*
TOGN	8106	(1/2) 177N*
VTC	16F2	(1/2) 177N*
WKC	05F2	(1/2) 177N*

* SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
6MA5	8488	180J

VARISTOR (DIODE)

DESIG	LOC	CODE
(5) MPOA-E	16A3	N206
(5) MP1A-E	16B3	N206
(5) MP2A-E	16C3	N206

APP FIG. 152 (MFR DISC.)
WIRING ONLY

DRAWING ISSUE

41D	J.K. L.B.T.	W.F.O
43B	F.F.C. H.S.	P.B.
49D	E.J.M. 4-5-0 APP	L.P.

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)
SD-25550-01-C59
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BELL TELEPHONE LABORATORIES INCORPORATED
6S

APP FIG. 153

RELAY
(1) U1325
(2) UB12

	TCA (NC)	TCB (NC)
12	22E1	22E0
10		10NH3
8		18F7
6		
4		
2	17E9	27E4
1	18B4	18B4
1	18A5	18B5
3	18C5	18C5
5	18E5	18D5
7	18E5	18F5
9		27A7
11		

RELAY
U1415

	TSC6	TSC7	TSC8	TSC9
12	22E1			
11				
10	27E4	27E4	27E4	27E4
9				
8	18B5	18C5	18D5	18F5
7				
6				
5				
4				
3				
2				
1	18B4	18C4	18D4	18E4
1	27A7	27A7	27A7	27A7
3	17E9			
4				
5	10NH5	10NG4	10NG5	10NG4
6				
7	18F7	18F7		
8				
9	22F1	22F1	22F0	22F1
10				
11				

NETWORK DESIG		LOC.	CODE
(NC)	TCA	18B4	(1/2) 177H*
	TCB	18B4	(1/2) 177H*
	TSC6	18B4	(1/2) 177H*
	TSC7	18C4	(1/2) 177H*
	TSC8	18D4	(1/2) 177H*
	TSC9	18E4	(1/2) 177H*

* SEE NOTE 104

APP FIG. 154

RELAY
U1391

PCCL

6	111H3
5	
4	76H5
3	
2	84E3
1	
1	84F8
2	84F3
3	
4	127B6
5	
6	127D6

RELAY
U1N1

	PCN0	PCN2	PCN3	PCN5
3	84F3	84D7	84D8	84D8
1	84F3	127A6	127C6	127E7
1	84D7	84D7	84D8	84D8
3				

APP FIG. 155

RELAY
(1) U1325
(2) UB12

(9) S200-208

12	28A2
11	
10	28A2
9	
8	28A2
7	
6	28A2
5	
4	28A2
3	
2	28A2
1	
	27F6
1	
2	28A2
3	
4	28A2
5	
6	28A2
7	
8	28A2
9	
10	28A2
11	
12	28A2

DRAWING ISSUE
410 G.M. & G.T.
460 D.B. G.M. AND
490 E.M. W.E. AND
540 G.M. W.E. AND

SD-25550-01-C60

MARKER CIRCUIT (2)
SD-25550-01-C60
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BELL TELEPHONE LABORATORIES INCORPORATED 6S

APP FIG.156

RELAY
(-1) U506
(-2) U89

	CZ	CZT
		41F5
	37C4	37D4
	37C4	37C5
	30E1	30E1
	37E5	37D5

RELAY
(-1) U340
(-2) U826

[10] (KP) CDR0-9

29E3	
30G5	
30E2	
11063	

NETWORK DESIG	LOC	CODE
CDR0-9	30G5	185A
CZ	30E1	(1/2) 177H*
CZT	30E1	(1/2) 177H*

* SEE NOTE 104

APP FIG.158

RELAY
(-1) U506
(-2) U89

TPS

81C0	
41G7	
37F6	

NETWORK DESIG	LOC	CODE
TPS	41G7	(1/2) 177H*

* SEE NOTE 104

APP FIG.159

RELAY
U351

DCI	VCI
92F0	92E0
15G7, 129A6	15G7, 129A6
92A9	9289
92F0	92E0
102D5	102E5
9282	9282
111E1	111D1

NETWORK DESIG	LOC	CODE
DCI	92F0	185A
VCI	92E0	185A

APP FIG.160

RELAY
U940

DCIA	VCIA
	88C0
8882	8881
87C5	87C5
88C0	88E0
88C0	88D0
92A9	9289
86A7	86A7
93C9	93C9
9485	94A5
95H2	95H2

NETWORK DESIG	LOC	CODE
DCIA	92A9	185A
VCIA	9289	185A

DRAWING ISSUE
41D P.D.
43B P.D.
46D CB
49D CB
54D CB

SD-25550-01-C61

MARKER CIRCUIT (2)
SD-25550-01-C61
54
BELL TELEPHONE LABORATORIES INCORPORATED 6S

APP FIG. 161

RELAY

DESIG	FAC1				FDO		FDI		FEO		FEI						INT		INTI						DESIG
CODE	AF132				AK6				AK6								AK6								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	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	
12	M	86E4			BM				BM								BM	30F2							12
11	M				BM				BM								BM	17H1							11
10	M				BM				BM								BM								10
9	M				BM				BM								BM								9
8	BM	17G1			BM	17H3			BM	17H3							BM								8
7	M	93E7																							7
6	BM	85A/F5																							6
5	M	93E7					BM				BM								BM						5
4	M	93C1					BM				BM								BM						4
3	M	86E5					BM				BM								BM						3
2	M	17H1					BM				BM								BM						2
1	M	86E5					BM	17H3			BM	17H4							BM	49C2					1
COIL		17G1				86E5		86E5		93E7		93E7						17H5		17H1					COIL

NETWORK

DESIG	LOC	CODE
FAC1	17G1	185A

RELAY

DESIG																									DESIG
CODE																									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	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	
12																									12
11																									11
10																									10
9																									9
8																									8
7																									7
6																									6
5																									5
4																									4
3																									3
2																									2
1																									1
COIL																									COIL

RELAY

DESIG																									DESIG
CODE																									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	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	
12																									12
11																									11
10																									10
9																									9
8																									8
7																									7
6																									6
5																									5
4																									4
3																									3
2																									2
1																									1
COIL																									COIL

SHEET NOTES:
1. NUMERICAL APP FIGS. CONTINUED ON SHEET -C76.

DRAWING ISSUE

41D	ADP 4&T	R.D.
42D	ADS M.S.	R.D.
44B	RAT ADS	P.D
54D	GM KEL ADP	CR

MARKER CIRCUIT (2) SD-25550-01-C62

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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SD-25550-01-C62

APP FIG. A

RELAY
(1) U1366
(2) UB16

	BC0	BC1	BC2	BC4	BC7
6 ↑5	24C1	24D1	24G1	24E1	24G1
4 ↑3	24B1	24C1	24E1	24A1	24A1
2 ↑1	63B4	64B4	65B3	66B3	67A3
↓1	63A3	64A3	65A3	66A3	67A3
2 ↓1	24D1	24F1	24C1	24D1	24F1
4 ↓3	24E1	24B1	24B1	24D1	24E1

NETWORK

DESIG	LOC	CODE
BC0	63A3	[1/2] 177H*
BC1	64A3	[1/2] 177H*
BC2	65A3	[1/2] 177H*
BC4	66A3	[1/2] 177H*
BC7	67A3	[1/2] 177H*

*SEE NOTE 104

APP FIG. B
WIRING ONLY

APP FIG. C

RELAY
(1) U1366
(2) UB16

	CC0	CC1	CC2	CC4	CC7
6 ↑5	25C2	25E2	25G2	25E3	25G3
4 ↑3	25B2	25C2	25E2	25B2	25B3
2 ↑1	63B4	64B4	65B3	66C3	67B3
↓1	63B3	64B3	65B3	66B3	67B3
2 ↓1	25D2	25F2	25C3	25E3	25F3
4 ↓3	25F2	25B3	25C3	25D3	25F3

NETWORK

DESIG	LOC	CODE
CC0	63B3	[1/2] 177H*
CC1	64B3	[1/2] 177H*
CC2	65B3	[1/2] 177H*
CC4	66B3	[1/2] 177H*
CC7	67B3	[1/2] 177H*

*SEE NOTE 104

APP FIG. E
(MFR DISC.)

RELAY
U1362

NSO

7 ↑6	41B3
5 ↑4	62F4
2 ↑3	15G4
↑1	69A6
2 ↓1	15E5
4 ↓3	33E1
6 ↓5	3782

NETWORK

DESIG	LOC	CODE
NSO	69A6	[1/2] 177H*

*SEE NOTE 104

APP FIG. D
WIRING ONLY

APP FIG. F

RELAY
U1396

NSO

11 ↑10	15D5
9 ↑8	15G4
7 ↑6	41B3
5 ↑4	62F4
2 ↑3	62C5
↑1	69A6
2 ↓1	41D2
5 ↓4 ↓6	41C7
8 ↓7	33E1
10 ↓9	3782

NETWORK

DESIG	LOC	CODE
NSO	69A6	[1/2] 177H*

*SEE NOTE 104

ISSUE 41D 41F 41AT

SD-25550-01-C63

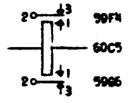
41

NO. 5 MARKER CIRCUIT	SD-25550-01-C63
BELL TELEPHONE LABORATORIES INCORPORATED	SHEET 65

APP FIG. G
(MFR DISC.)

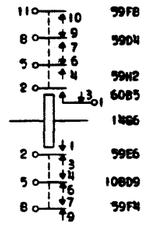
RELAY U988

GT4



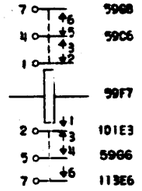
RELAY U1024

PBXA



RELAY U722

PBXB



NETWORK

DESIG	LOC	CODE
GT4	60C5	[1/2]177H*
PBXA	1486	[1/2]177C*
PBXB	99F7	[1/2]177C*

* SEE NOTE 104

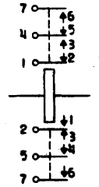
RESISTOR

DESIG	LOC	CODE
GT	59G4	18FR

APP FIG. H

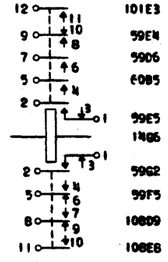
RELAY U722

GT4



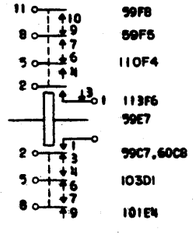
RELAY U1073

LGT



RELAY U1024

PBXA



NETWORK

DESIG	LOC	CODE
GT4	6085	[1/2]177C*
LGT	1486	[1/2]177C*
PBXA	99E7	[1/2]177C*

* SEE NOTE 104

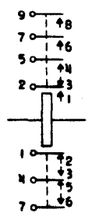
RESISTOR

DESIG	LOC	CODE
GT	5905	18FR

APP FIG. J

RELAY
(-1) U1355
(-2) UB15

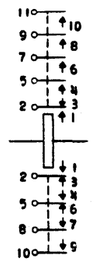
DCT2 / DCT3 / TER4



DCT2	DCT3	TER4
62F9	62B9	8900
128G2	62E0	10166
10BA2	41C8	5F6
43E3,62E0	62E8	1506
62G9	62C9	15H0
46G6	43E4	3281
62B2	41C9	1505
46G5	62C8	3702

RELAY U1396

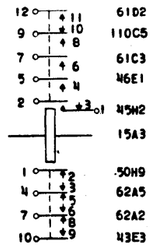
FBK / SCB



FBK	SCB
11385	61D2
41C8	61F6
38F7	45H2
107DN	128D5
45G2	110C4
45H1	61D1
59C7	49E1
59D6	62AN
46D1	69C5
49D0	50H8

RELAY U1348

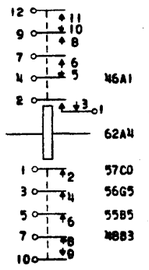
ITR2



61D2	
110C5	
61C3	
46E1	
45H2	
15A3	
50H9	
62A5	
62A2	
43E3	

RELAY U1383

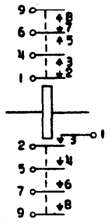
LK2



46A1	
62AN	
57C0	
56G5	
55B5	
48B3	

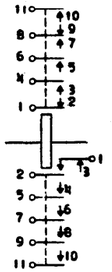
RELAY U1404

SOG2



46E4	
49D1	
61E2	
11F5	
15E3	
4900	
128C5	
62F7	
46DN	

RELAY U1405



TER2

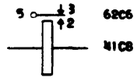
61E5
41F2
110C5
15H1
103F5
15H3
41D2
61C3
92A2
103F5
110C5

TOG2

41D9
43E4, 5099
62E6
41C7
9287
1593
6283
61CN
46E4
10362
9E5

RELAY
(WX) 239FH
(WY) 280AA

TMK



INDUCTOR

DESIG	LOC	CODE
TMK	62C7	200CL

NETWORK

DESIG	LOC	CODE
BSM	45G3	177J*
DCT2	62GB	[1/2]177H*
DCT3	62C8	[1/2]177H*
FBK	45H1	[1/2]177H*

NETWORK (CONT)

DESIG	LOC	CODE
SCB	61D2	[1/2]177K
TER4	15H0	177E*
TMK	62C7	[1/2]177H*

* SEE NOTE 104

RESISTOR

	DESIG	LOC	CODE
	HMT1	46AN	193M
	TMK1	41C8	18FD
(FW)	TMK2	41D9	18S
(FX)	TMK2	41C9	19GW
	TOG	5E5	188A

MARKER CIRCUIT	(2) SD-25550-01-C64
BELL TELEPHONE LABORATORIES INCORPORATED	6S

56

SD-25550-01-C64

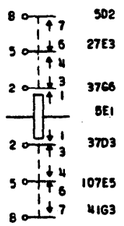
41D 43B 47D 48D 49D 5D 54D 56D

0 1 2 3 4 5 6 7 8 9

APP FIG. L
(MFR DISC.)

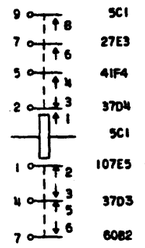
RELAY
U8144

RP



RELAY
U1317

TP



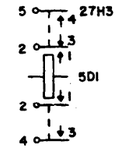
NETWORK

DESIG	LOC	CODE
RP	5E1	[1/2]177C*
TP	5C1	[1/2]177C*

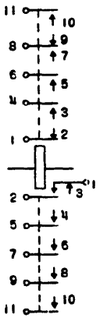
*SEE NOTE 104

APP FIG. M

RELAY
U1315
(KM) TPA



RELAY
U1405



RP	TP
5E2	5D1
37G6	37E4
41G3	6082
	41F4
107E5	107E5
5E1	5D1
37E1	37E1
27G3	27F3
27H3	27G3
27H3	27G3
27H3	27G3

NETWORK

DESIG	LOC	CODE
RP	5E1	[1/2] 177K
TP	5D1	[1/2] 177K

RESISTOR

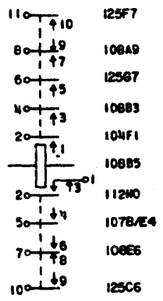
DESIG	LOC	CODE
K4	5D0	KS-5643, L427, 90
K5	5E0	KS-5643, L427, 90

APP FIG. K
WIRING ONLY

APP FIG. N (MFR DISC.)

RELAY
U1326

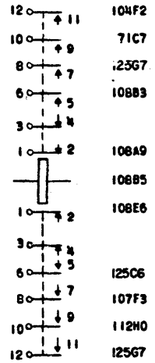
TRR



APP FIG. O (MFR DISC.)

RELAY
U338

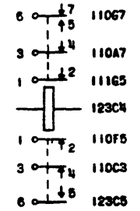
TRR



APP FIG. Q

RELAY
U1118

MT18



APP FIG. P (MFR DISC.)
WIRING ONLY

APP FIG. T (MFR DISC.)
WIRING ONLY

APP FIG. U
WIRING ONLY
SEE NOTE 105 PARAGRAPH 9

APP FIG. V (MFR DISC.)
WIRING ONLY

APP FIG. W
WIRING ONLY

APP FIG. Z (MFR DISC.)
WIRING ONLY

ISSUE
41D
46D
51D
54D

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-C65

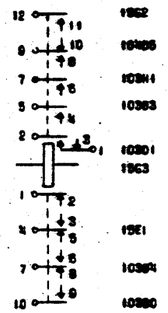
54

SD-25550-01-C65

APP FIG. AA (MFR DISC.)

RELAY
U1580

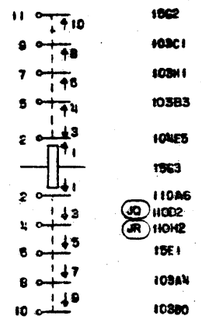
TOG1



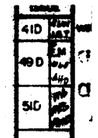
APP FIG. AB

RELAY
U1401

TOG1



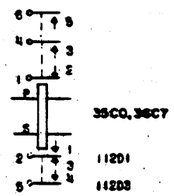
APP FIG. AC (MFR DISC.)
WIRING ONLY



APP FIG. AD
(MFR DISC.)

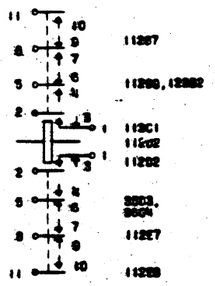
RELAY
U687

SF



RELAY
U1324

SFT



CAPACITOR

DESIG	LOC	CODE
SF	11201	2288

NETWORK

DESIG	LOC	CODE
SF	35C0	[1/2] 177C*
SFT	11202	[1/2] 177C*

*SEE NOTE 104

RESISTOR

DESIG	LOC	CODE
SF1	11200	1404, 0.0348 MEG
SF2	11200	KS-13180,L3, 0.1 MEG
SF3	11201	KS-13480,L1, 2800
SF4	11202	KS-8512,16A, 3800

TUBE

DESIG	LOC	CODE
SF	11200	313CC

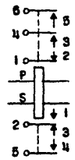
SD-25550-01-C66

MARKER CIRCUIT ②		51
BELL TELEPHONE LABORATORIES INCORPORATED	65	SD-25550-01-C66

APP FIG. AE

RELAY
U687

SF

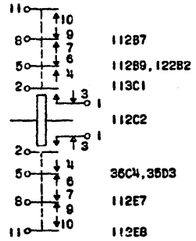


35C0, 35C7

112D3

RELAY
U1324

SFT



112B7

11289, 12282

113C1

112C2

35C4, 35D3

112E7

112E8

NETWORK

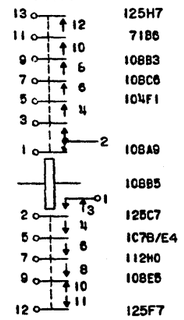
DESIG	LOC	CODE
SF	36C7	[1/2] 177C*
SFT	112C2	[1/2] 177C*

*SEE NOTE 104

APP FIG. AF

RELAY
U982

TRR



125H7

71B6

108B3

108C6

104F1

108A9

108B5

125C7

1C7B/E4

112H0

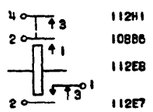
108E5

125F7

APP FIG. AG
(MFR DISC.)

RELAY
U1306

LDT



112H1

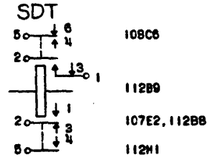
108B6

112E8

112E7

RELAY
U5340

SDT



108C6

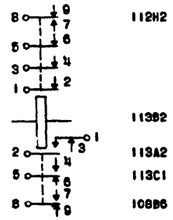
112B9

107E2, 112B8

112H1

RELAY
U52

WT



112H2

113B2

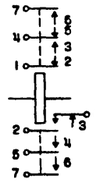
113A2

113C1

108B6

APP FIG. AH

RELAY
U5514

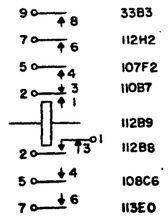


LDT / SDT

LDT	SDT
112H1	112H2
33A3	107F2
112E8	112B9
112E7	112B8
108B6	108C6
113G0	113E0

RELAY
U694

(MJ) SDT



33B3

112H2

107F2

110B7

112B9

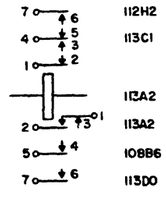
112B8

108C6

113E0

RELAY
U554

WT



112H2

113C1

113A2

113A2

108B6

113D0

DRAWING ISSUE

41D	PL UST	WFO
51D	JR WPS AMC	CA
54D	GM REL AHD	CA

SD-25550-01-C67

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

2

65

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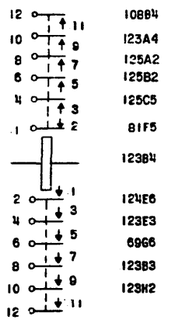
SD-25550-01-C67

APP FIG. AI

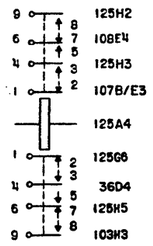
RELAY
U1381

(XA) MON



RELAY
U1307

(XA) MONI



NETWORK DESIG	LOC	CODE
(XA) MON	12384	[1/2] 177H *
(XA) MON1	125A4	[1/2] 177C *

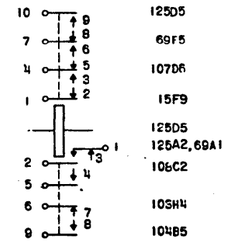
*SEE NOTE 104

APP FIG. AJ
WIRING ONLY

APP FIG. AK

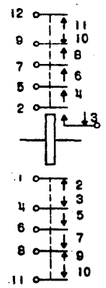
RELAY
U1426

RTST



APP FIG. AL

RELAY
U639



	IRT	ORT
	123C2	123C2
	69F4	69F4
	5D6	5D6
	123D6	123D5
	123C3	123C3
	15F9	15E8
	108D2	108D2
	108C4	108C4
		107D6
	104B7	104B7

APP FIG. AM

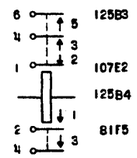
RELAY
U1364

NETWORK

DESIG	LOC	CODE
SCT	125B4	177E *

*SEE NOTE 104

SCT

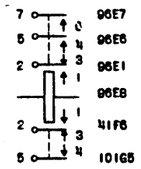


APP FIG. AN
WIRING ONLY

APP FIG. AO
(A & M ONLY)

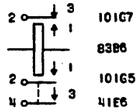
RELAY
U67

FNA



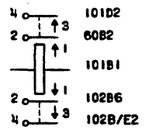
RELAY
U541

LCH



RELAY
(-1) U1367
(-2) UB17

RCT9



NETWORK DESIG	LOC	CODE
LCH	8386	[1/2] 177C *
RCT9	10181	[1/2] 177H *

*SEE NOTE 104

DRAWING ISSUE	
41D	NL WFD
51D	WD MD PMD
54D	DK CEL AMD

SD-25550-01-C68

MARKER CIRCUIT (2) SD-25550-01-C68

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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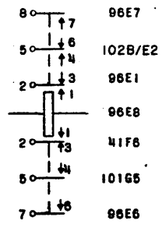
APP FIG. AP

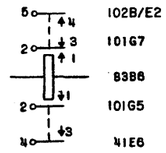
RELAY
U351

FNA



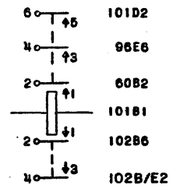
RELAY
U286

LCH



RELAY
(1) U1366
(2) U816

RCT9



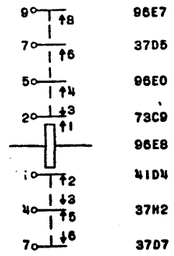
NETWORK DESIG	LOC	CODE
LCH	83B6	[1/2]177C*
RCT9	101B1	[1/2]177H*

*SEE NOTE 104

APP FIG. AQ
(MFR DISC.)

RELAY
U1317

FN



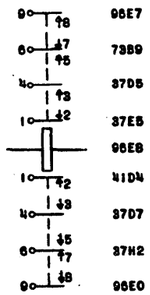
NETWORK DESIG	LOC	CODE
FN	96F8	[1/2]177H*

*SEE NOTE 104

APP FIG. AR

RELAY
U1307

FN



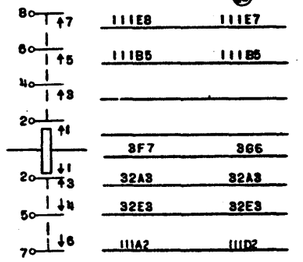
NETWORK DESIG	LOC	CODE
FN	96F8	[1/2]177H*

*SEE NOTE 104

APP FIG. AS
WIRING ONLY

APP FIG. AT

RELAY
U1392



NETWORK DESIG	LOC	CODE
RD	3F7	[1/2]177H*
(26) RMF	3G6	[1/2]177H*

*SEE NOTE 104

DRAWING ISSUE

41D	G. LET	W. P. O.
49D	B. LM ADD ADD	CB
54D	GM REL AHD	CB A

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

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SD-25550-01-C69

54

SD-25550-01-C69

APP FIG. AU
(A & M ONLY)

RELAY
U1317

	LIN	TIN
9 ↑8	92D3	92E3
7 ↑6	92F3	92F3
5 ↑4	92C3	92C3
2 ↓3 ↑1	92B3	92B3
	92G1	92N1
1 ↑2	102C5	102C5
4 ↓3 ↑5	102C5	102C6
7 ↓6	92A3	92A3

NETWORK

DESIG	LOC	CODE
LIN	92G1	[1/2] 177C*
TIN	92N1	[1/2] 177C*

*SEE NOTE 104

APP FIG. AY
(MFR DISC.)

RELAY
U1306

TEA

7 ↑6	122D3
5 ↑4	22F6
2 ↓3 ↑1	15C4
	15C5
1 ↑2	104C5
4 ↓3	89H2
6 ↓5	104C4

NETWORK

DESIG	LOC	CODE
TEA	15C5	[1/2] 177C*

*SEE NOTE 104

APP FIG. AZ

RELAY
U1017

TEA

8 ↑7	22F6
5 ↓6 ↑4	104B4
2 ↓3 ↑1	15C4
	15C5
2 ↑3	3386
5 ↓4 ↑6	1446, 122C3
8 ↓7	89H2

NETWORK

DESIG	LOC	CODE
TEA	15C5	[1/2] 177C*

*SEE NOTE 104

APP FIG. BB
(MFR DISC.)

RELAY
U86

AVK2

12 ↑11	72B/H4
10 ↑9	
7 ↓8	127D1
5 ↓6	127C1
3 ↓4	127B1
1 ↓2	127A1
	72B/H5
1 ↑2	127E1
3 ↓4	127F1
5 ↑6	
8 ↓7	108F6

NETWORK

DESIG	LOC	CODE
AVK2	72B/H5	[1/2] 177C*

*SEE NOTE 104

APP FIG. AV
WIRING ONLY

APP FIG. BA (MFR DISC.)
WIRING ONLY

APP FIG. AW (MFR DISC.)
WIRING ONLY

APP FIG. AX
WIRING ONLY

DRAWING ISSUE

41D	4 MAY 1971	CB
46D	15 MAR 1972	CB
47D	28 JUL 1972	CB
51D	28 JUN 1974	CB
54D	28 JUN 1974	CB

SD-25550-01-C70

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

2 | 6S

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SD-25550-01-C70

APP FIG. BC
(MFR DISC.)

RELAY
(1) U1368
(2) U818

OR

NETWORK		
DESIG	LOC	CODE
OR	1787	[1/2] 177H*

*SEE NOTE 104

APP FIG. BD

RELAY
U1396

FAC

RELAY
(1) U1325
(2) U812

OR

NETWORK		
DESIG	LOC	CODE
FAC	17A7	[1/2] 177H*
OR	1787	[1/2] 177H*

*SEE NOTE 104

APP FIG. BE
(MFR DISC.)

RELAY
(WN) 239HR
(WO) 280AU

GT

RES:STOR		
DESIG	LOC	CODE
GT1	60F5	18AP

APP FIG. BF

RELAY
280FN

GT

CAPACITOR		
DESIG	LOC	CODE
GT1	60G5	1390A

DRAWING ISSUE		
41D	J.F. 3&7	W.F.O C8
49D	E.M. 4&6 AND	

APP FIG. BG
(MFR DISC)

RELAY
① U1346
② U814

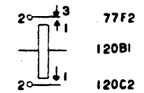
RELAY
U1354

NETWORK DESIG	LOC	CODE
YJ NOB	120B1	[1/2]177H*
YJ OBS	120E1	[1/2]177H*

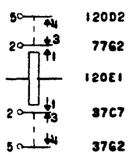
RESISTOR DESIG	LOC	CODE
YJ NOB	77F1	KS-13492,L1,1500
YJ OBS	77G1	KS-13492,L1,1500

* SEE NOTE 104

YJ NOB



YJ OBS



APP FIG. BH

RELAY
① U1355
② U815

RELAY
U1386

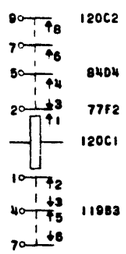
RELAY
U1364

NETWORK DESIG	LOC	CODE
NOB	120C1	[1/2]177H*
OBS	120F1	[1/2]177H*
SNO	37D7	[1/2]177H*

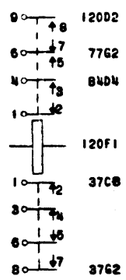
RESISTOR DESIG	LOC	CODE
NOB	77F1	KS-13492,L1,1500
OBS	77G1	KS-13492,L1,1500

* SEE NOTE 104

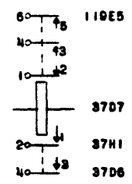
NOB



OBS



SNO

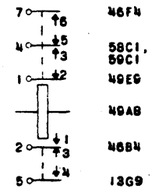


APP FIG. BI
(MFR DISC)

RELAY
U1379

RESISTOR DESIG	LOC	CODE
D10	49A9	KS-5643,L427,90

CHA

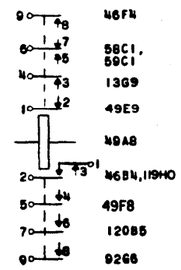


APP FIG. BJ

RELAY
U1404

RESISTOR DESIG	LOC	CODE
D10	49A8	KS-5643,L427,90
NTO	11984	18FC

CHA



NO. 5 MARKER CIRCUIT

SD-25550-01-C72

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-C72

APP FIG. BK
(MFR DISC.)

RELAY
U1381

	OAN	OBN (D)
12 ○ ↑11	86E7	86E7
10 ○ ↑9	86E7	86E7
8 ○ ↑7	86E7	86E7
6 ○ ↑5	86E7	86E7
4 ○ ↑3	86E7	86E7
1 ○ ↑2	86B5	86B6
	85B/E8	85B/H6
2 ○ ↓1	86E7	86E7
4 ○ ↓3	86E7	86E7
6 ○ ↓5	86E7	86E7
8 ○ ↓7	86E7	86E7
10 ○ ↓9	86E7	86E7
12 ○ ↓11	88H0	88H0

NETWORK

DESIG	LOC	CODE
OAN	85B/E8	[1/2] 177H*
(D) OBN	85B/H6	[1/2] 177H*

* SEE NOTE 104

APP FIG. BL
(MFR DISC.)

RELAY
(1) U1345
(2) U813

	OAN (D)	OBN (D)
12 ○ ↑11	88H2	88H1
10 ○ ↑9	86E7	86E7
8 ○ ↑7	86E7	86E7
6 ○ ↑5	86E7	86E7
4 ○ ↑3	86E7	86E7
2 ○ ↑1	86E7	86E7
	85B/D8	85B/H6
1 ○ ↓1	86E7	86E7
2 ○ ↓3	86E7	86E7
4 ○ ↓5	86E7	86E7
6 ○ ↓7	86E7	86E7
8 ○ ↓9	86E7	86E7
10 ○		

NETWORK

DESIG	LOC	CODE
(D) OAN	85B/D8	[1/2] 177H*
(D) OBN	85B/H6	[1/2] 177H*

* SEE NOTE 104

APP FIG. BM
(MFR DISC.)

RELAY
(1) U1367
(2) U817

	OA	OB (D)
4 ○ ↑3	85B/A3	85B/G3
2 ○ ↑1	89E4	89E4
	21E6	21F6
2 ○ ↓1	85A/B1	85A/C1
4 ○ ↓3	15H5	15H5

NETWORK

DESIG	LOC	CODE
OA	21E6	[1/2] 177H*
(D) OB	21F6	177E*

* SEE NOTE 104

APP FIG. BN

RELAY
U1396

	OA	OB
11 ○ ↑10	89D3	89D3
9 ○ ↑8	85B/D4	85B/E4
7 ○ ↑6	85B/D4	85B/D4
5 ○ ↑4	85B/D4	85B/E4
2 ○ ↑3 ↑1	85B/F1	85B/F2
	21E6	21F6
2 ○ ↓1	85B/F1	85B/F2
5 ○ ↓3 ↓4	85B/H1	85B/H1
8 ○ ↓6 ↓7	15H5	15H5
10 ○ ↓9	85A/B1	85A/C1

NETWORK

DESIG	LOC	CODE
OA	21E6	[1/2] 177H*
OB	21F6	177E*

* SEE NOTE 104

APP FIG. BO
(MFR DISC.)
WIRING ONLY

APP FIG. BP
WIRING ONLY

MARKER CIRCUIT (2)
SD-25550-01-C73
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BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-25550-01-C73

APP FIG. BQ
(A&M ONLY)

RELAY
(-1) U1325
(-2) UB12

	CTNA	CTNB
12 +11		
10 +9	68D3	
8 +7	68D3	
6 +5	68D3	
4 +3	68D3	
2 +1	68D3	
2 +1	68F3	68G3
2 +1	68C3	68E3
4 +3	68C3	68E3
6 +5	68C3	68E3
8 +7	68D3	68E3
10 +9	68D3	68E3
12 +11		

RELAY
(-1) U1355
(-2) UB15

9 +8
7 +6
5 +4
2 +3 +1
1 +2
4 +3 +5
7 +6

HNA0	HNA1	HNA2	HNA4	HNA7	TNA0	TNA1	TNA2	TNA4	TNA7	UA0	UA1	UA2	UA4	UA7
80B2	80B2	80B2			80B3	80B4	80B4			80B5	80B5	80B5		
68E4	68E4	68E4	68E4	68E4	68D4	68D4	68D4	68D4	68D4	68C4	68C4	68C4	68C4	68C4
		80A2	80A3				80A4	80A4				80A5	80A6	
	80A2	80A2	80A3	80A3		80A4	80A4	80A4	80A4		80A5	80A5	80A6	80B6
			80B3					80B4					80B6	

NETWORK

DESIG	LOC	CODE
CTN	68G2	[1/2]177K
[5]HNA0,1,2,4,7	66E4	[1/2]177H*
[5]TNA0,1,2,4,7	68D4	[1/2]177H*
[5]UA0,1,2,4,7	68C4	[1/2]177H*

* SEE NOTE 104

APP FIG. BR
(MFR DISC)
WIRING ONLY

APP FIG. BS

RELAY
U1319

SPL2

9 +8 122E2
7 +6
5 +4
2 +3 +1 122G0
1 +2
4 +3 +5
7 +6 122E0

APP FIG. BT
(A&M ONLY)
WIRING ONLY

APP FIG. BU
WIRING ONLY

APP FIG. BV
WIRING ONLY

APP FIG. BW
WIRING ONLY

APP FIG. BX
WIRING ONLY

APP FIG. BY

RELAY
U829

DT4

5 +6 +4 52E6
2 +3 +1 52F7
9C2
2 +3 52G8
5 +4

NETWORK

DESIG	LOC	CODE
DT4	9C2	185A

DRAWING ISSUE
41D
43B

43

NO. 5
MARKER CIRCUIT

SD-25550-01-C74

BELL TELEPHONE LABORATORIES
INCORPORATED

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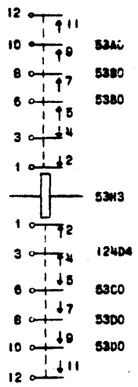
25550-01-C74

APP FIG.CD

RELAY
US3B

MT8A



RESISTOR DESIG	LOC	CODE
MT8	53H3	18AG

APP FIG. CA
(MFR DISC)
WIRING ONLY

APP FIG. CB
WIRING ONLY

APP FIG. CC
(MFR DISC)
WIRING ONLY

APP FIG. CH
(MFR DISC)
WIRING ONLY

APP FIG. CI
WIRING ONLY

419 FIG 4G7
438 FIG 7M8

NO.5
MARKER CIRCUIT

SD-25550-01-C75

BELL TELEPHONE LABORATORIES
INCORPORATED

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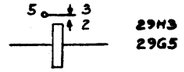
SD-25550-01-C75

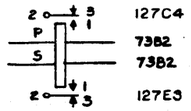
APP FIG. 162

RELAY
[2] DRR0-1
2B0E



APP FIG. 163

RELAY
CL6
① U1372
② UB32



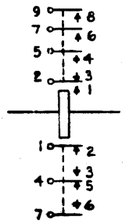
NETWORK

DESIG	LOC	CODE
CL6P	73B3	185A
CL6S	73B3	185A

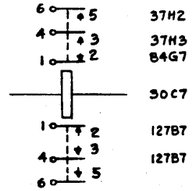
* SEE NOTE 104

APP FIG. 164

RELAY
ANI
① U1355
② UB15



RELAY
ANIS
U1370



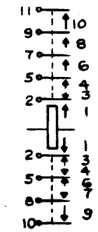
NETWORK

DESIG	LOC	CODE
ANI	37H3	[1/2]177H*
ANIS	30C7	[1/2]177H*

* SEE NOTE 104

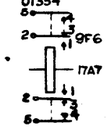
APP FIG. 165

RELAY
U1396



	ORD	ORM
	9G7	9G7
	9F7	9F7
	9E7	9E7
	9C2	9C2
		29G5
	3E7	3E7
	3B0	3B1

(LT) FACA
U1354



NETWORK

DESIG	LOC	CODE
ORD	3E7	185A
ORM	3E7	185A

APP FIG. 166

RELAY
AF 506

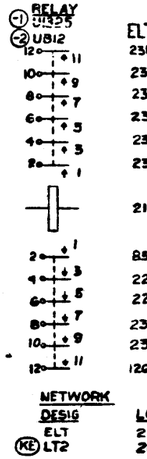
DESIG	B50-5	
	COM	LOC
12	M	12GE6
11	M	12GE6
10	M	12GE6
9	M	12GE6
8	M	12GE6
7	M	12GE6
6	M	12GE6
5	M	12GE6
4	M	12GE6
3	M	12GE6
2	M	12GE6
1	M	12GE6
COIL		12GE6

NETWORK

DESIG	LOC	CODE
B50-5	12GE6	185A

APP FIG. 167

RELAY
U1325
-2 UB12



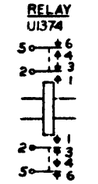
	ELT	(KE) LT2
	23H4	23H5
	23G4	23G5
	23F4	23F5
	23E4	23E5
	23D4	23D5
	23C4	23C5
	21A6	21A6
	85A/F3	85A/E4
	22A7	22A7
	22H7	22H7
	23A4	23A5
	23B4	23B5
	126D4	126C4

NETWORK

DESIG	LOC	CODE
ELT	21A6	185A
(KE) LT2	21A5	185A

APP FIG. 168

RELAY
U1374



	(KE) CL7	(KE) CL8
	127C5	127C5
	127B3	127B3
	73A2	73A2
	73A2	73A2
	123E4	127E5
	123F3	127G3

NETWORK

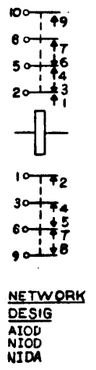
DESIG	LOC	CODE
CL7P	73A3	185A
CL7S	73A3	185A
CL8P	73A3	185A
CL8S	73A3	185A

RESISTORS

DESIG	LOC	CODE
(KE) CL7	127F2	KS13492-L1-1500
(KE) CL8	127G2	KS13492-L1-1500

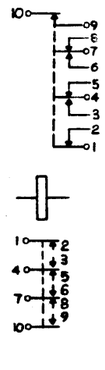
APP FIG. 169

RELAY
U1080



	AIOD
	126D5
	41G7
	41G6
	126D3
	37F6
	122D0
	14C0
	122D0

RELAY
U1150



	NIOD	(GY) NIDA
	128F4	128F4
	128E4	128B3
	126D4	
	128E3	
	128E4	128E6
	122E0	
	126D3	
	14C1	
	122F0	

NETWORK

DESIG	LOC	CODE
AIOD	126D3	185A
NIOD	128E4	186A
(GY) NIDA	128E6	186A

SHEET NOTES:
1. NUMERICAL APP FIGS. CONTINUED FROM SHEET -C62.

MARKER CIRCUIT (2)
SD-25550-01-C76
BELL TELEPHONE LABORATORIES INCORPORATED
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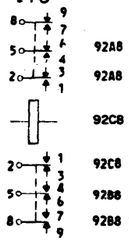
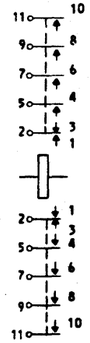
SD-25550-01-C76

APP FIG. 170

RELAY U226 ITC

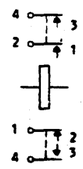


RELAY U940



	INA	INB
	95H1	95H1
	89C2	89C2
	87C5	87C5
	87F3	87F3
	92D8	92E8
	86A7	86A7
	93D3	93D3
	94A4	94B4
	95H1	95H1

RELAY U1371 ITCA

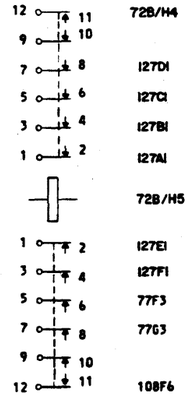


NETWORK

DESIG	LOC	CODE
ITC	92C8	186A
ITNA	92D8	186A
ITNB	92E8	186A
ITCA	29F7	186A

APP FIG. 171

RELAY U59 AVK2

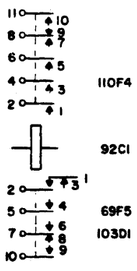


NETWORK

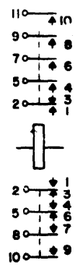
DESIG	LOC	CODE
AVK2	72B/H5	185A

APP FIG. 172

RELAY U1326 RCY5



RELAY U1396



FLGA 72B/F9	TER5
I29E2	
	62F6
	62F7
	62D7
61BI	15HO
	15F6
103EI	103F3

NETWORK

DESIG	LOC	CODE
FLGA	61BI	185A
RCY5	92CI	185A
TER5	15HO	185A

DRAWING ISSUE

47D	DSI LBU AMP
48D	BB LW AND
54D	NW Esc AND

54

MARKER CIRCUIT (2) SD-25550-01-C77

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-C77

APP FIG. 173

RELAY

DESIG	LFKA		MFK		MFL		PRL		PRLL		STPA					
CODE	AF169		AF169		AF96		AF96		AJ12		AF35					
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	110C4	M	-					EBM	49G7	EM	49H6				
11									EBM	110F0						
10	M	52F8	M	-					EBM	111G1	M	-				
9									EBM	110H0						
8	EBM	111A1	EBM	-	M	49B8	M	-	EBM	7B/F4	M	-				
7	EB	-	EB	a					EBM	7B/C7	B	-				
6	EBM	111G1	EBM	49H1	M	49G1	M	-	EBM	111A1	EMB	49G1				
5	EB	-	EB	49G6					EBM	110E0	B	-				
4					M	110H2	M	7B/F4	EBM	110D3	M	a				
3	M	110H1	M	-					EBM	52E8						
2	M	7B/F5	M	-					EBM	49C7	M	7B/D8				
1	M	7B6	M	-					EBM	9C2						
COIL		7A6		7B/E3		7B/E4		7B5		7B/E3		49G6				
			a	3SB6 3AF2							a	3SB6 3AF3				

CAPACITOR:

DESIG	LOC	CODE
PRL	7B5	KS-13368,L3 .01
MFL	7B/E4	KS-13368,L3 .01

NETWORK:

DESIG	LOC	CODE
LFKA	7A6	185A
MFK	7B/E3	
PRLL	7B/E3	
STPA	4G6	

APP FIG. 174

RELAY

DESIG	[4]DTRO-3		[4]DTRO-3		FCD0		FCD10		FCM0		FCM10		[4]FCRO-3		[4]FCR10-13		[3]VPO-2		VPT		XDR				DESIG
CODE	AJ507		AJ507		AF501		AF501		AF501		AF501		AF501		AF501		AF504		AF42		AJ510				CODE
OPTION	JM		JN				JO				JO				JO										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	CONT ARR	LOC	CONT ARR	LOC	
12	M	111B5	M	111B5	BM	-	BM	-	BM	-	BM	-	BM	125E4	BM	-	M	-	EMB	-					12
11	M	111D1	M	111D1	M	39D3	M	39C3	M	39D3	M	39C3	M	39D3	M	39C3	M	3G1	M	-					11
10	M	111A1	M	111A1	BM	39B3	BM	39B3	BM	39B3	BM	39B3	BM	39B3	BM	39B3	M	3A3	EBM	3D1					10
9	M	43H5	M	32E5	M	39B3	M	39B3	M	39B3	M	39B3	M	39B3	M	39B3	M	3B3							9
8	BM	40A9	BM	40A9	BM	39B3	BM	39B3	BM	39B3	BM	39B3	BM	39B3	BM	39B3	M	3C3	EBM	3D1	M	11663			8
7	M	32F0	M	31C2	M	39B3	M	39B3	M	39B3	M	39B3	M	39B3	M	39B3	M	3D3	B	-	B	-			7
6	BM	43F6	BM	32B5	BM	39B3	BM	39B3	BM	39B3	BM	39B3	BM	39B3	BM	39B3	M	3E3	EMB	-	M	11686			6
5	M	32D1	M	33E1	M	39B3	M	39B3	M	39B3	M	39B3	M	39B3	M	39B3	M	3E3			B	-			5
4	BM	3G1	BM	3G1	BM	39B3	BM	39B3	BM	39B3	BM	39B3	BM	39B3	BM	39B3	M	3E3	EBM	3D1	M	115A6			4
3	M	39E8	M	39E8	M	39B3	M	39B3	M	39B3	M	39B3	M	39B3	M	39B3	M	3E3	M	-					3
2	M	39C8	M	39C8	BM	39B3	BM	39B3	BM	39B3	BM	39B3	BM	39B3	BM	39B3	M	3E3	EBM	3D1					2
1	M	39B8	M	39B8	M	39B3	M	39B3	M	39B3	M	39B3	M	39B3	M	39B3	M	3E3	M	300					1
COIL		3D1		3D1		39F5		39E5		39E5		39D5		39D5		39C5		3E1		3F0		a			COIL
																					a	P-300 S-115A7			

NETWORK

	DESIG	LOC	CODE
	D	3A1	185A
(M,JN) [4]	DTRO-3	3D1	185A
	FCD0	39F5	185A
(JO)	FCD10	39E5	185A
	FCM0	39E5	185A
(JO)	FCM10	39D5	185A
	[4] FCRO-3	39D5	185A
(JO)	[4] FCR10-13	39C5	185A
	MF	3C1	185A
	[3] VPO-2	3E1	185A
	VPT	3F0	186A

RELAY

DESIG	D	MF		
CODE	AJ700	AJ700		
OPTION				
	LOC	LOC	LOC	LOC
24	3E6	3E6		
23	-	-		
22	-	-		
21	-	-		
20	25D3,E3	25F3		
19	31C2	31C2		
18	111B1	111B1		
17	33E1	33E1		
16	111D1	111C1		
15	111A5	111A5		
14	32D5	32D5		
13	32A5	32B5		
12	11C8	11C8		
11	9F1	9F1		
10	8H5	8H5		
9	40A8	40A8		
8	39D7	39D7		
7	39B8	39A8		
6	40D8	40E8		
5	3F8	3G8		
4	3H5	3H5		
3	39F7	39F7		
2	10E9	10E9		
1	10H4	10H4		
COIL	3A1	3C1		

APP FIG. 175

RELAY

DESIG	CGA1		CGB1		CKG9		CUBO		CUB1		CUB2		CUB4		CUR7										DESIG
CODE	AF521		AF521		AF521		AJ81		AJ81		AJ81		AJ81		AJ81										CODE
OPTION	JE		JE																						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	CONT ARR	LOC	CONT ARR	LOC	
12	M	-	M	-	M	27A7	EBM	-	EBM	-	EBM	-	EBM	-	EBM	-									12
11	M	-	M	-	M	27A7	EBM	-	EBM	-	EBM	-	EBM	-	EBM	-									11
10	M	-	M	-	M	27A4	EBM	-	EBM	-	EBM	-	EBM	-	EBM	-									10
9	M	-	M	-	M	27A4	EBM	27B7	EBM	29D7	EBM	27C7	EBM	27C8	EBM	27D8									9
8	BM	-	BM	-	BM	-	EBM	27C8	EBM	27C8	EBM	27B8	EBM	27D8	EBM	27B8									8
7	M	-	M	-	M	27A1	EBM	27C7	EBM	27B7	EBM	27C7	EBM	27C7	EBM	27B7									7
6	BM	-	BM	-	BM	-	EBM	27C4	EBM	27B4	EBM	27C4	EBM	27C4	EBM	27B4									6
5	M	-	M	-	M	-	EBM	27C3	EBM	27C3	EBM	27B3	EBM	27D3	EBM	27B3									5
4	BM	14C5	BM	14C5	BM	-	EBM	27B4	EBM	27D4	EBM	27C4	EBM	27C4	EBM	27D4									4
3	M	27A4	M	27A4	M	-	EBM	-	EBM	-	EBM	-	EBM	-	EBM	-									3
2	M	27A7	M	27A7	M	-	EBM	-	EBM	-	EBM	-	EBM	-	EBM	-									2
1	M	27A0	M	-	M	-	EBM	-	EBM	-	EBM	-	EBM	-	EBM	-									1
COIL		4C7		4D7		27A0		4E5		4E5		4E5		4E5		4E5									COIL

RELAY

DESIG	CTBO	CTB1	CTB2			
CODE	AJ200	AJ200	AJ200			
OPTION						
	LOC	LOC	LOC			
24	-	-	-			
23	-	-	-			
22	-	-	-			
21	-	-	-			
20	27B7	27B7	27B7			
19	27B7	27B7	27B7			
18	27B7	27B7	27B7			
17	27B7	27B7	27B7			
16	27B7	27B7	27B7			
15	27B7	27B7	27B7			
14	27B7	27B7	27B7			
13	27B7	27B7	27B7			
12	27B7	27B7	27B7			
11	27B7	27B7	27B7			
10	27B4	27B4	27B4			
9	27B4	27B4	27B4			
8	27B4	27B4	27B4			
7	27B4	27B4	27B4			
6	27B4	27B4	27B4			
5	27B4	27B4	27B4			
4	27B4	27B4	27B4			
3	27B4	27B4	27B4			
2	27B4	27B4	27B4			
1	27B4	27B4	27B4			
COIL	4D9	4D9	4D9			

NETWORK

	DESIG	LOC	CODE
(JE)	CGA1	4C7	186A
(JE)	CGB1	4D7	186A
	CKG9	27A0	186A

DRAWING ISSUE

48D	ADDED CB
51D	ADDED CB AND CK REVISED AND
54D	CK REVISED AND

54

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SHEET 6S

SD-25550-01-C78

SD-25550-01-C78

APP FIG. 176

RELAY																									
DESIG	[80]S300-359																								DESIG
CODE	AF506																								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	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	
12	M	28D2																							12
11	M	28D2																							11
10	M	28D2																							10
9	M	28D2																							9
8	M	28D2																							8
7	M	28D2																							7
6	M	28D2																							6
5	M	28D2																							5
4	M	28D2																							4
3	M	28D2																							3
2	M	28D2																							2
1	M	28D2																							1
COIL		27D6																							COIL

NETWORK

DESIG	LOC	CODE
[80]S300-359	27D6	1854

APP FIG. 177

RELAY																									
DESIG	CGA			CGA1			CGB			CGB1			MT21												
CODE	280BA			U1354			280BA			U1354			U593												
OPTION				JC						JC															
	CONT 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	9B6										
				5,4	M	-				5,4	M	-	6,5,4	BM	9B7										
	3,5,2	BM	4C7	3,2,1	BM	14C4	3,5,2	BM	4C8	3,2,1	BM	14C4	3,2,1	BM	-										
BOT.				3,2,1	BM	-				3,2,1	BM	-	3,2,1	BM	-										
				5,4	M	-				5,4	M	-	6,5,4	BM	9B9										
													8,7	M	9B6										
COIL			9B6			4C7			9B6			4F7			123E4										

NETWORK

	DESIG	LOC	CODE
(JC)	CGA1	4C7	1864
(JC)	CGB1	4F7	
	MT21	123E4	

DRAWING ISSUE

49D	SB MCB AND
51D	MB MCB AND
53A	DR REL AND
54D	DR REL AND

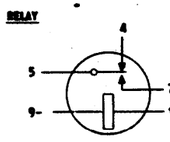
APP FIG. 178

RELAY																									
DESIG	EXA			TR26																					
CODE	U1396			U1414																					
OPTION				JK																					
	CONT 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	11,10	M	18H3	12,11,10	BM	12BG1																			
	9,8	M	12H5	9,8	B	-																			
	7,6	M	11262	7,6	B	-																			
	5,4	M	-	5,4	B	18H3																			
	3,2,1	BM	a	2,1,3	MB	-																			
BOT.	3,2,1	BM	106F2	2,1,3	MB	-																			
	6,5,4	BM	-	5,4	M	-																			
	8,7	M	108A6	7,6	M	-																			
	10,9	M	49G3	10,9,8	BM	107B/E																			
				12, 11	M	-																			
COIL			18H4			10603																			
		a	36C1																						
			35E1																						

RESISTOR

DESIG	LOC	CODE
EX	1807	1886

RELAY



DESIG	EX	
CODE	316A	
OPTION		
9	18D8	
8	-	
7	18H3	
6	-	
5	18H3	
4	-	
3	-	
2	-	
1	1808	

APP FIG. 179

RELAY																															
DESIG	AN		RCY4		ANT		AN2		AN3		ANC		NANC		DT5																DESIG
CODE	AK22				AJ503		AJ12		AJ12		AK22				AF42																CODE
OPTION									JS																						OPTION
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT AR2	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	
12	EBM	111D1			EBM	3E6	EBM	a	EBM	43D7	EBM	103D6			EMB	-															12
11	EBM	103C7			EBM	-	EBM	b	EBM	43D7	EBM	103B6			M	40A9															11
10	EBM	103B6			EBM	3B3	EBM	c	EBM	43D7	EBM	104E8			EBM	-															10
9	EMB	104D8			EBM	3C3	EBM	104D8	EBM	43D7	EMB	-																			9
8	EMB	104E9			EMB	3C3	EBM	46E5	EBM	43D7	EMB	3H7			EBM	103B6															8
7					EBM	3D3	EBM	14E8	EBM	43D7					B	-															7
6					EMB	3E3	EBM	14E8	EBM	43D7					EMB	-															6
5			EMB	a	EMB	3E3	EBM	39E8	EBM	43G7			EMB	104D8																	5
4			EMB	b	EBM	3E3	EBM	111D1	EBM	43G7			EMB	103C6	EBM	31D2															4
3			EBM	39E8	EBM	3E3	EBM	111B1	EBM	43G7			EBM	-	M	39C7															3
2			EBM	14B3	EBM	3E3	EBM	104E9	EBM	43G7			EBM	-	EBM	-															2
1			EBM	104E8	EBM	3E3	EBM	14B2	EBM	43G7			EBM	-	M	39B7															1
COIL		104E8		104E8		10387		3H6		3G6		3G1		3H1		3E6															COIL
			a	43G4			a	43G4																							
				43A6				32B6																							
			b	43E4			b	43D4																							
				43C5				32E8																							
							c	43F4																							
								4307																							

NETWORK

DESIG	LOC	CODE
873	3E6	1854

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SHEET 6S

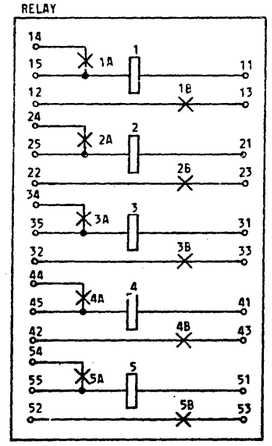
SD-25550-01-C79

SD-25550-01-C79

STANDARD

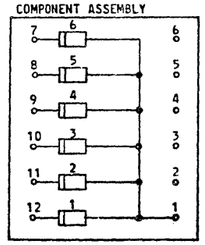
APP FIG. 180

RELAY



DESIG		PGR0	PGR1	PGR2	PGR3	PGR4	PGR5				
CODE				293D					293D		
OPTION											
	POS	1	2	3	4	5	1	2	3	4	5
COIL	LOC	111G5	111G7	111G7	111G8	111G8	111G9				
CONT 4	LOC	111G6	111G7	111G7	111G8	111G8	111G9				
POS 6	LOC	111G7	111C8	110G5	110H4	110A2	110G4				

COMPONENT ASSEMBLY



DESIG		PGL			PGR		
CODE		ED-94823-( ) G345			ED-94823-( ) G312		
OPTION							
COMPONENT	POSITION	DESIG	LOC	CODE	DESIG	LOC	CODE
NETWORK	1	PGL5	110G4	185A	PGR5	111G9	185A
	2	PGL4	110A2		PGR4	111G4	
	3	PGL3	110H5		PGR3	111G8	
	4	PGL2	110H5		PGR2	111G7	
	5	PGL1	111C8		PGR1	111G7	
	6	PGL0	110G7		PGR0	111G6	

APP FIG. 181

RELAY

DESIG		DAC		DAC1		MT2B		TLK		TLT		PTM					
CODE		AJ503		AJ503		AJ12		AJ72		AK6							
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
12	EBM	87B/B6	EBM	87B/B6	EBM	87B/E6	BM		BM	87B/C6								
11	EBM	87B/B4	EBM	87B/B3	EBM	87B/F6	BM		BM									
10	EBM	90E8	EBM	101E2	EBM	87B/F6	BM	101E3	BM									
9	EBM	113E4	EBM	113E4	EBM	87B/G7	BM	61G4	BM	108A6								
8	EMB		EMB	87B/C3	EBM	87B/G6	BM	87B/C3	BM	87B/C4								
7	EBM	92C5	EBM	92G5	EBM	87B/G7	BM	92C5										
6	EMB		EMB	92H5	EBM	87B/E2	BM											
5	EMB	112E3	EMB	102B/D3	EBM	87B/F3	BM	92E2			BM	108A6						
4	EBM	87A/B7	EBM	102B/F1	EBM	87B/F3	BM	87A/C7			BM							
3	EBM	96G8	EBM	103E1	EBM	87B/F3	BM				BM							
2	EBM		EBM		EBM		BM				BM							
1	EBM		EBM		EBM		BM				BM							
COIL		87B/B4		87B/B7		1106		87B/C2		87B/C2		87B/D2						

NETWORK

DESIG	LOC	CODE
DAC	87B/B4	185A
DAC1	87B/B7	185A
TLKP	87B/B2	185A
TLKS	87B/C2	185A

RESISTOR

DESIG	LOC	CODE
DAP	87B/E3	59H

APP FIG. 182

RELAY

DESIG		CSW					
CODE		AJ15					
OPTION							
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	
12	EBM	102C4					
11	EBM						
10	EBM	101D7					
9	EBM	101E6					
8	EMB	101E6					
7	EBM						
6	EMB	61G4					
5	EMB						
4	EBM	41A3					
3	EBM	41F3					
2	EBM						
1	EBM						
COIL		102B/F0					

NETWORK

DESIG	LOC	CODE
CSW	102B/F0	185A

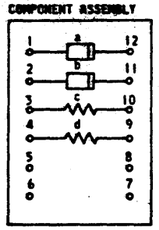
DRAWING ISSUE

51D	RS1	
54D	CK	

APP FIG. 183

RELAY DESIG	MBK6		SA																		DESIG
CODE	AF110		AJ503																		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	CONT ARR	LOC	CONT ARR	LOC	
12	6		EBM																		12
11			EBM	37G2																	11
10	EBM		EBM	37E2																	10
9			EBM	95A/90																	9
8	EBM		EMB																		8
7			EBM																		7
6	EMB		EMB																		6
5			EMB	128H3																	5
4	EBM	81A9	EBM	129G2																	4
3			EBM	128G1																	3
2			EBM	128B2																	2
1			EBM	128B2																	1
COIL		128B0		128H4																	COIL

COMPONENT ASSEMBLY



DESIG			CAO	
CODE ED-94823-( )G133				
OPTION				
COMPONENT		CODE	DESIG	LOC
NETWORK	a	185A	MBK6	128B0
	b		SA	128H4
RESISTOR	c	KS-19152,L1	NSP	128B1
	d	1.5K	SPC	128B1

LAMP

DESIG	LOC	CODE
TS	128F9	13J(RES)

RESISTOR

DESIG	LOC	CODE
SA	37F0	59H,90

NETWORK

DESIG	LOC	CODE
[3] BR1-3	101B8	185A
BRG	101A8	
CIR	101C8	
TIR	102B/G8	

APP FIG. 184

RELAY DESIG	BR1		BR2		BR3		BRG		CIR		TIR		MT41								DESIG
CODE	AJ512		AJ512		AJ512		AJ507		AJ512		AJ516		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	CONT ARR	LOC	CONT ARR	LOC	
12	BM	101B9	BM	101B9	BM	101B8	M		BM	101C8	EBM		EBM								12
11	BM		BM		BM		M		BM		EMB		EBM								11
10	BM		BM		BM		M		BM		EBM		EBM								10
9	BM		BM		BM		M		BM		EMB		EBM								9
8	BM		BM		BM		BM		BM		EBM		EBM								8
7	BM		BM		BM		M		BM		BM	109A2	EBM								7
6	BM		BM		BM		BM		BM		EBM		EBM								6
5	BM	102B/C6	BM	102B/D6	BM	102B/D6	M	101C8	BM		BM	109F7	EBM								5
4	BM	102B/D6	BM	102B/C6	BM	102B/C6	BM	102B/D5	BM		EBM	109F7	EBM	101C9							4
3	BM		BM	102B/G6	BM		M	101B8	BM		EMB	102B/G8	EBM	101B8							3
2	BM	102B/G5	BM	102B/G6	BM	102B/G6	M	101B8	BM		EBM		EBM	101B8							2
1	BM	101A7	BM	101A7	BM	101A7	M	101B8	BM	102B/D5	EMB	102B/D5	EBM	101B8							1
COIL		101B3		101B9		101B8		101A9		101C8		102B/G8		123A6							COIL

APP FIG. 185

RELAY DESIG	DCTA		NSIA		FK		LFK1		LLCA		LLS		LSC1		LSC2		LTI		MT22		OST4		OST5		DESIG
CODE	AK501				AJ508		AF511		AJ501		AJ12		AJ503		AJ503		AJ501		AJ12		AK501				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	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	
12	BM	a			M	62D7			EBM	129G2	EBM	72A/B3	EBM	72A/F2	EBM	92G7	EBM	129F2	EBM		BM	81F1			12
11	BM								EBM		EBM	72B/B3	EBM	75B1	EBM	105C7	EBM		EBM	97E7	BM				11
10	BM	129F2			BM		M		EBM	75E2	EBM	72B/A4	EBM	69E5	EBM	37A2	EBM	44C2	EBM	97H2	BM				10
9	BM								EBM	75C1	EBM	72B/A4	EBM		EBM	92F2	EBM	8A1	EBM	97H2	BM				9
8	BM				BM		BM		EMB		EBM	72B/A4	EMB	41C4	EMB	125G2	EMB	10H1	EBM	97G2	BM				8
7							B		EBM		EBM	72B/A4	EBM	62F8	EBM	129F2	EBM	11F1	EBM	97F2					7
6					BM		BM		EMB		EBM	72B/A4	EMB	62F5	EMB	113D7	EMB	12G0	EBM	97E2					6
5			BM	62F4					EMB		EBM	72B/A4	EMB	62F7	EMB		EMB	12F3	EBM	97E2			BM	81F4	5
4			BM	107A/D2	BM		M	72B/F9	EBM		EBM	72B/A4	EBM		EBM		EBM	15F6	EBM	97D2			BM	a	4
3			BM	129F1					EBM	6C7	EBM	72B/A4	EBM	71E5	EBM		EBM		EBM	97C2			BM		3
2			BM		M	129F1			EBM	6D7	EBM	72B/A4	EBM	71F5	EBM		EBM		EBM	97B2			BM		2
1			BM		M				EBM	6D8	EBM	72B/A4	EBM	72B/F8	EBM	a	EBM		EBM	97B2			BM		1
COIL		62D0		129C4		129H2		7A/G3		129E1		72A/F1		129A1		129B1		129E1		123C6		129B1		129C1	COIL

a 75E3, 129G3

a Y2 35G6, Y1 36H4

a 81E7, 82D3

RELAY DESIG	RSCA		OSKA		TLS		XLF														DESIG
CODE	AK501				AJ12		AF104														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	CONT ARR	LOC	CONT ARR	LOC	
12	BM	62H3			EBM	72A/B3															12
11	BM	62E8			EBM	72B/F3															11
10	BM	92E2			EBM	72B/E4															10
9	BM				EBM	72B/E4															9
8	BM				EBM	72B/E4	M	114A7													8
7					EBM	72B/E4															7
6					EBM	72B/E4	M	116G6													6
5			BM	72A/E8	EBM	72B/E4															5
4			BM	92F2	EBM	72B/E4	M	116H3													4
3			BM		EBM	72B/E4															3
2			BM		EBM	72B/E4															2
1			BM	72B/A6	EBM	72B/E4															1
COIL		129D1		72A/F8		72A/E1		a													COIL

a S-114A6, P-129H3

CAPACITOR

DESIG	LOC	CODE
XLF	129H3	KS-13368,L3,0.01

LAMP

DESIG	LOC	CODE
LB52	6A5	13J(RES)
LF	129H3	13J(RES)

NETWORK

DESIG	LOC	CODE
DCTA	62D0	185A
FK	129H2	185A
LFK1	7A/G3	
LLCA	129E1	
LLS	72A/F1	
LSC1	129A1	
LTI	129E1	
NSIA	129C4	185A
OSKA	72A/F8	
OST4	129B1	
OST5	129C1	
RSCA	129D1	
TLS	72A/E1	

54D	DP REL ARR
55A	MD
56D	MD

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MARKER CIRCUIT (2)

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BELL TELEPHONE LABORATORIES INCORPORATED — SHEET 65

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APP FIG. 186

RELAY

DESIG	AIS		AIS1		AIS2		AIS3		AISC		ENA		PTNA		KGS3		KGS4		KGS5		DESIG
CODE	AJ503		AJ501		AJ501		AJ503		AJ503		AK501				AF506		AF506		AF506		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	CONT ARR	LOC	CONT ARR	LOC	
12	EBM	129A8	EBM	87A/C1	EBM	12988	EBM	73F6	EBM	129C7	BM	12908			M	82B2	M	82B2	M	82B2	12
11	EBM		EBM	102B/D1	EBM	129E2	EBM	73C6	EBM	129F7	BM	12907			M		M	67G6	M		11
10	EBM	90F6	EBM	74E7	EBM	129A2	EBM		EBM	129C7	BM				M	67D5	M	67F5	M		10
9	EBM	111A1	EBM	87A/E2	EBM	101E4	EBM	73E3	EBM	129G7	BM				M	67C6	M	67E5	M		9
8	EMB	92D1	EMB	61H4	EMB	81C3	EMB		EMB	129D7	BM				M	66D5	M	66F5	M		8
7	EBM	92D7	EBM	129B5	EBM	92D4	EBM	74H4	EBM	129G7					M	66C6	M	66E5	M	129D5	7
6	EMB	88E0	EMB	69E4	EMB	37G1	EMB		EMB	88B8					M	65D5	M	65C5	M	129D5	6
5	EMB		EMB	92B5	EMB	96D7	EMB		EMB	88C8			BM	129E7	M	65C6	M	65E5	M	129D5	5
4	EBM		EBM		EBM	41E7	EBM	88G1	EBM	88E8			BM	129E7	M	64D5	M	64F5	M	129D5	4
3	EBM		EBM	95B0	EBM	101G5	EBM		EBM	88F8			BM		M	64C6	M	64E5	M	129D5	3
2	EBM		EBM	94C4	EBM	12988	EBM		EBM				BM		M	63D6	M	63E6	M	129D5	2
1	EBM		EBM	93B2	EBM	86C3	EBM	128F8	EBM				BM		M	63C6	M	63D6	M		1
COIL		129A4		129A7		12987		12987		12984		88F8		88D8		81B3		81B3		81B3	COIL

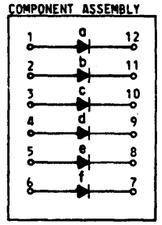
RELAY

DESIG	NAI		OFCO		OFC1		OFC2		OFC3		OFC4		OFC5		PNA		TNA				DESIG
CODE	AJ503		AJ503		AJ503		AJ503		AJ503		AJ503		AJ503		AK501						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	CONT ARR	LOC	CONT ARR	LOC	
12	EBM		EBM	129C6	EBM	129F6	EBM	129C6	EBM	129G6	EBM	129D6	EBM	129G6	BM	129C7					12
11	EBM		EBM		EBM		EBM		EBM		EBM		EBM		BM	129F8					11
10	EBM	90D6	EBM	90D6	EBM	90D6	EBM	90E6	EBM	90E6	EBM	90E6	EBM	90F6	BM						10
9	EBM		EBM		EBM	90D6	EBM	90E6	EBM	90E6	EBM	90E6	EBM		BM						9
8	EMB	87A/C2	EMB		EMB		EMB		EMB		EMB		EMB		BM						8
7	EBM	92E8	EBM	129D5	EBM	129D5	EBM	129D5	EBM	129D5	EBM	129D5	EBM	129D5							7
6	EMB	88E1	EMB	129D5	EMB	129D5	EMB	129D5	EMB	129D5	EMB	129D5	EMB	129D5							6
5	EMB		EMB	129D5	EMB	129D5	EMB	129D5	EMB	129D5	EMB	129D5	EMB	129D5			BM	129C7			5
4	EBM	15H7	EBM	129D5	EBM	129D5	EBM	129D5	EBM	129D5	EBM	129D5	EBM	129D5			BM	129G7			4
3	EBM		EBM	129D5	EBM	129D5	EBM	129D5	EBM	129D5	EBM	129D5	EBM	129D5			BM				3
2	EBM		EBM	129D5	EBM	129D5	EBM	129D5	EBM	129D5	EBM	129D5	EBM	129D5			BM				2
1	EBM		EBM		EBM		EBM		EBM		EBM		EBM				BM				1
COIL		12984		129C6		129F6		129C6		129G6		129D6		129G6		8888		88C8			COIL

RELAY

DESIG	TBI1		MT23		MT29		MT25A														DESIG
CODE	AK501				AK501																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	CONT ARR	LOC	CONT ARR	LOC	
12	BM	129E8			BM	12387															12
11	BM	129F8			BM																11
10	BM	12986			BM																10
9	BM				BM																9
8	BM				BM																8
7																					7
6																					6
5			BM				BM	74F7													5
4			BM				BM														4
3			BM	94B4			BM	81C3													3
2			BM	93C2			BM														2
1			BM	86B3			BM														1
COIL		129D4		123A6		1106		74G2													COIL

COMPONENT ASSEMBLY



DESIG		CA1		CA2		CA3	
CODE ED-94823-( ),G133							
OPTION							
COMPONENT	CODE	DESIG	LOC	DESIG	LOC	DESIG	LOC
DIODE a	426F	LC0	85B/B5	LC3	85B/D5	LC6	85B/F5
DIODE b	426F	OC0	85B/B5	OC3	85B/E5	OC6	85B/F5
DIODE c	426F	LC1	85B/E5	LC4	85B/C5	LC7	85B/F5
DIODE d	426F	OC1	85B/E5	OC4	85B/C5	OC7	85B/F5
DIODE e	426F	LC2	85B/C5	LC5	85B/D5	SPARE	
DIODE f	426F	OC2	85B/C5	OC5	85B/D5	SPARE	

NETWORK

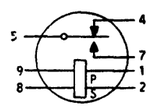
	DESIG	LOC	CODE
	AIS	129A4	185A
	AISI	129A7	185A
	AIS3	12987	185A
	AISC	12984	185A
	ENA	88F8	185A
[3]	KGS3-5	81B3	185A
	NAI	12984	185A
[6]	OFCO-5	129C6-G6	185A
	PNA	8888	185A
	PNTA	88D8	185A
	TBI1	129D4	185A
	TNA	88C8	185A

APP FIG. 187

RELAY

DESIG	NCRA																				DESIG
CODE	AJ72																				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	CONT ARR	LOC	CONT ARR	LOC	
12	BM																				12
11	BM	125F5																			11
10	BM	108A4																			10
9	BM	106E3																			9
8	BM	106F4																			8
7	BM	108A2																			7
6	BM	107B/E4																			6
5	BM	107A/C3																			5
4	BM	106F2																			4
3	BM	87A/F3																			3
2	BM	87A/G2																			2
1	BM	62E4																			1
COIL		87A/G2																			COIL

RELAY



DESIG	UKA		
CODE	316D		
OPTION			
9	87A/G2		
8	87A/G2		
7	87A/G2		
6			
5	87A/G2		
4	87A/G2		
3			
2	87A/G2		
1	87A/G2		

NETWORK

DESIG	LOC	CODE
NCR1	87A/F2	185A
NCR2	87A/G2	185A
UKA	87A/G2	185A

ISSUE
54D DH, AAL, AAP
55A MD
56D JK

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MARKER CIRCUIT (2) SD-25550-01-C82

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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APP FIG 188

RELAY DESIG	ANTD		NCTD		NTD		TD		TDK												DESIG
CODE	AF122		AJ508		AF522		AF522		AF531												CODE
OPTION					EC		EC														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	
12	M	37H3	M	37C6																	12
11	M	37H2																			11
10	BM	127C6	BM		M		M	130B2	EBM												10
9																					9
8	BM		BM		BM	49B9	BM		EBM												8
7																					7
6	BM		BM		BM	130B1	BM	49B9	EBM												6
5																					5
4	BM	49C9	BM	49B9	M		M	49B9	EBM	49C9											4
3																					3
2	M		M																		2
1	M	130B2	M	130C2																	1
COIL		30C7		30B7		130D3		130D3		130C3											COIL

NETWORK

DESIG	LOC	CODE
ANTD	30C7	186A
NCTD	30B7	186A
(EC) NTD	130D3	185A
(EC) TD	130D3	185A
TDK	130C3	185A

APP FIG 189

RELAY DESIG	[2]TB6,7									
CODE	UB14									
OPTION										
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	
TOP										
	3,2,1	BM	43G5							
	2,1	B								
BOT	4,3	M	32F2							
COIL			32F2							

INDUCTOR

DESIG	LOC	CODE
[2] TB6,7	43G5	280CL

NETWORK

DESIG	LOC	CODE
[2] TB6,7	32F2	[½] 177C
[2] XTB6,7	43G4	[½] 177K

MARKER CIRCUIT	(2)	SD-25550-01-C83
BELL TELEPHONE LABORATORIES INCORPORATED	6S	

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SD-25550-01-C83

CIRCUIT NOTES:

101(A). 1-1/3 AMP 48V SIGNALING BATTERY FUSES PER MARKER

DESIG	APP FIG.	BATTERY SUPPLY FOR APPARATUS
		COMMON EQUIPMENT FRAME
A0	33	(LOT) RELAY OK OPTION
	8	(CBF), (CBG1), (CBD), (FTTO), (FTT1),(FTT2), (FTT3)&(FTTB) RELAYS (MT15) REL QJ OPTION
A1	8	(FUTO),(FUT1),(FUT2),(FUT3)&(FUT4) RELAYS
A2	8	(FUT5),(FUT6),(FUT7),(FUTE)&(FUT9) RELAYS
A3	23	(J11) RESISTOR (DIAL TONE)
	31	(J9) RESISTOR (DIAL TONE)
	75	(RCT1-7) RELAYS (COMBINED OR COMPLETING)
A4	91	(XRCN) RELAY
	18	(H10)&(H11) RESISTORS (DIAL TONE)
	75	(RCT8L),(RCT10-15) RELAYS (COMB. OR COM)
	A0	(RCT9) RELAY (COMBINED OR COMPLETING)
	AP	(RCT9) RELAY (COMBINED OR COMPLETING)
A5	1	ENTIRE APP FIG. EXCEPT 90 Ω RESISTOR
A6	1	(A0) & (A1) RESISTORS
A7	1	(A2) & (A3) RESISTORS
A8	1	(A4) & (A5) RESISTORS
A9	1	(A6) & (A7) RESISTORS
A10	1	(A8) & (A9) RESISTORS
A11	1	(A10) & (A11) RESISTORS
A12	1	(C6) & (C7) RESISTORS
A13	1	(C8) & (C9) RESISTORS
A14	1	(C10)&(C11) RESISTORS (COMBINED OR COMPL)
A15	3	ENTIRE APP FIG. EXCEPT 90Ω RESISTOR & (TRB1) REL
A16	3	(B0) & (B1) RESISTORS & (TRB1) REL
A17	3	(B2) & (B3) RESISTORS
A18	3	(B4) & (B5) RESISTORS
A19	3	(B6) & (B7) RESISTORS
A20	3	(B8) & (B9) RESISTORS
A21	3	(B10) & (B11) RESISTORS
A22	5,165	ALL OF APP FIGS EXCEPT 90Ω RESISTOR
A23	5	(C0) & (C1) RESISTORS
A24	5	(C2) & (C3) RESISTORS
A25	5	(C4) & (C5) RESISTORS
A26	5	(D1) RESISTOR
	9	(D0) RESISTOR
A27	7	ENTIRE APPARATUS FIGURE
A28	9	(AMA1),(AMA2),(GTL3),(GTL4)&(VG-) RELAYS
A29	9	(FT-),(FU-),(GTL2),(GTU)MV OPT.,(HG-) & (VF-)RELAYS
A30	10-16	ALL APPARATUS FIGURES 10-16
A31	17	ENTIRE APP FIG. EXCEPT 90Ω RESISTOR
	162,CD	BOTH APPARATUS FIGURES
A32	17	(D2) & (D3) RESISTORS
A33	17	ENTIRE APP FIG. EXCEPT 90Ω RESISTOR
A34	26	(D6) RESISTOR
	27	(D7) RESISTOR

101(A). 1-1/3 AMP 48V SIGNALING BATTERY FUSES PER MARKER (CONT)

DESIG	APP FIG.	BATTERY SUPPLY FOR APPARATUS
		COMMON EQUIPMENT FRAME
A35	28	ENTIRE APP FIG. EXCEPT (TCH5-9) RELAYS
	102	(TNR) & (NGP1) RELAYS
	109	ENTIRE APPARATUS FIGURE
A36	28	(TCH5-9) RELAY & APPARATUS FIGURE 107
A37	75	ENTIRE APP FIG. EXCEPT (FN) LAMP & (TCK2), (RCK2) RESISTORS & (RCT1-15) RELAYS
	A0	(LCH) & (FNA) RELAYS
	AP	(LCH) & (FNA) RELAYS
	AU	ENTIRE APPARATUS FIGURE
	159	ENTIRE APPARATUS FIGURE
A38	75	(FN) LAMP
A39	82	ENTIRE APPARATUS FIGURE EXCEPT 90Ω RESISTOR & (FC)& (ST) LAMPS
	104, 105	ALL OF APP FIGURES 104 & 105 EXCEPT 90Ω RESISTOR & (TB) LAMP
	AY,AZ	BOTH APPARATUS FIGURES
A40	73	ENTIRE APPARATUS FIGURE
A41	83	ENTIRE APP FIG. EXCEPT 90Ω RESISTOR
A42	91	(VGA), (VGB) & (LG) LAMPS
A43	91	(HG), (S) & (LV) LAMPS
A44	91	(JG), (LR) & (SA) LAMPS
A45	91	(TFS) LAMP, YY OPTION OR (SF) LAMP, YZ OPT
A46	91	(LFS) LAMP
A47	91	(NGS) LAMP (COMBINED OR COMPLETING)
A48	91	(OSA) LAMP (COMBINED OR COMPLETING)
A49	91	(OSB) LAMP (COMBINED OR COMPLETING)
A50	91	(JC) LAMP
A51	91	(F) & (JS) LAMPS
A52	91	(LC) LAMP, QD OPTION OR (LSA) LAMP, ON OPTION
A53	91	(TSM) LAMP
A54	91	(LS) LAMP
A55	9	(GTU),(GTL2) RELAYS, MW OPTION
	66	ENTIRE APPAFATUS FIGURE
A56	81	(TD) LAMP
	105	(TB) LAMP
A57	32	(GTL), (RCY1), (TR2), (TR2E), (TRL),(TRLA), (AR) & (OC2) RELAYS
	BY	ENTIRE APPAFATUS FIGURE
A58	32	(LFK), (MDK), (OC), (OC1), (SQA),(SQA1), (TCL3), & (TRS) RELS (XLH1)&(XLH3) RES
A59	32	(HGB) LAMP
A60	32	(LBS0) LAMP
A61	32	(LBS1) LAMP
A62	32	(SMB) LAMP
A63	32	(TBS0) LAMP
A64	32	(TBS1) LAMP
A65	32	(TBS2) LAMP

101(A). 1-1/3 AMP 48V SIGNALING BATTERY FUSES PER MARKER (CONT)

DESIG	APP FIG.	BATTERY SUPPLY FOR APPARATUS
		COMMON EQUIPMENT FRAME
A66	32	(TBS3) LAMP
A67	32	(TBS4) LAMP
A68	32	(F8) & (F9) RESISTORS
A69	32	(F10) & (F11) RESISTORS
A70	91	(BX), (COX),(MXT),(ONX),(SP) & (STX) RELAYS
A71	91	(XAF),(XFTT),(XFUT),(XOB) & (XPG) RELAYS
A72	91	(XAB),(XCLC),(XCS),(XPT),(XT),&(XTAN) RELS
	K	ENTIRE APP FIG. EXCEPT 90Ω RESISTOR
A73	91	(TX),(XACL),(XACP),(XACR),(XADL),(XAJC), (XAJE),(XAJS),(XALC),(XALR),(XAMB), (XAPTN),&(XATS) RELAYS & (XPTN) LAMP
A74	91	(XTE),(XTG),(XTV)&(XRCT) RELAYS (COMBINED OR COMPLETING)
B0	01	(TC) LAMP ON OPTION
B1	91	(XFUN) & (XFTN) RELAYS
B2	32	(TLC1) & (TLC2) RELAYS & DCT RESISTOR
B3	89	(G8) RES (COMBINED OR COMPLETING) QA OPTION
	94	(G9) RES (COMBINED OR COMPLETING) QA OPTION
	32	(K0) RESISTOR (DIAL TONE MARKER)
	23	(J11) RESISTOR (COMBINED) QB OPTION
	32	(K0) RESISTOR (COMBINED) QB OPTION
B4	9	(FT-),(FU-) RELAYS MW OPTION
	29	10B (CKG5) RELAY
B5	26	ENTIRE APP FIG. EXCEPT 62Ω & 90Ω RESISTORS
B6	32	(G2) & (G3) RESISTORS
B7	23-25	ALL (FM-) & (FB0-5) RELAYS
B8	23-25	(FB6-12) RELAYS
B9	23-25	(FB13-19) RELAYS
B10	21	(MT3) RELAY
	172	ENTIRE APPARATUS FIGURE
B11	21	(MT4) RELAY
B12	21,22	(DN) & (DE) RESISTORS
B13	22	(MT3A) RELAY
B14	22	(MT4A) RELAY
B15	18	ENTIRE APP FIG. EXCEPT 90Ω RESISTOR
B16	G OR H, 30,100	(CCT),(CGT),(GT3),(GT4),(GT5),(FLG2), (PBXA),(PBXB) OR (LGT),(RCT)&(TR2C) RELAYS (CON5),(LBT),(PBX)& (GT3) RESISTORS
	106	(CCT),(RCT) RELAYS & (CON5) RESISTOR
B17	30	(FC6A),(GLH),(GLH1),(HTR),(LHT),(RCTA),(LTR & (RCT8) RELAYS
	106	
	BE	ENTIRE APPARATUS FIGURE
B18	30	(FO) & (F1) RESISTORS
	106	(FO) & (F1) RESISTORS
B19	31	(CHE) & (SL) RELAYS
	J	(DCT2), (SCB) RELAYS
	33	(SCB1) & (SCB2) RELAYS
	BI	BT (CHA) RELAY, ZR OPTION
	BJ	BT (CHA) RELAY, ZR OPTION

101(A). 1-1/3 AMP 48V SIGNALING BATTERY FUSES PER MARKER (CONT)

DESIG	APP FIG.	BATTERY SUPPLY FOR APPARATUS
		COMMON EQUIPMENT FRAME
B20	31	(CKGN),(HMC),(HMS),(HMS1),(ICK),(LK),(LXP1), (RK),&(TCHK) RELAYS & (JT) RESISTOR
	J,Q	(DCT3),(TERN) REL APP FIG. J& ENTIRE APP FIG. Q
B21	31	(D8) & (D9) RESISTORS
B22	31	(D11) RESISTOR
	BI,BJ	(D10) RESISTOR
B23	26	(G0) RESISTOR
	31	(G1) RESISTOR (COMBINED OR DIAL TONE)
B24	29	ENTIRE APPARATUS FIGURE 10B (CKG5) RELAY
B25	33	(F6) RESISTOR
	32	(F7) RESISTOR
	174	(XRD) RELAY DIAL TONE ONLY GR OPTION
B26	32	(F2) & (F3) RESISTORS
	174	(FCD0)(FCD10)(FCM0)(FCM10)(FCR0-3),(FCR10-13) RELAYS DIAL TONE ONLY GR OPTION
B27	32	(F4) & (F5) RESISTORS
B28	33	(CLG),(CLK),(CLT1),(CLT2),(HSI),(RCK3) & (TFK5) RELAYS, (OBS1) RESISTOR
	E OR F	BOTH APPARATUS FIGURES
	102	(NS) RELAY
B29	33	(BG),(FLG),(MOC) & (SIK) RELAYS
	AK,AL	BOTH APPARATUS FIGURES
B30	33	(DCK),(LR),(NDI),(NDK),(OTT),(PTK), (TTK) & (FLG1) RELAYS
B31	8	(MT15) RELAY QK OPTION
	33	(DTK),(LOT1),(MAK1),(OBS1),(RV3),(RYC) (TBK)&(TR2F) REL & (LOT) REL QJ OPTION
	103	ENTIRE APPARATUS FIGURE
B32	33	(G6) & (G7) RESISTORS (COMBINED OR COMPLETING) QA OPTION
	31	(J9) RESISTOR (COMBINED) QB OPTION & (PEG1) REL
	30	(J10) RESISTOR (COMBINED) QB OPTION
	187	ENTIRE APPARATUS FIGURE
B33	33	(G4) & (G5) RESISTORS (COMBINED OR COMPLETING) QA OPTION
	18	(H10)&(H11) RES (COMBINED) QB OPTION
B34	33	(LOB) LAMP & (TG) RESISTOR
B35	34	ENTIRE APP FIG. EXCEPT 90Ω RESISTOR
	99	ENTIRE APPARATUS FIGURE
	AM	ENTIRE APPARATUS FIGURE
B36	79	(MT),(MT1),(MT12),(MT13),(MT14),(OAT) (OAT1),(RCCK),(RON)&(MRL1)REL QN OPTION
		(RYT),(RYT1),(TM5),(TRL),(TRL1),(TRB), (TRT),(TRST),(TR8A)&(TST) RELAYS
	N,O	BOTH APPARATUS FIGURES
	AE	ENTIRE APPARATUS FIGURE
	AI,AF	BOTH APPARATUS FIGURES
	178	ENTIRE APPARATUS FIGURE
B37	142	(G10) RESISTOR (COMB OR COMPL)
	177	ENTIRE APPARATUS FIGURE (DIAL TONE OR COMB)
	180	ENTIRE APPARATUS FIGURE (COMB OR COMPL)
B38	82	(E11) RESISTOR
	105	
	27	(E10) RESISTOR
B39	78	ENTIRE APP FIG. EXCEPT(NT2) REL &($P)LAMP
	174	(VPO-2),(VPT)REL DIAL TONE ONLY GR OPTION
	179	(AN1),(AN2),(AN3)REL DIAL TONE ONLY GR OPTION
B40	78	(NT2) RELAY
	AT	ENTIRE APPARATUS FIGURE
	179	(AN),(ANC),(DT5),(NANC),(RCY6) RELAYS DIAL TONE ONLY GR OPTION
B41	78	($P) LAMP
B42	84	ENTIRE APPARATUS FIGURE
B43	89	ENTIRE APP FIG. EXCEPT 62Ω RESISTOR
B44	75	(TCK2) & (RCK2) RESISTORS
B45	79	(MT),(MT1),(MT12),(MT13),(MT14),(OAT),(OAT1) (CHA1),(RCCK),(RON) ,(MRL1)REL QO OPTION
	138	(LP) RELAY
B46	MISC CRT	+130V PILOT SA OPTION

DRAWING ISSUE

41D	LSF	K.F.G.
42D	A.B. M.S.	P.D.
43B	J.F.F. M.M.	P.D.
45B	A.H.M.	M.M.
47D	MRC LSF AMP	A CB
48D	RL LSF AMP	
49D	RLP M.M. M.M.	CR
51D	MRC M.M. M.M.	P
52A	CR M.M. M.M.	B
54D	CF M.M. M.M.	

MARKER CIRCUIT (2)

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6S

CIRCUIT NOTES (CONT):

101(A). 1-1/3 AMP 48V SIGNALING BATTERY FUSES PER MARKER (CONT)

DESIG	APP FIG	BATTERY SUPPLY FOR APPARATUS
		TRANSLATOR FRAME
CO	174	(XDR) REL (COMB ONLY GS OPTION)
	183	ENTIRE APP FIG.
C1	174	(FCDO),(FCDIO),(FCMO),(FCMIO),(FCRO-3), (FCRIO-13), RELAYS,(COMB ONLY GS OPTION)
C2	174	(VFO-2),(VPT) RELAYS (COMB ONLY GS OPTION)
	179	(ANI),(AN2),(AN3) RELAYS(COMB ONLY G
C3	173	ENTIRE APP FIG.
	179	(AN),(ANC),(NANC),(RCY6),(DTS), RELAYS (COMB ONLY GS OPTION)
C4	175	ENTIRE APP FIG.
C5	49	(A-),(B-),(C-), (KA), (KBC), (KG),(KK), (ORKI) & (ST7) RELAYS
C6	49	(D-),(E-),(F-),(G-),(KDE) & (KFG) RELAYS
C7	49	(H-),(J-),(K-),(KHJ),(KKL) & (L-) RELAYS
C8	102	(TOLI) RELAY
	48, AAC	ALL APPARATUS FIGURES
C9	44,97 OR 170	(H2) RESISTOR
	46	(H3) RESISTOR
C10	35,35,37	ALL 3 APPARATUS FIGURES
	124	ENTIRE APP FIG. EXCEPT (K3) RESISTOR
C11	46,48	APP FIG. 46 EXCEPT (H3) RES, (TH-) & (HN-)
	108	RELAYS APPARATUS FIGURE 48 OR 108
C12	47,48	ENTIRE APP FIG. 47 (BNA),(RIA),(T-),(TBIA)
	108	& (II-) RELAYS APP FIG. 48 OR 108
	BK,81	ALL APPARATUS FIGURES
	147	(RGT) RELAY
	160	ENTIRE APPARATUS FIGURE
C13	5055	(GS-) RELAYS APP FIG.50 & ENTIRE APP FIG.55
	120	ENTIRE APPARATUS FIGURE
	143	ENTIRE APPARATUS FIGURE
C14	9	(AMA6) RELAY
	50	(RA-) RELAYS
	188	(NTD),(TD) & (TDK) RELAYS
C15	188	(ANTD) & (NCTD) RELAYS
	56	ENTIRE APPARATUS FIGURE QY OPTION
	67	(CLK-),(CRK-),(SONI),(TGSI) RELAYS & (TGS2) RELAY WINDING RO & KT OPTION
	110	(TGS3) RELAY
	171, BB	ENTIRE APPARATUS FIGURE
	158	ENTIRE APPARATUS FIGURE
C16	67	(CPK1),(CPK2),(DKLI),(DKL2),(MBK-) RELAYS & (TGS2) RELAY WINDING RN OPTION
	144	ENTIRE APPARATUS FIGURE
	BH	ENTIRE APPARATUS FIGURE
C17	53,54,63	ALL APP FIGURES EXCEPT ROUTE BAT. SUPPLY FIG.
	98	ENTIRE APPARATUS FIGURE QY OPTION
	164	ENTIRE APPARATUS FIGURE
	L	ENTIRE APPARATUS FIGURE
	AO	(FN) RELAY
	AR	(FN) RELAY
C18	53	ROUTE BATTERY SUPPLY FOR (RB) PUNCHING
C19	64	BOTH APP FIGURES EXCEPT 90Ω RESISTOR
	65	
	125	ENTIRE APPARATUS FIGURE
C20	64	(HN) & (H5) RESISTORS
C21	66	(FTL),(FUL),(HGL),(RCL),(VFL) & (VGL) RELAYS QP OPTION
		(PUI),(SLCKI),(UK),(LLI),(RGTA)&(HTUK) RELAYS
C22	68	(BN),(CKO),(CKR),(PBXI),(PUL),(RI),(RNG), (HGK),(T6I),(TRIA),(TR2A) & (UC) RELAYS
C23	68	(WG) & (WL) LAMPS QV OPTION
		(FTL),(FUL),(HGL),(RCL),(VGL) & (VFL) RELAYS QR OPTION
C24	68	(NGKB) & (WF) LAMPS
C25	68	(TBS) LAMP
C26	68	(HBS) LAMP & (SPT) RELAY
C27	68	(NBSI) LAMP
C28	68	(NBS2) LAMP

101(A). 1-1/3 AMP 48V SIGNALING BATTERY FUSES PER MARKER (CONT)

DESIG	APP FIG	BATTERY SUPPLY FOR APPARATUS
		TRANSLATOR FRAME
C29	68	(NBS3) LAMP
C30	68	(NBSH) LAMP
C31	69	ENTIRE APP FIG. EXCEPT (OSC) RELAY, (HA), (HB), (MC),(SAM),(SBM),(SCM),(SKA),(SKB) LAMPS & 90Ω & (S) RESISTORS
C32	69-71	ALL OF APP FIGURES 70 & 71 (OSC) RELAY, (SKA) & (SKB) LAMPS & (S) RES APP FIG. 69
C33	69	(J6) & (J7) RESISTORS
C34	69	(JH) & (J5) RESISTORS
C35	69	(HA) LAMP
C36	69	(HB) LAMP (APP FIGURE 150 PROVIDED)
C37	69	(MC) LAMP
C38	69	(SAM) LAMP
C39	69	(SBM) LAMP
C40	69	(SCM) LAMP
C41	68	(J2) RESISTOR
	69	(J3) RESISTOR
C42	77	ENTIRE APP FIG. EXCEPT (NGB) & (UBS) LAMPS & 90Ω RESISTOR & (SAO-7) RELAYS
C43	92	(RCLA) RESISTOR
	77	(NGB) & (UBS) LAMPS
C44	34	(HB) RESISTOR
	69	(HB) RESISTOR (COMBINED OR COMPLETING)
C45	18	(HIG) & (HII) RESISTORS (COMBINED OR COMPLETING MARKER) QA OPTION
C46	42	(HD) & (HI) RESISTORS
C47	42	(JO) RESISTOR
	77	(JI) RESISTOR
C48	82	(ST) LAMP QA OPTION
C49	91	(H6) RES (COMBINED OR COMPLETING MARKER)
	33	(H7) RESISTOR
C50	161,166,182	ENTIRE FIG.161, 182 & BOTH FIGURES 166 KG OPTION
C51	68	(WG) &(WL) LAMPS KW OPTION
C52	176	S300-359 RELAYS
C53	169	ENTIRE APPARATUS FIGURE
	6E	(NGC),(RCY2),(RCY3),(RCY4) & (BNTH) RELAYS
C54	91	(J8) RES (COMBINED OR COMPLETING MARKER)
	31	(J8) RESISTOR (COMBINED OR COMPLETING MARKER) QA OPTION
C55	30	(J10) RESISTOR QA OPTION
	23	(J11) RESISTOR (COMBINED OR COMPLETING MARKER) QA OPTION
C56	77, 114	(SAO-7) RELAYS APP FIG. 77, ENTIRE APP FIG. 114
C57	32	(K0) RESISTOR (COMBINED OR COMPLETING MARKER) QA OPTION
		(K1) RES (COMBINED OR COMPL MARKER)(SPARE)
C58	95	(K2) RESISTOR
	124	(K3) RESISTOR
C59	94	BOTH APP FIGURES EXCEPT 62Ω RESISTOR
	154	
C60	59,60,18	ALL APPARATUS FIGURES
C61	M	(K4) & (K5) RESISTORS
C62	110, 112	(INCC),(ORDA),(DROB),(OROC)&(OROD) RELAYS (TANO),(TAN1),(TAN2),(TAN3)&(TAN4)RESISTORS
C63	110, 112	(TAHOA),(TANOB),(TANOC) & (TANOD) RELAYS
C64	110, 112	(TANIA),(TANIB),(TANIC) & (TANID) RELAYS
C65	111, 113	(TAN2A),(TAN2B),(TAN2C), & (TAN2D) RELAYS
C66	111, 113	(TAN3A),(TAN3B),(TAN3C) & (TAN3D) RELAYS
C67	111, 113	(TAN4A),(TAN4B),(TAN4C)&(TAN4D),RELAYS
C68	111, 113	(TOLOA),(TOLOB),(TOLOC) & (TOLOD) RELAYS

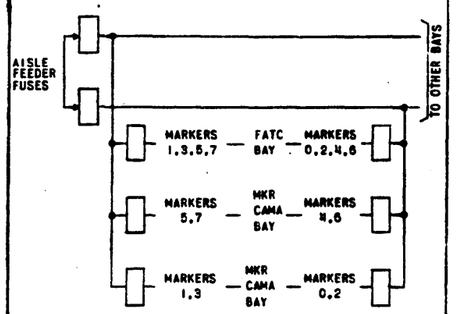
101(A). 1-1/3 AMP 48V SIGNALING BATTERY FUSES PER MARKER (CONT)

DESIG	APP FIG	BATTERY SUPPLY FOR APPARATUS
		TRANSLATOR FRAME
C69	82	(FC) LAMP QA OPTION
C70	125	(AST) LAMP
	147	(MSG) LAMP
	[illegible]	ENTIRE APPARATUS FIGURE
C71	142	ENTIRE APP FIG. EXCEPT (GIO) RESISTOR
	184	BRI,2,3 RELAYS (MT41)
C72	119	(CVS) RELAY
	121	ENTIRE APPARATUS FIGURE
	122	ENTIRE APPARATUS FIGURE
	137	ENTIRE APPARATUS FIGURE
C73	135	(PSBO,I) RELAYS
	184	BRG,CIR,TIR, RELAYS
C74	135	(PSAO-I) RELAYS

101(A). 1-1/3 AMP 48V SIGNALING BATTERY FUSES PER MARKER (CONT)

DESIG	APP FIG	BATTERY SUPPLY FOR APPARATUS
		CAMA FRAME
DO	151	(MBA) RELAY
D1	151	(CMRO),(CMR1),(CTOB),(ORC),(ORCO),(ORC1), (ORC2),(AD) & (OD) RELAYS
D2	151	(SPL2),(RNT3),(CMCI),(CMC2),(CMC3),(CMCA),
	85	(CMCB) & (CMCC) RELAYS
D3	151	(CTGS),(CTFO),(CTFI), & (CTF2) RELAYS
D4	151	(CTF4),(CTF7),(CFGO) & (CFGI) RELAYS
D5	153	(TSC6),(TSC7),(TSC8),(TSC9),(TCA) & (TCB) RELAYS
D6	151	(DNC),(VTC),(FC) & (WKC) RELAYS
D7	151	(LCDO),(LCD1),(LCD2), & (ACD) RELAYS
D8	151	(CMS2),(SOR),(CMF2),(CMF3),(CMF4) & (TOG4) RELAYS
D9	BQ	(CTNA),(CTNB),(HNAO),(HNA1),(HNA2),(HNA4) & (HNA7) RELAYS
D10	BQ	(TNAO),(TNA1),(TNA2),(TNA4) & (TNA7) RELAYS
D11	BQ	(UAO),(UA1),(UA2),(UA4) & (UA7) RELAYS
D12	151	(CSB) LAMP
D13		SPARE
D14		SPARE
D15		SPARE
D16		SPARE
D17		SPARE
	161, 166	ONE FUSE ASSIGNED ON MISC REL RACK FR MOUNTING FOR EACH FIG. KF OPTION
		COMMON EQUIPMENT FRAME
KED	185	(LBS2) LAMP
E1	185	(LF) LAMP
E2	185	(LFK1),(LLC4),(LLS),(LSC1),(LSC2),(LTI), & (TLS) RELAYS
E3	185	(DCTA),(MT22),(NSIA),(OSKA),(OST4),(OST5), (RSCA) & (XLF) RELAYS
E4	186	(AIS),(AISC),(EWA),(PNA),(PTNA),(TBI1) & (TNA) RELAYS
E5	186	(AISI-3),(KGS3-5),(MT23),(MT25A) & (MT29) RELAYS
E6	186	(NAI) & (OFCO-5) RELAYS
E7-45		SPARE
* THE E- FUSES MAY BE PROVIDED IN COMBINED OR COMPLETING MKRS ONLY		
MB	73	LOCATED ON BUS BAR OTHER THAN MARKERS SEE NOTE 213

WHEN MARKER CAMA BAY IS LOCATED IN THE SAME AISLE AS THE FOREIGN AREA TRANSLATOR CONNECTOR BAY, ARRANGE FUSING FOR CAMA BAY AS FOLLOWS:



41D 42D 45B 46D 47D 48D 49D 51D 52A 54D 56D

CIRCUIT NOTES (CONT)

101 (B) 1/2 AMP +130V BATTERY FUSES PER MARKER

DESIG	APP FIG.	BATTERY SUPPLY FOR APPARATUS
		TRANSLATOR FRAME
A	30	ENTIRE APPARATUS FIGURE
	106	ENTIRE APPARATUS FIGURE
B	J	ALL OF APPARATUS FIGURE J
	BJ	ALL OF APPARATUS FIGURE BJ
C	79	ENTIRE APP FIG. EXCEPT (HTT)&(OAT) TUBES, (HTT1),(HTT4),(OAT1)(OAT4)RES & (HTT1) CAP.
	AD	(SF) ELECTRON TUBE & (SF1) & (SF4) RESISTOR

101 (C) 1-1/3 AMP +130V BATTERY FUSES PER MARKER

D	78	ENTIRE APPARATUS FIGURE

101 (D) 1/2 AMP +130V BATTERY FUSES PER MARKER

DESIG	APP FIG.	BATTERY SUPPLY FOR APPARATUS
		TRANSLATOR FRAME
*E	79	(HTT) & (OAT) TUBES, (HTT1),(HTT4),(OAT1), (OAT4) RESISTOR & (HTT1) CAPACITOR

*OBTAINED FROM PWR, RING. & TONE DISTG FRAME

101 (E) RINGING SUPPLY FUSING.

*AC-DC AUD (ZR) OR *± AUD (YE)	30	FIRST MARKER	RINGING MACH. FUSED AT 1/2A	1/4 AHV (KX)
	106		RINGING MACH. FUSED OVER 1/2A	1/2 AHV
*RING. GRD	30	FIRST MARKER		
	106			

*OBTAINED FROM PWR, RING. & TONE DISTG FRAME

101 (F) GROUND LEADS PER MARKER

DESIG	APP FIG.	GROUND SUPPLY FOR APPARATUS
		COMMON EQUIPMENT FRAME
A0		SPARE
A1	2,4,6,187	ALL APPARATUS FIGURES
	91	(XFUN) RELAY & NETWORK
A2	8,76	(FTN-) & (FUN-) RELAYS & NETWORK APPARATUS FIGURE 8 & ENTIRE APPARATUS FIGURE 76
	91	(XFTN) RELAY & NETWORK
A3	1,3,157	ALL APPARATUS FIGURES
	0	TCBI & TCBI LEAD TO APPARATUS FIGURE 1
A4	5,166	ALL APPARATUS FIGURES
A5	7,8	ENTIRE APP FIGURE 7 & APP FIGURE 8 EXCEPT (FTN-) & (FUN-) RELAYS & NETWORK
A6	9	ENTIRE APPARATUS FIGURE
A7	10-16	ALL APPARATUS FIGURES
A8	17,27, CD	ALL APPARATUS FIGURES
A9	28	ENTIRE APPARATUS FIGURE
	102,109	(TNR) RELAY, (TNR) & (NGP1) NETWORKS
A10	AY,AZ	BOTH APPARATUS FIGURES
	75,82	BOTH APPARATUS FIGURES
	102,109	G1 LEAD
	104,105	ALL OF APPARATUS FIGURES 104 & 105
	AB	ENTIRE APPARATUS FIGURE
	0	G LEAD TO APPARATUS FIGURE B2
	AO,AP, AU	ENTIRE APPARATUS FIGURE
	159	ENTIRE APPARATUS FIGURE
A11	76,88	ENTIRE APP FIG. (2 GROUND LEADS PARALLELED)
A12	73,74	BOTH APPARATUS FIGURES EXCEPT (MAK),(MCK) & (MSK) PUNCHINGS TO MKR CONN
A13	73	(MAK), (MCK), (MSK), PCHG & MKR CONN D GRD
A14	84	ENTIRE APP FIG. (COMB. OR COMPLETING) QA OPT
	AT	ENTIRE APP FIG. (COMBINED) QB OPTION
A15	MISC CKT	TBS GROUND
A16	86,91	BOTH APP FIG. EXCEPT (XRCT),(XFUT)&(XFTT)REL
A17	83	ENTIRE APPARATUS FIGURE
A18	91	(XRCN),(XRCT), (XFUT)&(XFTT) RELAYS ONLY
B0	173,180	ENTIRE APPARATUS FIGURE
B1	18,21, 22,23, 24,25, 26,30, 66,81 100,104, G,M, 189	ALL OF APPARATUS FIGURES EXCEPT 28 & 48 (FTC-) RELAYS APPARATUS FIGURES 23, 24 & 25
B2	31	ENTIRE APPARATUS FIGURE EXCEPT (DT2), (DT3), (HGK), (HMC), (HMS1) RELAYS & (HMS), (HMS1), (LCK), (LK), (RK), (TCHK) NETWORKS
	J	(DCT2), (FBK) REL & (BSM), (DCT2) & (FBK)NET.
	Q	G2 LEAD TO APPARATUS FIGURE J
	B1 OR BJ	BOTH APPARATUS FIGURES
B3	31	(DT2), (DT3), (HGK), (HMC) & (HMS1) REL & (HMS),(HMS1),(LCK),(LK),(RK),(TCHK) NETWORKS
	Q	(MT18) REL, PC & G4 LEADS TO APP FIG. J, PC LEAD TO APP FIG. 31, G LEAD TO APP FIG. B2
	J	(DCT3), (SOG2), (TOG2), (TER2) & (TER4) REL & (DCT3), (SCB), (TER4) & (THK) NETWORKS
	K	ENTIRE APPARATUS FIGURE

101 (F) (CONT)

DESIG	APP FIG.	GROUND SUPPLY FOR APPARATUS
		COMMON EQUIPMENT FRAME
B4	29	ENTIRE APPARATUS FIGURE EXCEPT
	BX	CKG6 NO. 3&4 T CONTACT
B5	32	TOP SPRINGS (D),(MF) & (MLF) RELAYS
B6	32	BOTTOM SPRINGS (D),(MF) & (MLF) RELAYS
B7	32	(DT1),(OC2) & (RCY1) REL & (CKG2), (D), (DISA),(DT1),(MF),(MLF) & (OC2) NETWORKS
B8	32	(CKG1) REL & MONI LEAD TO APP FIG. A1
B9	32	(CKG2), (CKG3), (CKG6) & (AR) RELAYS
B10	150	L6 LEAD TO APPARATUS FIGURE 32
	32	(CB), (DIS1), (GTL), (RK1), (RK2), (RK3), (TR2) (TR2E) & (TRL) REL, (AR),(CB), (DIS), (GTL), (OC1), (RCY1),(RK3) & (TR2E) NETWORKS
	Q	PC1 LEAD TO APPARATUS FIGURES 32
B11	150	G LEAD TO APPARATUS FIGURE 32
	32	(DIS2), (DISA), (LFK), (LLC1), (LLC2), (MDK), (OC), (OC1), (OHW), (SQA), (SQA1), (TLC2), & (TLC3) RELAYS, (CKG6), (LFK), (LFS), (LLC1), (MDK), (OC), (SQA), (SQA1), (TFS) & (TLC1) NETWORKS, (LFS) & (TPS) RESISTORS
	BY	(DY4) NETWORK
	CH	ENTIRE APPARATUS FIGURE
B12	CI	G2 LEAD TO APPARATUS FIGURE 33
	33	ENTIRE APPARATUS FIGURE
	E OR F	BOTH APPARATUS FIGURES
	103	ENTIRE APPARATUS FIGURE
	AK,AL	BOTH APPARATUS FIGURES
	150	I LEAD FROM APP FIG. 150 TO APP FIG. 33
B13	89	ENTIRE APPARATUS FIGURE
B14	34,99	BOTH APPARATUS FIGURES
	93	ENTIRE APPARATUS FIGURE
	94	(PCL2) & (PCL3) REL, SNK LEAD TO APP FIG. AT
	Q	PC LEAD TO APPARATUS FIGURE 34
	AM	ENTIRE APPARATUS FIGURE
B15	32	(CKG7) RELAY
	M	G LEAD
B16	19,20	BOTH APPARATUS FIGURES
B17	79,N, O,BO	ENTIRE APP FIG. 79, N & BO (TRR) RELAYS APP FIG. O EXCEPT (SCG) CROSS CONN TERM.
	AD,AE	BOTH APPARATUS FIGURES
	P	G LEAD TO APPARATUS FIGURE 79
	Q	G LEAD TO APPARATUS FIGURE J
	138	ENTIRE APPARATUS FIGURE
	AF,AH	BOTH APPARATUS FIGURES
	AG	ENTIRE APPARATUS FIGURE
	A1	ENTIRE APPARATUS FIGURE
	178	ENTIRE APPARATUS FIGURE
B18	23-25	28 & 48(FTC-)RELAYS
B19	29	(CKG8)NO.3&4T CONTACT
	177	ENTIRE APPARATUS FIGURE
		CGA & CGB LEADS TO LINE,LINE LINK & CONN (EJ OPTION)
B20	174, 179	ENTIRE APPARATUS FIGURES DIAL TONE ONLY GR OPTION

ISSUE	
41D	OPT PCG
43B	OPT PCL
45B	OPT PCL
47B	OPT PCL AND
49D	OPT PCL AND
51D	OPT PCL AND
52A	OPT PCL AND
54D	OPT PCL AND
56D	NLF

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CIRCUIT NOTES (CONT)

101.(F)(CONT)

DESIG	APP FIG.	GROUND SUPPLY FOR APPARATUS
		TRANSLATOR FRAME
CO	174,179	ENTIRE APPARATUS FIGURES (COMBINED ONLY) GS OPTION
C1	49	ENTIRE APPARATUS FIGURE
C2	43-45, 52 97-A,C 46,47, 48 OR 108, 95, 96,152 BK,BL, 35-37	ALL OF APPARATUS FIGURES
	102	(TOLI) RELAY & NETWORK
	147	(NSSO-1) NETWORK, (XNS) RELAY
	8C,8D	(OR) RELAY & NETWORK
	160	ENTIRE APPARATUS FIGURE
C3	169	HTG PCHG (OPTION 169)
	79	(SCG) TERMINATING ONLY (COMBINED & COMPLETING) Q OPTION
	50,53-60,62, 63,94, 98,184	ALL OF APPARATUS FIGURES 50, 53-60, 62, 63, 98 & 154 (PCCL) & (PCLI) RELAYS & (PCLI) NETWORK, APPARATUS FIGURE 94
	164	ENTIRE APPARATUS FIGURE
	L	ENTIRE APPARATUS FIGURE
	M	ENTIRE APPARATUS FIGURE EXCEPT G LEAD
	AQ,AR	(FN) NETWORK
	143	ENTIRE APPARATUS FIGURE
	147	(RGT), (RGTO-1) RELAYS & (RGT) NETWORK
	188	ENTIRE APPARATUS FIGURE
C4	64 126, 156	ALL OF APPARATUS FIGURES
	BM	NG2 LEAD FROM APPARATUS FIGURE 65
C5	68	ENTIRE APPARATUS FIGURE EXCEPT (SNG2), NO.11, 12B CONTACT & (RCL), NO. 6, 7T CONTACT
	125,142, 149,AW	ENTIRE APPARATUS FIGURES
	CI	GI LEAD TO APPARATUS FIGURE 68
C6	69-72	ALL OF APPARATUS FIGURES
C7	77	ENTIRE APPARATUS FIGURE
C8	38-41, 115,117	ALL OF APPARATUS FIGURES
	BM	ENTIRE APPARATUS FIGURE EXCEPT NG2 LEAD FROM APPARATUS FIGURE 65
C9	175	ENTIRE APPARATUS FIGURE
C10	67,144 145,163 BB,CA CB,171	ENTIRE APPARATUS FIGURES
	119	(TGS3) RELAY
	BD	(FAC) RELAY & NETWORK
	BG OR BH	BOTH APPARATUS FIGURES
C11	110,111 123,124 167	ALL 5 APPARATUS FIGURES
C12	118,121 122,137	ALL 4 APPARATUS FIGURES
C13	68	(SNG2), NO. 11, 12B CONTACT, (RCL), NO. 6, 7T CONTACT
	134	ENTIRE APPARATUS FIGURE
C14	148	ENTIRE APPARATUS FIGURE

101.(F)(CONT)

DESIG	APP FIG.	GROUND SUPPLY FOR APPARATUS
		CAMA FRAME
D0	151	(NBA),(CNRO),(CNR1) & (ORC) RELAYS & (AMA5) RESISTOR & (ORC),(CRCO),(ORC1),(ORC2),(AD), (OD) & (SWCMO),(SWCM1),(SWCM2) NETWORKS
D1	151	(CMJ),(CMC3) & (RNT3) RELAYS & (CMC),(CMCA), (CMJ) & (RNT3) NETWORKS
D2	151	(CMF2),(CTOB) RELAYS
D3	151	(CTG5) RELAY & (CTFC),(CTF1),(CTF2),(CTF4), (CTF7),(CFGO),(CFG1) & (CTG5) NETWORKS
D4	151, 153	(CFA),(CFA1),(TTA),(TSC6),(TSC7),(TSC8), (TSC9),(TCA) & (TCB) RELAYS & (TSC6),(TSC7) (TSC8),(TSC9),(TCA) & (TCB) NETWORKS
D5	151	(VTC),(FC),(WKC),(DNC),(LCDOA-2A),(ACD) NETWORKS
D6	151	(CMF3),(CMSO),(CMS1) & (TOG4) REL & (SOR),(CMSO), (CMS1),(CMS2),(CMFO),(CMF1),(CMF) & (TOG4) NET.
D7	80	(CTN),(HNAO),(HNA1),(HNA2),(HNA4),(HNA7), (TNAO),(TNA1),(TNA2),(TNA4),(TNA7),(UAO), (UA1),(UA2),(UA4) AND (UA7) NETWORKS
	156 161 170 181 182 184 185	ONE GRD LEAD ASSIGNED ON MISC RELAY RACK FRAME MOUNTING FOR EACH FRAME
	186	2 GRD LEADS — (AIS1) & (AIS2) RELAYS; (KGS3-5),(AIS3),(NAI), & (AIS) RELAYS

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

ISSUE	
41D	
42D	
44B	
45B	
46D	
47D	
49D	
51D	
52A	
54D	
56D	NF

MARKER CIRCUIT (2) SD-25550-01-D4

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CIRCUIT NOTES: (CONT)

102.

PAR.	FEATURE OR OPTION			COMPLETING OR COMBINED MARKERS PROVIDE APP FIG.	APP OR WIRING	QUANTITY	DIAL TONE MARKER PROVIDE APP FIG.	APP OR WIRING	QUANTITY
	LINE VERT GRP IDENTIFIER FOR BASIC LINE LINK FR OF 290 LINES VERT GROUPS 0-5			1		1 PER MKR	1		1 PER MKR
1	WHEN ADDITIONAL VERTICAL GROUPS ARE EQUIPPED	6 AND 7	COMBINED MARKER		Z,XB,XC, ZH				
			COMPLETING MARKER		XB,XC				
			DIAL TONE MARKER					Z,XC	
		8 AND 9			YB			YB	
		10 AND 11			YC			YC	
2	CALLED LINE VERTICAL GROUP IDENT			2		1 PER VERT GRP EQPD PER MKR			
3	LINE HORIZONTAL GROUP IDENT			3		1 PER MKR	3		1 PER MKR
4	CALLED LINE HORIZONTAL GROUP IDENTIFIER			4		10 PER MKR			
5	LINE VERTICAL FILE IDENT			5		1 PER MKR	5		1 PER MKR
6	CALLED LINE VERTICAL FILE IDENTIFICATION			6		5 PER MKR			
7	SEQUENCE CONTROL CIRCUIT			7		1 PER MKR	7		1 PER MKR
8	LINE LINK FRAME IDENT			8		1 PER MKR	8		1 PER MKR
8A	WHEN TRUNK LINK FRAMES ARE PAIRED				XE,XF			XF	
9	CALLING LINE REGISTER AND TRANSFER CHECKER			9		1 PER MKR	9		1 PER MKR
10	CLASS OF SERVICE TRANSLATOR AND TR CHECKER			10		1 PER MKR	10		1 PER MKR
11	CLASS OF SERVICE IDENT								
	WHEN CLASSES OF SERVICE REQUIRED DO NOT EXCEED 10 (CSO TO CS9)			11, 12		1 EACH PER MKR	11, 12		1 EACH PER MKR
	WHEN CLASSES OF SERVICE CS10 TO CS19 ARE REQUIRED			13, 14		1 EACH PER MKR	13, 14		1 EACH PER MKR
	WHEN CLASSES OF SERVICE CS20, CS29 ARE REQUIRED			15, 16		1 EACH PER MKR	15, 16		1 EACH PER MKR
	WHEN ADDITIONAL CLASS OF SERVICE SCREENING FACILITIES ARE REQUIRED	YES		175 176		1 PER MKR			
		NO	WITH OVER 30 CLASSES OF SERV PROVIDED		JE,EJ			JC	
				177	JD	1 PER COMB MKR	177		1 PER MKR
12	JUNCTOR GROUPING			17		1 PER MKR	17		1 PER MKR
13	TRUNK LINK FRAME SELECTION CONTROL CIRCUIT			18		1 PER MKR	18		1 PER MKR
14	TRUNK LINK FR TEST LEAD CONN	FOR 10 OR LESS THAN 10 LINK FRAMES	WITH DIGIT 1 ACCESS CODE	19	F,LX,KA	1 PER ROUTE OR ALLOTED SUB-GRP PER-MKR	19		1 PER TYPE OF ORIG REG PER MKR
			WITHOUT DIGIT 1 ACCESS CODE						
		FOR MORE THAN 10 TRUNK LINK FR	WITH DIGIT 1 ACCESS CODE	19, 20	F,LX		20	F	
			WITHOUT DIGIT 1 ACCESS CODE		F,LW,MO				
15	TRUNK LINK FRAME BUSY CUT-IN AND TEST RELAYS	FOR TRUNK LINK FRAMES 0 TO 9		21		1 PER MKR	21		1 PER MKR
		FOR TRUNK LINK FRAMES 10 TO 19		22			22		
16	FRAME SELECTING RELAYS	FOR FIRST TRUNK LINK FRAMES		23		1 PER MKR	23		1 PER MKR
		FOR INTERMEDIATE TRUNK LINK FRAME		24		1 PER EACH INT TRK LINK FR PER MKR	24		1 PER EACH INT TRK LINK FR PER MKR
		FOR LAST TRUNK LINK FRAME		25		1 PER MKR	25		1 PER MKR
17	TRUNK SELECTION			26	XG,XH,XI, XJ,XK,XM	1 PER MKR	26		1 PER MKR
	WHEN THE NUMBER OF ORIGINATING REGISTERS OF ONE TYPE PER TRUNK LINK FRAME IS	5 OR LESS						XM	
		6						XM, XG	
		7						XM, XG, XH	
		8						XM, XG, XH, XI	
		9						XM, XG, XH, XI, XJ	
		10						XM, XG, XH, XI, XJ, XK	
18	JUNCTOR SEQUENCE			27		1 PER MKR	27		1 PER MKR

102. (CONT)

PAR.	FEATURE OR OPTION		COMPLETING OR COMBINED MARKERS PROVIDE APP FIG.	APP OR WIRING	QUANTITY	DIAL TONE MARKER PROVIDE APP FIG.	APP OR WIRING	QUANTITY
19	JUNCTOR PATTERNS		28		1 PER MKR	28		1 PER MKR
20	CHANNEL TEST		29		1 PER MKR	29		1 PER MKR
21	LINE TEST		30		1 PER MKR	106		1 PER MKR
22	HOLD MAGNET OPERATION		31		1 PER MKR	31		1 PER MKR
	PART OF HOLD MAGNET OPERATION		J		1 PER MKR	K		1 PER MKR
23	MARKER CONTROLLER		32		1 PER MKR	32		1 PER MKR
24	PART OF MARKER CONTROLLER		33		1 PER MKR	103		1 PER MKR
25								
26	"A" DIGIT CODE REGISTER		35		1 PER MKR			
27	WHEN CODE TRANSLATION IS REQUIRED FOR B DIGIT		A		1 PER MKR			
28	WHEN CODE TRANSLATION IS NOT REQUIRED FOR B DIGIT		B		1 PER MKR			
29	WHEN CODE TRANSLATION IS REQUIRED FOR C DIGIT		C		1 PER MKR			
30	WHEN CODE TRANSLATION IS NOT REQUIRED FOR C DIGIT		D		1 PER MKR			
31	PERMANENT SIGNAL AND PARTIAL DIAL REGISTER		36		1 PER MKR			
32	COIN FEATURES	COIN DISPOSAL	37		1 PER MKR			
		COIN ZONE REROUTE TO OPERATOR	87		1 PER EACH MULT CHARGE POINT			
		REG RETURN COIN	83		1 PER MKR			
		COIN ZONE FEATURE FOR TRUNKS (COIN ZONE)(WATS)	156, 158	MI,MK,MP, KP	1 PER MKR			
33	TRANSLATOR CONTROL		38		1 PER MKR			
34	MARKER SERVES	1ST & 2ND NUMBER SERIES ONLY	147, BU	SD,NU	1 EACH PER MKR			
		MORE THAN 2 NUMBER SERIES (MAXIMUM 6)	147, BV		1 EACH PER MKR			
			148		¼ PER MKR			
35	WHEN ANY OFFICE CODES TO BE TRANSLATED CONSIST OF 2 OR 3 DIGITS		39		10 PER MKR			
36	WHEN 3 DIGIT ABC, ABX, XOX AND XIX TOLL CODES ARE REQUIRED IN 6 DIGIT AND 6-7 DIGIT NUMBERING PLAN AREA		116		8 PER MKR			
37	WHEN ANY 3 DIGIT CODES ARE TO BE TRANSLATED		117		10 APP FIGURES 117, DESIG (BT00-09) IF OXX TOLL CODES (000-099) ARE TO BE TRANSLATED 10 APP FIGURES 117, DESIG (BT10-19) IF IIX OR IXX TOLL CODES (100-199, 110-119) ARE TO BE TRANSLATED 80 APP FIGURES 117, DESIG (BT20-99) IF ANY 3 DIGIT CODES OTHER THAN OXX, IXX & IIX ARE TO BE TRANSLATED			
38	SERIES RESISTANCE FOR 16 OHM RELAYS		42		1 PER MKR			

102. (CONT)

PAR.	FEATURE OR OPTION			COMPLETING OR COMBINED MARKERS PROVIDE APP FIG.	APP OR WIRING	QUANTITY	DIAL TONE MARKER PROVIDE APP FIG.	APP OR WIRING	QUANTITY
39	CLASS OF CALL			43, 80		1 EACH PER MKR			
40	WHEN TRANSLATION OF OXX TOLL CODES IS REQUIRED				X				
41	WHEN TRANSLATION OF OXX TOLL CODES IS NOT REQUIRED				Y				
42	WHEN THE MARKER SERVES ANY MULTI-FREQUENCY OR DIAL PULSING INCOMING REGISTERS WHICH ARE NOT ARRANGED FOR 11X CODES				M				
43	LOCAL COMPLETION RELAYS	MARKER SERVES	PN NUMBERS	44	V	1 PER MKR			
			TN NUMBERS		U,T				
			EN NUMBERS		PG,PH				
44	SEPARATE LINE LINK INTERCEPT TRUNK GROUPS (WADS ETC)			170		1 PER MKR			
45									
46									
47	NUMBER RELEASE RELAY			45		1 PER MKR			
48	CALLED NUMBER CONNECTOR			46		1 PER MKR			
49	WHEN TANDEM OR TOLL SWITCHING OR COIN JUNCTOR OR AMA JUNCTOR OPERATION IS REQUIRED			47		1 PER MKR			
50	CALLED NUMBER REGISTER	WHERE PBX ALLOTING IS PROVIDED TO DISTRIBUTE LINES OF ONE HUNTING GROUP (OTHER THAN BLANK NUMBER OR INTERCEPT TRUNKS) IN MORE THAN ONE NUMBER GROUP		108	SU	1 PER MKR			
		WHERE PBX ALLOTING IS NOT PROVIDED		108	SX	1 PER MKR			
51	ROUTE ADVANCE AND GROUND SUPPLY			50		1 PER MKR			
52	ROUTE RELAYS FOR GS GROUPS 1-5			51		1 PER ROUTE, PER MKR			
53	ROUTE RELAYS FOR	DIAL ORIGINATING REGISTERS		52		1 PER COMB. MKR	104		1 PER MKR
		MF ORIGINATING REGISTERS		52		1 PER COMB. MKR			
		CATCH ALL TRUNKS		52		1 PER MKR			
54	ROUTE SERIES RELAYS			53		1 PER MKR			
55	OPERATOR ASSISTANCE REROUTE			54		1 PER ROUTE REQ SPECIAL SERV TONE PER MKR			
56	PEG COUNT PREROUTE			55		AS REQD			

DRAWING ISSUE

41D	ELM AMB
44B	ELM AMB
46D	ELM AMB
47D	ELM AMB
48D	ELM AMB
56D	ELF

MARKER CIRCUIT (2)

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CIRCUIT NOTES (CONT):

102. (CONT)

PAR.	FEATURE OR OPTION			COMPLETING OR COMBINED MARKER PROVIDE APP FIG.	COMPLETING OR COMBINED MARKER PROVIDE APP OR WIRING	COMPLETING OR COMBINED MARKER PROVIDE QUANTITY	DIAL TONE MARKER PROVIDE APP FIG.	DIAL TONE MARKER PROVIDE APP OR WIRING	DIAL TONE MARKER PROVIDE QUANTITY
57	WHEN THE MARKER MUST REGISTER FROM 4 TO 11 DIGITS	CALLED CODE AND NO. TRANSFER CHECKER		49		1 PER MKR			
		A,B,C, AND D DIGITS			B				
		A,B,C,D, AND E DIGITS			S,ZA				
		A,B,C,D,E, AND F DIGITS			S,R,J,ZC				
		A,B,C,D,E,F, AND G DIGITS			S,R,Q,J,ZE				
		A,B,C,D,E,F,G, AND H DIGITS			S,R,Q,P,J,H,ZG				
		A,B,C,D,E,F,G,H, AND J DIGITS			S,R,Q,P,N,J,H,ZI				
		A,B,C,D,E,F,G,H,J, AND K DIGITS			S,R,Q,P,N,M,J,H,G,ZK				
		A,B,C,D,E,F,G,H,J,K, AND L DIGITS			S,R,Q,P,N,M,K,J,H,G,ZM				
58	WHEN AMA IS PROVIDED	INTERCEPT DISCRIMINATION BET. LOCAL AND TOLL INCOMING (A&M ONLY) USAGE	COMBINED MARKER	86, 88	A,ZS, EE	1 EACH PER MKR		A	
			COMPLETING MARKER		ZS,EE				
		NO INTERCEPT DISCRIMINATION BET. LOCAL AND TOLL INCOMING	COMBINED MARKER		A,PD,PE, PF,EE				
			COMPLETING MARKER		PD,PE,PF, EE				
		AND OFFICE IS A CAMA CENTER	YES 12 OR LESS SC POINTS CLASS OF SERV PROVIDED	151, 153 155	NG, NM, NO	1 EACH PER MKR 9 PER MKR			
			YES MORE THAN 12 SC POINTS REQUIRED FOR CAMA SCREENING		NT				
					GV				
			NO	150	WL	1 PER MKR			
	WHEN AMI IS PROVIDED		COMB. MKR	192	A,KR	1 EACH PER MKR			
			COMPLETING MKR	194 194A 89	KR				
59									
60	DENIED SERVICE REROUTE			98		1 EACH PER DENIED ROUTE COIN AND NON COIN			
61	ROUTE TRANSFER AND ROUTE TRANSFER CONTROL			59, 60	EH	1 PER MKR WHEN ROUTE TRANSFER IS REQD			
63	SERVICE RELAY			61		1,2, OR 3 PER CLASS OF SERVICE			
64 (A&M ONLY)	WHEN STATION RINGER TEST CIRCUIT IS FURNISHED			62	SD	1 PER 10,000 NO. SERIES PER MKR			
65	2 STEP ALLOTTER			64		1 PER MKR			
66									

102. (CONT)

PAR.	FEATURE OR OPTION			COMPLETING OR COMBINED MARKER PROVIDE APP FIG.	COMPLETING OR COMBINED MARKER PROVIDE APP OR WIRING	COMPLETING OR COMBINED MARKER PROVIDE QUANTITY	DIAL TONE MARKER PROVIDE APP FIG.	DIAL TONE MARKER PROVIDE APP OR WIRING	DIAL TONE MARKER PROVIDE QUANTITY
67	INTERCEPT DISCRIMINATION BETWEEN LOCAL AND TOLL INCOMING (A&M ONLY USAGE)	NO RATE DISCRIMINATION BETWEEN PHYSICAL AND THEORETICAL		65, AU	PK	1 PER MKR			
		RATE DISCRIMINATION BETWEEN PHYSICAL AND THEORETICAL			PK,ZP,ZS				
	NO INTERCEPT DISCRIMINATION BETWEEN LOCAL AND TOLL INCOMING	NO RATE DISCRIMINATION		126, AV		1 PER MKR			
		RATE DISCRIMINATION BETWEEN PHYSICAL AND THEORETICAL			ZP,PD				
		RATE DISCRIMINATION BETWEEN PHYSICAL, THEORETICAL AND EXTRA-THEORETICAL			ZP,PC, PD,PE				
68	WHEN RATE DISCRIMINATION BETWEEN PHYSICAL AND THEORETICAL NUMBERS IS TO BE CONTROLLED BY HIGH AND LOW INCOMING GROUP SELECTION IN REVERTIVE PULSE INCOMING REGISTERS				ZQ				
69	TRUNK LINK FR NUMBER REG			66		1 PER MKR	66		1 PER MKR
70	WHEN ROUTE INFORMATION TRANSFER CHECKER IS REQUIRED			67		1 PER MKR			
		WHEN AMA OR ANI IS PROVIDED		BH	YJ,GW	1 PER MKR			
		CODE PATTERN INFORMATION REQUIRED BY SENDERS			YR,YO				
		WITHOUT AMA OR WITH AMA BUT NO 4DG,5DG, L5D,OR LST INF REQD BY SENDERS	DELETE 1,2, OR 3 DIGITS INF REQD BY SENDERS		YK,YO				
			DELETE 4,5, OR 6 DIGITS INF REQD BY SENDERS		YK,YO,YP				
		CLASS INF REQD BY SENDER	YES	BB	OR				
			NO		OQ				
			CLI INF REQUIRED		YN,YO,YU				
			CL2-6 INF REQD		YL,YO				
		WITH AMA 4DG, 5DG INF REQD BY SENDERS	DELETE INF NOT REQD OR DELETE 1,2, OR 3 DIGITS INF REQD BY SENDERS		YK,YO,YT				
			DELETE 4,5, OR 6 DIGITS INF REQD BY SENDERS		YK,YO,YP, YT				
		WITH AMA L5D, LST INF REQD BY SENDERS	DELETE INF NOT REQD OR DELETE 1,2, OR 3 DIGITS INF REQD BY SENDERS		YK,YO,YQ, YT				
			DELETE 4,5, OR 6 DIGITS INF REQD BY SENDERS		YK,YO,YP, YQ,YS,YT				
	CODE ROUTE OR COMPENSATION RESISTANCE INFORMATION REQUIRED BY SENDERS				YM,YO,YU				

102. (CONT)

PAR.	FEATURE OR OPTION			COMPLETING OR COMBINED MARKER PROVIDE APP FIG.	COMPLETING OR COMBINED MARKER PROVIDE APP OR WIRING	COMPLETING OR COMBINED MARKER PROVIDE QUANTITY	DIAL TONE MARKER PROVIDE APP FIG.	DIAL TONE MARKER PROVIDE APP OR WIRING	DIAL TONE MARKER PROVIDE QUANTITY
70 (CONT)	WHEN ROUTE INFORMATION TRANSFER CHECKER IS REQUIRED	CODE CONVERSION (MORE THAN ONE ARBITRARY DIGIT REQUIRED)		118		1 PER CONVERTED CODE			
				119		1 PER MKR			
				120		1 PER GRD SUPPLY HAVING ROUTES THAT REQ CONVERSION			
					TQ				
			ARBITRARY TENS DIGIT REQUIRED	121		1 PER MKR			
			ARBITRARY HUNDRED AND TENS DIGIT REQUIRED	121, 122	TR				
			A CODE REQUIRES CONVERSION ON SOME SDR ROUTES BUT NOT ON ALL SDR ROUTES	137					
	CODE CONVERSION NOT REQUIRED FOR MORE THAN ONE ARBITRARY DIGIT				QU				
71	NUMBER GROUP CONTROL			68		1 PER MKR			
72	WHEN MARKER OPERATES WITH OUTGOING OR INTER MARKER GROUP SENDERS OR SENDERS USED FOR AMA RECORDING	SENDER SELECTION		69		1 PER MKR			
		SENDER CONTROLLER		311		1 PER MKR			
		SENDER GROUP CIRCUIT		70		1 PER SDR GRP PER MKR			
		SENDER COMN MAKE BUSY CIRCUIT		71		1 PER A AND B COMN PER MKR			
73	FOR USE WITH TWO-WAY TRUNKS			72		1 PER ONE OR MORE 2WY TRK GROUPS USING SAME SDR GROUPS PER MKR			
74	MARKER BUSY CIRCUIT			73		1 PER MKR FOR FIRST 8 MARKER CONNECTORS	73		1 PER MKR FOR FIRST 8 LINE LINK MKR CONNECTORS
	ON LAST DIAL TONE MARKER AND ON LAST COMBINED OR COMPLETING MARKER ONLY				ZV			ZV	
	WHEN MORE THAN 8 MARKER CONNECTORS ARE EQUIPPED			74		1 PER MKR FOR EACH ADDITIONAL 12 MKR CONNECTORS	74		1 PER MKR FOR EACH ADDITIONAL 12 LINE LINK MKR CONNECTORS
75	RINGING CONTROL			75		1 PER MKR			
76	RINGING CODE IDENTIFICATION			76		15 PER MKR			
77	PBX HUNTING			77		1 PER MKR			
78	NO TEST AND NO HUNT	REQUIRED		78, 85	ZF	1 PER MKR 0 AND 1			
		NOT REQUIRED		86		1 PER MARKERS 2-11			

DRAWING ISSUE

41D	6-6
42D	6-7
46D	7-1
47D	7-6
54D	8-1
56D	8-2

MARKER CIRCUIT (2)

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BELL TELEPHONE LABORATORIES INCORPORATED 6S

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CIRCUIT NOTES (CONT):

102. (CONT)

PAR.	FEATURE OR OPTION		COMPLETING OR COMBINED MARKER PROVIDE APP FIG.	APP OR WIRING	QUANTITY	DIAL TONE MARKER PROVIDE APP FIG.	APP OR WIRING	QUANTITY
78	MASTER TEST FRAME CONNECTOR CONTROL AND TIMING		78		1 PER MKR	78		1 PER MKR
80	NUMBER CHECKING NOT REQUIRED		87		1 PER MKR			
81	TRUNK BLOCK AND TRUNK GROUP SELECTION		81		1 PER MKR			
82	RECYCLE CONTROL		82, AZ		1 EACH PER MKR	105		1 PER MKR
83								
84	CROSS DETECTOR		83, 91		1 PER MKR	83, 91		1 PER MKR
85	WHEN MESSAGE REGISTER OPERATION IS REQUIRED		84		1 PER MKR 0 AND 1			
	WHEN MESSAGE REGISTER OPERATION IS NOT REQUIRED		88		1 PER MKR			
86	MARKER CONNECTOR FRAME FREFERENCE	COMBINED MARKER	85		1 PER LINE LINK OR REG MARKER CONN FR			
		COMPLETING MARKER	85		1 PER REG MARKER CONN FR			
		DIAL TONE MARKER				85		1 PER LINE LINK MARKER CONN FR
87	CLASS OF SERVICE TRAFFIC REGISTER CONNECTOR		90		1 PER MKR			
88	TYPE OF RINGING	AC-DC		ZR			ZR	
		SUPERIMPOSED		YE			YE	
89	PULSE CONVERSION OR CAMA — PULSE CONVERSION — PROVIDED		94		1 PER MKR			
	NOT PROVIDED		93	✓				
	INTERCEPT DISCRIMINATION BETWEEN LOCAL AND TOLL INCOMING (A & M ONLY USAGE)	DIAL	89, 154	YV,ZS	1 EACH PER MKR			
		REVERTIVE 2 DIGIT	89, 95, 154	YV,ZS,ZW	1 EACH PER MKR			
		REVERTIVE 3 DIGIT	89, 95, 154	YV,ZS,ZX				
	NO INTERCEPT DISCRIMINATION BETWEEN LOCAL AND TOLL INCOMING	DIAL	89, 154	YV,PD,PE,PF	1 PER MKR PER SDR GROUP			
			96					
		REVERTIVE 2 DIGIT	89, 95, 154	YV,ZW,PD,PE,PF	1 EACH PER MKR			
		REVERTIVE 3 DIGIT		YV,ZX,PD,PE,PF				
90	TOG CLASS CALLS FROM TOLL (TOLL CLASS MARK REQUIRED OVER RC LEAD)	COMPLETED OVER OUT. TRUNKS SUCH AS COMB. OUT. AND TOLL SW TRUNKS WHICH ALSO COMPLETE SOG CLASS CALLS OR TOG CLASS CALLS FROM TANDEM	98 AND F		1 PER MKR			
		COMPLETED OVER AUX. OGT FOR CONN TO I.T. OR OTHER TRUNKS REQUIRING SX SUPV AUX OUT. TRUNK ALSO COMPLETE SOG CLASS CALLS OR TOG CLASS CALL FROM TANDEM						

102. (CONT)

PAR.	FEATURE OR OPTION		COMPLETING OR COMBINED MARKER PROVIDE APP FIG.	APP OR WIRING	QUANTITY	DIAL TONE MARKER PROVIDE APP FIG.	APP OR WIRING	QUANTITY
91	BOTH TOG AND SOG CLASS CALLS COMPLETED TO OGT; SUCH AS INFORMATION, REPAIR SERVICE WHICH DO NOT REQ A SENDER (OGT REQUIRES A TANDEM CLASS MARK OVER RC WHEN COMPL A TANDEM CALL)		F		1 PER MKR			
92								
93	INTER-MARKER GRP OR CAMA OPERATION		99		1 PER MKR			
94	GROUND START COIN LINES	COMBINED MARKER	100		1 EACH PER MKR			
		COMPLETING MARKER	100	ZD	1 EACH PER MKR			
95	WITH TONE DISTINCTION FOR TROUBLE RECORDER REQUEST			WB			WB	
	WITHOUT TONE DISTINCTION FOR TROUBLE RECORDER REQUEST			WA			WA	
96	FRAME START CONTROLLER		92		1 PER MKR			
97	WHEN INTERTOLL TRUNKS ARE PROVIDED (NO. 5 OFFICE IS A TOLL CENTER)		109		1 PER MKR			
98	WHEN INTERTOLL TRUNKS ARE NOT PROVIDED (NO. 5 OFFICE IS NOT A TOLL CENTER)			UE				
99	WHEN MF ORIGINATING REGISTERS ARE PROVIDED (COMBINED OR DIAL TONE MARKER)			XN			XN,XZ	
100 (MFR DISC.)	COMBINED MARKER		H,Q, W,AB, AX	E,TJ,VC,VZ, UY,XA,XR, XY,XZ,YX, ZD,ZJ,ZQ, UD,TW,TL, VI,TT,UM, UJ,UT,TB, UV,PR,PT, PP,PV,PZ				
	COMPLETING MARKER		H,Q, W,AB, AX	TJ,VZ,UY, XA,XR,XY, XZ,YX,ZD, TZ,UD,TW, VT,TT,UM, UJ,UT,UV, TB,PR,PT, PP,PV,PZ				
	DIAL TONE MARKER					Q	E,VC,XD, XS,XU,ZD, RV,TL,PZ	
101	PATTERN CONTROL		107	VE	1 PER MKR	107	VE	1 PER MKR
102	MORE THAN ONE CLASS OF SERVICE ASSIGNED TO TWO PARTY LINES HAVING PARTIES THAT REQUIRE DIFFERENT SERVICE TREATMENT		M		1 PER MKR			
103	PBX SLEEVE VERIFICATION	REQD IN MARKERS C AND I	114		1 PER MKR C AND I			
		NOT REQD IN MARKERS 2-11		ZL				
104	WHEN THE MISC CIRCUIT FOR THE MARKER FRAME DOES NOT PROVIDE A PILOT FUSE IN THE +130V SUPPLY TO THE MARKER			UZ			UZ	
105	WHEN OPR JUNCTOR OR INCOMING TANDEM TRUNKS FROM OPR COMPL NO CALLS TO SUBSCRIBERS IN THIS MARKER GROUP ARE PROVIDED			UW				

102. (CONT)

PAR.	FEATURE OR OPTION				COMPLETING OR COMBINED MARKER PROVIDE APP FIG.	APP OR WIRING	QUANTITY	DIAL TONE MARKER PROVIDE APP FIG.	APP OR WIRING	QUANTITY
106	COMMON GROUP OF TRUNKS FOR REG AND TBL INTERCEPT CALLS					TH				
	SEPARATE TRUNK GROUPS FOR REG AND TBL INTERCEPT CALLS					TG				
107	TANDEM CODE SCREENING	NUMBER OF TANDEM CLASSES	MAX NUMBER OF SCREENING CONT REQD PER CLASS							
		NONE	NONE							
		1	4	WHERE THE TANDEM SCREENING FEATURE USES THE SUB SERVICE TREATMENT CIRCUIT	U, 146	UM,PO	1 EACH PER MKR			
		2	4		U, 145	UM,PO,NB	1 EACH PER MKR			
		2	22	WHERE THE TANDEM SCREENING FEATURE DOES NOT USE THE SUB SERVICE TREATMENT CIRCUIT	110, 112	UN	1 EACH PER MKR			
			34				1 APP FIG. 110 & 2 APP FIGURES 112 PER MKR			
			46				1 APP FIG. 110 AND 3 APP FIGURES 112 PER MKR			
		3RD, 4TH OR 5TH ADDITIONAL CLASS		22	111, 113	UF	1 EACH PER CLASS PER MKR			
				34			1 APP FIG. 111 AND 2 APP FIGURES 113 PER CLASS PER MKR			
				46			1 APP FIG. 111 AND 3 APP FIGURES 113 PER CLASS PER MKR			
		FOR TOLL CENTER OPERATION WHEN TWO OR MORE TANDEM CLASSES REQUIRE SCREENING		22	111, 113	SQ	1 EACH PER MKR			
				34			1 APP FIG. 111 AND 2 APP FIGURES 113 PER MKR			
				46			1 APP FIG. 111 AND 3 APP FIGURES 113 PER MKR			
		WHEN TWO OR MORE TANDEM CLASSES REQUIRE SCREENING AND LOCAL COMPLETION CODES RECEIVED AS INC CLASS ARE IN CONFLICT WITH TANDEM CODES. WHEN THIS FEATURE IS FURNISHED, THE NO. OF TANDEM SCREENING CLASSES IS LIMITED TO 4. THE TANDEM 4 CLASS BEING USED WITH THE INC FEATURE		22	111, 113	PL	1 EACH PER MKR			

DRAWING ISSUE
410 6M WW
456 1M PC

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NO 5 MARKER CIRCUIT

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BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

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CIRCUIT NOTES (CONT):

102. (CONT)

PAR	FEATURE OR OPTION		COMPLETING OR COMBINED MARKER PROVIDE APP FIG.	APP OR WIRING	QUANTITY	DIAL TONE MARKER PROVIDE APP FIG.	APP OR WIRING	QUANTITY
108	TWO DIGIT TRANSLATOR FOR BX CODES		115		2DT2 REL FOR CODES 20-29 2DT3 REL FOR CODES 30-39 2DT4 REL FOR CODES 40-49 2DT5 REL FOR CODES 50-59 2DT6 REL FOR CODES 60-69 2DT7 REL FOR CODES 70-79 2DT8 REL FOR CODES 80-89 2DT9 REL FOR CODES 90-99			
109	AUTOMATIC PROGRESSION TRUNK TESTING	REQUIRED		TF				
		NOT REQUIRED		TE				
110	2 DIGIT OR 11XX OPERATOR TX CODES		123		1 PER 10 CODES			
			124		1 PER MKR			
111	PBX ALLOTTER RECYCLE CONTROL CKT	WHERE PBX ALLOTTING IS PROVIDED	142		1 PER MKR			
112	TWO 1000 SERIES IN ONE NUMBER GROUP SEE NOTE 105 (27)	FOR OFFICE "A" NUMBERS — WITHOUT EXTRA THEORETICAL NUMBERS	125	SE,VN	1 PER MKR			
		FOR OFFICE "A" NUMBERS — WITH EXTRA THEORETICAL NUMBERS		SE,VN,PJ				
		FOR OFFICE B NUMBERS — WITHOUT EXTRA THEORETICAL NUMBERS		SE VN				
		FOR OFFICE B NUMBERS — WITH EXTRA THEORETICAL NUMBERS		SB,VN,PJ				
		WITHOUT EN OR ENI NUMBERS	149	PV,VN	1 PER MKR			
		WITH EN OR ENI NUMBERS		OZ,PV,VN				
		NOT PROVIDED		VU				
113	ROUTE TRANSLATION REQUIRED FOR LOCAL OFFICE CODES IN A FOREIGN AREA PRECEDED BY AN AREA DIRECTING CODE	11 INTER-AREA DIRECTING CODE OR LOCAL OFFICE CODE REQUIRING FOREIGN AREA TRNSL	140	RF	1 PER MKR			
		X O X / X I X (2-9)(0/1)(0-9) INTER-AREA DIRECTING CODE		RG				
114	AUTOMATIC MONITOR REGISTER AND SENDER TEST CKT PROVIDED		AI AK	TM,GU,RA		AJ	JX	
		MONITOR CALLS TO — DIAL PULSING ORIG REGISTER ONLY		RY			RY	
		MONITOR CALLS TO — 2 OR MORE ORIG REGISTER GROUPS		FS,FR			FT,FR	
		AND MARKER WORKS WITH SENDERS	AH	TY				
		INCOMING REGISTER TEST CKT — NOT PROVIDED		RB				
		INCOMING REGISTER TEST CKT — PROVIDED		RC				

102. (CONT)

PAR	FEATURE OR OPTION		COMPLETING OR COMBINED MARKER PROVIDE APP FIG.	APP OR WIRING	QUANTITY	DIAL TONE MARKER PROVIDE APP FIG.	APP OR WIRING	QUANTITY
114 (CONT)	INCOMING REG TEST CKT PROVIDED AUTOMATIC MONITOR REG AND SENDER TEST CIRCUIT NO. PROVIDED		AJ, AL			AJ		
		AND MARKER WORKS WITH SENDERS	AN					
115	MAJOR DIVISION OF CLASS OF SERVICE TREATMENT INTO TWO CLASS GROUPS		134		1 APP FIG. 134 PER MKR			
			135		1 APP FIG. 135 PER 12 PSC POINT TREATMENTS PER MKR			
116	OPERATION WITH 4 WIRE RINGING SWITCHES ONLY		AO					
	OPERATION WITH 4 AND 6 WIRE RINGING SWITCHES		AP	NF,SN				
	OPERATION WITH 6 WIRE RINGING SWITCHES ONLY		AP	NF				
117	PROGRESS AND IDENTIFICATION LAMP CONTROL		138	RZ	1 PER MKR	138		1 PER CKT
118	COMPLETION REQD DIRECTLY OR VIA TANDEM TO MANUAL OFFICES OVER STRAIGHTFORWARD TRUNKS THAT REQUIRE OMT. SENDERS AT THE ORIGINATING OFFICE AND THE OFFICE IS EQUIPPED WITH PRETRANSLATORS		143		1 PER MKR PER SDR GROUP REQD FOR SUCH COMPLETION			
119	INTERCEPT OF VACANT & DENIED CODES ON INCOMING TRUNK CALLS (INTERCEPT TRUNKS ON LINE LINK FRAME)		159, 160	MF	1 PER MKR			
120	TRUNK SERVICE OBSERVING	YES — AND 11 AREA CODES ARE USED	144, CB		1 PER MKR			
		YES		OY				
		NO	CB		1 PER MKR			
122	INTERCEPT OF UNAUTHORIZED CUSTOMER 10 DIGIT DDD DIALING		161	MR	1 PER MKR			
124	REPLACEMENT OF LIF & TLF PEGS BY MARKER PEGS			NX, LF, KB, KI			NX, KB	
	COMB MKR DP OR MF ROUTES			MS			MS	
125								
126	10 DIGIT DIALING OF LOCAL COMPLETION CALLS FOR AMA OR CAMA	REQ		FU,NZ	1 PER MKR			
		NOT REQ		NY	1 PER MKR			
127	PREVENT SCORING OF THE PLANT REGISTERS WHEN THE MARKER IS MADE BUSY			LS			LS	
128	TO PROVIDE LINE BUSY TO MR LINES ON CALLS TO BUSY FREE NUMBERS			LV				
129	WHEN DIGIT "1" ACCESS CODE SCREENING IS PROVIDED		166, 167	KG	1 PER MKR FOR PREFIX "1"			

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102. (CONT)

PAR	FEATURE OR OPTION			COMPLETING OR COMBINED MARKER PROVIDE APP FIG.	APP OR WIRING	QUANTITY	DIAL TONE MARKER PROVIDE APP FIG.	APP OR WIRING	QUANTITY
130	SHORT CYCLE GATE OPER. FOR LINE LINK MKR CONNS.	DT OR COMB MKS	REQUIRED		LZ			LZ	
			NOT REQUIRED		LY			LY	
131	WHEN ORIG REGS ARE ARRANGED TO FUNCTION WITH PUSHBUTTON SETS			165		1 PER MKR			
132	WHEN PEG COUNT DISCRIMINATION OF DP OR MF (PUSHBUTTON) ORIGINATED FACD CALLS IS REQ.				LT				
133	WHEN UNIFORM TROUBLE RECORD FEATURE (SEPARATE CHECK OF TRUNK AND SENDER TP CIRCUIT) IS PROVIDED AND WHEN ALL FOUR OF THE TWO PARTY SCREENING POINTS ARE		EMPLOYED		KN				
			NOT EMPLOYED		KL				
134	ALL U TYPE SENDERS				KJ				
	ANY W.S. TYPE SENDERS				KK				
135	WHEN PERSON TO PERSON OPERATION IS PROVIDED			166, 168	KE,KR	1 PER MKR FOR PREFIX "0"			
136	PREVENT NOB,TOB RELAY RACE ON CAMA CALLS				KO				
137	WHEN DENIED OR DIVERTED ROUTE CDRO-9 RELAYS ARE REQUIRED				KP				
138	TRUNK TRANSMISSION TESTING IN OFFICES EQUIPPED WITH THE TRUNK TEST REGISTER OR WHEN INTERTOLL TRUNKS ARE TESTED USING 10X TYPE CODES				KT				
139	TO CANCEL ACCESS "1" REQUIRED FOR SPECIAL CLASSES OF SERVICE								
140	SENDER TP INDICATION FOR PBX'S ARRANGED FOR AUTOMATIC IDENTIFIED OUTWARD DIALING	YES		169	GY				
		NO			KY				
141	TO PROVIDE PBX RECYCLE ON FIRST FAILURE TO MATCH			172	JA				
142	PAIRED LINE LINK OPERATION	YES	ALL LLFR'S PAIRED	173	JB,JH	1 PER MKR		JB,JG	
			NOT ALL LLFR'S PAIRED		JB,JI				
					JG,JF			JG,JF	
143	RECORDS OF SELECTED TRAFFIC CONDITIONS	YES		178	JJ,JK,MA				
		NO			GA				
144	TO PROVIDE A PEG COUNT REGISTER PER MARKER FOR THROUGH SWITCHED CALLS				JR				
145	SIX ORIG REG GROUPS PROV	NO			JL			JL	
		YES	20 TLF	174	JN,GS	1 PER MKR	174	JM,GR	1 PER MKR
			OVER LOAD ANNOUCEMENT PROV — NO		JO			JO	
			OVER LOAD ANNOUCEMENT PROV — YES	179	JS,JW		179	JT,JW	

DRAWING ISSUE

41D	
43B	
44B	
45B	
46D	
47D	
48D	
49D	
51D	
52A	
54D	

CIRCUIT NOTES: (CONT)

102. (CONT)

PAR.	FEATURE OR OPTION			COMPLETING OR COMBINED MARKER PROVIDE APP FIG.	APP OR WRG	QUANTITY	DIAL TONE MARKER PROVIDE APP FIG.	APP OR WRG	QUANTITY
146	CROSS DETECTION BETWEEN HUNTING AND NON-HUNTING RINGING COMBINATIONS WHEN OPTION "XR" IS PROVIDED				GB				
147	TO PROVIDE ADDITIONAL PEG COUNT LEADS TO THE MTF PLANT REGISTER				GD, GE			GE	
148	TO PREVENT FALSE GT2 FAILURE TROUBLE CARDS ON TDG CALLS DUE TO LLF SEIZURE DELAY				GF				
149	SCREENING TO SELECT DIAL OR TOUCH-TONE REVERTING TRUNKS				GH				
150	TO PROVIDE CANCEL RINGING SWITCH OPERATION FEATURE			182		1 PER MKR			
151	TO PROVIDE DIRECT-IN-DIALING TO 101 ESS ON A MULTI-LEAD ACCESS BASIS			181	GJ	1 PER MKR			
152	TRAFFIC DATA PROCESSOR PROVIDED	YES		180	GM				
			WITH PAIRED LINE LINK OPERATION BUT NOT ALL LLFR'S PAIRED		GN	1 PER MKR			
		NO			GL				
			WITH OPTION "NX"		GK				
153	PROVIDE LCB PUNCHING ON TAN SCREENING FRAME WHEN ROUTES SERVE TANDEM CALLS				GO				
154	PROTECT (VFL)(MGL)(VGL) CONTACTS 8,9T				GQ				
155	TRAFFIC SAMPLING BY AMA RECORD PROVIDED IN MKR GROUP	YES	MARKERS EQUIPPED WITH SAMPLING FEATURES	183		1 PER MKR			
			OTHER MARKERS NOT EQUIPPED WITH SAMPLING FEATURES		GX, FB				
		NO			GX				
156	ADDITIONAL SELECTION AND CONTROL RELAYS FOR GENERAL USE				FA				
157	MARKER CONTROLLED IMMEDIATE RING	YES		184	FE	1 PER MKR			
		NO			FD				
158	AUTOMATIC INTERCEPT SERVICE	YES		185, 186	FI, FG	1 EACH PER MKR			
		NO			FF, FH, FJ, FK				
159	OUTGOING TRUNKS REQUIRING TRUNK CLASS SIGNALS ON THRU SWITCH CALLS	YES			FM				
		NO			FL				
160	CALLING LINE IDENTIFICATION		TERMINATING AND INTRA OFFICE CALLS	187	FO	1 PER MKR			
		YES	IDENTIFICATION OF SUBSCRIBER ORIGINATING INTEROFFICE CALLS ALSO REQUIRED		FV				
		NO			FN				
161	IMPROVE OPERATING LIMITS OF (THK) RELAY				FX				
162	COMMON TRUNK GROUP TO TRAFFIC SERVICE POSITION SYSTEM NO. 1--COIN AND NON-COIN "0" OPERATOR, PREFIX "0" AND "1" CALLS				FZ				

102. (CONT)

PAR.	FEATURE OR OPTION			COMPLETING OR COMBINED MARKER PROVIDE APP FIG.	APP OR WRG	QUANTITY	DIAL TONE MARKER PROVIDE APP FIG.	APP OR WRG	QUANTITY
163	PBX TOLL DIVERSION	PROVIDED		188		1 PER MKR			
		WITH AMA			EC				
			DISCRIMINATION BY MESSAGE BILLING INDEX		EF				
		NOT PROVIDED			EA				
164	INCREASED TIMING RANGE FOR THE WORK TIMER, (WT TIMER)				EI			EI	
165	RINGING DISTINCTION ON INTERCEPTING TRUNKS FOR USE WITH AN ANNOUNCEMENT MACHINE	YES			EL				
		NO			EK				

103.

NETWORK VALUES		
NETWORK NO.	RESISTANCE IN OHMS	CAPACITANCE IN UF
1	150 OR 160	0.5
2	100	0.5
3	470 OR 500	0.5
4	470	0.11
5	150 OR 160	1.0
6	100	1.0
7	120	0.35

DRAWING ISSUE

51D	PH REL ANS
54D	CF REL ANS
56D	NF

MARKER CIRCUIT (2) SD-25550-01-D88

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-088

KIMBERLY

CIRCUIT NOTES:(CONT)

104.

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	IN NOTE 102, SEE PAR NO.	SEE NOTE	USE IN CIRCUIT WHERE MARKERS ARE MANUFACTURED AS: COMBINED MARKER STD	A&M	MD	SPL	COMPLETING MARKER STD	A&M	MD		DIAL TONE MARKER STD	A&M	MD	
10D	YI,YV,ZW,ZX,FIG.93,94,95 OR 96	YI,93	89	105(76)	W,ZW,ZX,FIG.93,94,95&98		YI									
	FIG. 97	FIG. 44			FIG. 44			FIG.97								
	FIG. 98	NONE	90		FIG. 96											
	FIG. E OR FIG. F	FIG. E	90,91		FIG. F		FIG. E									
	YG	NONE		105 (8)	YG											
	YH, FIG. 99	YH	93		FIG. 99		YH									
12A	ZF	NONE	78		ZF											
	WC, FIG. 102	WC			WC, FIG.102											
13B	WA, WB	WA	95		WA,WB											
	YW, YX	YW			YX		YW									
			78,89, 90, 91, 93, 95	105 (8) 105 (20)					WA,WB, WC,YG, YV,YX, ZF,ZW, ZX, FIG. F, 94,93,94, 95,96,98, 99, 102				WA, WB			
	FIG. G OR H	FIG. G	100	105 (4)	FIG. H		FIG. G		FIG. H							
	ZN, ZO, FIG. 100	ZN	94, 100	105 (4)	ZO, FIG. 100		ZN		ZO, FIG. 100							
	XB,XC,Z	YA OR NONE	1		XB,XC,Z		YA		XB, XC				Z, XC			
	XE, XF	YF OR NONE	8A		XE, XF		YF		XE, XF				XF			
			21,24, 53,82										FIG. 103, 104,105, 106			
14D	FIG. J OR K	FIG. J	22		FIG. J				FIG. J				FIG. K			
	XL OR XM	A,E,VB, XA, XG, XH, XI, XJ, XK, XL, XM, XO, XV, XX, XZ, ZD,ZH,ZJ	3, 16, 17, 58, 94, 99, 100		A,E,VC, XA,XG, XH,XI, XJ,XK, XM,XN, XO,XW, XY,XZ, ZD,ZH,ZJ		VB,XL, XV,XX		XA,XG, XH,XI, XJ,XK, XM,XO, XW,XY, XZ,ZD				A,E,VC, XD,XG, XH,XI, XJ,XK, XN,XO, XU,XZ, ZD			
	WD, WE	WD			WE		WD		WE							
	WF, WG	WF			WG		WF		WG				WG			
	WH, WI	WH			WI		WH		WI				WI			
	WJ, WK	WJ			WK		WJ		WK				WK			
	WL, WM	WL			WM		WL		WM				WM			
	WN, WO	WN			WO		WN		WO							
	WP, WQ	WP			WQ		WP		WQ				WQ			
	WR, WS	WR			WS		WR		WS				WS			
	WT, WU	WT			WU		WT		WU				WU			
	WV, WW	WV			WW		WV		WW							
	WX, WY	WX			WY		WX		WY							
	WZ, YA	WZ			YA		WZ		YA				YA			
15A	XP	XP			XP				XP							
16A	UX OR UY	UX			UY		UX		UY		UX					
	VD, VE, FIG.107	VD	101		VE, FIG. 107		VD		VE, FIG.107		VD		VE, FIG.107		VD	
	XT	NONE		105(6,7,	XT				XT							
	UQ, UR	UQ			UR		UQ		UR		UQ					
17D	FIG. L OR M	FIG. L	102		FIG. M		FIG. L		FIG. M		FIG. L					
	WC, UE	WC	98		UE		WC		UE		WC					
	FIG. U OR T	FIG. T	107	105(5)	FIG. U		FIG. T		FIG. U		FIG.T					
	FIG.102 OR 109	FIG.103	97		FIG.109		FIG.102		FIG.109		FIG.102					
	VZ	NONE		105(5)	VZ				VZ							

104. (CONT)

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	IN NOTE 102, SEE PAR	SEE NOTE	USE IN CIRCUITS WHERE MARKERS ARE MANUFACTURED AS: COMBINED MARKER STD	A&M	MD		COMPLETING MARKER STD	A&M	MD		DIAL TONE MARKER STD	A&M	MD	
18B	XP,XQ,XR, XS	XP,XQ,XS			XR		XP, XQ		XR		XP, XQ		XS			
	ZB	NONE			ZB				ZB							
	VF,VG	VF	72	105(7)	VG	VF			VG	VF						
	VH,VI	VH			VI		VH		VI		VH					
	FIG. N OR O	FIG. N			FIG. O		FIG. N		FIG. O		FIG. N		FIG. O		FIG. N	
	UA,UB	UA			UB		UA		UB		UA					
*	YY,YZ	YY			YZ		YY		YZ		YY		YZ		YY	
	UC,UD	UC			UD		UC		UD		UC					
	VX,VY	VX			VY		VX		VY		VX		VY		VX	
	FIG. P OR Q	FIG. P			FIG. Q		FIG. P		FIG. O		FIG. P		FIG. O		FIG. P	
	FIG. 48 OR 108	FIG. 48	50		FIG.108		FIG. 48		FIG.108		FIG. 48					
	UG,UH	UG	100		UH		UG		UH		UG					
	UI,UJ	UI			UJ		UI		UJ		UI					
	UK,UL	UK & FIG. Z			UL		UK,YD, FIG. Z		UL		UK,YD, FIG. Z		UL		UK, YD	
	UT,US	US			UT		US		UT		US					
	UU,UV	UU			UV		UU		UV		UU					
	UW	NONE	105		UW				UW							
	FIG. V OR W	FIG. V			FIG. W		FIG. V		FIG. W		FIG. V					
	UO,UP, TA,TB	UO,TA			UP,TB		UO,TA		UP,TB		UO,TA		UP		UO	
	TC,TD	TC			TD		TC		TD		TC		TD		TC	
	TJ,TI, RV,FIG.AA OR AB	TI,RV FIG. AA			TJ, FIG. AB		TI, FIG.AA		TJ, FIG. AB		TI, FIG. AA		RV			
	UZ	NONE	104		UZ				UZ				UZ			
			80		FIG. 87				FIG. 87							
	TK,TL	TK			TL		TK						TL		TK	
	TM,FIG.AC	FIG. AC	114		TM		FIG.AC		TM		FIG.AC					
	TO,TP	TO		105(25)	TP		TO		TP		TO					
	FIG. AD OR AE	FIG. AD		105(8)	FIG.AE		FIG.AD		FIG. AE		FIG. AD		FIG. AE		FIG. AD	
	FIG. 40,41, 116 OR 117	FIG. 41	36, 37		FIG. 116 & 117		FIG. 40 & 41		FIG. 116 & 117		FIG. 40 & 41					
19D	FIG. 110, 111, 112, 113	NONE	107		FIG. 110, 111, 112, 113				FIG. 110, 111, 112, 113							
	VJ, VK, VL, VM, VO, VP, VQ, VV, VR, VS, VT, VW	VJ, VK, VL, VM, VO, VP			VO, VR, VS, VT, VV, VW		VJ, VK, VL, VM, VO, VP		VO, VR, VS, VT, VV, VW		VJ, VK, VL, VM, VO, VP		VO, VR, VS, VT, VV, VW		VJ, VK, VL, VM, VO, VP	
	ZL OR FIG. 114	ZL	103		ZL, FIG. 114				ZL, FIG. 114							
	FIG. 115	NONE	108		FIG. 115				FIG. 115							
	TG, TH	TG	106		TG, TH				TG, TH							
	SO, UF, UM, UN	UM	107		SO, UF, UM, UN				SO, UF, UM, UN							
	TS OR TT	TS		105(11) 105(28)	TT		TS		TT		TS					
21B	YZ	NONE							YZ							
	SA, QT*	SA		101(A)	QT*		SA		QT*		SA		QT*		SA	
23B	TV, TW	TV	100	105(74)	TW		TV		TW		TV					
	FIG. AF	FIG. N OR O			FIG. AF		FIG. O		FIG. AF		FIG. O		FIG. AF		FIG. O	
	FIG. 143	NONE	118		FIG. 143				FIG. 143							
	RI, RN	RN			RI		RN		RI		RN		RI		RN	
	RJ, RK	RJ			RK		RJ		RK		RJ					
	SC, SD	SC	34, 64	105(10)	SD		SC		SD		SC					
	RD, RE	RD		105(12)	RE		RD		RE		RD					

* THIS IS A FALSE OPTION

DRAWING ISSUE

41D	4-24	
51D	10-1	PH
54D	10-1	C.F.
55A	N.F.	

MARKER CIRCUIT ②

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CIRCUIT NOTES (CONT)

104. (CONT)

RECORD OF APPARATUS FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JCB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	IN NOTE 102, SEE PAR NO.	SEE NOTE	USE IN CIRCUITS WHERE MARKERS ARE MANUFACTURED AS: COMBINED MARKER STD	COMBINED MARKER A&M	COMBINED MARKER MD	COMPLETING MARKER STD	COMPLETING MARKER A&M	COMPLETING MARKER MD	DIAL TONE MARKER STD	DIAL TONE MARKER A&M	DIAL TONE MARKER MD
	APP FIG. AG OR AH	APP FIG. AG		102(21)	APP FIG. AH		APP FIG. AG	APP FIG. AH		APP FIG. AG	APP FIG. AH		APP FIG. AG
	QO,QV	QO			QV		QO	QV		QO	QV		QO
	QM	NONE			QM			QM			QM		
	QF,QE	QE			QF		QE	QF		QE			
	QJ,QK	QJ		101(A)	QK		QJ	QK		QJ	QK		QJ
	SP,SQ	SP			SQ		SP	SQ		SP			
	SR,SS	SR		105(13)	SS		SR	SS		SR			
	QP,QR	QP		101(A) 102(14)	QR		QP	QR		QP			
	SN	NONE	116			SN			SM				
	RA,RB,RC, RY,TX,TY, APP FIG. AI OR AJ	RA,RB,RY, TX, APP FIG. AI	114		RA,RB,RC, RY,TY, APP FIG. AI,AJ		TX	RA,RB,RC, TY,TY, APP FIG. AI,AJ		TX	RV APP FIG. AJ		
23B	APP FIG. AK,AL	APP FIG. AK	114		APP FIG. AK,AL			APP FIG. AK,AL					
	APP FIG. AM OR AN	APP FIG. AM	114		APP FIG. AM,AN			APP FIG. AM,AN					
	RL OR RM	RL		105(14)	RM		RL	RM		RL			
	QW	NONE			QW			QW			QW		
	APP FIG. AO OR AP	APP FIG. AO	116		APP FIG. AP	APP FIG. AO		APP FIG. AP	APP FIG. AO				
	SI,SJ,SV, SW	SV			SI,SJ,SV		SV	SJ,SW		SV	SI,SJ,SV		SV
	SK,SL	SK			SL		SK	SL		SK			
	RW,RX	RW		105(39)	RX		RW	RX		RW			
	SM	NONE			SM			SM					
	RT,RU	RT			RU		RT	RU		RT			
	QX	NONE		221	QX			QX			QX		
	QL	NONE			QL			QL					
	SF,SG	SF			SG		SF	SG		SF			
	SH	NONE			SH			SH			SH		
	SY,SZ	SY			SZ		SY	SZ		SY			
	TE,TF	TE	109		TE,TF			TE,TF					
	TN	NONE		105(17)	TN			TN			TN		
	VN,SB,SE VU, APP FIG.125	VU	112		VU,SF,SE VN,APP FIG.125			VN,VU,SB, SE,APP FIG.125					
	ST,QS*	ST		102(15)	ST,QS*			ST,QS*					
	RR,RS	RR			RS		RR	RS		RR			
	APP FIG. AQ OR AR	APP FIG. AQ			APP FIG. AR		APP FIG. AQ	APP FIG. AR		APP FIG. AQ			
	RELAYS				U188 U1273 Y311		U1199 U901 Y188	U188 U1273 Y311		U1199 U901 Y188	U188 U1273 Y311		U1199 U901 Y188
24D	TO,TR,QU, APP FIG. 118, 119, 120,121, 122,137	QU	70	102(10)	TO,TR,QU, APP FIG. 118, 119, 120,121 122,137			TO,TR,QU, APP FIG. 118, 119, 120,121 122,137					
	RP,RQ	RP			RQ		RP	RQ		RP			
	RN,RO	RN			RO		RN	RO		RN			
	APP FIG. 123,124	NONE	110		APP FIG. 123,124			APP FIG. 123,124					
	QH,QI	QH			QI		QH	QI		QH			
	RF,RG, APP FIG. 140	NONE	113		RF,RG, APP FIG. 140			RF,RG, APP FIG. 140					
	QC,QD	QC			QD		QC	QD		QC	QD		QC
	RZ, APP FIG.138	NONE	117	105(11) 105(35)	RZ,APP FIG. 138			RZ,APP FIG.138			APP FIG. 138		
	SX,SU	SX	50		SX,SU			SX,SU					
			111		APP FIG 142			APP FIG. 142					
	QH,QC	QH		101(A)	QC		QH	QC		QH	QC		QH
			115		APP FIG. 134,135			APP FIG 134,135					
25D	QA,QB,QE, APP FIG. AS & AT	QA, APP FIG. AS		109	QA, APP FIG. AS	QB,QG, APP FIG. AT		QA					

*THIS IS A FALSE OPTION

104. (CONT)

RECORD OF APPARATUS FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JCB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	IN NOTE 102, SEE PAR NO.	SEE NOTE	USE IN CIRCUIT WHERE MARKERS ARE MANUFACTURED AS: COMBINED MARKER STD	COMBINED MARKER A&M	COMBINED MARKER MD	COMPLETING MARKER STD	COMPLETING MARKER A&M	COMPLETING MARKER MD	DIAL TONE MARKER STD	DIAL TONE MARKER A&M	DIAL TONE MARKER MD
	PL	NONE	107		PL			PL					
	PM,PN	PM			PN		PM	PN		PM			
	PQ,PR	PQ			PR		PQ	PR		PQ			
	PS,PT	PS			PT		PS	PT		PS			
	QY,QZ	QY			QZ		QY	QZ		QY			
26B	APP FIG. AX OR AW	APP FIG. AW			APP FIG. AX		APP FIG. AW	APP FIG. AX		APP FIG. AW			
	PU,PV	PU			PV		PU	PV		PU			
	PW,PX	PW			PX		PW	PX		PW	PX		PW
	PY,PZ	PY			PZ		PY	PZ		PY	PZ		PY
	CA,OB	CA		105(18)	OB		OA	OB		OA	OB		OA
	PA,PB	PA			PB		PA	PB		PA			
27D	PC,PD,PE, PF,PG,PH, PI,PJ	NONE	43,58, 67,89, 112		PC,PD, PE,PF, PG,PH, PI,PJ			PC,PD, PE,PF, PG,PH, PI,PJ					
	PO,PP	YG OR NONE	107		PO,PP		YG	PO,PP		YG			
	PK,APP FIG. AU,AV, 126	PK,APP FIG. AU, 65	67		APP FIG. 126,AV	PK,APP FIG. AU, 65		APP FIG. 126,AV	PK,APP FIG. AU, 65				
	ZS	NONE	58,67 89			ZS			ZS				
	OC	NONE		105(21)			OC			OC			
	OD,ON	OD		101(A) 105(23)	ON		OD	ON		OD	ON		OD
	OE,OF	OE			OF		OE	OF		OE	OE		
	APP FIG. AY, AZ	APP FIG. AY	82		APP FIG. AZ		APP FIG. AY	APP FIG. AZ		APP FIG. AY			
	OO,OP	OO			OP		OO,UV	OP		OO,UV			
28B	OQ OR APP FIG. BA, BB	OQ & APP FIG. BA,OQ, OR NONE	70	105(22)	OQ OR APP FIG. BB		APP FIG. BA	OQ OR APP FIG. BB		APP FIG. BB			
	OI,OJ	OI			OJ		OI	OJ		OI			
	OS,OT	OS			OT		OS	OT		OS	OT		OS
	OU OR OV APP FIG. BE OR BF	OU & APP FIG. BE			OV APP FIG. BF		OU APP FIG. BE	OV APP FIG. BF		OU APP FIG. BE			
	ST,QS*	ST			ST		QS*	ST		QS*			
	NETWORKS				177A,C, D,E,F,G, H OR J		181A,C, D,E,F,G, H OR J	177A,C, D,E,F,G, H OR J		181A,C, D,E,F,G, H OR J	177A,C, D,E,F,G, H OR J		181A,C, D,E,F,G, H OR J
	OG,OH	OG			OH		OG	OH		OG	OH		
	OK,OL	OK			OL		OK	OL		OK			
	APP FIG. BC OR BD	APP FIG. BC	39	105(25)	APP FIG. BD		APP FIG. BC	APP FIG. BD		APP FIG. BC			
	APP FIG. BG OR BH	APP FIG. BG OR NONE	70	105(24) (60)	APP FIG. BH		APP FIG. BG	APP FIG. BH		APP FIG. BG			
	APP FIG. BI OR BJ	APP FIG. BI		105(22)	APP FIG. BJ		APP FIG. BI	APP FIG. BJ		APP FIG. BI	APP FIG. BI		
	OW,OX	NONE		105(22)	OX		OW	OX		OW			
29D	OY	YJ OR NONE	120		OY			OY					
	APP FIG. 146	NONE	120		APP FIG 144			APP FIG. 146					
	OH	XT,VF, VG OR NONE		105(24)	OH		XT,VF, VG	OH		XT,VF, VG			
	APP FIG. 145 OR 146	APP FIG. 145 OR 148	107		APP FIG. 145,148			APP FIG 145,148					
	NA,NB	NA			NB		NA	NB		NA			
	APP FIG. 67	APP FIG. 44					APP FIG. 97						

THIS IS A FALSE OPTION

DRAWING ISSUE: 4D, 4SB, 49D

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CIRCUIT NOTES (CONT)

104. (CONT)

RECORD OF APPARATUS FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	IN NOTE 102 SEE PAR NO.	SEE NOTE	COMBINED MARKER STD	COMBINED MARKER A&M	COMBINED MARKER MD	COMPLETING MARKER STD	COMPLETING MARKER A&M	COMPLETING MARKER MD	DIAL TONE MARKER STD	DIAL TONE MARKER A&M	DIAL TONE MARKER MD
31D	APP FIG. BK,BL,BM, BN,147,148, 62	APP FIG. 62,BK OR APP FIG. BL, BM	34,64	105 (27), (74)	APP FIG. BK, 147, 148	APP FIG. 62	APP FIG. BK, BL, BM	APP FIG. BK 147,148	APP FIG. 62	APP FIG. BK, BL, BM			
	D,ND	D OR NONE	34	105 (26)	ND	D		ND	D				
	OZ, APP FIG. 149	VU OR APP FIG. 125	112	105 (27)	OZ & APP FIG. 149	APP FIG. 125		OZ & APP FIG. 149	APP FIG. 125				
32D	NJ,NK	NJ			NK		NJ	NK		NJ			
	APP FIG. BT, BU, BV	NONE	34		APP FIG. BU, BV	APP FIG. BT		APP FIG. BU, BV	APP FIG. BT				
33B	NE,NF	NE,TO OR TP		105 (29), 108	NF		TP,NE	NF		TP,NE			
	NG,NH	NG			NH		NG				NH		NG
	NI	NONE		105(30)	NI			NI					
	APP FIG. BO OR BP	APP FIG. BO		105 (31)	APP FIG. BP		APP FIG. BO	APP FIG. BP		APP FIG. BO			
	NR,NS	NR		105(32)	NS		NR	NS		NR			
	APP FIG. CA OR CB	APP FIG. CA	120	105 (36)	APP FIG. CB		APP FIG. CA	APP FIG. CB		APP FIG. CA			
34D	APP FIG. BW, BX, OR BY	APP FIG. BW		105 (32)	APP FIG. BY		APP FIG. BW	APP FIG. BX		APP FIG. BW	APP FIG. BW	✓	
35D	APP FIG. 152 OR 153	APP FIG. 152		105 (33)	APP FIG. 153		APP FIG. 152	APP FIG. 153		APP FIG. 152			
	NC	NONE	58		NC			NC					
	APP FIG. 150, 151, 154, 155; APP FIG. BQ	APP FIG. 150	58,89	105 (34)	APP FIG. 150, 151, 154, 155	APP FIG. BQ		APP FIG. 150, 151, 154, 155	APP FIG. BQ				
	NL,NM	NL	58		NL,NM			NL,NM					
	APP FIG. BR OR BS	APP FIG. BR OR NONE	78	105 (33,34)	APP FIG. BS		APP FIG. BR	APP FIG. BS		APP FIG. BR			
	NN,NO	NN	58	105(33)	NO		NN	NO		NN			
	NT	NONE	58		NT			NT					
37B	NU,NV	NU		105(37)	NV		NU	NV		NU			
	APP FIG. CC OR CD	APP FIG. CC			APP FIG. CD		APP FIG. CC	APP FIG. CD		APP FIG. CC	APP FIG. CD		APP FIG. CC
	MB	NONE		105(35)		MB			MB				
	MM,MN	MM			MN		MM	MN		MM			
38D	NW,NX,MC, MA,MO	NW	124	105 (39) (49)	NX,MA, MO		NW,MC	NX,MA, MO		NW, MC	NX,MA, MO		NW, MC
	MS	NONE	124	105(39)	MS								
	NY,NZ	NY	126		NY,NZ			NY,NZ					
			32	105 (41) (60)	APP FIG. 155			APP FIG. 156					
					APP FIG. 158			APP FIG. 158					
	MH OR MI	MH			MI		MH	MI		MH			
	MJ OR MK	MJ			MJ,MK			MJ,MK					
	ML OR MP	NONE			ML,MP			ML,MP					
	ME, MF APP FIG. 159, 160	ME	119		MF APP FIG. 159, 160		ME	MF APP FIG 159, 160		ME			
	MQ,MR	MQ	122		MR		MQ	MR		MQ			
					APP FIG. 161			APP FIG. 161					

104. (CONT)

RECORD OF APPARATUS FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	IN NOTE 102 SEE PAR NO.	SEE NOTE	USE IN CIRCUIT WHERE MARKERS ARE MANUFACTURED AS: COMBINED MARKER STD	COMBINED MARKER A&M	COMBINED MARKER MD	COMPLETING MARKER STD	COMPLETING MARKER A&M	COMPLETING MARKER MD	DIAL TONE MARKER STD	DIAL TONE MARKER A&M	DIAL TONE MARKER MD
39B	MV OR MW	MV		105(45)	MW		MV	MW		MV	MV		MV
	MT,MU	MT OR NONE		105 (43)	MU		MT	MU		MT	MU		MT
	APP FIG. CH OR CI OR NONE	APP FIG. CH		105 (42)	APP FIG. CI		APP FIG. CH	APP FIG. CI		APP FIG. CH			
	MX,MY	MX		105(44)	MY		MX	MX			MY		MX
40B	LE,LF*	LE	124	105(46)	LF*		LE	LF*		LE			
	LG,LH	LG		105(46)	LH		LG	LH		LG			
	LI,LJ	LJ		105(47)	LJ	LI		LJ	LI				
	SH,LK OR NONE	SM OR NONE		108	LK		SM	LK		SM			
42D	APP FIG. 162,163 164	NONE	58		APP FIG. 162,163 164			APP FIG. 162,163 164					
43B	LO,LP	LO		105(49)	LP		LO	LP		LO			
	LQ	NONE		105(50)	LQ			LQ					
44B	LR,LS	LR	127		LS		LR	LS		LR	LS		LR
45B			131		APP FIG. 165			APP FIG. 165					
	LT	NONE	132	105(52)	LT			LT					
	LU,LV	LU	128		LV		LU	LV		LU			
	LW,LX	LW OR NONE	14		LW,LX			LW,LX					
			129		APP FIGS. 166,167			APP FIGS. 166,167					
	LY,LZ	LY	130		LY,LZ			LY			LY,LZ		
	KA	NONE	14		KA			KA					
46D	KB	NONE	124		KB						KB		
	KC	NONE		105(54)	KC			KC					
	KD,KE	YL,KD OR NONE	135		APP FIG. 168,KD,KE			APP FIG. 168,KD,KE					
	KF,KG	KF OR NONE	129	105(55) 101.A	KG		KF	KG		KF			
	KH,KI	KH OR NONE	124	109	KI		KH	KI		KH			
	KJ,KK	KJ OR NONE	134		KK		KJ	KK		KJ			
	KL,KM	KL OR NONE	133		KL,KM			KL,KM					
	KN,KO	KN	136		KO		KN	KO		KN			
	KP	APP FIG. 156 OR NONE	137		KP			KP					
	KQ	NONE		105 (56)	KQ			KQ					
47D	KR	NONE	(58) (135)		KR			KR					
	KS	KE		111			KS			KS			
	KT	NONE	138		KT			KT					
	KU	NONE	139		KU			KU					
	KV,KW	KV		101(A)	KW		KV	KW		KV			
	KX	NONE		101(E) 105 (57)	KX			KX					
	169, KY	KY	140	105 (60)	KY,169			KY,169					
	170	NONE	44	105 (58)	170			170					
	171	BB		105 (22)(59)	171		BB	171		BB			
48D	KZ,JA 172	KZ		105 (69),(74)	JA 172		KZ	JA 172		KZ			

*THIS IS A FALSE OPTION

DRAWING ISSUE

41D	G.F. A.W.W.
42D	A.D. M.S.
43B	P.T. H.M.
44B	D.D. R.C. E.M.
45B	W.C.
46D	S.S.W. G.L.M. A.H.D.
47D	W.M.D. C.L.K. A.H.D.
48D	M.D. L.W. A.H.D.
49D	J.A.S. D.D.L. A.H.D.
51D	P.S.H. M.S. A.H.D.
54D	C.F. R.E.L. A.H.D.

MARKER CIRCUIT

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CIRCUIT NOTES: (CONT)

104. (CONT)

RECORD OF APPARATUS FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	IN NOTE 102 SEE PAR NO.	SEE NOTE	USED IN CIRCUIT WHERE MARKERS ARE MANUFACTURED AS: COMBINED MARKER STD	COMBINED MARKER A&M	COMBINED MARKER MD	COMPLETING MARKER STD	COMPLETING MARKER A&M	COMPLETING MARKER MD	DIAL TONE MARKER STD	DIAL TONE MARKER A&M	DIAL TONE MARKER MD
	JC FIG. 177	NONE	11		177						JC, 177		
	FIG. 176	NONE	11		176			176					
	JD, JE FIG. 175	JD	11		JD, JE 175			JD, JE 175					
	FIG. 173	NONE	142		173			173					
	JB, JF	JF	142	105 (63) 114	JB, JF			JB, JF			JB, JF		
	JH, JI JG	JH, JG	142		JH, JI JG			JH, JI JG			JG		
49D	JJ, JK FIG. 178	NONE	143	105(62)	JJ, JK 178		GA	JJ, JK 178		GA			
	JL, JM JN, JO FIG. 174	JL OR NONE	145	105(65) (73) 113	JL, JN JO 174						JL, JM JO 174		
	JQ, JR	JQ	144	105(64) 112	JR		JQ	JR		JQ			JQ
	JS, JT, JU FIG. 179	JU OR NONE	145		JU, JS 179						JU, JT 179		
	JV, JW	JV, OR NONE	145		JW		JV				JW		JV
	JP, JX	JP OR NONE	114								JX		JP
	JY	NONE		105(63, 73)	JY			JY			JY		
	JZ	JZ					JZ			JZ			JZ
	GB, GT	GT	146		GB		GT	GB		GT			
	GC, GD	GC	147	105 (66)	GD		GC	GD		GC			
	GE	NONE			GE						GE		
	GF	NONE	148	105(74)	GF			GF					
	GG	NONE		105 (67)	GG			GG					
51D	GH	NONE	149	105 (68)	GH			GH					
	FIG 182	NONE	150	105 (69), (74)	182			182					
	GJ FIG. 181	NONE	151		GJ 181			GJ 181					
	GK, GL GM, GN FIG. 180	GL WITH GK, JR OR NONE	152	115	GM GN GK 180		GL JR	GM GN GK 180		GL JR			
	GO	NONE	153	105 (70)	GO			GO					
	GP, GQ	GP	154		GQ		GP	GQ		GP			
	GU	JX, JP OR NONE	114		GU								
52A	GR, GS	NONE	145		GS						GR		
	GV	NONE	58		GV			GV					
	GX, FB FIG. 183	GX	155	105(71) (81)	GX, FB FIG. 183			GX, FB FIG. 183					
	GZ, FA	GZ	156		FA		GZ	FA		GZ			
	GW	FC OR NONE	70	105(77)	GH		FC	GW		FC			
	GY	NONE	140		GY			GY					
	FIG. 184 FD, FE	FD	157	105 (72)	FE FD FIG. 184			FE FD FIG. 184			FD		
	FIG. 185 FE, FG	FE	158	105 (74)	FF FG FIG. 185			FF FG FIG. 185					
54D	FIG. 186 FH, FI	FH	158	105 (74)	FH FI FIG. 186			FH FI FIG. 186					
	FJ	FJ & FIG. 8N OR NONE	158	116	FJ			FJ					
	FK	FK & NI OR NONE	158	117	FK			FX					
	FL FM	NONE	159	118	FL FN			FL FM					
	FN FO FP FIG. 187	FN	160	105 (75)	FN FO FP FIG. 187			FN FO FP FIG. 187					
	FQ, FR FS, FT	NONE	114	119	FR, FS						FR, FT		FQ
	FU	NONE	122		FU			FU					
	FV	NONE	160		FV			FV					

104. (CONT)

RECORD OF APPARATUS FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISSUE	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	IN NOTE 102 SEE PAR NO.	SEE NOTE	USED IN CIRCUIT WHERE MARKERS ARE MANUFACTURED AS: COMBINED MARKER STD	COMBINED MARKER A&M	COMBINED MARKER MD	COMPLETING MARKER STD	COMPLETING MARKER A&M	COMPLETING MARKER MD	DIAL TONE MARKER STD	DIAL TONE MARKER A&M	DIAL TONE MARKER MD
56D	FX, FW	FW			FX		FW	FX		FW			
	FY, FZ	FY WITH KE OR NONE	162	120	FZ		FY	FZ		FY			
	188, EA, EC	EA	163	105(78)	188, EA, EC			188, EA, EC					
	EE, ED	ED OR NONE	58	105(79)	EE		ED	EE		ED			
	EB	EB OR NONE		105(78), 121	EB			EB					
	EF	NONE	163	105(79)	EF			EF					
	189	NONE		105(80)	189			189					
	EG, EH	EG OR NONE	61		EH		EG	EH		EG			
	EI	VW OR VP	164		EI		VW	EI		VW	EI		VW
	EJ	NONE	11					EJ					
	EK, EL	EK	165		EK, EL			EK, EL					

ISSUE

49D	BAL	AAD	
51D	PH	ABS	AAC
52A	JBS	ABS	AAC
53A	C-S	ALL	AAD
54D	C-S	ALL	AAD
56D	N.F.		

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-D11B

SD-25550-01-D11B

STANDARD

105. COORDINATING OPTIONS FOR THE MARKER

PAR. NO.	MKR ISS	FEATURE	COMB. OR COMPL MKR FURNISH		DIAL TONE MKR FURNISH	
			APP FIG.	APP OR WIR	APP FIG.	APP OR WIR
1	1	FOR ALL CTTER OPERATION USE RELAYS (FC1C-1G), (FC2O) & HIGHER		ZU		ZU
		FOR OTHER (FC-) RELAYS		ZT		ZT
2	12A	RELAYS DESIGNATED 18G WERE INC. PRIOR TO THE 2ND QUARTER OF 1969				
3	14C	THE CS(O-29) LEADS ASSOCIATED WITH APPARATUS FIGURE 12, 14 & 16 TO THE LINE, LINE LINK & CONNECTOR CIRCUIT AND TO THE MASTER TEST FRAME CONNECTOR CIRCUIT MAY BE OMITTED FROM THE NON-SPECIAL MARKERS, WHEN ZC OPTION IS OMITTED BUT MUST ALWAYS BE PROVIDED FOR THE SPECIAL MARKERS FOR USE BY THE MASTER TEST CONTROL CIRCUIT FOR LINE VERIFICATION TESTS				
4		GROUND START COIN LINES	H	ZO		
5	17C	TO PROVIDE ALTERNATE ROUTING ON TANDEM CALLS		VZ		
6		WHEN MARKERS ARE WIRED WITH VG OPTION, CONTROLS THE RELEASE OF PCI SENDERS		XT		
7	19B	OUTGOING PCI SENDER GROUP RELEASE CIRCUIT PROVIDED. CONTROLS THE RELEASE OF SENDERS STUCK IN "AWAITING ASSIGNMENT"		VG, XT		
8		TO PREVENT FALSE WORK TIME-OUTS ON SHORT FRAME DELAYS MODIFY APPARATUS FIGURE AC IN ACCORDANCE WITH	AE		AE	
9		PRIOR TO ISSUE 23B COMBINED OR COMPLETING MARKERS ARRANGED FOR TANDEM SCREENING WERE EQUIPPED PER APPARATUS FIGURE U AND YG OPTION	U	YG		
10		APPARATUS FIGURE 11E & 12C SHALL BE ASSOCIATED WITH THE GROUND SUPPLY WHICH CONTAINS THE ASSOCIATED ROUTE RELAY	11G, 12O			
11	23B	FURNISH THE TT OPTION IN MARKERS MANUFACTURED PRIOR TO ISSUE 19D, WHEN LINES OF MORE THAN ONE PBX ARE TO APPEAR IN A TENS BLOCK		TT		
12		WHERE WIRE SPRING NUMBER GROUP FRAMES OR WIRE SPRING LINE LINK FRAMES ARE PROVIDED, PREVENTS A FALSE RELEASE ON NO-TEST CALLS		RE		
13		IF THE AUTOMATIC MONITOR, REGISTER & SENDER TEST CKT IS USED FOR TESTING SOME TYPES OF SENDERS & THE SENDER TEST CKT IS USED FOR TESTING OTHER TYPES OF SENDERS		SS		
14		SE OPTION IS PROVIDED. PREVENTS TROUBLE RECORDS WHEN WRONG NUMERICAL DIGITS ARE DIALED ON A RINGER TEST CALL		OR		
		RM AND OR OPTIONS ARE PROVIDED. PREVENTS THE MARKERS BLOCKING ON PHYSICAL-THEORETICAL MISMATCH TO A PBX NUMBER		SD		
15		ST OPTION WAS FORMERLY PART OF XA OPTION		ST		
16	24D	WHEN PBX ALLOTTING FEATURE IS ADDED TO MARKERS MANUFACTURED PRIOR TO ISSUE 24D, APPARATUS FIGURE 13B MUST BE PROVIDED	13B		13B	
17		WHEN THE AUTO PROGRESSION TRUNK TEST CIRCUIT IS ADDED		TN		TN
18	25B	WHEN MARKERS WIRED WITH CB OPTION TO INCREASE VOLTAGE FOR (CON) TEST ARE ADDED TO AN EXISTING OFFICE, ALL OTHER U-TYPE MARKERS IN THE OFFICE MUST ALSO BE FURNISHED WITH:		CB		CB
19	27D	WHEN WIRE SPRING LINE LINK MARKER CONNECTORS ARE ADDED TO EXISTING OFFICES EQUIPPED WITH U-TYPE MARKER CONNECTORS, THE WIRE SPRING MARKER CONNECTORS SHALL BE CROSS-CONNECTED INTO THE PREFERENCE CHAIN TO FOLLOW THE PATTERN SPECIFIED IN THE MARKER CONNECTOR CIRCUIT NOTES FOR PREFERENCE ASSIGNMENT				
20		NO COMPLETING OR DIAL TONE MARKERS WERE MANUFACTURED PRIOR TO ISSUE 19D. THE (STD) OPTIONS LISTED FOR SUCH MARKERS WERE CREATED ON THE PREVIOUS ISSUES FOR THE COMBINED MARKER				
21	28B	WHEN UJ OPTION IS FURNISHED WITH APPARATUS FIGURE E, PROVIDES FOR OPERATION OF THE (MSO) RELAY ON REVERTIVE OR RINGER TEST CALLS		CC		
22		WHEN OUTGOING SENDERS REQUIRE CL- LEAD INFORMATION THRU WIRE SPRING OUTGOING SENDER CONNECTORS PREVENTS XT5 FAILURES	BB	OR		
23		WHEN WIRE SPRING LINE LINK SUPPLEMENTARY FRAMES ARE ADDED		ON		
24	29D	OUTGOING SENDER GROUP RELEASE CIRCUIT OR OUTGOING PCI SENDER GROUP RELEASE CIRCUIT PROVIDED. CONTROLS THE RELEASE OF SENDERS ON STUCK SENDER TIMING WHEN ALL SENDERS IN THE GROUP BECOME BUSY		OM		
25		TRUNK SERVICE OBSERVING PROVIDED	BD, BH,BJ	CX		
26	31D	WHEN MARKERS ARE EQUIPPED WITH APPARATUS FIGURE BK OR BL SERVING TWO NUMBER SERIES		C		
27		APPARATUS FIGURES 32 & 42B RATED (A&M ONLY) ON MARKERS MANUFACTURED PRIOR TO ISSUE 31D ARE TO BE RATED (NPR DICO) AS PER ISSUE 31C AND SUBSEQUENT ISSUES	62, 12B			
28	33B	MARKERS MANUFACTURED PRIOR TO ISSUE 33B SHOULD BE FURNISHED WITH NS OPTION & APPARATUS FIGURE BJ TO PREVENT NON-PRODUCTIVE TROUBLE RECORDS ON 10 OR 20 TRUNK LINK FRAME SIZE JOBS ON INTRA-OFFICE TERMINAL HUNTING CALLS WHERE BOTH A LINE LINK FRAME LINE BUSY AND A FAILURE TO MATCH OCCUR	BJ	NS		
29		REMOVE "TC" OPTION FROM MARKERS EQUIPPED WITH:		NF		
30		NI OPTION IS PROVIDED. PREVENTS NON PRODUCTIVE TROUBLE RECORDS ON RINGER TEST CALLS WHERE THE DIALED DIGITS REPRESENT A BLANK NUMBER		SD		
31		WHEN MARKERS ARE EQUIPPED WITH APPARATUS FIGURE BR REMOVES THE PSR TROUBLE RECORD PUNCH	AH			
32	34D	WHEN THE "SAMPLE CHANNEL PEG COUNT" FEATURE IS ADDED TO COMBINED OR COMPLETING MARKERS MANUFACTURED PRIOR TO ISSUE 34B				
		COMPLETING MARKER	BX			
		COMBINED MARKER	BY			
33	35D	WHEN OFFICE IS A CAMA CENTER	BS			
34		WHEN CAMA FACILITIES ARE FURNISHED FOR THE LOCAL OFFICE AT A DISTANT POINT		NO		
35		WHEN MARKERS ARE EQUIPPED WITH APPARATUS FIGURE ME AND OFFICE IS A CAMA CENTER	BQ			
36	37B	WHEN MARKERS ARE EQUIPPED WITH APPARATUS FIGURE BI AND WHERE APPARATUS FIGURE EH IS ADDED FOR AMA		MB		
37		TRUNK SERVICE OBSERVING FEATURES OF TEST CIRCUITS ARRANGED TO WORK WITH WIRE SPRING MARKERS	CB			
38		WHEN WIRE SPRING TRUNK LINK CONNECTORS ARE ADDED, PREVENTS A FALSE RELEASE ON A NO-TEST CALL		MV		
39	38D	COIN ZONE DIALING	M			
		NX AND MS OPTIONS PROVIDED FOR REPLACEMENT OF LINE LINK FRAME AND TRUNK LINK FRAME, FRAME PEGS BY MARKER PEGS	SE SERVING DT OR HF ROUTE	MA,MO RX		MA,MO RX
41		FOR UNIFORM TROUBLE RECORDS WHERE MARKERS ARE ARRANGED FOR SEPARATE CHECK OF TRUNK AND CUT SENDER TP CIRCUITS	15B, M	MI		
		NO COIN ZONE		MJML		
42	39B	PREVENT XJC INDICATION ON CALLS TO PBX LINES IN OFFICE SIZES WHERE JG- INFORMATION VARIES WITH LINE LINK FRAME NUMBERS	CI			
43		PREVENT MARKER BLOCKAGE DUE TO THE INABILITY OF A MARKER TO SEIZE A TRUNK LINK FRAME	AH	MU	AH	MU
44		WHERE WIRE SPRING TRUNK LINK FRAMES ARE PROVIDED INSURES TRUNK LINK FRAME HOLD MAGNET OPERATION ON DIAL TONE				MY
		COMB. MKR		MY		
		COMPL MKR		MX		
45		WHERE REGISTERS OR SENDERS ARE EQUIPPED WITH REED SWITCHES FOR RECORDING LINE EQUIPMENT LOCATION		MW		MW
46	40B	INTERCEPT OF UNAUTHORIZED CUSTOMER 10 DIGIT DDD CALLS (IDENTIFIED BY NZ OPTION)		LH		
47		WHERE WIRE SPRING ORIG REG OR WIRE SPRING COMPLETING MARKERS ARE ADDED TO OFFICES ARRANGED FOR FACD AND U TYPE MARKERS ARE PROVIDED WITH	APP FIG. 8C	LI		
			APP FIG. 8D	LJ		
48		PRIOR TO ISSUE 40B, LE AND LF OPTIONS WERE PART OF XA OPTION		LE, LF		
49	43B	WHERE APP FIG. BJ IS FURNISHED, PREVENT MARKER BLOCKAGE ON A PBX ALLOTTED CALL AFTER THE SELECTED NUMBER GROUP IS SEIZED AND ALL ITS LINES BECOME BUSY		MAJP		
50		WHEN THE SENDER CONNECTOR CKT SENDER PART IS WIRE SPRING AND WHEN SOME BUT NOT ALL OF ITS ASSOCIATED SENDER GROUPS ARE ARRANGED FOR AMA OR ANI		LQ		
51		WHEN MARKERS MANUFACTURED PRIOR TO ISSUE 24D ARE REQUIRED TO WORK WITH WIRE SPRING OUT. SDR. CONN. FIG. 13B AND "RZ" WIRING MUST BE PROVIDED.				
52	46B	WHEN ORIG. REG. ARE ARRANGED TO FUNCTION WITH PUSHBUTTON SETS AND WHEN PEG COUNTS ARE REQD FOR COMPLETED FACD CALLS (LT OPTION)		MA,MO NX		
53	46D	WHEN INTERCEPT OF UNAUTHORIZED 10 DIGIT CALLS IS PROVIDED AND FIG. BL IS PROVIDED.		D		
54		WHEN DIGIT "1" ACCESS CODE OPTION "LX" AND FIGURES 166, 167 ARE PROVIDED AND OPTION "NZ" IS NOT PROVIDED		KC		
55		PERSON TO PERSON OPERATION		KG		
56		TO PREVENT SENDER SEIZURE WHEN ABC CODE CONTAINS 3 OUT OF 5 DIGITS.		KQ		
57	47D	RINGING MACHINE FUSED AT 1/2 AMP		KX		
58		WHEN FIG. 170 IS FURNISHED	44			
59		PREVENT FALSE XT5 OPERATION ON LIGHT TRAFFIC CALLS	171	OR		
60		MARKER ARRANGED FOR AUTOMATIC IDENTIFIED OUTWARD DIALING WITH FIG. 169 (101ESS)	M BH 67	YJ MI		
61		WHEN OPTION "JA" IS PROVIDED	H			
62	49D	WHEN FIG. 178 IS FURNISHED		MA		
63		WHEN FIG. 173 IS FURNISHED		JY, LK		
64		WHEN OPTION "JR" IS PROVIDED	AB, Q	LF		
65		WHEN OPTION "E" IS PROVIDED		JL		JL
		WHEN OPTION "XN" IS PROVIDED	174	JL	174	JL
66	51D	WHEN OPTION "GD" IS PROVIDED		JK MU		
67		WHEN ANI AND LAMA ARE PROVIDED		GG		
68		WHEN OPTION "GH" IS PROVIDED	165			
69		WHEN MARKER IS ARRANGED FOR DIRECT IN DIALING TO 101 ESS ON A MULTILEAD ACCESS BASIS	172 182	TT JA		
70		WHEN APP FIG. 112 IS PROVIDED		GO		

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MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

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CIRCUIT NOTES: (CONT)

105. COORDINATING OPTIONS FOR THE MARKER

PAR NO,	MKR ISS	FEATURE	COMB. OR COMPL MKR FURNISH		DIAL TONE MKR FURNISH	
			APP FIG.	APP OR WIR	APP FIG.	APP OR WIR
71	54D	WHEN APP FIG. 183 IS PROVIDED	M, BH, 67, 119, 169	FA, GW, GY, JK, JY, YJ, YR		
72	54D	WHEN APP FIG. 184 IS PROVIDED		FA		
73	53A	WHEN APP FIG. 174 IS PROVIDED				JY
74	54D	WHEN APP FIG. 185 & 186 ARE PROVIDED	BN, 172, 182	TW, GF, JA		
75	54D	WHEN APP FIG. 187 IS PROVIDED		FP		
76	55A	WHEN APP FIG. 94 IS PROVIDED		GD	✓	
77	56D	WHEN OPTION GW IS PROVIDED		EB		
78	56D	WHEN OPTION EC IS PROVIDED		EB		
79	56D	WHEN OPTION EF IS PROVIDED		EE		
80	56D	WHEN ANY TRUNK LINK FRAME IS EQUIPPED WITH 12 LEVEL TRUNK SWITCHES	189			
81	56D	WHEN OPTION FB IS PROVIDED	119			
82	56D	WHEN APP FIG. 169 AND 183 ARE BOTH PROVIDED		GY		

CIRCUIT NOTES: (CONT)

106. RERATING RECORD OF OPTIONS

OPTION	ORIGINAL ISSUE	RERATED ON ISSUE
TP	18B	33B
SM	23B	40B

107. WHEN THE LINE INSULATION TEST CIRCUIT IS PROVIDED, IT MUST BE CONNECTED TO ONE OF THE NON-SPECIAL COMBINED OR COMPLETING MARKERS OR TO ONE OF THE DIAL TONE MARKERS. THE INFORMATION "LINE LINK FRAME" & "TRUNK LINK FRAME" SHOWN FOR LEADS CONNECTING TO THE LINE INSULATION TEST CONTROL CKT INDICATES THAT THESE LEADS ARE ASSOCIATED WITH THE "LINE LINK FRAMES" OR THE "TRUNK LINK FRAMES" RESPECTIVELY. THIS INFORMATION IS SHOWN FOR LEADS ST-, BSO, BS1, AND LH- AS THESE DESIGNATIONS ARE USED FOR LEADS TO THE "LINE LINK FRAMES" & ALSO FOR OTHER LEADS TO THE "TRUNK LINK FRAMES."

108. WHEN EQUIPMENT IS TO BE REMOVED FROM BAYS ASSOCIATED WITH COMBINED MARKERS THAT ARE ARRANGED AS DIAL TONE MARKERS PROCEED AS FOLLOWS:

EQUIPMENT TO BE REMOVED ON	FIG. TO BE REMOVED	REPLACED BY FIG. OR OPTIONS		
T & RR AND SUPL ROUTE RELAY BAYS	ALL FIG. ON THE FRAMES INCLUDING FIG. AS	MKS SERVES		
		DIAL ORG REG	OR	OB, FIG.AT
		MF ORG REG		
		DIAL & MF ORG REG		
CLASS OF SERVICE BAY	ALL FIG. ON THE FRAME	NONE		
TRUNK FRAME TEST LEAD CONN BAY	ALL FIG. ON THE FRAME	10 OR LESS TRUNK LINK FR		FIG. 19
		MORE THAN 10 TRUNK LINK FR		FIG. 19 & 20

109. PRIOR TO ISS 46C, OPTION KH WAS PART OF OPTION NX.
110. PRIOR TO ISSUE 46D, OPTION KP WAS PART OF APP FIG. 156.
111. PRIOR TO ISS 47D, OPTION KS WAS PART OF OPTION KE.
112. PRIOR TO ISS 49D, OPTION JQ WAS PART OF OPTION Q.
113. PRIOR TO ISS 49D, OPTION JL WAS PART OF OPTION E AND OPTION XN.
114. WHEN PAIRED LLF OPERATION IS APPLIED, THE PERCENT LOAD, (PL) CAN NOT BE INDICATED ON A LLF BASIS BECAUSE OF DUAL LEAD ASSIGNMENT ON THE LLFC.
115. PRIOR TO ISS 51D, OPTION GK WAS PART OF OPTION NX.
116. PRIOR TO ISS 54D, OPTION FJ WAS PART OF APP FIG. BN.
117. PRIOR TO ISS 54D, OPTION FK WAS PART OF OPTION NI.
118. TYPICAL TRUNKS THAT USE THIS FEATURE. SD-98001-01, SD-27795-01.
119. PRIOR TO ISSUE 54D, OPTION FQ WAS PART OF OPTION XN.
120. PRIOR TO ISSUE 56D, OPTION FY WAS PART OF OPTION KE.
121. PRIOR TO ISSUE 56D, OPTION EB WAS PART OF OPTION GW.
122. PRIOR TO ISSUE 54D, OPTION GW WAS NOT PROVIDED WITH AMA OR ANI FEATURES.
123. PRIOR TO ISSUE 54D OPTION GY WAS NOT PROVIDED WITH AIOD FEATURES.

ISSUE	
53A	JEK ADL ADP
54D	JEK ADL ADP
55A	NJF
56D	MD

MARKER CIRCUIT (2) SD-25550-01-013

BELL TELEPHONE LABORATORIES INCORPORATED 6S

EQUIPMENT NOTES:

201. MOUNT THE 239 TYPE RELAYS ON 3-1/2" CENTERS VERTICALLY AND HORIZONTALLY WITH RESPECT TO ALL APPARATUS EXCEPT THAT NO RESTRICTIONS ARE REQUIRED WHEN MOUNTING THESE RELAYS ADJACENT TO CAPACITORS, NON-INDUCTIVE APPARATUS, OR OTHER 231 OR 239 TYPE RELAYS.

202. THE 200 CL INDUCTOR SHALL BE LOCATED ON THE WIRING SIDE OF ITS ASSOCIATED RELAY AND TERMINAL I CONNECTED DIRECTLY TO THE CONTACT WHICH IT PROTECTS

203. ALL CROSS CONNECTIONS ARE 1 WIRE JUMPERS.

204. (MFR DISC.) EQUIPMENT INFORMATION; FRAME EQUIPMENT - ED-25856-01, ED-25934-01, ED-25937-01 AND ED-25968-01.

APPARATUS FIGURE	EQUIPMENT DRAWING
1	ED-26068-01
2,4,6,76	ED-26067-01
3	ED-26069-01
5	ED-26070-01
7	ED-26071-01
8	ED-26067-01, ED-26072-01
9	ED-26073-01, ED-26074-01
10	ED-26076-01
11,12,13,14,15,16	ED-26075-01
17	ED-26077-01
18,21,22	ED-26085-01
19,20	ED-26064-01
19	ED-26065-01, ED-26832-01
23,24,25	ED-26084-01
26	ED-26083-01
27	ED-26078-01
28	ED-26079-01
29	ED-26090-01
30	ED-26088-01
31, O,J, & K, 81 OR 8J	ED-26089-01
32	ED-26091-01
33	ED-26092-01
34	ED-26093-01
35,36,37	ED-26044-01
38	ED-26063-01
39,40,41	ED-26062-01
42	ED-26040-01
43,44,45	ED-26043-01
46,47,48	ED-26045-01
49	ED-26041-01, ED-26042-01
50	ED-26047-01
51,52	ED-26061-01
53,54,57,58,62,63, M & F	ED-26055-01
55	ED-26048-01
56	ED-26051-01
59,60	ED-26049-01
61	ED-26066-01
64	ED-26057-01, ED-26058-01
65,126	ED-26056-01
66	ED-26086-01
67	ED-26050-01, ED-26052-01 ED-26053-01, ED-26054-01
68	ED-26059-01
69,70,71,72	ED-26060-01
73,74	ED-26082-01
75	ED-26080-01
77	ED-26069-01
78	ED-26182-01
79 & 0	ED-26094-01
81	ED-26087-01
82	ED-26081-01
83	ED-26095-01
84	ED-26153-01
85,86,87,88	NONE REQUIRED
89	ED-26250-01
90	NONE REQUIRED
91	ED-26096-01
92	ED-26058-01
93	NONE REQUIRED
94	ED-26093-01
95	ED-26048-01
96, A & C	ED-26048-01

204. (CONT)

APPARATUS FIGURE	EQUIPMENT DRAWING
97	ED-26043-01
98	ED-26055-01
99	ED-26093-01
100	ED-26088-01
101	NONE REQUIRED
102	ED-26070-01
103	ED-26574-01
104	ED-26575-01
105	ED-26573-01
106	ED-26575-01
107	ED-26079-01
108	ED-26046-01
109	ED-26079-01
110	ED-26622-01
111	ED-26622-01
112	ED-26622-01
113	ED-26622-01
114	ED-26059-01
115	ED-26649-01
116	ED-26649-01
117	ED-26062-01
118	ED-25690-01
119	ED-26689-01
120	ED-26690-01
121	ED-26689-01
122	ED-26689-01
123	ED-26741-01
124	ED-26741-01
125	ED-26058-01
127	NOT ASSIGNED
130	NOT ASSIGNED
131	NOT ASSIGNED
132	NOT ASSIGNED
133	NOT ASSIGNED
134	ED-26700-01
135	ED-26700-01
136	NOT ASSIGNED
137	ED-26699-01
138	ED-26094-01
139	NOT ASSIGNED
140	NONE REQUIRED
141	NOT ASSIGNED
142	ED-26058-01
143	ED-26048-01
AT	ED-26882-01
BB	ED-26050-01
144 & BN	ED-26052-01

205. EG WIRING IS PROVIDED ON THE UNIT ED-26081-01 FOR ROUTE RELAYS 000-009 TO CONNECT THE MULTIPLE WIRING FOR GROUND SUPPLY 6 TO THE TERMINAL STRIP. THE MULTIPLE WIRING ON THIS UNIT IS REMOVED BETWEEN TWO ADJACENT RELAYS, IN ACCORDANCE WITH JOB REQUIREMENTS, NORMALLY BETWEEN 004 AND 005 UNLESS OTHERWISE SPECIFIED, TO DIVIDE THE RELAYS FOR GROUND SUPPLIES 5 & 6.

206. BOTH ENDS OF THE GROUND LEAD, CONNECTED TO THE B2 TERMINAL OF THE (FTC-) RELAYS, SHALL BE CONNECTED TO THE FUSE PANEL GROUND BAR.

207. A CLOSED LOOP SHALL BE RUN FROM RELAYS (FTC0) TO (FTC19) FOR THE FTC & FTCK1 LEADS.

208. (MFR DISC.) EQUIPMENT INFORMATION CONSISTING OF A MODIFICATION OF ED-26043-01 AND ED-26934-01 SHALL BE PROVIDED ON A JOB BASIS FOR APPARATUS FIGURE 97.

209. (A&M ONLY) THESE LEADS ADDED ON ISSUE 12A TO PROVIDE FOR A MAXIMUM OF 400 TRUNKS INSTEAD OF 200 TO BE CONNECTED TO A GROUP OF 10 MF REGISTERS.

210. PRIOR TO ISSUE 15A, LEADS DESIGNATED "NOT REQUIRED FOR COMBINED MARKERS" WERE NOT SHOWN.

211. CABLES WERE COMBINED AS FOLLOWS ON ISSUE 15A.

PREVIOUS ARRANGEMENT	ARRANGEMENT ON ISSUE 15A
CA AG CAD 96 & CA AN CAD 97	CA AG CAD 96 & 97
CA AL CAD 92 & CA AM CAD 91	CA AL CAD 91 & 92
CA BM CAD 100 & CA BN CAD 101	CA BM CAD 100 & 101
CA BP CAD 93 & CA BQ CAD 95	CA BP CAD 93 & 95
CA BE CAD 104 & CA BF CAD 105	CA BE CAD 104 & 105

212. PUNCHINGS USED AS CODE POINTS SHALL BE CROSS CONNECTED AS SPECIFIED TO:

PUNCHINGS	CAD	PUNCHINGS	CAD
RCDDO-219	50	CVDO-99	148
SCD-35	60	PSCDO-23	161
RTO-9	56	CG02-17 & CG22-29	83
RPO-19	54		
TSCO-45	143		
AP	41,132		
BP	41,132		
AT	41,132		
BT	41,132		
VC6	83		
TRO,1	117		

213. THE (MB) 48V FUSE IS LOCATED ON THE POWER RING. & TONE DISTG FR. PRIOR TO ISSUE 19D THIS FUSE WAS SHOWN ON THE MASTER TEST FRAME JACK, LAMP AND KEY CIRCUIT.

214. THESE LEADS ADDED ON ISSUE 19D TO PROVIDE FOR FREF NUMBER VERIFICATION TESTS IN THE MASTER TEST CONTROL CIRCUIT.

215. (A&M ONLY) LEAD EPSA IS ADDED ON ISSUE 19D FOR TROUBLE RECORDING WHEN A SECOND AUXILIARY INCOMING REGISTER LINK FRAME IS PROVIDED.

216. PRIOR TO ISSUE 23B, THE SF LEAD BETWEEN TS(CE) AND TS(CC) AS SHOWN IN CAD 78 WAS DESIGNATED LCB. THE CONNECTION OF THIS LEAD IS REQUIRED ON ALL MARKERS FOR CONNECTION TO THE FOREIGN AREA TRANSLATOR CONNECTOR FRAME.

217. LEADS PN, TN AND PTN DESIGNATED "MFR DISC" IN CAD 67, 93 AND 107 WERE SO RATED ON ISSUE 21D FOR ADDITION OF APP FIG. 125.

218.

CONDITION		LOCATION OF "FAR" PUNCHINGS	
		FRAME	TERM. STRIP
WITH CODE CONVERSION		CODE CONVERSION AND ROUTE RELAY FRAME	CVL
WITHOUT CODE CONVERSION	220 OR LESS ROUTE RELAYS	CLASS OF SERVICE BAY 0	SE
	MORE THAN 220 ROUTE RELAYS	SUPPLEMENTARY ROUTE RELAY BAY FOR 1 MARKER	SRG AND SRH

219. SWITCHBOARD CABLE LEADS DESIGNATED BY THIS NOTE SHALL BE CONNECTED WHEN COMBINED MKR IS TO BE USED AS A COMPL MKR.] PROVIDED-

220. SWITCHBOARD CABLE LEADS DESIGNATED BY THIS NOTE SHALL BE CONNECTED WHEN COMBINED MKR IS TO BE USED AS A DIAL TONE MKR.

221. QX OPTION WAS ADDED TO CAD 92 ON ISSUE 23B. WHEN THE LENGTH OF THE SWITCHBOARD CABLE RUN OF THE MARKER MULTIPLE TO LINE LINK CONNECTOR FRAMES EXCEEDS 335 FEET (SEE CONDUCTOR LENGTHS SPECIFICATION J20155) QX WIRING SHALL BE CABLED FROM EACH MARKER, EXCEPT ONE WHICH MAY BE ASSOCIATED WITH THE LINE INSULATION TEST FRAME, TO THE LAST LINE LINK CONNECTOR FRAME APPEARANCE FOR THE MARKER ASSOCIATED WITH THE LINE INSULATION TEST FRAME, QX WIRING SHALL BE RUN TO THE LINE INSULATION TEST FRAME.

222. KN DENOTES RIGHT HAND TERMINAL LUG LOOKING AT REAR OF EQUIPMENT.

223.

224. THESE LEADS WERE ADDED ON ISSUE 26B TO PROVIDE ADDITIONAL CODE GROUPINGS.

225. IN CAD 70, WHEN SUCCEEDING MARKER IS OF THE WIRE SPRING TYPE CONNECT ONLY THE SIE OR SIG LEADS WHICH ARE ACTUALLY ASSIGNED TO A SENDER GROUP.

226. PRIOR TO ISSUE 36D NUMBERING FOR UNIT TERMINAL STRIPS IN CADS 35,37 AND 145 WAS SHOWN FOR THE 227A TERMINAL STRIP BUT NOT FOR THE D4A TERMINAL STRIP. NUMBERS SHOWN TO THE LEFT OF THE DIAGONAL LINE ARE FOR THE 227A TERMINAL STRIP AND THOSE TO THE RIGHT FOR THE D4A TERMINAL STRIP.

227. PRIOR TO ISSUE 46D CAD FIGURE 151A AND 152A WERE SHOWN AS PART OF CAD FIGURE 151 AND 152 RESPECTIVELY.

228. FRAME LOCAL CABLE IS USED TO MULTIPLE GROUPS OF 12 SC POINTS ON THE UNIT TERMINAL STRIPS TO ONE OF 3 GROUPS OF 12 FRAME SC POINTS (0-11), (12-23), OR (24-35).

229. LOOSE WIRE IS USED TO MULTIPLE ANY GROUPS OF USC 0-11 POINTS TO ANY ONE OF 8 GROUPS OF 12 SC POINTS (0-11), (12-23), (24-35), (300-311), (312-323), ETC. (348-359).

INFORMATION NOTES:

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

DRAWING ISSUE	
41D	WTD
46D	CB
48D	CB
54D	CB

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MARKER CIRCUIT

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BELL TELEPHONE LABORATORIES INCORPORATED 65

CROSS CONNECTION INFORMATION NOTES:
400. PUNCHING INDEX

TERM. DESIG	CROSS CONN TABLE PART	LOCATION* FS	BLOCK	SECTION	FRAME	FUNCTIONAL MEANING
1A0-5	2	129D4	A	3	MR	FIRST "A" DIGIT
1B0-5	2	129E4	A	3	MR	FIRST B DIGIT
1C0-5	2	129E4	A	3	MR	FIRST C DIGIT
1XS	56	12605	E	ALL	MR	SERVICE CODE SCREENING
			STA	1,3	SCLS	
2A0-5	2	129E4	A	3	MR	SECOND "A" DIGIT
2B0-5	2	129E4	A	3	MR	SECOND B DIGIT
2C0-5	2	129E4	A	3	MR	SECOND C DIGIT
2CT	25	21C5	RH	2	TR	TWO-DIGIT BX CODE TRANSLATOR
2DT 2-9	26	27B6	RG	1	TR	SECOND B DIGIT TRANSLATOR
2P	1	4C2	CG	3	CE	TWO PARTY
2SG	22	10588	AD	3	TR	TWO SENDER GROUPS
6A 2-9	26	23A3-H3	RG	2	TR	SIX DIGIT "A" TRANSLATOR
7A 2-9	26,33	23A3-H3	RG	2	TR	SEVEN DIGIT "A" TRANSLATOR
11	29	21B5	RH	2	TR	ONE-ONE EXTENDED AREA
11X	29	21B5	RG	2	TR	EXTENDED AREA TRANSLATOR
11X0,2-9	29,33,42	22A9 23A3-H3	RG	7	TR	ONE-ONE CODE POINTS
A0,A1	26	22C9,G9	RG	2	TR	"A" DIGIT 0,1
AAN	38,39	85B/F7	AD	4	TR	"A" ALL NUMBERS
ABN	2	74F5	A	3	MR	AUTOMATIC BLANK NO. INTERCEPT
AE	11	29D4	RH	2	TR	"A" EXTRA-THEORETICAL OFFICE
			RM	3		
			TA	4	TC	
			SB	1	CS	
AEN	38,39	85B/C7	AD	4	TR	"A" EXTRA-THEORETICAL NO.
AER	11,33	29C3	RL	2	TR	"A" EXTRA-THEORETICAL ROUTE
AG	34	27E7	SD	3	CS	PRESORT GROUP "A"
			CMB	3	CAMA	
AI	2	69E4	A	4	MR	AUTOMATIC INTERCEPT
AID	34	128D2	SB	4	CS	AUTOMATIC IDENTIFIED OUTWARD DIALING
			STD	2	SCLS	
AIS	2	129B5	A	3	MR	AUTOMATIC INTERCEPT SERVICE
AMA	14	69C4	RC	2	TR	AUTOMATIC MESSAGE ACCOUNTING
ANC	58	4C2	ORIGINATING REGISTER SELECTOR UNIT			ANNOUNCEMENT ACCESS
ANIS	55	30C7	CVM	2	CC	ANI ROUTE SERIES
			SRP	2	SI	
			RP	2	TR	
ANTB	58	43G3,G5	ORIGINATING REGISTER SELECTOR UNIT			ANNOUNCEMENT TRUNK BLOCK
ANTG	58	43C4,E4	ORIGINATING REGISTER SELECTOR UNIT			ANNOUNCEMENT TRUNK GROUP
AO	1	4A2	CG	3	CE	ALL OTHER CLASSES
AOS	34	128E2	SB	4	CS	ALL OTHER SIGNALS
			STD	2	SCLS	
AP	11	29C4, C6	RH	2	TR	"A" PHYSICAL OFFICE
			RM	1		
			TA	4	TC	
			SB	1	CS	
APN	38,39	85B/B7	AD	4	TR	"A" PHYSICAL NO.
APR	11,33	29B3	RL	1	TR	"A" PHYSICAL ROUTE
ARI	2	74F5	A	3	MR	AUTOMATIC REGULAR INTERCEPT
ARN00-99	24	74C5	CVE	1	CV	"A" ARBITRARY ROUTE NO.
AR(0-4)P	24	74B4	CVD	1	CV	"A" ARBITRARY CODE
AR(0-5)S	24		CVD	1	CV	ROUTE DIGIT

* SEE SHEET 118C FOR FRAME OR BAY ABBREVIATIONS.

TERM. DESIG	CROSS CONN TABLE PART	LOCATION* FS	BLOCK	SECTION	FRAME	FUNCTIONAL MEANING
AS	37	86C8	AD	3	TR	"A" OFFICE ADDED THOUSAND SERIES START
			B	ALL	MR	
ASA	39	85B/E8	AD	4	TR	"A" SERIES ALLOTTED NO.
ASA1	37	85B/F8	AD	4	TR	"A" SERIES ALLOTTED START
AST	37	86B8	AD	3	TR	"A" OFFICE ADDED THOUSAND SERIES START
AST0,1	37	86C8	AD	3	TR	"A" OFFICE ADDED THOUSAND SERIES START
			A	ALL	MR	
AST2-5	37		A	ALL	MR	
AT	11	29D4, D8	RH	2	TR	"A" THEORETICAL OFFICE
			RM	1		
			TA	4	TC	
			SB	1	CS	
ATO-9	26	23A8	RH	1	TR	"A" DIGIT TRANSLATOR
ATB-	58	43G6	ORIGINATING REGISTER SELECTOR UNIT			TRUNK BLOCK "A"
ATD	64	30C7	SD	--	CS	ANI TOLL DIVERSION
ATG-	58	43D6, E7	ORIGINATING REGISTER SELECTOR UNIT			TRUNK BLOCK "A"
ATI	2	74F5	A	3	MR	AUTOMATIC TROUBLE INTERCEPT
ATN	38,39	85B/C7	AD	4	TR	"A" THEORETICAL NO.
ATR	11,33	29B3	RL	1	TR	"A" THEORETICAL ROUTE
B0-11 GR A,B	25,32,57	126F7	E	ALL	MR	PREFIX 0-1 SCREEN INDIVIDUAL
BAN	38,39	85B/F7	AD	4	TR	B ALL NUMBERS
BAT	3	1BD8	CF	3	CE	BATTERY
BC00-73 GR A,B	25,32,57	126E5	CVR	3	CV	PREFIX 0-1 SCREEN COMMON
			BRM	1	SR	
			RL	3	TR	
			C	--	CS	
BE	11	29F4	RH	2	TR	B EXTRA-THEORETICAL OFFICE
			RM	3		
			TA	4	TC	
			SB	1	CS	
BEN	38,39	85B/D7	AD	4	TR	B EXTRA-THEORETICAL NO.
BER	11,33	29D3	RL	2	TR	B EXTRA-THEORETICAL ROUTE
BG	34	27F7	SD	3	CS	PRESORT GROUP B
			CMB	3	CAMA	
B600-35	32	126F8	F	ALL	MR	
			C	-	CS	
BL	34	30C3	RP	1	TR	BUSY LINE
			SP	1	CS	
			STD	1	SCLS	
			SRP	1	SI	
			CVM	1	CV	
BN	2	92B2	CG	3	CE	BLANK NO.
BNA	2	92B9	A	-	MR	BLANK NO. AUXILIARY
BNB	6	102A/C4	CG	-	CE	
BNTH	37	86B8	AD	3	TR	BLANK NO. THOUSANDS
			B	ALL	MR	
BP	11	29E4, D8	RH	2	TR	B PHYSICAL OFFICE
			RM	1		
			TA	4	TC	
			SB	1	CS	
BPN	38,39	85B/E7	AD	4	TR	B PHYSICAL NO.
BPR	11,33	29C3	RL	1	TR	B PHYSICAL ROUTE
BR1-3	61	102B/C7	A	ALL	MR	BRUSH 1-3
BR(0-4)P	24	74D4	CVF	2	CV	B ARBITRARY CODE ROUTE
BR(0-4)S	24		CVF	2	CV	DIGIT
BS	37	8665	AD	3	TR	B OFFICE ADDED THOUSANDS SERIES
BSA	39	85C/H7	AD	4	TR	B SERIES ALLOTTED NO.
BSA1	39	85B/G7	AD	4	TR	B SERIES ALLOTTER START
BST	37	86B8	AD	3	TR	B OFFICE ADDED THOUSAND SERIES START

TERM. DESIG	CROSS CONN TABLE PART	LOCATION* FS	BLOCK	SECTION	FRAME	FUNCTIONAL MEANING
BT	11	29F4, E8	RH	2	TR	B THEORETICAL OFFICE
			RM	1		
			TA	4	TC	
			SB	1	CS	
BT00-99	26,28	23C8, 24H4	RH	1	TR	B DIGIT TRANSLATOR
BTB-	58	43G6	ORIGINATING REGISTER SELECTOR UNIT			TRUNK BLOCK B
BTG-	58	43D6, F6	ORIGINATING REGISTER SELECTOR UNIT			TRUNK GROUP B
BTI	2	92C3	CF	3	CE	BLANK THOUSANDS INTERCEPT
BTL	2		CF	3	CE	BLANK THOUSANDS LOCAL
BTN	38,39	85B/D7	AD	4	TR	B THEORETICAL NO.
BTR	11,33	29C3	RL	1	TR	B THEORETICAL ROUTE
BTT	2	92C3	CF	3	CE	BLANK THOUSANDS TOLL
BWD-5 GR A,B	25,56,57	126C5	E	ALL	MR	PREFIX 0-1 SCREENING RELAY WINDING
BWD	3	1BD8	CF	3	CE	BATTERY WINDING
C	6	102C6	CG	2	CE	TOLL INTERCEPT DISTINCTION
C0-9	11, 26, 33	22B9, 23A3-H3			TR	CODE POINT
C00-99		23A3-G3	RG	1		
C20-99		24A5-G5	RJ	ALL		
C00-99		24A8-G8	CVJ	3	CV	
C20-99(6X)			CVJ	4		
C000-199	11, 26, 27, 28, 33	24A3-G3 25B6-G6	RG	3,4	TR	CODE POINT
C200-599		23A3-H3	RL	ALL		
C600-999		25B6-G6	RJ	ALL		
C000-199		23A3-H3	SRG	3,4	S1	
C200-599		24A3-G3	SRL	ALL		
C600-999		25B6-G6	SRJ	ALL		
C000-999			CVJ	ALL	CV	
C1100-1199	28,33	26A3-E3	RE	4	TR	11XX CODE POINT
CA	32	30A4	RP	1	TR	CATCH ALL
			SRP	1	SI	
			CVM	1	CV	
CA0,1	26	22B0,G9	RG	2	TR	CODE AUXILIARY
CA1-0	26	22F9	CMA	3	CAMA	TANDEM CAMA
CA1-1		2269				TOLL A1 DIGIT
CAI	2	73B4	A	3	MR	CLASS, AUTOMATIC INTERCEPT
CATI	26	23A8	CMB	3	CAMA	"A" DIGIT TRANSLATION FOR CAMA
CC	32	30G4	STD	2	SCLS	COIN CONNECTOR
			RP	2	TR	
			SE	3	CS	
			SRP	2	SI	
			CVM	2	CV	
CDK0,1	14	69B4	RC	1	TR	C DIGIT CHECK
CDR0-9	32,44,53	30G4	SD	3	CS	COIN ZONE PREROUTE
CFG	52	34A2	CMB	3	CAMA	CAMA FRAME GROUP 0 GROUND
CFG0	52		CMA	3	CAMA	CAMA FRAME GROUP 0

DRAWING ISSUE
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56D NLCB

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MARKER CIRCUIT
SD-25550-01-D15
BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-25550-01-D15

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TERM. DESIG	CROSS CONN TABLE PART	LOCATION* FS	BLOCK	SECTION	FRAME	FUNCTIONAL MEANING
CFTA 1-4	32	2889-G9	CMA	3	CAMA	CAMA FUNCTION TANDEM SERVICE TREATMENT
CFTO 1-4	32	2889-G9	CMA	3	CAMA	CAMA FUNCTION TOLL SERVICE TREATMENT
CG2-17	33		RL	3	TR	CODE GROUP
CG2-17			RK	ALL		
CG22-39			RF	3,4		
CG22-39			RG	2		
CG2-17,22-39			SRG	2	S1	
CG2-17,22-39			CVF	4	CV	
CGA1,2	34	27B5, AB	STD	2 4	SCLS	CLASS OF SERVICE GROUP "A"
CSB1,2	34	27B5, AB	STB	2 4	SCLS	CLASS OF SERVICE GROUP B
CIR	61	1028/D5	A	ALL	MR	CANCEL IMMEDIATE RING
CL00-99	18,19 20,59	73C4	RC	4	TR	TERMINATING OFFICE CLASS
CL100-219			SRC	4	S2	
CL220-449			SRC	4	S1	
CL450-569			CVC	4	CV	
CLC	34	11065	RC	2	TR	CLASS CONTROL
CL(0-8)P	18, 20, 59	73C4	RD	4	TR	CLASS PRIMARY
			SRD	4	S2	
			SRD	4	S1	
			CVD	4	CV	
CL(0)S	2,18,19,20	73C4	A	3	MR	CLASS SECONDARY
CL(0-8)S			RC	4	TR	
			SRC	4	S2	
			SRD	4	S1	
			CVD	4	CV	
CMC	52	15F2	CMB	4	CAMA	CAMA CONTROL
CMF	43	22C9	CMA	1	CAMA	CAMA FUNCTION VACANT CODE
CMF0	34	27A6	STA	1,4	SCLS	CAMA SCREENING CONTROL
CMF1	34	27A6	STA	1,4	SCLS	CAMA SCREENING CONTROL
CMJ	32	30C4	RP	2	TR	CAMA JUNCTOR
			SRF	2	S1	
			CVM	2	CV	
CMR0	32	29H2	CMB	2	CAMA	CAMA REROUTE
			SE	1	CS	
CMR1	32		STD	1	SCLS	
			SE	1	CS	
CMS	43	22C9	CMA	1	CAMA	CAMA COMPLETING VACANT CODE
CMS0	34	27A6	STA	1,4	SCLS	CAMA SCREENING CONTROL
CMS1	34	27A6	STA	1,4	SCLS	CAMA SCREENING CONTROL
CMS00-19	52	6288-H4	CMA	4	CAMA	CAMA SENDER GROUP SELECTION
CN	1	30D2	CG	1	CE	COIN
CNS	34, 60	1288E2	RP	2	TR	COIN SIGNAL
			SR	1	CS	
			SRF	2	S1	
			CVM	2	CV	
			STD	2	SCLS	
CP00-99	16, 60	73D4	RE	3	TR	CODE PATTERN
CP100-219			SRE	3	S2	
CP220-449			SRE	4	S1	
CP450-569			CVG	4	CV	
CP(0-4)P	16	73C4	RF	3	TR	CODE PATTERN PRIMARY
			SRF	3	S2	
			SRF	4	S1	
			CVF	4	CV	
CPSP	60	73D4	SRF	4	S1	
			CVF	4	CV	
CP(0-4)S	16	73C4	RF	3	TR	CODE PATTERN SECONDARY
			SRF	3	S2	
			SRF	4	S1	
			CVF	4	CV	
CPSS	60	73D4	SD	1	TR	
			SRF	2	S2	
CRS-2	32	30H4	RF	1	TR	COIN REROUTE
			SE	3	CS	
			SRF	1	S1	
			STD	4	SCLS	
			CVM	1	CV	

* SEE SHEET D18L FOR FRAME OR BAY ABBREVIATIONS.

