SD-25680-01

SHEET INDEX

CONTENTS	SHEET NO.	ISSUE NO.																						
		93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
SHEET INDEX SUPPORTING INFORMATION	A1	93	94	95	96	97	98	99	100	101	102	103	104	105	106											
SHEET INDEX (B SHEETS)	A2	93	94	95	96	97	98	99	100	101	102	103	104	105	106											
	A3	93	94	95	96	97	98	99	100	101	102	103	104	105	106											
SHEET INDEX (C SHEETS)	A4	93	94	95	96	97	98	99	100	101	102	103	104	105	106											
SHEET INDEX (D,E, & F SHEETS)	A5	93	94	95	96	97	98	99	100	101	102	103	104	105	106											
SHEET INDEX (G SHEETS)	A6	93	94	95	96	97	98	99	100	101	102	103	104	105	106											
APPARATUS INDEX	A7	86	86	86	86	97	97	97	97	97	97	97	104	104	104											
	A8	89	89	89	89	97	97	97	97	97	97	97	97	97	97											
	A9	88	88	88	88	97	97	97	97	97	97	103	103	105	105											
	A10	88	88	88	88	97	97	97	97	97	97	97	97	97	97											
	A11	89	89	95	95	97	97	99	99	101	102	104	104	105	106											
	A12	91	91	91	91	97	97	97	97	97	97	97	97	97	97											
	A13	78	78	78	78	97	98	98	98	98	98	98	98	9J	98											
	A14	88	88	88	88	97	97	97	97	97	97	97	97	97	97											
LEAD INDEX	A15	83	83	95	95	95	95	95	95	95	102	102	102	102	106											
	A16	91	91	91	91	91	98	99	99	99	99	103	103	105	106											
	A17	88	88	88	88	88	98	98	98	98	98	98	98	98	98											
	A18	89	89	89	89	89	89	89	89	89	89	89	89	89	89											
	A19	88	88	88	88	88	88	88	88	88	88	88	88	88	88											
	A20	81	81	81	81	81	81	81	81	81	81	103	103	105	105											
OPTION INDEX	A21	91	91	91	96	96	96	96	96	96	96	96	96	96	106											
	A22	89	94	94	94	97	97	97	97	97	102	102	104	105	106											
	A23	86	94	94	94	94	94	94	100	100	102	102	102	105	106											
	A24	80	80	80	80	80	80	80	80	80	102	102	102	102	106											
	A25	88	94	94	94	94	94	94	94	94	94	103	103	03	106											
	A26	88	88	88	88	88	88	88	88	88	88	88	104	104	104											
	A27	93	93	93	93	93	93	93	100	100	100	100	100	100	106											
	A28	88	88	88	96	96	96	96	96	96	96	103	104	105	106											
	A29	86	86	86	86	86	86	86	86	86	86	86	86	86	86											
	A30	80	94	94	94	94	94	94	100	100	100	100	100	105	106											
	A31	92	94	94	96	96	96	96	100	100	100	103	103	03	106											
	A32	92	94	95	96	97	98	98	100	101	102	103	104	105	106											

SUPPORTING INFORMATION

CATEGORY		NO.
EQUIPMENT INFO	APP FIG.	
	1	J23253D-( )
	2	J23253E-( )
	3,4,5, 22 & 24	J23253M-( )
	6,7,8	J23253F-( )
	9,A, P & D	J23253N-( ) J23253AN-( )
	9,13,26	J23253CA-( )
	10	J23253W-( )
	11	J23253P-( ) J23253R-( )
	12	J23253C-( )
	13	J23253A-( ) J23253CA-( )
	14	J23253AP-( )
	15	J23253B-( )
	16	J23252Y-( ) J23253B-( ) J23253H-( ) J23253J-( ) J23253K-( ) J23253L-( ) J23253AR-( ) J23253AT-( ) J23253BP-( ) J23252BR-( ) J23253BY-( ) J23253CG-( )
	16,18,AB	J23253BX-( )
	17	J23253U-( ) J23253V-( )
	18	J23253P-( ) J23253AE-( )
	19	J23252W-( )
	20	J23253S-( )
	20,50 & E	J23253AS-( )

CATEGORY		NO.
EQUIPMENT INFO	21 & M	J23253AL-( ) J23253AM-( )
	25	J23253G-( ) J23253GN-( )
	26	J23253AF-( ) J23253AG-( ) J23253AH-( ) J23253AJ-( ) J23253BT-( ) J23253CA-( ) J23253CL-( ) J23253CM-( )
	27 & 31	J23253AA-( ) J23253BU-( )
	28	J23253AC-( )
	29 & 41	J23253AD-( )
	30	J23253AB-( )
	32	J23253T-( )
	33	J23253BA-( ) J23253BB-( ) J23253BC-( ) J23253BD-( )
	34	J23252AW-( ) J23252AY-( )
	35	J23253BN-( )
	36	J23253AU-( )
	37	J23253BM-( )
	38	J23253BL-( )
	39	J23253BW-( )
	40	J23253BE-( ) J23253BF-( ) J23253BG-( ) J23253BH-( ) J23253BJ-( )
	42	J23252U-( ) ED-26948-01
	43	J23253BS-( )
	46,48 & 49	J23252AC-( )
	47	J23252AD-( )
	51	J23253BZ-( )
	52	J23252AJ-( )
	53,54	J23253CB-( )
	55,56,61	J23253CC-( )
	56	J23253AM-( )
	57	J23253CD-( )
	58	J23253BZ-( )
	59	J23253CE-( )
	60	J23253CF-( )
	62 & 70	J23253AM-( )
	9,20,63	J23253BZ-( )
	69	J23253CJ-( )
	70,72	J23253CK-( )
	68,71	J27964K-( ) J27964KH-( )
EQIUPMENT DESIGN REQT		J23252 J23253 J27964

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 CHANGE OR NEW SHEET WILL BE THE SAME INDEX 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 68 THIS DRAWING WAS CHANGED FROM THE ATTACHED TO THE DETACHED CONTACT ARRANGEMENT INCREASING THE NUMBER OF SHEETS FROM 111 TO 288. ALL PREVIOUSLY ISSUED SHEETS HAVE BEEN REPLACED BY SHEETS INDICATED ON ISSUE 68.
7. ASSOCIATION OF CADS WITH SWITCHBOARD CABLE DETAIL DRAWINGS: CAD NUMBERS IN THE DETACHED ARRANGEMENT CORRESPOND TO THE CROSS CONNECTION FIGURE NUMBERS OF THE FORMER ATTACHED FORM.

CLASS "A" INFORMATION
ISSUE 96AC INCLUDES LOI:
94A,94C,94D

DWG ISS	CD ISSUE	DWG ISS	CD ISSUE	DWG ISS	CD ISSUE
1	1	2A	APP 1A	3A	2A
4A	2A APP 1A	5AR	3AR	6B	3AR APP 1B
7A	4A	8AR	4A APP 1AR	9D	4A APP 2D
10A	5A	11D	5A APP 1D	12A	5A APP 2A
13B	5A APP 3B	14A	5A APP 4A	15D	5A APP 5D
16A	5A APP 6A	17B	5A APP 7B	18AR	5A APP 3AR
19B	5A APP	20AR	5A APP 10AR	21D	5A APP 11D
22B	5A APP 12B	23A	5A APP 13A	24D	5A APP 14D
25D	60	26D	60 APP 1D	27B	60 APP 2B
28B	60 APP 3D	29B	60 APP 4B	30AR	60 APP 5D
31D	70	32B	70 APP 1B	33D	70 APP 2D
34B	70 APP 3B	35D	70 APP 4D	36B	70 APP 5B
37B	70 APP 6B	38A	70 APP 7A	39D	70 APP 8D
40D	70 APP 9D	41D	70 APP 10D	42B	70 APP 11B
43B	70 APP 12B	44A	70 APP 13A	45D	80
46B	80 APP 1B	47A	80 APP 2A	48D	80 APP 3D
49AR	80 APP 4AR	50D	90	51AR	90 APP 1AR
52A	90 APP 2A	53D	90 APP 3D	54A	90 APP 4A
55B	90 APP 5B	56AR	90 APP 6AR	57D	90 APP 7D
58B	90 APP 8B	59D	90 APP 9D	60AR	90 APP 10AR
61A	90 APP 11A	62D	90 APP 12D	63AR	90 APP 13AR
64D	90 APP 14D	65D	90 APP 15D	66AR	90 APP 16AR
67D	90 APP 17D	68D	90 APP 18D	69A	90 APP 19A
70D	100	71A	100 APP 1A	72A	100 APP 2A
73D	100 APP 3D	74D	100 APP 4D	75A	100 APP 5A
76B	100 APP 6B	77A	100 APP 7A	78D	100 APP 8D
79D	100 APP 9D	80A	100 APP 10A	81D	100 APP 11D
82A	100 APP 12A	83D	100 APP 13D	84AC	100 APP 14AC
85A	100 APP 15A	86D	110	87A	110 APP 1A
88D	110 APP 2D	89D	110 APP 3D	90A	110 APP 4A
91D	110 APP 5D	92A	110 APP 6A		

DWG ISSUE	EE OR CD ISSUED	DATE ISSUE	DRAWN	APPD
93D	11D APP 7D	6-5-73	G.M. RGA	AM, RBC CDH
94A	11D APP 8A	6-5-73	G.M. RGA	AM, RBC CDH
95D	11D APP 9D	2-12-74	CDI RGA HVS	CML RJS EDM
96AC	11D APP 10AC	2-12-74	CDI RGA HVS	CML RJS EDM
97D	11D APP 11D	11-10-74	CDI NSC	CML DAS THJ
98B	11D APP 12B	4-18-75	CDI RCB	CML DAJ THJ
99A	11D APP 13A	4-18-75	CDI RCB	CML DAJ THJ
100B	11D APP 14B	9-29-75	CDI GAS WSC	AWM DAJ THJ
101A	11D APP 15A	9-25-75	CDI GAS NSC	DAS DAJ THJ
102B	12B	8-5-76	CDI LR	DBS DAJ THJ
103A	12B APP 1A	8-5-76	CDI LR	DBS DAJ THJ
104B	12B APP 2B	10-19-77	CDI KEG	DBS DAJ RCA
105A	12B APP 3A	10-19-77	CDI KEG	DBS DAJ RCA
106B	12B APP 4B	6-8-78	CDI SGR	DBS DAJ RCA

NOTICE- NOT FOR USE OR DISCLOSURE OUTSIDE THE BELL SYSTEM EXCEPT UNDER WRITTEN AGREEMENT.

ISSUE 106B

1C02

CROSSBAR SYSTEMS

NO. 5
MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(RST)(AM)(ARST)