TERM. DESIG	CROSS CONN TABLE PART	LOCATION* FS	BLOCK	SECTION	FRAME	FUNCTIONAL MEANING
CR00-99	15, 19, 20	74F5	RE	2	TR	COMPENSATING RESISTANCE ON CODE ROUTE
CR100-219			SRE	2	S2	
CR220-449			SRE	3	S1	
CR450-569			CVG	3	CV	
CRN00-99	24	74E5	CVE	3	CV	C ARBITRARY ROUTE NUMBER
CR(0)P	2, 15, 19, 20, 24	74E4, G4	A	3	MR	COMPENSATING RESISTANCE OR CODE ROUTE PRIMARY
CR(1)P			A	3	MR	
CR(3)P			A	3	MR	
CR(0-9)P			RF	2	TR	
CR(10)P			RD	2		
CR(0-9)P			SRF	2	S2	
CR(10)P			SRD	2		
CR(0-10)P			SRF	2,3	S1	
CR(0-10)P			CVF	3,4	CV	
CR(0-9)S	15, 19, 20, 24, 59	74E4	RF	2	TR	COMPENSATING RESISTANCE OR CODE ROUTE SECONDARY
CR(10)S			RD	2		
CR(0-9)S			SRF	2	S2	
CR(10)S			SRD	2		
CR(0-10)S			SRF	2,3	S1	
CR(0-10)S			CVF	3,4	CV	
CRR0-9	33,44,47,53	29D3	SD	2	CS	COIN ZONE - ROUTE RELAY
CSOD-29	1	4C3	CF	3	CE	CLASS OF SERVICE
CSB	34	27F7	CME	2	CAMA	CAMA S RELAY BATTERY
CSB1,2	34	27A5, AB	STB	2 4	SCLS	CLASS OF SERVICE SORT B
CSG	52	6988	RD	2	TR	CAMA SENDER GROUP
			SRD	2	S2	
			SRD	2	S1	
			CVE	2	CV	
CSTA 1-4	32	2889-G9	CMA	3	CAMA	CAMA COMPLETING FUNCTION USAGE TANDEM SERVICE TREATMENT
CSTO-1-4	32	2889-G9	CMA	3	CAMA	CAMA COMPLETING FUNCTION TOLL SERVICE TREATMENT
CTAR	33	29G3	CMA	1	CAMA	CAMA TANDEM ROUTE
CTOR	33	29G3	CMA	1	CAMA	CAMA TOLL ROUTE
CV00-99	24,31,42	29B4	CVP	2	CV	CODE CONVERSION
			CVS	2		
CV600-99	24	29B7	CVE	4	CV	CODE CONVERSION BATTERY
CVR00-99	24,50	29A3	CVI	1	CV	CODE CONVERSION ROUTE
CVS	24	30D1	CVC	4	CV	CODE CONVERSION SERIES RELAY
CZ CZ1	53	30C2	COIN ZONE SIGNALING UNIT		MR	COIN: NO TP CLASS SIGNAL TO TRUNK ZONE: TP CLASS SIGNAL TO TRUNK
D	33	3F9	RL	2	TR	DIAL ROUTE
DA0	2	63A8	A	3	MR	"A" DIGIT OFFICE CODE
DA1		64A8	A	3	MR	
DA2		65A8	A	3	MR	
DAA		66A8	A	3	MR	
DA7		67A8	A	3	MR	
DB0	2	63B8	A	3	MR	B DIGIT OFFICE CODE
DB1		64B8	A	3	MR	
DB2		65B8	A	3	MR	
DB4		66B8	A	3	MR	
DB7		67B8	A	3	MR	
DC0	2	63C8	A	3	MR	C DIGIT OFFICE CODE
DC1		64C8	A	3	MR	
DC2		65C8	A	3	MR	
DCA		66C8	A	3	MR	
DC7		67C8	A	3	MR	
DCA	6	10206	CG	2	CE	DENIED CODE AUXILIARY
DCI	47	92F0	SD	3	CS	DENIED CODE INTERCEPT
			TB	4	TC	
			RM	3	TR	
DCIQ	2	67A9	A	-	MR	DENIED CODE INTERCEPT AUXILIARY

TERM. DESIG	CROSS CONN TABLE PART	LOCATION* FS	BLOCK	SECTION	FRAME	FUNCTIONAL MEANING
DL00-99	17, 19	73F4	RE	1	TR	DELETE DIGITS
DL100-219			SRE	1	S2	
DL220-449			SRE	1	S1	
DL450-569			CVG	1	CV	
DL(0-9)P	17, 19	73E4-G4	RF	1	TR	DELETE DIGITS PRIMARY
DL(10-13)P			RD	1		
DL(0-9)P			SRF	1	S2	
DL(10-13)P			SRD	1		
DL(0-13)P			SRF	1,2	S1	
DL(0-13)P			CVF	1,2	CV	
DL(0-9)S	17	73E4-G4	RF	1	TR	DELETE DIGITS SECONDARY
DL(10-13)S			RD	1		
DL(0-9)S			SRF	1	S2	
DL(10-13)S			SRD	1		
DL(0-13)S			SRF	1,2	S1	
DL(0-13)S			CVF	1,2	CV	
DNC	33,47	22G5	CMA	1	CAMA	CAMA DENIED CODE
DR	32	126E8	E	ALL	MR	DENIED ROUTE GROUPING
			RM	2	TR	
DRO-2	32, 44	30H4	RP	1	TR	DENIED OR DIVERTED ROUTE
			SE	3	CS	
			SRP	1	S1	
			TB	4	TC	
			CVM	1	CV	
			CMB	2	CAMA	
			STD	4	SCLS	
DRR0-1	55	29G4	SD	3	CS	ANI DIVERTED ROUTE
DST0-9 (PER DAPC 0-2)	37	86G7	101 PBX DID UNIT NO. SERIES START CONTROL UNIT			DIRECT ACCESS PRETRANSLATOR START
E	10	49E6	CG	2	CE	END OF CHANNEL
EAB	2-11	29D7	RL	4	TR	OFFICE "A" EXTRA-THEORETICAL
EBB	2-11	29G7	RL	4	TR	OFFICE B EXTRA-THEORETICAL
ELS	56	126D5	E	ALL	MR	EXTRA LOCAL SCREENING
			STA	1,3	SCLS	
ELT	25	21A5	RH	3	TR	EXTRA LOCAL TRANSLATION
ETA0	26	22A7	RG	4	TR	EXTRA LOCAL TRANSLATOR "A" DIGIT
ETA1	26	22H7	RG	4	TR	
ETA2-9	26,33	23A5	RG	4	TR	
EX	3	11261	CF	3	CE	EXTRA INDICATION
EXA	3	11261	CF	3	CE	EXTRA INDICATION AUXILIARY
EXB	3	12465	RH	3	TR	EXTRA BATTERY PUNCHING
			CF	3	CE	TROUBLE RECORDER
EXG	3	12465	RH	3	TR	EXTRA GROUND PUNCHING
			CF	3	CE	TROUBLE RECORDER
FARO	42	29D3	RL	2	TR	FOREIGN AREA VACANT CODES
FAR00-99	11,24, 33,42	29D3	SB	3	CS	FOREIGN AREA ROUTE
FAR00-59			SRG	1	S1	
FAR60-99			SRH	1		
FAR00-99			CVL	4	CV	

DRAWING ISSUE

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56D MD

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CROSS CONNECTION INFORMATION NOTES (CONT):
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(CONT)

TERM. DESIG	CROSS CONN TABLE PART	LOCATION* FS	BLOCK	SECTION	FRAME	FUNCTIONAL MEANING
FAT 1-3 (A&L)	33,42	26B5-D5	RH	3	TR	FOREIGN AREA TRANSLATOR START
			RM	2		
			SB	1	CS	
			TA	4	TC	
			CMB	3	CAMA	
FCOO-04	13	39G6	RB	2	TR	FRAME CONNECTOR
FC10-19	12	39H3				
FCA0-3	12	39G6	RB	1	TR	FRAME CONNECTOR "A"
FCAN	58	39E6	ORIGINATING REGISTER SELECTOR UNIT			FRAME CONNECTOR ANNOUNCEMENT
FCB0-3	12	39H6	RB	1	TR	FRAME CONNECTOR B
FCD	13	39F6	RB	1	TR	FRAME CONNECTOR DIAL
FCG0-3	12	39G6	RB	1	TR	FRAME CONNECTOR GROUP
FCM	13	39E6	RB	1	TR	FRAME CONNECTOR MULTI-FREQUENCY
FCR0-3	13	39F6	ORIGINATING REGISTER SELECTOR UNIT			FRAME CONNECTOR (OR)
FCR10-19	12	39G6	RB	2	T	FRAME CONNECTOR ROUTE
FCRA0-4	13	39G6	RB	2	TR	FRAME CONNECTOR ROUTE AUXILIARY
FD	13	39F6	ORIGINATING REGISTER SELECTOR UNIT			FRAME CONNECTOR (OR GROUP 1)
FGS	56	126E5	E	ALL	MR	FRAME GROUP SCREENING
			STA	1,3	SCLS	
FM	13	39E6	ORIGINATING REGISTER SELECTOR UNIT			FRAME CONNECTOR (OR GROUP 2)
FOVC	41,43	22D9	RL	1	TR	VACANT OFFICE CODE IN FOREIGN AREA
FR0-3	13	39D6	ORIGINATING REGISTER SELECTOR UNIT			FRAME CONNECTOR (OR GROUP 3-6)
FRC	33,43	22F5	CMA	1	CAMA	CAMA FREE CODE
FVD	25	21B5	RH	2	TR	FIVE DIGITS
GBA0-9	21	71A7	AD	2	TR	GROUP BUSY "A"
GBAC0-3	21	71A7	AD	1	TR	GROUP BUSY "A" SENDER CONNECTOR
GBB0-9	21	71B7	AD	2	TR	GROUP BUSY B
GBBC0-3	21	71B7	AD	1	TR	GROUP BUSY B SENDER CONNECTOR
GI	2	92D3	CF	3	CE	GROUP INTERCEPT
GL	2	92D3	CF	3	CE	GROUP LOCAL
GND	3	18D9	CF	3	CE	GRD
GOSO-9	21	72A/G7	AD	4	TR	GRD TO OUTSENDER GROUP RELEASE CKT
GRD	50	28A7	RN	1	TR	GRD
GT	2	92E3	CF	3	CE	GROUP TOLL
GWD	3	18D9	CF	3	CE	GRD WINDING
HAT	33	22E5	CMB	3	CAMA	CAMA HOME AREA TRANSLATION
HB0-9	36	93D6	AD	3	TR	HUNDRED BLOCK
HB-BN	36	93B3	AD	4	TR	HUNDRED BLOCK BLANK NO.
HB-DC	36	93C3	AD	1	TR	HUNDREDS BLOCK DENIED CODE INTERCEPT
HB-RI	36	93B3	AD	4	TR	HUNDRED BLOCK REGULAR INTERCEPT
HB-TBI	36	93C3	AD	4	TR	HUNDRED BLOCK TROUBLE INTERCEPT
HB-VC	36	93C3	AD	4	TR	HUNDREDS BLOCK VACANT CODE INTERCEPT
HTG	34,60	128C1	RG	2	TR	HEAVY TRAFFIC GRD
HTR	34,60	128C2	SD	4	CS	HEAVY TRAFFIC
			STD	1	SCLS	

* SEE SHEET D18C FOR FRAME OR BAY ABBREVIATIONS.

TERM. DESIG	CROSS CONN TABLE PART	LOCATION* FS	BLOCK	SECTION	FRAME	FUNCTIONAL MEANING
ICO-9	26	22G9	RH	1	TR	INCOMING CONTROL
ID	6	102A/D5	CG	—	CE	COMMON
IMG	21	72A/E8	AD	1	TR	INTERMARKER GROUP
IMGA	21	72A/G6	AD	4	TR	INTERMARKER GROUP GRD
INO,5	10	49D3,D5	CG	2	CE	INTO CHANNEL 0,5
INA-HB	36	93D3	AD1	4	TR	INTERCEPT NO. HUNDREDS "A"
INA-ST	36	86A8	A	1	MR	INTERCEPT NO. START "A"
			AD1	4	TR	
INA-TB	36	94A4	AD1	4	TR	INTERCEPT NO. TENS "A"
INA-U	36	94H1	AD1	4	TR	INTERCEPT NO. UNITS "A"
INB-HB	36	93D3	AD1	4	TR	INTERCEPT NO. HUNDREDS B
INB-ST	36	86A8	A	1	MR	INTERCEPT NO. START B
			AD1	4	TR	
INB-TB	36	94B4	AD1	4	TR	INTERCEPT NO. TENS B
INB-U	36	94H1	AD1	4	TR	INTERCEPT NO. UNITS B
IND	47	22F9	RM	3	TR	INCOMING DENIED CODE
INPB	54	30F3	RM	3	TR	INTERCEPT FOR ALL PATHS BUSY
INT	54	30F1	RM	3	TR	INTERCEPT
INT1	54	30F3	RM	3	TR	INTERCEPT FOR TEN DIGIT ODD CALLS
INV	43	22C9	RM	3	TR	INCOMING VACANT CODE
IPC0-9	41	111G0	RB	3	TR	INDIVIDUAL PEG COUNT
ITB	2	129B5	A	3	MR	TROUBLE INTERCEPT
ITC	2	92C7	RM	3	TR	INTERCEPT CONTROL
			SB	4	CS	
			TB	4	TC	
ITCA	2	29F7	RM	2	TR	INTERCEPT CONTROL AUXILIARY
ITNA	2	92D7	A	-	MR	INTERCEPT TRUNK NO. "A"
ITNB	2	92E7	A	-	MR	INTERCEPT TRUNK NO. B
JTO-2	33	29H3	CMA	1	CAMA	CAMA JUNCTOR TOLL ROUTE
JTA0-2	33	29G3	CMA	1	CAMA	CAMA JUNCTOR TANDEM ROUTE
KCM	20	74F4	CVF	4	CV	CANCEL CODE CONVERSION INTERMARKER GROUP
KCV	20	74E4	CVF	4	CV	CANCEL CODE CONVERSION
L	6	102C6	CG	2	CE	LOCAL INTERCEPT
LCB	11,32	29F7	RM	2	TR	LOCAL COMPLETION BATTERY
			SB	1	CS	
			CMB	2	CAMA	
			TANDEM CODE SCREENING UNIT			
LCDO-2	33,42	22E5	CMA	3	CAMA	LOCAL CODE DIALED
LCH	40	83E7	AD	3	TR	LOCAL CHARGE
LFO0-39	4	3A3	CF	2	CE	LINE FRAME
LFD	4	3A2	CG	2	CE	LINE FRAME DIAL LINES
LFM	4	3E2	CG	2	CE	LINE FRAME MIXED LINES
LFMF	4	3B2	CG	2	CE	LINE FRAME MULTIFREQUENCY LINES
LFPO-2	4	3E2	ORIGINATING REGISTER SELECTOR UNIT			LINE LINK PATTERN 0-2
LFR0-3	4,5	3D2	ORIGINATING REGISTER SELECTOR UNIT			LINE LINK OR GROUPS 3-6
LN	25	85A/D4	RH	2	TR	LOCAL NO. SELECTOR
LR	31	30C1	RM	2	TR	LINE ROUTE
			SRM	3	S1	
			CVL	1	CV	
LS	56	126E5	E	ALL	MR	LOCAL SCREENING
			STA	ALL	SCLS	

TERM. DESIG	CROSS CONN TABLE PART	LOCATION* FS	BLOCK	SECTION	FRAME	FUNCTIONAL MEANING
LS2	57	126C5			MR	PREFIX O SCREENING
			STA	1,3	SCLS	
LT	25,60	21A5	RH	2	TR	LOCAL TRANSLATOR
LT1	25	21A5	RH	3	TR	LOCAL TRANSLATOR DIGIT 1 ACCESS CODE
LT2	25	21A5				PREFIX O TRANSLATION MARK
LT2 (0-9)	26,30	22A9	RM	3	TR	PREFIX O TRANSLATION OF "A" DIGIT 0-9
			RC	3		
LTA	31	15D2	RM	2	TR	LAST TOLL OR TANDEM ALTERNATE
M	10	49E4	CG	2	CE	MIDDLE OF CHANNEL
M1	10	49E4	CG	2	CE	MIDDLE ONE OF CHANNEL
MAK, MCK, MSK (STI E)	23	1A0-8	CF	1	CE	MARKER PREFERENCE
			CG	1,2		
MAN	1	4C2	CG	3	CE	MANUAL
MAN	40	83G7	AD	3	TR	MANUAL
MB, MB1-9	64	130D2	RQ	—	TR	MESSAGE BILLING FOR TOLL DIVERSION
MBS 0-9	32	30B4	RP	2	TR	MESSAGE BILLING SERIES
			SE	2	CS	
			SRP	2	S1	
			CVM	2	CV	
			STD	3	SCLS	
MCN	1	4C2	CG	3	CE	MANUAL COIN
MF	33	3G7	RL	2	TR	MULTIFREQUENCY ROUTE
MLT2	25	21A5	RM	3	TR	PREFIX O TRANSLATOR RELAY WINDING
MP0(A-E)	34	16A3	CMA	3	CAMA	MULTIPARTY CUSTOMERS IN AREA 0,1, OR 2
MP1(A-E)		16B3	STB	2,4	SCLS	
MP2(A-E)		16C3				
MTR	34,60	128D2	SD	4	CS	MONITOR RELEASE
			STD	1	SCLS	
N 1-4	25	85A/C4-F4	RH	2	TR	NO. CONNECTOR
NA1-5	2	92A8,C0	A	-	MR	NO. ARRANGEMENTS 1-5
NA6	2	92D8	A	-	MR	NO. FOR AUTOMATIC INTERCEPT TRUNKS
NAI	2	129C5	A	3	MR	NOT AUTOMATIC INTERCEPT
NANC	58	3H2	ORIGINATING REGISTER SELECTOR UNIT			NO ANNOUNCEMENT ACCESS
NC	32,53	30F4	RP	1	TR	NON CHARGE, COIN
			SE	1	CS	
			SRP	1	C1	
			CVM	1	CV	
			STD	1	SCLS	
NCT	62	B7A/G3	CF1	3	CE	CALLING LINE IDENTIFICATION
NCT1-3	62	B7A/G3	CF1	3	CE	CALLING LINE IDENTIFICATION
NDI	17	73D4	RD	1	TR	NO DIGITS
			SRD	1	S2	
			SRF	2	S1	
			CVF	2	CV	
NI	2	92E3	CF	3	CE	NO. INTERCEPT
NL	2	92F3	CF	3	CE	NO. LOCAL INTERCEPT
NMI	2	92A3	CF	3	CE	NO MATCH INTERCEPT
NML	2	92A3	CF	3	CE	NO MATCH LOCAL INTERCEPT
NMT	2	92A3	CF	3	CE	NO MATCH TOLL INTERCEPT

DRAWING ISSUE
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CROSS CONNECTION INFORMATION NOTES (CONT):
400. PUNCHING INDEX (CONT)

TERM. DESIG	CROSS CONN TABLE PART	LOCATION* FS	BLOCK	SECTION	FRAME	FUNCTIONAL MEANING
NN	32,53	30G4	RP	1	TR	NON CHARGE, NON COIN
			SE	1	CS	
			SRP	1	S1	
			TB	4	TC	
			CVM	1	CV	
			CMB	2	CAMA	
			STD	1	SCLS	
NND	64	30B7	SD	-	CS	NON CHARGE TOLL DIVERSION
NPA	25	85A/C4	RG	2	TR	NO. PHYSICAL "A"
NPB	25	85A/C4	RG	2	TR	NO. PHYSICAL "B"
NR 0-2	33, 44, 47	29F3	RL	1	TR	NEW ROUTE-DIVERTED OR DENIED
			SRG	2	S1	
			CVL	1	CV	
NRSO-1	55	29H3	SD	3	CS	NEW ROUTE SELECTION
			RL	4	TR	
NS	25	85A/D4	RG	2	TR	NO. SELECTION
NS5	25	85A/E4	RG	2	TR	NO. SELECTION FIVE
NS6	25	85A/E4	RG	2	TR	NO. SELECTION SIX
NS7	25	85A/F4	RG	2	TR	NO. SELECTION SEVEN
NS8	25	85A/F4	RH	2	TR	NO. SELECTION EIGHT
NS9	25	85A/E4	RH	2	TR	NO. SELECTION NINE
NSA	25	85A/G4	RH	2	TR	NO. SELECTION FOREIGN AREA TRANSLATOR
NSI	14, 22	69C4	RD	2	TR	NO SENDER INTRAOFFICE
			SRD	2	S2	
			SRD	2	S1	
			CVD	2	CV	
NSO	14	69A4	RD	2	TR	NO SENDER OUTGOING
			SRD	2	S2	
			SRD	2	S1	
			CVD	2	TR	
NSOR	14	69B4	RC	2	TR	NO SENDER REVERTING CALL
NSSG,1	38, 39	85B/B8	A	ALL	MR	NO. SERIES START
		85B/C8	AD	A	TR	
NSS2-5		85B/C8	A	ALL	MR	
			AD	A	TR	
NT	2	92F3	CF	3	CE	NO. TOLL
NTA	25	85A/C4	RG	2	TR	NO. THEORETICAL "A"
NTB		85A/D4	RG	2	TR	NO. THECRETICAL B
NTD	64	13D02	SD	-	CS	NO TOLL DIVERSION
OFCO-5	2	129C8-H8	A	3	MR	OFFICE CODE
OPO-3	33, 49	29E3	RL	2	TR	OPERATOR PREROUTE
			SRG	2	S1	
			CVL	1	CV	
OR1-4	32	28A9-F9	RR	1	TR	ORIGINATING CUSTOMER SERVICE TREATMENT
ORC	52	16F6	CMB	3	CAMA	CAMA ORIGINATING RATE CLASS
ORCO-2	52	16F6	CMB	3	CAMA	CAMA ORIGINATING RATE CLASS SELECTION
OSO-3	47	29B8	RP	1	TR	OPERATOR SIGNAL PREROUTE
			SE	3	CS	
			SRP	1	S1	
			CVM	1	CV	
			STD	4	SCLS	
OS00-99	14, 19, 22, 52	69A4	RD	2	TR	OUTGOING SENDER
OS100-219			SRC	2	S2	
OS220-449			SRC	2	S1	
OS450-569			CVC	2	CV	
OSA0-3	22	69F1-H1	RC	2	TR	OUTSENDER GROUP "A"
OSB0-3	22	69F1-H1	RC	2	TR	OUTSENDER GROUP B

* SEE SHEET D 8C FOR FRAME OR BAY ABBREVIATIONS.

TERM. DESIG	CROSS CONN TABLE PART	LOCATION* FS	BLOCK	SECTION	FRAME	FUNCTIONAL MEANING
OSCO-9	2,14,19, 22,52	69D4	RL	2	TR	OUTGOING SENDER GROUP
			SRD	2	S2	
			SRD	2	S1	
			CVS	2	CV	
OSGO-3	22	69D-H0	RC	2	TR	OUTSENDER GROUP ALLOTTER
OSGCO-9	52	15F2	CMA	4	CAMA	OUTGOING SENDER CLASS
OSGR	21	72A/G6	RF	4	TR	OUTSENDER GROUP RELEASE
OSIO-9	21	72A/E7	AD	2	TR	OUTSENDER INFORMATION
OSM,OSMO-9	21	125G3	AD	4	TR	OUTSENDER MONITORING
OT4,9	10	49D4,D6	CG	2	CE	OUT (FROM) CHANNEL 4,9
OV	46	30A3	RL	1	TR	OVERFLOW
PAB	2-11	29C7	RL	4	TR	OFFICE "A" PHYSICAL
PB	31	30B1	RM	2	TR	PATHS BUSY
			SRM	3	S1	
			CVL	1	CV	
PBB	2-11	29E7	RL	4	TR	OFFICE B PHYSICAL
PC		111E5	CC	-	CE	(DIAL ORIG REG) NOT USED
		111E7	CC	-	CE	(MF ORIG REG) NOT USED
PCOO-99	41	111C4-F4	RR	4	TR	PEG COUNT
PCDO,1	19,33	22A5	RL	2	TR	PULSE CONVERSION DIAL
PCR	19,33	22A5	RL	2	TR	PULSE CONVERSION FEVERTIVE PULSE
PCSO-9	34	110G3	SE	3	CS	PEG COUNT SERVICE
			CMB	3	CAMA	
PD	45	22B5	RL	1	TR	PARTIAL DIAL CODE POINT (OR)
PD1	45	22C5	RM	2	TR	PARTIAL DIAL CODE POINT (FAC)
PDP	41,45	29A2	RL	2	TR	ACCESS PUNCHINGS FOR PARTIAL DIAL
PDR	41,45	29A3	SE	2	CS	
			STD	2	SCLS	
PM	32	30C4	RP	1	TR	PERMANENT SIGNAL COIN
			SE	1	CS	
			SRP	1	S1	
			CVM	1	CV	
			STD	2	SCLS	
PN	32	30D4	RP	1	TR	PERMANENT SIGNAL NON-COIN
			SE	1	CS	
			SRP	1	S1	
			CVM	1	CV	
			STD	1	SCLS	
PP	32	30D4	RP	1	TR	PERMANENT SIGNAL PBX
			SE	1	CS	
			SRP	1	S1	
			CVM	1	CV	
			STD	2	SCLS	
PR	7	47B3	CF	2	CE	PAIRED FRAME
PR DO-19	33,43, 45,49	29E3	RG	3	TR	PREROUTE PEG COUNT
			SR	-	S1	
			CVH	4	CV	
PRV	21	30H3	AC	1	TR	PULSE CONVERSION REVERTIVE
PS	33,46	22C5	RL	1	TR	PERMANENT SIGNAL CODE POINT
			SRC	2	S1	
			CVL	1	CV	
PSAO-11	33,41,42,43	28A0-C6	SR	1,2,3	CS	PRESORT "A" GROUP
PSBO-11	45,46,49	28LE-F6	SD	1,2,3	CS	PRESORT B GROUP
PSCOO-23	11,24, 43,45,46, 48.	28A4-C4	RR	2	TR	PRESORT INPUT SERVICE CONTROL
			RM	2		
			SD	3,4	CS	
			SRM	4	S1	
			CVR	4	CV	

TERM. DESIG	CROSS CONN TABLE PART	LOCATION* FS	BLOCK	SECTION	FRAME	FUNCTIONAL MEANING
R5-8	9	118D4	CF	3	CE	CHANNEL LOAD REGISTER
R000-219	32,50	29A7, B7	RN	1,2	TR	ROUTE RELAY OUTER WINDING LEAD
R220-449			SRN	1,2	S1	
R450-569			CVI	2	CV	
RA000-219	24,31, 32,33	31D3-F3	RN	3,4	TR	ROUTE ADVANCE
RA220-449			SRN	3,4	S1	
RA450-569			CVL	3	CV	
RAGO-19	31,32,33		RL	1	TR	ROUTE ADVANCE GROUPING
RAG0-39			RN	3		
RAGO-39			RP	3,4		
RAGO-39			SRP	3,4	S1	
RAGO-39			SRG	1		
RAGO-39			CVH	4	CV	
RAGO-39			CVM	3,4		
RB	24, 32, 48	30D1	RP	1,2	TR	ROUTE BATTERY
			SRP	1,2	S1	
			CVD	4	CV	
			CVM	1,2		
RC000-219	11,24,31, 42,43,44, 45,46,47, 48,53	29A4, B4	RH	3,4	TR	ROUTE RELAY INNER WINDING LEAD
RC000-219			RM	3,4		
RC000-569			SB	1,2,3	CS	
RC000-569			TB	1,2,3	TI	
RC220-449			SRM	ALL	S1	
RC220-449			SRH	ALL		
RC450-569			CVH	1	CV	
RC450-569			CVK	1		
RCG 00-29	33,43, 44,47	29A3	RL	4	TR	ROUTE RELAY WINDING CONVENIENCE CONNECTOR
			RN	3	TR	
			SRH	3	S1	
			CVH	3	CV	
			CMB	1,2	CAMA	
REG1,2	9	118D4	CF	3	CE	CHANNEL LOAD REGISTER
RGT	33,48	61H6	RL	2	TR	RINGER TEST PREROUTE
RGTO,1	33,48	61H6	RL	2	TR	RINGER TEST PREROUTE
			SRG	2	S1	
			CVI	1	CV	
RT	2	92C2	CG	3	CE	REGULAR INTERCEPT
RTA	2	92C9	A	-	MR	REGULAR INTERCEPT AUXILIARY
RTB	6	102A/D4	CG	-	CE	
RO	2	92A2	CG	3	CE	REORDER
ROA	43	22F9	RL	1	TR	REORDER AUXILIARY
			SB	1	CS	
ROA1	32	22E9	TB	1	TC	
ROA2	43,44,47	22E9	CMB	2	CAMA	CAMA REORDER AUXILIARY
RPO-19	41,43,45	29A8	RH	2	TR	ROUTE PEG COUNT
			RM	2		
			TA	4	TC	
RRO-2	33	29F3	RL	1	TR	REROUTE COIN
			SRG	2	S1	
			CVL	1	CV	
RTO-19	49	117A0-H9	RH	2	TR	ROUTE TRANSFER
			RM	1		
			SD	4	CS	
			CMB	3	CAMA	
RTAO-19	33,49	117A0-H9	RM	1	TR	ROUTE TRANSFER "A" (NORMAL)
			SRG	2	S1	
			CVH	2	CV	
RTBO-19	33,49	117A0-H9	RM	1	TR	ROUTE TRANSFER B (TRANSFERRED)
			SRG	2	S1	
			CVM	2	CV	
RV	31	30C3	RL	1	TR	REVERTING CALL
RVD	31	29H5	SD	4	CS	REVERTING TRUNK (DIAL)
RVMF	31	29G5	SD	4	CS	REVERTING TRUNK (TOUCH-TONE)
RVS	31	29G4	SD	4	CS	REVERTING TRUNK (SCREENING)
RVT	18	5H2	RC	4	TR	REVERTING TRUNK

DRAWING ISSUE
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MARKER CIRCUIT (2) SD-25550-01-D18A
BELL TELEPHONE LABORATORIES INCORPORATED 6S PRINTED IN U.S.A.

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HIGGINS 4495

CROSS CONNECTION INFORMATION NOTES (CONT):
400. PUNCHING INDEX
(CONT)

TERM. DESIG	CROSS CONN TABLE PART	LOCATION* FS	BLOCK	SECTION	FRAME	FUNCTIONAL MEANING
S	10	49E3	CG	2	CE	START
SO-11	11,32,33,34, 41,43,45,46, 47,49,53,56	28A2-C2	SD	ALL	CS	SERVICE TREATMENT
		28D2	STC	ALL	SCLS	
SO-11	11,32,34, 44,49	28A2-C2	CMA	1,2	CAMA	SERVICE TREATMENT
SA	21	80C3	AD	1	TR	SKIP "A" DIGIT
SAB	14,21	80C3	AD	1	TR	SKIP "A" & B DIGIT
SABC	14,21	80D3	AD	1	TR	SKIP "A",B, & C DIGIT
SAC	60	12BG3	STD	1	SCLS	SAMPLE ALL CALLS
SALO-3	22	105C8, D8	AD	3	TR	SENDER ALLOTTER
SB 0-8,10-18	34	27E7	SB	4	CS	S RELAY BATTERY
SB20-22	34	27E7	CMA	3	CAMA	S RELAY BATTERY
SC 00-35	11,24,31, 32,34,43, 45,46,48, 56	28A0-C0	RH	2	TR	SERVICE CONTROL
			RM	2		
			SRM	1,2	SI	
			CVK	4	CV	
			E	ALL	MR	
			C	-	CS	
SC 300-359	11,24,31, 32,34,43, 45,46,48, 56	28D1, 28A0-C0	RQ	3	TR	SERVICE CONTROL
			CVH	3	CV	
			SRE	2	SI	
			STA	1,3	SCLS	
SCG	34	12BD1	RG	2	TR	SERVICE CONTROL GROUND
SCN	33	2205	RL	1	TR	STUCK COIN CODE POINT
			SRG	2	SI	
			CVL	1	CV	
SDGG,1	14	69R4	RC	1	TR	SKIP DIGIT
SF	7	47B5	CG	2	CE	SINGLE FRAME
SGO-2	14	69B4	RC	2	TR	SENDER GROUP
SGO-11	32,33	28B3	SD	4	CS	SERVICE GROUP
			SE	4	CS	
			STD	ALL	SCLS	
SG 300-359	32,33	28D3	RQ	3	TR	SERVICE GROUP
			CVH	3	CV	
			SRE	2	SI	
			STD	ALL	SCLS	
SGCO-3	52	69E4	RC	2,3	TR	CAMA SENDER GROUP
			CMB	4	CAMA	CONVENIENCE CONNECTOR
STAO-9	21	70B4	AD	2	TR	SENDER — SUBGROUP
STACO-4	21	70A4,B4	AD	1	TR	IDLE "A" — CONNECTORS
STBO-9	21	70C4	AD	2	TR	SENDER — SUBGROUP
STBCO-4	21	70C4	AD	1	TR	IDLE B — CONNECTORS
SKO-9	21	80C3	AD	2	TR	SENDER GROUP SKIP
SKDG,1	14	80D3	AD	1	TR	SKIP DIGITS
SNO	51	37D7	AD	4	TR	NONSERVICE OBSERVED
SOB	51	37D7	AD	4	TR	SERVICE OBSERVED
SPC	21	80H0	AD	1	TR	SKIP PULSE CONVERSION
SPF	7	47B4	CG	2	CE	SINGLE & PAIRED FRAMES
SRB	34	27F7	SD	2	CS	S RELAY BATTERY
SSGO-4	58	126D8	A&C	-	RR	S TO BW GROUP
			SD	4	CS	
STO-9	35,36,37	86D8-F8	A	ALL	MR	NO. GROUP START
STOO-39	35,36,37	86F8	B	ALL	MR	
STA	35	86F7	AD	3	TR	START A — EVEN NO. TRUNK GROUP
			A	ALL	MR	
STAO-9	21	71E7	AD	2	TR	START A — SENDER SUBGROUP
STAO-9 (NG)	35,36,37	86E8	AD	3	TR	START A — OFFICE NO. GROUP
STACO-3	21	71E7	AD	1	TR	START A — OUTGOING SENDER CONNECTOR

TERM. DESIG	CROSS CONN TABLE PART	LOCATION* FS	BLOCK	SECTION	FRAME	FUNCTIONAL MEANING
STB	35	86F7	AD	3	TR	START B — ODD NO. TRUNK GROUP
			A	ALL	MR	
STBO-9	21	71G7	AD	2	TR	START B — SENDER SUBGROUP
STBO-9 (NG)	35,36,37	86E8	AD	3	TR	START B — OFFICE NO. GROUP
STBCO-3	21	71G7	AD	1	TR	START B — OUTGOING SENDER CONN
ST-BN	36	86B8	AD	4	TR	START BLANK NUMBERS
STD, STMF, STRO-3	63	125D2	ORIGINATING REGISTER SELECTOR UNIT			ORIGINATING REGISTER GROUPS TO BE MONITORED
		125E2				
		125E2				
ST-DC	36	86A8	A	ALL	MR	START DENIED CODE INTERCEPT
			AD	3	TR	
STM	63	125E2	ORIGINATING REGISTER SELECTOR UNIT			START MONITOR
ST-RI	36	86B8	AD	4	TR	START REGULAR INTERCEPT
ST-TBI	36	86C8	AD	4	TR	START TROUBLE INTERCEPT
ST-VC	36	86A8	A	ALL	MR	START VACANT CODE INTERCEPT
			AD	3	TR	
SV	27	21B5	RH	2	TR	X11 SERVICE CLASS
SVD1-9	51	37D7	AD	4	TR	SEVEN DIGIT CHARGE
SW00-44 100-144	34,56,57	27E6	SB	4	CS	SERVICE RELAY WINDING
SW300-359	34	27D6	STB	1,3	SCLS	
SWCO0-29 GR"A",SORT1	34	27B5-D5	SB	4	CS	SERVICE RELAY WINDING CONNECTOR
			CMB	3	CAMA	
SWCO0-29 GR B,SORT1	34	27B5-D5	STA	1,3	SCLS	
SWCO0-29 GR B,SORT2	34	27B5-D5	STA	1,3	SCLS	
SWP	34	27E3, F3	SB	4	CS	SERVICE RELAY WINDING PARTY
			STB	2,4	SCLS	
SWP1-3	34	27E3	SB	4	CS	SERVICE RELAY WINDING — PARTY
			STB	2,4	SCLS	
SWR	34	27E3, G3	SB	4	CS	SERVICE RELAY WINDING — RING
			STB	2,4	SCLS	
SWR1-3	34	27H3	SB	4	CS	SERVICE RELAY WINDING — RING
			STB	2,4	SCLS	
SWT	34	27E3, F3	SB	4	CS	SERVICE RELAY WINDING — TIP
			STB	2,4	SCLS	
SWT1-3	34	27G3	SB	4	CS	SERVICE RELAY WINDING — TIP
			STB	2,4	SCLS	
SWTA	34	17F8	SB	4	CS	SERVICE RELAY WINDING — TANDEM
			STB	2,4	SCLS	
SWTI	34	17E8	SB	4	CS	SERVICE RELAY WINDING — INCOMING
			STB	2,4	SCLS	
SWTO	34	17G8	SB	4	CS	SERVICE RELAY WINDING — TOLL
			STB	2,4	SCLS	
SWTX	34	17F8	SB	4	CS	SERVICE RELAY WINDING — SECOND TANDEM CLASS
			STB	2,4	SCLS	
SZ2-10	8	47B6-H6	CF	2	CE	T L FRAME SIZE
SZ(A-D)	8	47C6,D7	CG	2	CE	T L FRAME SIZE A,B,C,D
T	6	102C6	CG	2	CE	TOLL INTERCEPT
TA2-9	26	23C8	RG	1	TR	TOLL "A" DIGIT TRANSLATOR
TAB	2-11	29C7	RL	4	TR	OFFICE "A" THEORETICAL
TAN	33,41,43	22D9	RM	1	TR	TANDEM
TAN1-4	32	28A9-F9	RN	1	TR	TANDEM SERVICE TREATMENT
TBO-9	36	94B6	AD	3	TR	NO. GROUP TENS BLOCK

TERM. DESIG	CROSS CONN TABLE PART	LOCATION* FS	BLOCK	SECTION	FRAME	FUNCTIONAL MEANING
TBOO-99	12	32F5	RC	1	TR	TRUNK BLOCK
TB100-219			SRC	1	S2	
TB220-449			SRC	1	S1	
TB450-569			CVC	1	CV	
TBAO-3	12	32F3-H3	RC	1	TR	TRUNK BLOCK "A" ALLOTTER
TBB	2-11	29E7	RL	4	TR	OFFICE B THEORETICAL
TBBO-3	12	32G3,H3	RC	1	TR	TRUNK BLOCK B ALLOTTER
TB-BN	36	94B5	AD	4	TR	TENS BLOCK — BLANK NO.
TB-DC	36	94B5	AD	1	TR	TENS BLOCK — DENIED CODE INTERCEPT
TB-RI	36	94B5	AD	4	TR	TENS BLOCK — REGULAR INTERCEPT
TB-TBI	36	94A5	AD	4	TR	TENS BLOCK — TROUBLE INTERCEPT
TB-VC	36	94A5	AD	4	TR	TENS BLOCK — VACANT CODE INTERCEPT
TBCO-7	12	32E3,F3	RD	1	TR	TRUNK BLOCK CONNECTOR
			SRD	1	S2	
			SRD	1	S1	
			CVD	1	CV	
TBGO-3	12	32F4-H4	RC	1	TR	TRUNK BLOCK SUB GROUP
TBIA	2	92C9	A	-	MR	TROUBLE INTERCEPT AUXILIARY
TBIB	6	102A/D4	CG	-	CE	
TC	32,53	30E4	RP	1	TR	TALKING CHARGE, COIN
			SE	1	CS	
			SRP	1	S1	
			CVM	1	CV	
			STD	1	SCLS	
TC5	25	21C5	RG	2	TR	TRANSLATOR CONTROL — FIVE DIGITS
TC6	25	21C5	RG	2	TR	TRANSLATOR CONTROL — SIX DIGITS
TC7	25	21C5	RG	2	TR	TRANSLATOR CONTROL — SEVEN DIGITS
TCH	40	83G7	AD	3	TR	TOLL CHARGE
TD	64	130D2	SD	-	CS	TOLL DIVERSION
TGOO-99	12	32C3	RC	3	TR	TRUNK GROUP
TG100-219			SRC	3	S2	
TG220-449			SRC	3	S1	
TG450-569			CVC	3	CV	
TGCO-19	12	32B3-D3	RD	3	TR	TRUNK GROUP CONNECTOR
			SRD	3	S2	
			SRD	3	S1	
			CVD	3	CV	
TT	2	92D3	CF	3	CE	TEMPORARY INTERCEPT
TLC1-4	11,50	28A7-F7	RM	1	TR	TANDEM, TOLL & LOCAL INPUT SERVICE TREATMENT
TN	32,53	30F4	RP	1	TR	TALKING CHARGE, NON-COIN
			SE	1	CS	
			SRP	1	S1	
			CVM	1	CV	
			STD	1	SCLS	
TNI	2	92B3	CF	3	CE	TRUNK NO. — INTERCEPT
TNL	2	92B3	CF	3	CE	TRUNK NO. — LOCAL
TNT	2	92B3	CF	3	CE	TRUNK NO. — TOLL
TNX1-4	32	28A9-G9	RN	1	TR	SECOND TANDEM CLASS SERVICE TREATMENT
TO	32	30E4	RP	2	TR	INTERTOLL ROUTE SERIES
			SE	1	CS	
			SRP	2	S1	
			TB	4	TC	
			CVM	2	CV	
			CVB	2	CAMA	
			STD	2	SCLS	

* SEE SHEET D1BC FOR FRAME OR BAY ABBREVIATIONS.

DRAWING ISSUE: 54D RGL &DL ANE; 56D NLF

CROSS CONNECTION INFORMATION NOTES (CONT):
400. PUNCHING INDEX
(CONT)

TERM. DESIG	CROSS CONN TABLE PART	LOCATION* FS	BLOCK	SECTION	FRAME	FUNCTIONAL MEANING
TOG	52	15F2	CMB	4	CAMA	TANDEM OR TOLL OUTGOING
TOL	33,41,43	22D9	RM	1	TR	TOLL
TOLO	50	17G8	RN	1	TR	TOLL SERVICE TREATMENT
TOL1-4	32,50	28A9-G9	RN	1	TR	
TPI	2	92E3	CF	3	CE	TEMPORARY INTERCEPT
TR0,1	48	29F0, G0	RH RM	2 2	TR	TEST ROUTE
TR2-5	48	29H0	RH RM	3 3	TR	TEST ROUTE
TRB	48	29G2	RN	1	TR	RINGER TEST RELAY BATTERY
TRB0,1	48	29F2	RL RN	2 1	TR	TEST ROUTE BATTERY
TRS0-4	60	128F3	SD STD	4 1	CS SCLS	TRAFFIC SAMPLE
TS0-45	11,32,33, 41,42,47	SHEET 19	TA	ALL	TC	TANDEM SCREENING
TSA0	60	128F2	RN SD	1 1	TR CS	TRAFFIC SAMPLE AUXILIARY
TSA1	60	128F2	RM SD	3 1	TR CS	TRAFFIC SAMPLE AUXILIARY
TSA2-4	60	128F2	RL SD	2 1	TR CS	TRAFFIC SAMPLE AUXILIARY
TSC0-45	24,26,50	SHEET 19	RG RM CVK	2 1 2,3,4	TR CV	TANDEM SCREENING CONTROL
TT	25	21C5	RH	2	TR	TOLL TRANSLATOR
TWT0-2	14,22	69D4	RD SRD SRD CVD	2 2 2 2	TR S2 S1 CV	TWO-WAY TRUNKS
TXC1-9	28	26F2	RG	4	TR	TX CODE TRANSLATOR
U0-9	36	95B3-G3	AD	3	TR	NO. GROUP UNITS
U0A	2	129E6	A	-	MR	UNIDENTIFIED OFFICE "A"
U0B	2	129E6	A	-	MR	UNIDENTIFIED OFFICE B
U-BN	36	95H3	AD	4	TR	UNITS BLANK NO.
U-DC	36	95H1	AD	1	TR	UNITS DENIED CODE INTERCEPT
U-RI	36	95H3	AD	4	TR	UNITS REGULAR INTERCEPT
U-TBI	36	95H3	AD	4	TR	UNITS TROUBLE INTERCEPT
U-VC	36	95H1	AD	4	TR	UNITS VACANT CODE INTERCEPT
USC0-11	34	28D1	S	SERVICE TREATMENT RELAY UNIT		UNIT TERMINAL PUNCHINGS FOR SC-
VC	33,41,43	22D9	RL SRG CVL	1 2 1	TR S1 CV	VACANT CODE POINT
VCA	6	102D6	CG	2	CE	VACANT CODE AUXILIARY
VCG	26,29,42,47	22C9	RF RK	3,4 ALL	TR	VACANT CODE GROUPING
VCI	43	92E0	RL	2	TR	VACANT CODE INTERCEPT
VCIA	2	92B9	A	-	MR	VACANT CODE INTERCEPT AUXILIARY
VCP	41,43	29A2	RL	2	TR	ACCESS PUNCHING FOR VACANT CODE
VCR	41,43	29A3	SE STD	2 2	CS SCLS	ACCESS PUNCHING FOR VACANT CODE

TERM. DESIG	CROSS CONN TABLE PART	LOCATION* FS	BLOCK	SECTION	FRAME	FUNCTIONAL MEANING
VGA0-9	58	3A3-D3	ORIGINATING REGISTER SELECTOR UNIT			VERTICAL GROUP "A"
VGD	5	3B1	CG	2	CE	IDENTITY OF ORIGINAL CUSTOMER BY VERTICAL GROUP: DIAL
VGMF	5	3B2	CG	2	CE	IDENTITY OF ORIGINAL CUSTOMER BY VERTICAL GROUP: MULTI-FREQUENCY
VGP00-09	5	3A3-E3	ORIGINATING REGISTER SELECTOR UNIT			VERTICAL GROUP PATTERN 0
VGP10-19	5	3A3-E3	ORIGINATING REGISTER SELECTOR UNIT			VERTICAL GROUP PATTERN 1
VGP20-29	5	3A3-E3	ORIGINATING REGISTER SELECTOR UNIT			VERTICAL GROUP PATTERN 2
VGR00-13	5	3A4-E4	CF	2	CE	IDENTITY OF ORIGINAL CUSTOMER BY VERTICAL GROUP: VERTICAL NO.
VP	43,45	30A1	RL SE TB STD	1 3 4 2	TR CS TC SCLS	VACANT CODE PARTIAL DIAL
VTC	33,43	22F5	CMA	1	CAMA	CAMA VACANT CODE TREATMENT
WA1,2	21	72A/E7 72A/E6	AD	1	TR	OUTGOING SENDER WAITING ASSIGNMENT
X11	27	21B5	RG	2	TR	SERVICE CODE X11 TRANSLATOR
XTB	58	43G6	ORIGINATING REGISTER SELECTOR UNIT			CROSS TRUNK BLOCK
XTG	58	43E5	ORIGINATING REGISTER SELECTOR UNIT			CROSS TRUNK GROUP
Z0	30,33,49	22B9	RL RN SRG CVL	1 1 2 1	TR TR S1 CV	ZERO OPERATOR CODE POINT
ZRS0-9	53	30E3	SD	1	CS	COIN ZONE: ROUTE SERIES TREATMENT
ZRT0-9	53	30E2	COIN ZONE DIALING UNIT		MR	COIN ZONE: TIP PARTY OR NO TIP PARTY CLASS SIGNAL TO TRUNK

TERM. DESIG	CROSS CONN TABLE PART	LOCATION* FS	BLOCK	SECTION	FRAME	FUNCTIONAL MEANING

* THE FOLLOWING ABBREVIATIONS ARE USED TO IDENTIFY THE FRAME OR BAY IN THE PUNCHING INDEX:

CAMA - CAMA FRAME
CE - COMMON EQUIPMENT FRAME
CS - CLASS-OF-SERVICE BAY
CV - CODE CONVERSION AND ROUTE RELAY BAY
MR - MISCELLANEOUS RELAY RACK
S1 - SUPPLEMENTARY ROUTE RELAY BAY FOR ONE MARKER
S2 - SUPPLEMENTARY ROUTE RELAY BAY FOR TWO MARKERS
TC - TANDEM CODE SCREENING BAY
TR - TRANSLATOR AND ROUTE RELAY FRAME
SCLS - SUPPLEMENTARY CLASS-OF-SERVICE FRAME

DRAWING ISSUE 54D

MARKER CIRCUIT (2) SD-25550-01-D18C

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-D18C

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PART	FEATURE OR CONDITION			CONNECT FROM	CONNECT TO	CONDITION	MKR INVOLVED	REF
1	MARKER CLASS OF SERVICE INDICATIONS		WHEN MARKER IS USED FOR DIAL TONE CONDITION	CS 00-29	CN	COIN CLASS OF SERVICE	DIAL TONE OR COMBINED	404
					MAN	MANUAL CLASS OF SERVICE		
					MCN	COIN CLASS MANUAL LINES		
					2P	TWO-PARTY NON-COIN CLASS OF SERVICE REQUIRING PARTY IDENTIFICATION FOR CHARGING (MR OR AMA)		
					AO	ALL OTHER CLASSES		
			WHEN MARKER IS USED FOR COMPLETING CONNECTION AND GROUND START COIN LINES ARE PROVIDED IN THE OFFICE	CS 00-29	CN	ALL COIN CLASSES	COMPLETING	
					AO	ALL OTHER CLASSES		
2	TYPE OF INTERCEPTING (STD)		CHANGE AND DISCONTINUED NUMBERS OR UNASSIGNED OR BLANK NUMBERS IN EQUIPPED NO. GROUPS	NI	RI	ROUTE TO REGULAR INTERCEPT OPERATOR		
					BN	ROUTE TO NO-SUCH-NO. TONE OR MACHINE INTERCEPT ANNOUNCEMENT		
			UNASSIGNED OR BLANK NO. IN EQUIPPED NO. GROUP	GI	RI	ROUTE TO REGULAR INTERCEPT OPERATOR		
					BN	ROUTE TO NO-SUCH-NO. TONE OR MACHINE INTERCEPT ANNOUNCEMENT		
			BLANK THOUSAND SERIES IN UNEQUIPPED NO. GROUP AND BLANK HUNDREDS BLOCK IN NO. GROUP	BTI	RI	ROUTE TO REGULAR INTERCEPT OPERATOR		
					BN	ROUTE TO NO-SUCH-NO. TONE OR MACHINE INTERCEPT ANNOUNCEMENT		
			NO PHYSICAL, THEORETICAL OR EXTRA-THEORETICAL NO. MATCH	NMI	RI	ROUTE TO REGULAR INTERCEPT OPERATOR		
					BN	ROUTE TO NO-SUCH-NO. TONE OR MACHINE INTERCEPT ANNOUNCEMENT		
			SUBSCRIBER CALLS A TRUNK NO.	TNI	RI	ROUTE TO REGULAR INTERCEPT OPERATOR		
					BN	ROUTE TO NO-SUCH-NO. TONE OR MACHINE INTERCEPT ANNOUNCEMENT		
			TEMPORARY INTERCEPT	TI	RI	ROUTE TO REGULAR INTERCEPT OPERATOR		
					BN	ROUTE TO NO-SUCH-NO. TONE OR MACHINE INTERCEPT ANNOUNCEMENT		
	TYPE OF INTERCEPTING (A&M ONLY)	AUTOMATIC INTERCEPT NOT PROVIDED	CHANGED AND DISCONTINUED NUMBERS, OR UNASSIGNED, OR BLANK NUMBERS IN EQUIPPED NO. GROUP	NL	RI	NON-TOLL TRUNK	REGULAR INTERCEPT	COMBINED OR COMPLETING
					BN		NO-SUCH-NO. TRUNK OR MACHINE ANNOUNCEMENT	
				NT	RI	TOLL TRUNK	REGULAR INTERCEPT	
					BN		NO-SUCH-NO. TRUNK OR MACHINE ANNOUNCEMENT	
					RO		TRUNK SET TO REORDER	
			UNASSIGNED OR BLANK NUMBERS IN EQUIPPED NO. GROUP OR TEMPORARY INTERCEPT	GL	RI	NON-TOLL TRUNK	REGULAR INTERCEPT	
					BN		NO-SUCH-NO. TRUNK OR MACHINE ANNOUNCEMENT	
				GT	RI	TOLL TRUNK	REGULAR INTERCEPT	
			BLANK THOUSAND SERIES IN UNEQUIPPED NO. GROUP AND BLANK HUNDREDS BLOCK IN NO. GROUP	BTL	RI	NON-TOLL TRUNK	REGULAR INTERCEPT	
					BN		NO-SUCH-NO. TRUNK OR MACHINE ANNOUNCEMENT	
				BTT	RI	TOLL TRUNK	REGULAR INTERCEPT	
					BN		NO-SUCH-NO. TRUNK OR MACHINE ANNOUNCEMENT	
					RO		TRUNK SET TO REORDER	
			NO PHYSICAL OR THEORETICAL NO. MATCH	NML	RI	NON-TOLL TRUNK	REGULAR INTERCEPT	
					BN		NO-SUCH-NO. TRUNK OR MACHINE ANNOUNCEMENT	
				NMT	RI	TOLL TRUNK	REGULAR INTERCEPT	
					BN		NO-SUCH-NO. TRUNK OR MACHINE ANNOUNCEMENT	
					RO		TRUNK SET TO REORDER	
			SUBSCRIBER CALLS A TRUNK NO.	TNL	RI	NON-TOLL TRUNK	REGULAR INTERCEPT	
					BN		NO-SUCH-NO. TRUNK OR MACHINE ANNOUNCEMENT	
				TNT	RI	TOLL TRUNK	REGULAR INTERCEPT	
					BN		NO-SUCH-NO. TRUNK OR MACHINE ANNOUNCEMENT	
					RO		TRUNK SET TO REORDER	
			TEMPORARY INTERCEPT	TI	TPI	THIS CROSS-CONNECTION IS MADE IN ADDITION TO THE GL OR GT CROSS-CONNECTIONS		

PART	FEATURE OR CONDITION			CONNECT FROM	CONNECT TO	CONDITION	MKR INVOLVED	REF
2 (CONT)	TYPE INTERCEPTING (EITHER COND	AUTOMATIC INTERCEPT PROVIDED	CHANGED OR PERMANENTLY DISCONNECTED NUMBERS	GI	RI	AUTOMATIC INTERCEPT CENTER TREATS AS REGULAR INTERCEPT	COMBINED OR COMPLETING	425
				GL				
				GT				
			TEMPORARY DISCONNECTED NUMBERS	TI				
			UNASSIGNED NUMBERS IN WORKING HUNDREDS BLOCK	NI				
				NL				
				NT				
			UNEQUIPPED NO. GROUP OR BLANK HUNDREDS BLOCK	BTI	BN	AUTOMATIC INTERCEPT CENTER TREATS AS BLANK NO. INTERCEPT		
				BTL				
				BTT				
			SUBSCRIBER CALLS A TRUNK NO.	TNI				
				TNL				
				TNT				
			NO PHYSICAL, THEORETICAL OR EXTRA-THEORETICAL NO. MATCH	NMI				
				NML				
				NMT				
	AUTOMATIC INTERCEPT SERVICE		TROUBLE INTERCEPT TREATMENT	ITB	AIS	ROUTE TO AUTOMATIC INTERCEPT CENTER		
					NAI	PROCESS IN LOCAL OFFICE		
			SENDER GROUP SELECTION	AI	OSC-	SENDER GROUP ASSOCIATED WITH AUTOMATIC INTERCEPT ROUTE		
			CLASS INFORMATION TO SENDER	CAI	CLOS	CLASS LEADS 1 & 3 GROUNDED		
			ARBITRARY DIGIT INFORMATION TO SENDER — BLANK NO.	ABN	CROP			
			REGULAR INTERCEPT	ARI	CR3P			
			TROUBLE INTERCEPT	ATI	CR1P			
			OFFICE CODE INFORMATION TO SENDER — OFFICE A	HOA	OFCO-5			
			OFFICE B	UOB				
				110-5	DAO,1, 2,4,7	FIRST DIGIT OF OFFICE CODE	INFORMATION TO SENDER TRANSMITTED ON A TWO OUT OF FIVE BASIS	
				210-5				
				130-5	DBO,1, 2,4,7	SECOND DIGIT OF OFFICE CODE		
				230-5				
				100-5	DCO,1, 2,4,7	THIRD DIGIT OF OFFICE CODE		
				200-5				
			AUTOMATIC INTERCEPT TRUNK GROUP	NA6	BNA	ROUTE TO AUTOMATIC INTERCEPT CENTER		
					RIA			
					TBIA			
					ITNA			
					ITNB			
	SEPARATE LINE LINK INTERCEPT TRUNK GROUPS			NA1-4	DCIA	BLANK NO. AND REGULAR INTERCEPT, OR BOTH		
					BNA			
					VCIA			
					RIA			
					ITNA			
					ITNB			
					TBIA			
				NA5	TBIA	TROUBLE INTERCEPT		
					JTNA			
					ITNB			
				ITC	SO-11	DETERMINATION OF INTERCEPT TRUNK GROUPS		
					SWTA			
					SWTX			
					SWTO			
					SWT1			
					TAN			
					TS00-45			
				ITCA	PAB			
					TAB			
					EAB			
					PBB			
					TBB			
					EBB			

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BELL TELEPHONE LABORATORIES INCORPORATED 6S

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CROSS CONNECTION INFORMATION NOTES (CONT)
400 (CONT)

PART	FEATURE OR CONDITION		CONNECT FROM	CONNECT TO	CONDITION			MKR INVOLVED	REF
3	RECORDS OF SELECTED TRAFFIC CONDITIONS		POINT UNDER TEST	EXG	GROUND APPEARS AT POINT BEING TESTED			ALL	
				EXB	BATTERY APPEARS AT POINT BEING TESTED				
			GWD		GROUND SOURCE TO BE DETECTED	(EX) RELAY IS OPERATED FROM GROUND	PEG COUNT WITH OR WITHOUT A TROUBLE RECORDER RECORD	COMBINED OR COMPLETING	
			BWD	BAT					
			BWD		BATTERY SOURCE TO BE DETECTED	(EX) RELAY IS OPERATED FROM BATTERY			
			GWD	GND					
			EX	EXA	TROUBLE RECORDER RECORD ON FIRST TRIAL-CALL COMPLETES ON SECOND TRIAL				
4	TYPE OF CUSTOMER SUBSET THAT THE LINE LINK FRAME SERVES		LF 00-39	LFD	1ST ORIGINATING REGISTER GROUP (DIAL PULSING CUSTOMER SETS ONLY)			DIAL TONE OR COMBINED	404 & 301
				LFMF	2ND ORIGINATING REGISTER GROUP (MULTI-FREQUENCY CUSTOMER SETS ONLY)				
				LFR0	3RD ORIGINATING REGISTER GROUP				
				LFR1	4TH ORIGINATING REGISTER GROUP				
				LFR2	5TH ORIGINATING REGISTER GROUP				
				LFR3	6TH ORIGINATING REGISTER GROUP				
				LFM	MIXED LLF (TWO ORIGINATING REGISTER GROUPS ONLY)				
				LFP0	MIXED LLF PATTERN 0 (SIX ORIGINATING REGISTER GROUPS)				
				LFP1	MIXED LLF PATTERN 1 (SIX ORIGINATING REGISTER GROUPS)				
				LFP2	MIXED LLF PATTERN 2 (SIX ORIGINATING REGISTER GROUPS)				
5	WHEN LINE LINK FRAMES ARE SERVED BY	TWO ORIGINATING REGISTER GROUPS	VGR 00-13	VG0	1ST ORIGINATING REGISTER GROUP SERVES SUBSCRIBERS IN VERTICAL GROUP			DIAL TONE OR COMBINED	404 & 301
				VGMF	2ND ORIGINATING REGISTER GROUP SERVES SUBSCRIBERS IN VERTICAL GROUP				
		SIX ORIGINATING REGISTER GROUPS	VGP 00-09 (PATT 0), VGP 10-19 (PATT 1), VGP 20-29 (PATT 2)	LFD	1ST ORIGINATING REGISTER GROUP SERVES SUBSCRIBERS IN VERTICAL GROUP				
				LFMF	2ND ORIGINATING REGISTER GROUP SERVES SUBSCRIBERS IN VERTICAL GROUP				
				LFR0	3RD ORIGINATING REGISTER GROUP SERVES SUBSCRIBERS IN VERTICAL GROUP				
				LFR1	4TH ORIGINATING REGISTER GROUP SERVES SUBSCRIBERS IN VERTICAL GROUP				
				LFR2	5TH ORIGINATING REGISTER GROUP SERVES SUBSCRIBERS IN VERTICAL GROUP				
				LFR3	6TH ORIGINATING REGISTER GROUP SERVES SUBSCRIBERS IN VERTICAL GROUP				

PART	FEATURE OR CONDITION	CONNECT FROM	CONNECT TO	CONDITION		MKR INVOLVED	REF
6	RINGING DISTINCTION BETWEEN LOCAL AND TOLL CALLS TO AN INTERCEPT OPERATOR	C	T	RINGING DISTINCTION REQUIRED		COMBINED OR COMPLETING	
			L	NO DISTINCTION SIGNAL REQUIRED			
	RINGING DISTINCTION ON INTERCEPT TRUNKS (LINE LINK)	DCA VCA BNB RIB TBTB	T	APP FIG AU OR AV	RINGING ON TIP		
			L		RINGING ON RING		
			ID	APP FIG AU	RINGING DISTINCTION BETWEEN LOCAL AND TOLL CALLS TO AN INTERCEPT OPERATOR		
7	TRUNK LINK FRAME INDICATION (REMOVED DURING ADDITIONS OR TRANSITION PERIOD)	SPF	SF	SINGLE	TRUNK LINK FRAMES IN THE OFFICE	ALL	
			PR	PAIRED			
8	OFFICE SIZE AS DETERMINED BY THE NO. OF SINGLE TRUNK LINK FRAMES OR PAIRS OF TRUNK LINK FRAMES	SZ 2-10	SZD	OFFICE OPERATES AS A SINGLE SIZE		ALL	
			SZA	SIZE A	DURING ADDITIONS OR TRANSITION PERIOD OFFICE OPERATES AS VARIABLE SIZES		
			SZB	SIZE B			
			SZC	SIZE C			
9	COUNTING THE NO. OF TIMES A CERTAIN NO. OF LINKS IS BUSY IN THE LINE LINK FRAME INCLUDING THE LINK SEIZED ON THE CURRENT CALL	REG 2	R5-7	THREE OR MORE	BUSY LINE LINKS	COMBINED OR COMPLETING	
			R5,R6	FOUR OR MORE			
			R5	FIVE OR MORE			
		NONE	-	SIX OR MORE			
		REG 1	R5	SEVEN OR MORE			
			R5,R6	EIGHT OR MORE			
			R5-7	NINE OR MORE			
			R5-8	TEN			
10	SIMILIAR PREFERENCE REQUIRED IN ALL MARKERS TO INSURE MAXIMUM OFFICE LOAD	S	IN0	AT INITIAL INSTALLATION		ALL	
		M	OT4				
		MI	IN5				
		E	OT9				
		S	IN5	TO DISTRIBUTE WEAR DURING THE LIFE OF THE OFFICE			
		M	OT9				
		MI	IN0				
		E	OT4				

DRAWING ISSUE
54D REC AND ADD
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CROSS CONNECTION INFORMATION NOTES:

400. (CONT)

PART	FEATURE OR CONDITION				CONNECT FROM	CONNECT TO	CONDITION		MKR INVOLVED	REF
11	LOCAL COMPLETION	INTRA-OFFICE ROUTING FOR	OFFICE A NUMBERS	EXTRA-THEORETICAL	AER	RC 000-569	COMMON ROUTES FOR ALL CLASSES OF SERVICE		COMBINED OR COMPLETING	402, 409, 412
				PHYSICAL	APR					
				THEORETICAL	ATR					
			OFFICE B NUMBERS	EXTRA-THEORETICAL	BER	SC 00-35	SEPARATE ROUTES FOR DIFFERENT CLASSES OF SERVICE			
				PHYSICAL	BPR					
				THEORETICAL	BTR					
		"A" PHYSICAL OFFICE			AP	TS 00-45	TANDEM SCREENING WHERE MORE THAN ONE TANDEM CLASS OF CALL IS USED TO DETERMINE ROUTING			
		"A" THEORETICAL OFFICE			AT					
		"A" EXTRA-THEORETICAL OFFICE			AE	S 0-11	WHERE 2 OR MORE RATE AREAS ARE SERVED INVOLVING MESSAGE UNIT CHARGES ON CALLS			
		B PHYSICAL OFFICE			BP					
		B THEORETICAL OFFICE			BT	C0-9	ONE DIGIT TRANSLATION			
		B EXTRA-THEORETICAL OFFICE			BE	C20-99	2-DIGIT TRANSLATION			
						C20-99 (BX)	BX DIGIT TRANSLATION REQUIRED ON CALLS FROM STEP-BY-STEP OFFICES			
						C000-999	3 DIGIT TRANSLATION			
						FAR 00-99	FOR AREA TRANSLATION OUTPUT FOR LOCAL OFFICE COMPLETION			
		CAMA FEATURE PROVIDED	OFFICE A	EXTRA-THEORETICAL	EAB	LCB	WHERE NO CAMA SERVICE IS REQUIRED FOR THE PHYSICAL, THEORETICAL OR EXTRA-THEORETICAL OFFICE IN THE MARKER GROUP			
				PHYSICAL	PAB					
				THEORETICAL	TAB					
			OFFICE B	EXTRA-THEORETICAL	EBB	SC 00-35	CAMA SERVICE REQUIRED FOR PHYSICAL, THEORETICAL OR EXTRA-THEORETICAL OFFICE IN THE MARKER GROUP	SEPARATE ROUTE FOR DIFFERENT CLASSES OF SERVICE		
				PHYSICAL	PBB					
				THEORETICAL	TBB	TCL 1-4		SEPARATE ROUTE FOR DIFFERENT CLASSES OF CALLS		
						PSC 00-23		PRESORT FOR TWO DIFFERENT CLASSES OF SERVICE		
12	TRUNK SELECTION FOR CUSTOMER ORIGINATING CALLS OVER OUTGOING JUNCTOR, IMG, CAMA JUNCTOR, OR CAMA IMG TRUNK OR FOR THRU SWITCH TO TANDEM OR TOLL TRUNK CALLS	TRUNK BLOCK			TB 00-569	TBC 0-7	NON-ALLOTTED TRUNK GROUP		COMBINED OR COMPLETING	406, 415
		TRUNK GROUP			TGOO-569	TGC 0-19	TRUNK GROUP 0-19			
		ALLOTTED TRUNK GROUP			TBC 0-7	TBA 0-3	"A" TRUNK SUBGROUP	TRUNK BLOCK FRAME CONNECTOR		
						TBB 0-3	B TRUNK SUBGROUP			
					FC 10-19	FCA 0-3	"A" TRUNK SUBGROUP			
						FCB 0-3	B TRUNK SUBGROUP			
					FCR 10-19	FCG 0-3	FOR THE ROUTE RELAY ASSIGNED TO THE ALLOTTED TRUNK GROUP AND ALSO THE NEXT HIGHER NUMBERED ROUTE RELAY, REMOVE THE STRAPS BETWEEN THE FCR- AND FC- PUNCHINGS			

PART	FEATURE OR CONDITION	CONNECT FROM	CONNECT TO	CONDITION		MKR INVOLVED	REF
13	ORIGINATING REGISTER SELECTION (TWO ORIGINATING REGISTER GROUPS ONLY)	FC 00-04	FCD	FOR ROUTE RELAYS ASSIGNED DIAL TONE JOBS ORIGINATING FROM DIAL PULSE SUBSCRIBER SETS	STRAP FROM FCOO-04 TO FCRA 0-4 MUST BE REMOVED	COMBINED	
			FCM	FOR ROUTE RELAYS ASSIGNED DIAL TONE JOBS ORIGINATING FROM MULTI-FREQUENCY SUBSCRIBER SETS			
	ORIGINATING REGISTER SELECTION (SIX ORIGINATING REGISTER GROUPS)	FD	FCD	ROUTE RELAYS FOR 1ST ORIGINATING REGISTER GROUP		DIAL TONE OR COMBINED	
		FM	FCM	ROUTE RELAYS FOR 2ND ORIGINATING REGISTER GROUP			
		FR0	FCR0	ROUTE RELAYS FOR 3RD ORIGINATING REGISTER GROUP			
		FR1	FCR1	ROUTE RELAYS FOR 4TH ORIGINATING REGISTER GROUP			
		FR2	FCR2	ROUTE RELAYS FOR 5TH ORIGINATING REGISTER GROUP			
		FR3	FCR3	ROUTE RELAYS FOR 6TH ORIGINATING REGISTER GROUP			
14	OUTGOING SENDER SELECTION — OUTGOING LOCAL, TANDEM OR TOLL ROUTE	OS 00-569	OSC 0-9	SENDER GROUP ASSOCIATED WITH ROUTE		COMBINED OR COMPLETING	406
			NSO	NO SENDER REQUIRED FOR ROUTE			
	INTRA-OFFICE ROUTES		NS1	NO SENDER INTRA-OFFICE CLASS			
		AMA	OSC 0-9	SENDER GROUP REQUIRED FOR AMA BILLING			
	OUTGOING ROUTE ASSOCIATED WITH 2-WAY TRUNK	OS 00-569	TWT 0-2	AUXILIARY RELAY ASSOCIATED WITH 2-WAY TRUNK GROUP TO PROVIDE IMMEDIATE TRUNK CLOSURE			
		SG 0-2	OSC 0-9	SENDER GROUP ASSOCIATED WITH ROUTE			
			NSO	NO SENDER REQUIRED FOR ROUTE			
	STRAIGHT FORWARD X11 AND X1 ROUTES, ORIGINATING REGISTER SERVED BY PRE-TRANSLATORS	OS 00-569	CDKO,1	CHECK SOME OR ALL OF CODE DIGITS			
		SDGO,1	OSC 0-9	SENDER GROUP ASSOCIATED WITH ROUTE			
		SKD 0,1	SAB	CHECK A,B, DIGITS ON X1 CODES			
			SABC	CHECK A,B,C DIGITS ON X11 CODES			
	REVERTING CALL AND RINGER TEST ROUTES	OS 00-569	NSOR	CHECK OPERATION OF R.S. SWITCH	REQUIRED		
			NSO		NOT REQUIRED		

PART	FEATURE OR CONDITION	CONNECT FROM		D.P. AND MF SENDERS ARBITRARY DIGIT AND 11 PREFIX	PCI SENDERS COMPENSATING RES	RP SENDERS COMPENSATING RES	RP SENDERS DESTINATION	MKR INVOLVED	REF
15	OUTGOING SENDER COMPENSATING RESISTANCE AND CODE ROUTE INFORMATION	CR 00-569	CR0S	0	0	0	OTHER THAN CROSSBAR OFFICE	COMBINED OR COMPLETING	406
			CR1S	1					
			CR2S	2					
			CR3S	3	300	300			
			CR4S	4					
			CR5S	5					
			CR6S	6	600	600			
			CR7S	7					
			CR8S	8					
			CR9S	9	900	900			
			CR10S	NONE					

54D REL AND 56D NF

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MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

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CROSS CONNECTION INFORMATION NOTES(CONT)
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PART	FEATURE OR CONDITION	CONNECT FROM	CONNECT TO	CONDITION				MKR INVOLVED	REF
				D P AND MF SDR	PCI SDR	RP SDR			
				ARBITRARY DIGIT AND II PREFIX	COMPEN-SATING RES	COMPEN-SATING RES	DESTI-NATION		
15 (CONT)	OUTGOING SENDER COMPENSATING RESISTANCE FOR SHORT TRUNK LOOPS AND CODE ROUTE INFORMATION FOR OUTPULSING ARBITRARY DIGIT	CR 00-569	CR0P	110		0	XBR OFFICE. INDI-CATES SHORT INTER-VAL BETWEEN SELEC-TIONS	COMB. OR COMPL	406
			CR1P	111					
			CR2P	112					
			CR3P	113		300			
			CR4P	114					
			CR5P	115					
			CR6P	116		600			
			CR7P	117					
			CR8P	118					
			CR9P	119		900			
			CR10P	(11MD)					

PART	FEATURE OR CONDITION	CONNECT FROM	CONNECT TO	CONDITION				MKR INVOLVED	REF
				CODE PATTERN	DIGITS IN LABELIES TO SDR CALLED OFF DP, MF CODE	DIGITS IN LABELIES TO SDR CALLED OFF DP, MF OR IMG	PCI OR REV	AREA	
16	OUTGOING SENDER CODE PATTERN INFORMA-TION FOR OFFICES WITH AMA (OMIT CROSS-CONNECTIONS ON AMI ROUTES)	CP 00-569	CP0P	0	0	✓		LOCAL	406
			CP1P	1	1	✓			
			CP2P	2	2	✓	✓		
			CP3P	3	3	✓	✓		
			CP4P	4	NOT USED				
			CP0S	5	0			EX-TEN-DED (II)	
			CP1S	6	1				
			CP2S	7	2	✓	✓		
			CP3S	8	3	✓	✓		
			CP4S	9	9	FOREIGN AREA CODES (XOX,XIX) PRECEDES OFFICE CODE			

PART	FEATURE OR CONDITION	CONNECT FROM	CONNECT TO	CONDITION					MKR INVOLVED	REF
				DELETE DIGITS	SDR			TYPE OFFICE		
17	OUTGOING SENDER DELETE AND NUMBER STRUCTURE INFORMATION	DL 00-569	DL0P	NONE	REV	CALLED OFFICE CONTAINS NOT MORE THAN 8 DIGITS		ALL	COMB. OR COMPL	406
			DL1P	A	PC1, DP MF, IMG	TRANSMIT ALL DIGITS		NONE AMA		
			DL2P	A-B	DP, MF	DO NOT TRANS-MIT	A DIGIT			
			DL3P	A-C	PC1		A-B DIGITS			
			DL4P	A-D	DP, MF		2 DIGIT OFFICE CODE			
			DL5P	A-E			3 DIGIT OFFICE CODE			
			DL6P	A-F			A-C DIGITS			
			DL0S	NONE	PC1, DP MF, IMG	NUMBER STRUCTURE	A-D DIGITS			
			DL1S	A	DP, MF	CALLED OFFICE DOES NOT CONTAIN MORE THAN FOUR NUMERICAL DIGITS (4DG)	A-E DIGITS			
			DL2S	A-B	DP, MF, PC1		A-F DIGITS			
			DL3S	A-C						
			DL4S	A-D						
			DL5S	A-E	DP, MF	CALL OFFICE CONTAINS SOME FIVE NUMERICAL DIGITS BUT NO LETTERED STATIONS (5DG)		AMA		
			DL6S	A-F						
			DL7P	NONE	PC1, DP, MF, IMG	CALLED OFFICE CONTAINS SOME FIVE NUMERICAL DIGITS WITH LETTERED STATIONS (LST)				
			DL8P	A	DP, MF					
			DL9P	A-B	DP, MF, PC1					
			DL10P	A-C						
			DL11P	A-D	DP, MF					
			DL12P	A-E						
			DL13P	A-F						
			DL7S	NONE	PC1, DP, MF, IMG	CALLED OFFICE CONTAINS FOUR NUMERICAL DIGITS SOME OF WHICH HAVE LETTERED STATIONS (LST)				
			DL8S	A	DP, MF					
			DL9S	A-B	DP, MF, PC1					
			DL10S	A-C						
			DL11S	A-D	DP, MF					
			DL12S	A-E						
			DL13S	A-F						

PART	FEATURE OR CONDITION	CONNECT FROM	CONNECT TO	CONDITION				MKR INVOLVED	REF
				DELETE DIGITS	SDR	NUMBER STRUCTURE	TYPE OFFICE		
17 CONT	OUTGOING SENDER DELETE AND NUMBER STRUCTURE INFORMATION	DL 00-569	DL0P	NONE	DP, PC1, MF, IMG	CALLED OFFICE IS IN THE EXTENDED (II) AREA OR XOX, XIX DIALING AREA	AMA	COMB. OR COMPL	406
			DL1P	A	DP, MF				
			DL2P	A-B	DP, MF, PC1				
			DL3P	A-C					
			DL4P	A-D					
			DL5P	A-E	DP, MF				
			DL6P	A-F					
	WHEN SENDER IS REQUIRED BUT DOES NOT OUTPULSE		ND1	STRAIGHTFORWARD ROUTES WHERE SENDER PROVIDES PATH FOR TN LEAD TO THE TRUNK INTRA-OFFICE AMA CALLS TEST CALLS REQUIRING SENDERS BUT NO OUTPULSING				

PART	FEATURE OR CONDITION			CONNECT FROM	CONNECT TO	CONDITION			MKR INVOLVED	REF
						CL SIGNAL TO SENDER				
18	OUTGOING SENDER CLASS INFORM-ATION	PCI SENDERS		CL 00-569	CL2P	2	NO NUMERICS OVER 9999		COMB. OR COMPL	406 419 420 421
					CL0S	3	NUMERICS OVER 9999			
		DIAL PULSE SENDERS			CL2P	2	CALL COMPLETED BY A 2-WAY TRUNK, AN INTERTOLL TRUNK, OR A LINK TYPE CDO			
					CL0S	3	START DIALING SIGNAL REQUIRED			
					CL3S	4	OUTPULSING AT 20 PPS			
					CL4S	5	BATTERY & GROUND PULSING			
					CL5S	6	CUSTOMER ACCESS TO 2-WAY OR INTERTOLL TRUNKS WITH CX SIGNALING (USED WITH CLASS 2)			
					CL0P	2,3	COMBINES CLASS 2 AND 3 CONDITIONS			
					CL1P	2,3,4	COMBINES CLASS 2,3 AND 4 CONDITIONS			
					CL3P	2,4	COMBINES CLASS 2 AND 4 CONDITIONS			
					CL4P	2,5	COMBINES CLASS 2 AND 5 CONDITIONS			
					CL5P	2,6	COMBINES CLASS 2 AND 6 CONDITIONS			
					CL1S	3,4	COMBINES CLASS 3 AND 4 CONDITIONS			
					CL2S	NONE	CALL IS COMPLETED TO A STEP-BY-STEP OFFICE, LOOP DIALING 1-WAY TRUNK			
		REVERTING CALL ROUTES AND RINGER TEST ROUTES		CL 00-569	RVT	REVERTING TYPE CALL AND SETTING OF R.S. SWITCH REQUIRED				
		REV SENDERS	CALL IS TO A GCO PANEL OFFICE, NON REPEATING INCOMING SELECTORS IN THE TRUNK		CL0P	2,3	LOW INCOMING GROUP	2 DIGIT CODE IN A 3 DIGIT AREA		
					CL0S	3	LOW INCOMING GROUP	OTHER TYPE CODES THAN LISTED ABOVE		
			CALL IS TO A XBR OFFICE OR A BCO PANEL OFFICE OR A GCO PANEL OFFICE HAVING ONLY REPEATING INCOMING SELECTORS IN THE TRUNK GROUP		CL3P	2,4	HIGH INCOMING GROUP	2 DIGIT CODE IN A 3 DIGIT AREA		
					CL2P	2	LOW INCOMING GROUP			
					CL3S	4	HIGH INCOMING GROUP	OTHER TYPE CODES THAN LISTED ABOVE		
					CL2S	NONE	LOW INCOMING GROUP			
		MF SENDERS			CL2S	NONE	ONE WAY LOCAL TRUNK		SEE PART 59	
					CL2P	2	CALL IS COMPLETED BY A TRUNK THAT REQUIRES THE LOOP TO BE CLOSED IMMEDIATELY			
					CL4S	5	ANI-OPERATOR IDENTIFICATION OF CALLING LINE			
					CL6S	3,5	ANT-AUTOMATIC IDENTIFICATION OF CLG LINE, NON-COIN OR PREFIX "1" COIN CALLS ROUTED SAME AS UNDER CL 3,5 & 8			
					CL7S	5,7	ANI-DIAL "0" CALLS OPERATOR IDENTIFICATION			
						5,8	CALLS ROUTED TO TSPS NO. 1 REQUIRING OPERATOR IDENTIFICATION			
					CL7P	3,5,7	ANI-DIAL "0" CALLS AUTOMATIC IDENTIFICATION			
					CL8P	3,5,8	ANT-AUTOMATIC IDENTIFICATION PREFIX "0" COIN CALLS ROUTED VIA COMMON TRUNK GROUP WITH PREFIX "1" CALLS (A&M ONLY)			
					CL8S	8	PREFIX "0" NON ANI COIN CALLS ROUTED VIA COMMON TRUNK GROUP WITH PREFIX "1" CALLS (A&M) ONLY)			

DRAWING ISSUE
4ID RPT
4JD
4RD
5ID CR RS
5RD NLF

CROSS CONNECTION INFORMATION NOTES (CONT):

400. (CONT)

PART	FEATURE OR CONDITION		CONNECT FROM	CONNECT TO	CONDITION				MKR INVOLVED	REF
19	PULSE CONVERSION ROUTES (RESTRICTED TO ROUTE RELAYS IN THE 10-19 GROUP)		CL 00-569	DLOP	DIAL PULSE & REVERTIVE SENDERS				COMB. OR COMPL	406. 409
			CR 00-569	CRIOS	DIAL PULSE SENDERS					
				CROP	REV PULSE SDRS TO XBAR OFFICE					
				CROS	REV PULSE SDRS TO OTHER THAN XBAR					
			CL 00-369	CL2S	DIAL PULSE & REVERTIVE SENDERS					
			OS 00-569	OSCO-9	SENDER GRP ASSOCIATED WITH ROUTE					
			R-	RB	ROUTE RELAY BATTERY					
			RC-	PCR	REVERTIVE PULSE					
				PCDO-1	DIAL PULSE					
20	CL- & CR CONTROL FOR INTERMARKER GROUP AND CAMA SENDERS	ROUTES REQUIRING INTER-MARKER GROUP SENDERS	CL 00-569 CR 00-569		CL- SIGNAL TO SDR	SENDER TO CALLED MKR: TYPE TRNSL	INC TRK CLASS	PURPOSE	COMB. OR COMPL	
				CL2S CRIOS	NONE	LT	INC	SUB TO SUB OR TRK TO SUB CALL		
				CL2S CRIOP	CL1	11	TAN	SUB TO TRK CALL		
				CL2P CRIOS	CL2	FVD	INC	TRK TO SUB CALL		
				CLOS CRIOS	CL3	X11	TAN	SUB TO TRK CALL		
				CL3S CRIOS	CL4	TT	TOL	SUB TO TRK CALL		
				CL2P CRIOP	CL1, CL2	LT	TAN	SUB TO TRK CALL		
				CLOS CRIOP	CL1, CL3	TT	INC	TRK TO SUB CALL		
				CLOP CRIOS	CL2, CL3	2DT	INC	TRK TO SUB CALL		
				CLOP CRIOP	CL1, CL2, CL3	X11	INC	SUB TO TRK CALL		
				CL2P KCM	CL2	LT	TAN	SUB TO TRK CALL CANCEL CODE CONVERSION (2 OR 3 DIGIT)		
				CL2S KCM	NONE	11	TAN	SUB TO TRK CALL CANCEL CODE CONVERSION (2 OR 3 DIGIT)		
				CLOS KCV	CL3	X11	TAN	SUB TO TRK CALL CANCEL CODE CONVERSION (2 OR 3 DIGIT)		
		ROUTES REQUIRING INTERMARKER GROUP SENDERS FOR CAMA SERVICE						SUB TO SUB		
				CL4S CRIOP	CL1, CL5	LT	CMFO	SUB TO TRK REQUIRING TDM SUPERVISION		
				CL4P CRIOS	CL2 CL5	TT	CMF1	SUB TO TRK REQUIRING TOLL SUPERVISION		
		ROUTES REQUIRING CAMA SENDERS		CL4S CRIOP	CL1, CL5	LT	CMSO	TRK REQUIRES TDM SUPERVISION		
				CL4P CRIOS	CL2, CL5	TT	CMS1	TRK REQUIRES TOLL SUPERVISION		
21	OUTGOING SENDER CROSS-CONNECTION FEATURES	SUBGROUP IDLE INDICATION	SIA C-G	SIAC 0-4	"A" SENDER SUBGROUPS			SENDER SUBGROUP TEST LEADS FOR IDLE SENDERS IN A OR B OUT. SDR CONN	COMB. OR COMPL	
			SIB C-G	SIBC 0-4	B SENDER SUBGROUPS					
		OUTSENDER CONNECTOR BUSY INDICATION	GBA 0-9	GBAC 0-9	"A" CONNECTORS			CONN BUSY LEAD		
			GBB 0-9	GBBC 0-3	B CONNECTORS					
		OUTSENDER CONNECTOR SELECTION	STA 0-9	STAC 0-3	"A" CONNECTORS			START LEAD TO CONN FOR SENDER SUBGROUP		
			STB 0-9	STBC 0-3	B CONNECTORS					
		WHEN OFFICE PROVIDES AN AUTO. MONITOR	CSM 0-9	CSM	SENDER GROUPS WORKING WITH AUTOMATIC MONITOR					
		OUT. SENDER INFORMATION: ON OPTION (STD)	IMGA	GOSC-9	INTERMARKER GROUP SENDERS					
			OSIO-G	IMG						
			CSGR	GOSO-G	FOR OUTSENDER GROUP RELEASE CKT OR OUT. PCI SENDER GROUP RELEASE CKT					
		XT OPTION (MD)	OSI 0-G	IMG	INTERMARKER GROUP SENDERS					
		XT AND VG OPTION (MD)		MA1	1ST GROUP OF PCI SDRS TO OUT. PCI SDRS GROUP RELEASE CKT					
				MA2	2ND GROUP OF PCI SDRS					

PART	FEATURE OR CONDITION		CONNECT FROM	CONNECT TO	CONDITION	MKR INVOLVED	REF
21 CONT	OUTGOING SENDER CROSS-CONNECTION FEATURES	SKIP CHECK OF DIGITS INFORMATION TRANSMITTED TO THE OUTGOING SENDER	SK 0-9	SA	SKIP CHECK "A" DIGIT	COMB. OR COMPL	
				SAB	SKIP CHECK AB DIGIT		
				SABC	SKIP CHECK ABC DIGIT		
		SKIP CHECK OF DIGITS ON REVERTIVE SENDER GROUPS USED WITH PULSE CONVERSION		SPC	REVERTIVE SENDER GROUPS USED WITH PULSE CONVERSION		
			PRV	SAB	REVERTIVE SENDERS EQUIPPED FOR TWO DIGIT OFFICE CODES		
				SABC	REVERTIVE SENDERS EQUIPPED FOR 2-3 OR 3 DIGIT OFFICE CODES		
22	ALLOTTED SENDER GROUPS		2SG	SAL 0-3	ROUTE HAVING ONE OR TWO GROUPS OF TRUNKS EACH SERVED BY A SEPARATE GROUP OF OUTGOING SENDERS	COMB. OR COMPL	406
			OSA 0-3 OSB 0-3	OSC 0-9	WITH SENDER (ONE OR TWO SENDER GROUPS) A OR B ALLOTTED SENDER GROUP		
				NSI	NO SENDER INTRAOFFICE FOR ALLOTTED TRK GRP		
				TWT 0-2	ALLOTTED 2-WAY TRUNKS		
			OS 00-569	OSG 0-3	ALLOTTED SENDER GROUP INPUT		
23	PREFERENCE CONTROL FOR LINE LINK, ORIGINATING REGISTER AND INCOMING REGISTER MARKER CONNECTORS		(MKR) MAK(ST) MCK(ST) MSK(ST)	(CONN-ST) MAK- MCK- MSK-	MARKER START ENTRANCE INTO MKR CONN CHAIN (EACH MKR SHOULD BE CONNECTED TO A DIFFERENT ENTRANCE POINT TO DISTRIBUTE FRAME PREFERENCE)	ALL	415
			(CONN-EN) MAK- MCK- MSK-	(CONN-ST) MAK- MCK- MSK-	FROM PRECEDING TO SUCCEEDING MARKER CONNECTOR PREFERENCE IN CHAIN		
			(CONN-EN) MAK- MCK- MSK-	(CONN-ST) MAK(E) MCK(E) MSK(E)	END OF MARKER CONNECTOR CHAIN TO MARKER "END" PUNCHING		
24	2 OR 3 DIGIT CODE CONVERSION	CODE CONVERSION PRE-ROUTE RELAY SELECTION	CV 00-99	CODE POINT	CODE TO BE CONVERTED	COMB. OR COMPL	402 403 405 409
				FAR 00-99	FOREIGN AREA TRANSLATOR OUTPUT		
				RA 00-39	ROUTE ADVANCE		
		WHEN CERTAIN ROUTES REQUIRE TWO OR THREE ARBITRARY DIGIT CODE CONVERSION TO BE PREFIXED TO THE OUTPULSED NUMBER	CVB 00-99	CVS	INITIAL ROUTES		
				RB	ALTERNATE ROUTES		
			CVR 00-99	RC 00-569	ROUTE RELAY ASSOCIATED WITH CODE CONVERSION ROUTE		
				SC 00-35	CLASS-OF-SERVICE TREATMENT FOR CODE CONVERSION ROUTE		
				TSC 00-45	TANDEM SCREENING TREATMENT FOR CODE CONVERSION ROUTE		
				PSC 00-23	PRESORT TREATMENT FOR CODE CONVERSION ROUTE		
		ARBITRARY DIGITS FOR TWO OR THREE DIGIT CODE CONVERSION	BRN 00-99	BRP 0-4 BRS 0-4	TENS DIGIT (2-DIGIT CODE CONVERSION)		
			CRN 00-99	CRP 0-9 CRS 0-9	UNITS DIGIT (2-DIGIT CODE CONVERSION)		
			ARK 00-99	ARP 0-4 ARS 0-8	HUNDREDS DIGIT (3-DIGIT CODE CONVERSION)		
			BRN 00-99	BRP 0-4 BRS 0-4	TENS DIGIT (3-DIGIT CODE CONVERSION)		
			CRN 00-99	CRP 0-9 CRS 0-9	UNITS DIGIT (3-DIGIT CODE CONVERSION)		
		CODE CONVERSION ROUTE, BUT CODE CONVERSION NOT USED	CR 000-569	KCV	CANCEL CODE CONVERSION		419
				KCM	CANCEL CODE CONVERSION ON IMG SENDER CALLS		

ISSUE 410 J.K. 438 PD

NO. 5 MARKER CIRCUIT

SD-25550-01-D22

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-D22

CROSS CONNECTION INFORMATION NOTE (CONT)
400. (CONT)

PART	FEATURE OR CONDITION		CONNECT FROM	CONNECT TO	CONDITION		MKR INVOLVED	REF
25	CODE TRANSLATION CLASS AND NUMBER SELECTION	NO-DIGIT OR ONE-DIGIT TRANSLATION	TC5	LT	INTRAOFFICE, OUTGOING AND INCOMING CALLS FOR 1-DIGIT OFFICE CODES OR THE INITIAL DIGIT OF 4-DIGIT NUMERICAL USED AS A DIRECTING CODE		COMB. OR COMPL	401
				TT	INCOMING TOLL CALLS REQUIRING TRANSLATION OF 1-DIGIT OFFICE CODES			
				FVD	INCOMING CALLS HAVING A 1-DIGIT OFFICE CODE			
			NS5	N1	FOUR NUMERICAL DIGITS ONLY	LOCAL OFFICE COMPLETION CALLED LINE NUMBER CONNECTION		
				N2	1-DIGIT OFFICE CODE			
			TC7	TT	LOCAL COMPLETION OF TOLL CODES USING 1-DIGIT CODES IN A 4-DIGIT AREA			
			NS7, NS8	N2				
		TWO-DIGIT OR TWO AND THREE-DIGIT TRANSLATION	TC6	LT	INTRAOFFICE, OUTGOING AND INCOMING CALLS FOR 2-DIGIT OR 2 AND 3-DIGIT OFFICE CODES			
				TT	INCOMING TOLL TRANSLATION OF 2-DIGIT OR 2 AND 3-DIGIT OFFICE CODES			
				2DT	2-DIGIT TRANSLATION FOR BX CODES FROM INCOMING STEP-BY-STEP OFFICES			
			NS6	N3	OFFICE CODE	LOCAL OFFICE COMPLETION CALLED LINE NUMBER CONNECTION		
				N4	3-DIGIT OFFICE CODE			
				LN	2 OR 3-DIGIT OFFICE CODES			
			NTA	N3	2-DIGIT CODE OFFICE "A" THEO	MULTIUNIT OFFICES IN A MARKER GROUP WHICH HAVE LOCAL COMPLETION OFFICE CODES CONSISTING OF BOTH 2 AND 3-DIGITS		
				N4	3-DIGIT CODE OFFICE "A" THEO			
			NTB	N3	2-DIGIT CODE OFFICE B THEO			
				N4	3-DIGIT CODE OFFICE B THEO			
			NPA	N3	2-DIGIT CODE OFFICE "A" PHYS			
				N4	3-DIGIT CODE OFFICE "A" PHYS			
			NPB	N3	2-DIGIT CODE OFFICE B PHYS			
				N4	3-DIGIT CODE OFFICE B PHYS			
			NS	N3	RINGER TEST CODE CONSISTS OF 2-DIGITS	RINGER TEST CODES IN A MARKER GROUP ASSOCIATED WITH LOCAL COMPLETION OFFICE CODE CONSISTING OF BOTH 2 AND 3-DIGITS		
				N4	RINGER TEST CODE CONSISTS OF 3-DIGITS			
		THREE-DIGIT TRANSLATION	TC7	LT	INTRAOFFICE, OUTGOING (WITHIN LOCAL SERVICE AREA) AND INCOMING CALLS FOR 3-DIGIT OFFICE CODES			423
				TT	INCOMING TOLL CALLS FOR 3-DIGIT OFFICE CODES, DIRECTING CODES AND AREA CODES			
			LT1 LT2	ELT MLT2	OUTGOING CALLS OUTSIDE OF LOCAL SERVICE AREA FOR 3-DIGIT OFFICE CODES			
			NS7, NS8, NS9	N4	LOCAL OFFICE COMPLETION CALLED LINE NUMBER CONNECTION FOR 3-DIGIT OFFICE CODE			
		COMBINATION TWO AND THREE-DIGIT TRANSLATION (A&M ONLY)	LT	TC7	2-3-DIGIT OFFICE CODE AREA			
			NS7, NS8		WHERE 2-DIGIT CODES ARE RECOGNIZED BY THE FIRST 2-DIGITS			
					DISCRIMINATION BETWEEN 2 AND 3-DIGIT OFFICE CODES			
			NTA, NTB, NPA, NPB	N3	2-DIGIT OFFICE CODES			
				N4	3-DIGIT OFFICE CODES			
		FOREIGN AREA TRANSLATOR USED	NS8	NSA	ELT USED WITH FOREIGN AREA TRANSLATOR			
			NS9		LT2 USED WITH FOREIGN AREA TRANSLATOR			

PART	FEATURE OR CONDITION		CONNECT FROM	CONNECT TO	CONDITION		MKR INVOLVED	REF
26	TREATMENT OF "A" DIGIT TRANSLATION	NO-DIGIT OR ONE-DIGIT TRANSLATION	ETAO, ETAI, CO, CI	CAO, CAI	4 OR 5 DIGIT AREA	LOCAL AREA 1-DIGIT CODES WITH NON-WORKING TANDEM CODES	COMB. OR COMPL	401 402 407 409
			CO-9	AT2-9		SOME OUTGOING ROUTES REQUIRE AN ADDITIONAL DIGIT FOR 2-DIGIT OFFICE CODES		
				C.P.		CODE POINT TREATMENT OR CODE POINT FOR LOCAL OFFICE NUMBER IN 4-DIGIT AREA		
			CO-9	TSC 00-45		WHEN TANDEM SCREENING IS USED ROUTE FVD TANDEM OR TOLL CODES TO REORDER WHEN THESE CODES COME OVER A TRUNK WITH AN INCOMING CLASS MARK		
				ICO-9				
			7A2-9, ETA2-9	C.P.		LOCAL OFFICE CODES WHERE TOLL CALLS EMPLOY 1-DIGIT CODES		
		TWO-DIGIT OR TWO AND THREE-DIGIT TRANSLATION	7A2-9 (A&M ONLY)	AT2-9	6,7-DIGIT AREA	2 OR 2 AND 3-DIGIT OFFICE CODES		
			6A2-9	VCG		VACANT CODE		
				TSC 00-45		TANDEM SCREENING FEATURE WHEN DISTINCTION IS REQUIRED FOR ROUTING BLOCK OF UNASSIGNED CODES		
		THREE-DIGIT TRANSLATION	7A2-9, ETA2-9 LT2,I-9	AT2-9	4,5,6, 6-7 OR 7-DIGIT AREA	3-DIGIT OFFICE CODE		
				TA2-9		LOCAL AREA 2 AND 3-DIGIT OFFICE CODES AND DIFFERENT 3-DIGIT TOLL CODES		
				FAT-L				
				VCG		VACANT CODE UNASSIGNED		
			6A2-9	2DT2-9		BX CODES FROM STEP BY STEP OFFICES		
			CA1-0, CA1-1	CAT1		1XX TOLL CODES COMPLETING OVER CAMA TRUNKS		
			A1	VCG		VACANT CODE		
				AT1		1XX CODES	TRANSLATION OF TOLL CODES	
			A0	ATO		OXX CODES		
	TREATMENT OF B DIGIT TRANSLATION	6-7, 7-DIGIT AREAS, 2-DIGIT BX CODES AND 4,5,6 DIGIT AREA TOLL CODES	C00-19	VCG		VACANT CODE		
				BT00-19		C DIGIT TRNSL REQ		
			C20-99	BT20-99		C DIGIT TRANSLATION REQUIRED		
				VCG		VACANT CODE		
				CP		CODE POINT TREATMENT		
	TREATMENT OF C DIGIT TRANSLATION		000-999	CP				
27	X11 SERVICE CODES		SV	X11		SERVICE CODE TRANSLATION	COMB. OR COMPL	401 402 409
			C 211-911	CP		CODE POINT TREATMENT		
28	OPERATOR TX CODES IDENTIFIED BY 11X OR 11XX		C11	BT11		11X OR 11XX CODE	COMB. OR COMPL	401 402 409
			C 111-119	CP		11X CODE		
				TXC1-9				
			C 1110-1199	CP		11XX CODE		
29	11 AREA OR 11X SERVICE CODES		11	11X		AREA OR SERVICE CODE TRANSLATION	COMB. OR COMPL	401 402 407 409
			11XO	VCG		VACANT CODE		
			11X2-9 STRAPPED	CP		11 AREA CODE		
			11XO, 11X2-9	CP		11X SERVICE CODES		
30	ZERO OPERATOR		ZO	CP		CODE POINT TREATMENT	COMB. OR COMPL	402 409
	PERSON TO PERSON OPERATOR		LT2,O					

DRAWING ISSUE
41D KK MCB
44B JMS MAS
45B STK MCB
46D GLM AMD
54D CK GDL AMD

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CROSS CONNECTION INFORMATION NOTES (CONT)
MBB (CONT)

PART	FEATURE OR CONDITION			CONNECT FROM	CONNECT TO	CONDITION		MKR INVOLVED	REF
31	ROUTE ADVANCE FEATURE			RA 000-569 OR RAG 00-39	RC 000-569	ALTERNATE ROUTE TO SAME DESTINATION		COMB OR COMPL	402 405 408 419
						ROUTE ADVANCE TO TONE TRK ON CUST ORIG CLASS			
						NON-COIN TONE TRK ROUTE ADVANCE TO COMMON OVERFLOW TRUNKS			
					CV 00-99	ALTERNATE ROUTE REQUIRES CODE CONVERSATION			
					PB	ROUTE ADVANCE TO TONE TRUNKS DUE TO ALL PATHS BUSY ON CUST ORIG CLASS			
					LTA	RETURN RECORDER SIG WHEN INCOMING TDM & TOLL FIND ALL OUTGOING PATHS BUSY			
					LR	ROUTE ADVANCE TO REVERTING TRUNKS OR TONE TRK ON INTRAOFFICE			
		REVERTING CALLS		RV	SC-	ROUTING BY CLASS OF SERVICE FOR REVERTING CLASS CALLS			
				S-	RC-	REVERTING ROUTE			
					BL	BUSY LINE INDICATION ON NON-REVERTING ROUTES			
					RVS	PERMIT SCREENING BETWEEN DIAL & TOUCH-TONE REVERTING TRUNKS			
			DIAL PULSE TRUNKS	RVD	RC	ROUTES FOR REVERTING TRUNKS			
			TOUCH-TONE TRUNKS	RVMF					
32	ROUTE RELAY ROUTE SERIES TREATMENT SEE REFERENCE NOTES FOR VARIOUS CROSS CONN	GROUPING FIELD		RAG 00-39	R 000-569	RTE REL CONNECTED IN COM WITH OTHER RTE REL FOR RTE TREATMENT		COMB OR COMPL	402 403 405 407
					RA 000-569	RTE REL ASSOC WITH RTE ADV			
					SC-	NO. OF ROUTES GROUPED TOGETHER FOR SERVICE TREATMENT OF ROUTING & CHG CONT			
		ROUTE RELAY WINDING OUTPUT		R 000-569	SC-	RTE REL AHEAD OF SERVICE TREATMENT FIELD			
					TC	TCCN REL GROUNDS TC & CN LEADS TO TRK			
					TN	TCNC REL GROUNDS TC LEAD TO TRK			
					NN	NCNC REL SENDS NO CLASS INFO TO TRK			
					NC	NCCN REL GROUNDS CN LEAD TO TRK			
		WHEN R- IS CONNECTED TO SC-		SG-11	CC	COIN CUST FOR TRK NOT ARR FOR C CONT & REG MUST RETURN COIN			
		TANDEM AND TOLL SCREENING	WHEN R- IS CONNECTED TO TLCI-4 (1 OR 2 TDM CLASSES)	TOLI-4	CA	CANCEL TRK CLASS INFO	COM OVFL TRUNKS REACHED BY RTE ADV		
				TANI-4	MBSO	USED FOR TEST CALLS TO CANCEL ACCOUNTING CENTER PROCESSING	WHEN AMA BILLING IS REQUIRED		
				ORI-4	MBS1-8	BULK BILLING OF MESSAGE UNITS			
				TNXI-4	MBS9	DETAILED BILLING			
			WHEN R- IS CONNECTED TO TSCO-45 (2-5 TDM CLASSES)	TS 00-45	TO	TOS RELAY GROUNDS RC LEAD TO TRUNK	TOLL CLASS ON THRU CALLS TO A COMBINED LOCAL AND TDM OR TOLL OUTGOING TRUNKS WITH SENDERS		
		WHEN R- IS CONNECTED TO PSC 00-23 FOR PRESORT FEATURE		PSA 0-11	RB	ROUTE BATTERY-WHEN TRUNK CLASS INFO, MESSAGE BILLING INFO, DENIED SERVICE AND COIN REROUTE INFO IS NOT ASSOCIATED WITH THE ROUTE RELAY			
				PSB 0-11	CDRO-9, DRO-2 OR DR	CLASSES DENIED DIRECT DIALING			
					PM	COIN CUSTOMER	PCN RELAY GROUNDS TP LEAD TO TRUNK	COMMON PERMANENT SIGNAL TRUNK GROUP	
					PN	NONCOIN NON-PBX CUSTOMER	PNC RELAY SENDS NO CLASS INFO TO TRUNK		
					PP	PBX CUSTOMER	PBX RELAY GROUND TC LEAD TO TRUNK		
		CAMA FEATURE PROVIDED	WHEN R- IS CONNECTED TO TLC 1-4 (FOR CAMA FUNCTION AND COMPLETING)	CFTA 1-4	CR 0-2	REROUTE COIN CLASS-COIN CLASSES PERMITTED TO DIAL BEYOND THE INITIAL CHARGE AREA OR REROUTE TO A COIN JUNCTOR ROUTE			
				CFTO 1-4	SG 0-11	GROUPING A NUMBER OF S- PUNCHINGS FOR A COMMON ROUTE SERIES RELAY			
				CSTA 1-4	CMJ	CAMA JUNCTOR CALL			
				CSTO 1-4	CMRO,1	FOR REROUTE TO CAMA OPERATOR			
					LCB	BATTERY SUPPLY FOR LOCAL OFFICE CODE RELAY			
					ROAI	ROUTE TO OVERFLOW FOR TANDEM OR TOLL CLASS			
		WHEN R- IS CONNECTED TO BCOO-23 FOR DIGIT "I" ACCESS CODE FEATURE		BO-11	BC- B-	WHEN R-IS CONNECTED TO SC- AND DIGIT "O" OR "I" ACCESS CODE FEATURES ARE PROVIDED			

PART	FEATURE OR CONDITION	CONNECT FROM	CONNECT TO	CONDITION	MKR INVOLVED	REF
33	ROUTE RELAY RC CROSS CONNECTIONS	RC 000-569	AER, BER, APR, BPR, ATR, BTR	INTRAOFFICE ROUTE RELAYS FOR PHYSICAL, THEORETICAL AND EXTRA THEORETICAL NUMBERS IN OFFICE A AND B	COMB. OR COMPL	402 404 405 407 408 409 411 419
			CO-9	CODE POINT REQUIRES NO OFFICE CODE BUT USES INITIAL DIGIT OF FOUR NUMERICALS AS DIRECTING CODE		
			COO-99	ASSOCIATED WITH 2-DIGIT CODES		
			C20-99 (BX)	ASSOCIATED WITH BX CODES FROM SXS OFFICES		
			COOO-999	ASSOCIATED WITH 3-DIGIT OFFICE, OR AREA CODES		
			C 1100-1199	ASSOCIATED WITH 11XX, TOLL CODES		
			C211, 311-911	ASSOCIATED WITH SERVICE OR STRAIGHT-FORWARD CODES		
			11XO, 2-9	ASSOCIATED WITH ONE AREA CODE		
			7A2-9 ETA2-9	ASSOCIATED WITH A 1-DIGIT TOLL CODE IN A 4-DIGIT AREA		
			D	DIAL TONE JOB FOR D P ORIGINATING REG		
			MF	DIAL TONE JOB FOR M F ORIGINATING REG		
			ZO	ZERO OPERATOR		
			CG2-17, 22-39	CODE GROUPING FIELD		
			FAR 00-99	FOREIGN AREA ROUTE		
			SGO-11	S- PUNCHING GROUPING		
			VC	ASSOCIATED WITH THE VACANT CODE POINT		
			TSO-45	TANDEM OR TOLL SERVICE SCREENING CLASSES		
			SO-11	ASSOCIATED WITH CLASS OF SERVICE		
			SCN	ASSOCIATED WITH A ROUTE TO STUCK COIN TRUNKS		
			RGTO,1 OR RGT	ASSOCIATED WITH A RINGER TEST ROUTE		
			RTA,B 0-19	ASSOCIATED WITH THE NORMAL ROUTE WHERE THE ROUTE TRANSFER FEATURE IS TO BE EMPLOYED		
			PSA, PSB	ASSOCIATED WITH PRESORT SERVICE SCREENING		
			PS	ASSOCIATED WITH PERMANENT SIGNAL		
			RA 000-569	WHEN ROUTE ADVANCE IS REQUIRED, THE RA- PUNCHING OF THE PRECEDING ROUTE RELAY IS X-CONNECTED TO THE RC- OF THE SUCCEEDING ROUTE RELAY		
			RRO-2	COIN REROUTE TO A ROUTE BEYOND INITIAL CHARGE AREA VIA A PANEL SENDER TANDEM OFFICE OR REROUTE TO A COIN JUNCTOR ROUTE		
			CRRO-9			
			NRO-2	ASSOCIATED WITH A DENIED ROUTE SERIES RELAY FOR A REROUTE		
			RCG 00-29	CAMA ROUTE RELAY WINDING CONVENIENCE CONNECTOR		
			PR 00-19	PREROUTE PEG COUNT TO COUNT CALL USAGE TO A SINGLE CODE POINT		
			PCD 0,1	ASSOCIATED WITH PULSE CONVERSION ROUTES FOR DP OUTGOING TRUNKS		
			PCR	ASSOCIATED WITH A PULSE CONVERSION ROUTE FOR REVERTIVE PULSE OUTGOING TRUNK		
			RAG 00-39	ASSOCIATED WITH A ROUTE ADVANCE GROUP		
			OPO-3	ASSOCIATED WITH AN OPERATOR ROUTE WHERE THE TRUNKS ARE EQUIPPED FOR IDENTIFYING CLASS OF CALL OR CLASS OF SERVICE		
			TAN	ASSOCIATED WITH A VACANT CODE		
			TOL			
			CVR 00-99	ASSOCIATED WITH CODE CONVERSION ROUTE		

CROSS CONNECTION INFORMATION NOTES (CONT):

400. (CONT) PART	FEATURE OR CONDITION			CONNECT FROM	CONNECT TO	CONDITION		MKR INVOLVED	REF
33 (CONT)	CAMA FEATURES PROVIDED	CAMA ROUTING INFORMATION		RCG 00-29	VTC	VACANT CODE TREATMENT		COMB. OR COMPL	402
					DNC	DENIED CODE TREATMENT			
					FRC	FREE CODE TREATMENT			
					CTAR	CAMA FUNCTION (ROUTE RELAYS IN THE 10-19 GROUP)	TANDEM SUPERVISION		
					CTOR		TOLL SUPERVISION		
					JTA 0-2	CAMA JUNCTOR TANDEM SUPERVISION			
					JTO 0-2	CAMA JUNCTOR TOLL SUPERVISION			
					LCD 0-2	WHEN A SINGLE ROUTE SERVES THE CALLED AREA			
				FAT 1-3(L)		ROUTING FOR AREA DIALED OR VACANT CODE TREATMENT			
				HAT	LCDO	WHEN HOME AREA ABX CODES ARE NOT TRANSLATED IN FOREIGN AREA TRANSLATOR			
34	CLASS OF SERVICE	CONTROL OVER ROUTING AND CHARGING	GR "A" SORT 1	SWC00-29	SW00-44, 100-144	S- RELAYS ON CS0 FR		COMB. OR COMPL	402, 403, 405, 410, 416
			GR B SORT 1		SW300-359	S- RELAYS ON CS1 FR			
			GR B SORT 2			S- RELAYS ON SUPPLEMENTARY CS FRAME			
			CAMA SCREENING	CMF0, CMF1, CMS0, CMS1					
			WHEN MORE THAN 1 SORT IS REQUIRED FOR 30 SUB CLASSES OR, GR "A" OF 30 FOR 60 SUB CLASSES	CGA1	CSB1	SORT 1 FOR OPERATION OF S300-359 RELAYS			
				CGA2	CSB2	SORT 2 FOR OPERATION OF S300-359 RELAYS			
			GR "B" OF 30 FOR 60 SUB CLASSES	CGB1	CSB1	SORT 1 FOR OPERATION OF S300-359 RELAYS			
				CGB2	CSB2	SORT 1 FOR OPERATION OF S300-359 RELAYS			
				SWC00-29	SWP, SWP1-3	SERVICE SCREENING FOR PARTY LINES SERVING 2 DIFFERENT NON-COIN CLASSES			
					SWT, SWT1-3 AND SW-	SERVICE TREATMENT FOR 2-PARTY NON-COIN CLASSES, TIP PARTY			
					SWR, SWR1-3 AND SW-	SERVICE TREATMENT FOR 2-PARTY NON-COIN CLASSES, RING PARTY			
					SWTA	FIRST TDM CLASS SERVICE TREATMENT RELAY			
					SWTX	SECOND TDM CLASS SERVICE TREATMENT RELAY			
					SWTO	TOLL CLASS SERVICE TREATMENT RELAY			
					SWT1	INCOMING CLASS SERVICE TREATMENT RELAY			
					MP0-2 (A-E)	MULTIPARTY CAMA CUSTOMERS IN AREA 0,1 OR 2			
			USC- TERMINALS FOR GROUPS OF 4 S- RELAYS	USC-	USC0-11	USC- TERMINALS OF OTHER S- GROUPS USING COMMON SC- POINTS			
					SC0-11, 12-23, SC300-359	SC- CROSS CONNECT GROUP IN CROSS CONNECT FIELD			

PART	FEATURE OR CONDITION		CONNECT FROM	CONNECT TO	CONDITION		MKR INVOLVED	REF
34 (CONT)	CLASS OF SERVICE (CONT)	PEG COUNT	X	CLC	FOR EACH CLASS OF SERVICE CONNECTED		COMB OR COMPL	402, 403, 405, 410, 416
			S0-11	PCS 0-9				
		MINIMUM OPEN-LINE INTERVAL ON CALL-BACK	X	HTG	FOR DIAL SELECTED PBX CLASSES OF SERVICE			
			S0-11	HTR				
		SERVICE TREATMENT GROUND CONTROL	X	SCG	FOR:			
			S0-11	CNS	COIN SIGNAL TO MASTER TEST FRAME			
				MTR	CANCEL AUTOMATIC MONITOR SIGNAL TO MASTER TEST FRAME ON MANUAL CALLS			
				AID	AUTOMATIC IDENTIFIED OUTWARD DIALING			
				AOS	ALL OTHER CLASS TO MASTER TEST FRAME			
		S- RELAY WINDING BATTERY CONTROL	PRESORT FEATURE	SB0-8 SB10-18 SB20-22	AG	PRESORT GROUP "A"	REQUIRED	
					BG	PRESORT GROUP "B"		
				SB0-8 SB10-18 MULTIPLIED TOGETHER	SRB	NOT REQUIRED		
				SB20-22 MULTIPLIED TOGETHER	CSB			
				S0-11	BL	CLASSES OF SERVICE NOT PERMITTED REVERTING CALLS		
		CODE CONVERSION	SC 00-35	CVR 00-99	CLASS OF SERVICE TREATMENT FOR CODE CONVERSION ROUTE			419
35	NUMBER GROUP START LEAD FOR TRUNK NUMBER TRANSLATION		STA OR STB	STA/B 00-99	START "A" (EVEN TRUNK NUMBER GROUP) ONE NUMBER GROUP SERVING TRUNKS		COMB. OR COMPL	
				STO-9				
				ST 00-39	START B (ODD TRUNK NUMBER GROUP) OTHER NUMBER GROUP SERVICE TRUNKS			

* SC00-35, SC300-359

CROSS CONNECTION INFORMATION NOTES (CONT):

ADD. (CONT)	PART	FEATURE OR CONDITION		CONNECT FROM	CONNECT TO	CONDITION			MKR INVOLVED	REF
	36	DIRECTORY NUMBER ASSIGNMENTS FOR BLANK NUMBERS, REGULAR INTERCEPT, TROUBLE INTERCEPT, AND VACANT CODE INTERCEPT	THOUSANDS DIGIT DIRECTORY ASSIGNMENT	BN-ST	STA/B	BLANK NUMBER INTERCEPT TRUNKS			COMB. OR COMPL	
				RI-ST	0-9(NG)	REGULAR INTERCEPT TRUNKS				
				TBI-ST	(NG)	TROUBLE INTERCEPT TRUNKS				
				VC-ST	ST0-9	VACANT CODE INTERCEPT TRUNKS				
				DC-ST	ST00-39	DENIED CODE INTERCEPT TRUNKS				
				INA-ST						
				INB-ST						
			HUNDREDS DIGIT DIRECTORY ASSIGNMENT	RT-HB	HB0-9	REGULAR INTERCEPT TRUNKS				
				TBT-HB		TROUBLE INTERCEPT TRUNKS				
				BN-HB		BLANK NUMBER INTERCEPT TRUNKS				
				VC-HB		VACANT CODE INTERCEPT TRUNKS				
				DC-HB		DENIED CODE INTERCEPT TRUNKS				
				INA-HB						
				INB-HB						
			TENS DIGIT DIRECTORY ASSIGNMENT	TBT-TB	TB0-9	TROUBLE INTERCEPT TRUNKS				
				BN-TB		BLANK NUMBER INTERCEPT TRUNKS				
				RT-TB		REGULAR INTERCEPT TRUNKS				
				VC-TB		VACANT CODE INTERCEPT TRUNKS				
				DC-TB		DENIED CODE INTERCEPT TRUNKS				
				INA-TB						
				INB-TB						
			UNITS DIGIT DIRECTORY ASSIGNMENT	TBT-U	U0-9	TROUBLE INTERCEPT TRUNKS				
				BN-U		BLANK NUMBER INTERCEPT TRUNKS				
				RT-U		REGULAR INTERCEPT TRUNKS				
				VC-U		VACANT CODE INTERCEPT TRUNKS				
				DC-U		DENIED CODE INTERCEPT TRUNKS				
				INA-U						
				INB-U						
	37	NUMBER GROUP SELECTION	CALLED CUSTOMER	STO-9 FOR EACH NSS0-5	ST00-39	NUMBER GROUP SERVING THOUSANDS DIGIT			COMB. OR COMPL	412
					DST0-9 (PER DAPC 0-2)	DIRECT ACCESS PRETRANSLATOR START LEADS				
			BLANK NUMBER TREATMENT	STA/B 0-9 (NG)	BNTH	BLANK THOUSANDS NUMBERS IN A NUMBER SERIES				
			WHEN A THOUSAND SERIES OF NUMBERS IS ASSIGNED TO A PARTIALLY FILLED NUMBER GROUP WITHIN THE SAME "A" OR B NUMBER GROUP DIVISION (THIS ARRANGEMENT CANNOT BE USED FOR BLANK, REGULAR OR TROUBLE INTERCEPT NUMBERS)	STAJ-9 (NG)	STA0-9(NG) AS	OFFICE "A"	FOR ADDED THOUSAND SERIES	A & M ONLY			
				STBJ-9 (NG)	STB0-9(NG) BS	OFFICE B				
				STO-9 FOR EACH NSS0-5	AS	FOR NSS0-5				
				STA0-9 (NG)	STA0-9(NG) AST	OFFICE "A"	OF PARTIALLY FILLED NUMBER GROUP		A & M ONLY	
				STB0-9 (NG)	STB0-9(NG) BST	OFFICE B				
				STO-9	AST0,1	FOR NSS0,1				
				ST00-39	AST0-5	FOR NSS0-5				

PART	FEATURE OR CONDITION		CONNECT FROM	CONNECT TO	CONDITION		MKR INVOLVED	REF
38	OFFICE "A"	PHYSICAL NUMBERS	APN	NSS0-5	NUMBER SERIES START RELAY FOR 10,000 CONSECUTIVE NUMBERS ASSOCIATED WITH 1, 2 OR 3 OFFICE SUBDIVISIONS		COMB. OR COMPL	412
		THEORETICAL NUMBERS	ATN					
		EXTRA THEORETICAL NUMBERS	AEN					
	OFFICE B	PHYSICAL NUMBERS	BPN					
		THEORETICAL NUMBERS	BTN					
		EXTRA THEORETICAL NUMBERS	BEN					
	OFFICE "A" ALL NUMBERS		AAN		ALL OFFICE "A"	OFFICE SUB-DIVISIONS		
	OFFICE B ALL NUMBERS		BAN		ALL OFFICE B	SERVED BY ONE NSS-RELAY		
39	PBX ALLOTTING		APN, ATN, AEN, BPN, BTN, BEN, AAN, BAN	ASAI	FIRST	NUMBER SERIES CONTAINING ALLOTTED NUMBERS	COMB. OR COMPL	412
				BASI	SECOND			
			NSS0-5	ASA	FIRST			
				BSA	SECOND			
40	CHARGE SUPERVISION ON CALLS TO A FREE LINE FROM MANUAL INCOMING TRUNKS		MAN	LCH	ANSWER SUPERVISORY SIGNAL	NOT REQUIRED	COMB. OR COMPL	
				TCH		REQUIRED		

DRAWING ISSUE
54D CK 6-01 4-66

MARKER CIRCUIT
(2) SD-25550-01-D25B
BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-D25B

HIGGINS 4465

CROSS CONNECTION INFORMATION NOTES (CONT):

400. (CONT) PART	FEATURE OR CONDITION	CONNECT FROM	CONNECT TO	CONDITION		MKR INVOLVED	REF
41	ROUTE PEG COUNT	PCOO-99	PERMANENTLY WIRED	COMMON TO ALL MARKERS FOR ROUTE PEG COUNT		COMB. OR COMPL	402 407
		PCOO-99	IPCO-9	INDIVIDUAL MARKER PEG COUNT ON ROUTES HAVING 60 OR MORE TRUNKS			
		RPO-19	CODE POINT	PEG COUNT ON ONE ROUTE OF A GROUP OF ROUTES RECEIVING THE SAME TREATMENT			
			TSOO-45	PEG COUNT IS DESIRED FOR A PARTICULAR ROUTE FOR A TANDEM CLASS OF CALL			
			VCP	VACANT CODE PEG COUNT			
			PDP	PARTIAL DIAL PEG COUNT			
			VC	OR CLASS	PREROUTE PEG COUNT		
			TAN	TDM CLASS			
			TOL	TOLL CLASS			
			FOVC	FAC CLASS			
		SO-11 PSA/BO-11	VCR	VACANT CODE CONVENIENCE CONNECTOR			
			PDR	PARTIAL DIAL CONVENIENCE CONNECTOR			
42	FOREIGN AREA ROUTES	FAT 1-3 (A&L)	11X2-8 STRAPPED	11 AREA CODE		COMB. OR COMPL	402 407 409 419
			CODE POINT	3 DIGIT OFFICE CODES			
				XOX/X1X AREA CODES			
			SO-11	CLASS OF SERVICE PERMITTED ACCESS TO FOREIGN AREA TRANSLATOR			
			PSA/BO-10				
			TSOO-45	CLASS OF CALL PERMITTED ACCESS TO FOREIGN AREA TRANSLATOR			
		FAT 1-3(L)	LCD 0-2	ROUTING FOR AREA DIALED WORKING OR VACANT CODE			
		FARO	VCG	VACANT CODES RECOGNIZED IN THE FOREIGN AREA TRANSLATOR AND CLASS OF CALL SCREENING REQUIRED			
		FAROO-99	RCOOO-569	VACANT CODES RECOGNIZED IN THE FOREIGN AREA TRANSLATOR WHERE VACANT CODES FOR A GENERAL CLASS IS GIVEN INTERCEPT TREATMENT			
				ASSOCIATES A ROUTE RELAY WITH A FOREIGN AREA ROUTE			
			CVOO-99	FOREIGN AREA ROUTES REQUIRE CODE CONVERSION			
43	VACANT CODE TREATMENT	VACANT ABX CODES FOR LOCAL, 11 AREAS, HOME OR AREA XOX/X1X CODES AND AREA VACANT XOX/X1X CODES	MKR CLASS OF CALL OR	VC	VP	ROUTE TO TONE TRUNK	COMB. OR COMPL	402 405 407
					SCOO-35	SCREENING FOR DESIRED CUSTOMER SERVICE TREATMENT		
					PSC OO-23			
				SO-11 PSA/B O-11	RC-	ROUTE TO INTERCEPT		
			TAN		ROA	SET TRUNK TO REORDER (A&M)		
					RC-	ROUTE TO INTERCEPT		
					SCOO-35	WHERE LIMITED TDM SCREENING IS PROVIDED		
				TSC OO-45	TANDEM SCREENING REQUIRED			
			TAM	SO-11	RC-	ROUTE TO INTERCEPT		
					ROA	SET TRUNK TO REORDER (A&M)		
				TS OO-45	RC-	ROUTE TO INTERCEPT		
					ROA1	REORDER CONNECTION FROM TANDEM SCREENING BAY (A&M)		
			TOLL	TOL	RC-	ROUTE TO INTERCEPT		
					ROA	ROUTE TO REORDER		
			CAMA	CMF CMS	RCG-	CONVENIENCE CONNECTORS FROM CAMA BAY		
				RCG-	RC-	ROUTE TO INTERCEPT		
				CMF CMS	ROA2	ROUTE TO REORDER		
				VTC	RCG-	CONVENIENCE CONNECTORS FROM CAMA BAY (CAMA COMPLETING)		
			FAC	FOVC	SCOO-35	SCREENING FOR PERMITTED AND NON PERMITTED CLASSES		
					PSCOO-23			
				SO-11 PSA/BO-11	VP	ROUTE TO TONE TRUNK (NON PERMITTED CLASS)		
					VCR	REROUTE PEG COUNT	PERMITTED CLASS	
				VCP	RPO-19			
				PR O-16	RC-	ROUTE TO INTERCEPT		
			INC	INV	VCI	ROUTE TO VACANT CODE INTERCEPT (LLF)		
					ROA	SET TRUNK TO REORDER (A&M)		

PART	FEATURE OR OPTION			CONNECT FROM	CONNECT TO	CONDITION		MKR INVOLVED	REF
43 (CONT)	VACANT CODE TREATMENT	AREA XOX/X1X VACANT CODES (MD)	OR	SO-11	VCR			COMB. OR COMPL	402 405 407
				VCP	RPOO-19	REROUTE PEG COUNT			
				PROO-19	RC-	ROUTE TO INTERCEPT "A" OR B	PERMITTED CLASS		
				SO-11	VP	ROUTE TO TONE TRUNK (NON PERMITTED)			
			TDM OR TOLL	SO- 11 (TDM) (TOLL)	RC- ROA	ROUTE TO INTERCEPT ROUTE TO REORDER			
44	FREE CALL		CAMA COMPLETING	FNC	ROA2	ROUTE TO REORDER		COMB. OR COMPL	402 403 407
					RCG-	CONVENIENCE CONNECTION			
				RCG-	RC-	ROUTE TO INTERCEPT			
					RC-	ROUTE TO FREE CODE INTERCEPT			
			CAMA FUNCTION	SO-11 (CAMA)	CDRO-9 DRO-2	SCREENING FOR MISROUTED CAMA CALL			
				CRRO-9 NRO-2	RC-	ROUTE TO INTERCEPT "A" OR B			
					RC-	ROUTE TO FREE CODE INTERCEPT			
45	PARTIAL DIAL	ABX CODE	OR CLASS	PD	VP	ROUTE TO TONE TRUNK		COMB. OR COMPL	402 407
					SCOO-35 PSCOO-23	CUSTOMER SCREENING			
				SO-11 PSA/BO-11	RC-	ROUTE TO INTERCEPT			
		XOX/X1X CODE	FAC CLASS	PDI	VP	ROUTE TO TONE TRUNK			
					SCOO-35 PSCOO-23	SCREENING REQUIRED FOR PERMITTED AND NON PERMITTED CLASSES			
				SO-11, PSA/BO-11	VP	ROUTE TO TONE TRUNK	NON PERMITTED CLASSES		
					RC-	ROUTE TO INTERCEPT			
				PDP	PDR RPOO-16	PREROUTE PEG COUNT	PERMITTED CLASSES		
				PROO-19	RC-	ROUTE TO INTERCEPT			
46	TONE TRUNK ROUTING			PS	SC-	PERMANENT SIGNAL		COMB. OR COMPL	402 405 407
				OV	PSC-	OVERFLOW			
				SO-11 PSA/BO-11	RC-	ROUTING FOR PERMANENT SIGNAL OR TONE TRUNK			
47	DENIED CODES		MISC	NRO-2	VCG	DENIED ROUTE TREATED AS VACANT CODE		COMB. OR COMPL	402 407 409
					OSO-3	ROUTED TO OPERATOR WITH IDENTIFYING SIGNAL			
					RC-	NEW ROUTE			
			CAMA COMPLETING	RCG-	RC-	ROUTE TO INTERCEPT			
				DNC	RCG-	CAMA CONVENIENCE CONNECTOR			
					ROA2	ROUTE TO REORDER (CAMA)			
				IND	ROA	SET TRUNK TO REORDER (A&M)			
				SO-11 TSOO-45 CRRO-9,NRO-2 RRO-2	DCI	SCREENING FOR DENIED CODE INTERCEPT TREATMENT (LLF)			
48	RINGER TEST (ONE RINGER TEST CODE IS REQUIRED PER NUMBER SERIES ASSOCIATED WITH ONE MARKER GROUP)		RINGER TEST PREROUTE	CODE POINT	TRO-6	OFFICE CODE ASSIGNED FOR AN OFFICE NUMBER SERIES		COMB. OR COMPL	402 408
				TRB, TRBO, I	SCOO-35 PSCOO-23	SCREENING FOR ACCESS TO RINGER TEST ROUTES			
					RB	RINGER TEST PREROUTE BATTERY			
			ASSOCIATED WITH A RINGER TEST ROUTE	RGT, RGTO, I	SCOO-35 PSCOO-23	SCREENING FOR SERVICE TREATMENT			
					RC-	FOR RINGER TEST ROUTE			
49	ROUTE TRANSFER FEATURE			RTO-19	CODE POINT	ROUTE TRANSFER INPUT		COMB. OR COMPL	402
					ZO	ZERO OPERATOR ROUTE TRANSFERRED			
					SO-11 PSA/BO-11	ROUTE TRANSFER FOR A PARTICULAR CLASS OF SERVICE			
					OPO-3	WHEN IDENTIFYING TONE IS REQUIRED			
					PROO-19	PREROUTE PEG COUNT			
				RTA/BO-19	RC-	FOR NEW ROUTE			

DRAWING ISSUE: 41D, 43B, 46D, 56D

CROSS CONNECTION INFORMATION NOTES (CONT)
400. (CONT)

PART	FEATURE OR CONDITION			CONNECT FROM	CONNECT TO	CONDITION		MKR INVOLVED	REF
50	TANDEM SCREENING FEATURE			R-	TLCI-4	LIMITED TANDEM SCREENING		COMB. OR COMPL	402 408 409 419
				TSC 00-45	CVR 00-99	CODE CONVERSION ROUTE			
					CODE POINT	CODE POINTS RECEIVING TANDEM SCREENING TREATMENT			
					R-	CLASS OF CALL DETERMINES ROUTE TREATMENT			
				GRD	TLCI-4	TOLL CLASS PROVIDED WITH TANDEM SCREENING FEATURE			
				TOLI-4	TOLO				
51	TRUNK SERVICE OBSERVING BASED ON MESSAGE UNITS CHARGEABLE FOR CALLS			SVD I-9	SNO	TRUNK SERVICE OBSERVING NOT PROVIDED		COMB. OR COMPL	408
						TRUNK SERVICE OBSERVING NOT DESIRED	TRUNK SERVICE OBSERVING PROVIDED		
					SOB	TRUNK SERVICE OBSERVING DESIRED			
52	CAMA FEATURES PROVIDED	RATE CLASS AND SENDER GROUP		ORC	ORCO-2	CAMA JUNCTOR ORIGINATING RATE CLASS		COMB. OR COMPL	406 411
				OSGC 0-9	TOG	SDR GRP SERVING TOLL OR TANDEM CLASS			
					CMC	CAMA SENDER GROUP			
		CAMA SENDER GROUP	SENDER GROUP SELECTION	CFGO	CFG	IN OFFICES WHERE TRUNK LINK FRAMES 10-19 ARE NOT PROVIDED			
				CS 00-569	OSC 0-9	WHERE A SINGLE CAMA SENDER GROUP SERVES INCOMING CAMA CALLS OR CAMA JUNCTOR ROUTES			
					CSG	SERVING INCOMING CAMA CALLS WHERE SEVERAL SUCH SENDER GROUPS ARE PROVIDED			
			CORRESPONDS TO TRUNK LINK FRAME SERVED BY THE CAMA SDR GRP	CMS 00-19	SGC 0-3				
			CAMA SDR GRP CONVENIENCE CONN	SGC 0-3	OSC 0-9				
53	COIN ZONE DIALING (TO PERMIT 8 CHARGE CONDITIONS WITH OR WITHOUT AMA RECORD)			ZRT	CZ	NO GROUND ON TP LEAD TO TRUNK		COMB. OR COMPL	413
				O-9	CZT	GROUND ON TP LEAD TO TRUNK			
				CDR 0-9	SO-11	COIN ZONE SERVICE TREATMENT			
					PSAO-11	COIN ZONE PRESORT SERVICE TREATMENT			
					PSBO-11				
				CRR 0-9	RC-	COIN ZONE ROUTE TREATMENT			
				ZRS O-9	NC	GROUND ON LEAD TO TRUNK			
					NN	NO GROUND ON TC OR CN LEAD TO TRUNK			
					TC	GROUND ON TC AND CN LEAD TO TRUNK			
					TN	GROUND ON TC LEAD TO TRUNK			
54	CUSTOMER ORIGINATING CALLS INTERCEPT FOR A SECOND FOREIGN AREA CODE OR AN OPERATER CODE ON CUSTOMER 10 DIGIT DDD CALLS ON TONE TRUNKS ON ALL PATHS BUSY			RA 000-219 OR RAS 00-39	INT	ROUTE ADVANCE TO INTERCEPT OR TONE TRUNKS		COMB. OR COMPL	405 414
				INPB	PB	ROUTE TO TONE TRUNKS			
				INT	RC-	ROUTE TO INTERCEPT TRUNKS			
55	ANI FEATURE			S-	DRRO-1	ANI REROUTE		COMB. OR COMPL	420 421 422
				NRSO-1	RC-	ANI ROUTE FOR OPERATOR OR AUTOMATIC IDENTIFICATION (SINGLE ORIGINATING RATE CLASS)			
					SC	WHEN ANI ROUTE SELECTION DEPENDS ON ORIGINATING RATE CLASS			
				R-	ANIS	ANI ROUTE SERIES			
56	DIGIT "1" ACCESS CODE FEATURE			IKS, FGS	BW2,5 SW300-359	SERVICE CALLS AND CALLS VIA INC REG		COMB. OR COMPL	423
				ELS	BWI, 4 SW300-359	PREFIX "1" DIALED			
		ACCESS DIGIT "1" CANCELLED	NO	LS	BWO,2 SW300-359	PREFIX "1" NOT DIALED			424
			YES	LS	SC- SW300-359				
				S-	SSGO-4				
				SSGO-4	BWO,3				
57	PREFIX "0" PERSON TO PERSON FEATURE			LS2	GRP "B" BWO-3 SW300-359	PREFIX "0" DIALED			423
58	OVERLOAD ANNOUNCEMENT FOR DIAL TONE CALLS			VGA-	ANC	VERT GROUPS WITH ANNOUNCEMENT ACS		DIAL TONE OR COMB.	
					NANC	VERT GROUPS DENIED ANNOUNCEMENT ACS			
				FR-	FCAN	ASSIGNED ROUTE FOR ANNOUNCEMENT TRUNKS			
				BTB 1-5	XTB	TRK BLOCKS NOT ASSIGNED FOR ANNOUNCEMENT TRUNKS		DIAL TONE	
					ANTB	TRK BLOCK ASSIGNED FOR ANNOUNCEMENT TRUNKS			
				BTG 2-5	ATG 2-5	TRK GROUPS NOT ASSIGNED FOR ANNOUNCEMENT TRUNKS			
					ANTG	TRK GRP ASSIGNED FOR ANNOUNCEMENT TRUNKS			
				BTG 6-9	XTG	TRK GROUPS NOT ASSIGNED FOR ANNOUNCEMENT TRUNKS			
				BTB 1-5	ATB 1-5	TRK BLOCKS NOT ASSIGNED TO ANNOUNCEMENT TRUNKS		COMB.	
					ANTB	TRK BLOCK ASSIGNED TO ANNOUNCEMENT TRUNKS			
				BTG 2-5	ATG 2-5	TRK GROUPS NOT ASSIGNED TO ANNOUNCEMENT TRUNKS			
					ANTG	TRK GRP ASSIGNED TO ANNOUNCEMENT TRUNKS			

CROSS CONNECTION INFORMATION NOTES (CONT)
400. (CONT)

PART	FEATURE OR CONDITION			CONNECT FROM	CONNECT TO	CONDITION		MKR INVOLVED	REF
						LEADS GROUNDED TO SENDER			
59	TRAFFIC SERVICE POSITION SYSTEM NO. 1- "0" OPERATOR, PREFIX "0" AND "1" COIN AND NON-COIN TRAFFIC ROUTED VIA COMMON TRUNK GROUP			CL-	CL8P	CL-	AUTOMATIC IDENTIFICATION	COMB. OR COMPL	406
					CL7S	3,5,8	OPERATOR IDENTIFICATION		
						5,8			
						CR-			
						REC'D	TRANS		
				CR-	CR7S	7,0	10-0 NON COIN 0 OR 0+		
					CR3S	7,1	10-1 COIN TRAFFIC		
					CR9S	7,2	10-2 SPARE		
					CR0S	7,4	10-4 NON COIN 1+ TRAFFIC		
					CR10S	-	10-7 COIN		
	CROSSBAR TANDEM TSP AND/OR CAMA	"0" OPERATOR COIN OR NON-COIN (ROUTED OVER SEPERATE TRUNK GROUPS)		CL-	CL7S	CL-	OPERATOR IDENTIFICATION		
						5,7			
					CL7P	3,5,7	AUTOMATIC IDENTIFICATION		
		PREFIX "0" OR "1" NON-COIN (ROUTED OVER SEPERATE TRUNK GROUPS)		CL-	CL4S	5	OPERATOR IDENTIFICATION		
					CL6S	3,5	AUTOMATIC IDENTIFICATION		
		PREFIX "0" AND "1" COIN ROUTED OVER COMMON TRUNK GROUP (A & M)		CL-	CL6S	3,5	PREFIX "1" TRAFFIC ANI		
					CL8P	3,5,8	PREFIX "0" TRAFFIC ANI		
					CL2S	-	PREFIX "1" TRAFFIC NON		
					CL8S	8	PREFIX "0" TRAFFIC ANI		
60	TRAFFIC SAMPLING			LT HTG SCG	SC-	LOCAL AREA TRANSLATION		COMB. OR COMPL	428
						SPECIAL SUBSCRIBER LINE SCREENING			
				S-	TRS 0-4	TRAFFIC SAMPLING IN INCREMENTS OF 2 OR MORE AS DETERMINED BY TRAFFIC SAMPLE CKT			
					SAC	TRAFFIC SAMPLING ON EVERY CALL			
		ROUTES WITH TRUNKS NOT EQUIPPED WITH AMA FEATURES		CP-	CP5P	CANCEL SAMPLE REQUEST (REQUIRED ON INTRA OFFICE FLAT RATE ROUTES)			
					CP5S	ROUTE ADVANCED TO TRUNK GROUP EQUIPPED WITH AMA FEATURES			
		TYPE OF LINES INVOLVED	MORE THAN ONE TYPE OF LINE SAMPLED BY SAME TRAFFIC SAMPLE CKT	TSA 0-4	SC-	SCREENING FOR TYPE OF LINE			
				S-	AOS, AID, CNS, MTR, MTR	TYPE OF LINE			
			ONE TYPE OF LINE SAMPLED BY TRAFFIC SAMPLE CKT	TSA 0-4					
61	BRUSH SELECTION WHEN IMMEDIATE RING IN CANCELLED			CIR	BR1	MARKERS 0,3,6		COMB. OR COMPL	
					BR2	MARKERS 1,4,7			
					BR3	MARKERS 2,5			
62	CALLING LINE IDENTIFICATION			NCT	NCT 1-3	CONTROL OF LINE IDENTITY RECORDS		COMB. OR COMPL	
63	CALLS TO ORIGINATING REGISTER GROUPS TO BE MONITORED			STM	STO	1ST ORIGINATING REGISTER GROUP		DIAL TONE OR COMB.	125
					STMF	2ND ORIGINATING REGISTER GROUP			
					STRO	3RD ORIGINATING REGISTER GROUP			
					STR1	4TH ORIGINATING REGISTER GROUP			
					STR2	5TH ORIGINATING REGISTER GROUP			
					STR3	6TH ORIGINATING REGISTER GROUP			
64	PBX TOLL DIVERSION			MB M81-9	SC-	TOLL DIVERSION SCREENING ON AMA CALLS		COMB. OR COMPL	430
				S-	TD	AMA CALLS REQUIRING TOLL DIVERSION			
					NTD	AMA CALLS NOT REQUIRING TOLL DIVERSION			
					NND	NCNC CALLS REQUIRING TOLL DIVERSION			
					ATD	ANI CALLS REQUIRING TOLL DIVERSION			

DRAWING ISSUE
41D
42D
43B
45B
46D
47D
49D
51D
54D
56D NF

USE NO. 22 GAUGE TYPE KI WIRE FOR ALL CROSS CONNECTIONS. THE COLORS OF WIRE SHALL BE USED AS SHOWN IN THE TABLE BELOW. THE TERMINAL STRIP HORIZONTAL ROWS ARE NUMBERED BOTTOM UP IN ALL CASES. WHERE TWO OR MORE TERMINALS IN THE SAME VERTICAL COLUMN ARE STRAPPED TOGETHER AND SERVED BY ONE CROSS CONNECTION JUMPER, THE COLOR SHALL BE DETERMINED BY THE ROW FROM WHICH THE JUMPER LEAVES THE TERMINAL STRIP.

FRAME	FROM TERM. STRIP	WIRE COLOR IN HORIZONTAL ROW					TO TERM. STRIP	REMARKS
		WHITE	BLACK	RED	BROWN	GREEN		
CE	CF	1	2	3			CG	FOR PUNCHINGS MSK, MCK, MAK
		1	2	3	4			FOR PUNCHINGS LF00-39
		1,2						FOR PUNCHINGS VGR0-13
				1	2	3		FOR PUNCHINGS CS00-29
		•						ALL OTHER PUNCHINGS ON CF & CG TERM. STRIPS
TR	RC	2	3	4	5	6	RD	
	RG	2	3	4	5	1,6	RH	
	RL	2	3	4	5	1,6	RK	
							RM	
	RN	2	3	4	5	1,6	RM	
							RP	
	RE	1	2	3	4	5	RF	
	RJ	1	2	3	4	5	RH	
							RK	
	AD				4		AD	ALL INTERCONNECTIONS
	RM			3			RM	FOR PUNCHINGS RTB0-9 TO RC000-219
					4			FOR PUNCHINGS RTA0-9 TO PC000-219
	RB	1					RB	FROM PUNCHINGS FCA0-3 TO FC10-19
			2					FROM PUNCHINGS FCB0-3 TO FC10-19
				3				FROM PUNCHINGS FCG0-3 TO FCR10-19
CS	SD	1,6	2,7	3,8	4	5	SB	
							SE	
	SB	1					SB	FROM SWC0-9 TO SW00-29
			2					FROM SWC10-19 TO SW00-29
				3				FROM SWC20-29 TO SW00-29
						5		FROM SWTA,SWTO,SWP,SWT AND SWR TO SWC00-29
	NOTE: CONNECTIONS FROM S- AND SGO-11 PUNCHINGS TO HTR AND MTR, PSC0-9 AND RTO-9 PUNCHINGS ON THE SD TERMINAL STRIP IS GOVERNED BY THE COLOR OF THE S- AND SGO-11 PUNCHING ROW NUMBER.							
S1	SRC	1,6	2	3	4	5	SRD	
	SRE	1,6	2	3	4	5	SRF	
	SRG	1	2	3	4	5	SRH	
	SRJ	1	2	3	4	5	SRM	
	SRL	1	2	3	4	5	SRM	
	SRM	1	2	3	4	5	SRP	
	SRN	1,6	2	3	4	5	SRM	
							SRP	
S2	SRC	1,6	2	3	4	5	SRD	
	SRE	1,6	2	3	4	5	SRF	
TC	TB	1,6	2	3	4	5	TA	
CV	CVC	1,6	2	3	4	5	CVD	
	CVE	1,6	2	3	4	5	CVD	
							CVF	
	CVG	1,6	2	3	4	5	CVF	
	CVL	1,6	2	3	4	5	CVK	
							CVM	
	CVH	1	2	3	4	5	CVH	
	CVJ (TOP)	2	3	4	5	1,6	CVH	
							CVK	
	CVJ (BOT)	1,6	2,7	3,8	4,9	5	CVH	
							CVK	
MR	A	1,6	2,7	3,8	4	5	B	
CAMA	CMA	1	2	3	4		CMB	

SID CR NES AMD

MARKER CIRCUIT (2) SD-25550-01-D27B

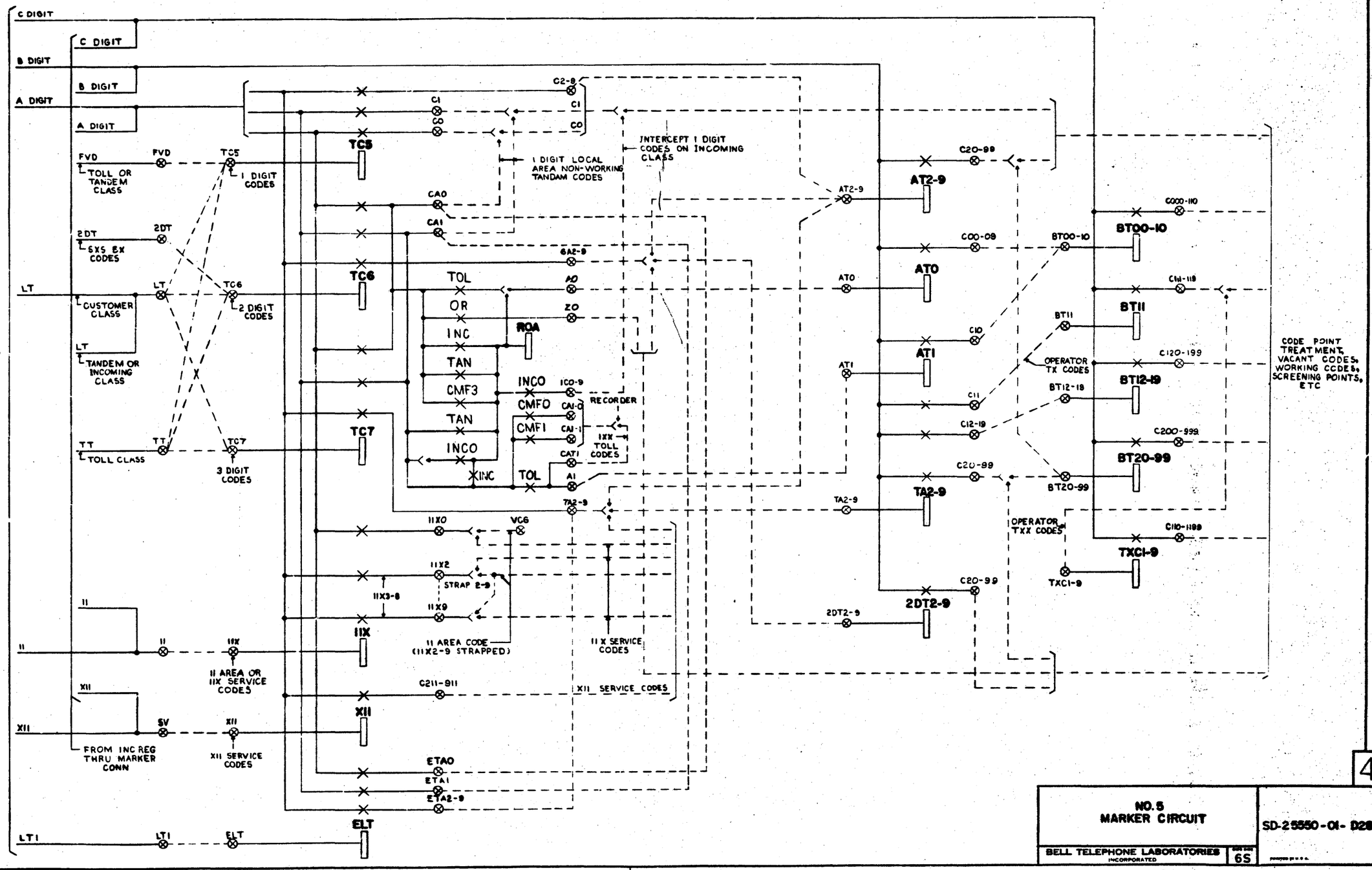
BELL TELEPHONE LABORATORIES INCORPORATED 6S

KIMBERLY

CROSS CONN INFORMATION

NOTE 401

OFFICE CODE DIGIT TRANSLATION



DRAWING ISSUE	
4ID	A.T. & T. Co. W. P. D.
4SB	Bell Tel. Labs. Inc. W. J. S.

WORN DRAWING REPRODUCED WITHOUT CHANGE 12-8-60 B.J.S.

45

NO. 5 MARKER CIRCUIT

SD-25550-01-D28

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-D28

CROSS CONN INFORMATION (CONT)
NOTE 402

FUNCTIONS CONTROLLED BY CODE POINTS

CODE POINT PUNCHINGS		DESIG	RC-	RP 00-19	OS 0-3	LOCAL COMPLETION ROUTES	RINGER TEST ROUTES	CODE CONVERSION	LOCAL COMPLETION RELAY BATTERY SUPPLY	PEG COUNT SERVICE	ROUTE TRANSFER	VACANT CODE GROUPING	WHEN S- SCREENING IS REQ TO PROVIDE DIFFERENT ROUTE OR TREATMENT	TANDEM SCREENING	PRESORT SCREENING	VACANT CODE PARTIAL DIAL	PARTIAL DIAL ACCESS PUNCH	VACANT CODE ACCESS PUNCH	CLASSES OF SERVICE NOT PERMITTED REVERTING CALLS	INCOMING CODE	CODE AUXILIARY	FOREIGN AREA TRANSLATOR		0 DIGIT TRANSLATION	C DIGIT TRANSLATION	TX CODE TRANSLATOR	TOLL "A" TRANSLATOR	BX CODES FROM SXS OFFICES	LINE ROUTE	PATHS BUSY	LAST TOLL OR TAN ADVANCE	REORDER FOR INC TAN OR TOLL CLASS (ABM ONLY)	REORDER FOR TAN OR TOLL CLASS (ABM ONLY)	OP., TAN AND TOLL SCREENING	TOLL SCREENING	"A" DIGIT TRANSLATION FOR CAMA	ROUTE RELAY RC- GROUPING	HOME AREA TRANSLATION	CAMA REORDER (ABM ONLY)	CON ZONE PREROUTE	VACANT CODE INTERCEPT FOR INCOMING CALLS	DENIED CODE INTERCEPT FOR INCOMING CALLS
			ROUTE RELAY WINDING	PREROUTE PEG COUNT	OPERATOR SIGNAL	LOCAL COMPLETION ROUTES	RINGER TEST ROUTES	CODE CONVERSION	LOCAL COMPLETION RELAY BATTERY SUPPLY	PEG COUNT SERVICE	ROUTE TRANSFER	VACANT CODE GROUPING	WHEN S- SCREENING IS REQ TO PROVIDE DIFFERENT ROUTE OR TREATMENT	TANDEM SCREENING	PRESORT SCREENING	VACANT CODE PARTIAL DIAL	PARTIAL DIAL ACCESS PUNCH	VACANT CODE ACCESS PUNCH	CLASSES OF SERVICE NOT PERMITTED REVERTING CALLS	INCOMING CODE	CODE AUXILIARY	FOREIGN AREA TRANSLATOR		0 DIGIT TRANSLATION	C DIGIT TRANSLATION	TX CODE TRANSLATOR	TOLL "A" TRANSLATOR	BX CODES FROM SXS OFFICES	LINE ROUTE	PATHS BUSY	LAST TOLL OR TAN ADVANCE	REORDER FOR INC TAN OR TOLL CLASS (ABM ONLY)	REORDER FOR TAN OR TOLL CLASS (ABM ONLY)	OP., TAN AND TOLL SCREENING	TOLL SCREENING	"A" DIGIT TRANSLATION FOR CAMA	ROUTE RELAY RC- GROUPING	HOME AREA TRANSLATION	CAMA REORDER (ABM ONLY)	CON ZONE PREROUTE	VACANT CODE INTERCEPT FOR INCOMING CALLS	DENIED CODE INTERCEPT FOR INCOMING CALLS
			RC-	RP 00-19	OS 0-3	AP, BP AT, BT AE, BE	TR 0-9	CV 00-99	LCB	PCS 0-9	RT 0-9	VCG	SC- 00-35	TSC 00-45	PSC 00-23	VP	PDR	VCR	BL	IC 0-9	CAO CAI	FAT 1-3 (A)	FAT 1-3 (L)	AT 0,1	AT 2-9	BT 00-99	TXC 1-9	TA 2-9	2DT 2-9	LR	PB	LTA	ROA	ROA1	TLC 1-4	TOL 1-4	CAT1	RCG 0-29	HAT	ROA2	CDR 0-9	VCI	DCI
"A" DIGIT TRANSLATION	ZERO OPERATOR (ORIG REG)	Z0	X		X						X		X																														
	1-DIGIT CODES	C0-9	X	X		X	X	X				X	X	X	X						X	X			X																		
	OXX TOLL CODES	A0										Y												X																		
	1XX TOLL CODES	A1										Y																														
	2-DIGIT CODES	6A2-9										X		X										X				X														
	3-DIGIT CODES	7A2-9ETA2-9 LT2,2-9	X									X	X											X			X															
	II TRANSLATION FOR SERVICE OR STRAIGHTFORWARD OR AREA CODES	II X0, II X2-9	X	X				X			X	X	X	X	X								X																				
	XII TRANSLATION FOR SERVICE OR STRAIGHTFORWARD CODES	C2II, 3II C8II	X	X							X	Y	X	X	X																												
AB DIGIT TRANSLATION	AT- TRANSLATION	C00-99	X	X		X	X	X			X	X	X	X	X										X																		
	2DT- TRANSLATION	C20-99 (EX)	X	X		X	X	X			X	X	X	X	X								•																				
	TA- TRANSLATION	C20-96	X	X								X		X											X																		
ABC DIGIT TRANSLATION	B1- TRANSLATION XXX/XIX	C000-999	X	X		X	X	X			X	X	X	X	X							X				X																
	B1- TRANSLATION OTHER																						X																				
2-DIGIT TX CODES INC REG TOLL CLASS (TXC- TRANSLATION)		C1110-1119	X	X				X			X	X	X	X																												
ROUTE ADVANCE GROUPING		RAG 00-59	X					X					X	X	X														X	X	X			X								
S- RELAY SCREENING		SO-11	X		X	X			X	X	X					X	X	X	›		X	Y												X			X		X			X
RINGER TEST	ROUTES	TRB, TREO											X		X																											
	PREROUTE	RGT RSTO, 1	X										X		X																											
CODE CONVERSION ROUTES		CVR 00-99	X										X	X	X																											
PEG COUNT PREROUTE		PR 00-19	X								X																														
LOCAL COMPLETION ROUTES		AFR, BPR ATR, BTR AER, BER	X										X																												
OPERATOR ROUTES		OPO-3	X								X																														
COIN REROUTE		RRO-2	X																																						X
DENIED ROUTES		NRO-2	X			X						X																													X
ROUTE TRANSFER		RTAO-9 RTBO-9	X																																						
PARTIAL DIAL	LOCAL AREA	PD											X		X	X																									
	FOREIGN AREA	PDI																																							
PARTIAL DIAL ACCESS PUNCH		PDP		X																																				
STUCK COIN		SCN	X																																					
PERMANENT SIGNAL		PS	X										X		X																											
VACANT CODE	LOCAL AREA	VC	X	X									X		X	X																										
	FOREIGN AREA	FOVC		X									X		X																											
	ACCESS PUNCH	VCP		X																																					
	TAN OR TOLL	TAN	X	X									X	X																												
		TOL																																							
	INCOMING	INV																																							
COIN ZONE ROUTE		CRRO-9	X		X							X																													X
DENIED CODE INTERCEPT		IND																																							X

CROSS CONN INFORMATION (CONT)

NOTE 402 (CONT)

FUNCTIONS CONTROLLED BY CODE POINTS

CODE POINT PUNCHINGS		DESIG	RC-	RP 00-19	OS 0-3	LOCAL COMPLETION ROUTES	RINGER TEST ROUTES	CODE CONVERSION	LOCAL COMPLETION RELAY BATTERY SUPPLY	PEG COUNT SERVICE	ROUTE TRANSFER	VACANT CODE GROUPING	WHEN SC- SCREENING IS REQD TO PROVIDE DIFFERENT ROUTE OR TREATMENT	TANDEM SCREENING	PRESORT SCREENING	VACANT CODE PARTIAL DIAL	PARTIAL DIAL ACCESS PUNCH	VACANT CODE ACCESS PUNCH	CLASSES OF SERVICE NOT PERMITTED REVERTING CALLS	INCOMING CODE	CODE AUXILIARY	FOREIGN AREA TRANSLATOR		B DIGIT TRANSLATION		C DIGIT TRANSLATION	TX CODE TRANSLATOR	TOLL "A" TRANSLATOR	BY CODES FROM SXS OFFICES	LINE ROUTE	PATHS BUSY	LAST TOLL OR TAN ADVANCE	REORDER FOR TAN OR TOLL CLASS (ABM ONLY)	REORDER FOR TAN OR TOLL CLASS (ABM ONLY)	OR, TAN AND TOLL SCREENING	TOLL SCREENING	"A" DIGIT TRANSLATION FOR CAMA	ROUTE RELAY RC-GROUPING	HOME AREA TRANSLATION	CAMA REORDER (ABM ONLY)	COIN ZONE PREROUTE	VACANT CODE INTERCEPT FOR INCOMING CALLS	DENIED CODE INTERCEPT FOR INCOMING CALLS	ACCESS CODE SCREENING
			ROUTE RELAY WINDING	PREROUTE PEG COUNT	OPERATOR SIGNAL	AP, EP AT, ET AE, EE	TR 0-5	CV 00-99	LCB	PCS 0-9	RT 0-9	VCG	SC- 00-35	TSC 00-45	PSC 00-23	VP	PDR	VCR	BI	IC 0-9	CAO CAI	FAT 1-3 (A)	FAT 1-3 (E)	AT 0, 1	AT 2-9	BT 00-99	TXC 1-9	TA 2-9	2DT 2-0	LR	PB	LTA	ROA	ROA1	TLC 1-4	TOL 1-4	CAT1	RCG 0-29	HAT	ROA2	CDR 0-9	VCI	DCI	BC 00-23
OUTPUT OF FOREIGN AREA TRANSLATOR		FAR 00-99	X			X		X				X																																
OVERFLOW		OV											X		X																													
REVERTING CALL ROUTE		RV											X																															
TANDEM SCREENING FEATURE		TS 00-45	X	X		X																X	X										X								X		
CLASS OF SERVICE PEG COUNT		CLC											X		X																													
CODE POINT GROUPING		CG 2-17 22-39	X										X																															
PRESORT GROUP		PSA/B 0-11	X						X	X	X					X	X	X				X	X																		X			
LOCAL COMPLETION RELAYS BATTERY SUPPLY		PAB, TAB PBB, TBB EAB, EBB							X				X		X																			X									
TOLL SCREENING		TOLO																																	X									
		CRD																																X									
ROUTE RELAY WINDING OUTPUT		R-											X	X	X																			X									X
PULSE CONVERSION ROUTES	DIAL PULSE SENDERS	PCDO, I	X																																							
	REVERTIVE PULSE SENDERS	PCR	X																																							
CAMA FEATURES PROVIDED	RC- CONVENIENCE CODE	RCG 0-29	X																																		X	X					
	LOCAL CODE DIALED	LCDO																					X														X						
		LCD1, 2																					X														X						
	VACANT CODE (2ND USAGE)	VTC																																			X		X				
	DENIED CODE	DNC																																			X		X				
	FREE CODE	FRC																																			X		X				
	TAN OR TOLL SUPERVISION	CTAR CTOR																																			X						
	TAN OR TOLL CAMA JUNCTOR	JTA/O 0-2																																			X						
	VACANT CODE CAMA FUNCTION	CMF																																			X		X				
	VACANT CODE CAMA COMPLETING FUNCTION	CMS																																			X		X				
	CAMA "A1" DIGIT TANDEM	CA1-0																																			X		X				
	CAMA "A1" DIGIT TOLL	CA1-1																																			X		X				

DRAWING ISSUE

41D	4B CWW CTM WEC	WP 8.1 WJB
45B		

NO. 5 MARKER CIRCUIT

SD-25550-01-D30

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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25550-01-D30

CROSS CONN INFORMATION (CONT)

NOTE 403

ROUTE SERIES CROSS CONNECTIONS

		BATTERY SUPPLY FOR ROUTE RELAY																						
		ROUTE BATTERY	ROUTE GROUPING	SCREENING POINTS	COMMON PERMANENT SIGNAL TRUNK GROUP: COIN CUSTOMER (GRD COIN CUSTOMER) (GRD TP LEAD TO TRUNK)	COMMON PERMANENT SIGNAL TRUNK GROUP: NON-COIN OR NON-PBX NO GRD TO TRUNK	COMMON PERMANENT SIGNAL TRUNK GROUP: PBX CUSTOMER (GRD TC LEAD TO TRK)	TRUNK CLASS MARKS: GROUND TC AND CN LEADS	TRUNK CLASS MARKS: GROUND TC LEAD	TRUNK CLASS MARKS: NO GROUNDS TO TRUNK	TRUNK CLASS MARKS: GROUND CN LEAD	TRUNK CLASS MARKS: GROUND RC LEAD	CANCELS TRUNK CLASS INFO ONLY USE WITH COMMON OVERFLOW TRUNKS	COIN RETURN (USED WITH TRK GRP NOT EQPD FOR COIN RETURN)	MESSAGE BILLING INFO	DIVERTED OR DENIED ROUTES.	COIN CLASS PERMITTED TO DIAL BEYOND INITIAL CHARGE AREA	SERVICE GROUPING	CAMA JUNCTOR CALL	ROUTE TO CAMA OPERATOR	BATTERY SUPPLY FOR LOCAL OFFICE CODE RELAY	CODE CONVERSION ROUTE SERIES	ROUTE TO RECORDER
PUNCHINGS TREATED AS CODE POINTS	DESIG	RB	RAG 00-99	SC 00-35	PM	PN	PP	TC	TN	NN	NC	TO	CA	CC	MBS 0-9	DR 0-2 CDR 0-9	CR 0-2	SG 0-11	CMJ	CMR 0-1	LCB	CVS	ROA1
ROUTE RELAYS	R 000-569	X	X	X				X	X	X	X		X	X	X				X				
S-POINTS	SO-11				X	X	X	X	X	X	X	X		X	X	X	X	X		X	X		
PRESORT	PSA/B 0-11							X	X	X	X			X	X	X	X			X	X		
TAN AND TOLL SCREENING	TAN1-4 TOL1-4 TNX1-4									X						X					X		
	OR1-4															X							
	TSO-45									X		X				X							X
CAMA FUNCTION	CFTA1-4 CFTO1-4									X		X				X				X			
CAMA COMPLETING	CSTA1-4 CSTO1-4									X		X				X							
RINGER TEST	TRB OR TRBO,1	X		X																			
CODE CONVERSION PREROUTE	CVB 00-99	X																				X	
ACCESS CODE SCREENING	BO-11			X												X							

DRAWING ISSUE
41D J.W. K.C.B. W.F.D.
45B K.C.B. W.J.G.
46D A.E.L. [illegible] [illegible]

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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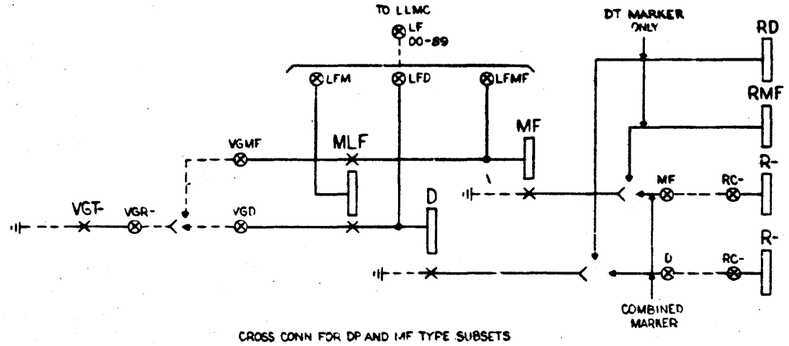
SD-25550-01-D31

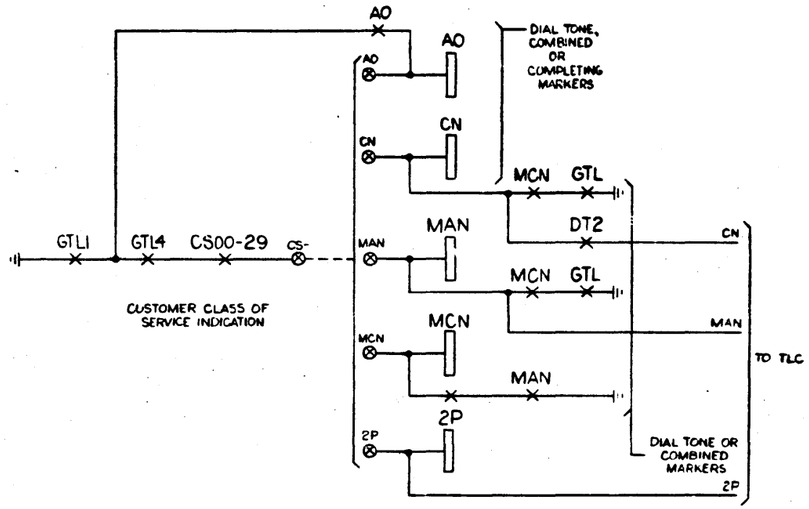
CROSS CONN INFORMATION (CONT)

NOTE 404

DIAL TONE ROUTE RELAY OPERATION AND CLASS OF SERVICE INDICATIONS



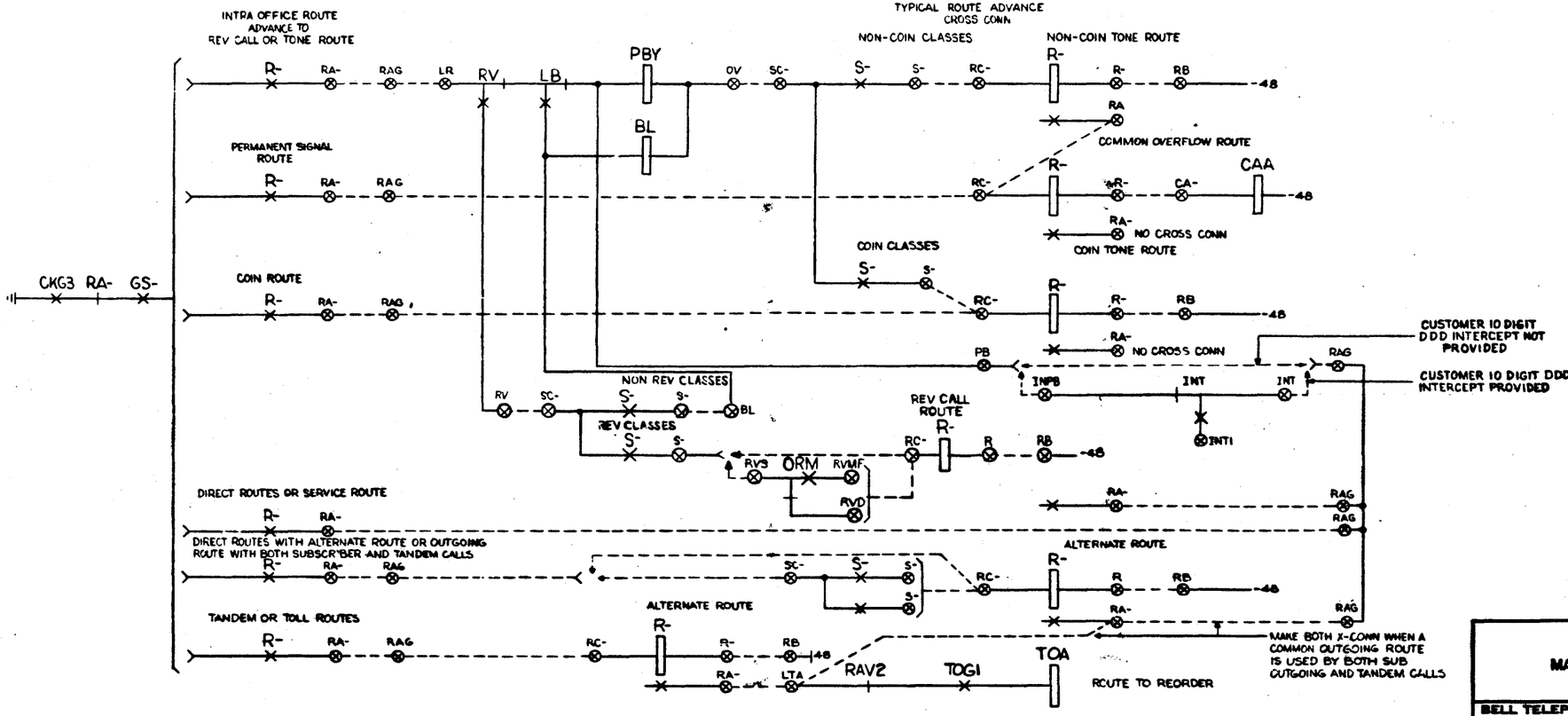
CROSS CONN FOR DP AND MF TYPE SUBSETS



CUSTOMER CLASS OF SERVICE INDICATION

NOTE 405

TYPICAL ROUTE ADVANCE CROSS CONN



DRAWING ISSUE	
41C	
51D	

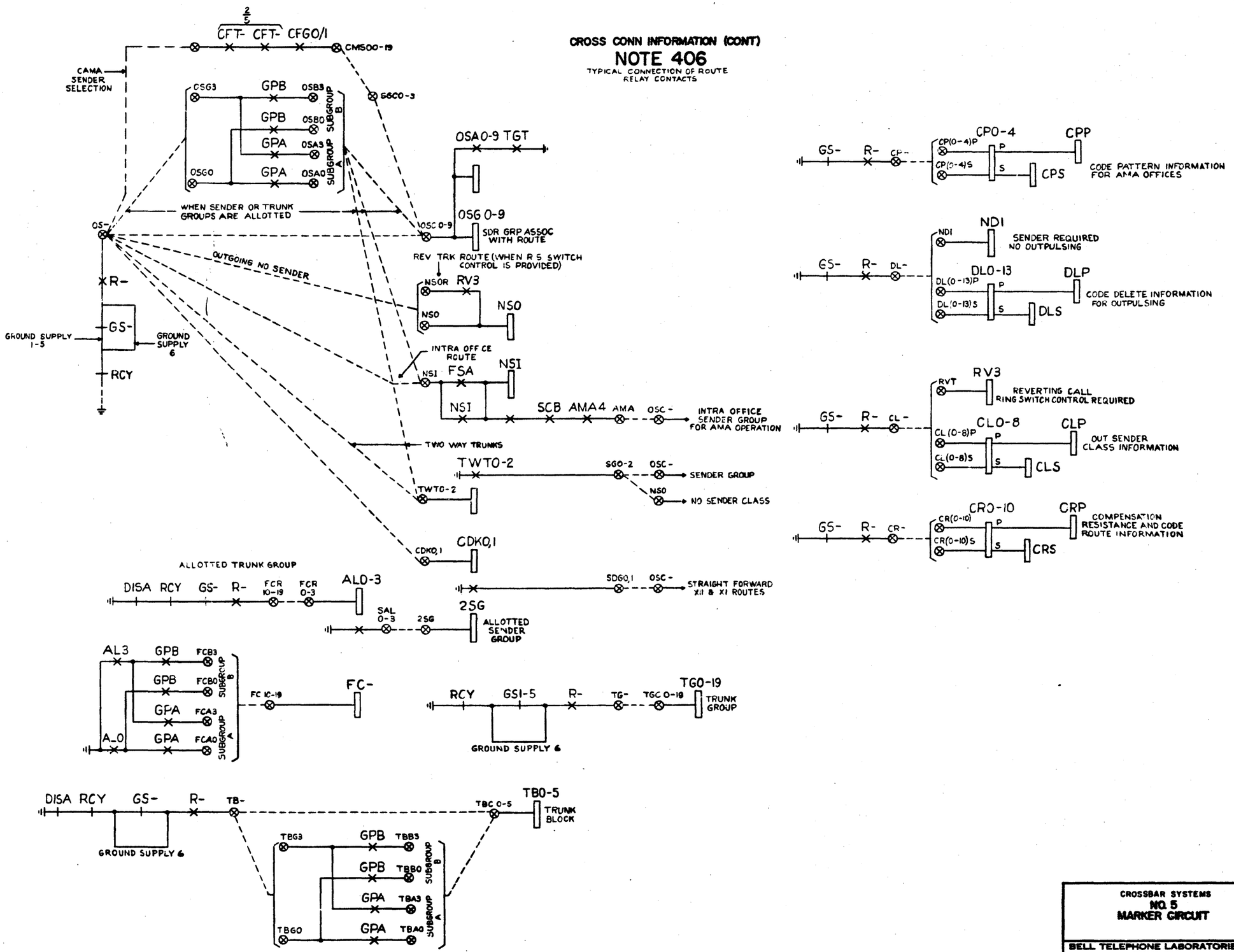
MARKER CIRCUIT	51
BELL TELEPHONE LABORATORIES INCORPORATED 6S	SD-25550-01-032

SD-25550-01-032

CROSS CONN INFORMATION (CONT)

NOTE 406

TYPICAL CONNECTION OF ROUTE RELAY CONTACTS



DRAWING ISSUE		
41D	G.L. L.L.	WFO
42D	R.S.K. M.S.	PD
46D	R.D. [illegible] ARF	TJP

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

6S

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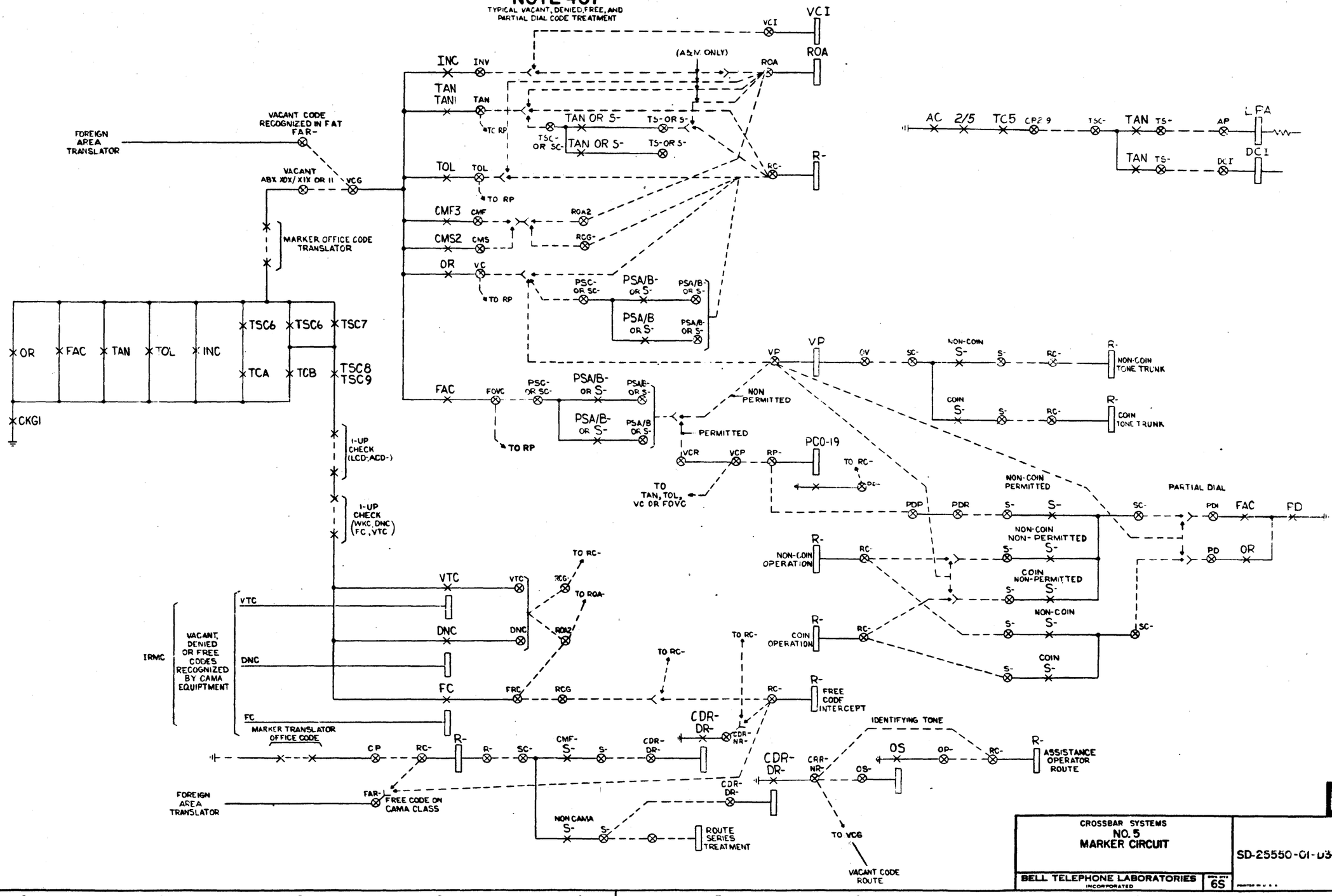
CROSS CONNECTION INFO (CONT)

NOTE 407

TYPICAL VACANT, DENIED, FREE, AND PARTIAL DIAL CODE TREATMENT



CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

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SD-25550-01-034

SD-25550-01-034

CROSS CONN INFORMATION (CONT)

NOTE 408

TYPICAL ROUTE, ROUTE SERIES AND TRUNK SERVICE OBSERVING OPERATIONS

COMMON TRK GRP R-
CHARGE CONDITION R-
CATCH ALL R-
PERM SIGNAL R-
INTRA OFFICE CALL CKGI DIS2 OR LPA/LTA ETC APR/ATR ETC
INFORMATION R-
TEST DESK R-
RINGER TEST RGT-
BUSY LINE BL
PATHS BUSY PBY
COIN S-
2 PARTY FLAT RATE S-
PBX OR NONE PBX IND MSG BILLING S-
PBX IND MSG BILLING S-
IND MSG BILLING S-
DETAILED BILLING MBS9
BULK BILLING OF MSG UNITS MBSI-8
ITR COIN R-
COIN 211 R-
COIN 0 R-
TONE COIN R-
NON-COIN 211 R-
TONE NON-COIN R-
ITR FLAT RATE R-
NON-COIN 0 R-
REVERTING R-
ITR AMA R-
RINGER TEST R-
NCCN
DR-
SVD9
SVDI-8
SOB
SNO
CAA
PCN
TCNC
PPX
NCNC
PNC
SCK
RR
CR
RB
OPS-
OPR
MBS-

NO. 5 MARKER CIRCUIT	SD-25550-01-D35
BELL TELEPHONE LABORATORIES INCORPORATED	6S

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SD-25550-01-D35

CROSS CONN INFORMATION (CONT)

NOTE 409

ROUTE AND ROUTE SERIES OPERATION
FROM CODE POINTS WITH AND WITHOUT CLASS SCREENING

PUNCHINGS TREATED AS CODE POINTS

- STUCK COIN — SCN
- OUTPUT OF FOR. AREA TRNSL — FAR 00-99
- ORIG REG LOCAL TRNSL — ZO
- LOCAL AREA 1-DIGIT TOLL CODES — 7A2-9
- OFFICE NO. IN 4-DIGIT AREA — CO-9
- 11 TRANSLATION — 11XO,2-9
- SERVICE CODES — X11(2-9)
- LOCAL TRNSL 2-DIGIT — C00-99
- LOCAL TRNSL 2-DIGIT (BX) — C20-99(BX)
- LOCAL TRNSL 3-DIGIT — C000-999
- TOLL TRNSL TX CODES — C1110-1119
- CODE CONVERSION — CVR00-99
- LOCAL OFFICE DISCRIM — APR,ATR,AER, BPR,BTR,BER
- PARTIAL DIAL — PD,PDI
- PERMANENT SIGNAL — PS
- VACANT CODE FOR. AREA TRNSL — FOVC
- VACANT CODE ORIG — VC
- OVERFLOW — OV
- VACANT CODE TAN — TAN
- RINGER TEST ROUTE — RGT-
- OPERATOR PRE ROUTE — OPO-3
- VACANT CODE TOLL — TOL
- VACANT CODE INCOMING — INV
- DENIED CODE INCOMING — IND
- DENIED SERVICE REROUTE — NRO-2
- COIN REROUTE — RRO-2
- ROUTE TRANSFER — RTA/BO-9
- PEG COUNT PREROUTE — PROO-19
- PULSE CONVERSION — PCR, PCDO,1
- INC-5 DIGIT VACANT CODE — ICO-9

USE SCREENING RELAYS AT THIS POINT WHEN ROUTE SELECTED DEPENDS UPON CLASS OF SERVICE OR UPON ORIG, INC, TAN OR TOLL TYPE OF CALL

SC- S- S-; S- S-; S- S-; PSC- PSA- PSA-; PSB- PSB; TSC- OR- TS-; TAN- TS-; TOL- TS-

NO SCREENING REQUIRED

R-: RC- R-

LPA,LTA,LEA LPB,LTB,LEB — AP,AT,AE BP,BT,BE — PAB,TAB EAB,PBB TBB,EBB

RGTO-5: TRO-5 — TRB TRBO,1

CVO0-99: CVO0-99 — CVB- CVS — CVS; RB -48

OPSO-3: OSO-3

PCO-19: RPO-18

ROA: ROA ROA1

RT-: RTO-8 — RTA- RTB- (CODE POINT)

VCG- VACANT CODE TREATMENT

VCI: VCI

DCI: DCI

FAT1-3 A&L — FOREIGN AREA TRANSLATOR

USE SCREENING RELAYS AT THIS POINT WHEN ROUTE SERVES ALL CLASSES OF CALLS AND CLASS SIGNAL TO TRUNK VARIES WITH TYPE OF CUSTOMER OR INC, TAN, OR TOLL CALLS.

SC- S- S-; S- S-; PSC- PSA- PSA-; PSB- PSB-; TSC- OR- TS-; TAN- TS-; TLC- TOL TOL-; TAN TAN-; TANI TNX-; OR OR-; CMFO,1 CFTA/O-; CMSO,1 CSTA/O-

RR: CC SCK — RR -48 — ROUTE REQUIRES COIN RETURN BY ORIGINATING REGISTER

CDRO-9 DRO-2: CDRO-9 DRO-2 — DENIED OR DIVERTED ROUTES

CRRO-2: CRO-2 — REROUTE COIN CLASS PERMITTED TO DIAL BEYOND INTIAL CHARGE AREA OR REROUTE TO A COIN JUNCTOR ROUTE

CMRO,1: CMRO,1 — -48 CAMA REROUTE

CMJ RSL: CMJ — RSL -48 — CAMA JUNCTOR

CAA: CA — CANCEL TRUNK CLASS INFORMATION ON CATCH ALL TRUNK

MBSO-9: MBSO-9 — AMA BILLING

NCNC: NN — NO GROUND TO TRUNK

NCCN: NC — GROUND CN LEAD TO TRUNK

TCNC: TN — GROUND TC LEAD TO TRUNK

TCCN: TC — GROUND TC AND CN LEAD TO TRUNK

PNC: PN — NON-COIN OR PBX (NO GROUND TO TRUNK)

PCN: PM — COIN (GROUND TP LEAD TO TRUNK)

PPX: PP — PBX (GROUND TC LEAD TO TRUNK)

TOS: TO — TOLL CALLS WHICH TANDEM THROUGH OFFICE (GROUND RC LEAD TO TRUNK)

RBL: RB — -48 ROUTE BATTERY

H2: LCB — -48 LOCAL COMPLETION BATTEY

DRAWING ISSUE
41D
46D

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INCORPORATED

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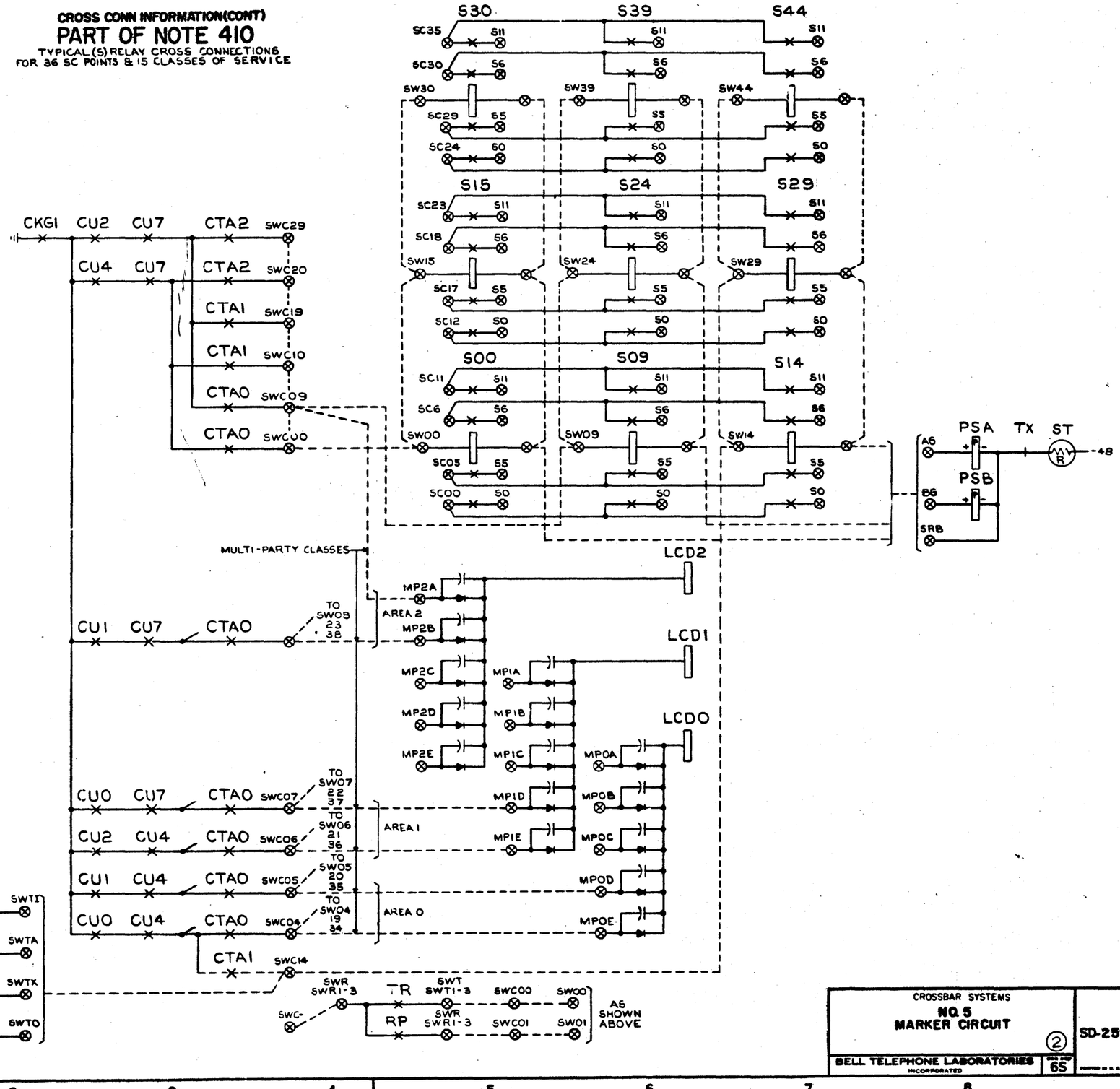
CROSS CONN INFORMATION(CONT)

PART OF NOTE 410

TYPICAL (S) RELAY CROSS CONNECTIONS FOR 36 SC POINTS & 15 CLASSES OF SERVICE



CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)

BELL TELEPHONE LABORATORIES INCORPORATED

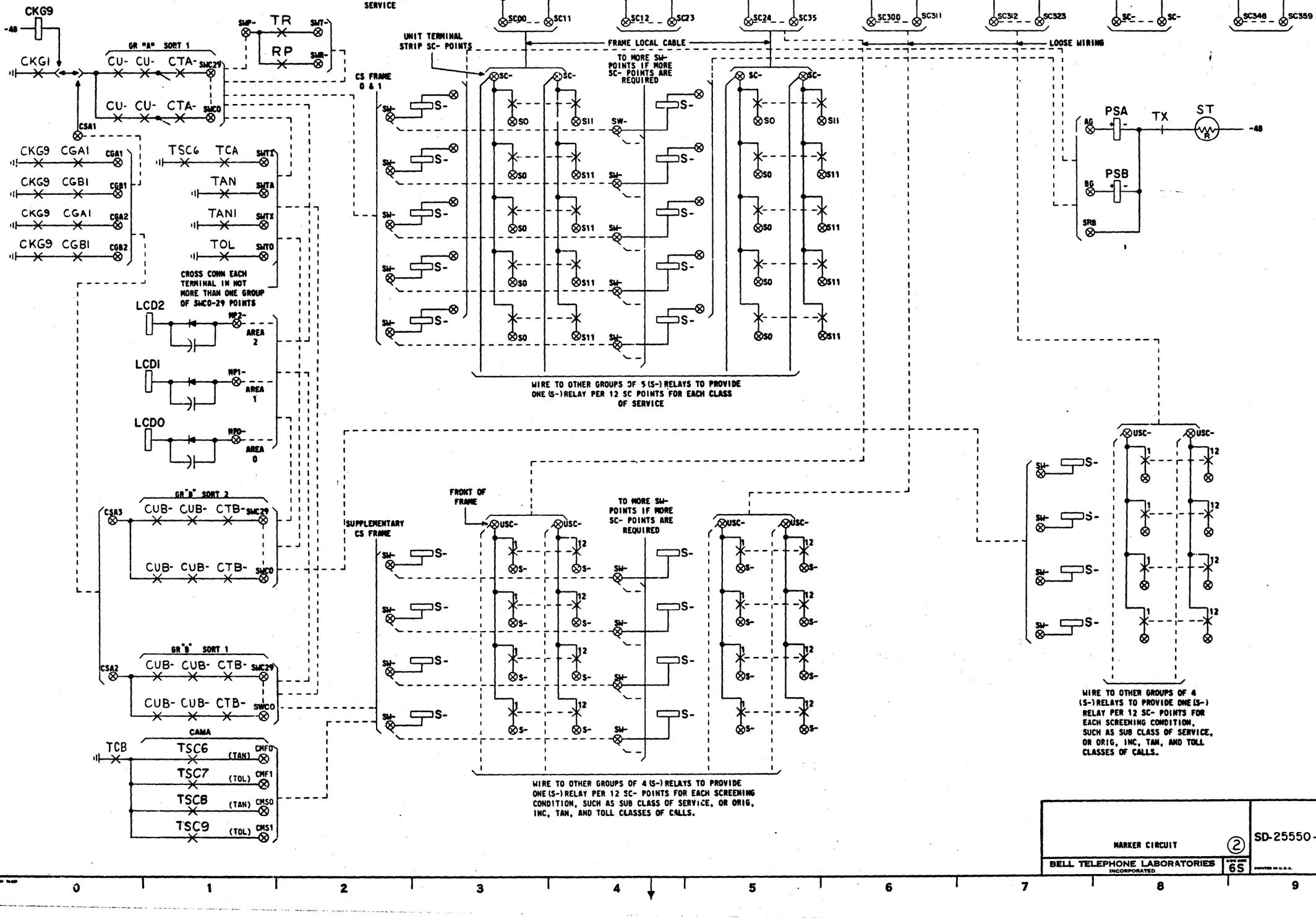
6S

SD-25550-01-D37A

CROSS CONN INFORMATION (CONT)

PART OF NOTE 410

TYPICAL (S) RELAY CROSS CONNECTIONS FOR 96 SC POINTS, OR 60 CLASSES OF SERVICE



ISSUE	
49D	BB 6N AMD
54D	CK 6AL AMD
56D	PDC

56

MARKER CIRCUIT ②

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-D37B

65

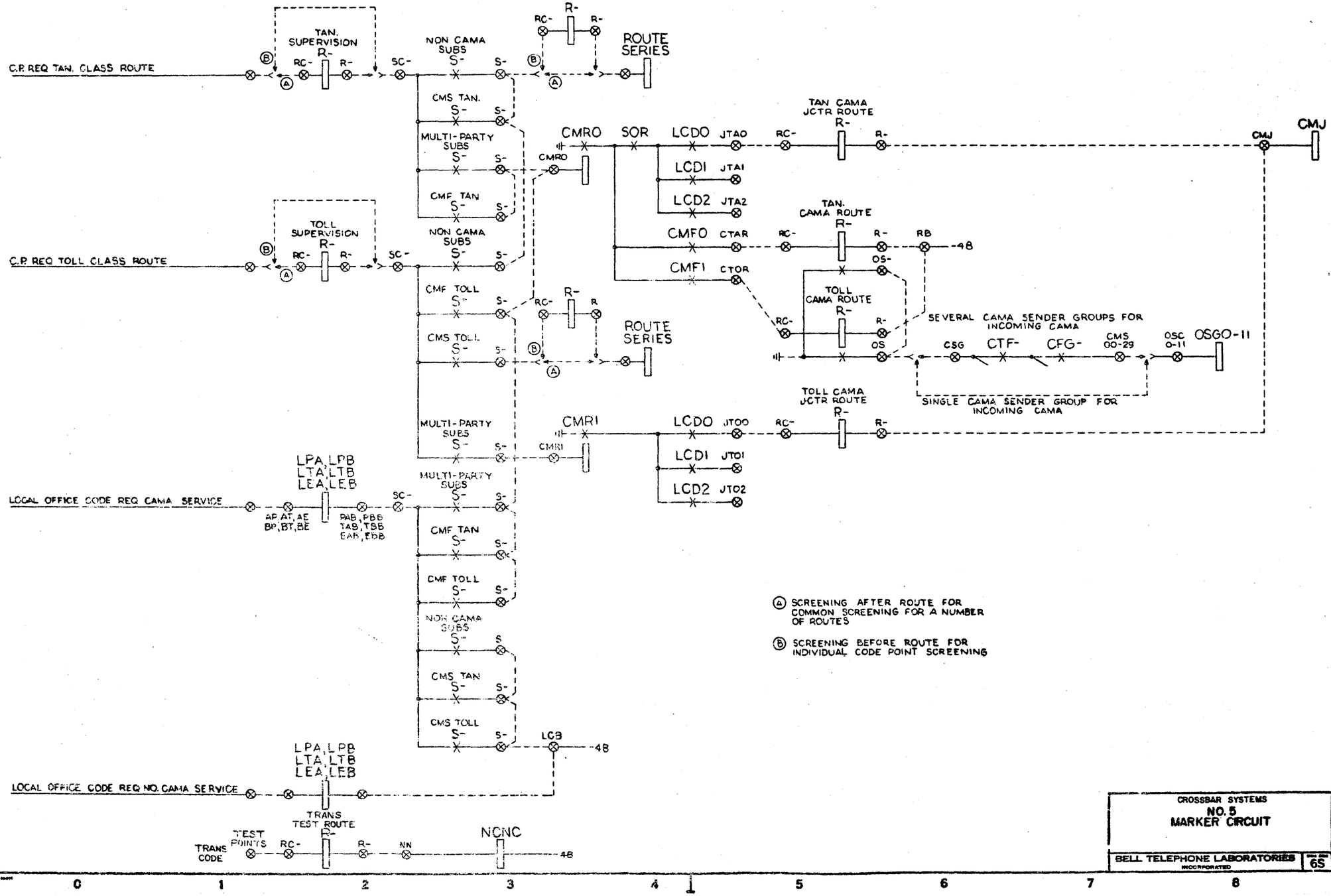
SD-25550-01-D37B

STABILO

CROSS CONN INFORMATION (CONT)

NOTE 411

TYPICAL CAMA ROUTE CROSS CONNECTIONS



DRAWING ISSUE

4ID	
46D	

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

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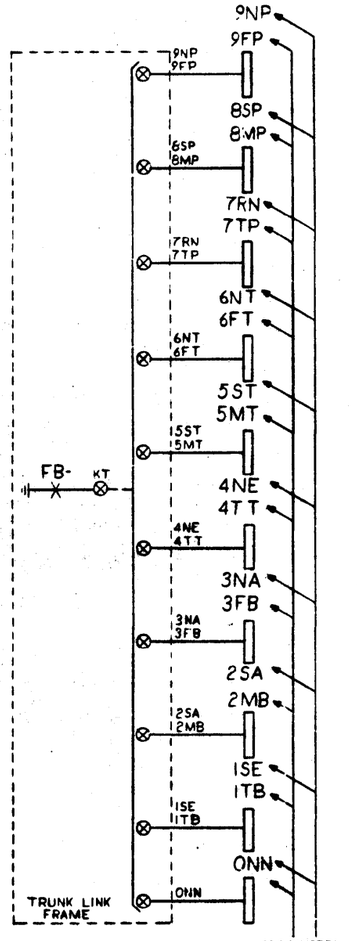
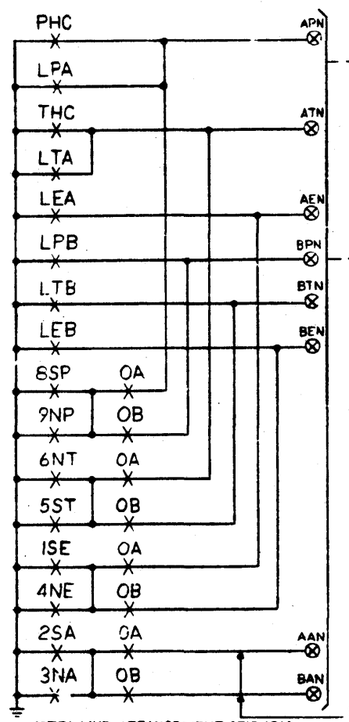
CROSS CONNECTION INFO (CONT.)

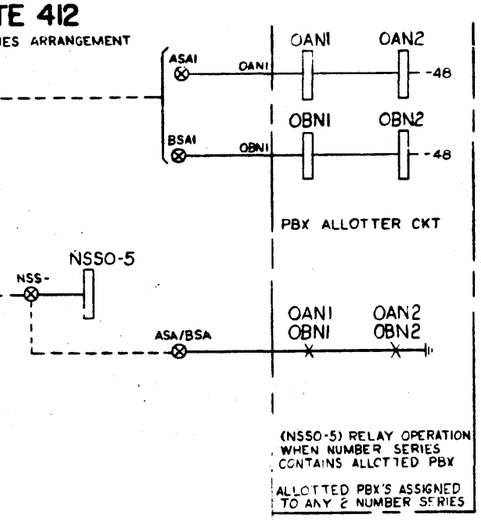
NOTE 412

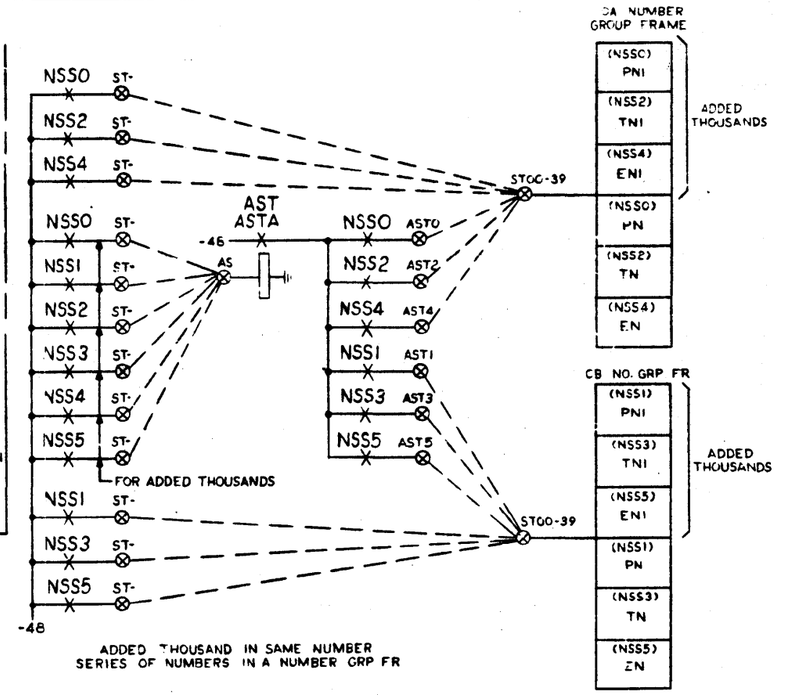
NUMBER SERIES ARRANGEMENT

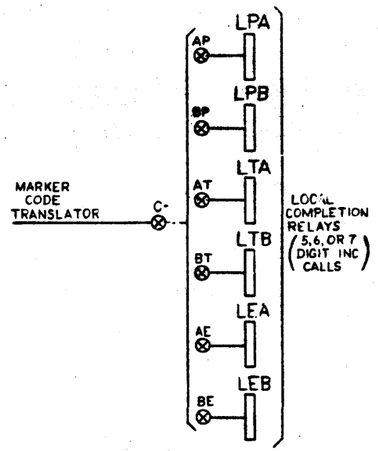
NUMBER SERIES START (NSSO-5) RELAY OPERATION

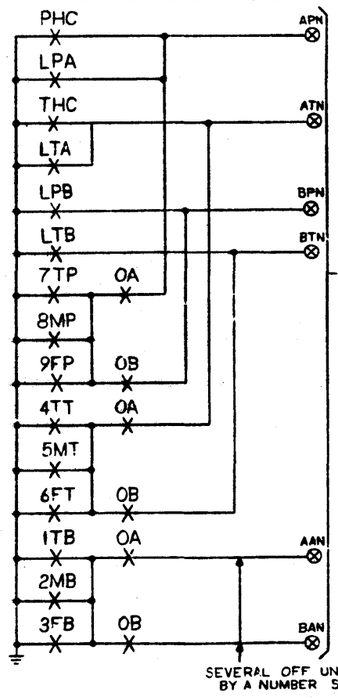


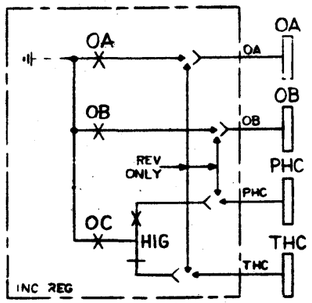












NSSO-5

NUMBER SERIES GROUP	NUMBER GROUP INDICATION TO MARKER		OFFICE CODE GROUP X-CONN TO OPR NSS-REL	TYPICAL ARRANGEMENTS OF OFFICE NUMBER SERIES						NUMBER SERIES * RELAYS
	REGULAR NOS	ADDED NOS		1 NO. SERIES	2 NO. SERIES	3 NO. SERIES	4 NO. SERIES	5 NO. SERIES	6 NO. SERIES	
				STD & A&M	STD & A&M	STD	STD	STD	STD	
A	PN	PNI	APN							NSSO -48
	TN	TNI	ATN							NSS2 -48
	EN	ENI	AEN							NSS4 -48
	PTN	PTNI	AAN							
B	PN	PNI	BPN							NSS1 -48
	TN	TNI	BTN							NSS3 -48
	EN	ENI	BEN							NSS5 -48
	PTN	PTNI	BAN							

NOTE: OPTIONS SHOWN INDICATE CONNECTION IF OFFICE CODE GROUP DIVISION IS PROVIDED

NUMBER SERIES NSSO-5 RELAY OPERATION FOR NUMBER GROUP SELECTION

DRAWING ISSUE 41D

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NO. 5 MARKER CIRCUIT

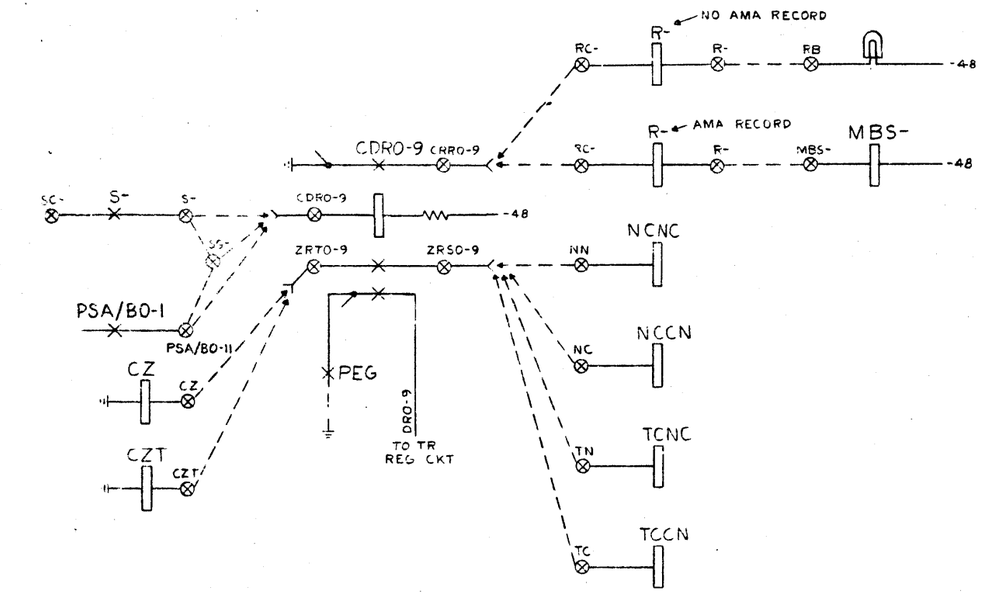
SD-25550-01-D39

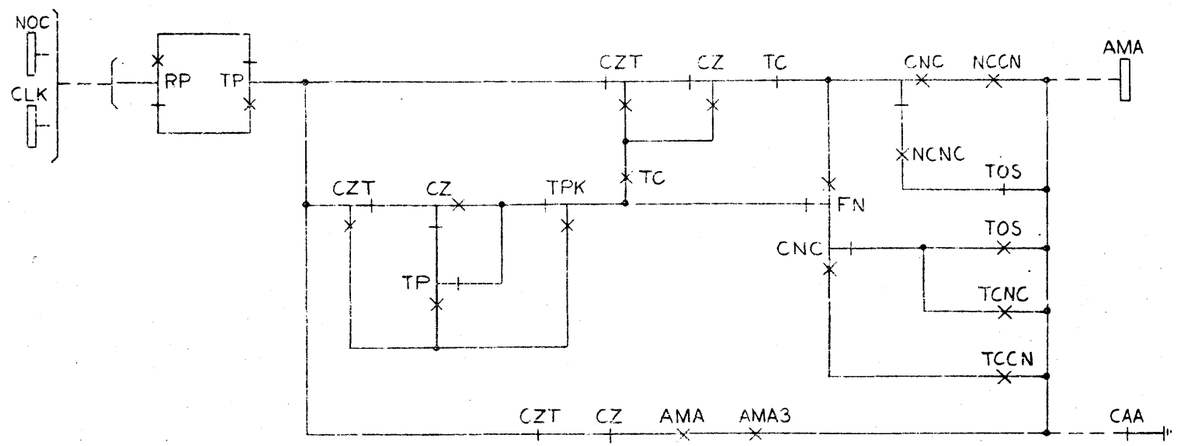
BELL TELEPHONE LABORATORIES INCORPORATED 6S

NOTE 413

COIN ZONE DIALING FEATURE

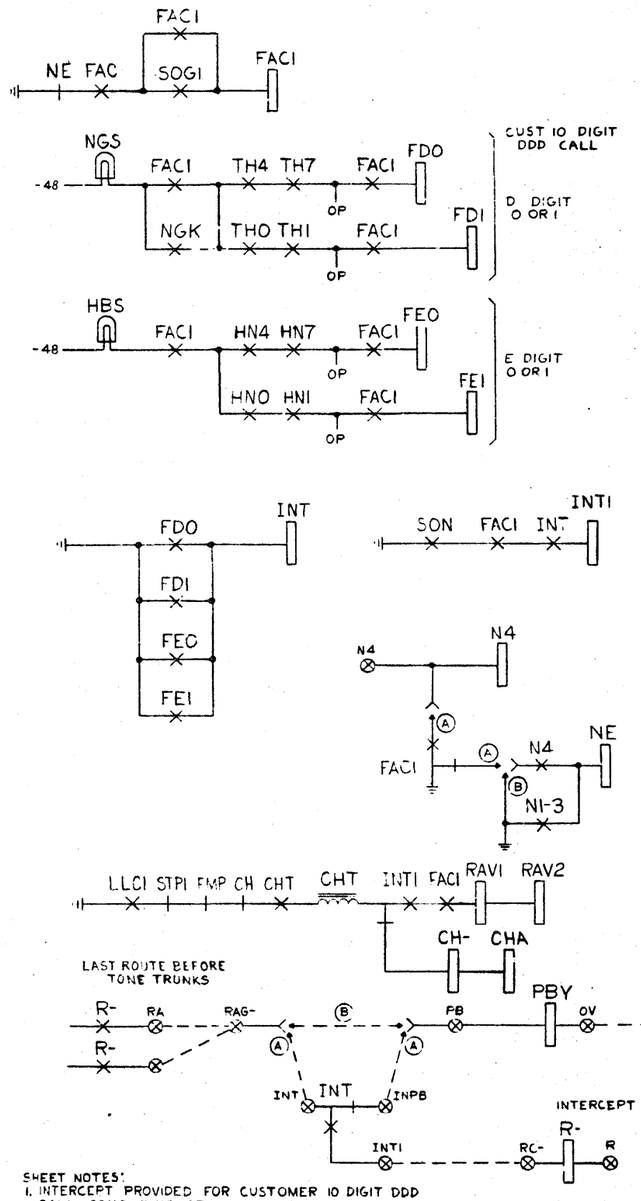
CROSS CONNECTION INFO (CONT)





NOTE 414

DETECTION OF A SECOND FOREIGN AREA CODE OR AN OPERATOR CODE ON CUSTOMER IO DIGIT DDD CALLS



SHEET NOTES:

1. INTERCEPT PROVIDED FOR CUSTOMER 10 DIGIT DDD CALL CONSISTING OF
   (a) FOREIGN AREA CODE + INWARD OPERATOR CODE +4 DIGIT LINE NUMBER
   (b) FOPEIGN AREA CODE + TOLL CENTER CODE +4 DIGIT LINE NUMBER OR
   (c) FOREIGN AREA CODE + FOREIGN AREA CODE + INWARD OPERATOR OR TOLL CENTER CODE + 1 FINAL DIGIT.
2. INTERCEPT FOR CUSTOMER 10 DIGIT DDD CALL NOT PROVIDED.

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NO.5 MARKER CIRCUIT

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BELL TELEPHONE LABORATORIES INCORPORATED

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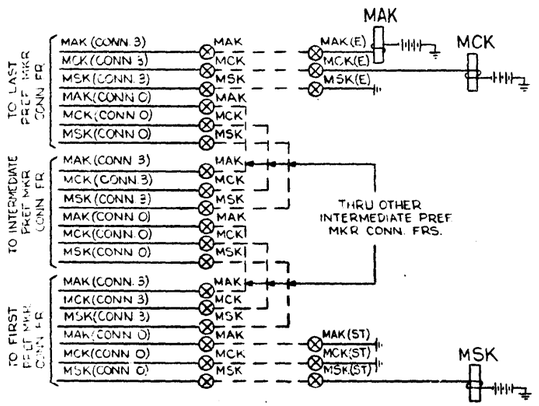
DRAWING ISSUE
41D WTR FRD R-R 0-1 WFC
43B 0-1 PD

CROSS CONNECTION INFO (CONT.)

NOTE 415

PART A (A & M ONLY), APP FIG 101A
CROSS CONN FIELD FOR U-TYPE
MKR CONN FR PREF.
SEE MKR CONN CKT NOTES
FOR PREF ASSIGNMENT
SEE NOTE 105(19)



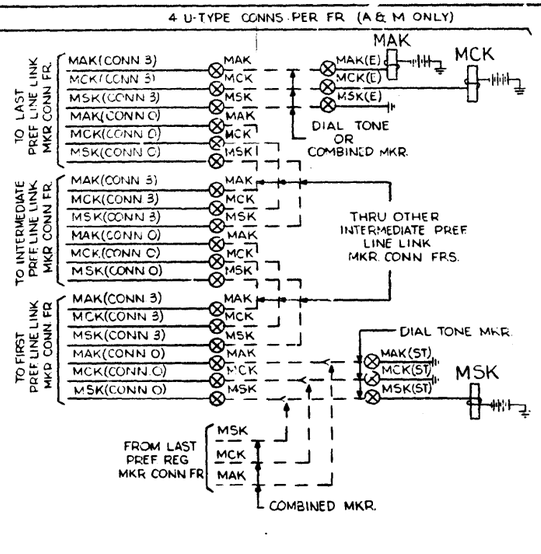
PROVIDE CONNECTOR APPEARANCES AND INCLUDE CONNECTORS IN PREFERENCE CHAIN AS INDICATED BELOW:

	COMBINED MARKER	COMPLETING MARKER	DIAL TONE MARKER
LINE LINK MARKER CONNECTOR	YES	NO	YES
ORIGINATING REGISTER MARKER CONNECTOR	YES	YES	NO
INCOMING REGISTER MARKER CONNECTOR	YES	YES	NO

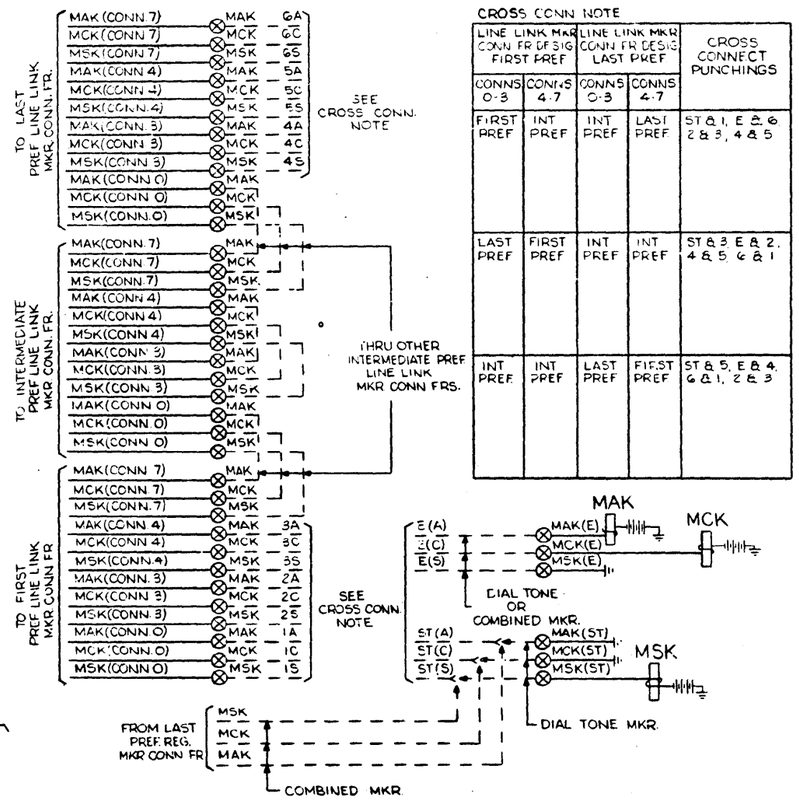
PART B. AFP FIG 101B
CROSS CONN. FIELD
FOR MKR CONN FR PREF.
SEE MKR CONN. CKT NOTES
FOR PREF ASSIGNMENT

FOR LINE LINK MKR CONN FRS (SEE NOTE 105(19))

4 U-TYPE CONNS PER FR (A & M ONLY)



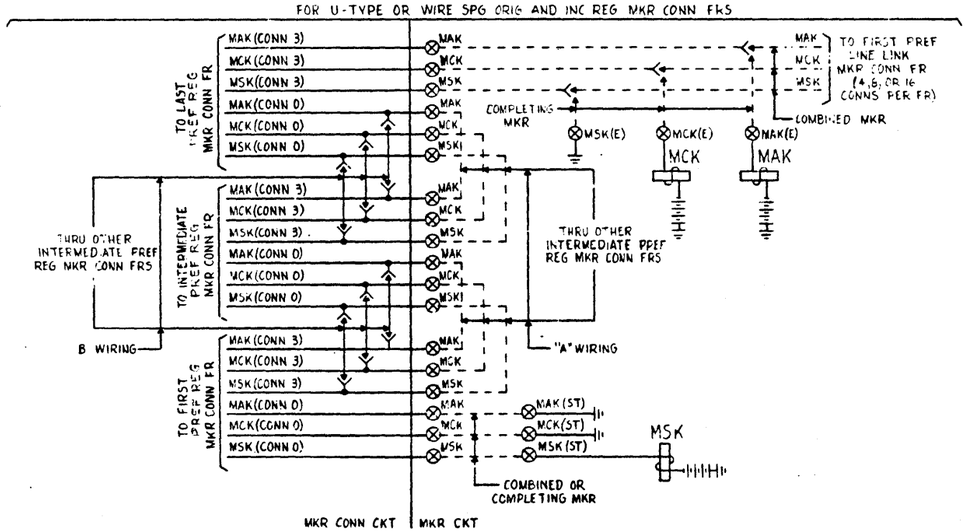
8 U-TYPE CONNS PER FR (BASIC TREATMENT) (A & M ONLY)



CROSS CONN NOTE

LINE LINK MKR CONN FR DESIG FIRST PREF		LINE LINK MKR CONN FR DESIG LAST PREF		CROSS CONNECT PUNCHINGS
CONNS 0-3	CONNS 4-7	CONNS 0-3	CONNS 4-7	
FIRST PREF	INT PREF	INT PREF	LAST PREF	ST & 1, E & 6 2 & 3, 4 & 5
LAST PREF	FIRST PREF	INT PREF	INT PREF	ST & 3 E & 2, 4 & 5 6 & 1
INT PREF	INT PREF	LAST PREF	FIRST PREF	ST & 5, E & 4, 6 & 1, 2 & 3

FOR U-TYPE OR WIRE SPG ORIG AND INC REG MKR CONN FRS



SHEET NOTES

1. LAST ORMC TO FIRST IRNC CONNECTION WILL BE MADE AS BEFORE AT THE MARKER'S MAK-, MCK-, AND MSK- CROSS CONNECTION TERMINALS FOR WIRE SPG ORIG AND INC REG MKR CONNS ONLY; OMIT "A" WIRING IF B WIRING IS USED BETWEEN FRAMES.

NO. 5
MARKER CIRCUIT

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BELL TELEPHONE LABORATORIES INCORPORATED

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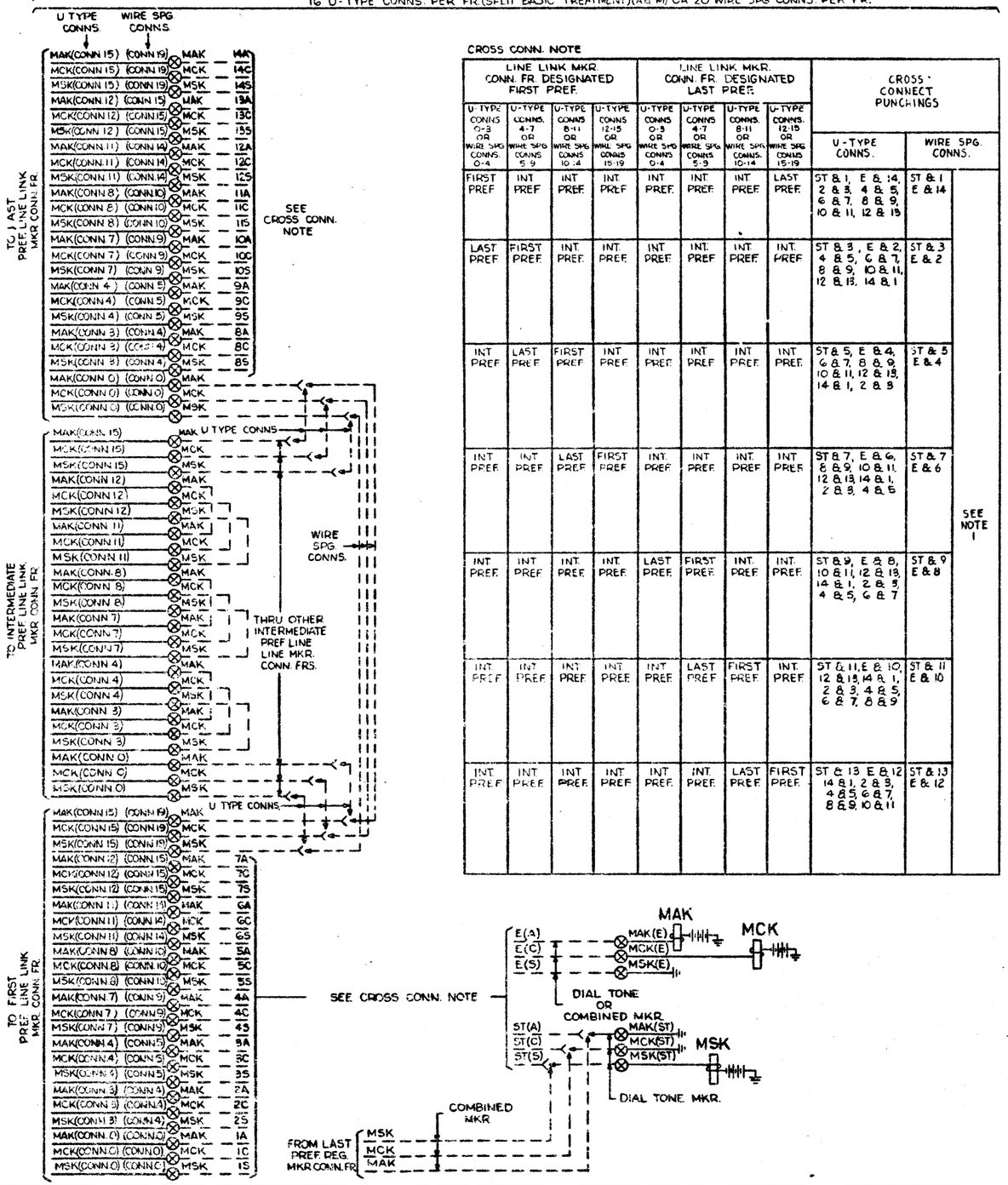
CROSS CONNECTION INFO (CONT.)

NOTE 415 (CONT.)

PART B, APP FIG. 101B
CROSS CONN FIELD
FOR MKR CONN FR PREF.
SEE MKR CONN CKT NOTES
FOR PREF ASSIGNMENT

FOR LINE LINK MKR CONN FRS. (SEE NOTE 105(19))

16 U-TYPE CONNS. PER FR (SPLIT BASIC TREATMENT) (AB M) OR 20 WIRE SPG CONNS. PER FR.



CROSS CONN. NOTE

LINE LINK MKR. CONN. FR DESIGNATED FIRST PREF.				LINE LINK MKR. CONN. FR DESIGNATED LAST PREF.				CROSS CONNECT PUNCHINGS		
U-TYPE CONNS 0-3 OR WIRE SPG CONNS. 0-4	U-TYPE CONNS. 4-7 OR WIRE SPG CONNS 5-9	U-TYPE CONNS 8-11 OR WIRE SPG CONNS 10-14	U-TYPE CONNS 12-15 OR WIRE SPG CONNS 15-19	U-TYPE CONNS 0-3 OR WIRE SPG CONNS 0-4	U-TYPE CONNS 4-7 OR WIRE SPG CONNS 5-9	U-TYPE CONNS. 8-11 OR WIRE SPG CONNS. 10-14	U-TYPE CONNS. 12-15 OR WIRE SPG CONNS 15-19	U-TYPE CONNS.	WIRE SPG. CONNS.	
FIRST PREF	INT PREF	INT PREF	INT PREF	INT PREF	INT PREF	INT PREF	LAST PREF	ST & 1, E & 14, 2 & 3, 4 & 5, 6 & 7, 8 & 9, 10 & 11, 12 & 13	ST & 1 E & 14	
LAST PREF	FIRST PREF	INT PREF	INT PREF	INT PREF	INT PREF	INT PREF	INT PREF	ST & 3, E & 2, 4 & 5, 6 & 7, 8 & 9, 10 & 11, 12 & 13, 14 & 1	ST & 3 E & 2	
INT PREF	LAST PREF	FIRST PREF	INT PREF	INT PREF	INT PREF	INT PREF	INT PREF	ST & 5, E & 4, 6 & 7, 8 & 9, 10 & 11, 12 & 13, 14 & 1, 2 & 3	ST & 5 E & 4	
INT PREF	INT PREF	LAST PREF	FIRST PREF	INT PREF	INT PREF	INT PREF	INT PREF	ST & 7, E & 6, 8 & 9, 10 & 11, 12 & 13, 14 & 1, 2 & 3, 4 & 5	ST & 7 E & 6	SEE NOTE 1
INT PREF	INT PREF	INT PREF	INT PREF	LAST PREF	FIRST PREF	INT PREF	INT PREF	ST & 9, E & 8, 10 & 11, 12 & 13, 14 & 1, 2 & 3, 4 & 5, 6 & 7	ST & 9 E & 8	
INT PREF	INT PREF	INT PREF	INT PREF	INT PREF	LAST PREF	FIRST PREF	INT PREF	ST & 11, E & 10, 12 & 13, 14 & 1, 2 & 3, 4 & 5, 6 & 7, 8 & 9	ST & 11 E & 10	
INT PREF	INT PREF	INT PREF	INT PREF	INT PREF	INT PREF	LAST PREF	FIRST PREF	ST & 13 E & 12 14 & 1, 2 & 3, 4 & 5, 6 & 7, 8 & 9, 10 & 11	ST & 13 E & 12	

PROVIDE CONNECTOR APPEARANCES AND INCLUDE CONNECTORS IN PREFERENCE CHAIN AS INDICATED BELOW:

	COMBINED MARKER	COMPLETING MARKER	DIAL TONE MARKER
LINE LINK MARKER CONNECTOR	YES	NO	YES
ORIGINATING REGISTER MARKER CONNECTOR	YES	YES	NO
INCOMING REGISTER MARKER CONNECTOR	YES	YES	NO

SHEET NOTES:

1. SEPARATE GROUPS OF FIVE CONNECTORS ON A CONNECTOR FRAME WILL BE CONNECTED TOGETHER AT THE CONNECTOR FRAME TERMINAL STRIP. CONNECTION BETWEEN CONNECTOR FRAMES WILL BE MADE AS BEFORE AT THE MARKER'S MAK-, MCK-, AND MSK- CROSS CONNECTION TERMINALS.

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43B

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NO. 5 MARKER CIRCUIT

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BELL TELEPHONE LABORATORIES INCORPORATED

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CROSS CONNECTION INFORMATION NOTES (CONT):

416. THE "SB-" PUNCHINGS ARE WIRED AS FOLLOWS:

(S-) REL DESIG		PUNCHING DESIG ON ASSOC BAY
CLS BAY 0	CLS BAY 1	
S00	S100	SB0
S05	S105	SB1
S10	S110	SB2
S15	S115	SB3
S20	S120	SB4
S25	S125	SB5
S30	S130	SB6
S35	S135	SB7
S40	S140	SB8
S01-04*	S101-104*	SB10
S06-09*	S106-109*	SB11
S11-14*	S111-114*	SB12
S16-19*	S116-119*	SB13
S21-24*	S121-124*	SB14
S26-29*	S126-129*	SB15
S31-34*	S131-134*	SB16
S36-39*	S136-139*	SB17
S41-44*	S141-144*	SB18

*EACH GROUP OF 4 RELAY WINDINGS MULT TO ONE "SB-" PUNCHING.

417.(A) ROUTE RELAYS FOR ORIGINATING REGISTER, COMMON OVERFLOW, AND COIN TONE TRUNK ROUTES SHALL BE ASSIGNED IN GROUND SUPPLY 6.

(B) THE ROUTE RELAY FOR THE NON-COIN TONE TRUNKS SHALL BE ASSIGNED IN GROUND SUPPLY 5.