AT&TCO STANDARD

SD-25680-01-A1
342 SHEETS

BELL TELEPHONE LABORATORIES INCORPORATED

DRW SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-A1

SHEET INDEX

CONTENTS	SHEET NO.	ISSUE NO. 93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
FS 1 MONITORING ALLOTTER	B1	82	82	82	82	82	82	82	82	82	82	82	82	82	82											
FS 2 MONITOR CONTROL · FS 3 BLOWN FUSE RELAYS	B2	81	81	81	81	81	81	81	81	81	81	81	81	81	81											
FS 4 CONNECTOR RELAY CONTROL	B3	88	94	94	94	94	94	94	101	101	103	103	103	103	103											
FS 5 INCOMING REGISTER PREFERENCE AND SELECTION	B4	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
FS 6 INCOMING REGISTER CONTROL	B5	72	72	72	72	72	72	72	72	72	72	72	72	72	72											
FS 7 TYPE OF REGISTER	B6	84	84	84	84	84	84	84	84	84	84	84	84	84	84											
FS 8 OUTGOING SENDER - ORIGINATING REGISTER CONTROL	B7	61	81	81	81	81	81	81	81	81	81	81	81	81	106											
FS 9 MONITORING CONTROL	B8	70	70	70	70	70	70	70	70	70	70	70	70	70	70											
FS 10 MONITORING PARTICULAR CIRCUIT	B9	70	70	70	70	70	70	70	70	70	70	70	70	70	70											
FS 11 SENDER - REGISTER TEST CONTROL	B10	78	78	78	78	78	78	78	78	78	78	78	78	78	78											
FS 12 CONTROL	B11	86	86	86	86	86	86	86	86	86	86	103	103	105	105											
FS 13 CONTROL	B12	85	85	85	85	85	85	85	85	85	85	85	85	85	106											
FS 14 CONTROL	B13	81	81	81	81	81	81	81	81	81	81	81	104	104	104											
FS 15 CONTROL	B14	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
FS 16 MA TST FR CONN CONTROL	B15	70	70	70	70	70	70	70	70	70	70	70	70	70	70											
FS 17 SENDER REGISTER SELECTION	B16	78	78	78	78	78	78	78	78	78	78	78	104	104	104											
FS 18 INCOMING REGISTER CONTROL	B17	78	78	78	78	78	78	78	78	78	78	78	78	78	78											
FS 19 LAMP CONTROL	B18	93	93	93	93	93	93	93	100	100	102	102	104	104	104											
FS 20 LAMP CONTROL	B19	86	86	86	86	97	97	97	97	97	97	97	97	97	97											
FS 21 CROSS DETECTION	B20	76	76	76	76	76	76	76	76	76	76	76	76	76	76											
FS 22 MARKER CONTROL	B21	86	86	86	86	86	86	99	99	99	99	99	104	104	104											
FS 23 SENDER TEST	B22	93	93	93	93	93	93	93	93	93	93	93	93	93	93											
FS 24 SENDER - REGISTER TEST	B23	93	93	93	96	97	97	97	97	101	101	101	101	101	101											
FS 25 DP AMPLIFIER, REPEATER AND BIAS CONTROLLER	B24	89	89	89	89	89	89	89	89	89	102	102	102	102	102											
	B25	88	88	88	88	88	88	88	88	88	88	88	88	88	88											
FS 26 AC SUPPLY	B26	89	89	89	89	89	89	89	89	89	89	89	89	89	89											
FS 27 DIAL PULSE COUNTING	B27	84	84	84	84	97	97	97	97	97	102	102	104	104	104											
FS 28 DIGIT STEERING	B28A*	92	92	92	92	92	92	92	92	92	92	92	92	92	92											
	B28B	93	93	93	93	93	93	93	93	93	93	93	93	93	93											
FS 29 STEERING CONTROL	B29	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
FS 30 STEERING CONTROL	B30	81	81	81	81	81	81	81	81	81	81	81	81	81	81											
FS 31 DIGIT REGISTRATION	B31A*	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
	B31B	85	85	85	85	85	85	85	85	85	85	85	85	85	85											
	B32	85	85	85	85	85	85	85	85	85	85	85	104	104	104											
	B33	81	81	81	81	81	81	81	81	81	81	81	81	81	81											
	B34	86	86	86	86	86	86	86	86	86	86	86	86	86	86											
FS 32 REGISTRATION CHECK	B35	91	91	91	91	91	91	99	99	99	99	99	104	104	104											
FS 33 REGISTER OUTPUT	B36A*	86	86	86	96	96	96	96	96	96	96	96	96	96	96											
	B36E	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
FS 34 LINE LINK LOCATION	B37	88	88	88	88	88	88	88	88	88	88	88	88	88	88											
FS 35 TRUNK LINK CONTROL	B38	88	88	88	88	88	88	88	88	88	88	88	88	88	88											
FS 36 SENDER TEST	B39	93	93	93	93	97	97	97	97	97	97	97	97	97	97											
FS 37 SENDER TEST	B40	85	85	85	85	85	85	85	85	85	85	85	85	85	85											

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

CONTENTS	SHEET NO.	ISSUE NO. 93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
FS 38 SENDER TEST	B41	85	85	85	85	85	85	85	85	85	85	103	103	105	105											
FS 39 SENDER TEST	B42	89	89	89	89	89	89	89	89	89	89	103	103	105	106											
FS 40 SENDER TEST	B43	91	91	91	91	91	91	99	100	100	100	100	100	100	100											
FS 41 TIMING	B44	93	93	93	93	97	97	97	97	97	97	97	97	97	97											
FS 42 TIMING	B45	70	70	70	70	70	70	70	70	70	70	70	104	104	104											
FS 43 TIMING	B46	89	89	89	89	89	89	89	89	89	89	89	89	89	89											
FS 44 TIMING	B47	81	81	81	81	81	81	81	81	81	102	102	102	102	102											
FS 45 SENDER CLASS	B48	93	93	93	93	93	93	93	93	93	93	93	93	93	93											
FS 46 INCOMING REGISTER TEST	B49	78	78	78	78	78	78	78	78	78	78	78	78	78	78											
FS 47 INCOMING REGISTER TEST	B50	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
FS 48 INCOMING CLASS	B51	83	83	83	83	83	83	83	83	83	83	83	83	105	105											
FS 49 INCOMING CLASS	B52	73	73	73	73	73	73	73	73	73	73	73	73	73	73											
FS 50 INCOMING REGISTER RECEIVING	B53	88	88	88	88	88	88	88	88	88	88	88	88	88	88											
FS 51 CLASS & TRANSLATION CHECK	B54	88	88	88	88	88	88	88	88	88	88	88	88	88	88											
FS 52 REGISTER CHECK	B55	77	77	77	77	77	77	77	77	77	77	104	104	104												
FS 53 REGISTER CHECK FS 54 CLASS & TRANSLATOR CHECK	B56	91	91	91	91	91	91	100	100	100	100	104	104	104												
FS 55 INCOMING CLASS CHECK	B57	86	94	94	94	94	94	94	94	94	94	94	94	94												
FS 56 CLASS CHECK	B58	92	92	92	92	92	92	92	92	92	92	92	92	92												
FS 57 TRANSLATOR CHECK	B59	93	93	93	93	93	93	93	93	93	93	93	93	93												
FS 58 REGISTER CHECK	B60	93	93	93	96	96	96	96	96	96	96	96	96	96												
FS 59 TRANSFER REGISTER TEST FS 60 SIMULATED LINE IDENTIFIER	B61	86	86	86	86	86	86	86	86	86	86	86	86	86												
FS 61 ORIGINATING REGISTER TEST	B62	81	81	81	81	81	81	81	100	100	100	100	100	100												
FS 62 REGISTER AND SENDER TEST	B63	75	75	75	75	75	75	75	75	75	75	75	75	75												
FS 63 REGISTER AND SENDER TEST	B64	91	91	95	95	95	95	95	95	95	102	102	102	105												
FS 64 REGISTER AND SENDER TEST	B65	78	78	78	78	78	78	78	78	78	78	78	78	78												
FS 65 FINAL DIGIT CONTROL	B66	81	81	81	81	81	81	81	81	81	81	81	81	81												
FS 66 DIGIT TIMING & TWO PARTY CONTROL	B67	73	73	73	73	73	73	73	73	73	73	73	73	73												
FS 67 TIMING	B68	78	78	78	78	78	78	78	78	78	78	78	78	78												
FS 68 TIMING	B69	73	73	73	73	73	73	73	73	73	73	73	73	73												
FS 69 OUT STEERING	B70A*	87	87	87	87	87	87	87	87	87	87	87	87	87												
	B70B	81	81	81	81	81	81	81	81	81	81	81	81	81												
FS 70 OUT STEERING CONTROL	B71	71	71	71	71	71	71	71	71	71	71	71	71	71												
FS 71 DIAL PULSE COUNTING	B72A*	88	88	88	88	88	98	98	98	98	98	98	98	98												
	B72B	81	81	81	81	81	81	81	81	81	81	81	81	81												
FS 72 MF DIGIT CONTROL	B73	81	81	81	81	81	81	81	81	81	81	81	81	81												
FS 73 MF PULSE GENERATOR	B74	68	68	68	68	68	68	68	68	68	68	68	68	68												
FS 74 DIAL PULSE GENERATOR	B75	70	70	70	70	70	70	70	70	70	70	70	70	70												

DRAWING ISSUE

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2)

SD-25680-01-A2

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25680-01-A2

CBL-142 (10-69)

SHEET INDEX

CONTENTS	SHEET NO.	ISSUE NO. 93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
FS 75 DIAL PULSE GENERATOR	B76	73	73	73	73	73	98	98	98	98	98	98	98	98	98											
FS 76 "TOUCH-TONE®" CONTROL	B77	73	73	73	73	73	73	73	73	73	73	73	73	73	73											
FS 77 "TOUCH-TONE" CONTROL	B78	70	70	70	70	70	70	70	70	70	70	70	70	70	70											
FS 78 DIAL PULSING CONTROL	B79	78	78	78	78	78	98	99	100	100	102	102	102	102	102											
FS 79 "TOUCH-TONE" GENERATOR	B80	74	74	74	74	74	74	74	74	74	74	74	74	74	74											
FS 80 "TOUCH-TONE" GENERATOR	B81	81	81	81	81	81	81	81	81	81	81	81	81	81	81											
FS 81 MULTIFREQUENCY CONTROL	B82	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
FS 82 T & R CONTROL	B83	86	86	86	86	86	86	86	86	86	86	86	86	86	86											
FS 83 T & R CONTROL	B84	88	88	88	88	88	88	88	88	88	88	88	104	104	104											
FS 84 REVERTIVE PULSE COUNTING	B85	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
FS 85 REVERTIVE PULSE CONTROL	B86	81	81	81	81	81	81	81	81	81	81	81	81	81	81											
FS 86 REVERTIVE PULSE CONTROL	B87	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
FS 87 CENTRAL B CONTROL FS 88 REVERTIVE PULSE CONTROL	B88	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
FS 89 REVERTIVE PULSE TIMING	B89	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
FS 90 REVERTIVE PULSE CONTROL	B90	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
FS 91 REVERTIVE PULSE CONTROL	B91	68	68	68	68	68	98	98	98	98	98	98	98	98	98											
FS 92 REVERTIVE PULSE GENERATOR	B92	93	93	93	93	93	98	98	98	98	98	98	98	98	98											
FS 93 REVERTIVE PULSE TIMING	B93	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
FS 94 PCI SENDER CONTROL	B94	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
FS 95 PCI SENDER CONTROL	B95	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
FS 96 REVERTIVE PULSE MONITURING	B96	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
FS 97 REVERTIVE PULSE CONTROL	B97	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
FS 98 REVERTIVE PULSE REGISTER	B98	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
FS 99 REVERTIVE PULSE REGISTRATION	B99	70	70	70	70	70	70	70	70	70	70	70	70	70	70											
FS 100 RP REGISTRATION CONTROL	B100	74	94	94	94	94	94	94	94	94	94	94	94	94	94											
FS 101 PCI REGISTER	B101	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
FS 102 PCI REGISTER	B102	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
FS 103 PCI REGISTER	B103	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
FS 104 PCI REGISTRATION CONTROL	B104	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
FS 105 PCI REGISTRATION	B105	70	70	70	70	70	70	70	70	70	70	70	70	70	70											
	B106	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
FS 106 PLANT & TRAFFIC REGISTER CONTROL	B107	68	68	95	95	95	95	95	101	102	102	102	102	102	102											
FS 107 FOUR WIRE MONITORING CONTROL	B108	75	75	75	75	75	75	75	75	75	75	75	75	75	75											
FS 108 SPECIAL CONTROLS	B109	81	81	81	81	81	81	81	81	81	81	81	81	81	81											
FS 109 "TOUCH-TONE" TRANSLATION	B110	82	82	82	82	82	82	82	82	82	82	82	82	82	82											

CONTENTS	SHEET NO.	ISSUE NO. 93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117

DRAWING ISSUE

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2)

SD-25680-01-A3

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-A3

CBL-142 (10-69)