(C) ROUTE RELAYS FOR ROUTES WHICH MAY ULTIMATELY ADVANCE TO NON-COIN TONE TRUNKS SHALL BE ASSIGNED IN GROUND SUPPLIES 1-4.

(D) ROUTE RELAYS FOR ROUTES WHICH NEVER ADVANCE TO NON-COIN TONE TRUNKS SHALL BE ASSIGNED IN GROUND SUPPLIES 1-5, EXCEPT FOR THE ROUTES LISTED IN (A).

(E) AN ORIGINAL ROUTE AND EACH ALTERNATE TO THAT ORIGINAL ROUTE SHALL BE IN DIFFERENT GROUND SUPPLIES.

(1) THE REVERTING CALL TRUNK ROUTE RELAYS SHALL BE IN A DIFFERENT GROUND SUPPLY FROM THE INTRA-OFFICE FLAT RATE ROUTE RELAY.

(2) THE NON-COIN SPECIAL SERVICE OPERATOR ROUTE RELAY SHALL BE IN A DIFFERENT GROUND SUPPLY FROM THE INTRA-OFFICE MESSAGE RATE OR AMA ROUTE RELAY.

(3) THE COIN SPECIAL SERVICE OPERATOR ROUTE RELAY SHALL BE IN A DIFFERENT GROUND SUPPLY FROM THE INTRA-OFFICE COIN ROUTE RELAY.

(F) ALLOTTED ROUTES SHALL BE ASSIGNED IN THE GROUP OF ROUTE RELAYS (R1C) TO (R1B), IN GROUND SUPPLY 4. WHEN ONE OF THESE RELAYS IS USED FOR AN ALLOTTED ROUTE, THE NEXT HIGHER NUMBERED ROUTE RELAY SHALL BE LEFT UNUSED. THE FCA TERMINAL OF THE ALLOTTER SHALL BE CROSS CONNECTED TO THE FC RELAY HAVING THE SAME NUMBER AS THE ROUTE RELAY. THE FCB TERMINAL OF THE ALLOTTER SHALL BE CROSS CONNECTED TO THE NEXT HIGHER NUMBERED (FC) RELAY.

418. CONN LEADS STA & STB, APP FIG. BK OR BL, TO THE TWO TRK NO. GROUPS IF PROVIDED, OTHERWISE CROSS CONNECT TO TWO OF LEADS STO-9, OFF. A OR OFF. B, APP FIG. BK OR BL WHICH REPRESENT NO. GROUPS USED BOTH FOR SUBSCRIBER AND TRUNK NUMBERS.

DRAWING ISSUE 41D

w.f.o.

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NO. 5 MARKER CIRCUIT

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BELL TELEPHONE LABORATORIES INCORPORATED 6S

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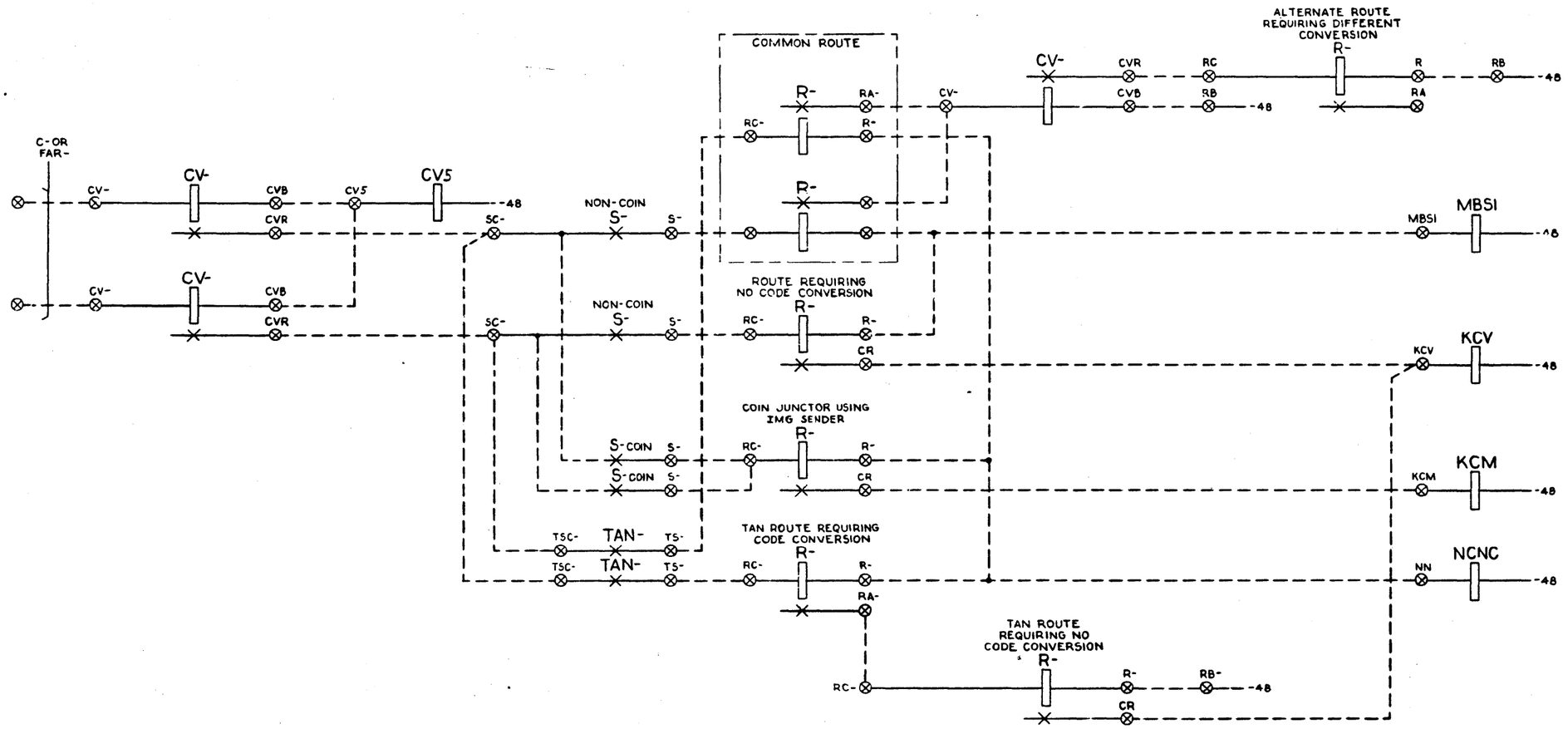
CROSS CONN INFORMATION (CONT)

NOTE 419

TYPICAL CROSS CONNECTIONS FOR ROUTES REQUIRING CODE CONVERSION



NO. 5 MARKER CIRCUIT

SD-25550-01-D44

BELL TELEPHONE LABORATORIES INCORPORATED

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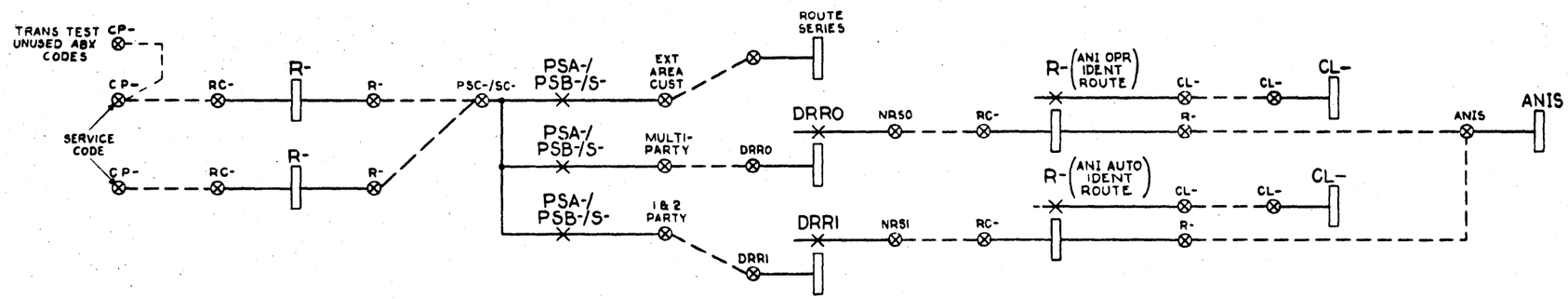
CROSS CONN INFORMATION (CONT)

NOTE 420

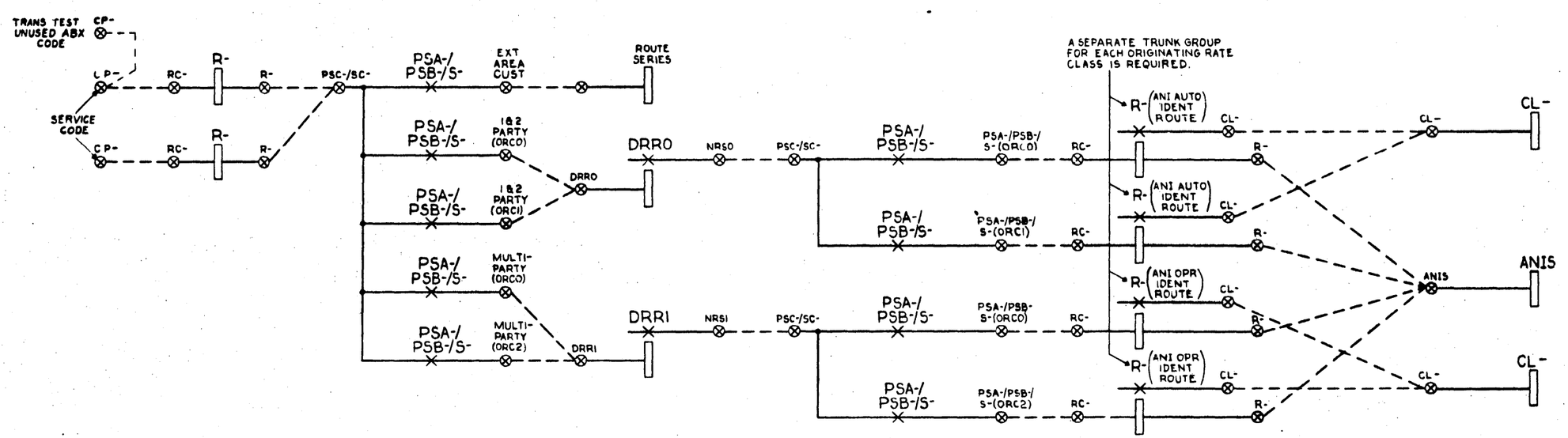
SINGLE ORIGINATING RATE CLASS ALL ANI CALLS TO ONE CAMA POINT



CROSS CONN INFORMATION (CONT)

NOTE 421

SEVERAL ORIGINATING RATE CLASSES ALL ANI CALLS TO ONE CAMA POINT



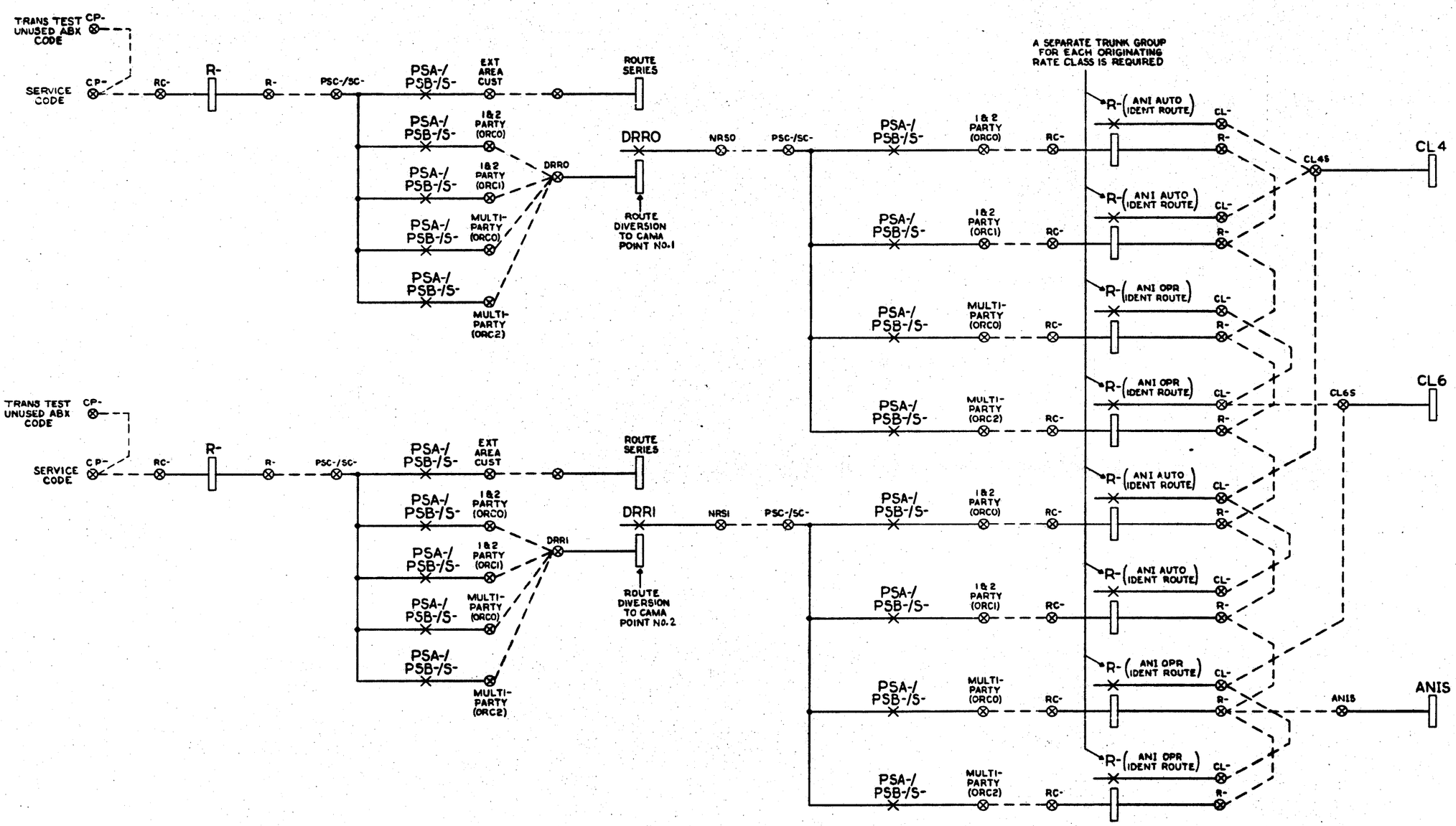
CROSSBAR SYSTEMS	
NO. 5 MARKER CIRCUIT	SD-25550-01-D45
BELL TELEPHONE LABORATORIES INCORPORATED	6S

SD-25550-01-D45

CROSS CONN INFORMATION (CONT)

NOTE 422

SEVERAL ORIGINATING RATE CLASSES
ANI CALLS TO TWO CAMA POINTS



CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT

SD-25550-01-D46

BELL TELEPHONE LABORATORIES
INCORPORATED

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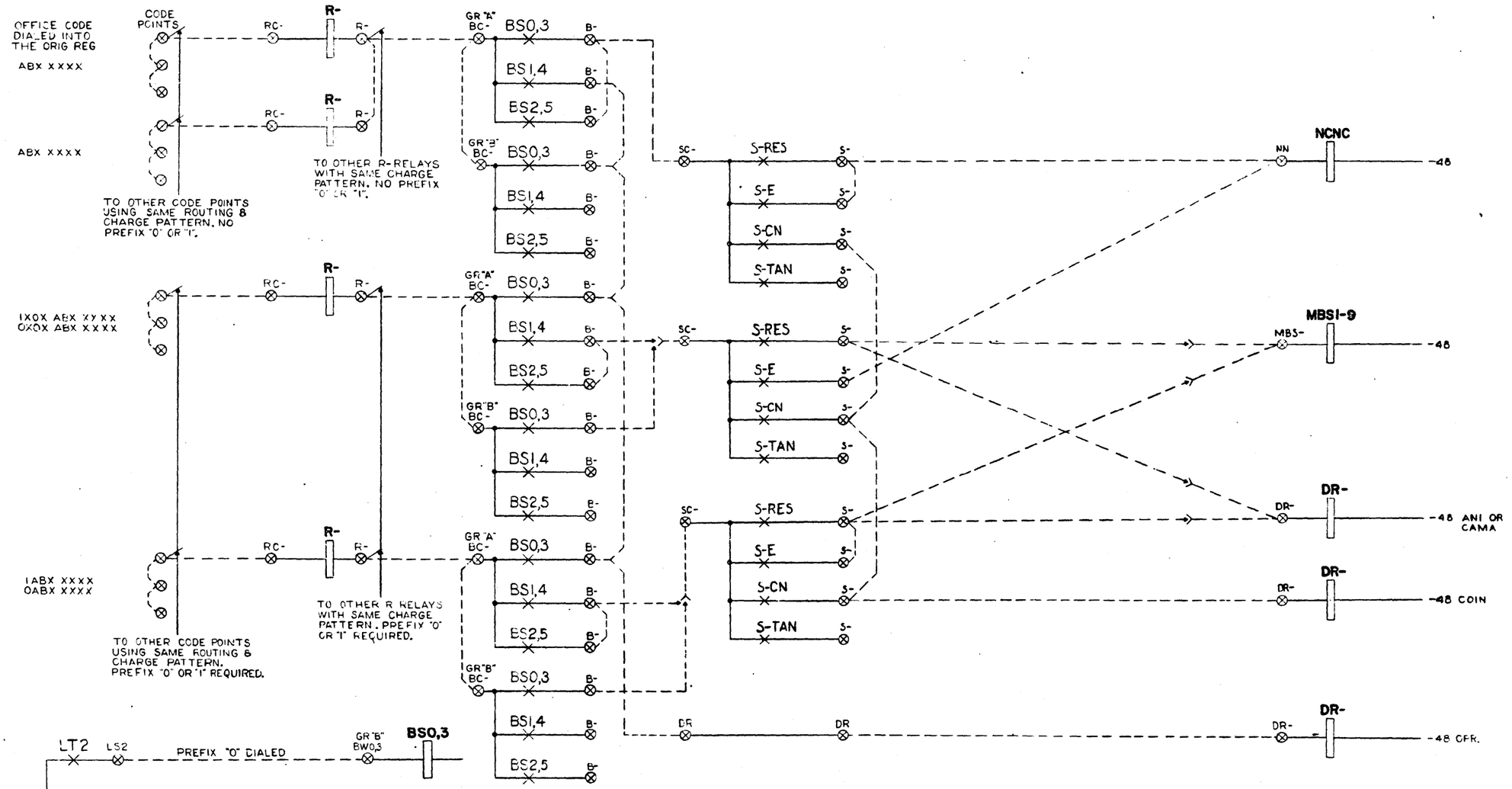
940-10-09252-03

CROSS CONNECTION INFORMATION (CONT)

NOTE 423

TYPICAL CROSS CONNECTIONS FOR PREFIX "0" OR "1" SCREENING



DRAWING ISSUE		
45B	DW WJS	WJS
46D	GWL AM	

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT

SD-25550-01-D47

BELL TELEPHONE LABORATORIES INCORPORATED

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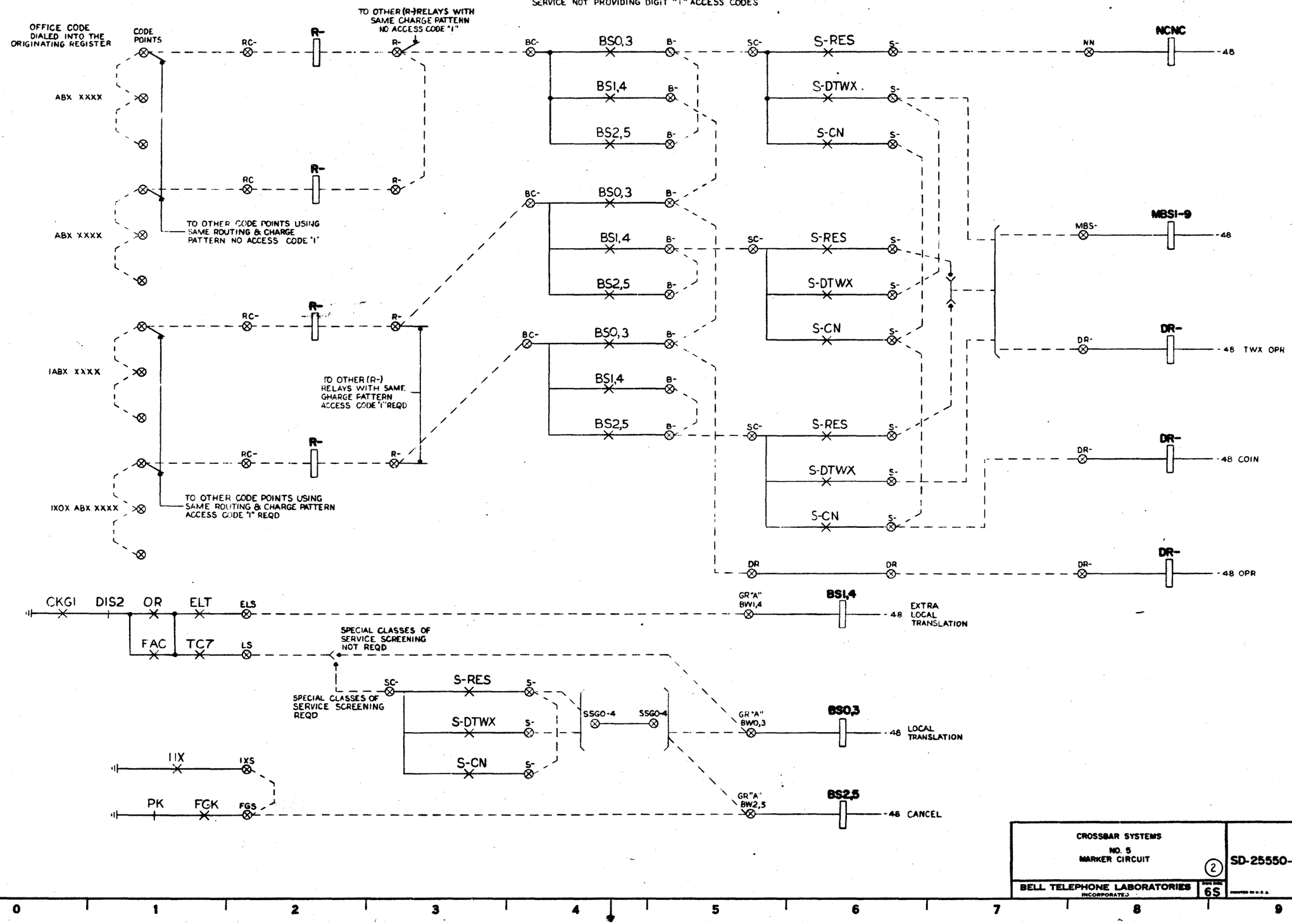
CROSS CONNECTION INFORMATION (CONT)

NOTE 424

TYPICAL CROSS CONNECTIONS FOR ACCESS TO ROUTES REQUIRING PREFIX "1" CODES BY SPECIAL CLASSES OF SERVICE NOT PROVIDING DIGIT "1" ACCESS CODES



DRAWING ISSUE
47D M.T. CL+ Ann

47

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)
SD-25550-01-D48
BELL TELEPHONE LABORATORIES INCORPORATED
6S

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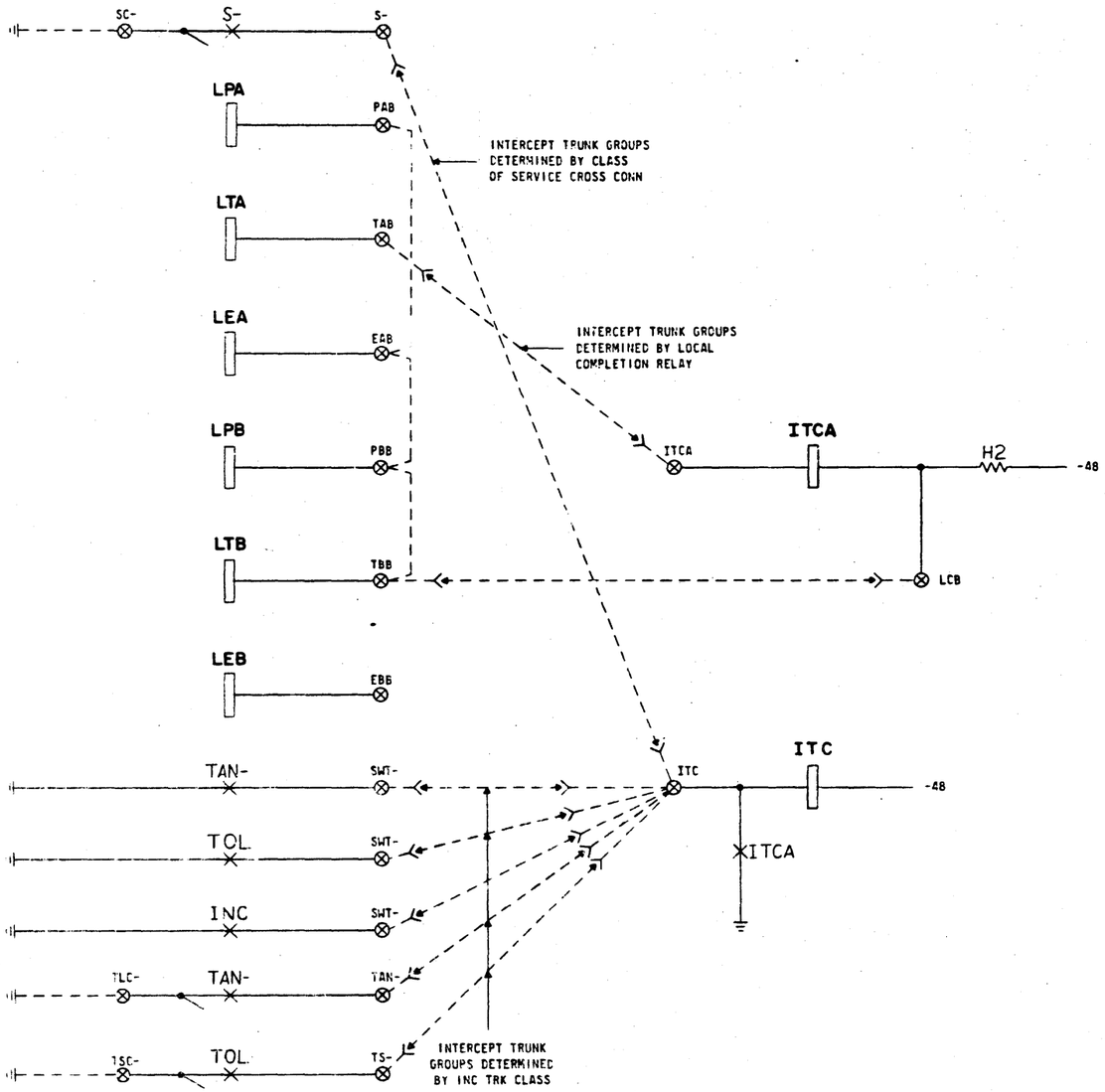
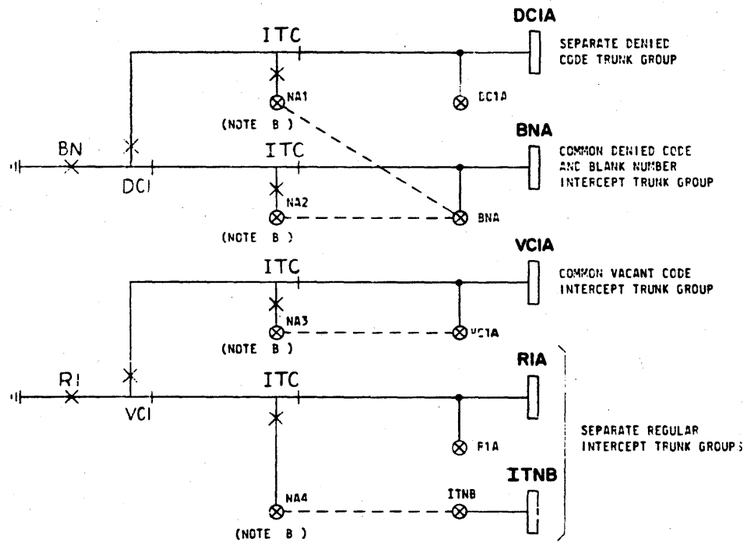
STABILO

NOTE 425

SEPARATE LINE LINK INTERCEPT TRUNK GROUPS. TYPICAL CROSS CONNECTIONS





NOTES:

(A) THE NA5 TERMINAL SHALL CONNECT TO TB1A, ITNA, OR ITNB, ONLY.

(B) THE NA1,2,3,4 SHALL CONNECT TO DC1A, BNA, VC1A, R1A, ITNB, TB1A, OR ITNA, AS DESIRED.

ISSUE 47D 0.5 LW ABD

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CROSSBAR SYSTEMS
NO.5
MARKER CIRCUIT
(2)
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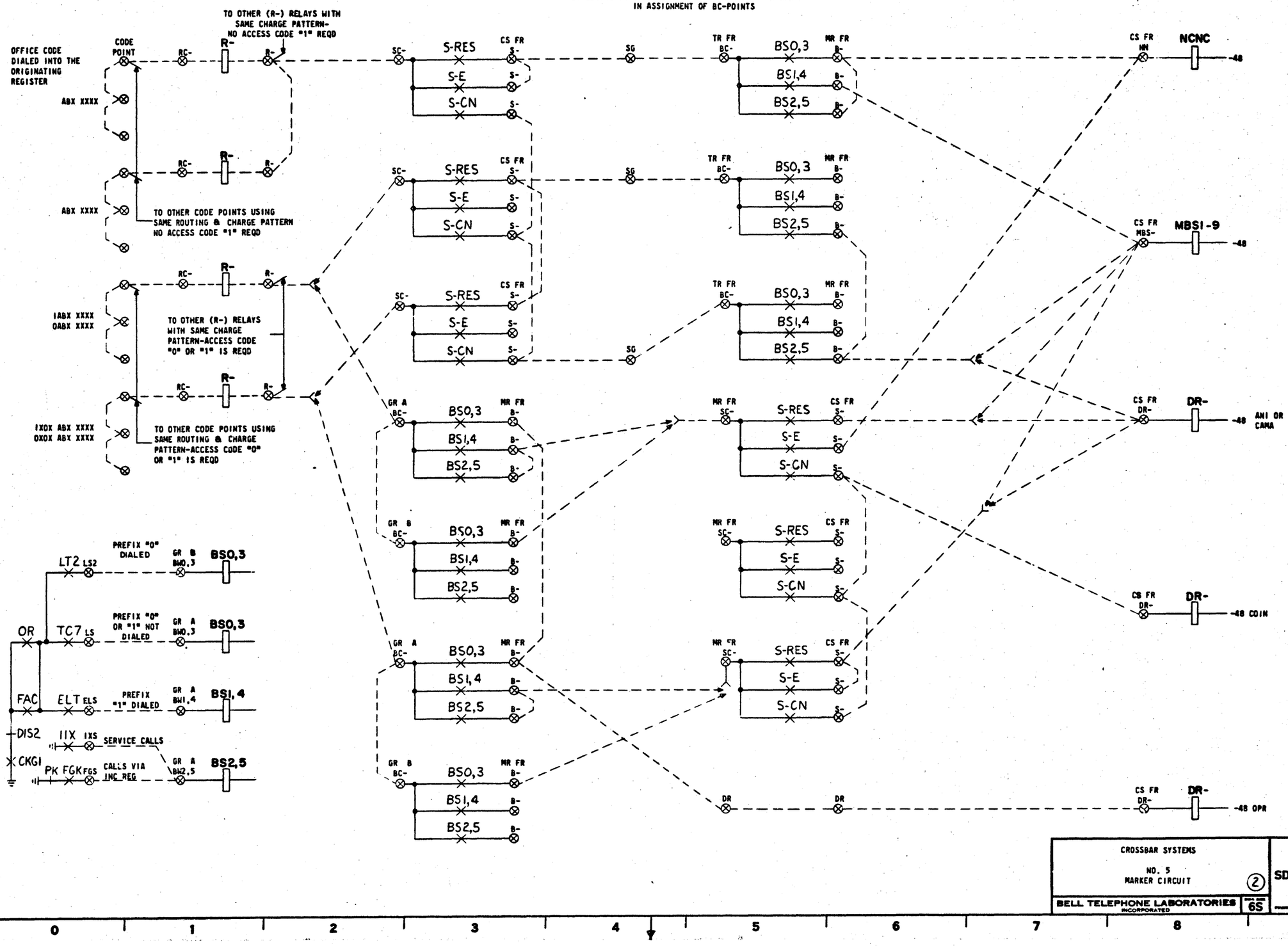
CROSS CONN INFORMATION (CONT)

NOTE 426

TYPICAL CROSS CONNECTIONS FOR PREFIX "0" OR "1" SCREENING IN OFFICES REQUIRING INCREASED FLEXABILITY IN ASSIGNMENT OF BC-POINTS



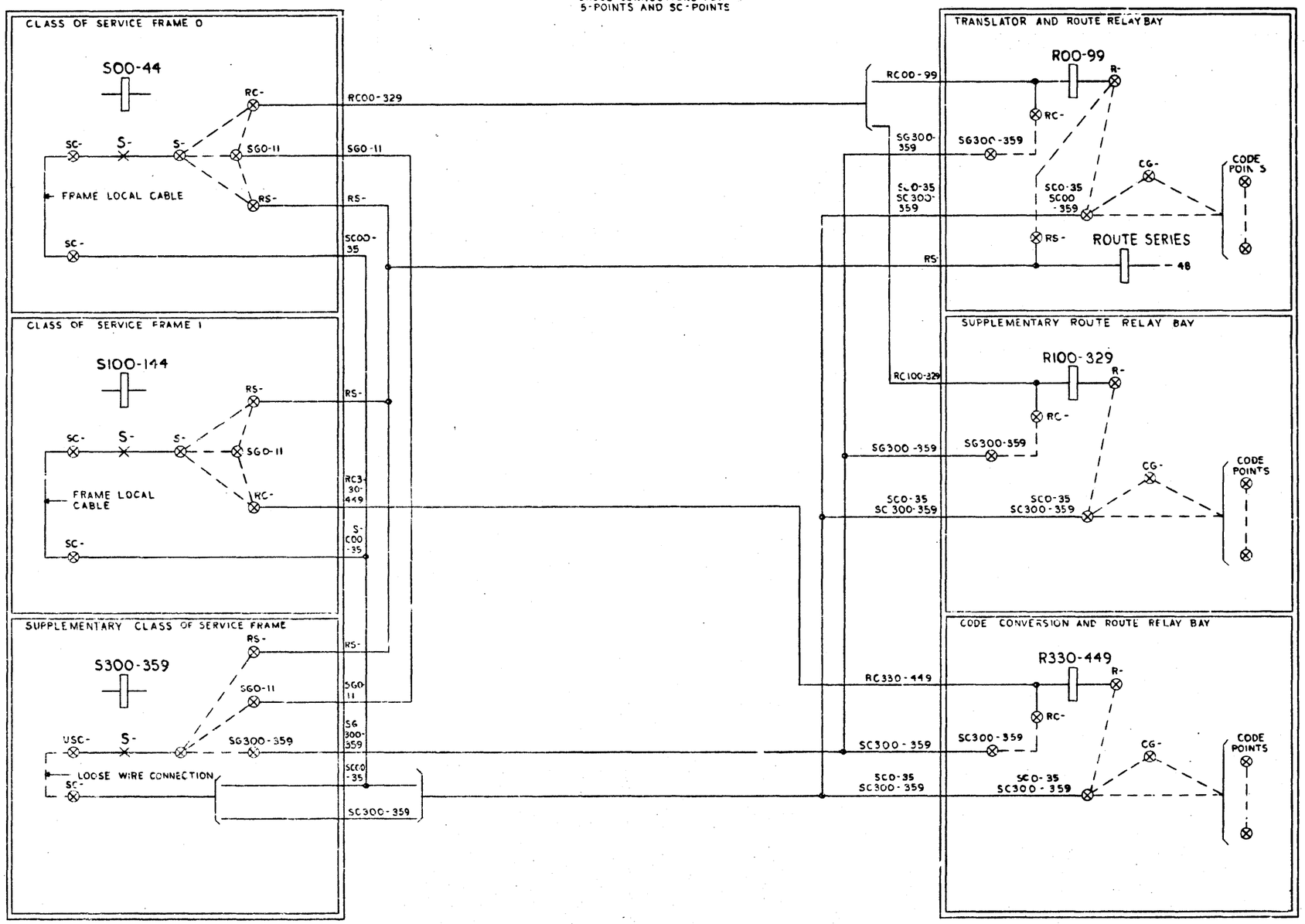
CROSSBAR SYSTEMS NO. 5 MARKER CIRCUIT (2)	SD-25550-01-D50
BELL TELEPHONE LABORATORIES INCORPORATED	6S

090-10-00003-08

CROSS CONNECTION INFORMATION (CONT)

NOTE 427

CROSS CONNECTIONS FOR 5-POINTS AND SC-POINTS



DRAWING ISSUE 49D

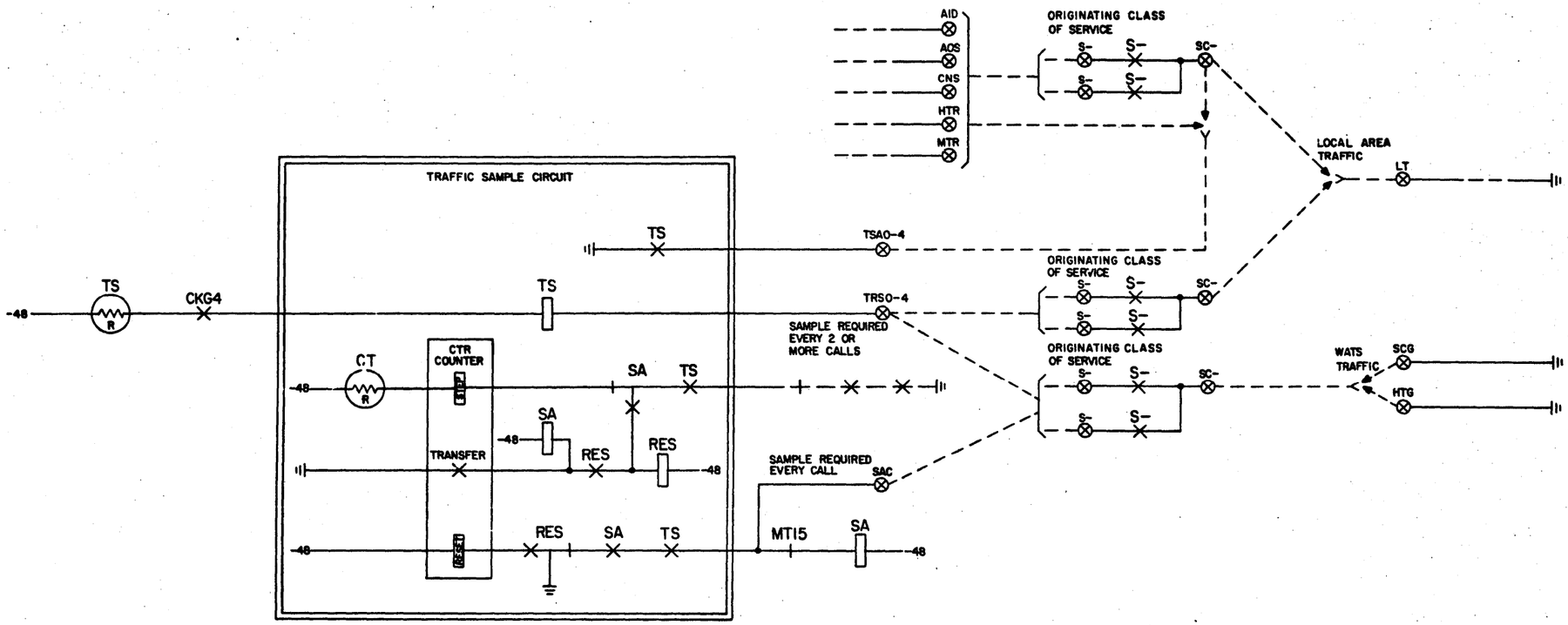
SD-25550-01-D51

STABILO

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)
SD-25550-01-D51

BELL TELEPHONE LABORATORIES INCORPORATED
6S

CROSS CONNECTING INFORMATION:
428. TYPICAL CROSS CONNECTIONS OF TRAFFIC SAMPLE CONTROL.



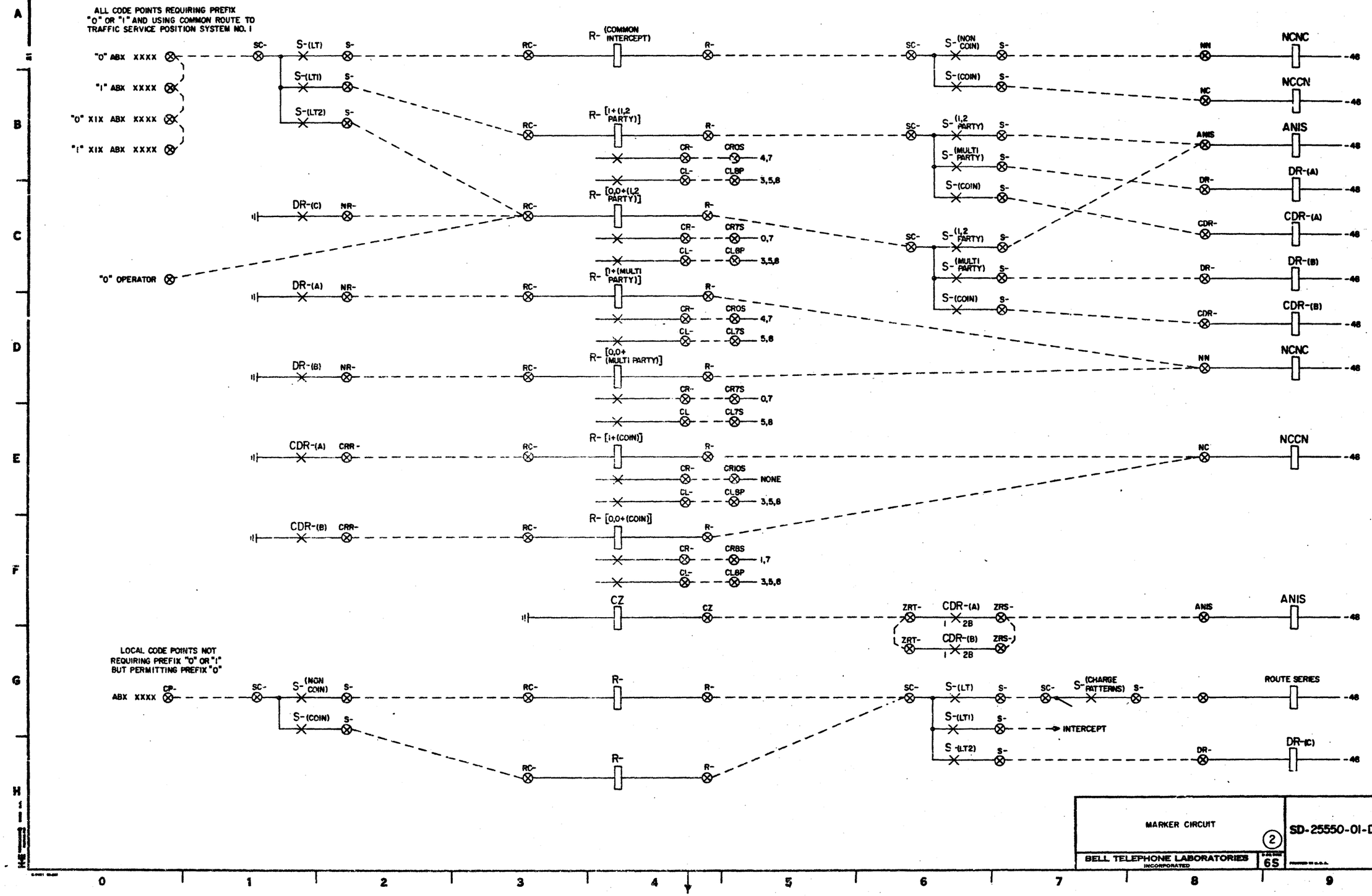
MARKER CIRCUIT
BELL TELEPHONE LABORATORIES INCORPORATED
SD-25550-01-D52
2
6S

SD-25550-01-D52

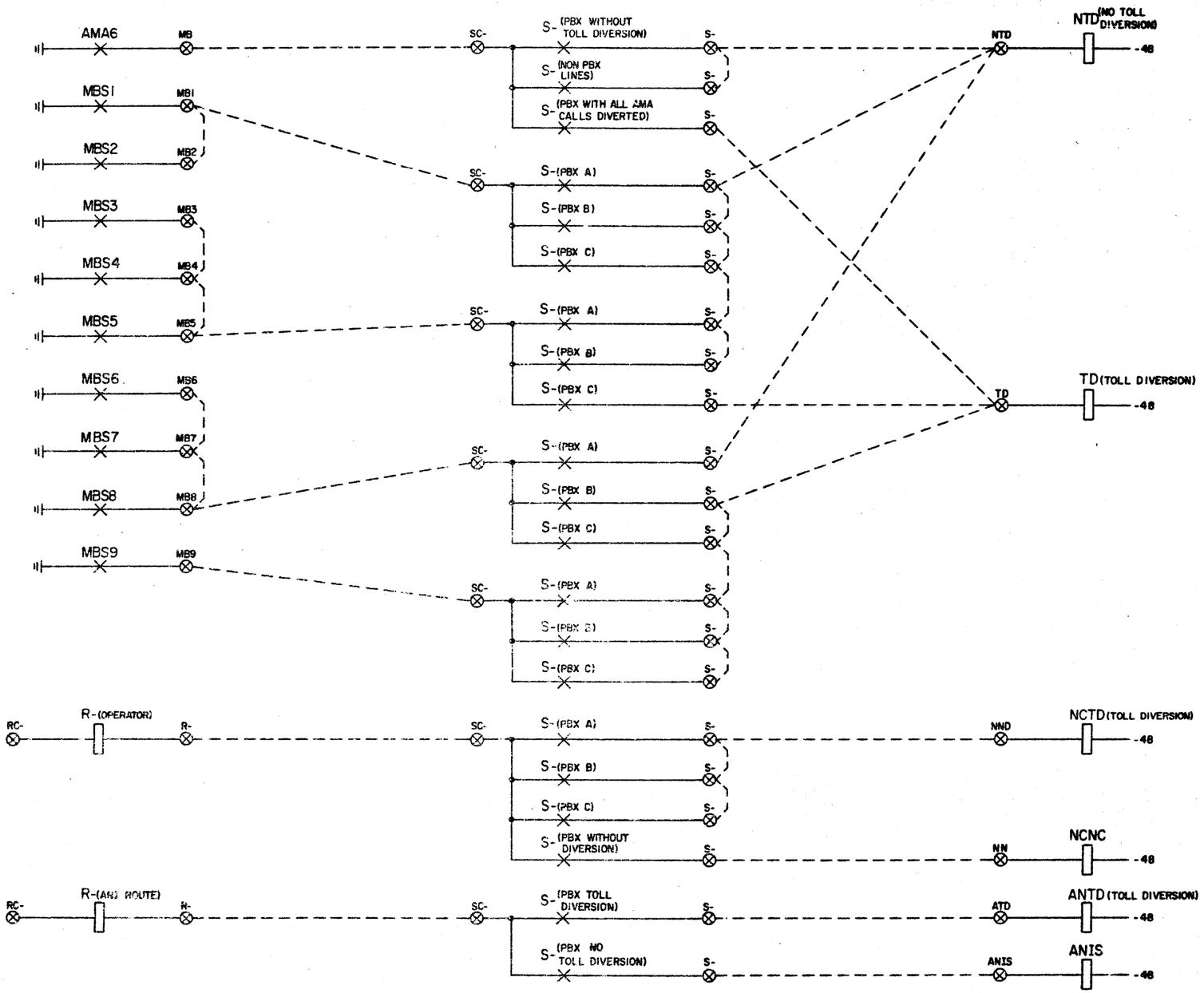
HIGGINS 4465

CROSS CONNECTING INFORMATION (CONT)

429. TYPICAL TREATMENT OF ANI CALLS TO TRAFFIC SERVICE POSITION SYSTEM NO. 1 USING A COMMON TRUNK GROUP FOR COIN AND NON-COIN "0" OPERATOR, PREFIX "0" AND "1" CALLS.



CROSS CONNECTING INFORMATION (CONT)
430. (188) TYPICAL CROSS CONNECTIONS FOR PBX TOLL DIVERSION



DRAWING ISSUE 56D MD CB

56

MARKER CIRCUIT (2) SD-25550-01-D54

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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CROSS CONNECTING INFORMATION (CONT)
431. TYPICAL CROSS CONNECTIONS FOR DYNAMIC OVERLOAD CONTROL.

ABX-XXXX
XIX-ABX-XXXX
LOCAL FLAT RATE
AND 10¢ COIN-COMBINED
DIRECT ROUTES WITH
ALTERNATE TO TANDEM

ABX-XXXX
XIX-ABX-XXXX
LOCAL FLAT RATE
AND 10¢ COIN-SEPARATE
DIRECT ROUTES WITH
ALTERNATE TO TANDEM

ABX-XXXX
XIX-ABX-XXXX
LOCAL FLAT RATE AND
10¢ COIN-DIRECT ROUTE
THROUGH TANDEM WITH
COIN JUNCTOR OPERATION

I-ABX-XXXX
I-XIX-ABX-XXXX
O-ABX-XXXX
O-XIX-ABX-XXXX
ACCESS "O" OR "I" REQD

CP- RC- R-(COIN & NON-COIN) R- RA- SC- S-(LT) S- S-(LTI) S- INTERCEPT S-(LT2) S- DR- DR-(P-P OPR) -48 S-(COIN) S- TC TCCN -48 S-(NON-COIN) S- NN NCNC -48 RB- R-(TAN) R-(ANN) RT- RTA- RTB- R-(COIN) R-(NON-COIN) R-(TAN COIN) R-(TAN NON-COIN) R-(FR) S-(INC) DR-(COIN JUNCTOR) R-(COIN JUNCTOR) R-(TAN ALT) R-(DIRECT) DR-(ANN) DR-(OPR) MBS- NC NCCN

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MARKER CIRCUIT (2)

SD-25550-01-D55

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SC 1
DIAL TONE CALL

LINE LINK MARKER CONNECTOR

CKG

TM

PART OF LINE LOCATION: VGT- HGT- VTKI HTKI

LINE LINK FRAME NUMBER: FT- FTB- FU- FUT-

TYPE OF CALL: D

CONNECTOR INFORMATION FIRST TRIAL: ITR

SC 102 SEIZURE OF MARKER — TRAFFIC CONTROL: TCI

SC 105 SEIZURE OF TRUNK LINK FRAME AND REGISTER

MAKI TBK CK TFKI,2 FTCK FCK FS- SNK TS- FA--(TL) FAK LV-(TL) LC-(TL) LCK R- TB-, TG- NSO

OFFICE SIZE -TLF SF/PR

SC 108 SEIZURE OF LINE LINK FRAME

MC-(LL) VGB-(LC) CS- HG- HGK LFK

SC 120 CONTROL FOR CHANNEL TEST

JG- RF/EF(TL) JC- JCKO/1 L/R(TL) LK/RK P- STPI PA/PNR TCH- TCHK

SC 121 CHANNEL SELECTION AND HOLD MAGNET OPERATION

TK DTK CH- DCT

SC 103 LINE IDENTIFICATION AND TRANSFER INFORMATION TO REGISTER

FTKI VFT- LL- CT- CU- HG-,HG'- VG-,VG'- VF-,VF'- RKI,2,3

SC 123 LINKAGE CHECK

DCTI LKI

SC 125 DISCONNECT

DISI

44

NO. 5
MARKER CIRCUIT

SD-25550-01-E1

BELL TELEPHONE LABORATORIES INCORPORATED

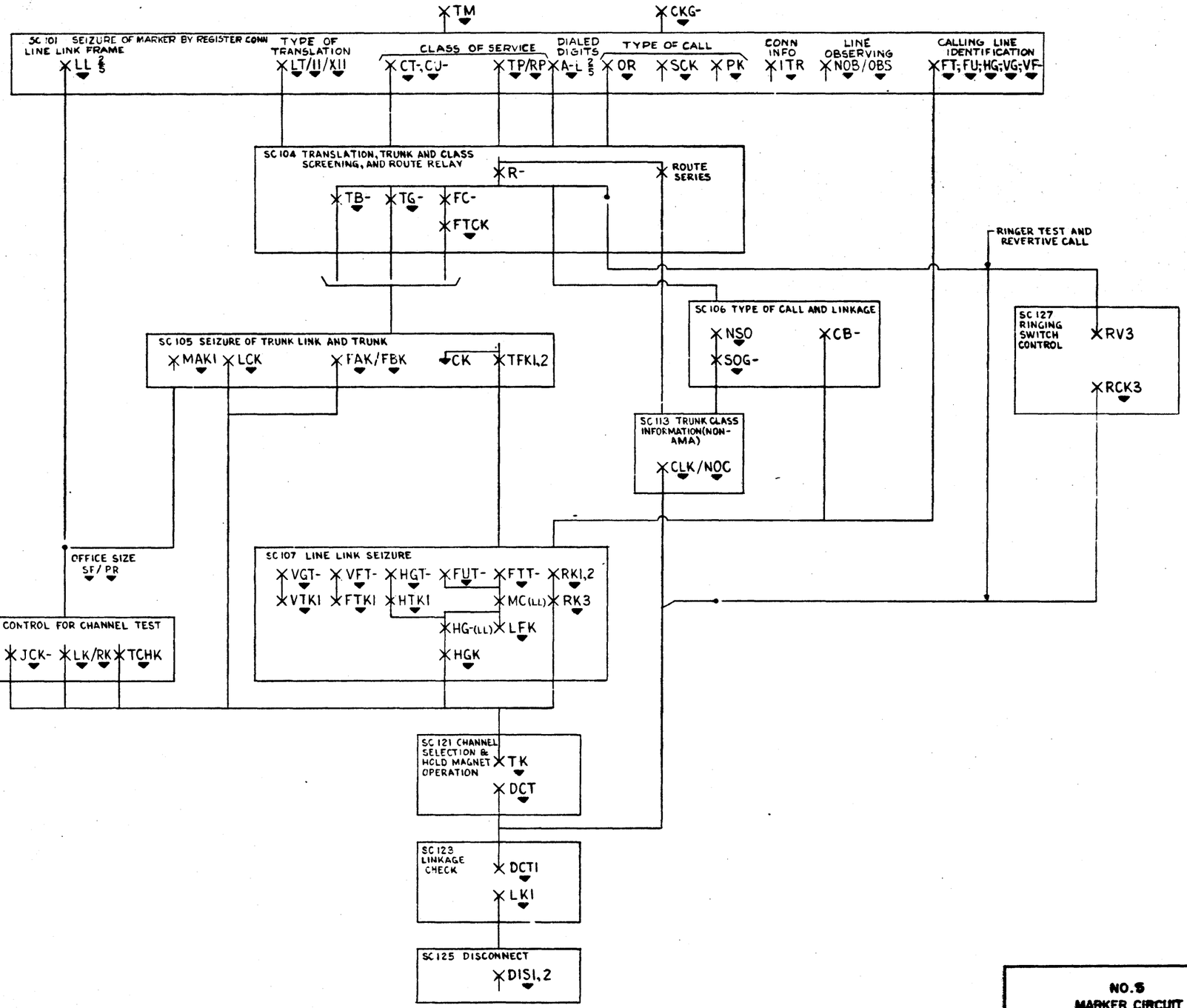
6S

13-10-68882-01

DRAWING ISSUE 448

SC 2

SUBSCRIBER OUTGOING CALL (SOG) NO SENDER (NSO)



44

NO. 5 MARKER CIRCUIT	SD-25550-01-E2
BELL TELEPHONE LABORATORIES INCORPORATED	6S

SD-25550-01-E2

DRAWING ISSUE 4AB

SC 5

SUBSCRIBER OUTGOING CALL (SOG) WITH A SENDER (SON) AND WITH AMA

TM

CKG-

SC 101 SEIZURE OF MARKER BY REGISTER CONNECTOR

- LINE LINK FRAME: -LL 2/5
- TYPE OF TRANSLATION: II/XII/LT
- CLASS OF SERVICE: CT-, CU-, TP/RP
- DIALED DIGITS: A-L 2/5
- TYPE OF CALL: OR, PK, SCK
- CONNECTOR INFORMATION: ITR
- LINE OBSERVING: NOB/OBS
- CALLING LINE IDENTIFICATION: FT-, FU-, HG-, VG-, VF-

SC 104 TRANSLATION, TRUNK AND CLASS SCREENING, AND ROUTE RELAY

R-

ROUTE SERIES

TB-, TG-, FC-, FTCK, CL-, CP-, CR-, DL-, OSG-

SC 106 TYPE OF CALL AND LINKAGE

SON, SOG-, CB-

SC 110 OUTGOING SENDER SELECTION AND CONTROL

NOC, AMA, RPK, SKA/B, SLKI,2, RSC, CLK, ↓CL-;CP-;CR-;DL-;4DG/5DG/LST/L5D, MB-

SC 105 SEIZURE OF TRUNK LINK AND TRUNK

MAKI, LCK, FAK/FBK, CK, TFKI,2

SC 112 AMA RECORDER NUMBER

RN, RNT2, RNK, OBS'/NOB', RN-

OFFICE SIZE SF/PR

SC 107 LINE LINK SEIZURE AND CALL BACK CONTROL

VGT-, VFT-, HGT-, FUT-, FTT-, RKI,2, VTKI, FTKI, HTKI, MC(LL), RK3, HG-(LL), LFK, HGK

SC 120 CONTROL FOR CHANNEL TEST

JCK-, LK/RK, TCHK

SC 121 CHANNEL SELECTION AND HOLD MAGNET OPERATION

TK, DCT

SC 123 LINKAGE CHECK

DCTI, LKI

SC 125 DISCONNECT

DISI,2

SD-25550-01-E3

44

NO. 5 MARKER CIRCUIT

SD-25550-01-E3

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SC 4

TERMINATING (TER) INCOMING (FLG) TRUNK CALL

CKG-

TM

SC 101 SEIZURE OF MARKER BY REGISTER MARKER CONNECTOR

TRUNK LINK FRAME NUMBER
FGO-1
TFO/7

TYPE INCOMING TRUNK
INC/TAN/TOL

TYPE TRANSLATION
LT/II/TT/ FVD/ 2DT
OA/OB/PHC/ THC

CONNECTOR INFORMATION IST TRIAL
ITR

DIALED DIGITS
A-L SPG

SC 104 CODE TRANSLATION, SUBSCRIBER AND TRUNK SCREENING AND ROUTE RELAY OPERATION
LPA/LPB/ LTA/LTB/ LEA/LEB

4 DIGITS

5-7 DIGITS

SC 105 SEIZURE OF TRUNK LINK FRAME AND TRUNK
MAKI
FAK/ FBK
LCK
CK
TFK3
NSSO-5
5-7 DIGITS
4 DIGITS
TRK CLASS 0-9
LCH/TCH

SC 106 TYPE OF CALL AND LINKAGE
TER-
FLG-
SNG-

SC 115 NUMBER GROUP SEIZURE AND TRANSLATION
FTT-
FTL
FUT-
FUL
VGT-
VTKI
VGL
VFT-
FTKI
VFL
HGT-
HTKI
HGL
PTK
RCT-
RCL
RNG
NR
RS-
RSK
SRK

OFFICE SIZE -TLF SF / PR

SC 120 CONTROL FOR CHANNEL TEST
JG-
RF/EF (TL)
JC-(TL)
JCKO/1
P-
PA/PNR
R/L(TL)
TCH-
RK/LK
TCHK

SC 108 LINE LINK FRAME SEIZURE AND CONTROL (FLG)
MC(LL)
HG(LL)
HGK
LG-(LL)
VGB-(LL)
CS-
LFK

SC 121 CHANNEL SELECTION AND HOLD MAGNET OPERATION
TK
DCT

SC 127 LINE BUSY TEST AND RINGING SWITCH CONTROL
LI
TCKI
RCK2,3

AB21

F39

SC 123 LINKAGE CHECK
DCTI
LKI

SC 125 DISCONNECT
DISI,2

ISSUE 44B

44

NO. 5 MARKER CIRCUIT

SD-25550-01-E4

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25550-01-E4

SC 5

INTRAOFFICE CALL (ITR) WITH A SENDER, (SON)

TM

CKG-

SC 101 SEIZURE OF MARKER BY REGISTER MARKER CONNECTOR

TYPE OF TRANSLATION: LT

CLASS OF SERVICE: TP/RP, CT-, CU-

TYPE OF CALL: OR, PK, SCK

DIALED DIGITS: A-L5

LINE OBSERVING: OBS/NOB

CONNECTOR INFORMATION: ITR

CALLING LINE IDENTIFICATION: LL-, FT-, FU-, VG-, HG-, VF-

FORWARD LINKAGE, FLG

CALL BACK LINKAGE, CB

SC 104 TRANSLATION, TRK & CLASS SCREENING & ROUTE RELAY OPERATION

LPA/LPB/LTA/LTB/LEA/LEB

ROUTE SERIES

R-

NSS-

FTC-, TG-, TB-, CR-CL, CR-DL, NSI

FTCK

SC 106 TYPE OF CALL & LINKAGE

LKI, ITR, LKI

FLG-, LCH

SNG

LKI H35

SC 109 ITR ADVANCE TO CALL BACK LINKAGE

CB-

SCB-, AMA

OSG-

SON

SC 105 SEIZURE OF TRK LINK FRAME & TRUNK

MAKI, FBK, LCK, FAK, TEKI,2 CK, FS-

SC 107 LINE LINK FRAME SEIZURE, (CB) CALL BACK LINKAGE

FTT-, FUT-, HGK, RK3

SC 110 OUTGOING SENDER SELECT & CONTROL CIRCUIT

SLK2, RSC, RNK, RNKI,2, CLK

OFFICE SIZE - TLF SF PP

SC 115 NUMBER GROUP SEIZURE & TRANSLATION

FTT-, FUT-, VGT-, HGT-, VFT-, RGT-, SRK, NR, RNG

V24

C21

SC 120 CONTROL FOR CHANNEL TEST

JCKO/I, RK-/LK-, TCHK

SC 108 LINE LK FRAME SEIZURE & CONTROL (FLG)

HCK, LG

SC 127 LINE BUSY TEST & RINGING SWITCH CONTROL

RCK3

SC 120 CONTROL FOR CHANNEL TEST

JCKO/I, RK-/LK-, TCHK

SC 121

CHANNEL SELECTION & HOLD MAG OPERATION

TK, DCT

SC 121

CHANNEL SELECT & HOLD MAG OPR

TK, DCT

SC 123

LINKAGE CHECK

DCTI, LK1

LKI,57

SC 123 LINKAGE CHECK

DCT2

SC 125

DISI, 2

DISCONNECT

44

NO. 5
MARKER CIRCUIT

SD-25550-01-E5

BELL TELEPHONE LABORATORIES INCORPORATED

65

SD-25550-01-E5

448 MS

SC 6

TOLL OR TANDEM INCOMING TRUNK TO OUTGOING TRUNK (TDS)

TM

CKG-

SC101 SEIZURE OF MARKER BY REGISTER MARKER CONNECTOR

FG- TF- LT/TT/FVD/2DV/11 A-L 8 DIGITS TOL/TAN HT-TT-UT- ECNDCN

SC104 TRANSLATION, TRUNK AND CLASS SCREENING AND ROUTE RELAY OPERATION

R- ROUTE SERIES

TB- TG- FC- FCK CL- CB- CR- DL- OSG-

SC106 TYPE OF CALL & LINKAGE

TOG- FLG- SNG-

SC110 OUTGOING SENDER SELECTION AND CONTROL

SKA/SKB SLKL2 RSC CL-CB CR-DL

SC105 SEIZURE OF TRUNK LINK AND TRUNK

MAK1 LCK FAK/FBK CK TFKL2

SC115 NUMBER GROUP SEIZURE AND TRANSLATION

FTT- FTL FUT- FUL VGT- VTK1 VGL VFT- FTK1 VFL HGT- HTK1 HGL TNK RCL RCT- RNG

SC113 TRUNK CLASS INFORMATION

CLK/NDC

OFFICE SIZE SF/PR

SC120 CONTROL FOR CHANNEL TEST

JCK- LK/RK TCHK

SC108 LINE LINK FRAME SEIZURE (FLG)

RK1,2 RK3 MG-a,b MG-a,b HGK

SC121 CHANNEL SELECTION AND HOLD MAGNET OPERATION

TK DCT

SC123 LINKAGE CHECK

DCT1 LK1

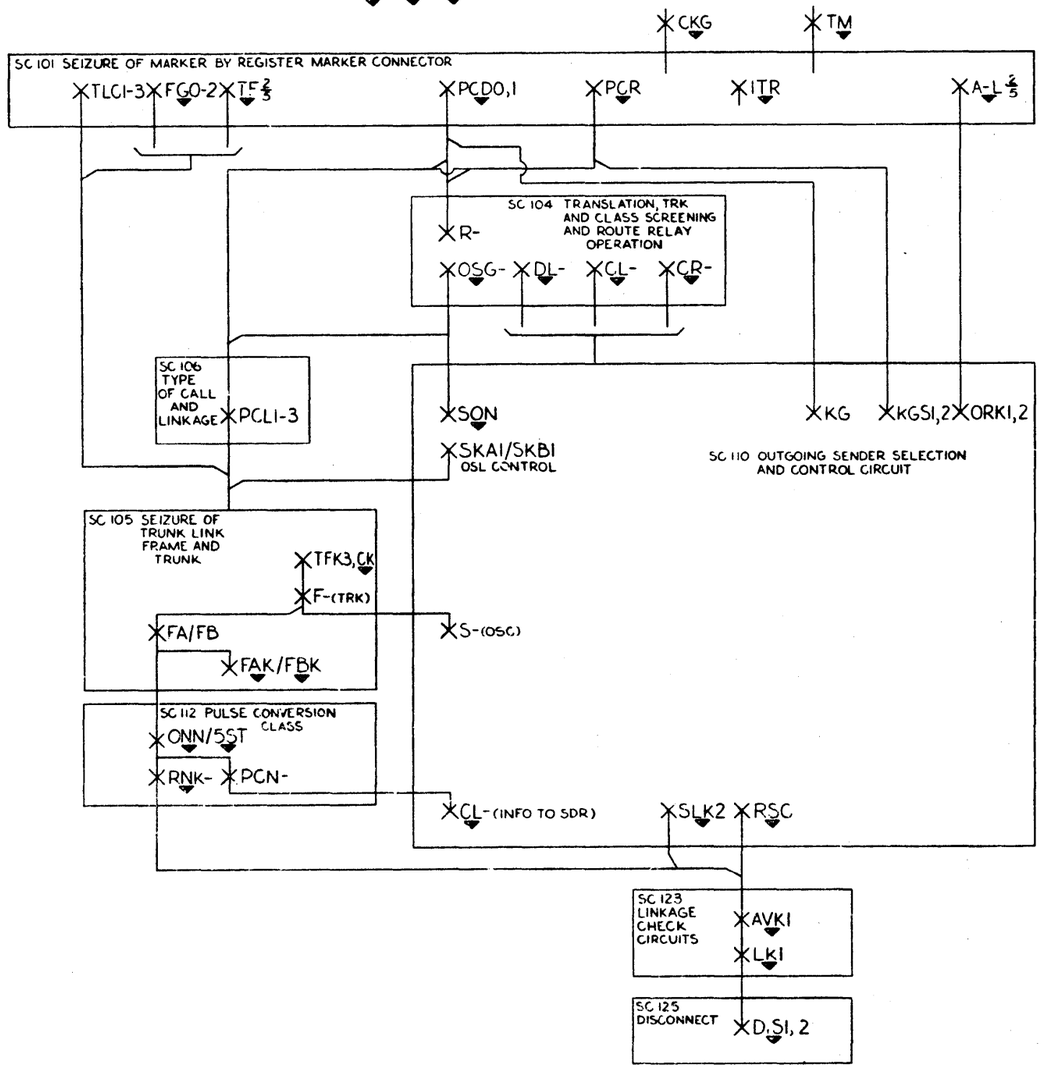
SC128 DISCONNECT

DIS1,2

93-10-0886-05

NO. 5 MARKER CIRCUIT		5D-28560-01-SC
BELL TELEPHONE LABORATORIES		

SC 7
PULSE CONVERSION
PCR/PCDO/PCDI



DRAWING ISSUE
44B

44

NO. 5
MARKER CIRCUIT

SD-25550-01-E7

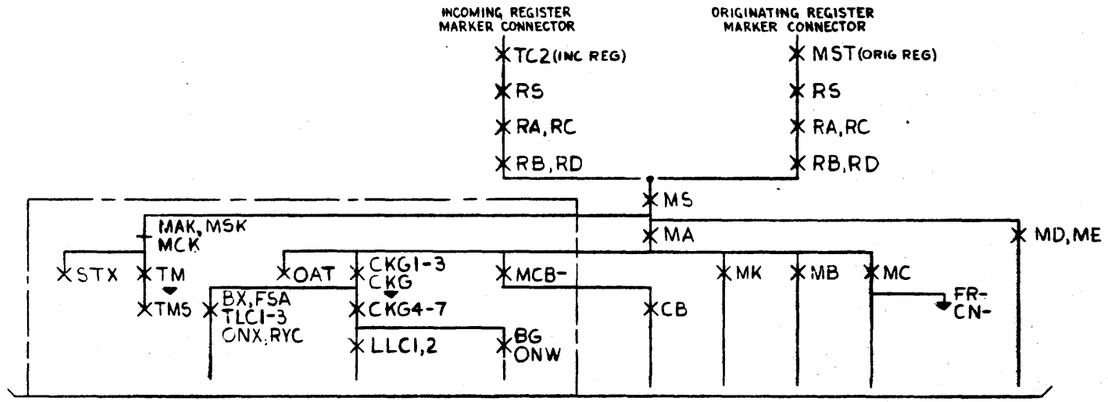
BELL TELEPHONE LABORATORIES
INCORPORATED

6S

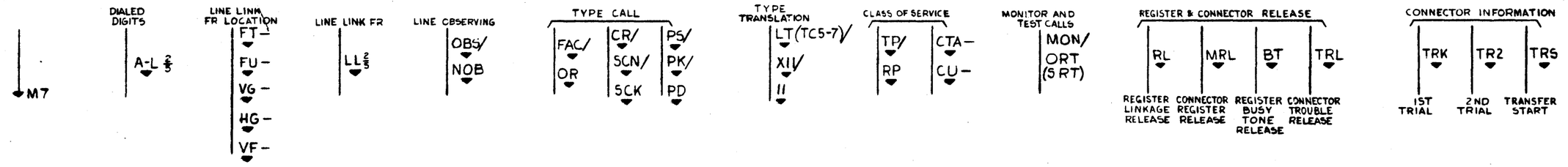
SD-25550-01-E7

SC 101

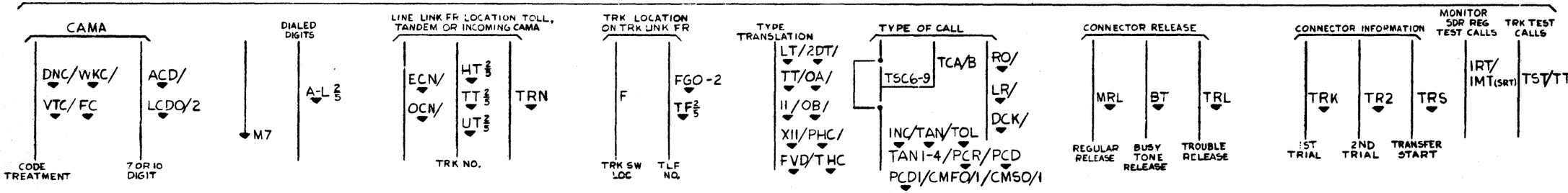
SEIZURE OF MARKER BY REGISTER MARKER CONNECTOR



FUNCTIONS TRANSMITTED THROUGH THE CONNECTOR BY THE ORIGINATING REGISTER



FUNCTIONS TRANSMITTED THROUGH THE CONNECTOR BY THE INCOMING REGISTER



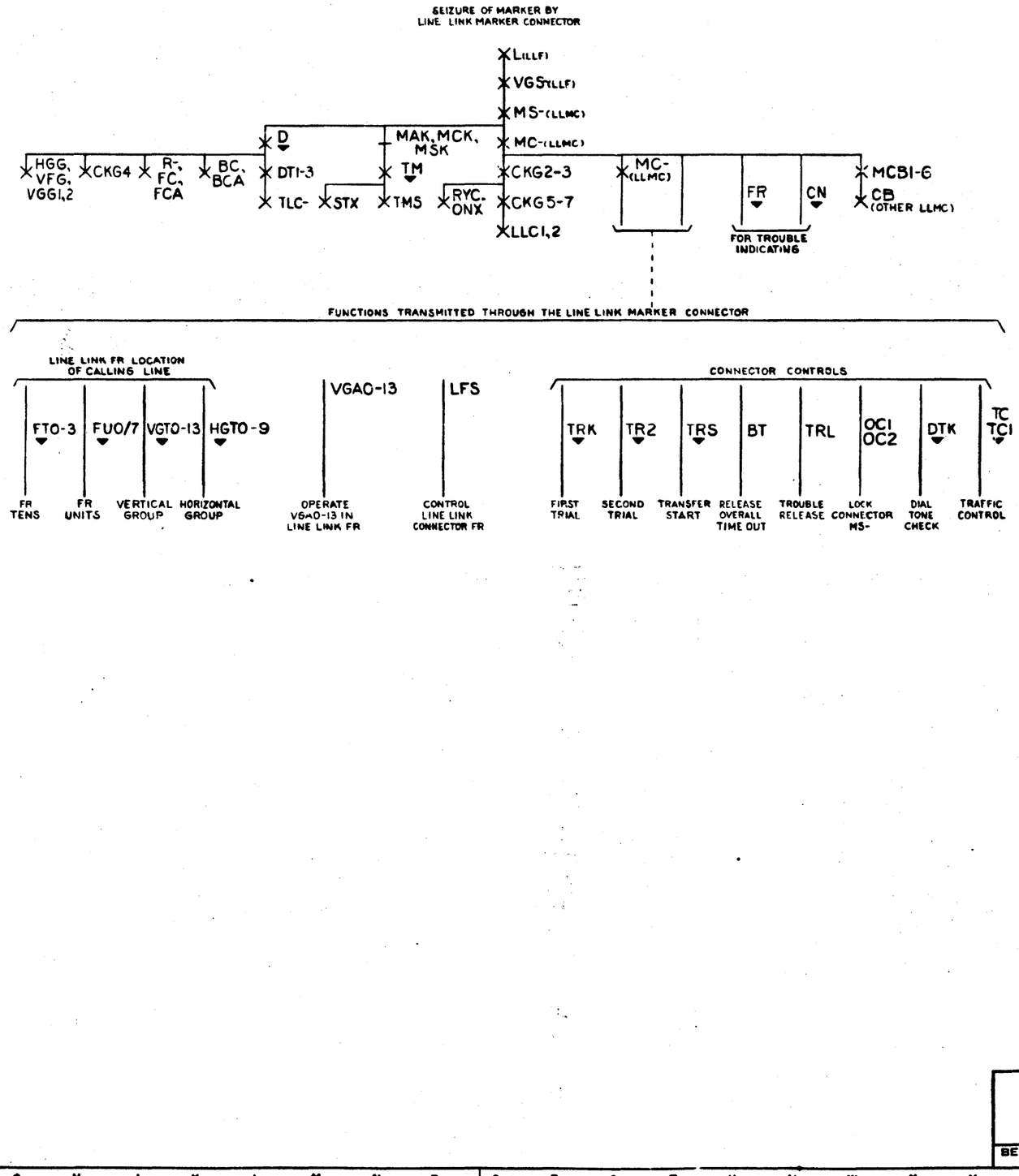
NO.5 MARKER CKT

SD-25550-01-E20

BELL TELEPHONE LABORATORIES INCORPORATED 65

SD-25550-01-E20

SC 102



DRAWING ISSUE 448

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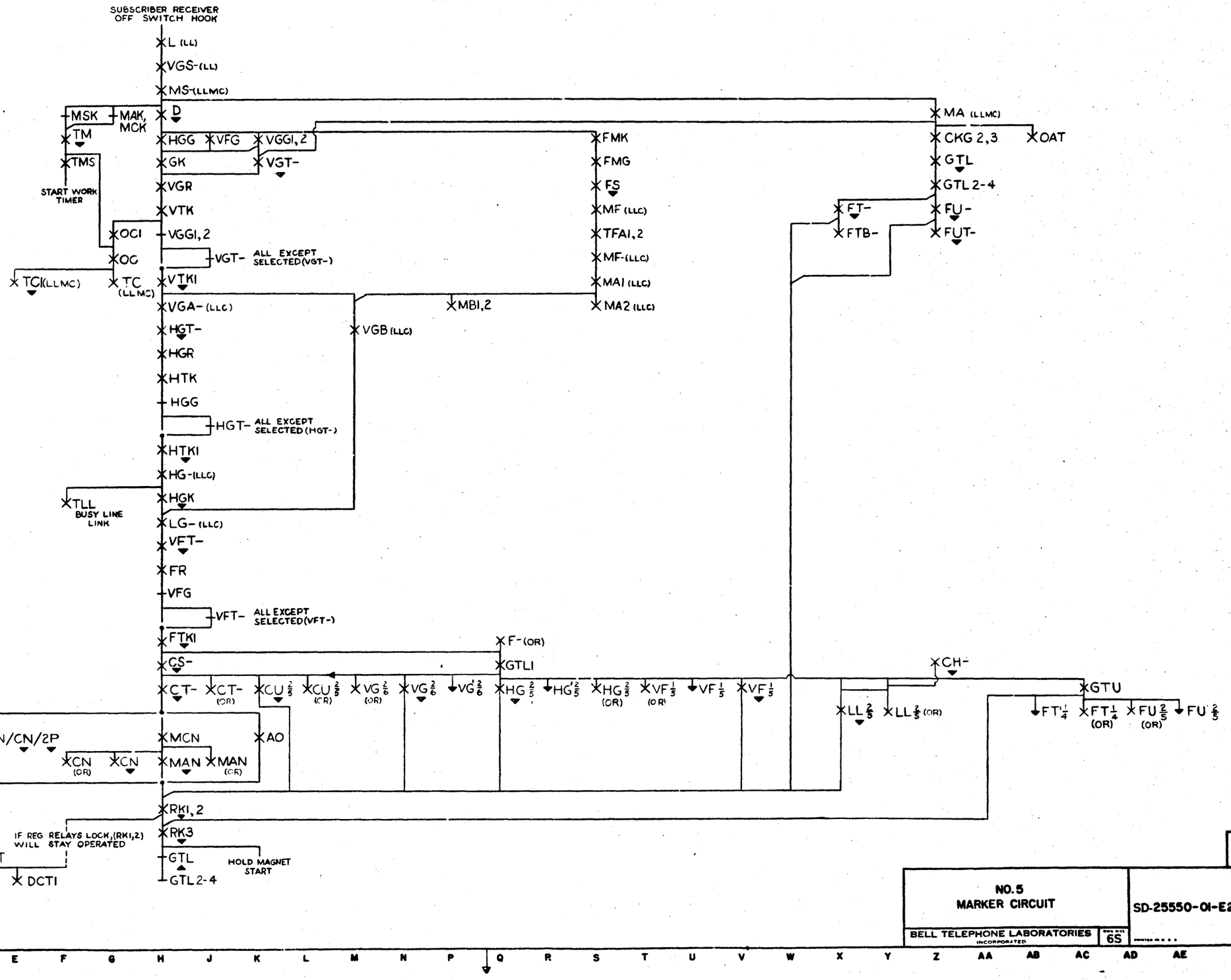
NO.5
MARKER CIRCUIT

SD-25550-01-E21

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SC 103
ESTABLISHING THE DIALING CONNECTION



44

NO. 5
MARKER CIRCUIT

SD-25550-01-E22

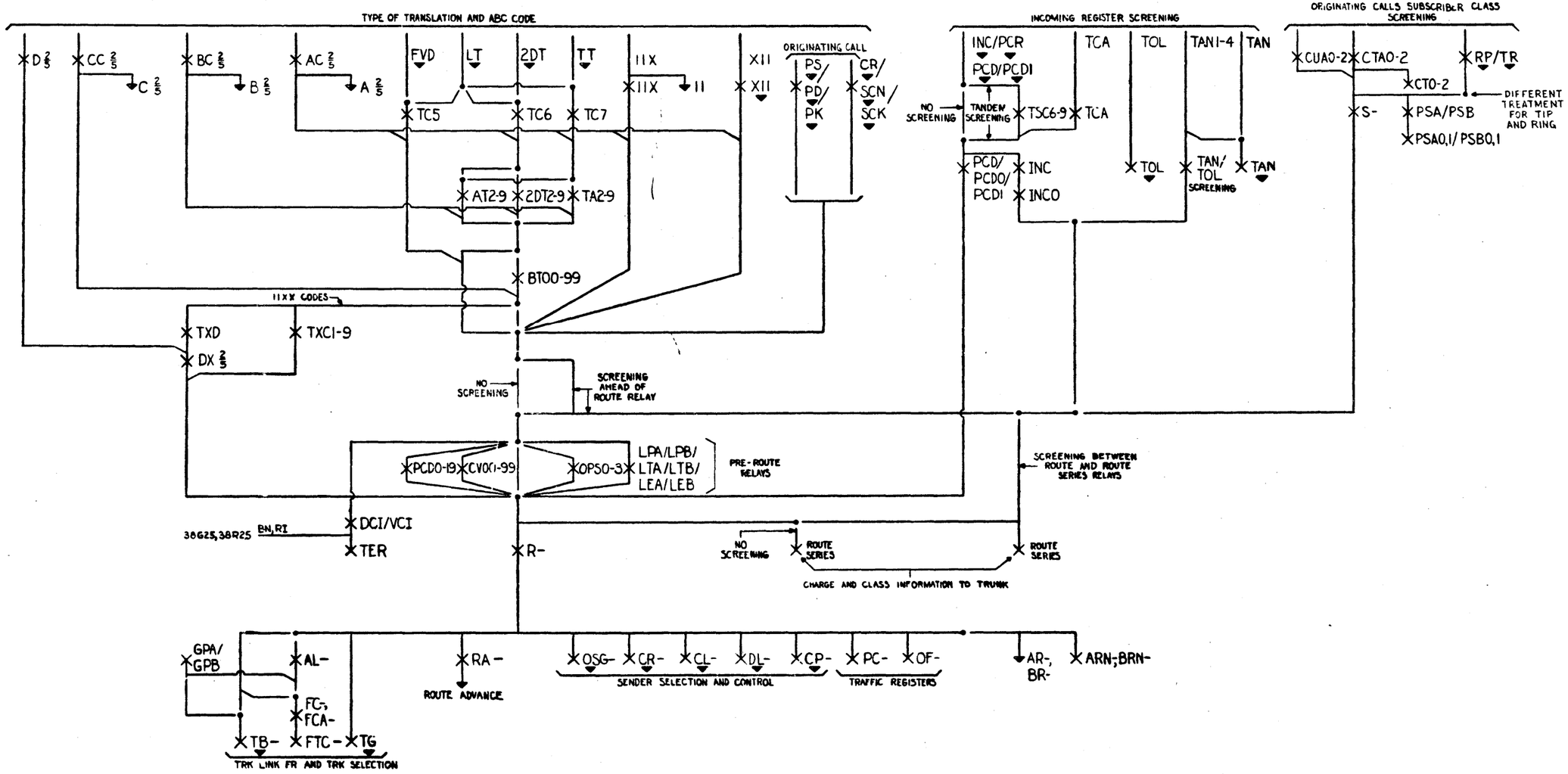
BELL TELEPHONE LABORATORIES
INCORPORATED

65

SD-25550-01-E22

SC 104

TRANSLATION, TRUNK AND CLASS SCREENING AND ROUTE RELAY OPERATION



DRAWING ISSUE 44B

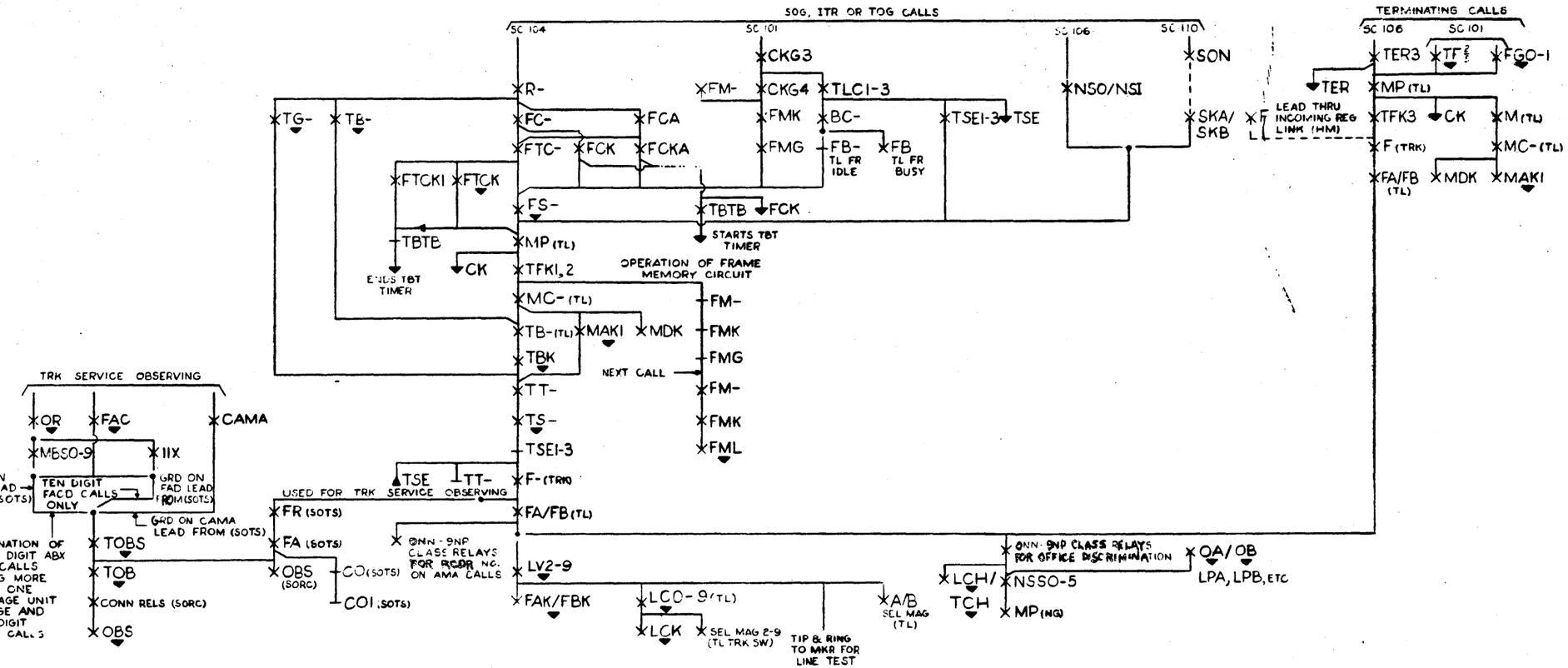
44

NO. 5 MARKER CIRCUIT	SD-25550-01-E23
BELL TELEPHONE LABORATORIES INCORPORATED	6S

SD-25550-01-E23

SC 105

SEIZURE OF TRUNK LINK FRAME & TRUNK

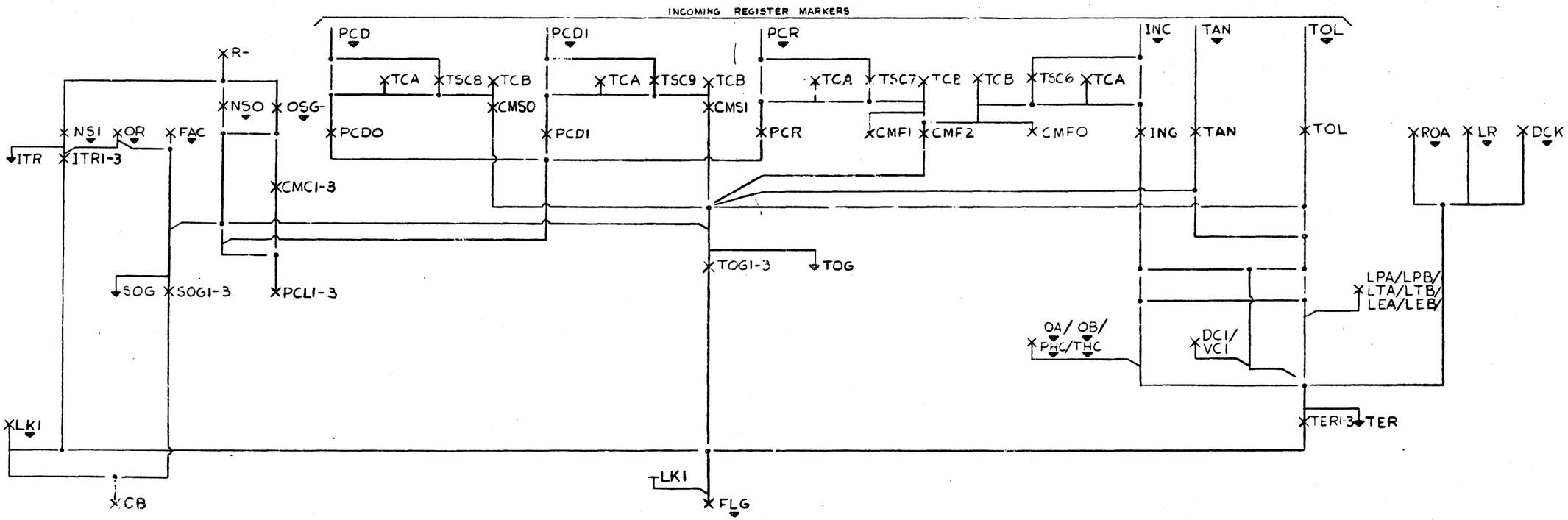


SD-25550-01-E24

NO. 5 MARKER CIRCUIT	44
BELL TELEPHONE LABORATORIES INCORPORATED	SD-25550-01-E24

SC 106

INFORMATION REQUIRED FOR TYPE OF CALL - INCOMING

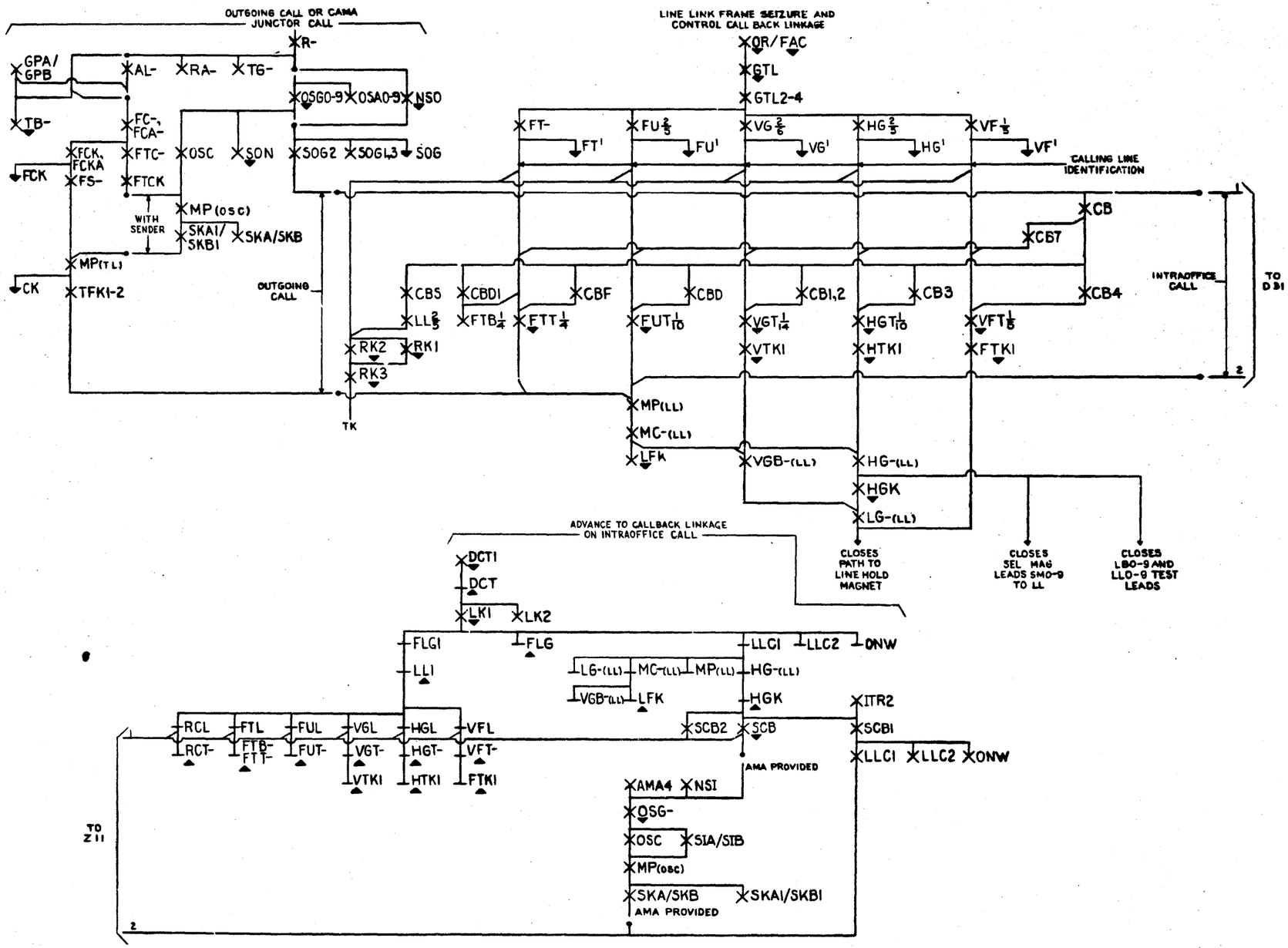


SD-25550-01-E25

44

NO.5 MARKER CKT	SD-25550-01-E25
BELL TELEPHONE LABORATORIES INCORPORATED	6S

SC 107



ISSUE 448 REV 4-5 M.L. 56D MD

SD-25550-01-E26

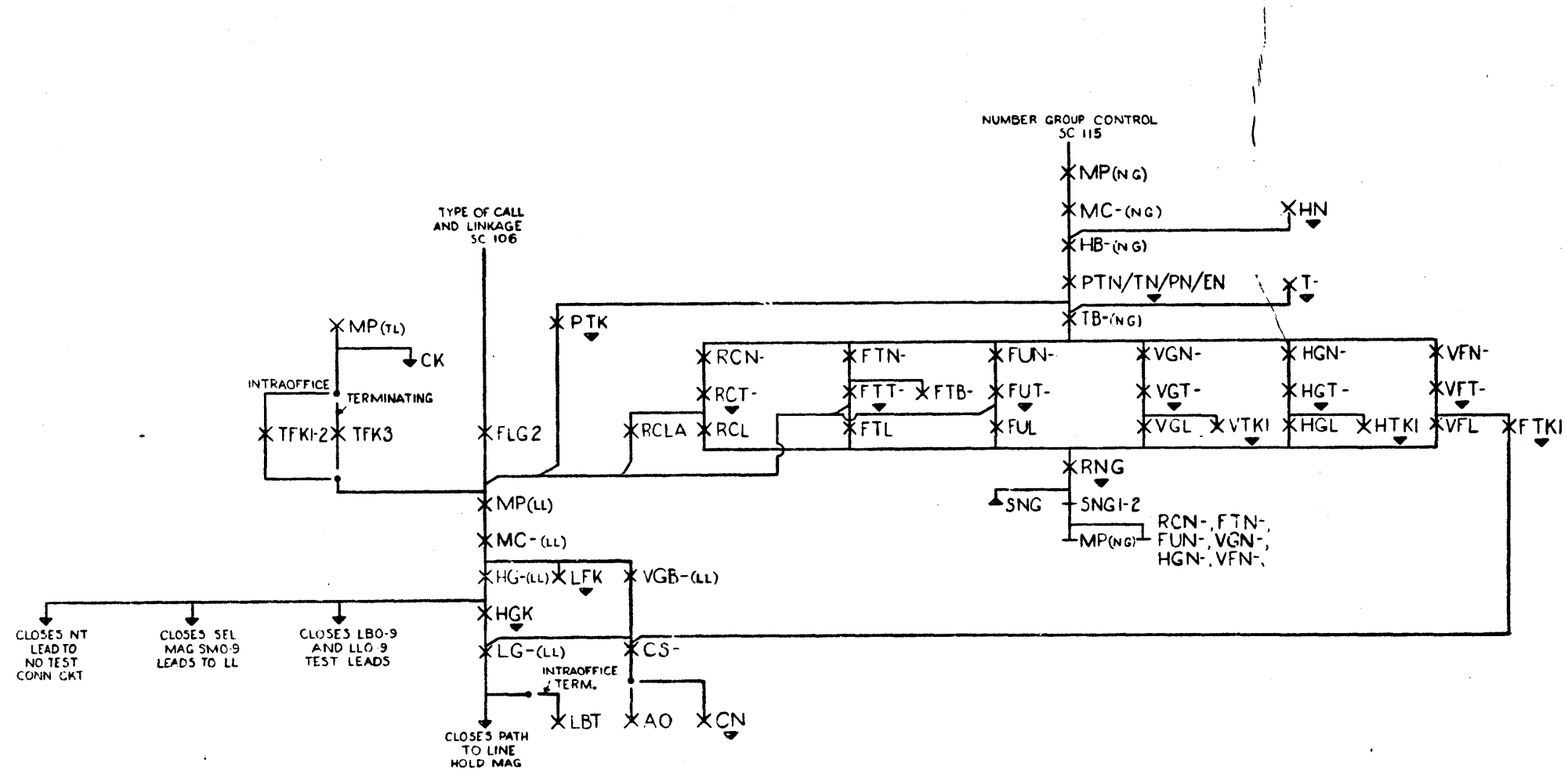
56

MARKER CIRCUIT (2) SD-25550-01-E26

BELL TELEPHONE LABORATORIES INCORPORATED 6S

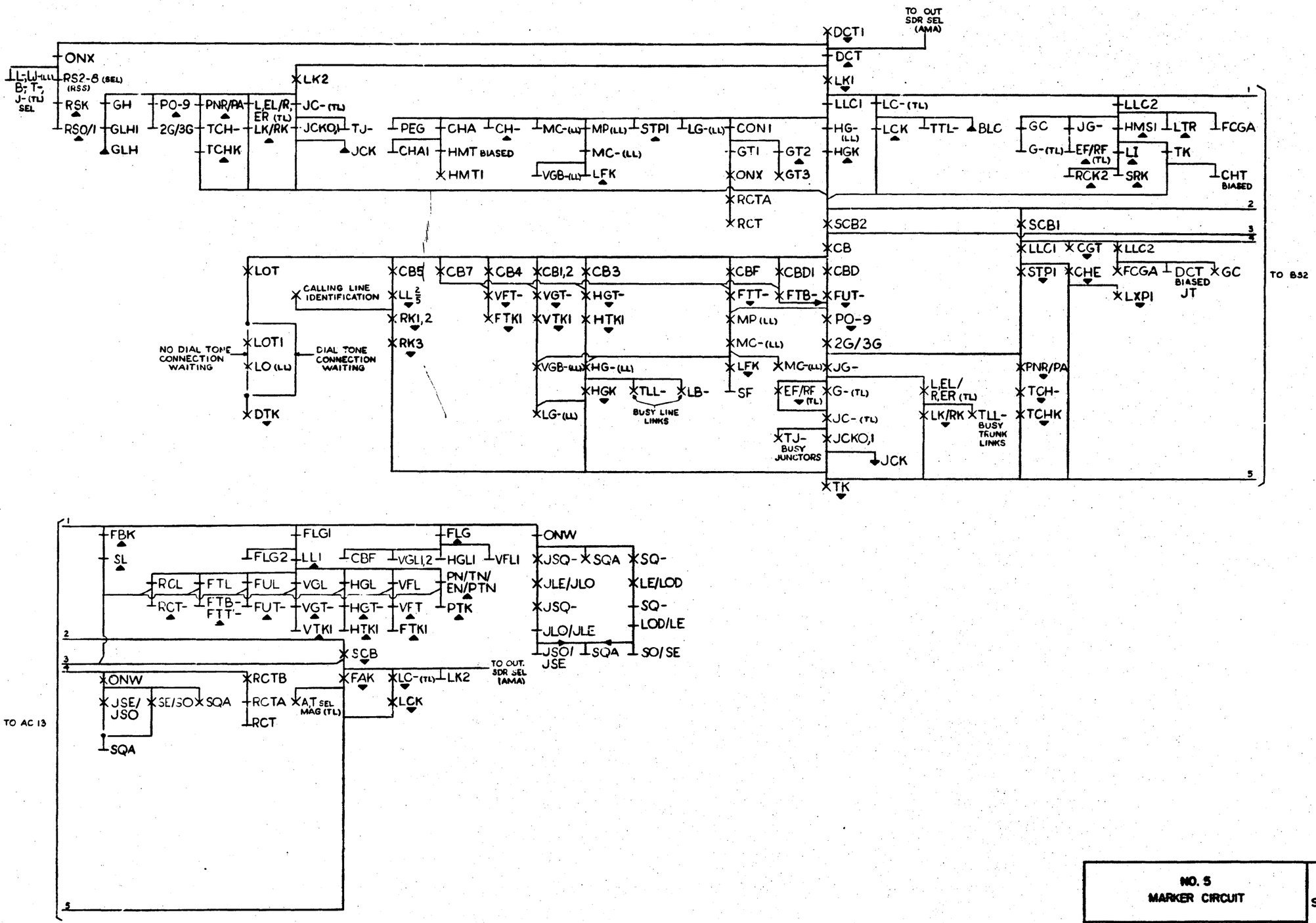
SC 108

LINE LINK FRAME SEIZURE AND CONTROL CALL FORWARD LINKAGE



SC 109

INTRAOFFICE ADVANCE TO "CB" CALL BACK LINKAGE



NO. 5 MARKER CIRCUIT	SD-25550-01-E28
BELL TELEPHONE LABORATORIES INCORPORATED	6S

41

SD-25550-01-E28

PART OF SC 110

CUTGOING SENDER SELECTION AND CONTROL CKT

DRAWING ISSUE 44B 6S 2W 8A

NON-ALLOTTED TRUNK GROUPS
GPA/GPB
AL 1/4
RA 1/6
TG 1/20
ALLOTTED TRK GROUPS
FC-,FCA-
TB 1/6
FCK,FCKA
FCK
FS 1/20
FTC-
FTCK1
FTCK
SOG CALL OR CAMA JUNCTOR CALL
TRK LK FR NO TRANSLATOR WHERE SEVERAL CAMA SDR GRPS SERVE INC CAMA
CAMA CALL
SIA/SIB
R-
OSA 1/10
SOG CALL
CP 1/5
CPP/CPS
CR 1/10
CRP/CRS
CL 1/5
CLP/CLS
DL 1/14
DLP/DLS
OSG 1/10
OSC
SON
GOS
SW (K)
OGC
TGS1
TSG2
AVK
OST
SLK
BIASED
MP (OSC)
SKA/SKB
SKA1/SKB1
FPK/TPS
RPK
CLK1-3, CRK1-3, DLK1,2
CL-;CR 2/5, DL-LST/L5D/4DG/5DG
MB 2/5, CP 2/5, SC/TVT OBS'/NOB', AMA
MBK1-5, CPK1,2
INC CAMA CALL
SSA/SSB
OSGA/OSGB
OS-
ASB IF ALL SDRS ARE BUSY
CTGS
MA (OSC)
MC (OSC)
MB (OSC)
OSE
SENDERS NOT SELECTED
GOS
TO 30A10
F (CAMA INC TRK) OR FO (CAMA JUNCTOR)
SS-SLL (OSC)
FKA
OSK
S-(OSC)
CAMA JUNCTOR
SI
SH (HOLD) (OSL)
ON (OSL)
SLK
SLK1
SIA/SIB
GBA/GBB
SA (OSC)
A 2/5 - G 2/5, CL-(OS)
AMA-(OSC)
SC-(OSC)
RN 2/5 (OS)
SB (OSC)
DL 2/5, CR 2/5 (OS)
ONI (OS)
SB (OS)
OSE
LR (OS)
TG
SLK
SLK2
SIK
LST/L5D 4DG/5DG, NOB/OBS', CP 2/5, FT 1/2, FU 2/5, VG 2/6, HG 2/5, VF 1/5, MB 2/5, SC/TVT (OS)
TP/RP (OS)
CLG
TP/RP (OS)
RPK
TPK
TP'
OSTI
OST
OST2
KK
KA,KBC,KDE, KFG
KK
TGS2
AMA
GTL
GTL2-4
TGS1
INC CAMA CALL
CTGS
CLG
CLK
REMOVE GRDS FROM TLF NO LEADS TO SDR
OSTI
OST
SOG CALL OR CAMA JUNCTOR CALL
GTL2-4
INC CAMA CALL
DCT1,E31
R5C
OSC
MP (OSC)
SKA/SKB
OSGA/OSGB
MA (OSC)
GBA/GBB
MB (OSC)
RPK/TPS
RPK
MC (OSC)
RPK
SC (OSC)
TP/RP (OS)
TPK
TP'
CPK1,2 MBK1,2 DLK2
4DG/5DG/LST/L5D NOB'/OBS', SC/TVT, AMA
SB (OSC)
DLK1, CRK1,2
SA (OSC)
A 2/5 - G 2/5
A' 2/5 - G' 2/5
ST7
ORK1,2
AV (OS)
AVK,D27
8 TO 30V38
AV,P40
AVK
AVK1
AVKZ
INC CAMA CALL
SOG CALL OR CAMA JUNCTOR CALL
CLK,K33
DCT1
LK1
LINKAGE CHECKS SC 123
GT2
DCT
SOG CALL OR CAMA JCTR CALL

44

NO. 5 MARKER CIRCUIT

SD-25550-01-E29

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25550-04-E29

PART OF SC 110

OUTGOING SENDER SELECTION AND CONTROL CKT

CAMA CALL
SOG CALL
MBS 1/10
NON SERVICE OBSERVED
SERVICE OBSERVED
SOB
SNO
AMA
MB 1/3
MBP/MB5
AMA4
GTL
CAMA JUNCTOR CALL
INC CAMA CALL
CAMF
CMF1
CMF2
CMF3
CMF4
CFGO/1
CTF 2/5
CMJ
OD
INC CAMA CALL
CAMA JUNCTOR CALL
IF SDR CONN BUSY
GBA/GBB
SOG CALL OR CAMA JUNCTOR CALL
SOG
CMC1
CMC2
CMC3
PCL1,3
PCL2
CMCA-C
GTU
INC CAMA CALL
CAMA JUNCTOR CALL
RNT3
CAMA CALL
SOG CALL
AMA3
AMA5
CAMA JUNCTOR CALL
RN
TO 29AC10
KG
KA
KK
A 2/5
A' 1/5
KBC
B 2/5, C 2/5
B' 2/5, C' 2/5
KDE
D 2/5, E 2/5
D' 2/5, E' 2/5
KFG
F 2/5, G 2/5
F' 2/5, G' 2/5
ST7
ORC
SOG CALL OR INC CAMA CALL
RN
CAMA JCTR CALL
ORCO/2
OD
OD' ORCO/2
TRK LK FR. NO.
SOG CALL OR CAMA JUNCTOR CALL
INC CAMA CALL
MP(TL)
CK
INC CAMA CALL
SOG CALL OR CAMA JUNCTOR CALL
TFK1,2
TFK3
MC (TL)
LF (TRK)
TB-(TL)
ORCO/2
AD/OD
AD'/OD' ORCO/2
TBK
TT-
TS
TSE1-3
FO (JCTR)
FA/FB (TL)
LV2-9 (TL)
FAK/FBK
TRN1
TRN
TRN
U 2/5
T 2/5
HN 2/5
FTO/1
FU 2/5
INC CAMA CALL
ORK1,2
ONN-9NP (RCDR NO)
RN 2/5
RNT1
RNT
RNT2
RN
RNT1
RNT
RNK1,2
RNK
OD/AD, ORCO/2, RNT3
CAMA CALLS
TO 29Q38

DRAWING ISSUE 448 C.F. AB

44

NO.5
MARKER CIRCUIT

SD-25550-01-E30

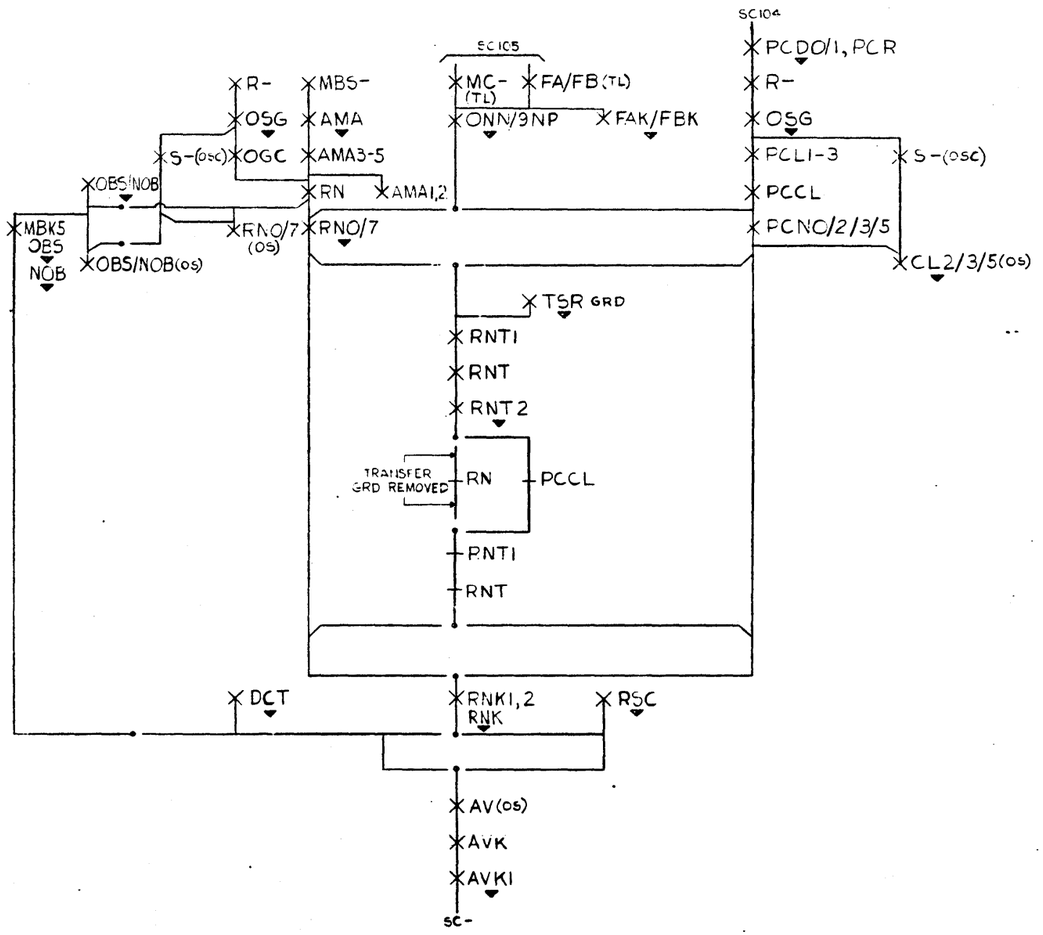
BELL TELEPHONE LABORATORIES
INCORPORATED

6S

SD-25550-01-E30

SC 112

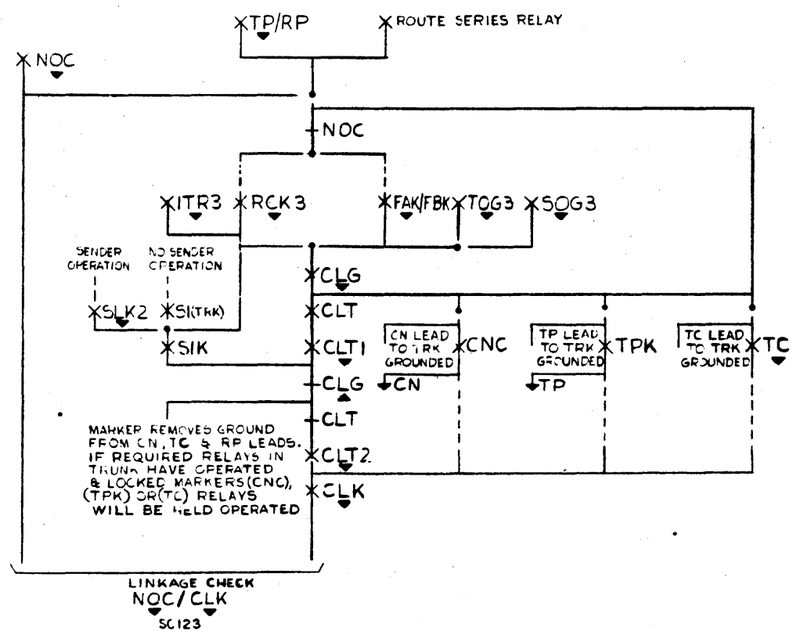
AMA RECORDER NUMBER
& OBS, NOB INFORMATION
OR
PULSE CONVERSION CLASS



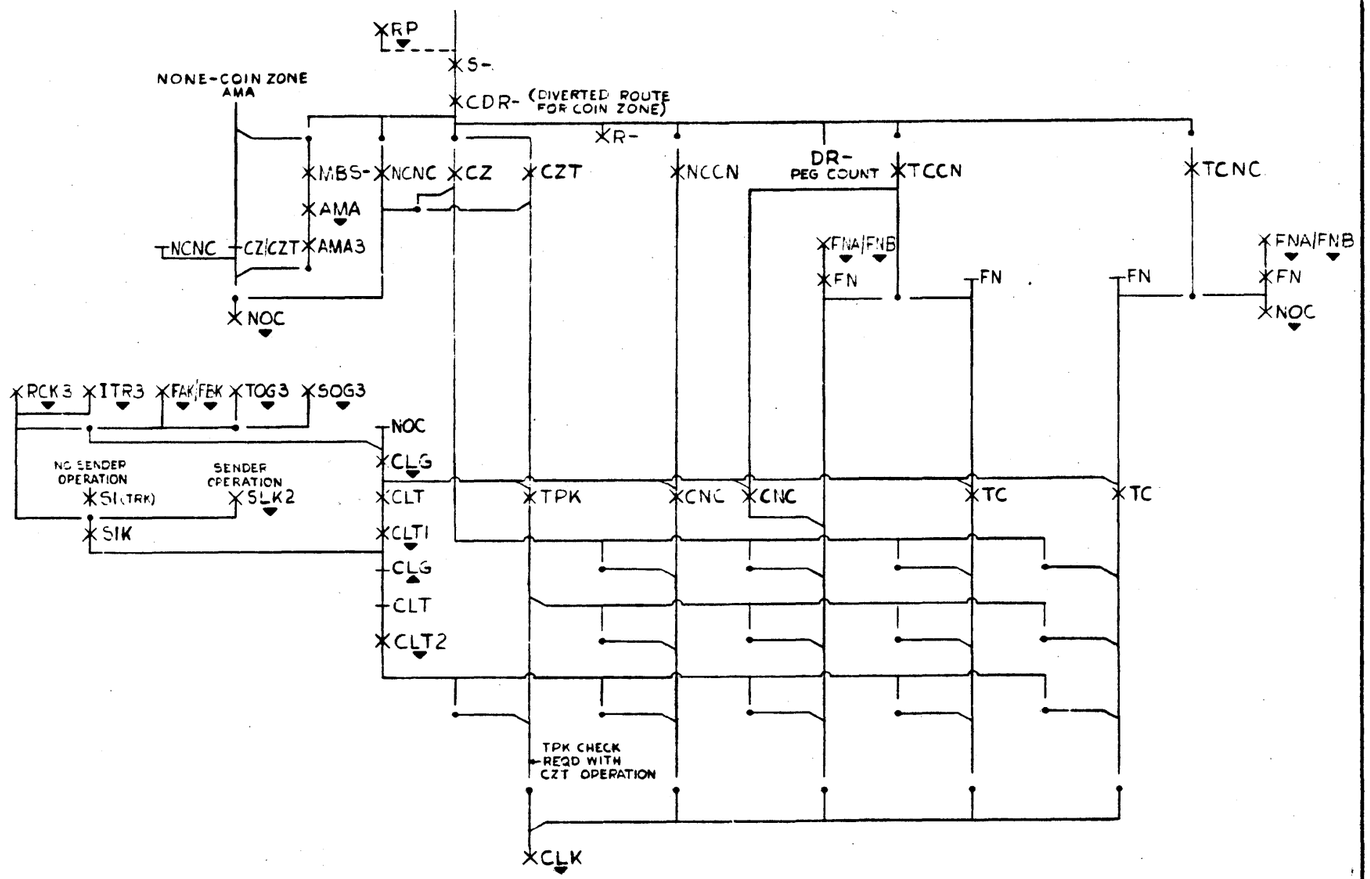
NO.5 MARKER CKT	SD-25550-01-E32
BELL TELEPHONE LABORATORIES INCORPORATED	6S

SC 113
TRUNK CLASS INFORMATION

WITHOUT COIN ZONE FEATURE
NON AMA



COIN ZONE FEATURE PROVIDED WITH
OR WITHOUT AMA RECORD



SHEET NOTES:

1. ON AMA CALLS – CLASS INFORMATION IS NOT TRANSMITTED TO THE TRUNK. THE (CLG) AND (CLK) RELAYS ARE USED IN CONJUNCTION WITH THE (OST) TIMER TO TRANSMIT AND CHECK THE TP & RP INFORMATION TO THE SENDERS.

DRAWING ISSUE
448

NO.5
MARKER CKT

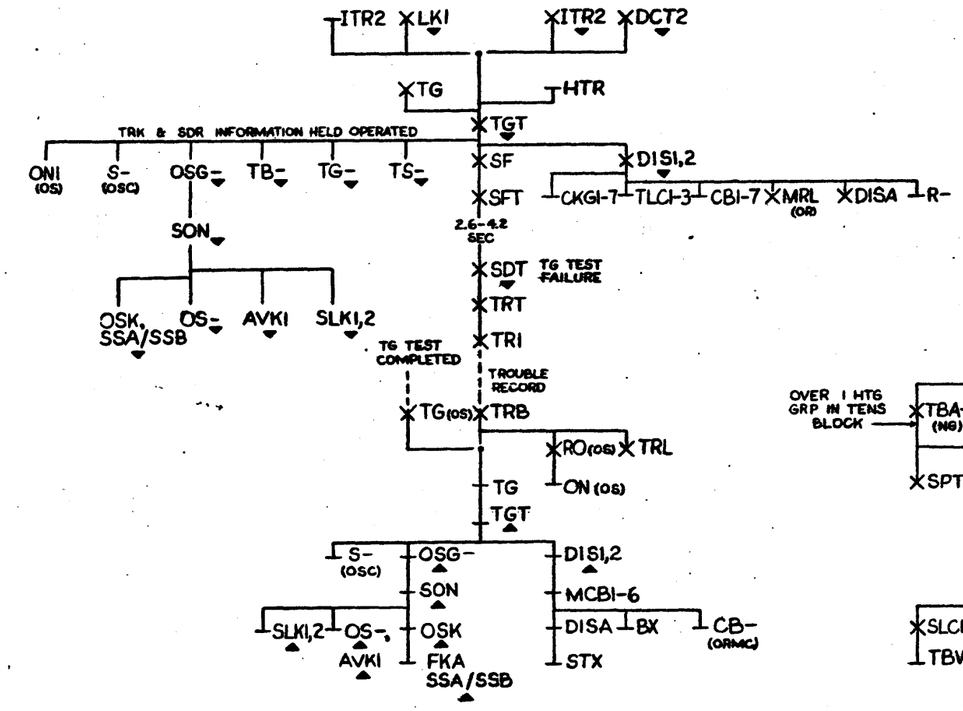
SD-25550-01-E33

BELL TELEPHONE LABORATORIES
INCORPORATED

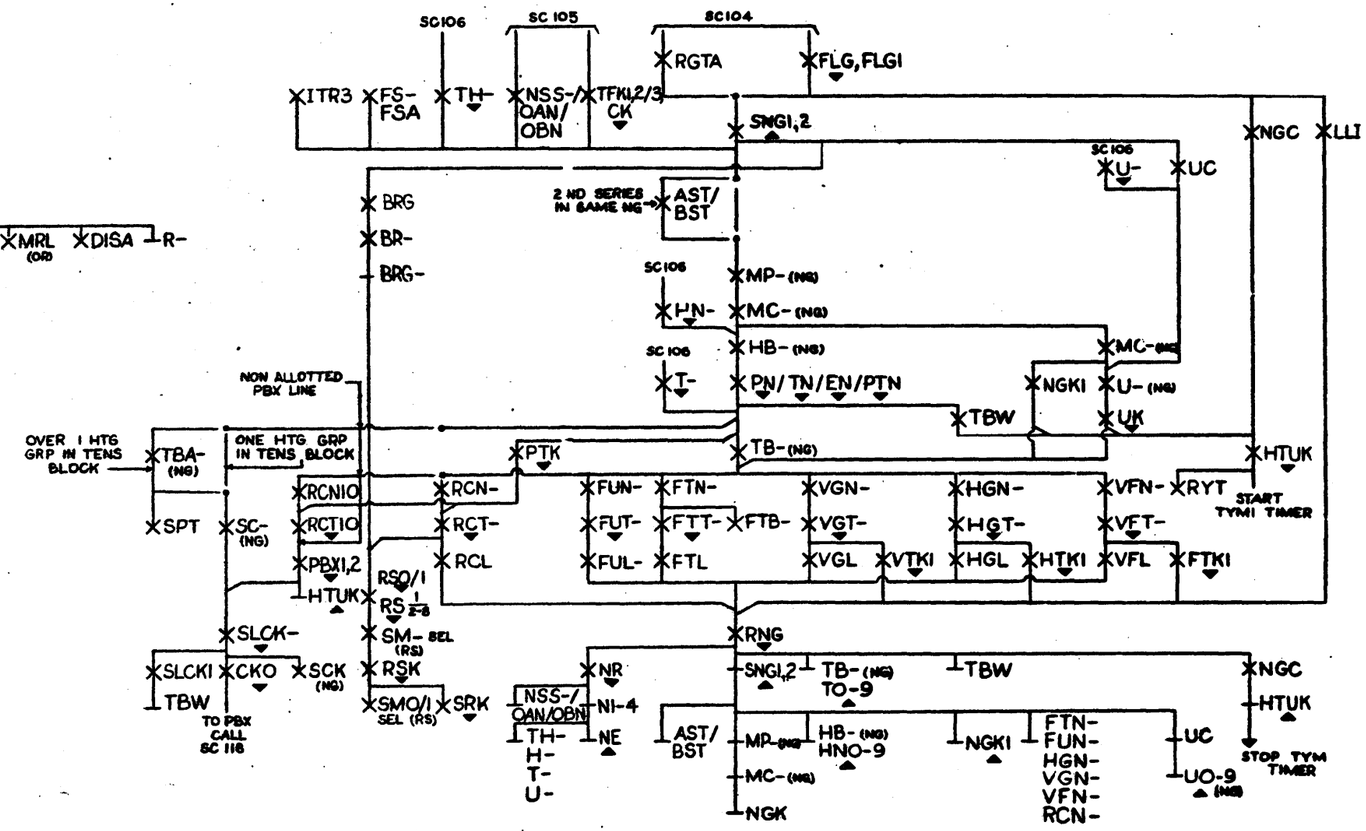
6S

SD-25550-01-E33

SC 114
TG TEST



SC 115
NUMBER GROUP SEIZURE AND TRANSLATION



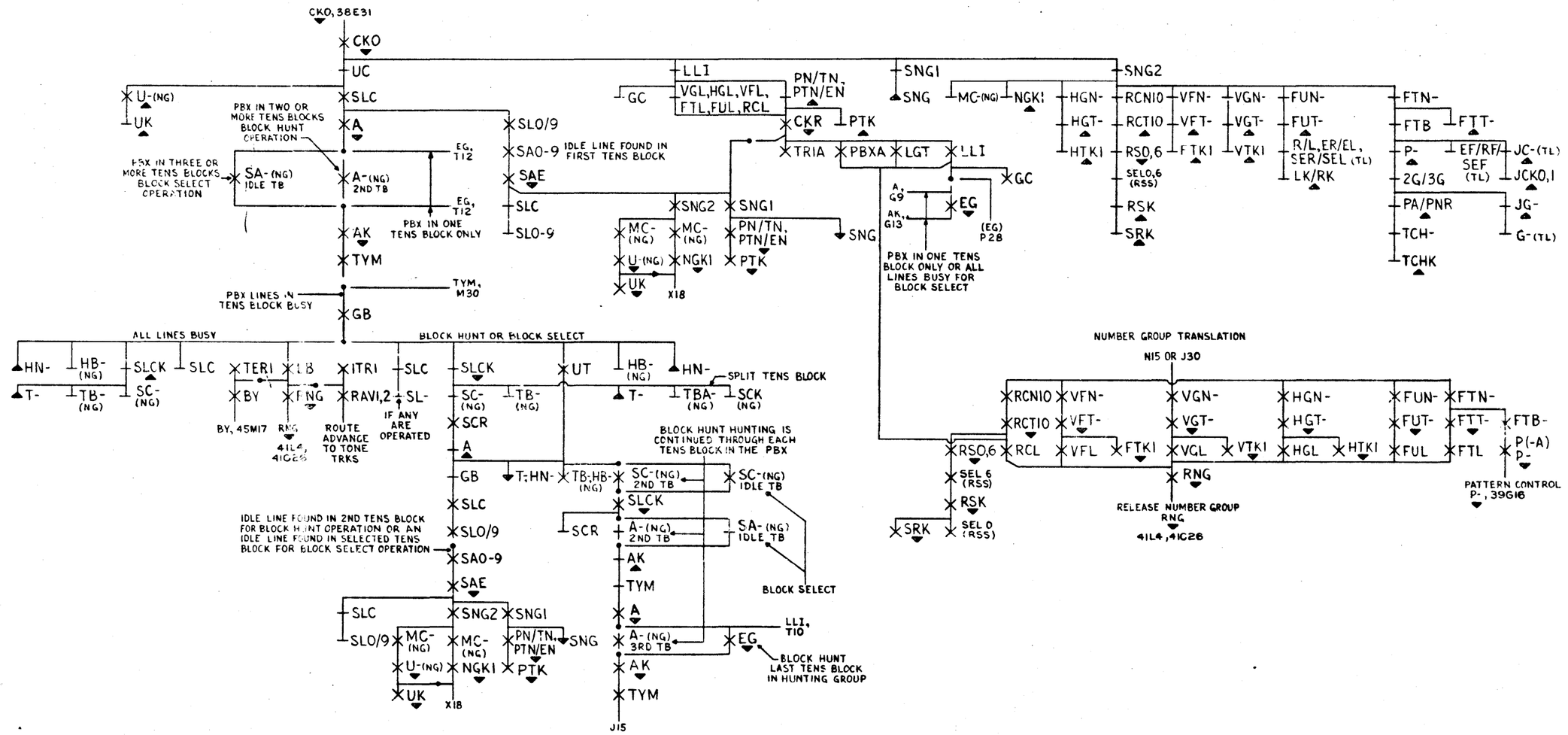
54

MANNER CIRCUIT (2) 100-23050-01-E34

BELL TELEPHONE LABORATORIES 65

100-23050-01-E34

SC 116
NON ALLOTTED TERMINAL HUNTING



DRAWING ISSUE 44B

44

NO. 5
MARKER CIRCUIT

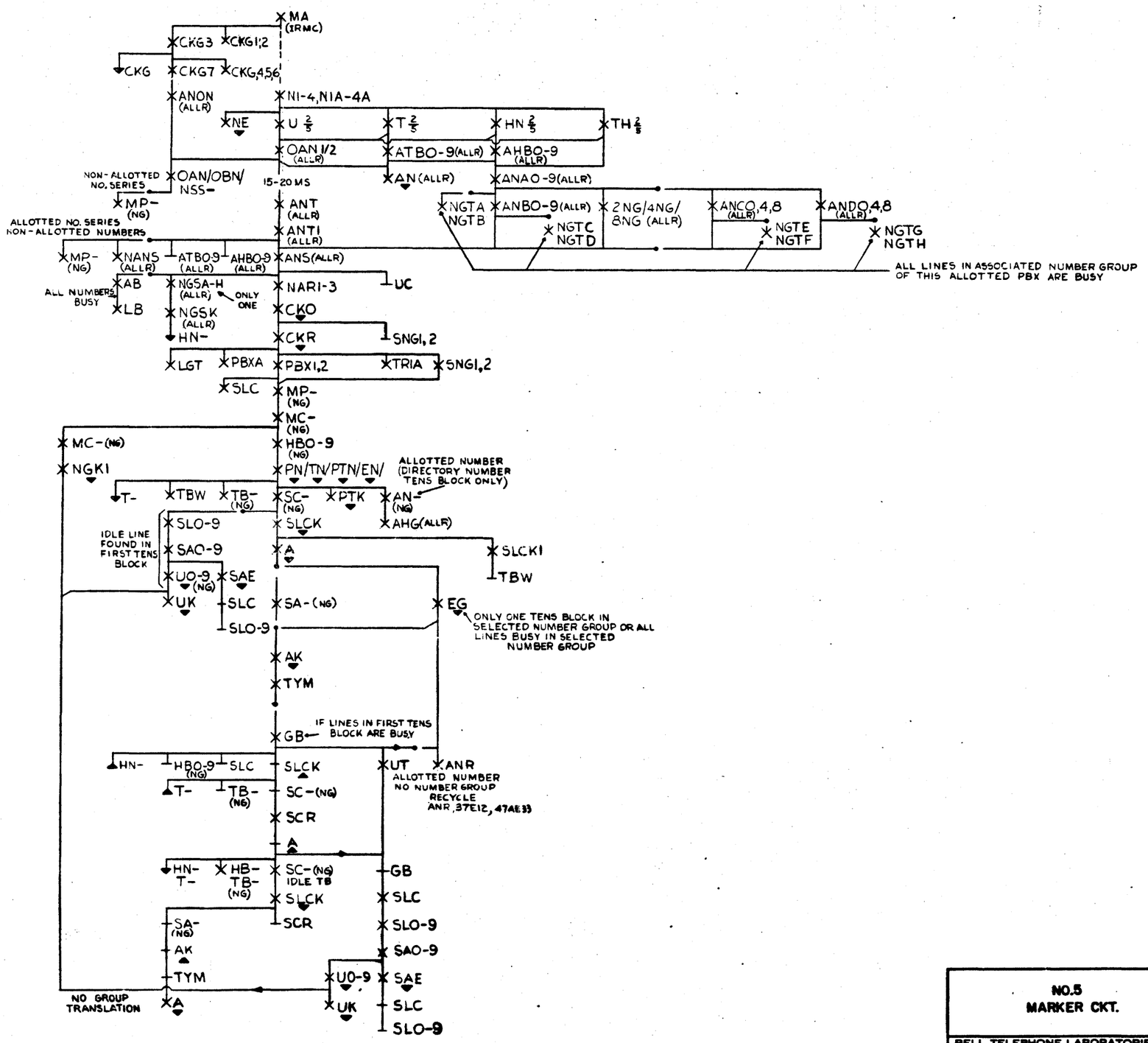
SD-25550-01-E35

BELL TELEPHONE LABORATORIES INCORPORATED

25550-01-E35

SC 117

PBX ALLOTTED TERMINAL HUNTING



DRAWING ISSUE 448

SD-25550-01-E36

44

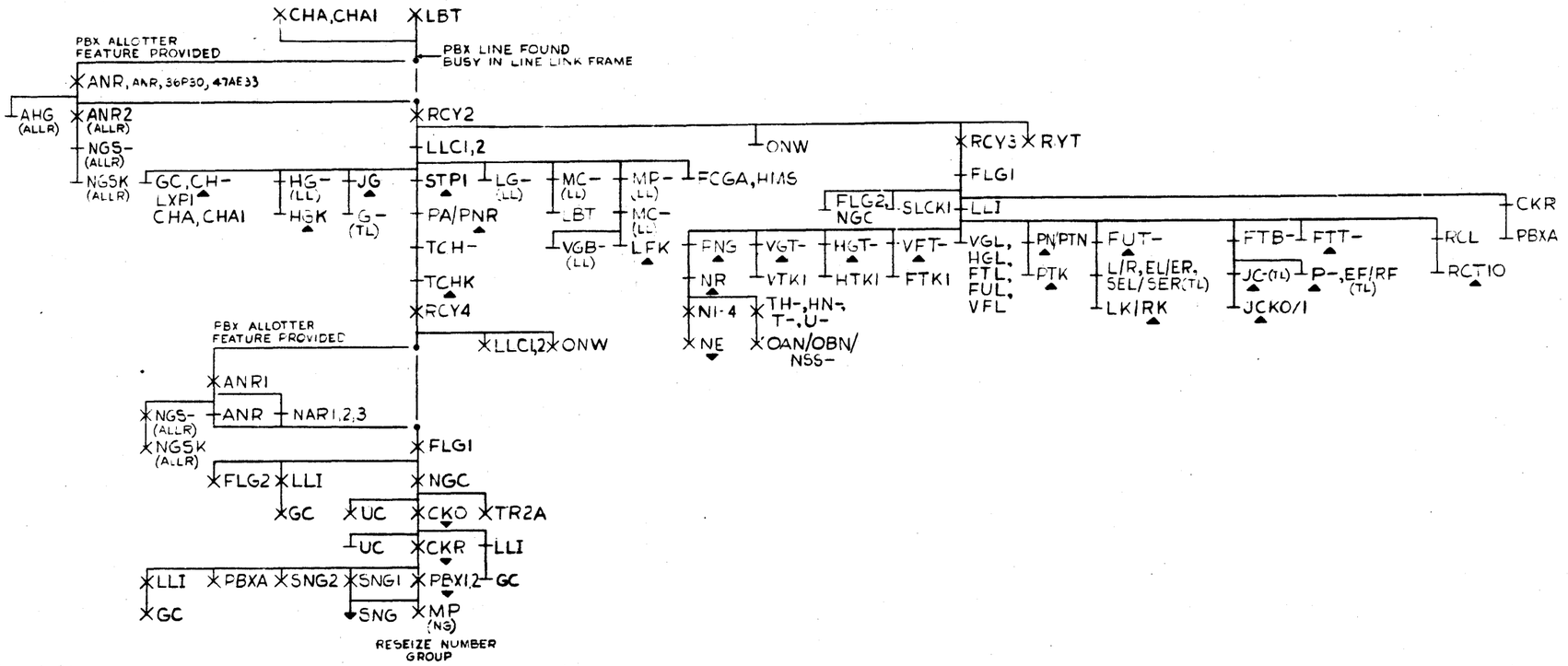
NO.5 MARKER CKT.

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25550-01-E36

SC 118
FBX RECYCLE



DRAW. NG ISSUE 44B

44

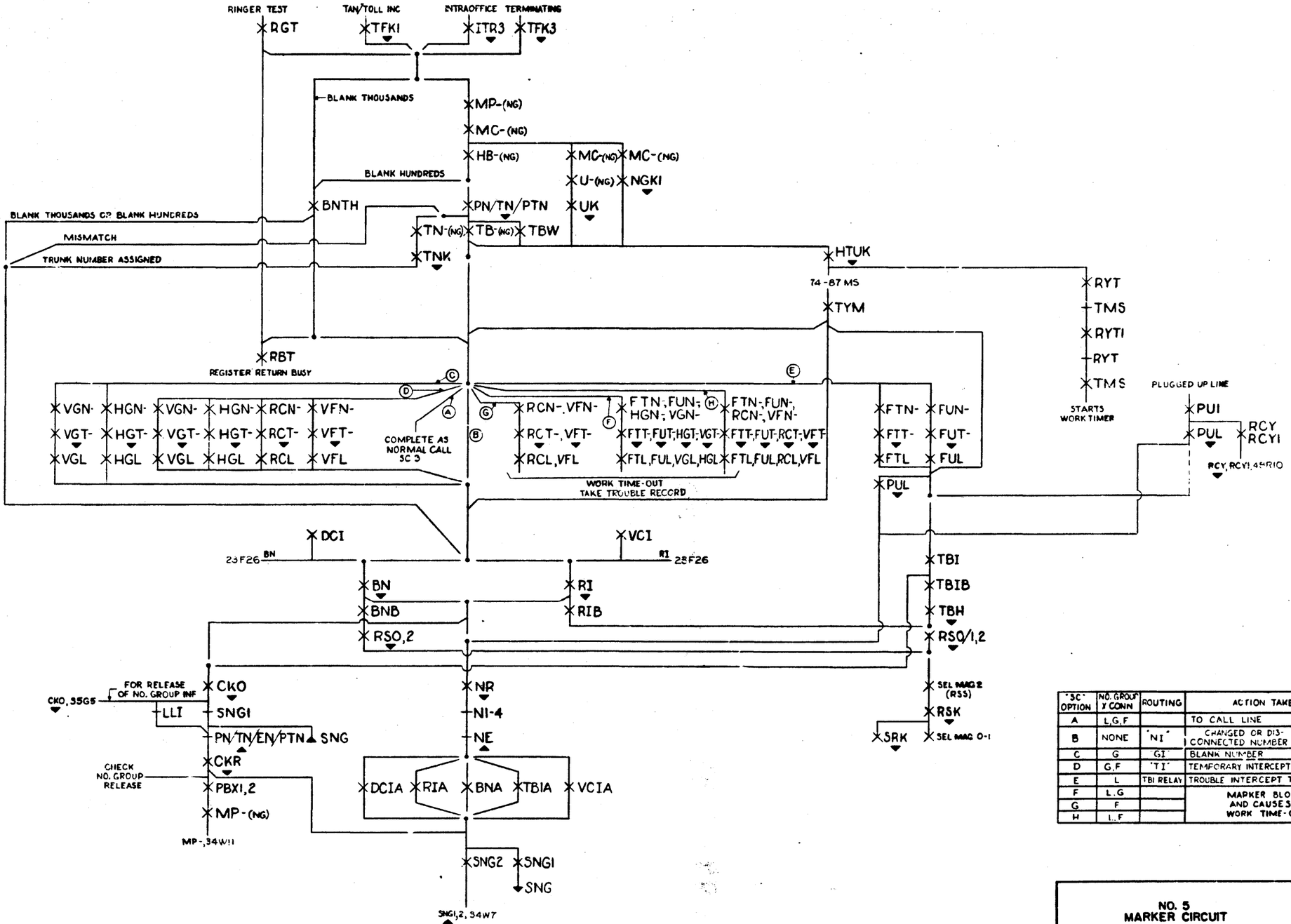
NO.5 MARKER CKT

SD-25550-01-E37

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-E37

SC 119
INTERCEPTING



"3C" OPTION	NO. GROUP Y CONN	ROUTING	ACTION TAKEN	
A	L,G,F		TO CALL LINE	
B	NONE	"NI"	CHANGED OR DISCONNECTED NUMBER	NO SUCH NUMBER TONE MACHINE ANNOUNCEMENT OR REGULAR INTERCEPT OPR
C	G	GI	BLANK NUMBER	
D	G,F	"TI"	TEMPORARY INTERCEPT	
E	L	TBI RELAY	TROUBLE INTERCEPT TRUNK	
F	L,G		MARKER BLOCKS AND CAUSES A WORK TIME-OUT	
G	F			
H	L,F			

44

NO. 5
MARKER CIRCUIT

SD-25550-01-E38

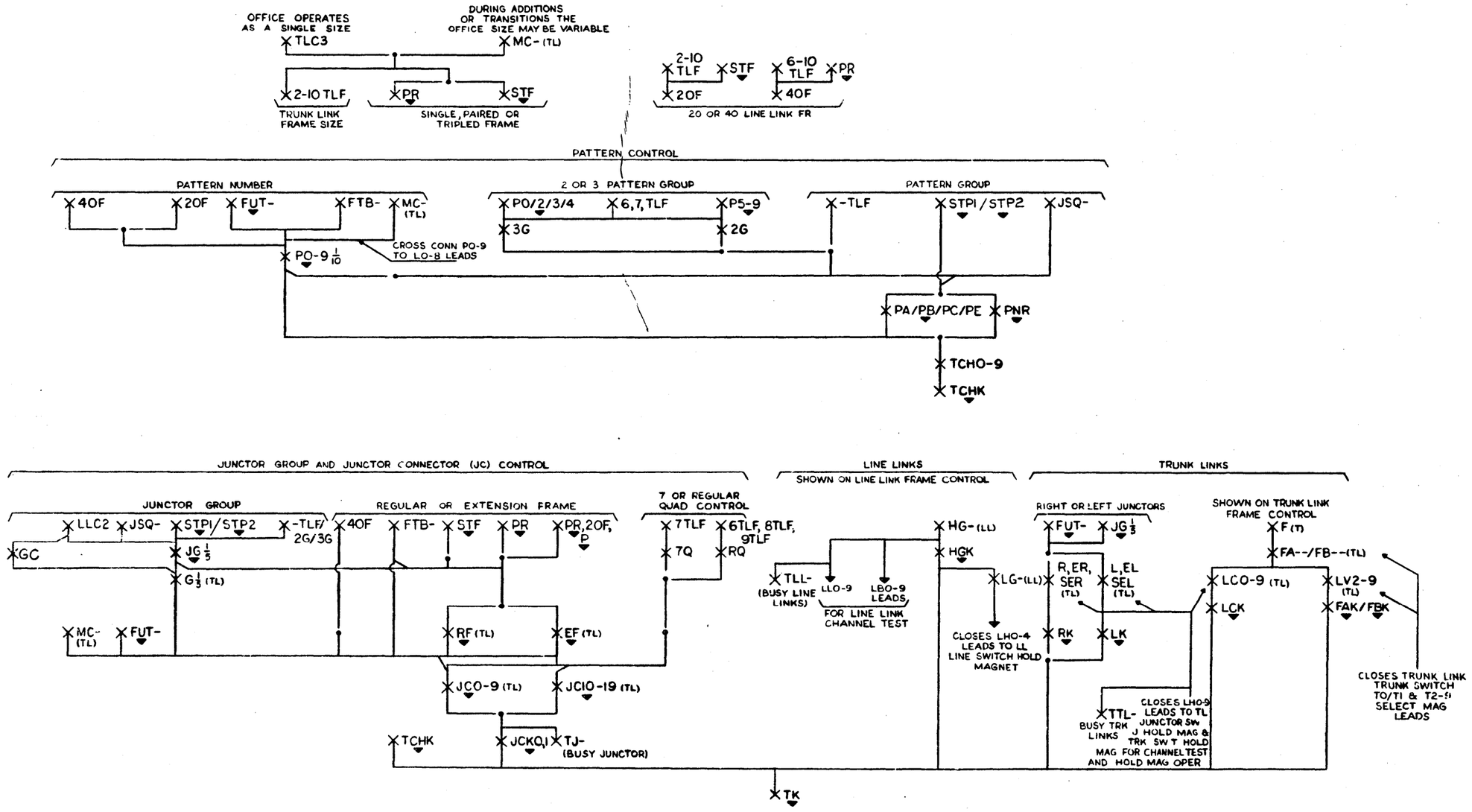
BELL TELEPHONE LABORATORIES INCORPORATED

65

SD-25550-01-E38

DRAWING ISSUE 46B

SC 120
CONTROL FOR CHANNEL TEST



DRAWING ISSUE 44B

44

NO. 5
MARKER CIRCUIT

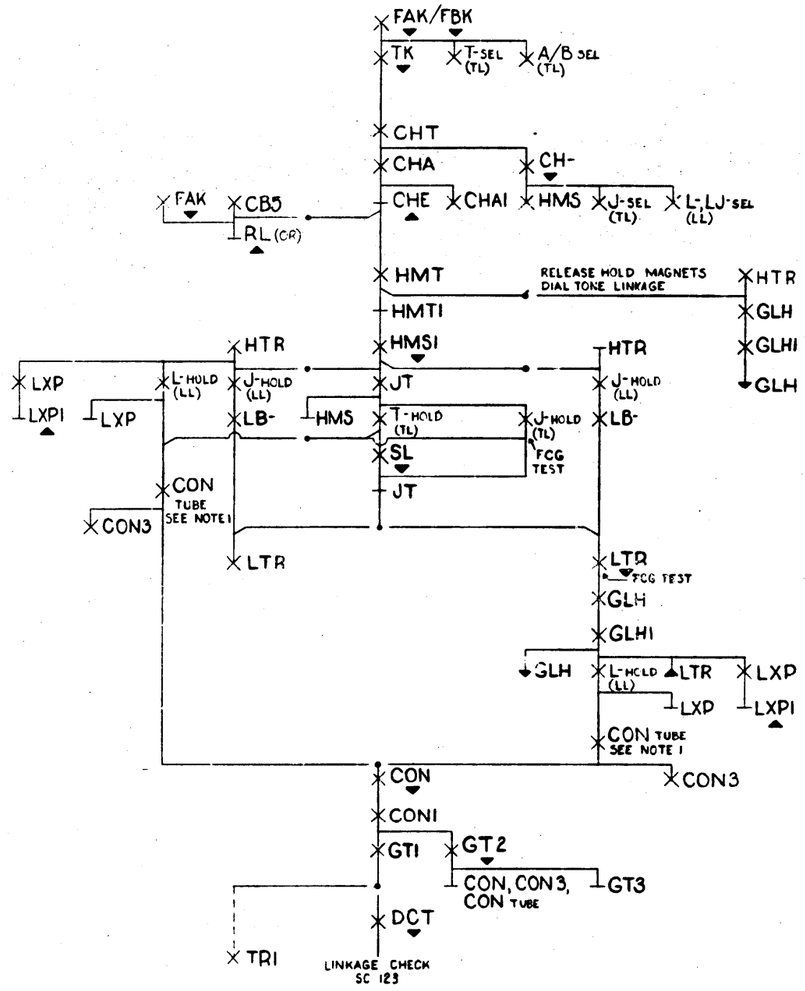
SD-25550-01-E39

BELL TELEPHONE LABORATORIES INCORPORATED

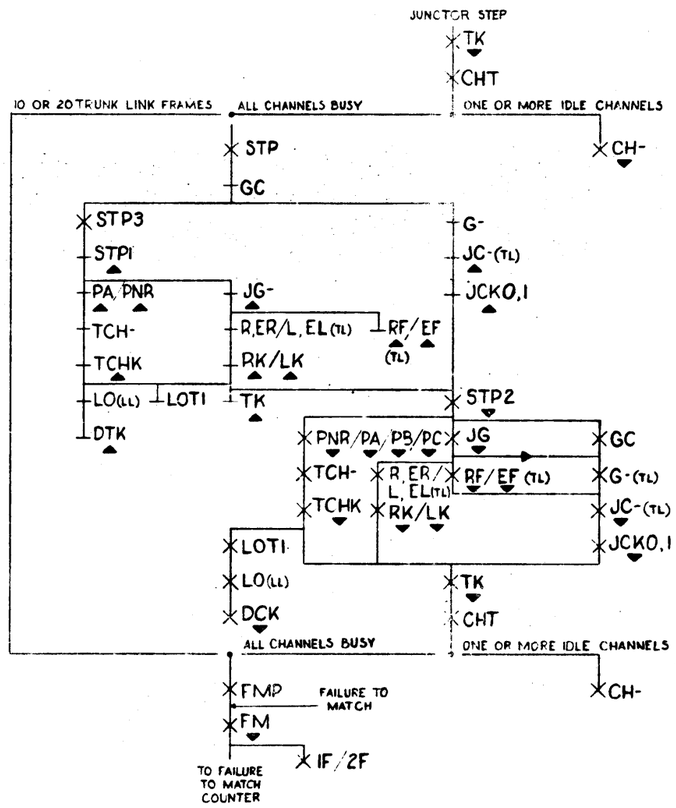
6S

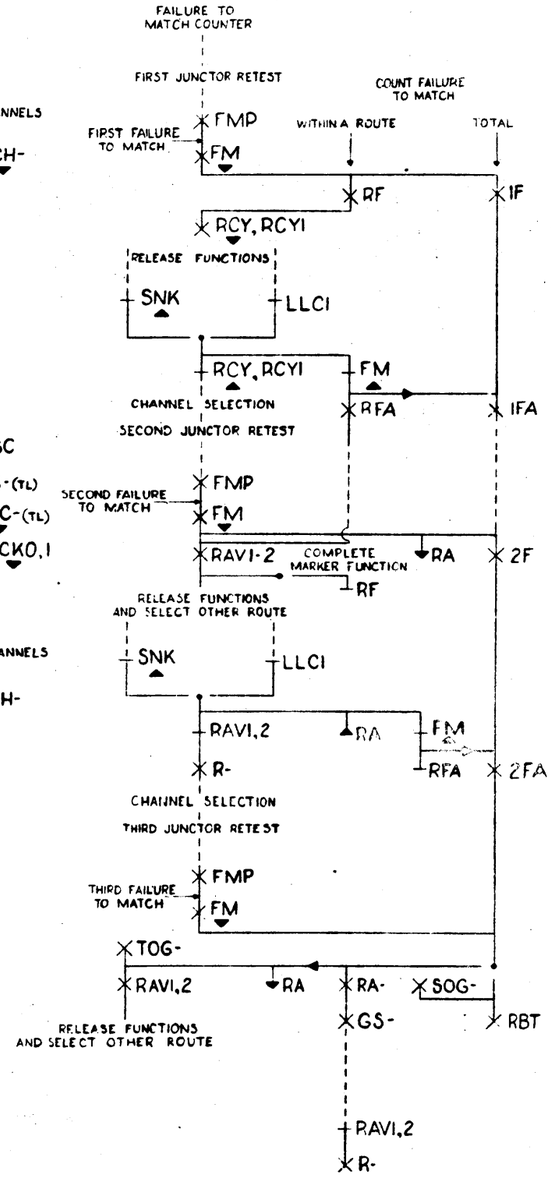
SD-25550-01-E39

SC 121
CHANNEL SELECTION AND HOLD MAGNET OPERATION



SC 122
JUNCTOR STEP AND FAILURE TO MATCH





SHEET NOTES

1. CONTINUITY FAILURE CAUSE MARKER WORK-TIME OUT FOR FIRST TRIAL AND CONTINUITY TEST IS CANCELLED ON 2 ND TRIAL.

DRAWING ISSUE 44B MB

SD-25550-01-E40

44

NO. 5 MARKER CIRCUIT

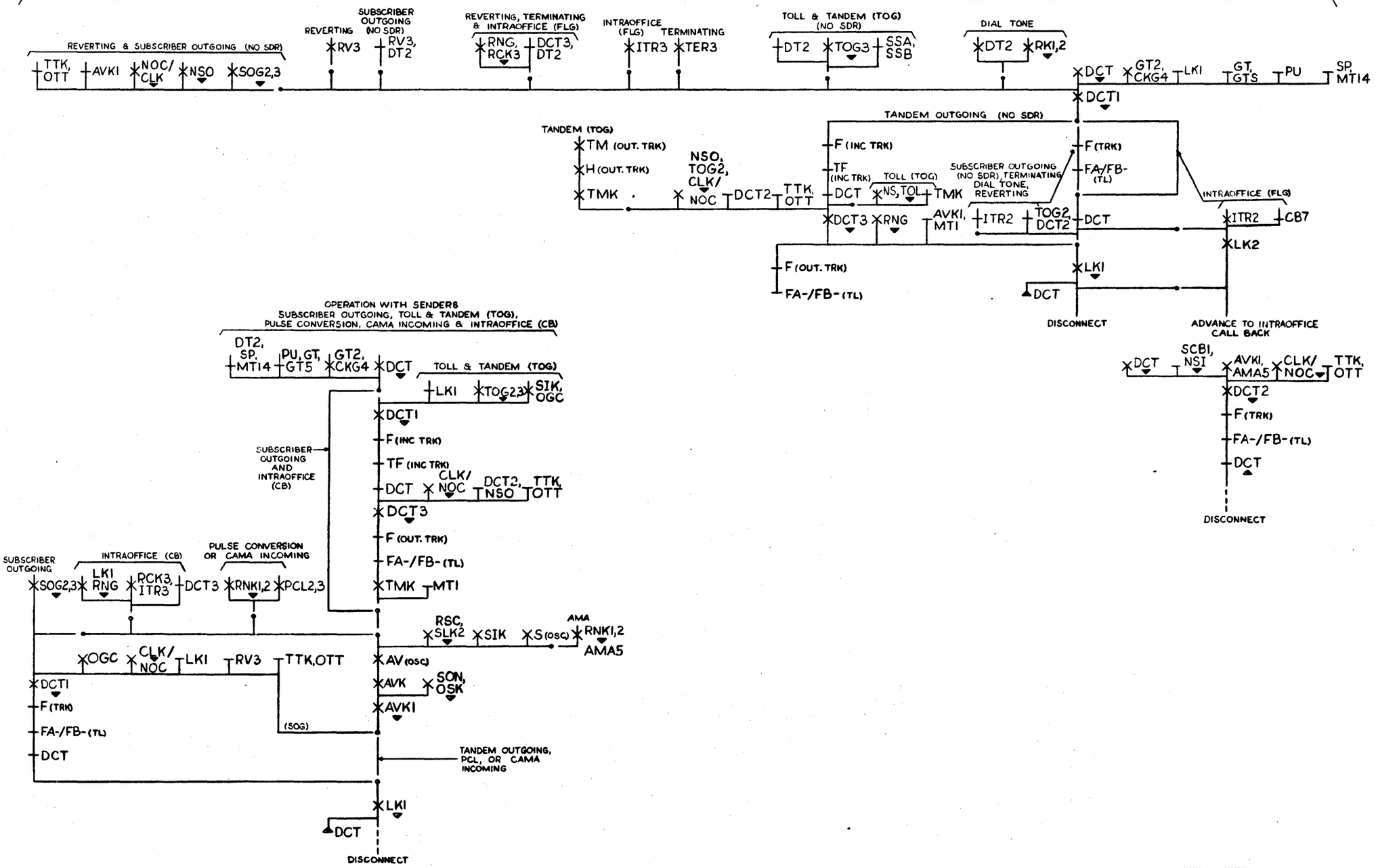
SD-25550-01-E40

BELL TELEPHONE LABORATORIES INCORPORATED

PRO. DIV. 6S

SC 123
LINKAGE CHECK CIRCUITS

LINKAGE CHECK CIRCUITS FOR DIAL TONE, TERMINATING, SUBSCRIBER OUTGOING, REVERTING, INTRAOFFICE & TANDEM OUTGOING (NO SENDER OPERATION)



SD-25550-01-E41

NO. 5 MARKER CIRCUIT	SD-25550-01-E41
BELL TELEPHONE LABORATORIES INCORPORATED	6S

44

SC 124

CONTROL OF MARKER DISCONNECTS & TROUBLE RECORDS

DRAWING ISSUE
448 VGR, HGR, JGR
54D ALL AND

DIAL TONE
CUSTOMER DISCONNECT
TFK2 LKI
FML HMTI
VTK, VTKI/ HTK, HTKI/ FTK, FTKI
VGR/ HGR/ FR
2ND FAILURE TO MATCH
FM RFA
ALL REGISTERS BUSY
TBTA
CROSS DISCONNECT
XLH
LHT
RAVI
RA6
TRS
PSR

NORMAL CALLS DISCONNECT
LKI
ITR2/LHT
ITR2
DCT2
TIR
TRS

IMMEDIATE RING FAILURE
PS
PSR
TRS

LINK RELEASE
XLR
DCK
MXT
CROSS DISCONNECT
WT
LDT
SDT
TIME OUT DISCONNECT
TRT
TR2C
SP
TR2C
DIAL TONE
CHE
TK/CB5
CHE
TK/CB5

INTER MARKER GROUP TEST
IMT

GRD TEST FAILURE
GT5
CGT
TR2C
TR2C
LGT
LGT
CLPT
CLPT (J,L & K CKT)

TRR TBL, RECORD REGULAR REL
TRI TBL RECORD TBL REL, 2ND TRIAL
TRLI NO TBL RECORD TBL REL, 2ND TRIAL

DISCONNECT ORIGINATING REGISTER RETURN COIN
RR
RRK
RRC
CNR
RLG
LR

DISCONNECT ON INCOMING TRUNK OVERFLOW
OVER FLOW
PATHS BUSY
OV
BY
RCK2
OFHI
F(T)
RCK1
RCK2
TG
TGT
TGT, 34G8
LR

HTR
HTR
TG

REG BUSY TONE 47AE36 & AD35
RBT
TRR

TROUBLE RECORD BUSY
TRST
TRSA
TROUBLE RECORD
TRB, TRBI

TROUBLE RECORD TIMED RELEASE
TRTR
OVERALL TIME OUT
MRL
TRI/TRLI

HMC
HMS1
L-J- HOLD MAG(LL)
J-&T- HOLD MAG(TL)

TRTR
MRL
TRI
TRL1
DCK
DCK
TR2C
TR2C
PCL3
PCL3
PCR/ PCDO/ PCDI
PCL3
TEA TOA
PCR/ PCDO/ PCDI
TEA ROA
TERI
TERI
ROA
ROA
TOGI
TOGI
TEA ROA
TEA TOA

DIS1-2, 43L12
TRL, 44D13
RAVI-2, 49Q5
MRLI, 44V15
RBT, J22

TST, LR TR2, RBT
TST/LR/ TR2/RBT
MRL (OR) (IR)
TRL (ORMC) (IRMC)
BT (OR) TRL (IR)

SHEET NOTES:
1. INTERSECTING PATHS DO NOT INDICATE A CONNECTION

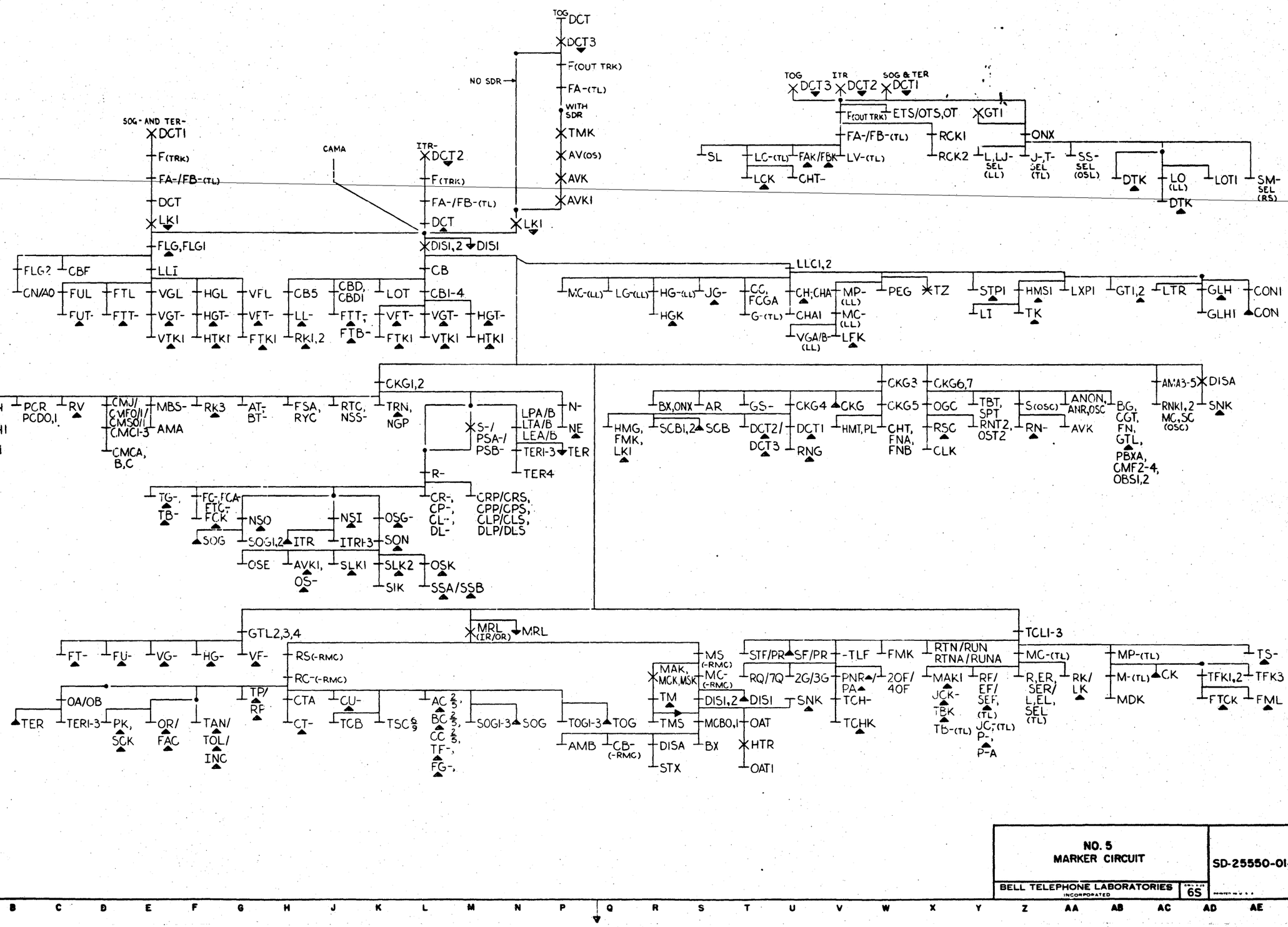
54

MARKER CKT (2) SD-25550-01-E42

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-E42

SC 125
DISCONNECT



SD-25550-01-E43

44

NO. 5 MARKER CIRCUIT	SD-25550-01-E43
BELL TELEPHONE LABORATORIES INCORPORATED	6S

SC 126
TRL AND MRL1 DISCONNECT

TRL DISCONNECT

- TRI
  - TAKE TROUBLE RECORD
- TRL
  - TRLI(-RMC)
  - TR(-RMC)
  - MS-(-RMC)
  - MC-(-RMC)
  - MAK, MCK, MSK
  - TM
  - TMS
  - WT
  - SP
  - TRI
    - TRL
      - MCBO-6
      - CB(-RMC)
    - TRST
      - TRSA
      - TRB
    - TRT
  - TRLA
    - TRL BT
    - TLC1,2
    - LLC1
    - CKG1-3
    - FLG, FLG1
      - LK1
      - SCB
    - CKG4
      - SCB1,2
      - CB
      - CB1,2
    - SFT
      - SP
      - TRI
    - CKG
    - SDT, LDT
    - CKG5-7
  - DISA
    - TRL
      - DISA
      - MCBO-6
      - CB(-RMC)
    - TRST
      - TRSA
      - TRB
    - TRT
  - COX
    - X-
    - MXT
    - COX

DIAL TONE FUNCTION

- MS-
- OC1,2
- OSC
- TLC1-3
- LLC1,2, ONW
- SNG1,2
- MRL (OR/IR)
- MRL, BT
- TRL(IR)
- BT(OR)

MRL DISCONNECT

- CKG6
- OAT
- OAT TUBE
- MRL
- MRL1
  - OAT TUBE
  - RS-(-RMC)
  - RC-(-RMC)
  - MS-(-RMC)
  - MAK, MCK, MSK
  - MC-(-RMC)
  - TM
  - CKG1-3
  - TMS
    - CKG
    - CKG5-7
      - MCB1-6
        - AMB
        - CB(-RMC)
        - BX
      - DISA
        - STX
      - OAT
        - MRL
          - MRL1
    - ONX
      - LK1
    - CKG4
      - SCB1,2
        - SCB
        - CB
        - CB1,2
    - FLG, FLG1

44

NO. 5
MARKER CIRCUIT

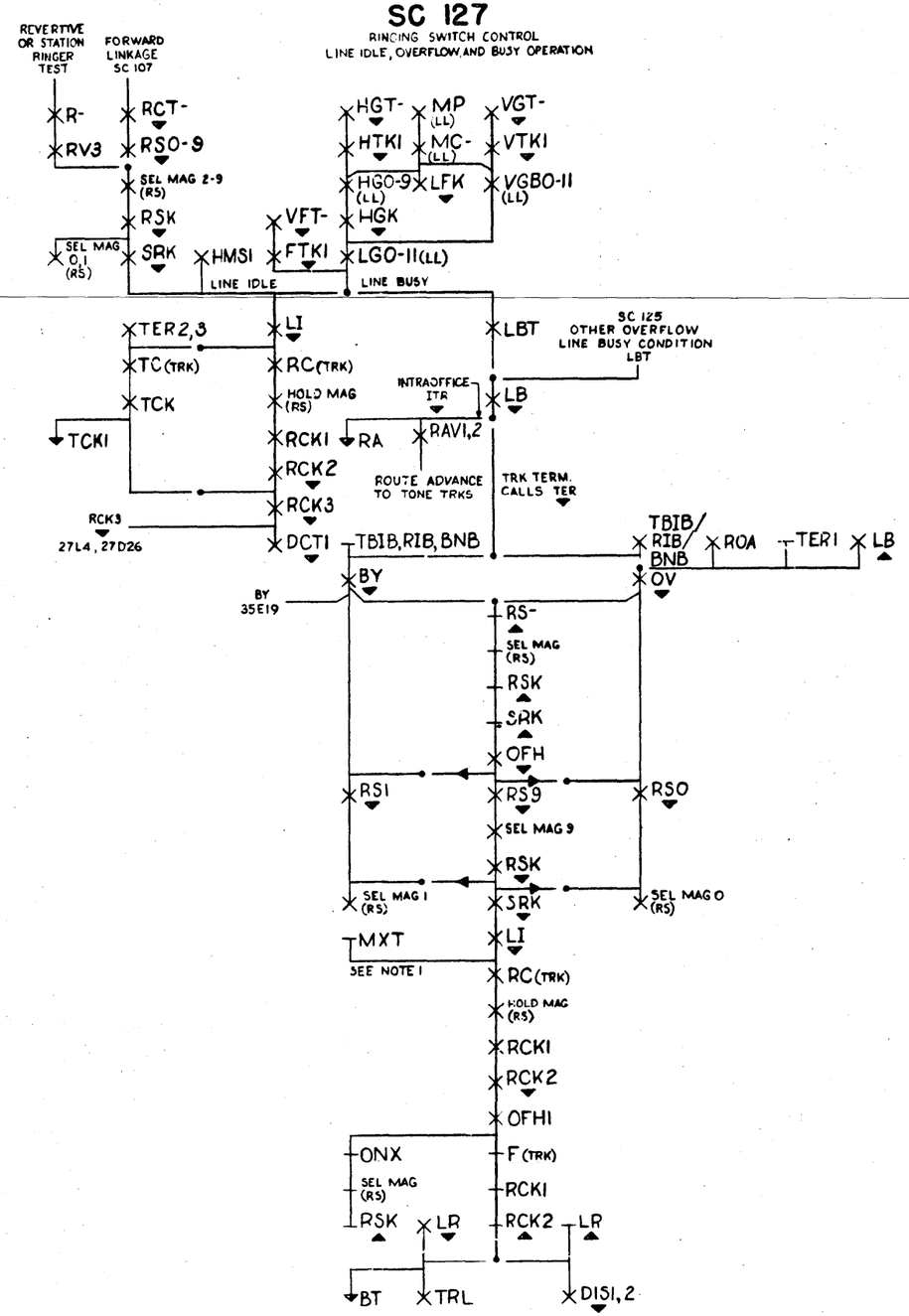
SD-25550-01-E44

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SC 127

RINGING SWITCH CONTROL
LINE IDLE, OVERFLOW, AND BUSY OPERATION



SHEET NOTES:
1. (MXT) RELAY OPERATED WILL CAUSE A MARKER BLOCKAGE AND A TRL RELEASE.

SD-25550-01-E45

NO. 5
MARKER CIRCUIT

SD-25550-01-E45

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

PART OF SC 128
ALTERNATE ACTIONS

ISSUE 44B

REVERTIVE CALLS — ITRI, RV
BLANK NUMBER — BNTH, RGTA
RINGER TEST — TYM
CLASS ADVANCE — TEA, RAVI
LINE INTERCEPT — TOA
JUNCTOR BUSY — JB
FAILURE TO DETERMINE CHANNEL — NT5
INTERCEPT CUSTOMER ID DIGIT DDD CALLS — INTI
FAILURE TO MATCH — FM, 3RD, 2FA, 2ND, RFA, 1ST, RF
ALL REGISTERS & TRUNKS BUSY — TBTA
ALL SENDERS BUSY — ASB
PLUGGED UP LINES — PU, PU1
LINE TESTS BUSY — LBT, LB

TYPE OF ALTERNATE CONDITION

SOGI, ITRI — TOG2 — TERI — TOG3 — OTHER TYPE CALLS — 2SG

TYPE OF CALL

NTT — NTC — FACI — CHT — GP3 — DIAL TONE — GP3 — GPI — GPI

RCV4 — CHA — CKR — CKR — NARI — NARI — CHAI — RCV4

MARKER FEATURE AND PROGRESS

PERM OVERFLOW — 1
LINE BUSY — 2
REORDER — XTER1 — XTER2 — TER2
47A23

ROUTE ADV — 3
RECYCLE — 4
ADV TRUNK ALLOTTER — 5
OVERFLOW — 6
LINE BUSY — 7
PBX RECYCLE — 8
ALLR RECYCLE — 9
TRUNK NO. RECYCLE — 10
SHIFT NO. GPP ST- LEAD — 11
REG BUSY TONE — 12
47A31

WHEN PROVIDED

SHEET NOTES:
1. INTERSECTING PATHS DO INDICATE A CONNECTION

44

NO.5 MARKER CKT

SD-25550-01-E46

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25550-01-S46

PART OF SC 128
ALTERNATE ACTIONS

PBX GROUP BUSY — GB
ALL PBX GROUP BUSY — AB (ALLOTTER)
PERMANENT BUSY NUMBER — PBN
PBX ALLOTTER — GB
INTERCEPT — BN/RI/TBI
NUMBER GROUP BUSY — NGB
RECYCLE — RCY
REORDER — ROA
LINE LINK FR BUSY — LLB

TYPE OF ALTERNATE CONDITION
TYPE OF CALL
MARKER FEATURE AND PROGRESS

NAR2/3
RGT, TERI, ITRI, TOGI, TERI, SCBI, ITRI, SCBI, SOGI, TOGI
TAN, TOL
NAR2, NAR2, NAR2, NAR2, NAR1, NAR1, NAR1, NAR1, NGPI, NGPI, RCY

46AE21
1 (PMO)
2 (LB)

ITRI, TERI
TBIB/RIB/BNB
TBIB/RIB/BNB

MARKER ACTION

46AE29
3 — RAV1, 2, 49Q5
4 — RCY, 48R11
5 — GP2, 50H4
6 — OV, 45S17
7 — BV, 45N17
8 — RCY2, 37K13
9 — ANR, 36F30, 37E12
10 — TNR, 50F26
11 — NGP, 50D14
12 — RBT, 42J12

SHEET NOTES:
1. INTERSECTING PATHS DO NOT INDICATE A CONNECTION

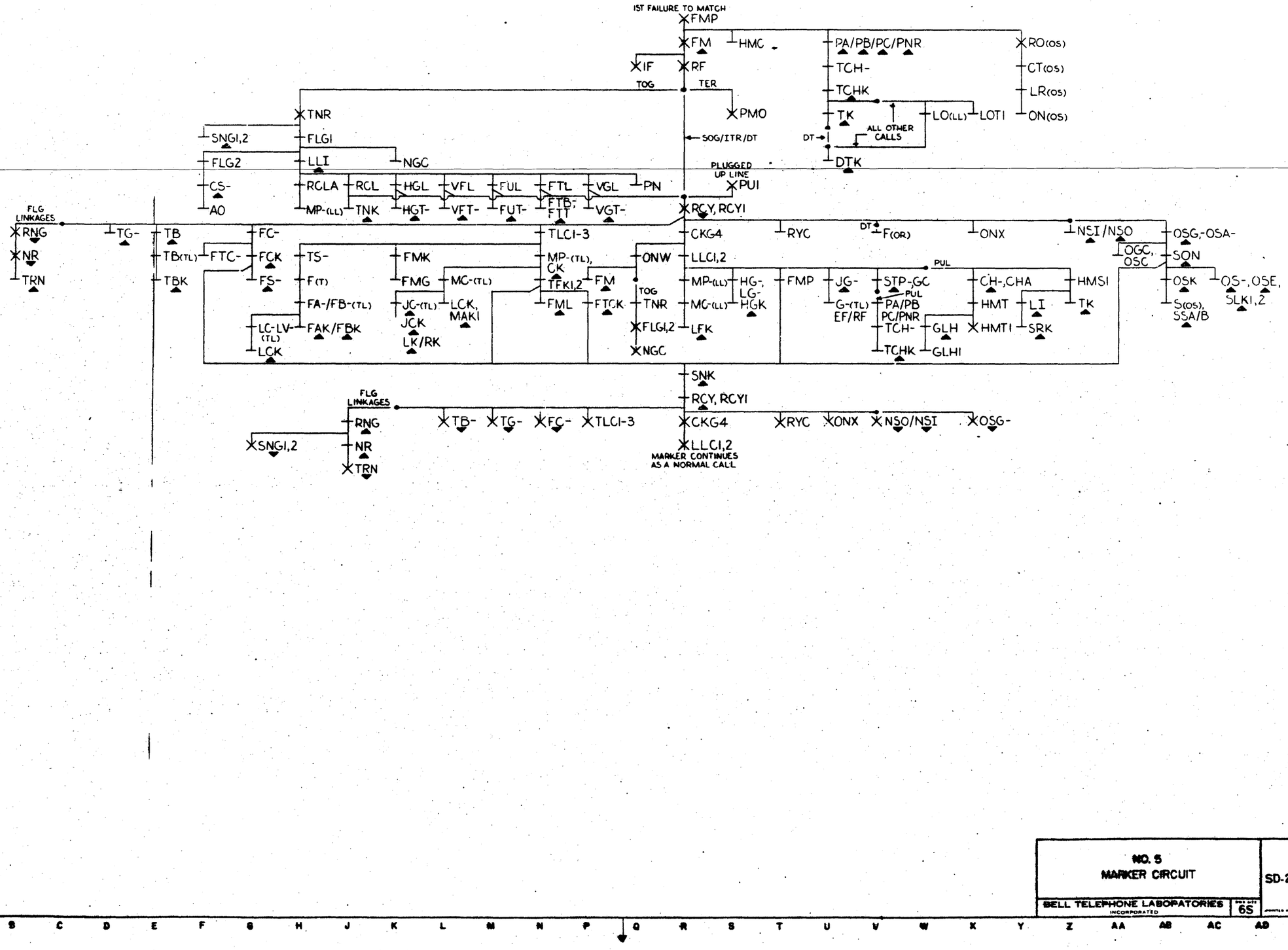
44

NO.5 MARKER CKT.	SD-25550-01-E47
BELL TELEPHONE LABORATORIES INCORPORATED	6S

SD-25550-01-E47

44B

SC 129
RECYCLE ALL TYPES OF CALLS



DRAWING ISSUE 44B

44

NO. 5
MARKER CIRCUIT

SD-25550-01-E48

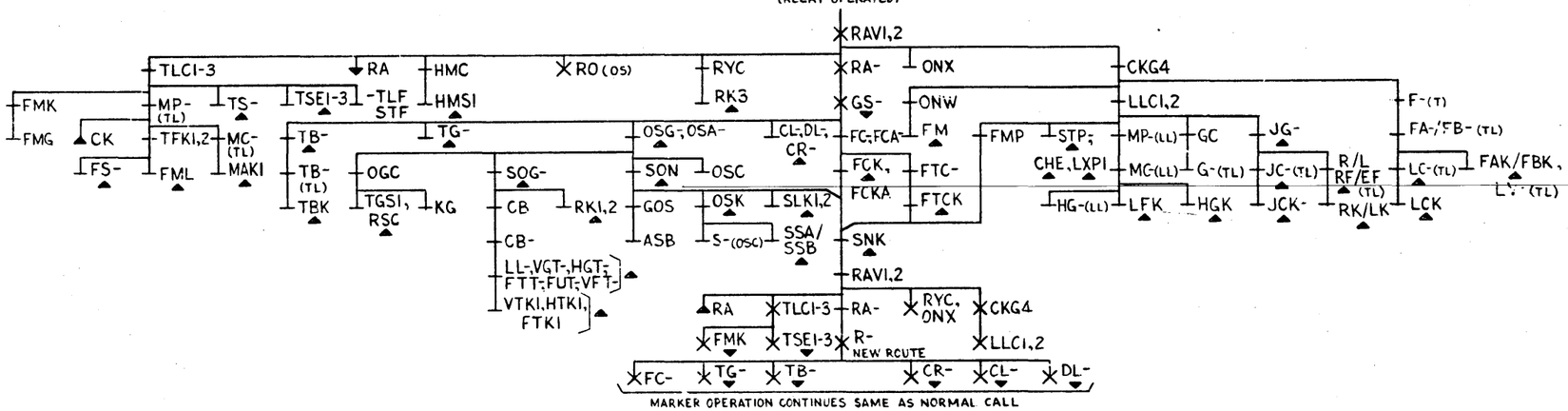
BELL TELEPHONE LABORATORIES INCORPORATED

6S

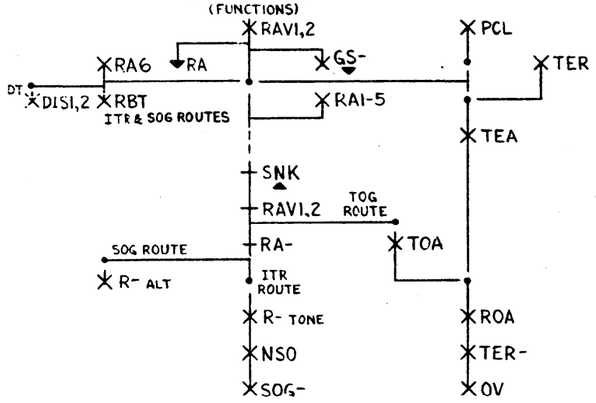
SD-25550-01-E48

SC 130

ROUTE ADVANCES
ALL TYPES OF CALLS
(RELAY OPERATED)



ROUTE ADVANCE
(FUNCTIONS)



NO. 5
MARKER CIRCUIT

SD-25550-01-E49

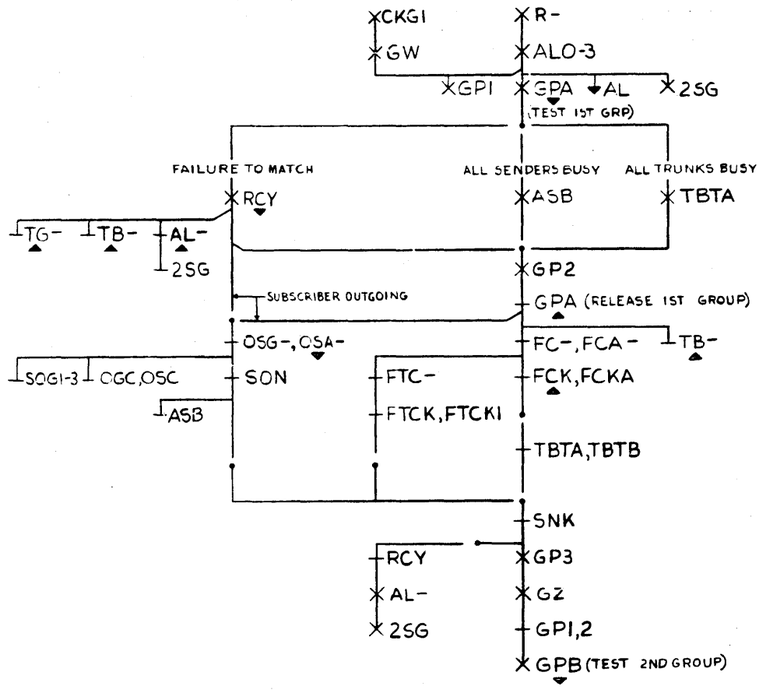
BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25550-01-E49

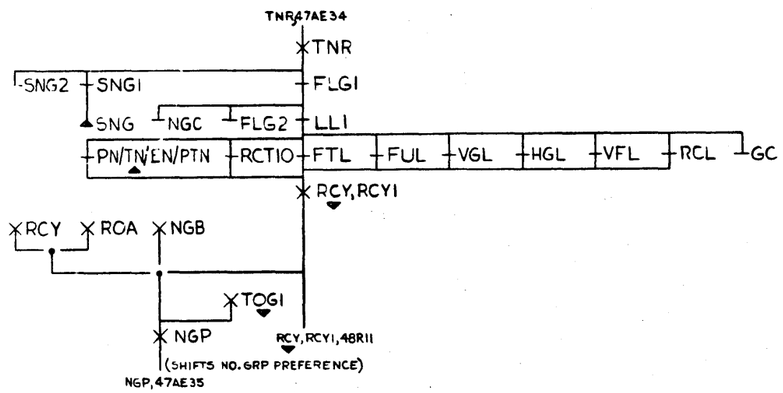
SC 131

TRUNK GROUP ALLOTTER



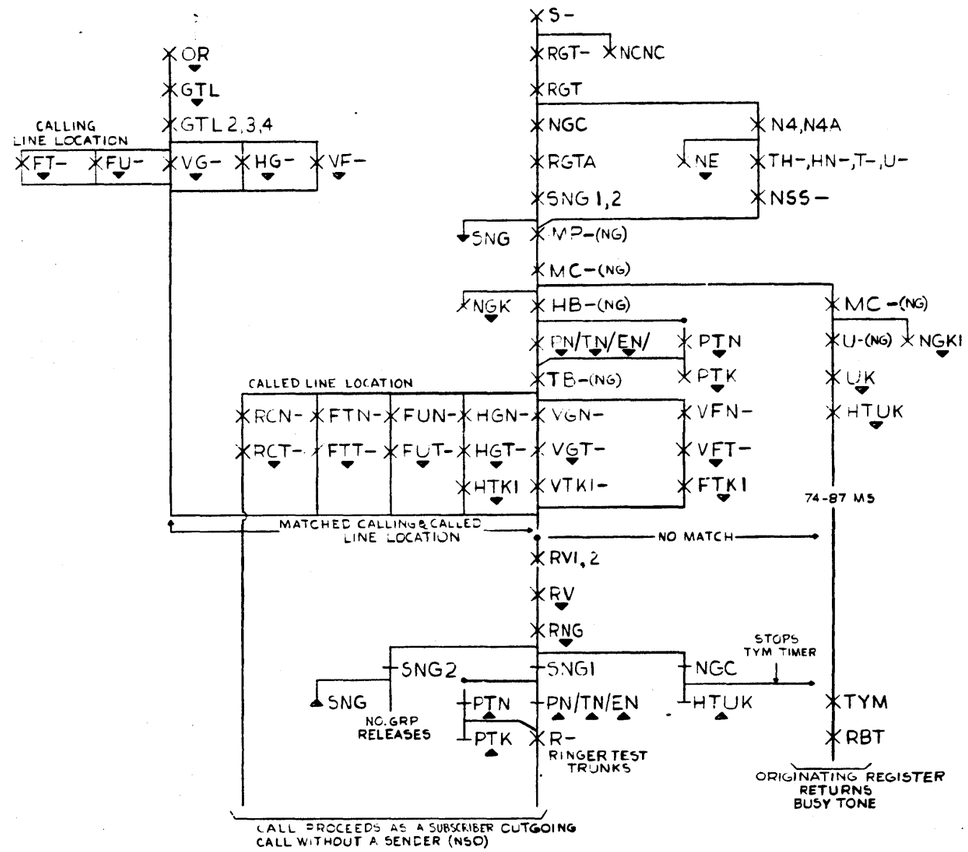
SC 132

TRUNK NUMBER RECYCLE AND NUMBER GROUP PREFERENCE



SC 133

RINGER TEST CALL



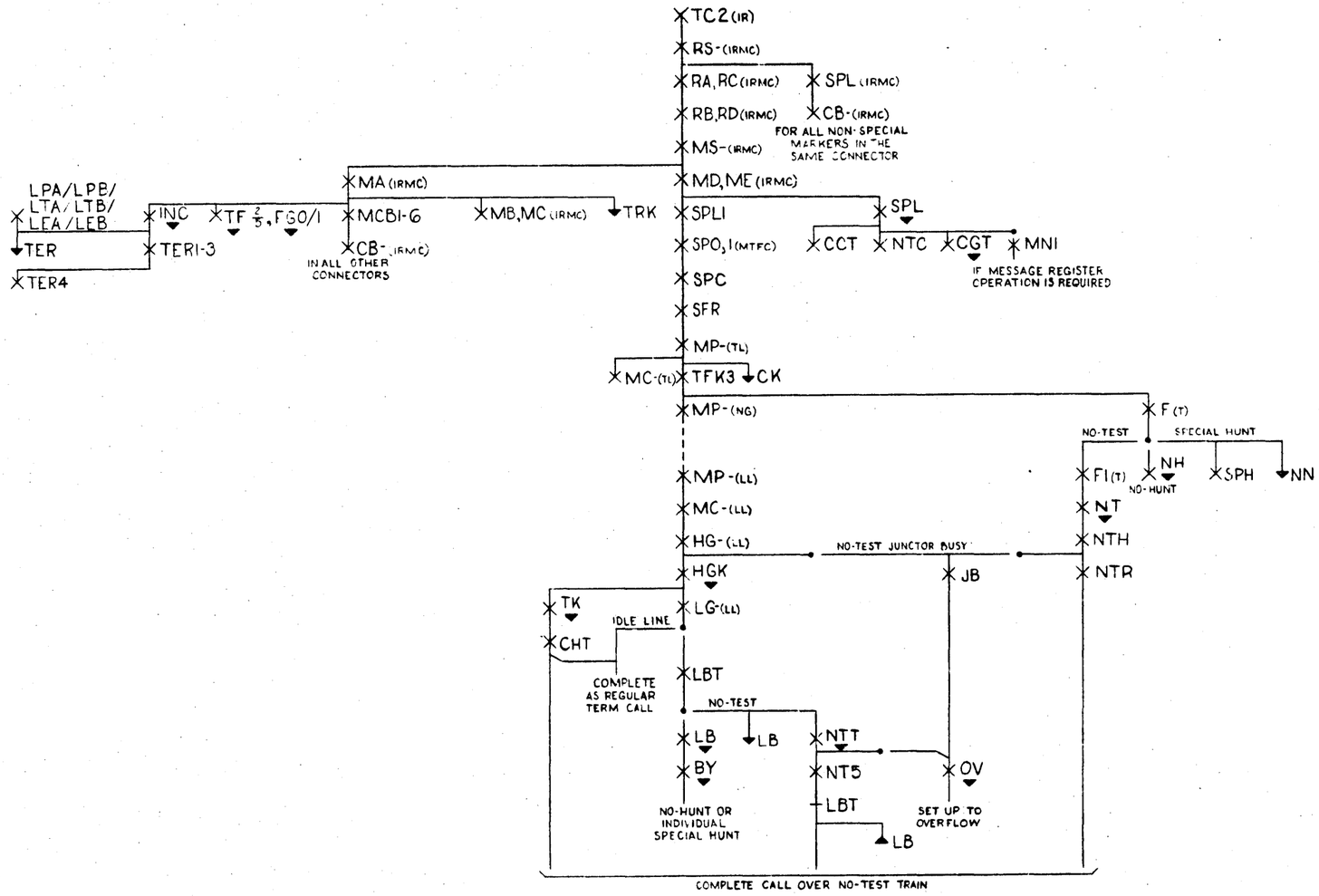
DRAWING ISSUE 44B

44

NO.5 MARKER CKT	SD-25550-01-E50
BELL TELEPHONE LABORATORIES INCORPORATED	65

SD-25550-01-E50

SC 134
SPECIAL CALLS



NO. 5
MARKER CIRCUIT

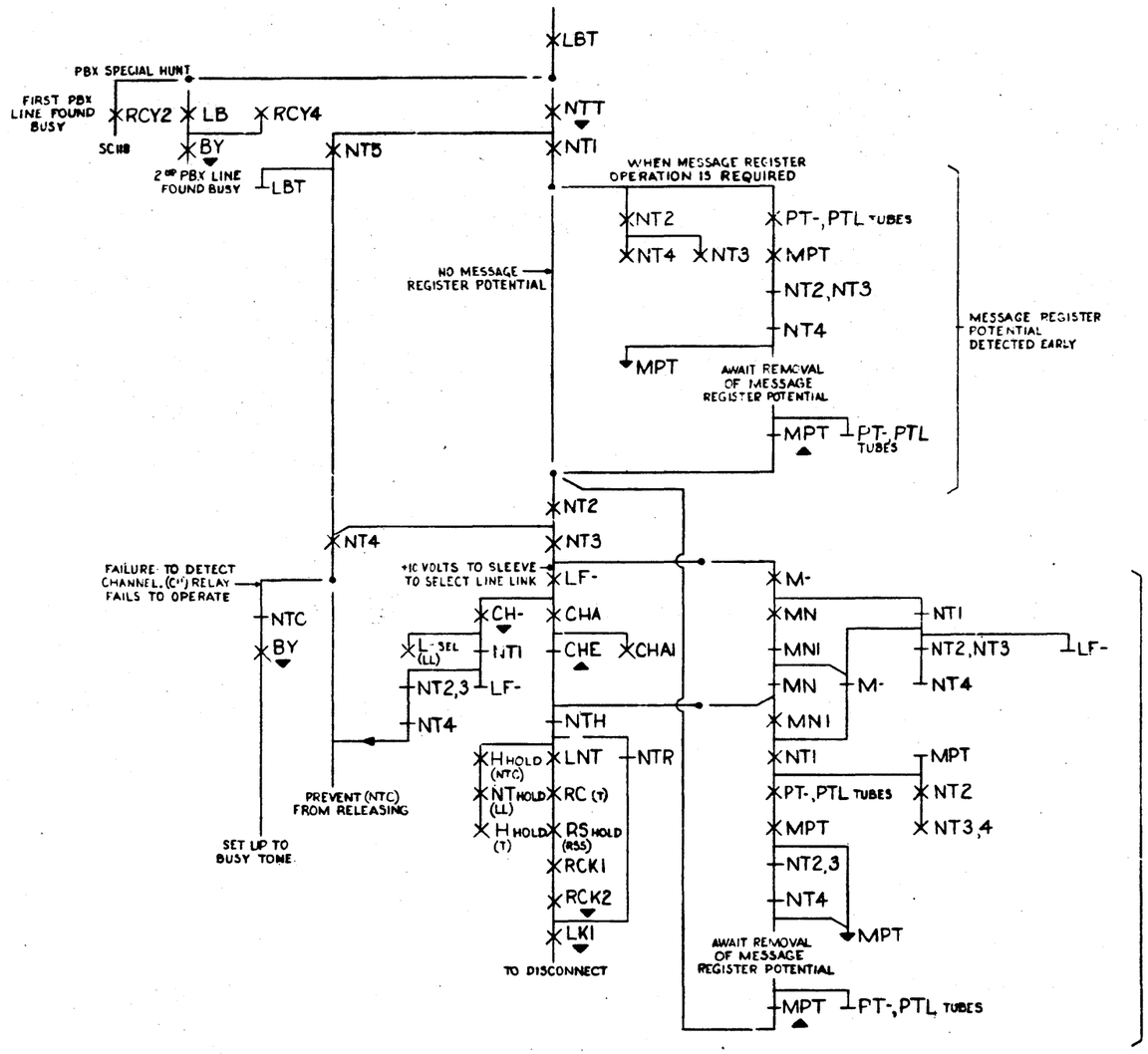
SD-25550-01-E51

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25550-01-E51

SC 135
NO. TEST TRAIN



DRAWING ISSUE 448

44

NO. 5
MARKER CIRCUIT

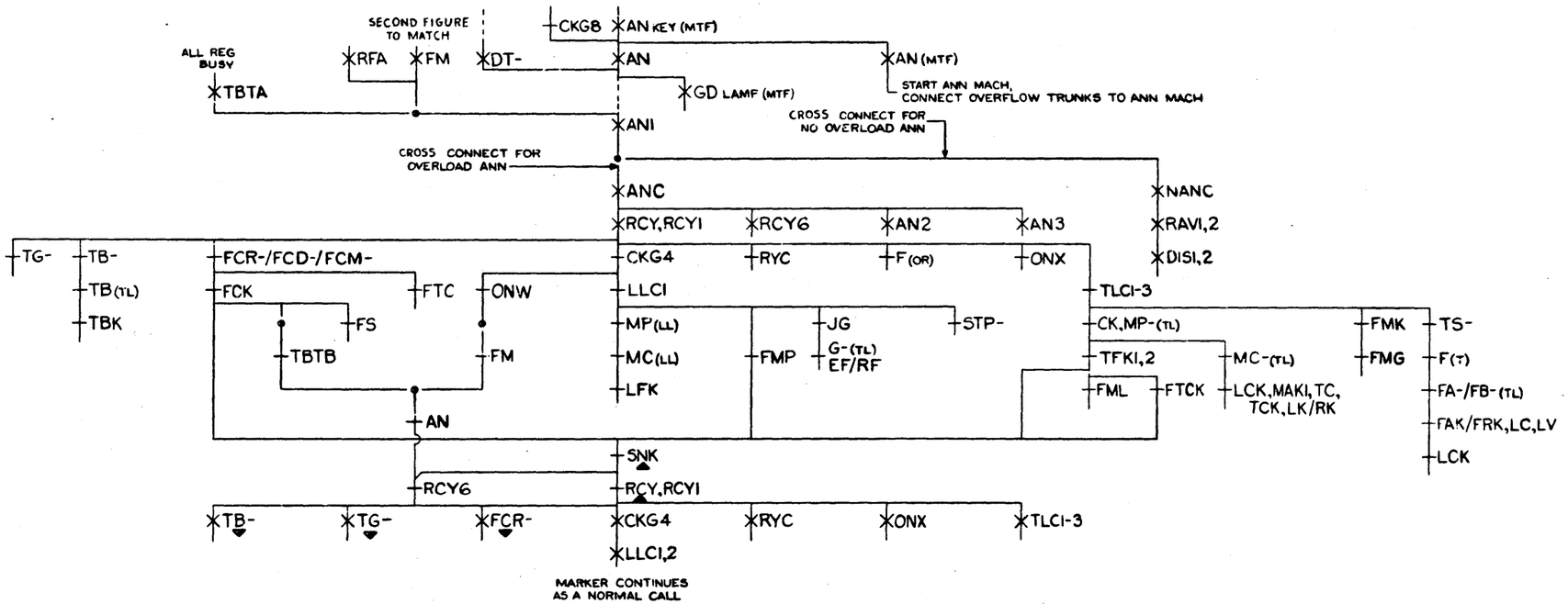
SD-25550-01-E52

BELL TELEPHONE LABORATORIES INCORPORATED

65

SD-25550-01-E52

SC 136
RECYCLE FOR
OVERLOAD ANNOUNCEMENT



ISSUE 49 JRS 6S-L AMP

49

CROSSBAR SYSTEMS
NO.5
MARKER CIRCUIT
(2)
BELL TELEPHONE LABORATORIES
INCORPORATED
6S
SD-25550-01-E53

SD-25550-01-E53
STABILO

75 PAGES

CIRCUIT REQUIREMENTS

MARKER CIRCUIT (MKR)

DRAWING ISSUE 41D JF FCB

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG	MECH REQT BSP FIG	MECH REQT CONT PRESS	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	DIRECT CURRENT FLOW REQT TEST FOR	DIRECT CURRENT FLOW REQT AFTER SOAK MA	DIRECT CURRENT FLOW REQT TEST MA	DIRECT CURRENT FLOW REQT READJ MA	REMARKS
RELAYS																	
ONN	U1340	YJ -1 YV	65 126	132/101	H	47			T(ONN)	GRD			0		26.5	25	
	UB14	W -2	65 126	519/527	H	41			T(ONN)	GRD			0		24.5	23	
1F	U165		82	132/101	H	47	3T(FM)		T(1F)	GRD			0		19	16	
1FA	U165		82	132/101	H	47			T(1FA)	GRD			0		19	18	
1SE	U1366	PE-1	126	123/111	H	29			T(1SE)	GRD			0		27	25.5	
	UB16	PE-2	126	516/509	H	32			T(1SE)	GRD			0		34.5	32.5	
1TB	U1366	ZS-1	65	123/111	H	29			T(1TB)	GRD			0		27	25.5	
	UB16	ZS-2	65	516/509	H	32			T(1TB)	GRD			0		34.5	32.5	
2DT2-9	U1369	-1	115	112/112	H	29			T REL	GRD			0		115	105	
	UB24	-2	115	505/505	H	32			T TST	GRD			0		140	130	
2F	U165		82	132/101	H	47			T(2F)	GRD			0		19	16	
2FA	U1341		82	153/153	H	53			T(2FA)	GRD			0		33	31	
2G	U1369	-1	27	112/112	H	29			T(2G)	GRD			0		115	105	
	UB24	-2	27	505/505	H	32			T(2G)	GRD			0		140	130	
2MB	U1366	ZS-1	65	123/111	H	29			T(2MB)	GRD			0		27	25.5	
	UB16	ZS-2	65	516/509	H	32			T(2MB)	GRD			0		34.5	32.5	
2P	U1212	E	10	121/102	H	53			T(2P)	GRD			0		40.5	36.5	
2SA	U1366	PD-1	126	123/111	H	29			T(2SA)	GRD			0		27	25.5	
	UB16	PD-2	126	516/509	H	32			T(2SA)	GRD			0		34.5	32.5	
2SG	U968		64	132/132	H	47			T(2SG)	GRD			0		36	34	
2TLF	U1349	-1	27	109/109	H	29			T(2TLF)	GRD			0		35.5	33.5	
	UB21	-2	27	512/512	H	32			T(2TLF)	GRD			0		44	41.5	

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NO.5 MARKER CIRCUIT — SD-25550-01-F1 — BELL TELEPHONE LABORATORIES, INC

ISSUE 41D JF FCB

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG	MECH REQT BSP FIG	MECH REQT CONT PRESS	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	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
2-3TLF	U1366	-1	27	112/112	H	29			T(2-3TLF)	GRD			0		40.5	38.5	
	UB16	-2	27	505/505	H	32			T(2-3TLF)	GRD			0		50.5	46	
3FB	U1366	ZS-1	65	123/111	H	29			T(3FB)	GRD			0		27	25.5	
	UB16	ZS-2	65	516/509	H	32			T(3FB)	GRD			0		34.5	32.5	
3G	U1347	-1	27	117/145	H	47			T(3G)	GRD			0		125	115	
	UB22	-2	27	513/522	H	41			T(3G)	GRD			0		160	150	
3NA	U1366	PD-1	126	123/111	H	29			T(3NA)	GRD			0		27	25.5	
	UB16	PD-2	126	516/509	H	32			T(3NA)	GRD			0		34.5	32.5	
3TLF	U1349	-1	27	109/109	H	29			T(3TLF)	GRD			0		35.5	33.5	
	UB21	-2	27	512/512	H	32			T(3TLF)	GRD			0		44	41.5	
4NE	U1366	PE-1	126	123/111	H	29			T(4NE)	GRD			0		27	25.5	
	UB16	PE-2	126	516/509	H	32			T(4NE)	GRD			0		34.5	32.5	
4TLF	U1349	-1	27	109/109	H	29			T(4TLF)	GRD			0		35.5	33.5	
	UB21	-2	27	512/512	H	32			T(4TLF)	GRD			0		44	41.5	
4TT	U1366	ZS-1	65	123/111	H	29			T(4TT)	GRD			0		27	25.5	
	UB16	ZS-2	65	516/509	H	32			T(4TT)	GRD			0		34.5	32.5	
5MT	U1366	ZS-1	65	123/111	H	29			T(5MT)	GRD			0		27	25.5	
	UB16	ZS-2	65	516/509	H	32			T(5MT)	GRD			0		34.5	32.5	
5ST	U1366	PD-1	126	123/111	H	29			T(5ST)	GRD			0		27	25.5	
	UB16	PD-2	126	516/509	H	32			T(5ST)	GRD			0		34.5	32.5	
5TLF	U1349	-1	27	109/109	H	29			T(5TLF)	GRD			0		35.5	33.5	
	UB21	-2	27	512/512	H	32			T(5TLF)	GRD			0		44	41.5	
6FT	U1366	ZS-1	65	123/111	H	29			T(6FT)	GRD			0		27	25.5	
	UB16	ZS-2	65	516/509	H	32			T(6FT)	GRD			0		34.5	32.5	
6NT	U1366	PD-1	126	123/111	H	29			T(6NT)	GRD			0		27	25.5	
	UB16	PD-2	126	516/509	H	32			T(6NT)	GRD			0		34.5	32.5	

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NO. 5 MARKER CIRCUIT — SD-25550-01-F1 — BELL TELEPHONE LABORATORIES, INC 6S

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT REQ FIG.	MECH REQT CONT PRESS.	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
6TLF	U1349	-1	27	109/109	H	29			T(6TLF)	GRD			0		35.5	33.5	
	UB21	-2	27	512/512	H	32			T(6TLF)	GRD			0		44	41.5	
7Q	U1344	YF-1,XF-1	17	113/113	H	29			T(7Q)	GRD			0		22	20.5	
	UB1	YF-2,XF-2	17	510/510	H	32			T(7Q)	GRD			0		28	26.5	
7RN	U1366	PF-1	126	123/111	H	29			T(7RN)	GRD			0		27	25.5	
	UB16	PF-2	126	516/509	H	32			T(7RN)	GRD			0		34.5	32.5	
7TLF	U1349	-1	27	109/109	H	29			T(7TLF)	GRD			0		35.5	33.5	
	UB21	-2	27	512/512	H	32			T(7TLF)	GRD			0		44	41.5	
7TP	U1366	-1	65	123/111	H	29			T(7TP)	GRD			0		27	25.5	
	UB16	-2	65	516/509	H	32			T(7TP)	GRD			0		34.5	32.5	
8MP	U1360	-1	65	123/111	H	29			T(8MP)	GRD			0		27	25.5	
	UB16	-2	65	516/509	H	32			T(8MP)	GRD			0		34.5	32.5	
8SP	U1366	-1	126	123/111	H	29			T(8SP)	GRD			0		27	25.5	
	UB16	-2	126	516/509	H	32			T(8SP)	GRD			0		34.5	32.5	
8TLF	U1369	-1	27	123/123	H	29			T(8TLF)	GRD			0		29.5	28	
	UB19	-2	27	516/516	H	32			T(8TLF)	GRD			0		37.5	35.5	
9FP	U1366	-1	65	123/111	H	29			T(9FP)	GRD			0		27	25.5	
	UB16	-2	65	516/509	H	32			T(9FP)	GRD			0		34.5	32.5	
9NP	U1366	-1	126	123/111	H	29			T(9NP)	GRD			0		27	25.5	
	UB16	-2	126	516/509	H	32			T(9NP)	GRD			0		34.5	32.5	
9TLF	U1369	-1	27	123/123	H	29			T(9TLF)	GRD			0		29.5	28	
	UB19	-2	27	516/516	H	32			T(9TLF)	GRD			0		37.5	35.5	
10TLF	U1354		27	108/108	H	47			T(10TLF)	GRD			0		31	29.5	
11X	U1368	-1	38	112/112	H	29			T(11X)	GRD			0		40.5	38.5	
	UB18	-2	38	505/505	H	32			T(11X)	GRD			0		50.5	48	
	U1325	LX	38	113/113	H	29			T(11X)	GRD			0		47.5	45	

DRAWING ISSUE: 41D, 46D, 47D, 54D

SD-25550-01-F2

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT REQ FIG.	MECH REQT CONT PRESS	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
20F	U1369	-1	17	112/112	H	29			T(20F)	GRD			0		115	105	
	UB24	-2	17	505/505	H	32			T(20F)	GRD			0		140	130	
40F	U1369	YF-1,XF-1	17	112/112	H	29			T(40F)	GRD			0		115	105	
	UB24	YF-2,XF-2	17	505/505	H	32			T(40F)	GRD			0		140	130	
A	U1355	-1	77	117/146	H	47			T(A)	GRD			0		38.5	36.5	
	UB15	-2	77	513/523	H	41			T(A)	GRD			0		47	44.5	
AD, A1, A2, A4, A7	U1387		49	160/160	H	47			T REL TST	GRD			0		24.5	23	
ACC, AC1, AC2, AC4, AC7	U1356	-1	35	123/111	H	29			T REL	GRD			0		27	25.5	
	UB16	-2	35	516/509	H	32			T TST	GRD			0		34.5	32.5	
ACD	U1355	-1	151	117/148	H	47			T(ACD)	GRD			0		38.5	36.5	
	UB15	-2	151	513/523	H	41			T(ACD)	GRD			0		47	44.5	
AD	U1355	-1	151	117/148	H	47			T(AD)	GRD			0		38.5	36.5	
	UB15	-2	151	513/523	H	41			T(AD)	GRD			0		47	44.5	
AIOD	U1080		169	114/149	H	50			T(AIOD)	GRD			0		23	22	
AIS	AJ503		186	249			7(AIS1)		U(AIS)	GRD			0		95	90	
AIS1,2	AJ501	-	186	249					U REL TST	GRD			0		42.5	40.5	WINDING ALONE
													0		95	90	(AIS1)& (AIS2) REL IN PARALLEL
AIS3	AJ503		186	249					U(AIS3)	GRD			0		95	90	
AISC	AJ503		186	249			7(AIS1)		U(AISC)	GRD			0		95	90	
AK	U1390	-1	77	137/110	H	41			T(AK)	GRD			0		36.5	34.5	
	UB20	-2	77	501/506	H	32			T(AK)	GRD			0		37.5	35.5	
ALO-3	U1371		64	111/110	H	35			T REL TST	GRD			0		80	75	
AMA	UB444	YJ	53	118/118	H	50			T(AMA)	GRD	3		0		58.5	55.5	WINDING ALONE
AMA1	U1325	YJ-1	9	113/113	H	29			T(AMA1)	GRD	2 1		0		47.5 105	45 100	WINDING ALONE
	UB12	YJ-2	9	510/510	H	32			T(AMA1)	GRD	2 1		0		57 130	54 120	WINDING ALONE
AMA2	U1366	YJ-1	9	123/111	H	29			T(AMA2)	GRD	2 1		0		27 60	25.5 57	WINDING ALONE
	UB16	YJ-2	9	516/509	H	32			T(AMA2)	GRD	2 1		0		34.5 80	32.5 72.5	WINDING ALONE

TEST NOTES:

1. REQ WHEN VI OPTION IS FURNISHED. CKT COMB. OF (AMA1) & (AMA2) RELAYS.
2. USE WINDING ALONE REQ WHEN VH OPTION IS FURNISHED.
3. (AMA) & (AMA6) RELAYS IN PARALLEL.

DRAWING ISSUE: 41D, 46D, 47D, 54D

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.		MECH RECT DEP FIG.	MECH RECT CONT. PRESS.	MECH RECT ARR. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN DAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW RECT TEST WDG	TEST FOR	AFTER SHORT MA.	TEST MA.	SHUNT MA.	REMARKS
AMA3	U1399	YJ	67		139/139	H	59			T(AMA3)	GRD			0		185	175	
AMA4	U1348		89		161/150	H	53			T(AMA4)	GRD			0		180	170	
AMA5	U1348		89		161/150	H	53			T(AMA5)	GRD			0		180	170	
AMA6	U844	EB	9		118/118	H	50							0		26.5	25	WINDING ALONE
										T(AMA6)	GRD	3		0		58.5	55.5	
AMB	Y107		73		188/175	H	47			T(AMB)	GRD			0	FS	14.3	13.6	
										T(AMB)	GRD			H	FS	1.7	1.6	
										T(AMB)	GRD			R	FS	0.7	0.9	
AMB1	U717	LZ	73		111/110	H	35			T(AMB1)	GRD			0		15	15	
AN	AK22		179		216					IU(AN)	GRD			0		27.5	26	MOUNTED WITH (RCY6) RELAY
ANI	AJ503		179		249					U(ANI)	GRD			0		95	90	
AN2	AJ12		179		220									0		43	40.5	WINDING ALONE
										U(AN2)	GRD			0		96	90	COMB. (AN2),(AN3) RELAYS
AN3	AJ12		179		220									0		43	40.5	WINDING ALONE
										U(AN3)	GRD			0		96	90	COMB. (AN3),(AN2) RELAYS
ANC	AK22		179		216					IU(ANC)	GRD			0		27.5	26	MOUNTED WITH (NANC) RELAY
ANI	U1355	-1	164		117/148	H	47			T(ANI)	GRD			0		38.5	36.5	
	U815	-2	164		513/523	H	41			T(ANI)	GRD			0		47	44.5	
ANIS	U1370		164		120/120	SPL	35			T(ANIS)	GRD	2		0		60	75	
										T(ANIS)	GRD			NO		65	68	
ANR	U1396		142		215/151	H	47			T(ANR)	GRD			0		39	37	
ANRI	U1415		142		154/127	H	47			T(ANRI)	GRD			0		45	42.5	
ANTD	AF122		188		49			IB(NCNC)		U(ANTD)	GRD			0		100	95	
AO	U1299	ZD	10		132/106	H	47			T(AO)	GRD			0		38.5	36.5	
AR	U459	XA	32		151/120	H	41			T(AR)	GRD			0		10.8	10.2	
ARK1,2	U1373		122		101/136	H	29			T REL TST	GRD			0		13.5	12.8	
ARN5	U1372	-1	122		132/132	H	47			TR(ARN5)	GRD		S	0		19.5	18.5	
	UB32	-2	122		519/519	H	41			TR(APN5)	GRD		S	0		18	17	
ARP-ARS	U977		122		160/108	H	47			T REL TST	GRD			0		29.5	28	
ASB	U594		69		123/120	H	35			T(ASB)	GRD			0		6.9	6.5	
AST	U886	SE	125		163/139	H	59		B(AST)		BAT.			0		31.5	30	WINDING ALONE
									B(AST)		BAT.	1		0		75	71.5	
	U886		149		163/139	H	59		B(AST)		BAT.			0		31.5	30	WINDING ALONE
									B(AST)		BAT.	1		0		75	71.5	
ASTA	U1354	PJ	125		108/108	H	47		B(ASTA)		BAT.			0		31	29.5	WINDING ALONE
									B(ASTA)		BAT.	1		0		65	62	
	U1354	QZ	149		108/108	H	47		B(ASTA)		BAT.			0		31	29.5	WINDING ALONE
									B(ASTA)		BAT.	1		0		65	62	

TEST NOTES:

1. (AST) & (ASTA) RELAYS IN PARALLEL.
2. MIN TENSION IT AND IB SPRINGS 8 GRAMS TEST - 10 GRAMS READJ.
3. (AMA) & (AMA6) RELAYS IN PARALLEL

DRAWING ISSUE: 41D, 42D, 45B, 47D, 49D, 54D, 56D

MARKER CIRCUIT — SD-25550-01-F3 — BELL TELEPHONE LABORATORIES, INC

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.		MECH RECT DEP FIG.	MECH RECT CONT. PRESS.	MECH RECT ARR. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN DAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW RECT TEST WDG	TEST FOR	AFTER SHORT MA.	TEST MA.	SHUNT MA.	REMARKS
ATO-9	U1369	-1	39		112/112	H	29			T REL	GRD			0		115	105	
	UB24	-2	39		505/505	H	32			T TST	GRD			0		140	130	
AVK	239ML	WD	34		B			6B(BG)	5B(BG)	7B(RSC)	B/G		P	0	-55		1.3	
	OR 260AS	WE						6B(BG)	5B(BG)	7B(RSC)	B/G		P	MO	-55		0.9	
								6B(BG)	5B(BG)	7B(TSC)	B/G		P	0	-55	5	4.7	
								6B(BG)	5B(BG)	7B(RSC)	B/G		P	R	55	1	1.1	
								4B(BG)	11T(OGC)	3B(BG)	B/G		S	0		11.4		
AVK1	U1404		34		215/146	H	47	9T(AVK1)		T(AVK1)	GRD			0		155	145	
AVK2	U86		88		168/152	H	50			T(AVK2)	GRD			0		26	24.5	
AVK2	U59		171		124/124	H	58			T(AVK2)	GRD			0		31	29.5	
BO, B1, B2, B4, B7	U1367		49		160/160	H	47			T REL TST	GRD			0		24.5	23	
BC	U1369	-1	21		112/112	H	29			T(BC)	GRD			0		115	105	
	UB24	-2	21		505/505	H	32			T(BC)	GRD			0		140	130	
BCO, BC1, BC2, BCN, BC7	U1366	-1	A		123/111	H	29			T REL	GRD			0		27	25.5	
	UB16	-2	A		516/509	H	32			T TST	GRD			0		34.5	32.5	
BCA	U1369	-1	22		112/112	H	29			T(BCA)	GRD			0		115	105	
	UB24	-2	22		505/505	H	32			T(BCA)	GRD			0		140	130	
BG	U1325	-1	33		113/113	H	29			T(BG)	GRD			0		47.5	45	
	UB12	-2	33		510/510	H	32			T(BG)	GRD			0		57	54	
BL	UA89		53		137/137	H	41		B(BL)	T(BL)	B/G			0		80	73	
BN	U1396		68		127/114	H	50			T(BN)	GRD			0		43.5	41	
BNA	U1368	-1	46, 106		112/112	H	29			T(BNA)	GRD			0		40.5	38.5	
	UB18	-2	48, 108		505/505	H	32			T(BNA)	GRD			0		50.5	48	
BNB	U1290		75		167/139	H	65			T(BNB)	GRD			0		33	31	

DRAWING ISSUE: 41D, 42D, 45B, 47D, 49D, 54D, 56D

MARKER CIRCUIT (2) — SD-25550-01-F3 — BELL TELEPHONE LABORATORIES, INC — 6S

CIRCUIT REQUIREMENTS

ISSUE		
41D	J.F. W.C.R.	W.E.O.
45B	J.W. W.C.	WJG
54D	W.C. J.E.K. A.E.L. A.H.D.	

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.		MECH REQT BRP FIG.	MECH REQT CONT PRESS	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
BNTH	U1175		68		120/120	H	35		BF(BNTH)		BAT.		P	0		18	17	
										TR(BNTH)	GRD		S	0		18.5		
BRI-3	AJ512		184		64					U REL TST	GRD			0		90	85	
BRG	AJ507		184		21					U(BRG)	GRD			0		100	95	
BRK1,2	U1373		121		101/136	H	29			T REL TST	GRD			0		13.5	12.8	
BRNO-4	U1374		121		121/121	H	50			TF REL	GRD		P	0		24	22.5	
										TR TST	GRD		S	0		24.5		
BRP, BRS	U977		121		160/108	H	47			T REL TST	GRD			0		29.5	28	
BSO-5	AF506	LX	166		8					U REL TST	GRD	4		0		30.5	29	WINDING ALONE
BST	U886	SB	125		163/139	H	59		B(BST)		BAT.			0		31.5	30	WINDING ALONE
									B(BST)		BAT.	1		0		75	71.5	
BSTA	U1354	PJ	125		108/108	H	47		B(BSTA)		BAT.			0		31	29.5	WINDING ALONE
									B(BSTA)		BAT.	1		0		65	62	
BT00	U1359	-1	40		112/112	H	29			T REL	GRD	2		0		115	105	SEE NOTE 400
-09	UB24	-2	40		505/505	H	32			T TST	GRD	2		0		140	130	SEE NOTE 400
BT00 -99	U1369		117		112/112	H	29			T REL TST	GRD			0		115	105	
BT10	U1369	-1	41		112/112	H	29			T REL	GRD			0		115	105	
-99	UB24	-2	41		505/505	H	32			T TST	GRD			0		140	130	
BX	U1325	-1	91		113/113	H	29			T(BX)	GRD			0		47.5	45	
	UB12	-2	91		510/510	H	32			T(BX)	GRD			0		57	54	
BY	U1307		75		215/215	H	47			T(BY)	GRD			0		22	20.5	
CO, C1, C2, C4, C7	U1387		49		160/160	H	47			T REL TST	GRD			0		24.5	23	
CAA	U1370		53		120/120	SPL	35			T(CAA)	GRD	3		0		80	75	
										T(CAA)	GRD			NO		65	68	

TEST NOTES:

1. (BST) & (BSTA) RELAYS IN PARALLEL.
2. THESE RELAYS ARE SUPPLIED ONLY IF THE (TAO) TO (TA9) RELAYS ARE NOT SUPPLIED.
3. MIN TENSION IT AND 18 SPRINGS 8 GRAMS TEST, 10 GRAMS READJ.
4. FOR PARALLEL REQ. MULTIPLY WDG ALONE REQ BY NUMBER OF RELAYS IN MULTIPLE.

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.		MECH REQT BRP FIG.	MECH REQT CONT PRESS	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
CB	U1384	XA	32		113/113	H	29			T(CB)	GRJ			0		155	145	
CB1	U1349	XA-1	1		109/109	H	29			T(CB1)	GRD			0		35.5	33.5	
	UB21	XA-2	1		512/512	H	32			T(CB1)	GRD			0		44	41.5	
CB2	U1349	YA-1XB-1	1		109/109	H	29			T(CB2)	GRD			0		35.5	33.5	
	UB21	YA-2XB2	1		512/512	H	32			T(CB2)	GRD			0		44	41.5	
CB3	U1368	XA-1	3		112/112	H	29			T(CB3)	GRD			0		40.5	38.5	
	UB18	XA-2	3		505/505	H	32			T(CB3)	GRD			0		50.5	48	
CB4	U1389	XA-1	5		123/123	H	29			T(CB4)	GRD			0		29.5	28	
	UB19	XA-2	5		516/516	H	32			T(CB4)	GRD			0		37.5	35.5	
CB5	U1396	XA	29		127/114	H	50			T(CB5)	GRD			0		43.5	41	
CB7	U1399	XA	9		139/139	H	59			T(CB7)	GRD			0		185	175	
CBD	U1345	XA-1	8		113/112	H	29							0		44	41.5	WINDING ALONE
										T(CBD)	GRD	1		0		135	125	
	UB13	XA-2	8		510/505	H	32							0		54	51	WINDING ALONE
										T(CBD)	GRD	1		0		160	150	
CBD1	U1362	XA	8		145/123	H	47			T(CBD1)	GRD	1		0		32.5	30.5	WINDING ALONE
														0		95	90	
CBF	U1362	XA	8		145/123	H	47			T(CBF)	GRD			0		32.5	30.5	
CC0, CC1, CC2, CC4, CC7	U1366	-1	C		123/111	H	29			T REL	GRD			0		27	25.5	
	UB16	-2	C		516/509	H	32			T TST	GRD			0		34.5	32.5	
CCT	U1323		30, 106		118/108	H	50			T(CCT)	GRD			0		13	12.3	
CDKO,1	U988		143		132/132	H	47			T REL TST	GRD			0		36	34	
CDRO-9	U340	-1	156		111/111	H	29			T REL	GRD			0		8	7.6	
	UB26	-2	156		509/509	H	32			T TST	GRD			0		10.1	9.6	
CFA	UA94		151		181/181	H	35							0		5.7	5.4	WINDING ALONE
								B(CFA)			BAT.	2/3		0		36	34	

TEST NOTES:

1. REQ FOR CKT COMB. OF (CBD), (CBD1) AND (LOT) RELAYS.
2. CONN DIRECT GRD TO T(CFA).
3. REQ FOR CKT COMB. OF (CFA) REL AND ASSOCIATED MISC FRAME CKT (FA) RESISTOR.

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

SD-25550-01-F4

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES, INC 6S

SD-25550-01-F4

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D JJK, 42D KAS, 46D GAM AND, 49D BB MAP AMP, 54D CF ACL AMD, 56D PH

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH RELT DEP FIG.	MECH RELT CONT PRINGS.	MECH RELT ARM. TYPE.	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN SAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PROP	SEE TEST NOTE	DIRECT CURRENT FLOW RELT TEST WDG	DIRECT CURRENT FLOW RELT TEST FOR	DIRECT CURRENT FLOW RELT AFTER SOAK MIN.	DIRECT CURRENT FLOW RELT TEST MIN.	DIRECT CURRENT FLOW RELT READJ MIN.	REMARKS
CFA1	U543		151	111/111	H	26	4T(CFA1)		T(CFA1)	GRD			0		5.7	5.4	
CFGD, 1	U1325	-1	151	113/113	H	29			T REL	GRD			0		47.5	45	
	UB12	-2	154	510/510	H	32			T TST	GRD			0		57	54	
CGA	2808A		177	8				5T(MT21)		MGB			0	-120		2.6	
								5T(MT21)	FRAME	MGB			NO	-120		1.9	
								5T(MT21)	GRD	MGB			0	-120	13.2	12.5	
								5T(MT21)		MGB			R	120	2.4	2.9	
CGA1	U1354	JC	177	108/108	H	47			T(CGA1)	GRD			0		31	29.5	
	AF521	JE	175	21					U(CGA1)	GRD			0		95	90	
CGB	2808A		177	8				5B(MT21)		MGB			0	-120		2.6	
								5B(MT21)	FRAME	MGB			NO	-120		1.9	
								5B(MT21)	GRD	MGB			0	-120	13.2	12.5	
								5B(MT21)		MGB			R	120	2.4	2.9	
CGB1	U1354	JC	177	108/108	H	47			T(CGB1)	GRD			0		31	29.5	
	AF521	JE	175	21					U(CGB1)	GRD			0		95	90	
CGT	U898		30	137/110	H	41			T(CGT)	GRD			0		19	18	
CH9-9	U1348		29	161/150	H	53	2T REL		T REL	GRD			0		189	170	
							2T TST		T TST	GRD			NO		63	66.5	
CHA	U1379		81	148/108	H	47			T (CHA)	GRD			0		125	115	
	U1404		8J	215/146	H	47			T (CHA)	GRD			0		155	145	
CHA1	U675	9A	79	161/178	H	53			T (CHA1)	GRD			0		35	33	
CHE	U1397		31	127/114	H	50	2T (CHA)		T (CHE)	GRD			0		43.5	41	
CHT	239FC	WF	29	A			4B(TK)	11B(CKG5)	3T(CKG5)	B/G	1	P	0	-65	3	1.5	
	OR						4B(TK)	11B(CKG5)	3T(CKG5)	B/G		P	NO	-65	OC	1.1	
	280A	WG					4B(TK)	9B(TK)	11B(CKG5)	B/G		S	0		0.5		
CIR	AJ512		184	64					U(CIR)	GRD			0		90	85	
CKG1	U1384	XA	32	113/113	H	29			T(CKG1)	GRD			0		155	145	
CKG2	U1401		32	127/112	H	47			T(CKG2)	GRD			0		145	135	
CKG3	U1384		32	113/113	H	29			T(CKG3)	GRD			0		155	145	
CKG4	U1325	-1	31	113/113	H	29			T(CKG4)	GRD			0		47.5	45	
	UB12	-2	31	510/510	H	32			T(CKG4)	GRD			0		57	54	
CKG5	UG4	-1	29	113/113	H	29							0		20.5	19.5	WINDING ALONE
									T(CKG5)	GRD	2		0		46	43.5	
	UB6	-2	29	510/510	H	32							0		26.5	25	WINDING ALONE
									T(CKG5)	GRD	2		0		59	55.5	
CKG6, CKG7	U1384		32	113/113	H	29			T REL TST	GRD			0		155	145	
CKG8	U607	FA,GD JW	29	148/130	H	47			T(CKG8)	GRD	2		0		20.5	19.5	WINDING ALONE
CKG9	AF521		175	21					U(CKG9)	GRD			0		95	90	
CKD	U506	-1	68	148/148	H	47			T(CKD)	GRD			0		34.5	32.5	
	UB9	-2	68	523/523	H	41			T(CKD)	GRD			0		36	34	
CKR	U1396		68	127/114	H	50	11T(CKR)		T(CKR)	GRD			0		43.5	41	

TEST NOTES:

1. SEE TIMING REQUIREMENTS, PAGE 72.
2. CKT COMB. OF (CKG5) AND (CKG8) RELAYS IN PARALLEL.

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

SD-25550-01-F5

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D JJK, 42D KAS, 46D GAM AND, 49D BB MAP AMP, 54D CF ACL AMD, 56D PH

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH RELT DEP FIG.	MECH RELT CONT PRINGS.	MECH RELT ARM. TYPE.	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN SAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PROP	SEE TEST NOTE	DIRECT CURRENT FLOW RELT TEST WDG	DIRECT CURRENT FLOW RELT TEST FOR	DIRECT CURRENT FLOW RELT AFTER SOAK MIN.	DIRECT CURRENT FLOW RELT TEST MIN.	DIRECT CURRENT FLOW RELT READJ MIN.	REMARKS
CLO-5	U1372	YL-1	67	132/132	H	47			TF REL	GRD		P	0		19	18	
									TR TST	GRD		S	0		19.5		
	U832	YL-2	67	519/519	H	41			TF REL	GRD		P	0		17.5	16.5	
									TR TST	GRD		S	0		18		
CL6	U1372	-1	163	132/132	H	47			TF(CL6)	GRD		P	0		19	18	
	U832	-2	163	519/519	H	41			TF(CL6)	GRD		S	0		19.5		
									TF(CL6)	GRD		P	0		17.5	16.5	
									TF(CL6)	GRD		S	0		18		
CLG	U675		33	161/178	H	53			T(CL6)	GRD			0		35	33	
CL7, 8	U1374	KE	168	121/121	H	50			TF REL	GRD		P	0		24	22.5	
									TR TST	GRD		S	0		24.5		
CLK	U1355	-1	33	117/148	H	47			T (CLK)	GRD			0		38.5	36.5	
	UB15	-2	33	513/523	H	41			T (CLK)	GRD			0		47	44.5	
CLK1-2	U1373	YL	67	101/136	H	29			T REL TST	GRD			0		13.5	12.8	
CLK3	U1373	KE,YL	67	101/136	H	29			T REL TST	GRD			0		13.5	12.8	
CLP	U899	YL	67	132/101	H	47			T(CLP)	GRD			0		29.5	28	
	U211	KE	67	121/102	SPL	53			T(CLP)	GRD	5,6,7		0		25.5	24	
CLS	U899	YL	67	132/101	H	47			T(CLS)	GRD			0		29.5	28	
CLT	239FC	WF	33	A			2B(CLT1)	10T(CLG)	3T(BG)	B/G	1	P	0	-65	3	1.5	
	OR						10T(CLG)	10T(CLG)	3T(BG)	B/G		P	NO	-65	OC	1.1	
	280A	WG					2B(CLT1)	2B(CLT1)		BAT.		S	0		0.5		
CLT1	U1408		33	153/138	H	53	2T(CLT1)		T(CLT1)	GRD			0		44.5	42	
CLT2	U1356		33	132/110	H	47			T(CLT2)	GRD			0		38	36	
CMC1, 2	U1396		151	127/114	H	50							0		43.5	41	WINDING ALONE
									T REL TST	GRD	2		0		155	145	
CMC3	U1386		151	215/151	H	47							0		36	37	WINDING ALONE
									T(CMC3)	GRD	2		0		140	130	
CMCA, CMCB, CMCC	U886		151	163/139	H	59							0		31.5	30	WINDING ALONE
									T REL TST	GRD	3		0		115	105	
CMF0, 1	U1325	-1	151	113/113	H	29			T REL	GRD			0		47.5	45	
	UB12	-2	151	510/510	H	32			T TST	GRD			0		57	54	
CMF2	U1430		151	153/121	H	53							0		43.5	41	WIND NG ALONE
									T(CMF2)	GRD	4		0		155	145	

TEST NOTES:

1. SEE TIMING REQUIREMENTS, PAGE 72.
2. CKT COMB. OF (CMC1), (CMC2) & (CMC3) RELAYS.
3. CKT COMB. OF (CMCA), (CMCB) & (CMCC) RELAYS.
4. CKT COMB OF (CMF2), (CMF3) & (CMF4) RELAYS.
5. SPRING 1B IS TO BE BENT AWAY FROM THE ARMATURE SO THAT IT NEVER TOUCHES SPRING 2B.
6. CONTACTS SHOULD MAKE WITH A .006 GAUGE INSERTED FOR READJUST, .004 FOR TEST.
7. MINIMUM SPRING TENSION ON SPRINGS 2T, 5T, 2B AND 5B IS TO BE 10 GRAMS READJUST AND 8 GRAMS TEST.

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

SD-25550-01-F5

ISSUE		
41D	J.F. F.C.R.	W.F.D.
46D	R.G.J. G.W. AND	
51D	P.H. R.G.S. AND	
54D	C.F. K.L. AND	

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS	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
CMF3,4	U1415		151	154/127	H	47			T REL	GRD	1		0		45	42.5	WINDING ALONE
									TST								
CMJ	U1370		151	120/120	SPL	35			T(CMJ)	GRD	3		0		80	75	
									T(CMJ)	GRD			NO		65	68	
CMRO,1	280E		151	B				12B(ORC)	ASSOC	NGB	2		0	-65		1.1	
								12B(ORC)	CMRO-1	NGB	2		NO	-65		0.8	
								12B(ORC)	PCHG	NGB			0	-4	0.4	0.3	
								12B(ORC)		NGB			R	4	OC	OC	
CMSO-2	U1396		151	127/114	H	50			T REL	GRD			0		43.5	41	
									TST								
CN	U1299	ZD	10	132/106	H	47			T(CN)	GRD			0		38.5	36.5	
CNC	U988		53	132/132	H	47			T(CNC)	GRD			0		36	34	
CON	239HM OR 280F	WH	30	B			5B(GT2)	4(CON3)	6B(GT2)	B/G			0	-16		0.4	
							5B(GT2)	4(CON3)	6B(GT2)	B/G			NO	-16		0.3	
		WI OR NONE	30, 106				5B(GT2)	4(CON3)	6B(GT2)	B/G			0	-16	1.9	1.8	
							5B(GT2)	4(CON3)	6B(GT2)	B/G			R	16	0.4	0.5	
CON1	U1405		30, 106	195/135	H	47			T(CON1)	GRD			0		185	175	
CON3	239HM OR 280F	WH	30	B			5B(GT2)	4(CON3)	6B(GT2)	B/G			0	-16		0.4	
							5B(GT2)	4(CON3)	6B(GT2)	B/G			NO	-16		0.3	
		WI OR NONE	30, 106				5B(GT2)	4(CON3)	6B(GT2)	B/G			0	-16	1.9	1.8	
							5B(GT2)	4(CON3)	6B(GT2)	B/G			R	16	0.4	0.5	
COX	U1341		91	153/153	H	53			T(COX)	GRD			0		33	31	
CPO-4	U1374	YR	67	121/121	H	50			TF REL	GRD		P	0		24	22.5	
									TR TST	GRD		S	0		24.5		
CP5	U1374	GW	67	121/121	H	50			TF(CP5)	GRD		P	0		24	22.5	
									TR(CP5)	GRD		S	0		24.5		
CPK1,2	U1373	YR	67	101/136	H	29			T REL	GRD			0		13.5	12.8	
									TST								
CPP	U977	YR	67	160/108	H	47			T(CPP)	GRD			0		29.5	28	

TEST NOTES:

1. CKT COMB. OF (CMF2), (CMF3) & (CMF4) RELAYS.
2. ADJUSTED WITH RELAY SHUNTED BY 500Ω ±1% RESISTOR.
3. MIN TENSION 1T AND 1B SPG 8 GRAMS TEST-10 GRAMS READJ.