SHEET INDEX

CONTENTS	SHEET NO.	ISSUE NO. 93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
APP FIG. A-F	C1	83	83	83	83	83	83	83	83	83	83	83	83	83	83											
APP FIG. G,H,J,K	C2	73	73	73	73	73	73	73	73	73	73	73	73	73	73											
APP FIG. L,M,N,P,Q,R	C3	83	83	83	83	83	83	83	83	83	83	83	104	104	104											
APP FIG. S-V	C4	86	86	86	96	96	96	96	96	96	96	96	96	96	96											
APP FIG. W,X	C5	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
APP FIG. Y,Z,AA,AB	C6	72	72	72	72	72	72	72	72	72	72	72	72	72	72											
APP FIG. AC-AG	C7	74	74	74	74	74	74	74	74	74	74	74	74	74	74											
APP FIG. 1	C8	86	86	86	86	97	97	97	97	97	97	97	97	97	97											
	C9	68	68	68	68	68	68	68	68	68	68	68	68	68	106											
APP FIG. 2	C10	86	86	86	86	86	86	86	86	86	86	86	104	104	104											
APP FIG. 3,4,5	C11A							99	99	99	99	99	99	99	99											
APP FIG. 6,7,8	C11B							99	99	99	99	99	99	99	99											
APP FIG. 9	C12	86	86	86	86	86	86	99	99	99	99	99	99	99	99											
	C13	86	86	86	86	86	86	86	100	100	102	102	102	102	102											
	C14	83	83	83	83	83	83	83	100	100	100	100	104	104	104											
APP FIG. 10	C15	81	81	81	81	81	81	81	81	101	101	101	101	101	101											
	C16	83	83	95	95	95	95	95	95	101	101	101	101	101	101											
APP FIG. 11	C17	83	83	83	83	83	83	83	100	100	100	100	104	104	104											
	C18	86	86	86	86	86	86	86	100	100	100	100	104	104	104											
	C19A	78	78	78	78	78	78	78	78	78	78	78	104	104	104											
	C19B	78	78	78	78	78	78	78	78	78	78	78	104	104	104											
APP FIG. 12	C20	91	91	91	91	91	91	91	91	91	91	91	104	104	104											
APP FIG. 13	C21	91	91	91	91	91	91	91	91	101	102	102	104	104	104											
	C22	75	75	75	75	75	75	75	75	75	102	102	104	104	104											
APP FIG. 14	C23	83	83	83	83	83	83	83	83	83	83	83	83	83	83											
APP FIG. 15	C24	83	83	83	83	97	97	97	97	97	97	97	97	97	97											
APP FIG. 16	C25	81	81	81	81	81	81	81	81	81	81	81	81	81	81											
	C26	86	86	86	86	97	97	97	97	97	97	97	97	97	97											
	C27	86	86	86	96	96	96	96	96	96	96	96	96	96	96											
	C28	86	86	86	96	96	96	96	96	96	96	96	96	96	96											
	C29	86	86	86	96	96	96	96	96	96	96	96	96	96	96											
	C30	86	86	86	86	86	86	86	86	86	86	86	86	86	86											
	C31	91	94	94	96	97	97	97	97	97	97	97	97	97	97											
APP FIG. 17	C32	93	93	93	93	93	93	93	100	100	100	103	104	105	105											
	C33	89	89	89	89	89	89	89	89	89	89	103	103	105	105											
	C34	91	91	91	91	97	97	97	97	97	97	97	104	104	104											
APP FIG. 18	C35	81	81	81	81	81	81	81	81	81	81	81	81	81	81											
APP FIG. 19	C36	81	81	81	81	81	81	81	100	100	100	100	100	100	100											
APP FIG. 20	C37	86	86	86	86	86	86	86	86	86	86	86	86	86	86											
	C38	78	78	78	78	78	78	78	78	78	78	78	78	78	78											
	C39	86	86	86	86	86	86	86	86	86	86	86	86	86	86											
	C40	93	93	93	93	93	93	93	93	93	93	93	104	105	105											
APP FIG. 21	C41	78	78	78	78	78	78	78	78	78	78	78	78	78	78											
	C42	83	83	83	83	83	83	83	83	83	83	83	83	83	83											
APP FIG. 22-25	C43	74	74	74	74	74	74	74	74	74	74	74	74	74	74											
APP FIG. 26	C44	81	81	81	81	81	98	98	100	100	100	100	100	100	100											
	C45	83	83	83	83	83	98	98	100	100	102	102	102	102	102											
	C46	81	81	81	81	81	98	98	100	100	102	102	102	102	102											
APP FIG. 27	C47	88	88	88	88	88	88	88	88	88	88	88	88	88	88											
APP FIG. 28	C48	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
	C49	79	79	79	79	79	79	79	79	79	79	79	79	79	79											
	C50	88	88	88	88	88	88	88	88	88	88	88	88	88	88											
APP FIG. 29-31	C51	88	88	88	88	88	88	88	88	88	88	88	88	88	88											

CONTENTS	SHEET NO.	ISSUE NO. 93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
APP FIG. 32	C52	83	83	83	83	83	83	83	83	83	83	83	104	104	104											
APP FIG. 33	C53	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
	C54	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
	C55	83	83	83	83	83	83	83	83	83	83	83	104	104	104											
APP FIG. 34	C56	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
	C57	83	83	83	83	83	83	83	83	83	83	83	83	83	83											
APP FIG. 35	C58	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
	C59	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
APP FIG. 36	C60	68	68	68	68	68	68	68	68	68	68	68	104	104	104											
APP FIG. 37	C61	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
APP FIG. 38	C62	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
APP FIG. 39	C63	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
APP FIG. 40	C64	70	70	70	70	70	98	98	98	98	98	99	98	98	98											
	C65	68	68	68	68	68	98	98	98	98	98	98	98	98	96											
	C66	83	83	83	83	83	98	98	98	98	102	102	104	104	104											
APP FIG. 41-43	C67	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
APP FIG. 44,45	C68A	74	74	74	74	74	74	74	74	74	74	74	74	74	74											
APP FIG. 46	C68B	74	74	74	74	74	74	74	74	74	74	74	104	104	104											
	C69	83	83	83	83	83	83	83	83	83	83	83	83	83	83											
APP FIG. 47,48	C70	86	86	86	86	86	86	86	86	86	86	86	86	86	86											
APP FIG. 49-51	C71	86	86	86	86	86	86	86	86	86	86	86	86	86	86											
APP FIG. 52-54	C72	86	86	86	86	86	86	86	86	86	86	86	86	86	86											
APP FIG. 55	C73	80	80	80	80	80	80	80	80	80	80	80	80	80	80											
RESERVED	C74																									
APP FIG. 56-59	C75	92	92	92	92	92	92	92	92	92	92	92	92	92	92											
APP FIG. 60-63	C76	82	82	82	82	97	97	97	97	97	97	97	97	97	97											
APP FIG. 64,65,66,67,68	C77	81	81	81	81	81	81	81	81	81	81	81	81	81	81											
APP FIG. 69,70,71,72	C78	88	94	94	96	96	96	96	96	101	101	101	104	104	104											
APP FIG. 73	C79	89	89	89	89	89	89	89	89	89	89	89	89	89	89											
APP FIG. 74,75	C80												104	104	106											

DRAWING ISSUE

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2)

SD-25680-01-A4

BELL TELEPHONE LABORATORIES
INCORPORATED

SIZE 6S

SD-25680-01-A4

CBL-142 (10-69)

SHEET INDEX

CONTENTS	SHEET NO.	ISSUE NO. 93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
CIRCUIT NOTE 101	D1	89	89	89	89	89	89	89	89	89	89	89	104	104	104											
RESERVED	D2																									
CIRCUIT NOTE 102	D3A	92	94	94	96	96	96	96	100	101	102	103	103	103	106											
	D3B	92	94	95	96	97	97	97	100	101	102	102	104	105	106											
RESERVED	D4																									
CIRCUIT NOTE 103	D5	81	94	94	94	94	94	94	94	94	102	102	102	102	102											
	D6A	92	92	92	92	92	92	92	92	92	92	92	92	92	92											
	D6B	92	94	94	94	94	94	94	94	94	94	94	94	94	94											
CIRCUIT NOTE 104	D6C	91	91	95	96	97	98	98	100	101	102	103	104	105	105											
CIRCUIT NOTES 105 TO 141	D7	88	88	88	88	97	97	97	97	97	97	97	97	97	97											
CIRCUIT NOTES 142 TO 157	D8	93	93	93	93	93	93	93	93	93	93	93	93	93	106											
CIRCUIT NOTES 158 TO 199	D9	93	93	93	93	93	93	93	93	93	93	93	104	104	104											
CIRCUIT NOTES 1201 TO 1230	D10A	93	94	94	96	97	97	97	97	97	97	97	97	97	97											
CIRCUIT NOTES 1231 TO 1260	D10B	93	94	94	96	96	96	96	101	101	101	101	105	105	105											
CIRCUIT NOTES 1261 TO END	D11	91	94	95	96	97	98	98	100	101	102	103	104	105	106											
EQUIPMENT NOTES 201 TO 230	D12A	81	81	81	81	81	81	81	81	81	81	81	81	81	81											
EQUIPMENT NOTES 231 TO END	D12B	88	88	88	88	88	88	88	88	88	88	88	88	88	88											
TABLE A	D13	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
INFORMATION NOTES 301 TO END TRANSMISSION TEST REQUIREMENTS ELECTROLYTIC CAPACITOR TEST REQUIREMENTS	D14	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
SC 1 PROGRESSIVE MONITORING	E1	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
	E2	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
SC 2 MONITORING ORIGINATING REGISTERS	E3	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
	E4	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
	E5	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
SC 3 MONITORING PARTICULAR ORIGINATING REGISTER	E6	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
	E7	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
SC 4 MONITORING DIAL PULSE OUTGOING SENDERS	E8	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
	E9	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
	E10	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
SC 5 MONITORING DIAL PULSE INCOMING REGISTERS	E11	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
	E12	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
	E13	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
SC 6 MONITORING A PARTICULAR INCOMING REGISTER SC 7 MONITORING A PARTICULAR OUTGOING SENDER	E14	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
SC 8 MONITORING "TOUCH-TONE" CALL	E15	91	91	91	91	91	91	91	91	91	91	91	91	91	91											