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

SD-25550-01-F6

ISSUE	
41D	J.F. F.C.R.
46D	R.G.J. G.W. AND
51D	P.H. R.G.S. AND
54D	C.F. K.L. AND

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS	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
CPS	U977	YR	67	160/108	H	47			T(CPS)	GRD			0		29.5	28	
CR	U1298		37	121/106	H	50			T(CR)	GRD			0		43.5	41	
CRO-9	U1372	YM-1	67	132/132	H	47			TF REL	GRD		P	0		19	18	
									TR TST	GRD		S	0		19.5		
	UB32	YM-2	67	519/519	H	41			TF REL	GRD		P	0		17.5	16.5	
									TR TST	GRD		S	0		18		
CR10	U1372	YU-1	67	132/132	H	47			TF REL	GRD		P	0		19	18	
									TR TST	GRD		S	0		19.5		
	UB32	YU-2	67	519/519	H	41			TF REL	GRD		P	0		17.5	16.5	
									TR TST	GRD		S	0		18		
CRK1,2	U1373	YM,KE	67	101/136	H	29			T REL	GRD			0		13.5	12.8	
									TST								
CRK3	U1373	YM,KE	67	101/136	H	29			T(CRK3)	GRD			0		13.5	12.8	
CRP	U899	YN	67	132/101	H	47			T(CRP)	GRD			0		29.5	28	
CRRO-2	U6005		57	101/101	H	29			T REL	GRD			0	FS	8.3	7.9	
									T TST	GRD			R	FS	1.5	1.6	
CRS	U899	YU	67	132/101	H	47			T(CRS)	GRD			0		29.5	28	
CSO-9	U1367	ZD-1	12	111/111	H	29			T REL	GRD			0		29	27.5	
	UB17	ZD-2	12	509/509	H	32			T TST	GRD			0		36	34	
CS10-CS19	U1367 UB17	ZD-1 ZD-2	14 14	111/111 509/509	H H	29 32			T REL T TST	GRD GRD			0 0		29 36	27.5 34	
CS20-CS29	U1367 UB17	ZD-1 ZD-2	16 16	111/111 509/509	H H	29 32			T REL T TST	GRD GRD			0 0		29 36	27.5 34	
CSW	AJ15		182	249					U(CSW)	GRD			0		42.5	40.5	
CTO	U1298		11	121/106	H	50			T(CTO)	GRD			0		43.5	41	
CT1	U1298		13	121/106	H	50			T(CT1)	GRD			0		43.5	41	
CT2	U1298		15	121/106	H	50			T(CT2)	GRD			0		43.5	41	

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES, INC

6S

SD-25550-01-F6

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D J.F. F.C.R. JAT; 49D W.F.O W.C.G. JAT; 51D PH WES AHD; 54D CF FEL AHD

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS.	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
CTA0	U1345	XA-1	11	113/112	H	29							0		44	41.5	WINDING ALONE
	U613	XA-2	11	510/505	H	32			T(CTA0)	GRD			0		90	85	(CTA0) & (CTB0) REL IN PARALLEL
													0		54	51	WINDING ALONE
									T(CTA0)	GRD			0		110	105	(CTA0) & (CTB0) REL IN PARALLEL
CTA1	U1345	XA-1	13	113/112	H	29							0		44	41.5	WINDING ALONE
	U613	XA-2	13	510/505	H	32			T(CTA1)	GRD			0		90	85	(CTA1) & (CTB1) REL IN PARALLEL
													0		54	51	WINDING ALONE
									T(CTA1)	GRD			0		110	105	(CTA1) & (CTB1) REL IN PARALLEL
CTA2	U1345	XA-1	15	113/112	H	29							0		44	41.5	WINDING ALONE
									T(CTA2)	GRD			0		90	85	(CTA2) & (CTB2) REL IN PARALLEL
	U613	XA-2	15	510/505	H	32							0		54	51	WINDING ALONE
									T(CTA2)	GRD			0		110	105	(CTA2) & (CTB2) REL IN PARALLEL
CTB0, CTB1, CTB2	AJ200		175	500				U REL TST		GRD	2		0		80	72	WINDING ALONE
CTF0, CTF1, CTF2, CTF4, CTF7	U1396		151	127/114	H	50		T REL TST		GRD			0		45.5	41	
CTGS	U1325	-1	151	113/113	H	29			T(CTGS)	GRD			0		47.5	45	
	UB12	-2	151	510/510	H	32			T(CTGS)	GRD			0		57	54	
CTNA, CTNB	U1325	-1	BQ	113/113	H	29							0		47.5	45	WINDING ALONE
								T REL TST		GRD	1		0		105	100	
	UB12	-2	BQ	510/510	H	32							0		57	54	WINDING ALONE
								T REL TST		GRD	1		0		130	120	
CT08	280BY		151	B				128(ORC)	108(CKCI)	NGB			0	-12		0.3	
								128(ORC)	108(CKCI)	NGB			NO	-12		0.2	
								128(ORC)	108(CKCI)	NGB			0	-12	1.6	1.5	
								128(ORC)	108(CKCI)	NGB			R	12	0.5	0.6	
CU0, CU1, CU2, CU4, CU7	U1355	-1	10	117/148	H	47							0		38.5	36.5	WINDING ALONE
								T REL TST		GRD	3		0		80	72	
	UB15	-2	10	513/523	H	41							0		47	44.5	WINDING ALONE
								T		GRD	3		0		95	90	
CUB0, CUB1, CUB2, CUB4, CUB7	AJ81		175	220									0		24.5	23	WINDING ALONE
								U REL TST		GRD	3		0		61	58	
CV00-CV99	U1389	-1	118	123/123	H	29		T REL		GRD			0		29.5	28	
	UB19	-2	118	516/516	H	32		T TST		GRD			0		37.5	35.5	
CVS	U1371		119	111/110	H	35			T(CVS)	GRD			0		80	75	
CZ	U506	-1	156	148/148	H	47		B(CZ)		BAT.			0		34.5	32.5	
	UB9	-2	156	523/523	H	41		B(CZ)		BAT.			0		36	34	
CZT	U506	-1	156	148/148	H	47		B(CZT)		BAT.			0		34.5	32.5	
	UB9	-2	156	523 523	H	41		B(CZT)		BAT.			0		36	34	
D	U1384	JL	32	113/113	H	29			T(D)	GRD			0		155	145	
D	AJ700		174	500			(XDR) NO		U(D)	GRD			0		90	85	

TEST NOTES:

1. CKT COMB. OF (CTNA) & (CTNB) RELAYS.
2. CKT COMB. OF (CTA0) & (CTB0), OR (CTA1) & (CTB1), OR (CTA2) & (CTB2) RELAYS..
3. CKT COMB. OF (CU0) & (CUB0), OR (CU1) & (CUB1) OR (CU2) & (CUB2), OR (CU4) & (CUB4), OR (CU7) & (CUB7) RELAYS.

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D J.F. F.C.R. JAT; 49D W.F.O W.C.G. JAT; 51D PH WES AHD; 54D CF FEL AHD

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS.	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
D0, D1, D2, D4, D7	U1387		49	160/160	H	47			T REL TST	GRD			0		24.5	23	
DAC	AJ503		181	249			(RYT) NO		U(DAC)	GRD			0		95	90	
DACI	AJ503		181	249					U(DACI)	GRD			0		95	90	
DCI	U351		159	118/145	H	50			T(DCI)	GRD			0		20.5	19.5	
DCIA	U940		160	127/127	H	47			T(DCIA)	GRD			0		21	20	
DCK	U142		33	137/108	H	47			T(DCK)	GRD			0		9.4	8.9	
DCT	239KF	WJ	31	B				3T(HMS1)	28(SL)	B/G		P	0	-70		1.7	
	OR							3T(HMS1)	28(SL)	B/G		P	NO	-70		1.2	
	280AK	WK	31					3T(HMS1)	28(SL)	B/G		P	0	-70	5.8	6.4	
								3T(HMS1)	28(SL)	B/G		P	R	70	1.6	1.7	
								3T(HMS1)	78(TLC2)	B/G		S	0		3.9		
DCT1	U1348		31	161/150	H	53			T(DCT1)	GRD			0		180	170	
DCT2	U1355	-1	J	117/148	H	47	9T(DCT2)		T(DCT2)	GRD			0		38.5	36.5	
	UB15	-2	J	513/523	H	41	9T(DCT2)		T(DCT2)	GRD			0		47	44.5	
DCT3	U1355	-1	J	117/148	H	47			T(DCT3)	GRD			0		38.5	36.5	
	UB15	-2	J	513/523	H	41			T(DCT3)	GRD			0		47	44.5	
DCTA	1/2AK50		185	2					1U(DCTA)	GRD			0		29.5	27.5	MTD WITH (NSIA)
DIS1	U1383		32	197/157	H	59	11T(DIS1) 11T(DIS2)		T(DIS1)	GRD			0		180	170	
DIS2	U1383		32	197/157	H	59	11T(DIS2)		T(DIS2)	GRD			0		180	170	
DISA	U1383		32	197/157	H	59			T(DISA)	GRD			0		180	170	
DL	U624		79	101/101	H	29	1T(DL)		T(DL)	GRD			0		6.7	6.8	
DLO-3	U1374	YK	67	121/121	H	50			TF REL TR TST	GRD GRD		P S	0 0		24 24.5	22.5 23	
DL4-6	U1374	YP	67	121/121	H	50			TF REL TR TST	GRD GRD		P S	0 0		24 24.5	22.5 23	
DL7-10	U1374	YQ	67	121/121	H	50			TF REL TR TST	GRD GRD		P S	0 0		24 24.5	22.5 23	
DL11-13	U1374	YS	67	121/121	H	50			TF REL TR TST	GRD GRD		P S	0 0		24 24.5	22.5 23	

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BBP FIG.	MECH REQT CONT PRESS.	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
DLK1	U1373	YK	67	101/136	H	29			T(DLK1)	GRD			0		13.5	12.8	
DLK2	U1373	YT	67	101/136	H	29			T(DLK2)	GRD			0		13.5	12.8	
DLP	U977	YK	67	160/108	H	47			T(DLP)	GRD			0		29.5	28	
DLS	U977	YT	67	160/108	H	47			T(DLS)	GRD			0		29.5	28	
DNC	U1355	-1	151	117/148	H	47			T(DNC)	GRD			0		38.5	36.5	
	UB15	-2	151	513/523	H	41			T(DNC)	GRD			0		47	44.5	
DRO-2	U6005		58	101/101	H	29			T REL	GRD			0	FS	8.3	7.9	
									T TST	GRD			R	FS	1.5	1.6	
DRRO-1	280E		162	B			FRAME B.F.T.	ASSOC DRRO-1 PCHG		NGB	1		0	-65		1.1	
										NGB	1		NO	-65		0.8	
										NGB			0	-4	0.4	0.3	
										NGB			R	4	0.C.	0.C.	
DT1	U1384	E	32	113/113	H	29			T(DT1)	GRD			0		155	145	
DT2	U1348	E	31	161/150	H	53			T(DT2)	GRD			0		180	170	
DT3	U1348	E	31	161/150	H	53			T(DT3)	GRD			0		180	170	
DT4	U829		BY	121/130	H	50			T(DT4)	GRD			0		22.5	21	
DTK	U1356		33, 103	132/110	H	47			T(DTK)	GRD			0		38	36	
DTR 0-3	AJ507	JM,JN	174	21			(MLF)NO (CKG4)NO 10T(D1SA)		U REL TST	GRD			0		100	95	
DX0, DX1, DX2, DX4, DX7	U1362		124	145/123	H	47			T REL TST	GRD			0		32	30.5	
E0, E1, E2, E4, E7	U1387	S	49	160/160	H	47			T REL TST	GRD			0		24.5	23	
ECN	U1367	-1	47	111/111	H	29			T(ECN)	GRD			0		29	27.5	
	UB17	-2	47	509/509	H	32			T(ECN)	GRD			0		36	34	

TEST NOTES:

1. ADJUSTED WITH RELAY SHUNTED BY 500Ω ±1% RES.

DRAWING ISSUE: 41D +F PCR, 42D PD, 45B JW DEC W46, 46D PGL 6m AHD, 49D RLP #40 AHD, 54D CF KEL AHD

MARKER CIRCUIT — SD-25550-01-F8 — BELL TELEPHONE LABORATORIES, INC

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BBP FIG.	MECH REQT CONT PRESS.	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
EG	U1355	-1	77	117/148	H	47	6B(EG)	B(EG)	T(EG)	B/G			0		38.5	36.5	
	UB15	-2	77	513/523	H	41	6B(EG)	B(EG)	T(EG)	B/G			0		47	44.5	
ELT	U1325		167	113/113	H	29			T(ELT)	GRD			0		47.5	45	
EN	U1355	PC-1	126	117/148	H	47			T(EN)	GRD			0		38.5	36.5	
	UB15	PC-2	126	513/523	H	41			T(EN)	GRD			0		47	44.5	
ENA	V2AK501		186	2					IU(ENA)	GRD			0		29.5	27.5	MTD WITH (PTNA)
EX	316A		178	10									0	3	1.		
													R		0.3		
													NO		0.7		
EX7	U1346	-1	124	132/101	H	47			T(EX7)	GRD			0		26.5	25	
	UB14	-2	124	519/527	H	41			T(EX7)	GRD			0		24.5	23	
EXA	U1396		178	127/114	H	50			T(EXA)	GRD			0		43.5	41	
F0, F1, F2, F4, F7	U1387	R	49	160/160	H	47			T REL TST	GRD			0		24.5	23	
FA	UA15		73	110/101	H	35		B(FA)		BAT.	1/2		0		33.5	31.5	WDG ALONE
FAI	U530		73	145/145	H	47	7T(FAI)		T(FAI)	GRD			0		9.2	8.7	
FAC	U1396		BD	127/114	H	50			T(FAC)	GRD			C		43.5	41	WDG ALONE
									T(FAC)	GRD	3		0		100	98	
FACI	AF132		161	61					U(FACI)	GRD			0		34	32.5	
FACA	U1354	LT	165	108/108	H	47							0		31	28.8	WDG ALONE
									T(FACA)	GRD			0		68.5	65	CKT COMB OF (FACA) & (FAC) RELS
FAK	U1396		31	127/114	H	50			T(FAK)	GRD			0		43.5	41	
FB0-19	U988		23, 24, 25, 27	132/132	H	47			T REL TST	GRD			0		36	34	
FBK	U1396		J	127/114	H	50			T(FBK)	GRD			0		43.5	41	
FC	U1355	-1	151	117/148	H	47			T(FC)	GRD			0		38.5	36.5	
	UB15	-2	151	513/523	H	41			T(FC)	GRD			0		47	44.5	
FC-	U1345	-1	19	113/112	H	29							0		44	41.5	WDG ALONE
									T REL TST	GRD			0		100	95	CKT COMB. OF (FC-) & (FCA-) RELAYS
	UB13	-2	19	510/505	H	32							0		54.	51.	WDG ALONE
									T REL TST	GRD			0		125	115	CKT COMB. OF (FC-) & (FCA-) RELAYS
FCD0	AF501		174	34									0		80	75	WDG ALONE
									U(FCD0)	GRD			0		180	170	(FCD0) & (FCD10) REL IN PARALLEL
FCD10	AF501	J0	174	34									0		80	75	WDG ALONE
									U(FCD10)	GRD			0		180	170	(FCD0) & (FCD10) REL IN PARALLEL
FCM0	AF501		174	34									0		80	75	WDG ALONE
									U(FCM0)	GRD			0		180	170	(FCM0) & (FCM10) REL IN PARALLEL
FCM10	AF501	J0	174	34									0		80	75	WDG ALONE
									U(FCM10)	GRD			0		180	170	(FCM0) & (FCM10) REL IN PARALLEL
FCR 0-3	AF501		174	34									0		80	75	WDG ALONE
									U REL TST	GRD			0		180	170	(FCR0-3) & (FCR10-13) REL IN PARALLEL RESPECTIVELY
FCR 10-13	AF501	J0	174	34									0		80	75	WDG ALONE
									U REL TST	GRD			0		130	170	(FCR0-3) & (FCR10-13) REL IN PARALLEL RESPECTIVELY

TEST NOTES:

1. CONNECT DIRECT GROUND TO T(FA) AND REMOVE THE (FA) LAMP IN ASSOCIATED CKT.
2. CKT COMB. OF (FA) REL & (FAI) RES IN MISC FR CKT.
3. CKT COMB. OF (FAC) & (FACA) RELS.

DRAWING ISSUE: 41D FCR, 42D FAA 146 JW DEC, 45B PGL 6m AHD, 46D RLP W40 AHD, 49D CF KEL AHD, 54D

MARKER CIRCUIT — SD-25550-01-F8 — BELL TELEPHONE LABORATORIES, INC

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D 4-F FCR; 45B JM REL CWL; 46D GLM AND RLP LW AND; 48D CF KLL AND

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BRP FIG.	MECH REQT CONT PRESS	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
FCA-	U1345	-1	2	113/112	H	29			T REL GRD				0		44	41.5	WDG ALONE
									T TST				0		100	95	CKT COMB. OF (FC-) & (FCA-) RELAYS
	UB13	-2	2C	510/505	H	32							0		54	51	WDG ALONE
									T REL GRD				0		125	115	CKT COMB. OF (FC-) & (FCA-) RELAYS
FCG	234 W CA	WL	30	8				3T(TLC1)	3B(GLH) B/G		P	0	-23			0.6	
								3T(TLC1)	3B(GLH) B/G		P	NO	-23			0.4	
	280AE	WH OR NONE	30, 106					3T(TLC1)	3B(GLH) B/G		P	0	-23	2.4	2.2		
								3T(TLC1)	3B(GLH) B/G		P	R	23	0.6	0.7		
								10T(GLH1)		BAT.	S	0		0.9			
FCGA	U1105		30, 106	110/101	H	35			T(FCGA)	GRD			0		7.3	6.9	
FCK	U1354		18	108/109	H	47			T(FCK)	GRD			0		31	29.5	
FCKA	U1354	F	18	108/108	H	47			T(FCKA)	GRD			0		31	29.5	
FDO	V2AK6		161	2				2U (FDO)		BAT.			0		28.8	27.5	MTD WITH (FD1)
FD1	V2AK6		161	2				2L (FD1)		BAT.			0		28.8	27.5	MTD WITH (FDO)
FEO	V2AK6		161	2				2U(FEO)		BAT.			0		28.8	27.5	MTD WITH (FE1)
FE1	V2AK6		161	2				2L(FE1)		BAT.			0		28.8	27.5	MTD WITH (FEO)
FGO	U1345	F-1	66	113/112	H	29			T(FGO)	GRD			0		44	41.5	
	UB13	F-2	66	510/505	H	32			T FGO	GRD			0		54	51	
FG1	U1345	F-1	66	113/112	H	29			T(FG1)	GRD			0		44	41.5	
	UB13	F-2	66	510/505	H	32			T(FG1)	GRD			0		54	51	
FGK	UA137	LX	83	111/101	H	17			5TF(FGK)	GRD		P	0		16	15	
									5TF(FGK)	GRD		P	NO		7.2	7.5	
									5TF(FGK)	GRD		P	RLS		6.7	7	
									4BR(FGK)	GRD		S	0		16	15	
FK	AJ508		185	19					U( )	GRD			0		75	71	
FKA	U1377		69	155/166	H	50			T(FKA)	GRD			0		48	45.5	
FLG	U1325	-1	33	113/113	H	29			T(FLG)	GRD			0		47.5	45	WDG ALONE
													0		145	135	CKT COMB. OF (FLG), (FLGA) & (FLG1) RELAYS
	UB12	-2	33	510/510	H	32							0		57	54	WDG ALONE
									T(FLG)	GRD			0		175	165	CKT COMB. OF (FLG), (FLGA) & (FLG1) RELAY
FLG1	U1381		33	119/113	H	35			T(FLG1)	GRD			0		47	44.5	WDG ALONE
													0		145	135	CKT COMB. OF (FLG) & (FLG1) RELAYS
FLG2	U1073		100	161/163	H	59			T(FLG2)	GRD			0		31.5	30	
FM	U844		82, 105	118/118	H	50			T(FM)	GRD			0		26.5	25	
FLGA	U1396		172	127/114	H	50							0		43.5	41	WINDING ALONE
									T(FLGA)	GRD			0		135	125	(FLG), (FLG1) & (FLGA) RELAYS IN PARALLEL

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D 4-F FCR; 46B JM REL CWL; 46D GLM AND RLP LW AND; 48D CF KLL AND

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BRP FIG.	MECH REQT CONT PRESS	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
FMO-19	U143		22, 24, 25	108/110	H	47	(FMG)O, (TFK1)O		T REL TST	GRD			0		8.8	8.3	
FMG	U1390	-1	18	137/110	H	41			T(FMG)	GRD			0		36.5	34.5	
	UB20	-2	16	501/506	H	32			T(FMG)	GRD			0		37.5	35.5	
FMK	U1367	-1	18	111/111	H	29			T(FMK)	GRD			0		29	27.5	
	U817	-2	18	509/509	H	32			T(FMK)	GRD			0		36	34	
FML	U844		18	118/118	H	50			T(FML)	GRD			0		26.5	25	
FMP	U1348		82, 105	161/150	H	53	2T(FMP)		T(FMP)	GRD			0		180	170	
FN	U1317		AQ	117/148	H	47			T(FN)	GRD			0		19	18	
	U1307		AR	215/215	H	47			T(FN)	GRD			0		22	20.5	
FNA	U67		AO	145/108	H	47	7T(FNA)		T(FNA)	GRD			0		18	17	
	U351		AP	118/145	H	50	7T(FNA)		T(FNA)	GRD			0		20.5	19.5	
FNB	U1289	-1	75	114/118	H	50	8T(FNB)		T(FNB)	GRD			0		25	23.5	
	U88	-2	75	511/514	H	41	8T(FNB)		T(FNB)	GRD			0		30	28.5	
FR	U1371	E	5	111/110	H	35			T(FR)	GRD			0		80	75	
FSO-19	U1404		23, 24, 25	215/146	H	47			T REL TST	GRD			0		155	145	
FSA	U1362	XA	18	145/123	H	47			T(FSA)	GRD			0		32.5	30.5	
FTO	U1356		9	132/110	H	47			T(FTO)	GRD			0		38	35	
FT1	U1356		9	132/110	H	47			T(FT1)	GRD			0		38	36	
FT2	U1356	YF, XF	9	132/110	H	47			T(FT2)	GRD			0		38	36	
FT3	U1356	YF, XF	9	132/110	H	47			T(FT3)	GRD			0		38	36	

MARKER CIRCUIT — SD-25550-01-F9 — BELL TELEPHONE LABORATORIES, INC — SIZE 2 — 65

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D 4-6 FCR w/FD; 49D 4-6 AD

APPARATUS DSGNS	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS	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
FTB0	U1325	-1	17	113/113	H	29			T(FTB0)	GRD			0		47.5	45	
	UB12	-2	17	510/510	H	32			T(FTB0)	GRD			0		57	54	
FTB1	U1325	-1	17	113/113	H	29			T(FTB1)	GRD			0		47.5	45	
	UB12	-2	17	510/510	H	32			T(FTB1)	GRD			0		57	54	
FTB2	U1325	W-1,XF-1	17	113/113	H	29			T(FTB2)	GRD			0		47.5	45	
	UB12	W-2,XF-2	17	510/510	H	32			T(FTB2)	GRD			0		57	54	
FTB3	U1325	W-1,XF-1	17	113/113	H	29			T(FTB3)	GRD			0		47.5	45	
	UB12	W-2,XF-2	17	510/510	H	32			T(FTB3)	GRD			0		57	54	
FTC0-9	U1362		38, 42, 46	145/123	H	47			T REL TST	GRD			0		32.5	30.5	
FTCK	U1401		18	127/112	H	47			T(FTCK)	GRD			0		145	135	
FTCK1	U1317		18	117/146	H	47			T(FTCK1)	GRD			0		19	16	
FTK	U6124	E	5	130/108	H	47	2T(FTK)		T(FTK)	GRD			0	200	140	130	
									T(FTK)	GRD			R	200	39.5	42	
FTK1	U1394	JV	5	123/111	H	29			T(FTK1)	GRD			0		90	85	
FTK1	U1347	JW	5	117/145	H	47			T(FTK1)	GRD			0		125	115	
FTL	U1396		68	127/114	H	50			T(FTL)	GRD			0		43.5	41	
FTN0,1	276A	XA	8	1									0	50	16		SEE BSP
													NO		12.8		
													R		1.3		
FTN2,3	276A	YF,XE	8	1									0	50	16		SEE BSP
													NO		12.8		
													R		1.3		
FTT0	U1325	-1	8	113/113	H	29			T(FTT0)	GRD			0		47.5	45	
	UB12	-2	8	510/510	H	32			T(FTT0)	GRD			0		57	54	
FTT1	U1325	-1	8	113/113	H	29			T(FTT1)	GRD			0		47.5	45	
	UB12	-2	8	510/510	H	32			T(FTT1)	GRD			0		57	54	

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D 4-6 FCR; 49D 4-6 AD

APPARATUS DSGNS	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS	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
FTT2	U1325	W-1,XF-1	6	113/113	H	29			T(FTT2)	GRD			0		47.5	45	
	UB12	W-2,XF-2	6	510/510	H	32			T(FTT2)	GRD			0		57	54	
FTT3	U1325	W-1,XF-1	8	113/113	H	29			T(FTT3)	GRD			0		47.5	45	
	UB12	W-2,XF-2	8	510/510	H	32			T(FTT3)	GRD			0		57	54	
FTTB	U1377	XR	8	155/166	H	50	1T(COX) 1B(COX)		T(FTTB)	GRD			0		48	45.5	
FU0, FU1, FU2, FU4, FU7	U1355	-1	9	117/146	H	47			T REL TST	GRD			0		38.5	36.5	
	UB15	-2	9	513/523	H	41			T REL TST	GRD			0		47	44.5	
FUL	U1396		68	127/114	H	50			T(FUL)	GRD			0		43.5	41	
FUN0-9	276A	XA	8	1									0	50	16		SEE BSP
													NO		12.8		
													R		1.3		
FUT0-9	U1349	-1	8	109/109	H	29			T REL TST	GRD			0		35.5	33.5	
	UB21	-2	8	512/512	H	32			T REL TST	GRD			0		44	41.5	
G0, G1, G2, G4, G7	U1387	Q	49	160/160	H	47			T REL TST	GRD			0		24.5	23	
GB	U1377		77	155/166	H	50	7T(GB)	B(GB)	T(GB)	B/G			0		48	45.5	
GBA	U6043		69	137/110	H	41			T(GBA)	GRD			0	FS	20.5	19.5	
									T(GBA)	GRD			R	FS	5.7	6	
GBB	U6043		69	137/110	H	41			T(GBB)	GRD			0	FS	20.5	19.5	
									T(GBB)	GRD			R	FS	5.7	6	
GC	U1381		17	119/113	H	35			T(GC)	GRD			0		47	44.5	
GK	U1394	E	1	123/111	H	29			T(GK)	GRD			0		90	85	

CIRCUIT REQUIREMENTS

DRAWING ISSUE 41D FCR

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG	MECH REQT BSP FIG	MECH REQT CONT PRESS	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
GLH	U1396		30, 106	127/114	H	50			T(GLH)	GRD			0		43.5	41	
GLH1	U1199		30, 106	161/161	H	53			T(GLH1)	GRD			0		18.5	17.5	
	U1186		30, 106	161/161	H	53			T(GLH1)	GRD			0		18.5	17.5	
GOS	U1355	-1	69	117/146	H	47			T(GOS)	GRD			0		38.5	36.5	
	UB15	-2	69	513/523	H	41			T(GOS)	GRD			0		47	44.5	
GP1	U1350		64	132/111	H	47			T(SF1)	GRD			0		69	65.5	
GP2	U1406		64	147/120	H	44	7T(GP2) 1B(GP3)		T(GP2)	GRD			0		19	18	
GP3	U1474		64	301/300	H	68	1T(GP2) 3B(GZ)		T(GP3)	GRD			0		26	24.5	
GPA	U1325	-1	64	113/113	H	29	(GZ) O		T(GPA)	GRD			0		47.5	45	
	UB12	-2	64	510/510	H	32	(GZ) O		T(GPA)	GRD			0		57	54	
GPB	U1325	-1	64	113/113	H	29	(GZ)NO		T(GPB)	GRD			0		47.5	45	
	UB12	-2	64	510/510	H	32	(GZ)NO		T(GPB)	GRD			0		57	54	
GS1-4	U1337		50	124/124	H	59			T REL	GRD			0		64	60.5	WDG ALONE
									T TST	GRD	1		0		145	135	
GS5	U1337		50	124/124	H	69			T(GS5)	GRD			0		64	60.5	
GSAI-4	UB20	-2	120	501/506	H	32			T REL	GRD			0		37.5	35.5	WDG ALONE
									T TST	GRD	1		0		65	60	
	U1390	-1	120	137/110	H	41			T REL	GRD			0		39.5	34.5	WDG ALONE
									T TST	GRD	1		0		85	80	
GT	239HR OR 29GAU	NN NO	BE BE	B			2T(TLC1)	11B(CKG4)	1T(TLC1)	B/G		S	0	-40		2.1	
							2T(TLC1)	11B(CKG4)	1T(TLC1)	B/G		S	NO	-40		1.5	
							2T(TLC1)	11B(CKG4)	1T(TLC1)	B/G		S	0	-40	7.4	7	
							2T(TLC1)	11B(CKG4)	1T(TLC1)	B/G		S	R	40	1.6	1.7	
									4T(CGT)	GRD		P	0		0.9		
GT	280FN	✓	BF	B				3B(TLC3)	4T(CGT)	B/G		P	0	-12		0.3	
								3B(TLC3)	4T(CGT)	B/G		P	NO	-12		0.2	
								3B(TLC3)	4T(CGT)	B/G		P	0	-12	1.2	1.1	
								3B(TLC3)	4T(CGT)	B/G		P	R	12	0.2	0.3	
							6B(TLC3)	10B(GT5)	5B(TLC3)	B/G		S	0		1.2		
							2T(TLC1)	11B(CKG4)	1T(TLC1)	B/G		T	0		3.7		

TEST NOTES:
1. PAR. COMB. OF (GSI-4) AND (GSAI-4) RELS.

CIRCUIT REQUIREMENTS

DRAWING ISSUE 41D FCR

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG	MECH REQT BSP FIG	MECH REQT CONT PRESS	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
GT1	U1312		30, 106	230/139	H	47			T(GT1)	GRD			0		165	155	
GT2	U1383		30, 106	197/157	H	59			T(GT2)	GRD			0		150	170	
GT3	L1016	QL	30	137/137	H	41							0		20.5	19.5	WDG ALONE
									T(GT3)	GRD	1		0		130	120	
	Y204	QV	30	201/203	H	47			T(GT3)	GRD			0	25	19	18	
									T(GT3)	GRD			M	25	2.9	2.7	
									T(GT3)	GRD			R	25	1.3	1.5	
GT4	U968		5	132/132	H	47			T(GT4)	GRD			0		36	34	
	U722		H	146/145	H	47			T(GT4)	GRD			0		22.5	21	
GT5	U1073		30	161/163	H	59			T(GT5)	GRD			0		31.5	30	
GTL	U1362		32	145/123	H	47			T(GTL)	GRD			0		32.5	30.5	
GTL1	U1325	E-1	5	113/113	H	29			T(GTL1)	GRD			0		47.5	45	
	UB12	E-2	5	510/510	H	32			T(GTL1)	GRD			0		57	54	
GTL2-4	U591		9	119/113	H	35			T REL	GRD			0		26.5	25	WDG ALONE
									T TST	GRD			0		95	90	CKT COMB. OF (GTL2), (GTL3) & (GTL4) RELAYS
GTU	U1398	-1	9	112/112	H	29			T(GTU)	GRD			0		40.5	38.5	
	UB16	-2	9	505/505	H	32			T(GTU)	GRD			0		50.5	48	
GW	U497		64	132/106	H	47							0		24	22.5	WDG ALONE
							1B(GW)		T(GW)	GRD			0		51.5	49	CKT COMB. OF (GW) & (GZ) RELAYS
GZ	U234		64	160/106	H	47							0		19	16	WDG ALONE
							1B(GW)		T(GZ)	GRD			0		41.5	39.5	CKT COMB. OF (GW) & (GZ) RELAYS
H0, H1, H2, H4, H7	U1387	P	49	160/160	H	47			T REL	GRD			0		24.5	23	
									T TST								

TEST NOTES:
1. PAR. COMB. OF (GT3) RES AND REL.

NO. 5 MARKER CIRCUIT

SD-25550-01-F11

BELL TELEPHONE LABORATORIES, INC

6S

SD-25550-01-F11

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D ** FCR TJM GLM AHD; 46D GLM AHD; 47D DB LW AHD

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS	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
MFA	U624	UZ	73	101/101	H	29		T(MFA)		BAT.			O		6.7	6.3	
MG0, MG1, MG2, MG4, MG7	U1355	-1	9	117/146	H	47			T REL GRD				O		36.5	36.5	
	U815	-2	9	513/523	H	41			T TST GRD				O		47	44.5	
MGG	U1381	E	3	119/113	H	35			T(MGG) GRD				O		47	44.5	
MGK	U1371		31	111/110	H	35			T(MGK) GRD				O		80	75	
MGL	U1355	-1	68	117/146	H	47			T(MGL) GRD				O		38.5	36.5	
	U815	-2	68	513/523	H	41			T(MGL) GRD				O		47	44.5	
MGL1	U1386	ZJ-1	3	112/112	H	29			T(MGL1) GRD				O		40.5	38.5	
	U816	ZJ-2	3	505/505	H	32			T(MGL1) GRD				O		50.5	48	
MGN0-9	276A		4	1									O	SC	16		SEE BSP
													NO		12.8		
													R		1.3		
MGP	U1347	E-1	3	117/145	H	47			T(MGP) GRD				O		125	115	
									T(MGR) GRD				P		37	39	
	U822	E-2	3	513/522	H	41			T(MGR) GRD				O		160	150	
									T(MGP) GRD				R		34	36	
MGT0-9	U1404		3	215/146	H	SPL			T REL GRD	4			O		205	195	
									T TST GRD				NO		120	130	
									T GRD				R		65	70	
MMC	U675		31	161/176	H	53			T(MMC) GRD				O		35	33	
MMS	U1299		31	132/106	H	47			T(MMS) GRD	5			O		38.5	36.5	
MMS1	U6117		31	119/119	H	35			T(MMS1) GRD				O		49	46.5	
MMT	239FC OR 260A	WF WG	31	A			10B(CKG5) 3B(CHA)	9B(CKG5)	6B(CB5) B/G 1/2 P			O	-65	3	1.5	FOR COMB. & COMPL MARKERS	
								9B(CKG5)	6B(CB5) B/G 1/2 P			NO	-65	QC	1.1		
								9B(CKG5)	7T(CKG5) B/G 1/3 F			O	-65	5	1.5	FOR DIAL TONE MARKERS	
								9E(CKG5)	7T(CKG5) B/G 1/3 P			NO	-65	QC	1.1		
								BT(CHE)	9B(CKG5) B/G S			O		0.5		FOR ALL MARKERS	

TEST NOTES:

1. SEE TIME REQUIREMENTS, PAGE 72.
2. WHEN QQ OPTION IS PROVIDED ALSO INSULATE 5B(CB5).
3. WHEN QQ OPTION IS PROVIDED TEST SET PREP SHOULD BE NGB & CONN GRD SHOULD BE 12T(CKG5).
4. ARM. TRVL 90, 1T-2T BREAK WITH 15 MIL GAUGE BETWEEN ARM. AND CORE.
5. 2-3T OF (MMS) RELAY SHALL BREAK BEFORE 1-3B BREAKS.

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D ** FCR TJM GLM AHD; 46D GLM AHD; 47D DB LW AHD

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG	MECH REQT BSP FIG	MECH REQT CONT PRESS	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
HMT1	U624		31	118/118	H	50	(CH#3)Q	B(HMT1)	T(HMT1)	B/G			O		26.5	25	
HNC,	U1367	-1	46	117/111	H	29			T REL GRD				O		29	27.5	
HN1,	U817	-2	46	509/509	H	32			T TST GRD				O		36	34	
HN2,	U1355	-1,RP	106	117/148	H	47			T GRD				O		36.5	36.5	
HN4,	U815	-2,RP	106	513/523	H	41			T GRD				O		47	44.5	
HN7	U1396	RQ	106	127/114	H	50			T GRD				O		43.5	41	
HNA0,	U1355	-1	80	117/146	H	47			T REL GRD				O		38.5	36.5	
HNA1,	U815	-2	80	513/523	H	41			T TST GRD				O		47	44.5	
HNA2, HNA4, HNA7																	
HTK	U6124	E	3	130/108	H	47	2T(HTK)		T(HTK) GRD				O	200	140	130	
									T(HTK) GRD				R	200	39.5	42	
HTK1	U1371		3	111/110	H	35			T(HTK1) GRD				O		80	75	
HTR	U1073		30, 106	161/163	H	59	2T(HTR)		T(HTR) GRD				O		31.5	30	
HTT	U940		79	102/108	H	55		B(HTT)		BAT.	1		O		10.7	10.1	CONN DIRECT GRD TO IT (HTT) REL
HTUK	U1354		66	106/106	H	47			T(HTUK) GRD				O		31	29.5	
IMG	U74		99	126/108	H	47			T(IMG) GRD				O		19	16	
IMT	U179		99	117/145	H	47			T(IMT) GRD				O		19.5	18.5	
INC	U1349	-1	43	109/109	H	29			T(INC) GRD				O		35.5	32.5	
	U821	-2	43	512/512	H	32			T(INC) GRD				O		44	41.5	
INCQ	U812		110	510/510	H	32			T(INCQ) GRD				O		57	54	
INT	1/2 AK6		161	2					IU(INT) GRD				O		28.8	27.5	MTD WITH (INT1)
INT1	1/2 AK6		161	2					IL (INT1) GRD				O		28.8	27.5	MTD WITH (INT)
IPT	U639		AL	161/195	H	53			T(IPT) GRD				O		34	32	
ITA	U287		82	130/111	H	44			T(ITA) GRD				O		19	18	
ITC	U226		170	139/139	H	59			T(ITC) GRD				O		49.5	47	
ITCA	U1371		170	111/110	H	35			T(ITCA) GRD				O		78.8	75	
ITNA	U940		170	127/127	H	47			T(ITNA) GRD				O		21	20	
ITNB	U940		170	127/127	H	47			T(ITNB) GRD				O		21	20	

TEST NOTES:

1. SEE TIME REQUIREMENTS, PAGE 72.

NO. 5 MARKER CIRCUIT — SD-25550-01-F12 — BELL TELEPHONE LABORATORIES, INC — PRINTED IN U.S.A.

CROSSBAR SYSTEMS — NO. 5 MARKER CIRCUIT — SD-25550-01-F12 — BELL TELEPHONE LABORATORIES, INC — 6S — PRINTED IN U.S.A.

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D, 42 ECR GF KEL AHD, 43 ECR GF KEL AHD, 54D

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS	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
ITR1	U1401		82	127/112	H	47			T(ITR1)	GRD			0		145	135	
ITR2	U1348		J	161/150	H	53			T(ITR2)	GRD			0		180	170	
ITR3	U1384		33	113/113	H	29			T(ITR3)	GRD			0		155	145	
JO, J1, J2, J4, J7	U1387	N	49	160/160	H	47		T REL TST		GRD			0		24.5	23	
JB	U1412		78	137/130	H	44			T(JB)	GRD			0		20.5	19.5	
JCKOJ	2768		29	1									0 NO R	B	3 2.3 0.2		SEE BSP
JGO	U1348		17	161/150	H	53			T(JGO)	GRD			0		180	170	
JG1	U1347	-1	17	117/145	H	47			T(JG1)	GRD			0		125	115	
	U822	-2	17	513/522	H	41			T(JG1)	GRD			0		160	150	
JG2	U1405		17	195/135	H	47			T(JG2)	GRD			0		185	175	
JG3	U1347	-1	17	117/145	H	47			T(JG3)	GRD			0		125	115	
	U822	-2	17	513/522	H	41			T(JG3)	GRD			0		160	150	
JG4	U1347	-1	17	117/145	H	47			T(JG4)	GRD			0		125	115	
	U822	-2	17	513/522	H	41			T(JG4)	GRD			0		160	150	
JLE	U1390	-1	27	137/110	H	41			T(JLE)	GRD			0		36.5	34.5	
	U820	-2	27	501/506	H	32			T(JLE)	GRD			0		37.5	35.5	
JLO	U1390	-1	27	137/110	H	41			T(JLO)	GRD			0		36.5	34.5	
	U820	-2	27	501/506	H	32			T(JLO)	GRD			0		37.5	35.5	
JSE	U506	-1	27	148/148	H	47			T(JSE)	GRD			0		34.5	32.5	
	U89	-2	27	523/523	H	41			T(JSE)	GRD			0		36	34	

MARKER CIRCUIT — SD-25550-01-F13

BELL TELEPHONE LABORATORIES, INC

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D, 42 ECR GF KEL AHD, 43 ECR GF KEL AHD, 54D

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS	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
JSO	U506	-1	27	148/148	H	47			T(JSO)	GRD			0		34.5	32.5	
	U89	-2	27	523/523	H	41			T(JSO)	GRD			0		36	34	
JSOO-5	U1368	-1	27	112/112	H	29	5T(WT8), (JLO)0	T REL		GRD			0		40.5	38.5	
	U818	-2	27	505/505	H	32		T TST		GRD			0		50.5	48	
JT	239JP OR 280AL	WP WQ	31	B				4B(HMS1) 4B(HMS1) 4B(HMS1) 4B(HMS1) 4B(HMS1) 11B(TLC2)	2B(SL) 2B(SL) 2B(SL) 2B(SL) 11B(TLC2) 3B(SL)	NGB NGB NGB NGB NGB NGB		P P P P S T	0 NO 0 R 0 0	-28 -28 -28 28		0.7 0.5 2.8 0.6 2.5 2.7	2.6 0.7
KO, K1, K2, K4, K7	U1387	N	49	160/160	H	47		T REL TST		GRD			0		24.5	23	
KA	U1389	-1	49	123/123	H	29			T(KA)	GRD			0		29.5	28	
	U819	-2	49	516/516	H	32			T(KA)	GRD			0		37.5	35.5	
KBC	U1325	-1	49	113/113	H	29			T(KBC)	GRD			0		47.5	45	
	U812	-2	49	510/510	H	32			T(KBC)	GRD			0		57	54	
KCM	U234		137	160/108	H	47			T(KCM)	GRD			0		19	18	
KCV	U234		137	160/108	H	47			T(KCV)	GRD			0		19	18	
KDE	U1325	-1	49	113/113	H	29			T(KDE)	GRD			0		47.5	45	
	U812	-2	49	510/510	H	32			T(KDE)	GRD			0		57	54	
KFG	U1325	J-1	49	113/113	H	29			T(KFG)	GRD			0		47.5	45	
	U812	J-2	49	510/510	H	32			T(KFG)	GRD			0		57	54	
KG	U1389	-1	49	123/123	H	29	5B(RSC)		T(KG)	GRD			0		29.5	28	
	U819	-2	49	516/516	H	32	5B(RSC)		T(KG)	GRD			0		37.5	35.5	
KGS1,2	U1384		95	113/113	H	29			T(KGS1)	GRD			0		155	145	
KGS3, 4,5	AF506		186	B				U REL TST		GRD			0		30.5 95	29 90	WDG ALONE (KGS3),(KGS4) & (KGS5) IN PARALLEL

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MARKER CIRCUIT — (2) SD-25550-01-F13

BELL TELEPHONE LABORATORIES, INC — 6S

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D (6 W. F.C.B.) w.f.o. | 43B (UPX M-S.) P.D. | 49D (AD, ADC, AND) | 54D (CF, DEL, AND)

DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.		MECH RQT BSP FIG.	MECH RQT CONT PRESS	MECH RQT ARM. TPVL	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 RQT TEST WDG	DIRECT CURRENT FLOW RQT TEST FOR	DIRECT CURRENT FLOW RQT AFTER SOAK MA.	DIRECT CURRENT FLOW RQT TEST MA.	DIRECT CURRENT FLOW RQT READJ MA.	REMARKS
KNJ	U1325	M-1	49		113/113	H	29			T(KNJ)	GRD			0		47.5	45	
	UB12	M-2	49		510/510	H	32			T(KNJ)	GRD			0		57	54	
KK	U1369	-1	49		123/123	H	29			T(KK)	GRD			0		29.5	28	
	UB19	-2	49		516/516	H	32			T(KK)	GRD			0		37.5	35.5	
KKL	U1325	G-1	49		113/113	H	29			T(KKL)	GRD			0		47.5	45	
	UB12	G-2	49		510/510	H	32			T(KKL)	GRD			0		57	54	
LO, L1, L2, L4, L7	U1367	K	49		160/160	H	47			T REL TEST	GRD			0		24.5	23	
LB	U1348		30		161/150	H	53	12T(LB)		T(LB)	GRD			0		180	170	
LBO-9	UA106		29		110/110	H	35			T REL TEST	GRD			0		3.9	3.7	
LBT	2768		30		1									0	9	3		SEE BSP
														NO		2.3		
														R		0.2		
LCD8-2	U1355	-1	151		117/146	H	47			T REL	GRD			0		38.5	36.5	
	UB15	-2	151		513/523	H	41			T TEST	GRD			0		47	44.5	
LCH	U541		AO		132/111	H	47			T(LCH)	GRD			0		11.1	10.5	
	U266		AP		108/111	H	47			T(LCH)	GRD			0		16	15	
LCK	U1296		31		121/106	H	50			T(LCK)	GRD			0		43.5	41	
LDT	U1306		AG		111/106	H	44		B(LDT)		BAT.	1		0		10.1	9.6	CONN DIRECT GROUND TO 1B(LDT)
	U554		AH		148/147	H	47		B(LDT)		BAT.	1		0		10.5	10	
LE	U1390	-1	7		137/110	H	41			T(LE)	GRD			0		36.5	34.5	
	UB20	-2	7		501/506	H	32			T(LE)	GRD			0		37.5	35.5	
LEA	U1394	PG	44		123/111	H	29			T(LEA)	GRD			0		90	85	
LEB	U1394	PH	44		123/111	H	29			T(LEB)	GRD			0		90	85	

TEST NOTES:

1. SEE TIME REQUIREMENTS, PAGE 72.

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D (6 W. F.C.B.) | 43B (103 M-S.) | 49D (AD, ADC, AND) | 54D (CF, DEL, AND)

DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.		MECH RQT BSP FIG.	MECH RQT CONT PRESS	MECH RQT ARM. TPVL	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 RQT TEST WDG	DIRECT CURRENT FLOW RQT TEST FOR	DIRECT CURRENT FLOW RQT AFTER SOAK MA.	DIRECT CURRENT FLOW RQT TEST MA.	DIRECT CURRENT FLOW RQT READJ MA.	REMARKS
LFO-9	239HL OR 280AS	WD	78		B				5 REL TEST 5	2 REL TEST 2	B/G		P	0	-55		1.3	
		WE									B/G		P	KG	-55		0.9	
											B/G		P	0	-55	4.7	4.4	
											B/G		P	R	55	1	1.1	
													S	0		10.7		WINDING ALONE
								1B(NT)	3B(NT2)		B/G	1	S	0		130		
LFK	U541	SV	32		132/111	H	47			T(LFK)	GRD			0		11.1	10.5	
	U1323	SW	32		116/106	H	50			T(LFK)	GRD			0		13	12.3	
LFK1	AF511		185		32					U(LFK1)	GRD			0		24.5	23	
LFKA	AF169		173		33					U(LFKA)	GRD			0		40	38	
LGT	U1073		R		161/163	H	59			T(LGT)	GRD			0		31.5	30	
LHT	U1396	ZJ	30, 106		127/114	H	50	3B(HTR)		T(LHT)	GRD			0		43.5	41	
LI	U1366	-1	75		123/111	H	29			T(LI)	GRD			0		27	25.5	
	UB16	-2	75		516/509	H	32			T(LI)	GRD			0		34.5	32.5	
LIN	U1317		AU		117/146	H	47			T(LIN)	GRD			0		19	18	
LK	U1298		31		121/106	H	50			T(LK)	GRD			0		43.5	41	
LK1	U1383		31		197/157	H	59			T(LK1)	GRD			0		180	170	
LK2	U1383		J		197/157	H	59	(ITR210		T(LK2)	GRD			0		180	170	
LLO, LL1, LL2, LL4, LL7	U1377		29		155/166	H	50			T REL TEST	GRD			0		46	45.5	
LLB	U422		82		132/101	H	47		B(LLB)		BAT.			0		14.4	13.7	
LLC1	U1384		32		113/113	H	29			T(LLC1)	GRD			0		155	145	
LLC2	U1384		32		113/113	H	29			T(LLC2)	GRD			0		155	145	
LLC4	AJ501		185		249					U(LLC4)	GRD			0		42.5	40.5	
LLI	U144	-1	68		113/113	H	29			T(LLI)	GRD			0		22	20.5	
	UB1	-2	68		510/510	H	32			T(LLI)	GRD			0		28	26.5	
LLS	AJ12		185		220					U(LLS)	GRD			0		42.5	40.5	

TEST NOTES:

1. (LF) UNDER TEST IN PAR WITH 9 OTHERS.

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D 6-W, K-B, w/ AP.; 46D TJW, GLM, AMP; 54D JEK, KEL, AHD; 56D NLF

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.		MECH REQT BSP FIG.	MECH REQT CONT PRESS.	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
LNT	U722	RE	78		148/145	H	47			T(LNT)	GRD			0		22.5	21	
LOD	U1390	-1	7		137/110	H	41			T(LOD)	GRD			0		36.5	34.5	
	UB20	-2	7		501/506	H	32			T(LOD)	GRD			0		37.5	35.5	
LOT	W511		33		139/139	H	59							0		30	28.5	WINDING ALONE
										T(LOT)	GRD			0		165	155	CKT COMB. OF THE (CBD), (CBD1) & (LOT) RELAYS
LOT1	U1367	-1	33		111/111	H	29			T(LOT1)	GRD			0		29	27.5	
	UB17	-2	33		509/509	H	32			T(LOT1)	GRD			0		36	34	
LP	U133	-1	138		138/138	H	47			T(LP)	GRD	1		0		11	10.4	
	UB25	-2	138		520/520	H	41			T(LP)	GRD	1		0		9.4	8.9	
LPA	U1394		44		123/111	H	29			T(LPA)	GRD			0		90	85	
	U1369	-1	97		112/112	H	29			T(LPA)	GRD			0		115	105	
	UB24	-2	97		505/505	H	32			T(LPA)	GRD			0		140	130	
LPB	U1394	V	44		123/111	H	29			T(LPB)	GRD			0		90	85	
	U1369	V-1	97		112/112	H	29			T(LPB)	GRD			0		115	105	
	UB24	V-2	97		505/505	H	32			T(LPB)	GRD			0		140	130	
LT2	U1325	-1	KE		113/113	H	29			T REL	GRD			0		47.5	45	
	UB12	-2	KE		510/510	H	32			T TST	GRD			0		57	54	
LR	U1113		33		114/114	H	50			T(LR)	GRD			0		22.5	21	
LSC2	AJ503		185		249					U REL	GRD			0		95	90	WINDING ALONE
										TST				0		210	200	(LSC1)& (LSC2) IN PARALLEL
LTA	U1394	U	44		123/111	H	29			T(LTA)	GRD			0		90	85	
	U1369	U-1	97		112/112	H	29			T(LTA)	GRD			0		115	105	
	UB24	U-2	97		505/505	H	32			T(LTA)	GRD			0		140	130	
LTB	U1394	T	44		123/111	H	29			T(LTB)	GRD			0		90	85	
	U1369	T-1	97		112/112	H	29			T(LTB)	GRD			0		115	105	
	UB24	T-2	97		505/505	H	32			T(LTB)	GRD			0		140	130	
LTI	AJ501		185		249					U(LTI)	GRD			0		42.5	40.5	
LTR	U189		30, 106		148/148	H	47			T(LTR)	GRD	2		0		10.1	9.6	
LXP	239KG OR 280AM	WR	31		B				12B(GLH1)	1B(FCGA)	B/G		P	0	-34		0.8	
		WS							12B(GLH1)	1B(FCGA)	B/G		P	NO	-34		0.6	
									12B(GLH1)	1B(FCGA)	B/G		P	0	-34	3.3	3.1	
									12B(GLH1)	1B(FCGA)	B/G		P	R	-34	0.7	0.8	
								12B(TLC2)	12B(GLH1)	11B(TLC2)	B/G		S	0		3.1		

TEST NOTES:

1. (LP)KEY FOR THE MKR UNDER TEST MUST BE IN OUT POSITION.
2. WITH A 20 MIL GAUGE BETWEEN THE ARMATURE AND CORE, AND THE RELAY ENERGIZED, CONTACTS 6T AND 7T SHALL MAKE.

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

SD-25550-01-F15

SD-25550-01-F15

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D 6-W, K-B, w/ AP.; 46D TJW, GLM, AMP; 54D JEK, KEL, AHD; 56D NLF

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.		MECH REQT BSP FIG.	MECH REQT CONT PRESS.	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
LXP1	U6039		31		132/107	H	47			T(LXP1)	GRD			0	FS	25	23.5	
										T(LXP1)	GRD			R	FS	4.7	5	
M0-1	S69		84						R81 REL	2RT REL	B/G		P	0		750	710	
M2-3									R81 TEST	2RT TEST	G/G		P	NO		595	630	
M4-5										LB1	GRD		S	0		90		
M6-7																		
M8-9																		
MAK	U1390	-1	73		137/110	H	41			T(MAK)	GRD	1		0		36.5	34.5	
	UB20	-2	73		501/506	H	32			T(MAK)	GRD	1		0		37.5	35.5	
MAK1	U1364		33, 103		120/111	H	35			T(MAK1)	GRD			0		31.5	30	
MAN	U506	E-1	10		148/148	H	47			T(MAN)	GRD			0		34.5	32.5	
	UB9	E-2	10		523/523	H	41			T(MAN)	GRD			0		36	34	
MB	U1313		73		177/149	H	59	(OAT1)0		TF(MB)	GRD		P	0		40	38	
										TR(MB)	GRD		S	0		40		
MB0-4	U1374	YJ	67		121/121	H	50			TF REL	GRD		P	0		24	22.5	
										TR TEST	GRD		S	0		24.5	23	
MBA	S533		151							2RT(MBA)	GRD			0		85	80	
										2RT(MBA)	GRD			NO		68	72	
MBK1-5	U1373	YJ	67		101/136	H	29			T REL	GRD			0		13.5	12.8	
										TEST								
MBK6	AF110		183		272					U(MBK6)	GRD			0		16.5	15.5	
MBP	U977	YJ	67		160/108	H	47			T(MBP)	GRD			0		29.5	28	
MBS	U977	YJ	67		160/108	H	47			T(MBS)	GRD			0		29.5	28	
MBSO	U1371	FC	56		111/110	SPL	35			T(MBSO)	GRD	2		0		80	75	
										T(MBSO)	GRD			NO		65	68	
MBSO	U1370	GW	56		120/120	SPL	35			T(MBSO)	GRD	2		0		80	75	
										T(MBSO)	GRD			NO		65	68	
MBSI-9	U1371	ED	56		111/110	SPL	35			T REL	GRD	2		0		80	75	
										T TEST	GRD			NO		65	68	
MBSI-9	U1370	EE	56		120/120	SPL	35			T REL	GRD	2		0		80	75	
										T TEST	GRD			NO		65	68	
MCB1	U144	-1	73		113/113	H	29	1T(MB)		T(MCB1)	GRD	3		0		22	20.5	WINDING ALONE
	UB1	-2	73		510/510	H	32	1T(MB)		T(MCB1)	GRD	3		0		28	26.5	WINDING ALONE

TEST NOTES:

1. BLOCK (MS) RELAY OPERATED ASSIGNED TO THIS MARKER IN THE FIRST PREFERRED MARKER CONNECTOR IN THE PREFERRED CHAIN.
2. MIN. TENSION 18 SPG 8 GRMS TEST-10 GRMS READJ.
3. FOR MULT. CIRCUIT CONDITION, CURRENT FLOW REQUIREMENTS ARE OBTAINED BY MULTIPLYING THE WINDING ALONE REQUIREMENT BY THE NUMBER OF RELAY WINDINGS CONNECTED IN MULT.

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES, INC

6S

SD-25550-01-F15

CIRCUIT REQUIREMENTS

DESIG	APPARATUS CODE	OPTION	FIG.	MECH REQT DEP FIG.	MECH REQT CONT PRESS.	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN DAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST VIBS	TEST FOR	AFTER GRAM GM.	TEST GM.	READJ GM.	REMARKS
MCB2-6	U1344	-1	74	113/113	H	29	1T(MB)	T REL	GRD	1			0		22	20.5	WINDING ALONE
	UB1	-2	74	510/510	H	32	1T(MB)	T TEST	GRD	1			0		28	26.5	WINDING ALONE
MCK	U1390	-1	73	137/110	H	41	T(MCK)		GRD	2			0		36.5	34.5	
	UB20	-2	73	501/506	H	32	T(MCK)		GRD	2			0		37.5	35.5	
MCN	U506	E-1	10	148/148	H	47	T(MCN)		GRD				0		34.5	32.5	
	UB9	E-2	10	523/523	H	41	T(MCN)		GRD				0		36	34	
MDK	U1367	-1	32	111/111	H	29	T(MDK)		GRD				0		29	27.5	
	UB17	-2	32	509/509	H	32	T(MDK)		GRD				0		36	34	
MF	AJ700		174	300			DDR)NO		U(MF)	GRD			0		90	85	
MF	U1384	JL	32	113/113	H	29			T(MF)	GRD			0		155	145	
MFK	AF168		173	331					U(MFK)	GRD			0		40	38	
MFL	AF96		173	46					U(MFL)	GRD		P	0		100	95	
									U MFL	GRD		P	NO		80	85	
MLF	U1384	XH	32	113/113	H	29			T(MLF)	GRD			0		155	145	
MN	U1358		84	110/144	H	35			T(MN)	GRD			0		85	80	
MN1	U1244	-1	84	110/101	H	35			T(MN1)	GRD			0		6.7	6.3	
	UB27	-2	84	506/527	H	32			T(MN1)	GRD			0		7.7	7.3	
MON	U1381	XA	A1	119/113	H	35			T(MON)	GRD			0		47	44.5	
MON1	U1307	XA	A1	215/215	H	47			T(MON1)	GRD			0		22	20.5	
MPT	S29		84						2RT(MPT)	GRD			0		4.6	4.3	
									2RT(MPT)	GRD			NO		3.6	3.8	
MRL	U52		79	155/126	H	59	B(MRL)			BAT.	3		0		20	19	CONN DIRECT GRD TO 1B & 2B(MRL) RELAY
MRL1	U1145		79	198/169	H	59			T(MRL1)	GRD			0		20	19	
MSK	U1390	-1	73	137/110	H	41			T(MSK)	GRD	2		0		36.5	34.5	
	U520	-2	73	501/506	H	32			T(MSK)	GRD	2		0		37.5	35.5	
MT	U64	-1	79	113/113	H	29			T(MT)	GRD			0		20.5	19.5	
	UB6	-2	79	510/510	H	32			T(MT)	GRD			0		26.5	25	

DRAWING ISSUE: 41D, 49D, 51D, 56D, MD

TEST NOTES:

1. FOR MULT CIRCUIT CONDITION, CURRENT FLOW REQUIREMENTS ARE OBTAINED BY MULTIPLYING THE WINDING ALONE REQUIREMENT BY THE NUMBER OF RELAY WINDINGS CONNECTED IN MULT.
2. BLOCK (MS) RELAY OPERATED, ASSIGNED TO THIS MARKER IN THE FIRST PREFERRED MARKER CONNECTOR IN THE PREFERRED CHAIN.
3. SEE TIME REQUIREMENTS, PAGE 72.

CIRCUIT REQUIREMENTS

DESIG	APPARATUS CODE	OPTION	FIG.	MECH REQT DEP FIG.	MECH REQT CONT PRESS.	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN DAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST VIBS	TEST FOR	AFTER GRAM GM.	TEST GM.	READJ GM.	REMARKS
MT1	U1337		79	124/124	H	59			T(MT1)	GRD			0		64	60.5	
MT2	U59		69	124/124	H	59			T(MT2)	GRD			0		31	29.5	
MT3	U177		21	139/139	H	59			T(MT3)	GRD	1		0		19	18	WINDING ALONE
									T(MT3)	GRD			0		42	40	
									T(MT3)	GRD			0		90	85	CKT COMB. OF (MT3),(MT4), (MT3A),(MT4A) RELAYS
MT3A	U177		22	139/139	H	59			T(MT3A)	GRD			0		19	18	WINDING ALONE
									T(MT3A)	GRD			0		90	85	CKT COMB. OF (MT3),(MT4), (MT3A) & (MT4A) RELAYS
MT4	U177		21	139/139	H	59			T(MT4)	GRD	1		0		42	40	
									T(MT4)	GRD			0		19	18	WINDING ALONE
									T(MT4)	GRD			0		90	65	CKT COMB. OF (MT3),(MT4), (MT3A),(MT4A) RELAYS
MT4A	U177		22	139/139	H	59			T(MT3A)	GRD			0		19	18	WINDING ALONE
									T(MT3A)	GRD			0		90	85	CKT COMB. OF (MT3),(MT4), (MT3A) & (MT4A) RELAYS
MT5	U1384		26	113/113	H	29			T(MT5)	GRD			0		155	145	
MT6	U1401	XA	26	127/112	H	47			T(MT5)	GRD			0		145	135	
MT7	U59		28	124/124	H	59			T(MT7)	GRD			0		31	29.5	
MT8	U1330		27	155/149	H	50			T(MT8)	GRD			0		25	23.5	
MT8A	U338		CD	162/162	H	41			T(MT8A)	GRD	2		0		20.5	19.5	WINDING ALONE
													0		85	80	
MT9	U333		18	150/150	H	50			T(MT9)	GRD			0		15.5	14.4	
MT10	U59		77	124/124	H	59			T(MT10)	GRD			0		31	29.5	
MT11	U59		5	124/124	H	59			T(MT11)	GRD			0		31	29.5	WINDING ALONE
													0		68.5	65	(MT11) & (MT28) IN PARALLEL
													0		115	105	(MT11),(MT28) & (MT29) IN PARALLEL

DRAWING ISSUE: 41D, 49D, 51D, 56D, MD

TEST NOTES:

1. REQ FOR CKT COMB. OF (MT3) AND (MT4) RELAYS.
2. CKT COMB. OF (MT8A) REL AND (MT8) RES.

SD-25550-01-F16

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REST REF. FIG.	MECH REST CONT. PRESS.	MECH REST ARR. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TRBV CLIP DATA CONN. DAT.	CIRCUIT PREPARATION TRBV CLIP DATA CONN. GRD	TRBV SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REST TRBV USED	DIRECT CURRENT FLOW REST TEST FOR	DIRECT CURRENT FLOW REST AFTER SCALE MA.	DIRECT CURRENT FLOW REST TRBV MA.	DIRECT CURRENT FLOW REST READJ MA.	REMARKS
MT12	U1113	XA	79	114/114	H	50			T(MT12)	GRD			0		22.5	21	
MT13	U1337		79	124/124	H	59	12T(MT13)		T(MT13)	GRD			0		64	60.5	
MT14	U934	-1	79	150/139	H	59							0		29.5	28	WINDING ALONE
									T(MT14)	GRD			0		66	62.5	COMB.(MT14) & (MT27) RELAYS
	U85	-2	79	524/521	H	41							0		26	24.5	WINDING ALONE
									T(MT14)	GRD			0		58	54.5	COMB.(MT14) & (MT27) RELAYS
MT15	U809	E	18	118/117	H	47							0		19	18	WINDING ALONE
									T(MT15)	GRD			0		42	40	(MT15) & (MT20) REL IN PARALLEL
MT16, MT17	U177		78	139/139	H	59			T REL TEST	GRD			0		19	18	WINDING ALONE
													0		42	40	CKT COMB. OF (MT16) AND (MT17) RELAYS
MT18	U1118		0	156/137	H	47			T(MT18)	GRD			0		27	25.5	
MT19	U934	-1	114	150/139	H	59	•						0		29.5	28	WINDING ALONE
									T(MT19)	GRD	1		0		56.5	53.5	
	U85	-2	114	524/521	H	41							0		26	24.5	WINDING ALONE
									T(MT19)	GRD	1		0		49.5	47	
MT20	U1024		114	163/139	H	59							0		31	29.5	WINDING ALONE
									T(MT20)	GRD	1		0		85	80	
MT21	U593		177	118/118	H	50							0		22	21	WINDING ALONE
									T(MT21)	GRD			0		49.5	47	(MT15) & (MT21) REL IN PARALLEL
MT22	AJ12		185	220					U(MT22)	GRD			0		42	40.5	
MT23	W2BK501		186	2					IL(MT23)	GRD			0		29.5	27.5	MTD WITH (TB11)
MT25	U67	KT,FI	67	145/108	H	47			T(MT25)	GRD			0		18	17	
MT25A	W2AK501		186	2					IL(MT25A)	GRD			0		29.5	27.5	MTD WITH (MT29)
MT26	U1375	KT	67	108/108	H	47			T(MT26)	GRD			0		17.5	16.5	
MT27	U934	-1	28	150/139	H	59							0		29.5	28	WINDING ALONE
									T(MT27)				0		66	62.5	COMB. (MT27) & (MT14) RELAYS
	U85	-2	28	524/521	H	41							0		26	24.5	WINDING ALONE
									T(MT27)				0		58	54.5	COMB. (MT27) & (MT14) RELAYS
MT28	AJ12		181	220					U(MT28)	GRD			0		42.5	40.5	WINDING ALONE
															100	95	(MT28) & (MT11) IN PARALLEL
													0		155	145	(MT28),(MT11) & (MT29 IN PARALLEL
MT29	W2AK501		186	2					IL(MT29)	GRD			0		29.5	27.5	WINDING ALONE, MTD WITH (MT25A)
													0		62.5	58.5	(MT29) & (MT11) IN PARALLEL
													0		95	90	(MT29),(MT10 & (MT28) IN PARALLEL
MT41	AJ12		184	220					U(MT41)	GRD			0		42.5	40.5	
MXT	U226		91	139/139	H	59			T(MXT)	GRD			0		49.5	47	
N1	U1357	-1	46	113/112	H	29			T(N1)	GRD			0		145	135	
	UB23	-2	46	510/505	H	32			T(N1)	GRD			0		150	140	
N1A	U1345	UG-1	46	113/112	H	29			T(N1A)	GRD			0		44	41.5	
	UB13	UG-2	46	510/505	H	32			T(N1A)	GRD			0		54	51	
	U1357	UH-1	46	113/112	H	29			T(N1A)	GRD			0		145	135	
	UB23	UH-2	46	510/505	H	32			T(N1A)	GRD			0		150	145	
N2	U1357	-1	46	113/112	H	29			T(N2)	GRD			0		145	135	
	UB23	-2	46	510/505	H	32			T(N2)	GRD			0		150	145	
N2A	U1345	UG-1	46	113/112	H	29			T(N2A)	GRD			0		44	41.5	
	UB13	UG-2	46	510/505	H	32			T(N2A)	GRD			0		54	51	
	U1357	UH-1	46	113/112	H	29			T(N2A)	GRD			0		145	135	
	UB23	UH-2	46	510/505	H	32			T(N2A)	GRD			0		150	145	

TEST NOTES:

1. CIRCUIT COMB. OF (MT19) AND (MT20) RELAYS.

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REST REF. FIG.	MECH REST CONT. PRESS.	MECH REST ARR. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TRBV CLIP DATA CONN. DAT.	CIRCUIT PREPARATION TRBV CLIP DATA CONN. GRD	TRBV SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REST TRBV USED	DIRECT CURRENT FLOW REST TEST FOR	DIRECT CURRENT FLOW REST AFTER SCALE MA.	DIRECT CURRENT FLOW REST TRBV MA.	DIRECT CURRENT FLOW REST READJ MA.	REMARKS
N3	U1357	-1	46	113/112	H	29			T(N3)	GRD			0		145	135	
	UB23	-2	46	510/505	H	32			T(N3)	GRD			0		150	140	
N3A	U1345	UG-1	46	113/112	H	29			T(N3A)	GRD			0		44	41.5	
	UB13	UG-2	46	510/505	H	32			T(N3A)	GRD			0		54	51	
	U1357	UH-1	46	113/112	H	29			T(N3A)	GRD			0		145	135	
	UB23	UH-2	46	510/505	H	32			T(N3A)	GRD			0		150	140	
N4	U1357	-1	46	113/112	H	29			T(N4)	GRD			0		145	135	
	UB23	-2	46	510/505	H	32			T(N4)	GRD			0		150	140	
N4A	U1345	UG-1	46	113/112	H	29			T(N4A)	GRD			0		44	41.5	
	UB13	UG-2	46	510/505	H	32			T(N4A)	GRD			0		54	51	
	U1357	UH-1	46	113/112	H	29			T(N4A)	GRD			0		145	135	
	UB23	UH-2	46	510/505	H	32			T(N4A)	GRD			0		150	140	
NAI	AJ503		186	249					U(NAI)	GRD			0		95	90	
NANC	AK22		179	216					IL(NANC)	GRD			0		27.5	26	MOUNTED WITH (ANC) RELAY
NAR1-3	U1348		142	161/150	H	53			T REL TEST	GRD			0		180	170	
NCCN	U1371		53	111/110	SPL	35			T(NCCN)	GRD	1		0		80	75	
									T(NCCN)	GRD			NO		65	68	
NCNC	U1371		53	111/110	SPL	35			T(NCNC)	GRD	1		0		80	75	
									T(NCNC)	GRD			NO		65	68	
NCRA	AJ72		187	64					1U(NCR4)	GRD		P	0		34	32	
									2U(NCRA)	GRD		S	0		35.5	33.5	

TEST NOTES:

1. MIN TENSION 18 SPG 8 GRAMS TEST-10 GRAMS READJ.

CIRCUIT REQUIREMENTS

DESIG	CODE	OPTION	FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS.	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
NCTD	AJ508		188	19			1B(NCNC)		U(NCTD)	GRD			0		75	71	
NDI	U892		33	117/148	H	47	5T(NDI)		TF(HDI)	GRD		P	0		24.5	23	
									TR(NDI)	GRD		S	0		19		
NDK	U1355	-1	33	117/148	H	47			T(NDK)	GRD			0		38.5	36.5	
	UB15	-2	33	513/523	H	41			T(NDK)	GRD			0		47	44.5	
NE	U180		46	132/111	H	47			T(NE)	GRD			0		16.5	15.5	
NGB	U422		82	132/101	H	47		B(NGB)		BAT			0		14.4	13.7	
NGC	U1325	-1	68	113/113	H	29			T(NGC)	GRD			0		47.5	45	
	UB12	-2	68	510/510	H	32			T(NGC)	GRD			0		57	54	
NGK	U541	RP	68	132/111	H	47			T(NGK)	GRD			0		11.1	10.5	
	U195	RQ	68	145/120	H	47			T(NGK)	GRD			0		14.2	13.5	
NGK1	U1355	-1	68	117/148	H	47		B(NGK1)	T(NGK1)	B/G			0		38.5	36.5	
	UB15	-2	68	513/523	H	41		B(NGK1)	T(NGK1)	B/G			0		47	44.5	
NGP	U521		82	108/108	H	47			T(NGP)	GRD			0		22	20.5	
NGP1	U234		102, 109	150/108	H	47			T(NGP1)	GRD			0		19	18	
NH	U293		78	132/110	H	47			T(NH)	GRD			0		17.5	16.5	
NIDA	U1150	GY	169	329/150	H	59	10T(NIDA)		T(NIDA)	GRD	1		0		47	44.5	WINDING ALONE
							10T(NIOD)								105	100	
NIOD	U1150		169	329/150	H	59							0		47	44.5	WINDING ALONE
							10T(NIOD)		T(NIOD)	GRD	1		0		105	100	
							10T(NIDA)										
NOB	U1346	YJ-1	BG	132/101	H	47	3B(MT14)		T(NOB)	GRD			0		26.5	25	
	UB14	YJ-2	BG	519/527	H	41	3B(MT14)		T(NOB)	GRD			0		24.5	23	
	U1355	-1	BH	117/148	H	47	3B(MT14)		T(NOB)	GRD			0		38.5	36.5	
	UB15	-2	BH	513/528	H	41	3B(MT14)		T(NOB)	GRD			0		47	44.5	
NOC	U1356		33	132/110	H	47			T(NOC)	GRD			0		38	36	
NR	U1298		45	121/106	H	50			T(NR)	GRD			0		43.5	41	

TEST NOTES:
1. (NIDA) & (NIOD) RELAYS IN PARALLEL

DRAWING ISSUE: 41D CAP FCA INFO; 47D XREG LW AND; 54D CF REL AND; 56D NF

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

SD-25550-01-F18

CIRCUIT REQUIREMENTS

DESIG	CODE	OPTION	FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS.	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
NS	U1362		102, 109	145/123	H	47			T(NSD)	GRD	1		0		32.5	30.5	WINDING ALONE
															71.5	68	
NSI	U1396		33	127/114	H	50			T(NSI)	GRD			0		43.5	41	
NSIA	V2AK501		185	2					IL(NSIA)	GRD			0		29.5	27.5	MTD WITH (DCTA)
NSO	U1362		E	145/123	H	47			T(NSO)	GRD	2		0		32.5	30.5	WINDING ALONE
									T(NSO)	GRD	3		0		71.5	68	
	U1396		F	127/114	H	50			T(NSO)	GRD	2		0		43.5	41	WINDING ALONE
									T(NSO)	GRD	4		0		100	95	
NSS0-1	U1381		147	119/113	H	35			T REL TEST	GRD			0		47	44.5	
NSS2-5	U1391		148	119/113	H	35			T REL TEST	GRD			0		47	44.5	
NT	U1407		78	117/109	H	47			T(NT)	GRD			0		18	17	
NT1	U144	-1	78	113/113	H	29	2T(JB)		T(NT1)	GRD			0		22	20.5	
	UB1	-2	78	510/510	H	32	2T(JB)		T(NT1)	GRD			0		28	26.5	
NT2	U112		78	123/111	H	29	5T(NT2)		T(NT2)	GRD	5		0		17.5	16.5	
							5T(NT2)		T(NT2)	GRD	5		NO		11.7	12.4	
NT3	U144	-1	78	113/113	H	29			T(NT3)	GRD			0		26	24.5	
									T(NT3)	GRD			NO		17	18	
	UB1	-2	78	510/510	H	32			T(NT3)	GRD	6		0		33	31	
									T(NT3)	GRD	6		NO		17	18	
NT4	U576		78	146/148	H	47			T(NT4)	GRD			0		21	20	
NT5	U1426		78	150/225	H	53			T(NT5)	GRD			0		26.5	25	
NTC	Y303		78	224/188	H	41			TF(NTC)	GRD		P	0	FS	80	74	
									TF(NTC)	GRD		P	H	FS	8.9	8.4	
									TF(NTC)	GRD		P	R	FS	6.4	6.8	
NTD	AF522	EL	188	18					U(NTD)	GRD			0		23	22	
NTH	U620	RD	78	132/111	H	47			T(NTH)	GRD			0		10	9.5	
	U665	RE	78	160/108	H	47			T(NTH)	GRD			0		11.2	10.6	

TEST NOTES:
1. CIRCUIT COMB. OF (NS) REL AND (NSO) REL OF APP FIG. E OR F.
2. USE WDG ALONE REQ WHEN APP FIG. 102 OR 109 IS NOT PROVIDED.
3. CIRCUIT COMB. OF (NSO) REL OF APP FIG. E AND (NS) REL.
4. CIRCUIT COMB. OF (NSO) REL OF APP FIG. F AND (NS) REL.
5. CONN DIRECT GRD TO 2B(NT2) RELAY.
6. MAX ARM. BACK TENSION REQ WAIVED.

DRAWING ISSUE: 48D CAP FCA INFO; 47D XREG LW AND; 54D CF REL AND; 56D NF

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

SIZE 6S

SD-25550-01-F18

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.		MECH REQT GRP FIG.	MECH REQT CONT PRESS.	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 POS	DIRECT CURRENT FLOW REQT AFTER SOAK MA.	DIRECT CURRENT FLOW REQT TEST MA.	DIRECT CURRENT FLOW REQT READJ MA.	REMARKS
NTR	U107		76		188/175	H	47			T(NTR)	GRD			0	FS	14.3	13.6	
										T(NTR)	GRD			H	FS	1.7	1.6	
										T(NTR)	GRD			R	FS	0.7	0.9	
NTT	U1396		78		127/114	H	50			T(NTT)	GRD			0		43.5	41	
OA	U1367	-1	BM		111/111	H	29			T(OA)	GRD			0		29	27.5	
	UB17	-2	BM		509/509	H	32			T(OA)	GRD			0		36	34	
	U1396		BN		127/114	H	50			T(OA)	GRD			0		43.5	41	
OAN	U1345	D-1	BL		113/112	H	29			T(OAN)	GRD			0		44	41.5	
	UB13	D-2	BL		510/505	H	32			T(OAN)	GRD			0		54	51	
	U1381		BK		119/113	H	35			T(OAN)	GRD			0		47	44.5	
OAT	U722		79		148/145	H	47	(OAT1)0 7T(OAT)		T(OAT)	GRD			0		22.5	21	
OAT1	U1362		79		145/123	H	47	3T(HTR)		T(OAT1)	GRD			0		32.5	30.5	
OB	U1367	D-1	BM		111/111	H	29			T(OB)	GRD			0		29	27.5	
	UB17	D-2	BM		509/509	H	32			T(OB)	GRD			0		36	34	
	U1396		BN		127/114	H	50			T(OB)	GRD			0		43.5	41	
OBN	U1345	D-1	BL		113/112	H	29			T(OBN)	GRD			0		44	41.5	
	UB13	D-2	BL		510/505	H	32			T(OBN)	GRD			0		54	51	
	U1381	D	BK		119/113	H	35			T(OBN)	GRD			0		47	44.5	
OBS	U1354	YJ	BG		108/106	H	47	3B(MT14)		T(OBS)	GRD			0		31	29.5	
	U1366		BH		215/151	H	47	3B(MT14)		T(OBS)	GRD			0		39	37	
OBS1	U1360	A	33, 103		137/108	H	47			T(OBS1)	GRD			0		33.5	31.5	
OBS2	U290	A	33, 103		102/108	H	53			TF(OBS2)	GRD		P	0		48	45.5	
										TF(OBS2)	GRD		P	NO		25	27.5	
										BR(OBS2)	GRD		S	0		80		CONN DIR BAT. TO TR(OBS2) RELAY
OC	U844	E	32		118/118	H	50			T(OC)	GRD			0		26.5	25	
OC1, OC2	U6033	E	32		120/110	H	35			T REL TEST	GRD			0	FS	22.5	21	
										T	GRD			R	FS	3.7	3.9	

DRAWING ISSUE: 41D, 45B, 46D, 54D

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.		MECH REQT GRP FIG.	MECH REQT CONT PRESS.	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 POS	DIRECT CURRENT FLOW REQT AFTER SOAK MA.	DIRECT CURRENT FLOW REQT TEST MA.	DIRECT CURRENT FLOW REQT READJ MA.	REMARKS
OCN	U1367	-1	47		111/111	H	29			T(OCN)	GRD			0		29	27.5	
	UB17	-2	47		509/509	H	32			T(OCN)	GRD			0		36	34	
OD	U1355	-1	151		117/148	H	47			T(OD)	GRD			0		38.5	36.5	
	UB15	-2	151		513/523	H	41			T(OD)	GRD			0		47	44.5	
OFCOS	AJ503		186		249			12 REL TEST		U REL TEST	GRD			0		100	90	
OFH	U1355	-1	75		117/148	H	47			T(OFH)	GRD			0		38.5	36.5	
	UB15	-2	75		513/523	H	41			T(OFH)	GRD			0		47	44.5	
OFH1	U1408		75		153/138	H	53			T(OFH1)	GRD			0		44.5	42	
OFK	U227		77		119/103	H	50	12T(OFK)		T(OFK)	GRD			0		11.1	10.5	
OGC	U1325	-1	34		113/113	H	29	(RSC)0		T(OGC)	GRD			0		47.5	45	
	UB12	-2	34		510/510	H	32	(RSC)0		T(OGC)	GRD			0		57	54	
ONW	U1399		32		139/139	H	59			T(ONW)	GRD			0		185	175	
ONX	U1325	-1	91		113/113	H	29			T(ONX)	GRD			0		47.5	45	
	U512	-2	91		510/510	H	32			T(ONX)	GRD			0		57	54	
OPE	U1271		124		111/101	H	29			T(OPE)	GRD			0		15.5	14.5	
										T(OPE)	GRD			NO		10.2	10.8	
OPR	U1360		53		137/108	H	47			T(OPR)	GRD			0		33.5	31.5	
OPSO-2	U968		54		132/132	H	47			T REL TEST	GRD			0		36	34	
OR	U1325	-1	BD		113/113	H	29			T(OR)	GRD			0		47.5	45	
	UB12	-2	BD		510/510	H	32			T(OR)	GRD			0		57	54	
	U1368	-1	BC		112/112	H	29			T(OR)	GRD			0		40.5	38.5	
	UB18	-2	BC		505/505	H	32			T(OR)	GRD			0		50.5	48	
ORC	U1415		151		154/127	H	47			T(ORC)	GRD			0		45	42.5	
ORCO-2	U1412		151		137/130	H	44			T REL TEST	GRD			0		20.5	19.5	
ORD	U1398		185		127/114	H	50			T(ORD)	GRD			0		43.5	41	
ORK1	U1299		49		132/106	H	47			T(ORK1)	GRD			0		38.5	36.5	

DRAWING ISSUE: 41D, 45B, 46D, 54D

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D GW WFO; 45B GW; 54D LEA

APPARATUS: DESIG	CODE	OPTION	FIG.	MECH REQT: BBP FIG.	CONT PRESS	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
ORK2	U1299		49	132/106	H	47		B(ORK2)		BAT.			0		36.5	36.5	
ORM	U1296		185	127/114	H	50			T(ORM)	GRD			0		43.5	41	
ORO	U612		110	510/510	H	32			T REL	GRD	1		0		57	54	WINDING ALONE
A,B,C,D			112						TEST								
ORT	U639		AL	161/195	H	53			T(ORT)	GRD			0		34	32	
OSO-4	U6124		69	130/108	H	47			T REL	GRD			0	200	140	130	
									T TEST	GRD			NO	200	67	70.5	
									T	GRD			R	200	39.5	42	
OSA-9	U1364	SP	70	120/111	H	35							0		31.5	30	WINDING ALONE
									T(REL TST)	GRD	2		0		70.5	67	
	U1369	SS-1	70	123/123	H	29							0		29.5	28	WINDING ALONE
	U619	SS-2	70	516/516	H	32			T REL	GRD			0		37.5	35.5	WINDING ALONE
									T TEST	GRD			C		65	80	
									T REL TEST	GRD	2		C		66	62.5	
OSC	U1396		69	127/114	H	50	(MRL1)O		T(OSC)	GRD			0		43.5	41	
OSE	U1406		69	147/120	H	44			T(OSE)	GRD			0		19	18	
									T(OSE)	GRD			NO		9.5	10	
OSG-9	U1325	-1	70	113/113	H	29							0		47.5	45	WINDING ALONE
									T REL TEST	GRD	2		0		105	100	
	U812	-2	70	510/510	H	32							0		57	54	WINDING ALONE
									T REL TEST	GRD	2		0		130	120	
OSK	U809		69	112/117	H	47			T(OSK)	GRD			0		21	20	
									T(OSK)	GRD			NO		13.9	14.7	
OSKA	½ AK501		185	2					IL(OSKA)	GRD			0		29.5	27.5	MTD WITH (RSCA)
OST	239FC	WF	34	A			(OST1)O	7T(OST1)	3T(OSC)	B/G	3	P	0	-65	3	1.5	
	OR						(OST1)O	7T(OST1)	3T(OSC)	B/G		S	NO	-65	D C	1.1	
	26GA	WG					(OST1)O	3B(OST1)	7T(OST1)	B/G		S	C		0.5		
OST1	U1386		34	215/151	H	47			T(OST1)	GRD			0		32	37	
OST2	U1333		34	126/126	H	59	2T(RSC) 5B(RSC)		T(OST2)	GRD			0		30.5	29	
OST4	½ AK501		185	2					IU(OSK4)	GRD			0		29.5	27.5	MTD WITH (OST5)
OST5	½ AK501		185	2					IL(OSK5)	GRD			0		29.5	27.5	MTD WITH (OST4)

TEST NOTES:

1. THE CURRENT FLOW REQ SHOWN ARE TO BE MULTIPLIED BY THE NUMBER OF WINDINGS CONNECTED IN MULTIPLE.
2. REQ FOR CKT COMB. OF (OSA-) AND (OSG-) RELAYS.
3. SEE TIME REQUIREMENTS, PAGE 73.

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D GW WFO; 45B GW; 54D LEA

APPARATUS: DESIG	CODE	OPTION	FIG.	MECH REQT: BBP FIG.	CONT PRESS	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
OTT	U1375		33	108/106	H	47			T(OTT)	GRD			0		17.5	16.5	
OV	U333		75	150/150	H	50			T(OV)	GRD			0		15.5	14.4	
PO, P1	U1369	-1	28	112/112	H	29			T REL	GRD			0		115	105	
	UB24	-2	28	505/505	H	32			T TEST	GRD			0		140	130	
P2-6	U1347	-1	28	117/145	H	47			T REL	GRD			0		125	115	
	UB22	-2	28	513/522	H	41			T TEST	GRD			0		160	150	
P7-9	U1369	-1	28	112/112	H	29			T REL	GRD			0		115	105	
	UB24	-2	28	505/505	H	32			T TEST	GRD			0		140	130	
PA	U1368	-1	28	112/112	H	29			T(PA)	GRD			0		40.5	38.5	
	UB18	-2	28	505/505	H	32			T(PA)	GRD			0		50.5	48	
PB	U1368	-1	28	112/112	H	29			T(PB)	GRD			0		40.5	38.5	
	UB18	-2	28	505/505	H	32			T(PB)	GRD			0		50.5	48	
PBN	U1367	-1	77	111/111	H	29	1B(PBN)	B(PBN)	T(PBN)	B/G			0		29	27.5	
	UB17	-2	77	509/509	H	32	1B(PBN)	B(PBN)	T(PBN)	B/G			0		36		
PBX1	U1396		68	127/114	H	50							0		43.5	41	WINDING ALONE
									T(PBX1)	GRD			0		100	95	CKT COMB. OF (PBX1) AND (PBX2) RELAYS.
PBX2	U1396		77	127/114	H	50							0		43.5	41	WINDING ALONE
									T(PBX2)	GRD			0		100	95	CKT COMB. OF (PBX1) AND (PBX2) RELAYS.
PBXA	U1024		G,H	163/139	H	59			T(PBXA)	GRD			0		31	29.5	
PBXB	U722		G	148/145	H	47			T(PBXB)	GRD			0		22.5	21	
PBY	UA89		53	137/137	H	41		B(PBY)	T(PBY)	B/G			0		80	73	
PC	U1368	-1	28	112/112	H	29			T(PC)	GRD			0		40.5	38.5	
	UB18	-2	28	505/505	H	32			T(PC)	GRD			0		50.5	48	

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CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BBP FIG.	MECH REQT CONT PRESS	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
PCO-19	U988		55	132/132	H	47			T REL TST	GRD			0		36	34	
PCCL	U1391		154	123/123	H	29			T(PCCL)	GRD			0		14.3	13.6	
PCDO,1	U1355	-1	96	117/148	H	47			T REL	GRD			0		38.5	36.5	
	UB15	-2	96	513/523	H	41			T TST	GRD			0		47	44.5	
PCL1	U1399		94	139/139	H	59			T(PCL1)	GRD			0		185	175	
PCL2	U1394		94	113/113	H	29			T(PCL2)	GRD			0		155	145	
PCL3	U1348		94	161/150	H	53			T(PCL3)	GRD			0		180	170	
PCN	U1370		53	120/120	SPL	35			T(PCN)	GRD	1		0		80	75	
									T(PCN)	GRD			NO		65	68	
PCNO, PCN2, PCN3, PCN5	U141		154	132/132	H	47			T REL TST	GRD			0		18.5	17.5	
PCR	U1355	-1	95	117/148	H	47			T(PCR)	GRD			0		38.5	36.5	
	UB15	-2	95	513/523	H	41			T(PCR)	GRD			0		47	44.5	
PD	U988	TA	36	132/132	H	47			T(PD)	GRD			0		36	34	
	U1354	TB	36	108/108	H	47			T(PD)	GRD			0		31	29.5	
PEG	U1384		31	113/113	H	29			T(PEG)	GRD			0		155	145	
PEGI	U57	FA	31	112/112	H	29			T(PEGI)	GRD			0		20	19	
PGRO-5	293D	GM	180								2		0			15	
PHC	U1367	ZO-1	65, 126	111/111	H	29			T(PHC)	GRD			0		29	27.5	
	UB17	ZO-2	65, 126	509/509	H	32			T(PHC)	GRD			0		36	34	
PK	U1298	KF	36	121/106	H	50			T(PK)	GRD			0		43.5	41	
	U1212	KG	36	121/102	H	53			T(PK)	GRD			0		40.5	38.5	
PL	239FA	XV	29	B				2B(CKG5)	7T(CKG3)	B/G	P1	0	-75		1.7		
	OR							2B(CKG5)	7T(CKG3)	B/G	P1	NO	-75		1.2		
	280BH	XW						5T(CKG5)	3B(CKG5)	B/G	P2	0	-75	13.8	13.1		
								5T(CKG5)	3B(CKG5)	B/G	P2	R	75	5.6	5.9		
								2B(CKG5)	7T(CKG3)	B/G	P1	0	-75	13.8			

DRAWING ISSUE: 41D J.K. K.E.P.; 46D CSM 6-64 and 10-64; 49D JAT 6-60 APP 6-64; 51D PH 11-63 and 6-64; 54D LEA REL AND

B.F.D.

TEST NOTES:

1. MIN TENSION 1T AND 1B SPRINGS 8 GRAMS TEST, 10 GRAMS READJ.
2. PROCEDURE FOR TESTING DRY REED RELAYS
   PREPARATIONS:
   CONN DIRECT BATTERY TO TERMINAL L2 OF TEST SET.
   CONN DIRECT GROUND TO TERMINAL S OF TEST SET.
   PLACE L KEY IN NEUTRAL POSITION.
   ADJUST RED RHEOSTAT 4 AND THE THREE 4 SWITCHES FOR MINIMUM RESISTANCE.
   CONN TEST SET GROUND TO RELAY UNDER TEST (15,25,35,45,55)
   CONN SLEEVE OF TEST (T18R) JACK TO LEAD CONTACTS (13,23,33,43,53)
   CONN TIP OF (4W) JACK TO TERMINALS OF RELAY UNDER TEST (14,24,34,44,54)
   CONN SLEEVE OF (4W) JACK TO LOAD CONTACTS (12,22,32,42,52)

STEP	ACTION	INDICATION	CHECKS
A.	CLOSE OPERATE KEY	LAMP LIGHTED	CLOSURE OF LOAD CONTACT
B.	CLOSE 4 KEY AND OPEN OPERATE KEY	LAMP REMAINS LIGHTED	CLOSURE OF LOCKING CONTACT
C.	OPEN 4 KEY	LAMP EXTINGUISHED	OPEN OF LOAD CONTACT
D.	CLOSE 4 KEY	LAMP REMAINS EXTINGUISHED	OPEN OF LOCKING CONTACT
E.	OPEN 4 KEY		

MARKER CIRCUIT

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BELL TELEPHONE LABORATORIES, INC

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CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BBP FIG.	MECH REQT CONT PRESS	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
PMO	U1411		77	130/111	H	44		BF(PMO)		BAT		P	0		22	20.5	
									TR(PMO)	GRD		S	0		21		
PN	U1355	-1	65, 126	117/148	H	47			T(PN)	GRD			0		38.5	36.5	
	UB15	-2	65, 126	513/523	H	41			T(PN)	GRD			0		47	44.5	
PNA	½ AK50		186	2					IU(PNA)	GRD			0		29.5	27.5	MTD WITH (TNA)
PNC	U1370		53	120/120	SPL	35			T(PNC)	GRD	1		0		80	75	
									T(PNC)	GRD			NO		65	68	
PNR	U1368	-1	28	112/112	H	29			T(PNR)	GRD			0		40.5	38.5	
	UB18	-2	28	505/505	H	32			T(PNR)	GRD			0		50.5	48	
PPX	U1370		53	120/120	SPL	35			T(PPX)	GRD	1		0		80	75	
									T(PPX)	GRD			NO		65	68	
PR	U1355	YF-1,XF-1	17	117/148	H	47			T(PR)	GRD			0		38.5	36.5	
	UB15	YF-2,XF-2	17	513/523	H	41			T(PR)	GRD			0		47	44.5	
PRL	AF96		173	46					IU(PRL)	GRD		P	0		100	95	
									IU(PRL)	GRD		P	NO		80	85	
PRLL	AJ12		173	220					IU(PRLL)	GRD			0		43	40.5	
PS	U226		36	139/139	H	59			T(PS)	GRD			0		49.5	47	
PSA	280BA		134	B			TX(O)	6B(TX)		B/G			0	-120		2.6	
										B/G			NO	-120		1.9	CONN GRD TO 13B OF
										B/G			0	-120	8.8	8.3	ANY (S) REL IN THE
										B/G			NO	120	2.2	2.4	SAME CLASS GROUP
										B/G			R	120	1.3	1.4	
PSAO,1	UB12		135	510/510	H	32			T REL TST	GRD			0		57	54	WINDING ALONE
													0		130	120	CKT COMB. OF 2 RELAYS
PSB	280BA		134	B			TX(O)	6B(TX)		B/G			0	-120		2.6	
										B/G			NO	-120		1.9	CONN GRD TO 13B OF
										B/G			0	-120	8.8	8.3	ANY (S) REL IN THE
										B/G			NO	120	2.2	2.4	SAME CLASS GROUP
										B/G			R	120	1.3	1.4	
PSBO,1	UB12		135	510/510	H	32			T REL TST	GRD			0		57	54	WINDING ALONE
													0		130	120	CKT COMB. OF 2 RELAYS
PSR	U460		36	108/108	H	47			T(PSR)	GRD			0		11.2	10.6	

DRAWING ISSUE: 41D J.K. K.E.P.; 46D CSM 6-64 and 10-64; 49D JAT 6-60 APP 6-64; 51D PH 11-63 and 6-64; 54D LEA REL AND

TEST NOTES:

1. MIN TENSION 1T AND 1B SPRINGS 8 GRAMS TEST, 10 GRAMS READJ.

MARKER CIRCUIT

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BELL TELEPHONE LABORATORIES, INC

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CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D JF PLB; 51D PH PAS AMD; 54D CF REL AHD; M.F.O.

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.		MECH RECT BSP FIG.	MECH RECT CONT PRESS	MECH RECT 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 RECT TEST WDG	DIRECT CURRENT FLOW RECT TEST FOR	DIRECT CURRENT FLOW RECT AFTER SOAK MA.	DIRECT CURRENT FLOW RECT TEST MA.	DIRECT CURRENT FLOW RECT READJ MA.	REMARKS
PTC	U1337		107		124/124	H	59			T(PTC)	GRD			0		64	60.5	
PTK	U1367	-1	33		111/111	H	29			T(PTK)	GRD			0		29	27.5	
	UB17	-2	33		509/509	H	32			T(PTK)	GRD			0		36	34	
PTM	V2AK6		181		2			(TRI) NO	2L(PTM)		BAT.			0		29.5	27.5	MOUNTED WITH (TLT)
PTN	U1355	ZP-1	65, 126		117/148	H	47			T(PTN)	GRD			0		38.5	36.5	
	UB15	ZP-2	65, 126		513/523	H	41			T(PTN)	GRD			0		47	44.5	
PTNA	V2AK501		186		2					1L(PTNA)	GRD			0		29.5	27.5	MTD WITH (ENA)
PU	81D		30						10B(CON1)		BAT.			0	360	255	240	CONN DIRECT GRD TO
									10B(CON1)		BAT.			NO	360	200	215	2RT (PU)
PU1	U1355	-1	68		117/148	H	47	9B(TB1B)		T(PT1)	GRD			0		38.5	36.5	
	UB15	-2	68		513/513	H	41	9B(TB1B)		T(PT1)	GRD			0		47	44.5	
PUL	U1307		66		215/215	H	47	4B(PU1)		T(PUL)	GRD			0		22	20.5	
R-	U1325	-1	51, 52		113/113	H	29			T REL TST	GRD			0		47.5	45	CONN DIRECT BATTERY TO
	UB12	-2	51, 52		510/510	H	32			T REL TST	GRD			0		57	54	B OF RELAY TEST.
RA1-5	U1395		50		117/148	H	47			T REL	GRD			0		38.5	36.5	
	UB15		50		513/523	H	41			T TST	GRD			0		47	44.5	
RA6	U988		50	-	132/132	H	47			T(RA6)	GRD			0		36	34	
RAV1	U1383		82, 105		197/157	H	59			T(RAV1)	GRD			0		180	170	
RAV2	U1383		82		197/157	H	59			T(RAV2)	GRD			0		180	170	
RBT	U1354		82		108/100	H	47			T(RBT)	GRD			0		31	29.5	
RCCK	U1393		79		132/136	H	47			T(RCCK)	GRD			0		18	17	

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

SD-25550-01-F22

CIRCUIT REQUIREMENTS

ISSUE: 41D JF REL; 51D PH MES AMD; 54D CF REL AHD; C

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.		MECH RECT BSP FIG.	MECH RECT CONT PRESS	MECH RECT 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 RECT TEST WDG	DIRECT CURRENT FLOW RECT TEST FOR	DIRECT CURRENT FLOW RECT AFTER SOAK MA.	DIRECT CURRENT FLOW RECT TEST MA.	DIRECT CURRENT FLOW RECT READJ MA.	REMARKS
RCK1	239HL OR 280AS	WD WE	75		B				12B(CKG6)	7T(SOG3)	B/G		P	0	-55		1.3	
									12B(CKG6)	7T(SOG3)	B/G		P	NO	-55		0.9	
									12B(CKG6)	7T(SOG3)	B/G		P	0	-55	5	4.7	
									12B(CKG6)	7T(SOG3)	B/G		P	R	55	1	1.1	
									4T(L1)	3B(TLC2)	B/G		S	0		11.4		
RCK2	U1355	-1	75		117/148	H	47			T(RCK2)	GRD			0		38.5	36.5	
	UB15	-2	75		513/523	H	41			T(RCK2)	GRD			0		47	44.5	
RCK3	U1389	PA-1	33		123/123	H	29			T(RCK3)	GRD			0		29.5	28	
	UB19	PA-2	33		516/516	H	32			T(RCK3)	GRD			0		37.5	35.5	
	U1392	PB	33		109/145	H	47			T(RCK3)	GRD			0		29.5	28	
RCL	U1355	-1	68		117/148	H	47			T(RCL)	GRD	1		0		38.5	36.5	
	UB15	-2	68		513/523	H	41			T(RCL)	GRD	1		0		47	44.5	
RCLA	276B		92		1									0	9	3		SEE BSP
														NO		2.3		
														R		0.2		
RCNH5	276A		76		1									0	50	16		SEE BSP
														NO		12.8		
														R		1.3		
RCT	U1341		30, 106		132/132	H	47			T(RCT)	GRD			0		18.5	17.5	
RCT1-8	U1367	-1	75		111/111	H	29			T REL	GRD			0		29	27.5	
	UB17	-2	75		509/509	H	32			T TST	GRD			C		36	34	
RCT9	U1367	-1	A0		111/111	H	29			T(RCT9)	GRD			0		29	27.5	
	UB17	-2	A0		509/509	H	32			T(RCT9)	GRD			0		36	34	
	U1366	-1	AP		123/111	H	29			T(RCT9)	GRD			0		27	25.5	
	UB16	-2	AP		516/509	H	32			T(RCT9)	GRD			0		34.5	32.5	
RCT10	U1355	-1	75		117/148	H	47			T(RCT10)	GRD			0		38.5	36.5	
	UB15	-2	75		513/523	H	41			T(RCT10)	GRD			0		47	44.5	
RCT11 -15	U1367	-1	75		111/111	H	29			T REL	GRD			0		29	27.5	
	UB17	-2	75		509/509	H	32			T TST	GRD			0		36	34	
RCTA	U901		30, 106		110/110	H	35			T(RCTA)	GRD			0		20.5	19.5	
										T(RCTA)	GRD			NO		12	12.6	
	U1273		30, 106		110/110	H	35			T(RCTA)	GPD			0		20.5	19.5	
										T(RCTA)	GRD			NO		12	12.6	

TEST NOTES:

1. REMOVE (RCLA) RELAY FROM SOCKET.

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

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SD-25550-01-F22

DESIG	APPARATUS CODE	OPTION	FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS	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	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
RCTB	~~U894~~		30, 106	137/110	H	41			T(RCTB)	GRD			0		19	18	
RCY	U92		82, 105	162/103	H	50			T(RCY)	GRD	1		0		25	23.5	WINDING ALONE
RCY1	U92		32	162/103	H	50			T(RCY1)	GRD	1		0		25	23.5	WINDING ALONE
RCY2	U1408		68	153/138	H	53			T(RCY2)	GRD			0		44.5	42	
RCY3	U1307		68	215/215	H	47			T(RCY3)	GRD			0		22	20.5	
RCY4	U1326		68	178/141	H	53			T(RCY4)	GRD			0		49.5	47	WINDING ALONE
RCY5	U1326		172	178/141	H	53			T(RCY5)	GRD			0		49.5	47	WINDING ALONE
RCY6	AK22		179	216					IL(RCY6)	GRD			0		27.5	26	MOUNTED WITH (AN) RELAY
RD	U1392	JP	~~104~~	109/145	H	47			T(RD)	GRD			0		29.5	28	
	U809	JX	104	112/117	H	47			T(RD)	GRD			0		19	18	
RF	U1334		82, 105	111/111	H	29	2B(FM)		T(RF)	GRD			0		14.3	13.6	
RFA	U521	RW	82, 105	108/108	H	47			T(RFA)	GRD			0		22	20.5	
	U722	RX	82	148/145	H	47			T(RFA)	GRD			0		22.5	21	
RGT	U6117		147	119/119	H	35			T(RGT)	GRD			0		49	46.5	
RGTO-1	U6117		62	119/119	H	35			T REL	GRD	2		0		51	48.5	
									T TST	GRD	2		NO		26	27.5	
	U1392		147	109/145	H	47			T REL	GRD	2		0		37.5	35.5	
									T TST	GRD	2		NO		24.5	26	
RGT2-5	U1392		148	109/145	H	47			T REL	GRD	2		0		37.5	35.5	
									T TST	GRD	2		NO		24.5	26	
RGTA	U1349	SD-1	68	109/109	H	29			T(RGTA)	GRD			0		35.5	33.5	
	U821	SD-2	68	512/512	H	32			T(RGTA)	GRD			0		44	41.5	
RI	U1396		68	127/114	H	50			T(RI)	GRD			0		43.5	41	

TEST NOTES:

1. CIRCUIT COMB. OF (RCY) & (RCY1) RELAYS.
2. CONNECT DIRECT BATTERY TO BOTTOM OF RELAY UNDER TEST.

41D J.F. F.C.R.
48D RLP J.W. AND
49D BB W.W.D. AMP
54D LP R.L. AHD

DESIG	APPARATUS CODE	OPTION	FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS	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	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
RIA	U1368	-1	48, 108	112/112	H	29			T(RIA)	GRD			0		40.5	38.5	
	UB18	-2	48, 108	505/505	H	32			T(RIA)	GRD			0		50.5	48	
RIB	U934	-1	75	150/139	H	59			T(RIC)	GRD			0		29.5	28	
	UB5	-2	75	524/521	H	41			T(RIB)	GRD			0		26	24.5	
RK	U1296		31	121/106	H	50			T(RK)	GRD			0		43.5	41	
RK1	U1394		32	123/111	H	29		B(RK1)		BAT.			0		90	85	
RK2	U1394		32	123/111	H	29			T(RK2)	GRD			0		90	85	
RK3	U1404		32	215/146	H	47			T(RK3)	GRD			0		155	145	
RLG	U620		63	132/111	H	47			T(RLG)	GRD			0		13.2	12.5	
									T(RLG)	GRD			NO		8.8	9.3	
RMF	U1392	QG	AT	109/145	H	47			T(RMF)	GRD			0		29.5	28	
	U1392	FQ	104	109/145	H	47			T(RMF)	GRD			0		29.5	28	
	U809	FT	104	112/117	H	47			T(RMF)	GRD			0		19	18	
RN	U1349	YJ-1	65, 126	109/109	H	29			T(RN)	GRD			0		35.5	33.5	
	U821	YJ-2	65, 126	512/512	H	32			T(RN)	GRD			0		44	41.5	
RNO, RN1, RN2, RN4, RN7	U1387	YJ	65, 126	160/160	H	47			T REL	GRD			0		24.5	23	
									T TST								
RNG	U506	-1	66	148/148	H	47			T(RNG)	GRD			0		34.5	32.5	
	UB9	-2	68	523/523	H	41			T(RNG)	GRD			0		36	34	
RNK1	U6034	YJ, YV	65, 126	110/101	H	35			T(RNK1)	GRD			0	FS	24.5	23	
									T(RNK1)	GRD			R	FS	6.4	6.8	
RNK2	U6034	YJ, YV	65, 126	110/101	H	35		B(RNK2)		BAT.			0	FS	24.5	23	
								B(RNK2)		BAT.			R	FS	6.4	6.8	

41D J.F. F.C.R.
48D RLP J.W. AND
49D BB W.W.D. AMP
54D LP R.L. AHD

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

SD-25550-01-F23

(2)

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SD-25550-01-F23

CIRCUIT REQUIREMENTS

DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.		MECH RECT DEP FIG.	MECH RECT CONT PRESS.	MECH RECT 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 RECT TEST WDG	DIRECT CURRENT FLOW RECT TEST FOR	DIRECT CURRENT FLOW RECT AFTER SOAK MA.	DIRECT CURRENT FLOW RECT TEST MA.	DIRECT CURRENT FLOW RECT READJ MA.	REMARKS
ANT	239FC	WF	89		A			(ANT1)0	2T(AMA5)	9B(AMA5)	B/G	1	P	0	-65	3	1.5	
	OR							(ANT1)0	2T(AMA5)	9B(AMA5)	B/G		P	NO	-65	OC	1.1	
	280A	WG						(ANT1)0	2B(ANT1)	2T(AMA5)	B/G		S	0		0.5		
ANT1	U1355	-1	89		117/148	H	47			T(ANT1)	GRD			0		38.5	36.5	
	U815	-2	89		513/523	H	41			T(ANT1)	GRD			0		47	44.5	
ANT2	U1339		89		126/126	H	59	2T(ANT2)		T(ANT2)	GRD			0		30.5	29	
ANT3	U1415		151		154/127	H	47			T(ANT3)	GRD			0		45	42.5	
RO	U988		45		132/132	H	47			T(RO)	GRD			0		36	34	
ROA	U1362		82		145/123	H	47			T(ROA)	GRD			0		32.5	30.5	
RON	U1393		79		132/136	H	47			T(RON)	GRD			0		18	17	
RP	U844		L		118/118	H	50			T(RP)	GRD			0		26.5	25	
	U1405		H		195/135	H	47			T(RP)	GRD			0		185	175	
RPK	U1356		53		132/110	H	47			T(RPK)	GRD			0		38	36	
RQ	U1414	WF-1,WF-1	17		113/113	H	29			T(RQ)	GRD			0		22	20.5	
	U81	WF-2,WF-2	17		510/510	H	32			T(RQ)	GRD			0		28	26.5	
RR	U6005		63		101/101	H	29			T(RR)	GRD			0	FS	8.3	7.9	
										T(RR)	GRD			R	FS	1.5	1.6	
RRC	U218		63		120/110	H	35			T(RRC)	GRD			0		6.8	6.4	
										T(RRC)	GRD			NO		4.2	4.5	
RRK	U165		63		132/101	H	47			T(RRK)	GRD			0		19	18	
										T(RRK)	GRD			NO		11.4	12	
RS0-9	U1393		75		132/136	H	47			T REL TST	GRD			0		18	17	
RSC	U1396		94		127/114	H	50			T(RSC)	GRD			0		43.5	41	
RSCA	V2AK50		185		2					1U(RSCA)	GRD			0		29.5	27.5	MTD WITH (OSKA)

DRAWING ISSUE: 41D J.K. W.L.F. 49D J.K. CF 54D CF 55A NLF 56D NLF

TEST NOTES:

1. SEE TIME REQUIREMENTS, PAGE 73

MARKER CIRCUIT — SD-25550-01-F24 — BELL TELEPHONE LABORATORIES, INC

CIRCUIT REQUIREMENTS

DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.		MECH RECT DEP FIG.	MECH RECT CONT PRESS.	MECH RECT 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 RECT TEST WDG	DIRECT CURRENT FLOW RECT TEST FOR	DIRECT CURRENT FLOW RECT AFTER SOAK MA.	DIRECT CURRENT FLOW RECT TEST MA.	DIRECT CURRENT FLOW RECT READJ MA.	REMARKS
RSK	U1355	-1	75		117/148	H	47			T(RSK)	GRD			0		38.5	36.5	
	UB15	-2	75		513/523	H	41			T(RSK)	GRD			0		47	44.5	
RT0-4	U521	EG	60		108/108	H	47			T REL TST	GRD			0		38.5	36.5	
RT0-4	V2AK4	EH	60		202					2L REL TST	GRD			0		11.9	11.3	MTD WITH (RT5-9) RESPECTIVELY
RT5-9	V2AK4	EH	60		202					2U REL TST	GRD			0		11.9	11.3	MTD WITH (RTO-4) RESPECTIVELY
RTC	U76	EG	59		139/126	H	59			T(RTC)	GRD			0		38.5	36.5	
RTC	AJ131	EH	59		336					U(RTC)	GRD			0		44.5	42	
RTCI	AJ131	EH	59		336					U(RTCI)	GRD			0		44.5	42	
RTST	U1426		AK		150/225	H	53	10(RTST)		T(RTST)	GRD			0		26.5	25	
RV	U809		53		112/117	H	47			T(RV)	GRD			0		19	18	
RV1	U1359		33		108/110	H	47		B(RV1)	T(RV1)	B/G			0		115	105	
RV2	U1359		33		108/110	H	47			T(RV2)	GRD			0		115	105	
RV3	U6117	FD	33		119/119	H	35			T(RV3)	GRD			0		49	46.5	
	U982	FE	33		207/161	H	53			T(RV3)	GRD			0		25	24	
RYC	U1368	-1	33		112/112	H	29			T(RYC)	GRD			0		40.5	38.5	
	UB18	-2	33		505/505	H	32			T(RYC)	GRD			0		50.5	48	
RYT	U735		79		132/132	H	47	28(RYT)		T(RYT)	GRD			0		17.5	16.5	
RYTI	U1412		79		137/130	H	44	28(RYTI)		T(RYTI)	GRD			0		21.5	19.5	
S00-44	U1325	-1	61		113/113	H	29							0		47.5	45	WINDING ALONE
S100-144										T REL	GRD	1		0		105	100	
										T TST	GRD	2		0		165	155	
	UB12	-2	61		510/510	H	32							0		57	54	WINDING ALONE
										T REL	GRD	1		0		130	120	
										T TST	GRD	2		0		195	185	
S1K	U506	-1	33		146/148	H	47			T(S1K)	GRD			0		34.5	32.5	
	UB9	-2	33		523/523	H	41			T(S1K)	GRD			0		36	34	
S200-208	U1325	-1	155		113/113	H	29									47.5	45	WINDING ALONE
										T REL TST	GRD	2		0		165	155	
	UB12	-2	155		510/510	H	32							0		57	54	WINDING ALONE
										T REL TST	GRD	2		0		195	185	
S300-359	AP506		176		8					U REL TST	GRD	3		0		30.5	29	

DRAWING ISSUE: 41D J.K. W.L.F. 49D J.K. CF 54D CF 55A NLF 56D NLF

TEST NOTES:

1. REQ FOR CKT COMB. OF TWO (S-) RELAYS.
2. REQ FOR CKT COMB. OF THREE (S-) RELAYS.
3. FOR PARALLEL RECT MULTIPLY WINDING ALONE RECT BY NO. OF RELAYS IN MULTIPLE.

MARKER CIRCUIT — (2) SD-25550-01-F24 — BELL TELEPHONE LABORATORIES, INC — 6S

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D JK FCB; 54D CF KEL AND

W.E.D.

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BEP FIG.	MECH REQT CONT PRESS	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
SA	AJ503		183	249					U (SA)	GRD			0		95	90	
SA0-9	U1354		77	108/108	H	47			T REL TST	GRD			0		31	29.5	
SAE	U1364		77	120/111	H	35			T(SAE)	GRD			0		31.5	30	
SCB	U1396		J	127/114	H	50							0		43.5	41	WINDING ALONE
									T(SCB)	GRD	1		0		155	145	
SCB1	U1396		33	127/114	H	50							0		43.5	41	WINDING ALONE
									T(SCB1)	GRD	1		0		155	145	
SCB2	U1408		33	153/138	H	53							0		44.5	42	WINDING ALONE
									T(SCB2)	GRD	1		0		155	145	
SCBA0-3	U133	-1	71	138/138	H	47			T REL	GRD			0		10.9	10.4	
	U825	-2	71	520/520	H	32			T TST	GRD			0		9.4	8.9	
SCBB0-3	U133	-1	71	138/138	H	47			T REL	GRD			0		10.9	10.4	
	U825	-2	71	520/520	H	32			T TST	GRD			0		9.4	8.9	
SCC	U1346	YJ-1	67	132/101	H	47			T(SCC)	GRD			0		26.5	25	
	U814	YJ-2	67	519/527	H	41			T(SCC)	GRD			0		24.5	23	
SCK	U1298		37	121/106	H	50			T(SCK)	GRD			0		43.5	41	
SCN	U988		37	132/132	H	47			T(SCN)	GRD			0		36	34	
SCR	U6034		77	110/101	H	35	B(SCR)		T(SCR)	B/G			0	FS	24.5	23	
							B(SCR)		T(SCR)	B/G			R	FS	6.4	6.8	
SCT	U1364		AH	120/111	H	35			T(SCT)	GRD			0		31.5	30	
SDT	U540		AG	102/108	H	53	B(SDT)			BAT	2/3		0		10.7	10.1	
	U554	MT	AH	149/147	H	47	B(SDT¹)			BAT	2/4		0		10.5	10	
	U694	MU	AH	117/147	H	47	B(SDT)			BAT	2/4		0		10.3	9.8	

TEST NOTES:

1. REQ FOR CKT COMB. OF (SCB), (SCBH) & (SCB2) RELAYS.
2. SEE TIME REQUIREMENTS, PAGE 73
3. CONN DIRECT GRD TO 1T(SDT) RELAY.
4. CONN DIRECT GRD TO 1B(SDT) RELAY.

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

SD-25550-01-F25

SD-25550-01-F25

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D JK FCB; 54D CF KEL AND

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BEP FIG.	MECH REQT CONT PRESS	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
SE	U506	-1	7	148/148	H	47			T(SE)	GRD			0		34.5	32.5	
	U89	-2	7	523/523	H	41			T(SE)	GRD			0		36	34	
SF	U687		AD, AE	120/108	H	47		BF(SF) BR(SF)		BAT. BAT.		P S	0 0		20.5 17	19.5	
SFR	U112		78	123/111	H	29			T(SFR)	GRD			0		12.2	11.6	
SFT	U1324		AD	163/163	H	59		B(SFT)		BAT.	1/4		0		21	20	
	U1324		AE	163/163	H	59			T(SFT)	GRD			0		21	20	
SIA, SIB	U1375		69	108/108	H	47			T REL TST	GRD			0		17.5	16.5	
SKA	U1415		69	154/127	H	47			T(SKA)	GRD	2		0		45	42.5	
SKA1	2768		92	1									0 NO R	9	3 2.3 0.2		SEE BSP
SKB	U1415		69	154/127	H	47			T(SKB)	GRD	3		0		45	42.5	
SKB1	2768		92	1									0 NO R	9	3 2.3 0.2		SEE BSP
SL	U1412		31	137/130	H	44			T(SL)	GRD			0		20.5	19.5	
SLO-9	2768		77	1									0 NO R	9	3 2.3 0.2		SEE BSP
SLC	U1357	-1	77	113/112	H	29			T(SLC)	GRD			0		120	110	
	U823	-2	77	510/505	H	32			T(SLC)	GRD			0		150	140	
SLCK	U1212		77	121/102	H	53	5T(GB)	B(SLCK)	T(SLCK)	B/G			0		40.5	38.5	
SLCK1	U1408		68	153/138	H	53			T(SLCK1)	GRD			0		44.5	42	

TEST NOTES:

1. SEE TIME REQUIREMENTS, PAGE 73
2. CONN DIRECT BAT. TO B(SKA) AND REMOVE (SKA1) RELAY FROM SOCKET.
3. CONN DIRECT BAT. TO B(SKB) AND REMOVE (SKB1) RELAY FROM SOCKET.
4. CONN DIRECT GRD TO 1B & 2B (SFT) RELAY.

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

(2) 6S

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SD-25550-01-F25

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D JK, FCR; 46D TJM, ALM, AMP; 51D PH, MES, AMP; 54D CF, KEL, AMD

APPARATUS: DESIG	CODE	OPTION	FIG.	MECH REQT: BSP FIG.	CONT PRESS.	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 WDS	TEST FOR	AFTER SOAK MA.	TEST MA.	READJ MA.	REMARKS
SLK	239KK	WV	34	8				5(SLK)	9T(OGC)	B/G		P	0	-47		1.1	
	OR							5(SLK)	9T(OGC)	B/G		P	MO	-47		0.8	
	280BG	WW						5(SLK)	9T(OGC)	B/G		P	0	-47	4.6	4.3	
								5(SLK)	9T(OGC)	B/G		P	R	47	1	1.1	
							2B(BG)	5(SLK)	1B(BG)	B/G		S	0		4.7		
SLK1	U1356	KN	34	132/110	H	47	3B(SLK1)		T(SLK1)	GRD			0		38	36	
	U1355	KO	34	117/148	H	47	3B(SLK1)		T(SLK1)	GRD			0		38.5	36.5	
SLK2	U1396		34	127/114	H	50			T(SLK2)	GRD			0		43.5	41	
SNG1	U1347	-1	68	117/145	H	47	(CKO)O		T(SNG1)	GRD			0		125	115	
	UB22	-2	68	513/522	H	41	(CKO)O		T(SNG1)	GRD			0		160	150	
SNG2	U1357	FD,-1	68	113/112	H	29	(CKO)O		T(SNG2)	GRD			0		120	110	
	UB23	FD,-2	68	510/505	H	32	(CKO)O		T(SNG2)	GRD			0		150	140	
	U1384	FE	68	113/113	H	29	(CKO)O		T(SNG2)	GRD			0		152	145	
SNK	U644		82, 105	118/118	H	50			T(SNK)	GRD			0		26.5	25	
SNO	U1364		BH	120/111	H	35			T(SNO)	GRD			0		31.5	30	
SO	U506	-1	7	146/146	H	47			T(SO)	GRD			0		34.5	32.5	
	UB9	-2	7	523/523	H	41			T(SO)	GRD			0		36	34	
SOB	U1364		144	120/111	H	35			T(SOB)	GRD			0		31.5	30	
SOG1	U1347	-1	82	117/145	H	47			T(SOG1)	GRD			0		125	115	
	UB22	-2	82	513/522	H	41			T(SOG1)	GRD			0		160	150	
SOG2	U1404		J	215/146	H	47			T(SOG2)	GRD			0		155	145	
SOG3	U1404		33	215/146	H	47			T(SOG3)	GRD			0		155	145	
SON	U1396		69	127/114	H	50							0		43.5	41	WINDING ALONE
									T(SON)	GRD			0		100	95	(SON) & (SONI) IN PARALLEL
SONI	U1396	GD	69	127/114	H	50							0		43.5	41	WINDING ALONE
									T(SONI)	GRD			0		100	95	(SON) & (SONI) IN PARALLEL
SOR	U1325	-1	151	113/113	H	29			T(SOR)	GRD			0		47.5	45	
	UB12	-2	151	510/510	H	32			T(SOR)	GRD			0		57	54	
SP	U1337		91	124/124	H	59	(TRR)O		T(SP)	GRD			0		64	60.5	

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D JK, FCR; 46D TJM, ALM, AMP; 51D PH, MES, AMP; 54D CF, KEL, AMD

APPARATUS: DESIG	CODE	OPTION	FIG.	MECH REQT: BSP FIG.	CONT PRESS	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 WDS	TEST FOR	AFTER SOAK MA.	TEST MA.	READJ MA.	REMARKS
SPC	U421		76	110/110	H	35			T(SPC)	GRD			0		13	12.3	
SPH	U576		76	148/148	H	47			T(SPH)	GRD			0		21	20	
SPL	U568		78	119/119	H	35			T(SPL)	GRD	1/3		0		13.7	13	WINDING ALONE
									T(SPL)	GRD	2/4		0		47.5	45	
SPL1	U333		79	150/150	H	50			T(SPL1)	GRD	1/3		0		15.5	14.4	WINDING ALONE
									T(SPL1)	GRD	2/4		0		52.5	50	
SPL2	U1319		85	117/148	H	47			T(SPL2)	GRD	2		0		12.3	11.7	WINDING ALONE
															43	40.5	
SPLC	U1346	SU-1	78	132/101	H	47			T(SPLC)	GRD			0		26.5	25	
	UB14	SU-2	78	519/527	H	41			T(SPLC)	GRD			0		24.5	23	
SPT	U964	TT	68	145/137	H	47		BF(SPT)	TR(SPT)	BAT. GRD		P S	0 0		22 16	20.5	
SQO-9	U675		7	161/178	H	53	12T REL TST		T REL TST	GRD			0		35	33	
SQA	U148		32	120/108	H	47	5T,BB(QMW)		T(SQA)	GRD			0		9	8.5	
SQA1	Y119		32	131/131	H	35	(SQA)O		T(SQA1)	GRD			0	FS	13.3	12.6	
							(SQA)O		T(SQA1)	GRD			M	FS	1.3	1.2	
							(SQA)O		T(SQA1)	GRD			R	FS	0.5	0.7	
SQTO	U177	XA	7	139/139	H	59	5T(SQTO)		T(SQTO)	GRD			0		19	18	
SQT1	U157	XA	7	108/132	H	47	5T(SQT1)		T(SQT1)	GRD			0		8.6	8.1	
SRK	U1355	-1	75	117/148	H	47			T(SRK)	GRD			0		36.5	36.5	
	UB15	-2	75	513/523	H	41			T(SRK)	GRD			0		47	44.5	
SSA, SSB	U591		69	119/113	H	35			T REL TST	GRD			0		26.5	25	

TEST NOTES:

1. CKT COMB. OF (SPL) & (SPL1) RELAYS.
2. CKT COMB. OF (SPL),(SPL1) & (SPL2) RELAYS.
3. REQ WHEN APP FIG. BR IS PROVIDED.
4. REQ WHEN APP FIG. BS IS PROVIDED.

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH RQT BSP FIG.	MECH RQT CONT PRESS	MECH RQT 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
ST7	U1393		49	132/136	H	47			T(ST7)	GRD			0		16	17	
STF	U1354		17	108/108	H	47			T(STF)	GRD			0		31	29.5	
STP	U6124		27	130/108	H	47	2T(STP)		T(STP)	GRD			0	200	140	130	
							2T(STP)		T(STP)	GRD			R	200	39.5	42	
STP1	U1368	-1	27	112/112	H	29			T(STP1)	GRD			0		40.5	38.5	
	U818	-2	27	505/505	H	32			T(STP1)	GRD			0		50.5	48	
STP2	U1325	-1	27	113/113	H	29			T(STP2)	GRD			0		47.5	45	
	U812	-2	27	510/510	H	32			T(STP2)	GRD			0		57	54	
STP3	U1355	-1	27	117/148	H	47			T(STP3)	GRD			0		38.5	36.5	
	U815	-2	27	513/523	H	41			T(STP3)	GRD			0		47	44.5	
STPA	AF35		173	248					U(STPA)	GRD			0		70	66	
STX	U1377		91	155/166	H	50			T(STX)	GRD			0		48	45.5	
SW	U1299		59	132/106	H	47							0		38.5	36.5	WINDING ALONE
							1B(SW)		T(SW)	GRD			0		85	80	CKT COMB. OF (SW)&(SZ) RELAYS
SZ	U1298		69	121/106	H	50							0		43.5	41	WINDING ALONE
							1B(SW)		T(SZ)	GRD			0		95	90	CKT COMB. OF (SW) & (SZ) RELAYS
TO,	U1367	-1	48	111/111	H	29			T	GRD			0		29	27.5	
T1,	U817	-2	48	509/509	H	32			T	GRD			0		36	34	
T2,	U1355	-1, RP	108	117/148	H	47			T REL TST	GRD			0		38.5	36.5	
T4,	U815	-2, RP	108	513/523	H	41			T	GRD			0		47	44.5	
T7	U1396	RQ	108	127/114	H	50			T	GRD			0		43.5	41	
TA0-9	U1369	-1	40	112/112	H	29			T REL	GRD	1		0		115	105	
	U824	-2	40	505/505	H	32			T TST	GRD	1		0		140	130	
TA2-9	U1369		116	112/112	H	29			T REL TST	GRD			0		115	105	
TAL	U1340	-1	73	111/111	H	29	4T(TAL)		T(TAL)	GRD			0		8	7.6	
	U826	-2	73	509/509	H	32	4T(TAL)		T(TAL)	GRD			0		10.1	9.6	
TAN	U1325	-1	43	113/113	H	29			T(TAN)	GRD			0		47.5	45	
	U812	-2	43	510/510	H	32			T(TAN)	GRD			0		57	54	

DRAWING ISSUE: 41D, 49D, 54D, 56D

TEST NOTES:

1. THESE RELAYS ARE SUPPLIED ONLY IF THE (BT30) TO (BT09) RELAYS ARE NOT SUPPLIED.

MARKER CIRCUIT — SD-25550-01-F27 — BELL TELEPHONE LABORATORIES, INC

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH RQT BSP FIG.	MECH RQT CONT PRESS	MECH RQT 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
TANO A,B,C,D,	U812		110, 112	510/510	H	32			T REL TST	GRD	2		0		57	54	WINDING ALONE
TAN1	U1325	-1	145	113/113	H	29			T(TAN1)	GRD			0		47.5	45	
	U812	-2	145	510/510	H	32			T(TAN1)	GRD			0		57	54	
TAN1 A,B,C,D	U812		110, 112	510/510	H	32			T REL TST	GRD	2		0		57	54	WINDING ALONE
TAN2 A,B,C,D	U812		111, 113	510/510	H	32			T REL TST	GRD	2		0		57	54	WINDING ALONE
TAN3 A,B,C,D																	
TAN4 A,B,C,D																	
TB0-5	U814		61	132/110	H	47			T REL TST	GRD			0		21	20	
TB6,7	U814		189	132/110	H	47			T REL TST	GRD			0		21	20	
TBH	U1355	-1	75	117/148	H	47			T(TBH)	GRD			0		36.5	36.5	
	U815	-2	75	513/523	H	41			T(TBH)	GRD			0		47	44.5	
TBI	U1396		68	127/114	H	50	4B(PU1)		T(TBI)	GRD			0		43.5	41	
TBII	1/2AK50		186	2					1U(TBII)	GRD			0		29.5	27.5	MTD WITH (MT23)
TBIA	U1368	-1	48, 108	112/112	H	29			T(TBIA)	GRD			0		40.5	38.5	
	U818	-2	48, 108	505/505	H	32			T(TBIA)	GRD			0		50.5	48	
TBIB	U934	-1	75	150/139	H	59			T(TBIB)	GRD			0		29.5	28	
	U85	-2	75	524/521	H	41			T(TBIB)	GRD			0		26	24.5	
TBK	U1364		33, 103	120/111	H	35			T(TBK)	GRD			0		31.5	30	
TBT	239FC OR 280A	WF WG	18	A			1T(TFK2) 1T(TBTB) 4B(MT9)	3B(MT9) 3B(MT9) 3T(TBTB)	6B(MT14) 6B(MT14) 3B(MT9)	B/G B/G E/G	1	P P S	0 NO 0	-65 -65	3 OC 0.5	1.5 1.1	
TBTA	Y188		18	190/188	H	35			T(TBTA)	GRD			0	FS	17.5	16.5	
									T(TBTA)	GRD			H	FS	2.7	2.5	
									T(TBTA)	GRD			R	FS	1.1	1.4	
	Y311		18	190/188	H	35			T(TBTA)	GRD			0	FS	17.5	16.5	
									T(TBTA)	GRD			H	FS	2.7	2.5	
									T(TBTA)	GRD			R	FS	1.1	1.4	
TBTB	U1406		18	147/120	H	44			T(TBTB)	GRD			0		19	18	
TBTC	U675	MD	18	161/178	H	53			T(TBTC)	GRD			0		35	35	
TBW	U6059		68	144/101	H	35		B(TBW) B(TBW)	T(TBW) T(TBW)	B/G B/G			0 400	400	200 17	190 18	

DRAWING ISSUE: 41D, 49D, 54D, 56D

TEST NOTES:

1. SEE TIME REQUIREMENTS, PAGE 74.
2. THE CURRENT FLOW REQ SHOWN ARE TO BE MULTIPLIED BY THE NUMBER OF WINDINGS CONNECTED IN MULTIPLE.

MARKER CIRCUIT — SD-25550-01-F27 — BELL TELEPHONE LABORATORIES, INC

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D (TO W.E.), 46D (TO W.E. AND BTL), 48D (BTL LW AND AM), 56D (BTL MD)

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT DSP FIG.	MECH REQT CONT PRESS.	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 P/PP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA.	TEST MA.	READJ MA.	REMARKS
TC	U1364		53	120/111	H	35			T(TC)	GRD			0		31.5	30	
TC5, TC6, TC7	U1345	-1	38	113/112	H	29			T REL	GRD			0		44	41.5	
	U813	-2	38	510/505	H	32			T TST	GRD			0		54	51	
TC7	U1325	LX	38	113/113	H	29			T(TC7)	GRD			0		47.6	45	
TCA, TCB	U1325	MC-1	153	113/113	H	29			T REL	GRD			0		47.5	45	
	U812	MC-2	153	512/512	H	32			T TST	GRD			0		57	54	
TCCH	U1300		53	111/111	H	29			T(TCCH)	GRD			0		80	75	
									T(TCCH)	GRD			MO		65	68	
TCH	U1341		75	132/111	H	47			T(TCH)	GRD			0		11.1	10.5	
TCH0-9	U988		28	132/132	H	47			T REL TST	GRD	2		0		36	34	
TCHK	U1355	-1	31	117/148	H	47			T(TCHK)	GRD			0		38.5	36.5	
	U815	-2	31	513/523	H	41			T(TCHK)	GRD			0		47	44.5	
TCK	239NL OR 280AS	WD	75	8				6B(TR2B)	2B(TER2)	B/G		P	0	-55		1.3	
		WE						6B(TR2B)	2B(TER2)	B/G		P	MO	-55		0.9	
								6d(TR2B)	2B(TER2)	B/G		P	0	-55	5	4.7	
								6B(TR2B)	2B(TER2)	B/G		P	R	55	1	1.1	
								1T(TER3)	5B(TLC2)	B/G		S	0		11.3		
TCNC	U1371		53	111/110	SPL	35			T(TCNC)	GPD	1		0		80	75	
									T(TCNC)	GRD			MO		65	68	
TD	AF522	EC	188	18			6(NTD)		U(TD)	GRD			0		23	22	
TDK	AF531		188	203					U(TDK)	GRD			0		38	36	
TEA	U1406		AY	147/120	H	44			T(TEA)	GRD			0		19	18	
	U1017		AZ	153/153	H	53			T(TEA)	GRD			0		27.5	26	
TER1	U1348		82	161/150	H	53			T(TER1)	GRD			0		180	170	
TER2	U1405		J	195/135	H	47			T(TER2)	GRD			0		185	175	
TER3	U1304		33	113/113	H	29			T(TER3)	GRD			0		155	145	
TER4	U1355	-1	J	117/148	H	47							0		38.5	36.5	WINDING ALONE
	U815	-2	J	513/523	H	41			T(TER4)	GRD			0		95	80	
													0		47	44.5	WINDING ALONE
TER5	U1396		172	127/114	H	50			T(TER4)	GRD			0		105	100	
									T(TER5)	GRD			0		43.5	41	WINDING ALONE
															100	95	

TEST NOTES:

1. MIN TENSION 18 SPG 8 GRAMS TEST-10 GRAMS READJ.
2. INCREASE READJ AND TEST OPERATE CURRENT TO 43 AND 45.5 MILLIAMPERE RESPECTIVELY WHEN RELAY IS EQUIPPED WITH .015 INCH TEFLON SEPARATORS.

MARKER CIRCUIT — SD-25550-01-F28 — BELL TELEPHONE LABORATORIES, INC

CIRCUIT REQUIREMENTS

ISSUE: 41D (TO W.E.), 46D (TO W.E. AND BTL), 48D (BTL LW AND AM), 56D (BTL MD)

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT DSP FIG.	MECH REQT CONT PRESS.	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 P/PP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA.	TEST MA.	READJ MA.	REMARKS
TFO, TF1, TF2, TF4, TF7	U1355	-1	66	117/148	H	47			T REL	GRD			0		38.5	36.5	
	UB15	-2	66	513/523	H	41			T TST	GRD			0		47	44.5	
TFK1,2	U1348		18	161/150	H	53			T(TFK1)	GRD			0		180	170	
TFK3	U1396		33	127/114	H	50	(TER1)0		T(TFK3)	GRD			0		48.5	46	
TG	U14;		34	132/132	H	47			T(TG)	GRD			0		18.5	17.5	
TGO-19	U1393		81	132/136	H	47			T REL TST	GRD			0		18	17	
TGS1	U1325	YO-1	67	113/113	H	29		2T(RSC)	T(TGS1)	GRD			0		425	48	WDG ALONE
								2T(RSC)	T(TGS1)	GRD			0		105	100	2 RELAYS IN PAR.
	UB12	YO-2	67	510/510	H	32							0		170	165	3 RELAYS IN PAR.
								2T(RS:)	T(TGS1)	GRD			0		57	54	WDG ALONE
								2T(RSC)	T(TGS1)	GRD			0		130	120	2 RELAYS IN PAR.
													0		200	190	3 RELAYS IN PAR.
TGS2	U1325	YJ-1	67	113/113	H	29		2T(RSC)	T(TGS2)	GRD	1		0		47.5	45	WDG ALONE
								2T(RSC)	T(TGS2)	GRD			0		105	100	
	UB12	YJ-2	67	510/510	H	32							0		170	165	3 RELAYS IN PAR.
								2T(RSC)	T(TGS2)	GRD	1		0		57	54	WDG ALONE
								2T(RSC)	T(TGS2)	GRD			0		130	120	
													0		200	190	3 RELAYS IN PAR.
TGS3	U1349	-1	119	109/109	H	29		2T(RSC)	T(TGS3)	GRD			0		35.5	33.5	WDG ALONE
								2T(RSC)	T(TGS3)	GRD			0		80	75	2 RELAYS IN PAR.
	UB21	-2	119	512/512	H	32							0		125	120	3 RELAYS IN PAR.
								2T(RSC)	T(TGS3)	GRD			0		40	41.5	WDG ALONE
								2T(RSC)	T(TGS3)	GRD			0		100	95	2 RELAYS IN PAR.
													0		155	145	3 RELAYS IN PAR.
TGT	U588		34	119/119	H	35			T(TGT)	GRD			0		13.7	13	
THO, TH1, TH2, TH4, TH7	U1355	-1	48	117/148	H	47			T REL TST	GRD			0		38.5	36.5	
		RP	108														
	UB15	-2	48	513/523	H	41			T REL TST	GRD			0		47	44.5	
		RP	108														
	U1396	RQ	108	127/114	H	50			T	GRD			0		43.5	41	
THC	U1367	ZQ-1	65 126	111/111	H	29			T(THC)	GRD			0		29	27.5	
	UB17	ZQ-2	65 126	509/509	H	32			T(THC)	GRD			0		36	34	

TEST NOTES:

1. REQ FOR CKT COMB. OF (TGS1) AND (TGS2) RELAYS.

MARKER CIRCUIT — SD-25550-01-F28 — BELL TELEPHONE LABORATORIES, INC

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D (48 FCR) MFD. · 46D (ASL GUM AND PH MFD AND) · 51D (PH MFD AND) · 54D (CK ASL AND)

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS	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
TIN	U1317		AU	117/148	H	47			T(TIN)	GRD			0		19	18	
TIR	AJ516		184	299					U(TIR)	GRD			0		41	39	
TJO-9	2768		29	1									0	9	3.3		SEE BSP
													NO		2.3		
													R		0.2		
TK	U1348		31	161/150	H	53			T(TK)	GRD			0		180	170	
TLC1, TLC2, TLC3	U1384		32	113/113	H	29			T REL / TST	GRD			0		155	145	
TLK	AJ72		181	64				1L (TLK)		BAT.		P	0		34	32	
									2U(TLK)	GRD		S	0		35.5		
TLLO-9	2765		29	1									0	9	3.3		SEE BSP
													NO		2.3		
													R		0.2		
TLS	AJ12		185	220					U(TLS)	GRD			0		42.5	40.5	
TLT	1/2AK6		181	2			(TRI)NO	2U(TLT)		BAT.			0		29.5	27.5	MTD WITH (PTM)
TM	U1363		73	112/134	H	35			T(TM)	GRD			0		21	20	
TMK	239FH	WX	J	8				1B(TLC3)	9T(FBK)	B/G			0	-40		0.9	
	OR							1B(TLC3)	9T(FBK)	B/G			NO	-40		0.6	
	260AA	WY						1B(TLC3)	9T(FBK)	B/G			0	-40	3.6	3.4	
								1B(TLC3)	9T(FBK)	B/G			R	40	0.8	0.9	
TMS	U6039		79	132/106	H	47			T(TMS)	GRD			0	FS	25	23.5	
									T(TMS)	GRD			R	FS	4.7	5	
TN	U1355	ZP-1	65, 126	117/148	H	47			T(TN)	GRD			0		38.5	36.5	
	UB15	ZP-2	65, 126	513/523	H	41			T(TN)	GRD			0		47	44.5	
TNA	1/2AK50		186	2					1L(TNA)	GRD			0		29.5	27.5	MTD WITH (PNA)
TNA0, TNA1, TNA2, TNA4, TNA7	U1355	-1	80	117/148	H	47			T REL	GRD			0		38.5	36.5	
	UB15	-2	80	513/523	H	41			T TST	GRD			0		47	44.5	
TNK	U1390	-1	75	137/110	H	41			T(TNK)	GRD			0		36.5	34.5	
	U820	-2	75	501/506	H	32			T(TNK)	GRD			0		37.5	35.5	
TNR	U1317		102, 109	117/148	H	47			T(TNR)	GRD			0		19	18	

MARKER CIRCUIT — SD-25550-01-F29

BELL TELEPHONE LABORATORIES, INC

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D (48 FCR) · 46D (ASL GUM AND) · 51D (PH MFD AND) · 54D (CK ASL AND)

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS	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
TOA	U1406		82	147/120	H	44			T(TOA)	GRD			0		19	18	
TOB	U1013		144	160/120	H	47			TF(TOB)	GRD		P	0		20.5	19.5	
									TR(TOB)	GRD		S	0		21		
TOBS	U1355	-1	144	117/148	H	47			T(TOBS)	GRD			0		36.5	36.5	
	UB15	-2	144	513/523	H	41			T(TOBS)	GRD			0		47	44.5	
TOG1	U1348		AA	161/150	H	53			T(TOG1)	GRD			0		180	170	
	U1401		AB	127/112	H	47			T(TOG1)	GRD			0		145	135	
TOG2	U1405		J	195/135	H	47			T(TOG2)	GRD			0		185	175	
TOG3	U1405		33	195/135	H	47			T(TOG3)	GRD			0		185	175	
TOG4	U1396		151	127/114	H	50			T(TOG4)	GRD			0		43.5	41	
TOL	U1325	-1	43	113/113	H	29			T(TOL)	GRD			0		47.5	45	
	UB12	-2	43	510/510	H	32			T(TOL)	GRD			0		57	54	
TOLO A,B,C,D	UB12		111, 113	510/510	H	32			T REL / TST	GRD	1		0		57	54	WDG ALONE
TOL1	U1406		102	147/120	H	44			T(TOL1)	GRD			0		19	18	
TOS	U1370		98	120/120	SPL	35			T(TOS)	GRD	2		0		80	75	
									T(TOS)	GRD			NO		65	68	
TP	U1317		L	117/148	H	47			T(TP)	GRD			0		19	18	
	U1405		M	195/135	H	47			T(TP')	GRD			0		185	175	
TPA	U1315	KM	M	108/111	H	47			T(TPA)						125	115	CONN DIR BAT. TO B OF (TST) REL
TPK	U1356		53	132/110	H	47			T(TPK)	GRD			0		38	36	
TPS	U506	-1	158	148/148	H	47			T(TPS)	GRD			0		34.5	32.5	
	UB9	-2	158	523/523	H	41			T(TPS)	GRD			0		36	34	
TRI	U338		79	162/162	H	41			T(TRI)	GRD			0		20.5	19.5	
TRIA	U144	-1	69	113/113	H	29			T(TRIA)	GRD			0		22	20.5	
	UB1	-2	98	510/510	H	32			T(TRIA)	GRD			0		28	26.5	

TEST NOTES:

1. THE CURRENT FLOW REQ SHOWN ARE TO BE MULTIPLIED BY THE NUMBER OF WINDINGS CONNECTED IN MULTIPLE.
2. MIN TENSION IT AND IB SPGS 8 GRAMS TEST - 10 GRAMS READJ.

MARKER CIRCUIT (2) — SD-25550-01-F29

BELL TELEPHONE LABORATORIES, INC — 6S

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D #8 F.C.R. #FD; 43B #45 #46 #47 P.D.; 49D #40 AND; 51D JEG #25 AND; 54D CF #FL AND

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS	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
TR2	U1289	-1	32	114/118	H	50			T(TR2)	GRD			0		25	23.5	
	U88	-2	32	511/514	H	41			T(TR2)	GRD			0		30	28.5	
TP2A	U144	-1	68	113/113	H	29			T(TR2A)	GRD			0		22	20.5	
	U81	-2	68	510/510	H	32			T(TR2A)	GRD			0		28	26.5	
TR2B	U611		29	139/139	H	59							0		30	28.5	WDG ALONE
									T(TR2B)	GRD	1		0		125	115	
TR2C	U98		30	118/118	H	50							0		22.5	22	WDG ALONE
									T(TR2C)	GRD	1		0		135	125	
TR2D	U500	E	1	116/121	H	50			T(TR2D)	GRD			0		22.5	21	
TR2E	U1355	-1	32	117/148	H	47							0		38.5	36.5	WDG ALONE
									T(TR2E)	GRD	1		0		90	85	
	U815	-2	32	513/523	H	41							0		47	44.5	WDG ALONE
									T(TR2E)	GRD	1		0		105	100	
TP2F	U1320		33	117/151	H	47			T(TR2F)	GRD			0		21	20	
	U1426		103	150/225	H	53			T(TR2F)	GRD			0		26.5	25	
TR2G	U1414	JK	178	202/161	H	71			T(TR2G)	GRD			0		39	37	WDG ALONE
											2		0		72	68	
TRA	U148		73	120/108	H	47	1B(TRA)		T(TRA)	GRD			0		9	8.5	
TRB	U338		79	162/162	H	41			T(TRB)	GRD			0		20.5	19.5	WDG ALONE
TRBI	U338	FP	3	162/162	H	41			T(TRBI)	GRD			0		20.5	19.5	WDG ALONE
									T(TRBI)	GRD	3		0		44	42	
TRC	276A	FI	76	1									0	9	3.		
													NO		2.3		
													R		0.2		
TRL	U1326		32	178/141	H	53			T(TRL)	GRD			0		22.5	21	
TRLI	U576	XA	79	148/148	H	47			T(TRLI)	GRD			0		21	20	
TRLA	U1333		32	126/126	H	59			T(TRLA)	GRD			0		30.5	29	
TRN	U1369	-1	47	112/112	H	29			T(TRN)	GRD			0		115	105	
	U824	-2	47	505/505	H	32			T(TRN)	GRD			0		140	130	
TRNI	U64	-1	47	113/113	H	29			T(TRNI)	GRD			0		20.5	19.5	
	U86	-2	47	510/510	H	32			T(TRNI)	GRD			0		26.5	25	

TEST NOTES:

1. REQ FOR CKT COMB. OF (TR2B), (TR2C) & (TR2E) RELAYS.
2. REQT FOR CKT COMB. OF (TR2F), (TR2G) RELAYS.
3. REQT FOR CKT COMB. OF (TRB), (TRBI) RELAYS

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SD-25550-01-F30

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

SD-25550-01-F30

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D #8 F.C.R.; 43B #45 #46 #47 P.D.; 49D #40 AND; 51D JEG #25 AND; 54D CF #FL AND

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG	MECH REQT CONT PRESS	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
TRR	U982		AF	207/161	H	53			T(TRR)	GRD	3		0		25.5	24	
	U1326		N	176/141	H	53			T(TRR)	GRD			0		22.5	21	
	U338		0	162/162	H	41			T(TRR)	GRD			0		20.5	19.5	
TRS	U234		32	160/106	H	47			T(TRS)	GRD			0		19	18	
TRSA	U459		79	151/120	H	41			T(TRSA)	GRD			0		10.8	10.2	
TRST	U188		79	161/161	H	53			T(TRST)	GRD			0		18.5	17.5	
TRT	U1375	GA	79	108/108	H	47			T(TRT)	GRD			0		17.5	16.5	
TRT	U67	JJ	79	145/108	H	47			T(TRT)	GRD			0		18	17	
TRTR	U1047		79	167/167	H	65		B(TRTR)		BAT.	1/2		0		21	20	
TSO-4,	U1299		26	132/106	H	47	2B REL TST		T REL TST	GRD			0		38.5	36.5	
TS5,		XG															
TS6,		XH															
TS7,		XI															
TS8,		XJ															
TS9,		XK															
TS10-19		XA															
TSC6-9	U1415		153	154/127	H	47			T REL TST	GRD			0		45	42.5	
TSE1	U1404		26	215/146	H	47			T(TSE1)	GRD			0		155	145	
TSE2	U1384		26	113/113	H	29			T(TSE1)	GRD			0		155	145	
TSE3	U1384	XA	26	113/113	H	29			T(TSE1)	GRD			0		155	145	
TST	U1319	XA	79	117/148	H	47			T(TST)	GRD			0		12.3	11.7	

TEST NOTES:

1. SEE TIME REQUIREMENTS, PAGE 74.
2. CONN DIRECT GRD TO 1B AND 2B (TRTR).
3. WAIVE NO MAKE REQUIREMENT ON CONTACTS 2-3T.

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MARKER CIRCUIT

(2)

BELL TELEPHONE LABORATORIES, INC

6S

SD-25550-01-F30

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D 6-0 F.C.S. CF KEL AND; 54D CF KEL AND

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT SEP FIG.	MECH REQT CONT POSS.	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN SAT.	TEST CLIP DATA CONN GRD	TEST SET PROV	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST COND	DC FLOW REQT TEST FOR	DC FLOW REQT AFTER DOME MA.	DC FLOW REQT TEST MA.	DC FLOW REQT READ MA.	REMARKS
TT0-4	275A		26	1									0		10.1		SEE BSP
													R		4.5		
TT5,		XG															
TT6,		XH															
TT7,		XI															
TT8,		XJ															
TT9,		XK															
TT10-19		XA															
TTA	U308		151	119/119	H	35		B(TTA)		BAT.			0		13.7	13	
TTK	U1356	FF	38	132/110	H	47			T(TTK)	GRD			0		38	36	
	U1355	FG	33	117/148	H	47			T(TTK)	GRD			0		38.5	36.5	
TTL0-9	276B		29	1									0	9	3.3		SEE BSP
													NO		2.3		
													R		0.2		
TUR	289M	QH	73	B				5(TUR)	2(TUR)	NGB		P	0	-95		2.2	
								5(TUR)	2(TUR)	NGB		P	NO	-95		1.6	
							(TX)0 9T(MCB1)	5(TUR)	2(TUR)	NGB		P	0	-95	9.2	8.7	
								5(TUR)	2(TUR)	NGB		P	R	95	2.1	2.3	
								6(TUR)	1(TUR)	NGB		S	0		12.3		
TVA	U1354	YJ	67	108/108	H	47			T(TVA)	GRD			0		31	29.5	
TWT0-2	U1371		72	111/110	H	35			T REL TST	GRD			0		80	75	
TX	U100		91	176/176	H	56					1						
TXC1-9	U1369	-1	123	112/112	H	29			T(TXC)	GRD			0		115	105	
	UB24	-2	123	505/505	H	32			T(TXC)	GRD			0		140	130	
TXD	U1369	-1	124	112/112	H	29			T(TXD)	GRD			C		115	105	
	UB24	-2	124	505/505	H	32			T(TXD)	GRD			0		140	130	
TYM	239FC OR 280A	WF WG	77	A			5B(PBX2) 1CB(TLC2)	9B(TLC2)	5B(PBX2)	B/G	2	P	0	-65	3	1.5	
								9B(TLC2)	5B(PBX2)	B/G		P	NO	-65	0 C	1.1	
								4T(AK)	9B(TLC2)	B/G		S	0		0.8		

TEST NOTES:

1. NO ELECTRICAL ADJ REQ MECH ADJ REQ.
2. SEE TIME REQUIREMENTS, PAGE 74.

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APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT SEP FIG.	MECH REQT CONT POSS.	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN SAT.	TEST CLIP DATA CONN GRD	TEST SET PROV	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST COND	DC FLOW REQT TEST FOR	DC FLOW REQT AFTER DOME MA.	DC FLOW REQT TEST MA.	DC FLOW REQT READ MA.	REMARKS
TYM1	280A		142	A			(UK)0 (NKG1)0	5(TYM1)	7T(NAR1)	B/G	2	P	0	-65	3	1.5	
								5(TYM1)	7T(NAR1)	B/G		P	NO	-65	0 C	1.1	
								3T(UK)	12T(NAR1)	B/G		S	0		0.5		
U0,	U1367	-1	148	111/111	H	29			T GRD				0		29	27.5	
U1,	UB17	-2	148	509/509	H	32			T REL GRD				0		36	34	
U2,	U1355	-1	108	117/148	H	47			T TST GRD				0		38.5	36.5	
U4,	UB15	-2	108	513/523	H	41			T GRD				0		47	44.5	
U7																	
UA0,	U1355	-1	80	117/148	H	47			T REL GRD				0		38.5	36.5	
UA1,	UB15	-2	80	513/523	H	41			T TST GRD				0		47	44.5	
UA2, UA4, UA7																	
UC	U1381		68	119/113	H	35			T(UC) GRD				0		47	44.5	
UK	U1356	FN	68	132/110	H	47			T(UK) GRD				0		38	36	
	U1354	FO	68	108/108	H	47			T(UK) GRD				0		31	29.5	
UKA	316D		187									S	0	4.5	1.5		SEE BSP
												S	R		0.4		
UT	U1354		77	108/108	H	47			T(UT) GRD				0		31	29.5	
VCI	U134		158	110/145	H	80			T(VCI) GRD				0		20.5	18.5	
VCIA	U840		160	127/127	H	47			T(VCIA) GRD				0		21	20	
VFO-4	U1356		9	132/110	H	47			T REL TST GRD				0		38	36	
VFG	U1355	E-1	5	117/148	H	47			T(VFG) GRD				0		38.5	36.5	
	UB15	E-2	5	513/523	H	41			T(VFG) GRD				0		47	44.5	
VFL	U1355	-1	68	117/148	H	47			T(VFL) GRD				0		38.5	36.5	
	UB15	-2	68	513/523	H	41			T(VFL) GRD				0		47	44.5	
	U1415	FO	68	154/127	H	47			T(VFL) GRD				0		45	42.5	
VFL1	U1366	ZJ-1	5	123/111	H	29			T(VFL1) GRD				0		27	25.5	
	UB16	ZJ-2	5	516/509	H	32			T(VFL1) GRD				0		34.5	32.5	
VFN0-4	276A		6	1									0	50	16		SEE BSP
													NO		12.8		
													R		1.3		
VFT0-4	U1404		5	215/146	H	SPL			T REL GRD	1			0		205	195	
									T GRD				NO		120	130	
									T TST GRD				R		69	70	

TEST NOTES:

1. ARM. TRVL 50; 1T-2T BREAK WITH 15 MIL GAUGE BETWEEN ARM AND CORE.
2. SEE TIME REQUIREMENTS, PAGE 74.

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MARKER CIRCUIT — SD-25550-01-F31 — BELL TELEPHONE LABORATORIES, INC — 6S

SD-25550-01-F31

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D, 49D

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT DSP FIG.	MECH REQT CONT PRESS	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN SKT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	DIRECT CURRENT FLOW REQT AFTER SOAK MA.	DIRECT CURRENT FLOW REQT TEST MA.	DIRECT CURRENT FLOW REQT READJ MA.	REMARKS
VGO, VG1, VG2, VGN, VG7	U1355	-1	9	117/148	H	47			T REL TST	GRD			C		36.5	36.5	
	UB15	-2	9	513/523	H	41									47	44.5	
VG1C	U1355	YC-1	9	117/148	H	47			T(VG10)	GRD			C		36.5	36.5	
	UB15	YC-2	9	513/523	H	41			T(VG10)	GRD			C		47	44.5	
VGG1	U1361	E	1	119/113	H	35			T(VGG1)	GRD	3		C		47	44.5	WDG ALONE
													C		105	100	
VGG2	U1361	YA,Z	1	119/113	H	35			T(VGG2)	GRD	3		C		47	44.5	WDG ALONE
													C		105	100	
VGL	U1355	-1	68	117/148	H	47			T(VGL)	GRD			C		36.5	36.5	
	UB15	-2	68	513/523	H	41			T(VGL)	GRD			C		47	44.5	
VGL1	U1349	ZJ-1	1	109/109	H	29			T(VGL1)	GRD	1		C		30.5	33.5	WDG ALONE
													C		80	74.5	
	UB21	ZJ-2	1	512/512	H	32			T(VGL1)	GRD	1		C		44	41.5	WDG ALONE
													C		100	95	
VGL2	U1349	[illegible]	1	109/109	H	29			T(VGL2)	GRD	1		C		30.5	33.5	WDG ALONE
													C		80	74.5	
	UB21	[illegible]	1	512/512	H	32			T(VGL2)	GRD	1		C		44	41.5	WDG ALONE
													C		100	95	
VGNO-8, VGN2,9	2764	UK	2 2	1									C NO R	50	16 12.8 1.3		SEE BSP
VGR	U1371	E	1	111/110	H	35			T(VGR)	GRD			C		60	75	
VGT0-5	U1405		1	195/135	H	SPL			T REL TST	GRD	2		C NO R		205 120 65	195 130 70	
VGT6, 7	U1405	YA,XC	1	195/135	H	SPL			T REL TST	GRD	2		C NO R		205 120 65	195 130 70	
VGT8, 9	U1405	YB	1	195/135	H	SPL			T REL TST	GRD	2		C NO R		205 120 65	195 130 70	

TEST NOTES:

1. REQ FOR CKT COMB. OF (VGL1) AND (VGL2) RELAYS.
2. APM. TRVL 50; IT-2T BREAK WITH 15 MIL GAUGE BETWEEN ARM AND CORE.
3. REQ FOR CKT COMB. OF (VGG1) AND (VGG2) RELAYS.

NO.5 MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

SD-25550-01-F32

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D, 49D

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT DSP FIG.	MECH REQT CONT PRESS	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN SKT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	DIRECT CURRENT FLOW REQT AFTER SOAK MA.	DIRECT CURRENT FLOW REQT TEST MA.	DIRECT CURRENT FLOW REQT READJ MA.	REMARKS
VGT10, 11	U1405	YC	1	195/135	H	SPL			T REL TST	GRD	5		O NO F		205 120 65	195 130 70	
VGT12, 13	U1405	YD	1	195/135	H	47			T REL TST	GRD			O		185	175	
VP	U1370		53	120/120	H	35		B(VP)	T(VP)	B/G			O		80	73.5	
VPO-3	AF504		174	8			(MLF)NO		U REL TST	GRD			O		80	72	
VPT	AF42		174	224					U(VPT)	GRD			O		100	95	
VTC	U1355	-1	151	117/148	H	47			T(VTC)	GRD			O		36.5	36.5	
	UB15	-2	151	513/523	H	41			T(VTC)	GRD			O		47	44.5	
VTK	U1404	E	1	215/146	H	47	2B(VTK)		T(VTK)	GRD	4		O		155	145	
VTK1	U1394		1	123/111	H	29			T(VTK1)	GRD			O		90	85	
WKC	U1355	-1	151	117/148	H	47			T(WKC)	GRD			O		36.5	36.5	
	UB15	-2	151	513/523	H	41			T(WKC)	GRD			O		47	44.5	
WT	U52		AG	155/126	H	59		B(WT)		BAT.	2/3		O		20	19	
	U554		AH	148/147	H	47		B(WT)		BAT.	2/3		G		10.5	10	
X11	U1349	-1	38	109/109	H	29			T(X11)	GRD			O		35.5	33.5	
	UB21	-2	38	512/512	H	32			T(X11)	GRD			O		44	41.5	
XAB	U1410	XA	91	111/101	SPL	SPL	1T(COX) 1B(COX)		TF(XAB)	GRD	1	P	O		195	185	ARM. TRVL 23
									TF(XAB)	GRD	1	F	NO		150	160	
									TR(XAB)	GRD	1	S	O		26		
XACH	U1334		83	111/111	H	29	1T(COX) 1B(COX)		T(XACH)	GRD			O		14.3	13.6	
XACL, XACP, XACR, XADL, XAF	U1334	XA	91	111/111	H	29	1T(COX) 1B(COX)		T REL TST	GRD			O		14.3	13.6	
XAFT	U1334		83	111/111	H	29	1T(COX) 1B(COX)		T(XAFT)	GRD			O		14.3	13.6	

TEST NOTES:

1. CONTACT MAKE MIN 6 MILS READJUST -4 MILS TEST.
2. CONNECT DIRECT GRD TO 1B(MT) RELAY.
3. SEE TIME REQUIREMENTS, PAGE 74.
4. CONTACTS 6B & 7B: CONTACT MAKE 6 MILS READJUST -4 MILS TEST; CONTACT-NO MAKE 12 MILS-READJUST -15 MILE TEST.
5. APM. TRVL 50; IT-2T BREAK WITH 15 MIL GAUGE BETWEEN ARM AND CORE.

CROSSBAR SYSTEMS
NO.5 MARKER CIRCUIT
(2)

BELL TELEPHONE LABORATORIES, INC

6S

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D (F.C.R.), 49D (W.E. 81L, W.E. 88D)

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BBP FIG.	MECH REQT CONT PRESS	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 PDR	AFTER SOAK MA.	TEST MA.	READJ MA.	REMARKS
XAMG	U1334		83	111/111	H	29	1T(COX) 1B(COX)		T(XAMG)	GRD			0		14.3	13.6	
XAJC, XAJG, XAJS, XALC	U1334		91	111/111	H	29	1T(COX) 1B(COX)		T REL TST	GRD			0		14.3	13.6	
XALG	U1334		83	111/111	H	29	1T(COX) 1B(COX)		T(XALG)	GRD			0		14.3	13.6	
XALR	U1334		91	111/111	H	29	1T(COX) 1B(COX)		T(XALR)	GRD			0		14.3	13.6	
XALV	U1334		83	111/111	H	29	1T(COX) 1B(COX)		T(XALV)	GRD			0		14.3	13.6	
XAMB	U1334	XA	91	111/111	H	29	1T,1B(COX)		T(XAMB)	GRD			0		14.3	13.6	
XAPTN	U1334		91	111/111	H	29	1T,1B(COX)		T(XAPTN)	GRD			0		14.3	13.6	
XARN	290AF	TR	91	B			9T(TX) (TX)0	10T(TX)	2(XARN)	NGB		P	0	-105		2.5	
								10T(TX)	2(XARN)	NGB		P	NO	-105		1.8	
								10T(TX)	2(XARN)	NGB		P	0	-105	8.9	8.4	
								10T(TX)	2(XARN)	NGB		P	R	105	1.6	1.7	
								1B(BX)	10T(TX)	NGB		S	0		3.8		
XARS	U1334	XA	83	111/111	H	29	1T(COX) 1B(COX)		T(XARS)	GRD			0		14.3	13.6	
XATS	U1334		91	111/111	H	29	1T(COX) 1B(COX)		T(XATS)	GRD			0		14.3	13.6	
XAVGA	U1334	E	83	111/111	H	29	1T,1B(COX)		T(XAVGA)	GRD			0		14.3	13.6	
XAVGB	U1334		83	111/111	H	29	1T,1B(COX)		T(XAVGB)	GRD			0		14.3	13.6	
XBRN	290AF	TQ	91	B			9T(TX) (TX)0	10T(TX)	2(XBRN)	NGB		P	0	-105		2.5	
								10T(TX)	2(XBRN)	NGB		P	NO	-105		1.8	
								10T(TX)	2(XBRN)	NGB		P	0	-105	8.9	8.4	
								10T(TX)	2(XBRN)	NGB		P	R	105	1.6	1.7	
								1T(BX)	10T(TX)	NGB		S	0		3.8		

NO.5 MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

SD-25550-01-F33

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D, 49D

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BBP FIG.	MECH REQT CONT PRESS	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 PDR	AFTER SOAK MA.	TEST MA.	READJ MA.	REMARKS
XBT	U1235		83	111/101	H	29	1T(COX) 1B(COX)		TF(XBT) TR(XBT)	GRD GRD		P S	0 0		14.3 11.3	13.6	
XCH	S514		83						7B(STX) 7B(STX)	GRD GRD			0 NO		2 1.6	1.9 1.7	
XCKR	U1235	XA	83	111/101	H	29	1T(COX) 1B(COX)		TF(XCKR) TR(XCKR)	GRD GRD		P S	0 0		14.3 11.3	13.6	
XCL	239HH OR 280AF	XX XY	91	B			9T(TX) (TX)0	10T(TX) 10T(TX) 10T(TX) 10T(TX) 11T(BX)	2(XCL) 2(XCL) 2(XCL) 2(XCL) 10T(TX)	NGB NGB NGB NGB NGB		P P P P S	0 NO 0 R 0	-105 -105 -105 105	8.9 1.6 3.8	2.5 1.8 8.4 1.7	
XCLC	U1410	XA	91	111/101	SPL	SPL	1T(COX) 1B(COX)		TF(XCLC) TF(XCLC) TR(XCLC)	GRD GRD GRD	1 1 1	P P S	0 NO 0		195 150 28	185 160	ARM. TRVL 23
XCP	239HH OR 280AF	XX XY	91	B			9T(TX) (TX)0	10T(TX) 10T(TX) 10T(TX) 10T(TX) 11T(BX)	2(XCP) 2(XCP) 2(XCP) 2(XCP) 10(TX)	NGB NGB NGB NGB NGB		P P P P S	0 NO 0 R 0	-105 -105 -105 105	8.9 1.6 3.8	2.5 1.8 8.4 1.7	
XCR	239HH OR 280AF	XX XY	91	B			9T(TX) (TX)0	10T(TX) 10T(TX) 10T(TX) 10T(TX) 11T(BX)	2(XCR) 2(XCR) 2(XCR) 2(XCR) 10T(TX)	NGB NGB NGB NGB NGB		P P P P S	0 NO 0 R 0	-105 -105 -105 105	8.9 1.6 3.8	2.5 1.8 8.4 1.7	
XCS	U1410	ZD	91	111/101	SPL	SPL	1T(COX) 1B(COX)		TF(XCS) TF(XCS) TR(XCS)	GRD GRD GRD	1 1 1	P P S	0 NO 0		195 150 28	185 160	ARM. TRVL 23
XDL	239HH OR 280AF	XX XY	91	B			9T(TX) (TX)0	10T(TX) 10T(TX) 10T(TX) 10T(TX) 11T(BX)	2(XDL) 2(XDL) 2(XDL) 2(XDL) 10T(TX)	NGB NGB NGB NGB NGB		P P P P S	0 NO 0 R 0	-105 -105 -105 105	8.9 1.6 3.8	2.5 1.8 8.4 1.7	
XDR	AJ510		174	39			(MXT) NO (COX) O		1U(XCL) 1U(XCL) 2U(XCL)	GRD GRD GRD		P P S	O NO O		255 200 49.5	240 215	
XF	239HH OR 280AF	WT WU	91	B			3B(TX), (TX)0, (BX)NO, 12B(BX)	4B(TX) 4B(TX) 4B(TX) 4B(TX) 11B(BX)	2(XF) 2(XF) 2(XF) 2(XF) 4B(TX)	B/G B/G B/G B/G B/G		P P P S	0 NO R 0	-105 -105 105	8.9 1.6 3.8	2.5 1.8 8.4 1.7	

TEST NOTES:

1. CONTACT MAKE MIN 6 MILS READJUST-4 MILS TEST.

CROSSBAR SYSTEMS

NO.5 MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

SD-25550-01-F33

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D (GW W.F.O. P.C.); 54D (C.F. W.E. 1440)

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS.	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 S. AK MA.	TEST MA.	READJ MA.	REMARKS
XFG	U1334	XC	83	111/111	H	29	1T(COX)		T(XFG)	GRD			0		14.3	13.6	
							1B(COX)										
XFT	3804		83						2RT(XFT)	GRD			0		7.8	7.4	BASE GAP - 6 ±1 MIL
									2RT(XFT)	GRD			NO		6.2	9.6	
XFTN	2780	XR	91	1									0	17	6		SEE BSP
													NO		4.9		
													R		0.6		
XFTT	U6033	XP	91	120/110	H	SPL			T(XFTT)	GRD			0	FS	24.5	23.5	ARM. TRVL 35 MAX
									T(XFTT)	GRD			NO	FS	18	19	
									T(XFTT)	GRD			R	FS	3.7	3.9	
XFUN	2780	XR	91	1									0	17	6		SEE BSP
													NO		4.9		
													R		0.6		
XFUT	U6033	XP	91	120/110	H	SPL	1T(COX)		T(XFUT)	GRD			0	FS	24.5	23.5	ARM. TRVL 35 MAX
							1B(COX)		T(XFUT)	GRD			NO	FS	18	19	
									T(XFUT)	GRD			R	FS	3.7	3.9	
XHG	S68		83						2RT(XHG)	GRD			0		215	200	
									2RT(XHG)	GRD			NO		170	180	
XJC	239HP	WZ	91	B			(TX)O,	8T(TX)	2(XJC)	B/G		P	0	-315		7.5	
	OR						7T(TX),	8T(TX)	2(XJC)	B/G		P	NO	-315		5.5	
	280BJ	VA					(BX)NO,	8T(TX)	2(XJC)	B/G		P	0	-315	29	27.5	
							4B(BX)	8T(TX)	2(XJC)	B/G		P	R	315	6.2	6.6	
								3B(BX)	8T(TX)	B/G		S	0		1.6		
XJG	239HN	WT	91	B			(TX)O,	6T(TX)	2(XJG)	B/G		P	0	-105		2.5	
	OR						5T(TX),	6T(TX)	2(XJG)	B/G		P	NO	-105		1.8	
	280AF	WU					(BX)NO,	6T(TX)	2(XJG)	B/G		P	0	-105	8.9	8.4	
							6B(BX)	6T(TX)	2(XJG)	B/G		P	R	105	1.6	1.7	
								5B(BX)	6T(TX)	B/G		S	0		3.8		
XJS	239HN	WT	91	B				9B(ONX)	2(XJS)	B/G		P	0	-105		2.5	
	OR							9B(ONX)	2(XJS)	B/G		P	NO	-105		1.8	
	280AF	WU						9B(ONX)	2(XJS)	B/G		P	0	-105	8.9	8.4	
								9B(ONX)	2(XJS)	B/G		P	R	105	1.6	1.7	
								7T(ONX)	9B(ONX)	B/G		S	0		3.8		

MARKER CIRCUIT — SD-25550-01-F34

BELL TELEPHONE LABORATORIES, INC

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D (C.F. W.E. 1440); 54D (C.F. W.E. 1440)

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS.	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
XLC	239HP	WZ	91	B			(TX)O,	28(TX)	2(XLC)	B/G		P	0	-315		7.5	
	OR						1B(TX),	28(TX)	2(XLC)	B/G		P	NO	-315		5.5	
	280BJ	VA					(BX)NO,	28(TX)	2(XLC)	B/G		P	0	-315	29	27.5	
							10B(BX)	28(TX)	2(XLC)	B/G		P	R	315	6.2	6.6	
								9B(BX)	2B(TX)	B/G		S	0		1.6		
XLF	AF104		185	4C			1T(COX)		1U(XLF)	GRD		P	0		215	205	
							1B(COX)		1U(XLF)	GRD		P	NO		170	180	
									2U(XLF)	GRD		S	0		42		
XLG	S68		83						2RT(XLG)	GRD			0		180	175	CONN DIRECT BAT. TO RBI (XLG)
									2RT(XLG)	GRD			NO		150	155	
XLH	239KJ	VB	91	B				8B(GLH)	4B(HMT1)	B/G		P	0	-13		0.3	
	OR							8B(GLH)	4B(HMT1)	B/G		P	NO	-13		0.2	
	280BE	VC						6B(GLH)	4B(HMT1)	B/G		P	0	-13	1.2	1.1	
								6B(GLH)	4B(HMT1)	B/G		P	R	13	0.2	0.3	
								11B(CKG7)	6T(LHT)	B/G		S	0		4		
XLO	U1235	XA	83	111/101	H	29	1T(COX)		TF(XLO)	GRD		P	0		14.3	13.6	
							1B(COX)		TR(XLO)	GRD		S	0		11.3		
XLR	239HH	WT	91	B			(TX)O,	4T(TX)	2(XLR)	B/G		P	0	-105		2.5	
	OR						3T(TX),	4T(TX)	2(XLR)	B/G		P	NO	-105		1.8	
	280AF	WU					(BX)NO,	4T(TX)	2(XLR)	B/G		P	0	-105	8.9	8.4	
							8B(BX)	4T(TX)	2(XLR)	B/G		P	R	105	1.6	1.7	
								7B(BX)	4T(TX)	B/G		S	0		3.8		
XLS	U1409		83	111/101	SPL	SPL	1T(COX)	8F(XLS)		BAT. 1		P	0		110	105	ARM. TRVL 23
							1B(COX)	8F(XLS)		BAT. 1		P	NO		85	90	
									TR(XLS)	GRD 1		S	0		25		
XLV	S68		83						2RT(XLV)	GRD			0		230	210	
									2RT(XLV)	GRD			NO		180	190	
XMB	239HH	XX	91	B				10T(TX)	2(XMB)	NGB		P	0	-105		2.5	
	OR						(TX)O,	10T(TX)	2(XMB)	NGB		P	NO	-105		1.8	
	280AF	XY					9T(TX)	10T(TX)	2(XMB)	NGB		P	0	-105	8.9	8.4	
								10T(TX)	2(XMB)	NGB		P	R	105	1.6	1.7	
								11T(BX)	10T(TX)	NGB		S	0		3.8		
XMRL	U1235	XA	83	111/101	H	29	1T(COX)		TF(XMRL)	GRD		P	0		14.3	13.6	
							1B(COX)		TR(XMRL)	GRD		S	0		11.3		
XN	U1334	XA	83	111/111	H	29	1T(COX)		T(XN)	GRD			0		14.3	13.6	
							1B(COX)										
XNS	S68		147						2RT(XNS)	GRD	2		0		180	175	
									2RT(XNS)	GRD	2		NO		150	155	

TEST NOTES:

1. CONTACT MAKE MIN 6 MILS READJUST -4 MILS TEST.
2. CONN DIRECT BAT. TO RBI(XNS).

MARKER CIRCUIT (2) — SD-25550-01-F34

BELL TELEPHONE LABORATORIES, INC — 6S

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D 6 NI 9 CR w/ F.O. | 51D PH 1965 Manual

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS	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
X08	U1410	XA	91	111/101	SPL	SPL	T(COX)		TF(X08)	GRD	1	P	0		195	185	ARM. TRVL 23
							B(COX)		TF(X08)	GRD	1	P	NO		150	160	
									TR(X08)	GRD	1	S	0		28		
XPG	U1410		91	111/101	SPL	SPL	T(COX)		TF(XPG)	GRD	1	P	0		195	185	ARM. TRVL 23
							B(COX)		TF(XPG)	GRD	1	P	NO		150	160	
									TR(XPG)	GRD	1	S	0		28		
XPT	U1410	XA	91	111/101	SPL	SPL	T(COX)		TF(XPT)	GRD	1	P	0		195	185	ARM. TRVL 23
							B(COX)		TF(XPT)	GRD	1	P	NO		150	160	
									TR(XPT)	GRD	1	S	0		28		
XPTN	239HP OR 280BJ	WZ	91	B			(TX)O, T(TX), (BX)NO, OT(BX)	2T(TX)	2(XPTN)	B/G		P	0	-315		7.5	
		VA						2T(TX)	2(XPTN)	B/G		P	NO	-315		5.5	
								2T(TX)	2(XPTN)	B/G		P	0	-315	29	27.5	
								2T(TX)	2(XPTN)	B/G		P	R	315	6.2	6.6	
								9T(BX)	2T(TX)	B/G		S	0		1.6		
XRCN	U410	GB	91	111/101	SPL	SPL	(FTTB) NO		TF(XRCN)	GRD	1	P	0		195	185	ARM. TRVL 23
												P	NO		150	160	
XRCT	U6033	XP	91	120/110	H	SPL	T(COX)		T(XRCT)	GRD			0	FS	24.5	23.5	ARM. TRVL 35 MAX
							B(COX)		T(XRCT)	GRD			NO	FS	18	19	
									T(XRCT)	GRD			R	FS	3.7	3.9	
XRL	U1235	XA	83	111/101	H	29	T(COX)		TF(XRL)	GRD		P	0		14.3	13.6	
							B(COX)		TR(XRL)	GRD		S	0		11.3		
XRS1, XRS2	S533	XA	83					RB1 REL		BAT.			0		85	80	
								RB1 TEST		BAT.			NO		68	72	
XRS3	U1409	XA	83	111/101	SPL	SPL	T(COX)		TF(XRS3)	GRD	1	P	0		110	105	ARM. TRVL 23
							B(COX)		TF(XRS3)	GRD	1	P	NO		85	90	
									TR(XRS3)	GRD	1	S	0		25		
XRS4	U1409	XA	83	111/101	SPL	SPL	T(COX)		TF(XRS4)	GRD	1	P	0		110	105	ARM. TRVL 23
							B(COX)		TF(XRS4)	GRD	1	P	NO		85	90	
									TR(XRS4)	GRD	1	S	0		25		
XS	U1409	XA	83	111/101	SPL	SPL	T(COX)		TF(XS)	GRD	1/2	P	0		110	105	ARM. TRVL 23
							B(COX)		TF(XS)	GRD	1/2	P	NO		85	90	
									TR(XS)	GRD	1	S	0		25		
XSA	U1409	XA	83	111/101	SPL	SPL	T(COX)		TF(XSA)	GRD	1/3	P	0		110	105	ARM. TRVL 23
							B(COX)		TF(XSA)	GRD	1/3	P	NO		85	90	
									TR(XSA)	GRD	1/3	S	0		25		

TEST NOTES:

1. CONTACT MAKE MIN. 6 MILS READJUST-4 MILS TEST.
2. CONNECT DIRECT BAT. TO BF(XS).
3. CONNECT DIRECT BAT. TO BF(XSA).

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 41D 6 NI 9 CR | 51D PH 1965 Manual

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG	MECH REQT CONT PRESS	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
XSL	U1235	TC	83	111/101	H	29	T(COX)		TF(XSL)	GRD		P	0		14.3	13.6	
							B(COX)		TR(XSL)	GRD		S	0		11.3		
	U260	TD	83	108/110	H	47	T(COX)		TF(XSL)	GRD		P	0		20	19	
							B(COX)		TR(XSL)	GRD		S	0		16.5		
XSS	U1316	XA	83	147/120	H	44			T(XSS)	GRD			0		125	120	CONN DIRECT BAT. TO B(XSS)
XT	U1410	XA	91	111/101	SPL	SPL	T(COX)		TF(XT)	GRD	1	P	0		195	185	ARM. TRVL 23
							B(COX)		TF(XT)	GRD	1	P	NO		150	160	
									TR(XT)	GRD	1	S	0		28		
XT1, XT2	S504	XA	83						2PT PEL	GRD	2		0		7.8	7.4	
									2RT TEST	GPD	2		NO		6.2	6.6	
XT5	U220	XA	83	120/108	H	47	T(COX)		T(XT5)	GRD			0		19	18	
							B(COX)										
XTAN	U1410	UN	91	111/101	SPL	SPL	T(COX)	BF(XTAN)		BAT.	1	P	0		195	185	ARM. TRVL 23
							B(COX)	BF(XTAN)		BAT.	1	P	NO		150	160	
									TR(XTAN)	GRD	1	S	0		28		
XTB	U1409	XA	91	111/101	SPL	SPL	T(COX)		TF(XTB)	GRD	1	P	0		110	105	ARM. TRVL 23
							B(COX)		TF(XTB)	GRD	1	P	NO		85	90	
									TR(XTB)	GRD	1	S	0		25		
XTB1	U1409	XA	83	111/101	SPL	SPL	T(COX)	BF(XTB1)		BAT.	1	P	0		110	105	ARM. TRVL 23
							B(COX)	BF(XTB1)		BAT.	1	P	NO		85	90	
									TR(XTB1)	GRD	1	S	0		25		
XTC	U1235	E	83	111/101	H	29	T(COX)		TF(XTC)	GRD		P	0		14.3	13.6	
							B(COX)		TR(XTC)	GRD		S	0		11.3		
XTC1	U1235	E	83	111/101	H	29	T(COX)		TF(XTC)	GRD		P	0		14.3	13.6	
							B(COX)		TR(XTC)	GRD		S	0		11.3		
XTG	U1409	XA	91	111/101	SPL	SPL	T(COX)		TF(XTG)	GRD	1	P	0		110	105	ARM. TRVL 23
							B(COX)		TF(XTG)	GRD	1	P	NO		85	90	
									TR(XTG)	GRD	1	S	0		25		
XTG1	U1235	XZ	83	111/101	H	29	T(COX)		TF(XTG1)	GRD		P	0		14.3	13.6	
							B(COX)		TR(XTG1)	GRD		S	0		11.3		

TEST NOTES:

1. CONTACT MAKE MIN 6 MILS READJUST-4 MILS TEST.
2. ARM. BASE GAP SPECIAL 6 ±1 MILS.

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

SD-25550-01-F35

MARKER CIRCUIT

(2)

BELL TELEPHONE LABORATORIES, INC

SHEET NO. 6S

SD-25550-01-F35

APPARATUS					MECH REQT			CIRCUIT PREPARATION			TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT					REMARKS
DESIG	CODE	OPTION	FIG.		BSP FIG	CONT PRESS	ARM TRVL	BLOCK OR INSULATE	TEST CLIP DATA				TEST WDG	TEST FOR	AFTER SOAK	TEST	READJ	
									CONN BAT	CONN GRD					MA.	MA.	MA.	
XTRK	U1235		63		111/101	H	29	1T(CCX)		TF(XTRK)	GRD		F	0		14.3	13.6	
								1B(CCX)		TR(XTRK)	GRD		S	0		11.3		
XTRL	U1235		83		111/101	H	29	1T(COX)		TF(XTRL)	GRD		F	0		14.3	13.6	
								1B(COX)		TR(XTRL)	GRD		S	0		11.3		
XTS	235HH	WT	91		8				5(XTS)	9T(CNX)	B/G		F	0	-105		2.5	
	CR								5(XTS)	9T(CNX)	B/G		F	NC	-105		1.6	
	26CAF	WU							5(XTS)	9T(CNX)	B/G		F	0	-105	6.9	6.4	
									5(XTS)	9T(CNX)	B/G		F	R	105	1.6	1.7	
								2B(CNX)	9T(CNX)	1B(CNX)	B/G		S	0		3.6		
XTS1	U1235		83		111/101	H	29	1T(COX)		TF(XTS1)	GRD		F	0		14.3	13.6	
								1B(CCX)		TR(XTS1)	GRD		S	0		11.3		
XTV	U1410	XA	91		111/101	SFL	SFL	1T(CCX)		TF(XTV)	GRD	1	F	0		195	185	ARM, TRVL 23
								1B(CCX)		TF(XTV)	GRD	1	F	NC		150	160	
										TR(XTV)	GRD	1	S	0		26		
XVGA	S68	E	63							2RT(XVGA)	GRD			0		180	175	
										2RT(XVGA)	GRD			NC		150	155	
XVGB	S65		83							2RT(XVGB)	GRD			0		73.5	70	
										2RT(XVGB)	GRD			NO		59	62.5	

TEST NOTES:

1. CONTACT MAKE MIN 6 MILS READJUST 4 MILS TEST.

NO. 5
MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

SD-25550-01-F36

APPARATUS					MECH REQT			CIRCUIT PREPARATION			TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT					REMARKS
DESIG	CODE	OPTION	FIG.		BSP FIG	CONT PRESS	ARM TRVL	BLOCK OR INSULATE	TEST CLIP DATA				TEST WDG	TEST FOR	AFTER SOAK	TEST	READJ	
									CONN BAT	CONN GRD					MA.	MA.	MA.	
TIME	REQT																	
CHT			29					(CKG5)0 (TK)0				1,3						CONN DIRECT GRD TO 3T(CHG)
CHT			29					(CKG5)0 (TK)0 (NT)0				1,4						CONN DIRECT GRD TO 3T(CHG)
CLT			33					5T(CLT1) (BG)0 (CLG)0				1						REQ OF 20 MS MIN AND 25 MS MAX APPLY
CLT			33					5T(CLT1) (BG)0 (CLG)0				1						RLS TIME REQ OF 17 MS MIN AND 22 MS MAX APPLY
MMT			31					(CKG5)0 (HTR)0 (CKG4)0 (CHA)0 11T(HTR)				1						OPR TIME REQ OF 10 MS MIN AND 15 MS MAX APPLY
MMT			31					(CKG5)0 (HTR)0 (CKG4)0 (CHA)0 11T(HTR) (CB5)0				1,2						OPR TIME REQ OF 40 MS MIN AND 45 MS MAX APPLY
MTT			79									1						
LDT		AG, AM						(SDT)NC, 2B(SFT), (SF)NC				1						CONN DIRECT BAT. TO B(SFT)
MRL			79									5						

TEST NOTES.

1. USE TEST SET FOR TIMING TESTS.

DESIG	TEST CLIP DATA			TEST SET PREP		TIME REQT (MIL-SEC)	
	CONN BK	CONN K	CONN W	SEND KEY	REC SW	MIN	MAX
CHT	GRD	5B(TK)	1T(TK)	BK	GRD - OC	10	15
CHT	GRD	5B(TK)	1T(TK)	BK	GRD - OC	35	40
CLT	GRD	10T(CLG)	2B(NOC)	BK	OC - 48V	50	55
CLT	GRD	10T(CLG)	2B(NOC)	MK	-48V - OC	17	22
MMT	GRD	1B(CHA)	6T(CKG2)	BK	-48V - OC	10	15
MMT	GRD	1B(CHA)	6T(CKG2)	BK	-48V - OC	40	45
MTT	GRD	T(HTR)	1B(HTT)	MK	OC - GRD	960	1600
LDT	GRD	T(SFT)	6T(TRT)	MK	-48V - GRD	4600	7500

2. REQUIREMENT APPLIES FOR COMBINED AND COMPLETING MARKERS ONLY.
3. CFR TIME OF 10 MS MIN AND 15 MS MAX APPLY.
4. CFR TIME OF 35 MS MIN AND 40 MS MAX APPLY.
5. TO MEASURE THE TIME OF THE (MRL) TIMER; OPERATE REL (CAT), REL (MRL) SHOULD OPERATE IN MIN 9.6 SEC AND MAX 15.4 SEC.

NO. 5
MARKER CIRCUIT

BELL TELEPHONE LABORATORIES, INC

SD-25550-01-F36

CIRCUIT REQUIREMENTS

DRAWING ISSUE 41D

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS	MECH REQT ABN. 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
TIME REQT																	
OST			34				(CGC)O (CST2)NC 5T(CST2) 5T(CGC) (BG)O				1,2,3						OPR TIME OF (OST1) AND (OST) RELAYS
OST			34				(CST2)O				1,2						OPR TIME OF (OST1) RELAY
OST			34				(BG)O (OGC)O (CST2)O 5T(OST2) 5T(OGC) 6B(OST1)				1						RLS TIME OF (OST) RELAY
RNT			89				(RNT2)NC (AMA5)O 5B(RNT2) (RN)NC (BG)O				1,4						OPR TIME OF (RNT1) AND (RNT) RELAYS
RNT			89				(RN)NC				1,4						OPR TIME OF (RNT1) RELAY
RNT			65				(RNT2)O (AMA5)O (RN)NC (BG)O 2T(RNT2)				1						RLS TIME OF (RNT) RELAY
SDT		AG AH					2B(SFT) (SF)NC (LDT)NC				1,5						CONN DIRECT BAT. TO 8(SFT)
SDT		AG AH					2B(SFT) (SF)NC (WTT)O (LDT)NC				1,6						CONN DIRECT BAT. TO 6(SFT)
SFT		AD									1						

TEST NOTES:

1. USE TEST SET FOR TIMING TESTS.

DESIG	TEST CLIP DATA CONN BK	CONN R	CONN W	TEST SET PREP SEND KEY	REC SW	TIME REQT (MIL-SEC) MIN	MAX
CST	GRD	T(CST1)	2B(CST1)	MK	GRD - OC	SEE NOTE 2	
OST	GRD	T(CST1)	6T(CST1)	MK	OC - GRD	SEE NOTE 2	
OST	GRD	T(CST1)	8B(CST1)	BK	GRD - OC	15	20
RNT	GRD	T(RNT1)	7B(CRG6)	MK	OC - 48V	SEE NOTE 4	
RNT	GRD	T(RNT1)	8T(RNT1)	MK	OC - GRD	SEE NOTE 4	
RNT	GRD	T(RNT1)	7B(CRG6)	BK	OC - 48V	15	20
SDT	GRD	T(SFT)	6T(TRT)	MK	-48V - GRD	2600	4250
SDT	GRD	T(SFT)	6T(TRT)	MK	-48V - GRD	1100	1900
SFT	BAT.	BF(SF)	6T(SFT)	MK	GRD - OC	60	160

2. SUBTRACT THE OPR TIME OF THE (OST1) RELAY FROM THE OPR TIME OF THE (CST1) AND (CST) RELAYS. THIS DIFFERENCE SHOULD BE BETWEEN 30 MS AND 35 MS.

3. CONNECT DIRECT GRD TO 5T(CST2).

4. SUBTRACT THE OPR TIME OF THE (RNT1) RELAY FROM THE OPR TIME OF THE (RNT1) AND (RNT) RELAYS. THIS DIFFERENCE SHOULD BE BETWEEN 30 MS AND 35 MS.

5. OPR TIME OF 2600 MS MIN AND 4250 MS MAX APPLY.

6. OPR TIME OF 1100 MS MIN AND 1900 MS MAX APPLY.

NO.5 MARKER CIRCUIT

SD-25550-01-F37

BELL TELEPHONE LABORATORIES, INC

SD-25550-01-F37

CIRCUIT REQUIREMENTS

DRAWING ISSUE 41D

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRESS	MECH REQT ABN. 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
TBT			18				(FCK)O (FCKA)O 1T(TBTB) (CKG7)O (TBTB)NO				1						OPR TIME OF 25 MS MIN AND 26 MS MAX APPLY
TBT			18				(FCK)O (FCKA)O 1T(TBTB) (CKG7)O (TBTB)NC (MT14)C				1						OPR TIME OF 76 MS MIN AND 92 MS MAX APPLY
TRTR			79								1						
TYM		SK	77				(FBX2)C (TLC2)O (HTUK)O (NGC)O				1						OPR TIME REQ OF 23 MS MIN AND 29 MS MAX APPLY
TYM		SL	77				(FBX2)O (TLC2)O (HTUK)O (NGC)O				2						OPR TIME REQ OF 20 MS MIN AND 25 MS MAX APPLY
TYM		SK,SL	77				(TLC2)O (HTUK)O (NGC)O 2B(FBX2)				1						OPR TIME REQ OF 74 MS MIN AND 87 MS MAX APPLY
TYM1			142				(NAR1)O (NGC)O (UK)C (NGK1)O				2						
WT		AG, AH									1						

TEST NOTES:

1. USE TEST SET FOR TIMING TESTS.

DESIG	TEST CLIP DATA CONN BK	CONN R	CONN W	TEST SET PREP SEND KEY	REC SW	TIME REQT (MIL-SEC) MIN	MAX
TBT	GRD	3T(TBTB)	6T(TBTB)	BK	GRD - 48V	25	26
TBT	GRD	3T(TBTB)	8T(TBTB)	BK	GRD - 48V	76	92
TRTR	GRD	T(TRT)	6T(TRTR)	MK	GRD - OC	2000	3250
TYM	4T(AM)	2B(HTUK)	2B(FBX2)	BK	OC - GRD	23	29
TYM	4T(AM)	2B(HTUK)	2B(FBX2)	BK	OC - GRD	74	87
WT	GRD	T(TMS)	6T(TRT)	MK	-48V - GRD	245	455

2.

DESIG	TEST CLIP DATA CONN BK	CONN R	CONN W	TEST SET PREP SEND KEY	REC SW	TIME REQ (MIL-SEC) MIN	MAX
TYM	4T(AM)	2B(HTUK)	2B(FBX2)	BK	OC - GRD	20	25
TYM1	GRD	3T(UK)	9B(NAR3)	BK	OC - GRD	65	80

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NO.5 MARKER CIRCUIT

SD-25550-01-F37

BELL TELEPHONE LABORATORIES, INC

6S

CIRCUIT REQUIREMENTS

DRAWING ISSUE 41D 4W FCR

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG	MECH REQT BSP FIG	MECH REQT CONT PRESS	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 READ MA	REMARKS
ELECTRON TUBES																	
CON	313CA		80, 106	SEE BSP													
HTT	313CC		79	SEE BSP													
LDT	313CC		79	SEE BSP													
OAT	313CC		79	SEE BSP													
PTO-9	313C		84	SEE BSP													
PTL	313C		84	SEE BSP													
SDT	313CC		79	SEE BSP													
SF	313CC		AD	SEE BSP													
TRTR	313CC		79	SEE BSP													
WT	313CC		79	SEE BSP													

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MARKER CIRCUIT

SD-25550-01-F38

BELL TELEPHONE LABORATORIES, INC

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CIRCUIT REQUIREMENTS

DRAWING ISSUE 41D 4W FCR

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPTION	APPARATUS FIG	MECH REQT BSP FIG	MECH REQT CONT PRESS	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 READ MA	REMARKS

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NO. 5
MARKER CIRCUIT

SD-25550-01-F38

BELL TELEPHONE LABORATORIES, INC 6S

CAD-1

(FOR APP FIG. 1)

FOR COMBINED MARKERS

TO CAD 96 (LLMC-A) (A&M ONLY) OR TO CAD 147 (LLMC-A)
TO CAD 107 (MTFC-A2)
TO CAD 107 (MTFC-T1)
TO CAD 107 (MTFC-C0)
TO CAD 91 (LLC-A)
TO CAD 96 (LLMC-A) (A&M ONLY) OR TO CAD 147 (LLMC-A)
TO CAD 99 (GRMC-C0)
TO CAD 221

31(VGT6)	8T	(VGG1) REL
30(VGT5)	5T	(VGT5) REL
28(VTK1)	7T	(VTK1) REL
14(VGA)	11T	(VGT5) REL
13(VGT13)	2B	(VGT13) REL
12(VGT12)	2B	(VGT12) REL
11(VGT11)	2B	(VGT11) REL
0(VGT0) (MFR DISC)	2B	(VGT0) REL
33(VGB13)	8B	(VGT13) REL
32(VGB12)	8B	(VGT12) REL
31(VGB11)	8B	(VGT11) REL
30(VGB10)	8B	(VGT10) REL
24(VGB9)	8B	(VGT9) REL
20(VGB5)	8B	(VGT5) REL
14(VGB4)	8B	(VGT4) REL
10(VGB0)	8B	(VGT0) REL
48(VGA13)	10T	(VGT13) REL
47(VGA12)	10T	(VGT12) REL
46(VGA11)	10T	(VGT11) REL
45(VGA10)	10T	(VGT10) REL
43(VGT13)	8T (VGG2) REL 5T	(VGT13) REL
42(VGT12)	6T (VGG2) REL 5T	(VGT12) REL
41(VGT11)	5T	(VGT11) REL
41(VGT11)	4T	(VGG2) REL
40(VGT10)	5T	(VGT10) REL
40(VGT10)	8B	(VGG2) REL
39(VGA9)	10T	(VGT9) REL
35(VGA5)	10T	(VGT5) REL
34(VGT9)	6B	(VGG2) REL
34(VGT9)	5T	(VGT9) REL
33(VGT8)	5T	(VGT8) REL
33(VGT8)	4B	(VGG2) REL
32(VGT7)	5T	(VGT7) REL
32(VGT7)	2B	(VGG2) REL
31(VGT6)	5T	(VGT6) REL
30(VGT5)	5T	(VGT5) REL
29(VGA4)	10T	(VGT4) REL
25(VGA0)	10T	(VGT0) REL
24(VGT4)	5T	(VGT4) REL
20(VGT0)	5T	(VGT0) REL
24(VG7)	4B	(VGT0) REL
23(VG4)	4B	(VGT5) REL
22(VG2)	4B	(VGT3) REL
21(VG1)	6B	(VGT5) REL
20(VG0)	6B	(VGT4) REL
14(VG10)	4B	(VGT10) REL
08	1T	(CBI) REL

SHOWN IN CAD 113

LC A
12 — 12B (VGT0) REL
11 — 12B (VGT1) REL
1 — 12B (VGT1) REL
TS (RES) ON RES UNIT (A)

LC A
11 — 5B (VTK1) REL
10 — 6B (VTK) REL
9 — 5B (VGR) REL
8 — 5B (GK) REL
7 — 12B (VGT1) REL
6 — 12B (VGT12) REL
TS (RES) ON RES UNIT (C)
MFR DISC.

SEE NOTE 219
TO CAD 67 (VGH) — 80 — 6B (VGL1) REL
PART OF 8V
TS (CC) AT TOP OF FRAME

CROSS CONN AS SPEC

CONN WHEN SIX ORIG REG GROUPS ARE PROVIDED

VGR	13	MFR DISC.	10B (VGT13) REL
VGR	12	110	10B (VGT12) REL
VGR	11		10B (VGT11) REL
VGR	10	109	10B (VGT10) REL
VGR	9		10B (VGT9) REL
VGR	8	108	10B (VGT8) REL
VGR	7		10B (VGT7) REL
VGR	6	107	10B (VGT6) REL
VGR	5	106	10B (VGT5) REL
VGR	0	101	10B (VGT0) REL

XTS (CF)
TO CAD 219

D	VG	D	D
MF		MF	MF

TO CAD 27
XTS (CG) COM EQPT FR

FOR COMPLETING MARKERS

TO CAD 107 (MTFC-A2)
TO CAD 91 (LLC-A)
TO CAD 221

28(VTK1)	7T	(VTK1) REL
31(VGB11)	8B	(VGT11) REL
30(VGB10)	8B	(VGT10) REL
24(VGB9)	8B	(VGT9) REL
20(VGB5)	8B	(VGT5) REL
14(VGB4)	8B	(VGT4) REL
10(VGB0)	8B	(VGT0) REL
33(VGB13) MFR DISC.	8B	(VGT13) REL
32(VGB12)	8B	(VGT12) REL
08	1T	(CBI) REL

SHOWN IN CAD 113

12 — 12B (VGT0) REL
11 — 12B (VGT11) REL
1 — 12B (VGT1) REL
TS (RES) ON RES UNIT (A)
LCA

LCA
11 — 5B (VTK1) REL
7 — 12B (VGT13) REL
6 — 12B (VGT12) REL
TS (RES) ON RES UNIT (C)

TO CAD 67 (VGH) — 80 — 3B (VGT5) REL
PART OF 8V
TS (CC) AT TOP OF FRAME

FOR DIAL TONE MARKERS

TO CAD 107 (MTFC-AB)
TO CAD 107 (MTFC-T3)
TO CAD 107 (MTFC-C4)
TO CAD 91 (LLC-A)
TO CAD 96 (LLMC-A) (A&M ONLY) OR TO CAD 147 (LLMC-A)
TO CAD 107 (MTFC-B4)

8(VTK1)	7T	(VTK1) REL
14(VGA)	11T	(VGT5) REL
13(VGT13)	2B	(VGT13) REL
12(VGT12)	2B	(VGT12) REL
11(VGT11)	2B	(VGT11) REL
0(VGT0)	2B	(VGT0) REL
33(VGB13)	8B	(VGT13) REL
32(VGB12)	8B	(VGT12) REL
31(VGB11)	8B	(VGT11) REL
30(VGB10)	8B	(VGT10) REL
24(VGB9)	8B	(VGT9) REL
20(VGB5)	8B	(VGT5) REL
14(VGB4)	8B	(VGT4) REL
10(VGB0) MFR DISC	8B	(VGT0) REL
48(VGA13)	10T	(VGT13) REL
47(VGA12)	10T	(VGT12) REL
46(VGA11)	10T	(VGT11) REL
45(VGA10)	10T	(VGT10) REL
43(VGT13)	8T	(VGG2) REL
42(VGT12)	6T	
41(VGT11)	4T	
40(VGT10)	8B	
39(VGA9)	10T	(VGT9) REL
35(VGA5)	10T	(VGT5) REL
34(VGT9)	6B	(VGG2) REL
33(VGT8)	4B	
32(VGT7)	2B	
31(VGT6)	8T	(VGG1) REL
30(VGT5)	5T	(VGT5) REL
29(VGA4)	10T	(VGT4) REL
25(VGA0)	10T	(VGT0) REL
24(VGT4)	5T	(VGT4) REL
20(VGT0)	5T	(VGT0) REL
24(VG7)	4B	(VGT0) REL
23(VG4)	4B	(VGT5) REL
22(VG2)	4B	(VGT3) REL
21(VG1)	6B	(VGT5) REL
20(VG0)	6B	(VGT4) REL
19(VG10)	4B	(VGT10) REL

SHOWN IN CAD 113

LC A
12 — 12B (VGT0) REL
11 — 12B (VGT11) REL
1 — 12B (VGT1) REL
TS (RES) ON RES UNIT (A)

LCA
11 — 5B (VTK1) REL
10 — 6B (VTK) REL
9 — 5B (VGR) REL
8 — 5B (GK) REL
7 — 12B (VGT13) REL
6 — 12B (VGT12) REL
TS (RES) ON RES UNIT (C)
MFR DISC

CONN WHEN SIX ORIG REG GROUPS ARE PROVIDED

CROSS CONN AS SPEC

VGR	13	MFR DISC.	10B (VGT13) REL
VGR	12	110	10B (VGT12) REL
VGR	11		10B (VGT11) REL
VGR	10	109	10B (VGT10) REL
VGR	9		10B (VGT9) REL
VGR	8	108	10B (VGT8) REL
VGR	7		10B (VGT7) REL
VGR	6	107	10B (VGT6) REL
VGR	5	106	10B (VGT5) REL
VGR	0	101	10B (VGT0) REL

XTS (CG)
TO CAD 219

D	VG	D	D
MF		MF	MF

TO CAD 27
XTS (CF) COM EQPT FR

41D	P.B.
43B	P.B.
49D	P.B.
51D	P.B.

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CAD 2
(FOR APP FIG 2)

FOR COMPLETING OR COMBINED MARKERS

TO CAD 94 (NGC-B)
- 51(VG11) — 7 — (VGN11) REL
- 40(VG00) — 7 — (VGN0) REL

TO CAD 107 (MTFC-C0)
- 11(VGT11) — 2 — (VGN11) REL
- 0(VGT0) — 2 — (VGN0) REL

CAD 3
(FOR APP FIG. 3)

FOR COMBINED MARKERS

TO CAD 99 (ORMC-CD)
- 29(HG7) — 4B — (HGT9) REL
- 28(HG4) — 4B — (HGT6) REL
- 27(HG2) — 6B — (HGT9) REL
- 26(HG1) — 6B — (HGT8) REL
- 25(HG0) — 6B — (HGT7) REL

TO CAD 91 (LLC-A)
- 54(HG9) — 8B — (HGT9) REL
- 50(HG5) — 8B — (HGT5) REL
- 44(HG4) — 8B — (HGT4) REL
- 40(HG0) — 8B — (HGT0) REL

TO CAD 97 (LLMC-B) (A&M ONLY) OR TO CAD 147 (LLMC-A)
- 44(HGT9) — 8T — (HGT9) REL
- 40(HGT5) — 8T — (HGT5) REL
- 34(HGT4) — 6T — (HGT4) REL
- 30(HGT0) — 8T — (HGT0) REL

TO CAD 107 (MTFC-C0)
- 29(HGT9) — 10T — (HGT9) REL
- 25(HGT5) — 10T — (HGT5) REL
- 24(HGT4) — 10T — (HGT4) REL
- 20(HGT0) — 10T — (HGT0) REL

MFR DISC.
- TO CAD 92 (LLC-B) 3(DTK) — 2B
- TO CAD 96 (LLMC-A) (A&M ONLY) OR TO CAD 147 (LLMC-A) 11(DTK) — 3B
- (HTK) REL
- TO CAD 92 (LLC-B) 3(DTK) — 2B
- TO CAD 96 (LLMC-A) 11(DTK) — 3B
- (HTK) REL

TO CAD 107 (MTFC-A0) 25(HTKI) — 5T — (HTKI) REL

TO CAD 67 PART OF BV — HGH — 81 — TS(CC) COM EQPT FRAME — 10T — (HGLI) REL
SEE NOTE 219

SHOWN IN CAD 113 — LC A
- 12 — 10B — (HGT0) REL
- 11 — 6B — (HTK) REL
- 10 — 5B — (HTKI) REL
- 9 — 10B — (HGT9) REL
- 1 — 10B — (HGTI) REL

TS (RES) ON RES UNIT (B)

PART OF DM — VN
- TO CAD 67 BNK — 20 — 1B
- TO CAD 156 (MFR DISC) OR CAD 187 BNK — 21 — 2B
- (HTKI) REL

T.S. (CH) COM EQPT FRAME
SEE NOTE 219

TO PLANT REG CABINET — DTPC — 01 — 6T — (HGR) REL

TS (CB) COM EQPT FRAME

FOR COMPLETING MARKERS

TO CAD 91 (LLC-A)
- 54(HG9) — 8B — (HGT9) REL
- 50(HG5) — 8B — (HGT5) REL
- 44(HG4) — 8B — (HGT4) REL
- 40(HG0) — 8B — (HGT0) REL

TO CAD 92 (LLC-B) 3(DTKI) — DTKI — TO CAD 28

TO CAD 107 (MTFC-A0) 25(HTKI) — 5T — (HTKI) REL

TO CAD 67 PART OF BV — HGH — 81 — TS (CC) COM EQPT FRAME — 3B — (HGT9) REL

SHOWN IN CAD 113 — LC A
- 12 — 10B — (HGT0) REL
- 10 — 5B — (HTKI) REL
- 9 — 10B — (HGT9) REL
- 1 — 10B — (HGTI) REL

TS RES ON RES UNIT (B)

PART OF DM — VN
- TO CAD 67 BNK — 20 — 1B
- TO CAD 156 (MFR DISC) OR CAD 186 BNK — 21 — 2B
- (HTKI) REL

TS (CH) COM EQPT FRAME

FOR DIAL TONE MARKERS

TO CAD 91 (LLC-A)
- 54(HG9) — 8B — (HGT9) REL
- 50(HG5) — 8B — (HGT5) REL
- 44(HG4) — 8B — (HGT4) REL
- 40(HG0) — 8B — (HGT0) REL

TO CAD 97 (LLMC-B) (A&M ONLY) OR TO CAD 147 (LLMC-A)
- 44(HGT9) — 8T — (HGT9) REL
- 40(HGT5) — 8T — (HGT5) REL
- 34(HGT4) — 8T — (HGT4) REL
- 30(HGT0) — 8T — (HGT0) REL

TO CAD 107 (MTFC-C4)
- 29(HGT9) — 2B — (HGT9) REL
- 25(HGT5) — 2B — (HGT5) REL
- 24(HGT4) — 2B — (HGT4) REL
- 20(HGT0) — 2B — (HGT0) REL

TO CAD 107 (MTFC-B4)
- 4(HG4) — 4B — (HGT9) REL
- 3(HG3) — 4B — (HGT6) REL
- 2(HG2) — 6B — (HGT9) REL
- 1(HG1) — 6B — (HGT8) REL
- 0(HG0) — 6B — (HGT7) REL

TO CAD 96 (LLMC-A) (A&M ONLY) OR TO CAD 147 (LLMC-A) 11(DTK) — DTK — TO CAD 28

TO CAD 107 (MTFC-A6) 25(HTKI) — 5T — (HTKI) REL

SHOWN IN CAD 113 — LC A
- 12 — 10B — (HGT0) REL
- 11 — 6B — (HTK) REL
- 10 — 5B — (HTKI) REL
- 9 — 10B — (HGT9) REL
- 1 — 10B — (HGTI) REL

TS (RES) ON RES UNIT (B)

TO PLANT REG CABINET — DTPC — 01 — 6T — (HGR) REL

TS (CB) COM EQPT FRAME

CAD 4
(FOR APP FIG 4)

FOR COMPLETING OR COMBINED MARKERS

TO CAD 94 (NGC-B)
- 19(HG9) — 7 — (HGN9) REL
- 10(HG0) — 7 — (HGN0) REL

TO CAD 107 (MTFC-C0)
- 29(HGT9) — 2 — (HGN9) REL
- 20(HGT0) — 2 — (HGN0) REL

DRAWING ISSUE
- 41D — H.M.
- 51D — J.R. A.W.D.
- 54D — REVISED E.F.L. A.W.D.

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MARKER CIRCUIT (2) SD-25550-01-02

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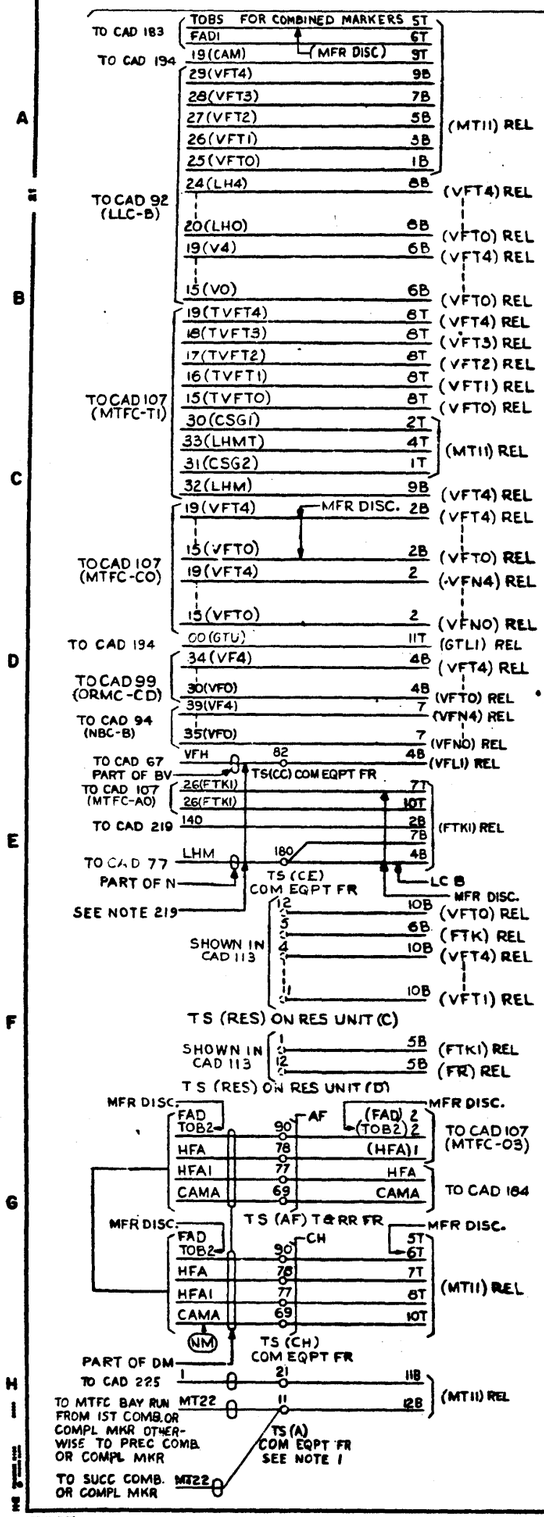
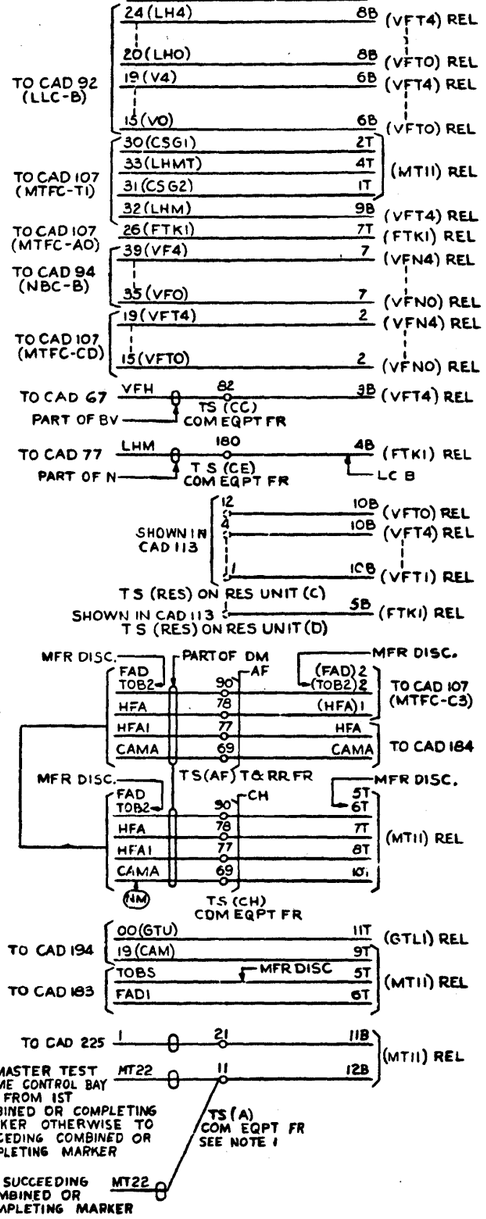
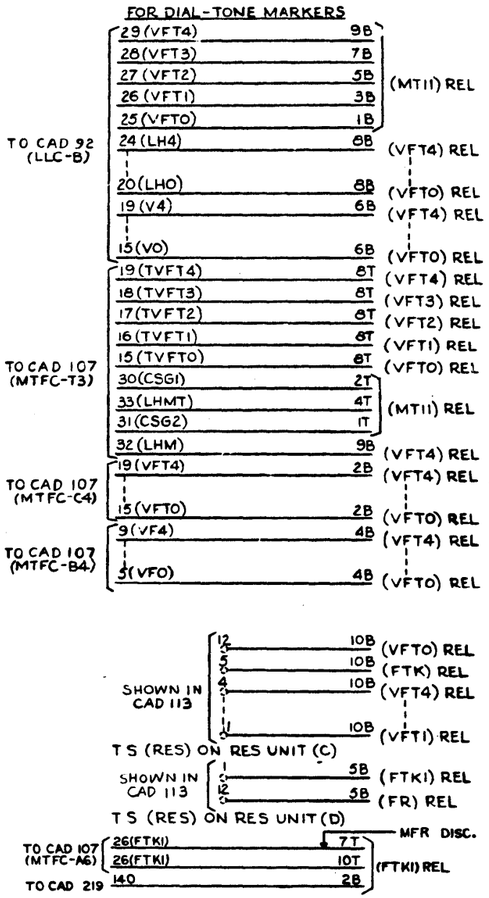


CAD 5

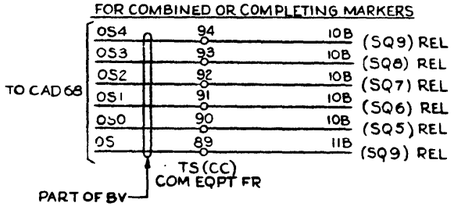
(FOR APP FIG. 5&6)





CAD 6

(FOR APP FIG. 7)
SEE NOTE 219



SHEET NOTES:
1. SEE CAD 226 FOR SPARES.

DRAWING ISSUE
41D
49D
54D

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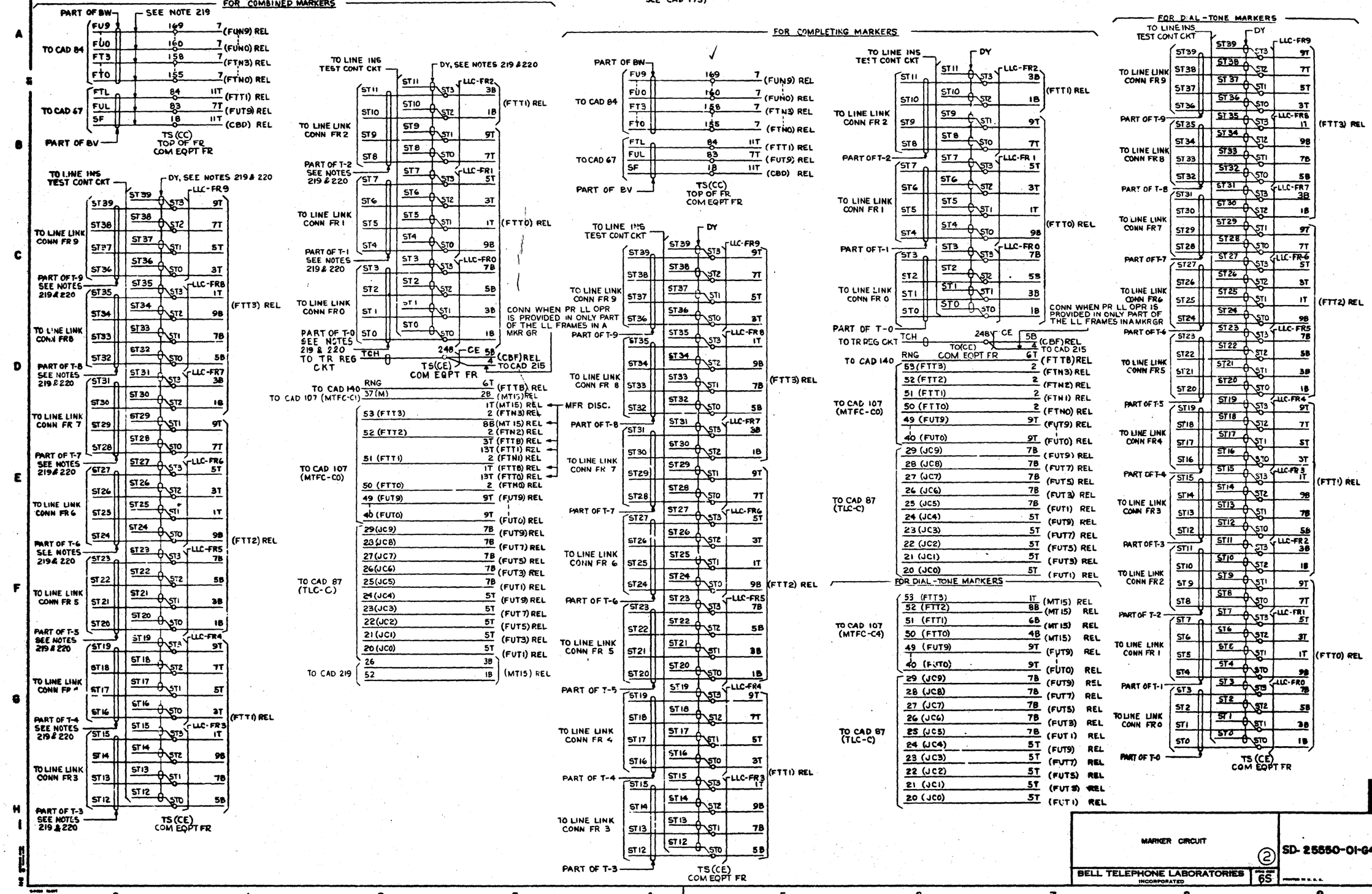
CAD 7

(FOR APP FIG. 8)
(FOR SWITCHBOARD CABLE CONNECTIONS TO WIRE SPRING RELAY LINE LINK CONNECTORS SEE CAD 173)



MARKER CIRCUIT

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CAD 8
(FOR APP FIG. 9)

FOR COMBINED MARKERS

34(VF4) 4B
33(VF3) 2B
32(VF2) 6T
31(VF1) 4T
30(VF0) 2T
(AMA2) REL

29(HG7) 12T
28(HG4) 10T
27(HG2) 8T
26(HG1) 6T
25(HGO) 4T
24(VG7) 10B
23(VG4) 8B
22(VG2) 6B
21(VG1) 4B
20(VG0) 2B
14(VG10) 12B
TO CAD 106 (OSC-C1)
(AMA1) REL

MFR DISC.
34(VF4) 3B
35(VF3) 1B
32(VF2) 5T
31(VF1) 3T
30(VF0) 1T
(AMA2) REL LOOP AT UNEQUIPPED POSITION

30(VF0) 1B
31(VF1) 3B
32(VF2) 5B
33(VF3) 7B
34(VF4) 9B
29(HG7) 11T
28(HG4) 9T
27(HG2) 7T
26(HG1) 5T
25(HGO) 3T
24(VG7) 9B
23(VG4) 7B
22(VG2) 5B
21(VG1) 3B
20(VG0) 1B
(GTL4) REL

1B
3B
5B
7B
9B
11T
(GTL3) REL

20(VG0) 10T (VG0) REL
21(VG1) 10T (VG1) REL
22(VG2) 10T (VG2) REL
23(VG4) 10T (VG4) REL
24(VG7) 10T (VG7) REL
25(HGO) 3T
26(HG1) 5T
27(HG2) 7T
28(HG4) 9T
29(HG7) 11T
(GTL3) REL

TO CAD 90 (TLC-D)
(AMA1) REL LOOP AT UNEQUIPPED POSITION

19(FU7) 10B
16(FU4) 6B
17(FU2) 6B
16(FU1) 4B
15(FUO) 2B
(GTU) REL

MFR DISC
LOOP AT UNEQUIPPED POS
14(VG10) 11B (AMA1) REL
10T (VG10) REL
TO CAD 90 (TLC-D)
14(VG10) 11T (GTL4) REL

13(FT3) 10T
12(FT2) 8T
11(FT1) 6T
10(FTO) 4T
(GTU) REL

19(FU7) 10B
18(FU4) 8B
17(FU2) 6B
16(FU1) 4B
15(FUO) 2B
13(FT3) 10T
12(FT2) 8T
11(FT1) 6T
10(FTO) 4T
TO CAD 99 (ORMC-CD)
(GTL2) REL

MFR DISC.
SHOWN IN CAD 113 12 TS (RES) ON RES UNIT (D) 10B
(CB7) REL
TO CAD 107 (MTFC-C2) 8(LK1) 8B

02(RK2) 2T (VG0) REL
TO CAD 194 01(RK) 2T (FTO) REL

TO CAD 216 10 TR26 5T
TO CAD 223 12 6T
5 3T
1(MBS0)
2(MBS0) 2T
TO CAD 51 3(AMA) 9T
1(TP) 1T
TO CAD 135 13 4T
TO CAD 223
TO CAD 29 3(AVK1)
(AMA6) REL

TO CAD 225 2 31 11B (GTL2) REL

TS (A) ON COM EQUIP FR SEE NOTE 1
TO CAD 47 (C14) BAT. 9B
(C14) BAT.
TO CAD 229 NTD 4B
CHA 6B
TO CAD 51 MB 7B
(AMA6) REL

FOR COMPLETING MARKERS

34(VF4) 4B
33(VF3) 2B
32(VF2) 6T
31(VF1) 4T
30(VF0) 2T
(AMA2) REL

29(HG7) 12T
28(HG4) 10T
27(HG2) 8T
26(HG1) 6T
25(HGO) 4T
24(VG7) 10B
23(VG4) 8B
22(VG2) 6B
21(VG1) 4B
20(VG0) 2B
14(VG10) 12B
TO CAD 106 (OSC-C1)
(AMA1) REL

34(VF4) 9B
33(VF3) 7B
32(VF2) 5B
31(VF1) 3B
30(VF0) 1B
(GTL4) REL

29(HG7) 11T
28(HG4) 9T
27(HG2) 7T
26(HG1) 5T
25(HGO) 3T
(GTL3) REL

24(VG7) 10T (VG7) REL
23(VG4) 10T (VG4) REL
22(VG2) 10T (VG2) REL
21(VG1) 10T (VG1) REL
20(VG0) 10T (VG0) REL
TO CAD 90 (TLC-D)

19(FU7) 10B
18(FU4) 8B
17(FU2) 6B
16(FU1) 4B
15(FUO) 2B
(GTU) REL

14(VG10) 11T (GTL4) REL
13(FT3) 10T
12(FT2) 8T
11(FT1) 6T
10(FTO) 4T
(GTU) REL

34(VF4) 10B
33(VF3) 8B
32(VF2) 6B
31(VF1) 4B
30(VF0) 2B
(GTL4) REL

29(HG7) 12T
28(HG4) 10T
27(HG2) 8T
26(HG1) 6T
25(HGO) 4T
24(VG7) 10B
23(VG4) 8B
22(VG2) 6B
21(VG1) 4B
20(VG0) 2B
TO CAD 99 (ORMC-CD)
(GTL3) REL

19(FU7) 10B
18(FU4) 8B
17(FU2) 6B
16(FU1) 4B
15(FUO) 2B
14(VG10) 12T (GTL4) REL
13(FT3) 10T
12(FT2) 8T
11(FT1) 6T
10(FTO) 4T
TO CAD 99 (ORMC-CD)
(GTL2) REL

SHOWN IN CAD 113 12 TS (RES) ON RES UNIT (D) 10B
(CB7) REL
TO CAD 107 (MTFC-C2) 8(LK1) 8B

02(RK2) 2T (VG0) REL
TO CAD 194 01(RK) 2T (FTO) REL

TO CAD 216 10(TR26) 5T
TO CAD 223 12 6T
5 3T
1(MBS0)
2(MBS0) 2T
TO CAD 51 3(AMA) 9T
1(TP) 1T
TO CAD 135 13 4T
TO CAD 223
TO CAD 29 3(AVK1)
(AMA6) REL

TO CAD 225 2 31 11B (GTL2) REL

TS (A) ON COM EQUIP FR
TO CAD 47 (C14) BAT. SEE NOTE 1 9B
(C14) BAT.
TO CAD 229 NTD 4B
CHA 6B
TO CAD 51 MB 7B
(AMA6) REL

FOR DIAL-TONE MARKERS

34(VF4) 9B
33(VF3) 7B
32(VF2) 5B (GTL4) REL
31(VF1) 3B
30(VF0) 1B

29(HG7) 11T
28(HG4) 9T
27(HG2) 7T (GTL3) REL
26(HG1) 5T
25(HGO) 3T

24(VG7) 10T (VG7) REL
23(VG4) 10T (VG4) REL
22(VG2) 10T (VG2) REL
21(VG1) 10T (VG1) REL
20(VG0) 10T (VG0) REL
TO CAD 90 (TLC-D)

19(FU7) 10B
18(FU4) 8B
17(FU2) 6B (GTU) REL
16(FU1) 4B
15(FUO) 2B

14(VG10) 11T (GTL4) REL
13(FT3) 10T
12(FT2) 8T (GTU) REL
11(FT1) 6T
10(FTO) 4T

24(FU7) 10B
23(FU4) 8B
22(FU2) 6B
21(FU1) 4B
20(FUO) 2B (GTL2) REL
TO CAD 97 (LLMC-B) A&M ONLY OR TO CAD 147 (LLMC-B)
13(FT3) 10T
12(FT2) 8T
11(FT1) 6T
10(FTO) 4T

SHEET NOTES:
1. SEE CAD 226 FOR SPARES.

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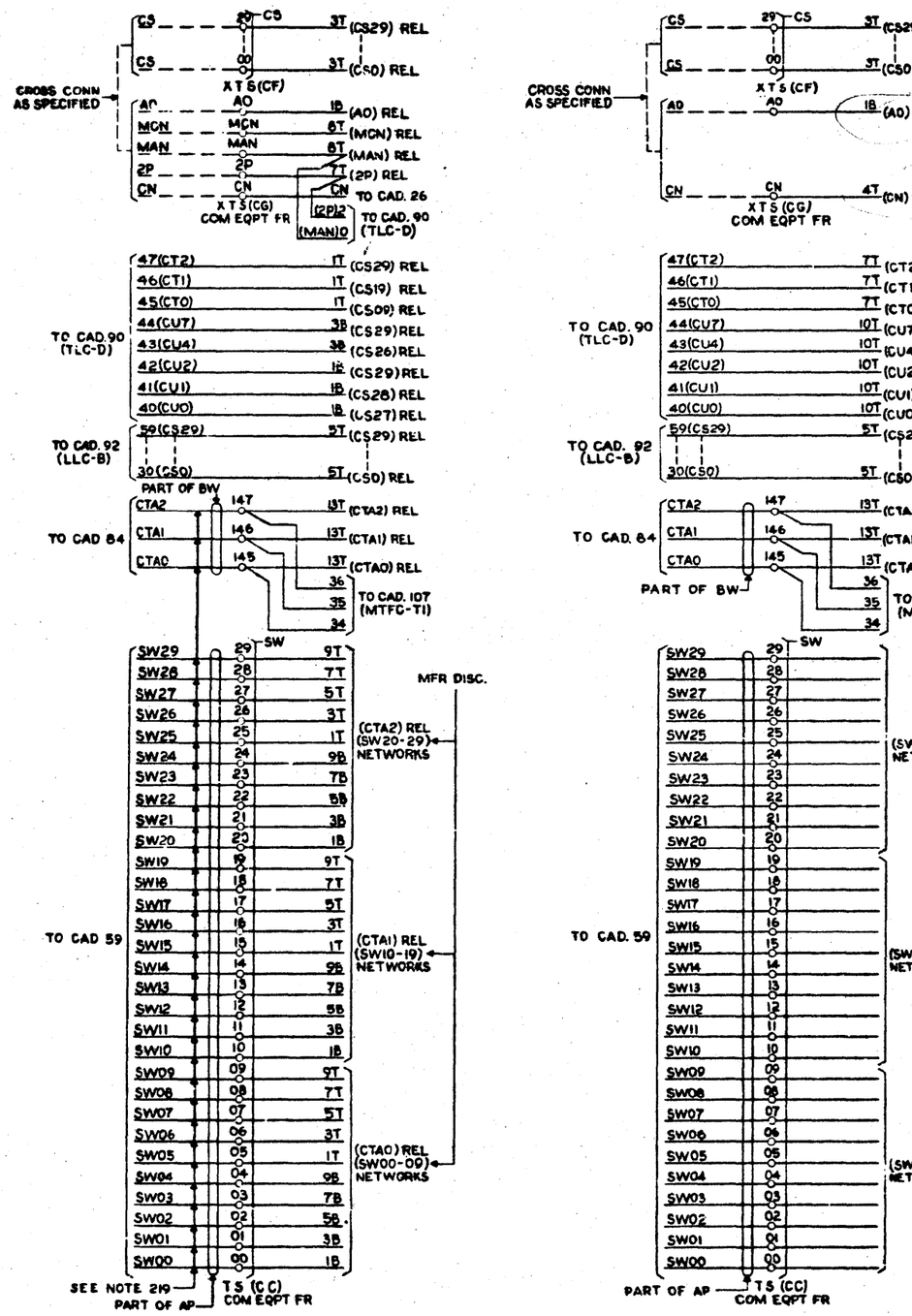
DRAWING INDEX
41D
54D
56D

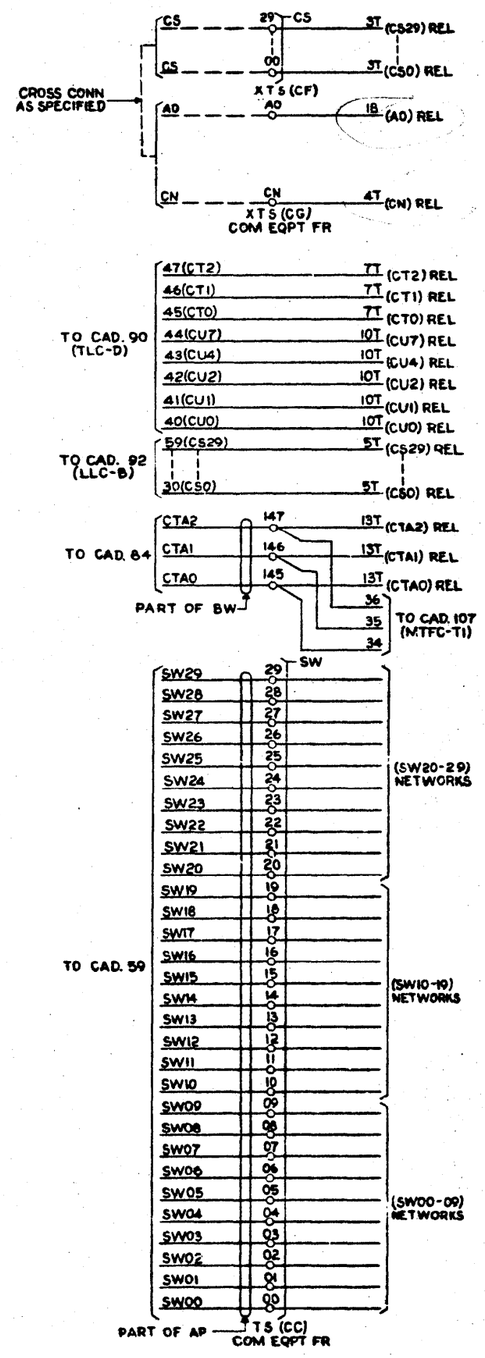
CAD 9

(FOR APP FIG. 10,11,12,13,14,15,& 16)

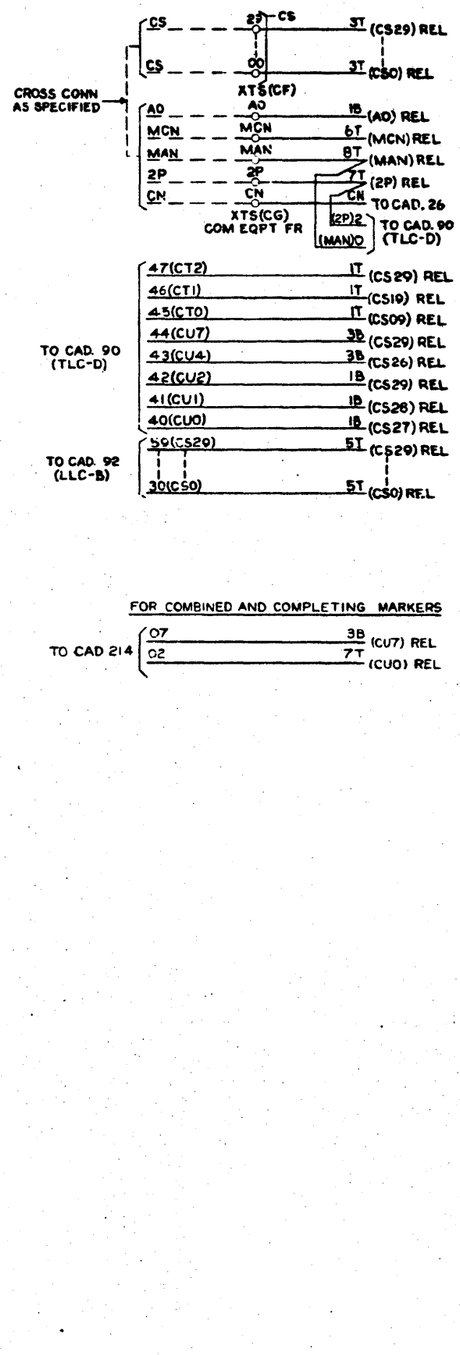
FOR COMBINED MARKERS



FOR COMPLETING MARKERS



FOR DIAL TONE MARKERS

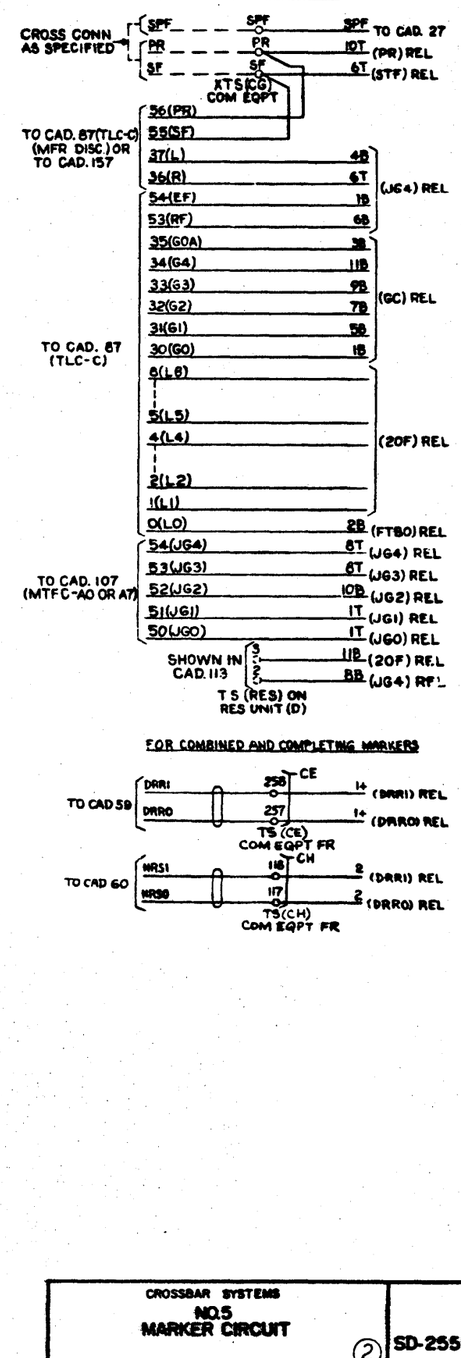


FOR COMBINED AND COMPLETING MARKERS

CAD 10

(FOR APP FIG. 17 & 18)

FOR COMBINED, COMPLETING AND DIAL TONE MARKERS



FOR COMBINED AND COMPLETING MARKERS

CROSSBAR SYSTEMS
NO.5
MARKER CIRCUIT
②
SD-25550-01-G6

BELL TELEPHONE LABORATORIES INCORPORATED
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98-10-025552-00

CAD 11
(FOR APP FIG. 18)

FOR COMBINED MARKERS

TO CAD 89 (TLC-A)
9(TBK) 6T (FTCKI) REL
23(NSI) 4B (FSA) REL
28(TBK) 1B (TBTB) REL
32(FCK) 4T
37(MT3K) 9B (MT9) REL
50(FTCK) 12T (FTCK) REL
51(TB) 1T (TBTA) REL
59(FML) 9T (FML) REL
(MTFC-A2)
(MTFC-A1)
(MTFC-C0)
(MTFC-T1)
(MTFC-C2)
(MTFC-T0)
(MTFC-A0)
TO CAD 107

SEE NOTE 219
MFR DISC. 215 LCB
TFS1 TFS
TO CAD 77 11T (TFK2) REL
190 MFR DISC 1T 6T (MT9) REL
TO CAD 219
82 139 6T (FCKA) REL
TO CAD 14,15, OR 17 FCKA
71
TO CAD 13,15, OR 16 FCK 130 6T (FCK) REL
TO CAD 112 HII 119 11B (TFK2) REL
HIO 118 11B (FTCK) REL
TO CAD 219 ED 20 250 1B
TO TR REG CKT BMF 50 249 3B (TBTC) REL
CONN WHEN SIX ORIG REG GROUPS ARE PROVIDED
TS(CE) COM EQPT FR
CONN WHEN SIX ORIG REG GROUPS ARE NOT PROVIDED
TO CAD 68 RYT 470 5B (FTCK) REL
TO CAD 45 OR 226 HBS 442 11T (TFKI) REL
TO CAD 67 HBS 441 12T
FSA 440 6T (FSA) REL
TO CAD 96 (LLMC-A) (A&M ONLY) OR TO CAD 147 (LLMC-A)
6(LFS)
TO CAD 65 OR CAD 225 LFS 346 4T (TFK2) REL
TO CAD 84 LK3 341 8T (FML) REL
SEE NOTE 219
TO CAD 84 NSI 176 3B (FSA) REL
SF2 MFR DISC. (YY,Y2)
TFS 106 4B (TFKI) REL
SFI 105 6T
OSBI 104 3B
TO CAD 68 OSB 103 4B (FTCK) REL
OSAI 102 1B
OSA 101 2B
SEE NOTE 219
TO CAD 225 23 3 4 5 6
TO CAD 107 (MTFC-T1) 48(MT9K) MFR DISC
TO CAD 79 MT9K 88 10B (MT9) REL
TO CAD 117 OR 185 NGSI 96 9B (TFKI) REL
TO CAD 47 OF 95 3B (TBTA) REL
TO CAD 68 SNK 88 6T (TFKI) REL
SEE NOTE 219 TO CAD 219 19 TS(CC) COM EQPT FR 11T (TBTC) REL
TO CAD 122 SF CH 5B
RYT 9T (TFK2) REL
TO CAD 50 MF 111 4B
D 110 2B (TBTC) REL
TS(CH) COM EQPT FR
TO CAD 219 99 10B (TBTC) REL
TO CAD 226 7 41 7T (FTCK) REL
TS(A) ON COM EQPT FR SEE CAD 226 FOR SPARES

FOR COMPLETING MARKERS

TO CAD 225 7 41 7T (FTCK) REL
TS(A) ON COM EQPT FR SEE CAD 226 FOR SPARES

FOR COMPLETING MARKERS

TO CAD 89 (TLC-A)
9(TBK) 8T (FTCKI) REL
23(NSI) 4B (FSA) REL
28(TBK) 1B (TBTB) REL
32(FCK) 4T
37(MT3K) 9B (MT9) REL
50(FTCK) 12T (FTCK) REL
51(TB) 1T (TBTA) REL
59(FML) 9T (FML) REL
(MTFC-A2)
(MTFC-A1)
(MTFC-C0)
(MTFC-T1)
(MTFC-C2)
(MTFC-T0)
(MTFC-A0)
TO CAD 107

MFR DISC. 215 LCB
TFS1 TFS
TO CAD 77 11T (TFK2) REL
190 6T (MT9) REL
TO CAD 14,15, OR 17 FCKA 139 6T (FCKA) REL
TO CAD 13,15, OR 16 FCK 130 6T (FCK) REL
TO CAD. 112 HII 119 11B (TFK2) REL
HIO 118 11B (FTCK) REL
TS (CE) COM EQPT FR
TO CAD 122 SF 5B
RYT 9T (TFK2) REL
TO CAD 68 RYT 470 5B (FTCK) REL
TO CAD 45 OR CAD 226 HBS 442 11T
OR CAD 226 HBS 441 12T (TFKI) REL
TO CAD. 67 FSA 440 6T (FSA) REL
TO CAD 65 OR CAD 225 LFS 346 4T (TFK2) REL
LK3 341 8T (FML) REL
TO CAD 84 NSI 176 3B (FSA) REL
93 3 4 5 6
TO CAD 225
SF2 MFR DISC.
TFS 106 4B (TFKI) REL
SFI 105 6T
OSBI 104 3B
TO CAD 68 OSB 103 4B (FTCK) REL
OSAI 102 1B
OSA 101 2B
(YY,Y2)
TO CAD 107 (MTFC-TI) 48(MT9K) MFR DISC
TO CAD 76 MT9K 98 10B (MT9) REL
TO CAD 117 OR 185 NGSI 96 9B (TFKI) REL
TO CAD 47 OF 95 3B (TBTA) REL
TO CAD 68 SNK 88 6T (TFKI) REL
TS(CC) TOP OF FR COM EQPT FR 11T (TBTC) REL

FOR DIAL TONE MARKERS

TO CAD 219
82 6T (FCKA) REL
71 6T (FCKI) REL
19 11T
99 10B (TBTC) REL
TO CAD 81 (MFR DISC.) OR TO CAD 157 CK 15T (TFKI) REL
TO CAD 96 (LLMC-A) (A&M ONLY) OR TO CAD 147 (LLMC-A) 6(LFS) 4T (TFK2) REL
TO CAD 89 (TLC-A) 9(TBK) 8T (FTCKI) REL
TO CAD 107
(MTFC-T2) 19(LK3) 8T (FML) REL
(MTFC-A7) 28(TBK) 1B (TBTB) REL
(MTFC-C4) 32(FCK) 4T
(MTFC-T3) 37(MT3K) 9B (MT9) REL
(MTFC-T3) 48(MT9K) 10B
(MTFC-T2) 51(TB) 1T (TBTA) REL
(MTFC-A6) 59(FML) 9T (FML) REL
(MTFC-C5) 59(FTCK) 12T
SHOWN IN CAD. 113 4 5 11B (FTCK) REL
11B (TFK2) REL
CONN WHEN SIX ORIG REG GROUPS ARE PROVIDED
TO TR REG CKT
T S (RES) ON RES UNIT (G)
TO CAD 219
8D 250 1B
8MF 249 20 50 3B (TBTC) REL
TS(CE) COM EQPT FR
CONN WHEN SIX ORIG REG GROUPS ARE NOT PROVIDED

CAD 12
(FOR APP FIG. 19 & 20)

FOR COMBINED OR COMPLETING MARKERS

31 29 11B 12T (FC9) OR (FCA9) REL
12T 11B SURFACE WIRE MULT TO REL (FC8) TO (FC0) OR (FCA8) TO (FCA0)
24 13T (FC9) OR (FCA9) REL
23 13T (FC8) OR (FCA8) REL
22 13T (FC7) OR (FCA7) REL
21 13T (FC6) OR (FCA6) REL
20 13T (FC5) OR (FCA5) REL
19 13T (FC4) OR (FCA4) REL
18 13T (FC3) OR (FCA3) REL
17 13T (FC2) OR (FCA2) REL
16 13T (FC1) OR (FCA1) REL
15 13T (FC0) OR (FCA0) REL

13 11T
11 9T
10 7T
9 5T
8 3T
7 1T (FC9) OR (FCA9) REL
5 9B
4 7B
3 5B
2 3B
1 1B
227A TS(A) ON TRK FR TEST LEAD CONN REL UNIT
1B 3B 5B 7B 9B 1T 3T 5T 7T 9T 11T
SURFACE WIRE MULT TO REL (FC8) TO (FC0) OR (FCA8) TO (FCA0)

12 10T
11 8T
10 6T
9 6T
8 4T
7 2T
6 10B
5 8B
4 6B
3 4B
2 2B
1 SURFACE WIRE (FC9) OR (FCA9) REL
TS(E9) ON TRK FR TEST LEAD CONN UNIT
12 10T
11 8T
10 6T
9 6T
8 4T
7 2T
6 10B
5 8B
4 6B
3 4B
2 2B
1 (FC0) OR (FCA0) REL
T S (E0) ON TRK FR TEST LEAD CONN REL UNIT

DRAWING ISSUE	
41D	
49D	
54D	

MARKER CIRCUIT (2)
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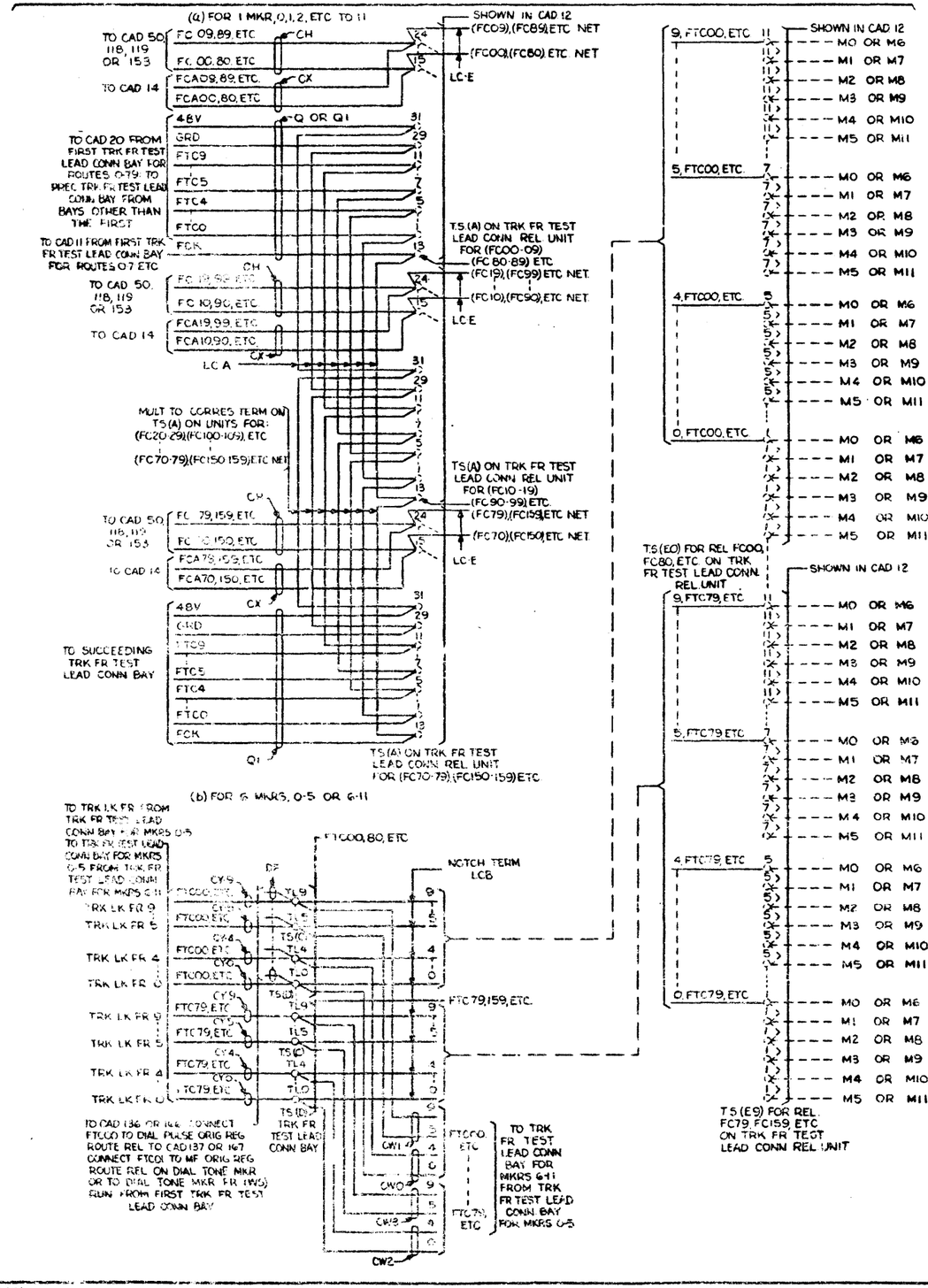
CAD 13

(FOR APP FIG 19)

FOR COMBINED OR COMPLETING MARKERS

60 ROUTES, 10 TRKS LK FRS (0-9), 6 MKRS, SEE NOTE 219

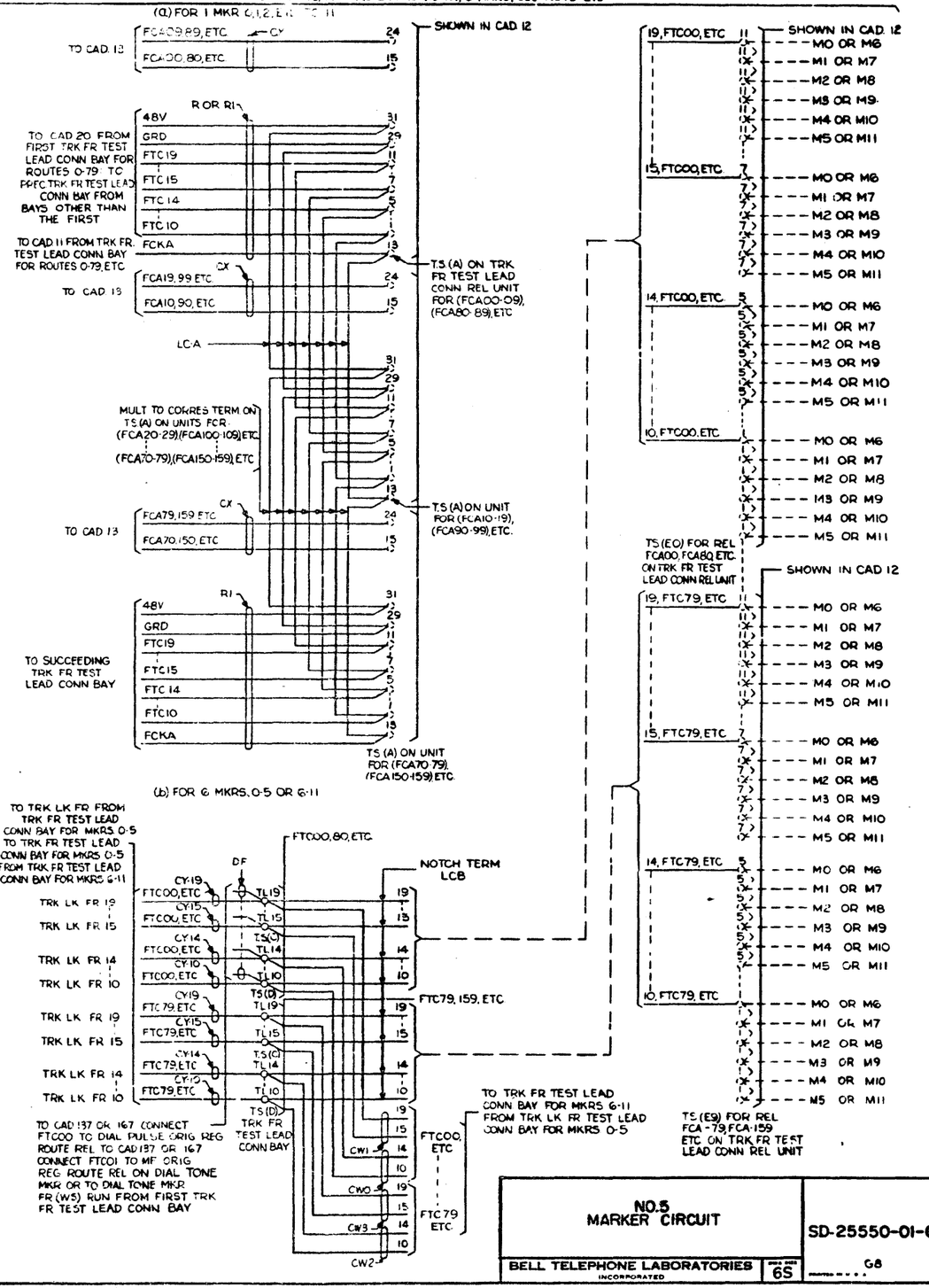


CAD 14

(FOR APP FIG 20)

FOR COMBINED OR COMPLETING MARKERS

60 ROUTES, 10 TRKS LK FRS (10-19), 6 MKRS, SEE NOTE 219



DRAWING ISSUE
4ID

NO.5 MARKER CIRCUIT	SD-25550-01-68
BELL TELEPHONE LABORATORIES INCORPORATED	6S — G8

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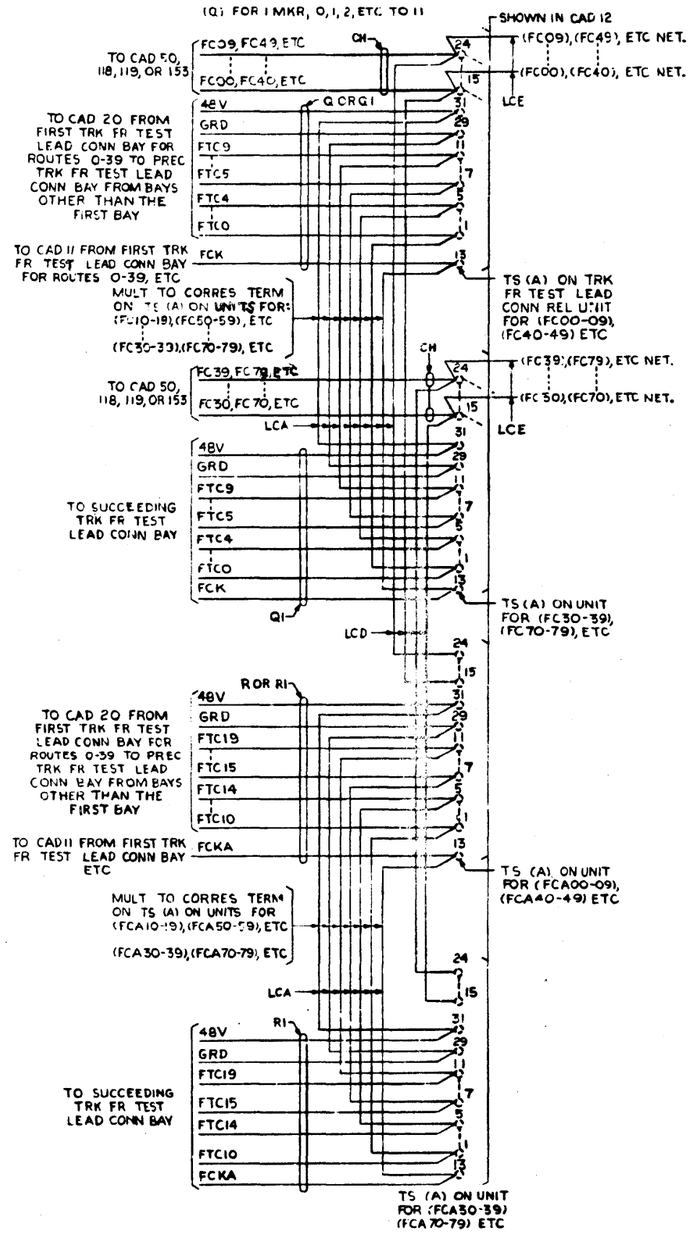
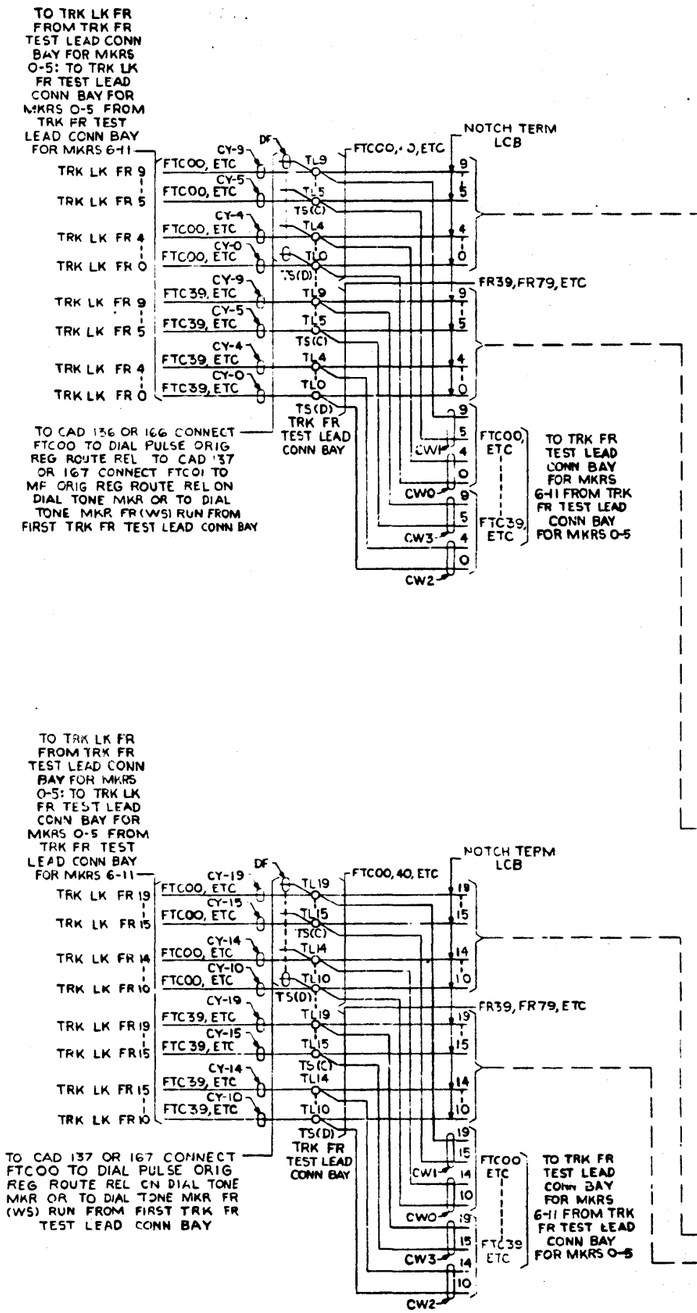
CAD 15

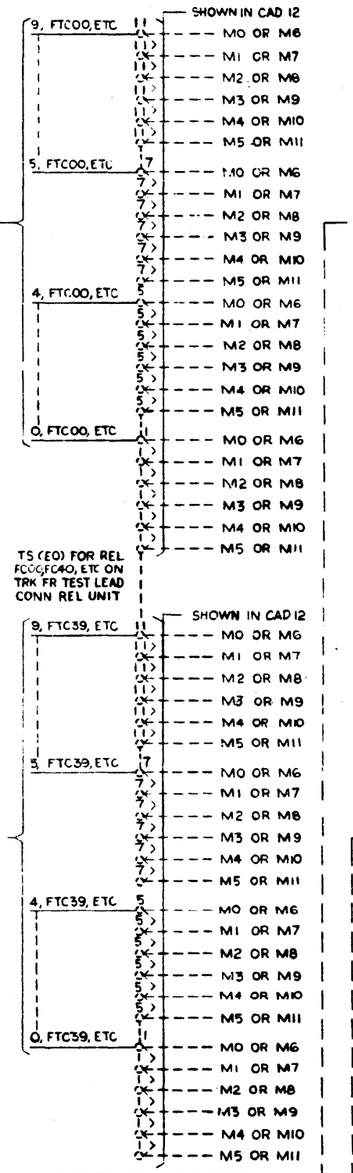
(FOR APP FIGS 19 & 20)
FOR COMBINED OR COMPLETING MARKERS
40 ROUTES, 20 TRK LK FRS (0-19), 6 MKRS, SEE NOTE 219

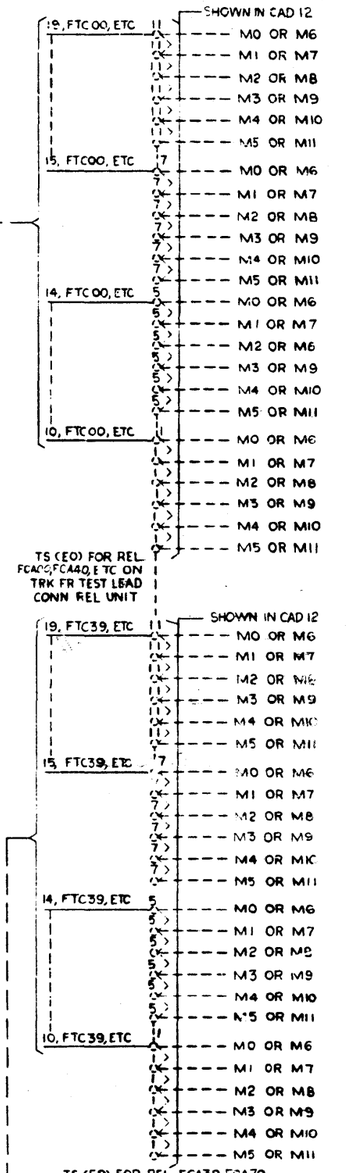
(a) FOR 1 MKR, 0, 1, 2, ETC TO 11

(b) FOR 6 MKRS 0-5, OR 6-11









DRAWING ISSUE
41D

41

NO.5 MARKER CIRCUIT

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BELL TELEPHONE LABORATORIES INCORPORATED

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CAD 16

(FOR APP FIG 19)
FOR COMBINED OR COMPLETING MARKERS
40 ROUTES, 10 TRK LK FRS (0-9), 12 MARKERS
SEE NOTE 219

TO CAD 136 OR 166 CONNECT FTC00 TO DIAL PULSE ORIG. REG. ROUTE REL TO CAD 137 OR 167 CONNECT FTC01 TO MF ORIG. REG. ROUTE RELAY ON DIAL TONE MKR OR TO DIAL TONE MKR. FR. (WS) RUN FROM FIRST TRK FR TEST LEAD CONN. BAY

(a) FOR 1 MKR 0, 1, 2 ETC OR 11

TO CAD 50 118, 119 OR 153

FC09, FC49, ETC
FC00, FC40, ETC
FCA09 FCA49 ETC
FCA00 FCA40 ETC
CH
CX
24
15
FC09, FC49, ETC NET.
FC00, FC40, ETC NET
LC E

TO CAD 17

SHOWN IN CAD 12

TO CAD 20 FROM FIRST TRK FR TEST LEAD CONN BAY FOR ROUTES 0-39; TO PREC TRK FR TEST LEAD CONN BAY FROM BAYS OTHER THAN THE FIRST

48V
GRD
FTC9
FTC5
FTC4
FTCO
FCK
Q OR Q1
31
29
11
7
5
1
13

TO CAD 11 FROM FIRST TRK FR TEST LEAD CONN BAY FOR ROUTES 0-39, TO PREC, TRK FR TEST LEAD CONN BAY FROM BAYS OTHER THAN THE FIRST

TS(A) ON TRK FR TEST LEAD CONN REL UNIT FOR (FC0-09), (FC40-49), ETC

LC A

FC39 FC79 ETC
FC30 FC70 ETC
FCA39 FCA79 ETC
FCA30 FCA70 ETC
24
15
FC39, FC79, ETC NET.
FC30, FC70, ETC NET

TO CAD 50 118, 119 OR 153

TO CAD 17

MULT TO CORRESPONDING TERM. ON TS (A) ON UNITS FOR (FC10-19), (FC50-59), ETC

(FC30-39), (FC70-79), ETC

48V
GRD
FTC9
FTC5
FTC4
FTCO
FCK
Q1
31
29
11
7
5
1
13

SHOWN IN CAD 12

TO SUCCEEDING TRK FR TEST LEAD CONN BAY

-TS(A) ON TRK FR TEST LEAD CONN REL UNIT FOR (FC30-59), (FC70-79), ETC

(b) FOR 12 MKRS 0-11

TRK LK FR 9
TRK LK FR 5
TRK LK FR 4
TRK LK FR 0
TRK LK FR 9
TRK LK FR 5
TRK LK FR 4
TRK LK FR 0

FTC00, ETC
FTC00, ETC
FTC00, ETC
FTC00, ETC
FTC39, ETC
FTC39, ETC
FTC39, ETC
FTC39, ETC

CY-9
CY-5
CY-4
CY-0
DF
TL9
TL5
TL4
TL0
TS(D)
TS(C)
9
5
4
0

FTC00, FTC40, ETC

FTC 39, FTC 79, ETC

LC B
LC F

TS(D) TRK FR TEST LEAD CONN BAY

TO TRK LK FR FROM TRK FR TEST LEAD CONN BAY FOR MKRS 0-11

FTC00, FTC40, ETC

FTC 39, FTC79, ETC

TS(D) ON TRK FR TEST LEAD CONN BAY

SHOWN IN CAD 12

9, FTC00, ETC
5, FTC00, ETC
4, FTC00, ETC
0, FTC00, ETC
9, FTC 39, ETC
5, FTC 39, ETC
4, FTC 39, ETC
0, FTC 39, ETC

M0 M1 M2 M3 M4 M5

TS (E0) FOR REL FC00, FC40, ETC ON TRK FR TEST LEAD CONN REL UNIT

TS(E9) FOR REL FC39, FC79, ETC ON TRK FR TEST LEAD CONN REL UNIT

SHOWN IN CAD 12

9, FTC00, ETC
5, FTC00, ETC
4, FTC00, ETC
0, FTC00, ETC
9, FTC39, ETC
5, FTC39, ETC
4, FTC39, ETC
0, FTC39, ETC

M6 M7 M8 M9 M10 M11

TS(E0) FOR REL FC00, FC40, ETC ON TRK FR TEST LEAD CONN REL UNIT

TS(E9) FOR REL FC39, FC79 ETC ON TRK FR TEST LEAD CONN REL UNIT

DRAWING ISSUE
4ID

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NO.5 MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

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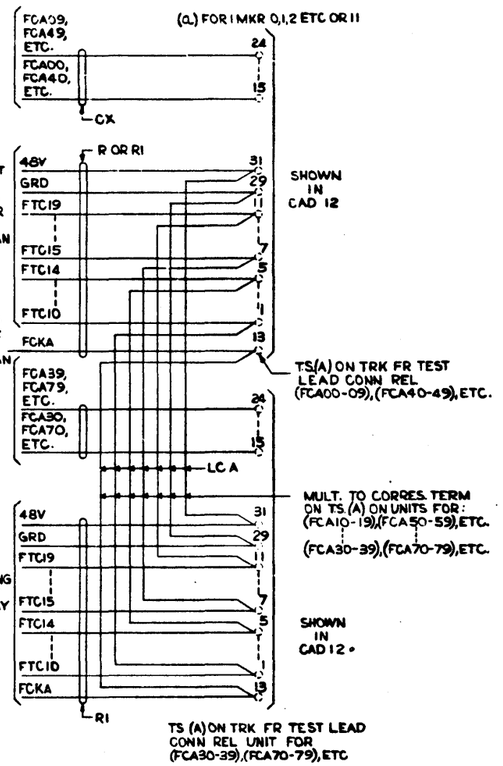
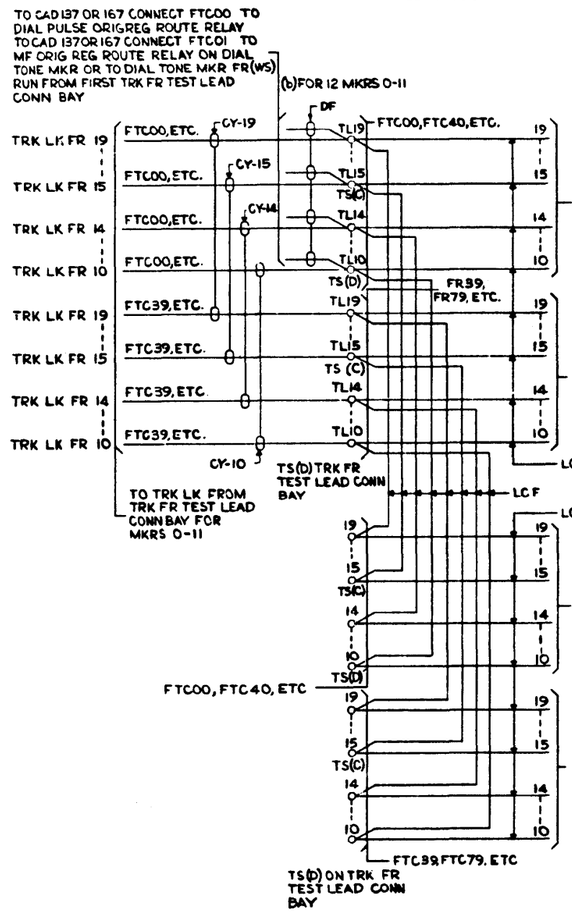
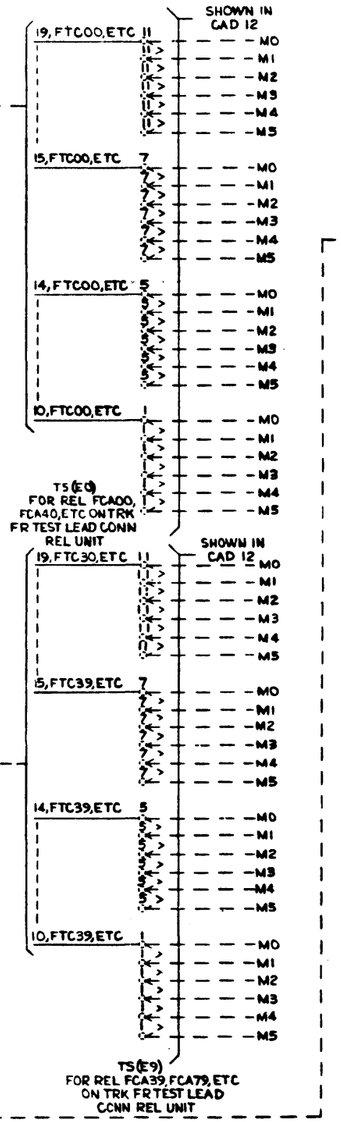
SD-25550-01-G10

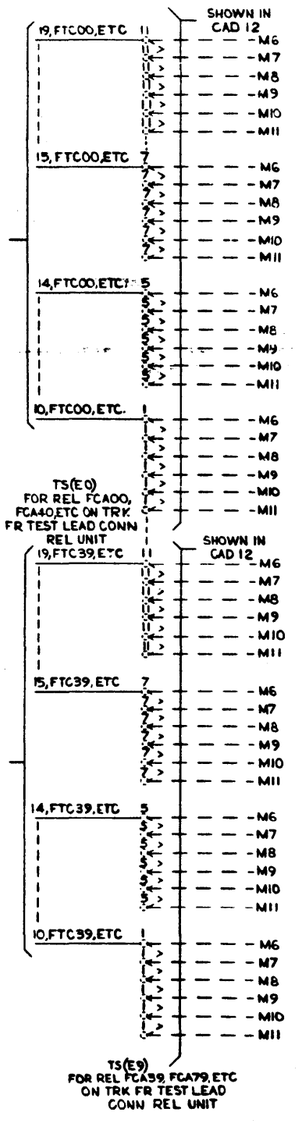
CAD 17

(FOR APP FIG 20)
FOR COMBINED OR COMPLETING MARKERS
40 ROUTES, 10 TRK LK FRS (10-19), 12 MKRS
SEE NOTE 219









DRAWING ISSUE
41D

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NO. 5
MARKER CIRCUIT

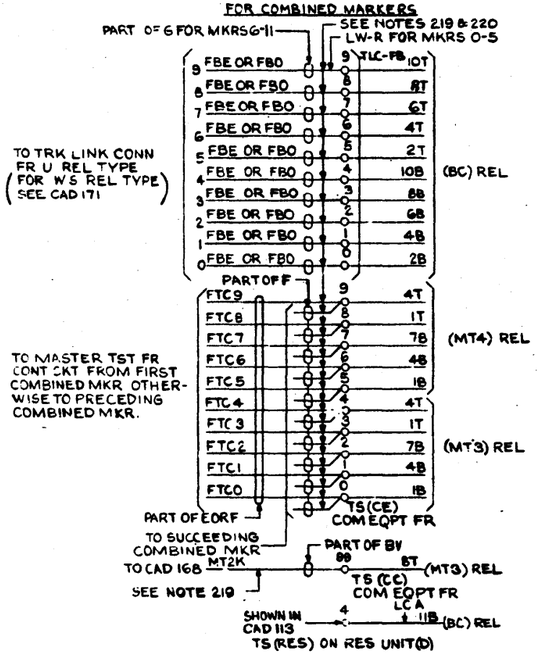
SD-25550-01-G11

BELL TELEPHONE LABORATORIES
INCORPORATED

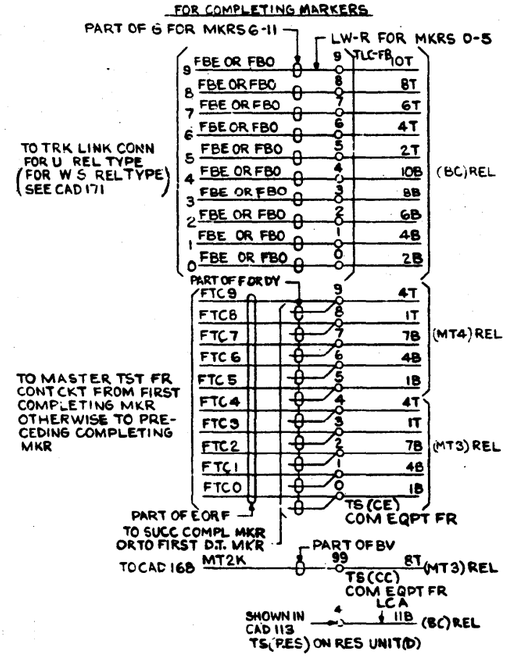
6S

CAD 18
(FOR APP FIG 21)

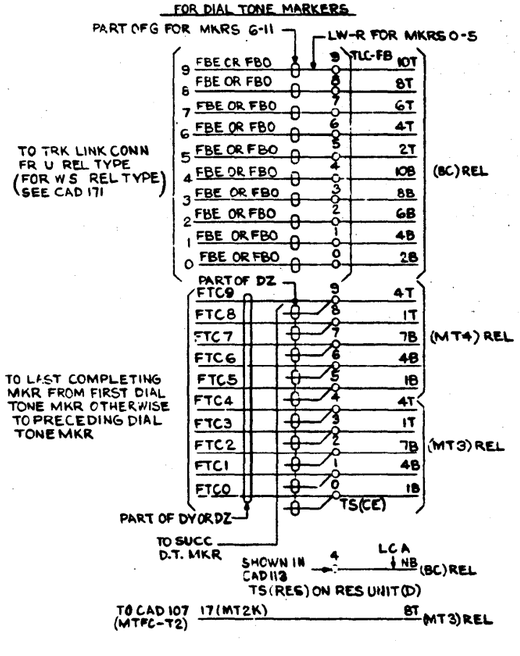
FOR COMBINED MARKERS



FOR COMPLETING MARKERS

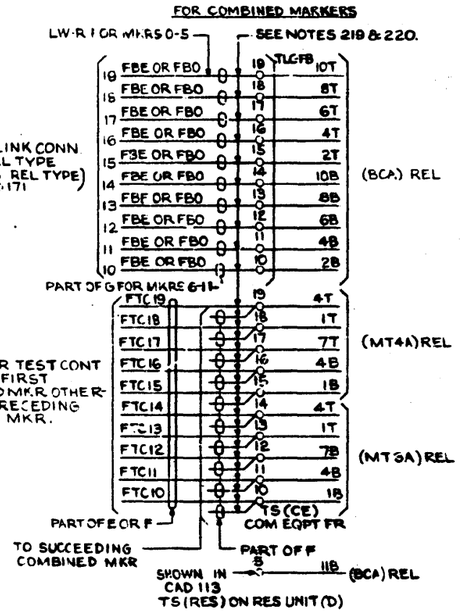


FOR DIAL TONE MARKERS

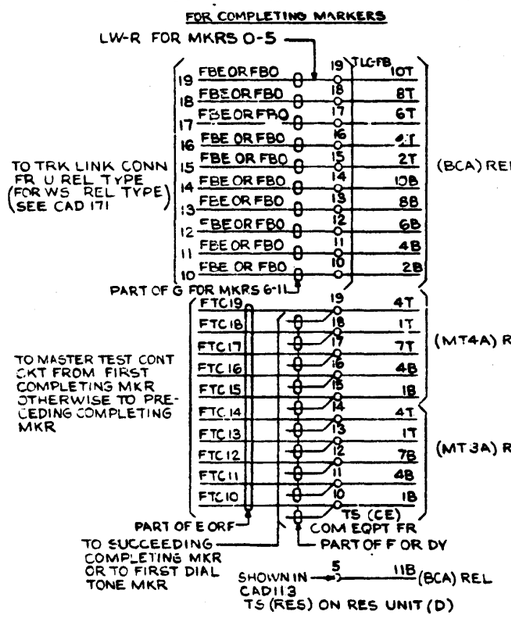


CAD 19
(FOR APP FIG 22)

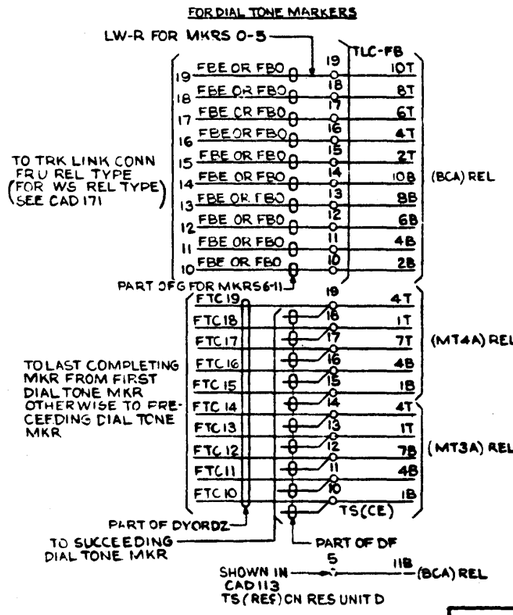
FOR COMBINED MARKERS



FOR COMPLETING MARKERS



FOR DIAL TONE MARKERS



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DRAWING ISSUE 41D

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NO.5
MARKER CIRCUIT

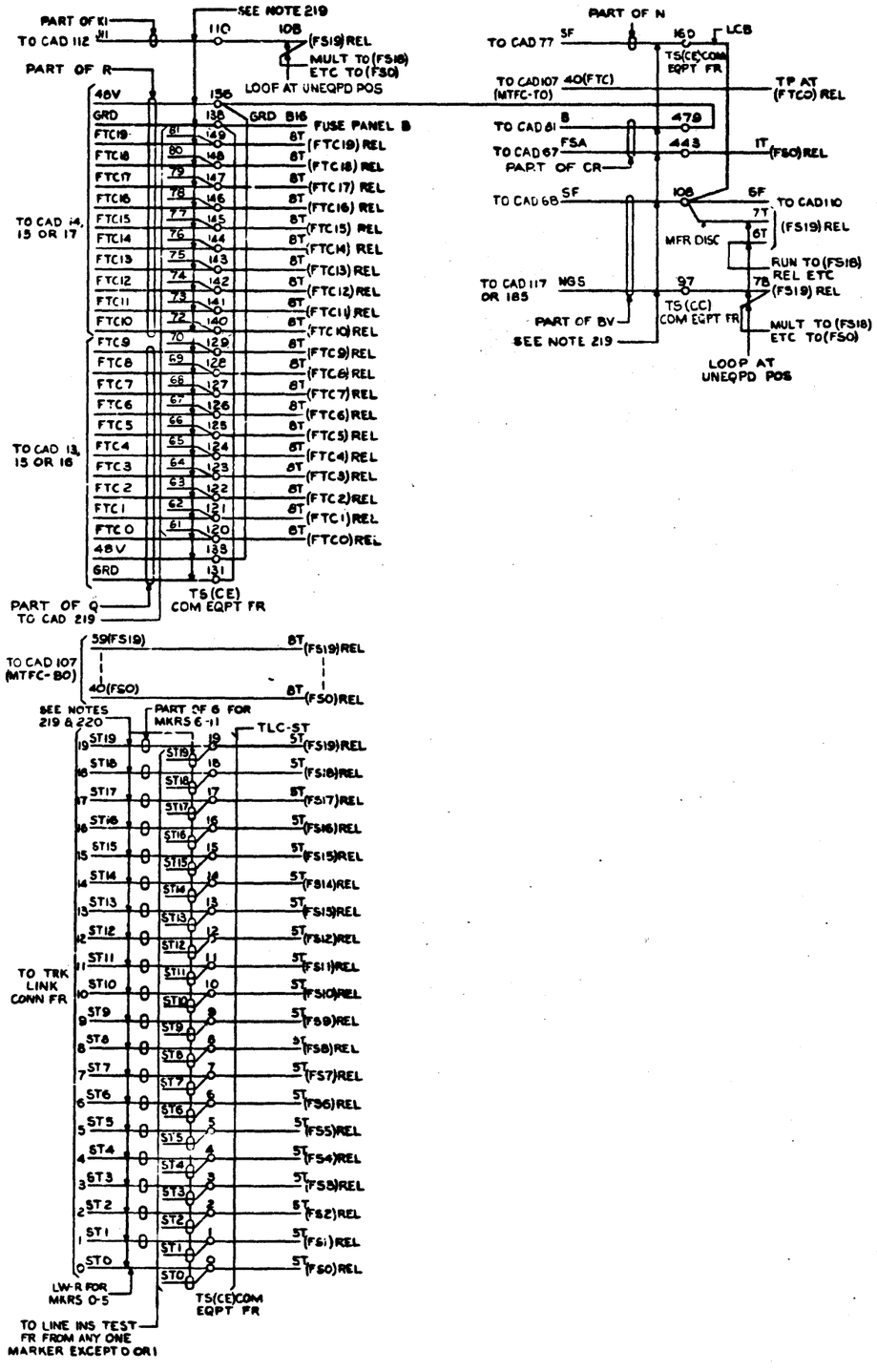
SD-25550-01-612

BELL TELEPHONE LABORATORIES INCORPORATED 6S

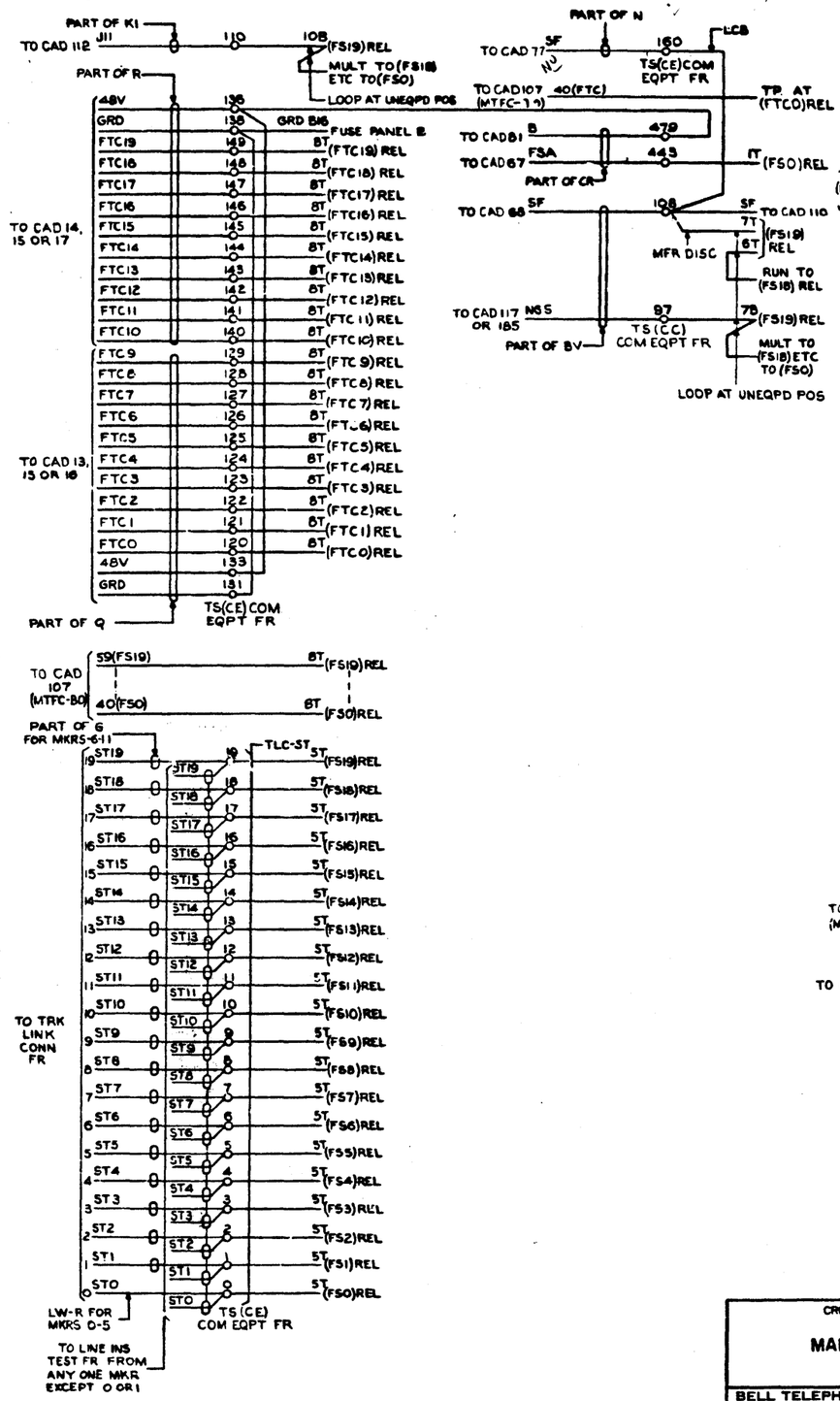
CAD 20

(FOR APP FIG. 23, 24 & 25)

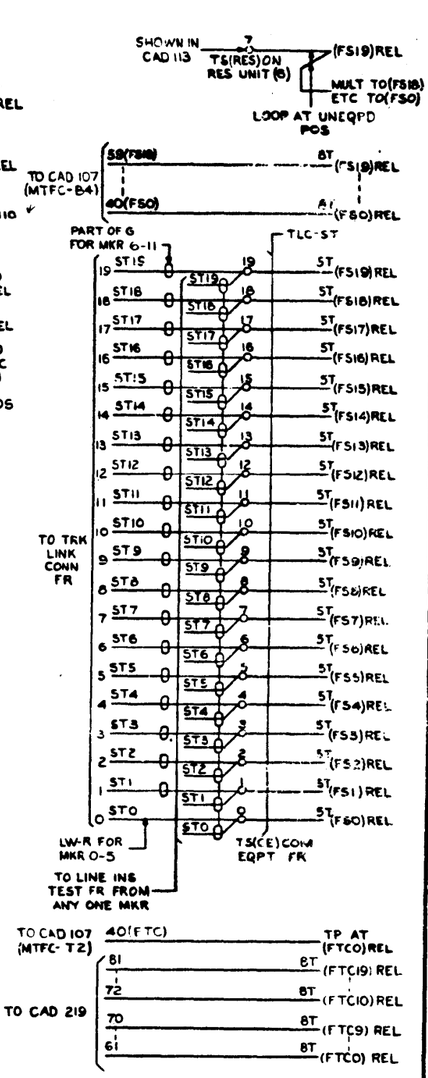
FOR COMBINED MARKERS



FOR COMPLETING MARKERS



FOR DIAL TONE MARKERS



DRAWING ISSUE
410
415

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CROSSBAR SYSTEMS
NO.5
MARKER CIRCUIT
(2)

BELL TELEPHONE LABORATORIES INCORPORATED

6S

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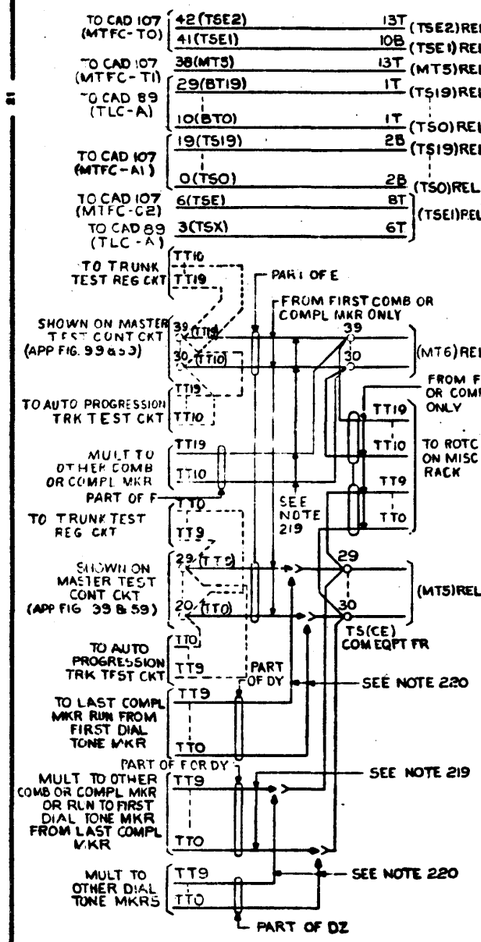
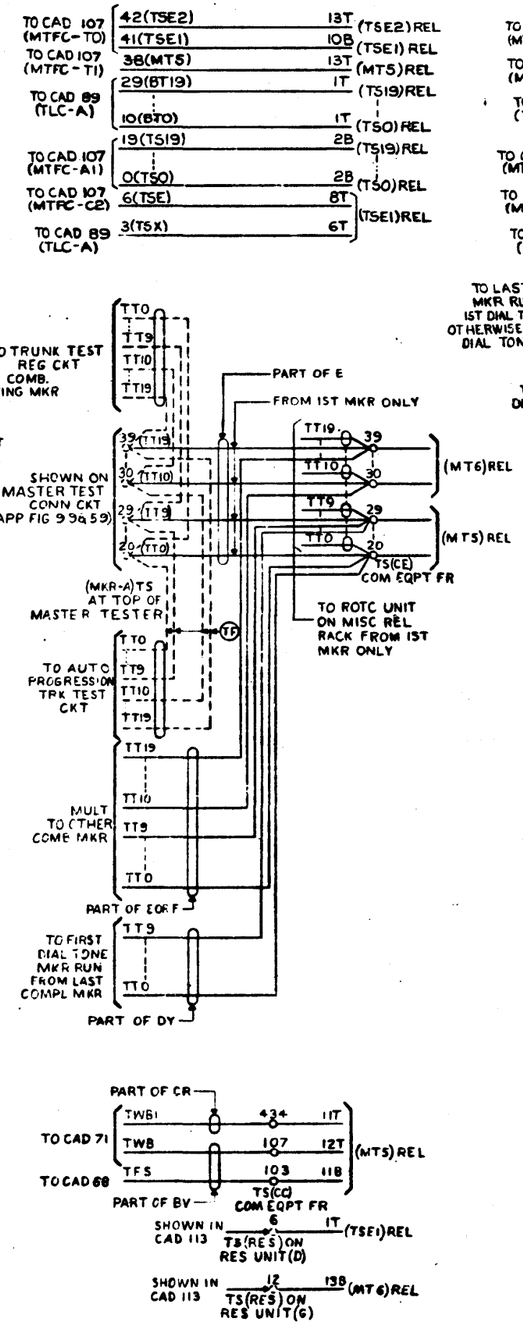
CAD 21

(FOR APP FIG. 26)

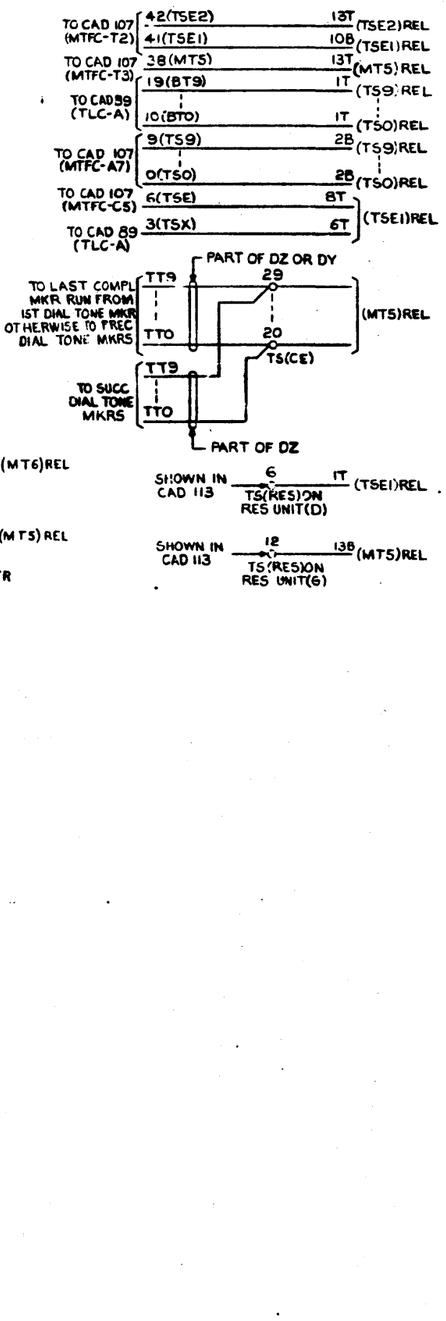
FOR COMBINED MARKERS



FOR COMPLETING MARKERS



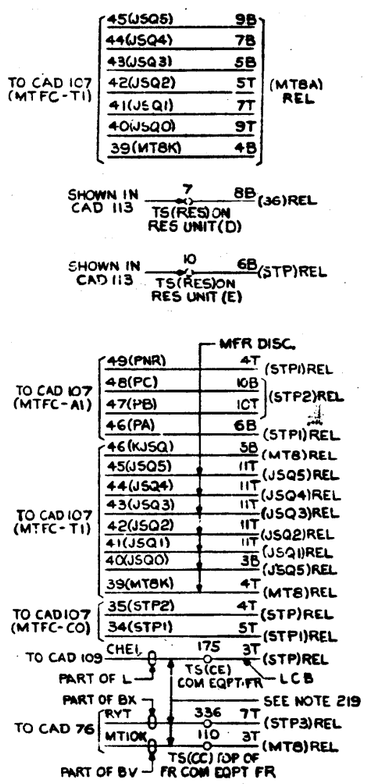
FOR DIAL TONE MARKERS



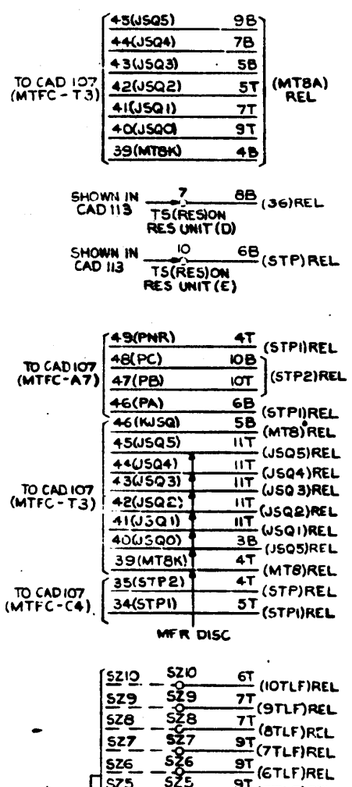
CAD 22

(FOR APP FIG. 27, CC (MFR DISC.) AND CD)

FOR COMBINED AND COMPLETING MARKERS



FOR DIAL TONE MARKERS



DRAWING ISSUE
41D
47D
49D

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CAD 23
(FOR APP FIG.28)

FOR COMBINED COMPLETING AND DIAL TONE MARKERS

MFR DISC

19(P9) 11T (P9) REL
17(P7) 11T (P7) REL
TO CAD. 87 (TLC-C) 16(P6) 10T (P6) REL
12(P2) 10T (P2) REL
11(P1) 11T (P1) REL
10(P0) 11T (P0) REL
59(TCH9) 10T
58(TCH8) 8T
57(TCH7) 6T (P9) REL
56(TCH6) 5T (P8) REL
TO CAD. 107 (MTFC-T1) 55(TCH5) 2T (P9) REL
54(TCH4) 10B (P8) REL
53(TCH3) 8B (P9) REL
52(TCH2) 6B (P8) REL
51(TCH1) 6B
50(TCH0) 4B (P9) REL
49(MT-7) 13T (MT7) REL
A5 2T (TCH5) REL
A4 2T (TCH0) REL
TO CAD. 24 B4 3T (TCH4) REL
B9 3T (TCH9) REL

12 11B (P0) REL
9 11B (P9) REL
SHOWN IN CAD. 113
7 11B (P7) REL
6 8B (P6) REL
2 8B (P2) REL
1 11B (P1) REL

TS (RE6) ON RES UNIT (E)

TO CAD 107(MTFC-B1) 43 10 7T
42 9T (MT27) REL
MISC

TS(CB) ON COM EQPT FR

TO OTHER COMBINED OR COMPLETING MARKERS
TO MASTER TEST FR CONT BAY RUN FROM IST COMBINED OR COMPLETING MARKER
SA 4B
SA
SAC 4T
SAC
SSC 1B
SSC
TO TRAFFIC SAMPLE UNIT
SA 3T
BL 2B (MT27) REL
TO CAD 223 9 5B
8 3B
10 6B
TO CAD 208 10(NIDA)
TO CAD 216 10(TR26) 2T
TO CAD 219 52 7B
26 9B
TO CAD 107 (MTFC-C5) 37(M) 8B

TO TRAFFIC SAMPLE UNIT OR TO CAD 226
T 6T (CKG8) REL

TO CAD. 99 (ORMC-CD)
39(LL7) 10T
38(LL4) 6T
37(LL2) 6T (CB5) REL
36(LL1) 4T
35(LL0) 1T

TO CAD. 86 (TLC-B) (MFR DISC) OR TO CAD. 157
39(LH9) 4B (CH9) REL
30(LH0) 4B (CH0) REL.
29(JS9) 11T (CH9) REL

TO CAD. 86 (TLC-B)
25(JS5) 11T (CH5) REL
24(JS4) 11T (CH4) REL
20(JS0) 11T (CH0) REL

TO CAD. 86 (TLC-B) (MFR DISC) OR TO CAD. 157
19(J9) 7B (CH9) REL
10(J0) 7B (CH0) REL

COMPLETING MKRS
39(LL7) 11T (CB5) OR 6T (CH0) REL (MFR DISC) OR CAD. 27
38(LL4) 9T (CB5) OR 4T (CH0) REL
TO CAD. 90 (TLC-D) 37(LL2) 7T (CB5) OR 6T (CH2) REL
36(LL1) 5T (CB5) OR 6T (CH1) REL
35(LL0) 2T (CB5) OR 4T (CH1) REL
COMBINED MKRS

59(LL9) 1B (CH9) REL
55(LL5) 1B (CH5) REL
49(LL4) 1B (CH4) REL
45(LL0) 1B (CH0) REL
TO CAD. 91 (LLC-A) 39(SM9) 9T (CH9) REL
35(SM5) 9T (CH5) REL
29(SM4) 9T (CH4) REL
25(SM0) 9T (CH0) REL
19(LB9) 5T (LB9) REL
15(LB5) 5T (LB5) REL
9(LB4) 5T (LB4) REL
5(LB0) 5T (LB0) REL
39(CH9) 13T (CH9) REL
TO CAD. 107 (MTFC-A1) 30(CH0) 13T (CH0) REL
47(LLJ) 6B (CH0) REL
TO CAD. 107 (MTFC-T1) 45(JCK) (JCK0) CAP
TO CAD. 107 (MTFC-A1) 34(FCG) 6B (CKG5) REL
TO CAD. 107 (MTFC-A0) 31(TLH) 3B
TO CAD. 107 (MTFC-C0) 29(CHA) 11B (CH0) REL
TO CAD. 107 (MTFC-A1) 21(TRI) 3B (CB5) REL
TO CAD. 107 (MTFC-T0) 5(PL) (ST) 0 (PL) INDR
TO CAD 92 (LLC-B) 27(CKG) 13T (CKG5) REL
TO CAD 208 D4
TO CAD 140 L5 15 6T (CH0) REL
TS(CH) COM EQPT FR
LCB

TO CAD 224 10 3T
96 9B
TO CAD 219 97 2B (CKG8) REL
120 1B
NOT REQUIRED ON COMPL MARKERS
TO CAD 223 17 7T
TO PLANT REG CABINET TPC 00 4B
TS (CB) COM EQPT FR

CAD 24
(FOR APP FIG.29 & BX)

FOR COMBINED OR COMPLETING MARKERS

OT9 OT9 1 (TL4) CAP.
2 (TL9) CAP.
IN5 IN5 B9
CT4 OT4 A5 TO CAD. 23
IN0 IN0 B4
A0
CROSS CONN AS SPEC E E 5T
MI MI 1B
M M 2T (TR2B) REL
S S 3B
XTS (CG) COM EQPT FR

(ST) (ST)
REG1 1 REG 2B (LB0) REL
REG2 2 1B (CKG5) REL
CROSS CONN AS SPEC R5 5 R (R5) RES
R6 6 (R6) RES
R7 7 (R7) RES
R8 8 (R8) RES
XTS (CG) COM EQPT FR

TO TR REG CKT TPC 253 CE 1T (CKG5) REL
LL9 239 59(LL9)
LL5 235 LCB 55(LL5) TO CAD.91 (LLC-A)
LL4 234 49(LL4)
LL0 230 45(LL0)
TO CAD. 77 NOT PEN CH9 229 39(CH9) TO CAD 107 (MTFC-A1)
CH0 220 30(CH0)
CHT 168 RL(132) 0 (CHT) INDR
SEE NOTE 219 MFR DISC (MG) (MR) (NT)100 TO CAD. 196

CONN WHEN ONLY PART OF THE LL FRAMES IN A MKR GROUP ARE PAIRED
CONN WHEN ALL OR NONE OF THE LL FRAMES IN A MKR GROUP ARE PAIRED AND TDP IS NOT PROVIDED
CHT2 163 -5 (CHT) REL
TO CAD. 77 CHT1 162 (CHT1) RES
CHT 161 +1 (CHT) REL
6T (CH0) REL
SEE NOTE 219 PCSC 75 PCSC FOR COMP MKR
TO TRAFFIC REG CKT TO CAD. 27 FOR COMB. MKR
6 TO CAD 215
7
CONN WHEN TDP IS PROVIDED WITH ALL OR NONE OF THE LL FRAMES PAIRED
TO CAD.107 (MTFC-A7)
TO MASTER TEST FR PLANT REG CKT ON RECORDER BAY TR 74 6B (TR2B) REL
LW SEE NOTE 219

SEE NOTE 219
TO PLANT REG CABINET RUN FROM IST COMB. OR COMPL MKR OR TO PREC COMB. OR COMPL MKR MST 72 4B (TR2B) REL
TS (CE) COM EQPT FR
TO PLANT REG CABINET RUN FROM IST DIAL TONE MKR OR TO PREC DIAL TONE MKR MST MFR DISC
SEE NOTE 220
TO SUCC COMB OR COMPL MKR MST
SEE NOTE 219
TO SUCC DIAL TONE MKR MST
SEE NOTE 220

TO BASIC PBX ALLOTTER FR XAHG (SU) 12 PBX ALLR (SU) XAHG
TO CAD 77 XAHG XAHG(I) TO CAD.110
XAHG(I) 160 9T (TR2B) REL
CH
TO CAD 76 XAHG 044 8T
TS (CH) COM EQPT FR
TO CAD 67 LLC 190 11T (CKG5) REL
TS (CC) COM EQPT FR

DIAL TONE MARKERS

TO CAD 219 120 1B
97 2B (CKG8) REL
86 3B
TO CAD. 86 (TLC-B) (MFR DISC) OR TO CAD 157 39(LH9) 4B (CH9) REL
30(LH0) 4B (CH0) REL
29(JS9) 11T (CH9) REL
TO CAD. 86 (TLC-B) 25(JS5) 11T (CH5) REL
24(JS4) 11T (CH4) REL
20(JS0) 11T (CH0) REL
TO CAD. 86 (TLC-B) (MFR DISC) OR TO CAD 157 19(J9) 7B (CH9) REL
10(J0) 7B (CH0) REL
39(LL7) 6T
38(LL4) 4T (CH0) REL
TO CAD. 90 (TLC-D) 37(LL2) 6T (CH2) REL
36(LL1) 6T (CH1) REL
35(LL0) 4T
59(LL9) 1B (CH9) REL
55(LL5) 1B (CH5) REL
49(LL4) 1B (CH4) REL
45(LL0) 1B (CH0) REL
39(SM9) 9T (CH9) REL
TO CAD. 91 (LLC-A) 35(SM5) 9T (CH5) REL
29(SM4) 9T (CH4) REL
25(SM0) 9T (CH0) REL
19(LB9) 5T (LB9) REL
15(LB5) 5T (LB5) REL
9(LB4) 5T (LB4) REL
5(LB0) 5T (LB0) REL
39(CH9) 13T (CH9) REL
30(CH0) 13T (CH0) REL
TO CAD. 107 (MTFC-T3) 47(LLJ) 6B (CH0) REL
TO CAD. 107 (MTFC-A7) 45(JCK) (JCK0) CAP
TO CAD. 107 (MTFC-A6) 34(FCG) 6B (CKG5) REL
TO CAD. 107 (MTFC-C4) 31(TLH) 3B
TO CAD. 107 (MTFC-A7) 29(CHA) 11B (CH0) REL
TO TR REG CKT TPC 253 CE 1T (CKG5) REL
TO PLANT REG CABINET TR LW T4 6B
MST LW T2 4B (TR2B) REL
FROM IST DIAL TONE MKR TS (CE)
TO ALL DIAL TONE MKRS IN SAME GRP MST

CT9 OT9 1 (TL4) CAP.
2 (TL9) CAP.
IN5 IN5 B9
CT4 OT4 A5 TO CAD. 23
IN0 IN0 B4
A0
CROSS CONN AS SPEC E E 5T
MI MI 1B
M M 2T (TR2B) REL
S S 3B
XTS (CG) COM EQPT FR

DRAWING ISSUE
41D
47D
49D
51D
53A
54D
56D MD

MARKER CIRCUIT (2)
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BELL TELEPHONE LABORATORIES INCORPORATED
6S

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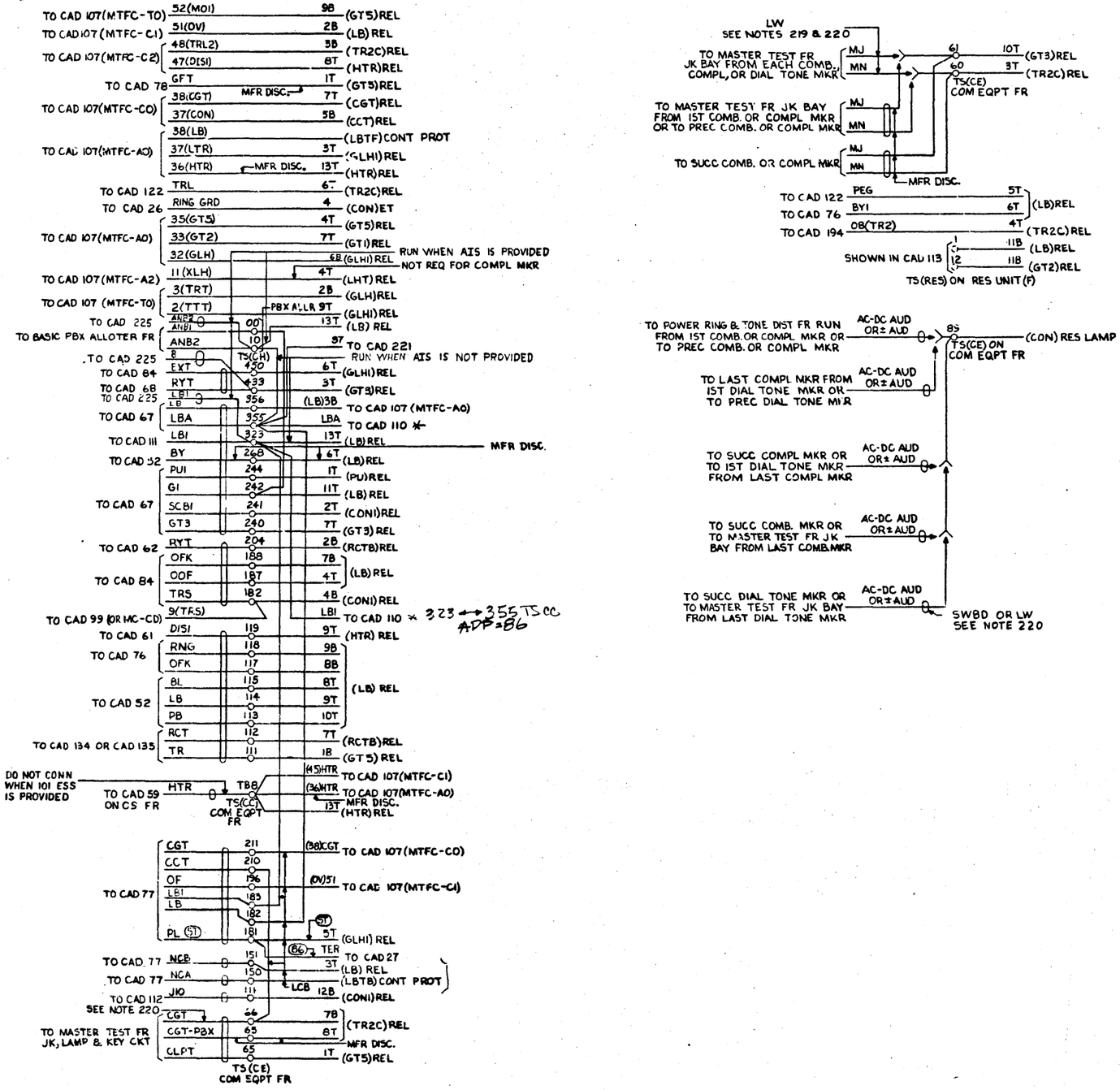
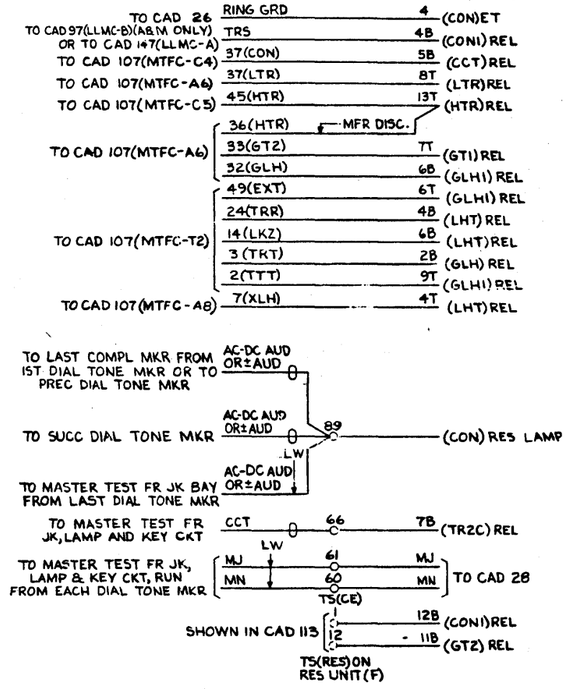
CAD 25
(FOR APP FIG. 30 & 106)

FOR COMBINED OR COMPLETING MARKERS



FOR DIAL TONE MARKERS



DRAWING ISSUE		
41D		
43B		P.D.
47D	D.S. LW AND	
51D	JR	
54D	CF LOL AND	

MARKER CIRCUIT ② SD-25550-01-G16

BELL TELEPHONE LABORATORIES INCORPORATED 65

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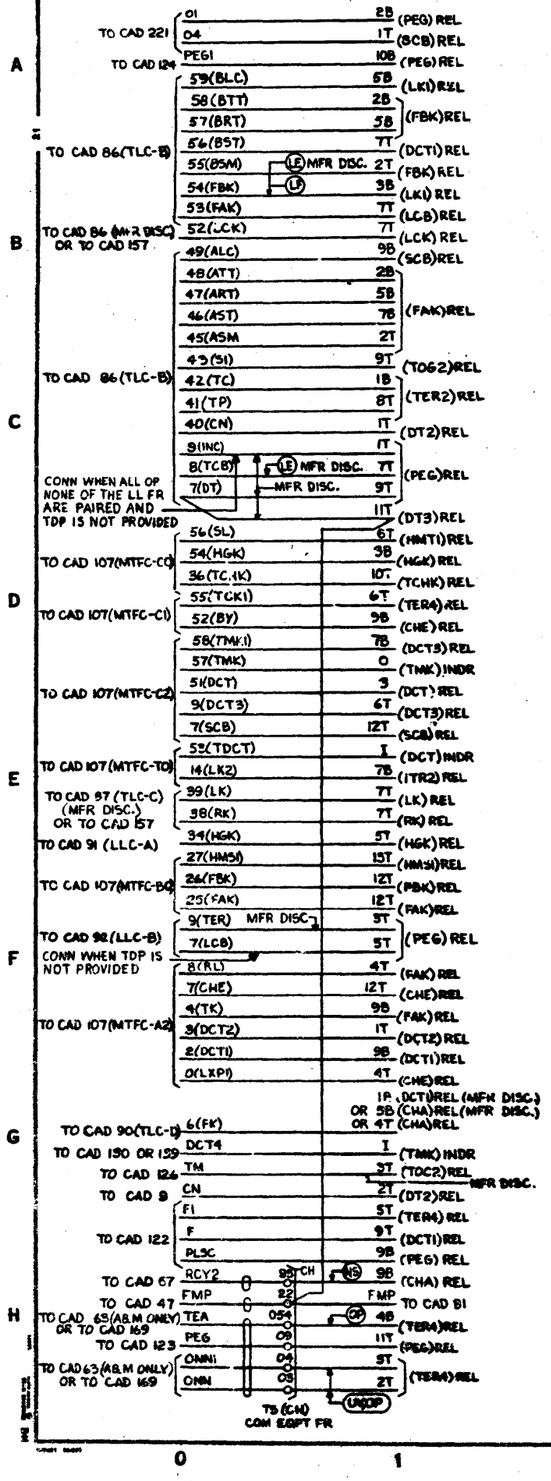
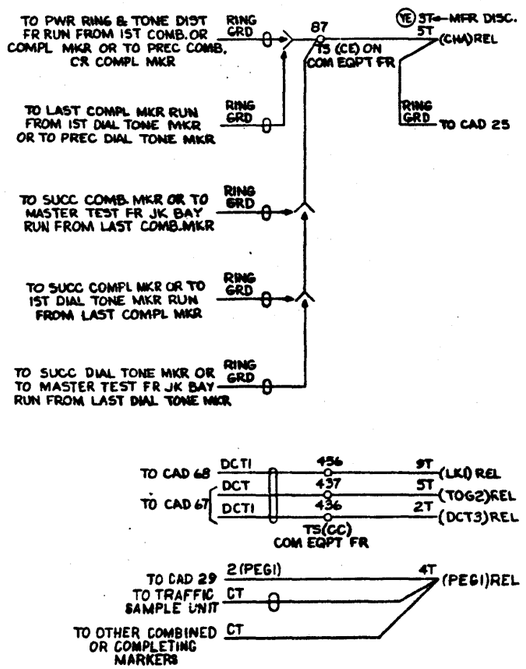
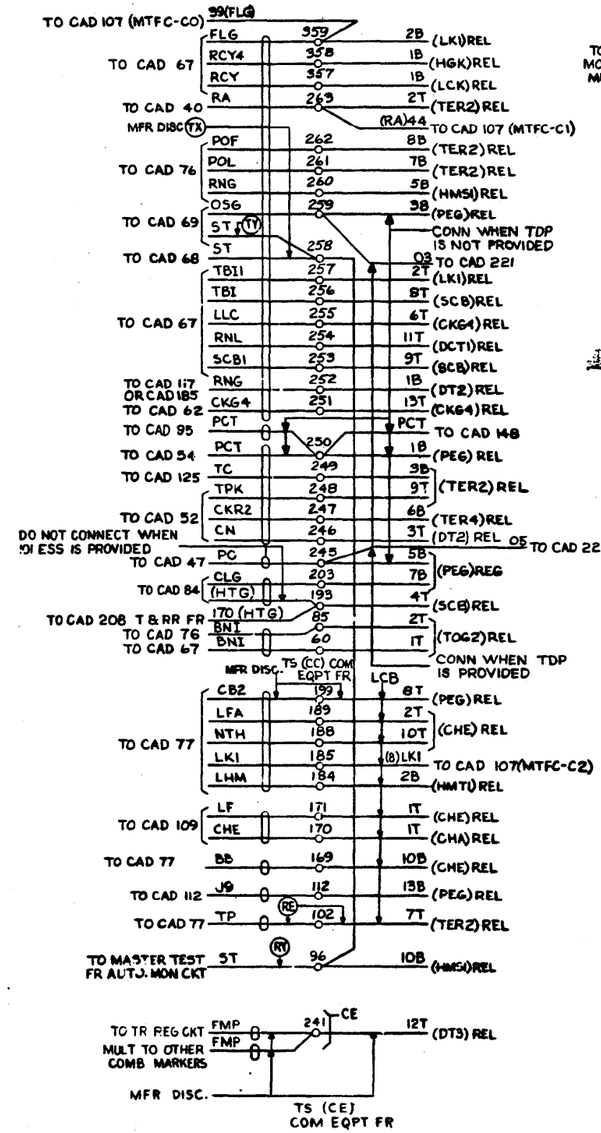
SD-25550-01-G16

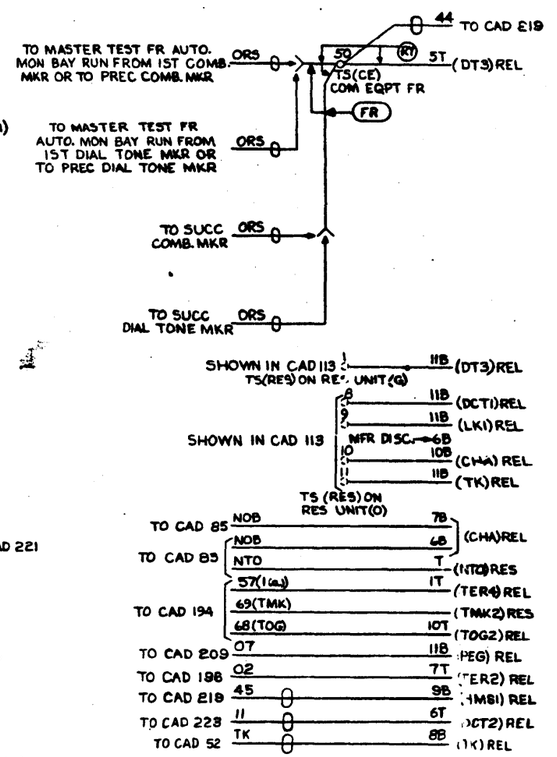
PART OF CAD 26

(FOR APP FIG. 31, J, K, 81 & BJ)
SEE NOTE 211
FOR COMBINED MARKERS









SHEET NOTES:

1. SEE CAD 226 FOR SPARES.

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MARKER CIRCUIT (2)

SD-2 350-01-G17

BELL TELEPHONE LABORATORIES INCORPORATED

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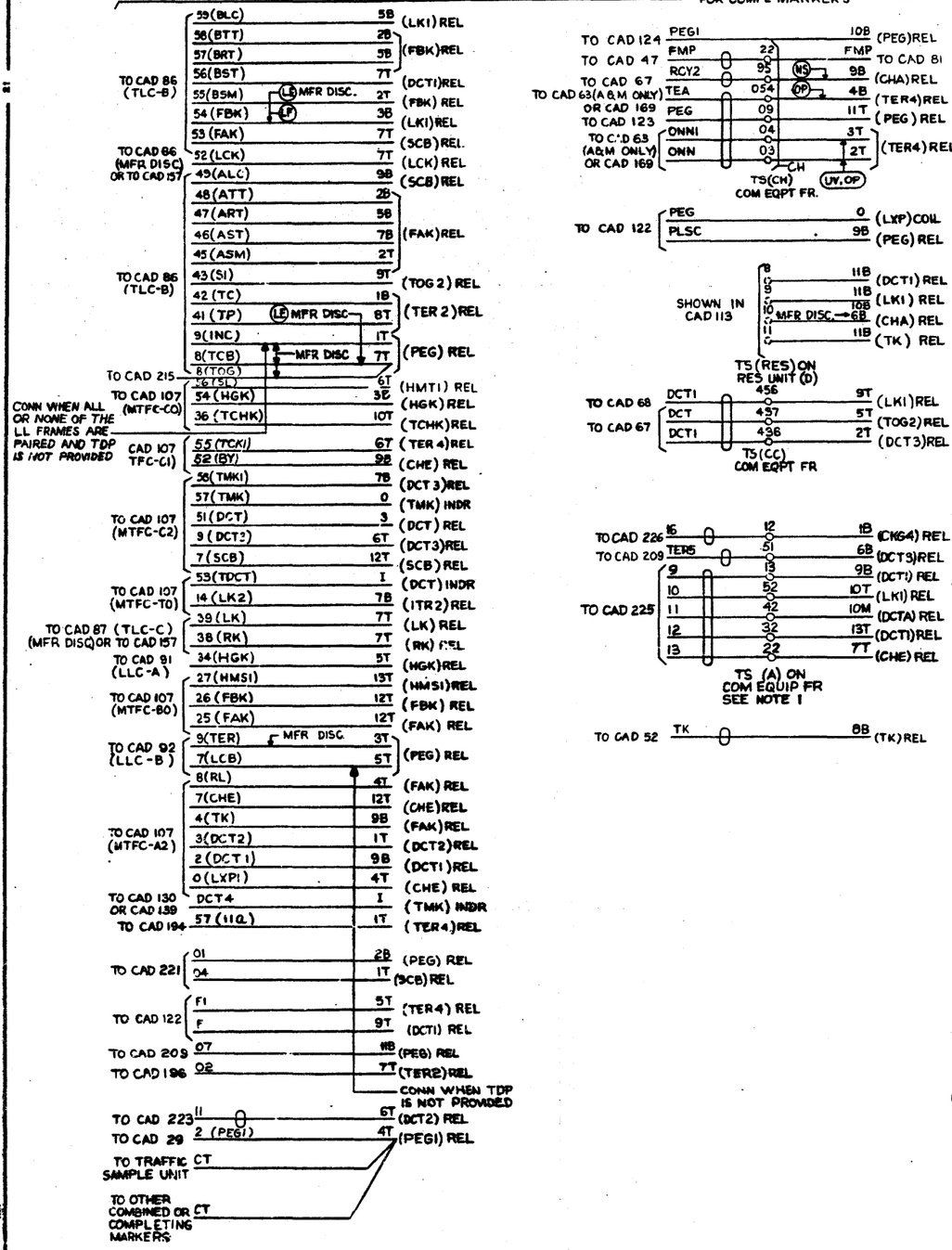
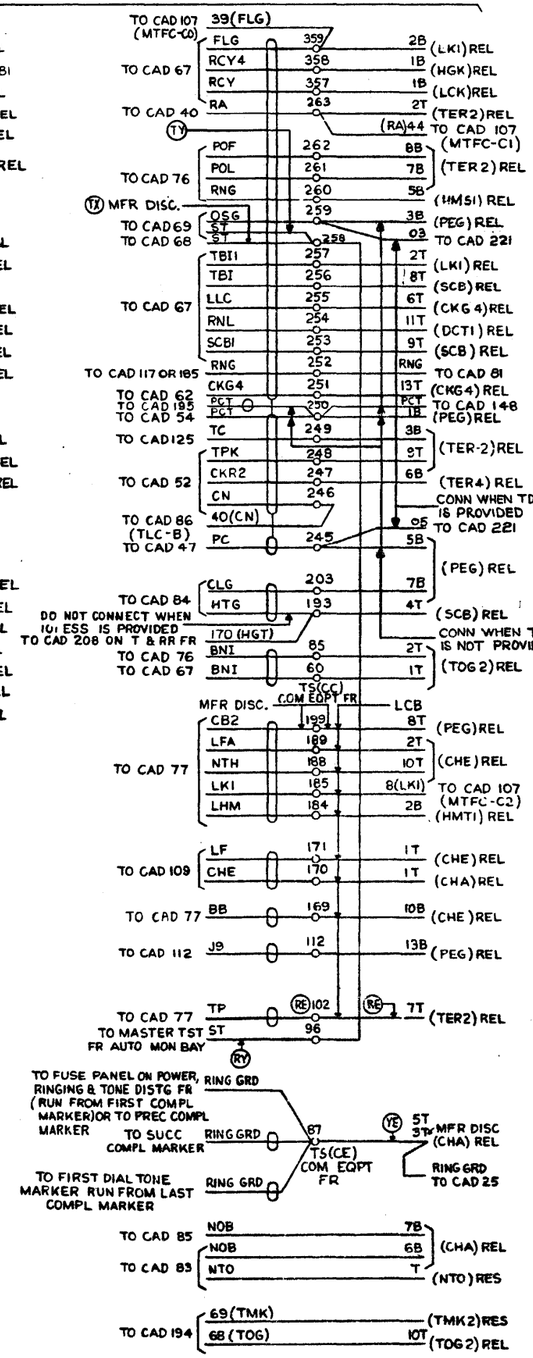
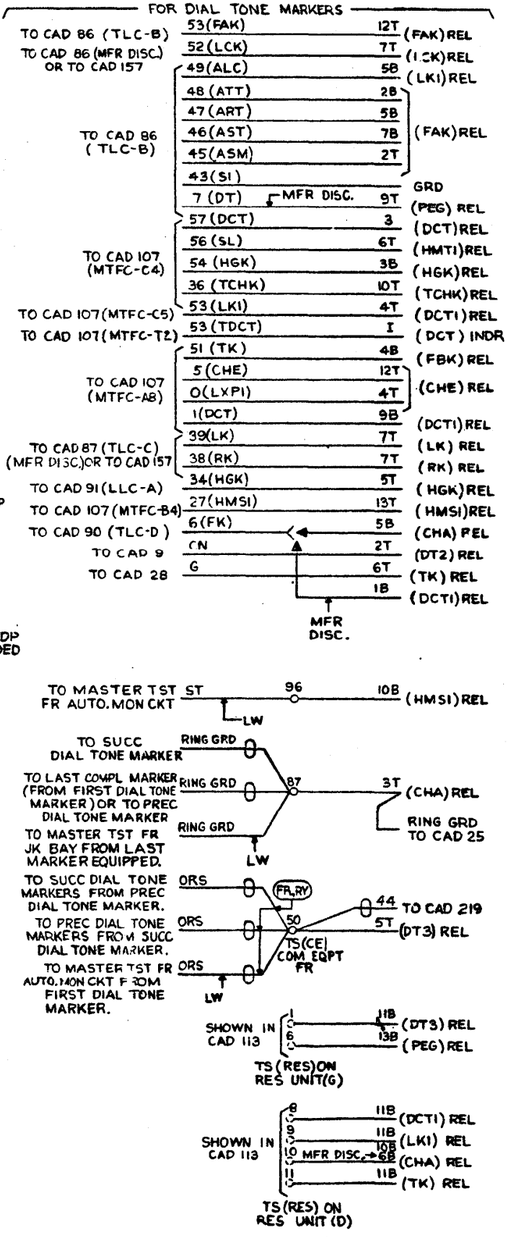
PART OF CAD 26
(FOR APP FIG 31, J, K, BI, & BJ)

FOR COMPL MARKERS





FOR DIAL TONE MARKERS



SD-25550-01-GIB

MARKER CIRCUIT	(2)	SD-25550-01-GI8
BELL TELEPHONE LABORATORIES INCORPORATED	65	

DRAWING ISSUE
41D
43B
47D
48D
51D
54D
56D

PART OF CAD 27

(FOR AFP FIG. 32 & BY)

CONN WHEN PUSH BUTTON CALLING IS NOT USED

TO CAD 86 (TLC-B) 50 RC — 5B (OC) REL
TO CAD 107 (MTFC-A2) 38 (RCY) — 13T (RCY1) REL
37 (SNK) — 5T (DISA) REL
37 (M) — 13T
TO CAD 107 (MTFC-C1) 36 (MF) — 1T
35 (D) — 3T (MLF) REL
35 (D) (MFR DISC) — 13T (D) REL
TO CAD 107 (MTFC-T0) 34 (DIS) — 13T (DIS1) REL
27 (CKG) — 9T (CKG3) REL
27 (CKG) (MFR DISC) — 8T (CKG2) REL
(CKG1) 60 — TO CAD 194
TO CAD 107 (MTFC-A1) 26 (GTL) — 12B (DT1) REL
25 (LFK) — 4T (LFK) REL
24 (SQA) — 4B (SQA) REL
23 (RK3) — 5T (RK3) REL
22 (RK2) — 5T (RK2) REL
21 (RK1) — 3T (RK1) REL
TO CAD 88 (TLC-E) (MFR DISC) OR TO CAD 157
11 (BS4) — 9B
10 (BS3) — 7B
9 (BS2) — 5B
8 (BS1) — 3B
7 (BS0) — 1B (TLC1) REL
TO CAD 96 (LLMC-A) (A&M ONLY) OR TO CAD 147 (LLMC-A) 10 (CKG) — 13B (CKG1) REL
TO CAD 90 (TLC-D) (MFR DISC) OR TO CAD 157 4A (DK) — 5T (MKD) REL
TO CAD 91 (LLC-A) 3 (BS) — 1B
1 (BS1) — 3B
0 (BS0) — 5B (LLC1) REL
TO CAD 97 (LLMC-B) (A&M ONLY) OR TO CAD 147 (LLMC-A) 2 (TC1) — 2B
1 (TC) — 2T (OC) REL
D — 4T
TO CAD1 MF — 2T (MLF) REL
TO CAD 135 G1 — 5T (CKG7) REL
TO CAD 10 SPF — 3T
TO CAD 22 SZD — 1T (TLC3) REL
TO CAD 122 TLC — 8B
TRL — 12T (DT1) REL
TO CAD 97 (LLMC-B) (A&M ONLY) OR TO CAD 147 (LLMC-A) 14 (OBS) (SW) — 8T (TRL) REL
TO CAD 150 G — 9T (LFK) REL
TO CAD 163 ANR — 7B (CKGT) REL
CKG7) REL

SHOWN ON CAD 113
2 — 13B (CB) REL
3 — 13B (MF) REL
4 — 5B (RK2) REL
5 — 11B (DIS2) REL
7 — 13B (D) REL
8 — 11B (DISA) REL
9 — 10B (RK3) REL
10 — 13B (MLF) REL
11 — 13B (CKG3) REL
TS (RES) ON RES UNIT (F)

SHOWN ON CAD 113
2 — 13B (TLC3) REL
3 — 10B (ONW) REL
TS (RES) ON RES UNIT (G)

TO CAD 225 14 — 43 — 8B
TO CAD 91 BS2 — 33 — 7B (LLC1) REL
TO CAD 226 2 — 23 — 3T (CKG1) REL
TS (A) ON COM EQPT FR SEE CAD 226 FOR SPARES

FOR COMBINED MARKERS

TO CAD 24 PCSC — 47 — 00 — 5T — TO CAD 219
LL7 — 1T (DT4) REL
M — M — LF — 13T
MF — MF — 1T (MLF) REL
D — D — 3T
13T (D) REL
CROSS CONN AS SPEC
XTS (CG) COM EQPT FR — SEE NOTE 220 — CONN WHEN SIX OR GROUPS ARE PROVIDED
CONN WHEN SIX OR GROUPS ARE NOT PROVIDED
LF — LF — 39 — MC — MC TO LLMC FOR L LK 39
LF39 — LF00 — TO CAD 219
LF — 00 — MC TO LLMC FOR L LK 00
XTS (CF) COM EQPT FR
TO CAD67 G — V — 113 — CH — 6T (LLC2) REL
TO CAD 51 RKI(A) — 97 — (MI) — 2B (RKI) REL
TO CAD 65 AVK2 — 80 — 6T (DISA) REL
TO CAD 47 GS3 — 24 — (RO) — 9T (CKG7) REL
TO CAD 124 PEG — 12 — 11T (LLC1) REL
TO BASIC PBX ALLOTTER FR ANON — 03 — PBX ALLR 11T (CKG7) REL
TS (CH) COM EQPT FR
SEE NOTE 219
04 (G3) — 5B (CKG6) REL
TO CAD 194 03 (RKI) — 5B (RKI) REL
11 (CMF) — 1B (CKG7) REL

SEE NOTE 219
TO CAD 67 SPT — 473 — 7T (CKGT) REL
TO CAD 68 RYT — 471 — 4B (AR) REL
TO CAD 50 FCM — 439 — 5B (MF) REL
FCD — 438 — 5B (D) REL
TO CAD 40 GA — 349 — 9B (CKG2) REL
RCY — 276 — 3B (RCY) TO CAD 107 (MTFC-A2)
TO CAD 63 (A&M ONLY) OR TO CAD 169 RNK — 340 — 8B (CKG6) REL
TO CAD 52 G2 — 334 — 2B (DIS2) REL
TO CAD 69 OGC — 330 — 3B (CKG6) REL
AR — 316 — 11T (RCY1) REL
TO CAD 47 FC — 282 — 6B (D) REL
04 — TO CAD 219
TS (CC) COM EQPT FR — CONN WHEN SIX OR GROUPS ARE PROVIDED
02 — 7T (RK2) REL
TO CAD 208 03 — 6B (LL7) REL — DO NOT CONN WHEN 101 ESS IS PROVIDED
TO CAD 214 01 — 5 (CKG1) REL

CONN WHEN SIX OR GROUPS ARE NOT PROVIDED
RUN WHEN TRAFFIC SAMPLING FEATURE IS PROVIDED
OMIT WHEN TRAFFIC SAMPLING UNIT IS PROVIDED

05 — 13T (DT1) REL
111 — 11B
12 — 7T (MLF) REL
13 — 9T
01 — 3B
TO CAD 219 09 — 1T
10 — 3T (TLC2) REL
11 — 5T
08 — 3T (CKG3) REL
112 — 7T (RK2) REL
117 — 1B (RK3) REL
115 — 2T (RKI) REL
07 — 6B (DISI) REL
142 — 7B (RK3) REL
143 — 2T (GTL) REL
11 — 3B
12 — 1B
TO CAD 224 23 — 4T (TRS) REL
24 — 3T

TO CAD 99 (ORMC-CD) 53 (TR2) — SEE NOTE 219
54 (TRK) — 10 (CKG1)
TO CAD 107 (MTFC-T0) 9 (TRL)
TO CAD 96 (LLMC-A) (A&M ONLY) OR TO CAD 147
TRL — 186 — 8T (TRL) REL
CKG — 185 — 1B (TRLA) REL
TRK — 184 — 5B
TO CAD 84 — 2T (TR2E) REL
TR2 — 183 — 11T (TR2) REL ✓
ROG — 54 — 2B (TRS) REL
TRG — 154 — TRG — TO CAD 110 PROV-
TRIA — 17 — 6T
TO CAD 67 TR2A — 16 — 4T (TR2) REL
SFI — 20 — 5T (DT1) REL
TO CAD 219 06 — 48 — FN — 87 — 9B (CKGG) REL
D — 13 — 9B (D) REL
TO CAD 52 MF — 12 — 9B (MF) REL
GI — 11 — 9T (CKG1) REL
ORB — 76 — 7B (DC) REL
RA — 10 — 9B
TO CAD 47 GS2 — 09 — 7B (CKG3) REL
GS1 — 08 — 12T (RCY1) REL
BS — 24 — 9B (TLC2) REL
TO CAD 76 GI — 23 — 1B (CKG6) REL
TO CAD 68 SMB — 22 — 1T (MDK) REL
2SA — 15 — 7T
TO CAD 62 RTC — 14 — 3T (CKG1) REL
TO CAD 55 TNS — 07 — 5B (TR2) REL
TO CAD 45 QNG1 — 06 — 9B (CKG1) REL
TO CAD 42 QNG1 — 05 — 5T (TRS) REL
TO CAD 34 DIS1 — 04 — (26) GTL — TO CAD 107 (MTFC-A1)
TO CAD 40 GTL — 03 — 4B (DIS2) REL
CGD — 00 — 1B
CGA — 02 — 5B (CKG1) REL
TO CAD 32 CGC — 01 — 3B
TO CAD 31 CGB — 96 — TO CAD 225
TO CAD 223 ONG1 — TS (CC) COM EQPT FR
BS3A — (NV) 247 — (NV) 8B (TLC1) REL
RCKI — (RE) 108 — (RE) 11B (CKG6) REL
SFB — 215 — 1B (CKG3) REL
TO CAD 71 — (ST) 5B
CB2 (ST) — 199 — (CB) REL
TR3I — 208 — (CB) TER — TO CAD 25
TRIA — 192
TRG — 191 — 5T (TR2) REL
LCB — CONN WHEN PUSH BUTTON CALLING IS NOT USED
TRG1 — TO CAD 110 ✓
TO TR PEG CKT TOR — 103 — 3T (CB REL)
TO CAD 109 CHE — 172 — TOR CAD 198 — 9T (LLC1) REL
TO CAD 77 CHE — (RE) — 152 — MFR DISC
TO CAD 112 KO — 100 — 13B (CKGT) REL
TO MAS TST FR AUTO. MON BAY FROM FIRST COMB. OR COMPL MKR OR TO PREC COMB. OR COMPL MKR — MONL — 52 — 11B (CKG1) REL
TO SUCC COMB. OR COMPL MKR — MONL — TS (CE) COM EQPT FR ✓
TO CAD 194 40 (G) — 12T (LLC1) REL
06 (OSTI) — 5B (RK3) REL
05 (LG) — 2B (GTL) REL

FOR COMPLETING MARKERS

TO CAD 107 (MTFC-A2) 38 (RCY) — 13T (RCY1) REL
37 (SNK) — 5T (DISA) REL
TO CAD 107 (MTFC-T0) 34 (DIS) — 13T (DIS1) REL
11 (CKG2) — 13B (CKG1) REL
27 (CKG) — 9T (CKG3) REL
27 (CKG) (MFR DISC) — 8T (CKG2) REL
(CKG1) 60 — TO CAD 194
TO CAD 107 (MTFC-A1) 26 (GTL) — 11T (CKG6) REL
25 (LFK) — 4T (LFK) REL
24 (SQA) — 4B (SQA) REL
23 (RK3) — 5T (RK3) REL
22 (RK2) — 5T (RK2) REL
21 (RKI) — 3T (RKI) REL
11 (BS4) — 9B
10 (BS3) — 7B
TO CAD 88 (TLC-E) (MFR DISC) OR TO CAD 157 9 (BS2) — 5B (TLC1) REL
8 (BS1) — 3B
7 (BS0) — 1B
TO CAD 90 (TLC-D) (MFR DISC) OR TO CAD 167 4 (MKD) — 5T (MKD) REL
3 (BS) — 1B
TO CAD 91 (LLC-A) 1 (BS1) — 3B
0 (BS0) — 5B (LLC1) REL
GI — 5T (CKG7) REL
TO CAD 135 SPF — 3T
TO CAD 10 SZD — 1T (TLC3) REL
TO CAD 22
TO CAD 122 TLC — 4B (CKG3) REL
TRL — 12T (TRL) REL
TO CAD 97 (LLMC-B) 14 (OBS) — 8T (LFK) REL
TO CAD 150 G — 9T (CKGT) REL
TO CAD 163 ANR — 7B (CKG7) REL

SHOWN ON CAD 113
2 — 13B (CB) REL
4 — 5B (RK2) REL
5 — 11B (DIS2) REL
8 — 11B (DISA) REL
9 — 10B (RK3) REL
11 — 13B (CKG3) REL
TS (RES) ON RES UNIT (F)

SHOWN ON CAD 113
2 — 13B (TLC3) REL
3 — 10B (ONW) REL
TS (RES) ON RES UNIT (G)

TO CAD 67 G — 113 — CH — 6T (LLC2) REL
TO CAD 51 RKI(A) — 97 — (MI) — 2B (RKI) REL
TO CAD 65 AVK2 — 80 — 6T (DISA) REL
TO CAD 47 GS3 — 24 — (RO) — 9T (CKG7) REL
TO CAD 124 PEG — 12 — 11T (LLC1) REL
TO BASIC PBX ALLOTTER FR ANON — 03 — PBX ALLR 11T (CKG7) REL
TS (CH) COM EQPT FR

TO CAD 194 40G — 12T (LLC1) REL
06 (DSTI) — 5B (RK3) REL
05 (LG) — 2B (GTL) REL
04 (G3) — 5B (CKG6) REL
03 (RKI) — 5B (RKI) REL
11 (CMF) — 1B (CKG7) REL
TO CAD 208 02 — 7T (RK2) REL — DO NOT CONN WHEN 101 ESS IS PROVIDED
03 — 6B (LL7) REL
TO CAD 214 01 — 5 (CKG1) REL

DRAWING ISSUE
41D
43B
45B
47D
49D
51D
54D

MARKER CIRCUIT (2)
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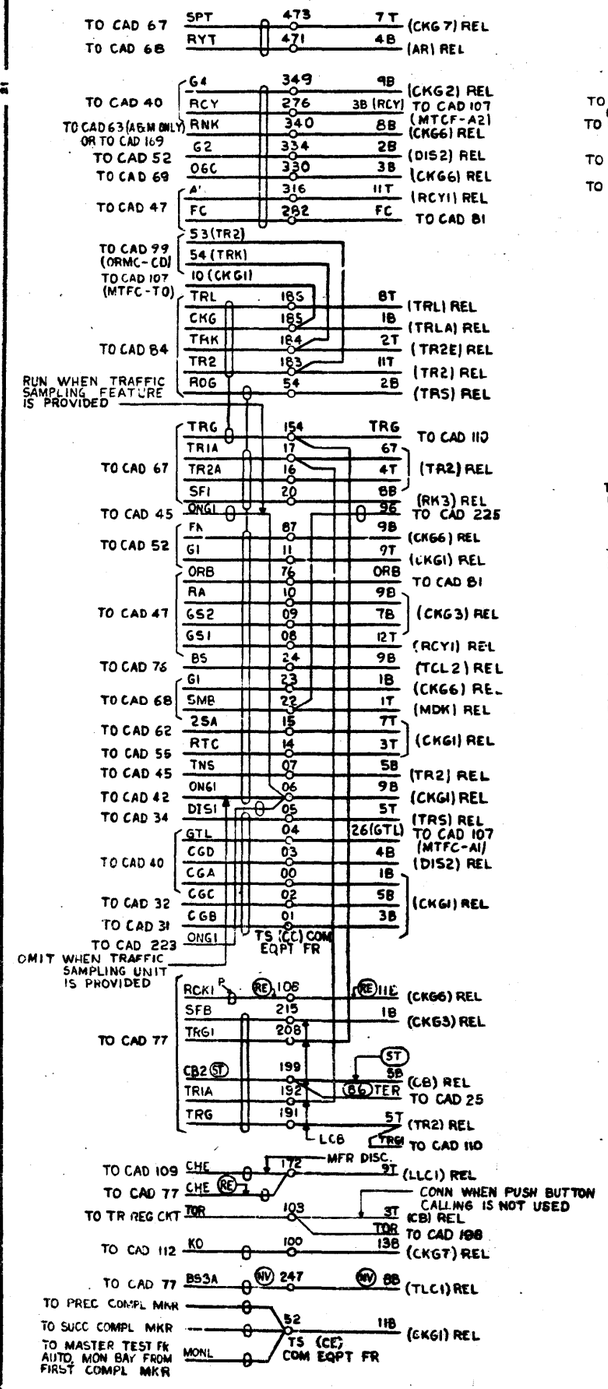
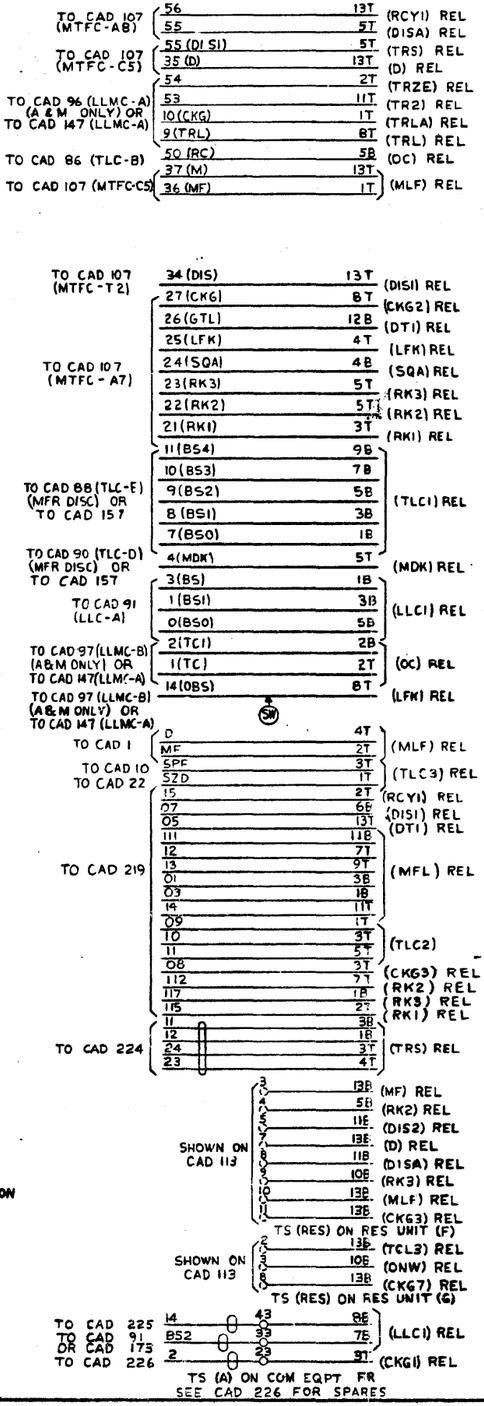
PART OF CAD 27

(FOR APP FIG. 32 & BY)

FOR COMPLETING MARKERS



FOR DIAL TONE MARKERS

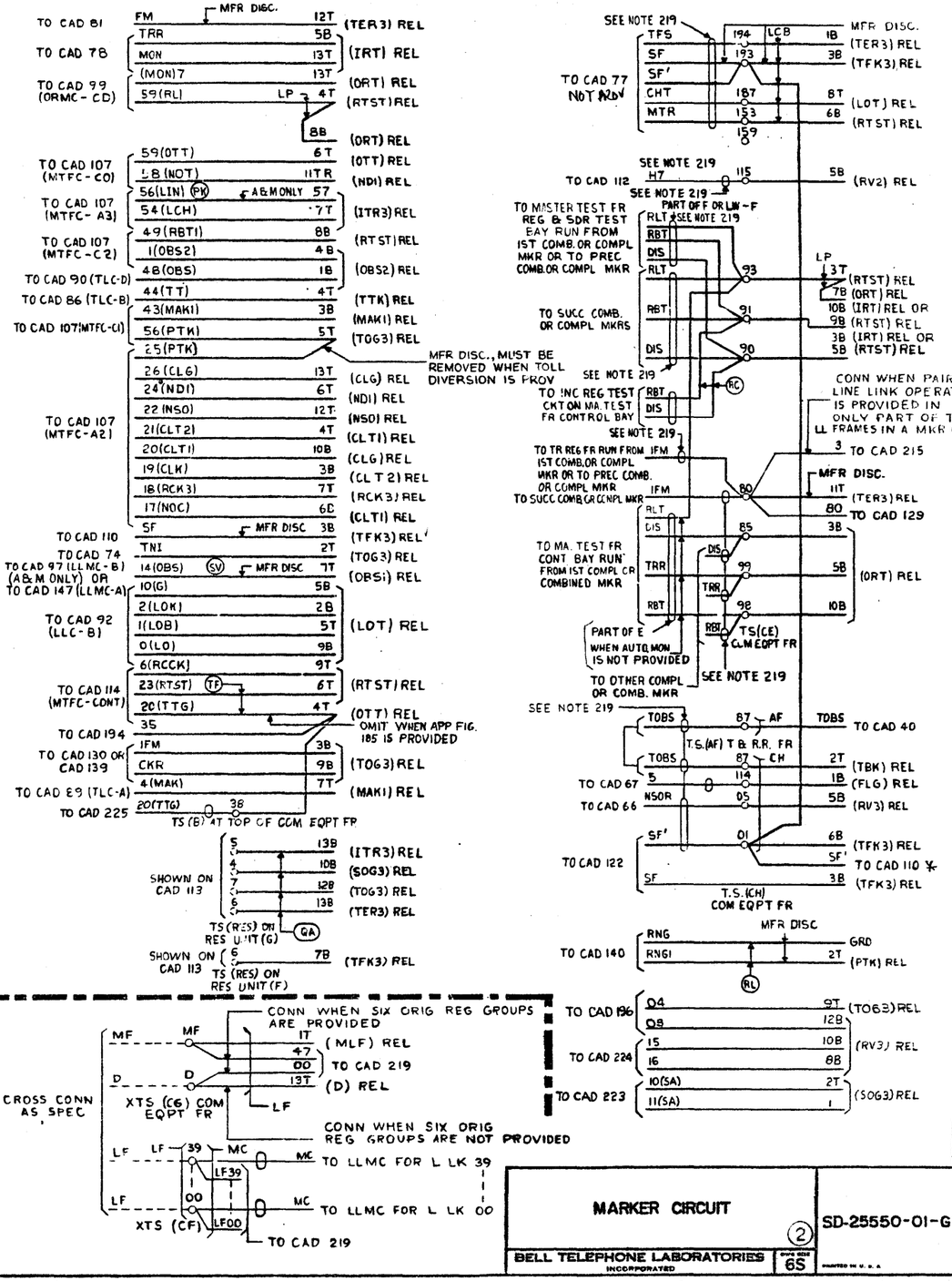


SD-25550-01-G20

PART OF CAD 28

(FOR APP FIG. 33, F, 103, AK & AL)

FOR COMBINED MARKERS



MARKER CIRCUIT (2)	SD-25550-01-G20
BELL TELEPHONE LABORATORIES INCORPORATED	6S

DRAWING ISSUE
41D
43B
45B
48D
49D
51D
54D
55A
56D

5

0 1 2 3 4 5 6 7 8 9

PART OF CAD 28

(FOR APP FIG. 33, F, 103, AK & AL)

FOR COMBINED MARKERS

FOR COMPLETING MARKERS

FOR COMPLETING MARKERS

FOR DIAL TONE MARKERS

MARKER CIRCUIT (2)

SD-25550-01-G21

BELL TELEPHONE LABORATORIES INCORPORATED

65

56

DRAWING ISSUE

41D

48D

49D

51D

54D

55A

56D

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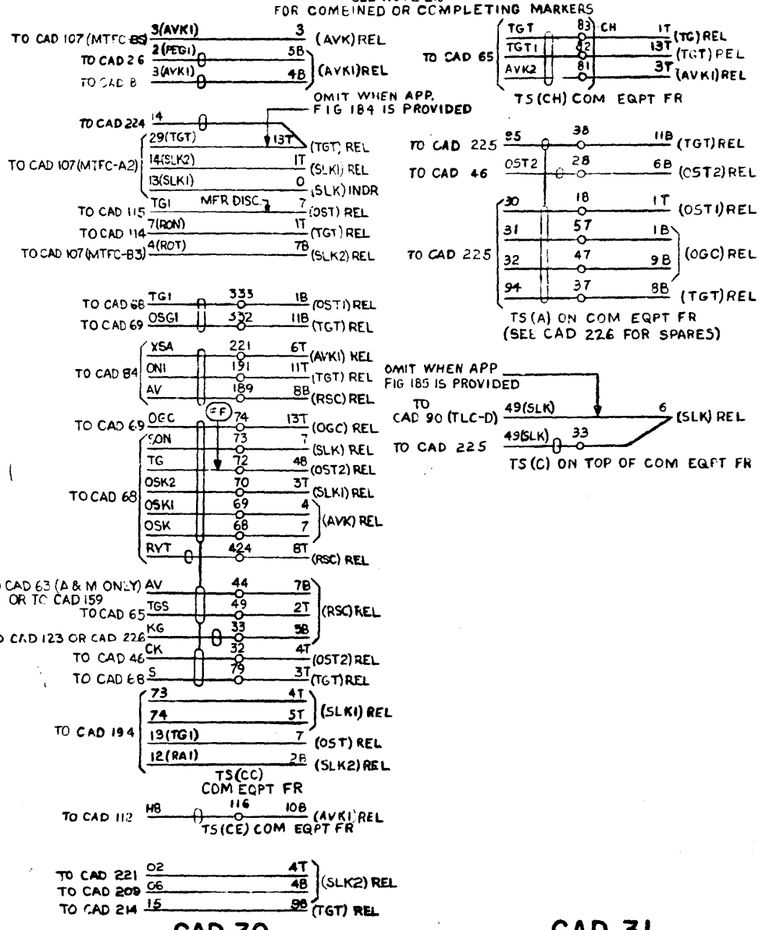
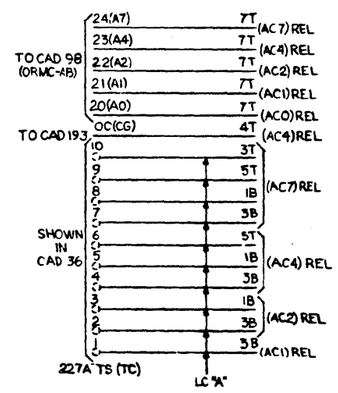
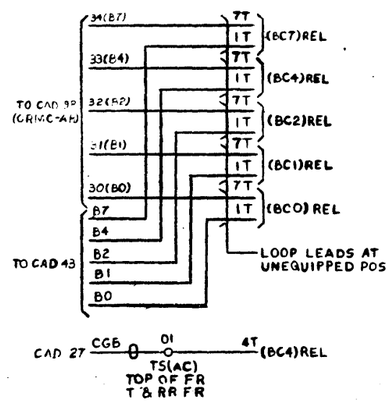
CAD 29
(FOR APP FIG. 34, AM & AN)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS



CAD 30
(FOR APP FIG. 35)
FOR COMBINED OR COMPLETING MARKERS

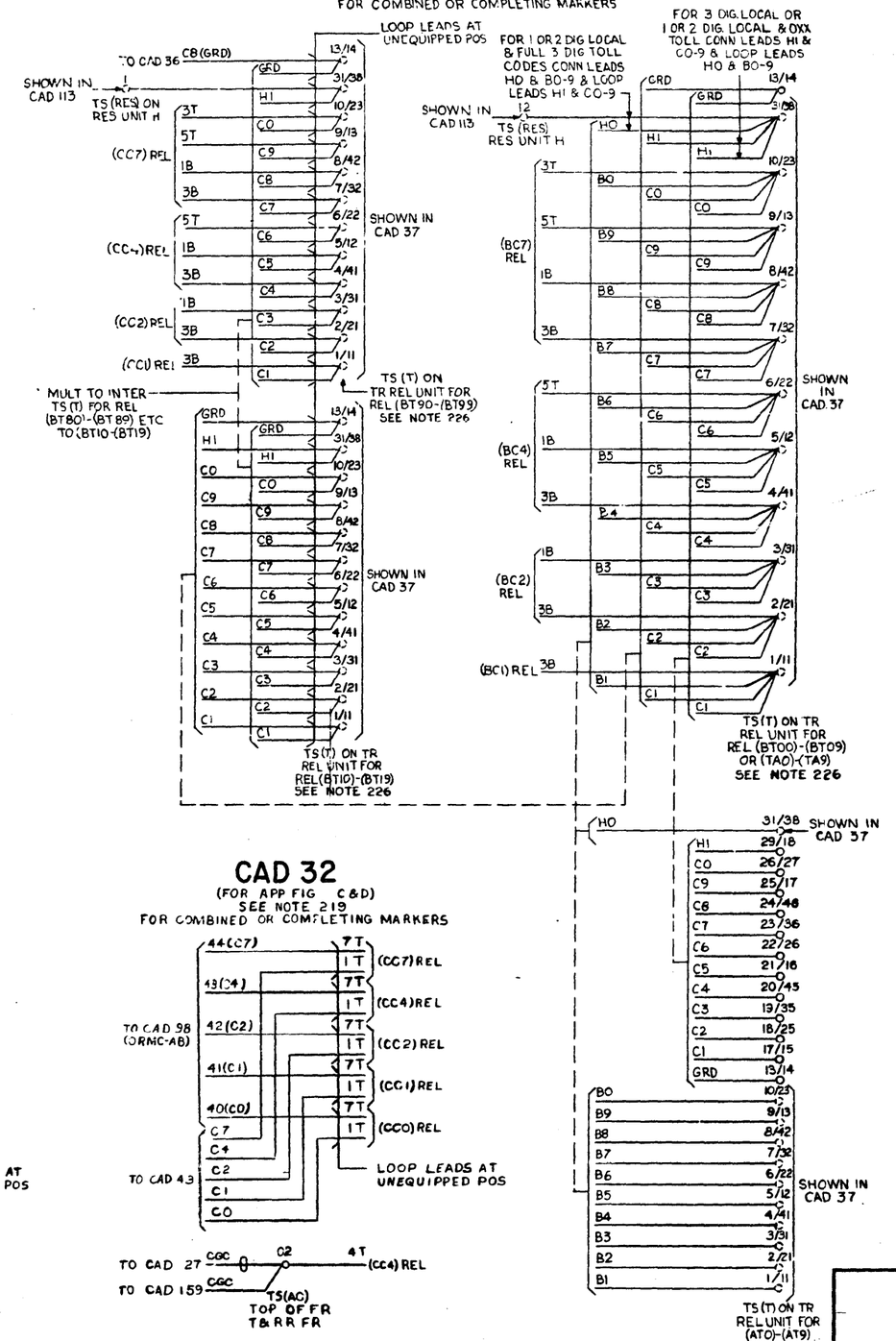


CAD 31
(FOR APP FIG A & B)
FOR COMBINED OR COMPLETING MARKERS

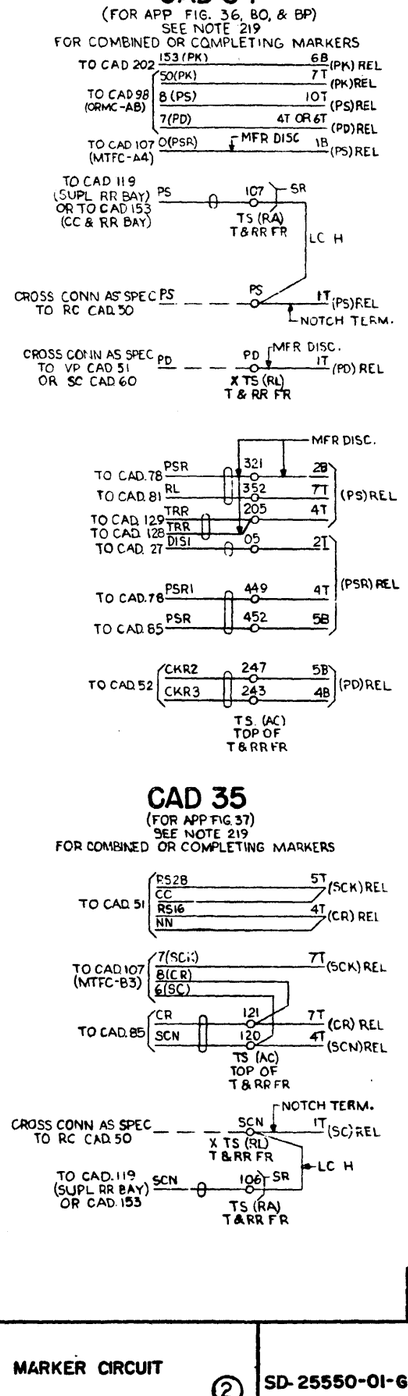


CAD 32
(FOR APP FIG C & D)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS

CAD 33 (MFR DISC)
(FOR APP FIGS. A,C, 39, 40 & 41)
FOR COMBINED OR COMPLETING MARKERS



CAD 34
(FOR APP FIG. 36, BO, & BP)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS



CAD 35
(FOR APP FIG. 37)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS

MARKER CIRCUIT (2)
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BELL TELEPHONE LABORATORIES INCORPORATED
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CAD 36

(FOR APP FIG. 38,159,160,BM,&BN)
FOR COMBINED OR COMPLETING MARKERS

CROSS CONN AS CODE POINTS PER NOTE 212 AND AS SPEC TO 11X2-9 CAD 36, PSCO 0-23 CAD 161, OR TO FAT1-3(L) IN CAD 159 — (11X) REL

CROSS CONN AS CODE POINTS PER NOTE 212 AND AS SPEC TO AT0-9 CAD 38, C2-9, CA0-1 CAD 36, CG 22-29 CAD 83, IC0-9 CAD 143, TR0-1 CAD 117 — (TC5) REL

CROSS CONN AS SPEC TO AT2-9 CAD 38, TSC0-45 CAD 143, VCG CAD 83, 2DT2-9 CAD 144 — (TC6) REL

CROSS CONN AS CODE POINTS PER NOTE 212 AND AS SPEC TO AT2-9 CAD 38, TA2-5 CAD 144, VCG CAD 83 ETA2-9 CAD 199 — (TC7) REL

CROSS CONN AS SPEC TO CO-1 CAD 36 ETA0-1 CAD 159 — TO CAD 40; TO CAD 181; (TC6) REL; XTS (RC); TO CAD 193

CROSS CONN AS SPEC TO 2DT CAD144 — (TC5) REL; (TC7) REL; (TC6) REL; (11X) REL; (XII) REL

CROSS CONN AS SPEC NS5 TO N1 N2 CAD 36 — (TC5) REL

CROSS CONN AS SPEC TO NS6 LN CAD 132, N3, N4 CAD 36 — (TC6) REL

CROSS CONN AS SPEC TO NS7 LN CAD 132, N2 N4 CAD 36 — (TC7) REL

CROSS CONN AS SPEC TO N4 PA, NFB, NC, NTA, NTB CAD 132, NS6, NS7 CAD 36, NS CAD 41, NS8 CAD 199 — SHOWN IN CAD 43

CROSS CONN AS SPEC TO N3 PA, NFB, NS, NTA, NTB CAD 132, NSC CAD 36, NS CAD 41

CROSS CONN AS SPEC TO NS5, NS7 CAD 38, NS8 CAD 139

CROSS CONN AS SPEC TO NS5 CAD 36 — (0A) REL; TO CAD 84; CAD 107 (MTFC-B3)

XTS (RH) T & RR FR

CROSS CONN AS CODE POINTS PER NOTE 212 — (XII) REL

SHOWN IN CAD 39 XTS (RL) T & RR FR

TO CAD 107 (MTFC-B3) — (OB) REL; (OA) REL

TO CAD 33 OR 145 — MFR DISC.

TO FUSE PANEL — C8 GRD

SHOWN IN CAD 30 — (TCT) REL

227A TS(TC) ON TR CONT UNIT

SURFACE WIRE MULT TO (TC6) (TC5) ETC

CROSS CONN TO NSS0-5 CAD 185 — TO CAD 45

CROSS CONN TO APN, ATN, AEN, BPN, BTN, BEN CAD 41 OR AAN, BAN THIS CAD

CROSS CONN TO NSS0-5 CAD 185 OR ASAI, BSAI THIS CAD — TO CAD 226; (OB) REL; (OA) REL

CROSS CONN AS SPEC. TO ST, CAD 45 OR 85 — (VCIA) REL; (DCIA) REL

XTS (AD) T & RR FR

TO CAD 85 (DCIA) REL

TO CAD 74 — (VCIA) REL

TO CAD 45 — (DCIA) REL

TO CAD202 — (TC7) REL; (11X) REL

TO CAD 206 ON RR — (TBIA) REL

TO CAD 226 — (0A) REL; (0B) REL

TS (RQ) ON T & RR FR
SEE CAD 226 FOR SPARES

CAD 37

(FOR APP FIG. 39,40,41,& 117)
FOR COMBINED OR COMPLETING MARKERS

SURFACE WIRE MULT TO OTHER NET (9) NET

SHOWN IN CAD 33, 145 & 146

(9) REL

TS(T) ON TR REL UNIT SEE NOTE 226

SURFACE WIRE MULT TO REL (8) TO (0)

CAD 38

(FOR APP FIG 39)
FOR COMBINED OR COMPLETING MARKERS

(AT9) REL

CROSS CONN AS CODE POINTS IN ACCORDANCE WITH NOTE 212 — (ATO) REL

XTS (RG) T & RR FR

NOTCH TERM. TO CAD 153 (CC & RR BAY)

CROSS CONN AS SPEC TO AO-1 CAD 40; CO-9, CA2-9, 7A2-9 CAD 36; LT2, 1-9 CAD 199 — (AT9) REL; (AT1) REL; (ATO) REL; TO CAD 193

XTS (RH) T & RR FR

CAD 39

(FOR APP FIG. 40, 41, & 117)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS

CROSS CONN AS CODE POINTS IN ACCORDANCE WITH NOTE 212 — (BT19) REL; (BT00) REL

XTS (RG) T & RR FR

NOTCH TERM. LCB TO CAD 119 (SUPL RR BAY) OR CAD 153 (CC & RR BAY)

CROSS CONN AS SPEC TO C00-99 CAD 38, CAD 144 — (BT99) REL; (BT20) REL; (BT19) REL; (BT00) REL; LC C; LC B

XTS (RH) T & RR FR

CROSS CONN AS CODE POINTS IN ACCORDANCE WITH NOTES 212 & 400 — (BT99) REL; (BT60) REL

XTS (RJ) T & RR FR

NOTCH TERM. LC C

(BT59) REL; (BT20) REL

XTS (RL) T & RR FR

NOTCH TERM. LC C
TO CAD 119 (SUPL RR BAY) OR CAD 153 (CC & RR BAY)

DRAWING ISSUE

41D	C.N. W.W.
45B	C.N. W.W. REC. P.L.I.
46D	LG.B. AND D.B.
47D	L.W. AND TEM
54D	L.D.I. AND

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

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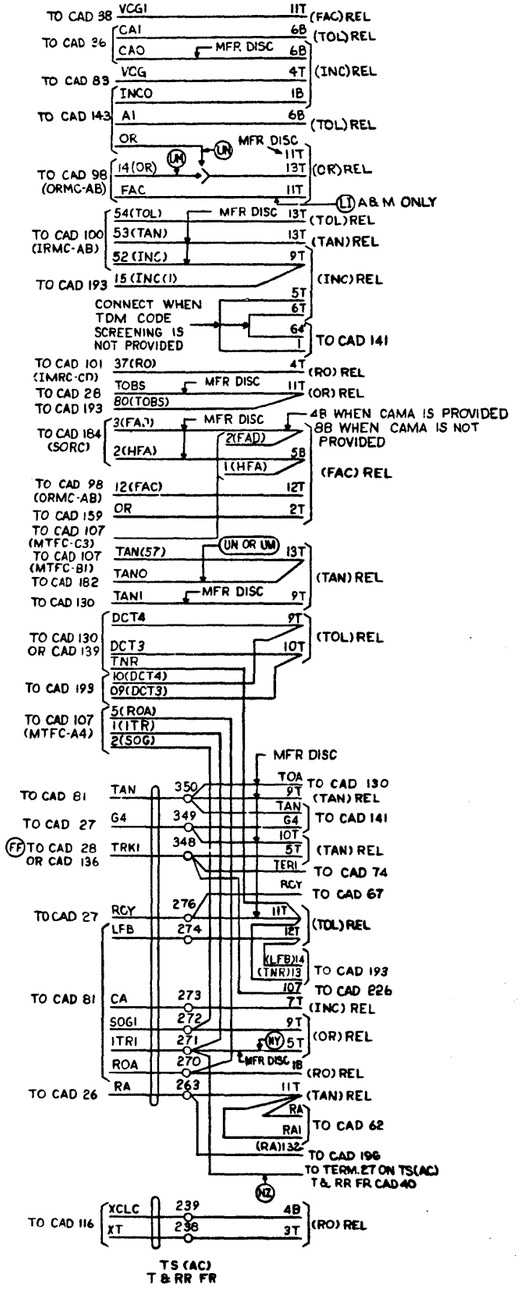
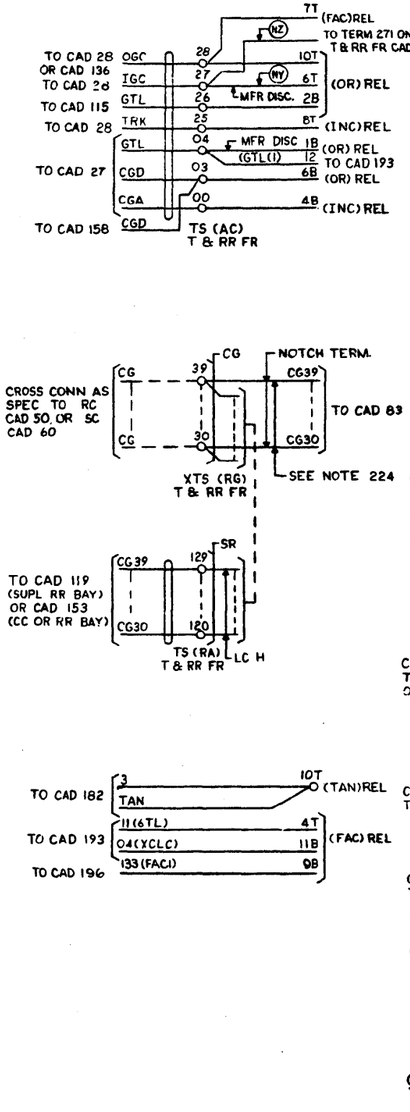
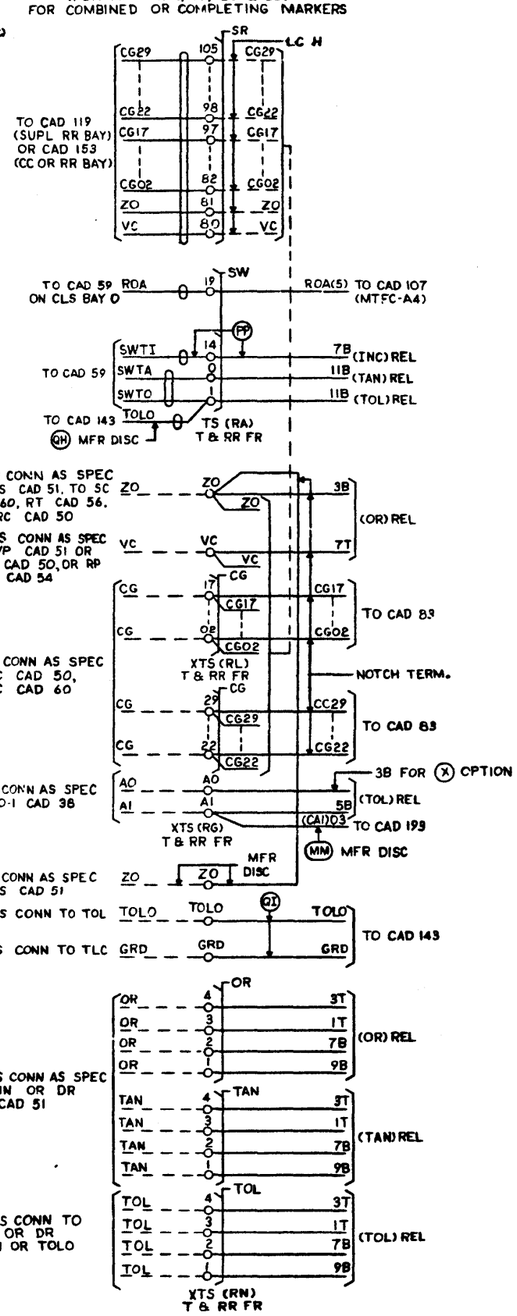
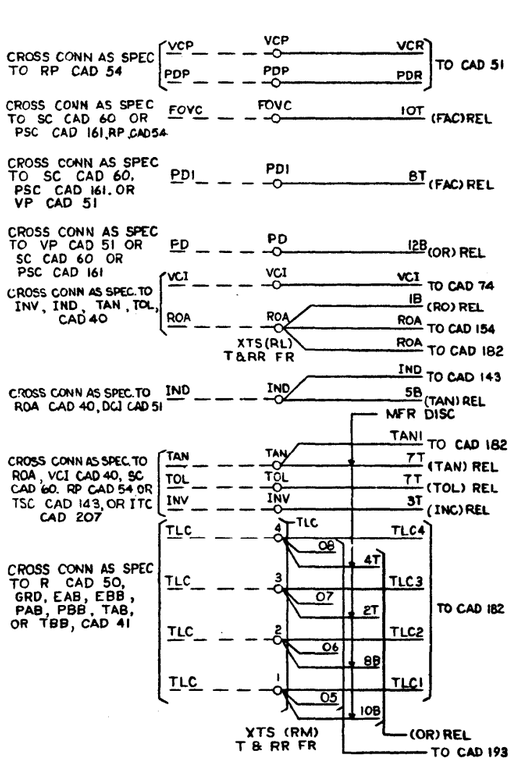
CAD 40

(FOR APP FIG. 43, 158, BC & BD)
FOR COMBINED OR COMPLETING MARKERS









DRAWING ISSUE	
41D	MRS LMW
47D	MRS LMW MRS JEK
54D	LMW MRS

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MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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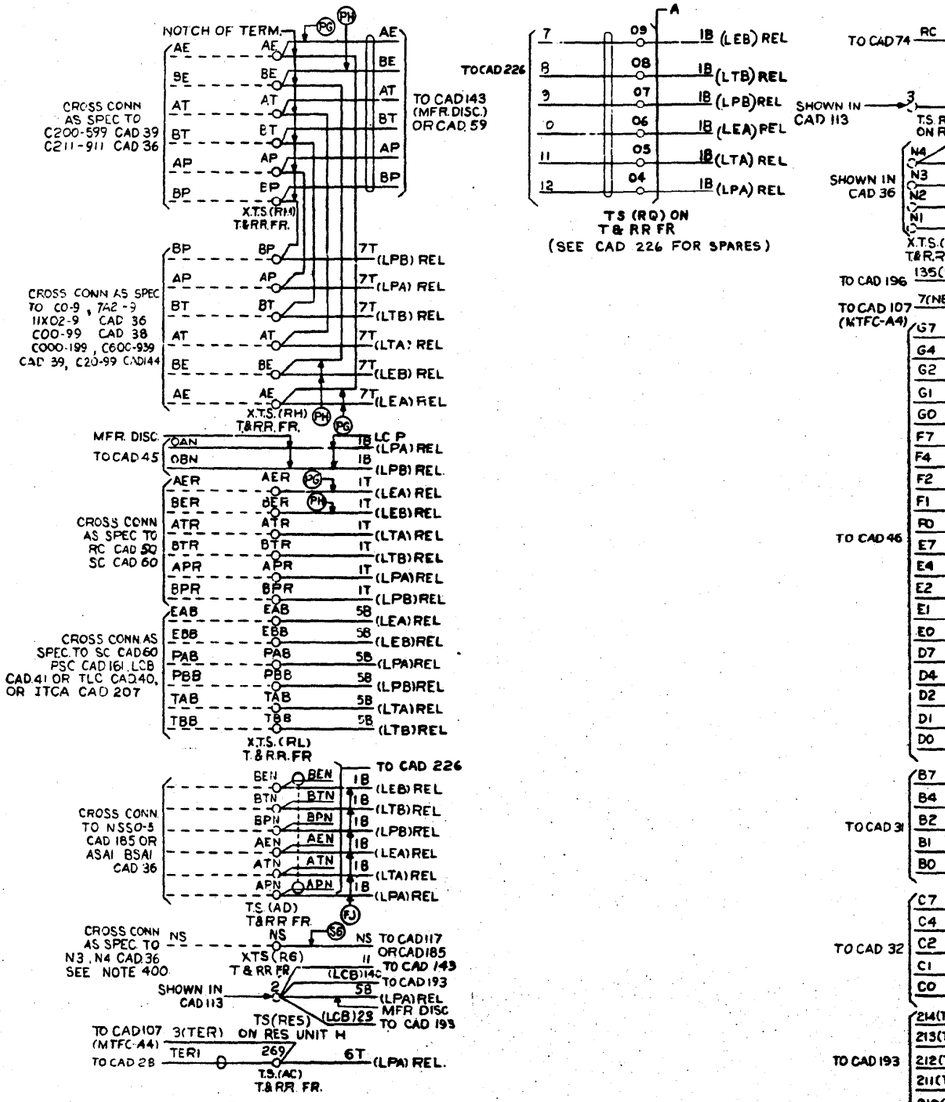
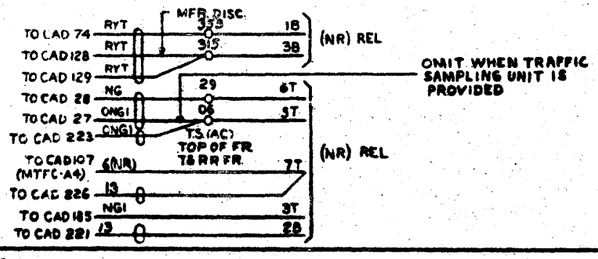
CAD 41

(FOR APP. FIG. 44)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS



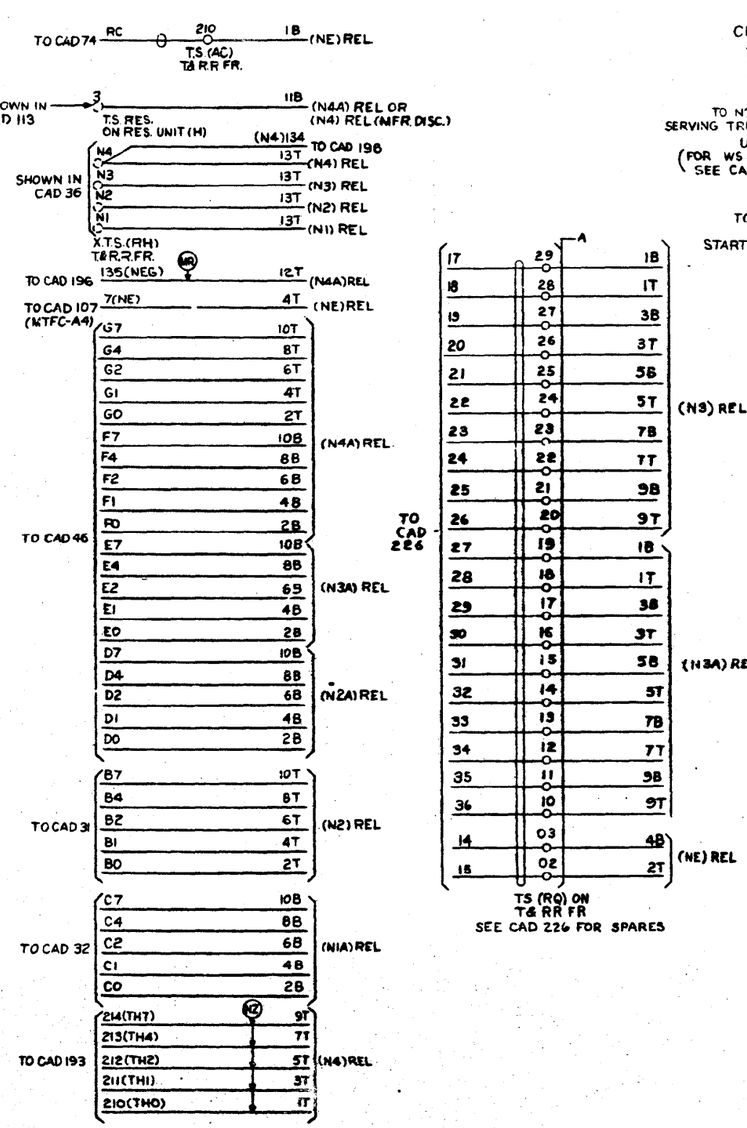
CAD 42

(FOR APP FIG. 45)
FOR COMBINED OR COMPLETING MARKERS



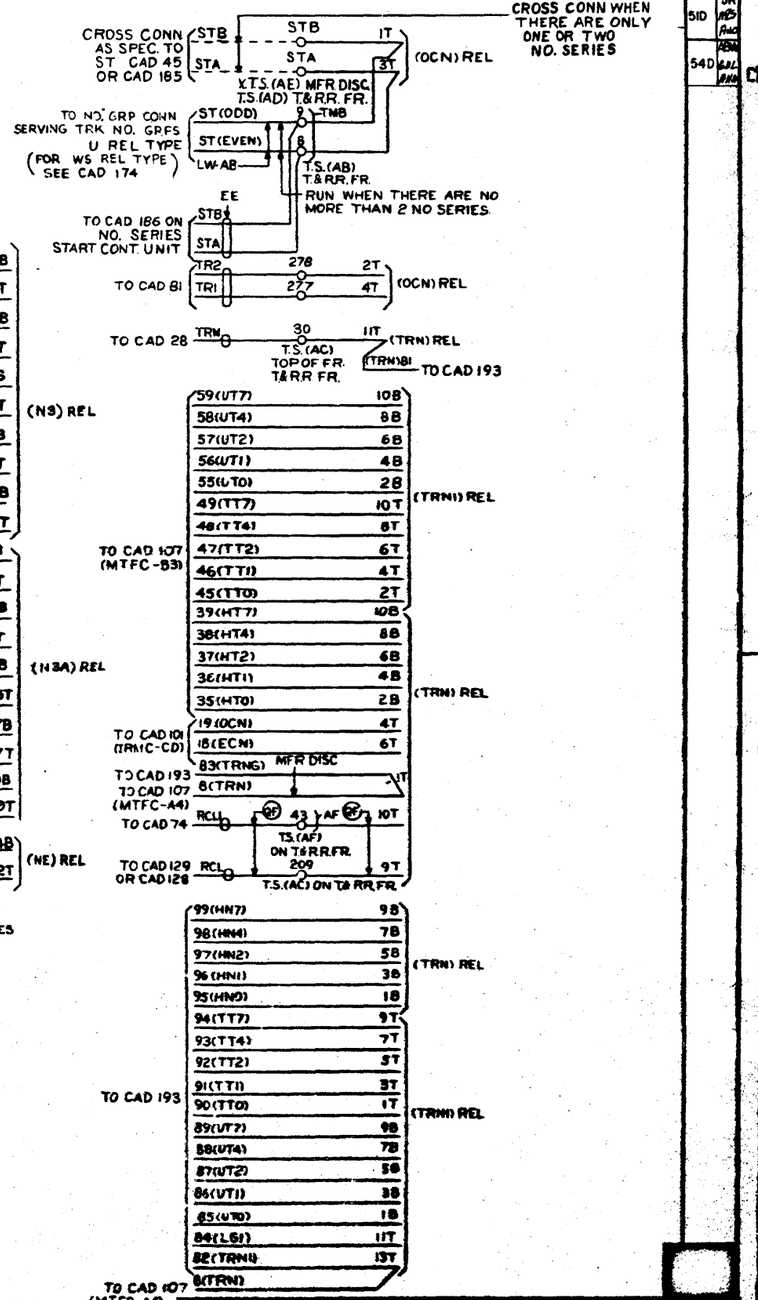
CAD 43

(FOR APP. FIG. 46)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS



CAD 44

(FOR APP FIG. 47)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS

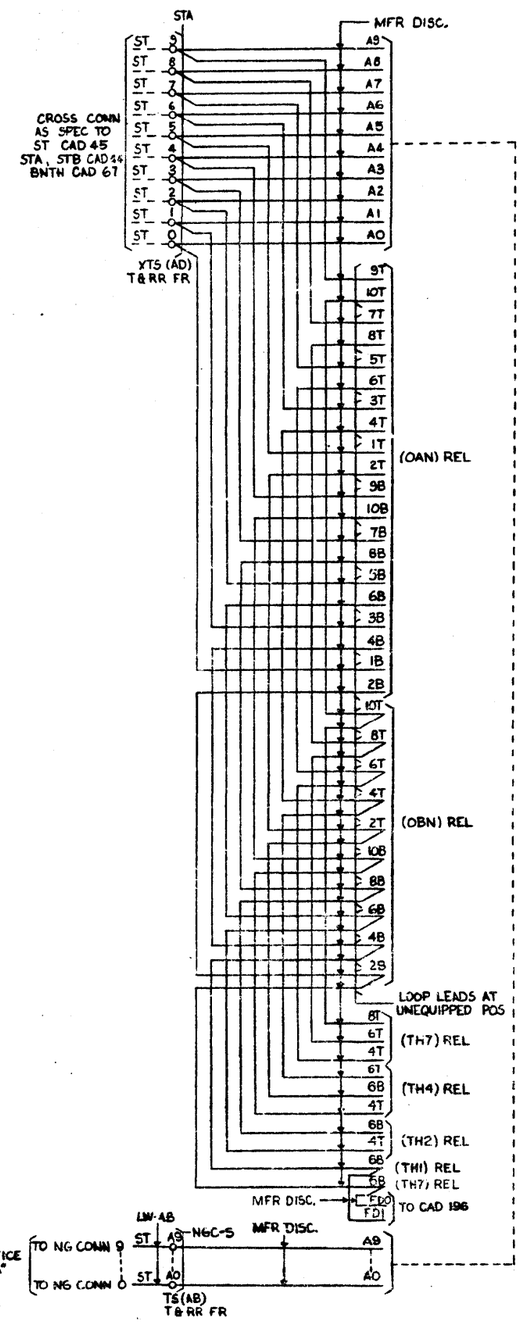


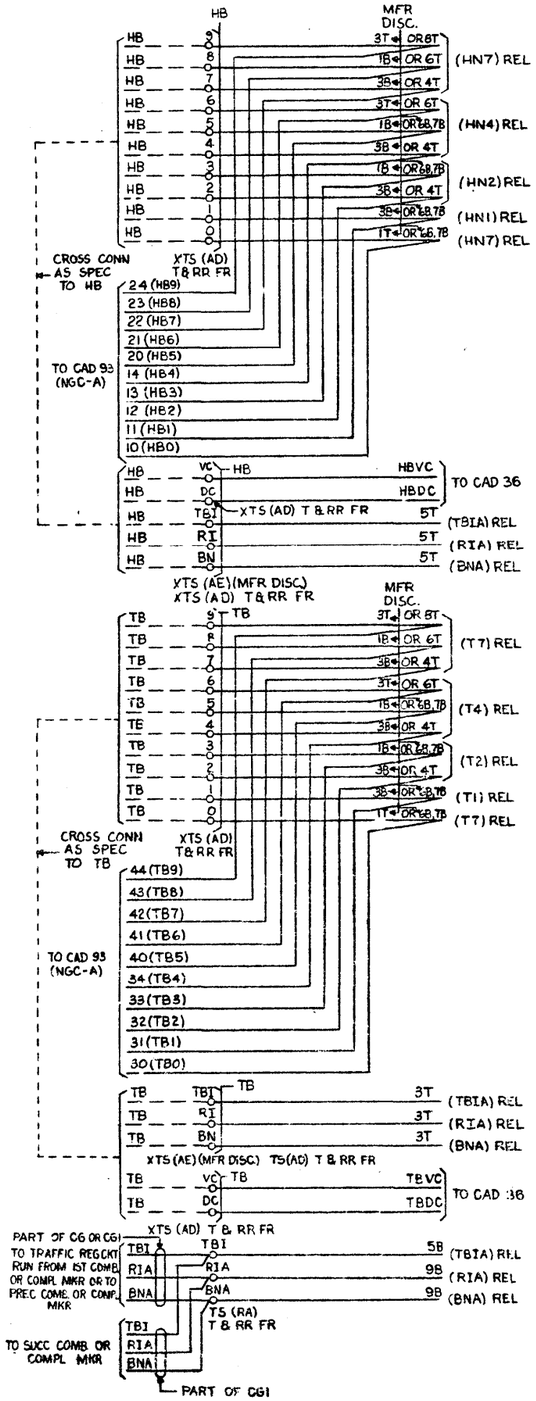
PART OF CAD 45

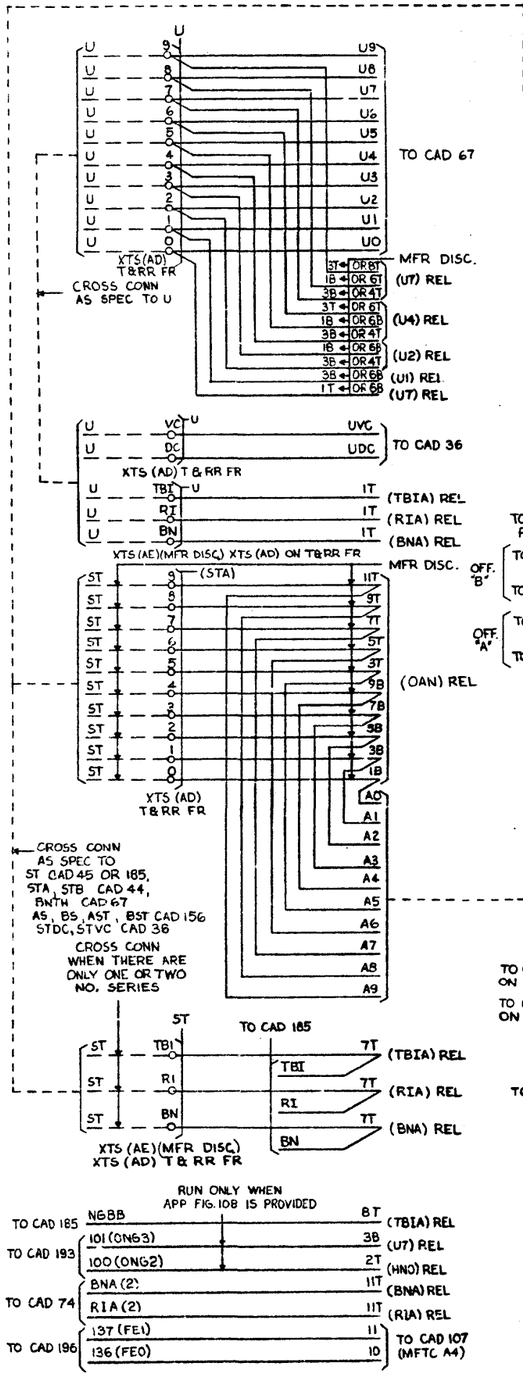
(FOR APP FIG. 48 & 108)

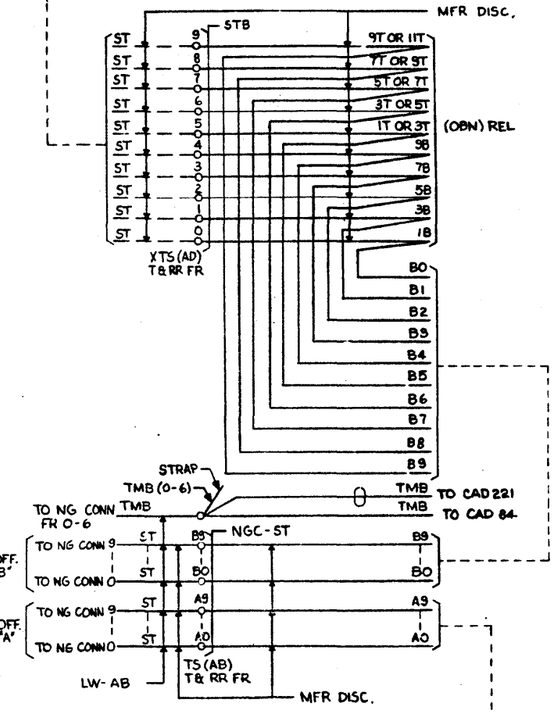
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS

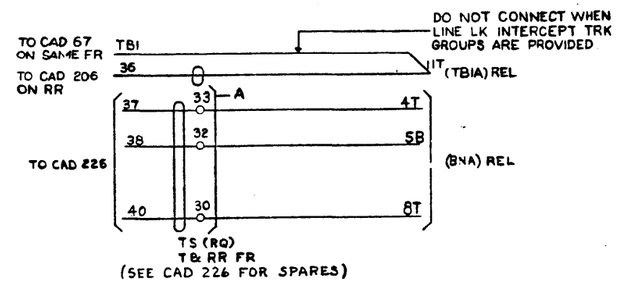
DRAWING ISSUE	
41D	MFR
47D	
51D	
54D	
56D	SAV











MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

6S

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PART OF CAD 45

(FOR APP FIG. 48 & 108)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS

TO BASIC PBX ALLOTTER FR THA
THA
THA(I)
PBX ALLR
05
CH
16
THA
THA (II)
TO CAD 110
TO CAD 77
PART OF DM
57
TS(CH) ON COM.EQPT FR
AF
LC P
TO CAD 196 HBS(I)
OBNI 66
OBN 65
OANI 64
OAN 63
PBX ALLR
11T (TH7) REL
OBN TO CAD 41 OR 132
OBNI
13T (OBN) REL
OBN
OAN TO CAD 41 OR 132
OANI
13T (OAN) REL
OAN
MFR DISC.
TO CAD 36
TO BASIC PBX ALLOTTER FR
UO 60 6B (U7) REL
TBA 50 11T (T7) REL
HBA 49 11T (HNT) REL
UBB 48 2T (TBIA) REL
UBS 47 9T (U4) REL
UBB TO CAD 226
TBB TO CAD 226
TBB 46 4T (TBIA) REL
TBS 45 9T (T4) REL
TO BASIC PBX ALLOTTER FR OR TO CAD 226
HBS 44 9T (HN4) REL
HBB 43
NGS 42 9T (TH4) REL
NGB 41
NGBA 40
MFR DISC. 2T (OAN) REL
NGBA TO CAD 185
TBA9 39 1T
TBA8 38 9B (T7) REL
TBA7 37 10T (TO) REL
TBA6 36 9B (T2) REL
TBA5 35 3B (T1) REL
TBA4 34 4B (TO) REL
TBA3 33 9B (T1) REL
TBA2 32 1B (TO) REL
TRA1 31 9B
TBA0 30 9B (T4) REL
HBA9 29 1T
HBA8 28 9B (HN7) REL
TO BASIC PBX ALLOTTER FR
HBA7 27 10T (HNO) REL
HBA6 26 9B (HN2) REL
HBA5 25 1B (HN1) REL
HBA4 24 4B (HNO) REL
HBA3 23 9B (HN1) REL
HBA2 22 1B (HNO) REL
HBA1 21 9B
HBA0 20 9B (HN4) REL
THA9 19 1T
THA8 18 9B (TH7) REL
THA7 17 10T (THO) REL
THA6 16 9B (TH2) REL
THA5 15 1B (TH1) REL
THA4 14 4B (THO) REL
THA3 13 9B (TH1) REL
THA2 12 1B
THA1 11 9B (THO) REL
THA0 10 9B (TH4) REL
TS(AF) ON T&RR FR
LC P

PBX ALLR
TH9 08 8T
TH8 07 6T (TH7) REL
TH7 06 4T
TH6 05 6T
TH5 04 7B (TH4) REL
TH4 03 4T
TH3 02 7B (TH2) REL
TH2 01 4T
TH1 00 7B (TH1) REL
TH0 7B (TH7) REL
(FDI)139
(FDO)138 TO CAD 196
TO BASIC PBX ALLOTTER FRAME
TO CAD 186 ON NO. SERIES START CONT UNIT
EF TS (AF) ON T&RR FR.

MFR DISC.
PART OF CR
TO CAD 11 HBS 442
2T (HN4) REL
9T (HN4) REL
6T (TBIA) REL
9T (TBIA) REL
TO CAD 28 PTK 31
TO CAD 27 TNS OR CAD 226 PART OF BV
07
TS (AC) T&RR FR
2T (THO) REL
9T (TH4) REL
TNS TO CAD 67
SU,SK
DO NOT CONNECT WHEN AIS IS PROVIDED
TO CAD 27 ONGI
2T (THO) REL

CAD 46

(FOR APP FIG. 49)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS

LOOP AT UNEQUIPPED POS
49(G7) 10T
48(G4) 8T
47(G2) 6T
46(G1) 4T
45(GC) 2T
39(F7) 10B (KFG) REL
38(F4) 8B
37(F2) 6B
36(F1) 4B
35(FO) 2B
TO CAD 98 (ORMC-AB)
29(E7) 10T
28(E4) 8T
27(E2) 6T
26(E1) 4T
25(EO) 2T
19(D7) 10B (KDE) REL
18(D4) 8B
17(D2) 6B
16(D1) 4B
15(DO) 2B
G7
G4
G2
G1
GO
F7
F4
F2
F1
FO
TO CAD 43
E7
E4
E2
E1
EO
D7
D4
D2
D1
DO

TO CAD 225 33 331 2T (KK) REL
TO CAD 115 TSR
TO CAD 85 J7 554 10T (KHJ) REL
J7(8)
TO CAD 101 (IRMC-CD)
TO CAD 82 XN 237 1B (KK) REL
TO CAD 115 LG 34 5B
TO CAD 29 CK 32 1B (ORK2) REL
TS(AC) TOP OF FR T&RR FR
LCP
TO BASIC PBX ALLOTTER FR XN 62 PBX ALLR
TS(AF) T&RR FR
CROSS CONN AS SPEC TO SKD-9 CAD 69, PRV CAD 122 OR SKDD-1 CAD 167
SA SA 9B (A7) REL
SAB SAB 9B (B7) REL
SABC SABC 9B (C7) REL
XTS (AD) T&RR FR
TO CAD 226 111 54 B 11B (KFG) REL
TS (RQ) ON T & RR FR

TO CAD 105 (OSC-B)
44(L7) 9T (KKL) REL
43(L4) 6T (L4) REL
42(L2) 6T (L2) REL
41(L1) 6T (L1) REL
40(LO) 6T (LO) REL
11B (KHJ) REL
34(K7) 9B (KKL) REL
33(K4) 6T (K4) REL
32(K2) 6T (K2) REL
31(K1) 6T (K1) REL
30(KO) 6T (KO) REL
24(J7) 9T (KHJ) REL
23(J4) 6T (J4) REL
22(J2) 6T (J2) REL
21(J1) 6T (J1) REL
20(JO) 6T (JO) REL
11B (KFG) REL
14(H7) 9B (KHJ) REL
13(H4) 6T (H4) REL
12(H2) 6T (H2) REL
11(H1) 6T (H1) REL
10(HO) 6T (HO) REL
TO CAD 104 (OSC-A)
59(G7) 9T (KFG) REL
58(G4) 6T (G4) REL
57(G2) 6T (G2) REL
56(G1) 6T (G1) REL
55(GO) 6T (GO) REL
11B (KDE) REL
49(F7) 9B (KFG) REL
48(F4) 6T (F4) REL
47(F2) 6T (F2) REL
46(F1) 6T (F1) REL
45(FO) 6T (FO) REL
39(E7) 9T (KDE) REL
38(E4) 6T (E4) REL
37(E2) 6T (E2) REL
36(E1) 6T (E1) REL
35(EO) 6T (EO) REL
5(TSR)
TO CAD 104 (OSC-A)
TO CAD 226
55 59 A 9B
56 58 9T
57 57 7B
58 56 7T
59 55 5B
60 54 5T
61 53 3B (KDE) REL
62 52 3T
63 51 1B
64 50 1T
65 49 9B
66 48 9T (KFG) REL
67 47 7B
68 46 7T
TS(RQ) ON T&RR FR
SEE CAD 226 FOR SPARES

29(D7) 6T (D7) REL
28(D4) 6T (D4) REL
27(D2) 6T (D2) REL
26(D1) 6T (D1) REL
25(DO) 6T (DO) REL
44(C7) 6T (C7) REL
43(C4) 6T (C4) REL
42(C2) 6T (C2) REL
41(C1) 6T (C1) REL
40(CO) 6T (CO) REL
34(B7) 6T (B7) REL
33(B4) 6T (B4) REL
32(B2) 6T (B2) REL
31(B1) 6T (B1) REL
30(BO) 6T (BO) REL
24(A7) 6T (A7) REL
23(A4) 6T (A4) REL
22(A2) 6T (A2) REL
21(A1) 6T (A1) REL
20(AO) 6T (AO) REL
54(M7) 11B (KKL) REL
TO CAD 104 (OSC-A)
44(L7) 10T
43(L4) 8T
42(L2) 6T
41(L1) 4T
40(LO) 2T
34(K7) 10B (KKL) REL
33(K4) 8B
32(K2) 6B
31(K1) 4B
30(KO) 2B
54(M7) 12B
23(J4) 8T
22(J2) 6T
21(J1) 4T
20(JO) 2T (KHJ) REL
TO CAD 102 (ORMC-E)
58(H4) 8B
57(H2) 6B
56(H1) 4B
55(HO) 2B
TO CAD 98 (ORMC-AB)
TO CAD 98 (ORMC-AB) 59(H7) 10B (KHJ) REL
TO CAD 123 K6 7T (KG) REL
TO CAD 193 102(ORK1) 4T (ORK1) REL
69 45 A 5B
70 44 5T
71 43 3B
72 42 3T (KFG) REL
73 41 1B
74 40 1T
41 35 5T (KA) REL
TO CAD 226
TO CAD 29 05T2 34 3B (ORK2) REL
TS(RQ) ON T&RR FR
SEE CAD 226 FOR SPARES

ISSUE
41D
54D
56D
MFD
CB
A

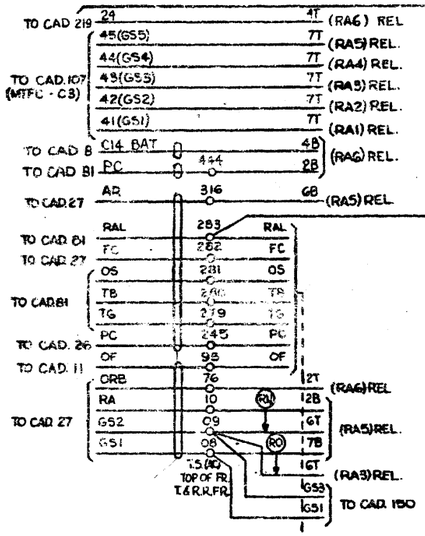
MARKER CIRCUIT (2)
SD-25550-01-G27
56
BELL TELEPHONE LABORATORIES INCORPORATED
65

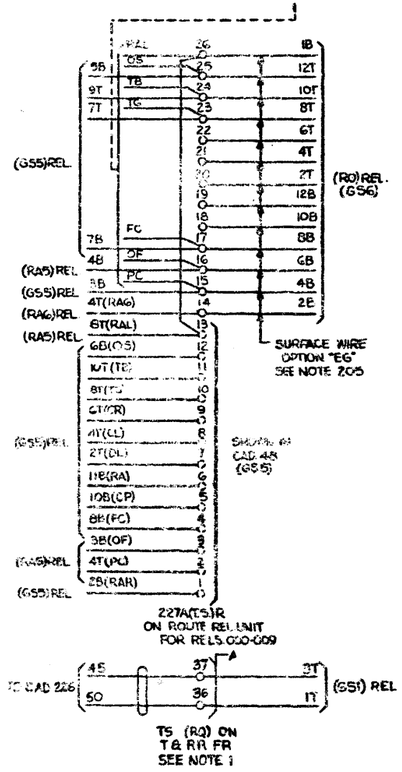
SD-25550-01-G27

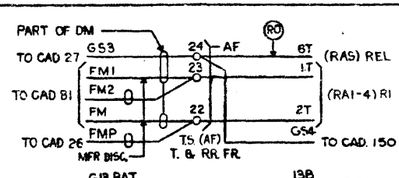
0 1 2 3 4 5 6 7 8 9

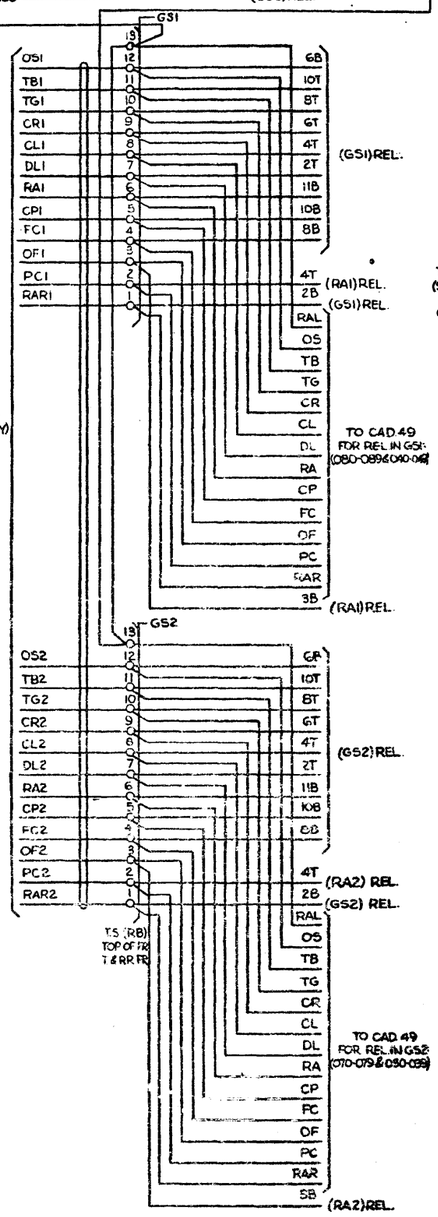
CAD 47

(FOR APP FIGS. 50,51 & 52)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS

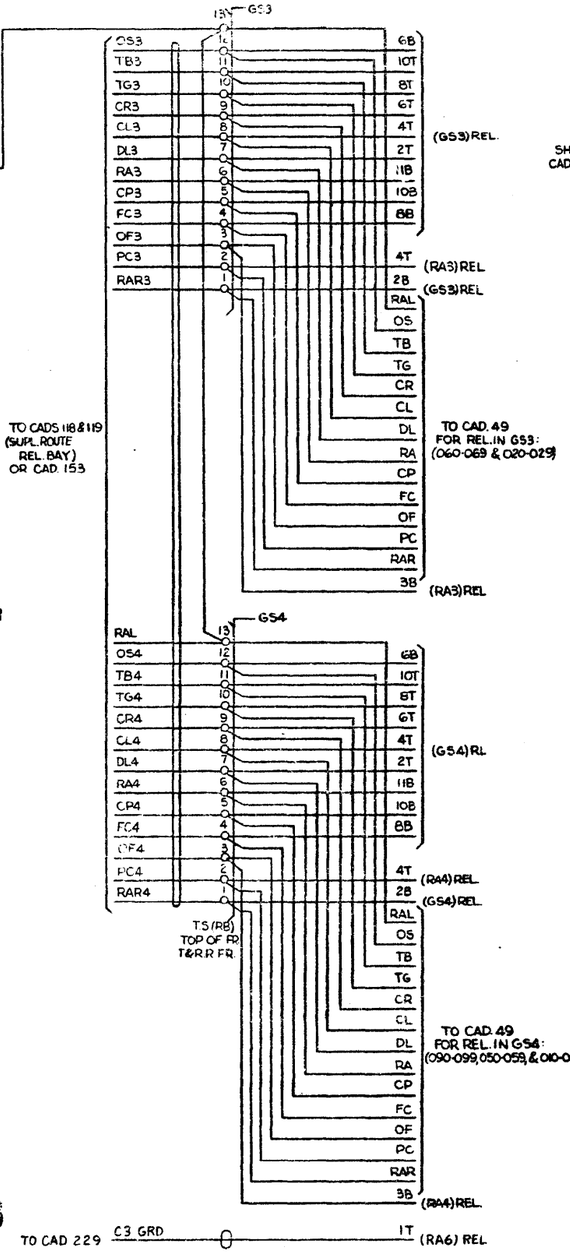






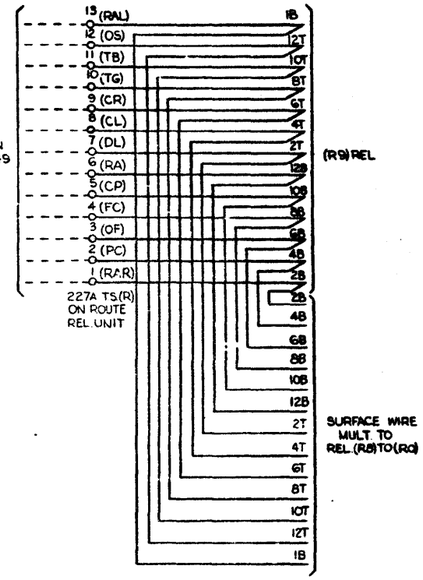


TO CADS 118 & 119 (SUPL. ROUTE REL. BAY) OR CAD 153



TO CAD. 49 FOR REL. IN GS3: (060-069 & 020-029)

TO CAD. 49 FOR REL. IN GS4: (090-099, 050-059, & 010-019)



SHOWN IN CADS. 47 & 49

CAD 48

(FOR APP. FIG. 51)
FOR G.S GRPS 1-5
SEE NOTE 205
FOR COMBINED OR COMPLETING MARKERS

41D
49D
54D
56D

SHEET NOTES:
1. SEE CAD 226 FOR SPARES

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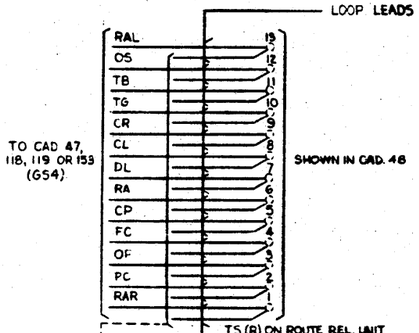
MARKER CIRCUIT (2)
SD-25550-01-G28
BELL TELEPHONE LABORATORIES INCORPORATED
6S
56

CAD 49

(FOR APP. FIG. 51)
FOR COMBINED OR COMPLETING MARKERS

DRAWING ISSUE
41D

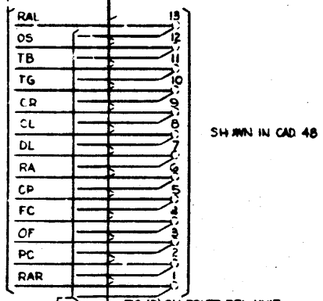
LOOP LEADS AT UNEQUIPPED POSITIONS



TO CAD 47, 118, 119 OR 153 (GS4)

SHOWN IN CAD. 48

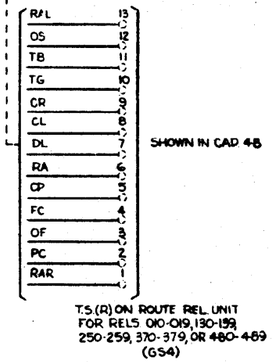
T.S.(R) ON ROUTE REL. UNIT FOR RELS. 090-099, 210-219, 330-339, OR 560-569 (GS4)



TO CAD 119 (GS4) FOR RELS. 410-419 ONLY

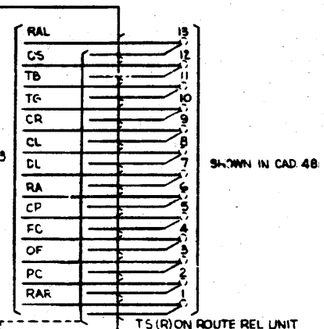
SHOWN IN CAD 48

T.S.(R) ON ROUTE REL. UNIT FOR RELS. 050-059, 170-179, 290-299, 410-419 OR 520-529 (GS4)



SHOWN IN CAD 48

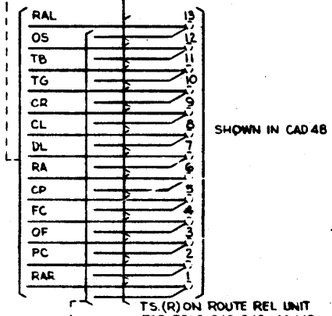
T.S.(R) ON ROUTE REL. UNIT FOR RELS. 010-019, 130-139, 250-259, 370-379, OR 480-489 (GS4)



TO CAD 47, 118, 119 OR 153 (GS1)

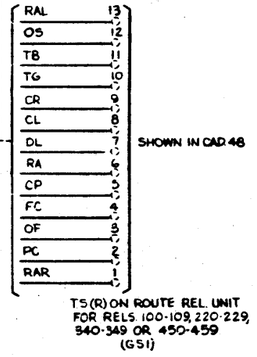
SHOWN IN CAD 48

T.S.(R) ON ROUTE REL UNIT FOR RELS 080-089, 180-189, 300-309, 420-429, OR 580-589 (GS1)



SHOWN IN CAD 48

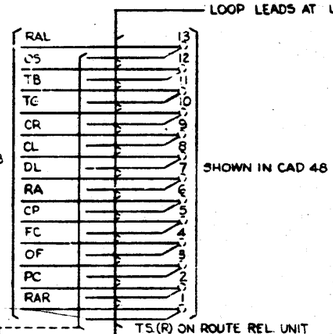
T.S.(R) ON ROUTE REL UNIT FOR RELS 040-049, 140-149, 260-269, 380-389 OR 490-499 (GS1)



SHOWN IN CAD 48

T.S.(R) ON ROUTE REL. UNIT FOR RELS. 100-109, 220-229, 340-349 OR 450-459 (GS1)

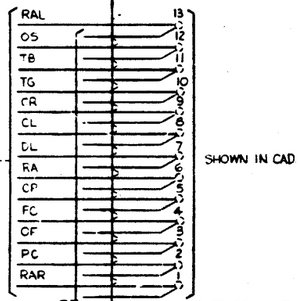
LOOP LEADS AT UNEQUIPPED POSITIONS



TO CAD 47, 118, 119 OR 153 (GS2)

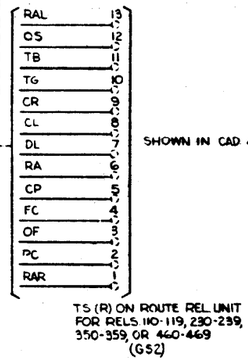
SHOWN IN CAD 48

T.S.(R) ON ROUTE REL. UNIT FOR RELS 070-079, 190-199, 310-319, 430-439, OR 540-549 (GS2)



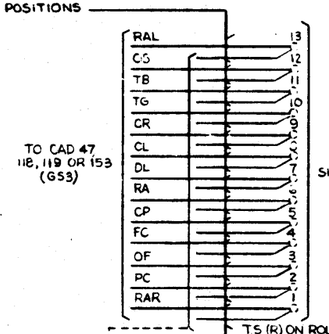
SHOWN IN CAD 48

T.S.(R) ON ROUTE REL UNIT FOR RELS 030-039, 150-159, 270-279, 390-399 OR 500-509 (GS2)



SHOWN IN CAD 48

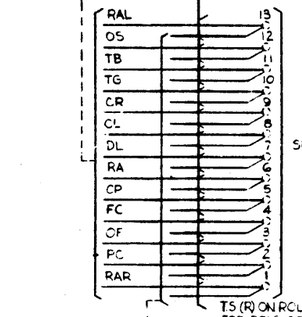
T.S.(R) ON ROUTE REL. UNIT FOR RELS. 110-119, 230-239, 350-359, OR 460-469 (GS2)



TO CAD 47, 118, 119 OR 153 (GS3)

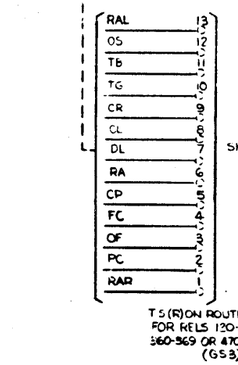
SHOWN IN CAD 48

T.S.(R) ON ROUTE REL UNIT FOR RELS 060-069, 200-209, 320-329, 440-449 OR 550-559 (GS3)



SHOWN IN CAD 48

T.S.(R) ON ROUTE REL UNIT FOR RELS 020-029, 160-169, 280-289, 400 409 OR 510-519 (GS3)



SHOWN IN CAD 48

T.S.(R) ON ROUTE REL UNIT FOR RELS 120-129, 240-249, 360-369 OR 470-479 (GS3)

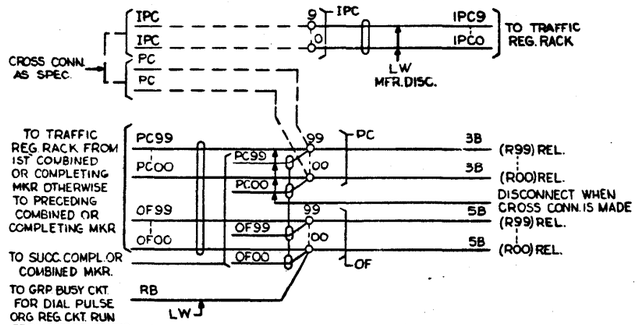
41

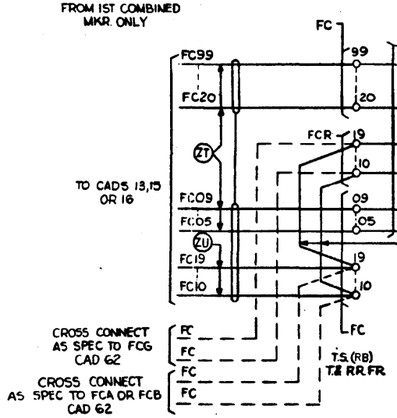
NO. 5 MARKER CIRCUIT	SD-25550-01-G29
BELL TELEPHONE LABORATORIES INCORPORATED	6S

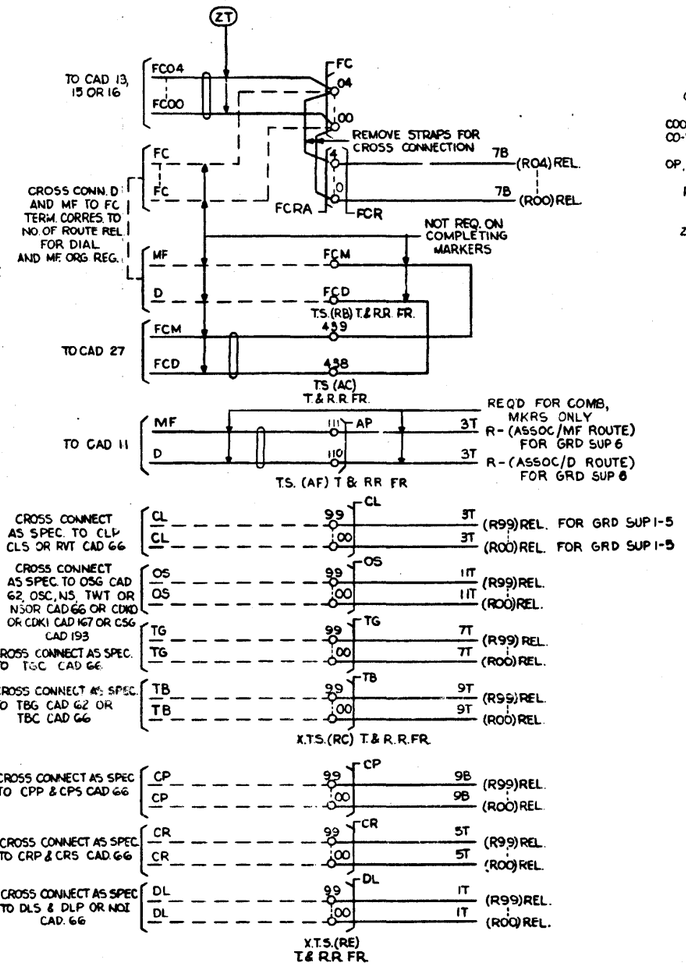
SD-25550-01-G29

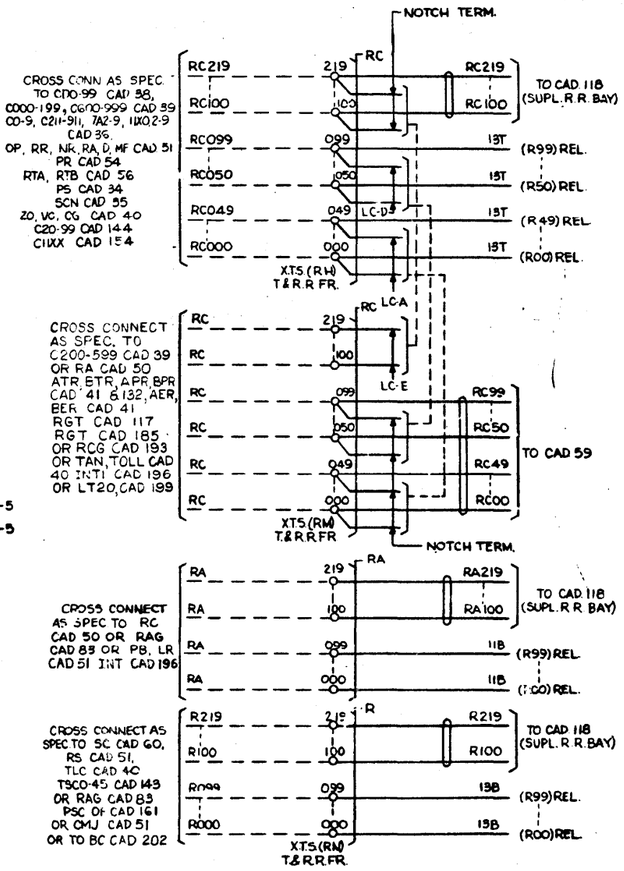
CAD 50

(FOR APP. FIGS. 51, 52 & 90)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS









DRAWING ISSUE		
41D	WTA	AWD
45B	DEC	
	WLL	
46D	GWL	
	GWL	
	ADP	
51D	JEG	
	WD	
	AMD	
54D	CF	
	GDL	
	AAP	

SD-25550-01-630

54

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

2

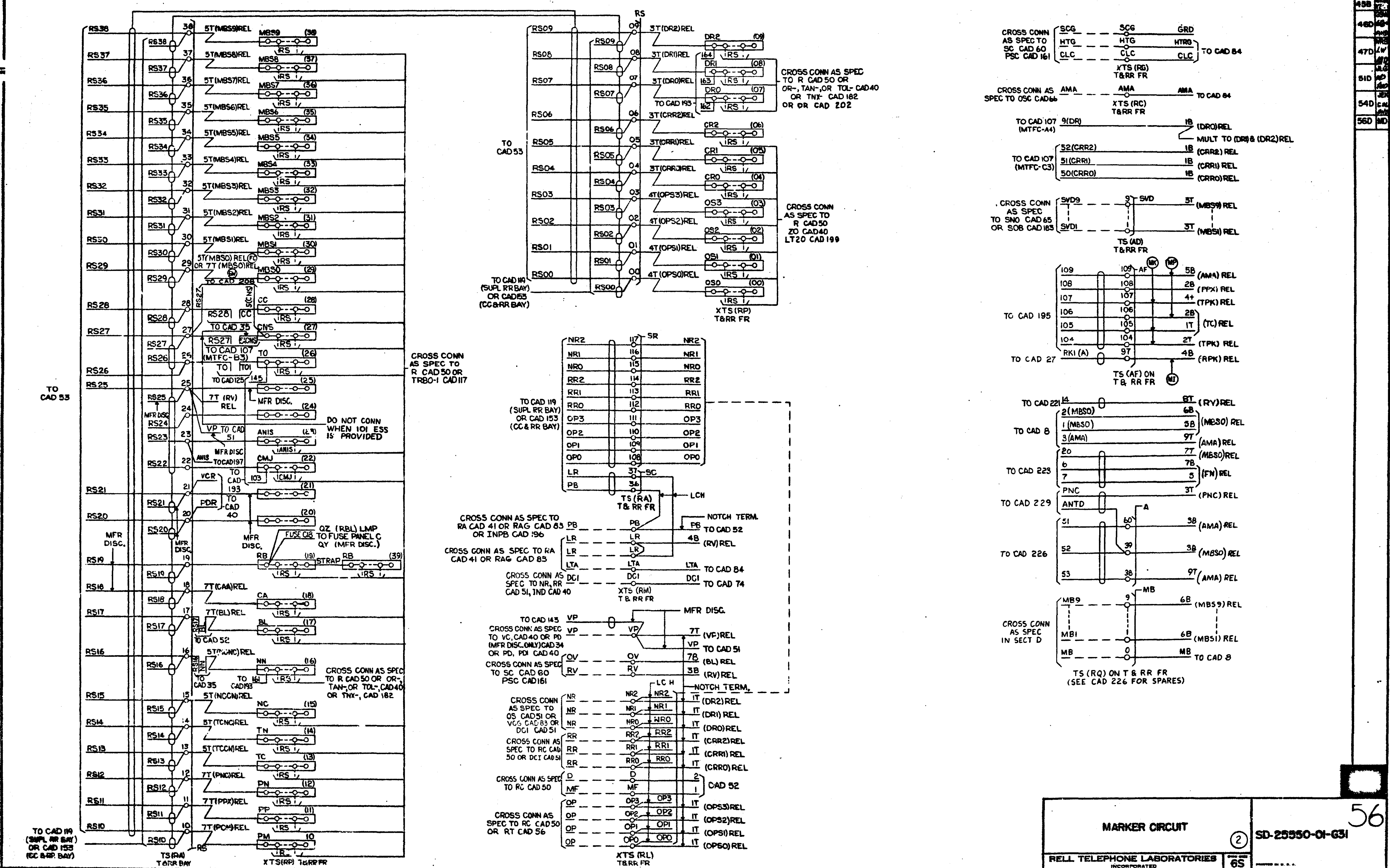
6S

SD-25550-01-630

CAD 51

FOR APP FIG 53, 54, 56, 57, 50, 62, 159, 167 & AR
SEE NOTE 219

FOR COMBINED OR COMPLETING MARKERS



MARKER CIRCUIT

RELL TELEPHONE LABORATORIES INCORPORATED

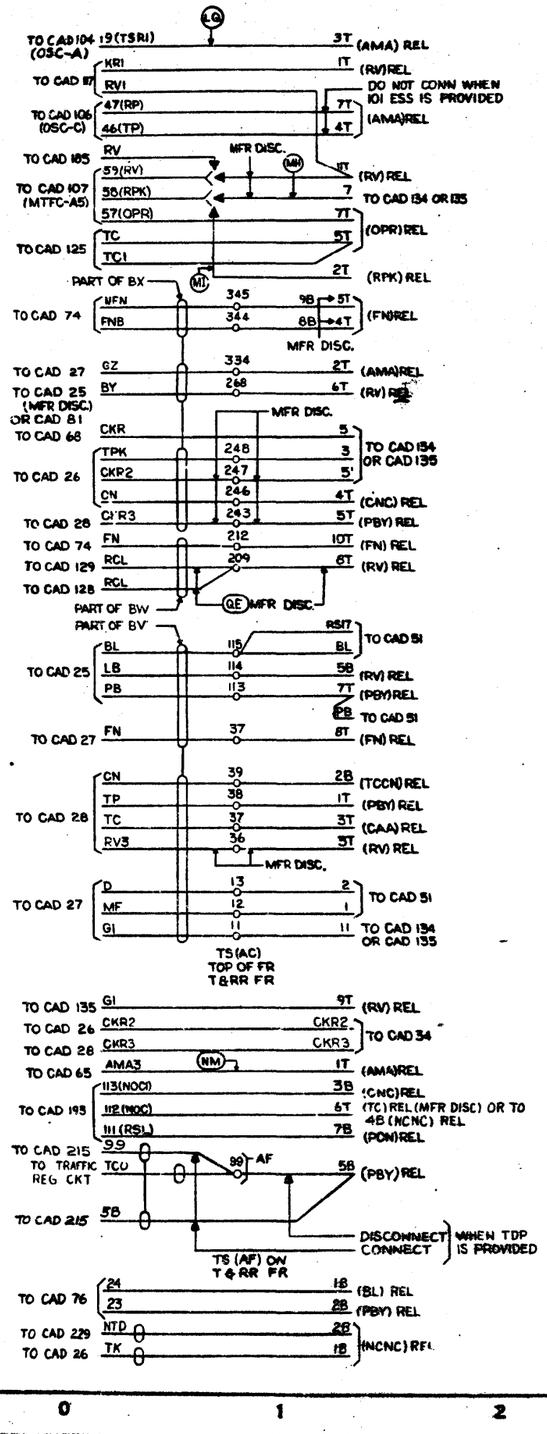
6S

② SD-25550-01-G31

56

CAD 52

(FOR APP FIGS 55,56 & 62.)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS

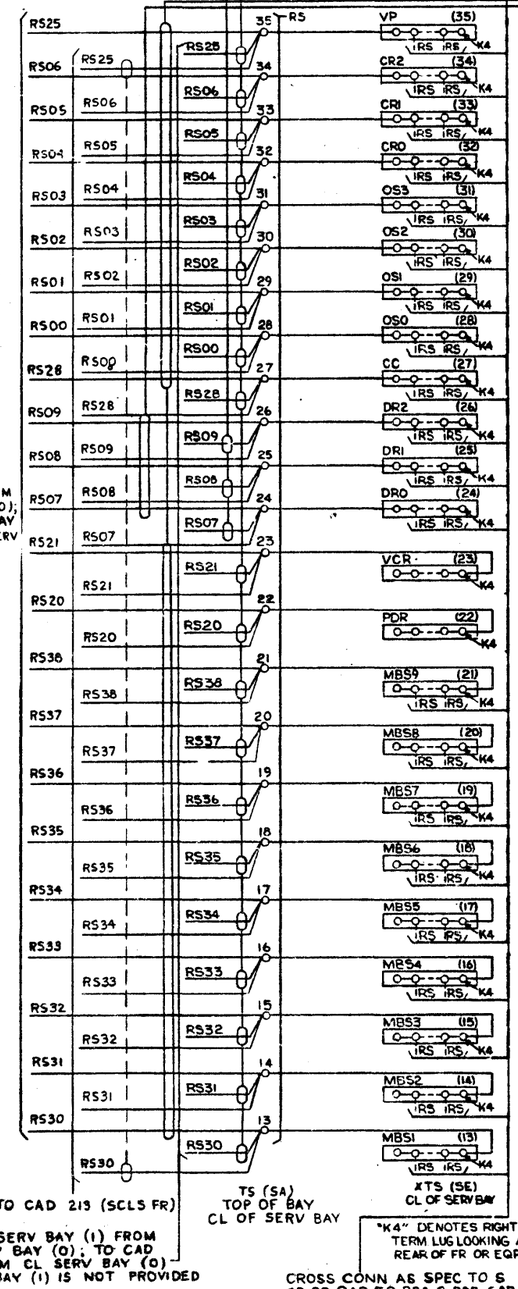


CAD 53

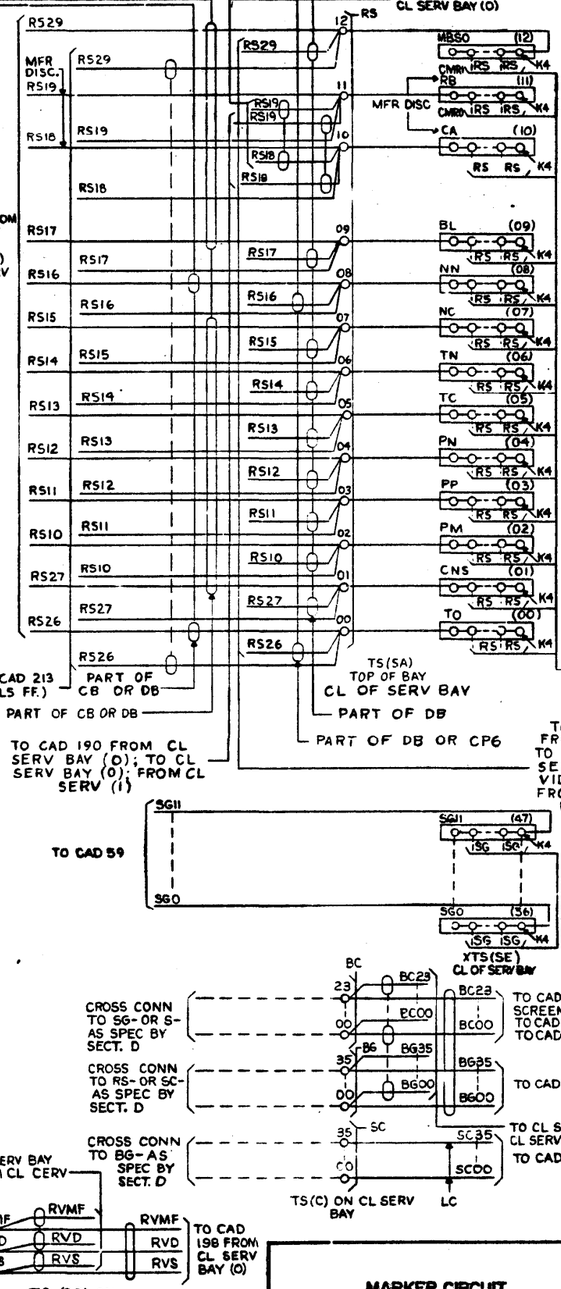
ONE PER MARKER CL OF SERV BAY
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS

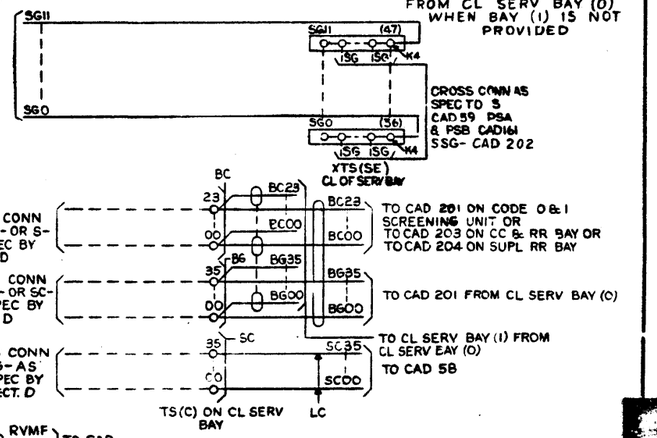
CROSS CONN AS SPEC TO S OR SG CAD 59 PSA & PSB CAD 161

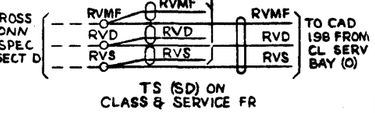
TO CAD 51 FROM CL SERV BAY (0); TO CL SERV BAY (0) FROM CL SERV BAY (1)



TO CAD 51 FROM CL SERV BAY (0); TO CL SERV BAY (0) FROM CL SERV BAY (1)







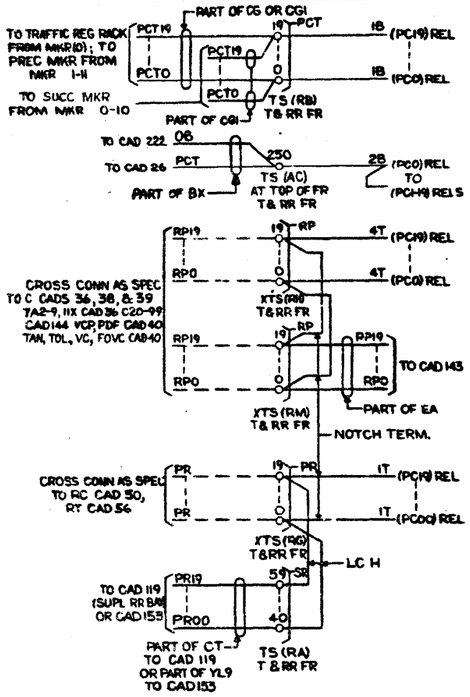
DRAWING ISSUE	
41D	
43B	
47D	
48D	
49D	
50A	
51D	
55A	
56D	

MARKER CIRCUIT (2)
SD-25550-01-632
BELL TELEPHONE LABORATORIES INCORPORATED
65
56

CAD 54

(FOR APP FIG 53)
SEE NOTE 219

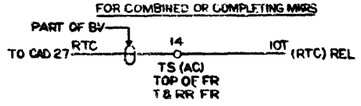
FOR COMBINED OR COMPLETING MKR



CAD 55

(FOR APP FIG 59)

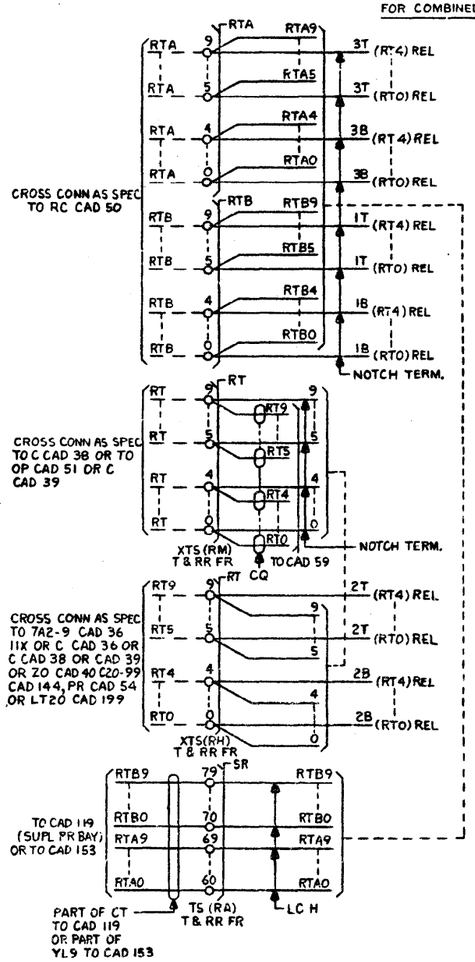
FOR COMBINED OR COMPLETING MKRS

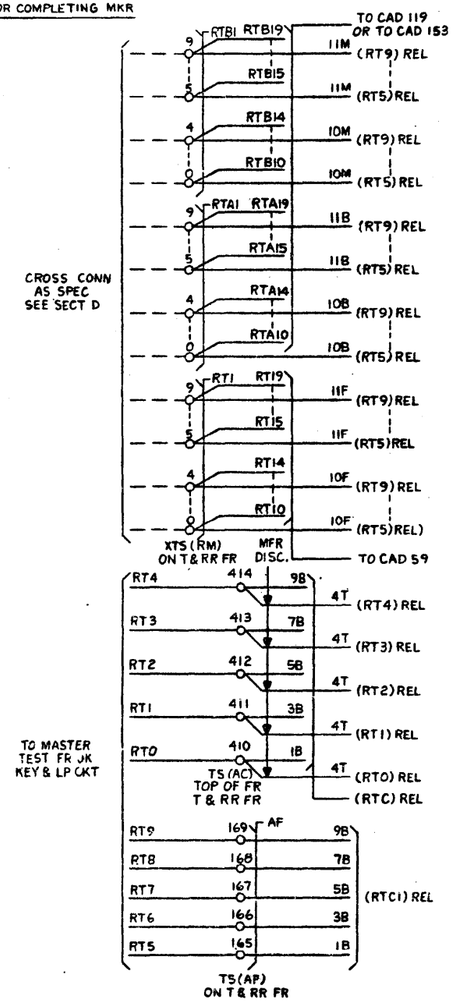


CAD 56

(FOR APP FIG 60)
SEE NOTE 219

FOR COMBINED OR COMPLETING MKR

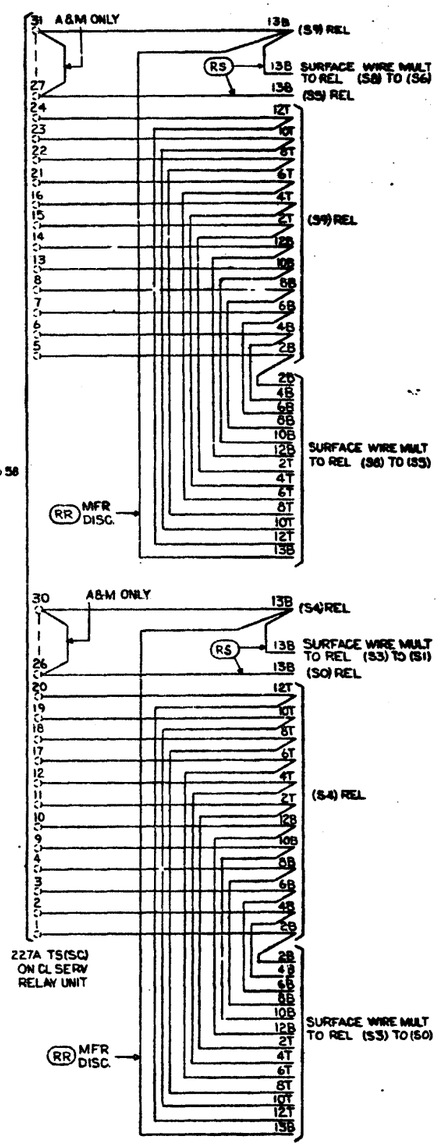




CAD 57

(FOR APP FIG. 61)

FOR COMBINED OR COMPLETING MKR



DRAWING ISSUE

41D	
46D	
51D	
56D	MD

SD-25550-01-033

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-033

56

CAD 58

(FOR APP FIG. 61)
SEE NOTE 219
ONE FOR EACH COMBINED OR COMPLETING MARKER

TO CL SERV BAY (1) ST FROM CL SERV BAY (0)

PART OF CB — PART OF DB — SC — TO CAD 58S

TO CAD 58S

RR MFR DISC.

SB18
SB8

ODD MARKERS ↓ EVEN MARKERS ↓

30 OR 31
26 OR 27
20 OR 24
19 OR 23
18 OR 22
17 OR 21
12 OR 16
11 OR 15
10 OR 14
9 OR 13
4 OR 8
3 OR 7
2 OR 6
1 OR 5

TO CAD 218 (SCLS FR)

ST — 9S — LC

SC35 SC34 SC33 SC32 SC31 SC30 SC29 SC28 SC27 SC26 SC25 SC24 SC23 SC22 SC21 SC20 SC19 SC18 SC17 SC16 SC15 SC14 SC13 SC12 SC11 SC10 SC9 SC8 SC7 SC6 SC5 SC4 SC3 SC2 SC1 SC0

TS (SC) FOR RELAYS (540 - 544) OR (5140 - 5144)

SHOWN ON CAD 57

TO CAD 58D

LOOP WHEN REL 40-44 ARE NOT EQPT

TO CAD 60 FROM CL SERV BAY (0) TO CL SERV BAY (0) FROM CL SERV BAY (1)

TO CL SERV BAY (1) FROM CL SERV BAY (0) TO CAD 190 FROM CL SERV BAY (1) WHEN PROVIDED OR FROM CL SERV BAY (0) WHEN CL SERV BAY (1) IS NOT PROVIDED

TS (SA) CL SERV BAY

TO CAD 53

LOOP LEADS WHEN NOT CONN

TO CAD 58A, 58B OR 58C

LOOP LEADS WHEN NOT CONN

TO CAD 58E, 58F OR 58G

LOOP LEADS WHEN NOT CONN

TO CAD 58J, 58K OR 58L

TAPE ENDS WHEN NOT CONN

TO CAD 58N, 58P OR 58Q

ISSUE
41D
49D
50A

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CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)
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BELL TELEPHONE LABORATORIES INCORPORATED
SHEET 65

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CAD 58A

11, 23, OR 35	20
11', 23', OR 35'	20A
10, 22, OR 34	19
10', 22', OR 34'	19A
9, 21, OR 33	18
9', 21', OR 33'	18A
8, 20, OR 32	17
8', 20', OR 32'	17A
7, 19, OR 31	12
7', 19', OR 31'	12A
6, 18, OR 30	11
6', 18', OR 30'	11A
5, 17, OR 29	10
5', 17', OR 29'	10A
4, 16, OR 28	9
4', 16', OR 28'	9A
3, 15, OR 27	4
3', 15', OR 27'	4A
2, 14, OR 26	3
2', 14', OR 26'	3A
1, 13, OR 25	2
1', 13', OR 25'	2A
0, 12, OR 24	1
0', 12', OR 24'	1A

TO CAD. 58

TO CAD. 58D WHEN SC0-11, SC12-23, OR SC24-35 CONN TO RELS (S30-S39) OR RELS (S130-S139)

CAD 58B

11, 23, OR 35		24
11', 23', OR 35'	A	24A
		23
10, 22, OR 34	B	23A
		22
10', 22', OR 34'	C	22A
		21
9, 21, OR 33	D	21A
		16
9', 21', OR 33'	E	16A
		15
8, 20, OR 32	F	15A
		14
8', 20', OR 32'	G	14A
		13
7, 19, OR 31	H	13A
		8
7', 19', OR 31'	J	8A
		7
6, 18, OR 30	K	7A
		6
6', 18', OR 30'	L	6A
		5
	M	5A

TO CAD. 58

TO CAD. 58D WHEN SC0-11, SC12-23, OR SC24-35 CONN TO RELS (S30-S39) OR RELS (S130-S139)

5, 17, OR 29		20
5', 17', OR 29'	A	20A
		19
4, 16, OR 28	B	19A
		18
4', 16', OR 28'	C	18A
		17
3, 15, OR 27	D	17A
		12
3', 15', OR 27'	E	12A
		11
2, 14, OR 26	F	11A
		10
2', 14', OR 26'	G	10A
		9
1, 13, OR 25	H	9A
		4
1', 13', OR 25'	J	4A
		3
0, 12, OR 24	K	3A
		2
0', 12', OR 24'	L	2A
		1
	M	1A

CAD 58C

11, 23, OR 35 — 24
11', 23', OR 35' — 24A
10, 22, OR 34 — 23
10', 22', OR 34' — 23A
9, 21, OR 33 — 22
9', 21', OR 33' — 22A
8, 20, OR 32 — 21
8', 20', OR 32' — 21A
7, 19, OR 31 — 16
7', 19', OR 31' — 16A
6, 18, OR 30 — 15
6', 18', OR 30' — 15A
5, 17, OR 29 — 14
5', 17', OR 29' — 14A
4, 16, OR 28 — 13
4', 16', OR 28' — 13A
3, 15, OR 27 — 8
3', 15', OR 27' — 8A
2, 14, OR 26 — 7
2', 14', OR 26' — 7A
1, 13, OR 25 — 6
1', 13', OR 25' — 6A
0, 12, OR 24 — 5
0', 12', OR 24' — 5A

TO CAD. 58

TO CAD. 58D WHEN SC0-11, SC12-23, OR SC24-35 CONN TO RELS (S35-S39) OR RELS (S135-S139)

CAD 58D

TO CAL 55 — MFR DISC (RR)

TO CAD. 58S

SB17 — 31
SB7 — 27
24 — 24
24A — 24
23 — 23
23A — 23
22 — 22
22A — 22
21 — 21
21A — 21
16 — 16
16A — 16
15 — 15
15A — 15
14 — 14
14A — 14
13 — 13
13A — 13
8 — 8
8A — 8
7 — 7
7A — 7
6 — 6
6A — 6
5 — 5
5A — 5

SHOWN ON CAD. 57

TO CAD. 58C OR CAD. 58D

TS(SC) ON CL SERV REL UNIT FOR RELS (S30-S39) OR (S130-S139)

LP

SB16 — 30

TO CAD. 58S

SB6 — 26
20 — 20
20A — 20
19 — 19
19A — 19
18 — 18
18A — 18
17 — 17
17A — 17
12 — 12
12A — 12
11 — 11
11A — 11
10 — 10
10A — 10
9 — 9
9A — 9
4 — 4
4A — 4
3 — 3
3A — 3
2 — 2
2A — 2
1 — 1
1A — 1

TO CAD. 58A OR CAD. 58B

MFR DISC (RR)

TO CAD. 58H

CAD 58E

11, 23, OR 35	20
11', 23', OR 35'	20A
10, 22, OR 34	19
10', 22', OR 34'	19A
9, 21, OR 33	18
9', 21', OR 33'	18A
8, 20, OR 32	17
8', 20', OR 32'	17A
7, 19, OR 31	12
7', 19', OR 31'	12A
6, 18, OR 30	11
6', 18', OR 30'	11A
5, 17, OR 29	10
5', 17' OR 29'	10A
4, 16, OR 28	9
4', 16', OR 28'	9A
3, 15, OR 27	4
3', 15', OR 27'	4A
2, 14, OR 26	3
2', 14', OR 26'	3A
1, 13, OR 25	2
1', 13', OR 25'	2A
0, 12, OR 24	1
0', 12', OR 24'	1A

TO CAD. 58

TO CAD. 58H WHEN SC0-11, SC12-23, OR SC24-35 CONN TO RELS (S120-S124) OR RELS (S1120-S1124)

CAD 58F

11, 23 OR 35		24
11', 23', OR 35'	A	24A
		23
10, 22, OR 34	B	23A
		22
10', 22', OR 34'	C	22A
		21
9, 21, OR 33	D	21A
		16
9', 21', OR 33'	E	16A
		15
8, 20, OR 32	F	15A
		14
8', 20', OR 32'	G	14A
		13
7, 19, OR 31	H	13A
		8
7', 19', OR 31'	J	8A
		7
6, 18, OR 30	K	7A
		6
6', 18', OR 30'	L	6A
		5
	M	5A

TO CAD. 58

TO CAD. 58H WHEN SC0-11, SC12-23, OR SC24-35 CONN TO RELS (S20 - S29) OR RELS (S120-S129)

5, 17, OR 29		20
5', 17', OR 29'	A	20A
		19
4, 16, OR 28	B	19A
		18
4', 16', OR 28'	C	18A
		17
3, 15, OR 27	D	17A
		12
3', 15', OR 27'	E	12A
		11
2, 14, OR 26	F	11A
		10
2', 14', OR 26'	G	10A
		9
1, 13, OR 25	H	9A
		4
1', 13', OR 25'	J	4A
		3
0, 12, OR 24	K	3A
		2
0', 12', OR 24'	L	2A
		1
	M	1A

DRAWING ISSUE
4ID

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MARKER CIRCUIT

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CAD 58G

11,23 OR 35	24
11;23' OR 35	24A
10,22 OR 34	23
10;22' OR 34'	23A
9,21 OR 33	22
9;21' OR 33'	22A
8,20 OR 32	21
8;20' OR 32'	21A
7,19 OR 31	16
7;19' OR 31'	16A
6,18 OR 30	15
6;18' OR 30'	15A
5,17 OR 29	14
5;17' OR 29'	14A
4,16 OR 28	13
4;16' OR 28'	13A
3,15 OR 27	8
3;15' OR 27'	8A
2,14 OR 26	7
2;14' OR 26'	7A
1,13 OR 25	6
1;13' OR 25'	6A
0,12 OR 24	5
0;12' OR 24'	5A

TO CAD 58G

TO CAD 58H WHEN SCO-11, SC12-23 OR SC24-35 CONN TO RELS (S25-S29) OR (S125-S129)

CAD 58J

11,23 OR 35	20
11;23' OR 35'	20A
10,22 OR 34	19
10;22' OR 34'	19A
9,21 OR 33	18
9;21' OR 33'	18A
8,20 OR 32	17
8;20' OR 32'	17A
7,19 OR 31	12
7;19' OR 31'	12A
6,18 OR 30	11
6;18' OR 30'	11A
5,17 OR 29	10
5;17' OR 29'	10A
4,16 OR 28	9
4;16' OR 28'	9A
3,15 OR 27	4
3;15' OR 27'	4A
2,14 OR 26	3
2;14' OR 26'	3A
1,13 OR 25	2
1;13' OR 25'	2A
0,12 OR 24	1
0;12' OR 24'	1A

TO CAD 58J

TO CAD 58M WHEN SCO-11, SC12-23 OR SC24-35 CONN TO RELS (S10-S14) OR (S110-S114)

CAD 58L

11,23 OR 35	24
11;23' OR 35'	24A
10,22 OR 34	23
10;22' OR 34'	23A
9,21 OR 33	22
9;21' OR 33'	22A
8,20 OR 32	21
8;20' OR 32'	21A
7,19 OR 31	16
7;19' OR 31'	16A
6,18 OR 30	15
6;18' OR 30'	15A
5,17 OR 29	14
5;17' OR 29'	14A
4,16 OR 28	13
4;16' OR 28'	13A
3,15 OR 27	8
3;15' OR 27'	8A
2,14 OR 26	7
2;14' OR 26'	7A
1,13 OR 25	6
1;13' OR 25'	6A
0,12 OR 24	5
0;12' OR 24'	5A

TO CAD 58L

TO CAD 58M WHEN SCO-11, SC12-23 OR SC24-35 CONN TO RELS (S15-S19) OR (S115-S119)

CAD 58H

TO CAD 58D

MFR DISC. (RR)

SHOWN ON CAD 57

TO CAD 58S

SB15	31
SB5	27
24	24
24A	
23	23
23A	
22	22
22A	
21	21
21A	
16	16
16A	
15	15
15A	
14	14
14A	
13	13
13A	
8	8
8A	
7	7
7A	
6	6
6A	
5	5
5A	

TO CAD 56F OR 58G

LP

TS (SC) FOR RELS (S20-S29) OR (S120-S129)

TO CAD 58S

SB14	30
SB4	26
20	20
20A	
19	19
19A	
18	18
18A	
17	17
17A	
12	12
12A	
11	11
11A	
10	10
10A	
9	9
9A	
4	4
4A	
3	3
3A	
2	2
2A	
1	1
1A	

TO CAD 56E OR 56F

MFR DISC. (RR)

TO CAD 58M

CAD 58K

11,23 OR 35		24
11;23' OR 35'		24A
10,22 OR 34		23
10;22' OR 34'		23A
9,21 OR 33		22
9;21' OR 33'		22A
8,20 OR 32		21
8;20' OR 32'		21A
7,19 OR 31		16
7;19' OR 31'		16A
6,18 OR 30		15
6;18' OR 30'		15A
	A	14
	B	14A
	C	13
	D	13A
	E	8
	F	8A
	G	7
	H	7A
	J	6
	K	6A
	L	5
	M	5A

TO CAD 58

TO CAD 58M WHEN SCO-11, SC12-23 OR SC24-35 CONN TO RELS (S10-S19) OR (S110-S119)

5,17 OR 29		20
5;17' OR 29'		20A
4,16 OR 28		19
4;16' OR 28'		19A
3,15 OR 27		18
3;15' OR 27'		18A
2,14 OR 26		17
2;14' OR 26'		17A
1,13 OR 25		12
1;13' OR 25'		12A
0,12 OR 24		11
0;12' OR 24'		11A
	A	10
	B	10A
	C	9
	D	9A
	E	4
	F	4A
	G	3
	H	3A
	J	2
	K	2A
	L	1
	M	1A

CAD 58M

TO CAD 58H

MFR DISC. (RR)

SHOWN ON CAD 57

TO CAD 58S

SB13	31
SB3	27
24	24
24A	
23	23
23A	
22	22
22A	
21	21
21A	
16	16
16A	
15	15
15A	
14	14
14A	
13	13
13A	
8	8
8A	
7	7
7A	
6	6
6A	
5	5
5A	

TO CAD 56K OR 58L

LP

TS (SC) FOR RELS (S10-S19) OR (S110-S119)

TO CAD 58S

SB12	30
SB2	26
20	20
20A	
19	19
19A	
18	18
18A	
17	17
17A	
12	12
12A	
11	11
11A	
10	10
10A	
9	9
9A	
4	4
4A	
3	3
3A	
2	2
2A	
1	1
1A	

TO CAD 56J OR 56K

(RR) MFR DISC.