CONTENTS	SHEET NO.	ISSUE NO. 93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
CKT REQT TABLES TO A7 RELAY	F1	70	70	70	70	70	70	70	70	70	70	70	70	70	70											
CKT REQT TABLES AO TO BG1	F2	81	81	81	81	81	81	81	81	81	81	81	81	81	81											
CKT REQT TABLES BK TO CIA'	F3	80	80	80	80	80	80	80	80	80	102	102	102	102	102											
CKT REQT TABLES CIB TO CRSA	F4	93	93	93	93	93	93	93	93	93	93	93	104	104	104											
CKT REQT TABLES CRT1 TO DD8A	F5	69	69	69	69	69	98	98	98	98	98	98	104	104	104											
CKT REQT TABLES DD9 TO FBS1	F6	89	89	89	89	97	97	97	97	97	97	97	104	104	104											
CKT REQT TABLES FD TO FVD	F7	68	68	68	68	68	98	98	98	98	98	98	98	98	98											
CKT REQT TABLES G TO IO2	F8	81	81	81	81	97	97	97	97	97	97	97	97	97	97											
CKT REQT TABLES IO3 TO KJ7	F9	86	86	86	96	96	98	98	98	98	98	98	104	104	104											
CKT REQT TABLES KK0 TO LSA	F10	86	86	86	86	86	86	86	86	86	86	86	86	86	86											
CKT REQT TABLES LSI TO MIR2	F11	86	86	86	86	86	86	86	86	86	86	86	86	86	86											
CKT REQT TABLES MK TO ORH	F12	86	86	86	86	86	86	86	86	86	86	86	86	86	86											
CKT REQT TABLES ORM TO PCTA	F13	82	82	82	82	82	82	82	82	82	82	82	82	82	82											
CKT REQT TABLES PD TO RIF	F14	79	79	79	79	79	98	98	98	98	98	98	98	98	98											
CKT REQT TABLES RIF1 TO RTC	F15	76	76	76	76	76	76	76	76	76	76	76	76	76	76											
CKT REQT TABLES RTC TO SP1	F16	81	81	81	81	31	98	98	100	100	100	100	100	100	100											
CKT REQT TABLES SP2 TO TB3	F17	72	72	72	72	72	72	72	72	72	72	72	72	72	72											
CKT REQT TABLES TBL TO TO	F18	88	88	88	88	88	88	88	88	88	88	103	103	105	105											
CKT REQT TABLES TOL TO XLT	F19	86	86	86	86	86	86	86	86	86	102	102	102	102	102											
CKT REQT TABLES XM TO END ELECTRON TUBES	F20	71	71	71	71	71	71	71	71	71	102	102	102	102	102											
TIMING REQT	F21	86	86	86	86	86	86	86	86	86	86	86	86	86	86											
TIMING REQT	F22	86	86	86	86	86	86	86	86	86	86	86	86	86	86											
TIMING REQT	F23	93	93	93	93	93	93	93	93	93	93	93	93	93	93											

DRAWING ISSUE

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2)

SD-25680-01-A5

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-A5

CBL-142 (10-69)

SHEET INDEX

CONTENTS	SHEET NO.	ISSUE NO. 93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
CAD 51 AND 53	G1	70	70	70	70	70	70	70	70	70	70	70	70	70	70											
CAD 59																										
CAD 60,62,63,66,78, AND 82	G2	70	70	70	70	97	97	97	97	97	97	97	104	104	104											
CAD 66	G3	70	70	70	70	70	70	70	70	70	102	102	102	102	102											
CAD 67 AND 68	G4	74	74	74	74	74	74	74	74	74	74	74	74	74	74											
CAD 70 AND 76	G5	70	70	70	70	70	70	70	70	70	70	70	70	70	70											
CAD 73,84-91	G6	71	71	71	71	71	71	71	71	71	71	71	104	104	104											
CAD 100	G7	70	70	70	70	70	98	98	98	98	98	98	98	98	98											
CAD 101	G8	86	86	86	86	86	86	86	86	86	86	86	86	86	86											
CAD 102	G9	91	91	91	91	91	91	91	91	91	91	91	91	91	106											
CAD 103	G10	90	90	90	90	90	90	90	90	90	90	90	90	90	106											
CAD 104 AND 105	G11	83	83	83	83	83	83	83	83	83	83	83	83	83	83											
CAD 106 AND 107	G12	74	74	74	74	74	74	74	74	74	74	74	74	74	106											
CAD 108	G13	89	89	95	95	95	95	99	99	101	102	102	102	105	105											
CAD 109	G14	93	93	93	93	93	93	93	93	93	93	93	93	93	106											
CAD 110	G15	91	91	91	91	91	91	91	91	91	91	91	91	91	106											
CAD 111	G16	91	94	94	94	94	94	99	99	101	102	102	104	104	106											
CAD 112	G17A	89	89	89	89	89	89	89	89	89	89	89	89	89	89											
	G17B	89	89	89	89	89	98	98	100	100	102	102	102	105	106											
CAD 112A	G17C						98	98	98	98	98	98	98	98	98											
CAD 113	G18	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
CAD 114	G19	91	91	91	91	91	98	98	98	98	98	98	98	98	98											
CAD 115	G20	91	91	91	91	91	98	98	98	98	98	98	98	105	105											
CAD 116-118	G21	92	92	92	96	96	98	98	98	98	98	98	98	98	98											
CAD 119-121	G22	89	89	89	89	89	89	89	89	89	89	103	103	105	106											
CAD 122	G23	81	81	81	81	81	81	81	81	101	102	102	102	102	102											
CAD 123	G24	88	88	88	88	88	88	88	86	88	88	88	88	88	106											
CAD 124 AND 125	G25	71	71	71	71	71	71	71	71	71	71	71	71	71	71											
CAD 126	G26	71	71	71	71	71	71	71	71	71	71	71	71	71	71											
CAD 127	G27	91	91	91	91	91	91	91	91	91	91	103	103	105	105											
CAD 128	G28	89	89	89	89	89	89	89	89	89	89	89	104	104	104											
CAD 129	G29	72	72	72	72	72	72	100	100	102	102	102	102	102	102											
CAD 130	G30	92	92	92	92	92	98	98	98	98	98	98	104	104	104											
CAD 131	G31	91	91	91	91	91	91	91	91	91	91	91	91	105	106											
CAD 132	G32	92	92	92	92	97	98	98	100	100	100	100	100	100	100											
CAD 133	G33	68	68	68	68	68	68	68	68	68	68	68	68	68	68											
CAD 134	G34	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
CAD 135 AND 136	G35	81	81	81	81	81	81	81	81	81	81	81	81	81	81											
CAD 137	G36	70	70	70	70	70	70	70	70	70	70	70	70	70	70											
CAD 138	G37	70	70	70	70	70	70	70	70	70	70	70	70	70	106											
CAD 139	G38	70	70	70	70	70	70	70	70	70	70	70	70	70	70											
CAD 140-142	G39	91	91	91	91	91	91	91	91	91	91	91	104	104	106											
CAD 143	G40	86	86	86	86	86	86	86	86	86	86	86	86	86	86											
CAD 144-147	G41	89	89	89	89	89	89	89	89	89	89	89	89	89	89											
CAD 148 AND 149	G42	92	92	92	92	92	92	92	92	92	92	92	92	92	92											