TO CAD 58R

DRAWING ISSUE 41D

WECO

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NO. 5 MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

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CAD 58N

	11,23 OR 35	20
	10,22 OR 34	19
	9,21 OR 33	18
	8,20 OR 32	17
	7,19 OR 31	12
TO CAD 58	6,18 OR 30	11
	5,17 OR 29	10
	4,16 OR 26	9
	3,15 OR 27	4
	2,14 OR 26	3
	1,13 OR 25	2
	0,12 OR 24	1

TO CAD 58R WHEN SC0-11, SC12-23 OR SC29-35 CONN TO RELS (S00-S04) OR (S100-S104)

CAD 58Q

	11,23 OR 35	24
	10,22 OR 34	23
	9,21 OR 33	22
	8,20 OR 32	21
	7,19 OR 31	16
TO CAD 58	6,18 OR 30	13
	5,17 OR 29	14
	4,16 OR 26	13
	3,15 OR 27	8
	2,14 OR 26	7
	1,13 OR 25	6
	0,12 OR 24	5

TO CAD 58R WHEN SC0-11, SC12-23 OR SC24-35 CONN TO RELS(S05-S09)

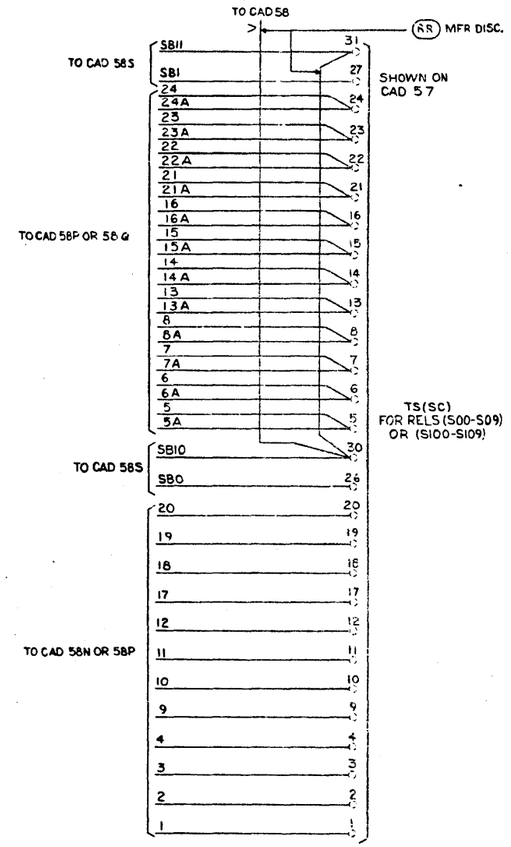
CAD 58P

	11,23 OR 35		24
	10,22 OR 34	A	24A
			23
	9,21 OR 33	B	23A
			22
	8,20 OR 32	C	22A
			21
	7,19 OR 31	D	21A
			16
TO CAD 58	6,18 OR 30	E	16A
			15
	5,17 OR 29	F	15A
			14
	4,16 OR 28	G	14A
			13
	3,15 OR 27	H	13A
			8
	2,14 OR 26	J	8A
			7
	1,13 OR 25	K	7A
			6
	0,12 OR 24	L	6A
			5
		M	5A

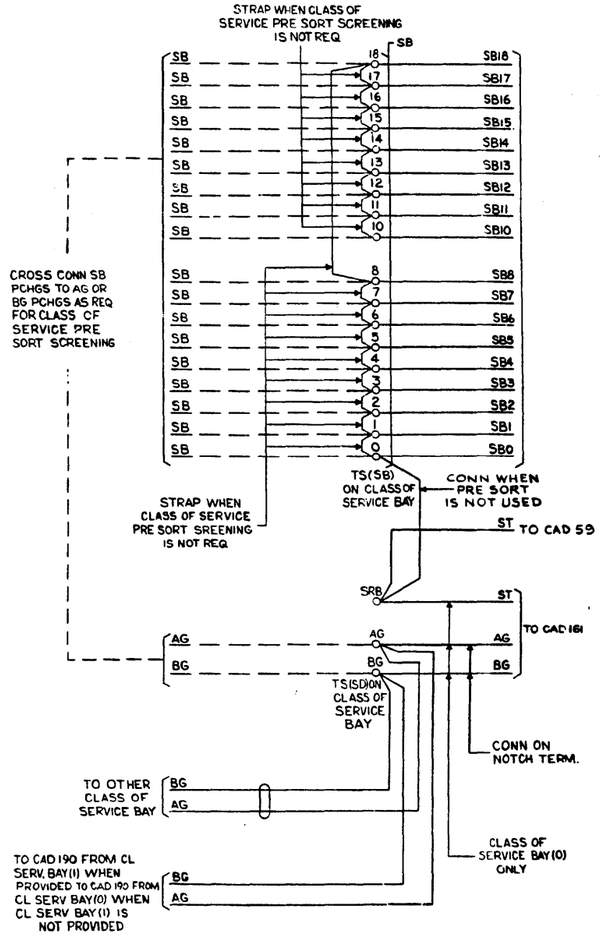
	A	20
	B	19
	C	18
	D	17
	E	12
	F	11
	G	10
	H	9
	J	4
	K	3
	L	2
	M	1

TO CAD 58R WHEN SC0-11, SC12-23 OR SC24-35 CONN TO RELS (S00-S09) OR (S100-S109)

CAD 58R



RS CAD 58S



DRAWING ISSUE
41D
53A

MARKER CIRCUIT (2)
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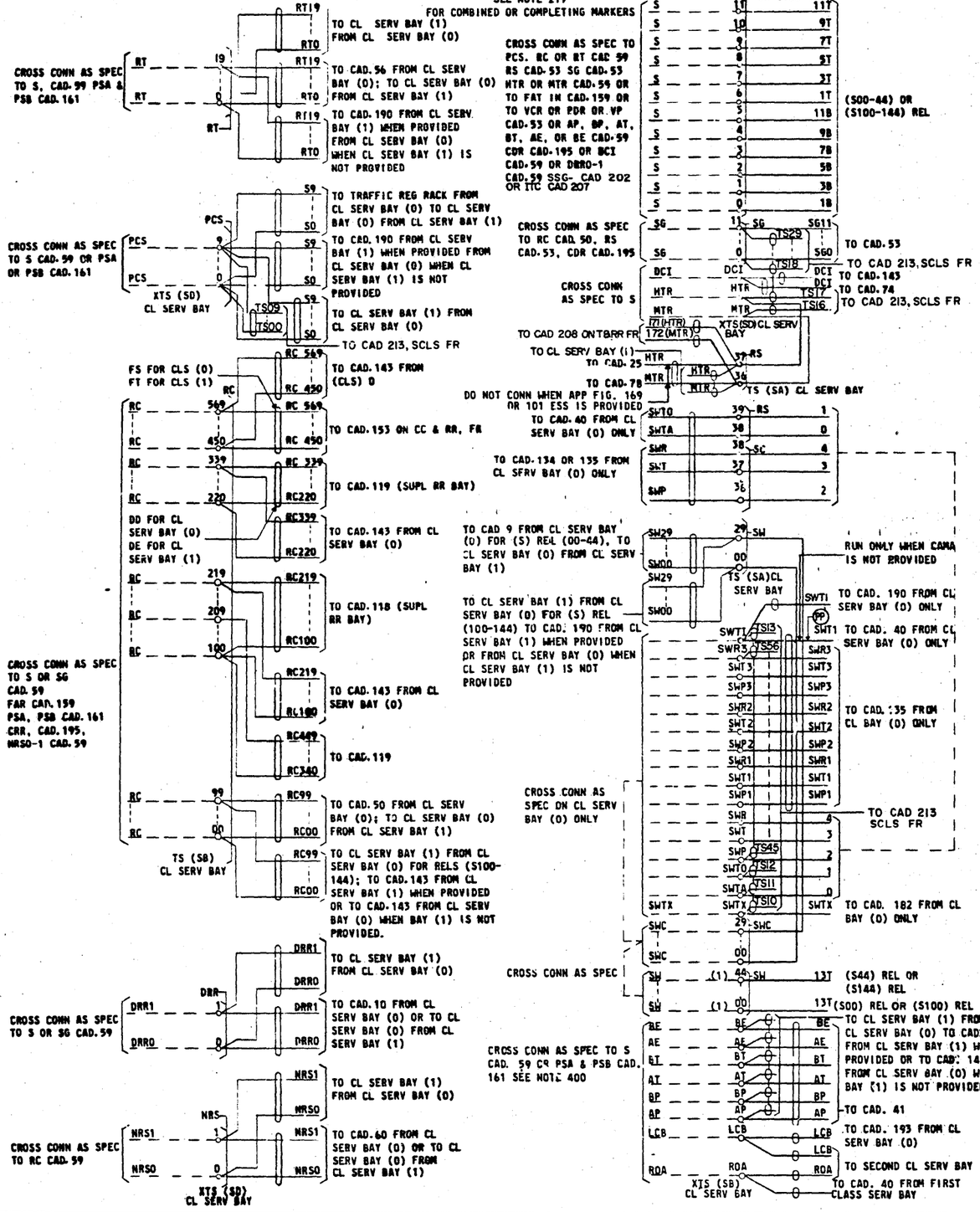
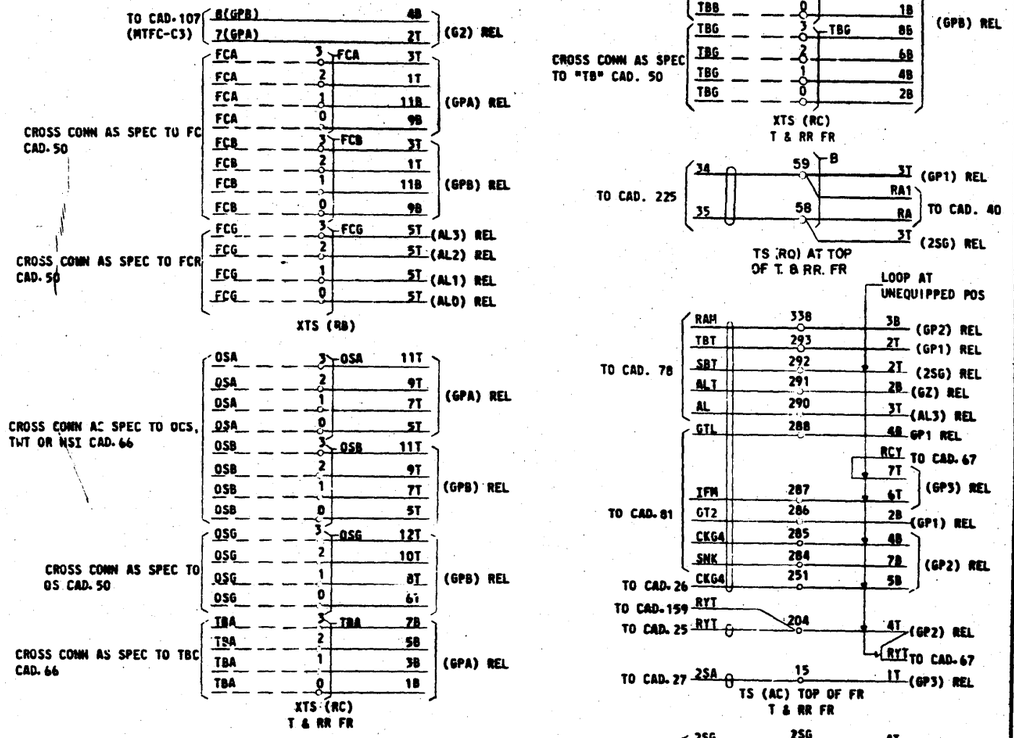
CAD. 59

(FOR APP FIG. 61, 90 & 159)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS



CAD. 62

(FOR APP FIG. 64)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS



CAD. 61

(FOR APP FIG. 63)
FOR COMBINED OR COMPLETING MARKERS

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MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

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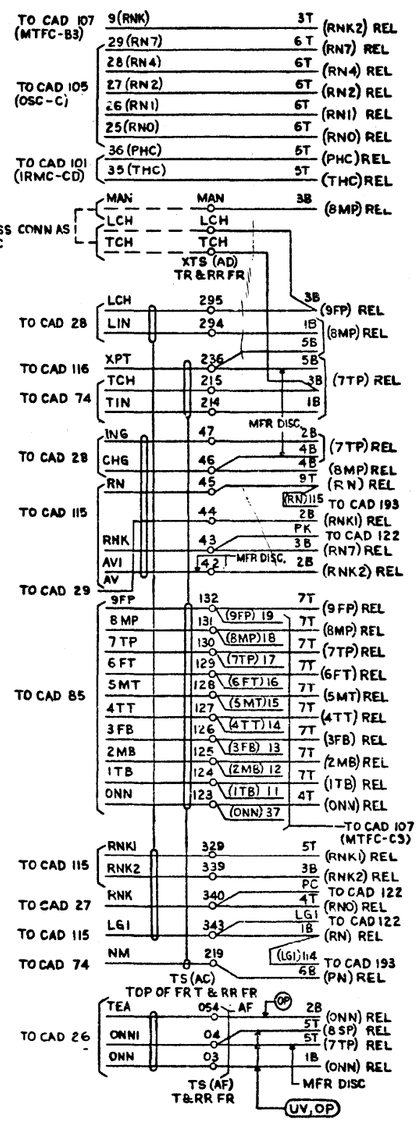
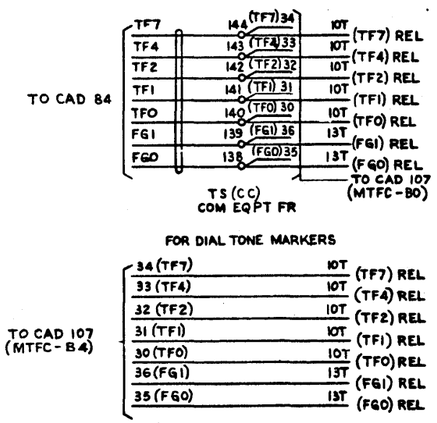
CAD 63 (A&M ONLY)

(FOR APP FIG 65)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS



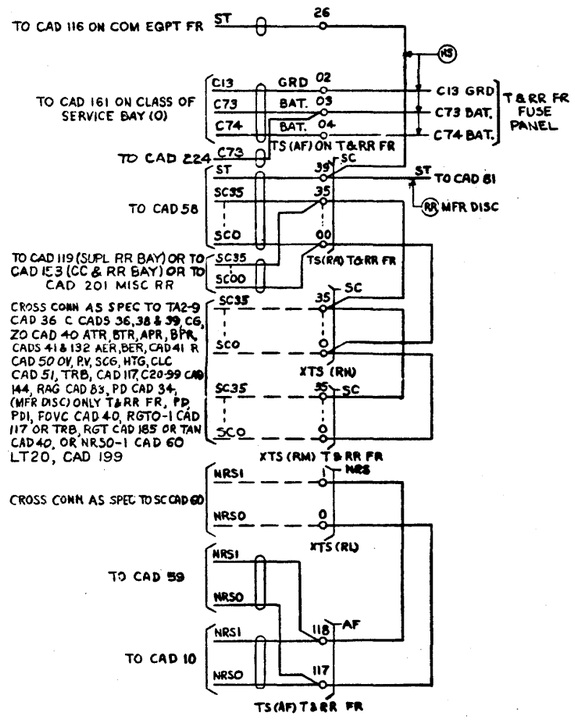
CAD 64

(FOR APP FIG. 66)
FOR COMBINED OR COMPLETING MARKERS

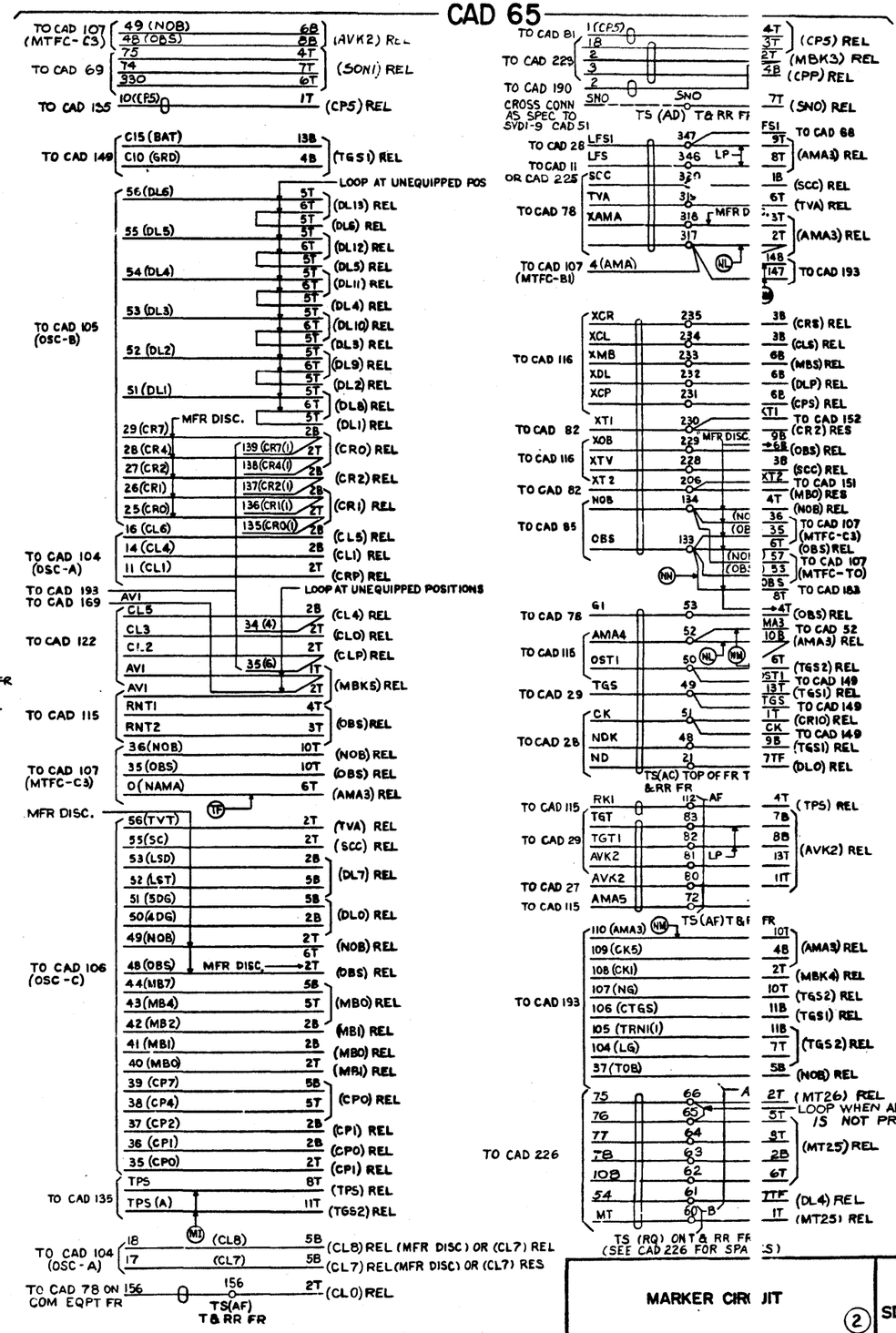


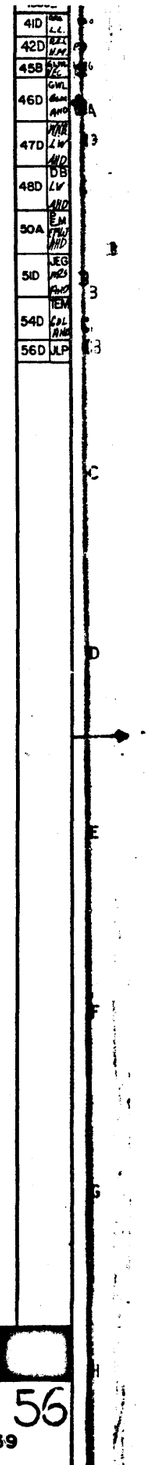
CAD 60

(FOR APP FIG 61)
FOR COMBINED OR COMPLETING MARKERS



CAD 65





MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

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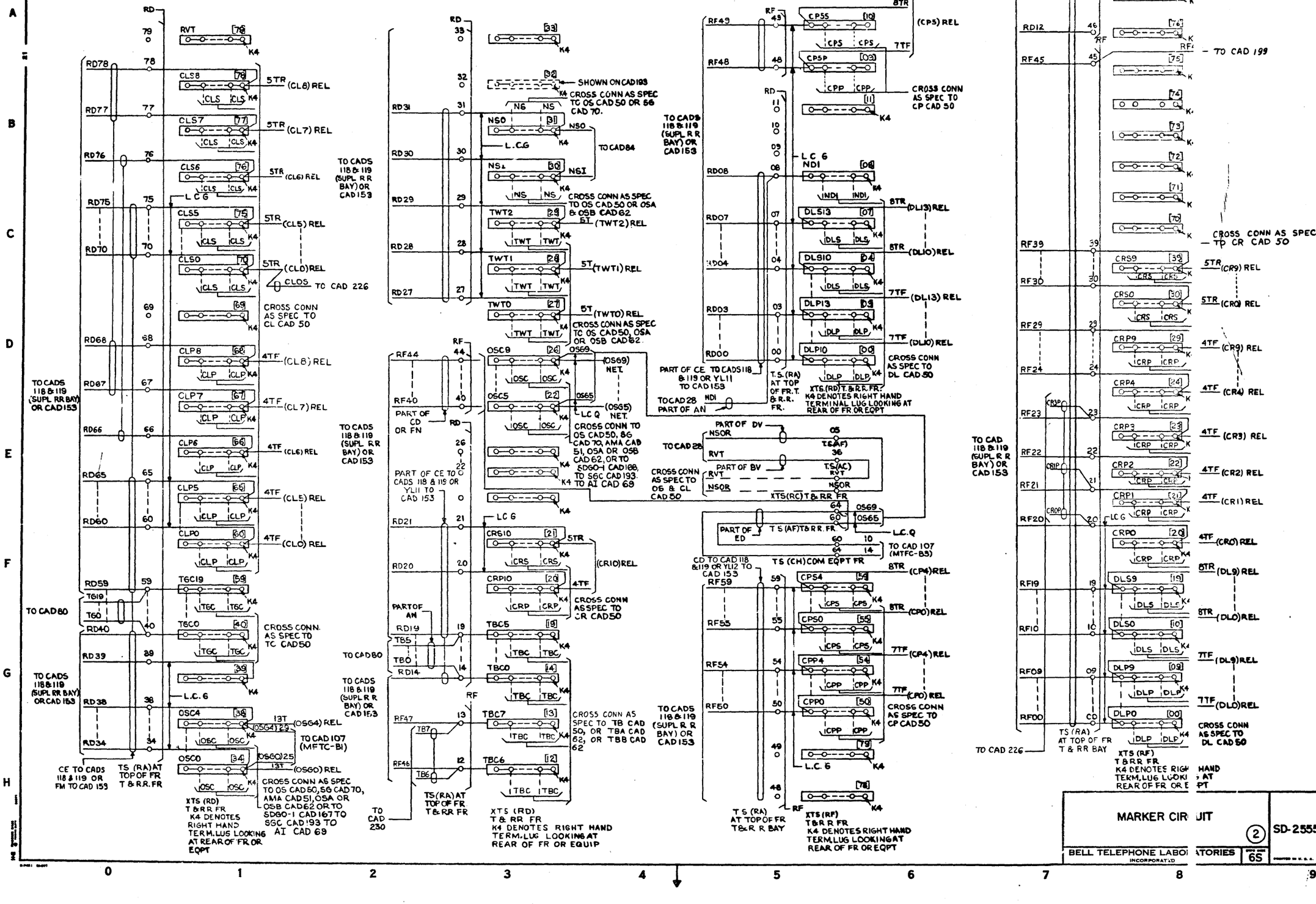
6S

CAD 66

(FOR APP FIGS 33, 67, 70, 72, 81, 163 & 168)

SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS



ISSUE	
41D	TSK KOO WEC WM
42D	DLB WM RHP REW GDL BMP
46D	JLP
54D	
56D	

MARKER CIRCUIT

(2) SD-25550-01-G40

BELL TELEPHONE LABORATORIES INCORPORATED

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DO NOT CONNECT WHEN LINE LK INTERCEPT TRK GROUPS ARE PROVIDED

TO CAD 206 ON RELAY RACK 35 — 9B (TBI) REL
TO CAD 45 ON SAME FR. TBI

TO CAD 209 TS(RC) 05 12T (RCY4) REL

TO CAD 117: NGS 10B (SNG2) REL; RNG 8T (RNG) REL; GI 4B (SC,RL) MFR DISC.

TO CAD 129: G2 8B; PBXA 7B (CKR) REL (QL)

TO CAD 76: 28 10B (VFL) REL; 27 11B; 26 6T (UK) REL

TO CAD 221: 34 4B (CKR) REL; 33 1B (RCY2) REL; 32 6B (CKR) REL; 26 10B (LLI) REL; 25 4T (BNTH) REL; 24 6B (SLCKI) REL; 23 2B (CKR) REL; 22 7T (SPT) REL; 21 1T (HTUK) REL; 18 4T (NGKI) REL; 17 4B (UK) REL; 16 7T (LLI) REL; 15 7T (RCY4) REL

TO CAD 224: 17 7T (RCL) REL

TO CAD 225: 47 79 A 8T (OSK) REL; 48 78 10T (FKA) REL; 49 77 7B (PUI) REL

TO CAD 226: 89 76 3B; 90 75 4B; 91 74 5B; 92 73 6B (BNTH) REL

TO CAD 209: 1 72 5B; 2 71 6B (RCY2) REL

106 70 8T (CKR) REL; ABN 69 8B (BN) REL; ARI 68 8B (RI) REL; ATI 67 8B (TBI) REL

TO CAD 226: 79 55 B 7B; 115 50 7T (BN) REL; 49 20 4T (TBI) REL

TO CAD 225: 36 19 1B; 37 18 2B; 38 17 3B; 39 16 4B; 40 15 5B; 41 14 6B (LLI) REL; 42 13 7B; 43 12 8B; 45 11 2T

TO CAD 226: 47 10 4T (BN) REL; TO CAD 74 DCI 09 5T; TO CAD 225 46 08 3B (CKR) REL

81 07 2T; 82 06 5T; 83 05 7T; 84 04 9T (SNGI) REL

TO CAD 226: 85 03 5B; 86 02 7B (PUL) REL; 87 01 3T (RNG) REL; 88 00 12B (NGC) REL

TO CAD 225: 44 33 1T (LLI) REL

TS (RQ) ON T & RR FR SEE CAD 226 FOR SPARES

TO CAD 107 (MTFC-TO): 46(LLI) 5T (LLI) REL; 7(BN) 12T (BN) REL

TO CAD 107 (MTFC-B1): 8(RI) 12T (RI) REL; 9(TBI) 6B (PUI) REL

TO CAD 107 (MTFC-A4): 45(CKO) 4B (RCY4) REL; 44(PUL) 4B (PUI) REL; 42(SNG) 6B (SNGI) REL; 41(CKR) 12T (CKR) REL; 40(NGKI) 3B (NGKI) REL

59(W) 10T; 55(SPT) 7BF (SPT) REL; 53(BNK) 8TR (BNTH) REL; 52(PTN) 8T; 51(TN) 6T; 50(PN) 4T (SNGI) REL; 19(U9) 10T; 18(U8) 8T

MFR DISC SEE NOTE 217 6T

TO CAD 93 (NGC-A): 17(U7) 6T; 16(U6) 4T; 15(U5) 12E (UC) REL; 9(U4) 10B; 8(U3) 8B; 7(U2) 6B; 6(UI) 4B; 5(UO) 2B

4(NGK) 4T (NGK) REL; 3(BS4) 7B; 2(BS3) 5B; 1(BS2) 3B (SNG2) REL; 0(BSI) 1B

TO CAD 95 (NGC-C): 4(SCK) 10B; 9(PBXI) 12T (PBXI) REL

TO CAD 107 (MTFC-C3): 10(SLCK) 3T (SLCK) REL; RYT 1T (NTUK) REL

TO CAD 62: PEG (RQ) 5B, (RP) MFR DISC 3B (NGK) REL

TO CAD 74: RIA 9B (RI) REL; BNA 9B (BN) REL

TO CAD 107 (MTFC-A1): 53(UK) 1B (UK) REL

TO CAD 78: SNG 299 10T (SNGI) REL; SNA 298 4B (CKO) REL; K 297 5T (NGKI) REL; HTUK 296 6T (HTUK) REL; TBII 257 5T (RCY3) REL; TBI 256 7B (PUI) REL; LLC 255 1T (RCY4) REL; RNL 254 6T (RNG) REL; SCBI 253 5T (CKO) REL; PUI 244 10T (PUI) REL; GI 242 4B (PUL) REL; SCBI 241 6T (RCY3) REL; GTS 240 3B (PUL) REL; RV 337 4T (RCL) REL

TO CAD 107 (MTFC-A4): (HTUK) 52 (HTUK) REL

TO CAD 26: (RNG) REL

TO CAD 25: (CKO) REL

TO CAD 28: (PUI) REL

TO CAD 196: (NGSI) 14B

PART OF BW — TO CAD 116: N6S 227 MFR DISC 2B (NGK) REL

TO CAD 74: TBIB 218 6T (TBI) REL; RIB 217 6T (RI) REL; BNB 216 6T (BN) REL

TO CAD 27: TRG 154 9B (CKR) REL; 7B (RCY3) REL

TO CAD 85: UK 153 4T (UK) REL; (UK) 53 TO CAD 107 (MTFC-A4); WL 137 6T (NGKI) REL

TS (AC) TOP OF T&RR FR

DO NOT CONNECT WHEN CALLING LINE IDENT IS PROVIDED

CONN WHEN DIRECT IN DIALING TO 101 ESS ON A MULTI-LEAD ACCESS BASIS IS NOT PROVIDED

CAD 67
(FOR APP FIG 68)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS.

PART OF BW — TO CAD 85: WG 136 6T; WF 135 6B (NGKI) REL

TO CAD 81 PART OF CP: RNG2 458 5T (RCL) REL.

TO CAD 7: FTL 84 8T (FTL) REL; FUL 83 8T (FUL) REL

TO CAD 5: SF 82 6B (RCL) REL; VFH 82 8T (VFL) REL

TO CAD 3: HGH 81 8T (HGL) REL

TO CAD 1: VGH 80 8T (VGL) REL

TO CAD 28: SF2 78 2B (SNGI) REL

TO CAD 111: LFS 71 3B (PBXI) REL (RL) MFR. DISC.

TO CAD 28: LLI 64 6B (PUL) REL; RNG 63 12T (LLI) REL; CB 62 7T (PUL) REL

TO CAD 140: RNGI (FM)

TO CAD 26: BNI 60 4B (HTUK) REL.

TO CAD 74: TCK 59 2B; TCKI 58 1B (PUL) REL

TO CAD 28: G3 57 3B (PUI) REL; G2 56 1B (RNG) REL; GI 55 (SQRN) 3T (RGTA) REL

TO CAD 27: TR2A 16 5B (RCX3) REL; SFI 20 3B (SNGI) REL

TO CAD 116: NGSI 19 1B; 3B (NGK) REL

TO CAD 27: TRIA 17 MFR. DISC. 3T (TRIA) REL

TO CAD 129: LGT MFR. DISC.

TO CAD 128: PBXA 116 6T (CKR) REL

TO CAD 28: RCTG 63 (RM) 5T (RGTA) REL

TO CAD 74: TCK2 335 3T (PUL) REL

PART OF BV — PART OF BX SHOWN IN CAD 113: 2 11B (SNG2) REL

PART OF "CR" TO CAD 27: SPT 473 6T (SPT) REL

TO CAD 74: NOX 431 6B (FTL) REL; GX 430 5B (VFL) REL; 9B (FUL) REL

PBXI 429 3T (CKR) REL — OK MFR DISC.

TO CAD 74 OR CAD 226 TO CAD 74: PUI 428 8T (PUI) REL; BN 427 5B (RI) REL; RI 426 5B (BN) REL; SLCKI 425 2T (SLCKI) REL

NGCI 448 5T (RNG) REL — NGC2, NGC3, NGC — TO CAD 117 (MFR DISC) OR TO CAD 185

TO CAD 28: NGC 423 3T (NGC) REL; FLGI 422 2T (RYC3) REL; 4T (RCY4) REL

RCY 421 9T (RCY2) REL

PART OF BX: RCY2 420 2T; FLG 359 5T (RCY4) REL

TO CAD 26: RCY4 358 3T; RCY 357 4T (RCY3) REL

LB 356 5B

TO CAD 25: LBA 355 2B (CKR) REL; 7T (RCY4) REL

TO CAD 74: BTH 211 3T (BNTH) REL

TO CAD 28: RYT 207 3T (HTUK) REL

TO CAD 24: LLC 190 1T (RCY2) REL

TO CAD 20: FSA 443 2B (NGKI) REL

TO CAD 11: HBS 441 4B (SLCKI) REL; FSA 440 1B (NGKI) REL

TO CAD 26: DCT 437 7B; DCTI 436 6B (RNG) REL

TO CAD 129 OR CAD 128 PART OF BW: R (SD) 208 (SD) 1T (RGTA) REL

TS (AC) T&RR FR. — TS (RES) ON RES UNIT J

OL OPT

CROSS CONN AS SPEC TO ST CAD 45 OR STO-9 CAD 185

PU MFR DISC — 7BF (BNT) REL

BNTH — T.S. (AE) (MFR DISC.) T.S. (AD) ON T & R.R. FR.

TO CAD 226: BNTH

TO CAD 116 ON COM EQPT FR.: BNTHI 049; PV 048; BNTH; PV 7BF (BN I) REL

T.S. (AF) ON T. & R. R. FR.

TO CAD 185: BNTH

TO CAD 78 ON COM EQPT FR.: 019 019 AF 8T; 119 (MT26) 119 5B (MT 5) REL

T.S (AF) T & R.R. FR.

TO CAD 107 (MTFC-C3): 53(PRCY) 10T (RCY REL

TO CAD 45: TNS 9B (SNGE REL

TO CAD 40: RCY (SU,SX) 4T (PUI) EL

TO CAD 62: RCY

TO CAD 45: U9 8T; U8 6T; U7 4T; U6 2T; U5 12B; U4 10B; U3 8B; U2 6B; UI 4B; U0 2B (TRI REL

TO CAD 196: 142 (HBS) 12T; 140 (NGSI) 9B (SN :) REL

TO CAD 130 OR TO CAD 139: CKR 4T (CKC REL

TO CAD 225: 97 26 B 4T (SLCK REL

TO CAD 221: 26 10B (LLI) EL

TO CAD 226: 26 57 TS (RQ) ON T & RR FR

OMIT WHEN APP FIG 186 IS PROVIDED

TO CAD 156 (MFR DISC) OR TO CAD 187: PTN; TN; PN; EN

TO CAD 107 (MTFC-A4): 51(PTN) 8T; 50(TN) 6T; 49(PN) 4T; 48(EN) 1T (SN I) REL

PART OF DM — TO CAD 78: RBT 11 AF 4B (RGTA REL

TO BASIC PBX ALLOTTER FR: UCG 51 PBX ALL R 5B (SNGI REL; ANR3 61 6B (RCY REL

TO CAD 74 TO CAD 78 ON COM EQPT FR: TX 60 LCP 6B (VFL) EL; PEG 59 AF 6B (NGK EL

TO CAD 3: BNK 20 53A TO CA 93 (NGC)

TO CAD 26: RCY2 95 9T (RCY REL; TI 94 3B (RC REL; T 93 4B

TO CAD 27: G 113 6B (PBXI EL

TO CAD 28: S 114 6T (LLI EL

TS (AF) T & RR FR

TI 94 CH TI; T 93 T TO D 74

TS (CH) COM EQPT FR

ISSUE
4ID LB, LCL, SSE
47D CLS, BMD, RLP, LAK, LBS
5ID AB, AJS, GM, COL, BMD
53A GM, COL, BMD
54D JK
55A MD
56D

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CAD 68

(FOR APP FIG. 69)
SEE NOTE 219
COMBINED OR COMPLETING MARKERS

TO CAD 107 (MTFC-B1)
19(OS4) 1T
18(OS3) 7B
17(OS2) 5B
16(OS1) 3B
15(OS0) 1B
(MT2) REL

16(SIB) 7T
15(SIA) 5T
48(OSC)

TO CAD 107 (MTFC-T0)
9(TOS4) 8T
8(TOS3) 6T
7(TOS2) 4T
6(TOS1) 1T
5(TOS0) 3B
(GOS) REL

17(MT2K)

TO CAD 107 (MTFC-C3)
47(SSB) 13T (SSB) REL
46(SSA) 13T (SSA) REL
38(OSE) 6T (OSE) REL

1(S)
TO CAD 108 (OSC-MKR)
30(MA) 9B
3(SBM) 4T
2(SAM) 6T
(OSC) REL

19(S4) 4B (OS4) REL
18(S3) 4B (OS3) REL
17(S2) 4B (OS2) REL
16(S1) 4B (OS1) REL
15(S0) 4B (OS0) REL

14(C64) 9T
13(OS3) 7T
12(OS2) 5T
11(OS1) 2T
10(OS0) 4B
(GOS) REL

TO CAD 105 (OSC-C)
23(SCM) 1T

TO CAD 104 (OSC-A)
1(MC) 8T
0(MB) 10T
(OSC) REL

TO CAD 65
LF51 5B (FKA) REL

TO CAD 127
(VG) MFR DISC
WA2 3T
WA1 2T
(ASB) REL

SHOWN IN CAD 113
7 6B (OS4) REL
6 6B (OS3) REL
5 6B (OS2) REL
4 6B (OS1) REL
3 6B (OS0) REL
TS (RES) ON RES UNIT J

TO OUT. SENDER CONN U REL TYPE (FOR WS REL TYPE SEE CAD 177)
SKA SKA (0-3) 1B (GBA) REL
SKB SKB (0-3) 1B (GBB) REL
TS (AB) T & RR FR

TO CAD 122
PEG1 9T (FKA) REL

TO CAD 193
119(PEG) 6T
118(MB) (MB) RES LAMP

TO CAD 196
144(INT) 4T (SON) REL

TO CAD 29
TG1 333 1B (OSE) REL
SON 314 12T (SON) REL
(SON) 40 TO CAD 107 (MTFC-C3)

TO CAD 78
SB 313 3B (ASB) REL
MTIK 312 12B
MT2 311 13T (MT2) REL
OSC 310 12T (OSC) REL

SS9 309 9T
SS8 308 7T
SS7 307 5T
SS6 306 3T
SS5 305 11B
TO CAD 85 OR CAD 225
SS4 304 9B (SSB) REL
SS3 303 7B
SS2 302 5B
SS1 301 3B
SS0 300 1B

TO CAD 26
ST 258 1B (SON) REL
(TX) MFR DISC (TX) MFR DISC

TO CAD 82
XSS 226 3B (OS-4) REL

TO CAD 116
OSA 225 8B (OSC) REL
OSA1 224 6B (SKA) REL
OSB 223 5B (OSC) REL
OSB1 222 6B (SKB) REL

TO CAD 85
ASB 199 11T (MT2) REL

LOOP AT UNEQUIPPED POS

TO CAD 21
TFS 109 4B (OSK) REL

TO CAD 20
SF 108 3T (SON) REL
2T

MFR DISC
SF2, OR TFS 106 5B (OSK) REL
TO CAD 11
SF1 105 (OF) 3T (SKB) REL
TO CAD 225
SF1 2B (SZ) REL
OSB1 104 5T (SKA) REL
10T (SKB) REL
OSB (YZ) 103 4B (OSC) REL
TO CAD 11
6T
OSA1 102 5T (SKB) REL
3T
OSA 101 7B (SZ) REL (OSC) REL
TO CAD 18
MT2K 99 11B (MT2) REL
OS4 94 1T (OS4) REL
OS3 93 1T (OS3) REL
OS2 92 3T (OS4) REL
TO CAD 6
OS1 91 3T (OS3) REL
OS0 90 3T (OS2) REL
OS 89 2T (OSE) REL
SNK 88 10T (SON) REL
TO CAD 11
TO CAD 78
SF 86 (OE) MFR DISC
S 79 1T (OSK) REL
TO CAD 29
SON 73 1B (GOS) REL
TO CAD 29
TG 72 2B
OR CAD 225
OSK2 70 5T (OSE) REL
TO CAD 29
OSK1 69 4T
OSK 68 11T (OSK) REL
(OSK) 39 TO CAD 107 (MTFC-C3)
TO CAD 28
CKR1 67 4B (SON) REL
TO CAD 28, OR 126
CKR 66
TO CAD 27
GI 23 2T (OSK) REL
TO CAD 27 OR CAD 225
SMB 22 4T
TS (AC) T & RR FR
6B
TO CAD 52
CKR 5B (SON) REL
LOOP AT UNEQUIPPED POS

TO CAD 78
RBT 472 48 (RGTR) REL
TO CAD 27
RYT 471 6T (FKA) REL
TO CAD 11
RYT 470 5T
TO CAD 25
RYT 433 10B (SKB) REL
TO CAD 29
RYT 424 11B
TO CAD 28
DCT 455 1T (SSA REL
2T
1T (SSB REL
TO CAD 26
DCT1 456 2T
LOOP AT UNEQUIPPED POS

TO 1ST PCI SDR OR TO PREC COMBINED OR COMPLETING MARKERS (A & M ONLY)
TO CAD 116
404 (265) 404 10T (GOS) FAIL
403 (264) 403 3B (OSK) FAIL
(VG)
LW
LW A&M ONLY (VG)
(VF) A & M ONLY (VG) 4T
FOR 2ND GRP OF PCI SENDERS
A1
B1
392
393
TO OUT. PCI SDR GRP RELEASE CKT OR TO PREC COMB OR COMPL MKR
(VF) A&M ONLY (VG)
WA0
FOR 1ST GRP OF PCI SENDERS
A0
B0
390
391
1T
4T
WA1
(ASB) REL MFR DISC
(VF) A & M ONLY (VG)
TO SUCCEEDING COMBINED OR COMPLETING MARKERS

(TX) MFR DISC (TX) MFR DISC
TO CAD 127
OSS 180 2B (SON) REL
TO CAD 85
OSS
(TY) (TY)
TS (AC) T & RR FR

CROSS CONN TO GOSO-9 IN CAD 69 AS SPEC
OSGR OSGR 4T
IMGA IMGA 4B (ASB REL
CROSS CONN TO OSMO-9 IN CAD 69 SEE NOTE 400
OSM OSM (ON)
TS (AD) ON T & RR FR

TO CAD 225
B
50 25 8T (SKI REL
51 24 9T (SOI REL
52 23 9B
53 22 2B (GOS REL
54 21 5T (OSI REL
TS (RQ) ON T & RR FR
SEE CAD 226 FOR SPARES

ISSUE		
41D		
46D	ASL	
54D	CF GDL AND	
56D	SAV	

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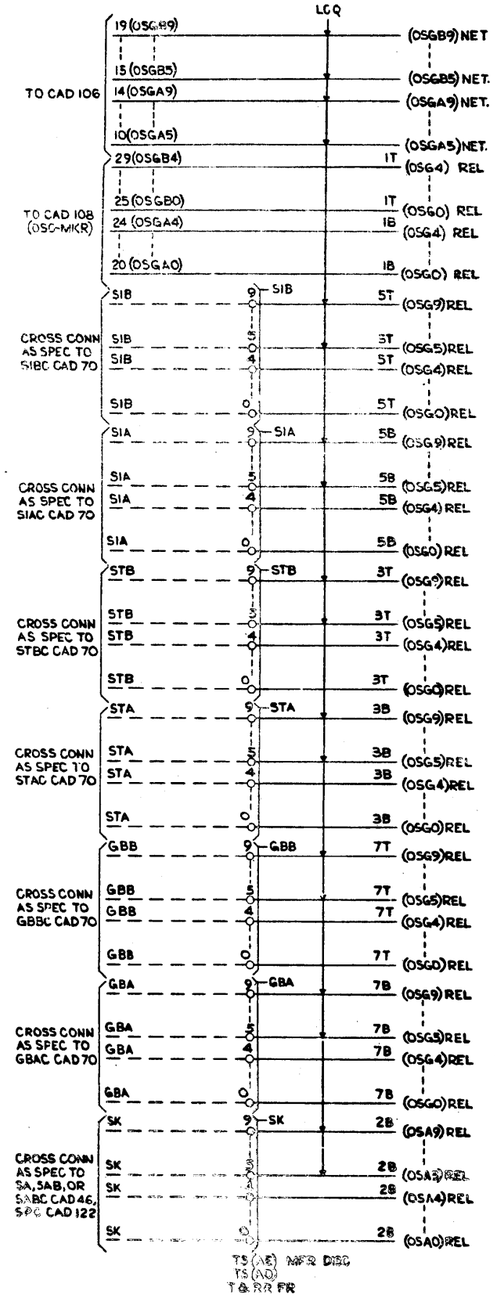
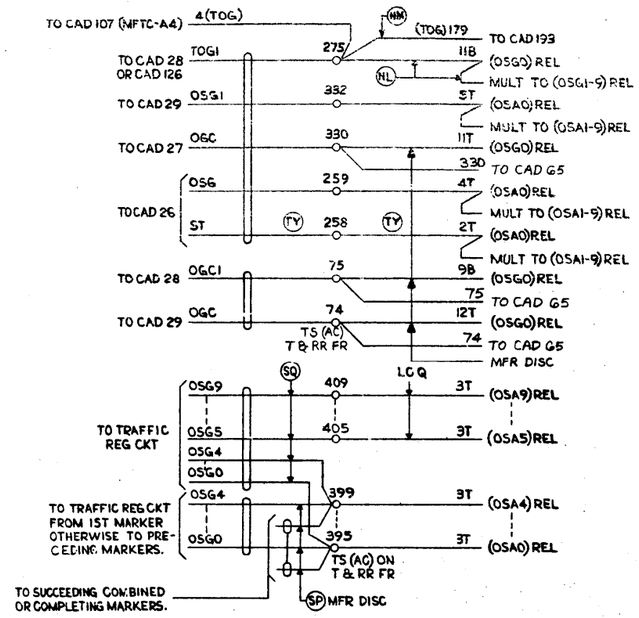
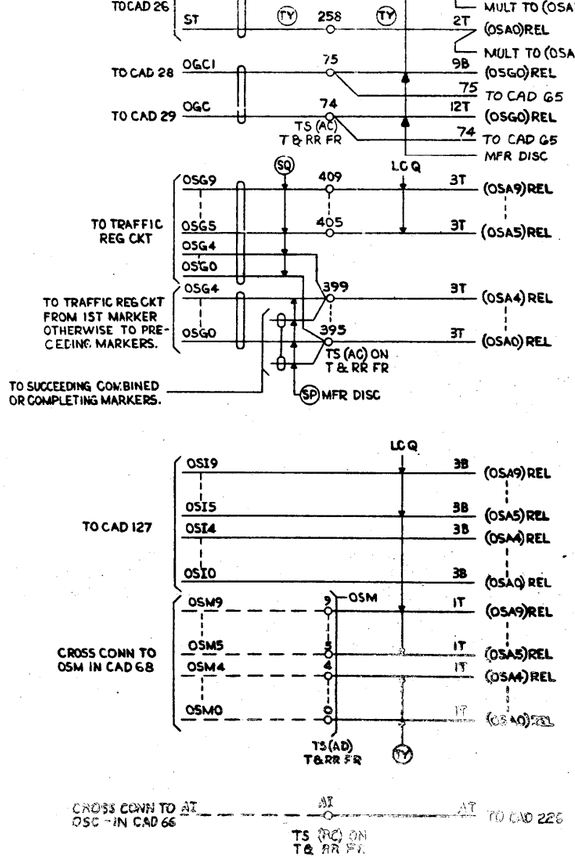
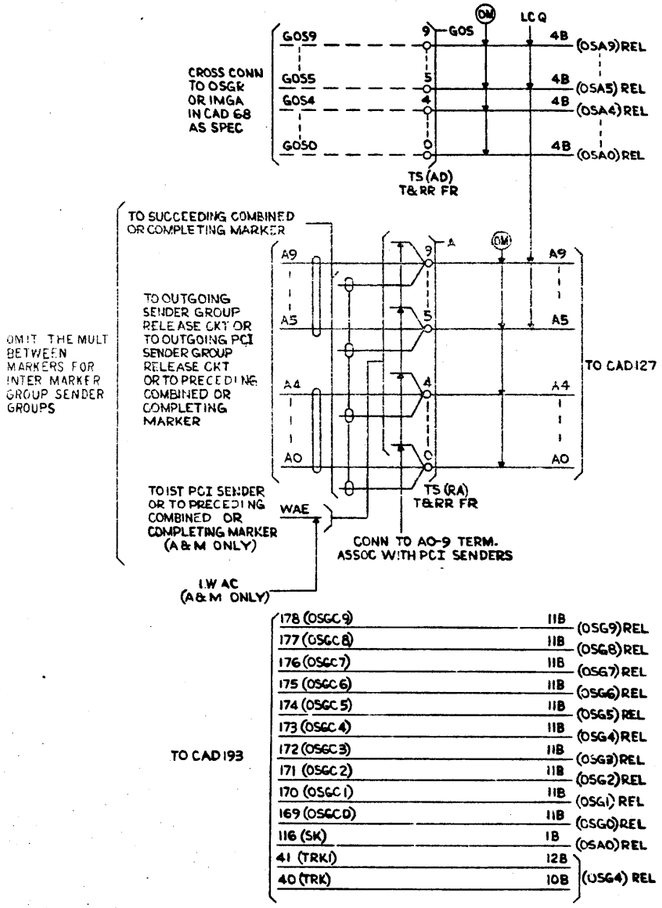
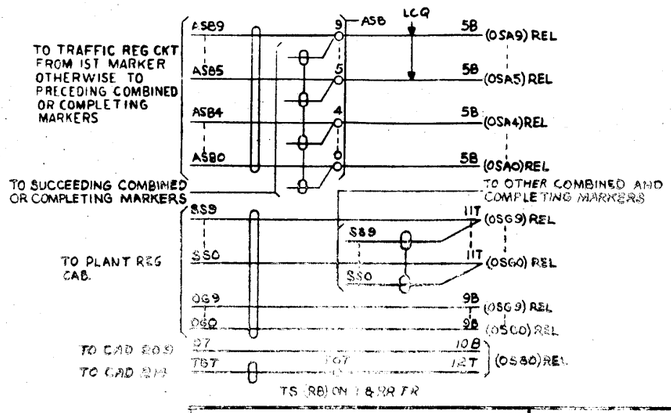
CAD 69
(FOR APP FIG 70)
FOR COMBINED OR COMPLETING MARKERS
SEE NOTE 219











DRAWING ISSUE		
41D		
51D		
54D	CK	

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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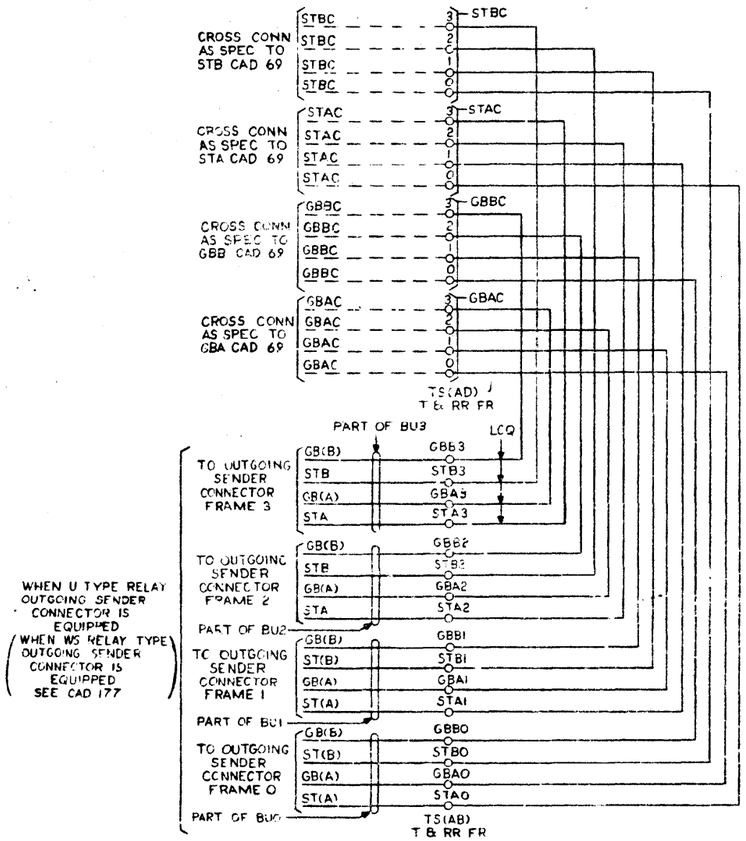
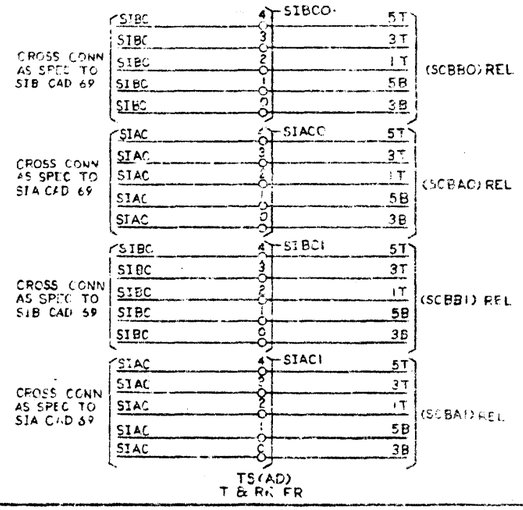
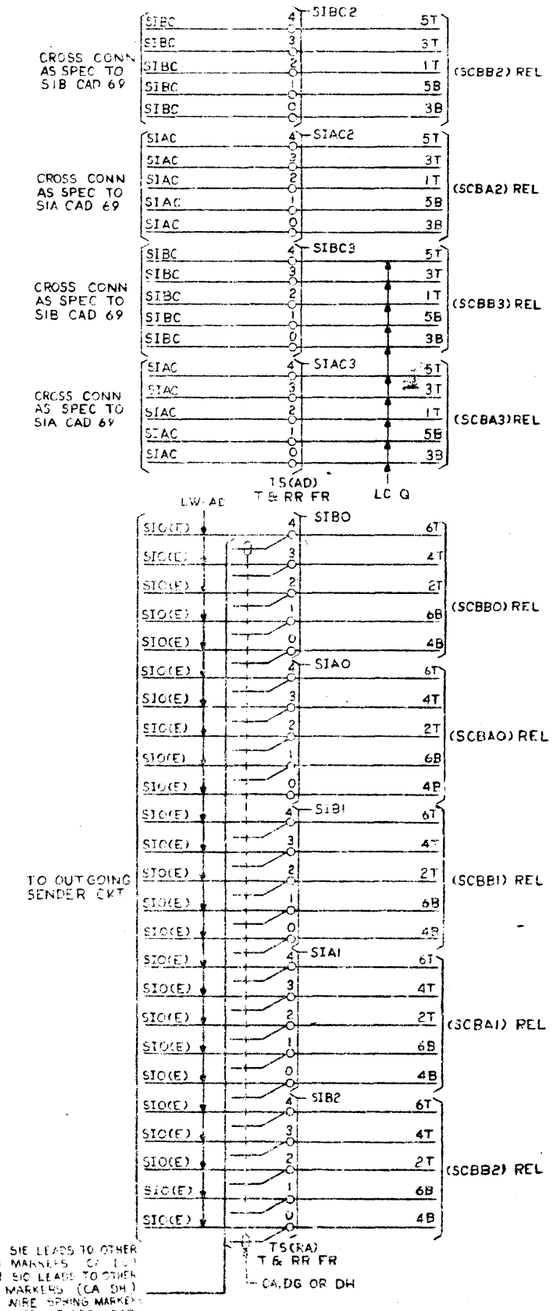
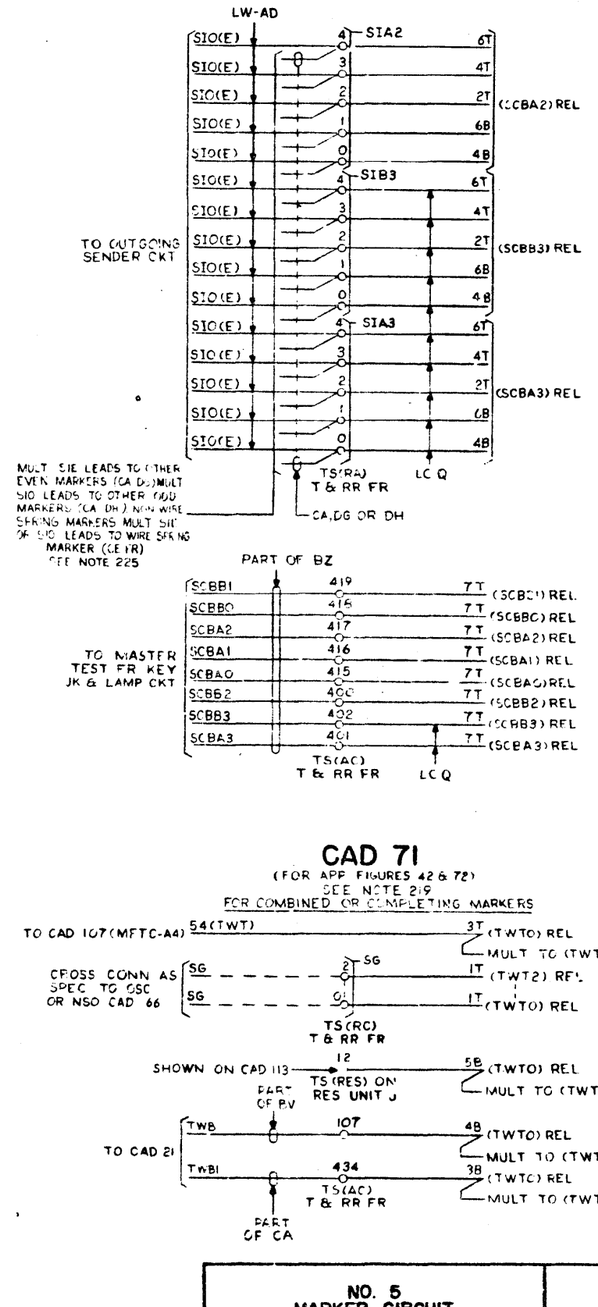
CAD 70

(FOR APP FIG 71)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS



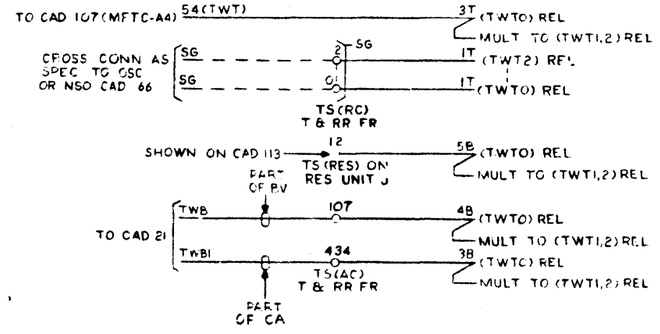






CAD 71

(FOR APP FIGURES 42 & 72)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS



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NO. 5 MARKER CIRCUIT	SD-25550-01-G44
BELL TELEPHONE LABORATORIES INCORPORATED	6S

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PART OF CAD 72

(FOR APP FIGS 73 & 85)
FOR COMBIN'D MARKERS

TO CAD 114 (MTFC-CONT) 8(MB) 5B (ME) REL
TO CAD 107 (MTFC-C2) 59(TM) 2T (MAK) REL
+130 TP AT (HFA) REL
FA 3B (FA) REL
FAI 5T
TRT 3T (TRA) REL
TO MISC CKT TA 1B (TAL) REL
FG 6B (FAI) REL
B 8B
B(1)
B(2)

TO TRAFFIC USAGE RECORDER CKT — MB 242 (CH) 4 (TUR) REL
TO CAD 159 — B
TO FUSE PANEL PWR RING & TONE DISTG FR — 48V(MB) LW-AP 78 (B)42 TO CAD 194
MFR DISC LW Q 8B (FAI) REL
PART OF J
TO MASTER TEST FR KEY, JK, LAMP CKT — AMB 70 (SH) 5T (AMB) REL
FG 69 4B (FAI) REL
MB 68 10TF
MBL 67 5T (MB) REL
TO TRAFFIC USAGE RECORDER CKT FR — MBM 243 6T
TO LINE INS TEST CONT CKT — MB TS(CE) COM EQPT FR (MB)41 TO CAD 194
PART OF DY — SEE NOTES 219&220 (ON)
TO CAD 159 MB

(QB) A & M ONLY — MFR DISC — MFR DISC
FA 267 3B
FAI 266 5T (FA) REL
TO MISC CKT FG 265 6B (FAI) REL
B 264
PART OF BX

TO CAD 99 (OR MC-CD) 56(TM) — SEE NOTE 219
TO CAD 84 TM 175 9B
MB 159 1T (MB) REL
PART OF BW — TS(CC) COM EQPT FR (MB)1 TO CAD 96 (LLMC-A) (A&M ONLY) OR TO CAD 147

LW-S,T OR U — SEE NOTES 219 & 220
CB3 8 8T
CB2 7 6T
CB1 6 4T
CB0 5 2T
TO MKR CONN FR CB3 4 8B (MCB1) REL
CB2 3 6B
CB1 2 4B
CB0 1 2B
LW-S,T OR U — 227A TS(CBI) ON MARKER BUSY CONT UNIT

MFR DISC
TO ALM CKT MJ 19 5T (TRA) REL
5T
SHOWN ON MISC CKT FOR ALL FRS — MISC
TO ALL MKRS BUSY CKT ON RR FR RUN FROM IST COMB OR COMPL MKR OR TO PREC COMB OR COMPL MARKER. AB 30 1B
LW-B SEE NOTE 220
TO ALL MARKER BUSY CKT ON RR FR RUN FROM IST DIAL TONE MKR OR TO PREC DIAL TONE MKR AB (AMB) REL
LW-A
TO SUCC COMB OR COMPL MKR AB 31 4T
SEE NOTE 219 LW-B TS(CA) COM EQPT FR
TO SUCC DIAL TONE MKR AB SEE NOTE 220
LW-A

CROSS CONN AS SPEC IN CKT NOTES ON SD-25586-01

MKR CONN 3 MAK — SEE NOTE 220 PART OF U
MAK LL9 9 TO LINE LINK MKR CONN FR
MAK LL0 0
MKR CONN 3 OR 7 — A&M ONLY
MAK LL4 4 TO BASIC OR SPLIT BASIC LINE LINK MKR CONN FR
MAK LL0 0
MKR CONN 11 OR 15
MAK LL2 2 TO SPLIT BASIC LINE LINK MKR CONN FR
MAK LL0 0
MKR CONN 3 (MFR DISC) — MFR DISC
MAK MC3 OR4 4
MAK OR3 3 TO ORIG REG MKR CONN FR
MAK OR2 2
PART OF V
MAK OR0 0
MAK IR4 4 MFR DISC
MAK IR3 3
MAK IR2 2 TO INC REG MKR CONN FR
MAK IR1 1
MAK IR0 0 SEE NOTE 219

SEE NOTE 220 — A&M ONLY
MKR CONN 3 MCK LL9 9 TO LINE LINK MKR CONN FR
MCK LL0 0
MKR CONN 3 OR 7
MCK LL4 4 TO BASIC OR SPLIT BASIC LINE LINK MKR CONN FR
MCK LL0 0
MKR CONN 11 OR 15
MCK LL2 2 TO SPLIT BASIC LINE LINK MKR CONN FR
MCK LL0 0
MKR CONN 3 (MFR DISC) — MFR DISC
MCK MC3 OR4 4
MCK OR3 3 TO ORIG REG MKR CONN FR
MCK OR2 2
MCK OR0 0
MCK IR4 4
MCK IR3 3
MCK IR2 2 TO INC REG MKR CONN FR
MCK IR1 1
MCK IR0 0 SEE NOTE 219

SEE NOTE 220 — A&M ONLY
MKR CONN 3 MSK LL9 9 TO LINE LINK MKR CONN FR
MSK LL0 0
MKR CONN 3 OR 7
MSK LL4 4 TO BASIC OR SPLIT BASIC LINE LINK MKR CONN FR
MSK LL0 0
MKR CONN 11 OR 15
MSK LL2 2 TO SPLIT BASIC LINE LINK MKR CONN FR
MSK LL0 0
MKR CONN 3 (MFR DISC) — MFR DISC
MSK MC3 OR4 4
MSK OR3 3 TO ORIG REG MKR CONN FR
MSK OR2 2
MSK OR0 0
MSK IR4 4
MSK IR3 3
MSK IR2 2 TO INC REG MKR CONN FR
MSK IR1 1
MSK IR0 MSK 0 SEE NOTE 219
XTS(CF) COM EQPT FR — SEE NOTE 219 — PART OF W

D MKR CONN 0 — SEE NOTE 220 PART OF U — A&M ONLY
A&M ONLY 9 TO LINE LINK MKR CONN FR
8
7
6
5
4
3
2
1
0
MFR DISC
4 TO ORIG REG MKR CONN FR
3
2
1
0
4 TO INC REG MKR CONN FR
3
2
1
0
SEE NOTE 219 — PART OF V — PART OF W

MKR-DE (GRD) A13 TO FUSE PANEL A
MFR DISC 7T (MAK) REL
2 (TUR) REL
7T (MCK) REL
MAK MAK
MCK MCK
MSK MSK
MAK MAK ST
MCK MCK
MSK MSK
7T (MSK) REL

D — PART OF W
MCO 1 TO INC REG MKR CONN FR
0
PART OF V
2
1 TO ORIG REG MKR CONN FR
0
SEE NOTE 219
SEE NOTE 220 PART OF U
MCB 2 TO SPLIT BASIC LINE LINK MKR CONN FR
1
0
4 TO BASIC LINE LINK MKR CONN FR
3
MCO 2 TO BASIC OR SPLIT BASIC LINE LINK MKR CONN FR
1
0
XTS(CC) COM EQPT FR

MAK — SEE NOTE 220 PART OF U — A&M ONLY
MKR CONN 0 MAK LL9 9 TO LINE LINK MKR CONN FR
MAK LL0 0
MKR CONN 3 OR 7 — A&M ONLY
MAK LL4 4 TO BASIC OR SPLIT BASIC LINE LINK MKR CONN FR
MAK LL0 0
MKR CONN 8 OR 12
MAK LL2 2 TO SPLIT BASIC LINE LINK MKR CONN FR
MAK LL0 0
MKR CONN 0 (MFR DISC) — MFR DISC
MAK MCO OR4 4
MAK OR3 3 TO ORIG REG MKR CONN FR
MAK OR2 2
PART OF V
MAK OR0 0
MAK IR4 4 MFR DISC
MAK IR3 3
MAK IR2 2 TO INC REG MKR CONN FR
MAK IR1 1
MAK IR0 0 SEE NOTE 219

SEE NOTE 220 — A&M ONLY
MKR CONN 0 MCK LL9 9 TO LINE LINK MKR CONN FR
MCK LL0 0
MKR CONN 0 OR 4 — A&M ONLY
MCK LL4 4 TO BASIC OR SPLIT BASIC LINE LINK MKR CONN FR
MCK LL0 0
MKR CONN 8 OR 12
MCK LL2 2 TO SPLIT BASIC LINE LINK MKR CONN FR
MCK LL0 0
MKR CONN 0 (MFR DISC) — MFR DISC
MCK MCO OR4 4
MCK OR3 3 TO ORIG REG MKR CONN FR
MCK OR2 2
MCK OR0 0
MCK IR4 4
MCK IR3 3
MCK IR2 2 TO INC REG MKR CONN FR
MCK IR1 1
MCK IR0 0 SEE NOTE 219

SEE NOTE 220 — A&M ONLY
MKR CONN 0 MSK LL9 9 TO LINE LINK MKR CONN FR
MSK LL0 0
MKR CONN 0 OR 4
MSK LL4 4 TO BASIC OR SPLIT BASIC LINE LINK MKR CONN FR
MSK LL0 0
MKR CONN 8 OR 12
MSK LL2 2 TO SPLIT BASIC LINE LINK MKR CONN FR
MSK LL0 0
MKR CONN 0 (MFR DISC) — MFR DISC
MSK MCO OR4 4
MSK OR3 3 TO ORIG REG MKR CONN FR
MSK OR2 2
MSK OR0 0
MSK IR4 4
MSK IR3 3
MSK IR2 2 TO INC REG MKR CONN FR
MSK IR1 1
MSK IR0 0 SEE NOTE 219
XTS(CG) COM EQPT FR

DRAWING ISSUE
410 JPC 847 WF0

NO.5
MARKER CIRCUIT

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BELL TELEPHONE LABORATORIES INCORPORATED 6S

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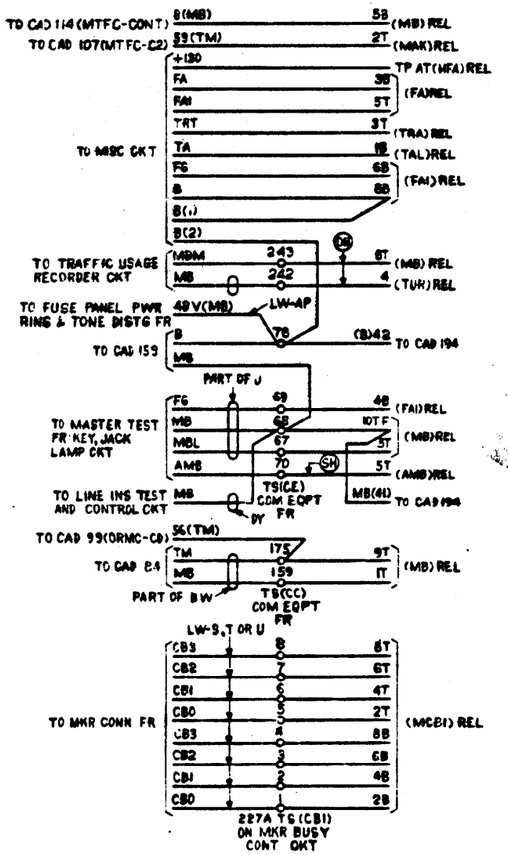
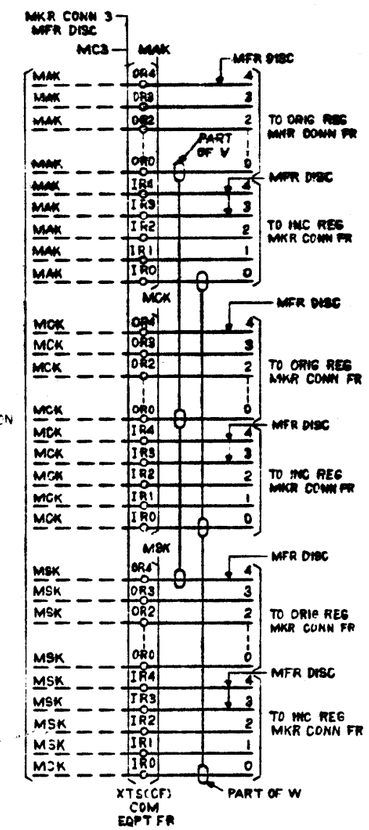
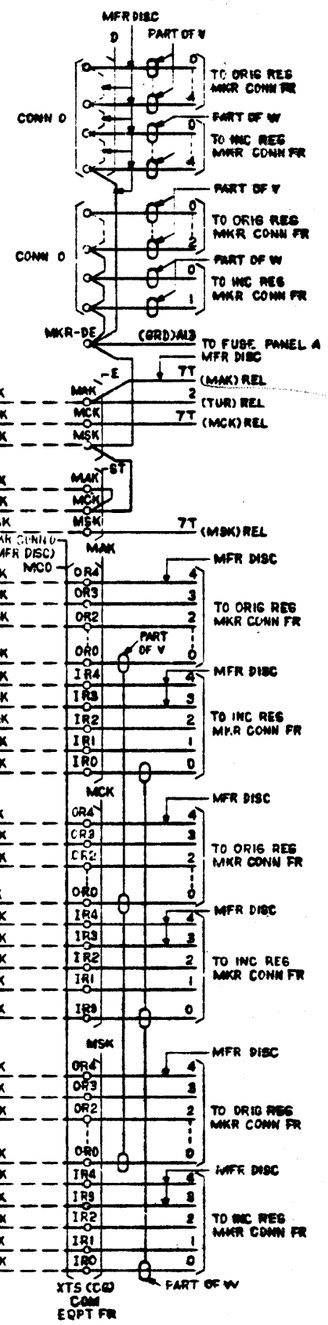
PART OF CAD 72

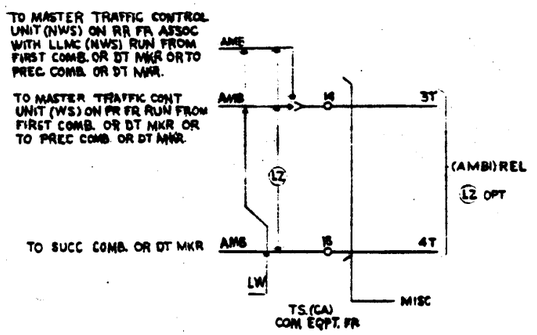
(FOR APP FIGS 73 & 85)

FOR COMPLETING MARKERS

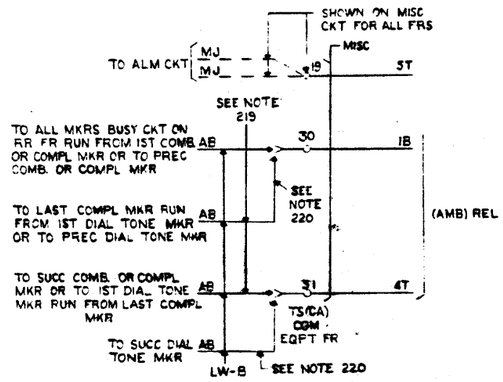








FOR COMBINED MARKERS



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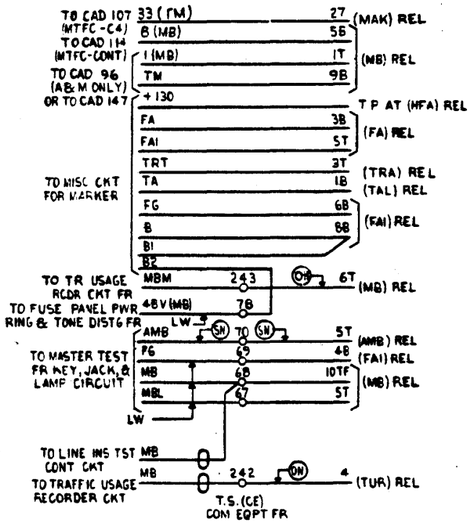
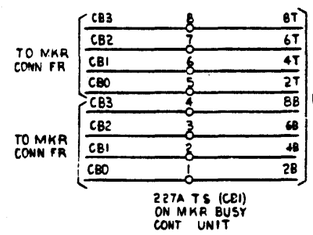
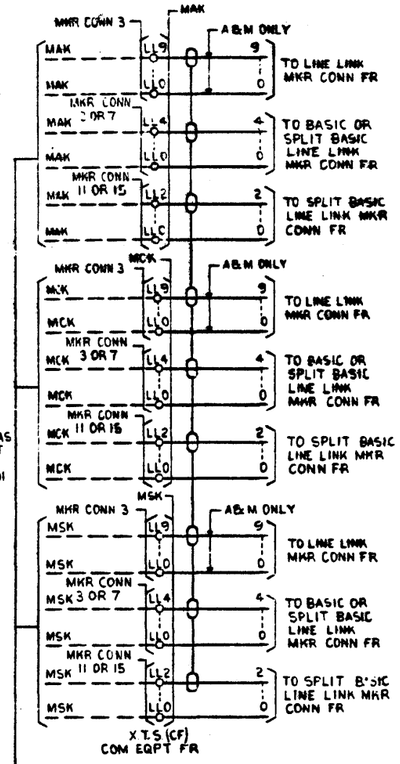
NO. 5 MARKER CIRCUIT	SD-25550-01-046
BELL TELEPHONE LABORATORIES INCORPORATED	65

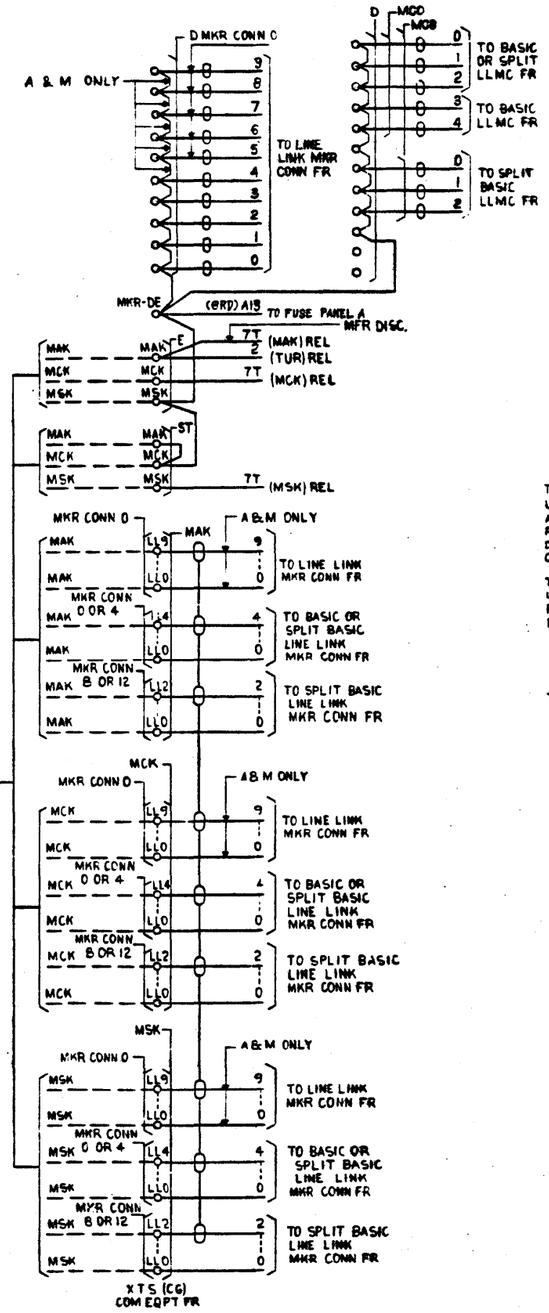
PART OF CAD 72

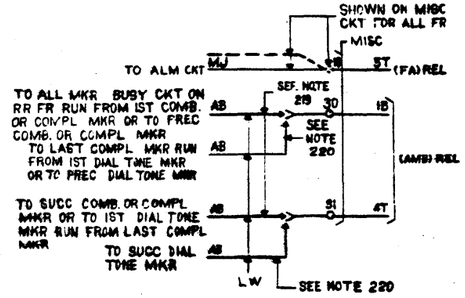
FOR APP FIG. 73 & 85
FOR DIAL TONE MARKERS

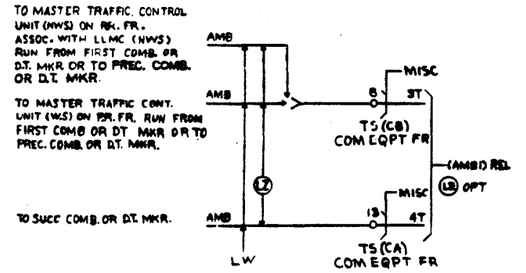












MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

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CAD 73

(FOR APP FIG. 74) SEE NOTES 219 & 220
FOR COMBINED, COMPLETING, & DIAL TONE MKR

TO CAD 226
LW-5, T, OR U
TS (B) ON COM EQPT FR — SEE NOTE 1

(LI) REL
(FNB) REL
(BNB) REL
(MCB6) REL
(MCB3) REL
(MCB2) REL
(MCB5) REL
(MCB4) REL

227A TS (CB1) ON MKR BUSY CONT UNIT

TO INC ORG AND LINE LINK MKR CONN FR 4 LEADS FROM COMB. OR COMPL MKR TO EACH IRMC OR ORMC FR 4 (A & M ONLY) 8 OR 16 LEADS FROM COMB. OR DIAL TONE MKR TO EACH LLMC FR

LW-5, T OR U

227A TS (CB2) ON MKR BUSY CONT UNIT

TO CAD. 89 (TLC-A)
TO CAD. 86 (TLC-B)
TO CAD. 194
TO CAD. 107 (MTFC-A3)
TO CAD. 107 (MTFC-C1)
TO CAD. 107 (MTFC-C2)
TO CAD 224
CROSS CONN AS SPEC
XTS(CG)
MFR DISC.
A&M ONLY
(RS9) REL
(RSO) REL
(RSK) REL
(RCT10) REL
(FNB) REL
(FNA) REL
(TIN) REL
(TCH) REL
(LI) REL
(RCK1) INDR
(RCK1) REL
(TBIB) REL
(BY) REL
(RCT8) REL
(RCT6) REL
(RCT1) REL
(RCT5) REL
(RCT4) REL
(RCT3) REL
(RCT2) REL
(RCT7) REL
(VCI) REL
(DCI) REL
TO CAD 67
TO CAD 117 OR 185
TO CAD 52
TO CAD 43
TO CAD 42
TO CAD 75
TO CAD 84
TO CAD 107 (MTFC-TO)
TO CAD 107 (MTFC-C1)
(OFHI) REL
(RCK2) REL
(RSK) REL
TS (CC) COM EQPT FR
SEE NOTE 214
OMIT FOR 6-WIRE RINGING SWITCH OPERATION
TO CAD 44
TO CAD 226
TO CAD 67
TS (B) ON COM EQPT FR SEE NOTE 1

CAD 74

(FOR APP FIG. 75, 159, AO, AR, AU & AV)
SEE NOTE 219
FOR COMBINED OR COMPLETING MKR

TO CAD. 77
(LI) REL
(RCK2) REL
(TNK) REL
(RCT10) REL
(CE)

TO FIRST COMPL MKR T & CT FR(S) IN SAME MKR GRP (RUN FROM LAST COMB. OR COMPL MKR-NWS)
TO TR REG FR OR CAB (RUN FROM FIRST COMB. OR COMPL MKR)
TO OTHER COMB. OR COMPL MKR IN SAME MKR GROUP
TS (CE) COM EQPT FR
(VCI) REL
(DCI) REL

TO CAD 67
TO CAD 52
TO CAD 67
TO CAD 67 OR CAD 226
TO CAD 67
TO CAD 76
(RCT10) REL
(FNB) REL
(FN) LP
(TNK) REL
(TBIB) REL
TS (CC) COM EQPT FR

CROSS CONN AS SPEC SEE SECT D
TO CAD. 81
(VCI) REL
(DCI) REL
(TBH) REL
(RIB) REL
(BNB) REL
(LIN) REL
TS (CG) ON COM EQPT FR

TO CAD 196
TO CAD 221
TO CAD 224
(BNB) REL
(FNB) REL
(SRK) REL
(RSK) REL
(TCK) REL
(RSK) REL
(RCT 10) REL
(LI) REL
(RCT9) REL
(LCH) REL
(RCT1) REL
(TCH) REL
(RS6) REL

SHEET NOTES:
1. SEE CAD 226 FOR SPARES.

TO CAD 63 (A&M ONLY) OR TO CAD 169
TO CAD 63 (A&M ONLY)
TO CAD. 67
MFR DISC.
TS (CC) COM EQPT FR
(LIN) REL
TO CAD 107 (MTFC-A3)
(LIN) REL

A&M ONLY
LOOP
CROSS CONN TO RO, RI, OR BN
(TIN) REL
CROSS CONN TO TI
CROSS CONN TO BN, RI, OR TPI
XTS (CF) COM EQPT FR
TO CAD 28
TO CAD. 67
TS (CH) COM EQPT FR

CAD 75

(FOR APP FIG. 76) SEE NOTE 219
FOR COMBINED OR COMPLETING MKR

TO CAD 107 (MTFC-TO)
TO CAD 94 (NSC-B)
TO CAD 107 (MTFC-C2)
TO CAD 74
TO CAD 84
(RCN10) REL
(RCN15) REL
(RCN1) REL
(RCN15) REL
(RCN11) REL
(RCN9) REL
(RCN1) REL
(TRC) REL
TS (C) AT TOP OF COM EQPT FR

TO CAD 74
TO CAD 226
TO CAD 107 (MTFC-C1)
TO CAD 59
TO CAD 226
TO CAD 36
TO CAD 226
(TNK) REL
(VCI) REL
(DCI) REL
TS (AF) T & REL RK FR TO CAD 206 ON REL RK
DO NOT CONNECT WHEN SEPERATE LINE LINK INTERCEPT TRK GROUPS ARE PROVIDED
(TCK1) RES
(TCK2) RES
(DFH) REL
TS (C) AT TOP OF COM EQPT FR

DRAWING ISSUE
41D
44D
47D
51D
54D
55A JLF
56D JLF

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CAD 76

(FOR APP FIG. 77)
SEE NOTE 219
COMBINED OR COMPLETING MARKERS

SHOWN IN CAD 113 — 1 — TS(RES)ON RES UNIT(J) — 11B (SLC) REL

TO CAD 107 (MTFC-44)
59(EG) 3B (EG) REL
57(SAE) 4B (SAE) REL
56(A) 9T (A) REL
55(PBN) 3B (PBN) REL

TO CAD 95 (NGC-A)
54(LHB) 4B (EG) REL
54(PMC) 8BF (PMO) REL
52(OHE) 2B (A) REL
51(PBN) 5B (PBN) REL

TO CAD 95 (NGC-C)
44(L) 3T (OFK) REL
35(EG) 6T
32(OTB) 1B (SCR) REL
31(I.A) 5T
30(AK) 4T (E6) REL
3(OA) 5T (OFK) REL

TO CAD 140 — MTF19 — 11T (MTIO) REL

MFR DISC. — TO CAD 140
39 (59) — 99 10T
38 (5E) — 58 8T
37 (57) — 57 6T
36 (56) — 56 4T
35 (55) — 55 2T
29 (54) — 54 10B (MTIO) REL
28 (53) — 53 8B
27 (52) — 52 6B
26 (51) — 51 4B
25 (50) — 50 2B

PART OF DM — XAHG — SL — 044 — LC P — 10B (PBX2) REL
TO CAD 24
BY1 — 91 AF — 3B (OFK) REL — TS (AF) T & RR FR
BY1 — 91 CH — BY1 TO CAD 25 — TS (CH) COM EQPT FR

TO CAD 95 (NGC-C)
24(59) 9T
23(58) 7T
22(57) 5T
21(56) 3T
20(55) 1T
14(54) 9B (SLC) REL
13(53) 7B
12(52) 5B
11(51) 3B
10(50) 1B

TO CAD 221 — 28 6TF — 27 5T (PMO) REL — TS (RQ) ON T & RR FR (SEE NOTE 1)

TO CAD 227 (CE FR)
28 381 28 — TO CAD 67
27 380 27
26 379 26
24 378 24
23 377 23 — TO CAD 52
376 375 374 373 372 371 370 368 367 366 365 364 363

TO CAD 22 — RYT — 356 — 5T (PMO) REL — MFR DISC.
TO CAD 111 PART OF BX — LB — 323 — 1T (EG) REL
TO CAD 78 — MTIK — 322 — 13T (PBN) REL — (MTIO) REL
TO CAD 81 — RNG — 289 — 2B (OFK) REL
TO CAD 26 — POF — 262 — 8B
POL — 261 — 4T (PMO) REL
RNG — 260 — 10B (OFK) REL
TO CAD 25 — RNG — 118 — 9T (EG) REL
OFK — 117 — 13T (OFK) REL
PART OF BV — MTIOK — 110 — (MTIOK) 1B — 11B — TO CAD 107 (MTFC-10)
TO CAD 22 — MT9K — 98 — 12B (MTIO) REL
TO C.D 11 — BNI — 85 — 3B (PBX2) REL
TO CAD 26 — RNG — 65 — 1B (PMO) REL
TO CAD 28 — BS — 24 — 5 (TYM) REL
TO CAD 27
TO CAD 169 — NAR2 — NAR2 (A)
TO CAD 74 OR CAD 225 PART OF CR — RO — 432 — 7TR (PMO) REL — TS (AC) T&RR FR

TO CAD 225
56 49 B — 6T (SA9) REL
57 48 — 10T (MTIO) REL
58 47 — 6T (SA8) REL
59 46 — 8T (MTIO) REL
60 45 — 6T (SA7) REL
61 44 — 6T (MTIO) REL
62 43 — 6T (SA6) REL
63 42 — 4T (MTIO) REL
64 41 — 6T (SA5) REL
65 40 — 2T (MTIO) REL
66 39 — 6T (SA4) REL
67 38 — 10B (MTIO) REL
68 37 — 6T (SA3) REL
69 36 — 9B (MTIO) REL
70 35 — 6T (SA2) REL
71 34 — 6B (MTIO) REL
72 33 — 6T (SA1) REL
73 32 — 4B (MTIO) REL
74 31 — 6T (SAO) REL
75 30 — 2B (MTIO) REL
76 29 — 5T (PMO) REL
TO CAD 226 — 98 — 28 — 3B (UT) REL
99 — 27 — 7T (E9) REL
TS (RQ) ON T&RR FR (SEE NOTE 1)

CAD 77

(FOR APP FIG. 78)
SEE NOTE 219
FOR COMBINED AND COMPLETING MARKERS 0 & 1

TO FUSE PNL B D FUSE ON COM EQPT FR — (+130) — 10T (NTI) RES
TO CAD 27 — B53A
TO CAD 86 — B53 — 9T (NT5) REL
PART OF N — (NT2) RES TO GRD

SPL2 — 11T (SPLI) REL
B41 — 32 — (SP) LAMP
B40 — 31 — 5B (NT2) REL
B39 — 30 — 9B
GRD1 — 29 — 4B (NT) REL
TO CAD 85 — GRD2 — 28 — 4T (SPLC) REL
SPL — 111 (SPLI) REL
NT — 27 — 10T (NT) REL
MFR DISC. — NH — 26 — 4T (NH) REL — 4T (SPLI) REL
MN — 25 — 8T
TO CAD 27 — TR01 — 24 — 4B (SPH) REL

TO CAD 85 — SPC — 23 — 8T (SPC) REL
SP — 22 — 9B (SPLI) REL
TO CAD 25 — NTT — 21 — 6T (NT) REL
OF — 20 — 5T (NTT) REL
TO CAD 74 — SPLI — 19 — 3T (SPH) REL
TO CAD 129 — RCL — MFR DISC. — 18 — 8B
TO CAD 128 — RCL — R — 17 — 7B (NT) REL
TO CAD 129 — R — MFR DISC. — 16 — 1T (SFR) REL
TO CAD 28 — TFS — 15 — 4B (SPLI) REL
TO CAD 11 — TFS — 14 — 1B (SFR) REL
TO CAD 26 — CB2 — ST — 13 — 8T — 1T (SPLI) REL
TO CAD 27 — TRG — 12 — 5B
TRIA — 11 — 3B (SPH) REL
TO CAD 26 — LHM — 10 — 3T (NTT) REL
LFA — 9 — 7 (LF9) REL
NTH — 8 — 6T (NT) REL
LKI — 9T (MTI7) REL
TO CAD 28 — CHT — 6 — 3B (NTT) REL
TO CAD 128 — RYT — MFR DISC. — 5 — 6T (NT) REL
TO CAD 129 — RYT
LBI — 4 — 6T (SPH) REL
TO CAD 25 — LB — 3 — 7B
PL — ST — 2 — ST — 2T (SPLI) REL
TO CAD 5 — LHM — 1 — 2T (NTT) REL
PART OF N — 227A TS(NTI) ON NO TEST UNIT

TO MTF CONT BAY FROM MKR 0 TO MKR 0 FROM MKR 1 (LW) TO MKR1 FROM MKR0 — NTR — PART OF DN TO MTF — NTR — LW — 32 — 7T (MTI7) REL
TO CAD 26 — BB — 31 — 2B (NTC) REL
TO CAD 24 — CHT — 30 — 2B (NTT) REL
TO CAD 74 — SPL — 29 — 4T (SPH) REL
TO CAD 85 — NH(A) — 28 — 5T (SPLI) REL
NH(B) — 27 — 3T
PART OF N — TO CAD 74 — RCK — 26 — 4T (SPL) REL
TO CAD 27 — RCK1 — 25 — 5B
TO CAD 74 — RCK2 — 24 — 4D
TO CAD 78 — TP — 23 — 6B (LNT) REL
TO CAD 26 — TP — 22 — 7B
TO CAD 74 — SRK — 21 — 8T
PART OF P — RE — 227A TS(NT2) ON NO TEST UNIT — RE

PART OF P
TO CAD 25 — NCB — 32 — 7B (NT5) REL
NCA — 31 — 4B
ONX — 30 — 5T (NTR) REL
TO CAD 116 PART OF N — CHE1 — 29 — 1B
TO CAD 109 — 2F — 28 — 2B (SPLI) REL
THA(I) — 27 — 2T
TO CAD 45 — THA — 26 — 5T (SPLC) REL
PART OF LW-Z — 25
N — CHE — RE — 0 — SA — RC
TO CAD 27 — CHE — 24 — 9B
MPTI — 23 — 1B (NT4) REL
PTL — 22 — 12T (NT5) REL
NT — 21 — 6 (LF4) REL
NTI — 20 — 1B (NTT) REL
MNI — 19 — 11T (SPL) REL
NTH — 18 — 4B (NTH) REL
NT2 — 17 — 1T (J6) REL
M8-9 — 16 — 5 (LF9) REL
M6-7 — 15 — 5 (LF7) REL
M4-5 — 14 — 5 (LF4) REL
TO CAD 109 — M2-3 — 13 — 5 (LF3) REL
MO-1 — 12 — 5 (LF1) REL
MPT — 11 — 12B (NTI) REL
LLO — 10 — 2B
LL9 — 9 — 10T
LL8 — 8 — 8T
LL7 — 7 — 6T
LL6 — 6 — 4T
LL5 — 5 — 2T (NT5) REL
LL4 — 4 — 10B
LL3 — 3 — 8B
LL2 — 2 — 6B
LL1 — 1 — 4B
LW — 227A TS(NT5) ON NO TEST UNIT
ED OPTION SURFACE WIRE REQD ONLY WHEN MESS. REG DET IS FURN

TO CAD 221 — 45 — 1B (TM) REL

CHO — 20 — 3 (LFO) REL
CH9 — 19 — 3 (LF9) REL
CH8 — 18 — 3 (LF8) REL
CH7 — 17 — 3 (LF7) REL
CH6 — 16 — 3 (LF6) REL
CH5 — 15 — 3 (LF5) REL
CH4 — 14 — 3 (LF4) REL
CH3 — 13 — 3 (LF3) REL
CH2 — 12 — 3 (LF2) REL
CH1 — 11 — 3 (LF1) REL
TO CAD 24 — LL0 — 10 — 3B (MTI6) REL
LL9 — 9 — 6T
LL8 — 8 — 3T
LL7 — 7 — 9B (MTI7) REL
LL6 — 6 — 6B
LL5 — 5 — 3B
LL4 — 4 — 6T
LL3 — 3 — 3T
LL2 — 2 — 9B (MTI6) REL
LL1 — 1 — 6B
P — 227A TS(NT2) ON NO TEST UNIT

PART OF LW-Z — XAH6 — SU — 32 — 2B (SPL) REL
TO CAD 24
TO CAD 78 — SFB — 31 — 3T (SFR) REL
TO CAD 28 — MTR — 30 — 3B (NT) REL
TO CAD 24 PART OF N — XAH6(I) — SU — 29 — 1B (SPL) REL
CGT — 28 — 7T
TO CAD 25 — CCT — 27 — 5T (SPL) REL
MTI6 — 26 — 10T (MTI7) REL
TO CAD 78 — NT — 25 — 4T (NTH) REL
TO CAD 85 — MPT — 24 — 2B (NTT) REL
SF — 23 — MFR DISC. — 6T — 4T (SFR) REL
TO CAD 78 — TF31 OR SFB — 22 — 7T (NTT) REL
TO CAD 11 (MFR DISC.) OR TO CAD 27 — CHT2 — 21 — (CHT2) RES
TO CAD 24 — CHT1 — 20 — 5T
CHT — 19 — 2T (NT) REL
SDT4 — 18 — 5B
SDT3 — 17 — 6B (NTT) REL
SDT2 — 16 — 4B
TO CAD 78 — SDT1 — 15 — 10T (SPLI) REL
SDT — 14 — 2T
SFR — 13 — 4T (SPC) REL
SF — 12 — 2T (SFR) REL
TO CAD 20 PART OF N — NTLH — 11 — 7T
LLO — 10 — 1B (MTI6) REL
LL9 — 9 — 4T
LL8 — 8 — 1T
LL7 — 7 — 7B (MTI7) REL
LL6 — 6 — 4B
LL5 — 5 — 1B
LL4 — 4 — 4T
LL3 — 3 — 1T
LL2 — 2 — 7B (MTI6) REL
LL1 — 1 — 4B
TO MTF CONTROL BAYS FROM MKR 0 TO MKR 0 FROM MKR 1 (LW) — 227A TS(NT4) ON NO TEST UNIT — LW
PART OF DN TO MTF TO MKR1 FROM MKR0

SHEET NOTES:
1. SEE CAD 226 FOR SPARES.

DRAWING ISSUE		
41D	MK	
43B	AH	AM
51D	JK	MB
	MK	MK
54D	CAL	CAL
	AMB	AMB
55A	JK	
56D	JK	

MARKER CIRCUIT (2)
BELL TELEPHONE LABORATORIES INCORPORATED
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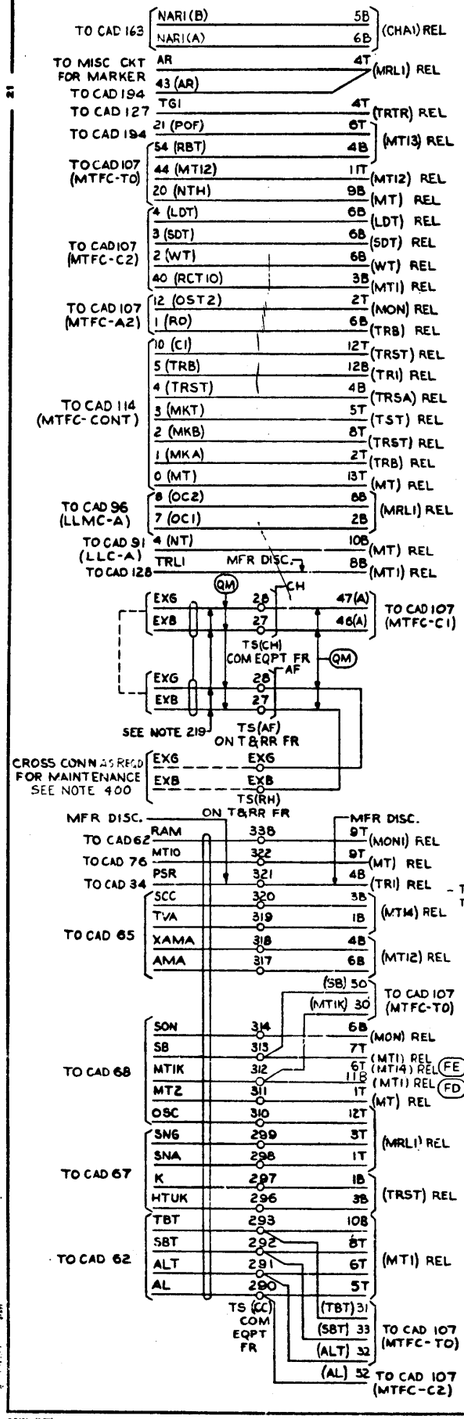
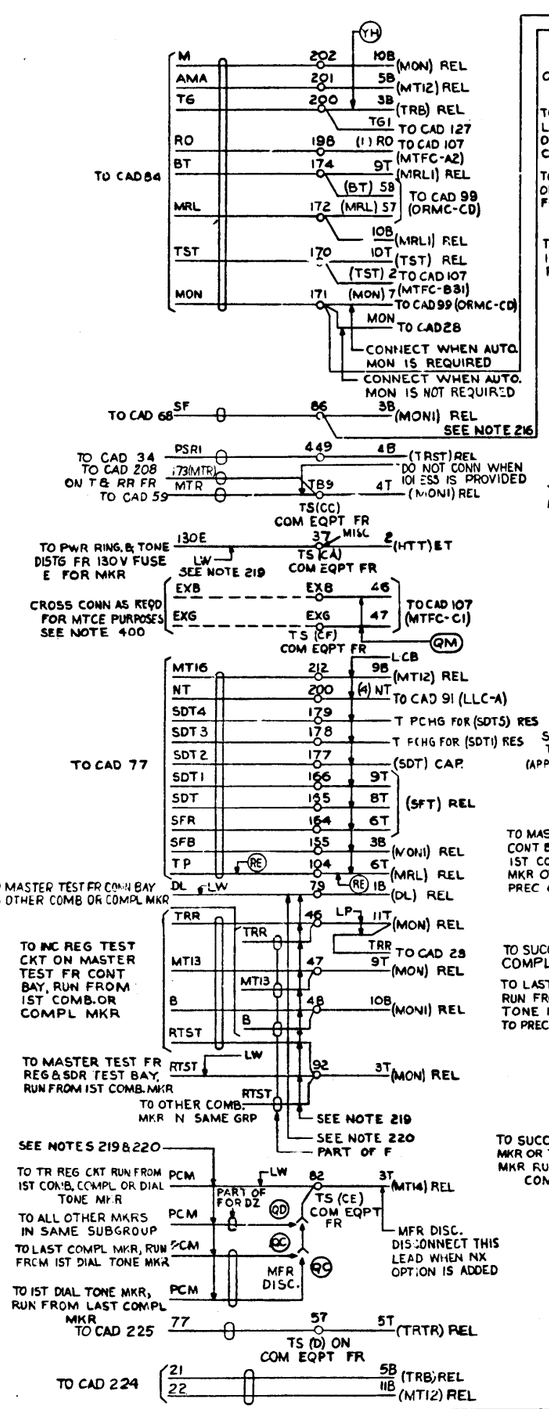
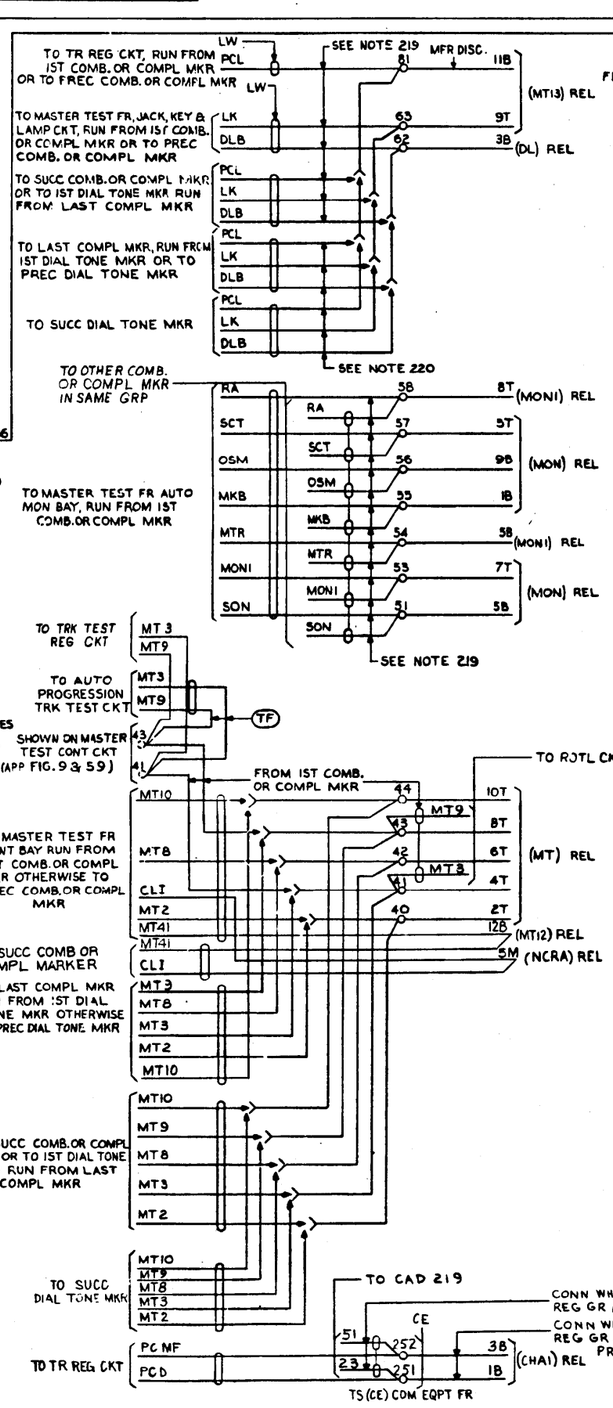
PART OF CAD 78

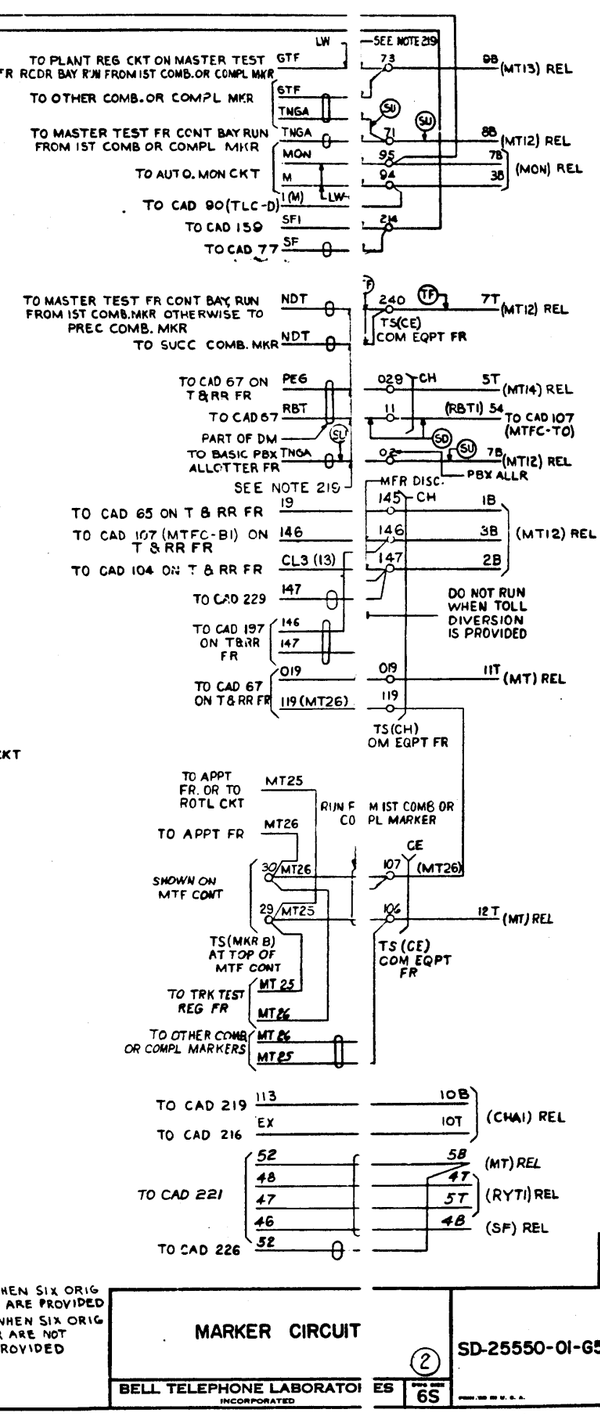
(FOR APP FIG. 7J, O, N, AI, & AJ)

FOR COMBINED MARKERS









DRAWING ISSUE	
41D	
43B	
46D	
47D	
49D	
51D	
54D	
55A	LT
56D	LT

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

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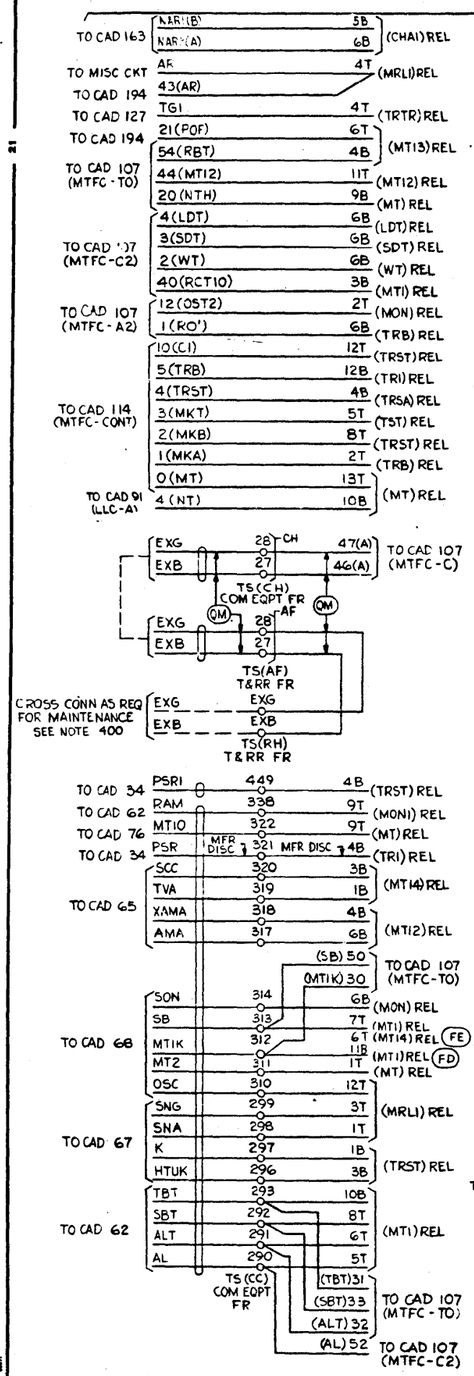
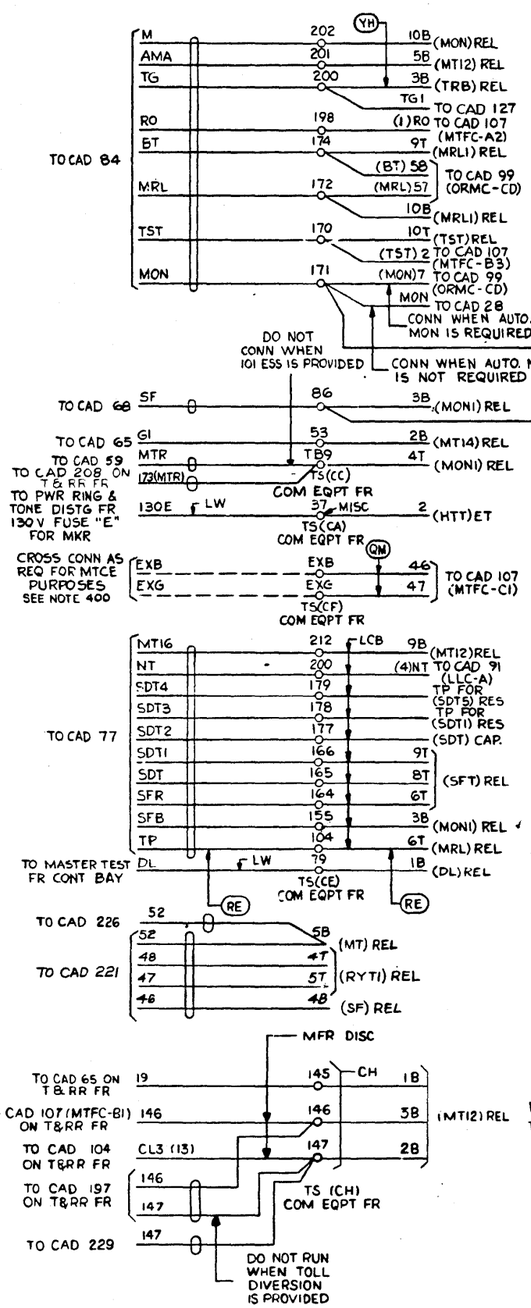
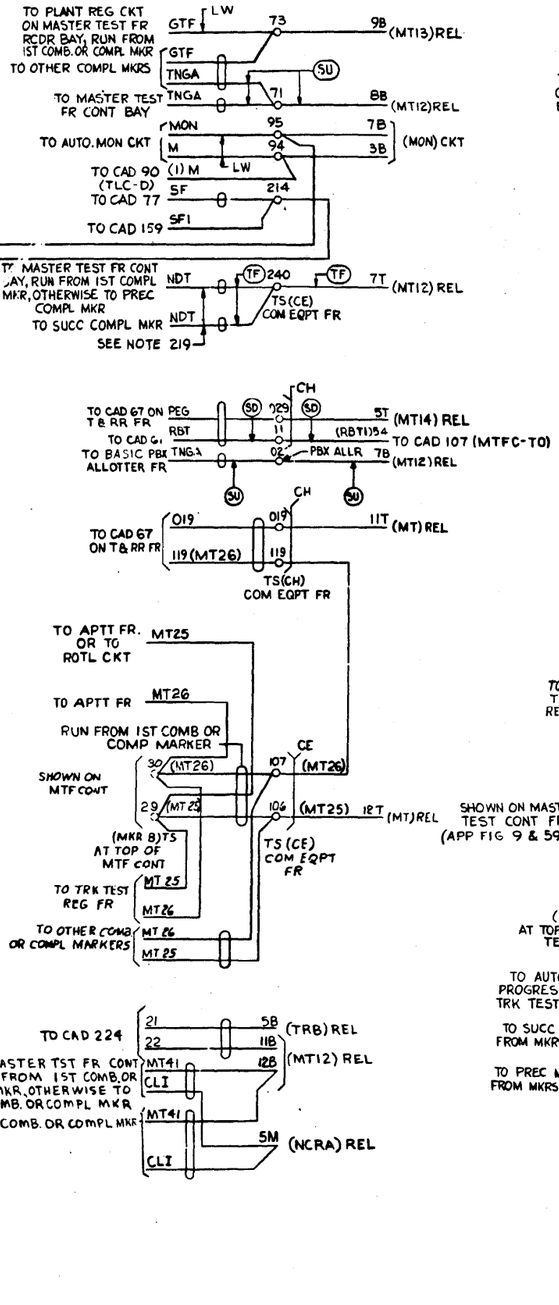
6S

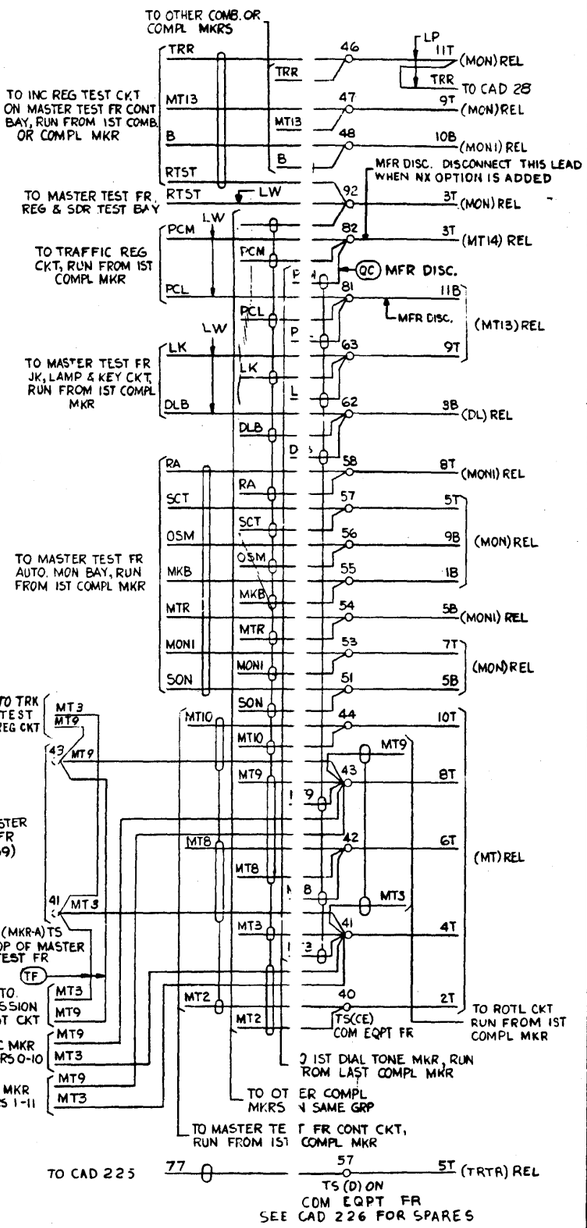
PART OF CAD 78

(FOR APP FIG. 79, O, N, AI & AJ)
FOR COMPLETING MARKERS









ISSUE		
41D	#C	
43B		
47D		
49D		
51D		
54D		
55A	LT	
56D	LT	

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

(2) SD-25550-01-G51

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0 1 2 3 4 5 6 7 8 9

PART OF CAD 78

(FOR APP FIG. 79, O, N, AI & AJ)

FOR DIAL TONE MARKERS

TO CAD 107 (MTFC-C5): 58(LDT) 6B (LDT) REL; 57(SDT) 6B (SDT) REL; 56(WT) 6B (WT) REL

TO CAD 107 (MTFC-C4): 59(MRL) 10B (MRL1) REL

TO CAD 107 (MTFC-T2): 52(MO1) 10T

TO CAD 107 (MTFC-C6): 44(RA) 10T (MT1) REL

TO CAD 107 (MTFC-T2): 20(NTH) 9B (MT) REL

TO CAD 90 (TLC-D): 12(BT) 9T (MRL1) REL

TO CAD 114 (MTFC-CONT): 10(C1) 12T (TRST) REL; 5(TRB) 12B (TRI) REL; 4(TRST) 4B (TRSA) REL; 2(MKB) 8T (TRST) REL; 1(MKA) 2T (TRB) REL; 0(MT) 13T (MT) REL

TO CAD 96 (LLMC-A) A&M ONLY OR TO CAD 147 (LLMC-A): 8(OC2) 8B; 7(OC1) 2B (MRL1) REL

TO CAD 114: 7(RON) 4T (RON) REL; 6(RCCK) 4T (RCCK) REL

TO CAD 91 (LLC-A): 4(NT) 10B (MT) REL

TO CAD 96 (LLMC-A) A&M ONLY OR TO CAD 117 (LLMC-A) TO MISC CKT: 12(BT) 9T; AR 4T (MRL1) REL

TO PWR, RING & TONE DISTG FR 130V FUSE F FOR MKR: 130-E LW-C 37 MISC 2 TS(CA) (HTT) ET

TO AUTO. MON CKT: M LW-G 94

TO CAD 90 (TLC-D): 1(M)

TO MASTER TEST FR CONT BAY: DL LW-Q 79 1B (DL) REL

TO TR REG CKT, RUN FROM 1ST DIAL TONE MKR: PCM LW-N 82 MFR DISC. 3T (MT14) REL

PCM (QC) MFR DISC.

PCL 81 11B; PCL MFR DISC. (MT13) REL

LK 63 9T

TO LAST COMPL MKR FROM 1ST DIAL TONE MKR: LK 62 5B (DL) REL

DLB

MT9 43 8T; MT8 42 6T (MT) REL; MT3 41 4T

PART OF DY OR DZ; PART OF DZ

TO OTHER DIAL TONE MKRS IN SAME GRP

CE — CONN WHEN SIX ORIG REG GROUPS ARE PROVIDED; TO CAD 219

TO TR REG CKT: PCMF 252 51 3B; PCD 251 23 1B (CHAI) REL

TS(CE) COM EQPT FR (SM) — CONN WHEN SIX ORIG REG GROUPS ARE NOT PROVIDED

CROSS CONN AS REQ FOR MTCE PURPOSES ONLY: EYB EXB 46; EXG EXG 47 TO CAD 107 (MTFC-C5)

TS(CF) COM EQPT FR

TO CAD 219 113 10B (CHAI) REL

CAD 80

(FOR APP FIG. 81) SEE NOTE 219

FOR COMBINED OR COMPLETING MARKERS

TO CAD 107 (MTFC-A2): 59(TG19) 4T (TG19) REL; 40(TG0) 4T (TG0) REL; 35(TB5) 4T (TB5) REL; 30(TB0) 4T (TB0) REL

TO CAD 89 (TLC-A): 49(TG19) 2T (TG19) REL; 40(TG10) 2T (TG10) REL; 39(TG9) 2T (TG9) REL; TO CAD 219 95; 32(TG2) 2T (TG2) REL; 88; 31(TG1) 2T (TG1) REL; 30(TG0) 2T (TG0) REL

TO CAD 88 (TLC-E): 6(TB5) 2T (TB5) REL; 87; 2(TB1) 2T (TB1) REL; 83; 1(TB0) 2T (TB0) REL

CONN WHEN OVLD ANNOUNCEMENT IS PROVIDED

TG19 — 18 TG TG19

TO CAD 66: TG5 42 5 TG5; TG4 41 4 TG4; TG3 40 3 TG3; TG2 39 2 TG2; TG1 49 1 TG1; TG0 16 0 TG0

TB 5 TB5; 18 TB0

TO CAD 107 (MTFC-A2)

TO CAD 219 — TS (CC) COM EQPT FR

TO CAD 219: 100 1T (TB5) REL; 141 1T (TG0) REL

TO CAD 230: 3 5B (TB0) REL; 2 3B (TB0) REL; GRD "BI" (TB5) NET

DRAWING ISSUE

41D	CJT	
43B	MH	
49D	LF	
51D	JR	
56D	JK	

MARKER CIRCUIT (2) SD-25550-01-G52

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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CAD 81

(FOR APP FIG. 82, U, 105, AND AZ)
SEE NOTE 219

FOR COMBINED OR COMPLETING MARKERS

TO CAD 196 — 101 (MR) 133 — 5B / 4B (SOGI) REL

TO CAD 163 — NAR1 6T (TERI) REL; NGF 3B (ITRI) REL; NAR3 4B (ITRI) REL; NAR4 1T (TERI) REL

TO CAD 107 (MTFC-A2) — 36(FM) 9T (FM) REL

TO CAD 86 (TLC-B) — 6(OF) 4T (FMP) REL

TO CAD 92 (LLC-B) — 6(OF) 6T (FMP) REL

TO CAD 27 — FC 1B (RCY) REL; ORB 7B (2FA) REL

TO CAD 130 — G 6B (TOGI) REL

TO CAD 74 — PMO (MFR DISC.) 6B (TERI) REL

TO CAD 122 — CKI 4B (MFR DISC.) 3T; RBT 10T (TOGI) REL; TS 1B (TERI) REL

TO CAD 26 — RNG 3B (ITA) REL

TO CAD 60 — ST (RR) (RS) 25 (RS) — ST RES LAMP

TO CAD 116 ON COM EQPT FR — TS(A) ON T&RR FR — NOT REQD FOR COMBINED MARKERS

TO CAD 67 — RNG2 458 3T

TO CAD 117 OR 185 — RNG2 457 2T (NGB) REL

TO CAD 47 — PC 444 6T (RAVI) REL

CONN WHEN OVLD ANNOUNCEMENT IS NOT PROVIDED

TO CAD 34 — RL 352 1B (RBT) REL

TO CAD 84 — LTA 351 10T (RAV2) REL

TO CAD 76 — RNG 289 4B (ITA) REL

GTL 288 6B (RAV2) REL

GT2 286 7B (RCY) REL

TO CAD 62 — CKG4 285 4T (RAV2) REL

SNK 284 3T (SNK) REL

RAL 283 9B (RAVI) REL

TO CAD 47 — OS 281 6B; TB 280 4T; TG 279 2T (RCY) REL

TO CAD 62 — IFM 287 (MFR DISC.) IFM 6B — TO CAD 130 OR 139 (TERI) REL

TO CAD 44 — TR2 278 1B; TRI 277 3B (NGP) REL

TAN 350 8T (RAV2) REL

LFB 274 5T; CA 273 (MFR DISC.) 2T 9T (TOGI) REL

TO CAD 40 — SOGI 272 10T (SOGI) REL; ITRI 271 12T (ITRI) REL; ROA 270 4T (TOA) REL

TO CAD 52 — BY 268 1B (ITRI) REL

TO CAD 84 — TMB 197 9B (NGB) REL

TS(CC) COM EQPT FR

TO CAD 219

TO CAD 221 — 53 3B (RF) REL

TO CAD 65 — 1(CP5) 12T (RAVI) REL

SEE NOTE 220 — TLC-CK

TO TRK LINK CONN FR — CKI9 19; CKI0 10; CK9 9; CK0 0 — MFR DISC. 39 TO CAD 107 (MTFC-A2); CK TO CAD 122; CK TO CAD 157

TO LINE INS TEST FR TEST CONT CKT — AG; TMB; TMB(LLC); TMB; TMB — WHEN LINE INS TEST FR IS PROVIDED 9 — 3B (LLB) REL

TO LLC FR 0-9 — WHEN LINE INS TEST FR IS NOT PROVIDED

TO TRAFFIC REG CKT RUN FROM 1ST COMB. OR COMPL MKR. — FM 83 TS (CE) COM EQPT FR — (RX) 6B (RFA) REL; 9B (ITRI) REL; (RW) MFR DISC.

TO ALL OTHER COMB. OR COMPL MKR IN SAME GROUP — FM — LW — 8 — TO CAD 215

TO CAD 183 — TOBS 6T (SOGI) REL

TO CAD 122 — TS(I) 6B (TEA) REL

TO CAD 194 — 10(TR2A) 2T (ROA) REL; 09(TR2(I)) 9T (TERI) REL

TO CAD 47 — FM2 23 CH 7B (RFA) REL; FM1; FM 22 — FMP TO CAD 26; TO CAD 28

MFR DISC. — TS(CH) COM EQPT FR — MFR DISC. 11B (RAV2) REL

SHOWN IN CAD 113 — TS(RES) RES UNIT E

TO CAD 20 — B 479 — (FC) RES LP — TS(AC) T & RR FR

TO CAD 194 — 58(2(a)) (UV) MFR DISC. 10B (TERI) REL

TO CAD 219 — 25 9B (RAVI) REL; 114 1B (RCY) REL; 58 3T (XRS4) REL; 60 1T (XSL) REL; 121 2T; 119 4T (RCY) REL; 137 12T (RAVI) REL; 136 2B (ITRI) REL; 134 13T (RCY) REL; 139 7T (SNK) REL

NOT REQD ON COMPLETING MARKERS

FOR DIAL TONE MARKERS

TO CAD 107 (MTFC-A8) — 54 9T (FM) REL

TO CAD 86 (TLC-B) — 6(OF) 4T (FMP) REL

TO CAD 92 (LLC-B) — 6(OF) 6T

TO CAD 122 — TS 6B (TEA) REL

TO TRK LINK CONN FR 00-19 — CKI9 TLC-CK 19; CKI0 10; CK9 9; CK0 0 — MFR DISC. 5T TO CAD 107 (MTFC-AB); CK TO CAD 11; CK TO CAD 157

TO ALL OTHER DIAL TONE MKR IN SAME GRP TO TR REG CKT — FMP; FMP — 4B — 5B (RFA) REL — MFR. DISC.

TO LINE INSULATION TEST FR — TMB; TMB(LLC); TMB; TMB — AG

TO LINE LINK CONN FR — TS (CE) COM EQPT FR

CONN WHEN PAIRED LL OPERATION IS PROVIDED IN ONLY PART OF THE LL FRAMES IN A MKR GR

SHOWN IN 11 CAD 113 — 11B (RAVI) REL — TS (RES) RES UNIT E

TO CAD 219 — 25 9B (RAVI) REL; 114 1B (RCY) REL; 58 3T (XRS4) REL; 60 1T (XSL) REL; 98 1B (RFA) REL; 138 13T (RAVI) REL; 134 13T (RCY) REL; 139 7T (SNK) REL

TO CAD 226 — 100 — 58 6T (ROA) REL — TS (A) ON COM EQPT FR (SEE CAD 226 FOR SPARES)

CAD 82

(FOR APP FIG. 83)
SEE NOTE 219

FOR COMBINED OR COMPLETING MARKERS

TO CAD 202 — 098 (FGK) (KG) 2T (FGK) REL; FGS 1T (FGK) REL

53 (XRS1) 1B (XR54) REL

52 (XR5) 1B (XARS) REL

51 (X55) 4T (X5) REL

50 (XLO) 1B (XLO) REL

49 (XSL) (MFR DISC.) 1B 3B (X5L) REL

48 (XCKR) 1B (XCKR) REL

47 (XRL) 1B (XRL) REL

46 (XTCI) 1B (XTCI) REL

45 (XTC) 1B (XTC) REL

44 (XMRL) 1B (XMRL) REL

43 (XTRL) 1B (XTRL) REL

42 (XBT) 1B (XBT) REL

41 (XTRK) 1B (XTRK) REL

40 (XT5) 4B (XT5) REL

TO CAD 107 (MTFC-A3) — 39 (XTGI) 1B (XTGI) REL; 38 (XTSI) 1B (XTSI) REL; 37 (XFG) 1B (XFG) REL; 36 (XN) 1B (XN) REL; 35 (XCH) 1B (XACH) REL; 34 (XLS) 1B (XLS) REL; 33 (XTBI) 1B (XTBI) REL; 32 (X5A) 1B (X5A) REL; 31 (X5) 1B (X5) REL; 30 (XLV) 1B (XALV) REL; 29 (XVGA) 1B (XAVGA) REL; 27 (XHG) 1B (XAHG) REL; 26 (XLG) 1B (XALG) REL; 20 (XVGB) 1B (XAVGB) REL

TO CAD 86 (TLC-B) — 51 (XFT) 2RT (XFT) REL; 5 (LVK) 2RT (XLV) REL

TO CAD 107 (MTFC-GO) — 14 (XFT) 1B (XAFT) REL

TO CAD 107 (MTFC-A2) — 10 (RSC) 2T (XT5) REL

NOT REQUIRED FOR COMPLETING MARKERS

FOR DIAL TONE MARKERS

MFR DISC. 1B

TO CAD 07 (MTFC-B) — 49 (X5L) 3B (X5L) REL; 46 (XTCI) 1B (XTCI) REL; 45 (XTC) 1B (XTC) REL; 43 (XTRL) 1B (XTRL) REL; 42 (XBT) 1B (XBT) REL; 41 (XTRK) 1B (XTRK) REL; 39 (XTGI) 1B (XTGI) REL; 38 (XTSI) 1B (XTSI) REL; 37 (XFG) 1B (XFG) REL; 35 (XCH) 1B (XACH) REL; 34 (XLS) 1B (XLS) REL; 30 (XLV) 1B (XALV) REL; 29 (XVGA) 1B (XAVGA) REL; 27 (XHG) 1B (XAHG) REL; 26 (XLG) 1B (XALG) REL; 20 (XVGB) 1B (XAVGB) REL

TO CAD 86 (TLC-) — 51 (XFT) 2RT (XFT) REL; 5 (LVK) 2RT (XLV) REL

TO CA. 107 (MTFC 4) — 14 (XFT) 1B (XAFT) REL

TO CAD 225 — 78 — 42 — 1T (X5L) REL — TS (B) ON COM EQUIP FR SEE CAD 226 FOR SPARES

TO CAD 46 — XN 237 5T (XN) REL

TO CAD 65 — XT1 230 2RT (XT1) REL; XT2 206 2RT (XT2) REL

TO CAD 68 & 225 — XSS 226 3T (XSS) REL

TO CAD 84 — XS 220 5TF (XS) REL

TS (CC) COM EQPT FR

TO CAD 112 — H9 117 2T (XSS) REL — TS (CE) COM EQPT FR

TO BASIC PBX ALLOTTER FR — MXT 11 1T; COX 01 3T (XACH) REL — PBX ALLR — TS (CH) COM EQPT. FR

TO CAD 223 — 15 — 2RT (XT2) REL

ISSUE
41D J.P. KWH
45B KTR, JEG, CSM, GGL, AWP
46D EM, JML, AWD
49D JEG, WDS, AWD
51D CF, GGL, AWD
54D

MARKER CIRCUIT (2) SD-25550-01-G53

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

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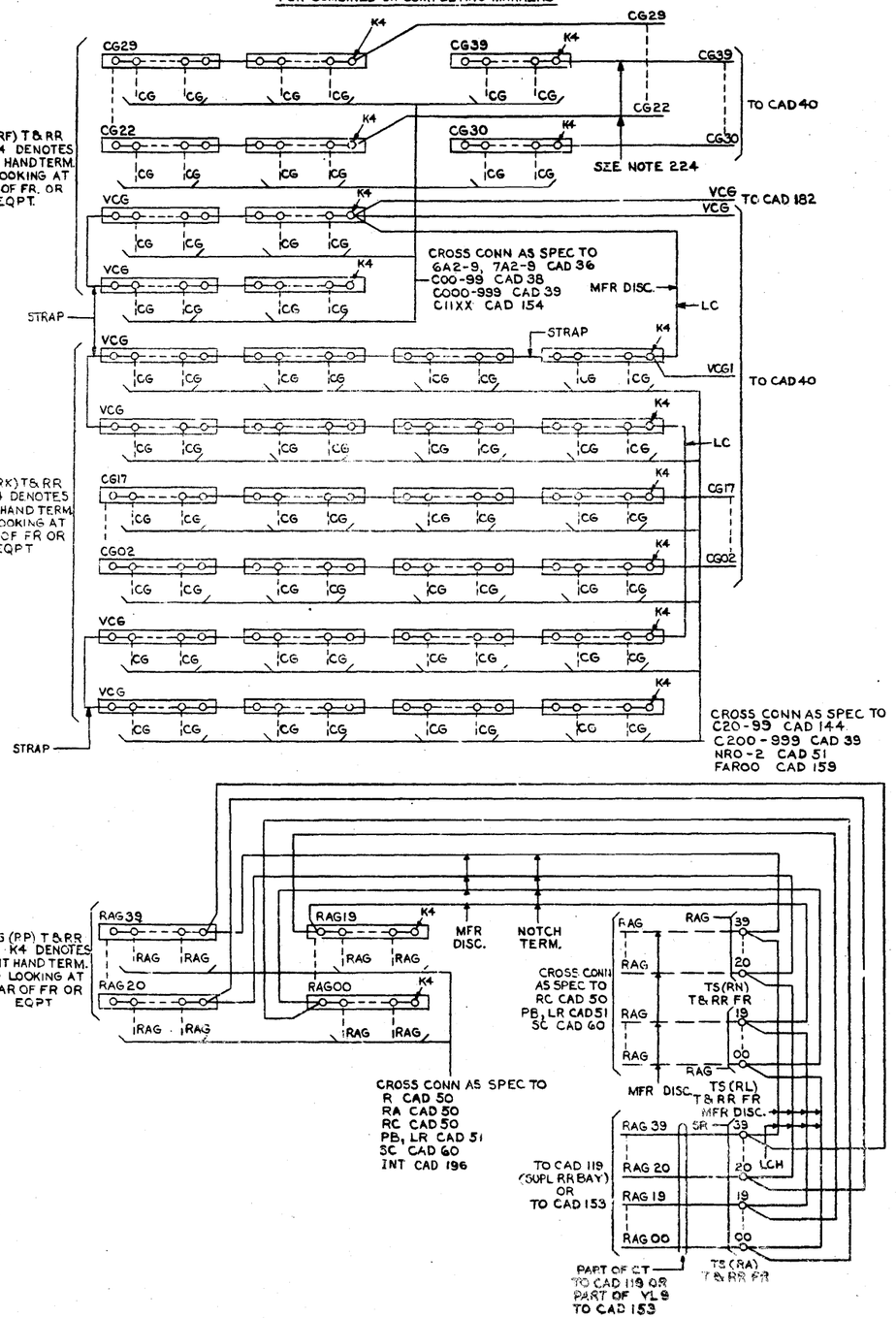
CAD 83

(ONE PER TORR FR)
SEE NOTE 219

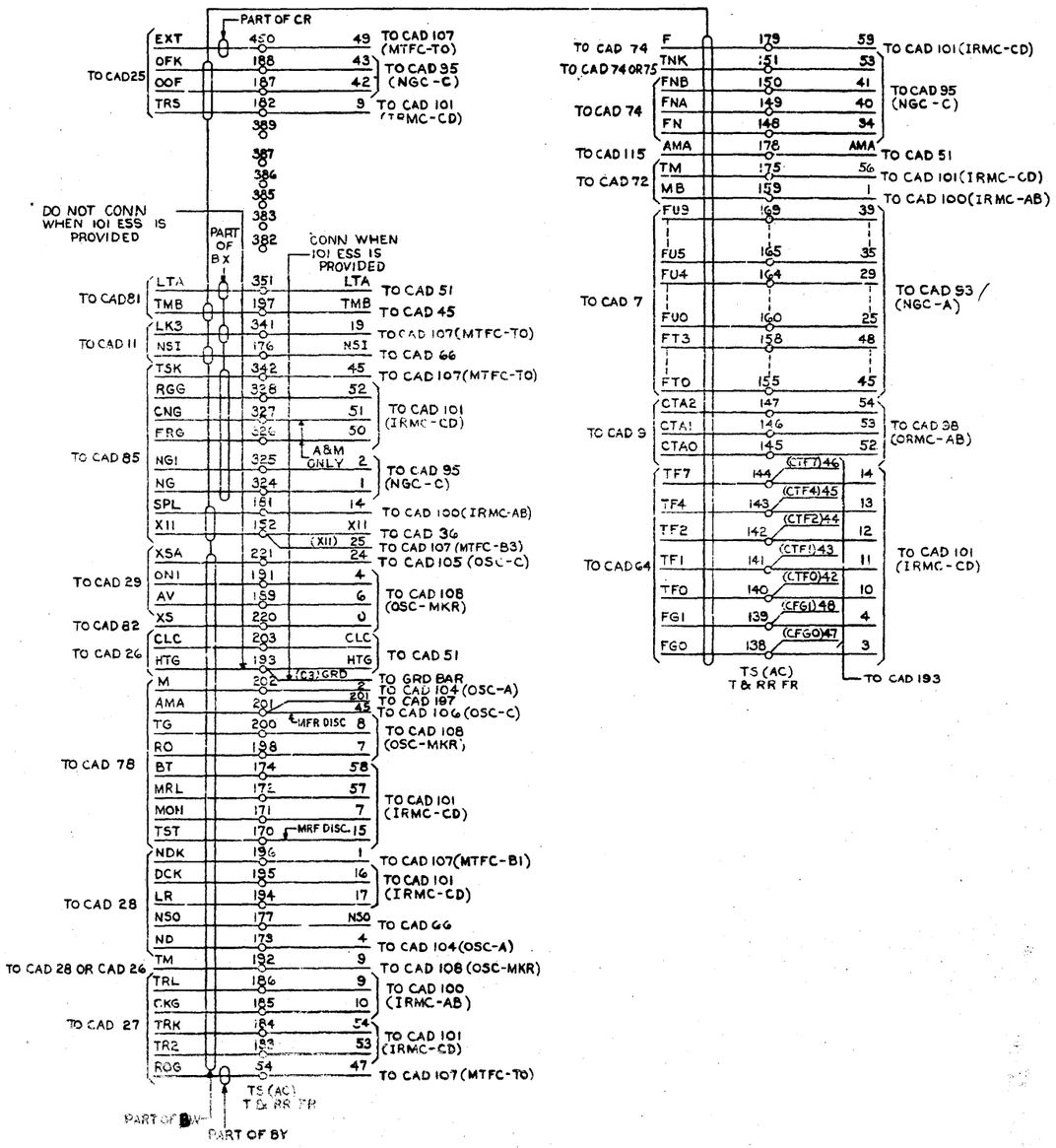
FOR COMBINED OR COMPLETING MARKERS



CAD 84

SEE NOTE 219

FOR COMBINED OR COMPLETING MARKERS



DRAWING ISSUE		
41D	KEE KM	WUF
42D	KEE KM	P.O.
47C	MRE LM	CR
54D	MRE LM AND KEL AND	

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-654

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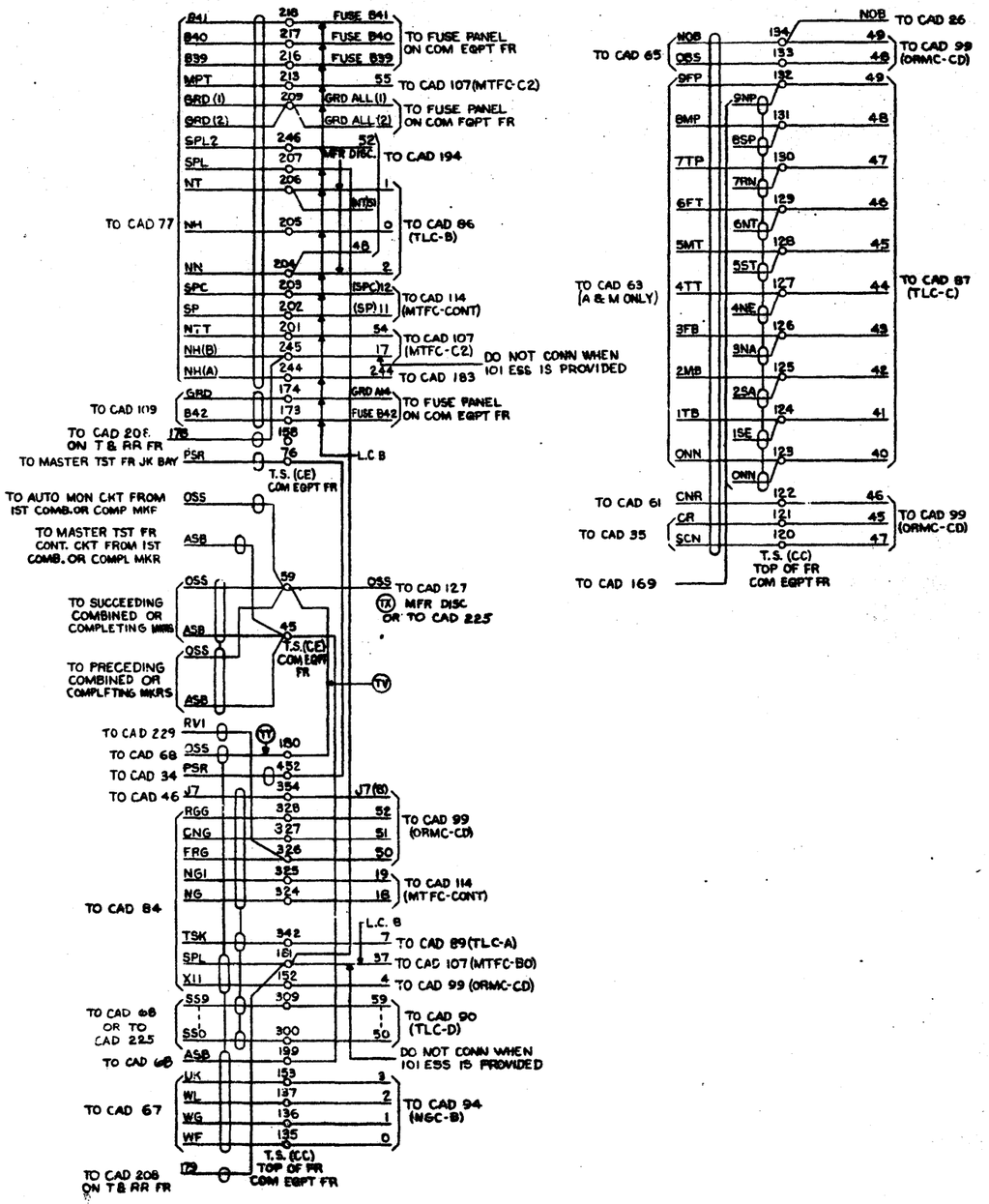
SD-25550-01-654

CAD 85

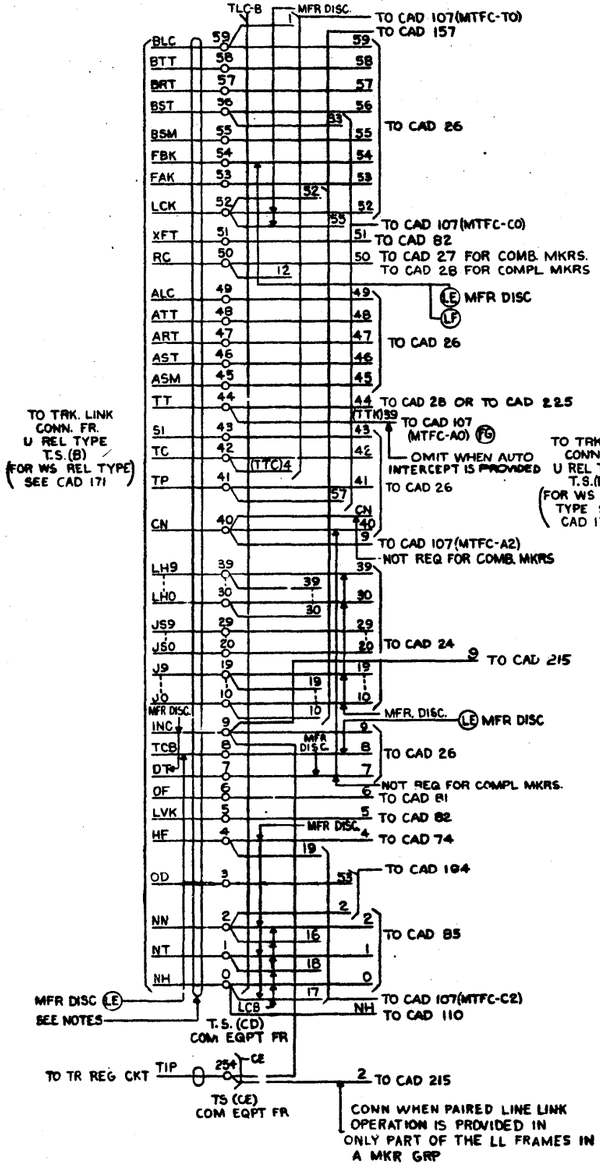
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS



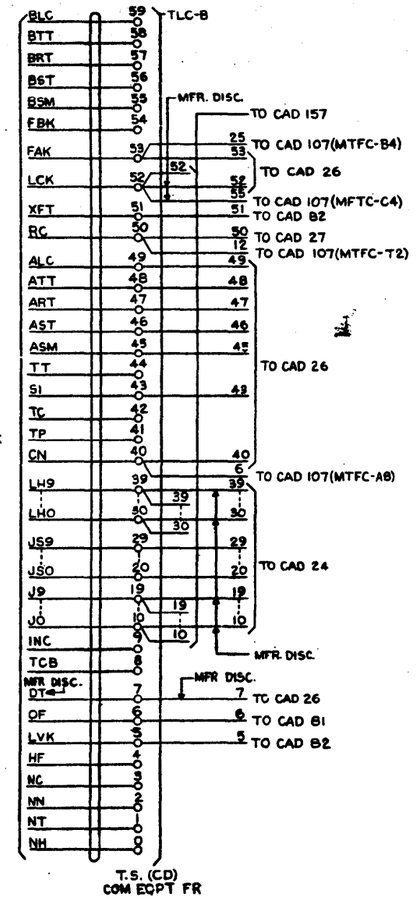
CAD 86

(FOR APP FIGS. 28,29,31,32,79 & 83)

SEE NOTES 219 & 220
FOR COMBINED OR COMPLETING MKRS



FOR DIAL TONE MARKERS



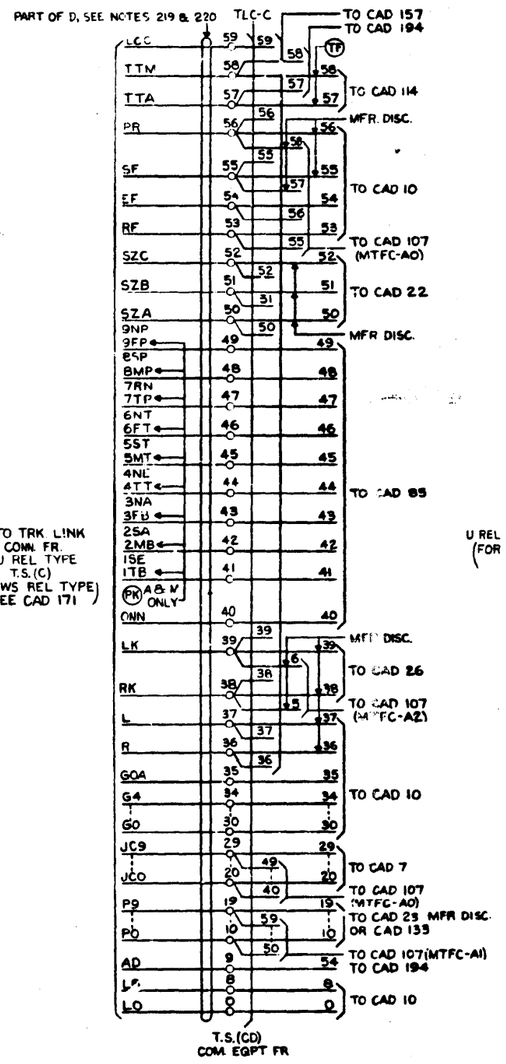
DRAWING ISSUE
41D
44B
45B
47D
48D
51D
54D
56D JK

MARKER CIRCUIT
(2) SD-25550-01-055
BELL TELEPHONE LABORATORIES INCORPORATED
65
58

SD-25550-01-055

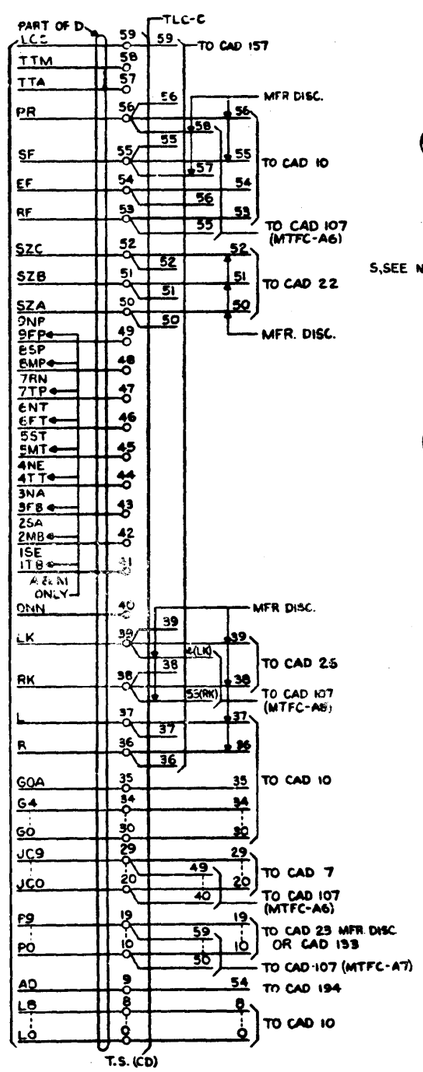
CAD 87
(FOR APP. FIGS. 27, 28, 31, & 65)

FOR COMBINED OR COMPLETING MARKERS



TO TRK LINK CONN. FR. U REL TYPE T.S.(C) (FOR WS REL TYPE) SEE CAD 171

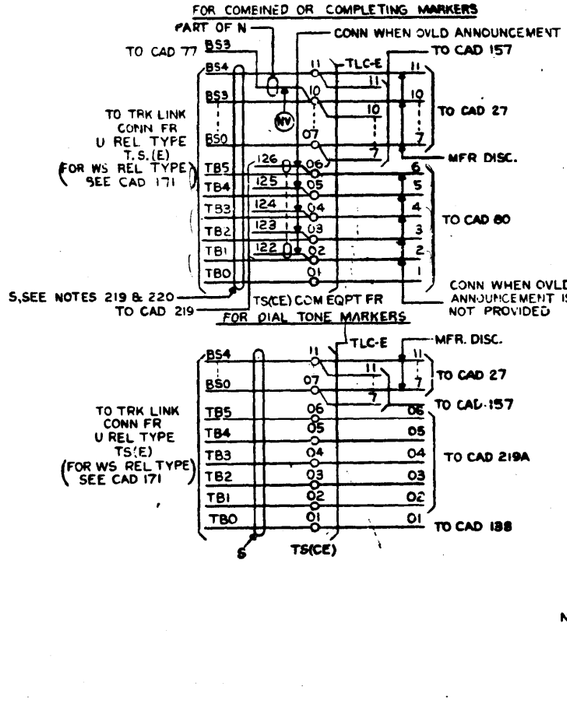
FOR DIAL TONE MARKERS



TO TRK LINK CONN. FR. U REL TYPE T.S.(C) (FOR WS REL TYPE) SEE CAD 171

CAD 88
(FOR APP FIGS. 32 & 81)

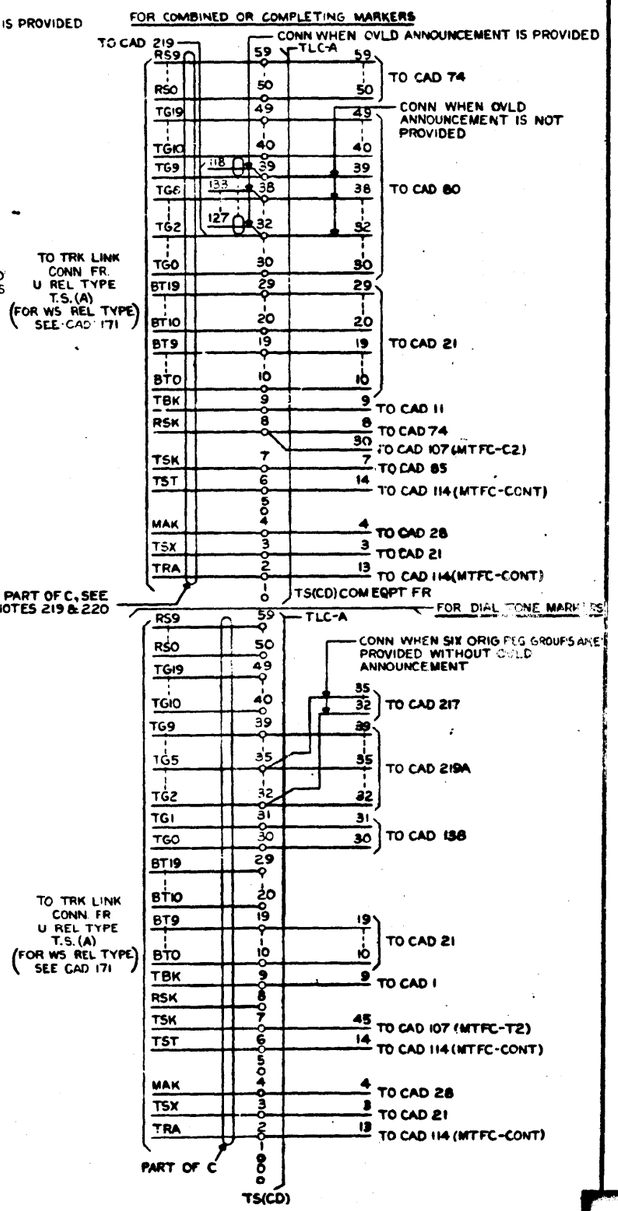
FOR COMEINED OR COMPLETING MARKERS



FOR DIAL TONE MARKERS

CAD 89
(FOR APP. FIGS. 32, 49, 75, 79, & 81)

FOR COMBINED OR COMPLETING MARKERS



FOR DIAL TONE MARKERS

DRAWING ISSUE
4ID
49D

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
②
SD-25550-01-656
49

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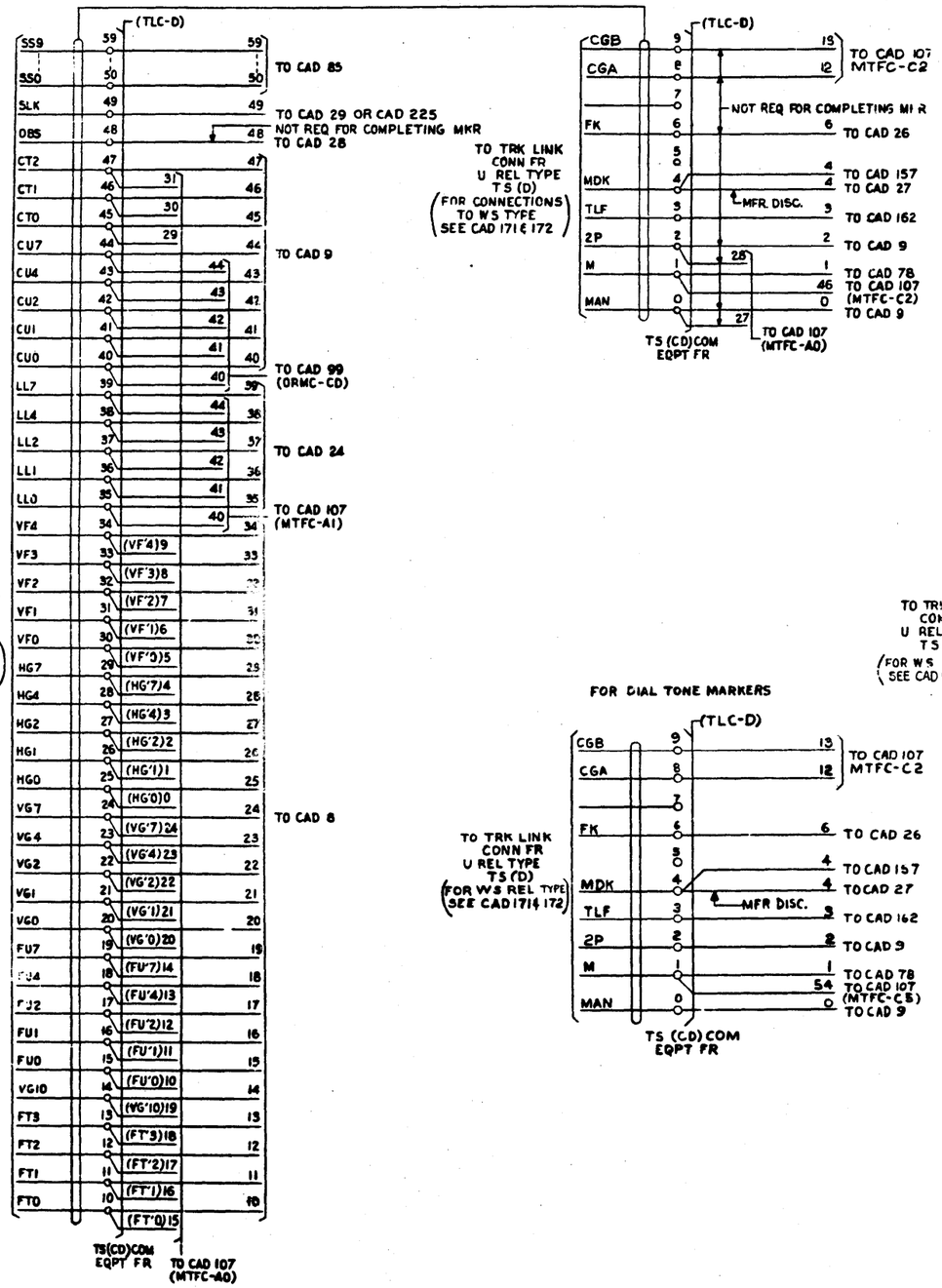
6S

SD-25550-01-656

CAD 90

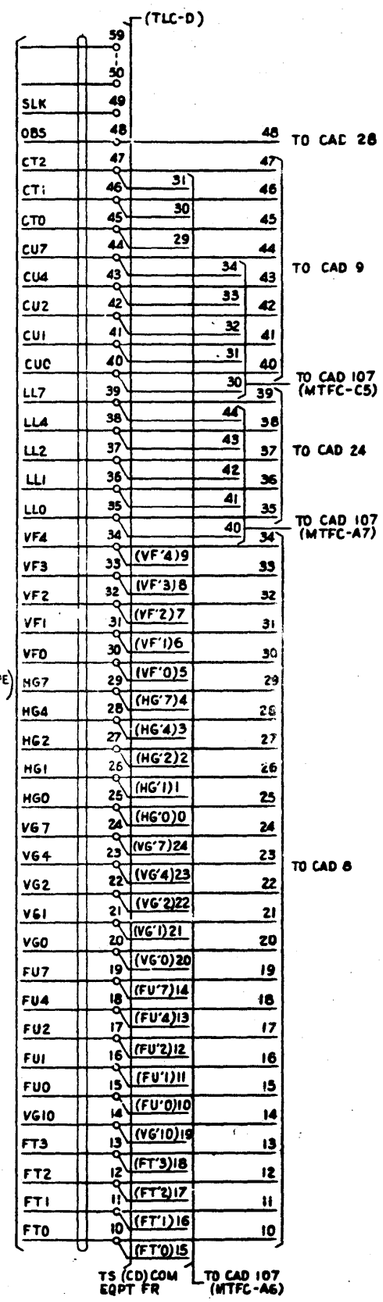
(FOR APP FIG. 9, 10, 12, 14, 16, 29, 31, 32, 69 & 79)

FOR COMBINED OR COMPLETING MARKERS



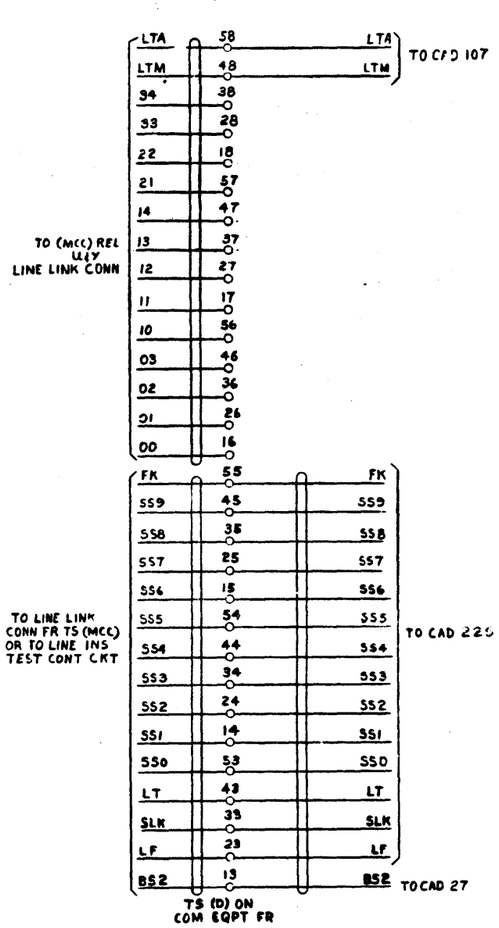
FOR DIAL TONE MARKERS

FOR DIAL TONE MARKERS



PART OF CAD 91

(FOR APP FIG 1, 3, 29, 31, 32 & 185) FOR SWBD CABLE CONNECTIONS TO WIRE SPG REL LINE LINK CONN SEE CAD 173 SEE NOTE 211



DRAWING ISSUE	
41D	LEB, KAA, CJD
49D	EPL, JMB
54D	LP, ABL, BAD, BMD

MARKER CIRCUIT	2	SD-25550-01-657
BELL TELEPHONE LABORATORIES INCORPORATED	6S	

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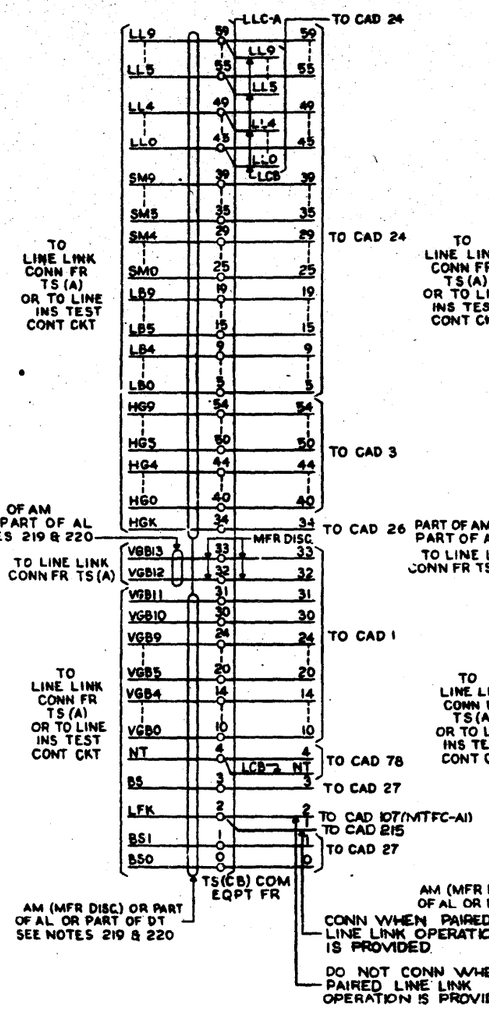
SD-25550-01-657

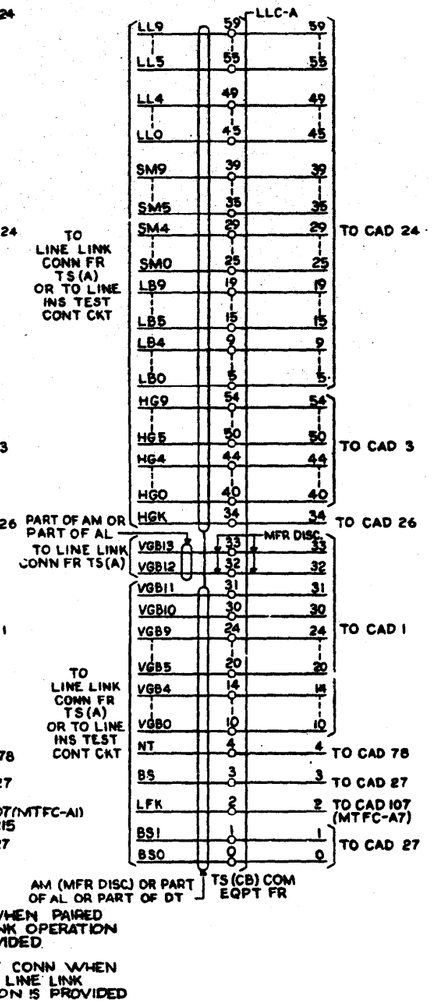
PART OF CAD 91

(FOR APP FIG. 1,3,29,31,& 32)
FOR SWBD CABLE CONNECTIONS TO WIRE SPG REL LINE LINK CONN
SEE CAD 173
SEE NOTE 211

FOR COMBINED OR COMPLETING MARKERS



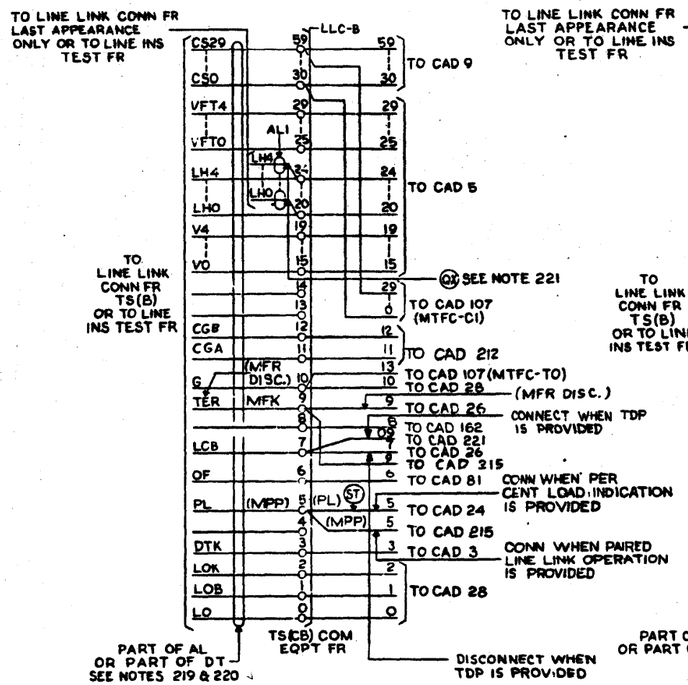
FOR DIAL TONE MARKERS



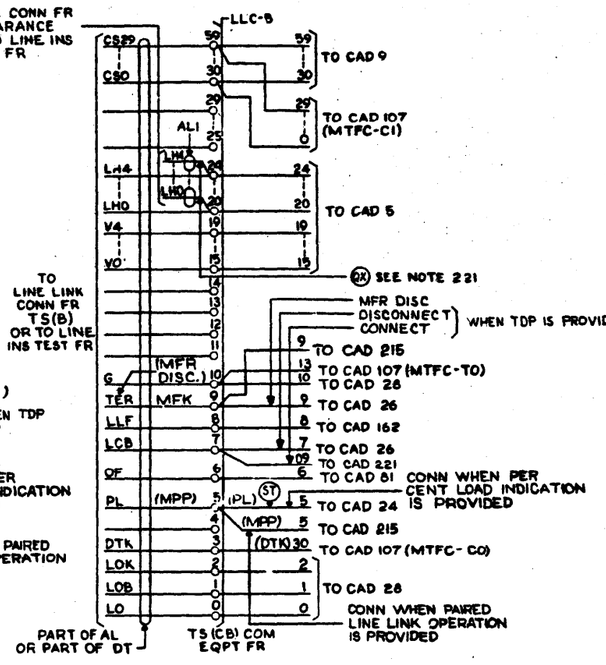
CAD 92

(FOR APP FIG. 5,12,14,16,& 29)
FOR SWBD CABLE CONNECTIONS TO WIRE SPG REL LINE LINK CONN
SEE CAD 173, SEE NOTE 211

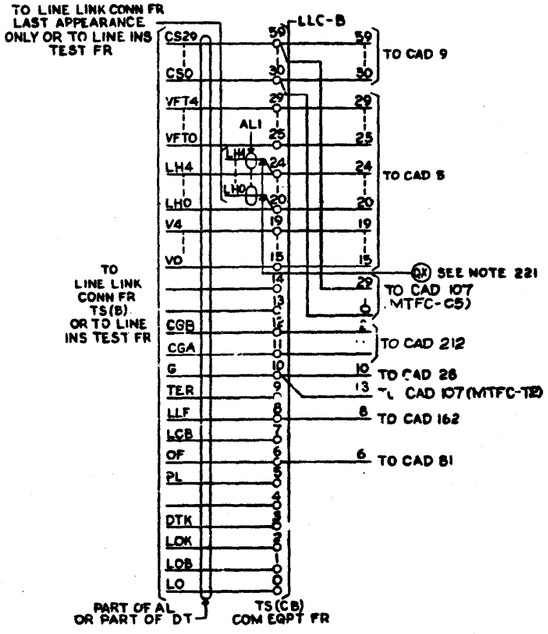
FOR COMBINED MARKERS



FOR COMPLETING MARKERS



FOR DIAL TONE MARKERS



TO LINE LINK CONN FR TS (MCC) OR TO LINE INS TEST FR — LFK1 — 52 — LFK1 — TO CAD 285
TS (B) ON COM EQPT FR (SEE CAD 226 FOR SPARES)

DRAWING ISSUE
41D
49D
51D
54D

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

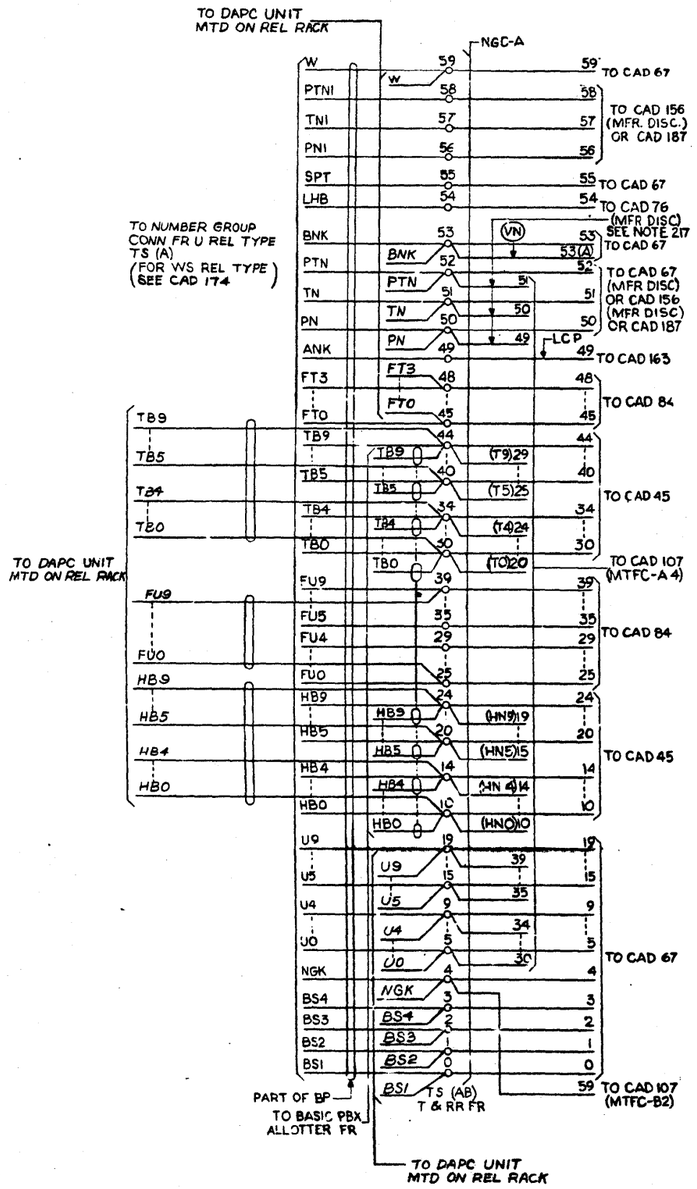
SD-25550-01-G54

54

SD-25550-01-G54

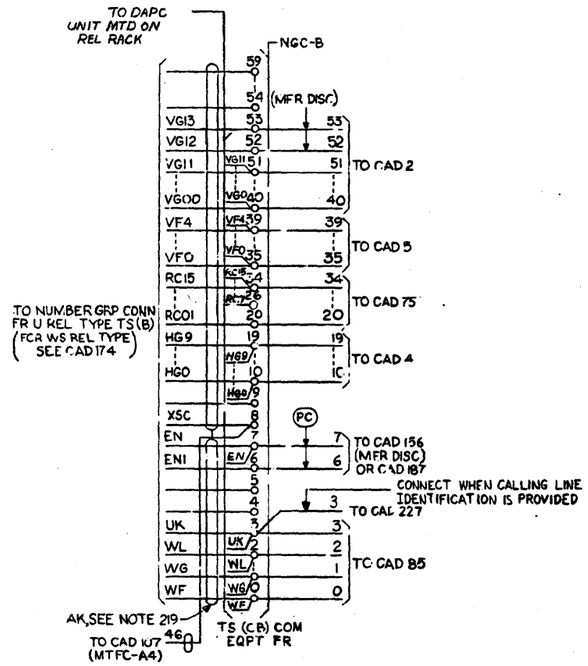
CAD 93

(FOR APP FIG 9, 48, 65, 68 & 125)
SEE NOTES 211 & 219
FOR COMBINED OR COMPLETING MARKERS



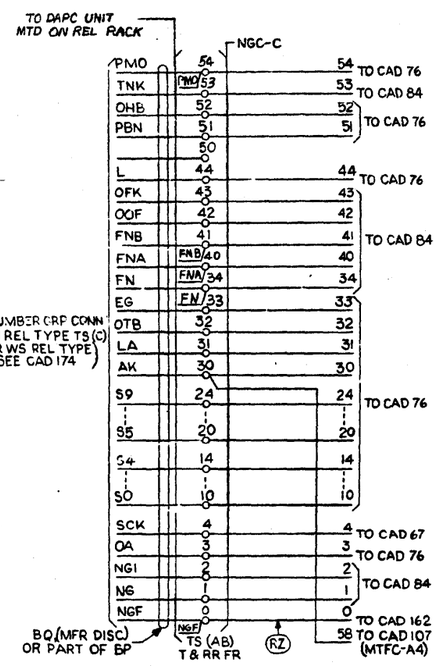
CAD 94

(FOR APP FIG 2.4, 6, 68 & 76)
FOR COMBINED OR COMPLETING MARKERS



CAD 95

(FOR APP FIG. 68, 75, & 77)
SEE NOTE 211
FOR COMBINED OR COMPLETING MARKERS



DRAWING ISSUE
41D
49D
51D
54D

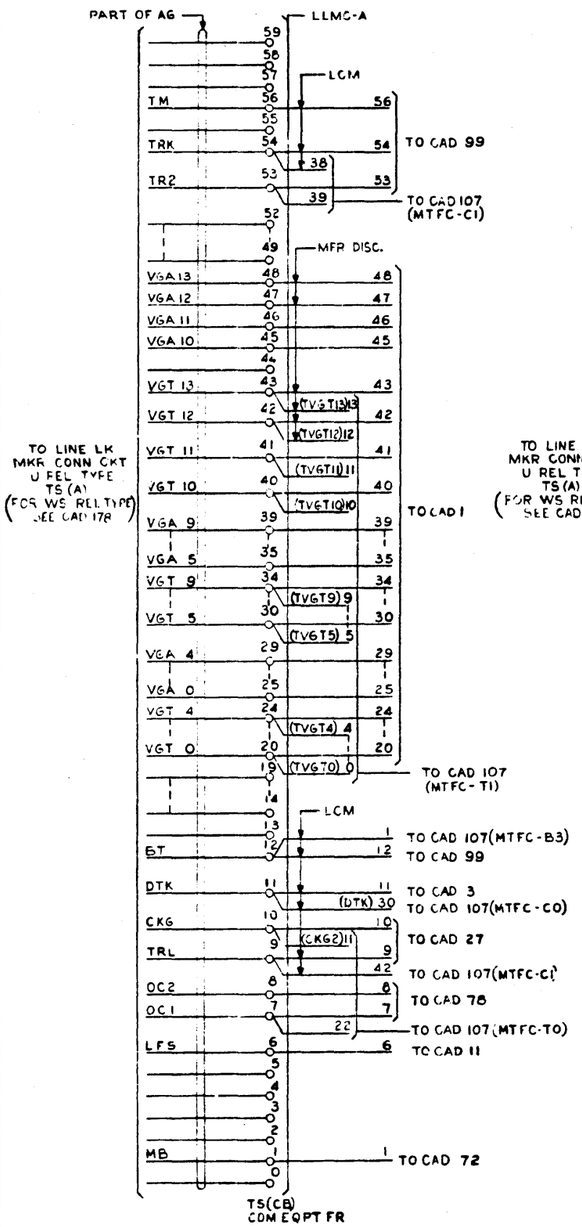
MARKER CIRCUIT
SD-25550-01-G59
BELL TELEPHONE LABORATORIES INCORPORATED
54

SD-25550-01-G59

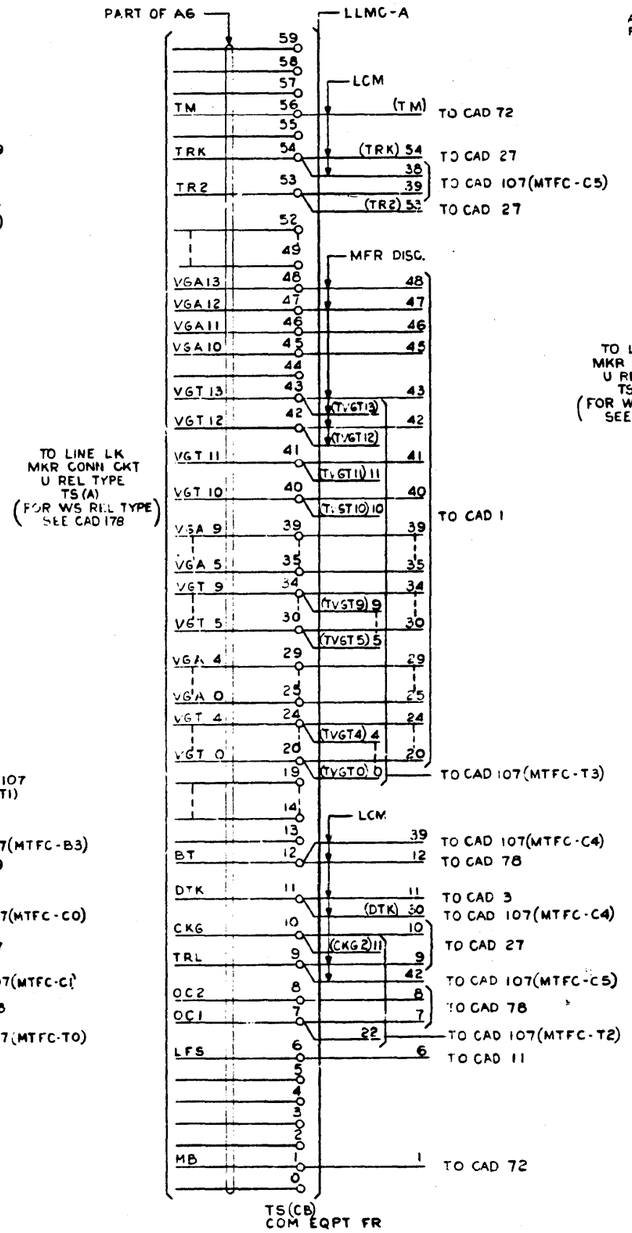
CAD 96 (A & M ONLY)

REPLACED BY CAD 147
(FOR APP FIG. 1, 32, & 79)
SEE NOTE 211

FOR COMBINED MARKERS
SEE NOTE 220



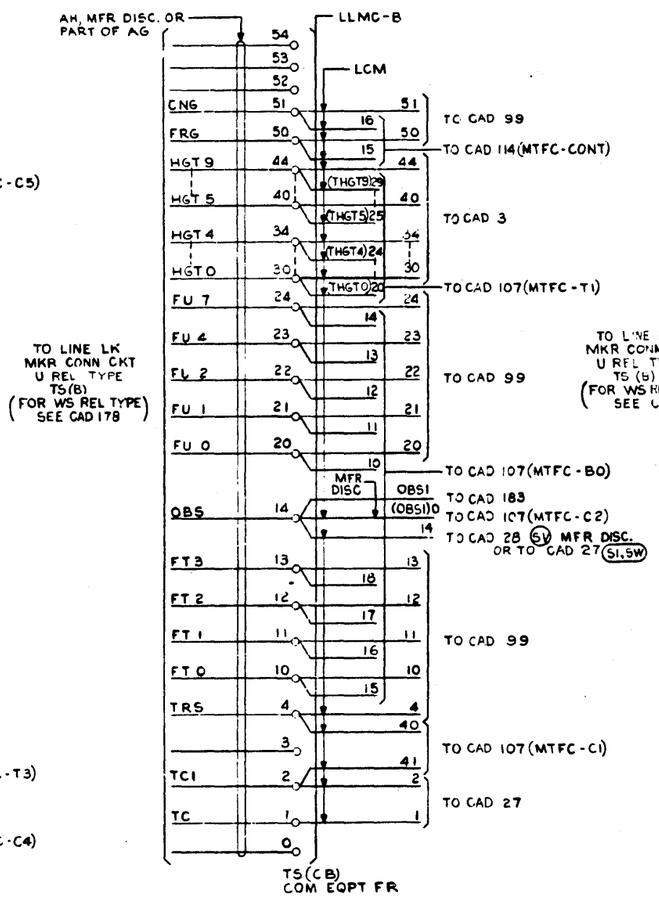
FOR DIAL TONE MARKERS



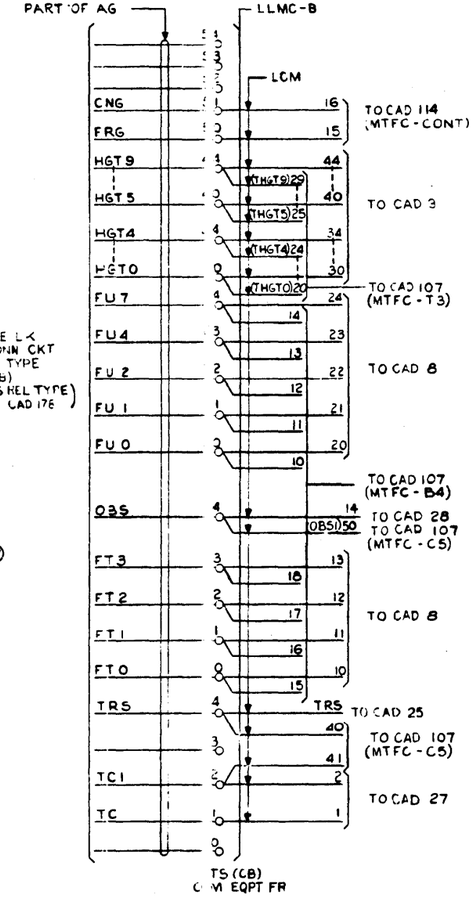
CAD 97 (A & M ONLY)

REPLACED BY CAD 147
(FOR APP FIG. 3 & 32)
SEE NOTE 211

FOR COMBINED MARKERS
SEE NOTE 220



FOR DIAL TONE MARKERS



41D

41

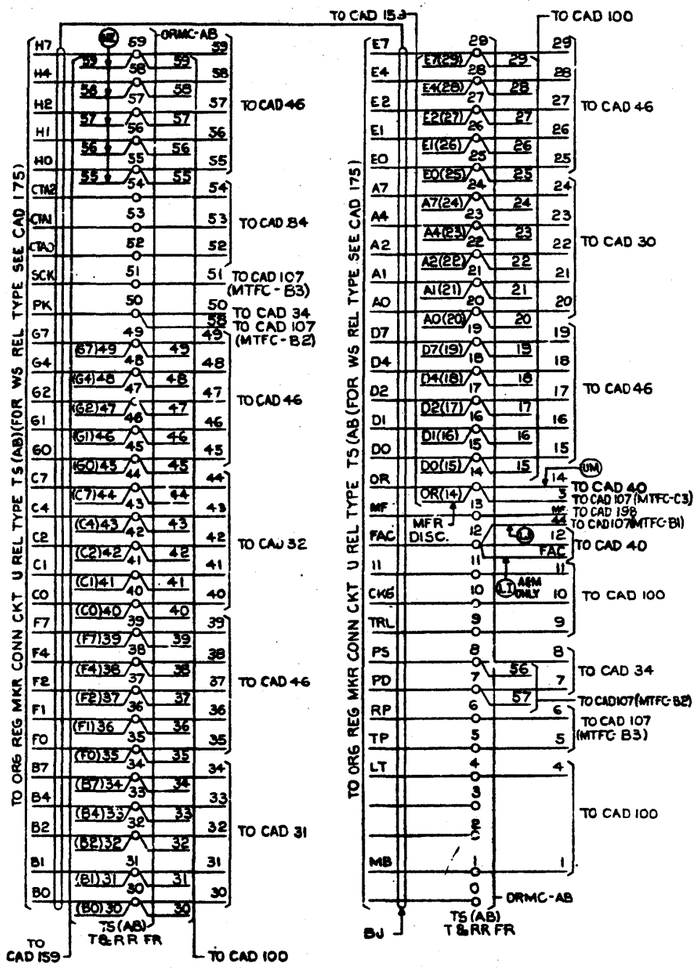
NO. 5 MARKER CIRCUIT	SD-25550-01-G60
BELL TELEPHONE LABORATORIES INCORPORATED	6S

SD-25550-01-G60

CAD 98

(FOR APP FIG. 11, 13, 15, 35, 36, 37, 43, 46, 49, 53, 73, 165, A, C, BC & BD)
SEE NOTE 219

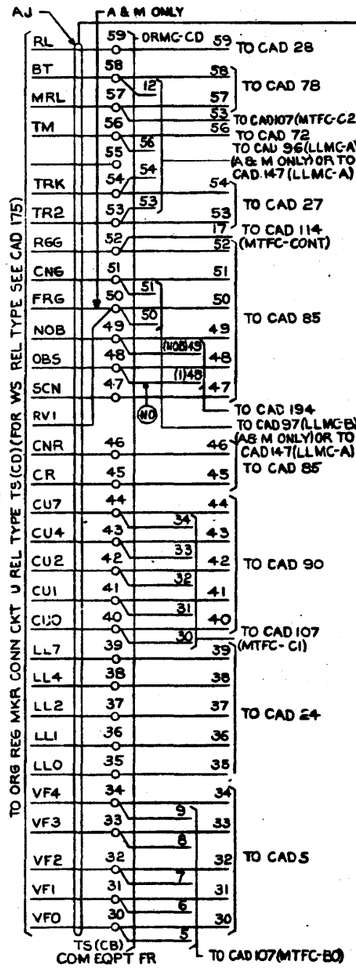
FOR COMBINED OR COMPLETING MARKERS

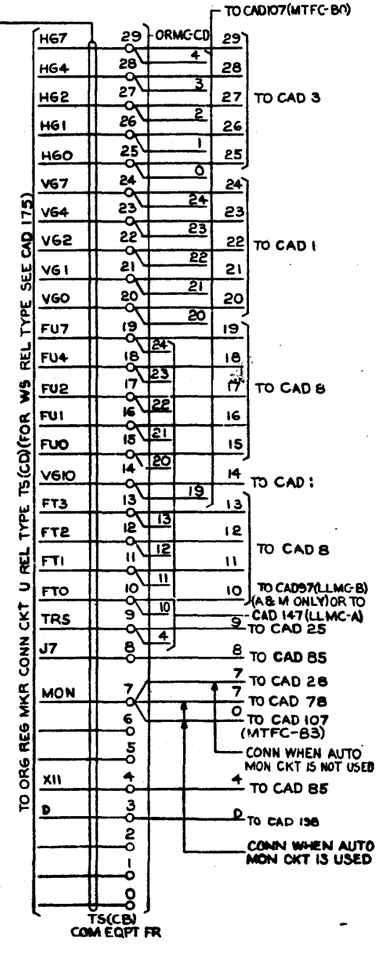


CAD 99

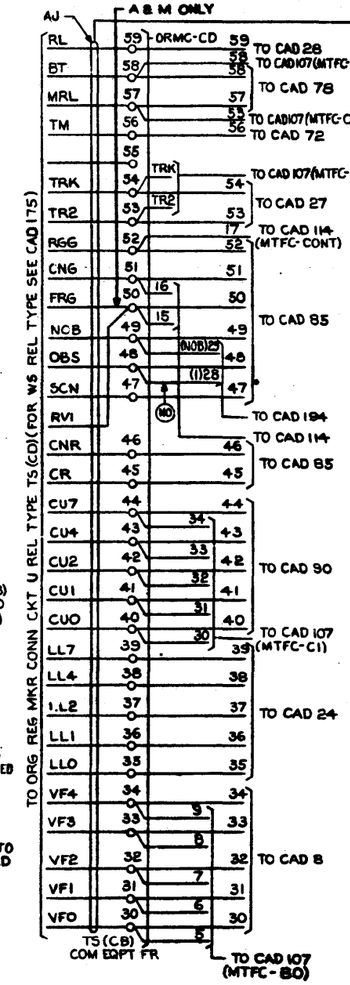
(FOR APP FIG. 9, 10, 29, 31, 57, 63, 67 - 79, 165)

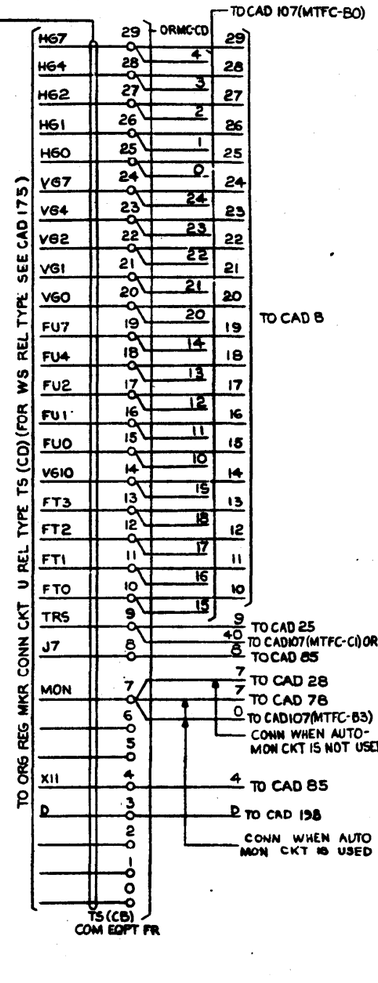
FOR COMBINED MARKERS
SEE NOTE 219





FOR COMPLETING MARKERS





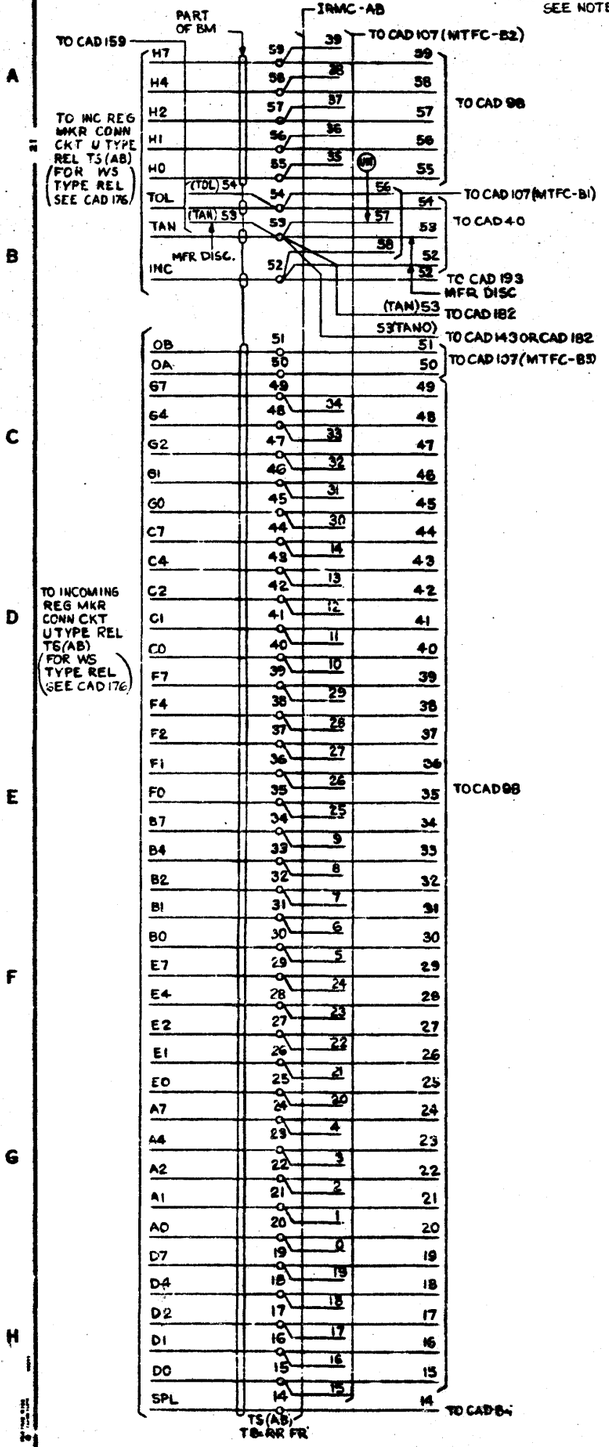
DRAWING ISSUE
41D
45B
54D
56D

MARKER CIRCUIT (2)
SD-25550-01-661
56
BELL TELEPHONE LABORATORIES INCORPORATED
65

199-10-000212-05

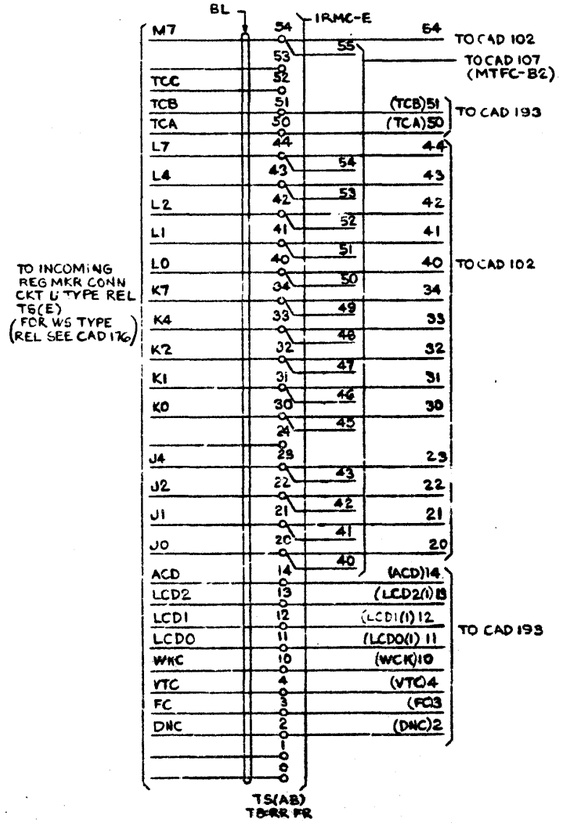
CAD 100

(FOR APP FIGS. 38 43, & 46)
FOR COMBINED OR COMPLETING MKRS
SEE NOTES 211 & 219



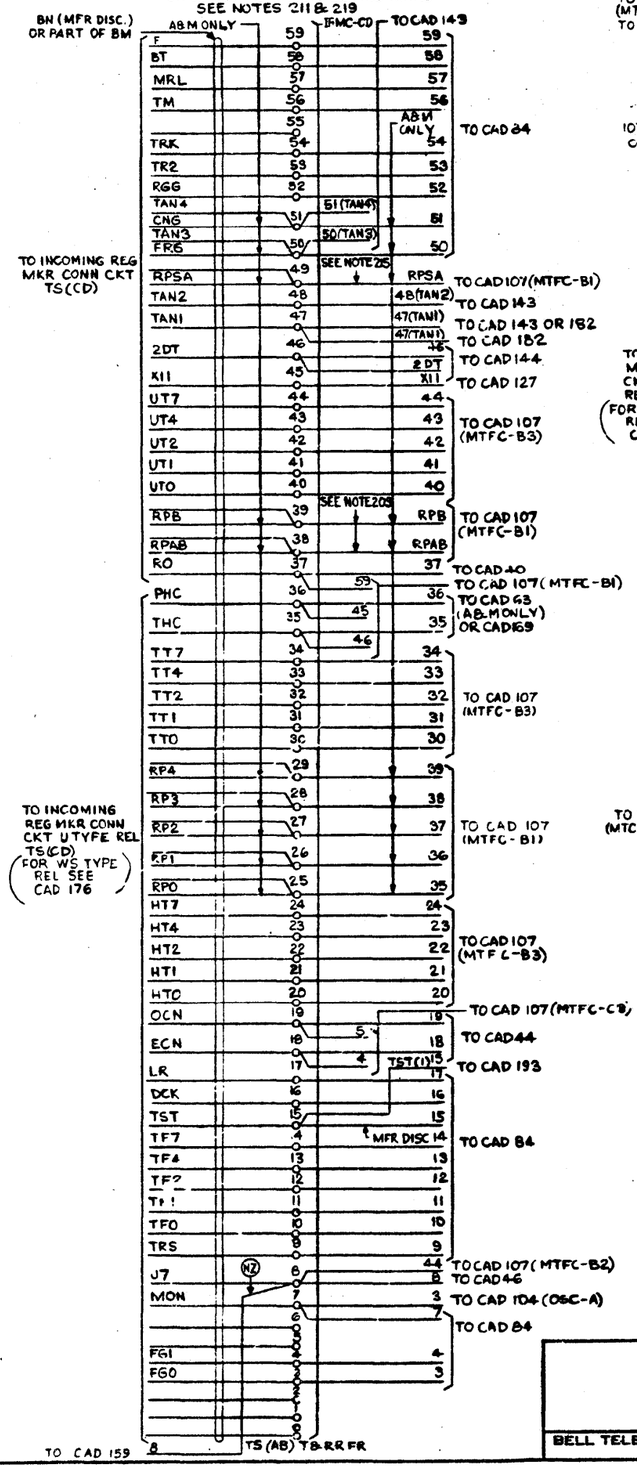
CAD 103

(FOR APP FIG. 49)
FOR COMBINED OR COMPLETING MKRS.



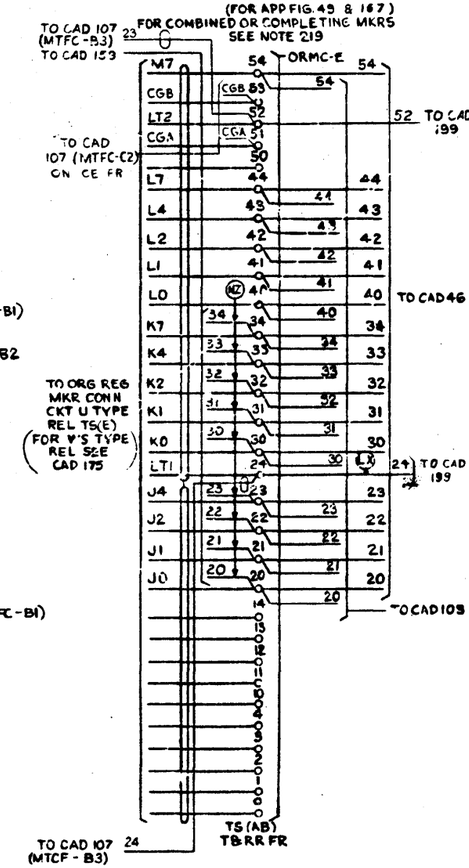
CAD 101

(FOR APP FIGS. 31, 43, 47, 66, 73 & 115)
FOR COMBINED OR COMPLETING MKRS
SEE NOTES 211 & 219



CAD 102

(FOR APP FIG. 45 & 167)
FOR COMBINED OR COMPLETING MKRS
SEE NOTE 219



DRAWING ISSUE
410
458
460
490

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

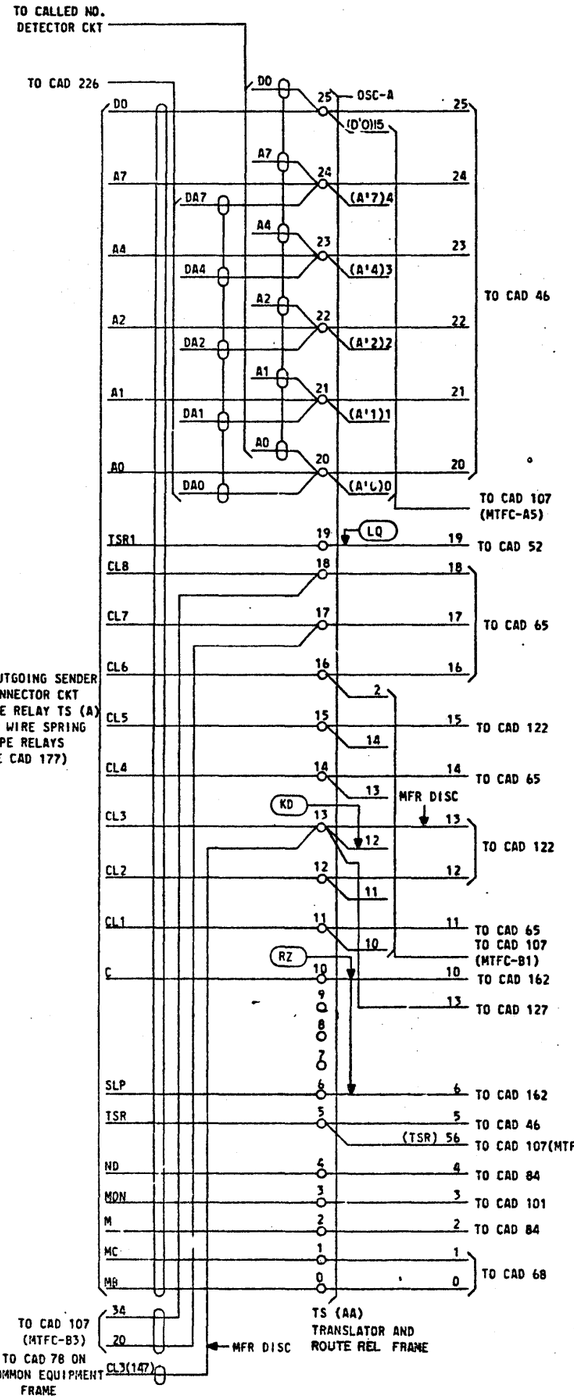
49

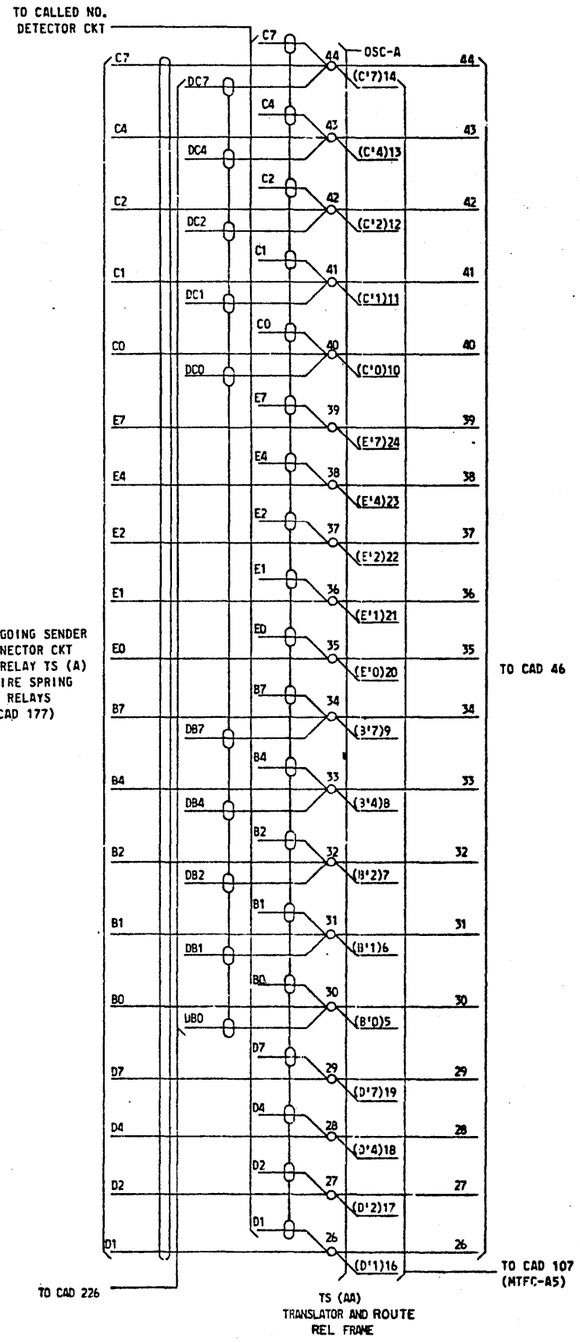
SD-25550-01-662

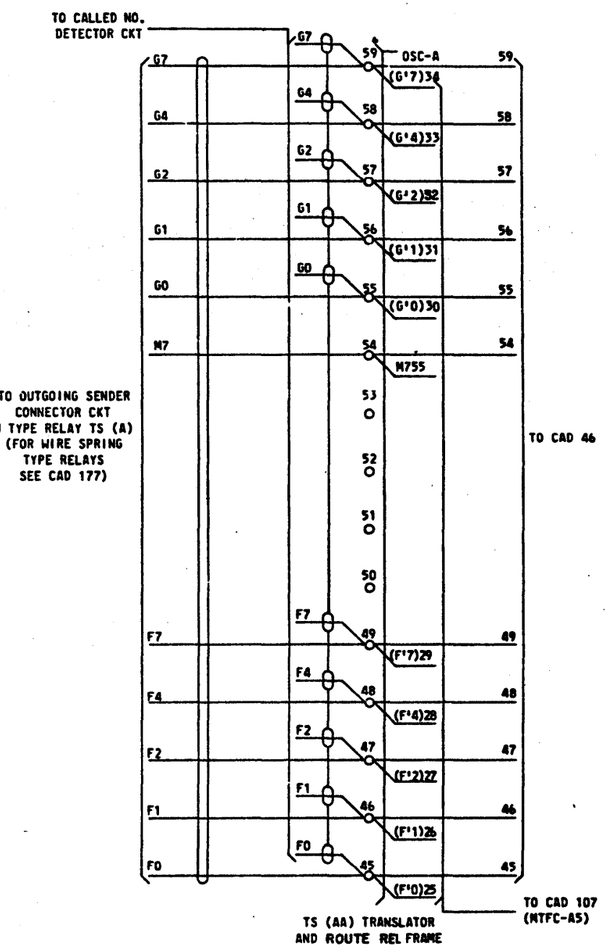
SD-25550-01-662

CAD 104

(FOR APP FIG 49, 53 & 67)
FOR COMBINED AND COMPLETING MARKERS
SEE NOTE 219







DRAWING ISSUE
54D

54

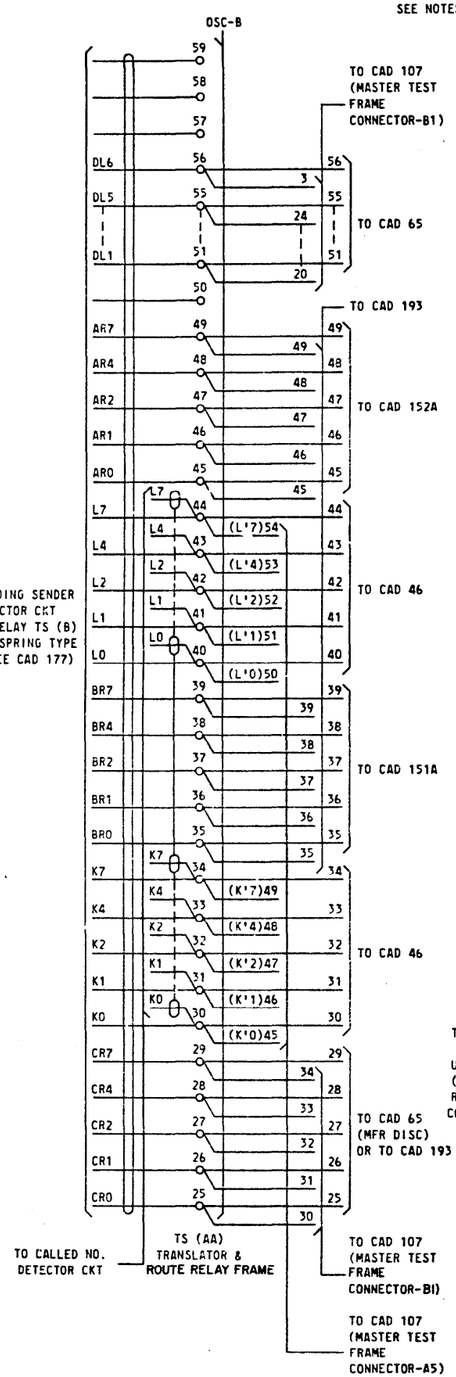
MARKER CIRCUIT
(2) SD-25550-01-G63A
BELL TELEPHONE LABORATORIES INCORPORATED
6S

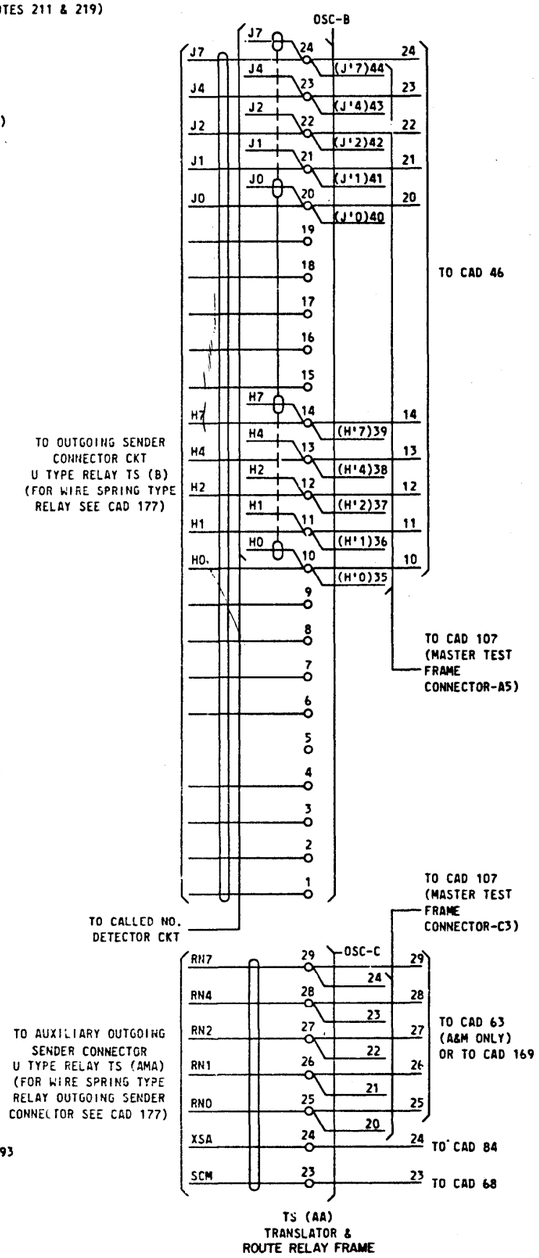
SD-25550-01-G63A

HIGGINS 4465

CAD 105

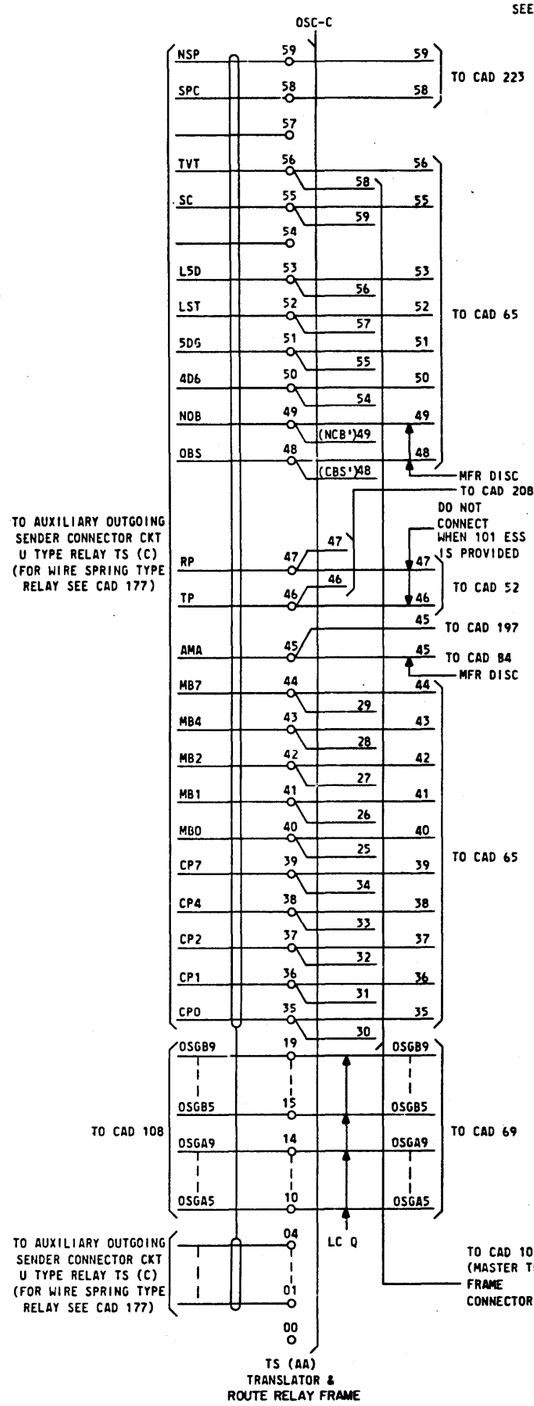
(FOR APP FIGURES 49,65 & 67)
FOR COMBINED OR COMPLETING MARKERS
SEE NOTES 211 & 219)

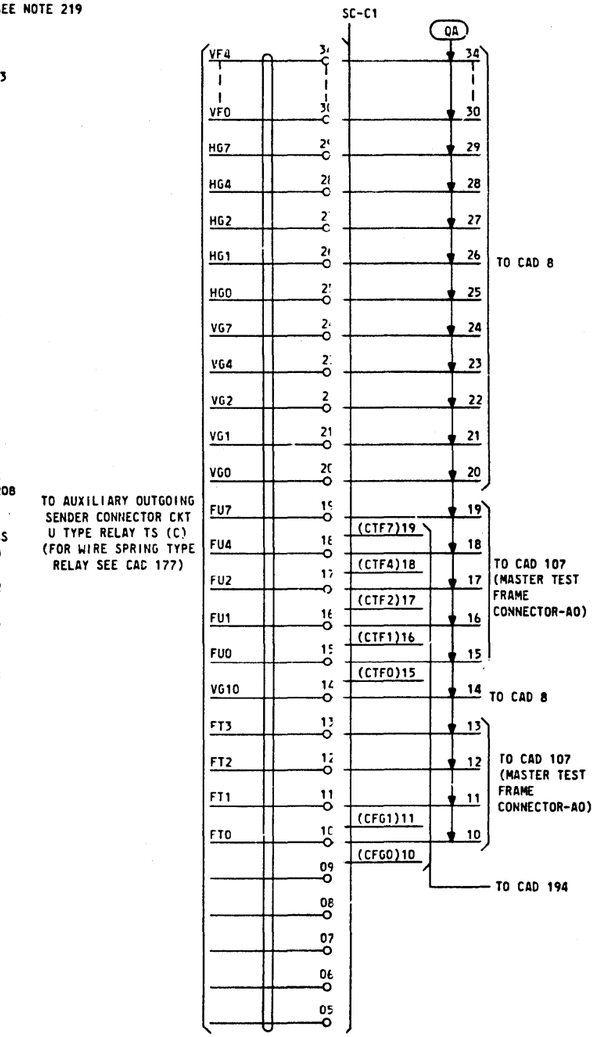




CAD 106

(FOR APP FIGURES 9,53 & 67)
FOR COMBINED AND COMPLETING MARKERS
SEE NOTE 219





DRAWING ISSUE		
54D	GM	
56D	JK	

56

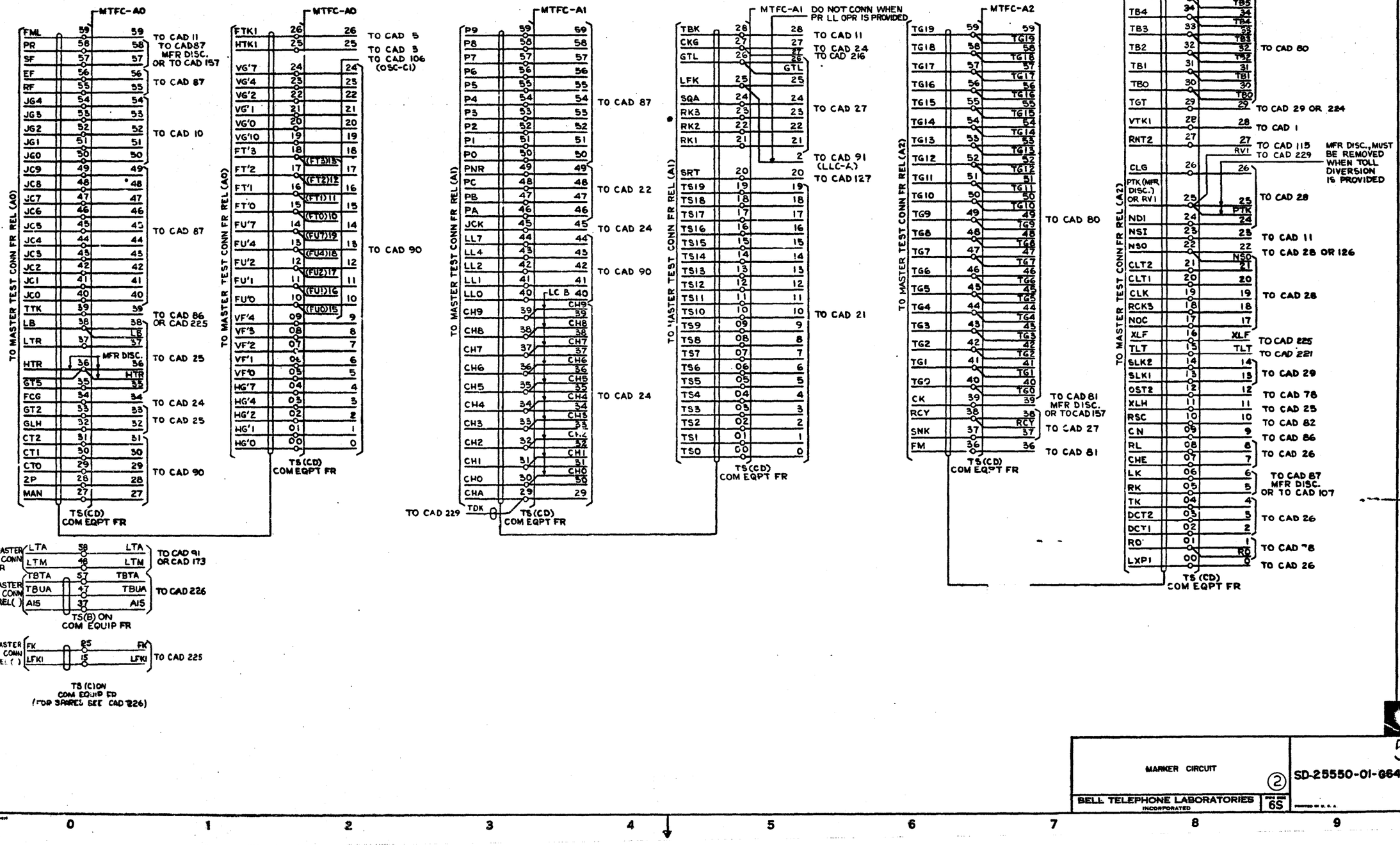
MARKER CIRCUIT (2) SD-25550-01-G63B

BELL TELEPHONE LABORATORIES INCORPORATED 6S

HIGGINS 0465

PART OF CAD 107

FOR COMBINED MARKERS



DRAWING ISSUE	
41D	LB KCR
49D	LF STL
51D	JR MC EP
54D	KN-AW
56D	JK

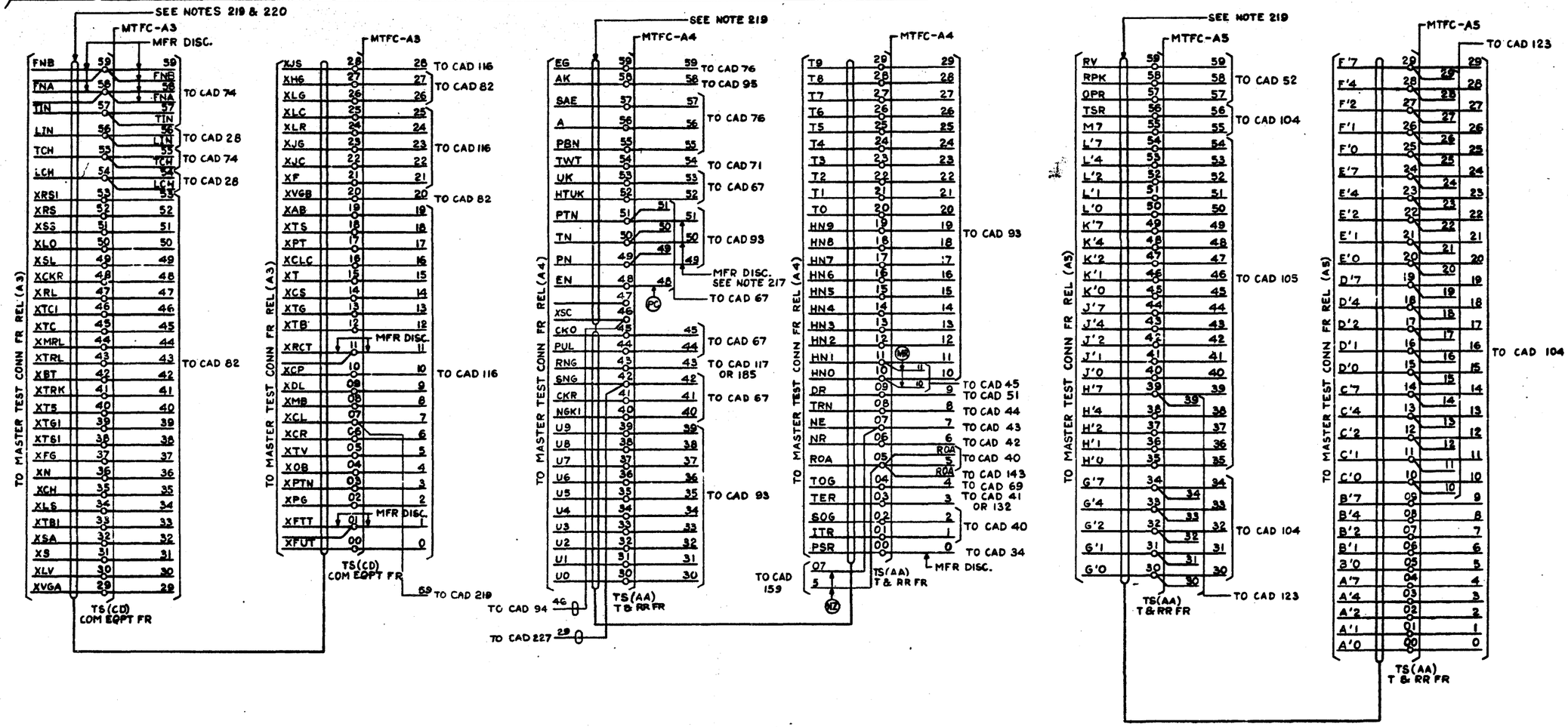
MARKER CIRCUIT	②	SD-25550-01-664
BELL TELEPHONE LABORATORIES INCORPORATED	6S	

56

SD-25550-01-664

PART OF CAD 107

FOR COMBINED MARKERS



DRAWING ISSUE

41D	
49D	
51D	
54D	

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

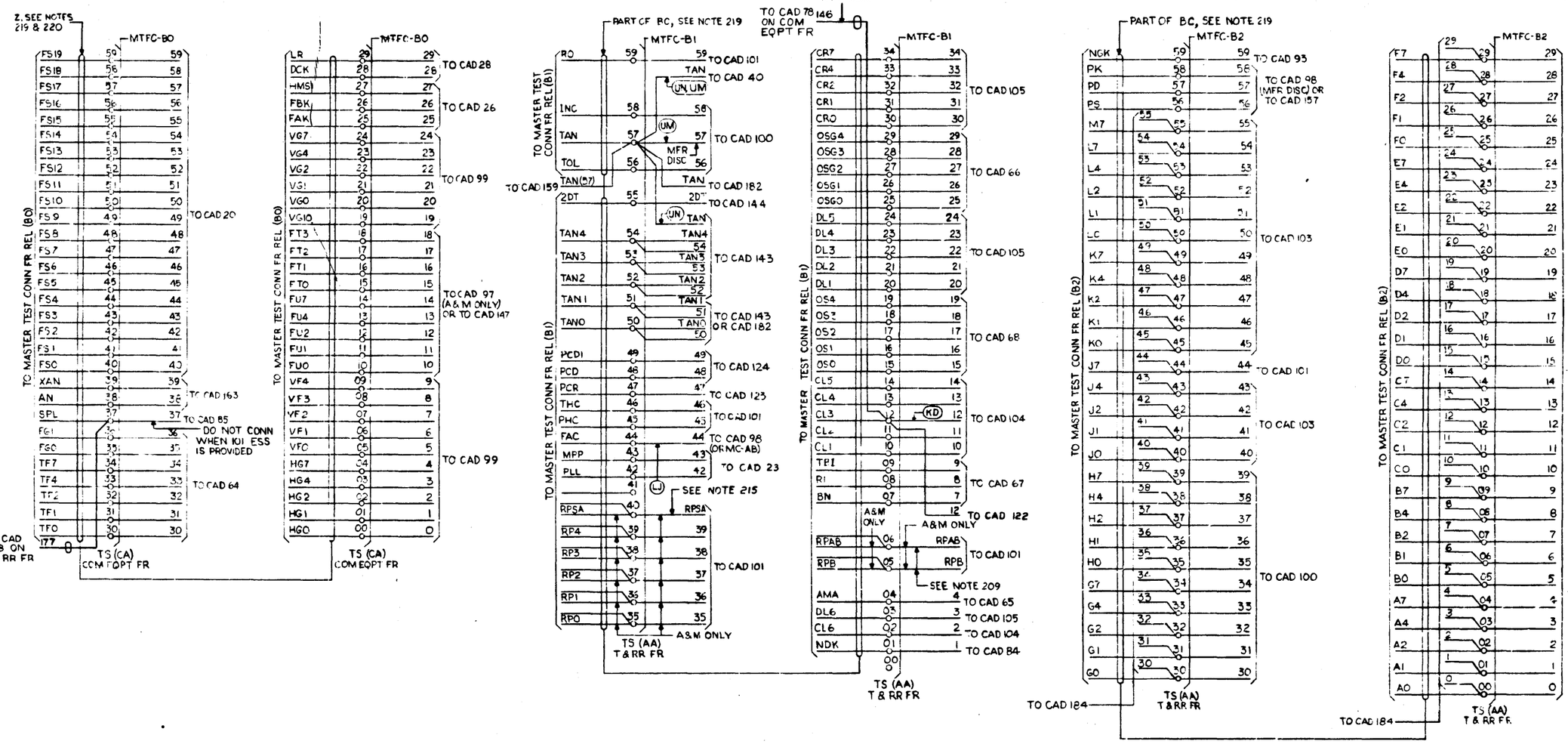
SD-25550-01-665

54

999-10-05932-05

PART OF CAD 107

FOR COMBINED MARKERS



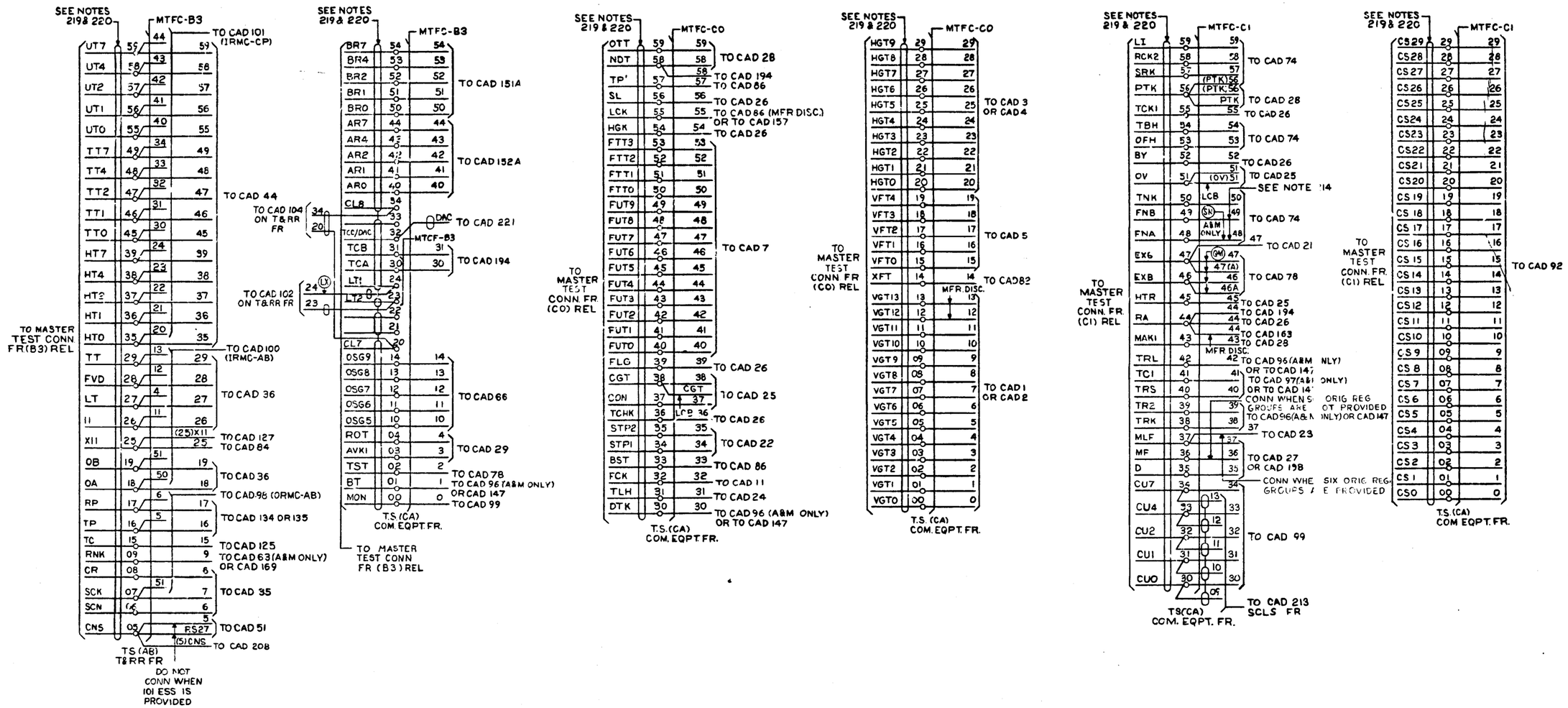
DRAWING ISSUE
41D
46D
47D
49D

SD-25550-01-666

CROSSBAR SYSTEMS NO. 5 MARKER CIRCUIT (2)		49 SD-25550-01-666
BELL TELEPHONE LABORATORIES INCORPORATED	SHEET 65	

PART OF CAD 107

FOR COMBINED MARKERS



ISSUE	
41D	FLY GLC
45B	JM VLC
46D	TJM GLM AMH
47D	MRS LJW AMD
49D	DBF MHJ AHD
51D	JR MRS AMH
53A	TEM GDL AKH

SD-25550-01-667

MAR ER CIRCUIT (2)

BELL TELEPHON : LABORATORIES INCOR RATED

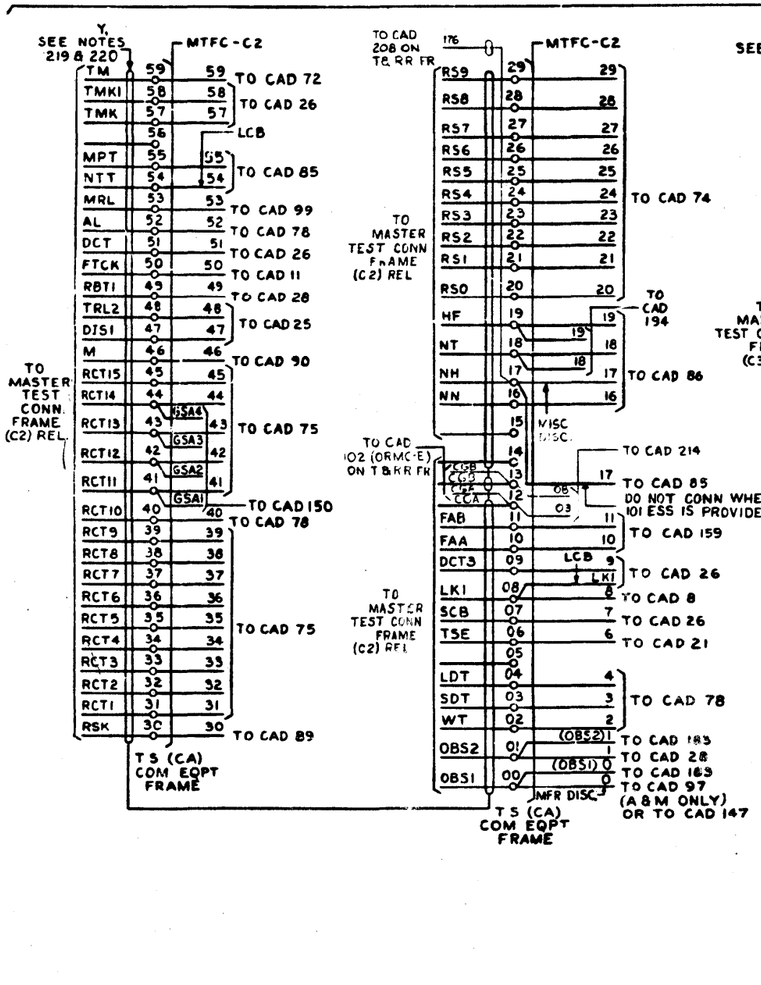
6S

SD-25550-01-667

53

PART OF CAD 107

FOR COMBINED MARKERS



ISSUE:
410 ALT FACE
438 P.D.
470 LW
490 LW
510

SD-25550-01-668

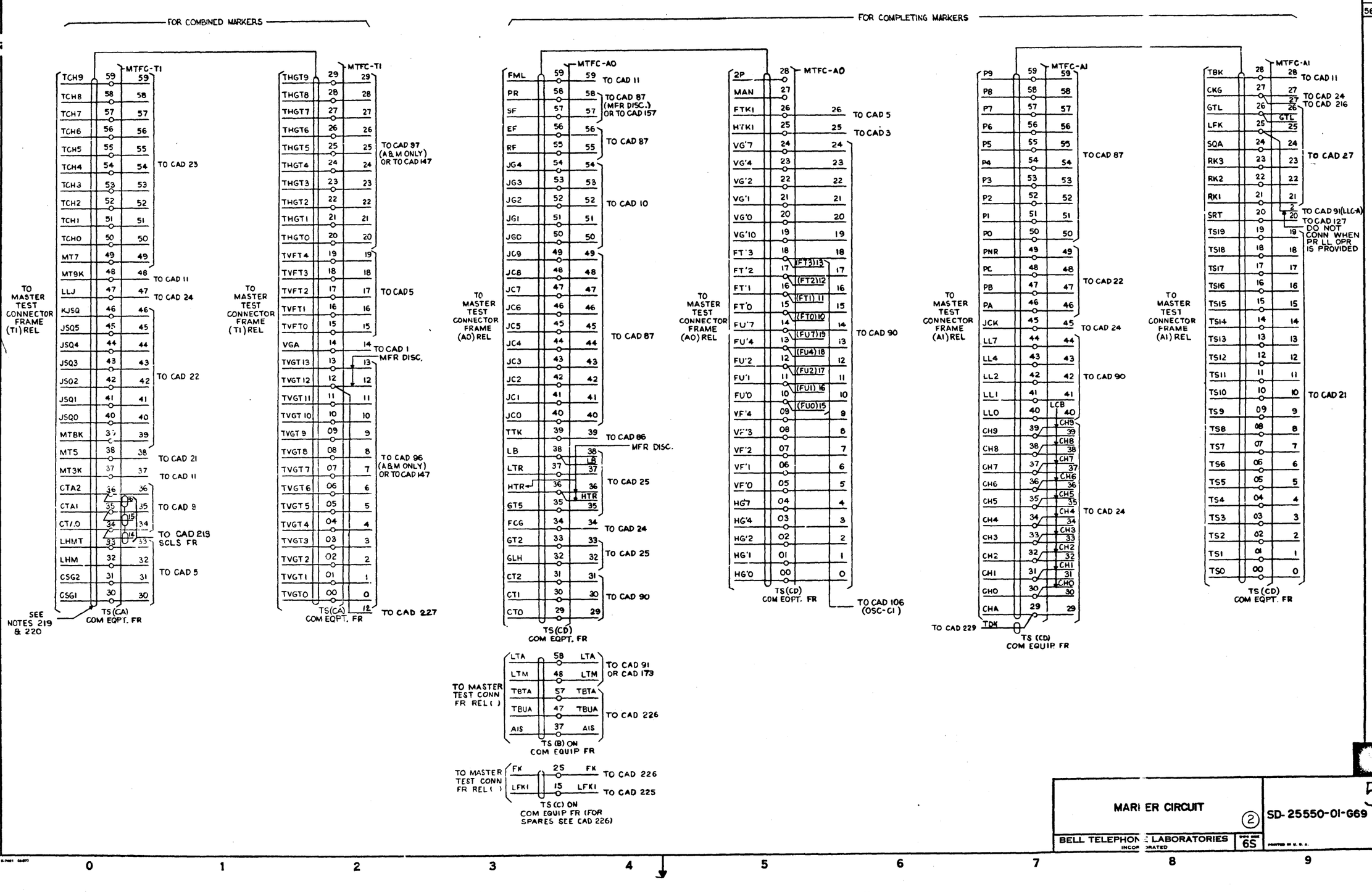
MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-668