CONTENTS	SHEET NO.	ISSUE NO. 93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
CAD 150	G43	92	92	92	92	92	92	92	92	92	92	92	92	92	106											
CAD 151	G44A	91	91	91	91	91	91	91	91	91	91	91	104	104	104											
	G44B	92	92	92	92	92	92	92	92	92	92	92	104	104	104											
CAD 152	G45	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
CAD 153	G46	80	80	80	80	80	80	80	80	80	80	80	80	80	80											
	G47	85	85	85	85	97	97	99	99	99	99	99	99	99	99											
CAD 154	G48	91	91	91	96	97	97	97	100	101	101	101	104	104	104											
CAD 155	G49	82	82	82	82	97	97	97	97	97	97	97	97	97	97											
CAD 156,157, AND 158	G50	89	94	94	94	94	94	94	94	94	94	94	94	94	94											
CAD 159	G51	81	81	81	81	81	81	81	81	81	81	81	81	81	81											
CAD 160 AND 161	G52	92	92	92	92	92	92	100	100	100	100	100	100	100	100											
CAD 162,163, AND 164	G53	91	91	91	91	91	91	91	91	91	91	91	91	91	91											
CAD 165	G54	88	88	88	88	97	97	97	97	97	97	97	97	97	97											
CAD 166,167,168 AND 169	G55	91	91	91	91	91	91	99	99	99	99	99	99	99	106											

DRAWING ISSUE

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2)

SD-25680-01-A6

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-A6

CBL-142 (10-69)

APPARATUS INDEX

NOTES:

***ALL LOCATIONS ARE ON THE REGISTER AND SENDER TEST BAY, AUTOMATIC MONITOR BAY AND AUXILIARY REGISTER AND SENDER TEST BAY, WITH THE EXCEPTION OF (MCU) AND (MCUA) RELAYS WHICH ARE MOUNTED ON J27964K-50 FRAME AND (SAI) RELAY WHICH IS MOUNTED ON J27964KH-50 FRAME. LAMPS AND KEYS ARE LOCATED ON THE MASTER TEST FRAME CONTROL BAYS PER J23252U, AJ OR BW. ALL LOCATIONS ARE INDICATED AS FOLLOWS:

- L - -
- R - -

FRAME POSITION NO.
LEFT OR RIGHT BAY
FRAME

RELAY RACK MOUNTED EQUIPMENT:

RR1 INC REG GR CONN & SEL UNIT
RR2 L IDENT UNIT
RR3 MKR IDENT UNIT
RR4 4-WIRE TEST UNIT
RR5 REG & SDR TEST UNIT A
RR6 TOUCH-TONE® MONITORING CONT UNIT
RR7 IDDD TEST UNIT
RR8 EOD -12 DIGIT TEST UNIT