51

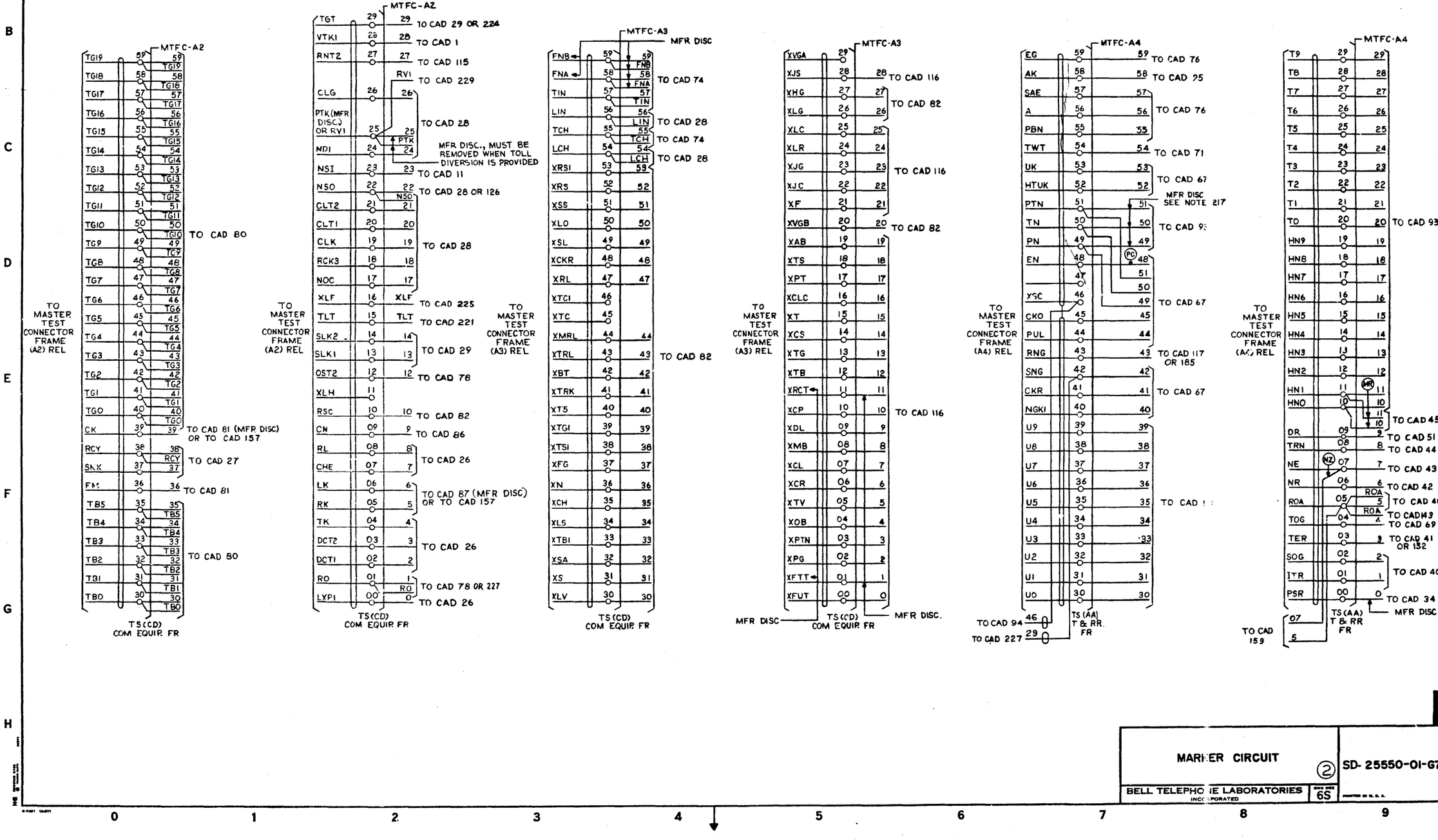
PART OF CAD 107



SD-25550-01-669

PART OF CAD 107

FOR COMPLETING MARKERS



ISSUE
41D
49D LF AND JR
51D JR AND LR
54D LR AND JK
56D JK

MARKER CIRCUIT (2)

SD- 25550-01-G70

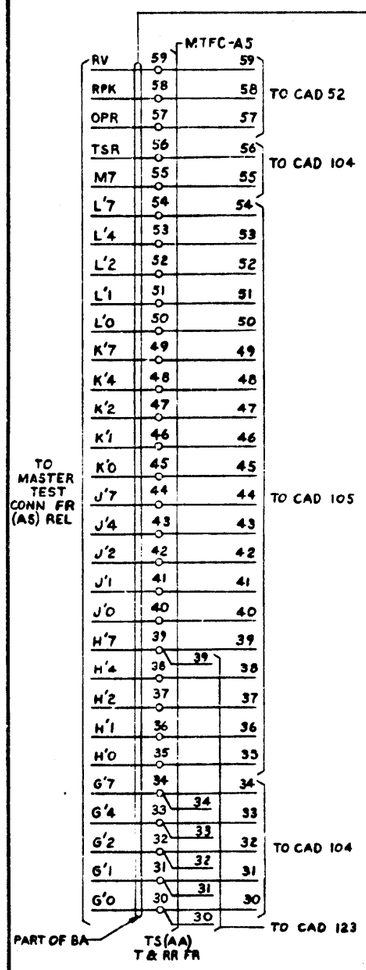
BELL TELEPHONE LABORATORIES INCORPORATED

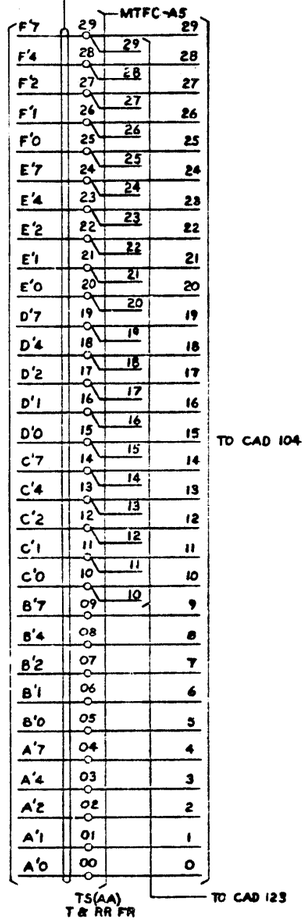
56

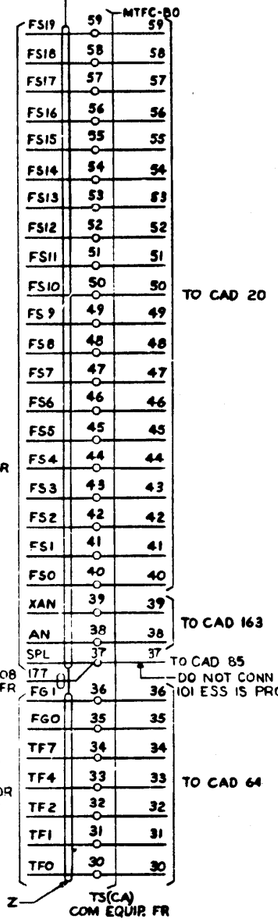
SD-25550-01-G70

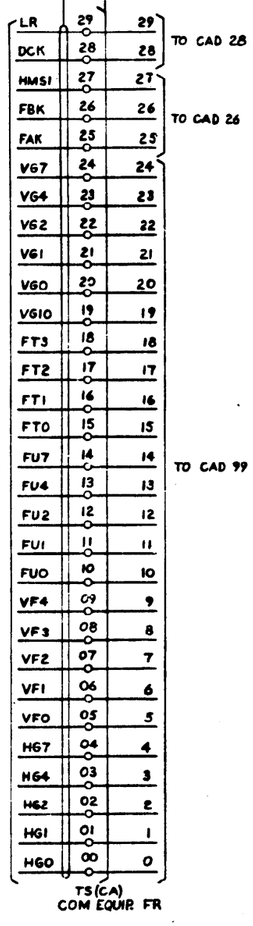
PART OF CAD 107

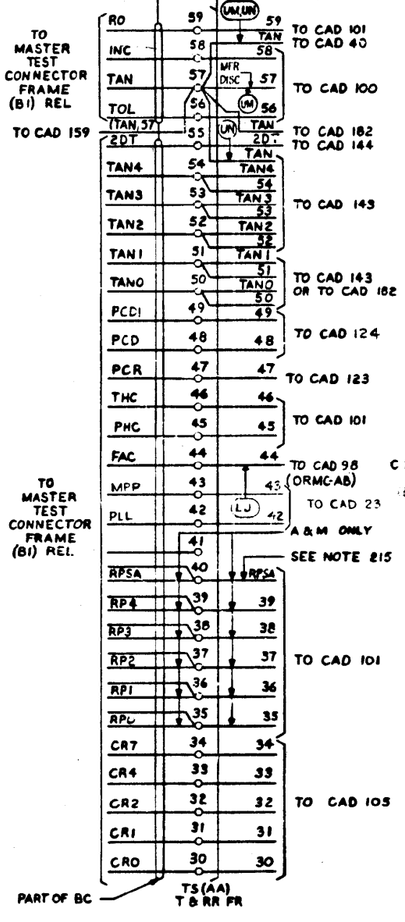
FOR COMPLETING MARKERS

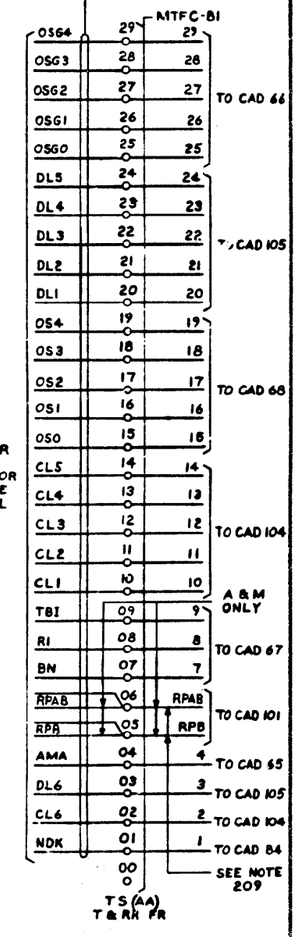












DRAWING ISSUE

41D	L.V.	WFD
47D	TAR L.W.	CB
490	E.M.	A

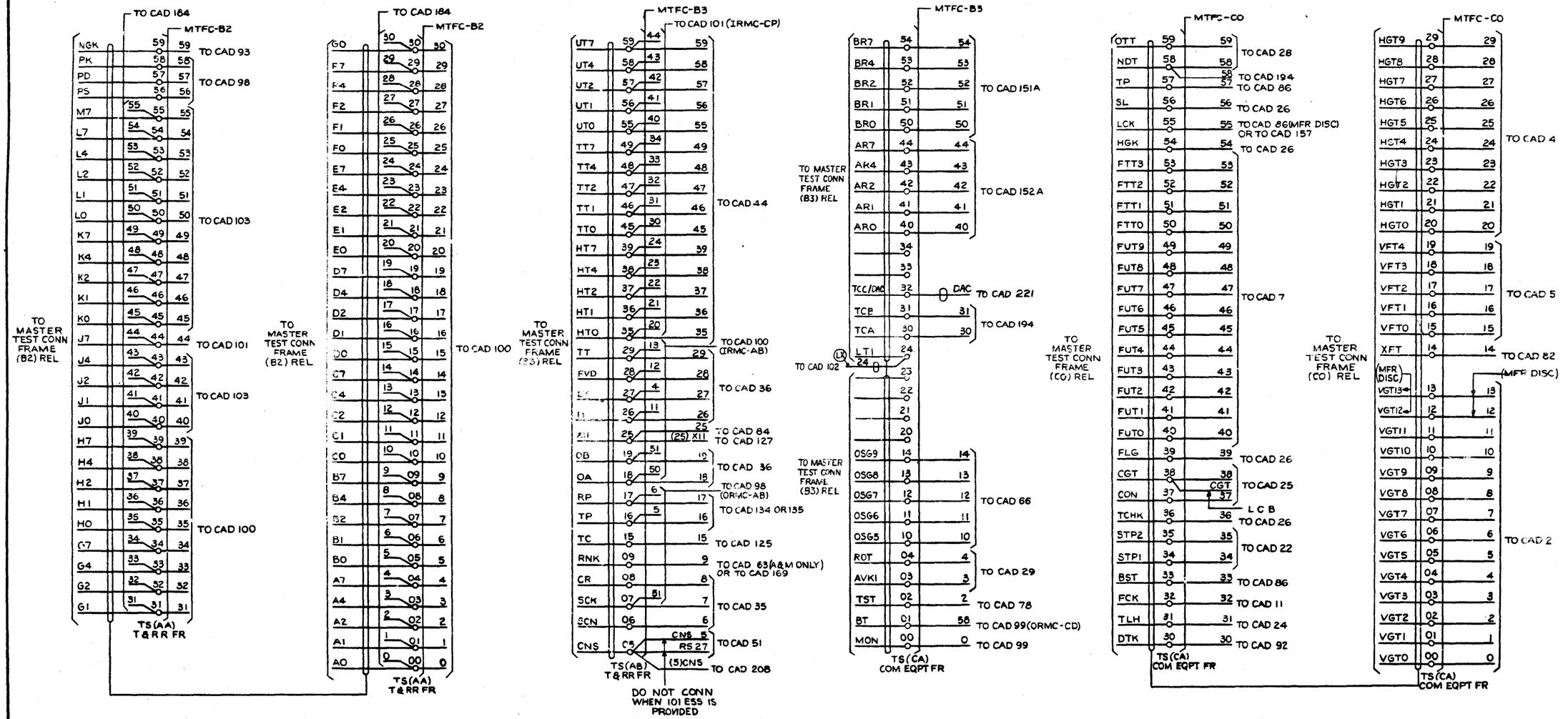
CROSSBAR SYSTEMS
NO. 5 MARKER CIRCUIT (2)
SD-25550-01-G71
BELL TELEPHONE LABORATORIES INCORPORATED 6S

49

SD-25550-01-G71

PART OF CAD 107

FOR COMPLETING MARKERS



DRAWING ISSUE			
41D			
45B			
46D			
47D			
51D			
54D			

MARKER CIRCUIT

(2)

SD-25550-01-672

BELL TELEPHONE LABORATORIES INCORPORATED

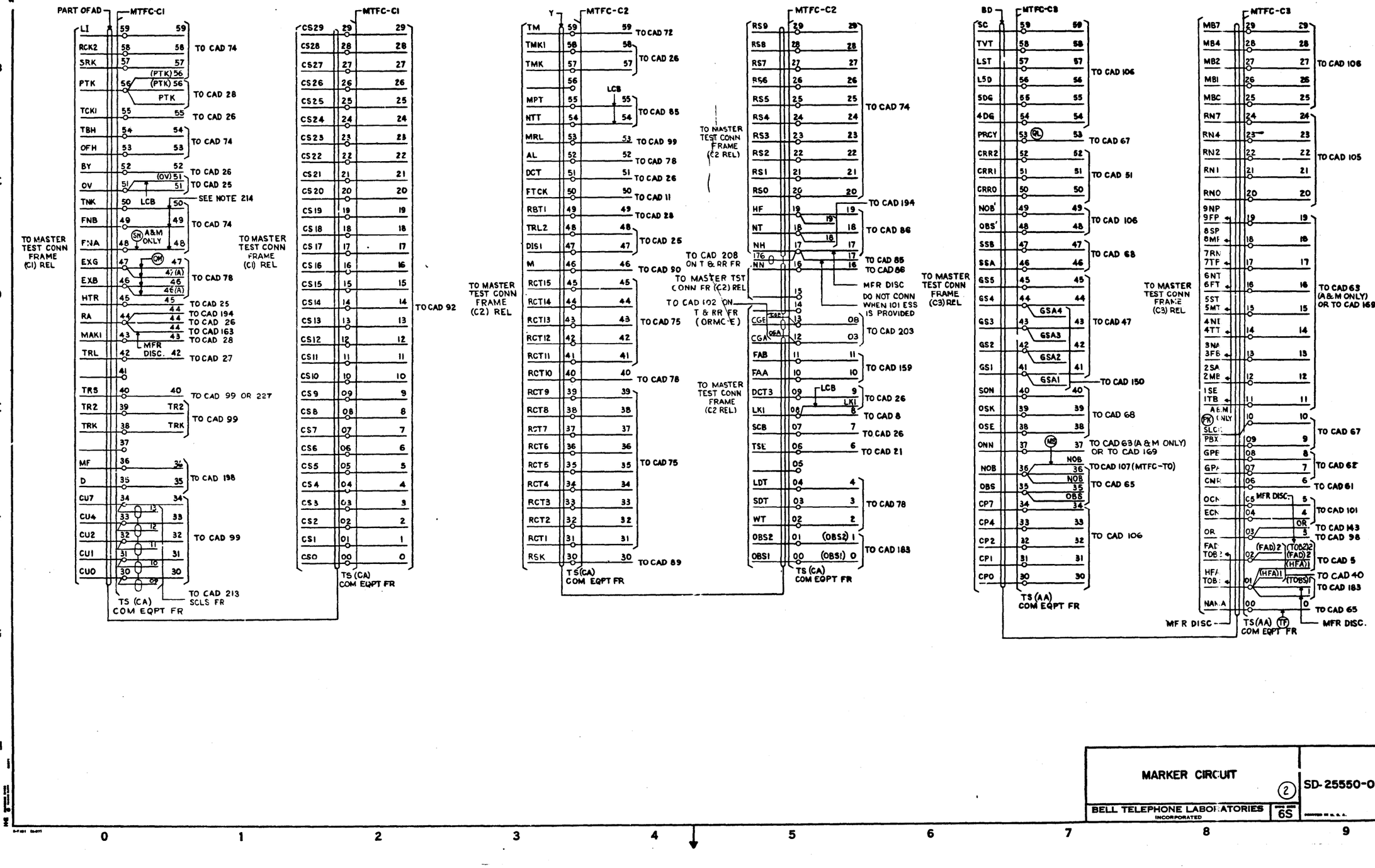
6S

54

SD-25550-01-672

PART OF CAD 107

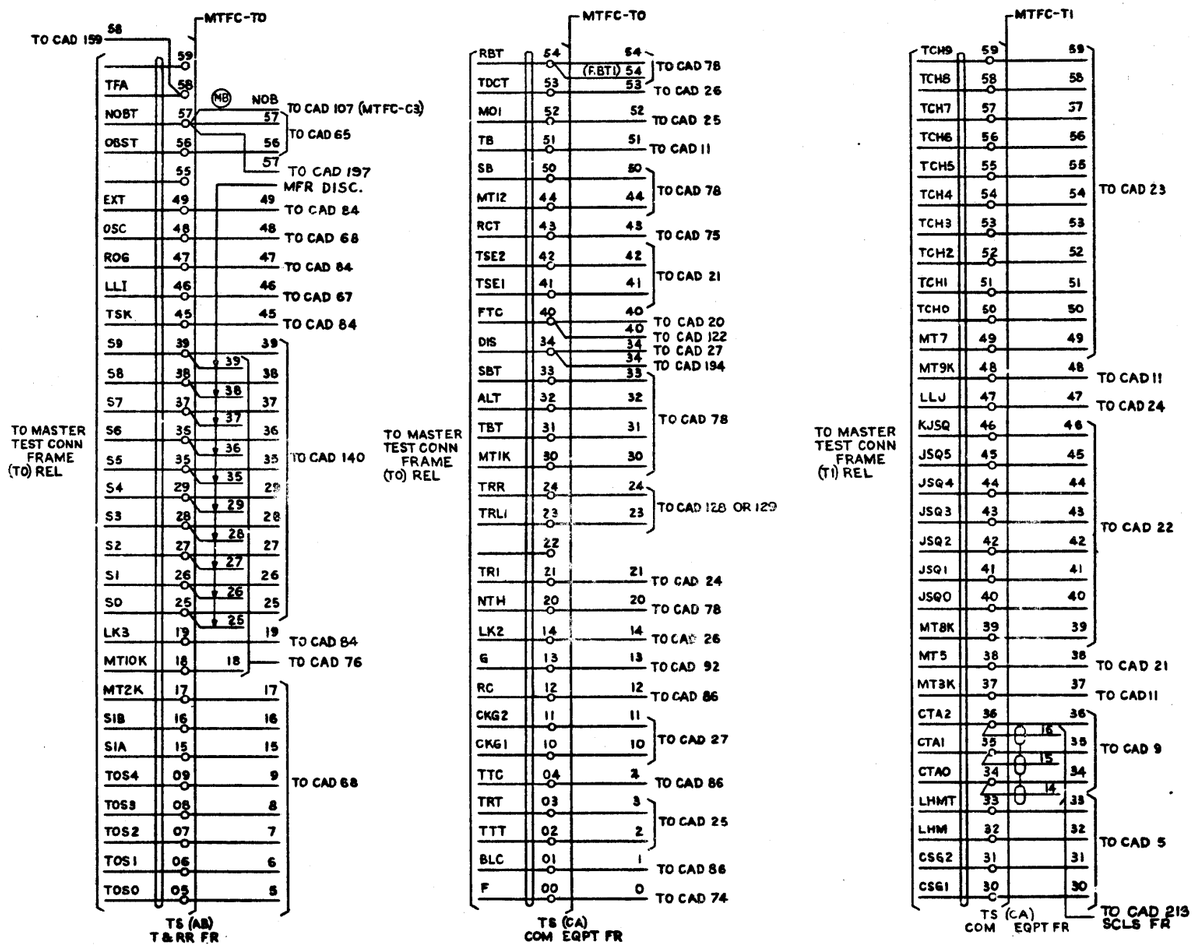
FOR COMPLETING MARKERS



MARKER CIRCUIT	56
BELL TELEPHONE LABORATORIES INCORPORATED	(2) SD-25550-01-G73
	6S

41D 43B 45B 47D 49D 56D

PART OF CAD 107



DRAWING ISSUE	
41D	
43B	
49D	
51D	
54D	

SD-25550-01-674

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

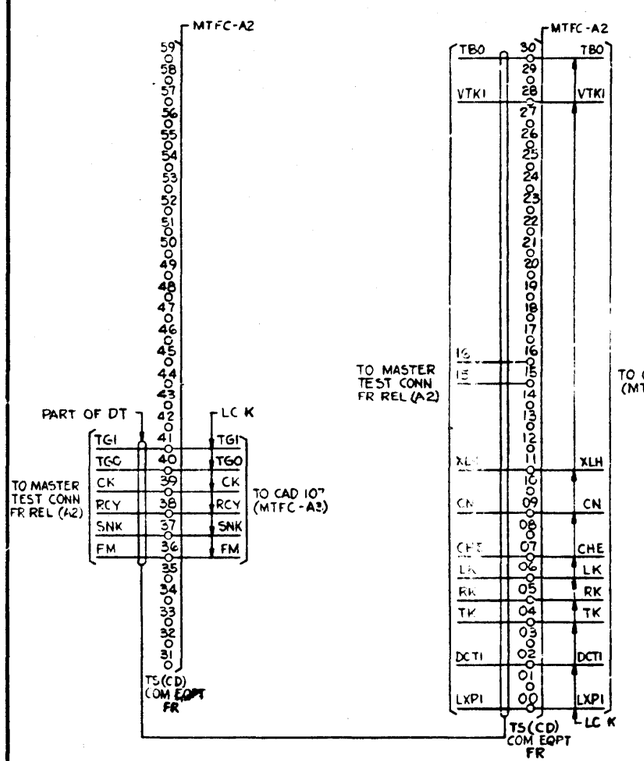
65

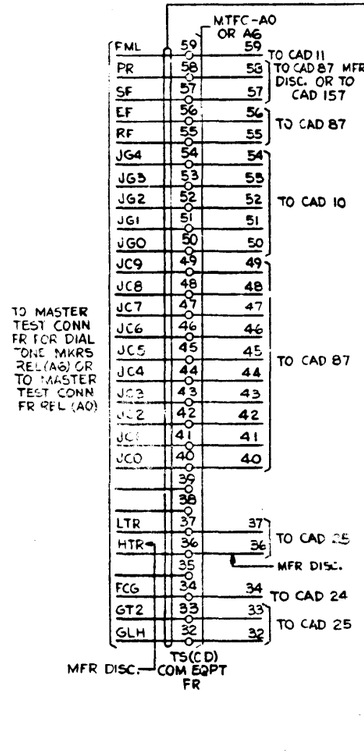
54

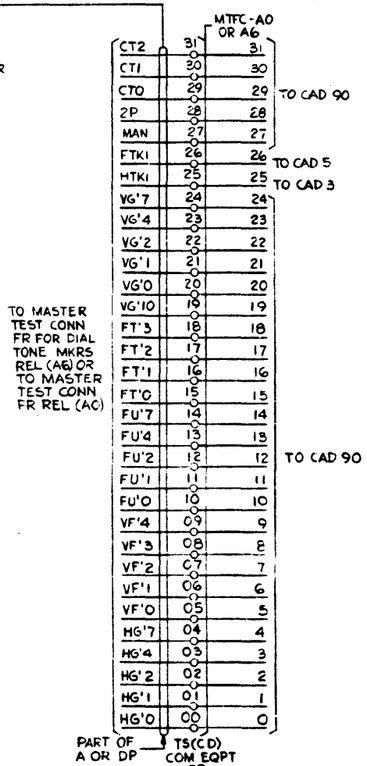
SD-25550-01-674

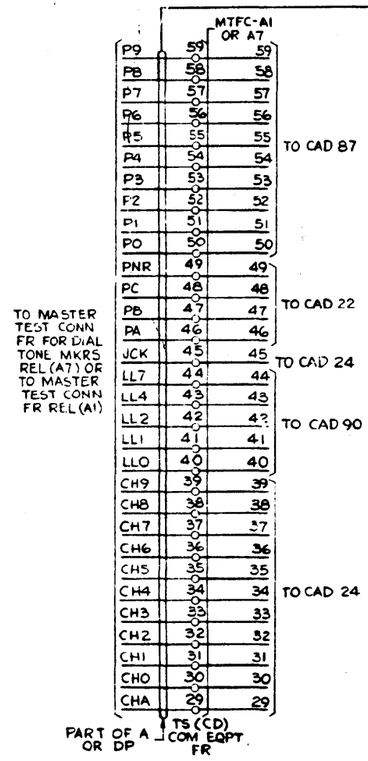
PART OF CAD 107

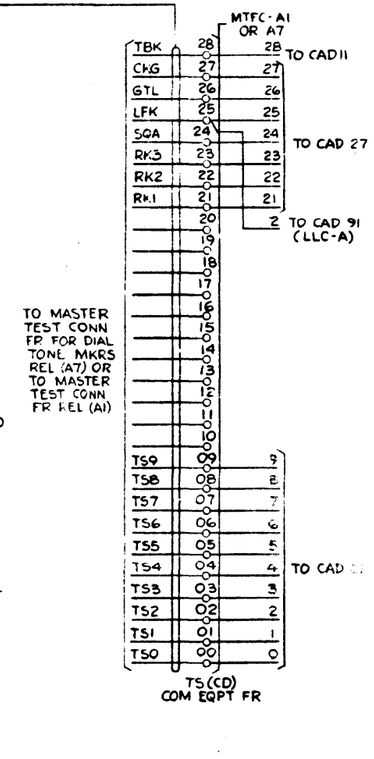
FOR DIAL TONE MARKERS











DRAWING ISSUE 41D

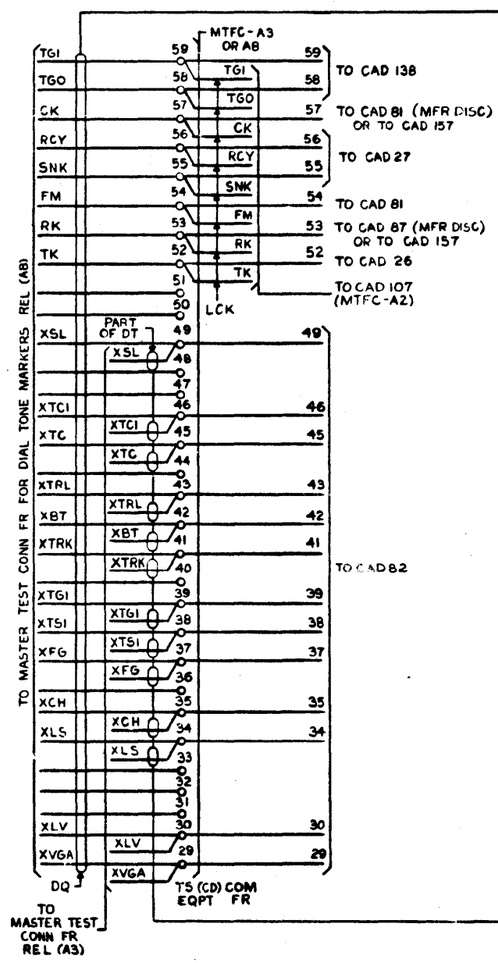
41

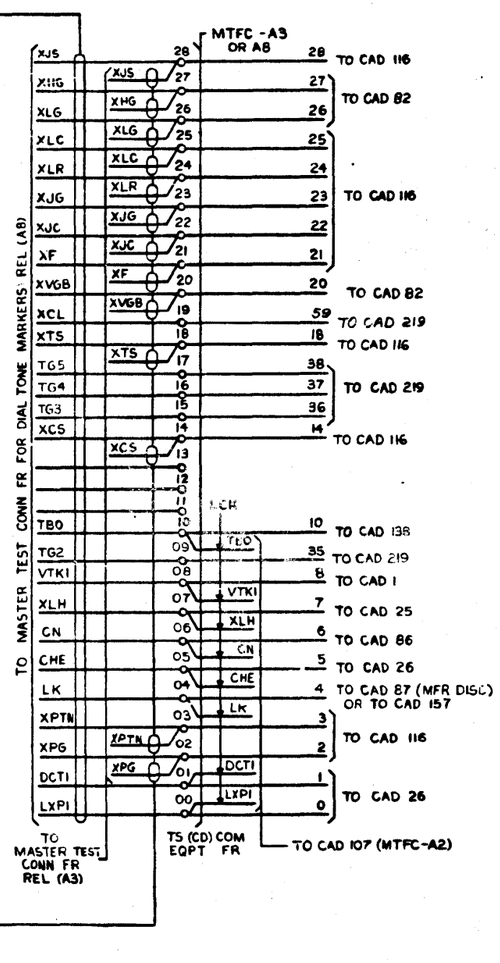
NO. 5 MARKER CIRCUIT	SD-25550-01-675
BELL TELEPHONE LABORATORIES INCORPORATED	6S

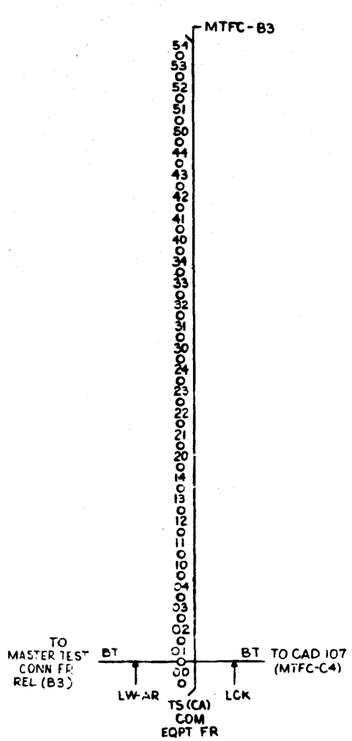
25550-01-675

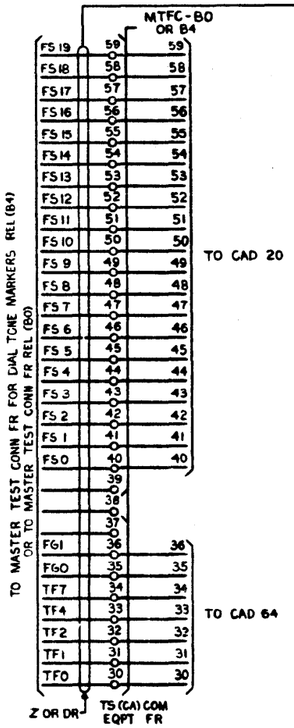
PART OF CAD 107

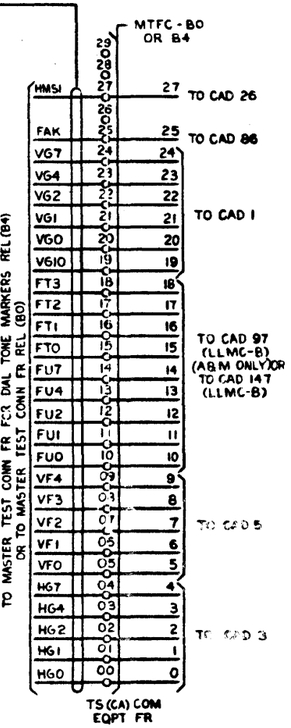
FOR DIAL TONE MARKERS











DRAWING ISSUE

41D	BELL LABS	
49D	LP	
51D	JR	

SD-25550-01-G76

MARKER CIRCUIT ②

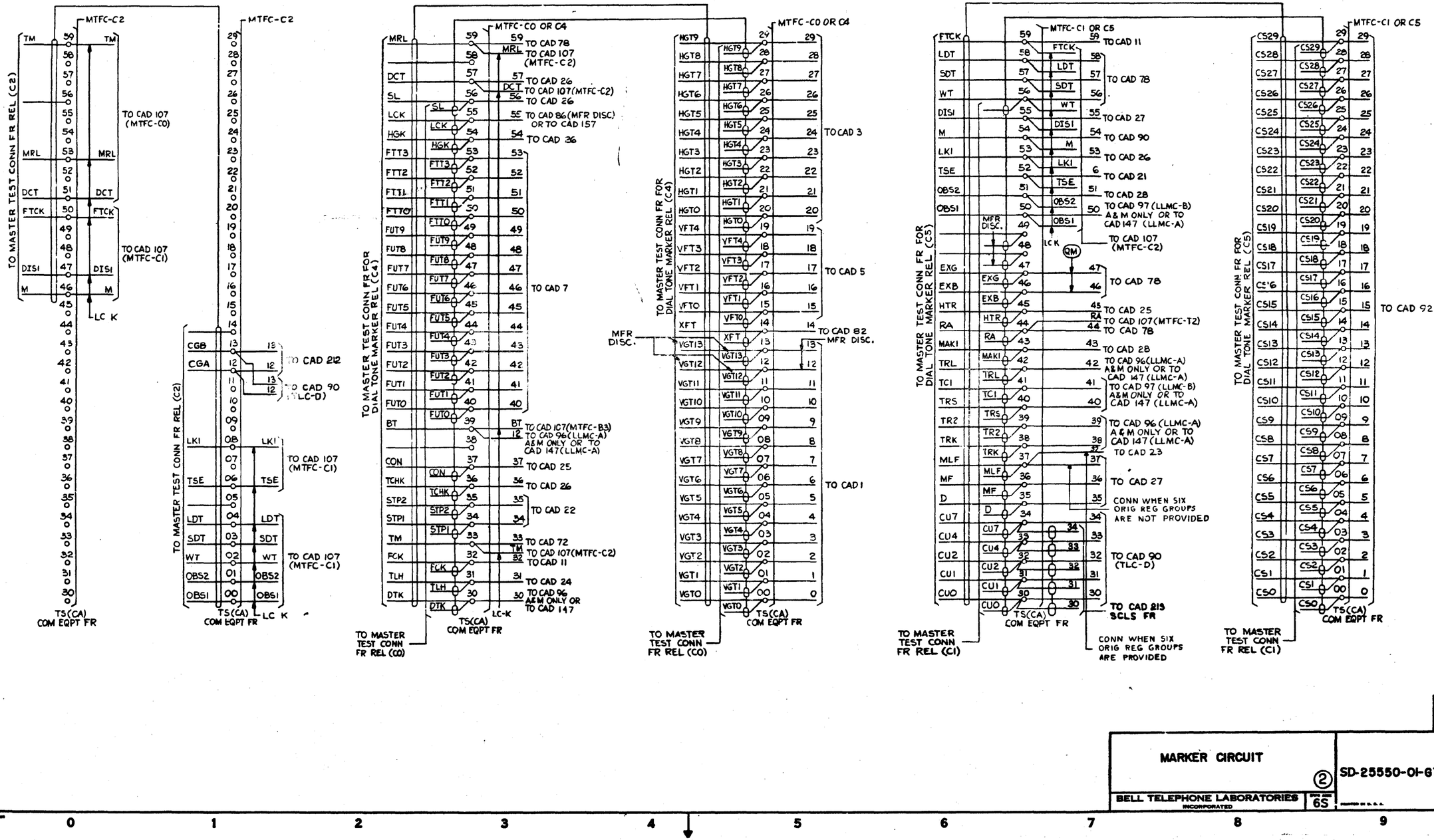
BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25550-01-G76

51

PART OF CAD 107



ISSUE	
41D	
49D	
53A	

MARKER CIRCUIT

SD-25550-01-677

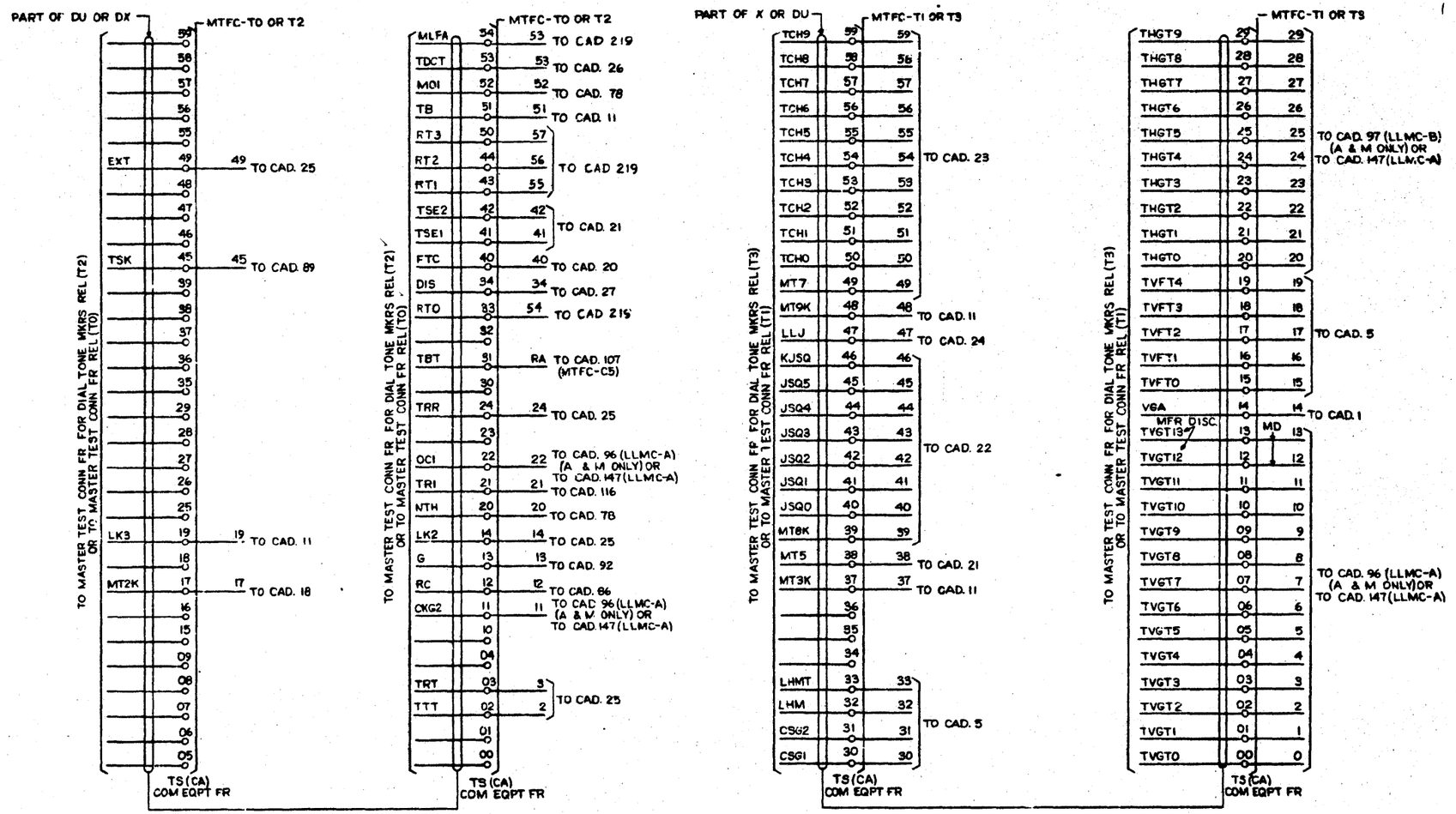
BELL TELEPHONE LABORATORIES INCORPORATED

53

SD-25550-01-677

PART OF CAD 107

FOR DIAL TONE MARKERS



DRAWING ISSUE
410 AM
438 AM
490 AM

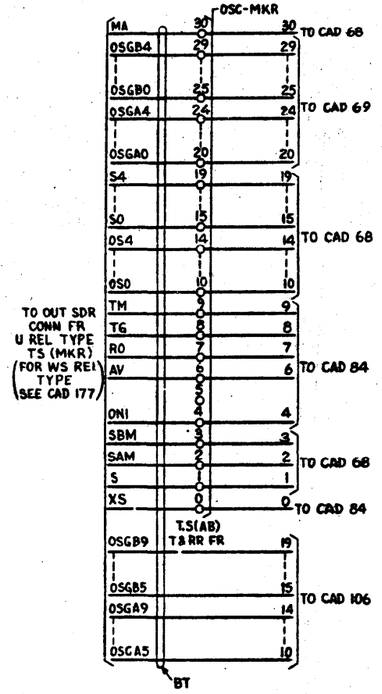
CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)
BELL TELEPHONE LABORATORIES INCORPORATED
65

49
SD-25550-01-678

SD-25550-01-678

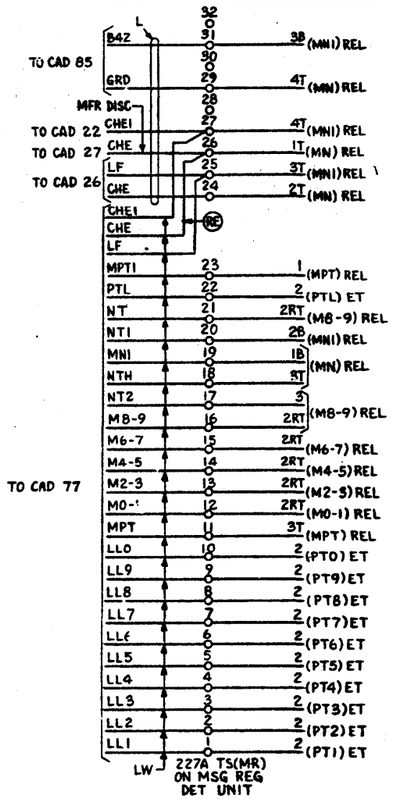
CAD 108

(FOR APP FIGS. 69 & 70)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS



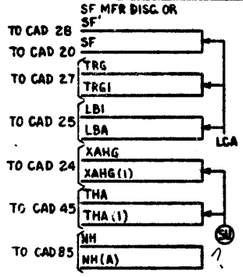
CAD 109

(FOR APP FIG. 84)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS D&I



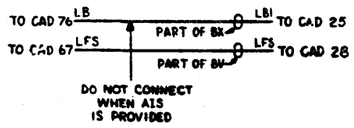
CAD 110

(FOR APP FIG. 86)
FOR COMBINED OR COMPLETING MARKERS



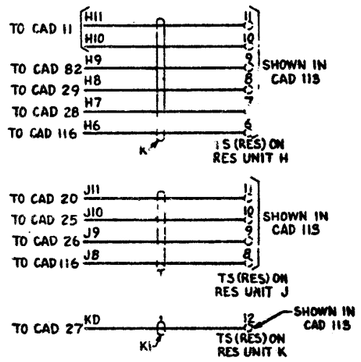
CAD 111

(FOR APP FIG. 87)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS



CAD 112

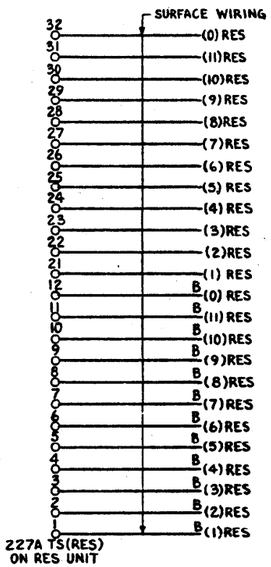
SEE NOTE 219
ONE PER COMBINED OR COMPLETING MARKER



CAD 113

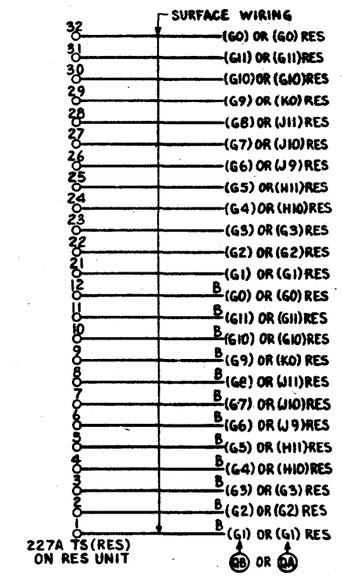
(ONE APP FIG. FOR 12-90Ω OR 62Ω RES)

RESISTANCE UNITS A-F FOR DIAL TONE MARKERS OR RESISTANCE UNITS A-F AND H-L FOR COMBINED OR COMPLETING MARKERS



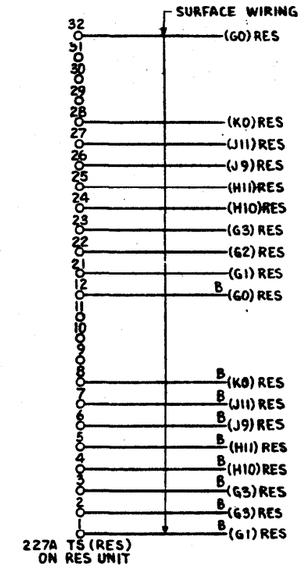
NOTE: B DENOTES TERM. NEARER MTG SURFACE

RESISTANCE UNIT 6 FOR COMBINED OR COMPLETING MARKERS



NOTE: B DENOTES TERM. NEARER MTG SURFACE

RESISTANCE UNIT G FOR DIAL TONE MARKERS



NOTE: B DENOTES TERM. NEARER MTG SURFACE

MARKER CIRCUIT (2)	SD-25550-01-679
BELL TELEPHONE LABORATORIES INCORPORATED	6S

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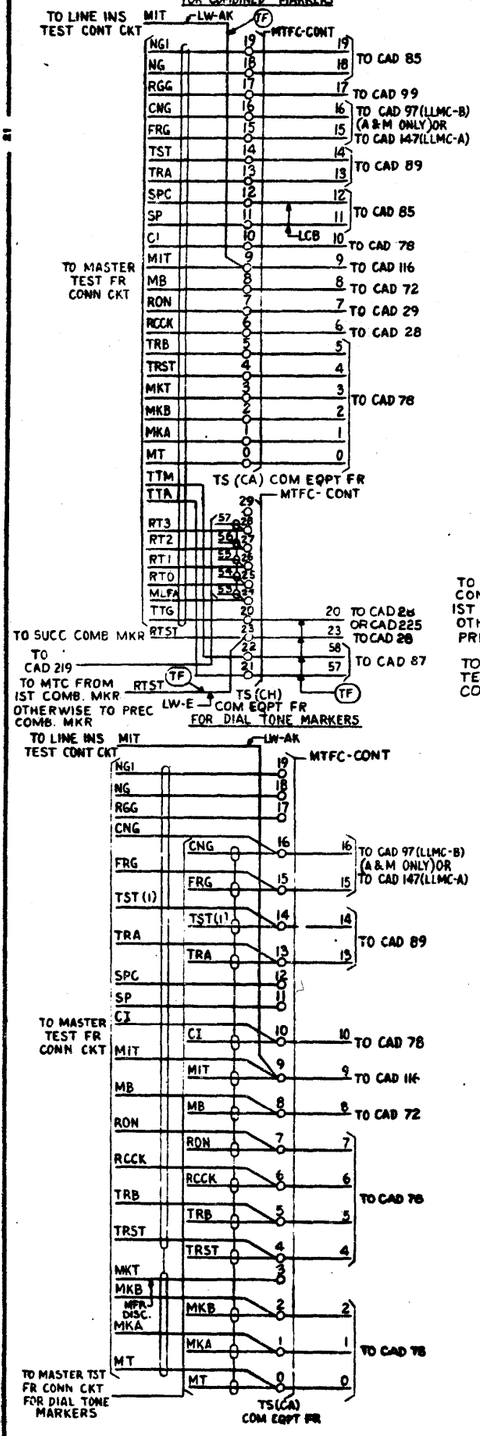
SD-25550-01-679

CAD 114

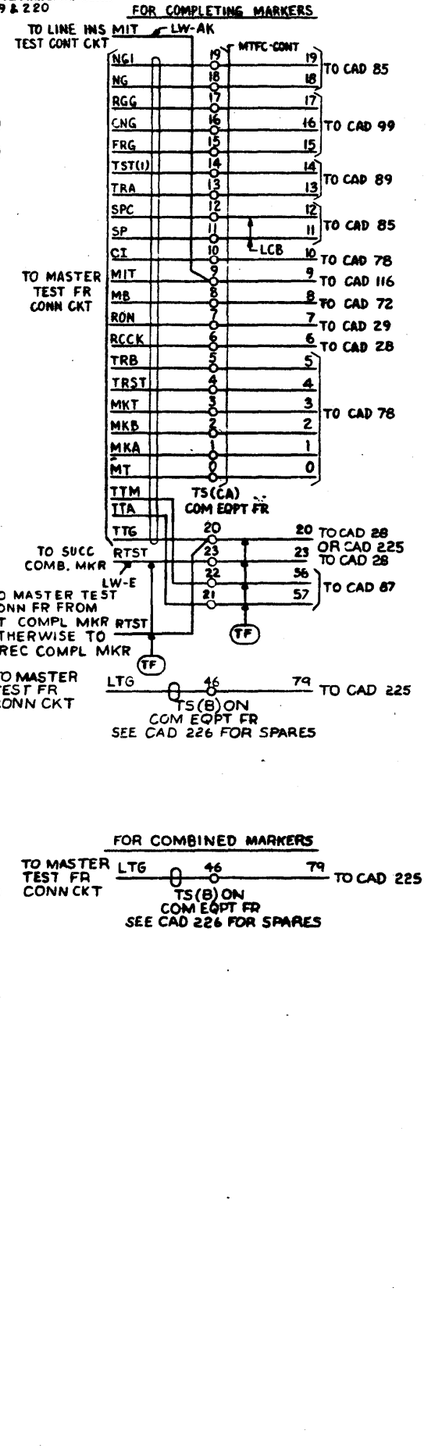
FOR APP FIGS. 34,78,79,H & MKR & NG CONN
SEE NOTES 219 & 220

FOR COMBINED MARKERS



FOR DIAL TONE MARKERS

FOR COMPLETING MARKERS

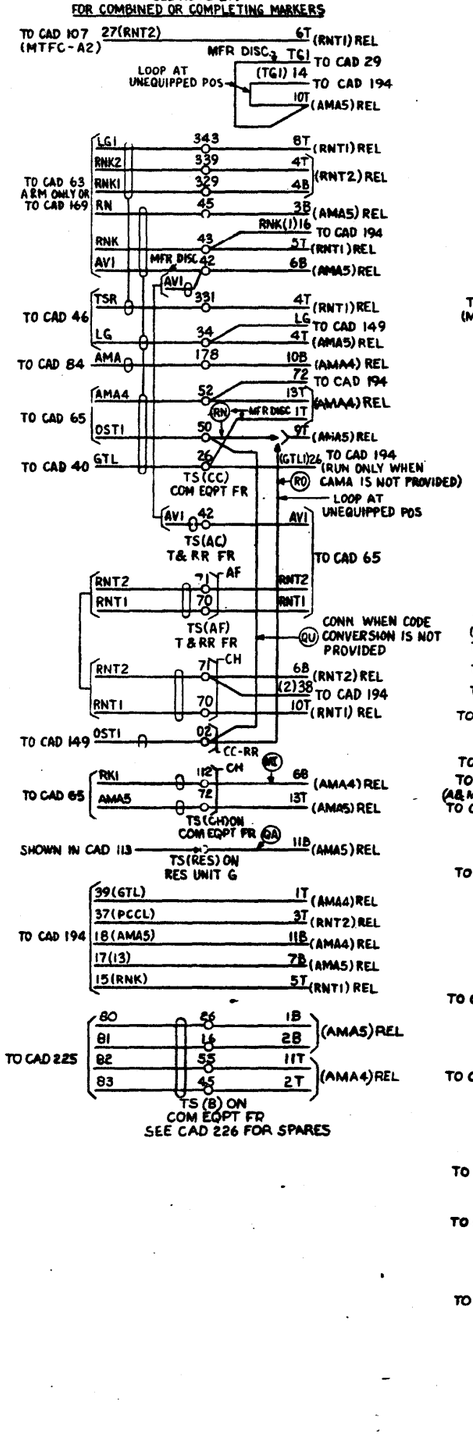


FOR COMBINED MARKERS

CAD 115

(FOR APP FIG. 89)
SEE NOTE 219

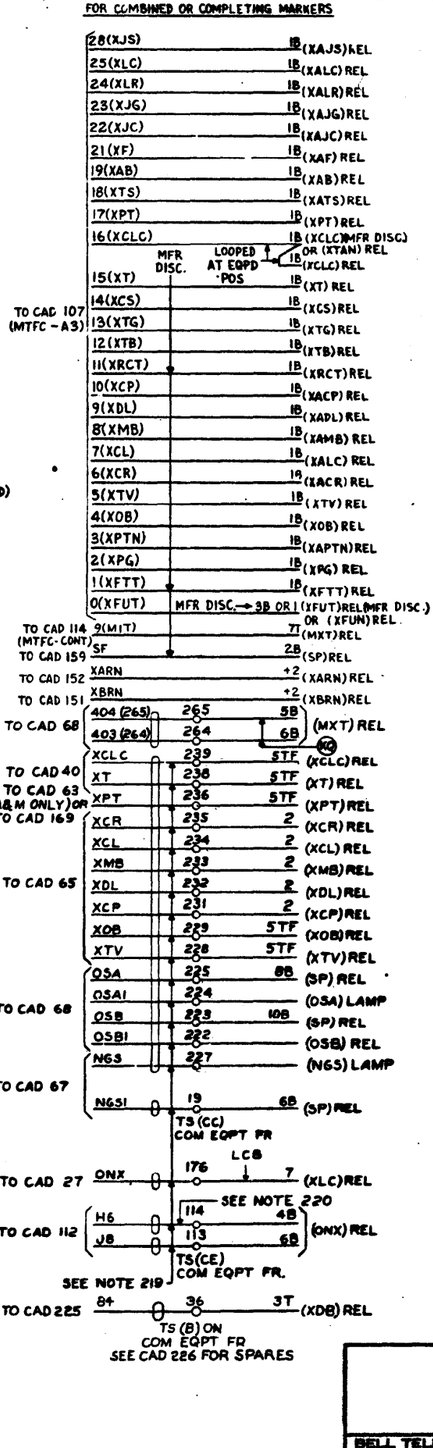
FOR COMBINED OR COMPLETING MARKERS



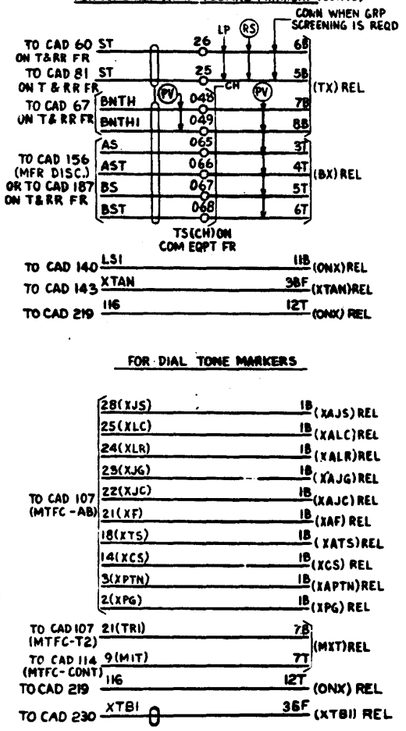
CAD 116

(FOR APP FIG. 91)

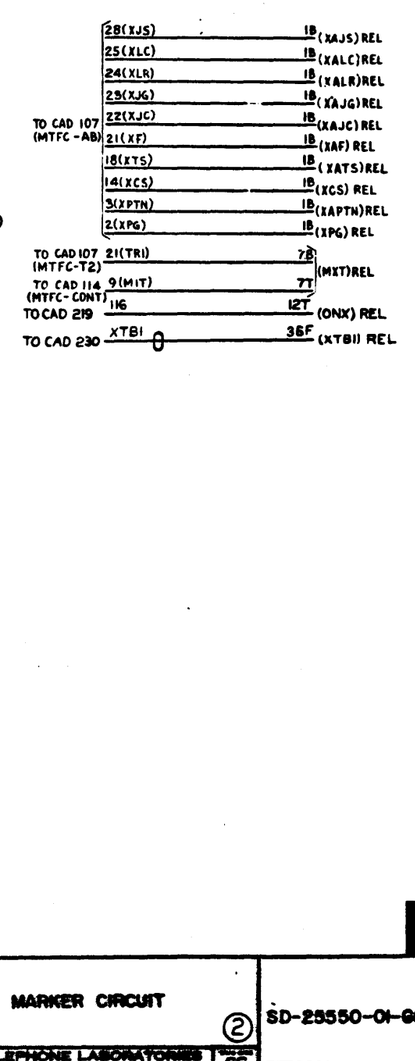
FOR COMBINED OR COMPLETING MARKERS



FOR COMBINED OR COMPLETING MARKERS (CONTD)



FOR DIAL TONE MARKERS

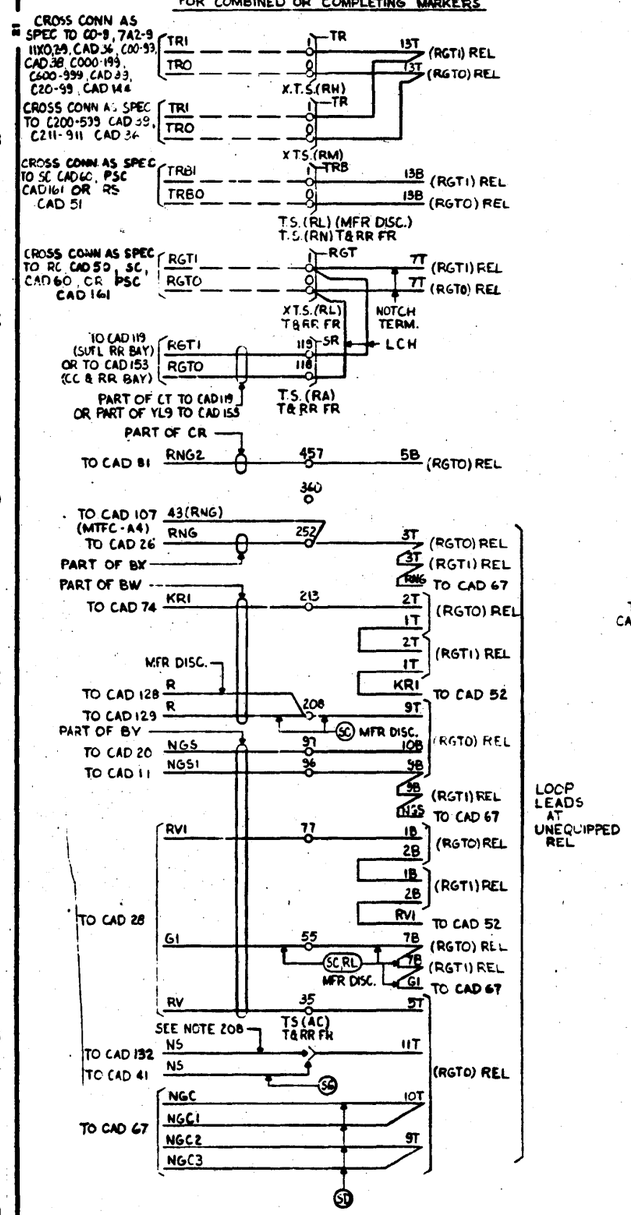


DRAWING ISSUE
41D
42D
43B
44B
46D
49D
51D
54D
56D

SD-25550-01-080

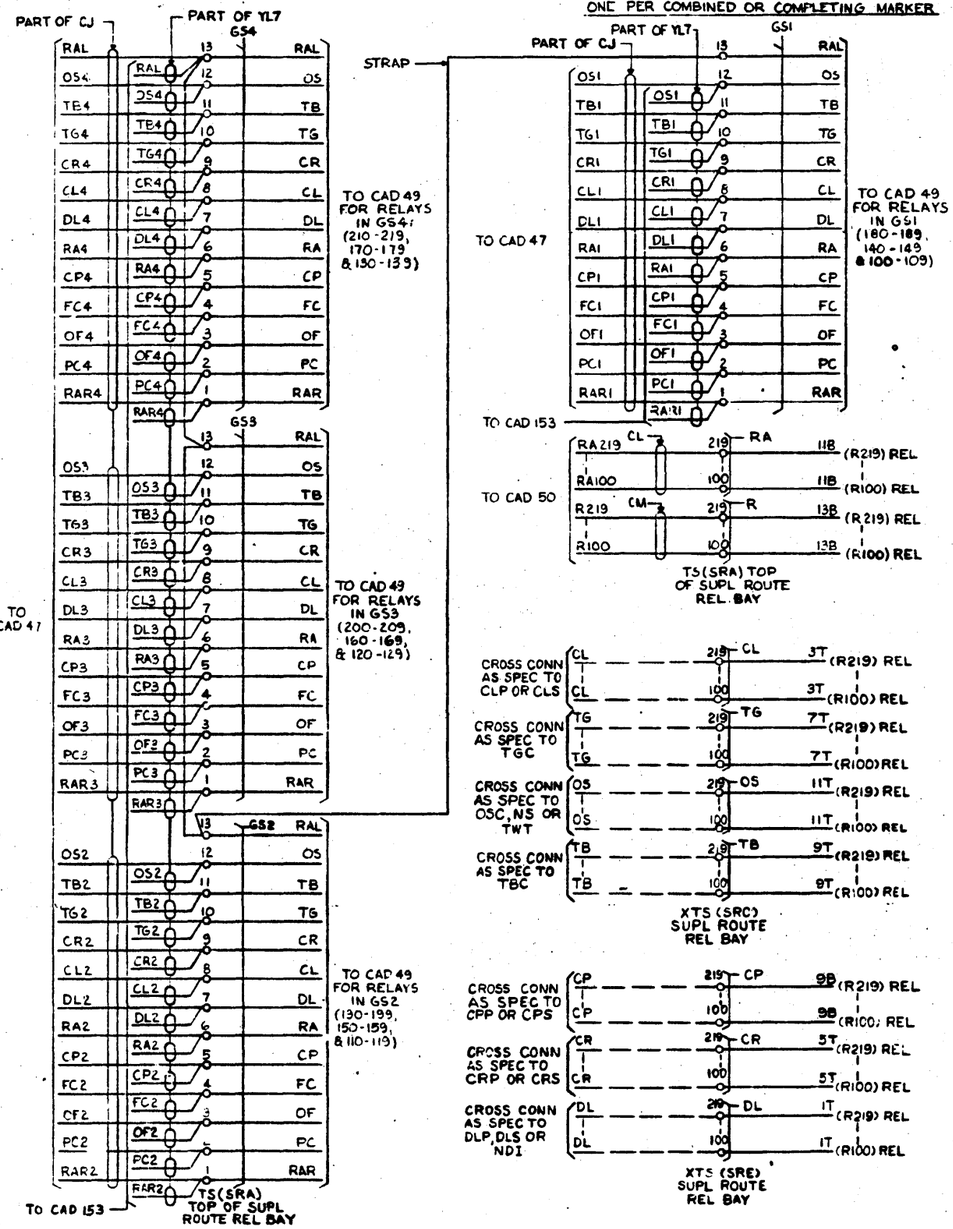
CAD 117 (MFR DISC.)

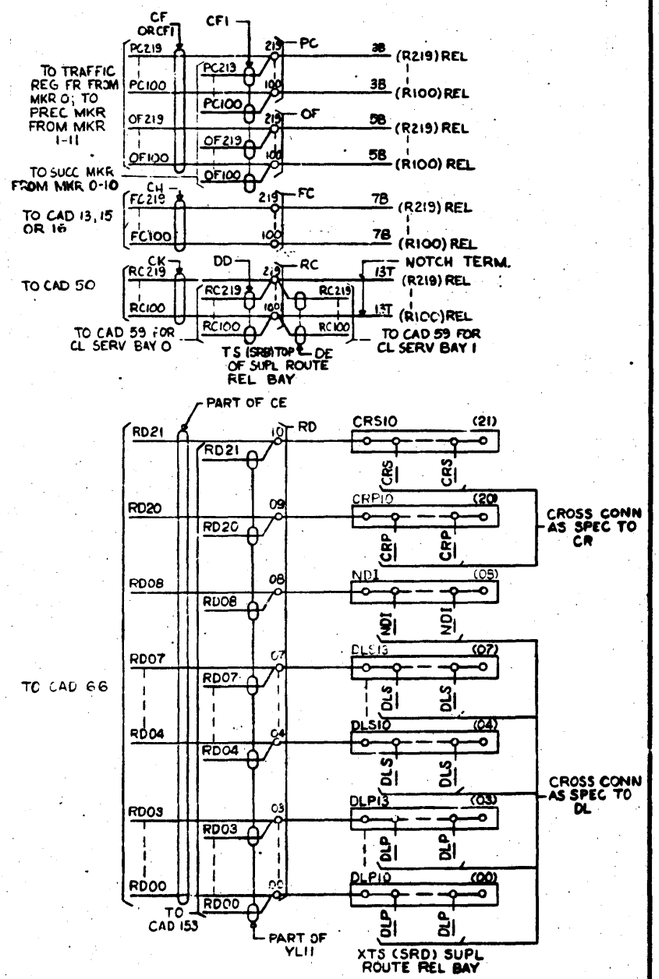
(FOR APP FIG. 62)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS



PART OF CAD 118

(FOR APP FIG. 51 FOR SUPL ROUTE REL BAY J28754E)
SEE NOTE 219
ONE PER COMBINED OR COMPLETING MARKER





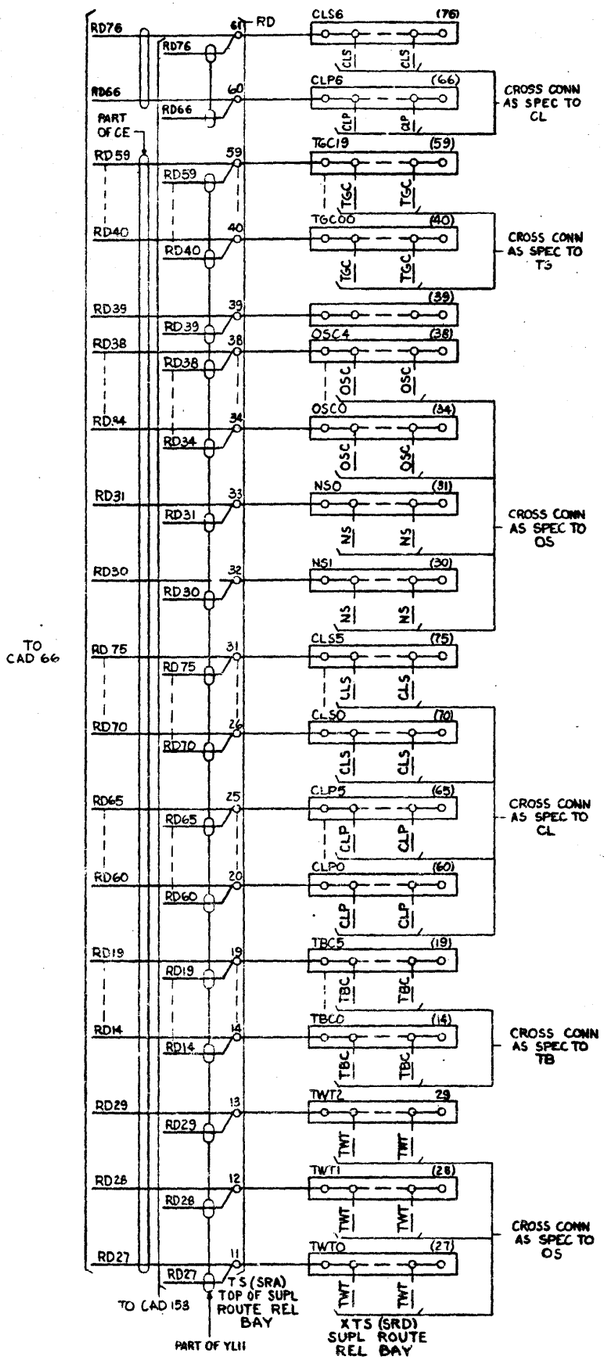
CROSSBAR SYSTEMS	46
NO. 5 MARKER CIRCUIT	SD-25860-01-GBI
BELL TELEPHONE LABORATORIES INCORPORATED	6S

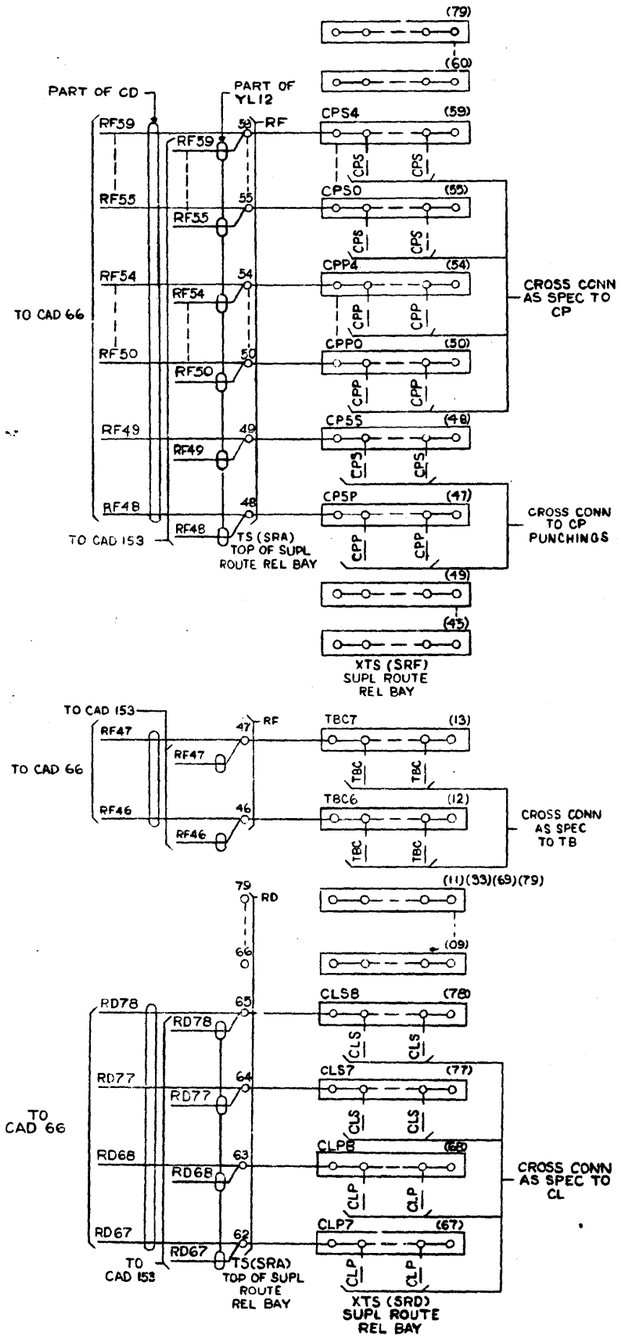
DRAWING ISSUE
41D
46D

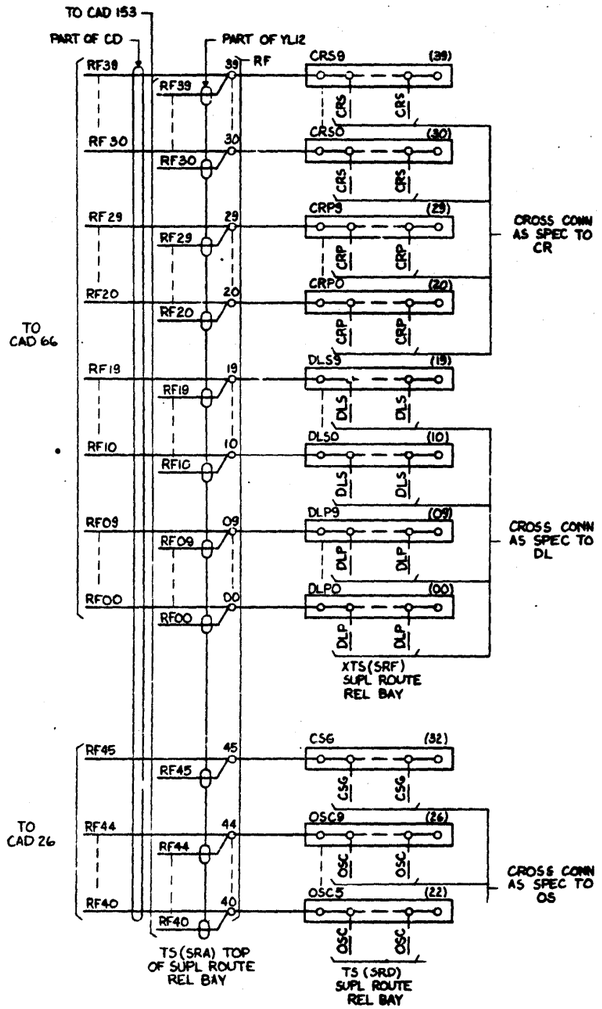
SD-25860-01-GBI

PART OF CAD 118

(FOR APP FIG. 51 FOR SUPL ROUTE REL BAY J28754E)
SEE NOTE 219
ONE PER COMBINED OR COMPLETING MARKER







DRAWING ISSUE		
41D	C.F.	W.F.G.
42D		P.D.
46D		C.B.
54D	C.F.	
56D		CB

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-082

56

SD-25550-01-082

PART OF CAD 119

(FOR APP FIG. 51. FOR SUPL ROUTE REL BAY JZ8754F)
SEE NOTE 219

TO CAD 153 PART OF FH. PART OF CJ

TO CAD 47

TO CAD 49 FOR RELS IN GS4: (410-419 & 370-379)

TO CAD 49 FOR RELS. IN GS4: (330-339, 290-299 & 250-259)

TO CAD 49 FOR RELS IN GS3: (440-449, 400-409 & 360-369)

TO CAD 49 FOR RELS IN GS3: (320-329, 280-289 & 240-249)

TS (SRA) TOP OF SUPL ROUTE REL BAY

STRAP

TO CAD 49 FOR RELS IN GS2: (430-439, 390-399 & 350-359)

TO CAD 49 FOR RELS IN GS2: (310-319, 270-279 & 230-239)

TO CAD 49 FOR RELS IN GS1: (420-429, 380-389 & 340-349)

TO CAD 49 FOR RELS IN GS1: (300-309, 260-269 & 220-229)

T.S. (SRA) TOP OF SUPL ROUTE REL BAY

PART OF CJ

FOR COMB OR COMPL MKR

TO CAD 13, 15 OR 16

TS (SRA) TOP OF SUPL ROUTE REL BAY

CF OR CF1

TO TRAFFIC REG FR FROM 1ST MKR OTHERWISE TO PREC MKR

TS (SRB) TOP OF SUPL ROUTE REL BAY

TO SUCC MKR

TO CAD 59 FOR CL SERV BAY 0

TO CAD 59 FOR CL SERV BAY 1

TS (SRR) TOP OF SUPL ROUTE REL BAY

CROSS CONN AS SPEC TO C, CG, PR, RAG, RTA, RTB ZO, PS, SCN, VC, RGT, NR RR, OP, CAD119 OR FAR CAD358 OR LT 20 CAD 119

CROSS CONN AS SPEC TO RC

XTS (SRH) SUPL ROUTE REL BAY

TO CAD 190

CROSS CONN AS SPEC TO C & RA

TO CAD 143

XTS (SRM) SUPL ROUTE REL BAY

CROSS CONN AS SPEC TO T6C

CROSS CONN AS SPEC TO OSC, NS, TWT, OR CSG

CROSS CONN AS SPEC TO TBC

CROSS CONN AS SPEC TO CLP OR CLS

UPPER XTS (SRC) SUPL ROUTE REL BAY

CROSS CONN AS SPEC TO CLP OR CLS

CROSS CONN AS SPEC TO T6C

CROSS CONN AS SPEC TO OSC, NS, OR TWT

CROSS CONN AS SPEC TO TBC

LOWER XTS (SRC) SUPL ROUTE REL BAY

CROSS CONN AS SPEC TO CPP OR CPS

CROSS CONN AS SPEC TO CRP OR CRS

CROSS CONN AS SPEC TO DLP, DLS, OR NDI

UPPER XTS (SRE) SUPL ROUTE REL BAY

CROSS CONN AS SPEC TO CPP OR CPS

CROSS CONN AS SPEC TO CRP OR CRS

CROSS CONN AS SPEC TO DLP, CLS, OR NDI

LOWER XTS (SRE) SUPL ROUTE REL BAY

CROSS CONN AS SPEC TO RC, PB, LR OR RAG

CROSS CONN AS SPEC TO SC, RS, RAC, CAD 119 OR PSC CAD 161 OR SC CAD 204

XTS (SRM) SUPL ROUTE REL BAY

CROSS CONN AS SPEC TO R

CROSS CONN AS SPEC TO RA

TO CAD 153 OR CAD 201

TO CAD 60

TO CAD 51

XTS (SRM) SUPL ROUTE REL BAY

DRAWING ISSUE
410
458
460
480
50A

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)

SD-25550-01-683

50

BELL TELEPHONE LABORATORIES INCORPORATED

SHEET 69

SD-25550-01-683

PART OF CAD 119

(FOR APP FIG 51, FOR SUPL ROUTE RELAY BAY 128754F)
SEE NOTE 219
FOR COMPLETE OF COMPLETING MARKERS

XTS (SRP) SUPL ROUTE REL BAY

CROSS CONN AS SPEC TO R OR RA

NOTCH TERM

CROSS CONN AS SPEC TO RC

TO CAD 83

TO CAD 54

TO CAD 56

TO CAD 40

TO CAD 35

TO CAD 34

TO CAD 117 OR 185

TO CAD 51

XTS (SRG) SUPL. ROUTE REL BAY

XTS (SRJ) SUPL ROUTE REL BAY

XTS (SRL) SUPL ROUTE REL BAY

XTS (SRG) SUPL ROUTE REL BAY

SEE NOTE 224

TO CAD 153

PART OF YL11

CROSS CONN AS SPEC TO TB

CROSS CONN AS SPEC TO TG

CROSS CONN AS SPEC TO OS

CROSS CONN AS SPEC TO CL

CROSS CONN AS SPEC TO TB

CROSS CONN AS SPEC TO OS

XTS (SRD) SUPL ROUTE REL BAY

TS (SRA) TOP OF SUPL ROUTE REL BAY

TO CAD 66

CROSS CONN AS SPEC IN SECT D

TS (SRH) ON SUPL ROUTE RELAY BAY

TO CAD 56

TO CAD 153

PART OF YL12

TS (SRA) TOP OF SUPL ROUTE REL BAY

TO CAD 66

CROSS CONN AS SPEC TO CR

CROSS CONN AS SPEC TO DL

XTS (SRF) SUPL ROUTE REL BAY

CROSS CONN AS SPEC TO DL

TO CAD 153

XTS (SRA) SUPL ROUTE REL BAY

XTS (SRD) SUPL ROUTE REL BAY

TS (SRR) TOP OF SUPL ROUTE REL BAY

TO CAD 153

CROSS CONN AS SPEC TO CP

XTS (SRF) SUPL ROUTE REL BAY

CROSS CONN AS SPEC TO CL

DRAWING ISSUE

41D		
42D		
54D		
56D		

MARKER CIRCUIT

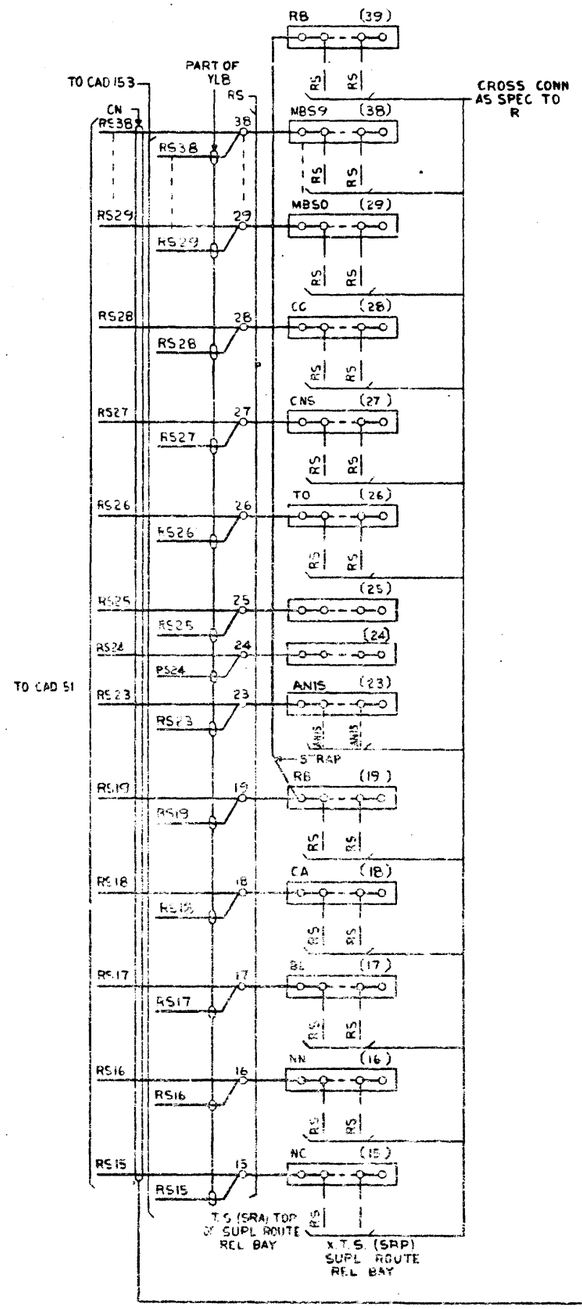
SD-25550-01-G84

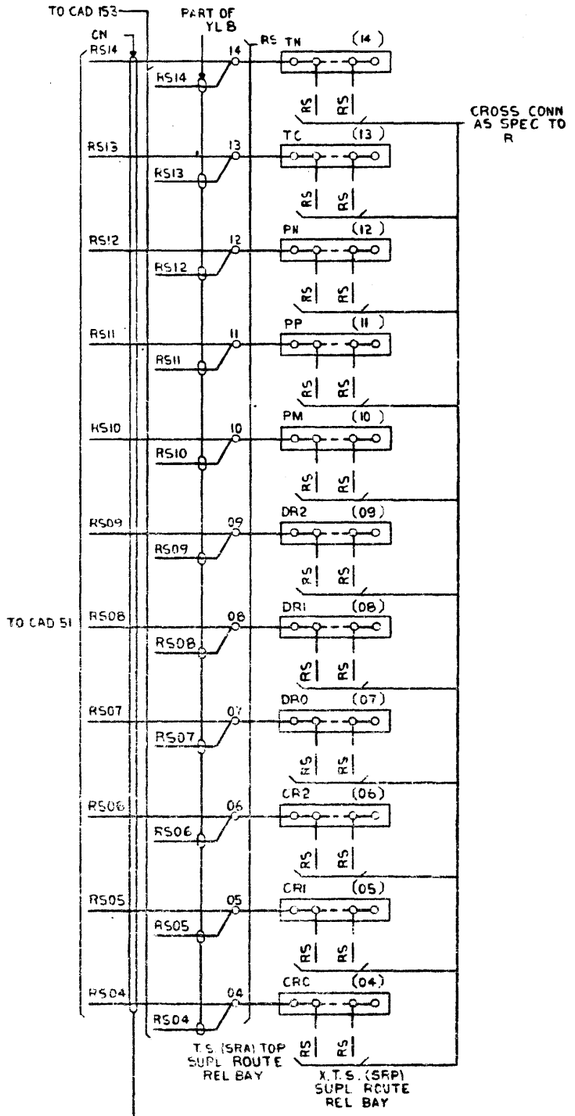
BELL TELEPHONE LABORATORIES INCORPORATED

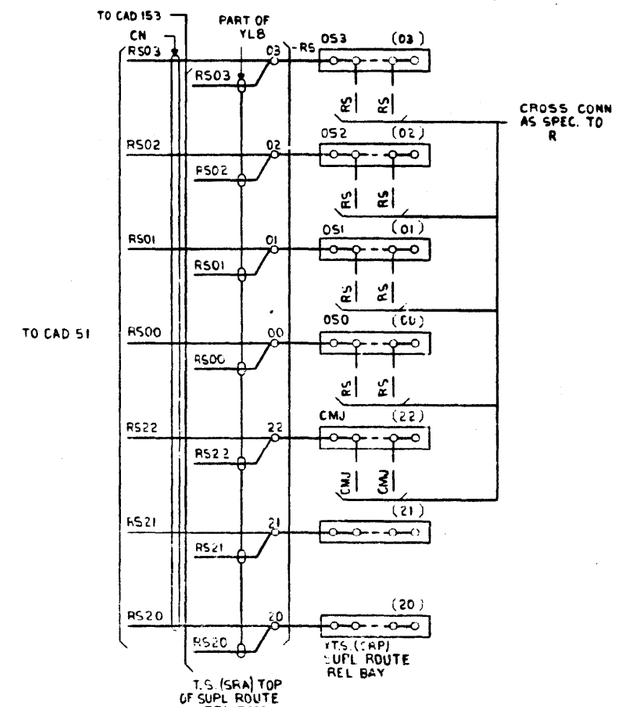
56

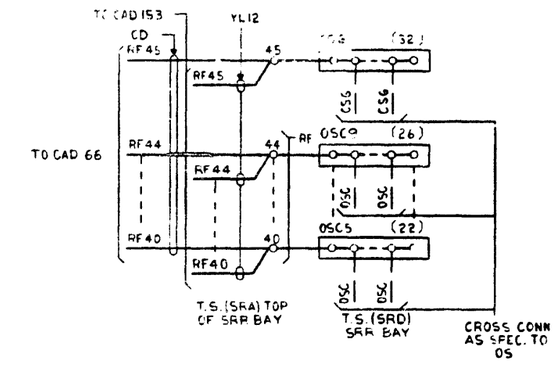
PART OF CAD 119

(FOR APP FIG. 51 FOR SUPL ROUTE RELAY BAY 128754F)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS









ISSUE		
41D	10-15-68	
42D	12-1-69	P.R.

42

NO.5 MARKER CIRCUIT	SD-25550-01-685
BELL TELEPHONE LABORATORIES INCORPORATED	6S

999-10-025550-01S

CAD 120 (MFR DISC)

ONE PER COMBINED OR COMPLETING MARKER

435, 473, 479 — TS(CC) COM EQPT FR
435, 479, 479 — TS(AC) T & RR FR

CAD 121

(FOR APP FIG. 92)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS

TO CAD. 131 LFSI
TO CAD. 28 MFR DISC — LFS
61 — TS(AC) T & RR FR
2 — ET SOCKET FOR (RCLA) REL

CAD 123

(FOR APP FIG. 95)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS

TO CAD. 124 PCL — 4T
TO CAD. 122 PCL
CROSS CONN AS SPEC TO RC CAD. 50 — PCR — PCR — XTS(RL) T & RR FR — 6T (PCR) REL
TO CAD 226 OR TO CAD 29 — KG — 33 — TS(AC) T & RR FR — 2T, 3T
LC A — KG — TO CAD. 46
SHOWN IN CAD. 113 — 2 — TS (RES) ON RES UNIT (K) — 13B (KGS2) REL

TO CAD. 193
TO CAD. 124 — TLC 6B; RBT 23(TLC) 3B; TRL 24(RBT) 5B (PCR) REL
TO CAD. 122 — TRL — 4B — LC A
TO CAD. 100 (IRMC-AB) — 47
TO CAD. 107 (MTFC-BI) — 47 — LOOP AT UNEQUIPPED POSITION
TO CAD. 107 (MTFC-A5) — 39(H'7) 39; 34(G'7) 34; 10(C'0) 10 (KGS1) OR (KGS2) REL
TO CAD. 124 — PEGI — 11T (KGS1) REL
TO CAD. 26 — PEG — 09 — AF — TS(AF) — 2B, 1B (PCR) REL — PEG — TO CAD. 124
MFR DISC — LC A
TO CAD. 100 (IRMC-AB) — 6(PCR) — 10T
TO CAD. 193 — 22(PCR); 25(CGA) 7T; 143(F1) 9T; 142(F) 8T (PCR) REL

CAD 122

(FOR APP FIG. 94 & 154)
(SEE NOTE 219)
FOR COMBINED OR COMPLETING MARKERS

LCA MFR DISC — LOOP AT UNEQUIPPED POS
TO CAD 123 PCL — 10T
TO CAD 104 (OSC-A) 15(CL5) 8B; 13(CL3) 5B
TO CAD 107 (MTFC-BI) 12(CL3)
TO CAD 104 (OSC-A) 12(CL2) 2B (PCL1) REL
TO CAD. 65 — CL5 9B; CL3 6B; CL2 3B
TO CAD. 63 (A & M ONLY) OR CAD. 169 — PK 1B (PCN5) REL; PC 2B (PCNO) REL; LGI 1T (PCCL) REL
SHOWN IN CAD. 113 — 9 — (QA) — TS (RES) ON RES UNIT (G) — 11B (PCL3) REL

CROSS CONN AS SPEC TO SK-CAD. 69 — SPC — SPC — TS (AD) T & RR FR
CROSS CONN AS SPEC TO SAB OR SABC CAD. 46 — PVR — PRV — MFR DISC — TS(AE) TS(AD) T & RR FR — LC
MFR DISC
LOOP AT UNEQUIPED POS
LCA *TO CAD 124*

TLC 469 — TLC
RYT 465 — 3T, 9T
TS 466 — 9T
PRV 467 — 6T
SPC 468 — 2T (PLC1) REL
C3 GRD
PCNO 459 — 2T (PCNO) REL
PCL3 447 — 10B (PCL1) REL
PCCL 446 — 7T (PCCL) REL
RBT 478 — RBT — TO CAD 124
TRL(1)27 — TO CAD 193
TRL 477 — TRL — TO CAD 124
(TRL)26 — TO CAD 193
7T (PLC1) REL
PT0141 — TO CAD 193
FTC 100 — 1T (PLC1) REL
MFR DISC (FTC)141 — TO CAD 193
TRL(A) 476 — TRL — TO CAD 123
TS(AC) T & RR FR

TLC 469 — TLC — TO CAD. 27
RYT 465 — RYT — TO CAD. 11
TS 466 — TS — TO CAD. 81
PRV 467 — 5T
SPC 468 — 4T (PCL3) REL
PCNO 459 — 9B (PCL2) REL (MFR DISC) OR 2T (PCL3) REL
PCL3 447 — 13T
PCCL 446 — 2B (PCL2) REL
RBT 478 — RBT — TO CAD. 81
TRL 477 — TRL — TO CAD. 27
(PCL) 22 — TO CAD. 194
TRL(A) 476 — 10T (PCL3) REL
FTC 100 — (40)FTC — TO CAD. 107 (MTFC-TO)
TRL — LCA 9T
TO CAD. 25 TO CAD. 124 — PCL 445 — TS(CC) COM EQPT FR — MFR DISC 12T
TO CAD. 81 (MFR DISC) OR TO CAD. 157 — CK — 4B, 5B (PCL3) REL
CKI — TO CAD. 81
(14) 23 — TO CAD. 194
LOOP AT UNEQUIPPED POS

AF
AVI 68 — 8B — TO CAD 197
FI 14 — AVI — TO CAD. 65
F 13 — F — TO CAD. 124
PEG 08 — PEG — TO CAD. 68
PEGI 07 — 6T (PCCL) REL
SF(A) 02 — 6T
01 — 5T
1T (PCL1) REL
00 — 4T
79 — 8T
3T
TO CAD 28 SF' — TS (AF) T & RR FR — MFR DISC

(AVI) 20 — TO CAD. 194
(I2) 24
CH
AVI 88 — 6B (PCL3) REL
FI 14 — MFR DISC — FI
F 13 — F — TO CAD. 26
PEG 08 — PEG
PEGI 07 — PEG — TO CAD. 25
SF(A) 02 — SF — TO CAD. 11
SF 00 — SF — TO CAD. 28
TS(I) 15 — TS(I) — TO CAD. 81
TS(CH) COM EQPT FR

TO CAD. 194 — 30(OTT) — 2B (PCL3) REL; 27(8) — 7T (PCL2) REL
TO TRAFFIC REG CKT — PLSC — 86 — TS(CE) COM EQPT FR — PLSC — TO CAD. 26

TO CAD. 194 — 26(9) — 1B (PCL2) REL; 25(11) — 8T; 7(CMCL) — 11T (PCL3) REL
TO CAD 209 — 06 — 11T
TO CAD. 193 — 33(3) — 1B (PCL1) REL; 31(1) — 7B; 30(CL5) — 3T (PCCL) REL; 28(CL2) — 3B

TO CAD 225 — 85 — 56 — 2T (PCL2) REL
TS (B) ON COM EQPT FR
SEE CAD 226 FOR SPARES

CAD 124

(FOR APP FIG 96)
(SEE NOTE 219)
FOR COMBINED OR COMPLETING MARKERS

LOOP AT UNEQUIPPED POS
TO CAD. 122 TLC — TLC — TO CAD. 123
6B (PCDI) REL
6B (PCDO) REL

TO CAD. 100 (IRMC-AB) — 8(PCDI) — 10T (PCDI) REL
5(PCD) — 20(PCDI) 10T (PCDO) REL
21(PCD) — TO CAD. 193
MFR DISC

CROSS CONN AS SPEC TO RC CAD. 50 — PCD — 1 — PCD — 6T (PCDI) REL; 6T (PCDO) REL
XTS(RL) T & RR FR

TO CAD. 122 PCL — 445 — TS(AC) T & RR FR — LOOP AT UNEQUIPPED POS
4T (PCDO) REL
4T (PCDI) REL
PCL — TO CAD. 123
LCA
TO CAD. 123 TRL — 4B (PCDO) REL; 5B; 4B (PCDI) REL; 5B
TO CAD. 122 TRL — RBT — 3B (PCDO) REL
TO CAD. 100 (IRMC-AB) — 49 — 48 — 3B (PCDI) REL
TO CAD. 107 (MTFC-BI) — 49 — 48 — RBT — TO CAD. 123

PEGI 10 — CH — PEGI — TO CAD. 26
TS (CH) COM EQPT FR
LOOP AT UNEQUIPPED POS
PEGI 10 — AF — 1T (PCDO) REL; 1T (PCDI) REL; PEGI — TO CAD. 123
TO CAD. 123 PEG — 3T (PCDO) REL; 2T; 9T (PCDI) REL; 2T
TO CAD. 27 PEG — 12 — TS (AF) T & RR FR — LOOP AT UNEQUIPPED POS
LC A

TO CAD. 122 — F — 8T; FI — 9T (PCDI) REL

41D	275 DL BAT	
42D	277 HTL	
46D	TJK 604 AMP	
51D	JLG 705 AMP	
54D	CF EDL AMP	

MARKER CIRCUIT (2) — SD-25550-01-686
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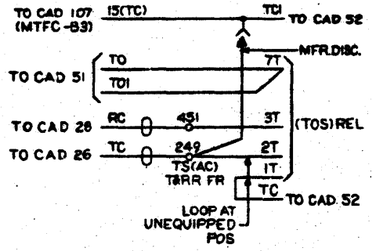
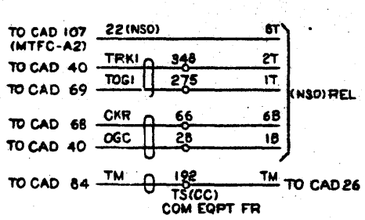
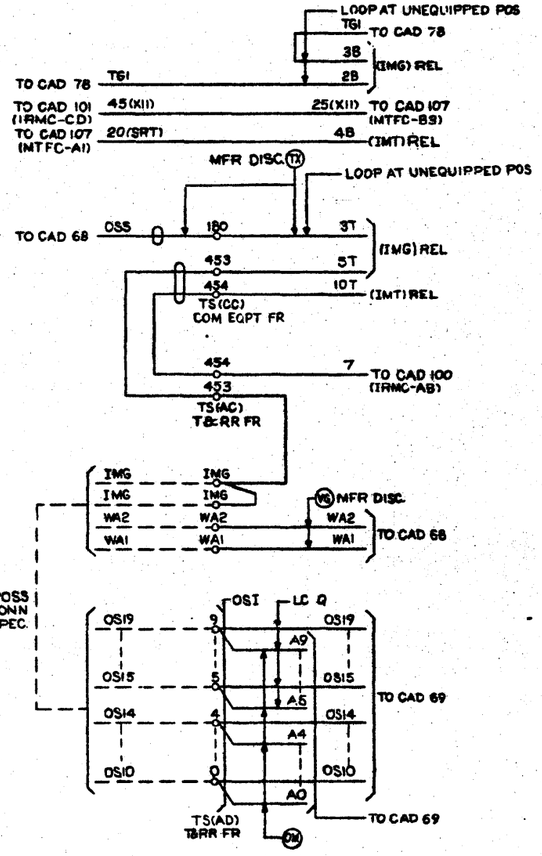
CAD 125
(FOR APP FIG.96)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS

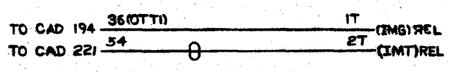


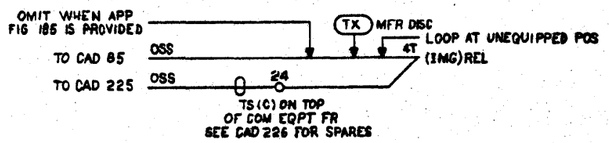
CAD 126 (MFR DISC.)
(FOR APP FIG. E)
SEE NOTE 219



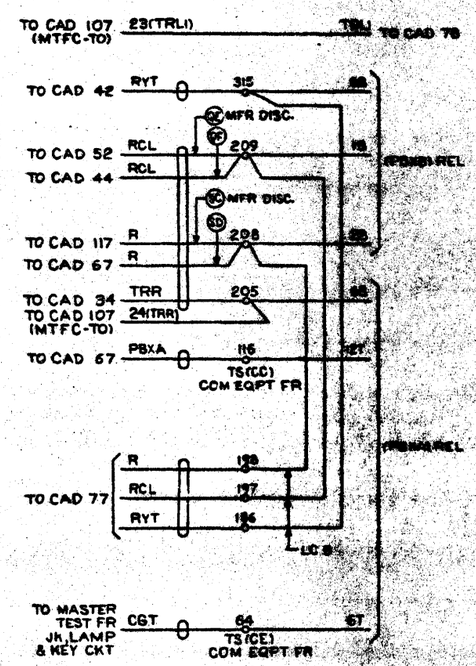
CAD 127
(FOR APP FIG.99)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS



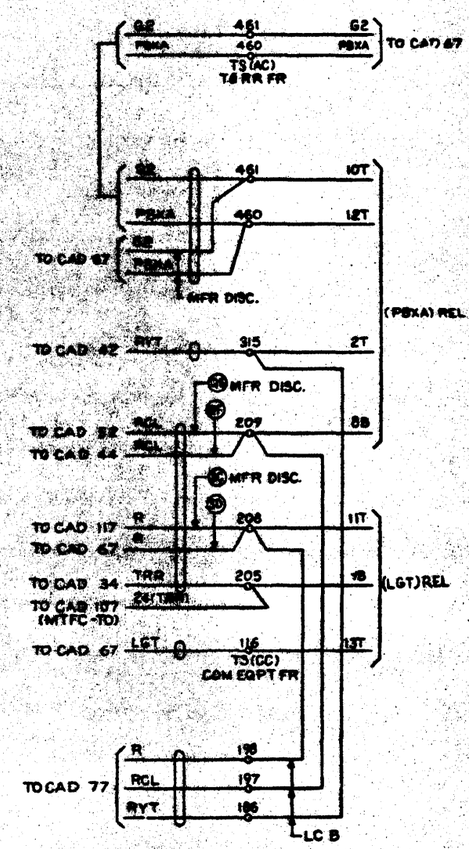




CAD 128 (MFR DISC.)
(FOR APP FIG. G)
SEE NOTE 219



CAD 129
(FOR APP FIG.H)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS



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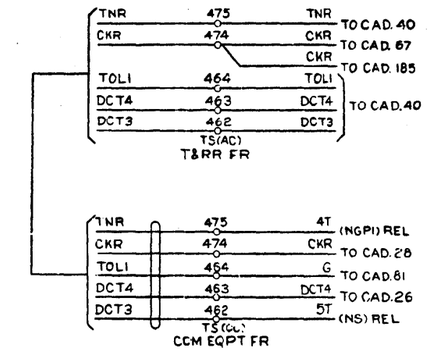
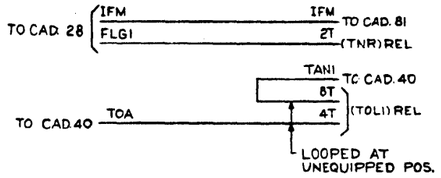
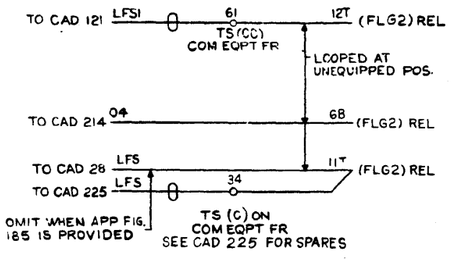
SD-25590-01-087

CAD. 130 (MFR DISC.)
(FOR APP FIG. 102)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS

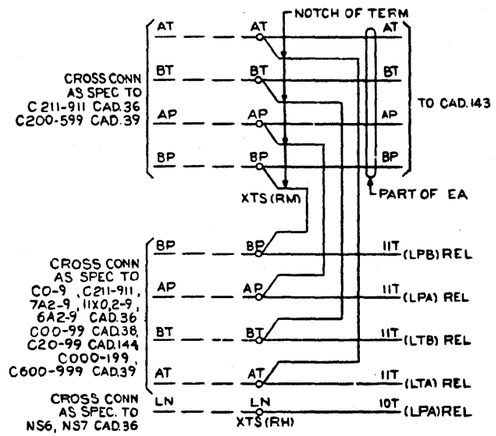


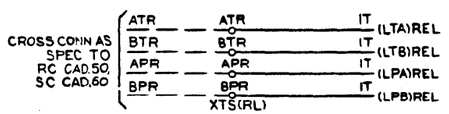


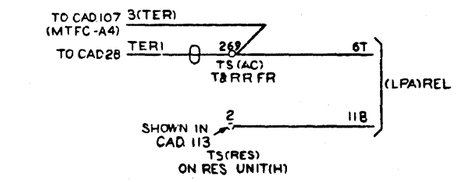
CAD. 131
(FOR APP FIG. 100)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS

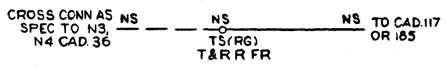


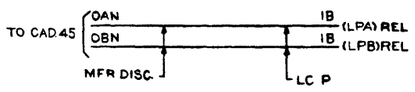
CAD. 132 (MFR DISC.)
(FOR APP FIG. 97)
SEE NOTE 219
FOR COMBINED OR COMPLETINC MARKERS



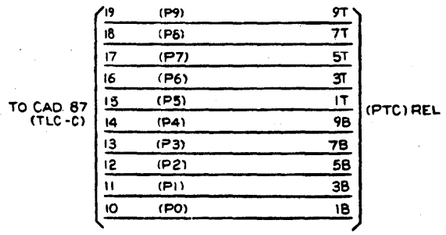




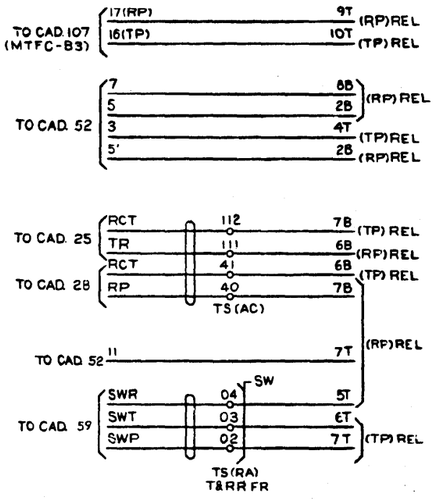




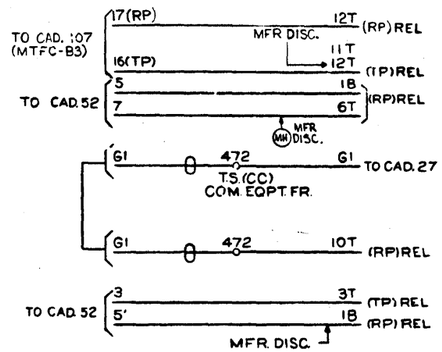
CAD 133
(FOR APP FIG. 107)

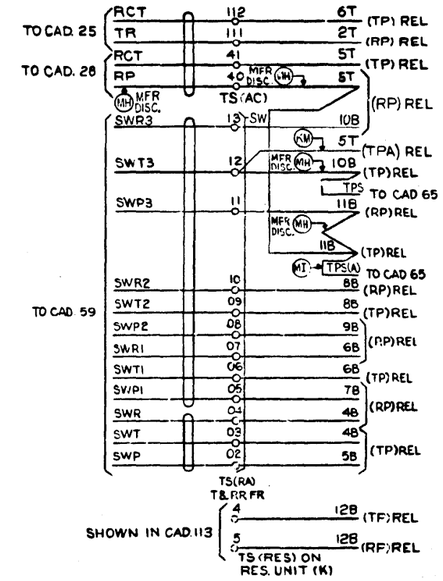


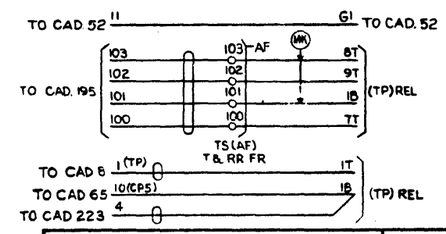
CAD. 134 (MFR DISC.)
(FOR APP FIG. L)
SEE NOTE 219



CAD. 135
(FOR APP FIG. M)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS







MARKER CIRCUIT (2)

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CAD 136
(FOR APP FIG 19)
FOR DIAL TONE MARKERS

TO CAD 136 OR 166 ON SUCCEEDING DIAL TONE MKR

TO CAD 13,15 OR 16, FROM FIRST DIAL TONE MKR OR TO CAD 136 OR 166 ON PRECEDING DIAL TONE MKR

TRK LK FR 9	FTC1	FTC1 19	FTC	10T	
TRK LK FR 8	FTC1	FTC1 18		8T	
TRK LK FR 7	FTC1	FTC1 17		6T	
TRK LK FR 6	FTC1	FTC1 16		4T	
TRK LK FR 5	FTC1	FTC1 15		2T	
TRK LK FR 4	FTC1	FTC1 14		10B	(FC1) REL
TRK LK FR 3	FTC1	FTC1 13		8B	
TRK LK FR 2	FTC1	FTC1 12		6B	
TRK LK FR 1	FTC1	FTC1 11		4B	
TRK LK FR 0	FTC1	FTC1 10		2B	
TRK LK FR 9	FTCO	FTCO 9		10T	
TRK LK FR 8	FTCO	FTCO 8		8T	
TRK LK FR 7	FTCO	FTCO 7		6T	
TRK LK FR 6	FTCO	FTCO 6		4T	
TRK LK FR 5	FTCO	FTCO 5		2T	(FCO) REL
TRK LK FR 4	FTCO	FTCO 4		10B	
TRK LK FR 3	FTCO	FTCO 3		8B	
TRK LK FR 2	FTCO	FTCO 2		6B	
TRK LK FR 1	FTCO	FTCO 1		4B	
TRK LK FR 0	FTCO	FTCO 0		2B	

TS (CC)
COM EQPT FR

CAD 137
(FOR APP FIG 20)
FOR DIAL TONE MARKERS

TO CAD 137 OR 167 ON SUCCEEDING DIAL TONE MKR

TO CAD 14, 15 OR 17, FROM FIRST DIAL TONE MKR OR TO CAD 137 OR 167 ON PRECEDING DIAL TONE MKR

TRK LK FR 19	FTC1	FTC1 39	FTC	10T	
TRK LK FR 18	FTC1	FTC1 38		8T	
TRK LK FR 17	FTC1	FTC1 37		6T	
TRK LK FR 16	FTC1	FTC1 36		4T	
TRK LK FR 15	FTC1	FTC1 35		2T	
TRK LK FR 14	FTC1	FTC1 34		10B	(FCA1) REL
TRK LK FR 13	FTC1	FTC1 33		8B	
TRK LK FR 12	FTC1	FTC1 32		6B	
TRK LK FR 11	FTC1	FTC1 31		4B	
TRK LK FR 10	FTC1	FTC1 30		2B	
TRK LK FR 19	FTCO	FTCO 29		10T	
TRK LK FR 18	FTCO	FTCO 28		8T	
TRK LK FR 17	FTCO	FTCO 27		6T	
TRK LK FR 16	FTCO	FTCO 26		4T	
TRK LK FR 15	FTCO	FTCO 25		2T	(FCA0) REL
TRK LK FR 14	FTCO	FTCO 24		10B	
TRK LK FR 13	FTCO	FTCO 23		8B	
TRK LK FR 12	FTCO	FTCO 22		6B	
TRK LK FR 11	FTCO	FTCO 21		4B	
TRK LK FR 10	FTCO	FTCO 20		2B	

TS (CC)
COM EQPT FR

CAD 138
(FOR APP FIG 104)
FOR DIAL TONE MARKERS

TO CAD 219 TO CAD 88 (TLC-E)	157	10T	(RMF) REL
	1 (TBO)	4B	(RD) REL
TO CAD 89 (TLC-A)	31 (TGI)	2B	(RMF) REL
	30 (TGO)	2B	(RD) REL
TO CAD 107 (MTFC-A8)	59 (TGI)	1T	(RMF) REL
	58 (TGO)	1T	(RD) REL
	10 (TBC)	3T	
TO CAD 219	06	11T	(RD) REL
	48	9T	(RMF) REL

L W. AK

TO MF OR DIAL ORG REG GRP BUSY CKT. RUN FROM FIRST DIAL TONE MKR OR TO CAD 138 OR 165 ON PRECEDING DIAL TONE MKR

TO CAD 138 OR 165 ON SUCCEEDING DIAL TONE MARKERS OR TO SUCCEEDING COMBINED MARKERS

(RB) MF — MF — 5T (RMF) REL
LW AN
(RB) D — LW AJ — D — 5T (RD) REL
(RB) MF
(RB) D — L.W.AM
TS (CC) COM EQPT FR

PC (MF) 7T (RMF) REL
PC (D) 7T (RD) REL
TS (CC)

TO CAD 219	30	3T	(RD) REL
	28	1B	
	27	3B	

CAD 139
(FOR APP FIG. 109)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS

TNR	475	TNR	TO CAD 40
CKR	474	CKR	TO CAD 67
		CKR	TO CAD 185
DCT4	463	DCT4	TO CAD 40
DCT3	462	DCT3	

TS (AC)
T& RR FR

TNR	475	4T	(NGPI) REL
CKR	474	CKR	TO CAD 28
DTC4	463	DTC4	TO CAD 26
DTC3	462	5T	(NS) REL

TS (CC)
COM EQPT FR

TO CAD 28	IFM	IFM	TO CAD 51
	FLG1	2T	(TNR) REL

CAD 140
(FOR APP FIG. 114)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS 0 & 1

TO CAD 107 (MTFC-T0)

39 (S9)		8B	
	S9	9B	
38 (S8)		5B	
	S8	6B	
37 (S7)		2B	
	S7	3B	(MT20) REL
36 (S6)		8T	
	S6	9T	
35 (S5)		5T	
	S5	6T	
29 (S4)		8B	
	S4	9B	
28 (S3)		5B	
	S3	6B	
27 (S2)		2B	(MT19) REL
	S2	3B	
26 (S1)		7T	
	S1	8T	
25 (S0)		4T	
	S0	5T	

TO CAD 76
LOOP AT UNEQUIPPED POSITION

TO CAD 67 — RNG1 — (RM) — (RL) MFR DISC.

RNG1	18	1T	
RNG	17	3T	(MT20) REL
LS1	16	1T	
LS	15	2T	(MT19) REL

TS (AF)
T& RR FR

LW AS — MKR 0 ONLY

TO MASTER TEST CONT CKT	MT19	MT19	MT19 TO CAD 76
TO MKR 1	MT19		
TO MKR 0	MT19		

TS (AB)
T& RR FR

MKR 1 ONLY
LW AS

SEE NOTE 219 — (RL) MFR DISC. — MFR DISC.

RNG1	18	RNG1	
		RNG	TO CAD 28
RNG	17	RNG	TO CAD 7
LS1	16	LS1	TO CAD 116
LS	15	LS	TO CAD 24

TS (CM)
COM EQPT FR

CAD 141
(FOR APP FIG. U)
FOR COMBINED OR COMPLETING MARKERS

TO CAD 40 — TAN — G4 — G4' — 1

CAD 142
UNASSIGNED

ISSUE	
41D	
49D	
51D	
54D	

MARKER CIRCUIT
(2)
SD-25550-01-G89
BELL TELEPHONE LABORATORIES INCORPORATED
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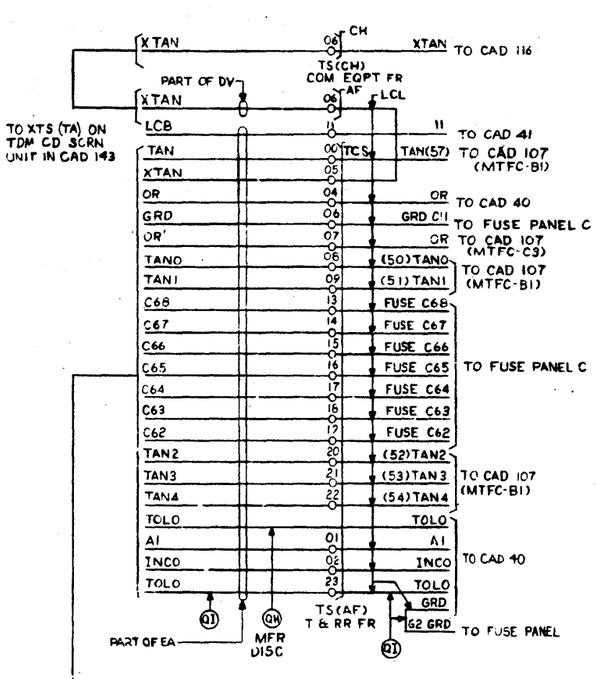
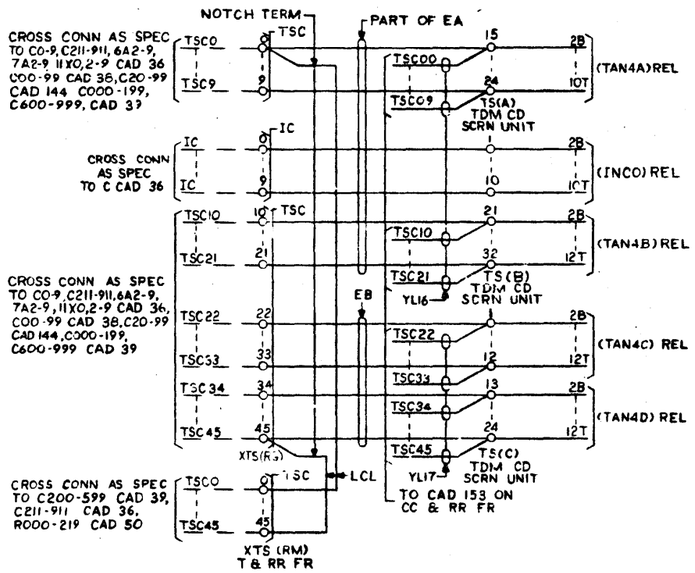
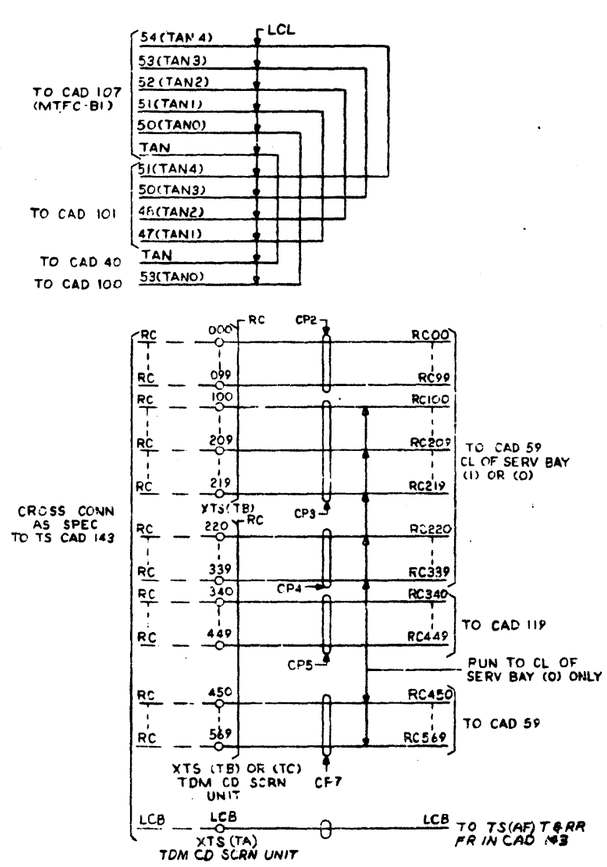
CAD 143

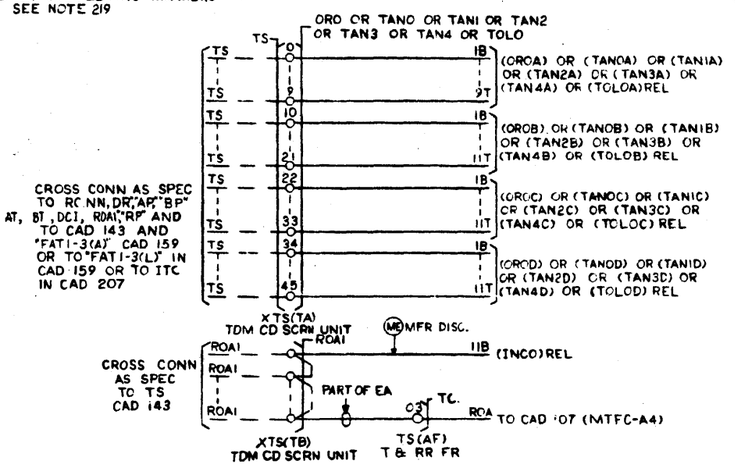
(FOR APP FIGS. 110,111,112,113 & 159)
FOR COMBINED OR COMPLETING MARKERS
SEE NOTE 219

DRAWING ISSUE
41D
47D
51D









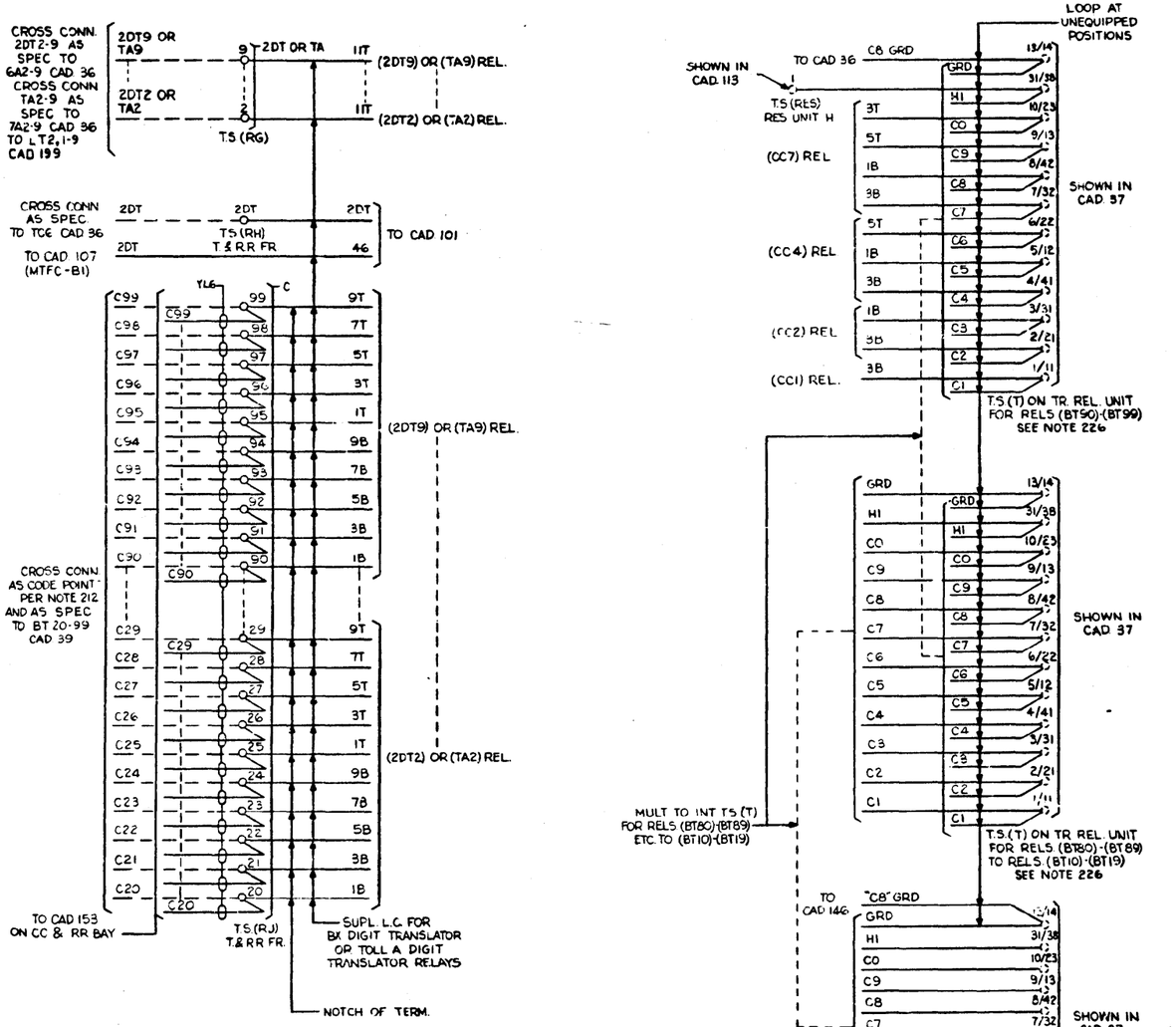
MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

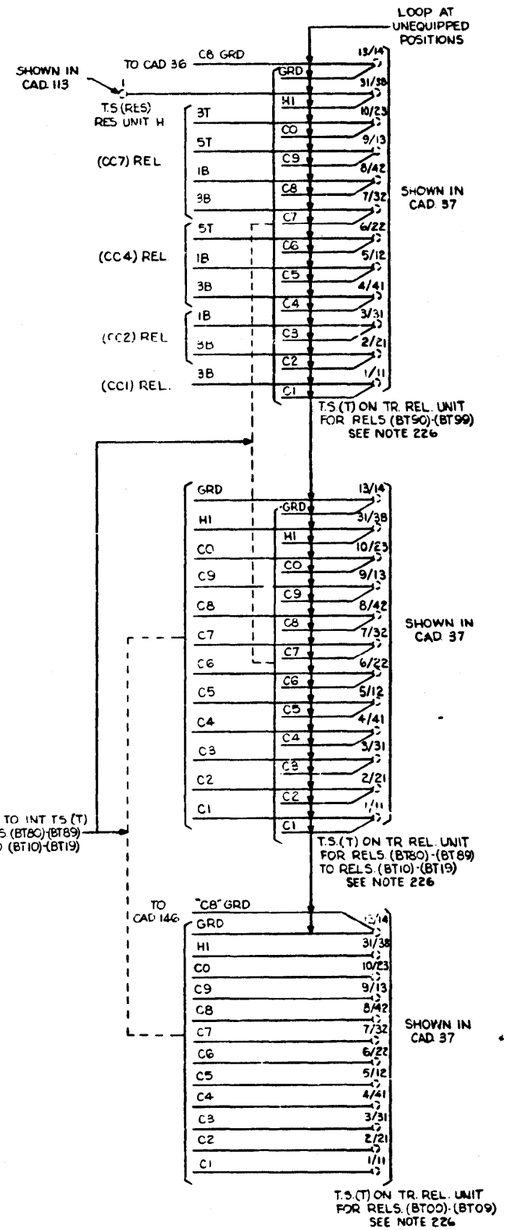
SD-25550-01-690

51

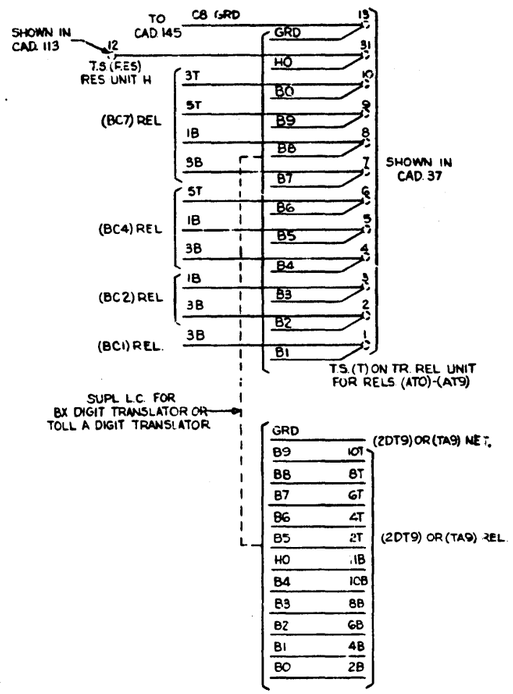
CAD 144
(FOR APP FIGS 115 & 116)
FOR COMBINED OR COMPLETING MARKERS



CAD 145
(FOR APP FIGS. C & 117)
FOR COMBINED OR COMPLETING MARKERS



CAD 146
(FOR APP FIGS. A, 39, 115 & 116)
FOR COMBINED OR COMPLETING MARKERS



ISSUE 41D MFO 46D

SD-25550-01-G91

CROSSBAR SYSTEMS
NO.5
MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

6S

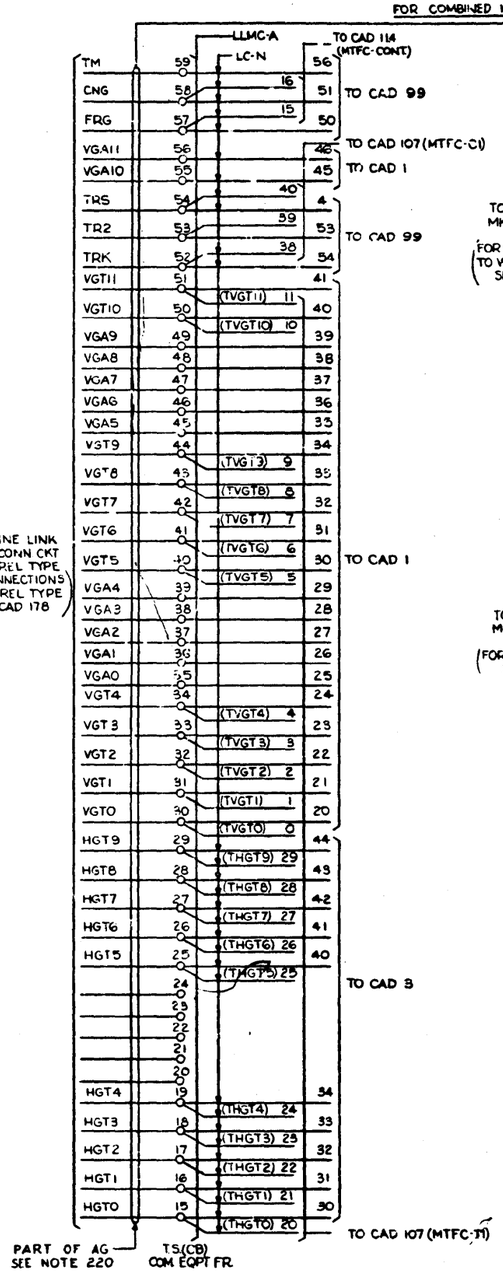
46

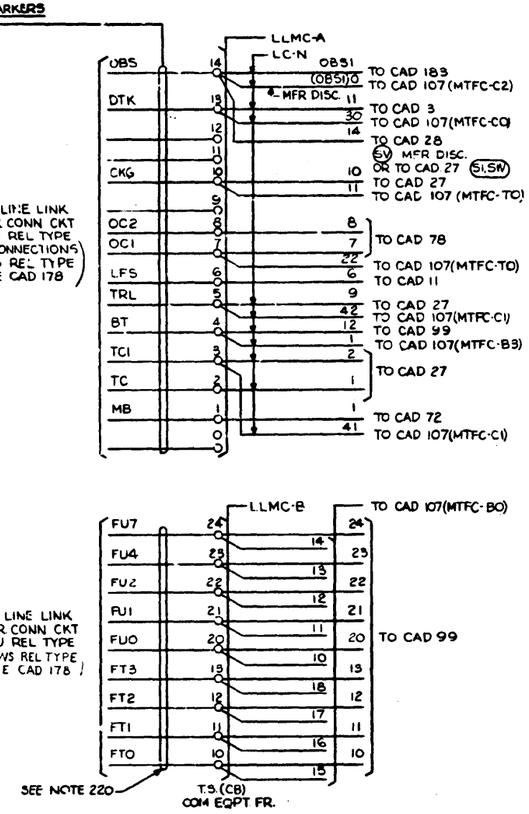
SD-25550-01-G91

CAD 147

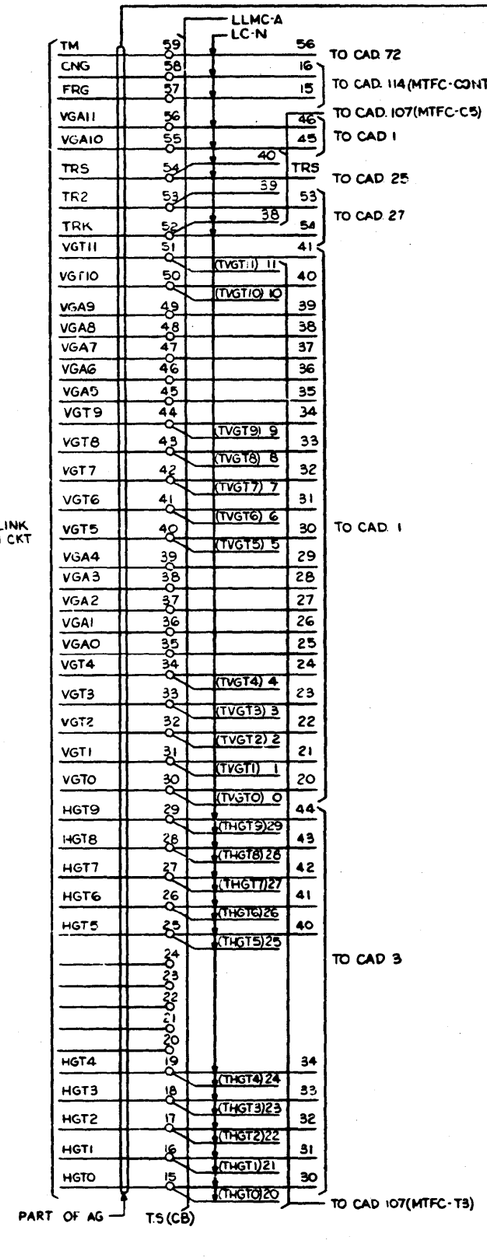
(FOR APP FIGS. 1, 52 & 79)
SEE NOTE 211

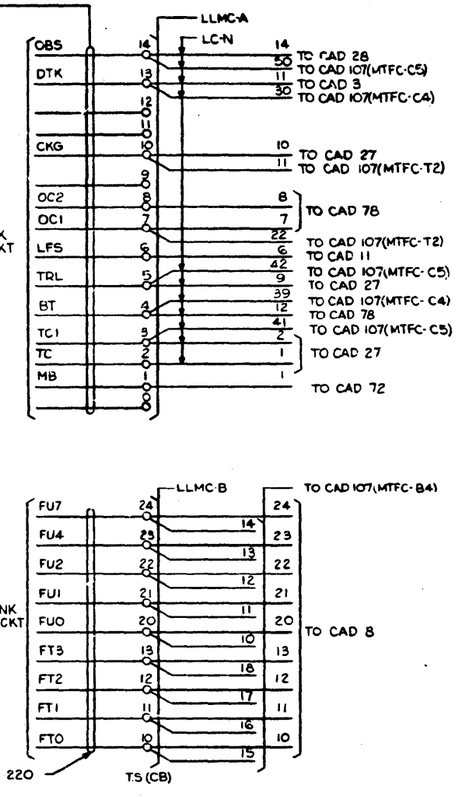
FOR COMBINED MARKERS





FOR DIAL TONE MARKERS



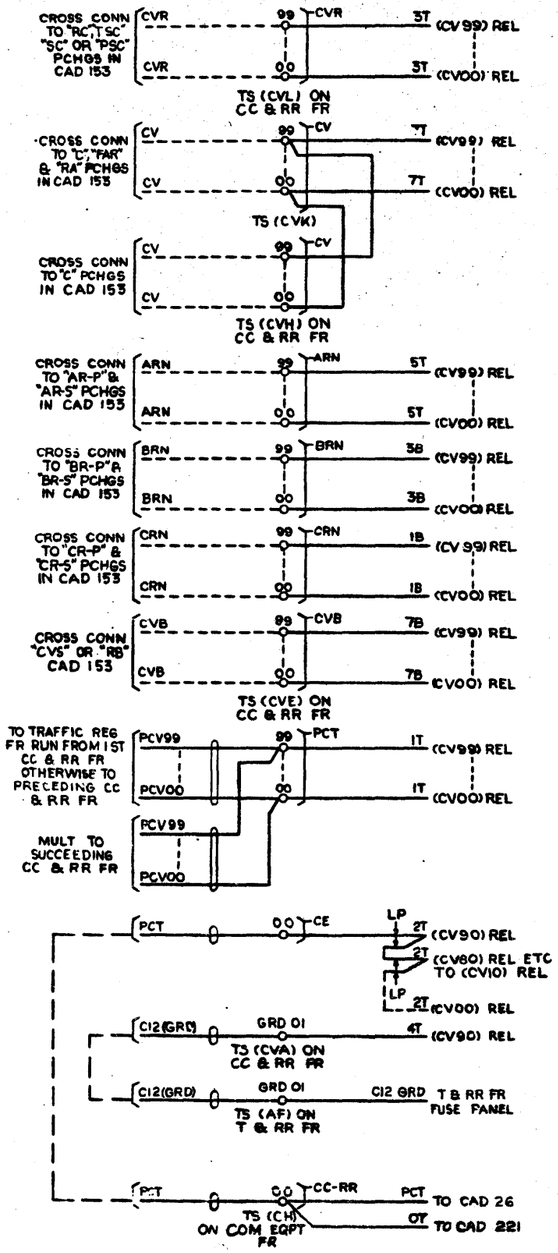


41

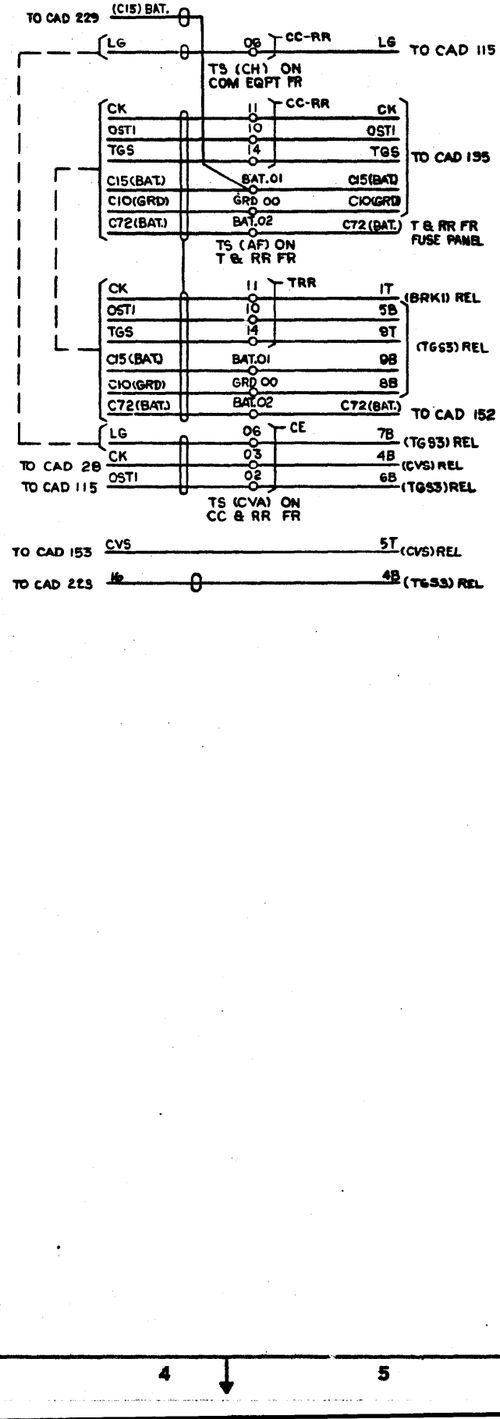
NO. 5 MARKER CIRCUIT	SD-25550-01-G92
BELL TELEPHONE LABORATORIES INCORPORATED 6S	

SD-25550-01-G92

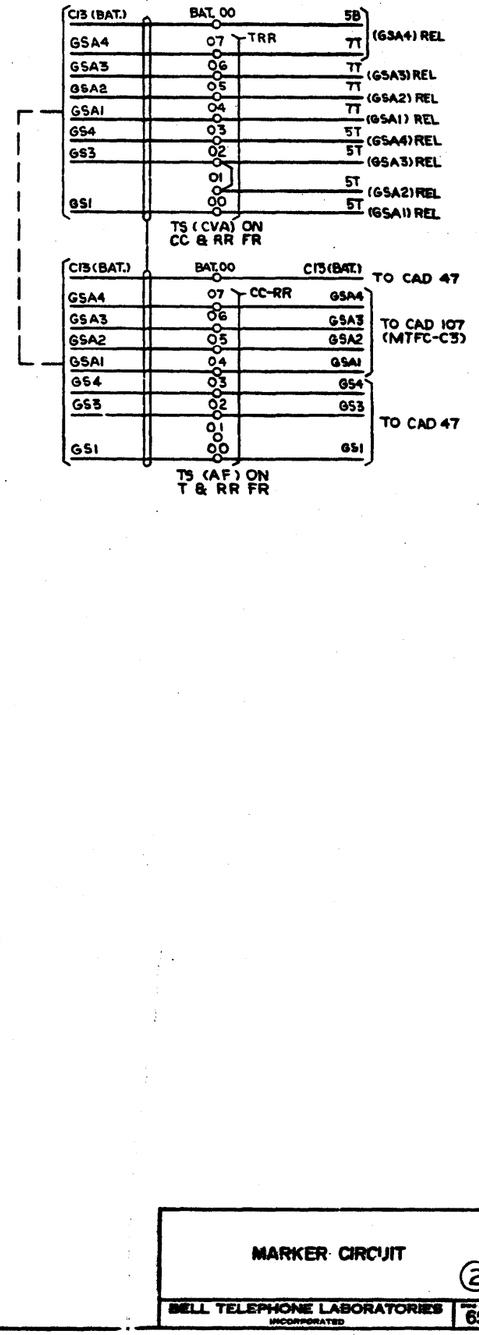
CAD 148
(FOR APP FIG. 118)
SEE NOTE 219
COMBINED OR COMPLETING MARKERS



CAD 149
(FOR APP FIG. 119)
SEE NOTE 219
COMBINED OR COMPLETING MARKERS



CAD 150
(FOR APP FIG. 120)
SEE NOTE 219
COMBINED OR COMPLETING MARKERS



DRAWING ISSUE	
41D	EXT.
51D	JR
54D	EM
56D	JK

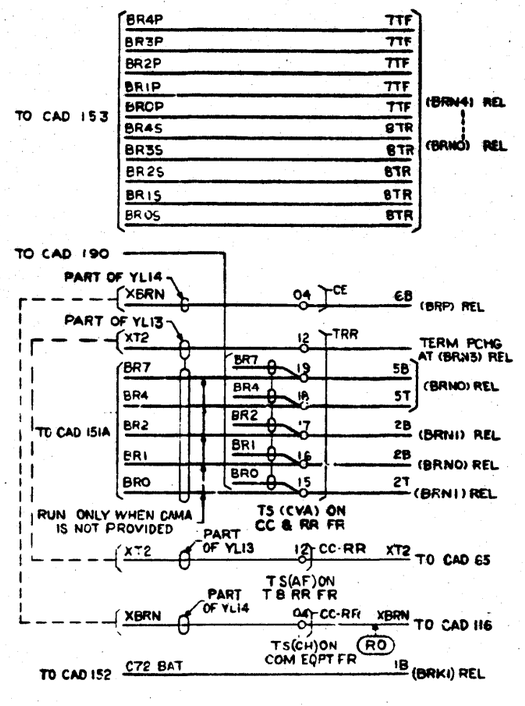
SD-25550-01-693

MARKER CIRCUIT (2) SD-25550-01-693

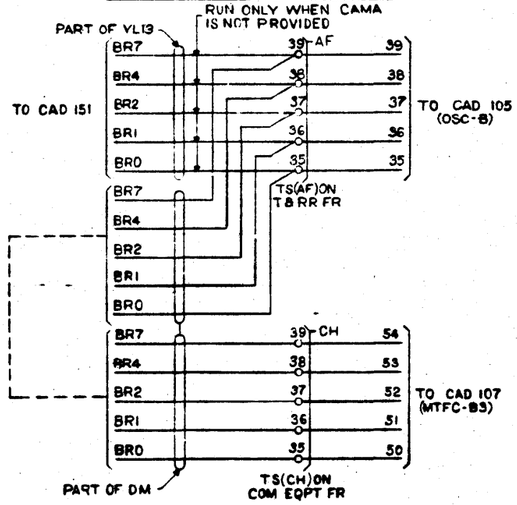
BELL TELEPHONE LABORATORIES INCORPORATED 6S

56

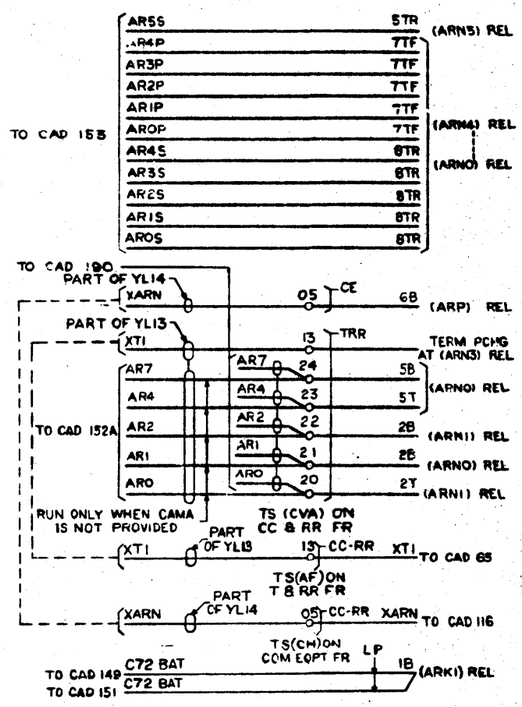
CAD 151
(FOR APP FIG. 121)
SEE NOTE 219
COMBINED OR COMPLETING MARKERS



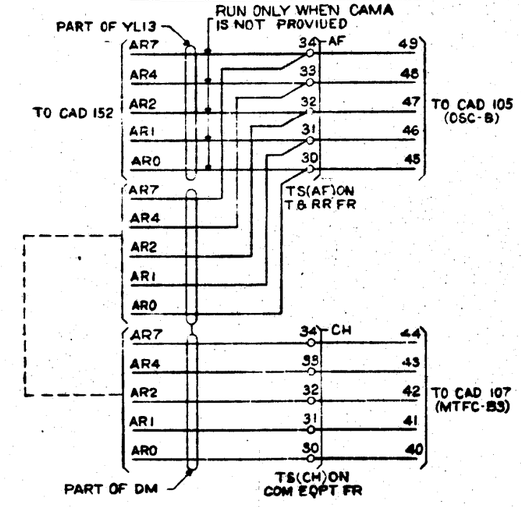
CAD 151A
(FOR APP FIG. 121 AND/OR 151 & 153)
SEE NOTES 219 & 227
COMBINED OR COMPLETING MARKERS



CAD 152
(FOR APP FIG. 122)
SEE NOTE 219
COMBINED OR COMPLETING MARKERS



CAD 152A
(FOR APP FIG. 122 AND/OR 151 & 153)
SEE NOTES 219 & 227
COMBINED OR COMPLETING MARKERS



DRAWING ISSUE
41D
46D

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED 6S

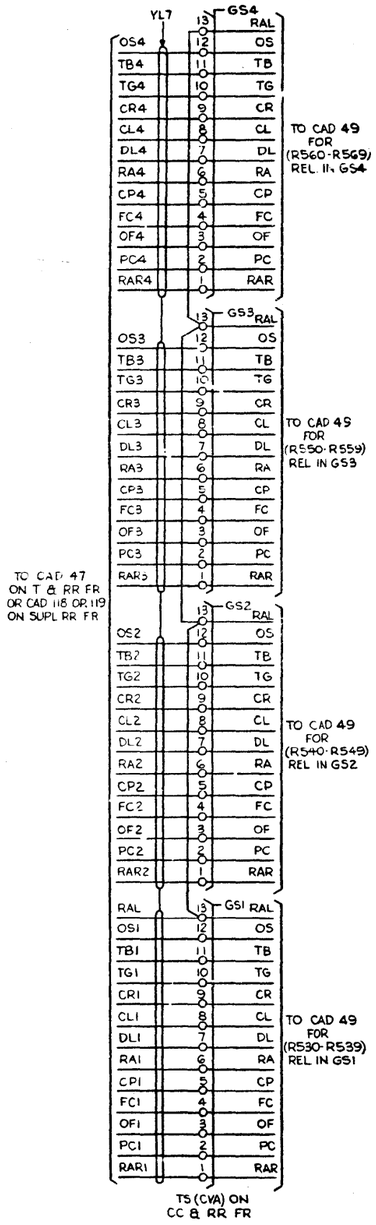
46

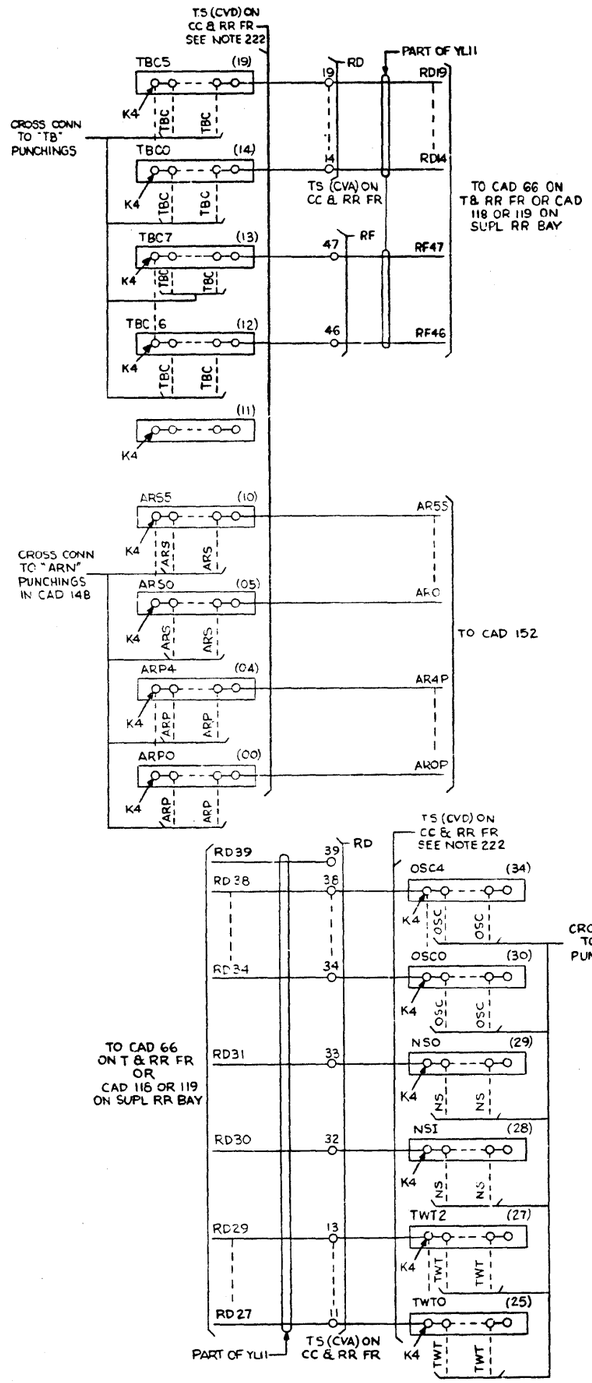
SD-25530-01-694

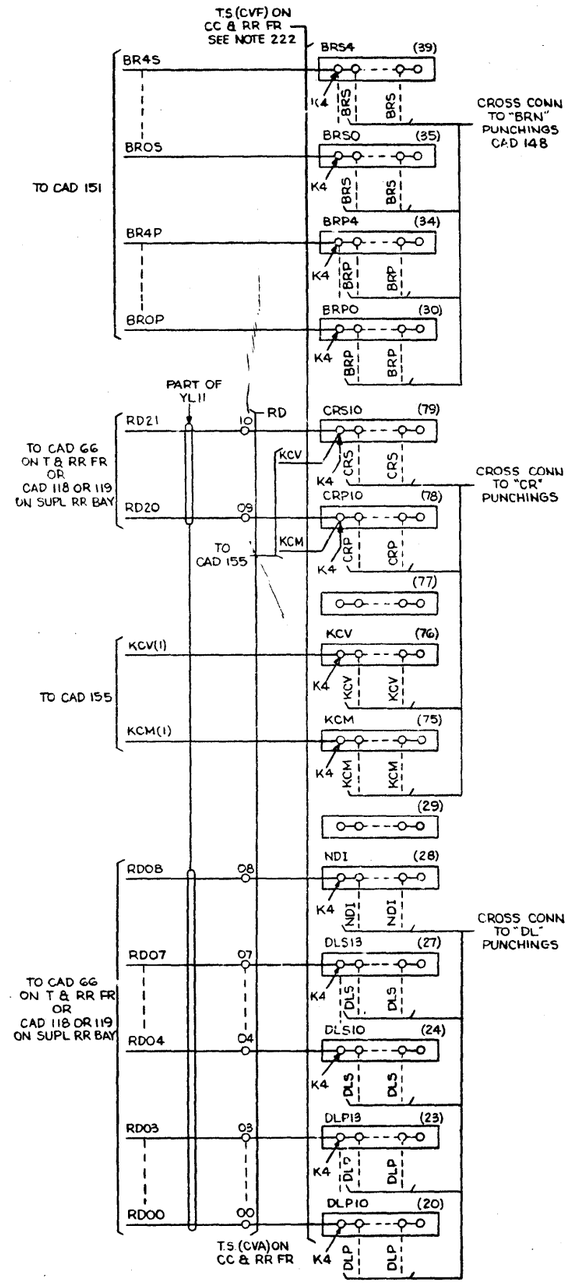
PART OF CAD 153

(FOR APP FIG. 51)
SEE NOTE 2.19
COMBINED OR COMPLETING MARKERS

DRAWING ISSUE	
41D	
56D	LT





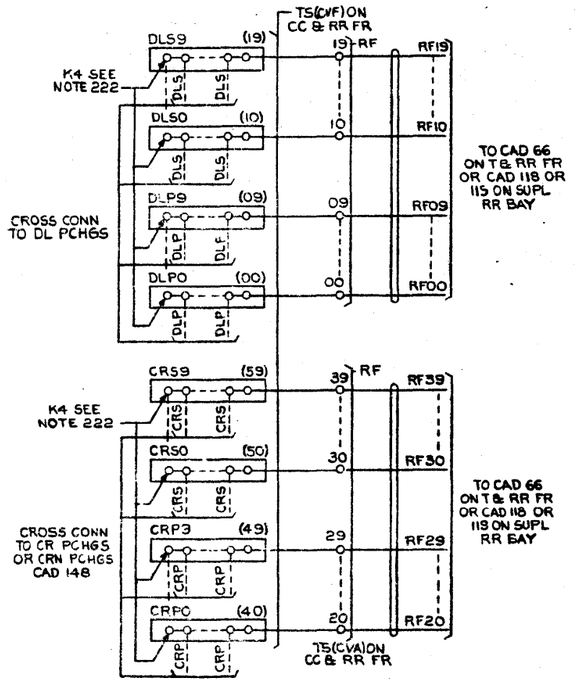


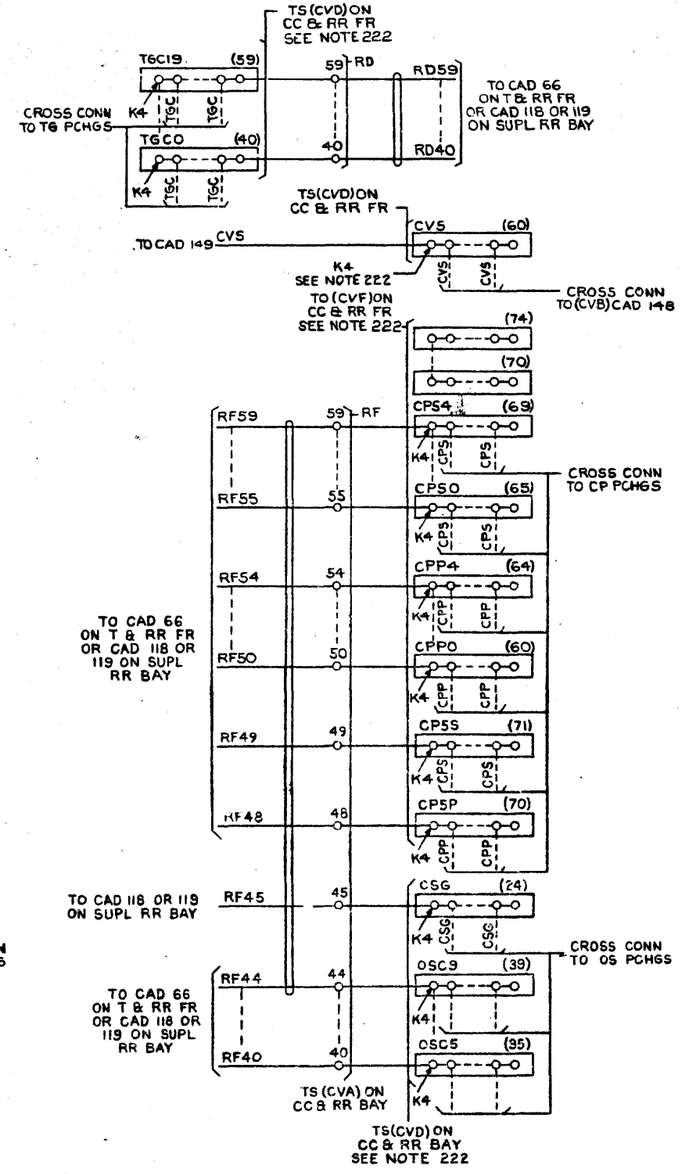
MARKER CIRCUIT	56
BELL TELEPHONE LABORATORIES INCORPORATED	SD-25550-01-695
6S	

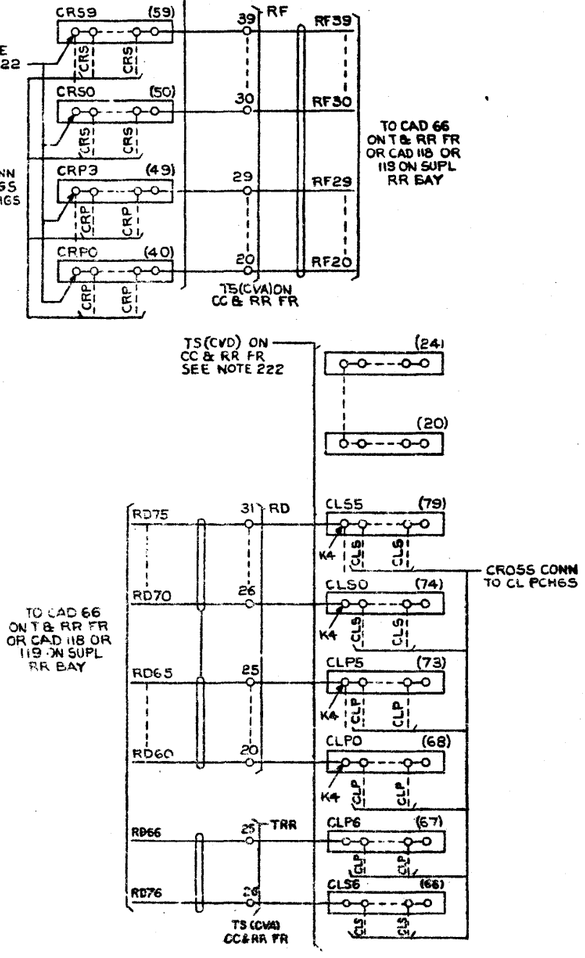
SD-25550-01-695

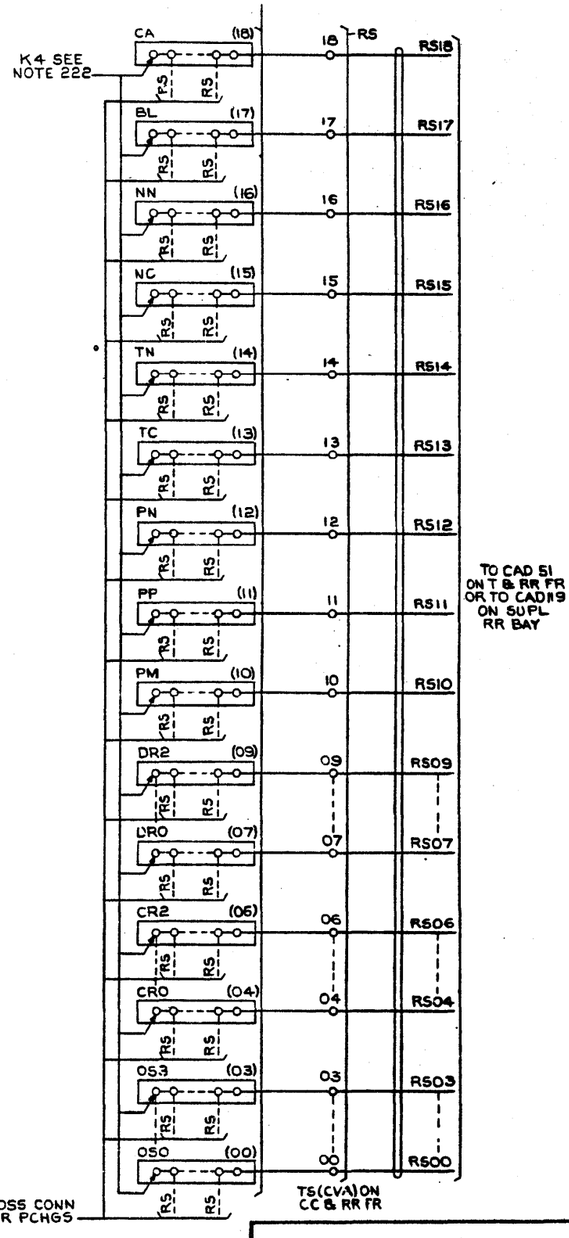
PART OF CAD 153

FOR APP FIG 51
SEE NOTE 219
COMBINED OR COMPLETING MARKERS









DRAWING ISSUE
41D
42D
46D
54D
56D

MARKER CIRCUIT (2)

SD-25550-01-696

56

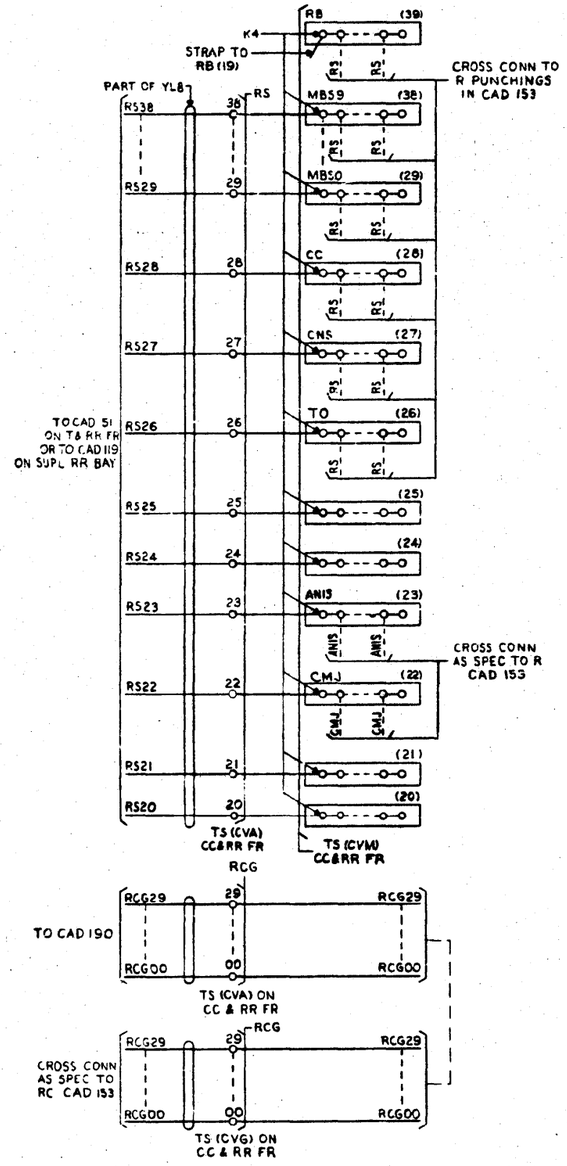
BELL TELEPHONE LABORATORIES INCORPORATED

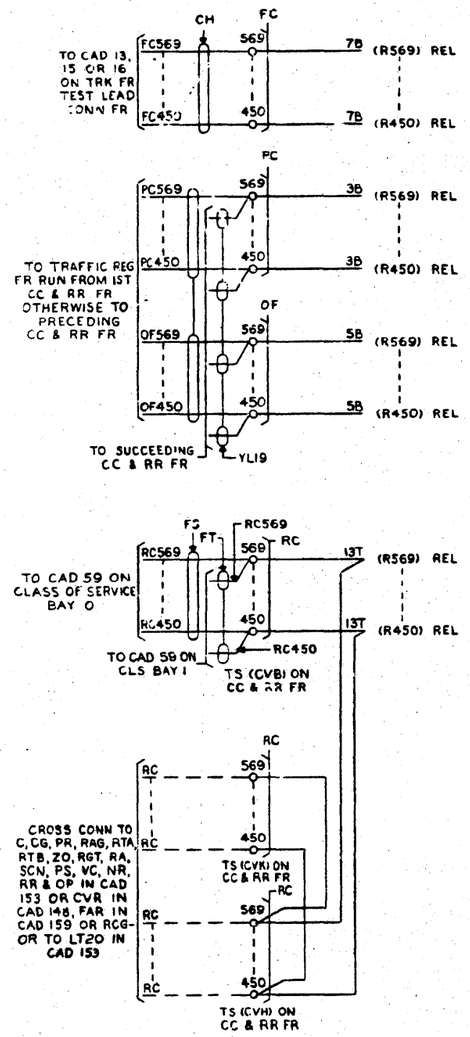
65

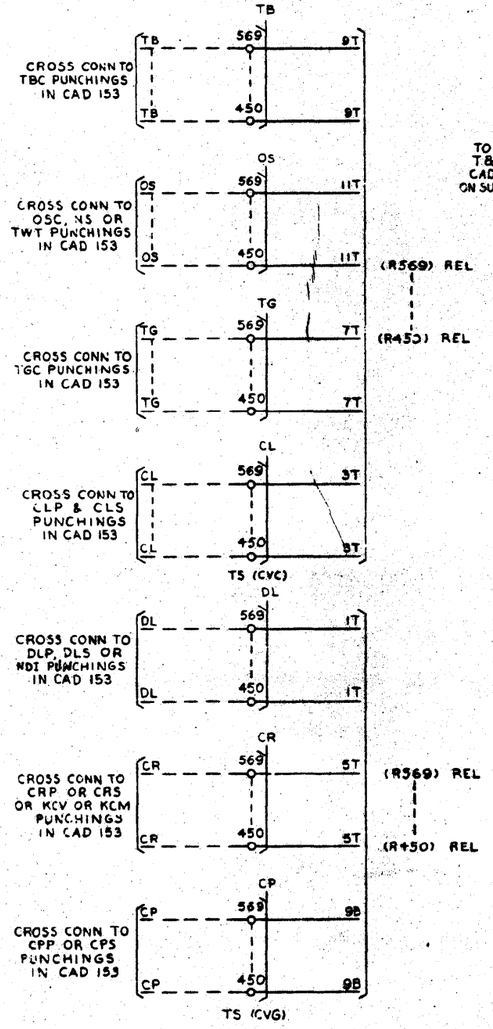
SD-25550-01-696

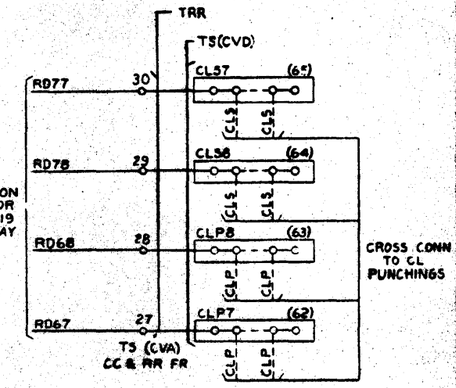
PART OF CAD 153

(FOR APP FIG 51)
SEE NOTE 2.9
COMBINED OR COMPLETING MARKERS



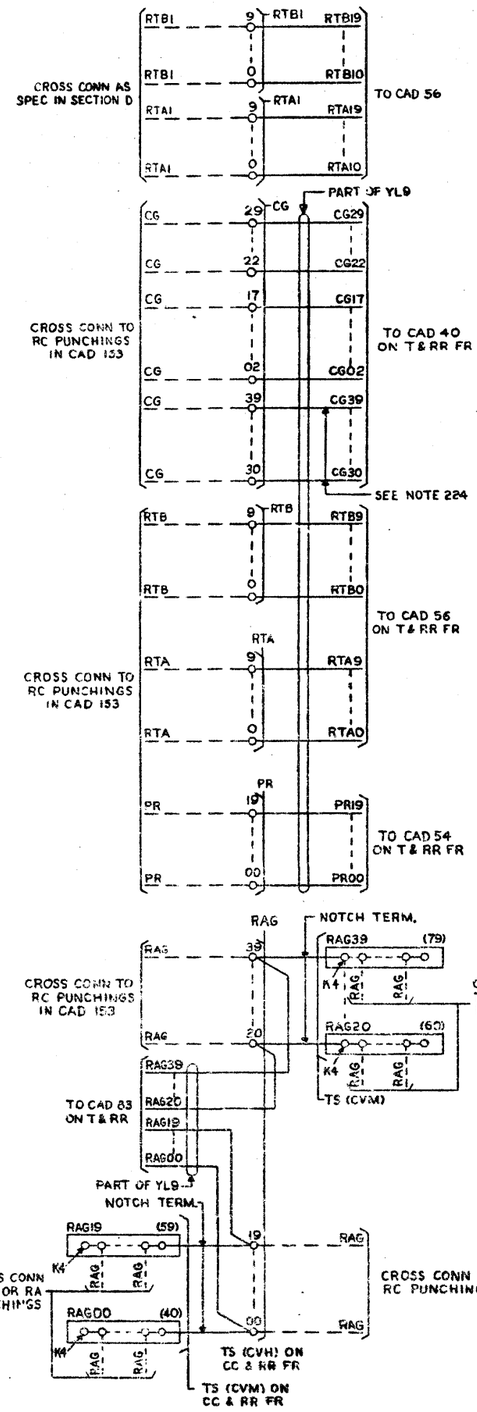


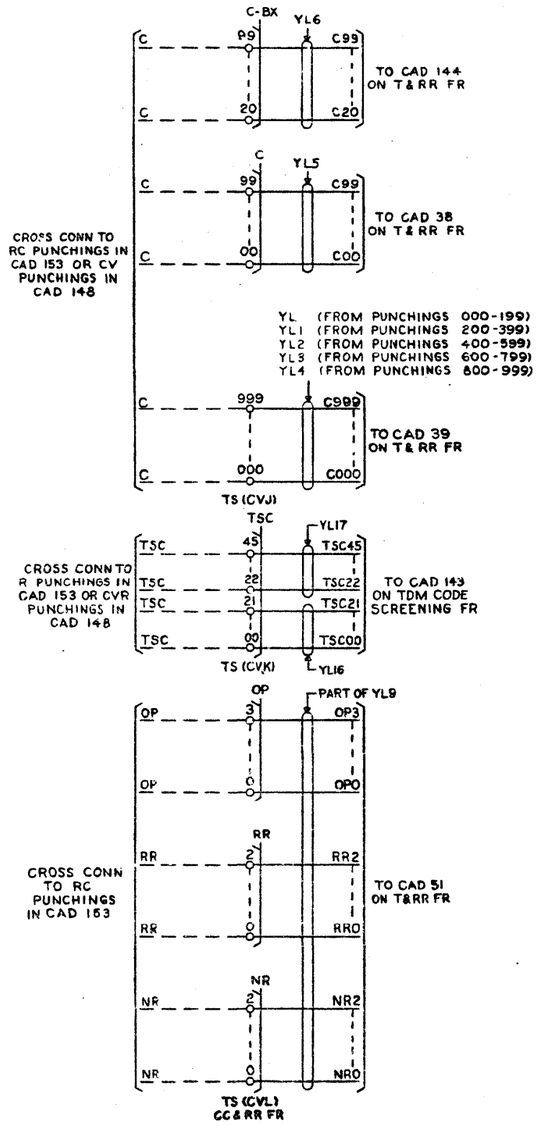


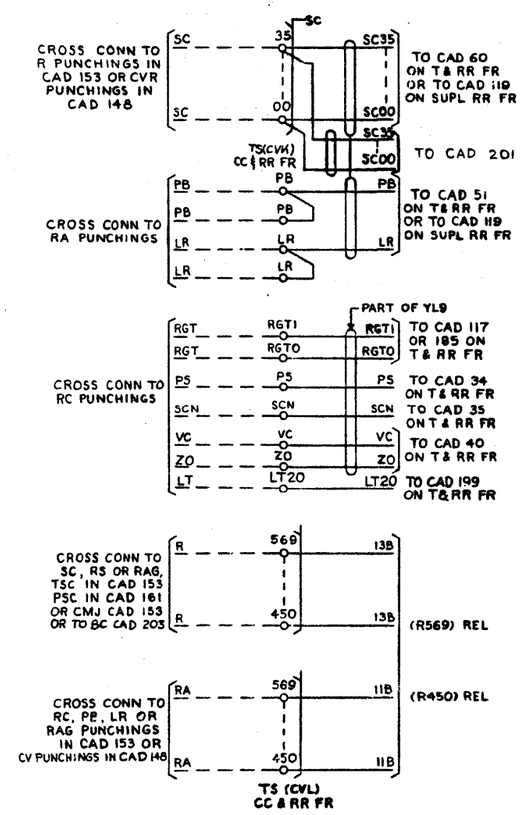


PART OF CAD 153

(FOR APP FIG. 51)
SEE NOTE 219
COMBINED OR COMPLETING MARKERS







DRAWING ISSUE
41D
42D
43B
46D
48D
50A
56D

MARKER CIRCUI.

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-698

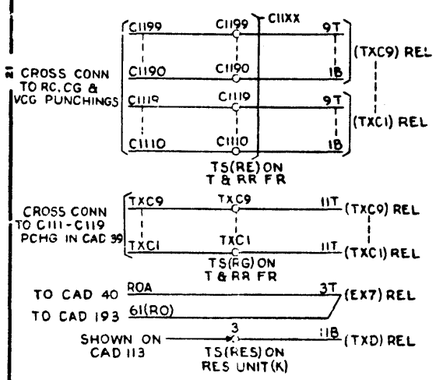
56

869-10-655B-01

DRAWING ISSUE
41D W.E. D.S.O. SPC. W.E. PD.
43B W.E. D.S.O. SPC. W.E.

CAD 154
(FOR APP FIG. 123 & 124)

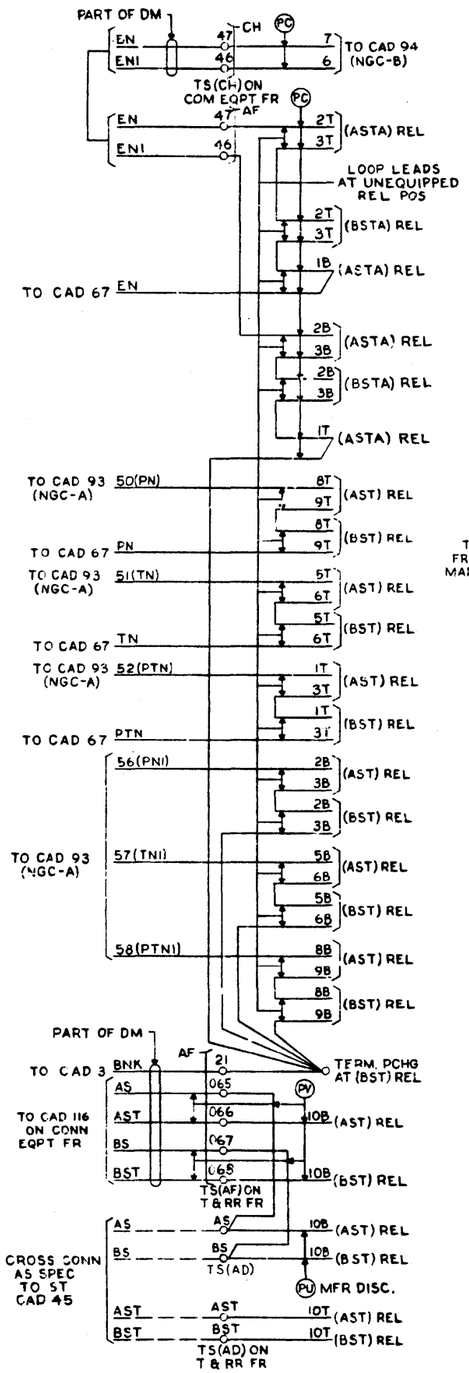
FOR COMBINED OR COMPLETING MARKERS



CAD 155
(FOR APP FIG.137)

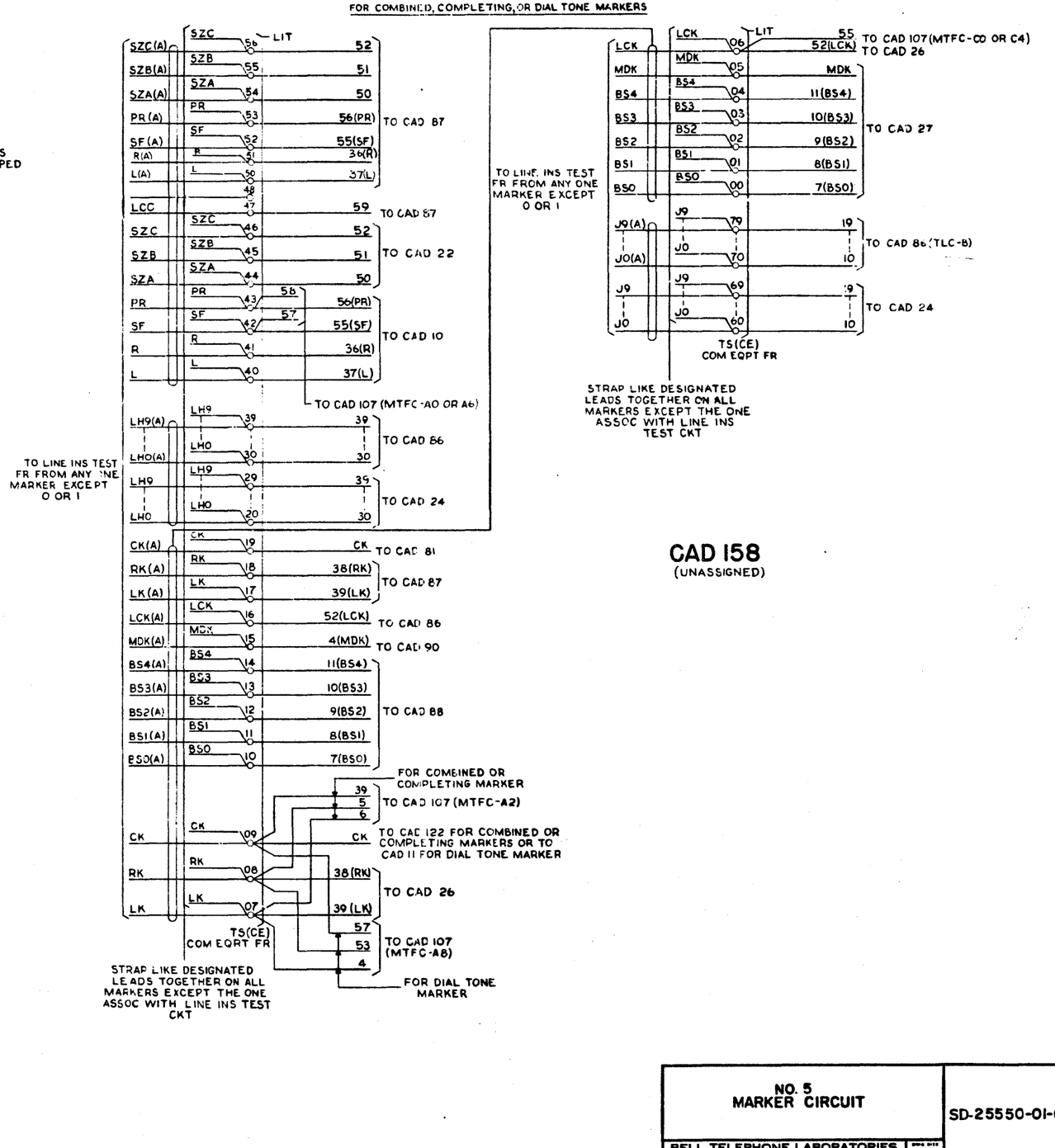
FOR COMBINED OR COMPLETING MARKERS

CAD 156 (MFR DISC.)
(FOR APP FIG. 125)



CAD 157
(FOR APP FIG. 5,8,17,27,29,31,32,82,94,& 105)
SEE NOTES 219 & 220

FOR COMBINED, COMPLETING, OR DIAL TONE MARKERS



CAD 158
(UNASSIGNED)

SD-25550-01-699

43

NO. 5
MARKER CIRCUIT

SD-25550-01-G99

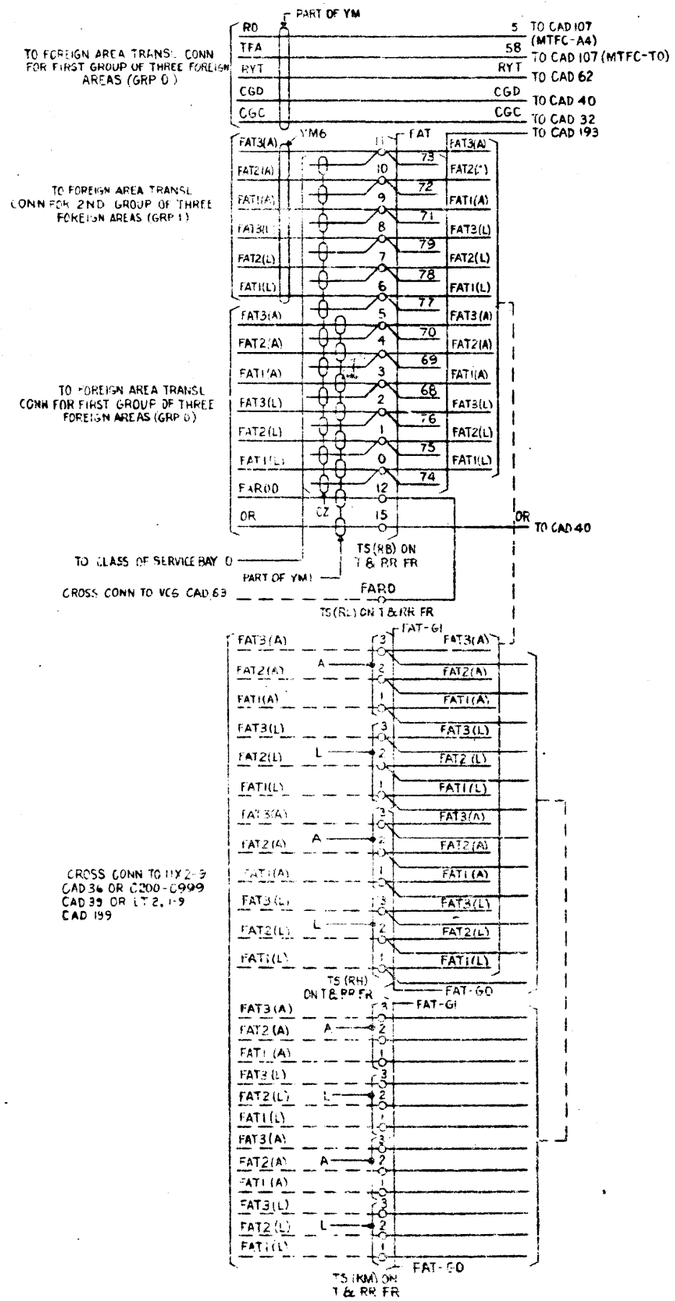
BELL TELEPHONE LABORATORIES INCORPORATED

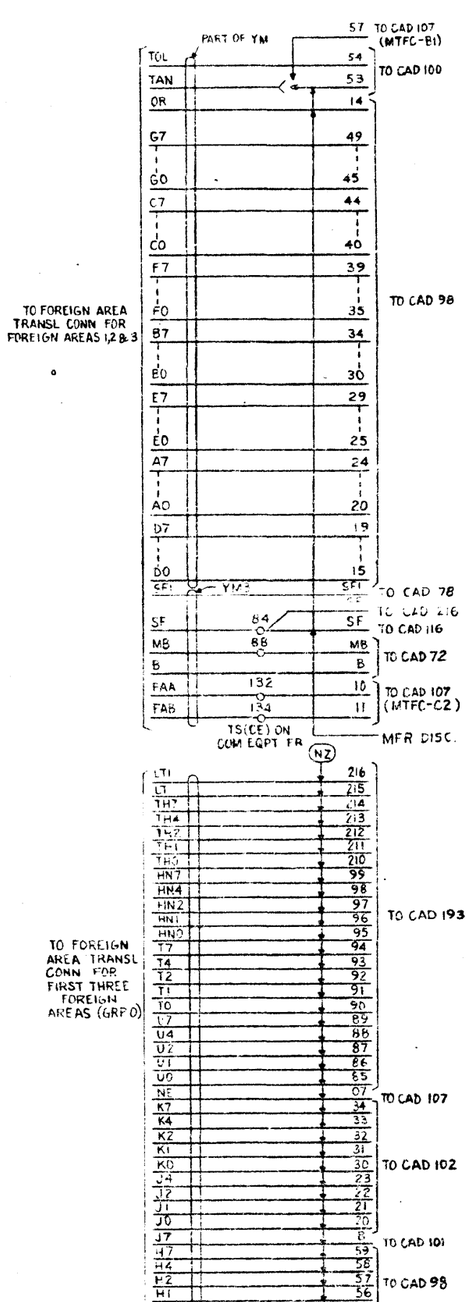
6S

CAD 159

(FOR APP FIG. 140)
SEE NOTE 219

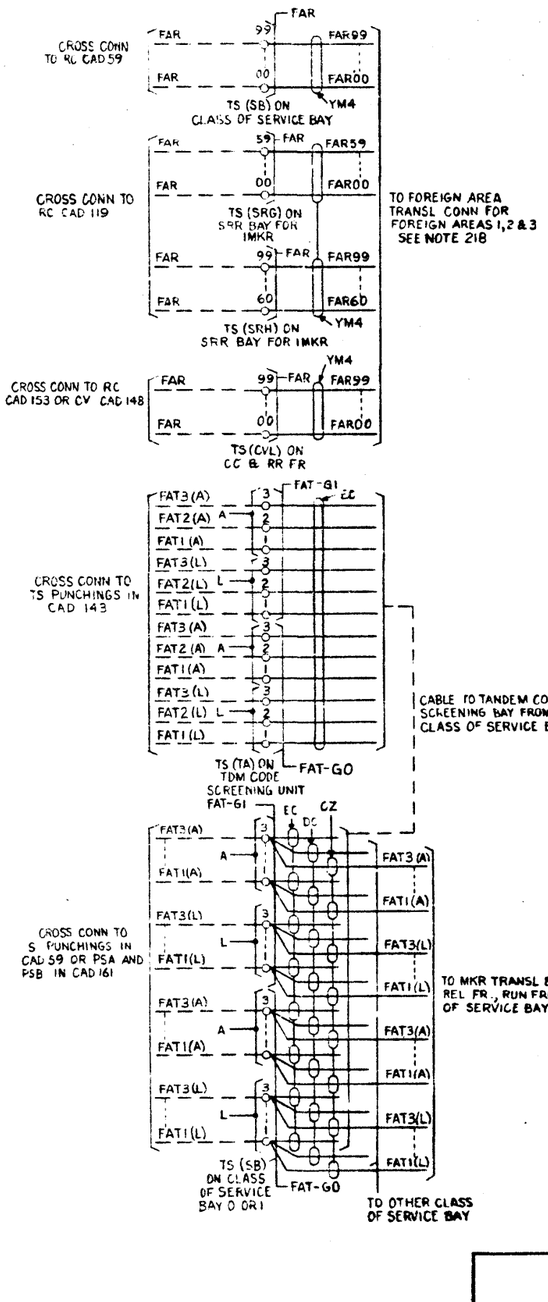
FOR COMBINED OR COMPLETING MARKERS





CAD 160

(UNASSIGNED)



DRAWING ISSUE	
41D	J.R. L.L.
-	A.B.
46D	A.M. MP
49D	E.M. M.L. M.M.

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
(2)

49

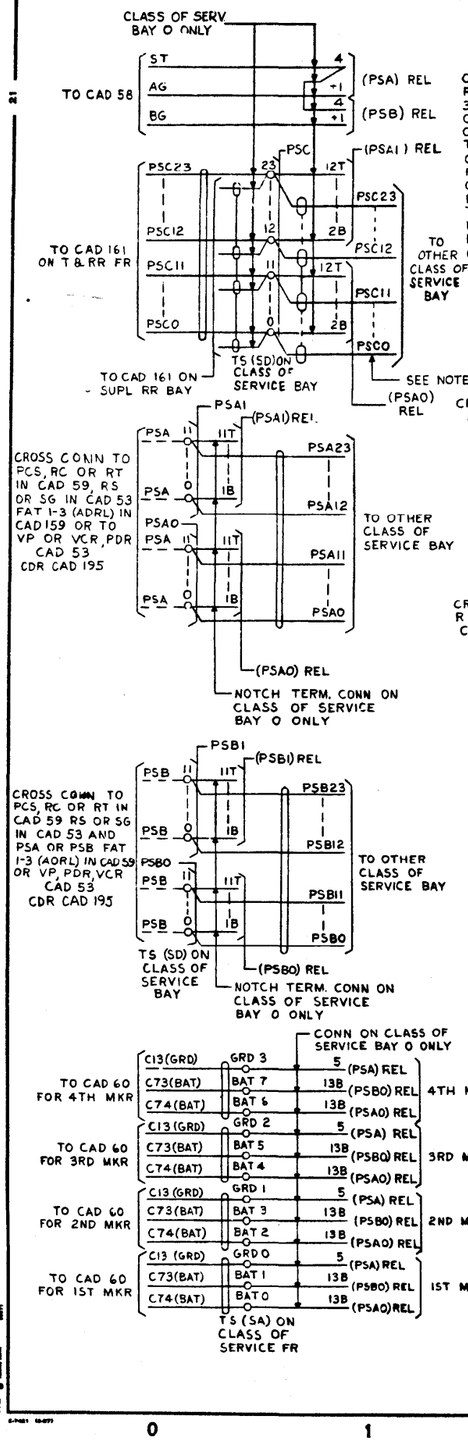
SD-25550-01-6100

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

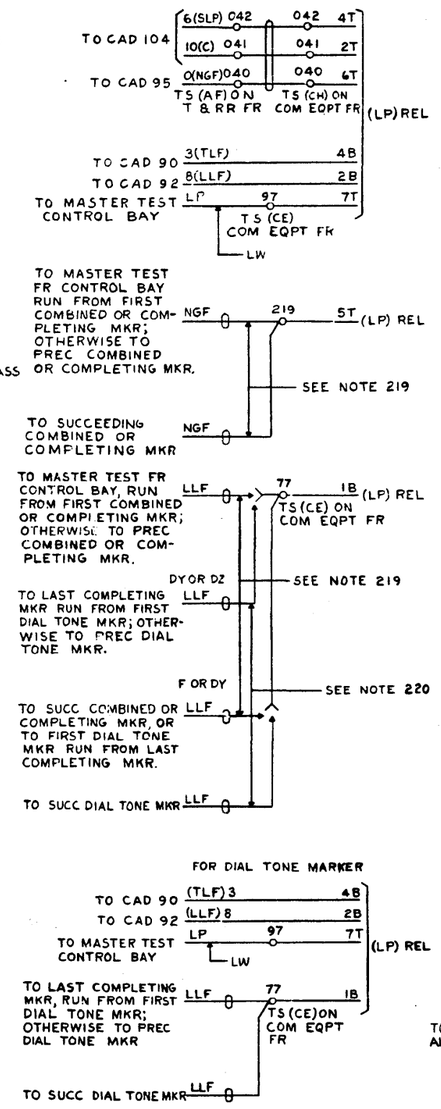
SD 25550-01-6100

CAD 161
(FOR APP. FIGS. 134 & 135)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS

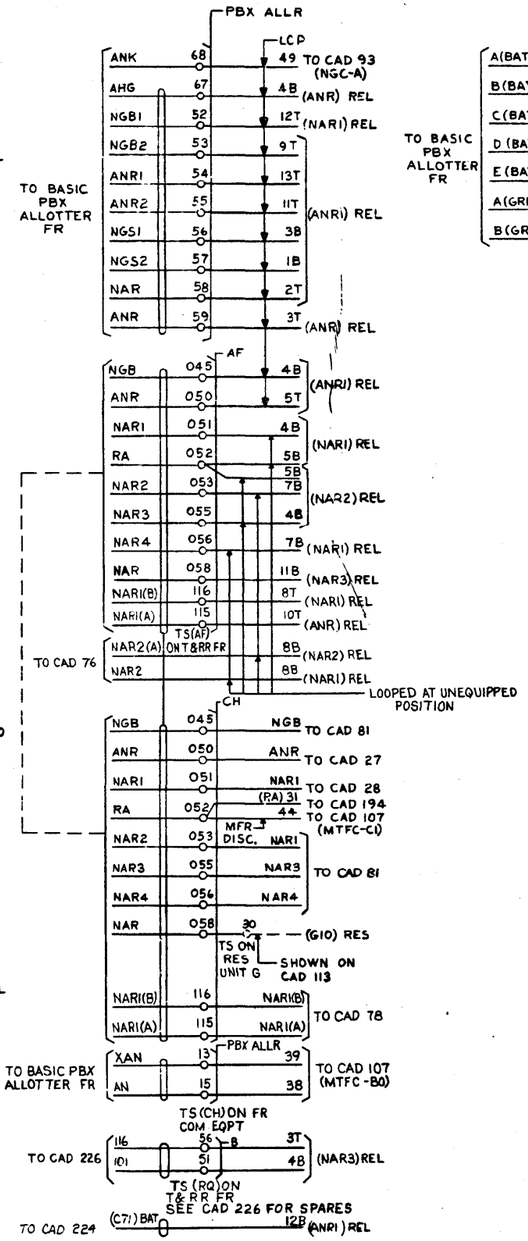


NOTES:
1. MULTIPLE OF PSC0-23 LEADS BETWEEN CLASS OF SERVICE BAY (0) AND (1) ADDED ON ISSUE 56D

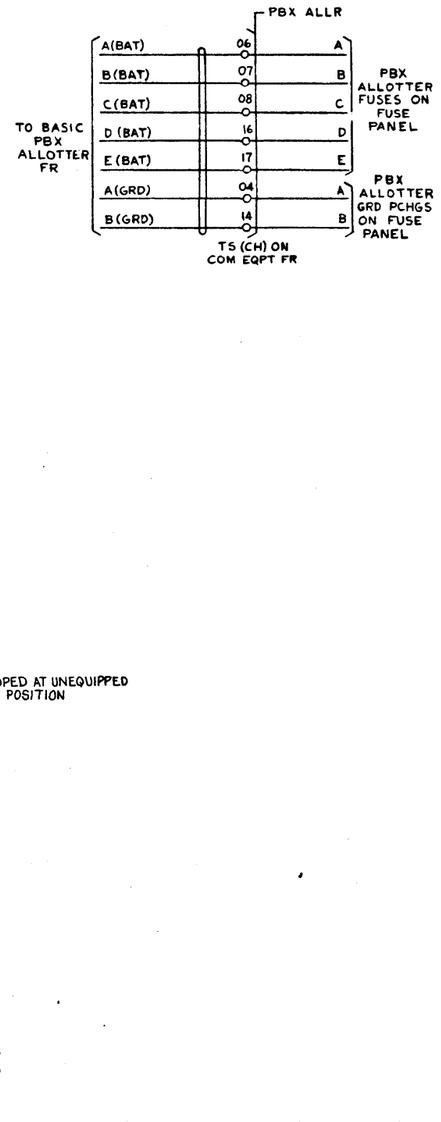
CAD 162
(FOR APP FIG. 138)
FOR COMBINED OR COMPLETING MARKERS



CAD 163
(FOR APP. FIG 142)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS



CAD 164
(FOR PBX ALLOTTER BATTERY & GROUND SUPPLY)
SEE NOTE 219
FOR COMBINED OR COMPLETING MARKERS



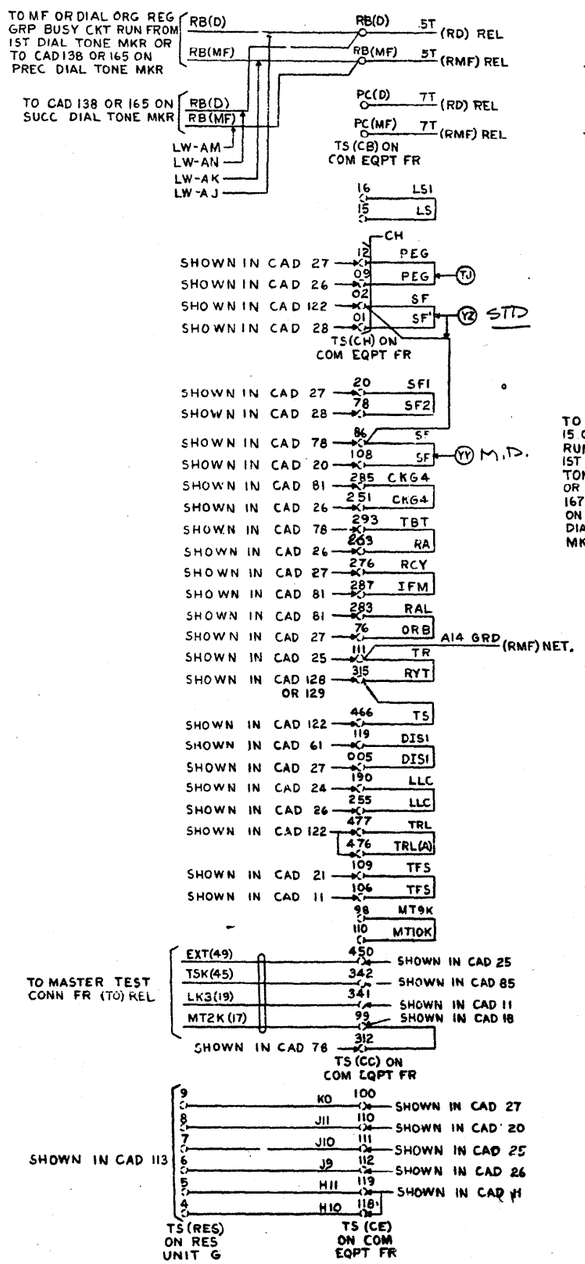
DRAWING ISSUE	
41D	
43B	
54D	
56D	JK

CAD 165

(FOR APP FIG. A7)

SEE NOTE 220

A&M ONLY FOR PERMANENT CONVERSION OF A COMBINED MARKER TO A DIAL TONE MARKER



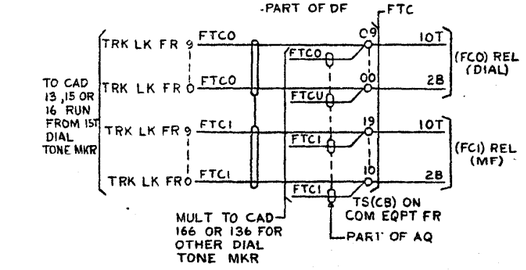
SHEET NOTES:
1. SEE CAD 226 FOR SPARES.

CAD 166

(FOR APP FIG. 19)

SEE NOTE 220

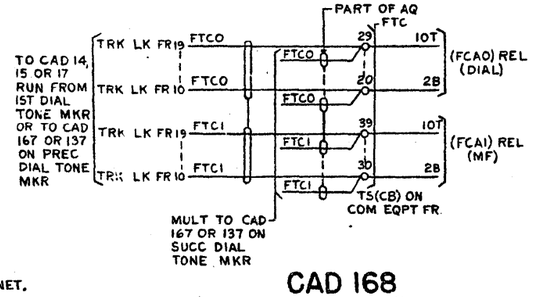
A&M ONLY FOR PERMANENT CONVERSION OF COMBINED MARKER TO A DIAL TONE MARKER



CAD 167

(FOR APP FIG. 20)

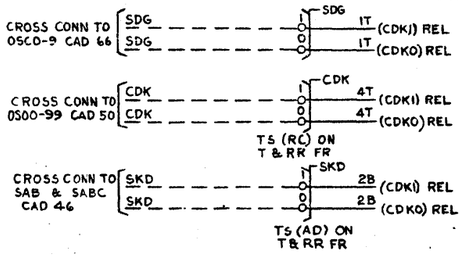
A & M ONLY FOR PERMANENT CONVERSION OF COMBINED MARKER TO A DIAL TONE MARKER



CAD 168

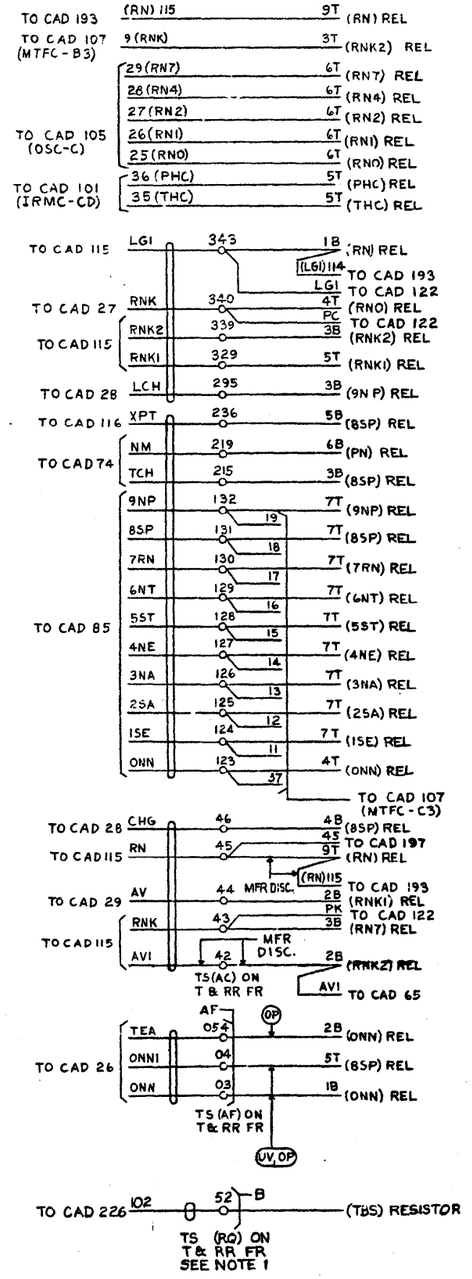
(FOR APP FIG. 143)

FOR COMBINED OR COMPLETING MARKERS



CAD 169

(FOR APP FIG. 126)



CAD 170

(UNASSIGNED)

DRAWING ISSUE
41D
46D
54D CK

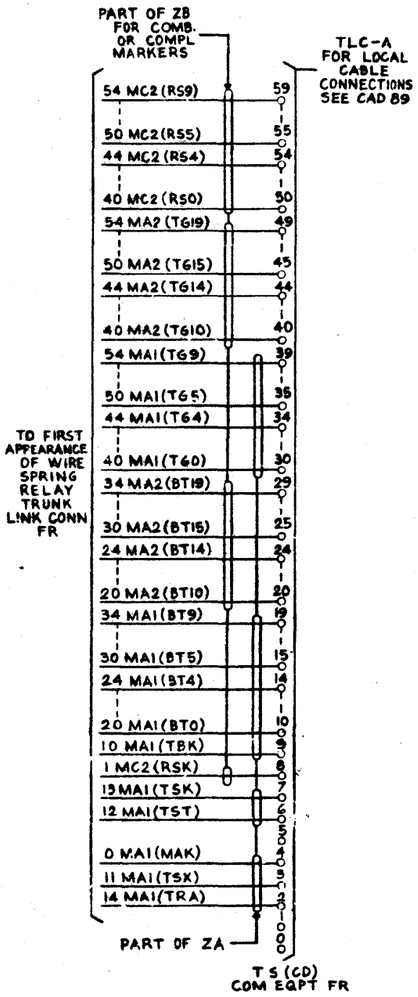
SD-25550-01-G102

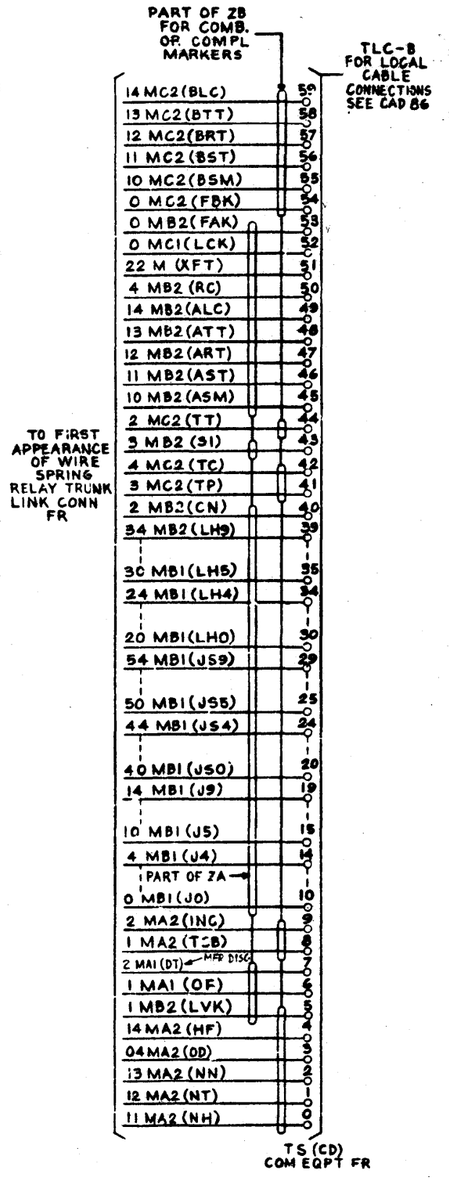
MARKER CIRCUIT (2) SD-25550-01-G102

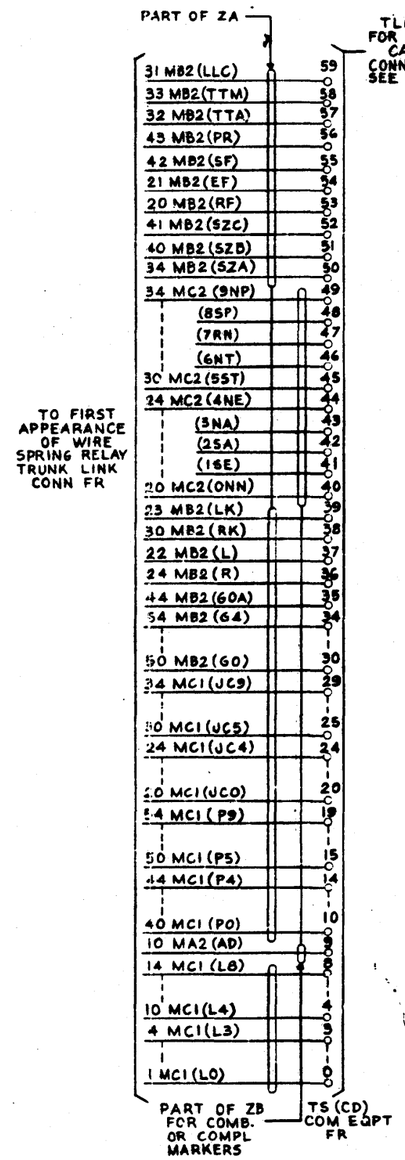
BELL TELEPHONE LABORATORIES, INCORPORATED 6S

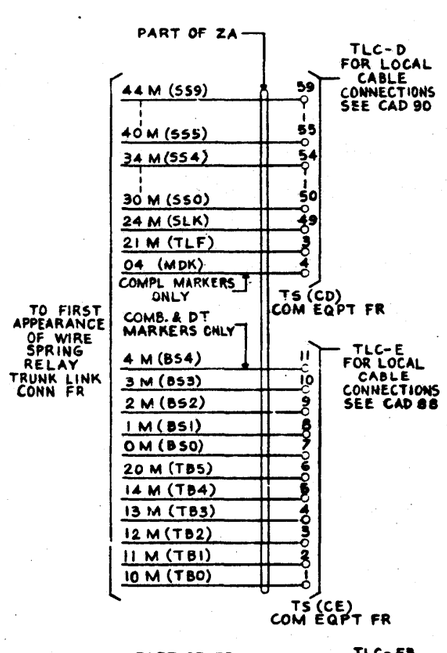
CAD 171

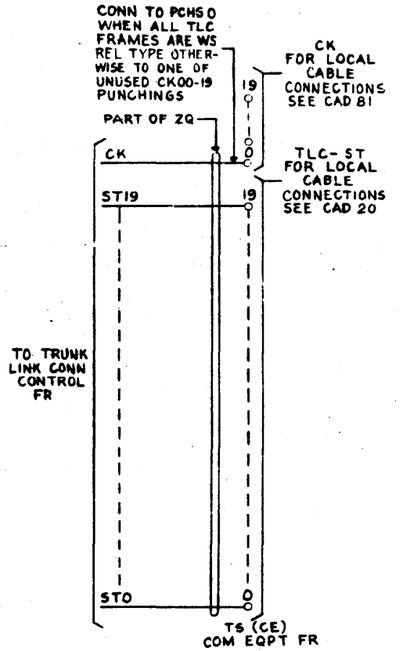
COMBINED COMPLETING OR DIAL TONE MARKERS
SWITCHBOARD CABLE CONNECTIONS TO
WIRE SPRING RELAY TRUNK LINK CONNECTION FRAME

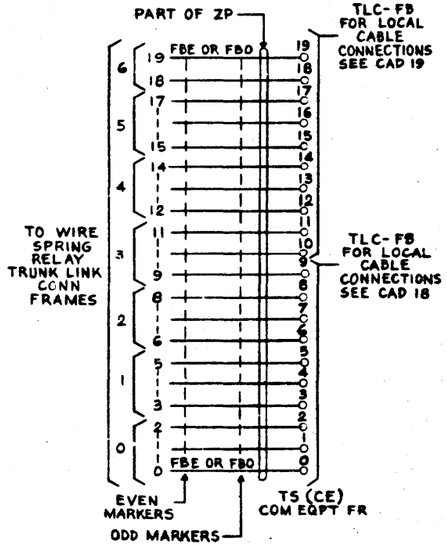












SD-25550-01-0103

NO. 5
MARKER CIRCUIT

SD-25550-01-0103

BELL TELEPHONE LABORATORIES INCORPORATED 6S

CAD 172

COMBINED OR DIAL TONE MARKERS
SWITCHBOARD CABLE CONNECTIONS TO ORIGINATING REGISTER LINE MEMORY FRAME

TLC-D FOR LOCAL CABLE CONNECTIONS SEE CAD 90

50MD2(OBS)	48	
22MD1(CT2)	47	
20MD1(CT0)	45	
34MD2(CU7)	44	
33MD2(CU4)	43	
32MD2(CU2)	42	
31MD2(CU1)	41	
30MD2(CU0)	40	
34MD1(LL7)	39	
33MD1(LL4)	38	
32MD1(LL2)	37	
31MD1(LL1)	36	
30MD1(LL0)	35	
44MD2(VF4)	34	
40MD2(VF0)	30	
>4MD1(HG7)	29	
53MD1(HG4)	28	
52MD1(HG2)	27	
51MD1(HG1)	26	
50MD1(HG0)	25	
24MD2(VG7)	24	
23MD2(VG4)	23	
22MD2(VG2)	22	
21MD2(VG1)	21	
20MD2(VG0)	20	
44MD1(FU7)	19	
43MD1(FU4)	18	
42MD1(FU2)	17	
41MD1(FU1)	16	
40MD1(FU0)	15	
14MD2(VG10)	14	
13MD2(FT3)	13	
10MD2(FT0)	10	
24MD1(CGB)	9	
23MD1(CGA)	8	
3MD1(FK)	6	
0MD1(MDK)	4	
53MD2(2P)	2	
52MD2(M)	1	
51MD2(MAN)	0	

TO FIRST APPEARANCE OF TRUNK LINK CONN TS (MD) ON ORIGINATING REGISTER LINE MEMORY FR

TS (CD) ON COM EQPT FR

TO FIRST APPEARANCE OF WIRE SPRING RELAY LINE LINK CONN FR

LFK1	52	LFK1
FK	27	FK
SS9	35	SS9
SS8	25	SS8
SS7	15	SS7
SS6	54	SS6
SS5	44	SS5
SS4	34	SS4
SS3	24	SS3
SS2	14	SS2
SS1	53	SS1
SS0	43	SS0
LT	33	LT
SLK	23	SLK
LF	17	LF
BS2	13	BS2

TO CAD 225

TO CAD 27

TS (a) ON COM EQPT FR SEE CAD 226 FOR SPARES

LTA	58	LTA
LTM	48	LTM
34	38	
33	28	
22	18	
21	57	
14	47	
13	37	
12	27	
11	17	
10	56	
03	46	
02	36	
01	26	
00	16	

TO CAD 107

TO (MC) REL ON FIRST APPEARANCE OF WIRE SPRING RELAY LINE LINK CONN FR

TS (D) ON COM EQPT FR

CAD 173

FOR COMPLETING COMBINED OR DIAL TONE MARKERS SWITCHBOARD CABLE CONNECTED TO WIRE SPRING RELAY LINE LINK CONNECTOR FRAME

LLC-A FOR LOCAL CABLE CONNECTIONS SEE CAD 91

14MA2(LL9)	59	
10MA2(LL5)	55	
54MA1(HG9)	54	
50MA1(HG5)	50	
4MA2(LL4)	49	
0MA2(LL0)	45	
44MA1(HG4)	44	
40MA1(HG0)	40	
34MA2(SM9)	39	
30MA2(SM5)	35	
12MA1(HGK)	34	
14MA1(VGB11)	31	
13MA1(VGB10)	30	
24MA2(SM4)	29	
20MA2(SM0)	25	
34MA1(VGB9)	24	
33MA1(VGB8)	23	
32MA1(VGB7)	22	
31MA1(VGB6)	21	
30MA1(VGB5)	20	
54MA2(LB9)	19	
50MA2(LB5)	15	
24MA1(VGB4)	14	
23MA1(VGB3)	13	
22MA1(VGB2)	12	
21MA1(VGB1)	11	
20MA1(VGB0)	10	
44MA2(LB4)	9	
40MA2(LB0)	5	
11MA2(NT)	4	
10MA1(BS)	3	
2MA1(LFK)	2	
1MA1(BS1)	1	
0MA1(BS0)	0	

TO FIRST APPEARANCE OF WIRE SPRING RELAY LINE LINK CONN FR

TS (CB) ON COM EQPT FR

LLC-B FOR LOCAL CABLE CONNECTIONS SEE CAD 92

54MB1(CS29)	59	
50MB1(CS25)	55	
44MB1(CS24)	54	
40MB1(CS20)	50	
34MB1(CS19)	49	
30MB1(CS15)	45	
24MB1(CS14)	44	
20MB1(CS10)	40	
14MB1(CS9)	39	
10MB1(CS5)	35	
4MB1(CS4)	34	
0MB1(CS0)	30	
34MB2(VFT4)	29	
30MB2(VFT0)	25	
44MB2(LH4)	24	
40MB2(LH0)	20	
24MB2(V4)	19	
20MB2(V0)	15	
4MA1(CGB)	12	
03MA1(CGA)	11	
11MA1(CGA)	11	
14MB2(G)	10	
53MB2(TER)(MFK)	9	
54MB2(LLF)	8	
52MB2(LCB)	7	
51MB2(OF)	6	
50MB2(PL)(MPP)	5	
13MB2(DTK)	3	
12MB2(LOK)	2	
11MB2(LOB)	1	
10MB2(LO)	0	

MFR DISC

(A&M ONLY) CONNECT WHEN OFFICE HAS WIRE SPRING CONNECTOR MFR PRIOR TO ISS 9D OF SD-26031-01

CONNECT ONLY WHEN OFFICE HAS NO WIRE SPRING LLC MFR PRIOR TO ISS 9D OF SD-26031-01

TO WIRE SPRING RELAY LINE LINK CONN FRAMES

TS (CB) ON COM EQPT FR

ST39	3	
ST38	2	
ST37	1	
ST36	0	
ST35	3	
ST34	2	
ST33	1	
ST32	0	
ST31	3	
ST30	2	
ST29	1	
ST28	0	
ST27	3	
ST26	2	
ST25	1	
ST24	0	
ST23	3	
ST22	2	
ST21	1	
ST20	0	
ST19	3	
ST18	2	
ST17	1	
ST16	0	
ST15	3	
ST14	2	
ST13	1	
ST12	0	
ST11	3	
ST10	2	
ST9	1	
ST8	0	
ST7	3	
ST6	2	
ST5	1	
ST4	0	
ST3	3	
ST2	2	
ST1	1	
ST0	0	

LLC-FR9

SEE CAD 7 FOR LOCAL CABLE CONNECTIONS

LLC-FR0

TMB FOR LOCAL CABLE CONNECTIONS SEE CAD 81

TMB	9	
TMB	8	
TMB	7	
TMB	6	
TMB	5	
TMB	4	
TMB	3	
TMB	2	
TMB	1	
TMB	0	

TS (CE) ON COM EQPT FR

DRAWING ISSUE 54D

54

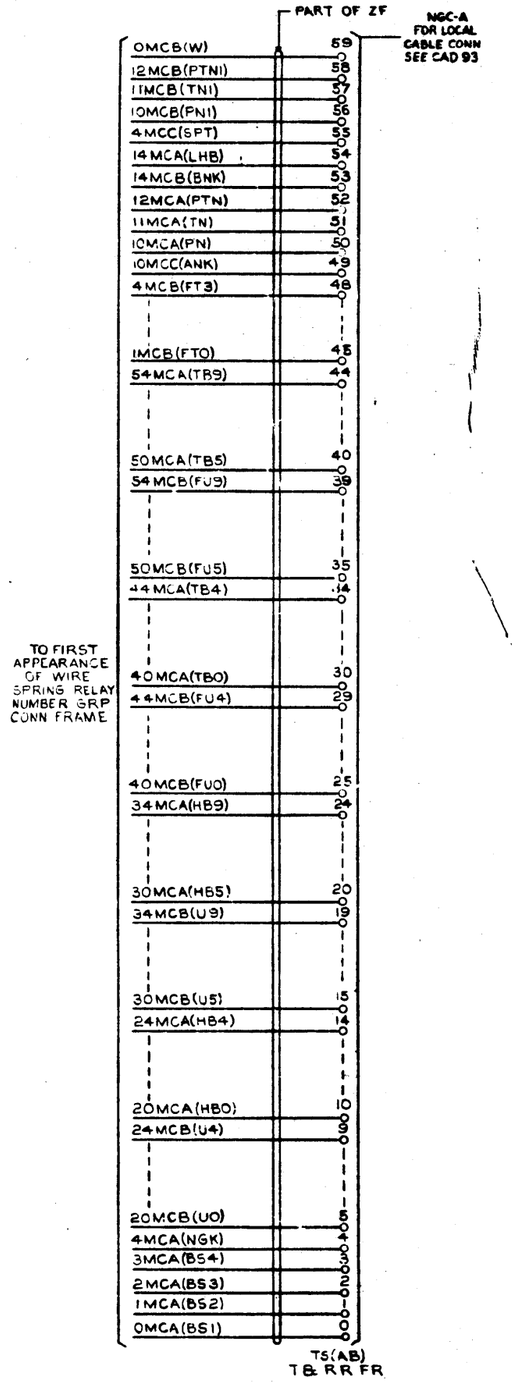
MARKER CIRCUIT (2) SD-25550-01-G104

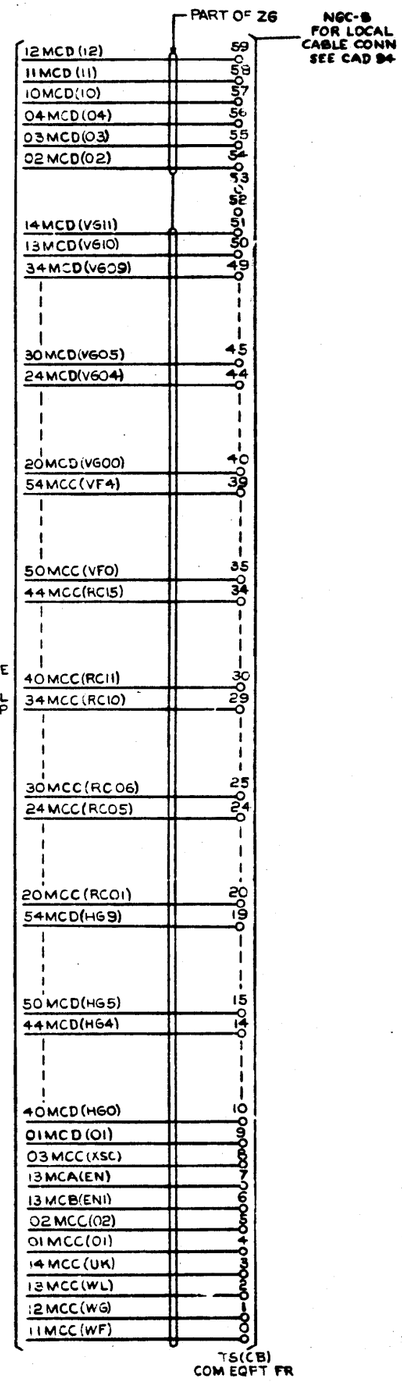
BELL TELEPHONE LABORATORIES INCORPORATED 65

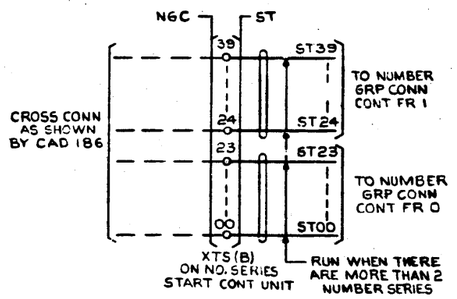
HOBINS 4465
SD-25550-01-G104

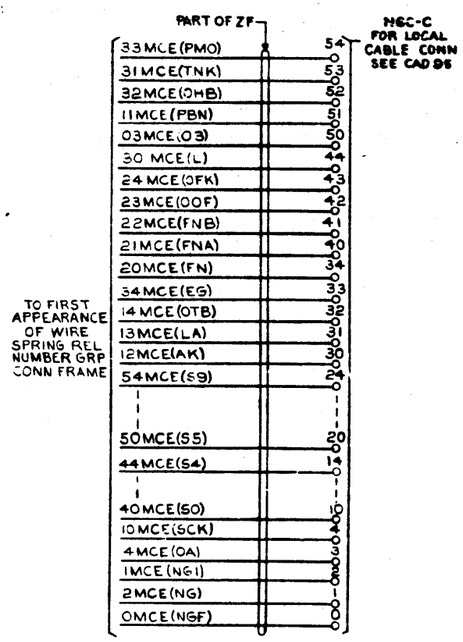
CAD 174

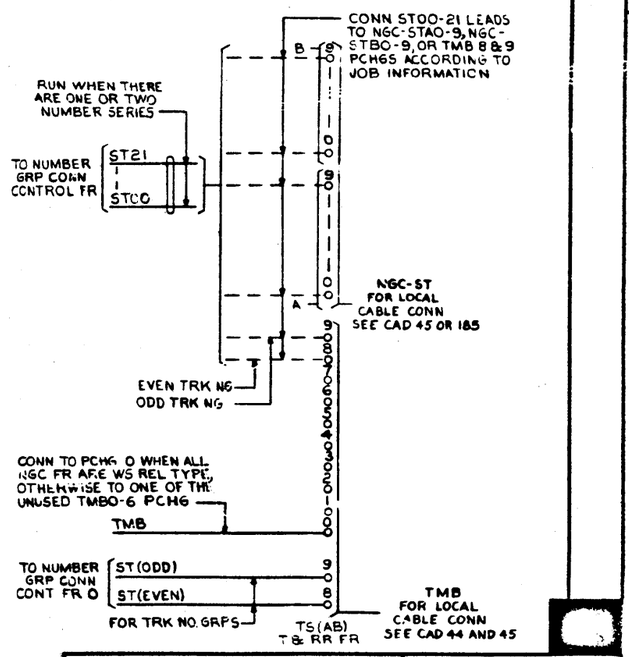
COMPLETING OR COMBINED MARKERS
SWITCHBOARD CABLE CONNECTIONS TO WIRE SPRING NUMBER CONN FR











DRAWING ISSUE
4ID
5ID

SD-25550-01-G106

MARKER CIRCUIT (2)
SD-25550-01-G105
BELL TELEPHONE LABORATORIES INCORPORATED
6S
51

CAD 175

COMPLETING OR COMBINED MARKERS
SWITCHBOARD CABLE CONNECTIONS TO WIRE SPRING RELAY
ORIGINATING REGISTER MARKER CONN FRAME

PART OF ZH

54MB(H7)	59	
53MB(H4)	58	
52MB(H2)	57	
51MB(H1)	56	
50MB(H0)	55	
22MD(CTA2)	54	
21MD(CTA1)	53	
20MD(CTA0)	52	
23MA(SCK)	51	
24MB(FK)	50	
44MB(G7)	49	
43MB(G4)	48	
42MB(G2)	47	
41MB(G1)	46	
40MB(G0)	45	
54MA(C7)	44	
53MA(C4)	43	
52MA(C2)	42	
51MA(C1)	41	
50MA(C0)	40	
34MB(F7)	39	
33MB(F4)	38	
32MB(F2)	37	
31MB(F1)	36	
30MB(F0)	35	
44MA(B7)	34	
43MA(B4)	33	
42MA(B2)	32	
41MA(B1)	31	
40MA(B0)	30	
24MB(E7)	29	
23MB(E4)	28	
22MB(E2)	27	
21MB(E1)	26	
20MB(E0)	25	
34MA(A7)	24	
33MA(A4)	23	
32MA(A2)	22	
31MA(A1)	21	
30MA(A0)	20	
14MB(D7)	19	
13MB(D4)	18	
12MB(D2)	17	
11MB(D1)	16	
10MB(D0)	15	
10MA(OR)	14	
14MD(MF)	13	
22MA(FAC)	12	
14MA(I1)	11	
3MA(CKG)	10	
4MB(TRL)	9	
3MB(PS)	8	
2MB(PD)	7	
21MA(RP)	6	
20MA(TP)	5	
12MA(LT)	4	
	3	
	2	
	1	
11MA(MD)	0	
00ME(00)	0	

ORMC-AB
FOR LOCAL CABLE CONNECTIONS SEE CAD 98

TO FIRST APPEARANCE OF WIRE SPRING RELAY ORIGINATING REGISTER MARKER CONN FRAME

TS (AB)
T & RR FR

PART OF ZI

20MC(RL)	59	
1MC(BT)	58	
12MC(MRL)	57	
10MC(TM)	56	
	55	
2MA(TRK)	54	
1MA(TR2)	53	
0MC(RGG)	52	
3MD(CNG)	51	
0MD(FRG), (RV1)	50	
23MC(NOB)	49	
22MC(OBS)	48	
2MC(SCN)	47	
14MC(CNR)	46	
13MC(CR)	45	
34ME(CU7)	44	
33ME(CU4)	43	
32ME(CU2)	42	
31ME(CU1)	41	
30ME(CU0)	40	
34MD(LL7)	39	
33MD(LL4)	38	
32MD(LL2)	37	
31MD(LL1)	36	
30MD(LL0)	35	
44ME(VF4)	34	
	33	
	32	
	31	
40ME(VF0)	30	
54MD(HG7)	29	
53MD(HG4)	28	
52MD(HG2)	27	
51MD(HG1)	26	
50MD(HG0)	25	
24ME(VG7)	24	
23ME(VG4)	23	
22ME(VG2)	22	
21ME(VG1)	21	
20ME(VG0)	20	
44MD(FU7)	19	
43MD(FU4)	18	
42MD(FU2)	17	
41MD(FU1)	16	
40MD(FU0)	15	
14ME(VG10)	14	
13ME(FT3)	13	
	12	
	11	
10ME(FT0)	10	
1MB(TRS)	9	
34MC(J7)	8	
21MC(MON)	7	
	6	
	5	
13MA(XII)	4	
12MD(D)	3	
02ME(02)	2	
01ME(01)	1	
	0	

ORMC-CD
FOR LOCAL CABLE CONNECTIONS SEE CAD 99

TO FIRST APPEARANCE OF WIRE SPRING RELAY ORIGINATING REGISTER MARKER CONN FRAME

TS (CB)
COM EQPT FR

4MC(M7)	54	
24MD(CGB)	53	
10MD(LT2)	52	
23MD(CGA)	51	
	50	
54MC(L7)	44	
53MC(L4)	43	
52MC(L2)	42	
51MC(L1)	41	
50MC(L0)	40	
44MC(K7)	34	
43MC(K4)	33	
42MC(K2)	32	
41MC(K1)	31	
40MC(K0)	30	
LTI (LX)	24	
33MC(J4)	23	
32MC(J2)	22	
31MC(J1)	21	
30MC(J0)	20	
	01	
	00	

ORMC-E
FOR LOCAL CABLE CONNECTIONS SEE CAD 102

TO FIRST APPEARANCE OF WIRE SPRING RELAY ORIGINATING REGISTER MARKER CONN FRAME

TS (AB)
T & RR FR

DRAWING ISSUE

41D	
45B	
46D	
49D	
56D	

MARKER CIRCUIT (2) SD-25550-01-6106

BELL TELEPHONE LABORATORIES INCORPORATED

56

65

SD-25550-01-6106

CAD 176

COMPLETING OR COMBINED MARKERS
SWITCHBOARD CABLE CONNECTIONS TO WIRE SPRING
INCOMING REGISTER MARKER CONN FRAME

PART OF "ZJ"

IRMC-AB
FOR LOCAL CABLE
CONNECTIONS SEE
CAD 100

50MB (H7)	59	
53MD (H4)	58	
52MD (H2)	57	
51MD (H1)	56	
50MD (H0)	55	
4ME (TOL)	54	
53MA (TAN)	53	
52MA (INC)	52	
22MC (OB)	51	
21MC (OA)	50	
44MB (G7)	49	
43MB (G4)	48	
42MB (G2)	47	
41MB (G1)	46	
40MB (G0)	45	
4MB (C7)	44	
3MB (C4)	43	
2MB (C2)	42	
1MB (C1)	41	
0MB (C0)	40	
34MB (F7)	39	
33MB (F4)	38	
32MB (F2)	37	
31MB (F1)	36	
30MB (F0)	35	
34MA (B7)	34	
33MA (B4)	33	
32MA (B2)	32	
31MA (B1)	31	
30MA (B0)	30	
24MB (E7)	29	
23MB (E4)	28	
22MB (E2)	27	
21MB (E1)	26	
20MB (E0)	25	
24MA (A7)	24	
23MA (A4)	23	
22MA (A2)	22	
21MA (A1)	21	
20MA (A0)	20	
14MB (D7)	19	
13MB (D4)	18	
12MB (D2)	17	
11MB (D1)	16	
10MB (D0)	15	
0MD (SPL)	14	
14ME (TT)	13	
11ME (FVD)	12	
10ME (11)	11	
10MA (CKG)	10	
30MC (TRL)	9	
1MC (PCD1)	8	
3ME (SRT)	7	
11MC (PCR)	6	
0MC (PCD)	5	
12MA (LT)	4	
03MD (03)	3	
02ME (02)	2	
10MD (MB)	1	
	0	

TS (AB)
T & RR FR

TO FIRST APPEARANCE
OF WIRE SPRING RELAY
INCOMING REGISTER
MARKER CONN FRAME

PART OF "ZJ"

IRMC-CD
FOR LOCAL CABLE
CONNECTIONS SEE
CAD 101

51MA (F)	59	
52MB (BT)	58	
51MB (MRL)	57	
33MC (TM)	56	
	55	
12MD (TRK)	54	
11MD (TR2)	53	
53MC (RGG)	52	
44MC (TAN4)	51	
43MC (TAN3)	50	
	49	
42MC (TAN2)	48	
41MC (TAN1)	47	
51ME (2DT)	46	
50ME (XIII)	45	
44MD (UT7)	44	
43MD (UT4)	43	
42MD (UT2)	42	
41MD (UT1)	41	
40MD (UT0)	40	
	39	
	38	
4MA (R0)	37	
23MC (PHC)	36	
4MC (THC)	35	
34MD (TT7)	34	
33MD (TT4)	33	
32MD (TT2)	32	
31MD (TT1)	31	
30MD (TT0)	30	
	29	
	28	
	27	
	26	
	25	
24MD (HT7)	24	
23MD (HT4)	23	
22MD (HT2)	22	
21MD (HT1)	21	
20MD (HT0)	20	
3MC (OCN)	19	
24MC (ECN)	18	
13MC (LR)	17	
12MC (DCK)	16	
2MC (TST)	15	
44MA (TF7)	14	
43MA (TF4)	13	
42MA (TF2)	12	
41MA (TF1)	11	
40MA (TF0)	10	
34MC (TRS)	9	
24ME (J7)	8	
10MC (MON)	7	
	6	
	5	
14MA (FG1)	4	
13MA (FG0)	3	
02MD (02)	2	
01MD (01)	1	
00ME (00)	0	

TS (AB)
T & RR FR

TO FIRST APPEARANCE
OF WIRE SPRING RELAY
INCOMING REGISTER
MARKER CONN FRAME

PART OF "ZJ"

IRMC-E
FOR LOCAL CABLE
CONNECTIONS SEE
CAD 103

54ME (MT)	54	
	53	
53ME (TCC)	52	
52ME (TCB)	51	
13ME (TCA)	50	
44ME (L7)	44	
43ME (L4)	43	
42ME (L2)	42	
41ME (L1)	41	
40ME (L0)	40	
34ME (K7)	34	
33ME (K4)	33	
32ME (K2)	32	
31ME (K1)	31	
30ME (K0)	30	
	24	
23ME (J4)	23	
20ME (J0)	20	
04MD (ACD)	14	
03MD (LCD2)	13	
02MD (LCD1)	12	
01MD (LCD0)	11	
54MD (WKC)	10	
14MD (VTC)	4	
13MD (FC)	3	
31MC (DNC)	2	
	1	
	0	

TS (AB)
T & RR FR

DRAWING ISSUE
4ID | 6Lm 0-7 | WFO

41

NO. 5
MARKER CIRCUIT

SD-25550-01-6107

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

SD-25550-01-6107

CAD 177

COMPLETING OR COMBINED MARKERS
SWITCHBOARD CABLE CONNECTIONS TO WIRE SPRING
OUTGOING SENDER CONNECTORS

DRAWING ISSUE		
41D	ITT, ECD, NTA, WE	
43B	GTE, AB, Siem, AMP	
46D	IBM, KDL, WND	
54D		

OSC-A FOR LOCAL CABLE CONNECTIONS SEE CAD 104

34 MA2 (G7)	59
33 MA2 (G4)	58
32 MA2 (G2)	57
31 MA2 (G1)	56
30 MA2 (G0)	55
12 MB1 (M7)	54
	53
	52
	51
	50
24 MA2 (F7)	49
23 MA2 (F4)	48
22 MA2 (F2)	47
21 MA2 (F1)	46
20 MA2 (F0)	45
44 MA1 (C7)	44
43 MA1 (C4)	43
42 MA1 (C2)	42
41 MA1 (C1)	41
40 MA1 (C0)	40
14 MA2 (E7)	39
13 MA2 (E4)	38
12 MA2 (E2)	37
11 MA2 (E1)	36
10 MA2 (E0)	35
34 MA1 (B7)	34
33 MA1 (B4)	33
32 MA1 (B2)	32
31 MA1 (B1)	31
30 MA1 (B0)	30
54 MA1 (D7)	29
53 MA1 (D4)	28
52 MA1 (D2)	27
51 MA1 (D1)	26
50 MA1 (D0)	25
24 MA1 (A7)	24
23 MA1 (A4)	23
22 MA1 (A2)	22
21 MA1 (A1)	21
20 MA1 (A0)	20
	19
33 MB1 (CL8)	18
32 MB1 (CL7)	17
53 MB2 (CL6)	16
52 MB2 (CL5)	15
51 MB2 (CL4)	14
3 MA1 (CL3)	13
2 MA1 (CL2)	12
1 MA1 (CL1)	11
04 MA1 (CL0)	10
	9
	8
	7
14 MA1 (SLP)	6
4 MA2 (TSR)	5
2 MA2 (ND)	4
54 MB2 (MON)	3
10 MB1 (M)	2
0 MA2 (MC)	1
0 MA1 (MB)	0

TO FIRST APPEARANCE OF WIRE SPRING RELAY OUTGOING SENDER CONN FR

TS (AA) T & RR FR

OSC-B FOR LOCAL CABLE CONNECTIONS SEE CAD 105

	59
	58
	57
50 MB2 (DL6)	56
44 MB2 (DL5)	55
	54
40 MB2 (DL1)	51
	50
4 MB2 (AR7)	49
13 MB2 (AR4)	48
12 MB2 (AR2)	47
11 MB2 (ARI)	46
10 MB2 (AR0)	45
54 MB1 (L7)	44
53 MB1 (L4)	43
52 MB1 (L2)	42
51 MB1 (L1)	41
50 MB1 (L0)	40
24 MB2 (BR7)	39
23 MB2 (BR4)	38
22 MB2 (BR2)	37
21 MB2 (BRI)	36
20 MB2 (BR0)	35
44 MB1 (K7)	34
43 MB1 (K4)	33
42 MB1 (K2)	32
41 MB1 (K1)	31
40 MB1 (K0)	30
24 MB1 (CR7)	29
23 MB1 (CR4)	28
22 MB1 (CR2)	27
21 MB1 (CR1)	26
20 MB1 (CR0)	25
54 MA2 (J7)	24
53 MA2 (J4)	23
52 MA2 (J2)	22
51 MA2 (J1)	21
50 MA2 (J0)	20
13 MA1 (TSR1)	19
	18
	17
	16
	15
44 MA2 (H7)	14
43 MA2 (H4)	13
42 MA2 (H2)	12
41 MA2 (H1)	11
40 MA2 (H0)	10
	9
	8
	7
	6
	5
	4
	3
	2
	1
	0

TO FIRST APPEARANCE OF WIRE SPRING RELAY OUTGOING SENDER CONN FR

TS (AA) T & RR FR

OSC-C FOR LOCAL CABLE CONNECTIONS SEE CAD 106

22 MC1 (NSP)	59
23 MC1 (SPC)	58
	57
23 MC1 (TVT)	56
22 MC1 (SC)	55
	54
31 MC1 (L5D)	53
32 MC1 (LST)	52
34 MC1 (5DG)	51
33 MC1 (4DG)	50
21 MC1 (NOB)	49
20 MC1 (OBS)	48
14 MC1 (RP)	47
13 MC1 (TP)	46
24 MC1 (AMA)	45
44 MC1 (MB7)	44
43 MC1 (MB4)	43
42 MC1 (MB2)	42
41 MC1 (MB1)	41
40 MC1 (MB0)	40
54 MC1 (CP7)	39
53 MC1 (CP4)	38
52 MC1 (CP2)	37
51 MC1 (CP1)	36
50 MC1 (CP0)	35
	4
	3
	2
	1
	0

TO FIRST APPEARANCE OF WIRE SPRING RELAY OUTGOING SENDER CONN FR

TS (AA) T & RR FR

OSG-C1 FOR LOCAL CABLE CONNECTIONS SEE CAD 106

54 MC2 (VF4)	34
50 MC2 (VF0)	30
44 MC2 (HG7)	29
43 MC2 (HG4)	28
42 MC2 (HG2)	27
41 MC2 (HG1)	26
40 MC2 (HG0)	25
34 MC2 (VG7)	24
33 MC2 (VG4)	23
32 MC2 (VG2)	22
31 MC2 (VG1)	21
30 MC2 (VG0)	20
14 MC2 (FU7)	19
13 MC2 (FU4)	18
12 MC2 (FU2)	17
11 MC2 (FU1)	16
10 MC2 (FU0)	15
24 MC2 (VG10)	14
23 MC2 (FT3)	13
	12
20 MC2 (FT0)	10
	9
	8
	7
	6
	5

TS (CB) COM EQPT FR

OSC-C FOR LOCAL CABLE CONNECTIONS SEE CAD 105

RN7	29
RN4	28
RN2	27
RN1	26
RN0	25
XSA	24
SCM	23
	22
	21
	20
OSGB9	19
	15
OSGB5	14
OSGA9	
OSGA5	10

TS (AA) T & RR FR

OSC-C FOR LOCAL CABLE CONNECTIONS SEE CAD 106

OSGB4	29
OSGB0	25
OSGA4	24
OSGA0	20
S4	19
S0	15
OS4	14
OS0	10
TM	9
TG	8
RO	7
AV	6
MA	5
ONI	4
SBM	3
SAM	2
S	0
XS	0

TO FIRST APPEARANCE OF WIRE SPRING RELAY OUTGOING SENDER CONN FR

OSC-MKR FOR LOCAL CABLE CONNECTIONS SEE CAD 108

TS (AA) T & RR FR

EVEN MARKERS — ODD MARKERS

FOR LOCAL CABLE CONNECTIONS SEE CAD 70

GBE OR GBO(3)	GBB3
ST(3)	STB3
GBE OR GBO(2)	GBA3
ST(2)	STA3
GBE OR GBO(1)	GBB2
ST(1)	STB2
GBE OR GBO(0)	GBA2
ST(0)	STA2
GBE OR GBO(3)	GBB1
ST(3)	STB1
GBE OR GBO(2)	GBA1
ST(2)	STA1
GBE OR GBO(1)	GBB0
ST(1)	STB0
GBE OR GBO(0)	GBA0
ST(0)	STA0

FRI OR 2ND APPEARANCE OF WS OSC FR

FRO OR IST APPEARANCE OF WS OSC FR

TO WIRE SPRING RELA. SENDER CONN FRAMES

TS (AB) T & RR FR

CONN AS SHOWN WHEN ALL OCS FRAMES ARE WS REL TYPE, OTHERWISE TO NEXT AVAILABLE GROUP OF 4 PUNCHING ASSOC WITH SENDER CONN

FOR LOCAL CABLE CONNECTIONS SEE CAD 68

SKB3	
SKA3	
SKB2	
SKA2	
SKB1	
SKA1	
SKB0	
SKA0	

TO WIRE SPRING RELAY SENDER CONN FRAMES

FR1 OR 2ND APPEARANCE W5 OSC FR — SKB, SKA

FRO OR IST APPEARANCE W5 OSC FR — SKB, SKA

TS (AB) T & RR FR

CONN AS SHOW WHEN ALL OSC FRAMES ARE WS REL TYPE, OTHERWISE TO TWO OF THE UNUSED 5KA & 5KB PUNCHINGS

MARKER CIRCUIT (2)

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BELL TELEPHONE LABORATORIES INCORPORATED

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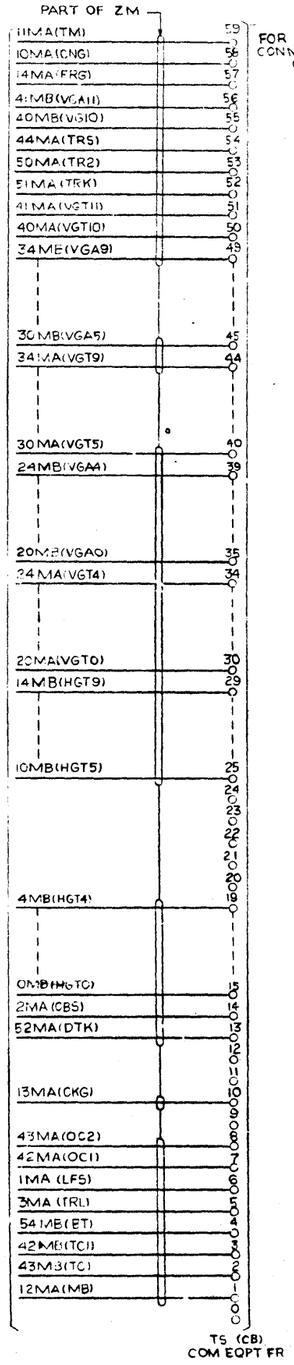
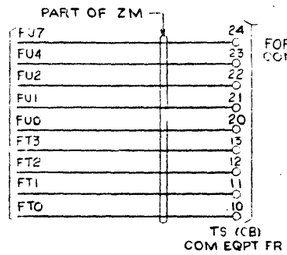
SD-25550-01-6108

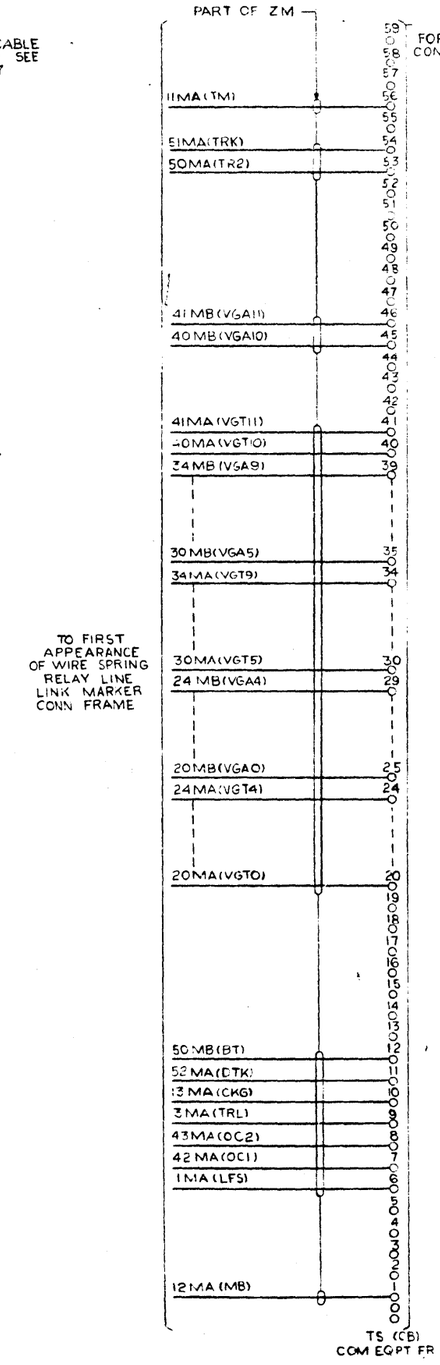
CAD 178

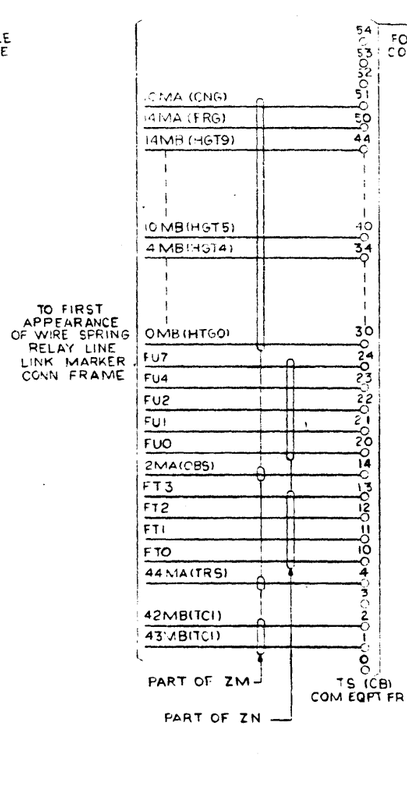
COMBINED OR DIAL TONE MARKERS
SWITCHBOARD CABLE CONNECTIONS TO WIRE SPRING LINE LINK
MARKER CONNECTOR FRAMES

A & M ONLY









DRAWING ISSUE
41D

41

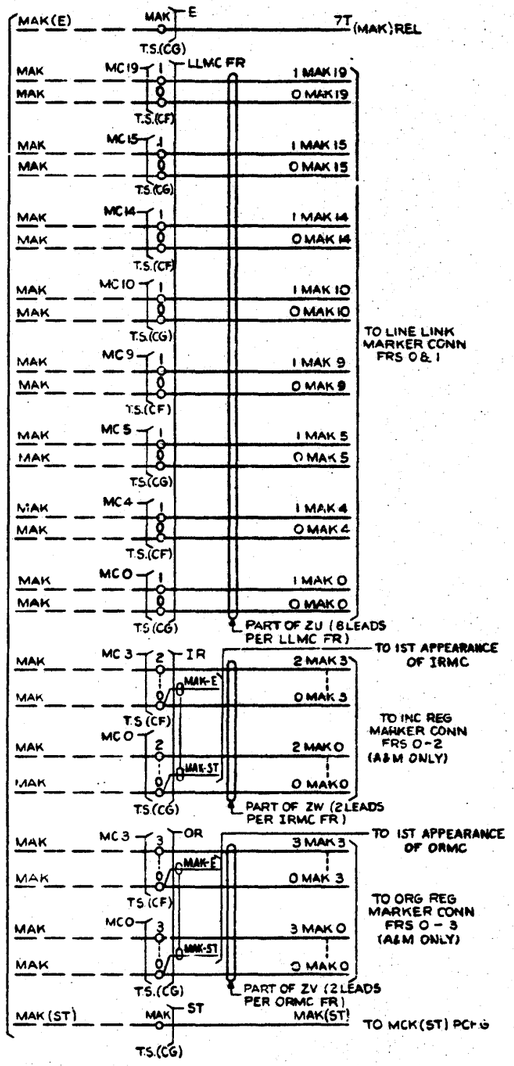
NO. 5 MARKER CIRCUIT	SD-25550-01-G109
BELL TELEPHONE LABORATORIES INCORPORATED	6S

SD-25550-01-G109

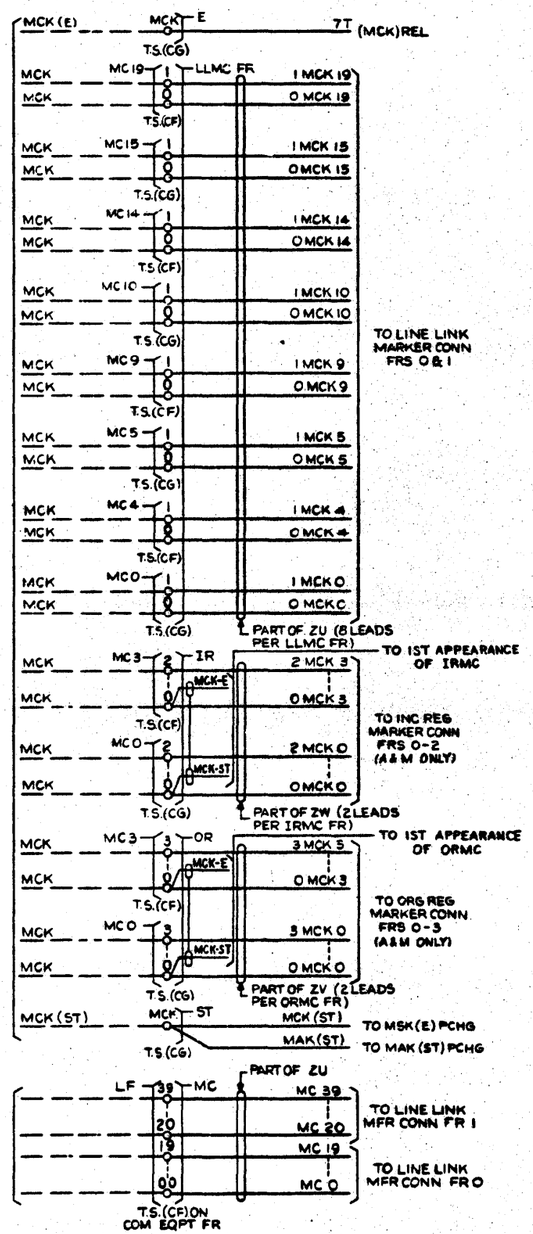
PART OF CAD 179

CROSS CONNECTIONS FOR PREFERENCE CHAINS OF WIRE SPRING RELAY MARKER CONNECTOR FRAMES

FOR COMBINED MARKERS

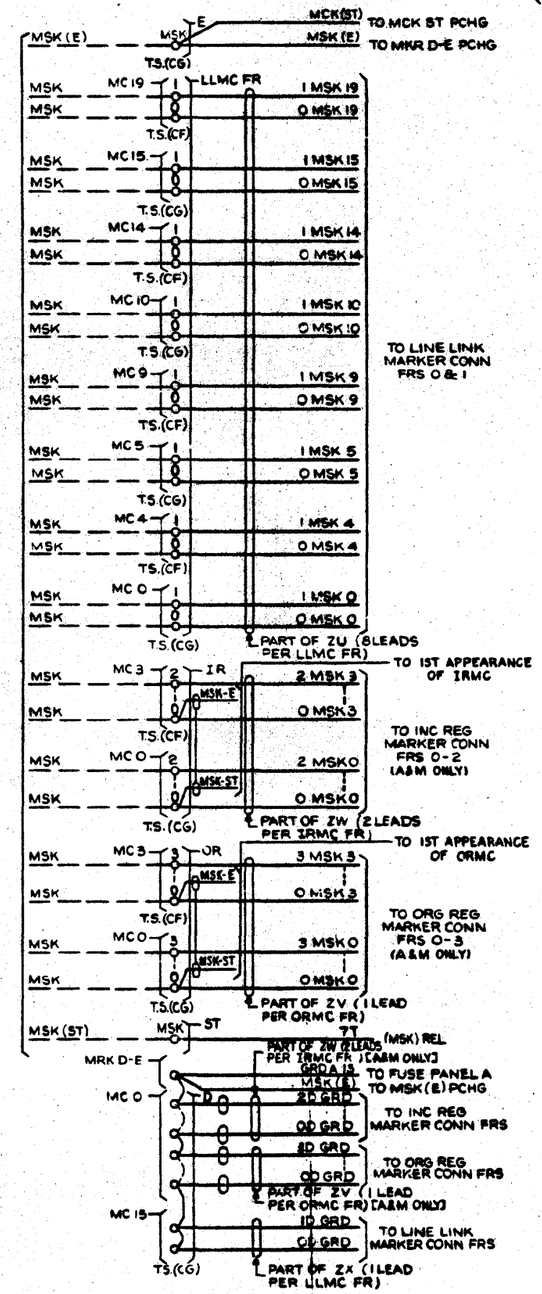


CROSS CONN AS SPECIFIED BY NOTES ON SD-26029-01



CROSS CONN AS SPECIFIED BY NOTES ON SD-26029-01

FOR CROSS CONN SEE CAD 27



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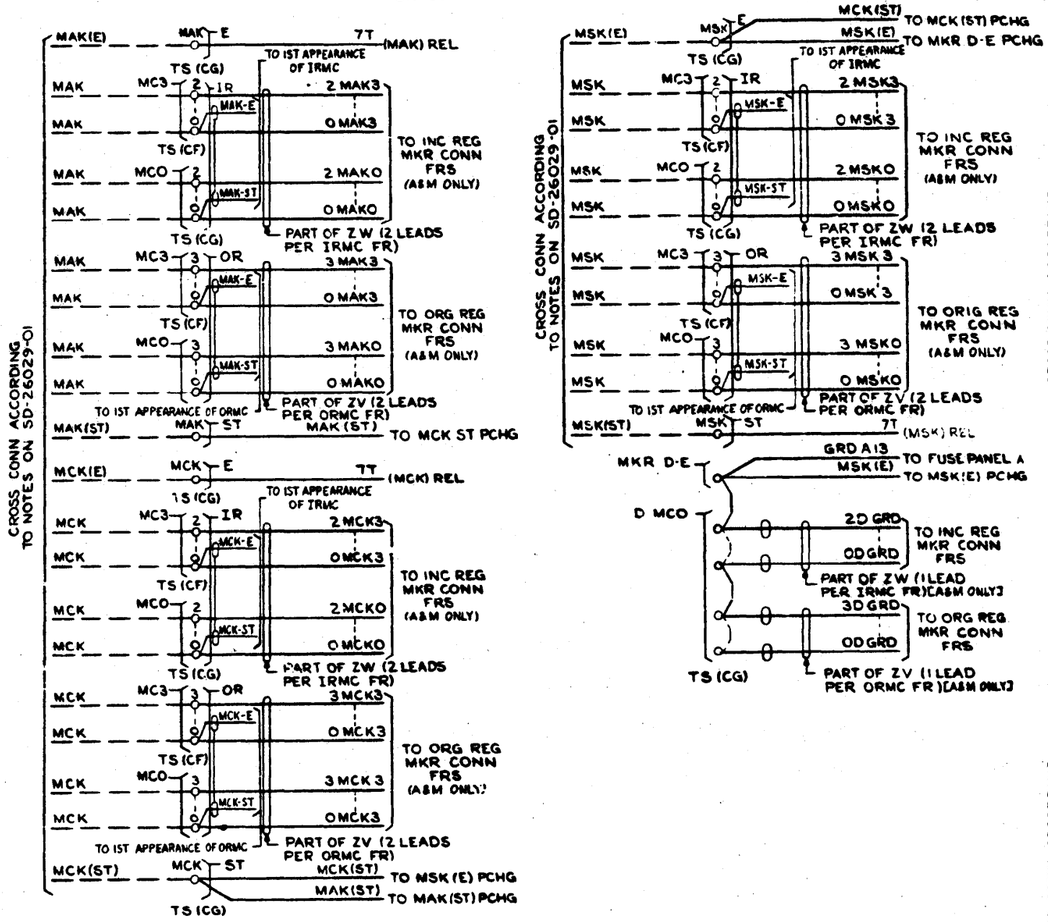
NO. 5 MARKER CIRCUIT	SD-25550-01-GIO
BELL TELEPHONE LABORATORIES INCORPORATED	6S

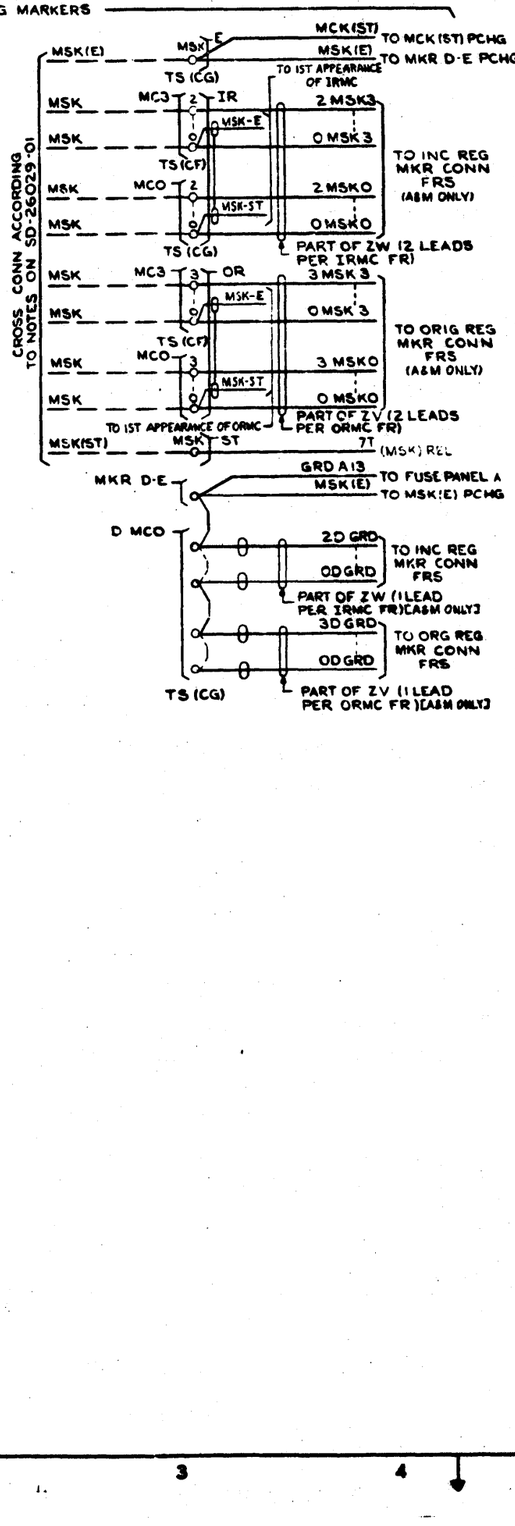
SD-25550-01-GIO

PART OF CAD 179

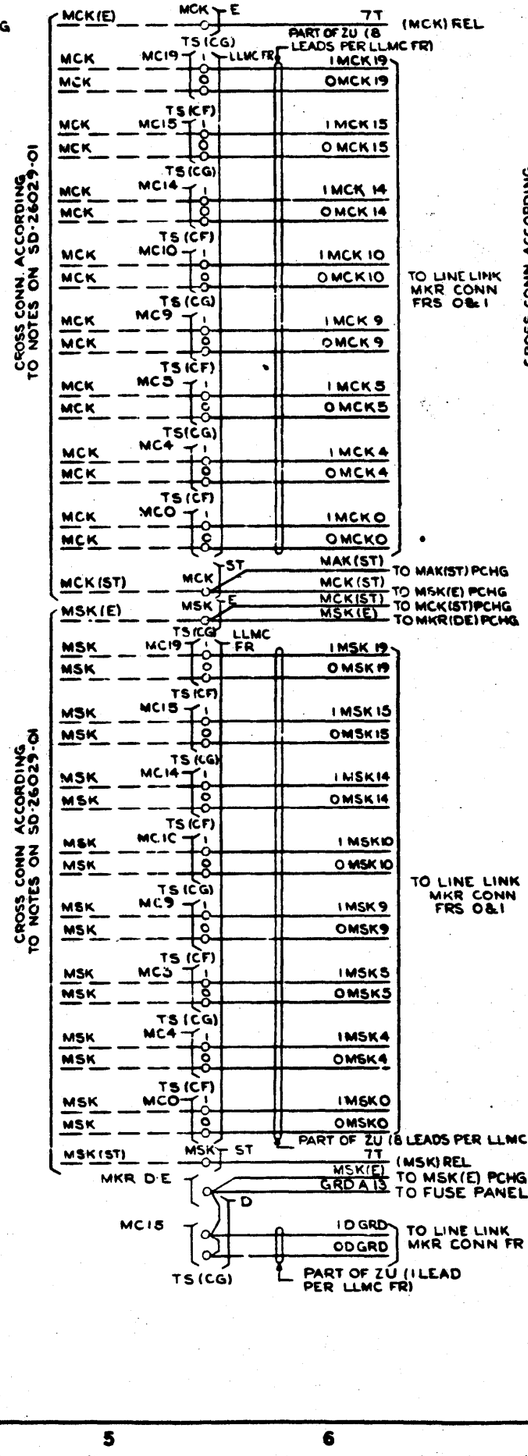
(CROSS CONNECTIONS FOR PREFERENCE CHAINS OF WIRE SPRING RELAY MARKER CONNECTOR FRAME)

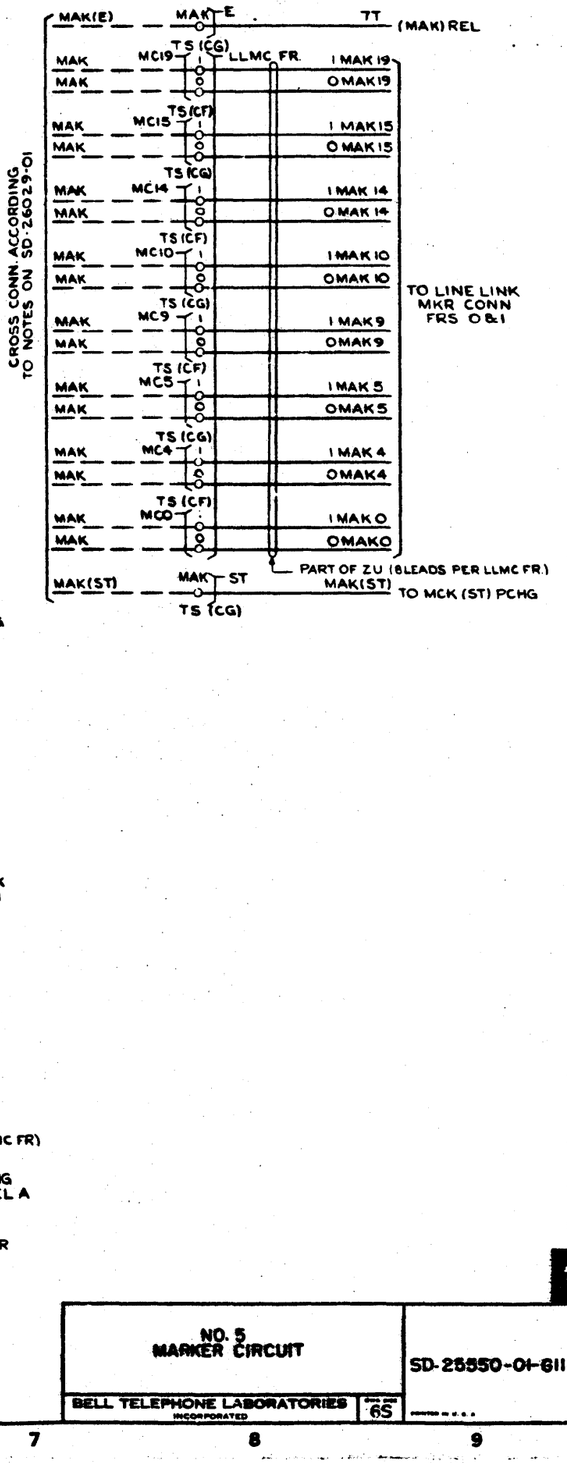
FOR COMPLETING MARKERS





FOR DIAL TONE MARKERS





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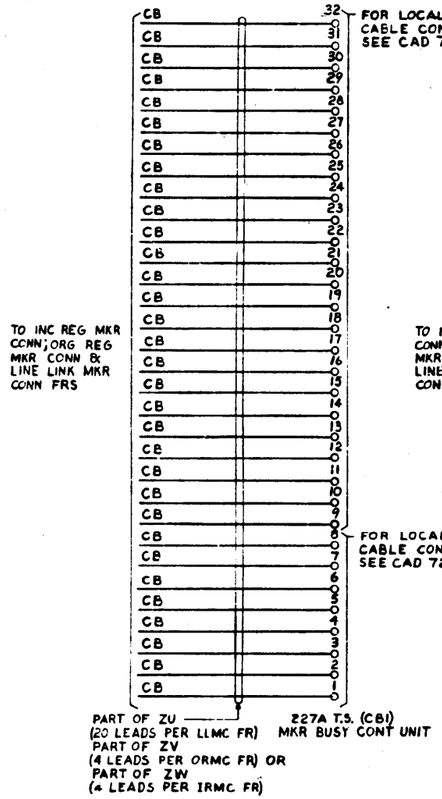
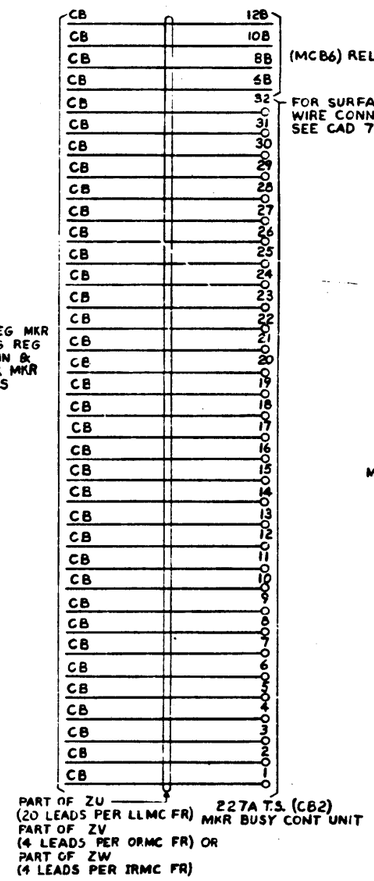
NO. 5 MARKER CIRCUIT	SD-25550-01-6111
BELL TELEPHONE LABORATORIES INCORPORATED	6S

CAD 180

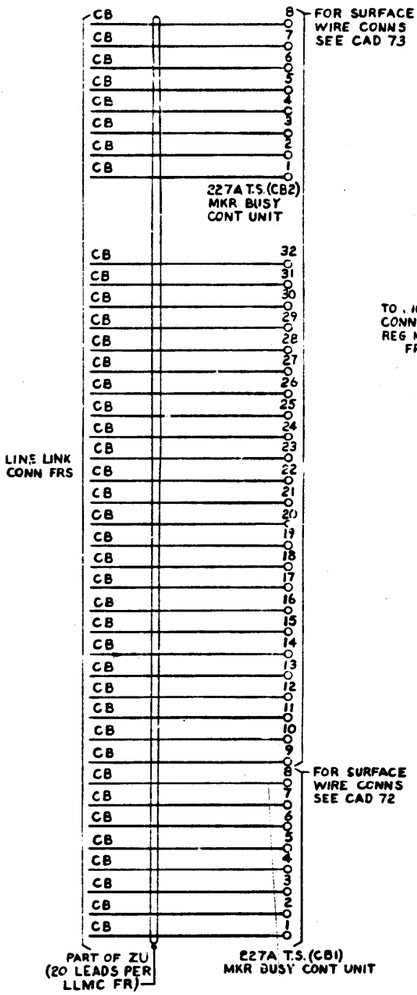
SWITCHBOARD CABLE CONNECTIONS OF CB LEADS TO WIRE SPRING RELAY MARKER CONNECTOR FRAMES

FOR COMBINED MARKER

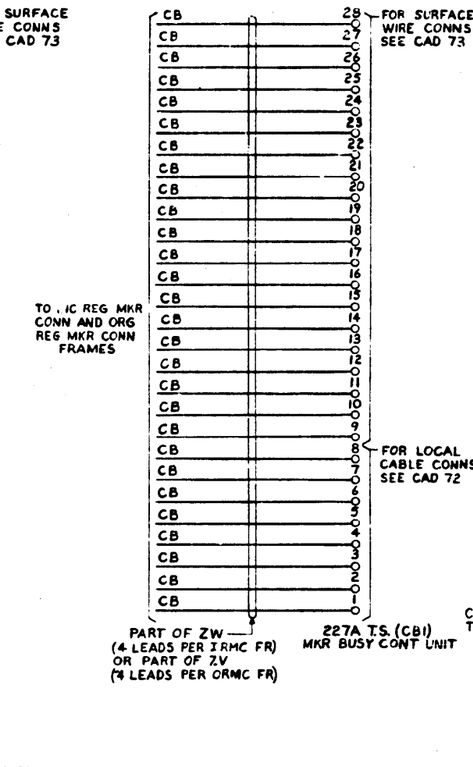




FOR DIAL TONE MARKER



FOR COMPLETING MARKERS



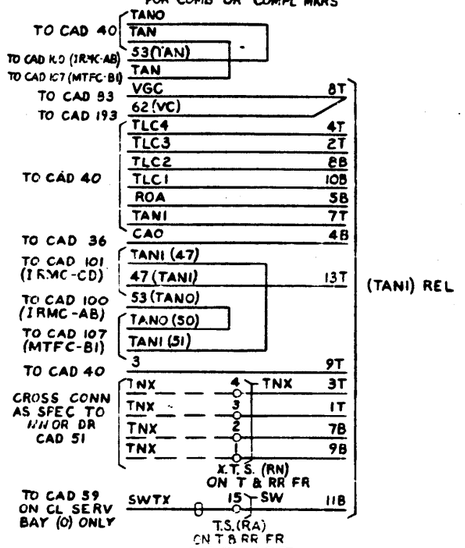
CAD 181

UNASSIGNED

CAD 182

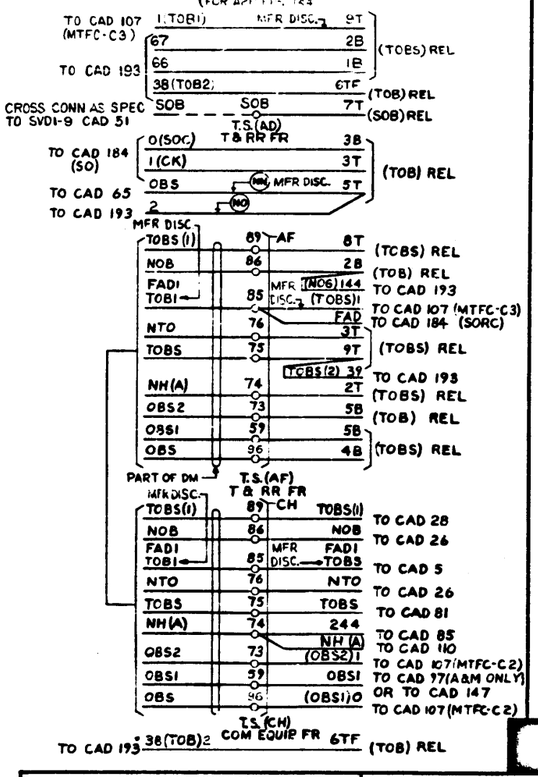
(FOR APP FIG. 145)

FOR COMB OR COMPL MKRS



CAD 183

(FOR APP FIG. 144)



DRAWING ISSUE
410 WFD
46D DCM AWD

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED — 6S

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CAD 184

FOR COMBINED OR COMPLETING MARKERS

L7(54)		54
L6(53)		53
L2(52)		52
L1(51)		51
L0(50)		50
K7(44)		49
K6(43)		48
K2(42)		47
K1(41)		46
K0(40)		45
J7(34)		44
J6(33)		43
J2(32)		42
J1(31)		41
J0(30)		40
H7(24)		39
H6(23)		38
H2(22)		37
H1(21)		36
H0(20)		35
G7(14)		34
G6(13)		33
G2(12)		32
G1(11)		31
G0(10)		30
F7(04)		29
F6(03)		28
F2(02)		27
F1(01)		26
E7(54)		24
E6(53)		23
E2(52)		22
E1(51)		21
E0(60)		20
D7(44)		19
D6(43)		18
D2(42)		17
D1(41)		16
D0(40)		15
C7(34)		14
C6(33)		13
C2(32)		12
C1(31)		11
C0(30)		10
B7(24)		9
B6(23)		8
B2(22)		7
B1(21)		6
B0(20)		5
A7(14)		4
A6(13)		3
A2(12)		2
A1(11)		1
A0(10)		0
M7(04)		55
F0(03)		26
(02)		
(01)		

TO SERVICE OBSERVING REG CONN (REL C02)

TO CAD 107 (MTFC-B2)

TO SERVICE OBSERVING REG CONN (REL C01)

CAMA		MFR DISC.
FAD		CAMA TO CAD 5
HFA		FAD TO CAD 185
		(FAD) 3 TO CAD 40
		(HFA) 2
CK(00)		(HFA)
SOC(0)		CK TO CAD 5
		SOC TO CAD 185

TO SERVICE OBSERVING TRK SELECTION AND CONTROL CKT

TO SERVICE OBSERVING REG CONN (REL C01)

T5 (R8) T & RR FR

LW AB RUN ONLY WHEN THERE ARE ONE OR TWO NO. SERIES (APP FIG. 8U PROVIDED)

TO NO. GRP CONN FR

TO NO. GRP CONN OFF A (A & M ONLY)

TO NO. GRP CONN OFF B (A & M ONLY)

CONN ST00-19 LEADS TO NGC-ST A0-9 OR NGC-ST B0-9 PCNG ACCORDING TO JOB INFORMATION (APP FIG. 8T PROVIDED)

LW AB

EE

NGC-ST

TO CAD 221

XTS (AB) T & RR FR

TO CAD 186 ON NO. SERIES START CONTROL UNIT. (APP FIG. 8V PROVIDED)

ST-A [NSSC]

(NSSO) REL

CROSS CONN TO ST-TBI, ST-R*, ST-BN, CAD 45, STA, STB, CAD 44, BNTH CAD 67 OR "AS" CAD 187 OR ASTO, 1 THIS CAD DCST, VCST CAD 36

ST-B [NSSI]

(NSSI) REL

CROSS CONN WHEN THERE ARE ONLY ONE OR TWO NO. SERIES

XTS (AD) T & RR FR

CAD 185

(FOR APP FIG. 147 & BT, BU, OR BV)

FOR COMBINED OR COMPLETING MARKERS

TO CAD 45 — NGBA — LC P — 1T (NSSO) REL

TO CAD G7 — NGC — 10T (RGT) REL

NGC1

NGC2 — 9T (RGT) REL

NGC5

PART OF CR

TO CAD 81 — RNG2 — 467 — 5B (RGT) REL

TO CAD 107 (MTFC-A4) — 45 (RNG).

TO CAD 26 — RNG — 258 — 8T (RGT) REL

PART OF BX

TO CAD 74 — KRI — 218 — 2T (RGT) REL

PART OF BW

TO CAD 20 — NGS — 97 — 10B

TO CAD — NGS1 — 96 — 9B (RGT) REL

TO CAD 28 — RV; — 77 — 1B

RV — 85 — 8T

PART OF BV

T5 (AC) T & RR FR

TO CAD 32 — NS — 11T (RGT) REL

TO CAD 41 — NS — SG

TO CAD 52 — RV — 2B (RGT) REL

CROSS CONNECT WHEN THERE ARE ONLY ONE OR TWO NO. SERIES

CROSS CONN TO STA0-9 [NSSC], STB0-9 [NSSI] THIS CAD OR BNTH CAD G7

CROSS CONN TO APN, ATN, AEN, BPN, BTN, BEN CAD 41 OR TO ASA, BSA, AAN, BAN CAD 8G

ASTI — 11B (NSSI) REL

ASTO — 11B (NSSO) REL

NSS

1T (RGT1) REL

1T (RGTO) REL

X T5(AD) T & RR FR

NSSC

BNTH — TO CAD G7

AS, AS1 — TO CAD 187

STDC, STVC — TO CAD 36

CH GRD — TO FR FUSE PANEL

AST — 12B (NSSI) REL

NSB — 13B

NGI — TO CAD 42

RGT — 13T (RGT) REL

CKR — TO CAD 150 OR 159

NGBB(1) — NGBB TO CAD 45

TO CAD 186 ON NO. SERIES START CONT UNIT

CONN WHEN OFF, REQUIRES ONLY 2 NO. SERIES

NGBB — 2T (NSSI) REL

BN, RI, TBI — TO CAD 45

ASTI

ASTO

TRB — 8B (RGTO) REL

RGT(1) — 7B

TR5

TR2

NSS5

NSS2

EF

TS(AF) T & RR FR

CROSS CONN TO SC CAD 60, PSC CAD 161 OR RB CAD 51

TRB

X TS(RN) T & RR FR

CROSS CONN TO RC CAD 50, SC CAD 60 OR PSC CAD 161

RGT — NOTCH TERM.

X TS(RL) T & RR FR — LC H

TO CAD 119 (6RR BAY) OR TO CAD 153 (CC & RR BAY)

RGTI — 11B — 5R

RGTO — 11B

CT OR YL9

TS (RA) T & RR FR

9T (RGTI) REL

9T (RGTO) REL

TR

CROSS CONN TO CODE POINTS CAD 59

X TS (RH) T & RR FR

X TS (RM) T & RR FR

DRAWING ISSUE

41D

51D

MARKER CIRCUIT (2)

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BELL TELEPHONE LABORATORIES INCORPORATED

6S

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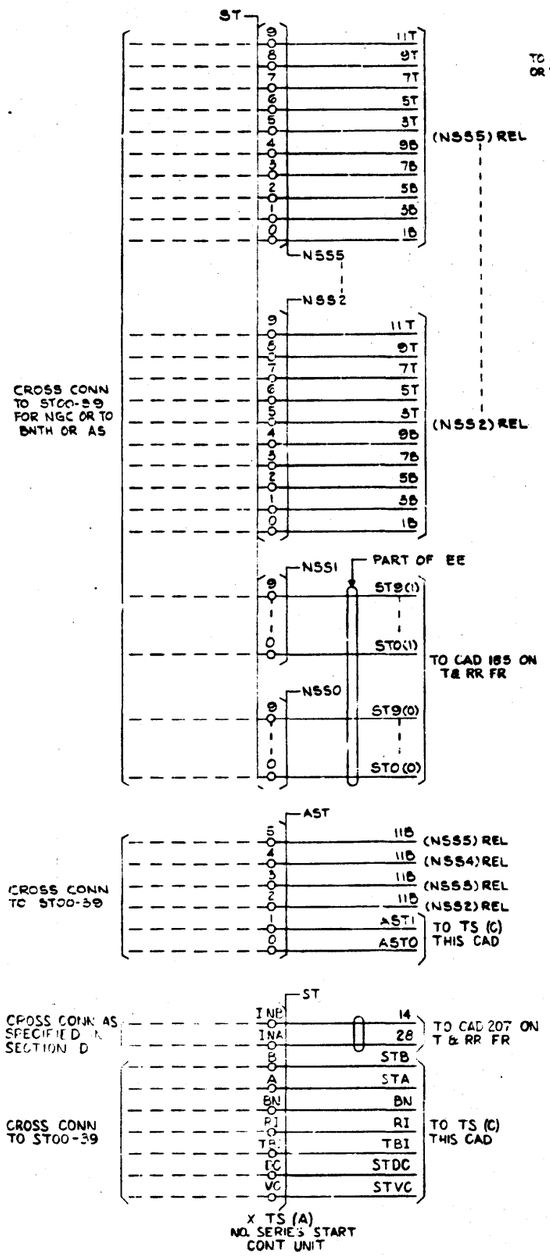
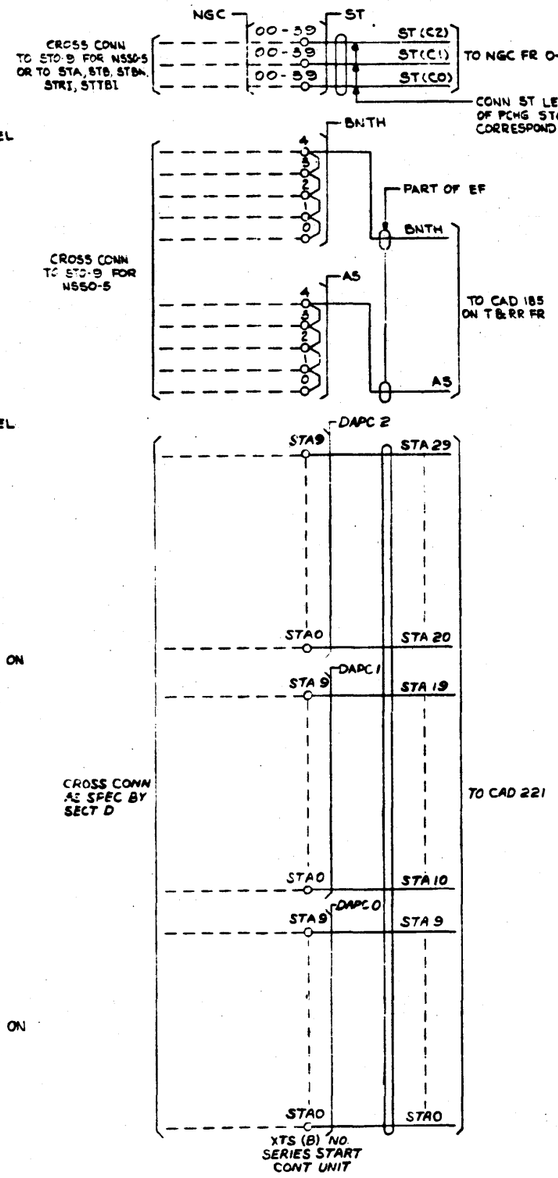
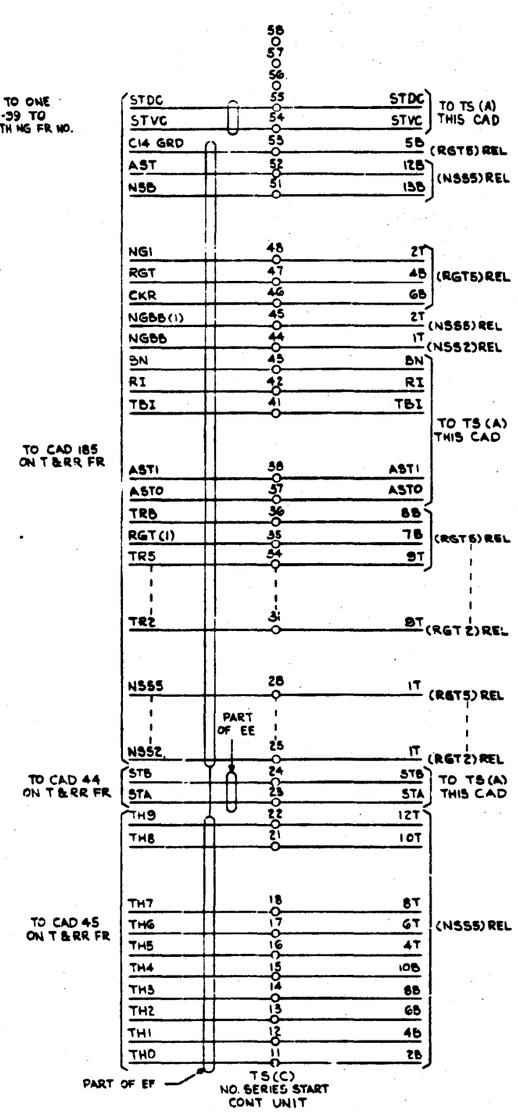
SD-25550-01-6113

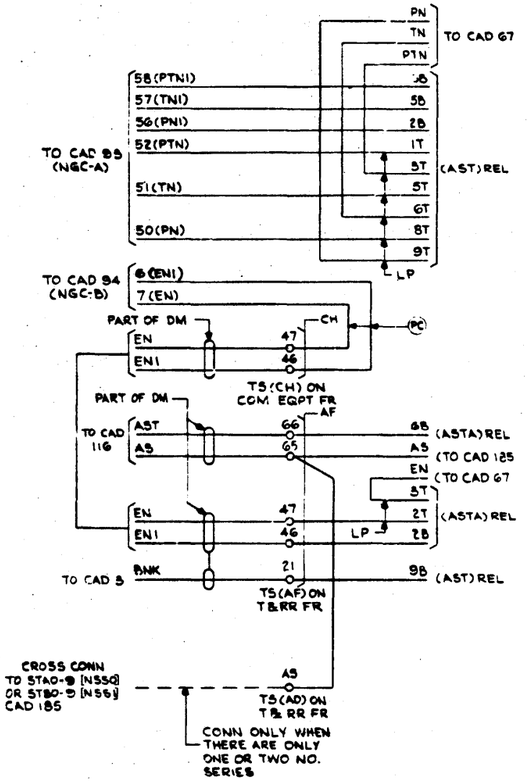
CAD 186
(FOR APP FIG. 148 & 5V)

CAD 187
(FOR APP FIG. 149)



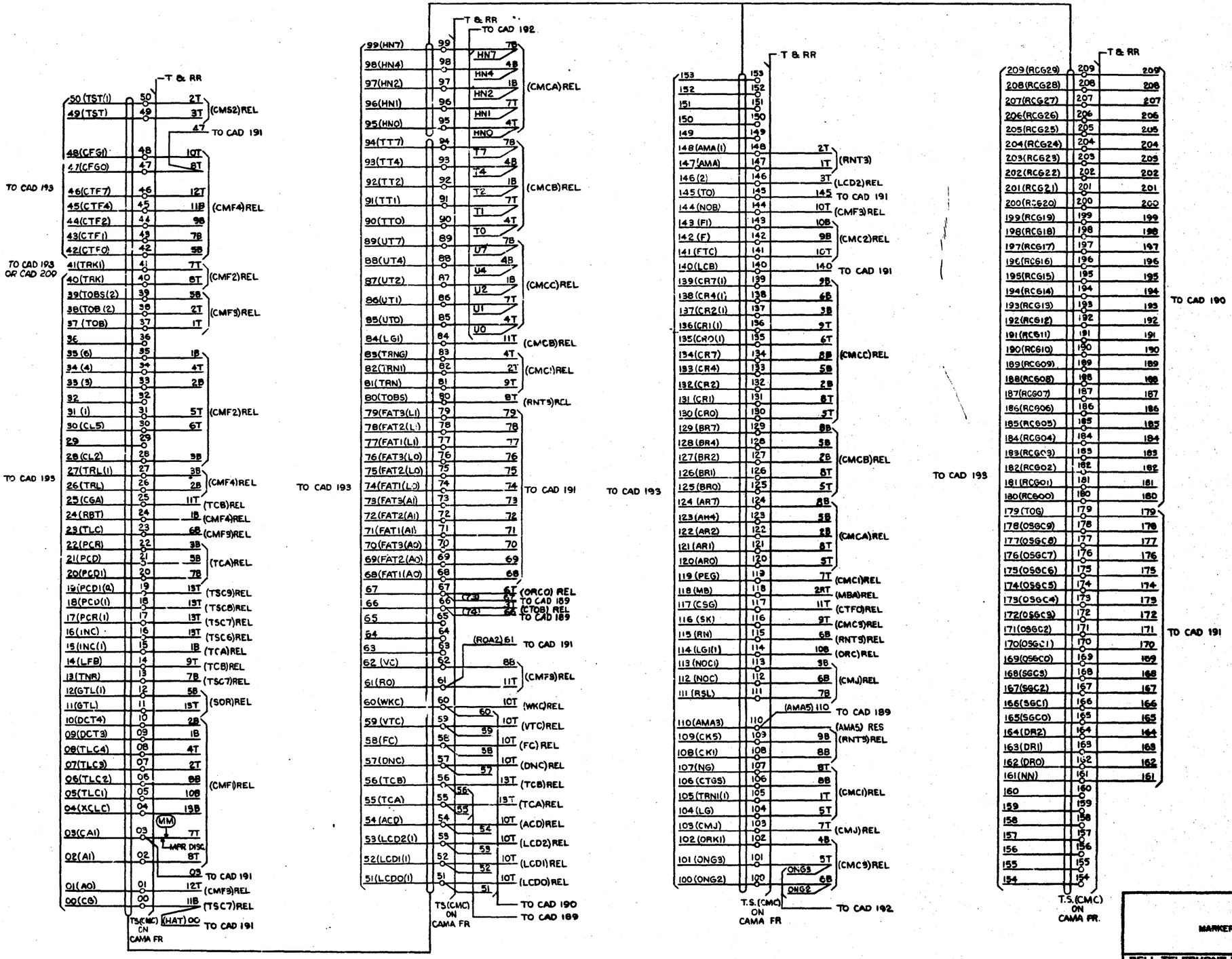






CAD 188

(FOR PART OF APP FIGS. 151, 153, & 155)



MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED 6S

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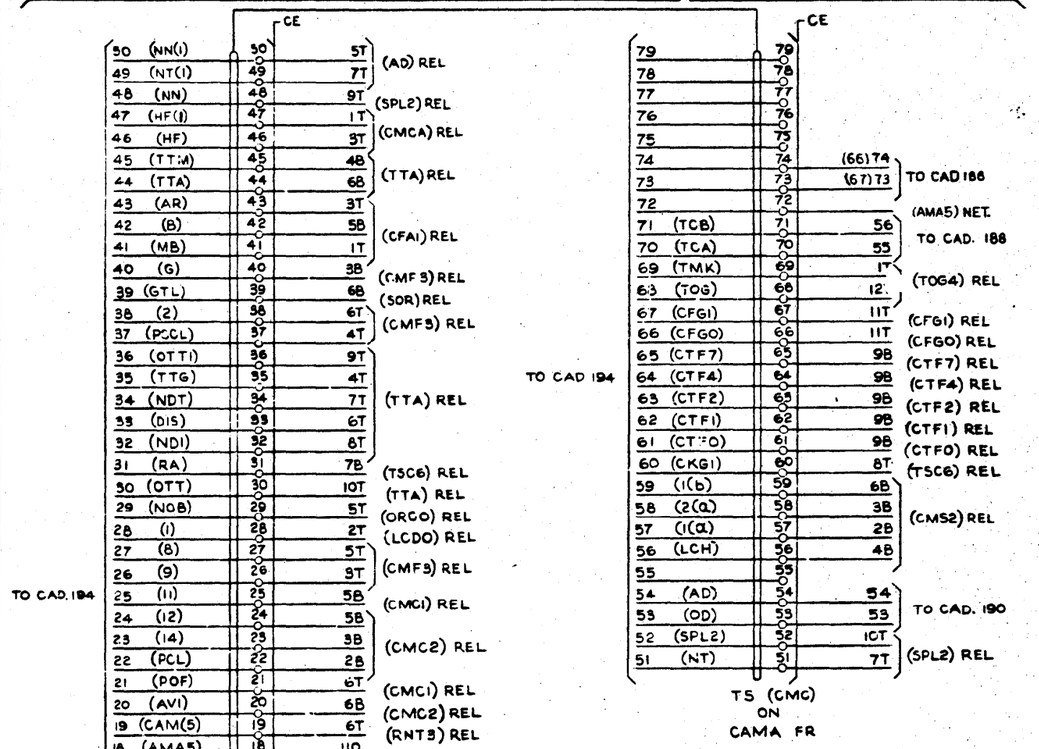
SD-25550-01-0115

SD-25550-01-0115

CAD. 189

(FOR PART OF APP FIGS. 151, 153 & 85)



SD-25550-01-GII6

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

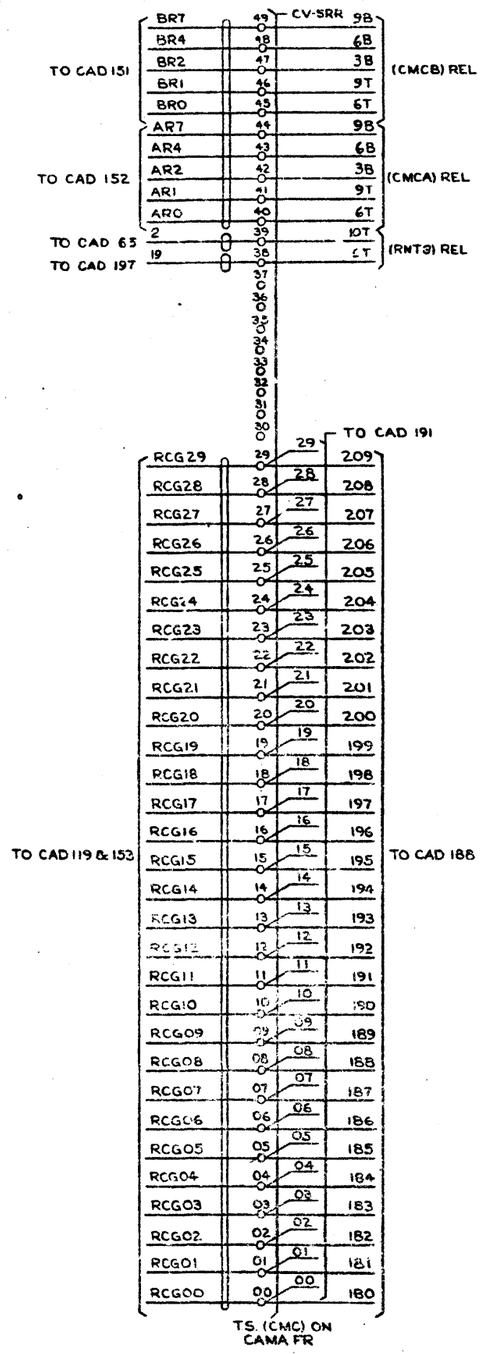
6S

46

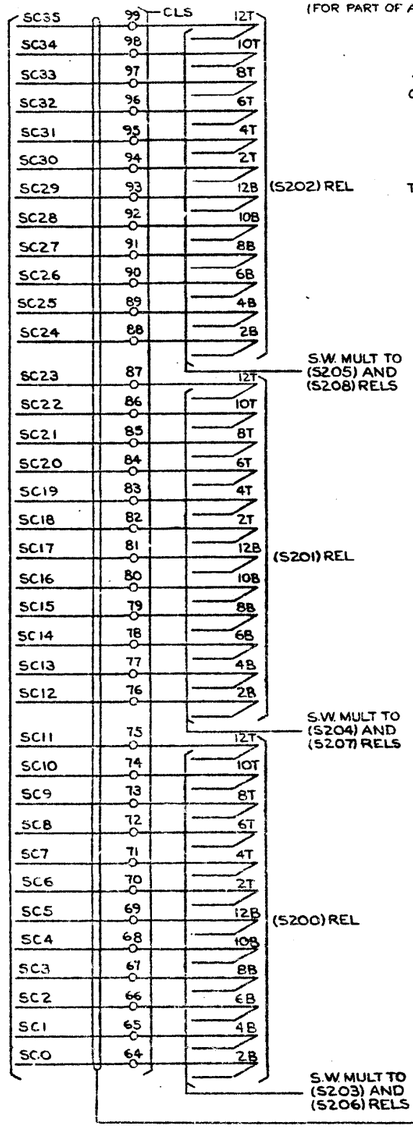
SD-25550-01-GII6

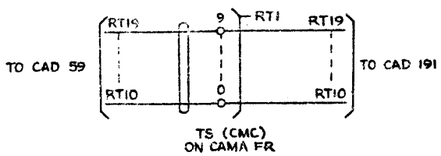
CAD 190

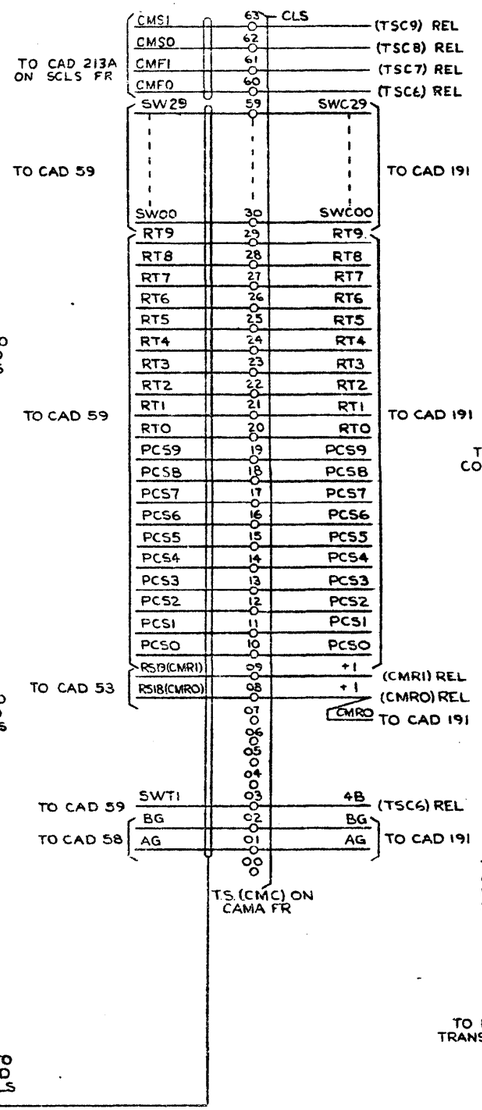
(FOR PART OF APP. FIGS. 151 & 153)

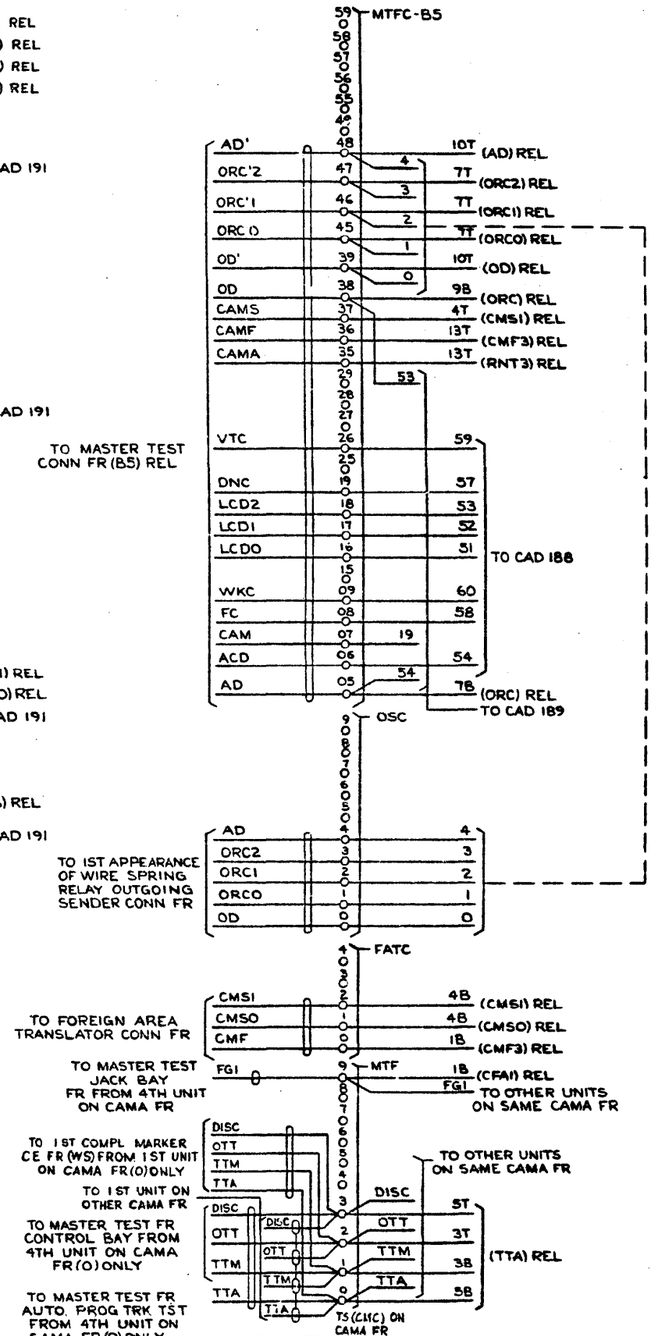


TO CAD 58









DRAWING ISSUE

41D	
44B	
45B	
54D	
56D	JK

SD-25550-01-6117

MARKER CIRCUIT (2) SD-25550-01-6117

BELL TELEPHONE LABORATORIES INCORPORATED 6S

CAD 191

(FOR PART OF APP FIGS 151 & 155)

CROSS CONNECT AS SPECIFIED TO CMRO, NN, RCG-, DR-, TO, RT- PCS-, FAT1-3(A) OR LCB CAD 191

(S208) REL

(S200) REL

(CMFO) REL

(CMF1) REL

CROSS CONNECT AS SPECIFIED TO NN, TO, DR & CMRO CAD 191

(CMSO) REL

(CMSI) REL

CROSS CONNECT AS SPECIFIED TO SWC00-29 CAD 191

T.S.(CMA) ON CAMA FR

TO CAD 214 TS(CMC)

CROSS CONNECT AS SPECIFIED TO RCG OR ROA2, CAD 191

(VTC) REL
(DNC) REL
(FC) REL
(CMF3) REL
(CMS2) REL

CROSS CONNECT AS SPECIFIED TO CAT1 OR ROA2, CAD 191

(CMF1) REL
(CMF0) REL

CROSS CONNECT AS SPECIFIED TO RCG-FAT1-3 (L) OR HAT CAD 191

(LCD2) REL
(LCD1) REL
(LCD0) REL

CROSS CONNECT AS SPECIFIED TO CFG CAD 191

TO CAD 188

CROSS CONNECT AS SPECIFIED TO ORC CAD 191

(ORC) REL

CROSS CONNECT AS SPECIFIED TO CSB, AG & BG CAD 191

(S206) REL S.W. MULT. TO (S207) & (S208) REL
(S203) REL S.W. MULT. TO (S204) & (S205) REL
(S200) REL S.W. MULT. TO (S201) & (S202) REL

CROSS CONNECT AS SPECIFIED TO TOG & CMC CAD 191

TO CAD 188

CROSS CONNECT AS SPECIFIED TO SGCO-3 CAD 191

(CFGI) REL
(CFGO) REL

CROSS CONNECT AS SPECIFIED TO RCG-CAD 191

(LCD2) REL
(LCD1) REL
(LCD0) REL

T.S. (CMA) ON CAMA FR

CROSS CONNECT AS SPECIFIED TO 6, VTC, DNC, FCR, CMF, CTAR, CTOR JTAO-2, JTOO-2 & LCD0-1 CAD 191

TO CAD 190

(CSB) RES LAMP

CROSS CONNECT AS SPECIFIED TO SB- CAD 191

TO CAD 188

CROSS CONNECT AS SPECIFIED TO S CAD 191

TO CAD 190

CROSS CONNECT AS SPECIFIED TO S, CFTA1-4, CFT01-4, CSTA1-4 & CST01-4 CAD 191

TO CAD 188

T.S (CMB) ON CAMA FR

CROSS CONNECT AS SPECIFIED TO LCD0-2 CAD 191

TO CAD 188

CROSS CONNECT AS SPECIFIED TO S CAD 191

TO CAD 190

CROSS CONNECT AS SPECIFIED TO LCD0 CAD 191

TO CAD 188

CROSS CONNECT AS SPECIFIED TO SB- CAD 191

TO CAD 190

CROSS CONNECT AS SPECIFIED TO CFGO CAD 191

(CMF3) REL

CROSS CONNECT AS SPECIFIED TO ORCO-2 CAD 191

(CMJ) REL

TO CAD 188

CROSS CONNECT AS SPECIFIED TO CMF, VTC, DNC, CMS, CAI-0, CAI-1 OR FRC CAD 191

TO CAD 188

CROSS CONNECT AS SPECIFIED TO CMS00-19 CAD 191

CROSS CONNECT AS SPECIFIED TO OSGCO-9

(CMC3) REL

CROSS CONNECT AS SPECIFIED TO MPOA-E, MPIA-E & MP2A-E CAD 191

TO CAD 190

CROSS CONNECT AS SPECIFIED TO CAI-0 OR CAI-1 CAD 191

TO CAD 188

T.S. (CMB) ON CAMA FR

DRAWING ISSUE
40D
49D
56D SA/

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT
②

SD-25550-01-6118

56

BELL TELEPHONE LABORATORIES INCORPORATED

6S

8116-10-09998-05

CAD. 192 (A&M ONLY)

(FOR APP FIG. BQ)

ONG3	4B	(UA7)REL
ONG2	2T	(HNA0)REL
HN7	10B	
HN4	8B	
HN2	6B	(GTNB)REL
HN1	4B	
HN0	2B	
T7	10T	
T4	8T	
T2	6T	
T1	4T	(GTNA)REL
T0	2T	
U7	10B	
U4	8B	
U2	6B	
U1	4B	
U0	2B	

TO CAD 188

PART OF CAD. 193

SWBD CA T&RR FR TO CAMA FR

TO CAD 188 OR 225 & 28 41(TRKI)

CAMA

50 (TST(I)	50	15	TO CAD 101 (IRMC-CD)
49 (TST)	49	49	
48 (CFGI)	48	48	
47 (CFGO)	47	47	
46 (CTF7)	46	46	
45 (CTF4)	45	45	TO CAD 84
44 (CTF2)	44	44	
43 (CTFI)	43	43	
42 (CTFO)	42	42	
	41	41	
40 (TRK)	40	40	TO CAD 69
39 (TOBS(2)	39	39	
38 (TOB(2)	38	38	TO CAD 183
37 (TOB)	37	37	
	36		
35 (6)	35	35	TO CAD 65
34 (4)	34	34	
33 (3)	33	33	
	32		
31 (1)	31	31	
30 (CL5)	30	30	TO CAD 122
	29		
28 (CL2)	28	28	
27 (TRL(1)	27	27	
26 (TRL)	26	26	
25 (CGA)	25	25	
24 (RBT)	24	24	
23 (TLC)	23	23	TO CAD 123
22 (PCR)	22	22	
21 (PCD)	21	21	
20 (PCDI)	20	20	TO CAD 124
19 (PCDI(a)	19	8	
18 (PCD(1)	18	5	TO CAD 100 (IRMC-AB)
17 (PCR(1)	17	6	
16 (INC)	16	52	
15 (INC(1)	15	15	
14 (LFB)	14	14	
13 (TNR)	13	13	
12 (GTL(1)	12	12	
11 (GTL)	11	11	
10 (DCT4)	10	10	
09 (DCT3)	09	09	TO CAD 40
08 (TLC4)	08	08	
07 (TLC3)	07	07	
06 (TLC2)	06	06	
05 (TLCI)	05	05	
04 (XCLC)	04	04	
03 (CAI)	03	03	
		03	
02 (AI)	02	02	TO CAD 37
01 (AO)	01	01	TO CAD 36
00 (CG)	00	00	TO CAD 30

MM MFR DISC.

STRAP WHEN CAMA IS NOT PROVIDED

TS (AG) ON T&RR FR

TO CAD 188

TO CAD 159

CAMA

103 (CMJ)	103	103	TO CAD 51
102 (ORKI)	102	102	TO CAD 46
101 (ONG3)	101	101	
100 (ONG2)	100 (W2)	100	TO CAD 45
99 (HN7)	99	99	
98 (HN4)	98	98	
97 (HN2)	97	97	
96 (HN1)	96	96	
95 (HNO)	95	95	
94 (TT7)	94	94	
93 (TT4)	93	93	
92 (TT2)	92	92	
91 (TTI)	91	91	
90 (TTO)	90	90	TO CAD 44
89 (UT7)	89	89	
88 (UT4)	88	88	
87 (UT2)	87	87	
86 (UTI)	86	86	
85 (UTO)	85	85	
84 (LGI)	84	84	
83 (TRNG)	83	83	
82 (TRNI)	82	82	
81 (TRN)	81	81	
			STRAP WHEN CAMA IS NOT PROVIDED
80 (TOBS)	80	60	TO CAD 40
79 (FAT3(LI)	79	79	
78 (FAT2(LI)	78	78	
77 (FATI(LI)	77	77	
76 (FAT3(LO)	76	76	
75 (FAT2(LO)	75	75	
74 (FATI(LO)	74	74	
73 (FAT3(AI)	73	73	TO CAD 159
72 (FAT2(AI)	72	72	
71 (FATI(AI)	71	71	
70 (FAT3(AO)	70	70	
69 (FAT2(AO)	69	69	
68 (FATI(AO)	68	68	
67	67	67	
66	66	66	TO CAD 183
65	65		
64	64		
63	63		
62 (VC)	62	62	TO CAD 182
61 (RO)	61	61	TO CAD 154
60 (WKC)	60	10	
59 (VTC)	59	4	
58 (FC)	58	3	
57 (DNC)	57	2	
56 (TCB)	56	51	TO CAD 103 (IRMC-E)
55 (TCA)	55	50	
54 (ACD)	54	14	
53 (LCD2(I)	53	13	
52 (LCDI(I)	52	12	
51 (LCDO(I)	51	11	

TS(AG) ON T&RR FR

TO CAD 188

CAMA

151	151		
150	150		
149	149		
148 (AMA(I)	148	148	
147 (AMA)	147	147	TO CAD 65
146 (2)	146	146	
145 (TO)	145	145	TO CAD 183
144 (NOB)	144	144	TO CAD 51
143 (FI)	143	143	TO CAD 183
142 (F)	142	142	TO CAD 123
141 (FTC)	141	141	TO CAD 122
140 (LCB)	140	140	TO CAD 41
139 (CR7(I)	139	139	
138 (CR4(I)	138	138	
137 (CR2(I)	137	137	TO CAD 65
136 (CRI(I)	136	136	
135 (CRO(I)	135	135	
			CONN WHEN CAMA IS NOT PROVIDED
134 (CR7)	134	29	
133 (CR4)	133	28	
132 (CR2)	132	27	
131 (CRI)	131	26	
130 (CRO)	130	25	
129 (BR7)	129	39	
128 (BR4)	128	38	
127 (BR2)	127	37	TO CAD 105 (OSC-B)
126 (BRI)	126	36	
125 (BRO)	125	35	
124 (AR7)	124	49	
123 (AR4)	123	48	
122 (AR2)	122	47	
121 (ARI)	121	46	
120 (ARO)	120	45	
119 (PEG)	119	119	
118 (MB)	118	118	TO CAD 68
117 (CSG)	117		
116 (SK)	116	116	TO CAD 69
115 (RN)	115	115	TO CAD 63 OR CAD 169
114 (LGI)	114	114	
113 (NOCI)	113	113	
112 (NOC)	112	112	TO CAD 52
111 (RSL)	111	111	
110 (AMA3)	110	110	
109 (CK5)	109	109	
108 (CKI)	108	108	
107 (NG)	107	107	TO CAD 65
106 (CTGS)	106	106	
105 (TRNI(1)	105	105	
104 (LG)	104	104	
NCTD			
NCNC			
PCN			

TO CAD 229

TS (AG) ON T&RR FR

CROSS CONN AS SPEC EAB, EBB, PAB, PBB, TAB, TBB, CAD 41, TAN1-4, TOL1-4, CAD 40 TNX1-4, CAD 182

LCB — XTS(RM) ON T&RR FR — LCB — 29 TO CAD 206 ON RR; LCB TO CAD 59; 23 TO CAD 41

CSG [32] — RF45 TO CAD 66

CROSS CONN AS SPEC TO 05 CAD. 50 XTS (RD) T&RR FR

DRAWING ISSUE

41D	WE PWB DEM GLM ABW
46D	E.F. L.W. AWD DK
47D	G.A.L. A.M.R. JK
54D	
56D	

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-619

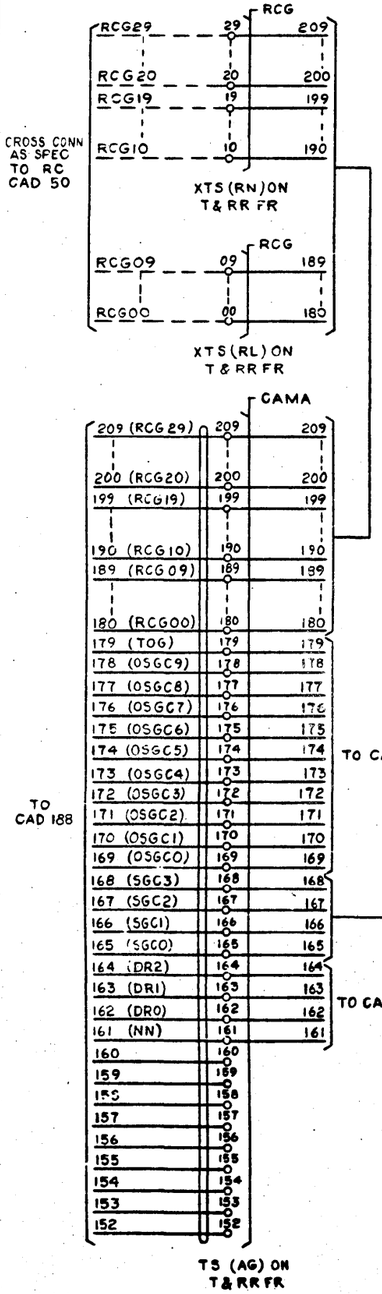
56

6S

SD-25550-01-619

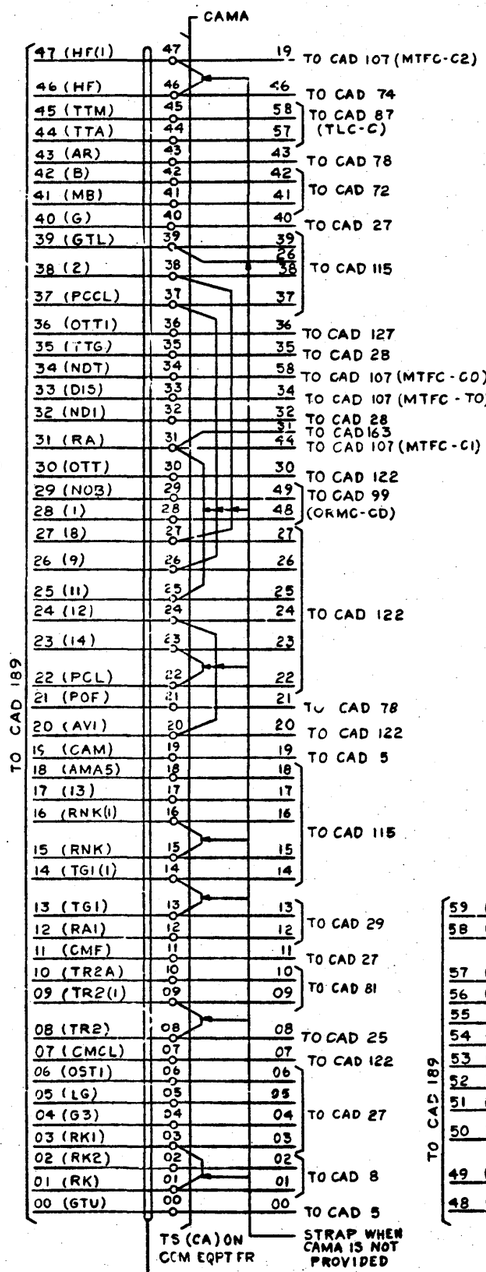
PART OF CAD 193

SWBD CA-T&RR FR TO CAMA FR



CAD 194

SWBD CA - COM EQPT FR TO CAMA FR



DRAWING ISSUE

41D	GJT TCC	WE
42L	JNT M3	P.D.
46D	RB GA AM	
54D	CP COL AMD	

SD-25550-01-G120

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SHEET NO. 65

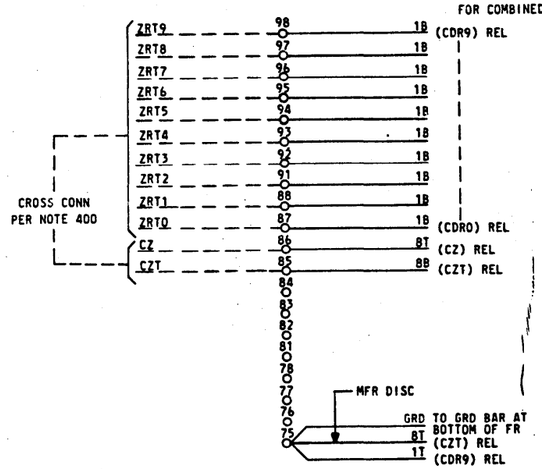
SD-25550-01-G120

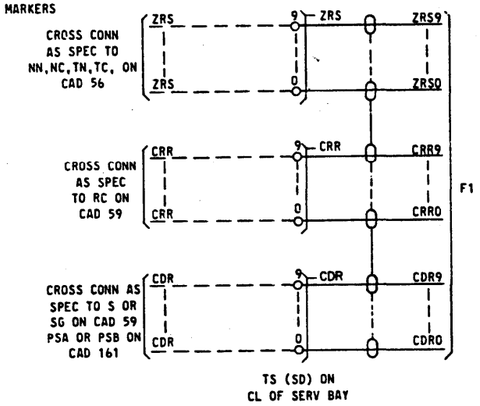
54

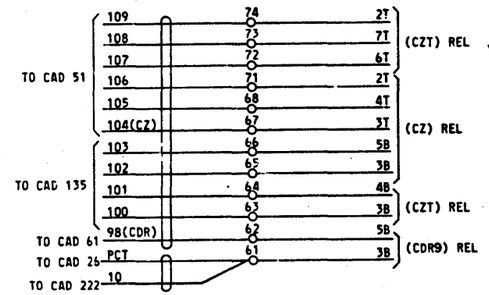
CAD 195

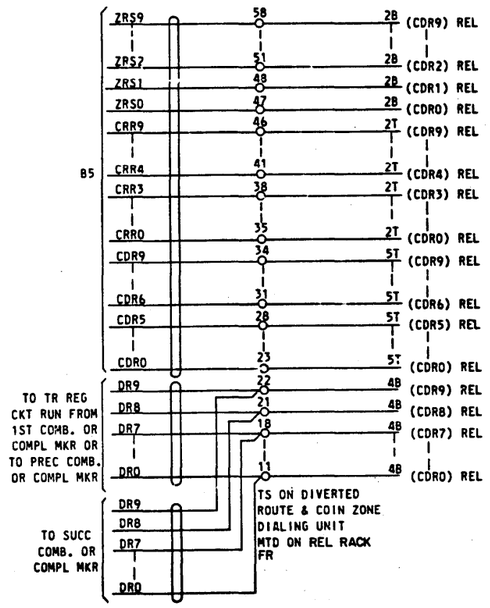
(FOR APP FIG 156)

FOR COMBINED OR COMPLETING MARKERS









DRAWING ISSUE

53A JEK GDL 4/4/69

54D JEK GDL 4/4/69

54

MARKER CIRCUIT (2) SD-25550-01-GI21A

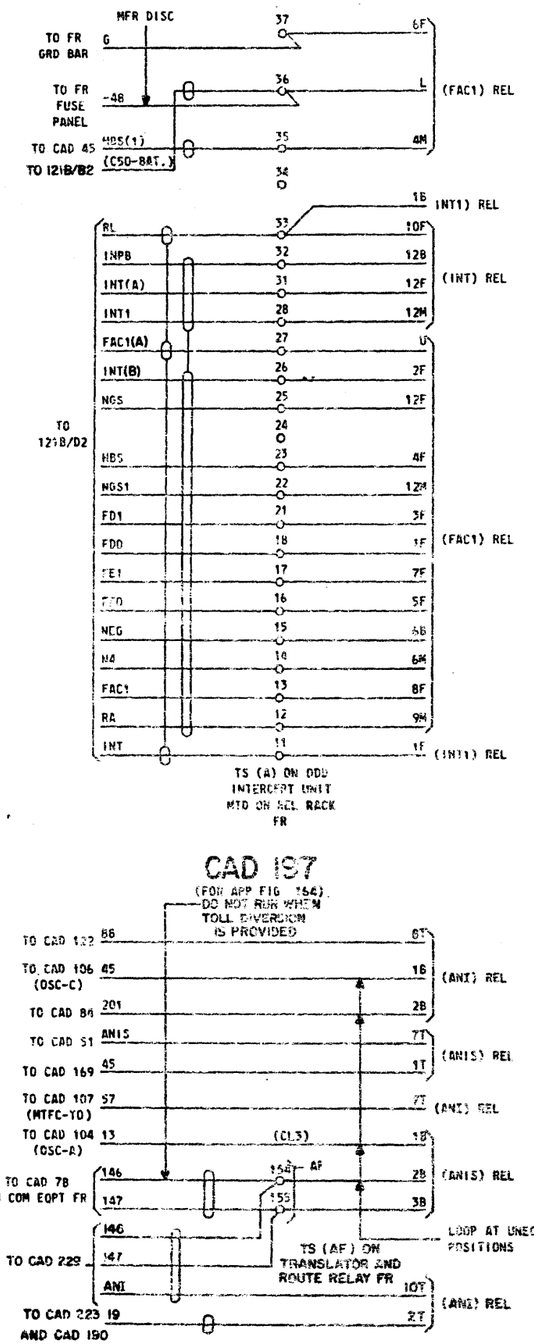
BELL TELEPHONE LABORATORIES INCORPORATED 6S

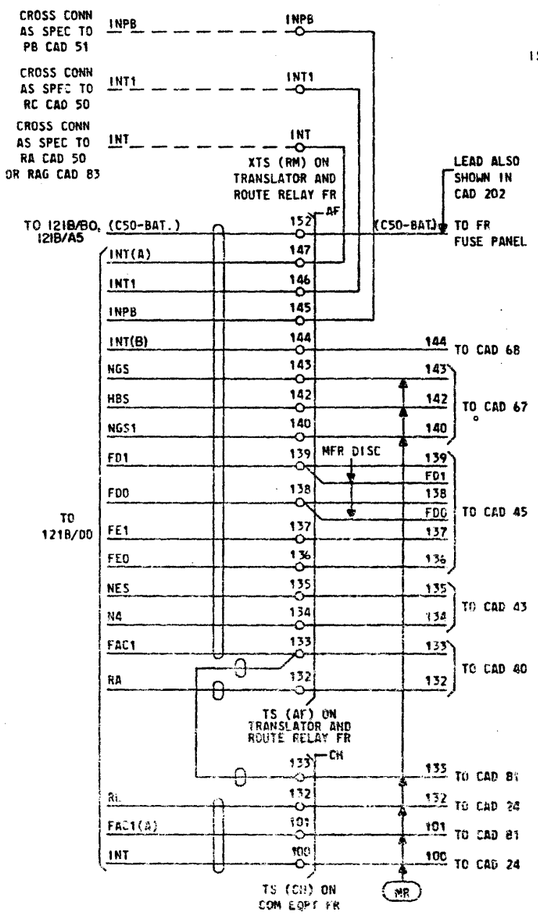
PRINTED IN U.S.A.

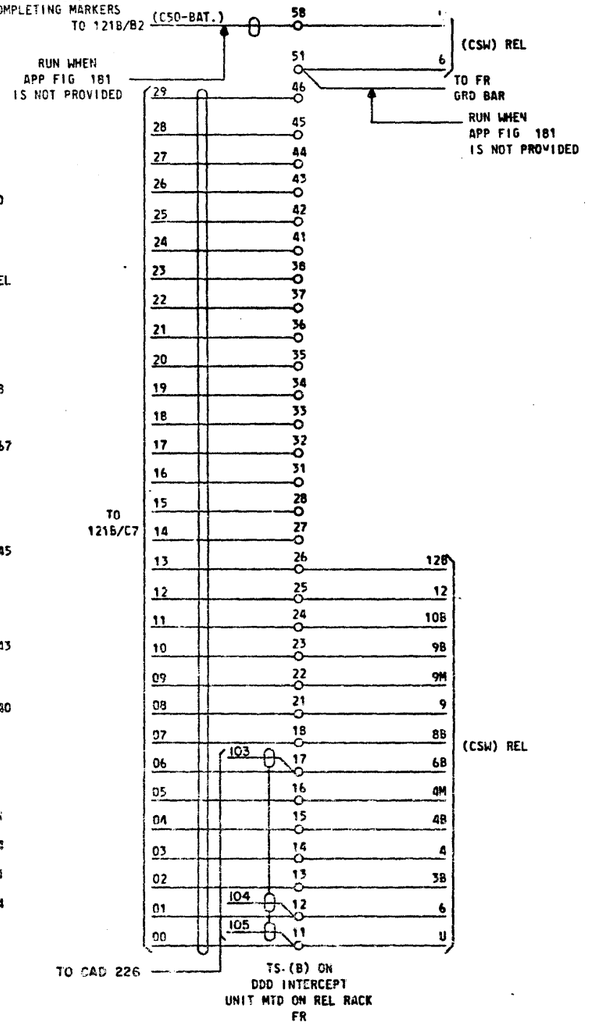
SD-25550-01-GI21A

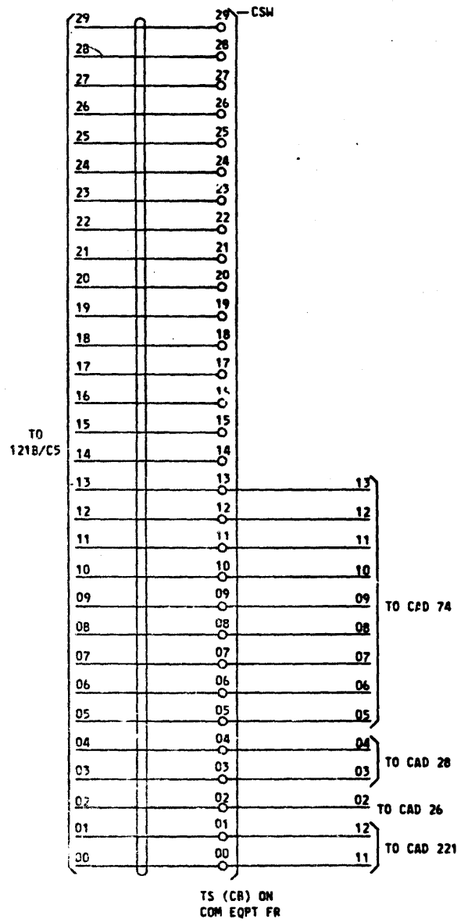
CAD 196

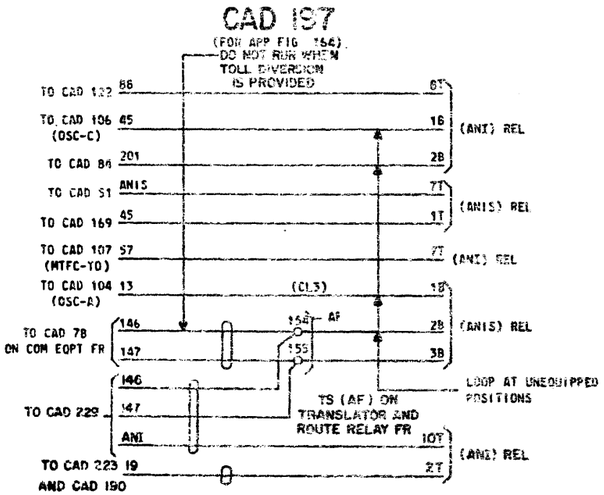
(FOR APP FIG 161 & 182)
FOR COMBINED OR COMPLETING MARKERS











53A	PART GDL AND
54D	PART GDL AND
56D	LT

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25550-01-GI21B

56

SD-25550-01-GI21B

HIGGINS 4465

CAD 198

(FOR APP FIG. 165 COMB. OR COMPL MKR)

MFR DISC.

CAD 27 TOR — 4T (ORD) REL

TO CAD 99 D — 12T

35(D) — 2B

TO CAD 107 36(MF) — 2B (ORM) REL

141 (LT) 141 (LT) — 6T (FACA) REL

148 — 7T (ORM) REL

149 — 1T (LOT) REL

150 — 2T (FACA) REL

151(NF) — 12T

TMCN — 4T

PDM — 6T (ORM) REL

LTM — 8T

FAM — 10T

TO TR REG FR

PDD — 6T

LTD — 8T (ORD) REL

FAD — 10T

TS(CH) COMEQUIP FR

TO OTHER MARKERS IN SAME 6R

141 (LT) 141 (LT) — 12T (FAC) REL

148 — 4T (PD) REL

149 — 5T

150 — 4T (PK) REL

151(MF) — ORM CAD 98

TS(AF) T&RR

RVMF — 1T

RVD — 3T (ORM) REL

RVS — 2T

CS

TO CAD 53

TS (CE) ON COM EQPT FR

CAD 199

(FOR APP FIG. 167 COMB. OR COMPL MKR)

CROSS CONN AS SPEC TO 7A2-9 CAD 36

ETA9 — 9 — ETA — 11T

ETA2 — 7 — 7B (ELT) REL

CROSS CONN AS SPEC TO CAD-1 CAD 36

ETA1 — 5 — 5B

ETA0 — 3 — 3B

XTS(RG) T&RR FR

TO CAD 202 ELS — 12B (ELT) REL

ELT — 13T

CROSS CONN AS SPEC

LT1 — TO CAD 102

XTS(RH1) T&RR FR

CROSS CONN AS SPEC TO N2,N4 CAD 36, LN CAD 132

NS8 — NS8 — 1B (ELT) REL

XTS(RH1)

LT2

CROSS CONN AS SPEC TO AT2-9 CAD 38, TO TA2-9 CAD 144, TO FAT1-3(L) CAD 139

LT29 — LT29 — 11T

LT21 — LT21 — 5B (LT2) REL

TS(RC) T&RR FR

CROSS CONN AS SPEC TO OS CAD 51, DS CAD 60, RT CAD 56 OR RC CAD 60

LT20 — LT20 — 3B (LT2) REL

TO CAD 119 (SUPL RR BAY) OR CAD 153 (CC & RR BAY)

LT20 — TS(RM) T&RR FR

FOR X CONN INFO SEE SECTION D

MLT2 — 1ST (LT2) REL

LT2 — (LT2)52 TO CAD 102

XTS (RM) T&RR FR

TO CAD 202 LS2 — 12B (LT2) REL

29 — PSC

26

25

CROSS CONN AS SPEC IN SECTION D

NSA — LT — TO CAD 193

24

NS9 — 1B (LT2) REL

XTS (RH) T&RR FR

CKT 0 OR 1 GR "A"

TO CAD 205

58 — SSG4

57 — SSG3

56 — SSG2 — TO CAD 202 (CKT 0)

55 — SSG1

54 — SSG0

CROSS CONN TO BWO-5 ON TS(E) AS SPEC IN SECTION D (CKT 0)

53

48 — SSG4

47 — SSG3

46 — SSG2 — TO CAD 202 (CKT 1)

45 — SSG1

44 — SSG0

CROSS CONN TO BWO-5 ON TS(E) AS SPEC IN SECTION D (CKT 1)

43

42

41

TS(A) ON CODE 0 & 1 SCREENING UNIT MTD ON RR FR

CKT 2 OR 3 GR "A"

TO CAD 205

58 — SSG4

57 — SSG3

56 — SSG2 — TO CAD 202 (CKT 2)

55 — SSG1

54 — SSG0

CROSS CONN TO BWO-5 ON TS(E) AS SPEC IN SECTION D (CKT 2)

53

48 — SSG4

47 — SSG3

46 — SSG2 — TO CAD 202 (CKT 3)

45 — SSG1

44 — SSG0

CROSS CONN TO BWO-5 ON TS(E) AS SPEC IN SECTION D (CKT 3)

43

42

41

TS(C) ON CODE 0 & 1 SCREENING UNIT MTD ON RR FR

PART OF CAD 201

(FOR FIG. 166) GR A- FOR DIGIT 1 ACCESS CODES

TO CAD 205 GR "B" OF (BSO-5) REL CKT 0 OR 2

CKT 0 OR 2 GR "A"

TO CAD 53 CL SERVICE BAY (0)

BC23 — BC23 — 38 — 12 — 4 (BSS)

BC15 — BC15 — 28 — 4 — 8 (BS2)

BC7 — BC7 — 18 — 8 — 4 — 12

BC22 — 37 — 11 — 3 (BSS)

BC14 — 27 — 3 — 7 (BS2)

BC6 — 17 — 7 — 7 — 3 — 11

BC21 — 36 — 10 — 2 (BSS)

BC13 — 26 — 2 — 6 (BS2)

BC5 — 16 — 6 — 6 — 2 — 10

BC20 — 35 — 9 — 1 (BSS)

BC12 — 25 — 1 — 5 (BS2)

BC4 — 15 — 5 — 5 — 1 — 9

TO CAD 202

BC19 — 34 — 8 (BSS)

BC11 — 24 — 12 — 4 (BS2)

BC3 — 14 — 4 — 12 — 8

BC18 — 33 — 7 (BSS)

BC10 — 23 — 11 — 3 (BS2)

BC2 — 13 — 3 — 11 — 7

52 — 52

52(C50-BAT)

TO FR FUSE -48 PANEL

CKT 1 OR 3 — BC17 — 32 — 6 (BSS)

BC9 — 22 — 10 — 2 (BS2)

MFR DISC. — BC1 — 12 — 2 — 10 — 6

51 — 51

51(C50-BAT)

TO FR FUSE -48 PANEL

CKT 0 OR 2 — BC16 — 31 — 5 (BSS)

BC8 — 21 — 9 — 1 (BS2)

BCO — 11 — 1 — 9

BCOO

5 SURFACE WIRE MULT TO REL (BS4) & (BS3)

1 (BSS) CKT 1 OR 3 (GR "A")

1 (BSS) CKT 0 OR 2 (GR "A")

TS (A) OR TS (C) ON CODE 0 & 1 SCREENING UNIT MTD ON RR FR

TO CAD 205 GR "B" OF (BSO-5) REL CKT 1 OR 3

CKT 1 OR 3 GR "A"

TO CAD 53 CL SERVICE BAY (0)

BC23 — BC23 — 38 — 12 — 4 (BSS)

BC15 — BC15 — 28 — 4 — 8 (BS2)

BC7 — BC7 — 18 — 8 — 4 — 12

BC22 — 37 — 11 — 3 (BSS)

BC14 — 27 — 3 — 7 (BS2)

BC6 — 17 — 7 — 7 — 3 — 11

BC21 — 36 — 10 — 2 (BSS)

BC13 — 26 — 2 — 6 (BS2)

BC5 — 16 — 6 — 6 — 2 — 10

BC20 — 35 — 9 — 1 (BSS)

BC12 — 25 — 1 — 5 (BS2)

BC4 — 15 — 5 — 5 — 1 — 9

TO CAD 202

BC19 — 34 — 8 (BSS)

BC11 — 24 — 12 — 4 (BS2)

BC3 — 14 — 4 — 12 — 8

BC18 — 33 — 7 (BSS)

BC10 — 23 — 11 — 3 (BS2)

BC2 — 13 — 3 — 11 — 7

BC17 — 32 — 4 (BSS)

BC9 — 22 — 10 — 2 (BS2)

BC1 — 12 — 2 — 10 — 6

BC16 — 31 — 5 (BSS)

BC8 — 21 — 9 — 1 (BS2)

BCO — 11 — 1 — 9

BCOO

SURFACE WIRE MULT TO REL (BS1) & (BS0)

SURFACE WIRE MULT TO REL (BS4) & (BS3)

TS (B) OR TS (D) ON CODE 0 & 1 SCREENING UNIT MTD ON RR FR

DRAWING ISSUE

45B

46D

47D

48D

49D

50A

51D

54D

MARKER CIRCUIT

SD-25550-01-0122

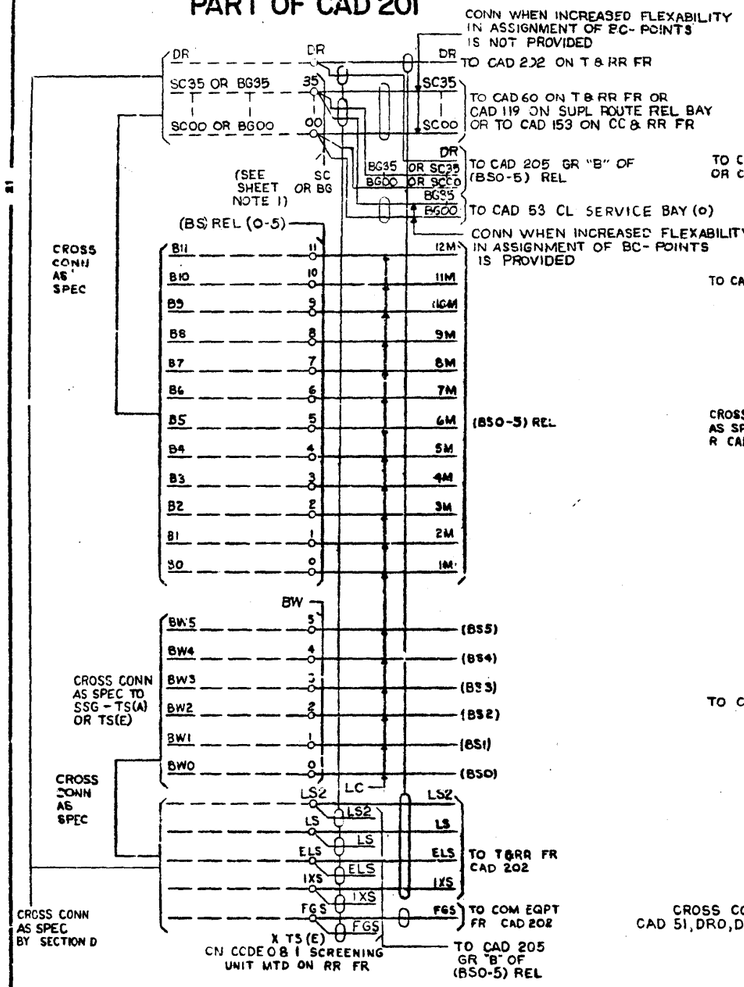
54

BELL TELEPHONE LABORATORIES INCORPORATED

SECT 6S

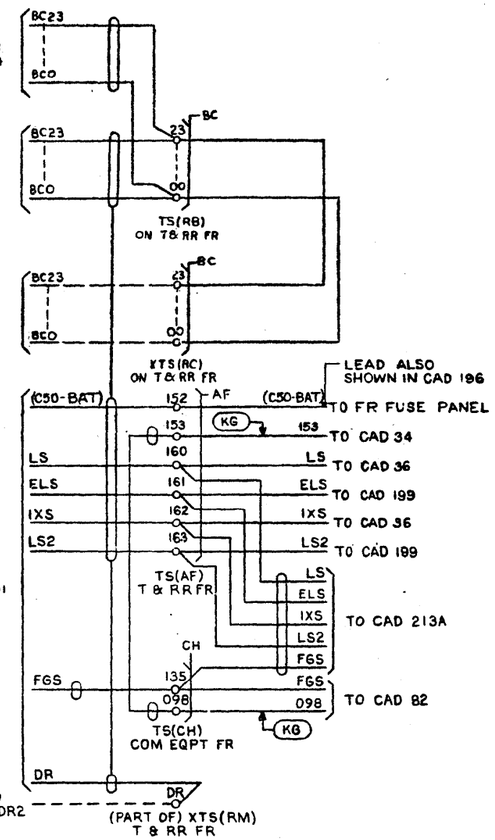
SD-25550-01-0122

PART OF CAD 201



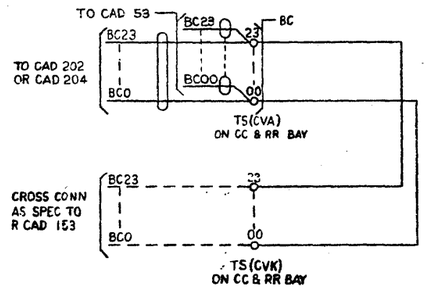
CAD 202

(FOR PART OF APP FIG. 88, 83, 166, 168)



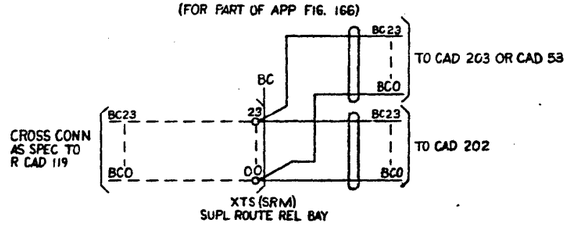
CAD 203

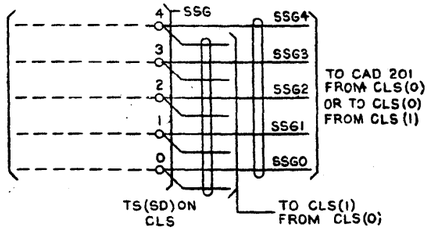
(FOR PART OF APP FIG. 166)



CAD 204

(FOR PART OF APP FIG. 166)





SHEET NOTES:

1. WHEN INCREASED FLEXABILITY IN ASSIGNMENT OF BC- POINTS IS PROVIDED, THE DESIGNATION OF THIS FIELD IS CHANGED FROM "SC" TO "BG".

DRAWING ISSUE

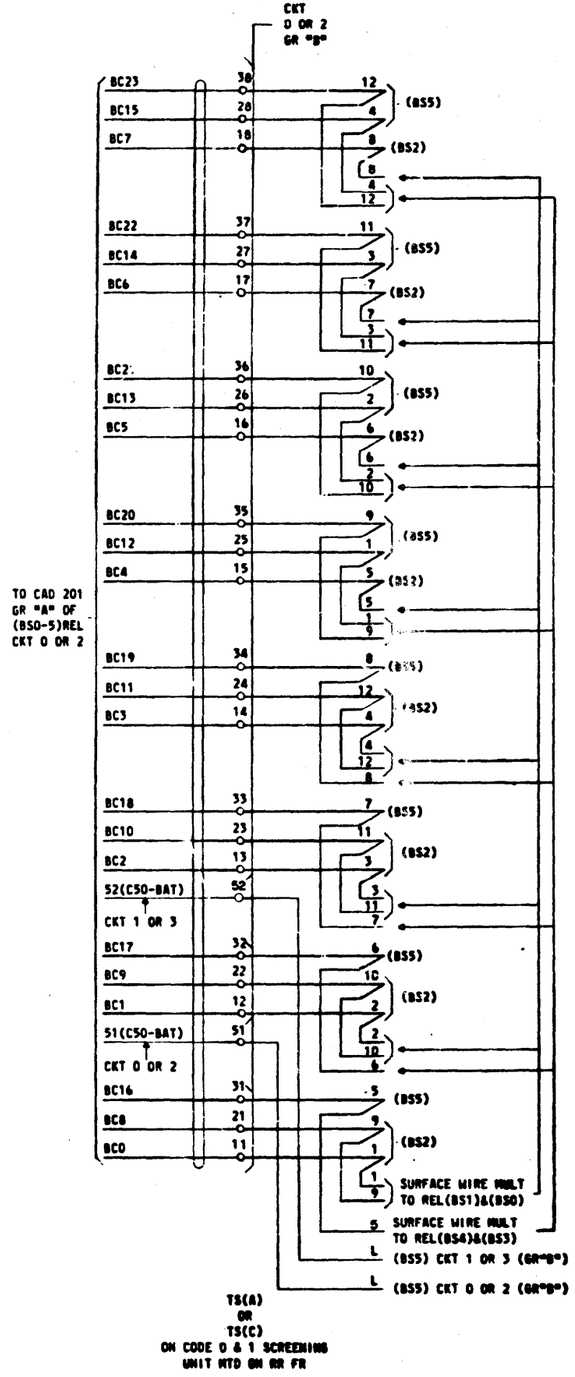
45B	
46D	
47D	
48D	
49D	
50A	
54D	

MARKER CIRCUIT	(2)	SD-25550-01-6123
BELL TELEPHONE LABORATORIES INCORPORATED	65	

SD-25550-01-6123

CAD 205

(FOR FIG. 166-GR "B" FOR DIGIT 0 ACCESS CODES)



SHEET NOTES:

1. WHEN INCREASED FLEXABILITY IN ASSIGNMENT OF BC- POINTS IS PROVIDED, THE DESIGNATION OF THIS FIELD IS CHANGED FROM "SC" TO "BG".

DRAWING ISSUE

46D	CMC 6-A, 6-B, 6-C
47D	XPE CLE 6-B, 6-C
50A	PWJ EMJ 6-A, 6-C

50

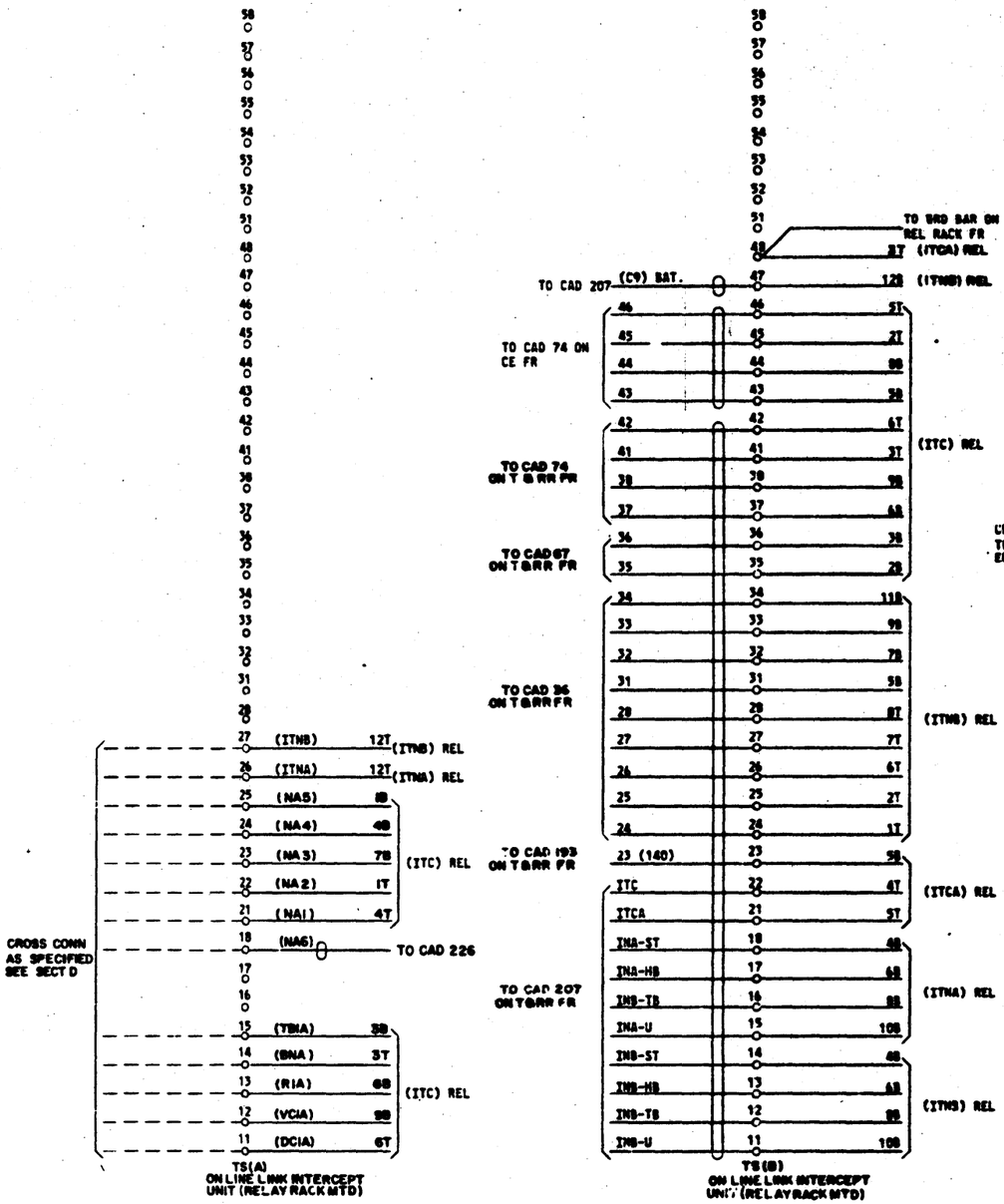
CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT (2)
SD-25550-01-6124

BELL TELEPHONE LABORATORIES INCORPORATED 6S

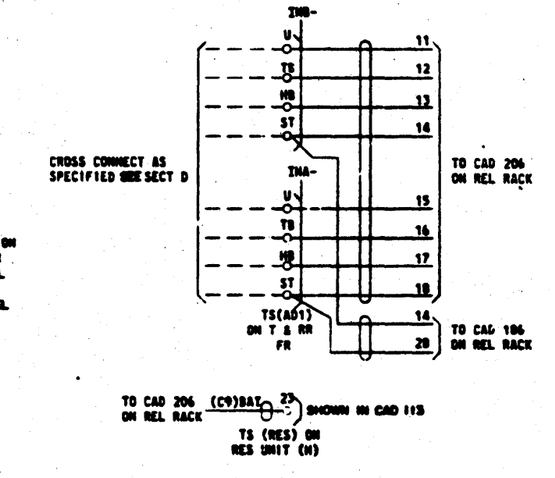
SD-25550-01-6124

STANDARD

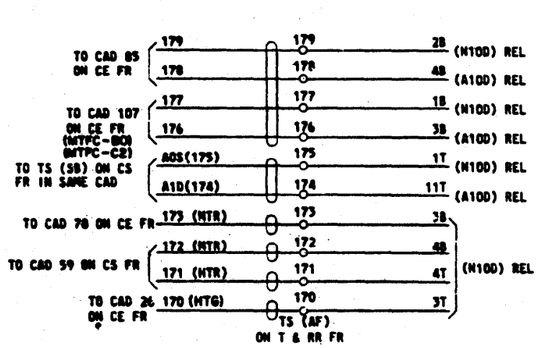
CAD 206
(FOR APP FIG. 170)



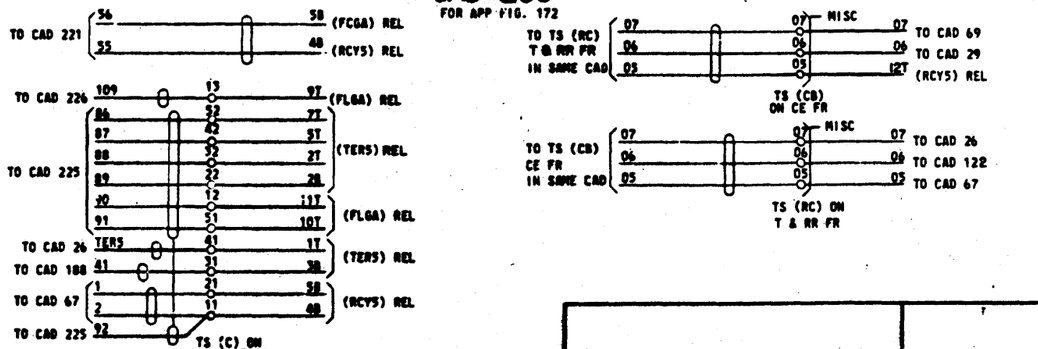
CAD 207
(FOR APP FIG. 170)



CAD 208
(FOR APP FIG. 169)



CAD 209
FOR APP FIG. 172



DRAWING ISSUE	
47D	NEC Lw AND PEC Lw AND
48D	BID EXCL END
49D	JR APP AND
51D	
54D	Rem Gen Add

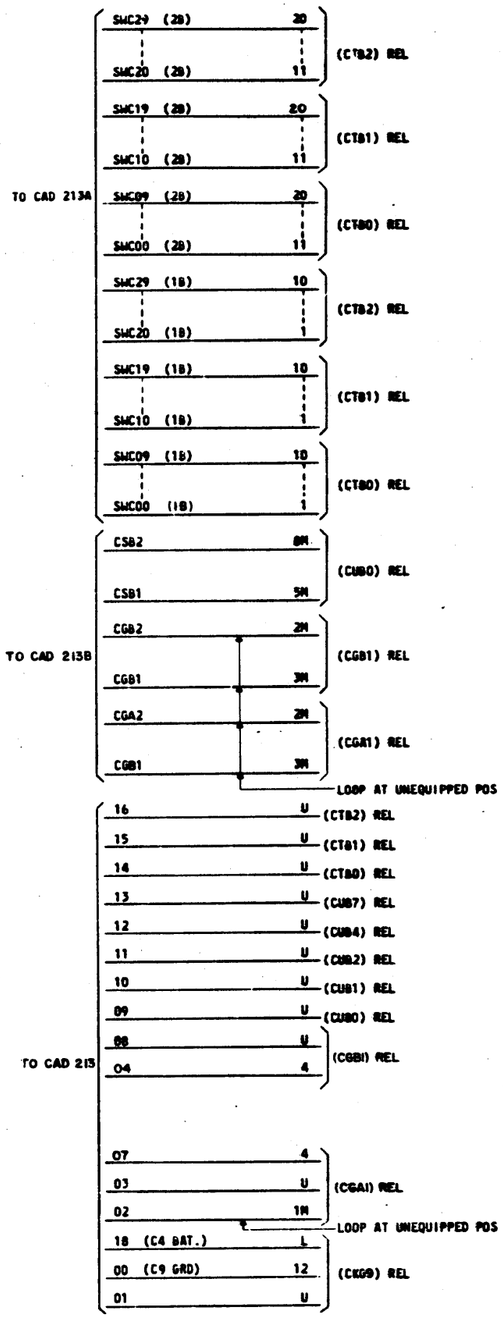
MARKER CIRCUIT (2) SD-25550-01-G125

BELL TELEPHONE LABORATORIES INCORPORATED 65

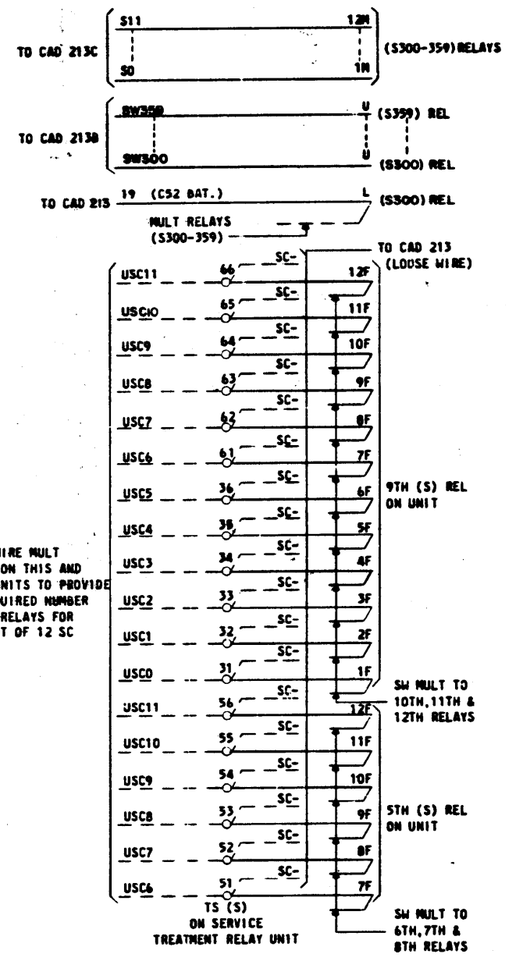
SD-25550-01-G25

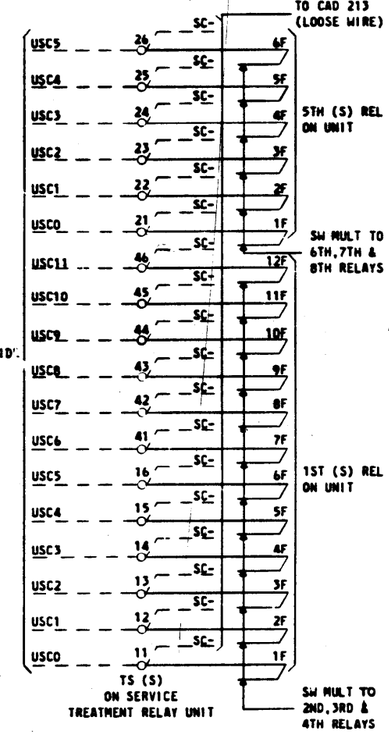
STABILO

CAD 210
(FOR APP FIG. 175)



CAD 211
(FOR APP FIG. 176)





DRAWING ISSUE 49D

49

CROSSBAR SYSTEMS
NO. 5
MARKER CIRCUIT (2)
SD-25550-01-6126
BELL TELEPHONE LABORATORIES INCORPORATED
DRAWING SIZE 6S

SD-25550-01-6126
STABLO

CAD 212
(FOR APP FIG.177)

TO CAD 214
- 06 — 2 — (CGB1)REL
- 05 — 2 — (CGA1)REL

TO CAD 107 (MTFC-C2)
- 12 — U — (CGA1)REL
- 13 — U — (CGB1)REL

TO CAD 92 (LLC-B)
- 11(CGA) — 5T
- 12(CGB) — 5B

TO CAD 214 TS(CG)
- 12(CGA) — 4T
- 11(CGB) — 4B
- 10(CGA1) — 7T
- 09(CGB1) — 7B

(MT21)REL

TO CAD 208 SAC — 9 — TSC SAC

8 7 6 5 C

TO CAD 214
- TRS4 — 4 — TRS4
- TRS3 — 3 — TRS3
- TRS2 — 2 — TRS2
- TRS1 — 1 — TRS1
- TRS0 — 0 — TRS0

TO CAD 213D

TS (STA) ON SCLS FR

CAD 213
SWBD CA FROM SUPL CL SERV FR TO COM EQPT,T & RR,SUPL RR,C CONV,CL SERV, AND CAMA FRAMES

RS

TO CAD 53 CL SERV FR (1) TO CL SERV FR (C) WHEN CL SERV FR (1) IS NOT PROVIDED

RS35	35	RS35
RS34	34	RS34
RS33	33	RS33
RS32	32	RS32
RS31	31	RS31
RS30	30	RS30
RS29	29	RS29
RS28	28	RS28
RS27	27	RS27
RS26	26	RS26
RS25	25	RS25
RS24	24	RS24
RS23	23	RS23
RS22	22	RS22
RS21	21	RS21
RS20	20	RS20
RS19	19	RS19
RS18	18	RS18
RS17	17	RS17
RS16	16	RS16
RS15	15	RS15
RS14	14	RS14
RS13	13	RS13
RS12	12	RS12
RS11	11	RS11
RS10	10	RS10
RS09	09	RS09
RS08	08	RS08
RS07	07	RS07
RS06	06	RS06
RS05	05	RS05
RS04	04	RS04
RS03	03	RS03
RS02	02	RS02
RS01	01	RS01
RS00	00	RS00

TO CAD 213D

TS(STA) ON SUPL CL SERV FR

TS

TO CAD 214 CL SERV FR (0) ONLY

TS56	56	SWR3
TS55	55	SWT3
TS54	54	SWP3
TS53	53	SWR2
TS52	52	SWT2
TS51	51	SWP2
TS50	50	SWR1
TS49	49	SWT1
TS48	48	SWP1
TS47	47	SWR
TS46	46	SWT
TS45	45	SWP
TS44	44	MP2E
TS43	43	MP2D
TS42	42	MP2C
TS41	41	MP2B
TS40	40	MP2A
TS39	39	MP1E
TS38	38	MP1D
TS37	37	MP1C
TS36	36	MP1B
TS35	35	MP1A
TS34	34	MP0E
TS33	33	MP0D
TS32	32	MP0C
TS31	31	MP0B
TS30	30	MP0A

TO CAD 213B

TO CAD 214 (CAMA FR)

TS29	29	SG11
TS28	28	SG10
TS27	27	SG09
TS26	26	SG08
TS25	25	SG07
TS24	24	SG06
TS23	23	SG05
TS22	22	SG04
TS21	21	SG03
TS20	20	SG02
TS19	19	SG01
TS18	18	SG00

TO CAD 213D

TO CAD 59 CL SERV FR (0) ONLY

TS(STA) ON SUPL CL SERV FR

CE

TO CAD 214 (T & RR FR)
- 19(CS2 BAT.) — 19
- 18(C4 BAT.) — 18

17

TO CAD 107 (MTFC-T1)
- 16 — 16
- 15 — 15
- 14 — 14

TO CAD 107 (MTFC-C1)
- 13 — 13
- 12 — 12
- 11 — 11
- 10 — 10
- 09 — 09

TO CAD 210

TO CAD 214 (COM EQPT FR)
- 08 — 08
- 07 — 07
- 06 — 06
- 05 — 05
- 04 — 04
- 03 — 03
- 02 — 02
- 01 — 01

TO CAD 214 (T & RR FR)
- 00(C9 GRD) — 00

TO CAD 211

TO CAD 214 C CONV FR ONLY OR SUPL RR FOR ONE MKR ONLY

SG359 — 359 — SG
SG300 — 300 — SG

TO CAD 213D

TO CAD 214 (T & RR FR)

SC359 — 359 — SC
SC300 — 300 — SC

TO CAD 211 LOOSE WIRE TO USCD-11 FOR (S300-S359) REL

TO CAD 58 CL SERV FR (1) TO CL SERV FR (0) WHEN CL SERV FR (1) IS NOT PROVIDED

SC35 — 35 — SC
SC00 — 00 — SC

TO CAD 59 CL SERV FR (1) TO CL SERV FR (0) WHEN CL SERV FR (1) IS NOT PROVIDED

TS

TS17	17	HTR
TS16	16	MTR

TO CAD 208 CL SERV FR (1) TO CL SERV FR (0) WHEN CL SERV FR(1) IS NOT PROVIDED

TO CAD 213D

TS15	15	ACS
TS14	14	AID
TS13	13	SWTX
TS12	12	SWTO
TS11	11	SWTA
TS10	10	SWTX

TO CAD 214 CL SERV BAY (0) ONLY

TO CAD 213B

TO CAD 59 CL SERV FR (1) TO CL SERV FR (0) WHEN CL SERV FR (1) IS NOT PROVIDED

TS09	9	PCS9
TS00	0	PCS0

TO CAD 213C

TS(STA) ON SUPL CL SERV FR

DRAWING ISSUE		
49D	LF	
51D	JR	
53A	LEA	
56D	JK	

56

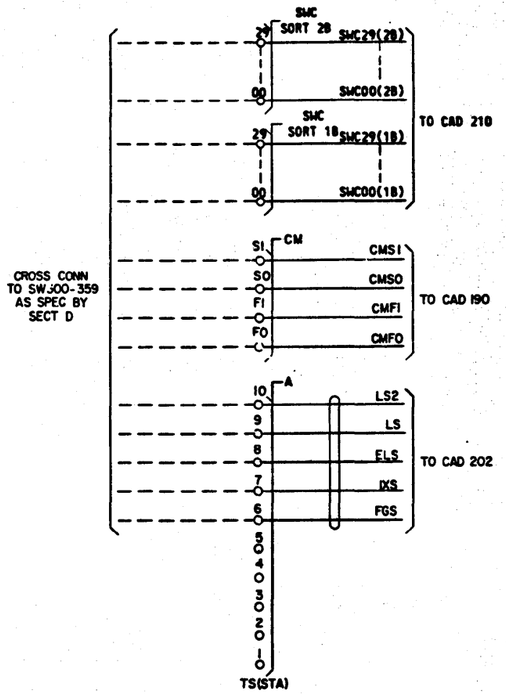
MARKER CIRCUIT (2) SD-25550-01-GI27

BELL TELEPHONE LABORATORIES INCORPORATED 6S

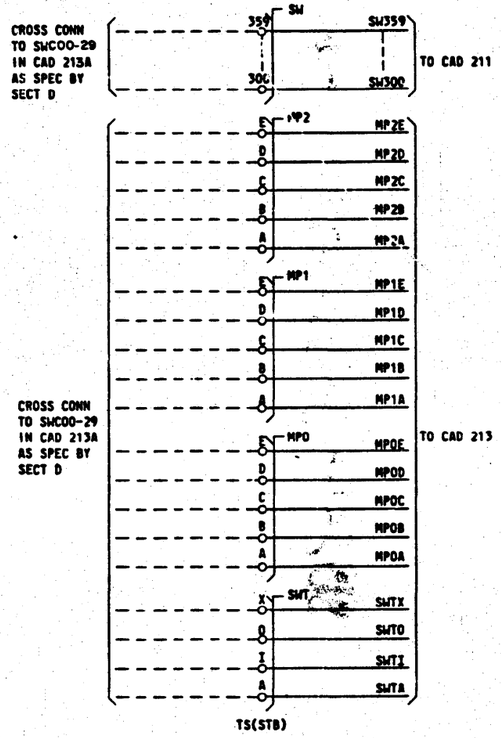
SD-25550-01-GI27

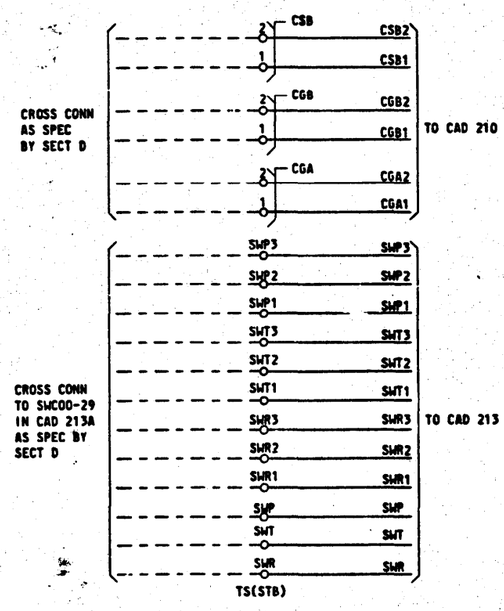
STABILO

CAD 213A

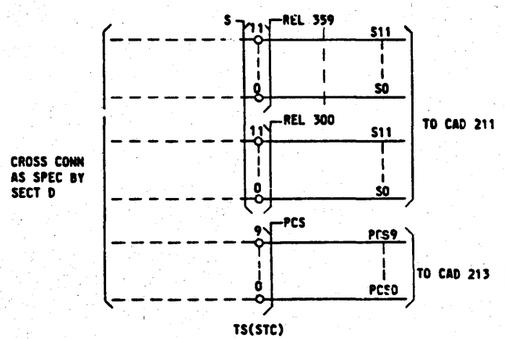


CAD 213B





CAD 213C



ISSUE	
49D	CB (THIS AND
54D	DK & PR AND

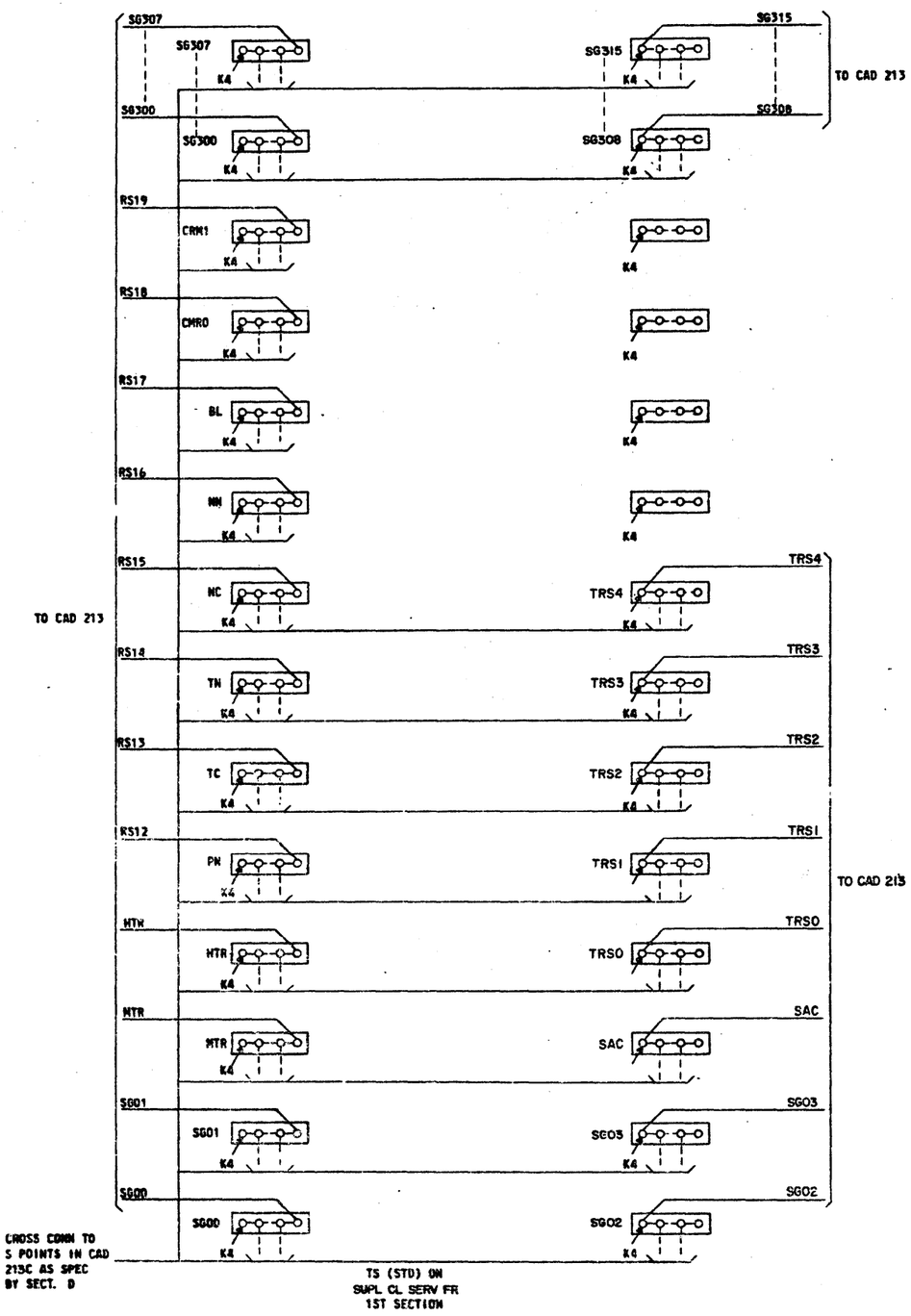
54

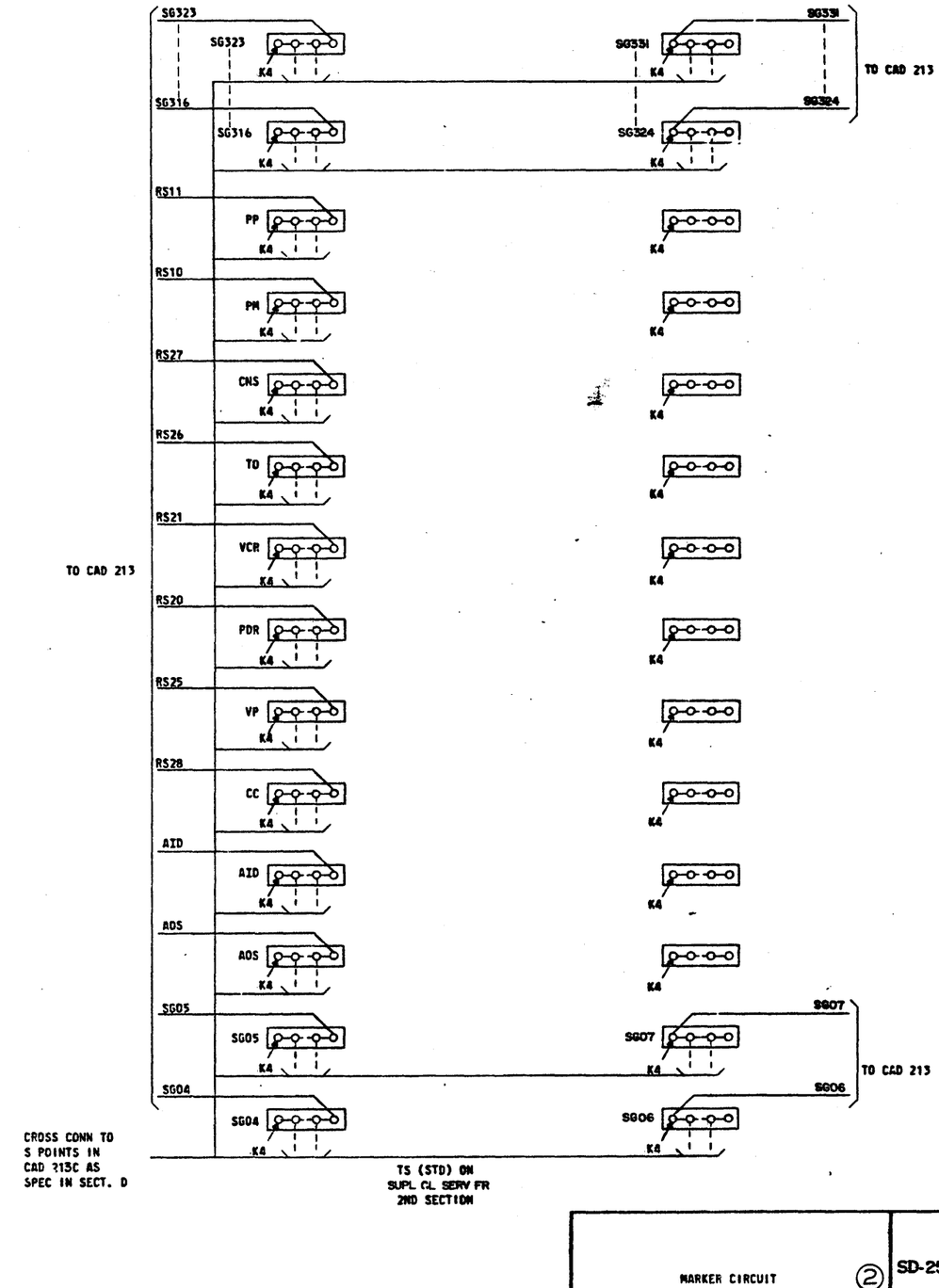
MARKER CIRCUIT (2) SD-25550-01-6128

BELL TELEPHONE LABORATORIES INCORPORATED — SIZE 6S

SD-25550-01-6128

PART OF CAD 213D





DRAWING ISSUE
490 LF
640 BELL
560 LT

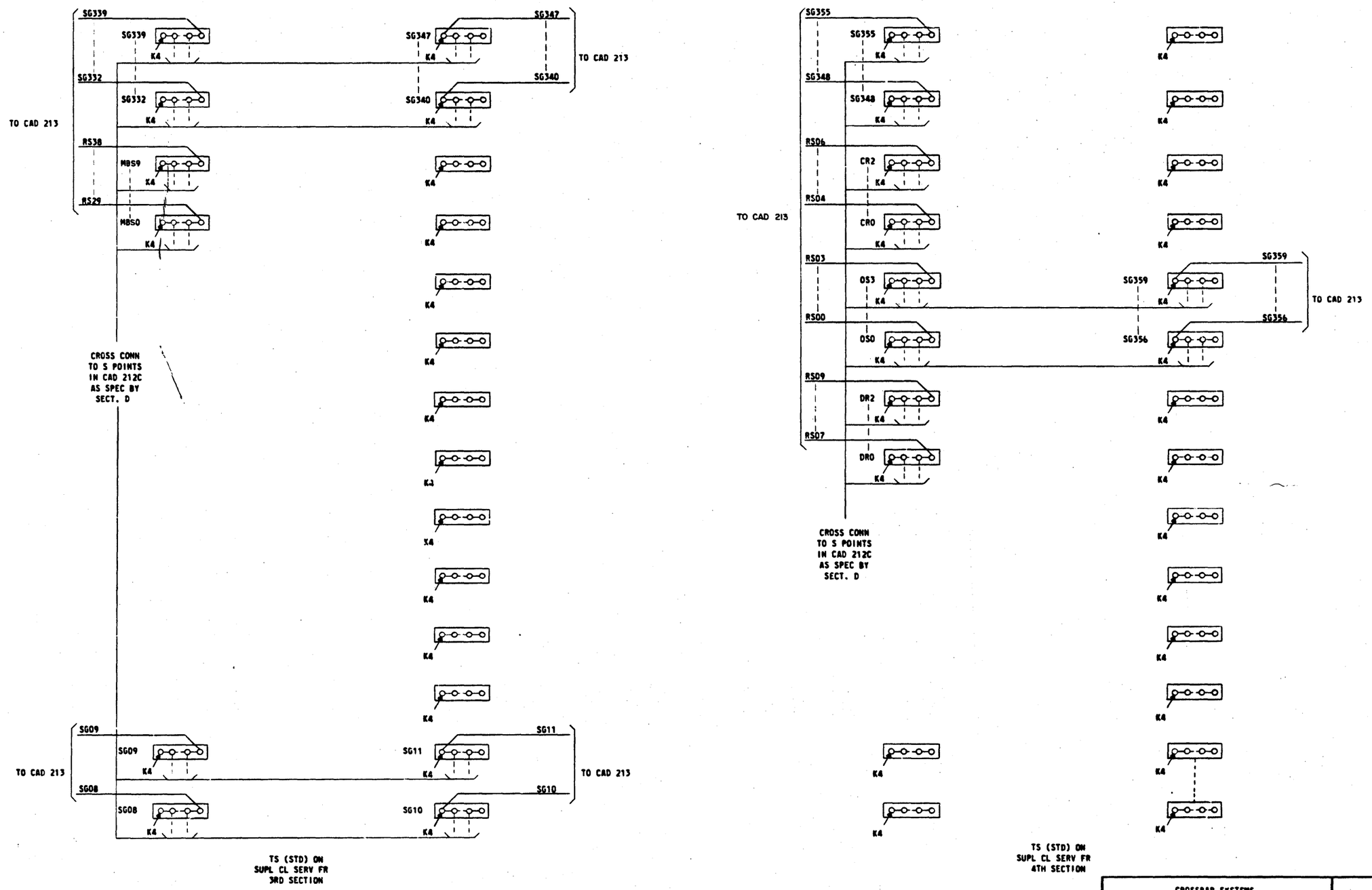
56

MARKER CIRCUIT (2)
SD-25550-01-G129
BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-25550-01-G129

STABILO

PART OF CAD 213D



DRAWING ISSUE 49D LF (MJ 4/7)

49

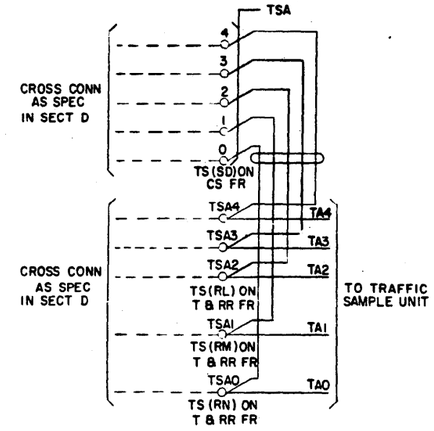
CROSSBAR SYSTEMS
NO. 5 MARKER CIRCUIT (2)
SD-25550-01-G130

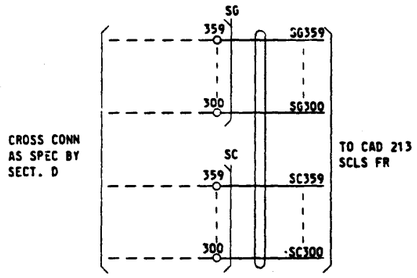
BELL TELEPHONE LABORATORIES INCORPORATED 6S

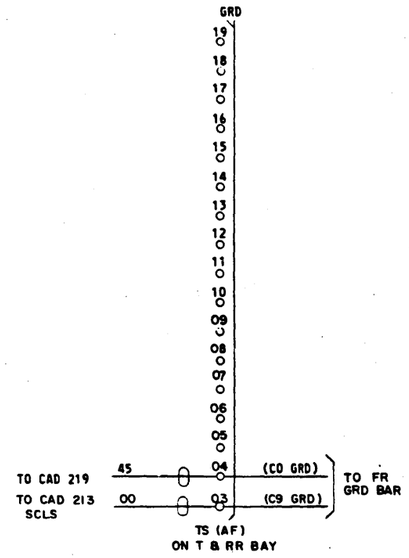
SD-25550-01-G130

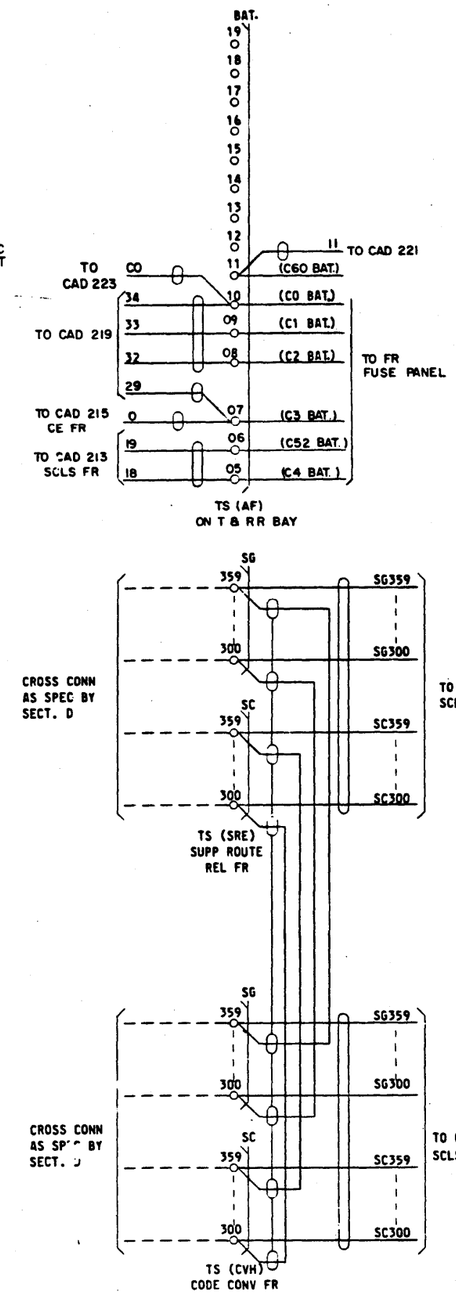
CAD 214

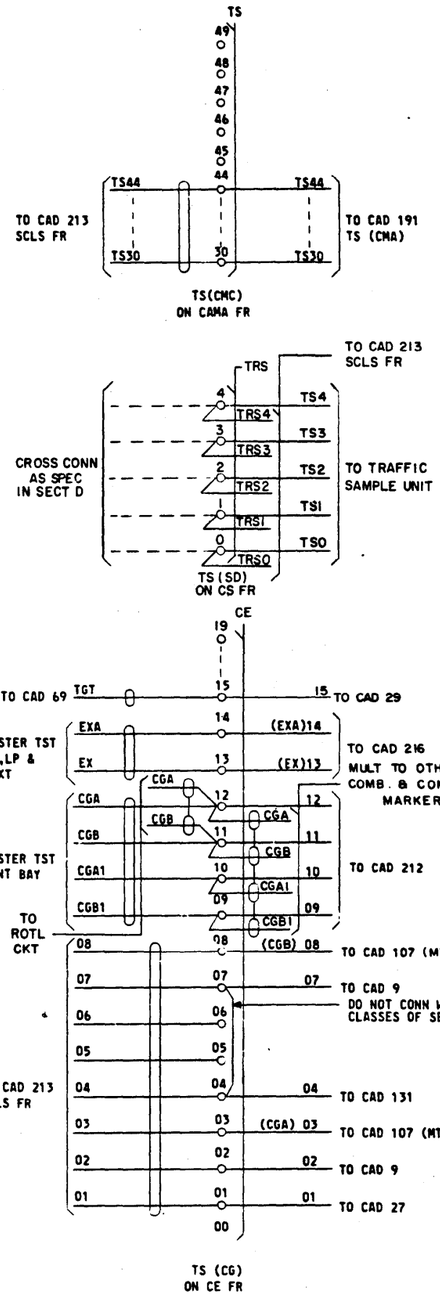
SWBD CABLE FROM CE,TR,SRR,CV,CS AND CAMA FR TO SCLS FR





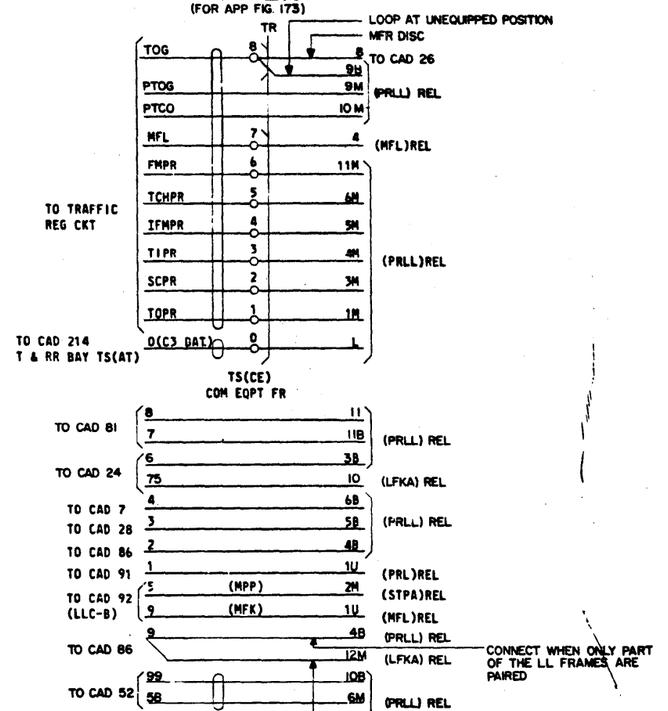






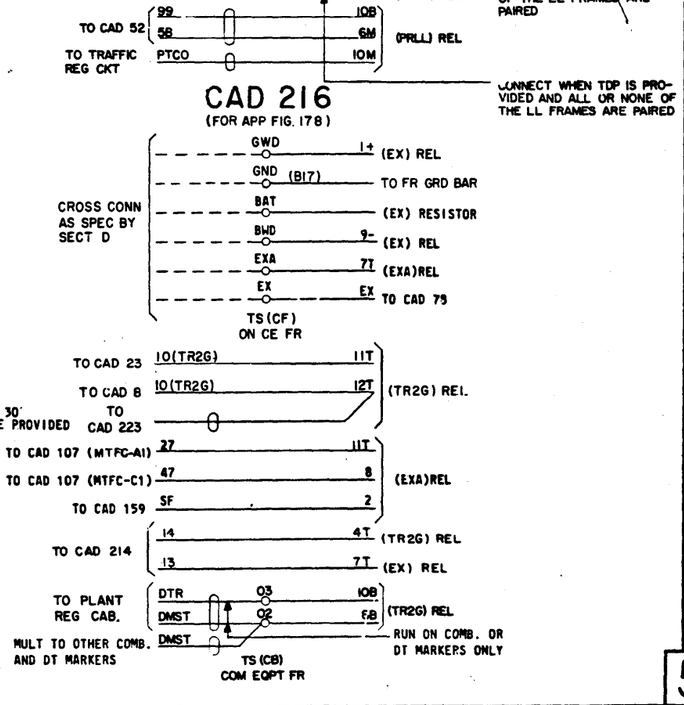
CAD 215

(FOR APP FIG. 173)



CAD 216

(FOR APP FIG. 178)



DRAWING ISSUE	
49D	BB
51D	JR
54D	C.F
56D	LT

56

MARKER CIRCUIT (2)

SD-25550-01-G131

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25550-01-G131

PART OF CAD 217
(FOR APP FIG. 174)

DRAWING ISSUE 49D 3 E.M

FTC19 (MF)	10M		
FTC10 (MF)	1M	(FCM10) REL	
FTC09 (MF)	10M		
FTC00 (MF)	1M	(FCM0) REL	
FTC19 (D)	10M		
FTC10 (D)	1M	(FCD10) REL	
FTC09 (D)	10M		
FTC00 (D)	1M	(FCD0) REL	
FTC19 (R3)	10M		
FTC10 (R3)	1M	(FCR13) REL	
FTC09 (R3)	10M		
FTC00 (R3)	1M	(FCR3) REL	
TO CAD 219 FTC19 (R2)	10M		
FTC10 (R2)	1M	(FCR12) REL	
FTC09 (R2)	10M		
FTC00 (R2)	1M	(FCR2) REL	
FTC09 (R1)	10M		
FTC09 (R1)	1M	(FCR11) REL	
FTC10 (R1)	10M		
FTC19 (R1)	1M	(FCR1) REL	
FTC19 (R0)	10M		
FTC10 (R0)	1M	(FCR10) REL	
FTC09 (R0)	10M		
FTC00 (R0)	1M	(FCR0) REL	

LFP2	U	(VP2) REL
LFP0	U	(VP0) REL
LFR3	U	(DTR3) REL
LFR0	U	(DTR0) REL
FCR3	3	(DTR3) REL
FCR0	3	(DTR0) REL
FR3	U	(FCR3) REL
FR0	U	(FCR0) REL
FM	U	(FCM0) REL
FD	U	(FCD0) REL
FCD	3	(D) REL
FCM	3	(MF) REL
ATG5	6	(DTR3) REL
ATG2	6	(DTR0) REL
RB (D)	15	(D) REL
RB (MF)	15	(MF) REL
RB (R3)	12	(DTR3) REL
RB (R0)	12	(DTR0) REL
TO CAD 219 BR3	11	(DTR3) REL
BR0	11	(DTR0) REL
PCR3	10	(DTR3) REL
PCR0	10	(DTR0) REL

TO CAD 219A

VGP29	10	
VGP28	9	
VGP27	8	
VGP26	7	
VGP25	6	(VP2) REL
VGP24	5	
VGP23	4	
VGP22	3	
VGP21	2	
VGP20	1	
VGP19	10	
VGP18	9	
VGP17	8	
VGP16	7	
TO CAD 219A VGP15	6	(VP1) REL
VGP14	5	
VGP13	4	
VGP12	3	
VGP11	2	
VGP10	1	
VGP09	10	
VGP08	9	
VGP07	8	
VGP06	7	
VGP05	6	(VP0) REL
VGP04	5	
VGP03	4	
VGP02	3	
VGP01	2	
VGP00	1	

19	12M	
30	7M	
		(DTR0) REL
28	6M	
27	6B	
26	4	
25	19M	
24	19	
23	18	
22	17M	
21	17	
20	16	
18	14M	
TO CAD 219 17	14	
16	13	
15	12M	
14	12	
13	11	
12	10	(D) REL
11	9	
10	8	
09	7	
08	6	
07	5M	
06	5	
05	4	
04	3M	
03	2	
02	13M	
01	1	
00	U	

49

CROSSBAR SYSTEMS
MARKER CIRCUIT (2)
BELL TELEPHONE LABORATORIES INCORPORATED
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SD-25550-01-G132

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STABILO

PART OF CAD 217

(FOR APP FIG. 174)

	57	10	
	56	8	
	55	4	
	54	2	(VPT)REL
	53	1	
	52	U	
	51	18	
	50	16	
	49	13	(MF)REL
	48	5	
	47	U	
TO CAD 219	43 (CO-GRD)	10M	(D)REL
	42	6	(DTR3)REL
	41	6	(DTR2)REL
	40	6	(DTR1)REL
	39	6	(DTRO)REL
	38	5	(DTR3)REL
	37	5	(DTR2)REL
	36	5	(DTR1)REL
	35	5	(DTRO)REL
	34 (CO-BAT.)	2L	(XDR)REL
	33 (C1-BAT.)	L	(FCDO)REL
	32 (C2-BAT.)	L	(VPO)REL

	82	11	
	81	10	
	80	9	
	79	8	
	78	7	
	77	6	(FCD10)REL
	76	5	
	75	4	
	74	3	
	73	2	
	72	1	
TO CAD 219	71	11	
	70	10	
	69	9	
	68	8	
	67	7	
	66	6	(FCDO)REL
	65	5	
	64	4	
	63	3	
	62	2	
	61	1	
	60	8	
	59	6	(XDR)REL
	58	2U	
	45	20M	(D) REL
	44	20	
	158	20M	(MF) REL
	157	20	

CAD 218

(FOR APP FIG. 179)

	143	8	
	142	8M	(AN2) REL
	141	4B	
	140	2	(RCY6) REL
	139	1M	
	138	12M	(NANC)REL
	137	8B	
	136	8	(DT5) REL
	29 (C3-BAT.)	L	
	143	8	(AN2) REL
	134	5M	(ANC)REL
	133	12	
	122	1	(AN3)REL
			LOOP AT UNEQUIPPED POSITIONS
	121	12B	
	120	2B	
TO CAD 219	119	11B	
	118	10	
	117	7M	
	116	7	(AN2)REL
	115	6M	
	114	5	
	113	3	
	112	1M	
	111	12	
	110	10	(AN1)REL
	101	1	
	99	12	
	98	10	
	97	8M	(AN)REL
	96	1U	

LOOP TO BREAK CONT AT UNEQUIPPED POSITIONS

LOOP TO MAKE CONT AT UNEQUIPPED POSITIONS

	100	5	(RCY6) REL
	9	9M	
	GD	9	(AN) REL
TO CAD 219	AN	2	
	PCA	3M	
	BA	4M	(AN2)REL
	ANN	U	
	XTG	10B	
	VGA9	10M	
	VGAO	1M	(AN1)REL
	FCAN	3	(RCY6)REL
	NANC	1L	(NANC)REL
	BTB5	5M	
	BTB1	1M	(AN3)REL
	BTG9	10M	(AN2) REL
	BTG8	12M	
TO CAD 219A	BTG2	6M	(AN3)REL
	ANC	1U	(ANC)REL
	ANTG	4	
	ANTB	5B	(RCY6)REL
	ATB5	5B	
	ATB1	1B	(AN3)REL
	ATG9	10B	(AN2)REL
	ATG8	12B	
	ATG2	6B	(AN3)REL

DRAWING ISSUE	
49D	LF UNW WHD
51D	JEG MDS KMC
54D	DP E&L MHD

54

MARKER CIRCUIT ②

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BELL TELEPHONE LABORATORIES INCORPORATED

6S

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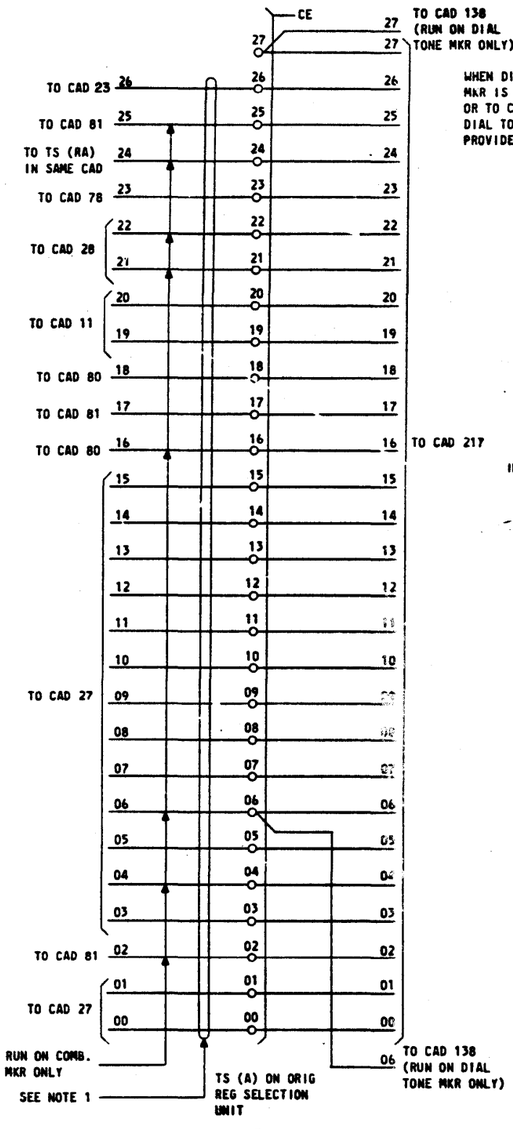
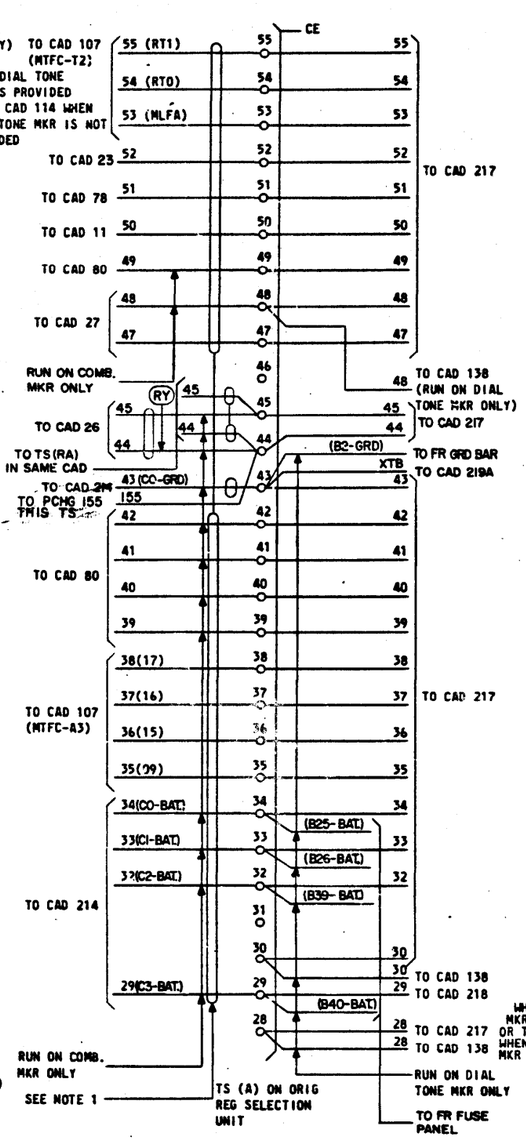
SD-25550-01-G133

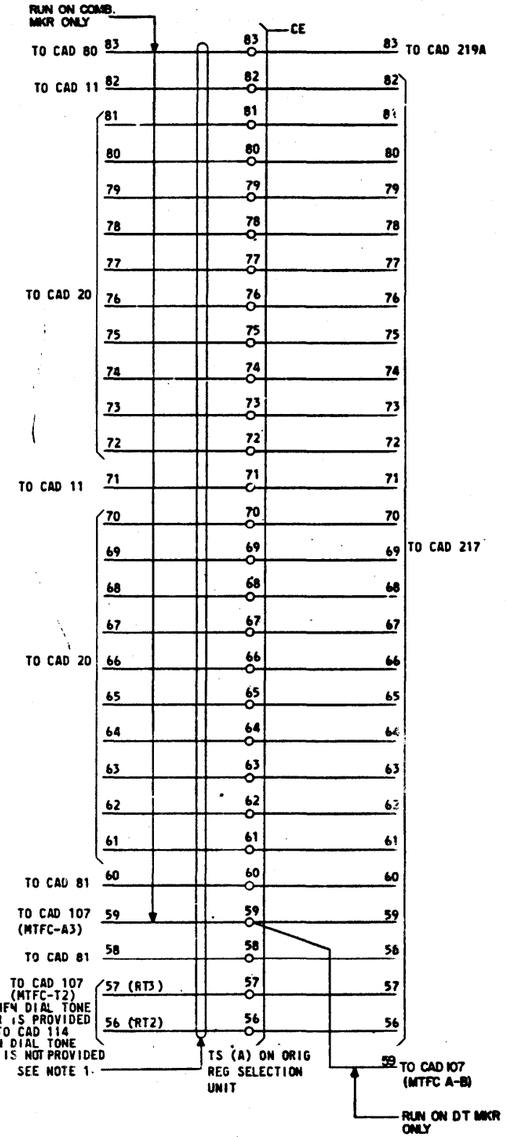
STABILO HE

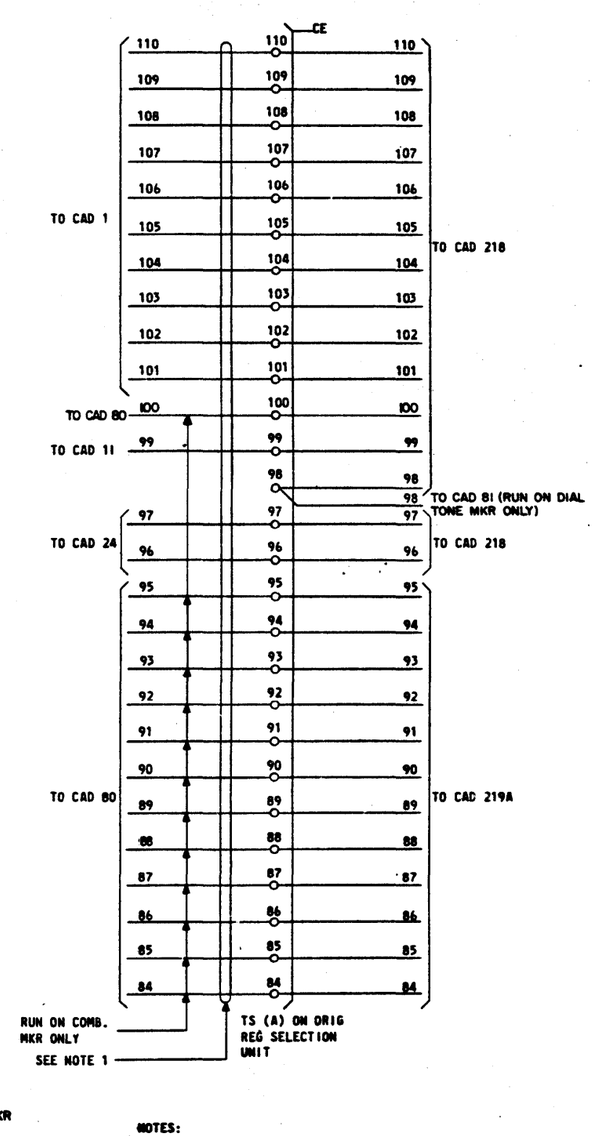
PART OF CAD 219

SMBD CA TO ORIG REG SELECTION UNIT









NOTES:

1. WHEN THE ORIG REC SELECTION UNIT IS PROVIDED IN DIAL TONE MARKERS, THESE LEADS SHALL BE LOCAL CABLE CONN ON THE REAR.

DRAWING ISSUE

49D	LF	
50D	JEG	
52A	JEG	
53A	BEW	
54D	BEW	

54

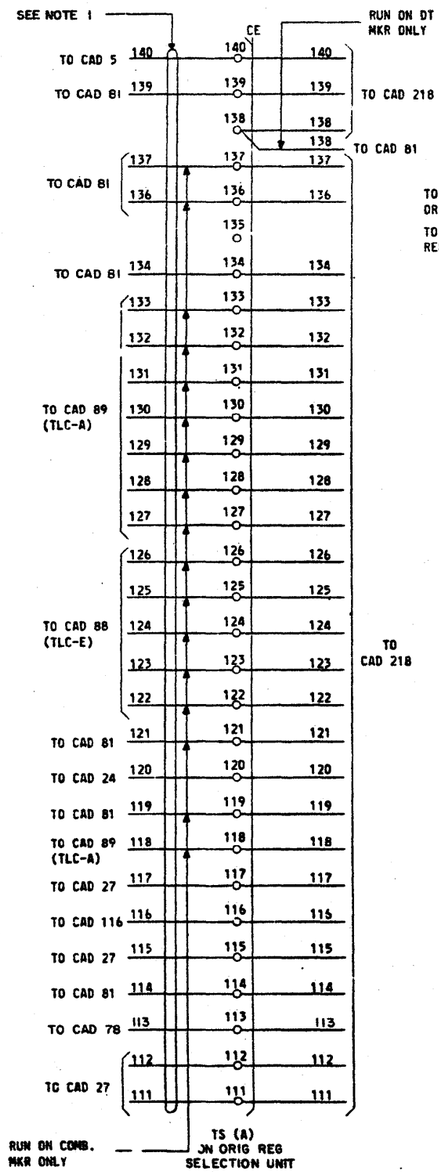
MARKER CIRCUIT ② SD-25550-01-GI34

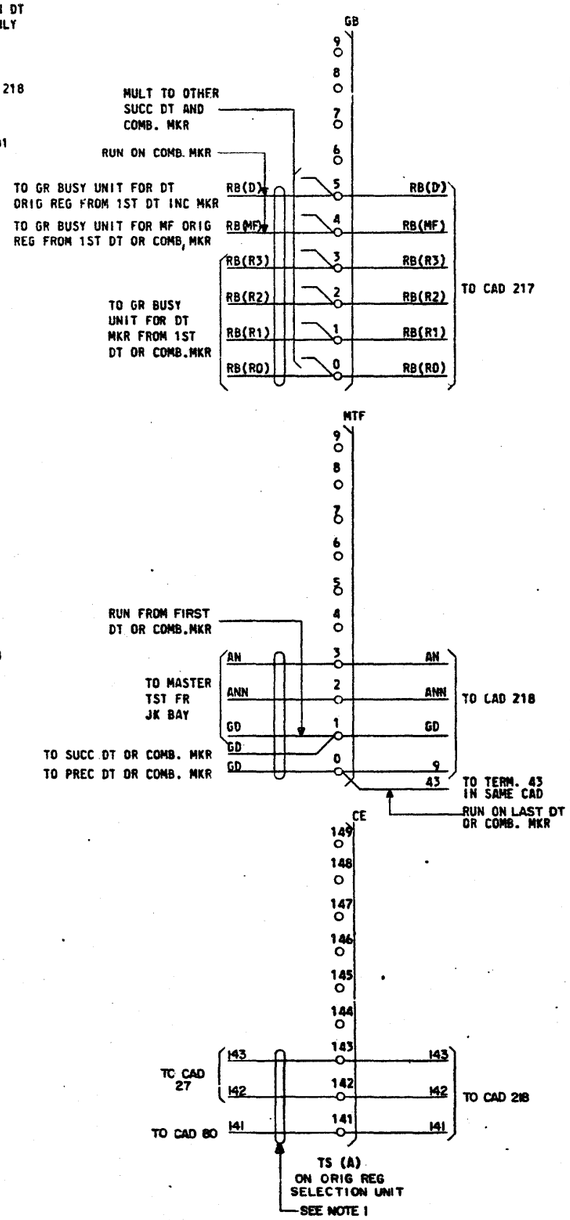
BELL TELEPHONE LABORATORIES INCORPORATED 6S

25550-01-GI34

STABILO

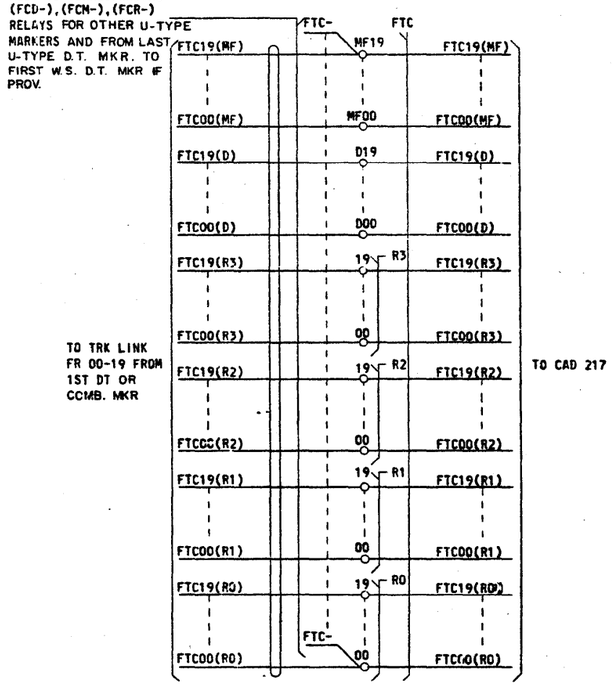
PART OF CAD 219

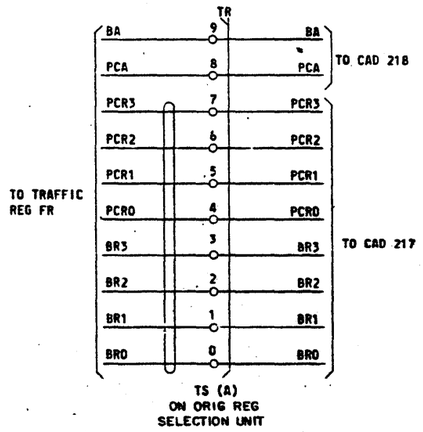


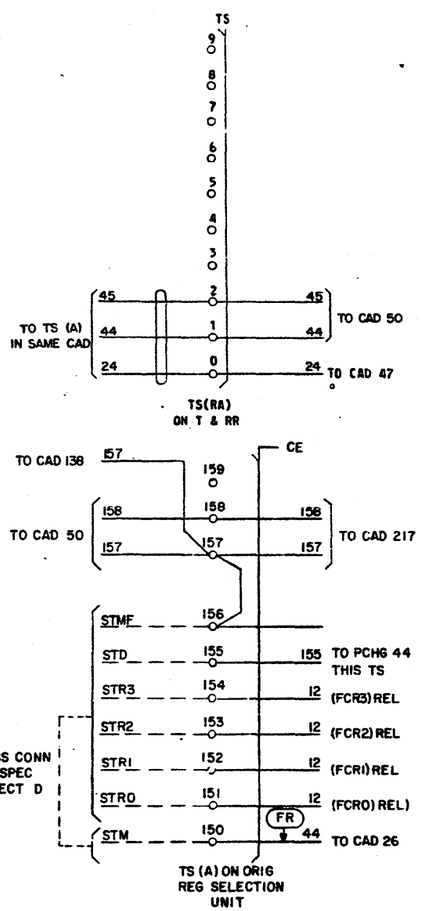


SWBD CABLE TO ORIG. REG SELECTION UNIT

MULT TO CORRESPONDING (FCD-),(FCM-),(FCR-) RELAYS FOR OTHER U-TYPE MARKERS AND FROM LAST U-TYPE D.T. MKR. TO FIRST W.S. D.T. MKR IF PROV.







NOTE:

1. WHEN THE ORIG REG SELECTION UNIT IS PROVIDED IN DT MARKERS, THESE LEADS SHALL BE LOCAL CABLE CONN ON THE REAR.

DRAWING ISSUE	
49D	BB (FINAL AND)
51D	JR (MES Hdwr)
54D	CF (FINAL AND Hdwr)

54

MARKER CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED 65

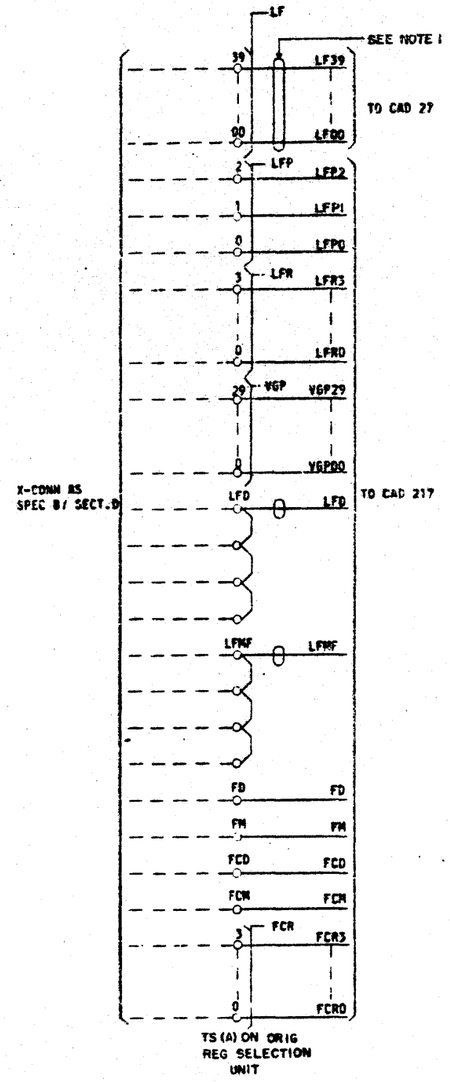
SD-25550-01-G135

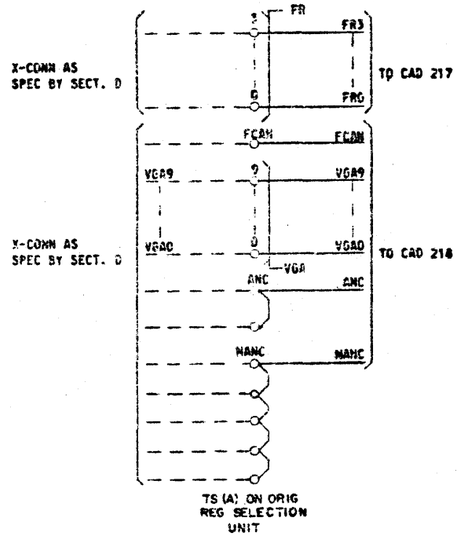
SD-25550-01-G135

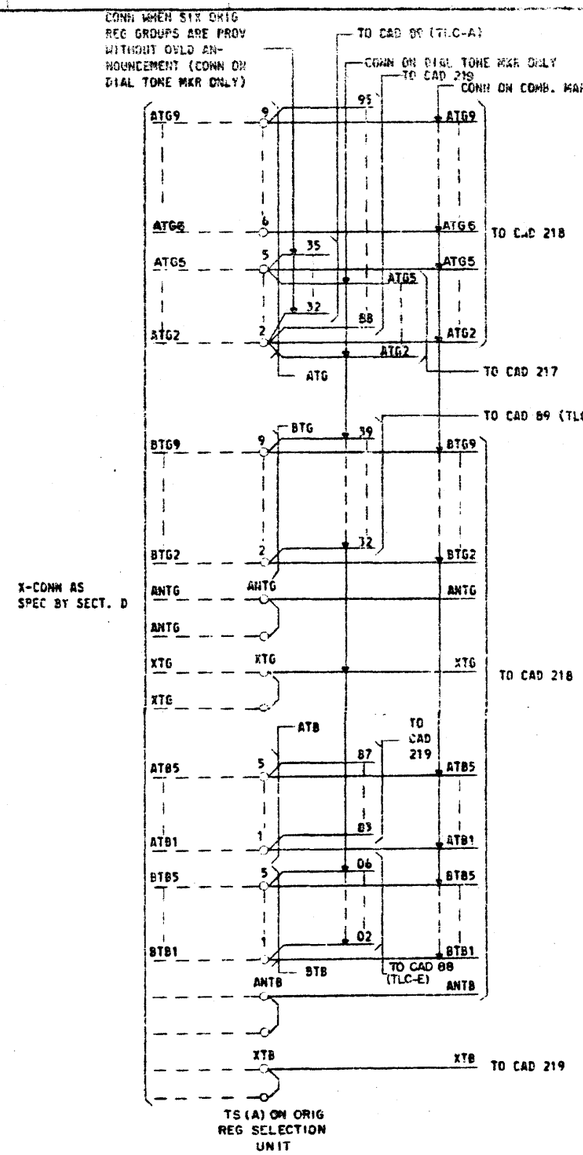
STABILO

CAD 219A

X-CONN ON ORIG REG SELECTION UNIT







NOTES:

1. WHEN THE ORIG REG SELECTION UNIT IS PROVIDED WI DIAL TONE MARKERS, THESE LEADS SHALL BE LOCAL CABLE CONN ON THE REAR.

DRAWING ISSUE 4 SD

49

CROSSBAR SYSTEMS

NO.5 MARKER CIRCUIT (2)

SD-25550-01-G136

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-G136

STABILO

CAD 220

(FOR APP FIG. 180)

TO FR GRD BAR — 51 — 12 (PGR5) REL

TO CAD 222

19	36		
18	35		
17	34		
16	33		
15	32		
14	31		
13	28		
12	27		
11	26		
10	25	13	(PGR5) REL
09	24	53	(PGR4) REL
08	23	52	
07	22	43	(PGR3) REL
	21		
06	18	33	(PGR2) REL
05	17	23	(PGR1) REL
04	16	22	
03	15	13	(PGRO) REL
02	14	12	
01	13	15	
	12		
00	11	11	

TS (A)
(TDP UNIT)

PART OF CAD 221

FOR APP FIG. 181

MULT TO OTHER COMB. OR COMP MARKERS

TO MTF CONT BAY FROM 1ST MKR

LBO	34	12M	(MT28) REL
CAC	31	11M	
CB1	35	10M	
CA1	32	9M	
CB2	36	8M	
CA2	33	7M	
POTS	28	6M	
TCC	41	5	
TCB	38	4	
TCA	37	3	

58 57 56 55 54 53 52 51 47 46 45 44 43 42

FOR CONT & MB UNIT FOR DAPC

TO DAPC MTD ON MISC REL RACK

TMB	48	TMB	TO TS (A) IN SAME CAD
MP2	27	7	(MT28) REL
MP1	26	9	
MPO	25	11	
RYT	24	RYT	TO TS (B) IN SAME CAD
TCA	23	3M	(MT28) REL
TCB	22	4M	
TCC	21	5M	
POTS	18	6B	
MC2	17	7B	
MC1	16	9B	
MCO	15	11B	
PTM	14	2L	(PTM) REL
TLT	13	2U	(TLT) REL
TLK	12	1L	(TLK) REL
DAC	11	U	(DAC) REL

TS (C) ON NO. 101 ESS DIRECT ACCESS UNIT

RUN ONLY WHEN OPERATION WITH DOUBLE SIDED TROUBLE RECORD CARD IS REQUIRED

RUN ONLY WHEN OPERATION WITH SINGLE SIDED TROUBLE RECORD CARD IS REQUIRED

TO MTC (BS REL): TLT(51), DAC(50)

TO CAD 107 MTFC-A2 / TLT	58	12	(TLT) REL
TO CAD 107 MTFC-B3 / DAC	57	U	(DAC1) REL
TO CAD 209	56	3B	
	55	3M	
TO CAD 127	54	9	(TLT) REL
TO CAD 81	53	3	(DAC1) REL
	52	U	(MT28) REL
	51	GRD	TO REL RACK FR GRD BAR
		1U	(TLT) REL
TO CAD 78	48	11M	(DAC1) REL
	47	12M	
	46	5M	(DAC) REL
TO CAD 77	45	5	
		RYT	TO TS (C) IN SAME CAD
TO CAD 74	44	4B	(DAC1) REL
	43	4	
	42	5B	
	41	5M	
	38	5	
TO CAD 25	37	7B	
TO CAD 196	12	9B	(TLK) REL
	11	4M	(DAC1) REL
TO CAD 67	34	6M	
	33	6B	
	32	6	
TO CAD 45	TMB(31)	TMB	TO TS (C) IN SAME CAD
TO CAD 76	28	3B	(DAC) REL
	27	7M	(DAC1) REL
TO CAD 67 OR CAD 226	26	10	(TLK) REL
	25	7M	
	24	5B	
	23	5	
TO CAD 67	22	10M	(DAC) REL
	21	9M	
	18	4B	
	17	4	
	16	12	(DAC1) REL
	15	7	
TO CAD 51	14	10	
TO CAD 42	13	9	
	12		
TO CAD 214	11	11	(C-60 BAT.) L

TS (D) ON NO. 101 ESS DIRECT ACESS UNIT

DRAWING ISSUE		
51D	JEG	MDS
	AMD	CK
53A	C.D.L.	CK
	AMD	
54D	C.D.L.	
	AMD	

CB A CB

54

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

2 SD-25550-01-G137

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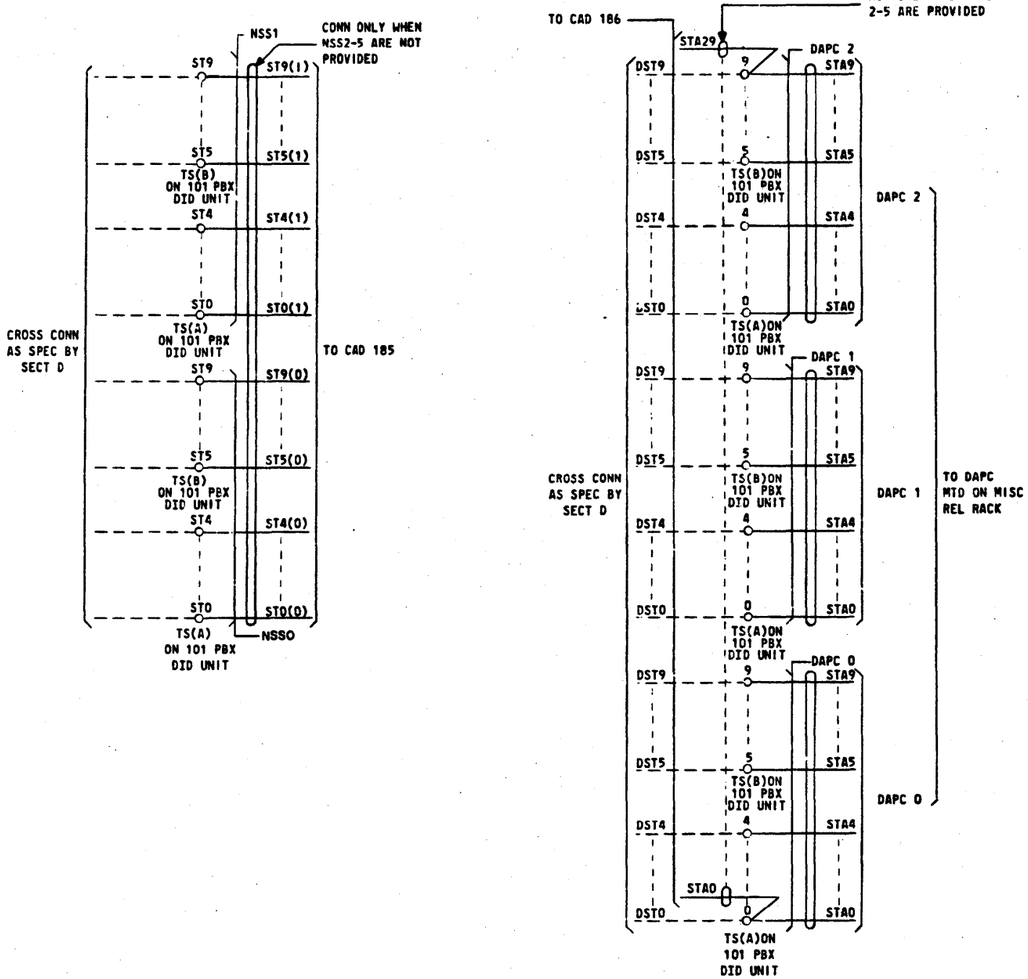
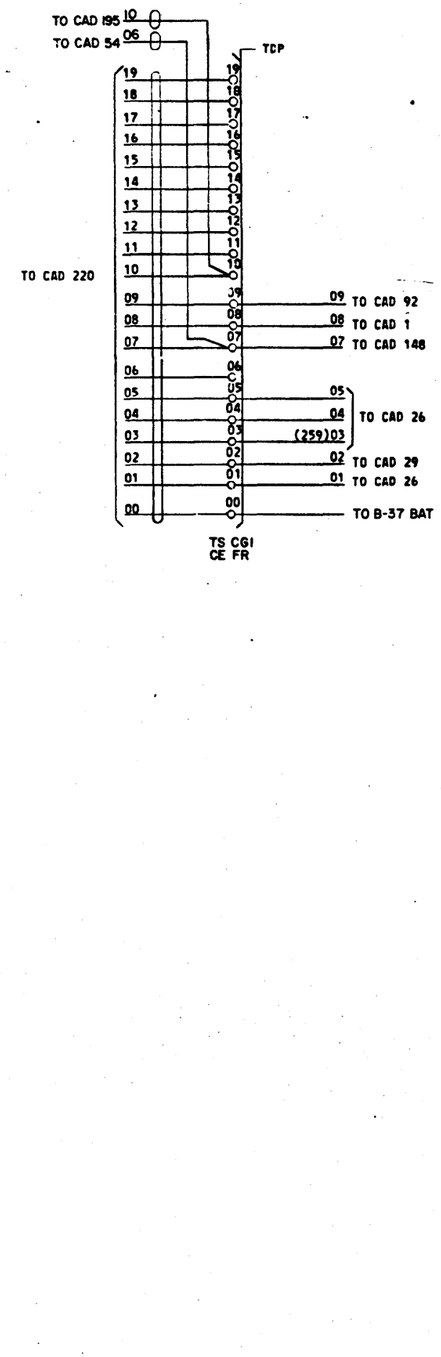
PART OF CAD 221

(FOR APP FIG. 181)



CAD 222

(SWBD CABLE TO TRAFFIC DATA PROCESSOR UNIT)



DRAWING ISSUE

5ID	JR NSS AMC
53A	CF 6D4 AMP

53

MARKER CIRCUIT

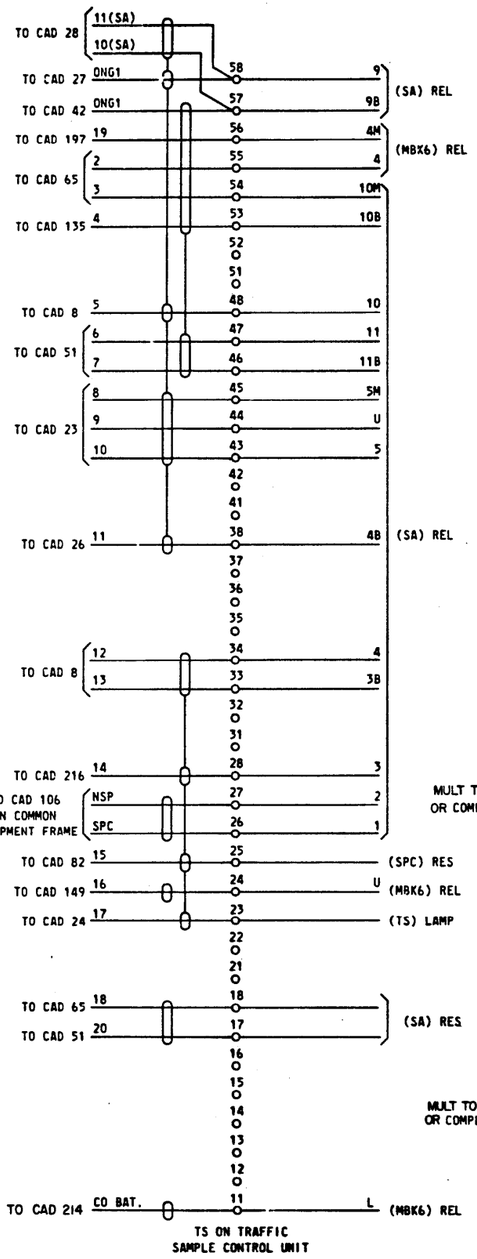
BELL TELEPHONE LABORATORIES INCORPORATED

(2) SD-25550-01-G138

6S

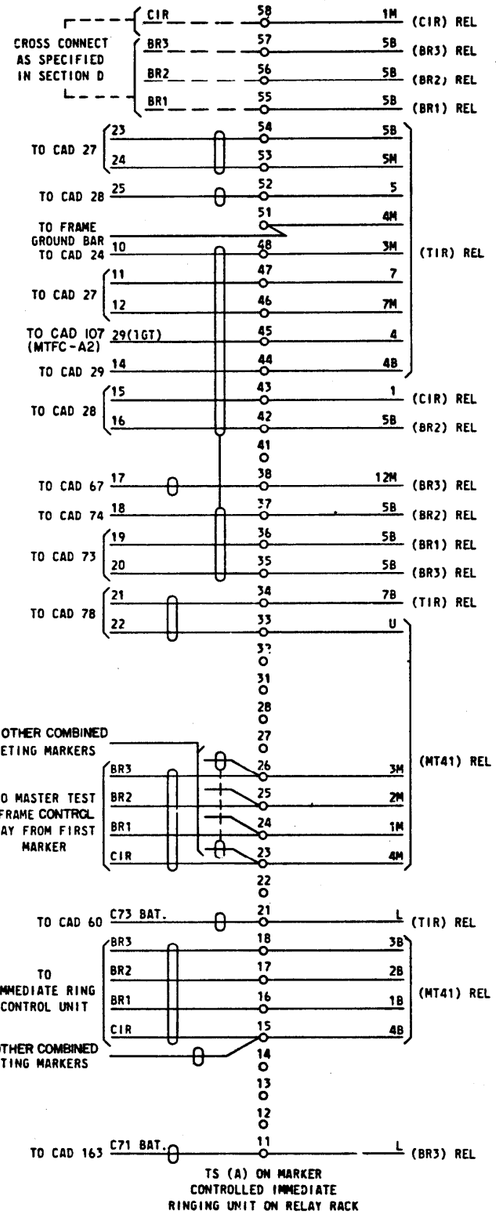
SD-25550-01-G138

CAD 223
(FOR APP FIG 133)



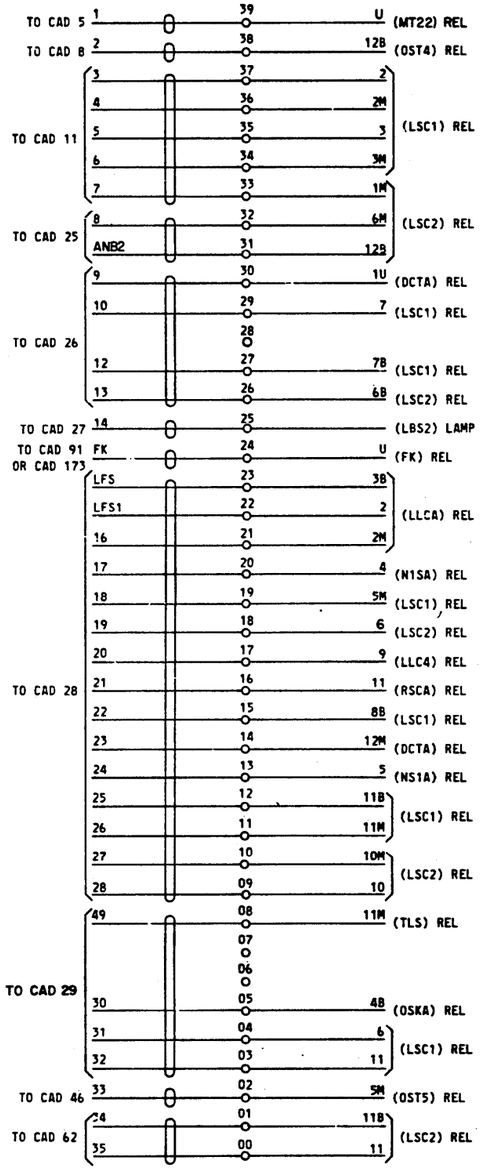
TS ON TRAFFIC
SAMPLE CONTROL UNIT

CAD 224
(FOR APP FIG 184)

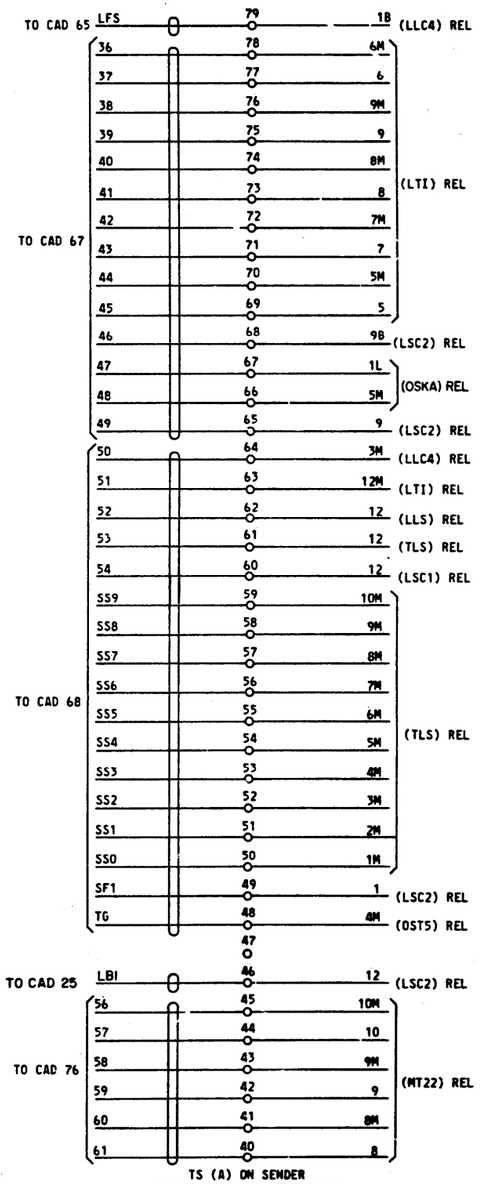


TS (A) ON MARKER
CONTROLLED IMMEDIATE
RINGING UNIT ON RELAY RACK

PART OF CAD 225
(FOR APP FIG 185)



TS (A) ON SENDER
CONTROL UNIT ON RELAY RACK



TS (A) ON SENDER
CONTROL UNIT ON RELAY RACK

DRAWING ISSUE
54D L PP Gld CpL AWG
56D LT

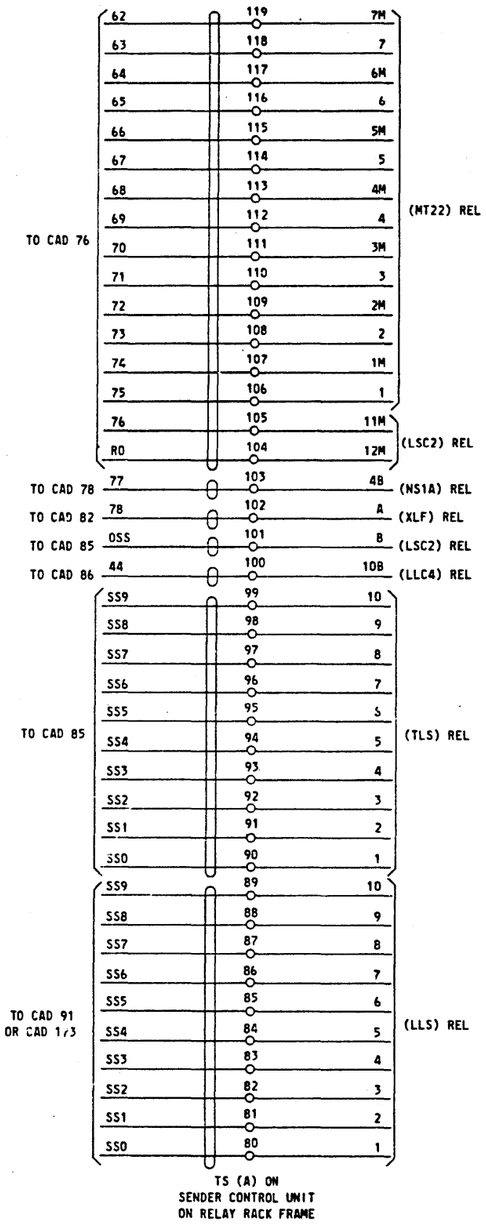
56

MARKER CIRCUIT
(2) SD-25550-01-G139
BELL TELEPHONE LABORATORIES INCORPORATED
6S

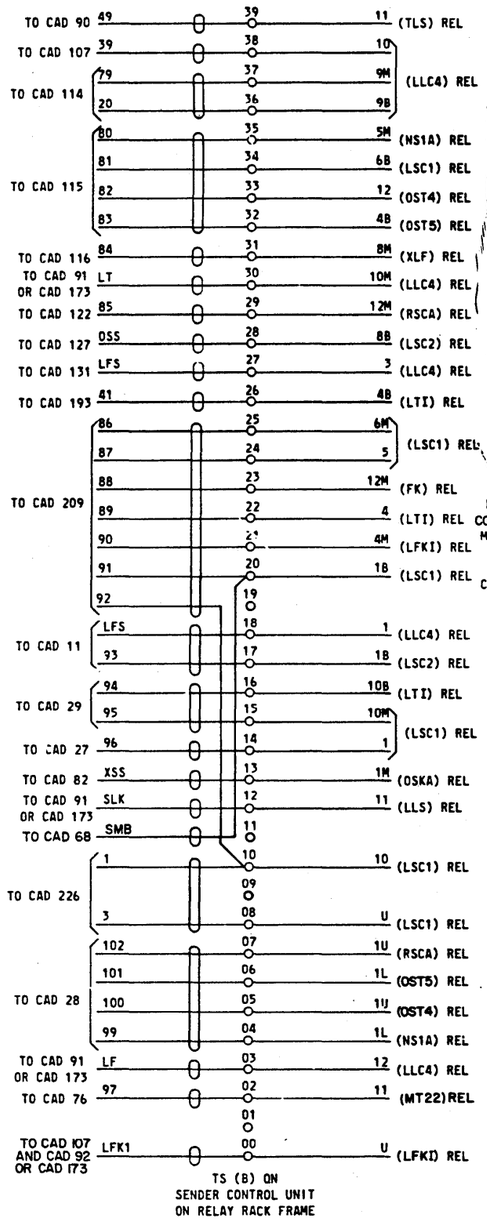
SD-25550-01-G139

HIGGINS 4465 M4E

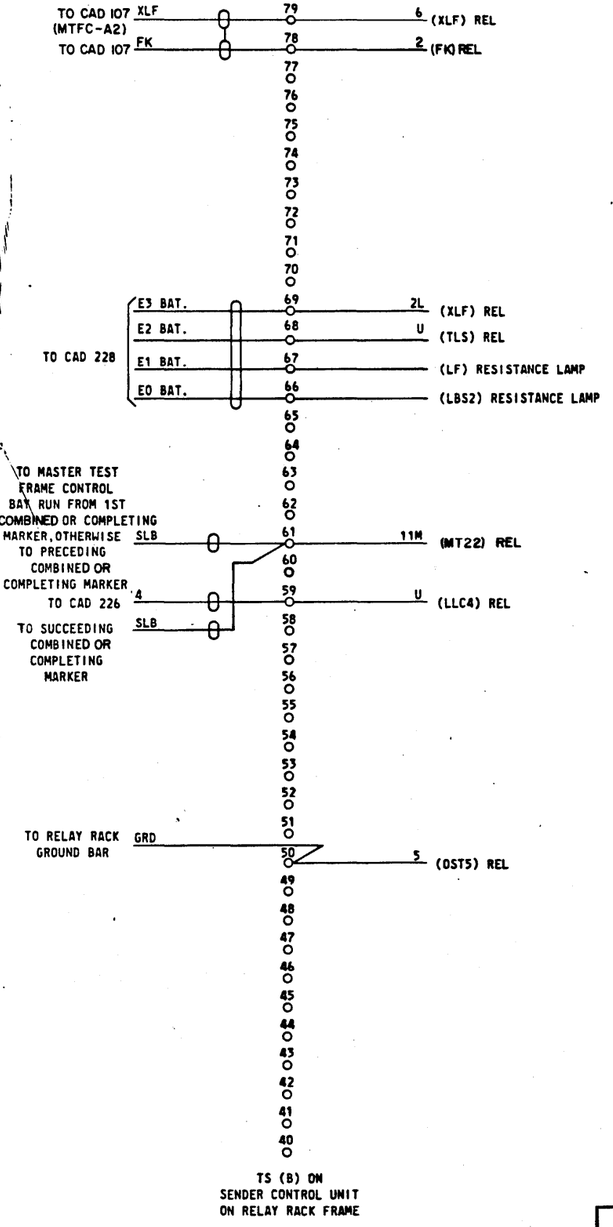
PART OF CAD 225
(FOR APP FIG 185)



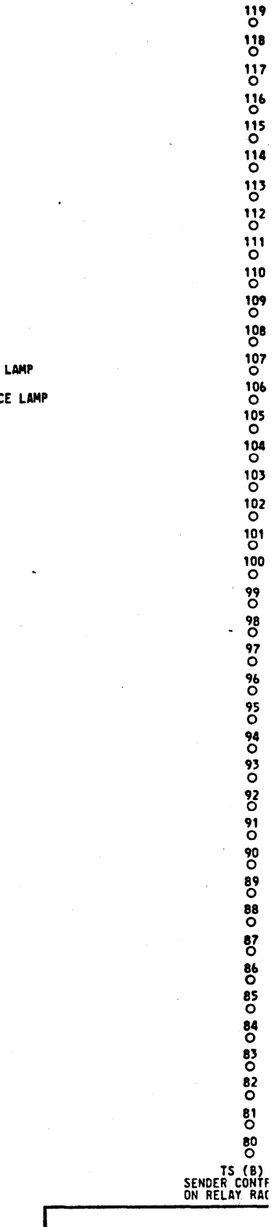
TS (A) ON
SENDER CONTROL UNIT
ON RELAY RACK FRAME



TS (B) ON
SENDER CONTROL UNIT
ON RELAY RACK FRAME



TS (B) ON
SENDER CONTROL UNIT
ON RELAY RACK FRAME



TS (B) ON
SENDER CONTROL UNIT
ON RELAY RACK FRAME

DRAWING ISSUE
54D LP GPL AND
56D JK CB

56

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

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SD-25550-01-GI40

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HIGGINS 4465

PART OF CAD 226
(FOR APP FIG 186)

DRAWING ISSUE	
54D	LP 6-84 BHP
56D	LT

TO CAD 74 HBS
- 37 → 39 → 3B (MT23) REL
- 38 → 38 → 6M (NAI) REL
- → 37 → 2B (MT23) REL

TO CAD 45
- 40 → 36 → 1M (A1S2) REL
- HBS → 35 → 1B (A1S1) REL
- TNS → 34 → 1B (MT23) REL

TO CAD 46 41 → 33 → 12M (KGS3) REL

TO CAD 45
- TBB → 32 → 2B
- UBB → 31 → 3B

(A1S1) REL

- TO CAD 74 44 → 30 → 5M (A1S2) REL
- TO CAD 47 45 → 29 → 11B (A1S3) REL
- TO CAD 74 46 → 28 → 9M (A1S2) REL
- TO CAD 67 47 → 27 → 10 (TBI1) REL
- TO CAD 74 48 → 26 → U (NAI) REL
- TO CAD 67 49 → 25 → 1U (TBI1) REL
- TO CAD 47 50 → 24 → 12B (A1S3) REL

TO CAD 51
- 51 → 23 → 6M
- 57 → 22 → 6
- 53 → 21 → 6B

(A1S2) REL

- TO CAD 65 54 → 20 → 9M (A1S3) REL
- TO CAD 28 109 → 19 → 1 (A1S2) REL
- TO CAD 24 T → 18 → 1 (A1S3) REL
- TO CAD 27 2 → 17 → 12M (OFCO) REL
- TO CAD 11 HBS → 16 → 1 (A1S1) REL
- TO CAD 28 4 → 15 → 12M (A1S3) REL
- TO CAD 29 KG → 14 → 8 (A1S2) REL

TO CAD 36
- 5 → 13 → 1 (LC6) DIODE
- 6 → 12 → 3 (LC7) DIODE
- AAN → 11 → 12 (LC6) DIODE
- BAN → 10 → 10 (LC7) DIODE

TO CAD 41
- 7 → 09 → 5 (LC5) DIODE
- 8 → 08 → 1 (LC3) DIODE
- 9 → 07 → 3 (LC1) DIODE
- 10 → 06 → 3 (LC4) DIODE
- 11 → 05 → 5 (LC2) DIODE
- 12 → 04 → 1 (LC0) DIODE

- TO CAD 42 13 → 03 → 8M (NAI) REL

TO CAD 43
- 14 → 02 → 4B (A1S3) REL
- 15 → 01 → 7B (A1S) REL

- TO CAD 26 16 → 00 → 12 (A1S2) REL

TS (A) ON
AUTOMATIC INTERCEPT UNIT
ON RELAY RACK FRAME

TO CAD 65
- 75 → 79 → 9B
- 76 → 78 → 9 (A1S3) REL
- 77 → 77 → 12
- 78 → 76 → 10B (A1S1) REL

- 79 → 75 → 5B (MT25A) REL
- 80 → 74 → U (A1S) REL

(A1SC) REL
- 81 → 73 → 3
- 82 → 72 → 6
- 83 → 71 → 5
- 84 → 70 → 4

TO CAD 67
- 85 → 69 → 9
- 86 → 68 → 9M (A1S1) REL
- 87 → 67 → 12

- 88 → 66 → 10 (NAI) REL
- 89 → 65 → 11 (ENA) REL
- 90 → 64 → 4 (PTNA) REL
- 91 → 63 → 12M (ENA) REL
- 92 → 62 → 5 (PTNA) REL
- 26 → 61 → 9 (A1S2) REL
- PU1 → 60 → 8B (A1S) REL

TO CAD 73
- 93 → 59 → 3
- 94 → 58 → 3M

(A1S2) REL

- 95 → 57 → 11B
- 96 → 56 → 11

(A1S1) REL

TO CAD 74
- 97 → 55 → 5B
- PU1 → 54 → 8 (A1S) REL
- TER1 → 53 → U (NAI) REL

TO CAD 76
- 98 → 52 → 3 (A1S1) REL
- 99 → 51 → 9 (A1S) REL

- TO CAD 81 100 → 50 → 4 (NAI) REL
- TO CAD 123 KG → 49 → 8B (A1S2) REL
- TO CAD 163 101 → 48 → 10M (NAI) REL
- TO CAD 169 102 → 47 → 2

TO CAD 196
- 103 → 46 → 8M
- 104 → 45 → 8
- 105 → 44 → 11M

(A1S1) REL

- TO CAD 221 26 → 43 → 9B (A1S2) REL
- TO CAD 67 106 → 42 → 12 (A1S) REL
- TO CAD 40 107 → 41 → 4M (NAI) REL
- TO CAD 65 108 → 40 → 7B (A1S3) REL

TS (A) ON
AUTOMATIC INTERCEPT UNIT
ON RELAY RACK FRAME

39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 09 08 07 06 05 04 03 02 01 00

TS (B) ON
AUTOMATIC INTERCEPT UNIT
ON REAY RACK FRAME

TO MISCELLANEOUS RELAY RACK GROUND BAR
- GRD → 79 → 8 (NAI) REL
- GRD → 78 → 10 (AIS1) REL

79 78 77 76 75 74 73 72 71 70 69 68 67 66 65 64 63 62 61 60 59 58 57 56 55 54 53 52 51 50

TO CAD 228
- E6 BAT. → 49 → L (NAI) REL
- E5 BAT. → 48 → L (A1S1) REL
- E4 BAT. → 47 → L (A1S) REL

49 48 47 46 45 44 43 42 41 40

TS (B) ON
AUTOMATIC INTERCEPT UNIT
ON RELAY RACK FRAME

56

MARKER CIRCUIT (2)

SD-25550-01-GI41

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-GI41

PART OF CAD 226
(FOR APP FIG 186)

DRAWING ISSUE		
54D	LFP GM & O.L. ADD	
55A	JK	
56D	JK	

CB

CB

TS (C) AT TOP OF COMMON EQUIPMENT FRAME

48
57
37
17
46
26
16
14

CROSS CONNECT PER NOTE 400 SECTION D

2B5	59	3M	(OFC5) REL
2B4	58	3M	(OFC4) REL
2B3	57	3M	(OFC3) REL
2B2	56	3M	(OFC2) REL
2B1	55	3M	(OFC1) REL
2B0	54	3M	(OFC0) REL
	53		
DB7	52	DB7	TO CAD 104
DB4	51	DB4	
DB2	50	DB2	
DB1	19	DB1	
DB0	18	DB0	
	17		
	16		
1B5	15	6M	(OFC5) REL
1B4	14	6M	(OFC4) REL
1B3	13	6M	(OFC3) REL
1B2	12	6M	(OFC2) REL
1B1	11	6M	(OFC1) REL
1B0	10	6M	(OFC0) REL
2A5	49	4M	(OFC5) REL
2A4	48	4M	(OFC4) REL
2A3	47	4M	(OFC3) REL
2A2	46	4M	(OFC2) REL
2A1	45	4M	(OFC1) REL
2A0	44	4M	(OFC0) REL
	43		
DA7	42	DA7	TO CAD 104
DA4	41	DA4	
DA2	40	DA2	
DA1	09	DA1	
DA0	08	DA0	
	07		
	06		
1A5	05	7M	(OFC5) REL
1A4	04	7M	(OFC4) REL
1A3	03	7M	(OFC3) REL
1A2	02	7M	(OFC2) REL
1A1	01	7M	(OFC1) REL
1A0	00	7M	(OFC0) REL

TS (C) ON AUTOMATIC INTERCEPT UNIT ON RELAY RACK FRAME

CROSS CONNECT PER NOTE 400 SECTION D

		5M	(MT25A) REL
CR3P	79	CR3P	TO CAD 66
ARI	78	ARI	TO CAD 67
CR1P	77	CR1P	TO CAD 66
ATI	76	ATI	TO CAD 67
CROP	75	CROP	TO CAD 66
ABN	74	ABN	TO CAD 67
CLOS	73	CLOS	TO CAD 66
CAI	72	11M	(AIS3) REL
	71		
AIS	70	U	(AIS) REL
NAI	39	U	(NAI) REL
ITB	38	10M	(TBII) REL
OFC5	37	7M	(AISC) REL
OFC4	36	8M	
OFC3	35	9M	
OFC2	34	10M	
OFC1	33	11M	
OFC0	32	12M	
UOB	31	4	(PTNA) REL
UOA	30	5	
2C5	69	2M	(OFC5) REL
2C4	68	2M	(OFC4) REL
2C3	67	2M	(OFC3) REL
2C2	66	2M	(OFC2) REL
2C1	65	2M	(OFC1) REL
2C0	64	2M	(OFC0) REL
	63		
DC7	62	DC7	TO CAD 104
DC4	61	DC4	
DC2	60	DC2	
DC1	29	DC1	
DC0	28	DC0	
	27		
	26		
1C5	25	5M	(OFC5) REL
1C4	24	5M	(OFC4) REL
1C3	23	5M	(OFC3) REL
1C2	22	5M	(OFC2) REL
1C1	21	5M	(OFC1) REL
1C0	20	5M	(OFC0) REL

TS (C) ON AUTOMATIC INTERCEPT UNIT ON RELAY RACK FRAME

TO CAD 46

55	39	9	(KGS3) REL
56	38	10	
57	37	7	
58	36	8	
59	35	5	
60	34	6	
61	33	3	
62	32	4	
63	31	1	
64	30	2	
65	29	9	(KGS4) REL
66	28	10	
67	27	7	
68	26	8	
69	25	5	
70	24	6	
71	23	3	
72	22	4	
73	21	1	
74	20	2	
17	19	2M	(KGS3) REL
18	18	1M	
19	17	4M	
20	16	3M	
21	15	6M	
22	14	5M	
23	13	8M	
24	12	7M	
25	11	10M	(KGS4) REL
26	10	9M	
27	09	1M	
28	08	2M	
29	07	3M	
30	06	4M	
31	05	5M	
32	04	6M	
33	03	7M	
34	02	8M	
35	01	9M	
36	00	10M	

TO CAD 43

TS (D) ON AUTOMATIC INTERCEPT UNIT ON RELAY RACK FRAME

56

MARKER CIRCUIT

(2) SD-25550-01-G142

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25550-01-G142

HIGGINS 4465 M-E

PART OF CAD 226
(FOR APP FIG 186)

DRAWING ISSUE	
54D	LP E+L and P
56D	JK

TO CAD 209 — 109 — 76 — 11
TO CAD 206 — NA6 — 75 — 7M
TO CAD 74 — 112 — 74 — 4B (AIS2) REL
TO CAD 74 — 113 — 73 — 4 (AIS2) REL
TO CAD 74 — 114 — 72 — 4M (AIS2) REL
TO CAD 225 — 4 — 71 — 11B
TO CAD 69 — AI — 70 — 6
TO CAD 225 — 1 — 69 — 6M (AIS1) REL
TO CAD 225 — 3 — 67 — 10M (AIS2) REL
TO CAD 163 — 116 — 66 — 7
TO CAD 67 — 115 — 65 — 7M (NAI) REL
TO CAD 67 — BNTH — 64 — 1M (MT23) REL
TO CAD 65 — MT — 63 — 1L (MT25A) REL

TO CAD 41 — BEN — 59 — 8 (LC5) DIODE
TO CAD 41 — BTN — 58 — 12 (LC3) DIODE
TO CAD 41 — BPN — 57 — 10 (LC1) DIODE
TO CAD 41 — AEN — 56 — 10 (LC4) DIODE
TO CAD 41 — ATN — 55 — 8 (LC2) DIODE
TO CAD 41 — APN — 54 — 12 (LC0) DIODE

TO CAD 78 — 52 — 52 — 1U (MT29) REL
TO CAD 46 — 111 — 50 — 11 (KGS4) REL
TO CAD 107 — TBTA — 49 — 1M (AIS1) REL
TO CAD 107 — TBUA — 48 — 2M (AIS1) REL
TO CAD 107 — AIS — 47 — U (AIS1) REL

TO MASTER TEST FRAME CONTROL BAY RUN FROM FIRST COMBINED OR COMPLETING MARKER, OTHERWISE TO PRECEDING COMBINED OR COMPLETING MARKER — MT23 — 42 — 12 (MT29) REL
TO TRAFFIC SAMPLE UNIT — T — 41 — 1B (AIS3) REL
TO TRAFFIC REGISTER CKT — ITB — 40 — 9M (AIS) REL
TO SUCCEEDING COMBINED OR COMPLETING MARKER — MT23

TS (D) ON AUTOMATIC INTERCEPT UNIT ON RELAY RACK FRAME

TS (D) AT TOP OF COMMON EQUIPMENT FRAME

TS (E) AT TOP OF COMMON EQUIPMENT FRAME

TS (F) AT TOP OF COMMON EQUIPMENT FRAME

TS (G) AT TOP OF COMMON EQUIPMENT FRAME

TS (H) AT TOP OF COMMON EQUIPMENT FRAME

TS (J) AT TOP OF COMMON EQUIPMENT FRAME

TS (RQ) ON TRANSLATOR AND ROUTE RELAY FRAME

SD-25550-01-G143

56

MARKER CIRCUIT (2)

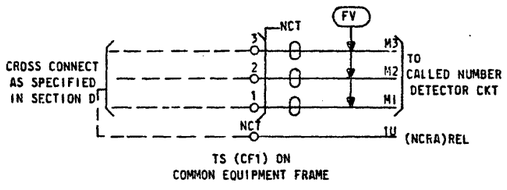
SD-25550-01-G143

BELL TELEPHONE LABORATORIES INCORPORATED

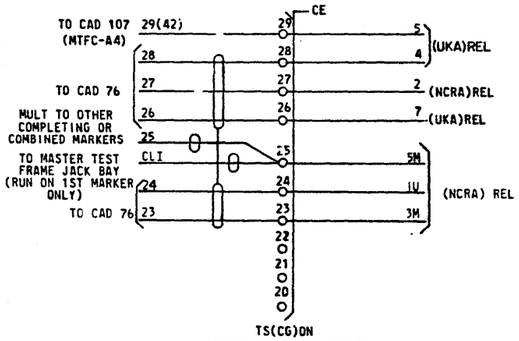
6S

HIGGINS 4465

CAD 227
(FOR APP FIG 187)

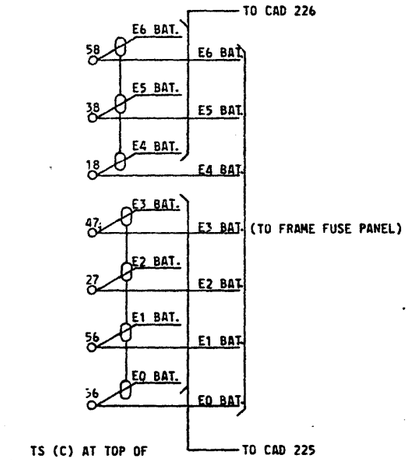


TS (CF1) ON
COMMON EQUIPMENT FRAME



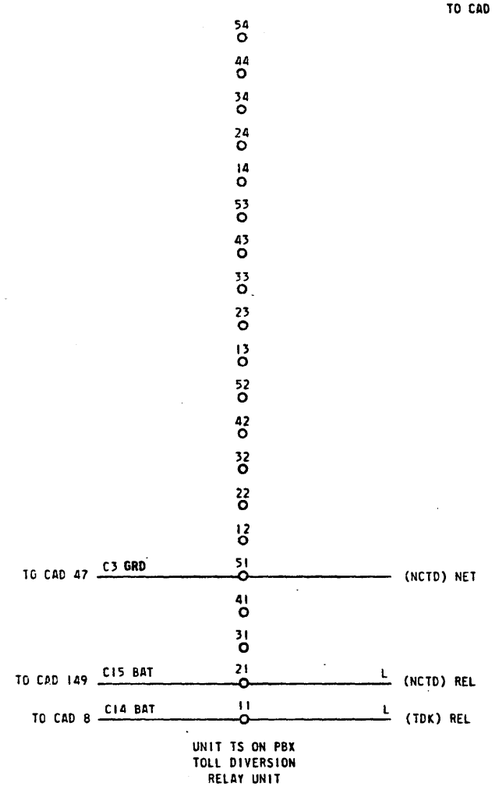
TS(CG)ON
COMMON EQUIPMENT FRAME

CAD 228
(FOR E BATTERY)

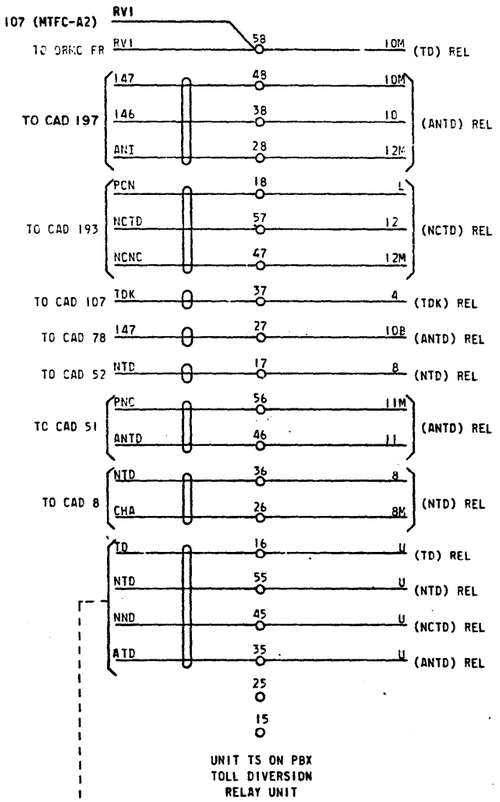


TS (C) AT TOP OF
COMMON EQUIPMENT FRAME

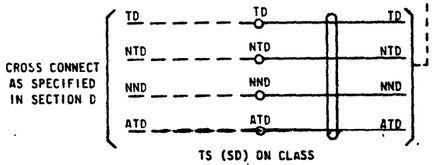
CAD 229
(FOR APP FIG 188)



UNIT TS ON PBX
TOLL DIVERSION
RELAY UNIT



UNIT TS ON PBX
TOLL DIVERSION
RELAY UNIT



TS (SD) ON CLASS
OF SERVICE FRAME

DRAWING ISSUE

54D	DP 6DL AMP	CB
55A	JK	
56D	LT	CB

56

MARKER CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

2

6S

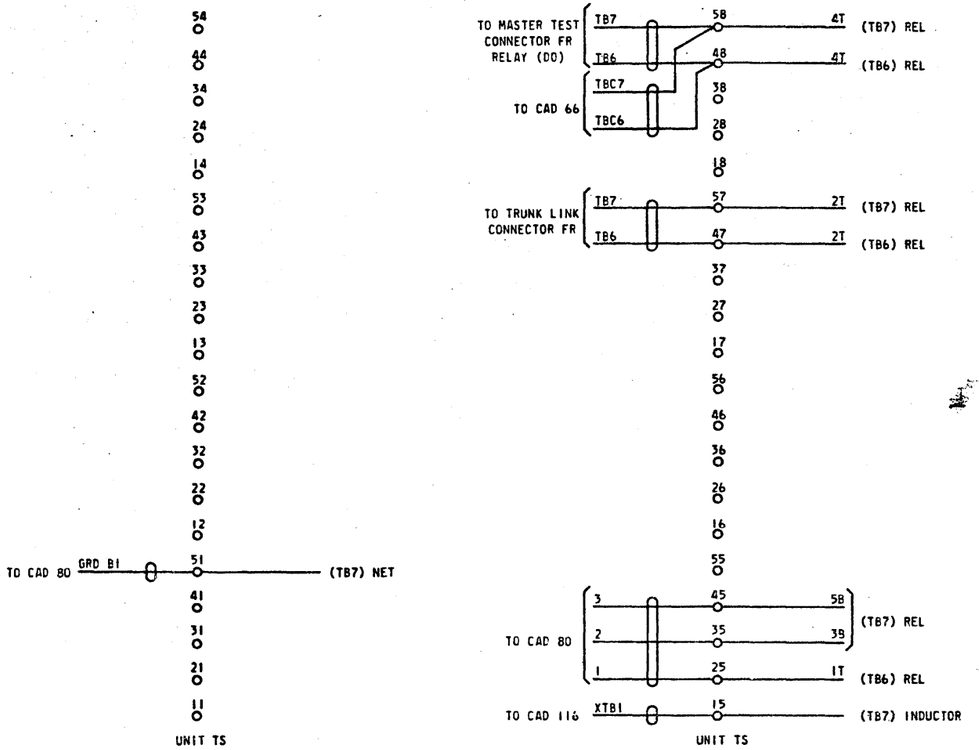
SD-25550-01-G144

SD-25550-01-G144

HIGGINS 4465

CAD 230

(FOR APP FIG 189)



DRAWING ISSUE 56D Y3

56

MARKER CIRCUIT (2) SD-25550-01-6145

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25550-01-6145