DESIG	LOCATION FS	APP FIG.	EQPT	***
	RELAYS			
0	72B/B3	26	WL20	
0'	72B/B2	26	WL21	
0F	73A2	W	WL28	
0F	73A2	X	WL28	
0T	86C0	33	AA-54	
1	72B/G3	26	WL20	
1'	72B/G2	26	WL21	
1F	73E2	W	WL28	
1F	73E2	X	WL28	
1-P	55E0	55	RR4	
1T	86C0	33	AA-54	
1XX	15A8	16,60	Y-38	
2	72B/G2	26	WL20	
2'	72B/G2	26	WL21	
2DGS	101D9	39	AA-27	
2DT	52H7	Y	WR30	
2DT	52H7	Z	WR14	
2F	73D2	W	WL28	
2F	73D2	X	WL28	
2P	62F3	11	WR15	
2T	86C0	33	AA-54	
2W	62A9	55	RR4	
3	72B/F2	26	WL20	
3'	72B/F2	26	WL21	
3D	14E2	64	Y-52	
3DA	109C2	64	Y-52	
3DB	109D2	64	Y-52	
3DGS	101D9	39	AA-27	
3DS	109E2	64	Y-52	
3F	73D2	W	WL28	
3F	73D2	X	WL28	
3KPF	73H2	21	WL29	
3T	86C0	33	AA-54	
4	72B/F2	26	WL20	
4'	72B/F2	26	WL21	
4F	73C2	W	WL28	
4F	73C2	X	WL28	
4T	86C0	33	AA-54	
4W	62A9	55	RR4	
4WDP	65A8	57	Y-10	
4WMF	65B8	57	Y-10	
4WT	55G0	55	RR4	
5	72B/E2	26	WL20	
5'	72B/E2	26	WL21	
5F	73C2	W	WL28	
5F	73C2	X	WL28	
5T	86C0	33	AA-54	
6	72B/D2	26	WL20	
6'	72B/D2	26	WL21	
6F	73B2	W	WL28	
6F	73B2	X	WL28	
6T	86C0	33	AA-54	
7	72B/D2	26	WL20	
7'	72B/D2	26	WL21	
7F	73B2	W	WL28	
7F	73B2	X	WL28	
7T	86C0	33	AA-54	
8	72B/C2	26	WL20	
8'	72B/C2	26	WL21	
8F	73B2	W	WL28	
8F	73B2	X	WL28	
8T	86C0	33	AA-54	
9	72B/C2	26	WL20	
9'	72B/C2	26	WL21	
9F	73A2	W	WL28	
9F	73A2	X	WL28	
9T	86C0	33	AA-54	
10	26E1	12	Y-24	
10F	72A/A4	56	RR4	
11	30A9	16	Y-37	
11'	30A8	16	Y-37	
11A	108D7	61	RR4	
11B	108A7	61	RR4	
11C	108G7	61	RR4	
11D	108C7	61	RR4	
11F	72A/A5	56	RR4	
11R	23F9	16	Y-37	
12	30B9	16	Y-37	
12'	30C8	16	Y-37	
12F	72A/A5	56	RR4	
13F	72A/A6	56	RR4	
A0	32C6	16	Y-41	
A1	32C6	16	Y-41	
A2	32C8	16	Y-41	
A4	32C9	16	Y-41	
A7	32C9	16	Y-41	
AA7	32C9	69	RR7	
AAB	25G7	13	Y-26	
ABN	40F9	17	WR5	
ABN1	40F0	40	AA-40	
ABN2	94F9	37	AA-21	
ABT	93F9	40	AA-37	
AC	1F9	13	Y-27	
ACO	20F0	9	WR19	
AC8	23D0	18	WL36	
AD	70A/G4	18	WL41	
AD1	70A/G5	18	WL41	
AD3	70A/G7	18	WR24	
AD4	70A/G8	18	WR24	
AF	86A0	33	AA-2	
AG	42G8	43	WR3	
AGR	39H9	43	WR3	
AGR1	39B9	43	WR3	
AGT	44C6	43	WR3	
AMA	48C1	17	WR4	
AMA1	94F9	40	AA-37	
AON	23C9	13	Y-31	
AOT	61D3	51	WL5	
APA	1A0	2	Y-18	
APB	1B0	2	Y-18	
APC	1C0	2	Y-18	
APD	1D0	2	Y-18	
APE	1D0	2	Y-18	
APF	1E0	2	Y-18	
APG	1F0	2	Y-18	
APH	1G0	2	Y-18	
APJ	1G0	2	Y-18	
APK	1H0	2	Y-18	
ARO,1,2,4,7	32A0	16	Y-4	
ARP0-9	96F3	34	AA-10	
ARS	28A/G7	16	Y-4	
ARSA	28A/G7	16	Y-4	
AS	28B/G0	16	Y-41	
ASA	28B/G0	16	Y-41	
ATT	61D3	51	WL5	
B0,1,2,4,7	33A0	16	Y-48,51	
BD	72B/G2	26	WL20	
BD1	75B3	26	WL23	
BD2	72B/H3	26	WL24	
BFR1	2A9	1	Y-20	
BFR2	2B9	1	Y-20	
BFR3	2C9	1	Y-20	
BFR4	2E9	1	Y-19	
BFR5	2F9	1	Y-19	
BFR6	2F9	1	Y-19	
BGO	39A9	17	WR9	
BGI	42D8	17	WR8	
BGI	43A8	17	WR8	
BK	89D0	33	AA-48	
BL	49B9	20	WR26	
BLI	49B9	20	WR26	
BLM	64G1	13	Y-31	
BLR	49E9	20	WR26	
BLT	83A3	20	WR26	
BLTL	49D9	20	WR26	
BO'	85F1	33	AA-3	
BP	70A/G2	18	WL41	
BRO,1,2,4,7	32A2	16	Y-3	
BRP	88G1	33	AA-51	
BRS	28A/G8	16	AA-51	
BRSA	28A/G8	16	Y-3	
BS	28B/G1	16	Y-42	
BSA	28B/G1	16	Y-42	
BT	20G0	11	WR14	
BTI	64F1	9	WR23	
BT2	10C0	9	WR23	
C	17E0	20	WR27	
C0,1,2,4,7	33A2	16	Y-43	
C4MM	48D1	45	WR9	
C4MT	48E1	45	WR9	
CA	17G0	20	WR27	
CA1	103A1	38	AA-26	
CA2	103D1	38	AA-26	
CA4	103C1	38	AA-26	
CA5	103F1	38	AA-26	
CAC	101C9	10	Y-11	
CB1	103A2	38	AA-26	
CB2	103D2	38	AA-26	
CB3A	50A0	20	WR24	
CB3B	50B0	33	AA-56	
CB4	103C2	38	AA-26	
CB5	103F2	38	AA-26	
CBA	88F1	33	AA-56	
CBA1	68F7	33	AA-56	
CBA2	88G7	33	AA-56	
CBR	5A4	1	Y-19	
CBRO	86F0	33	AA-56	
CBR1	68B	9	WR22	
CBR2	58A	9	WR22	
CBR3	50B0	20	WR24	
CBT	86C0	33	AA-55	
CBTT	86A9	20	WR24	
CC1	103A3	38	AA-26	
CC2	103D3	38	AA-26	
CC4	103C3	38	AA-26	
CC5	103F3	38	AA-26	
CCK	60A9	20	WR30	
CDO,2,7	31B/C4	55	RR4	
CD1,4,10,15	31B/D4	55	RR4	
CDA0,1,2,4	31B/E4	55	RR4	
CDA7	31B/F4	55	RR4	
CDAS	28A/G5	57	Y-10	
CDP	27C7	13	Y-27	
CDP0,2,7,15	31B/A4	55	RR4	
CDP1,4,10	31B/B4	55	RR4	
CDPS	28A/G3	57	Y-10	
CDS	28A/G4	57	Y-10	
CG	14E1	16	WL36	
CGC	14F1	16	Y-38	
CH	101E0	37	AA-22	
CH'	101E1	37	AA-23	
CH1	103A6	38	AA-25	
CH2	103D6	38	AA-25	
CH4	103C6	38	AA-25	
CH5	103F6	38	AA-25	
CHP	102C0	39	AA-27	
CHPE	43F9	39	AA-27	
CI	2B0	10	Y-11	
CI1	2C0	10	Y-11	
CIA	101A0	37	AA-22	
CIA'	101A1	37	AA-23	
CIB	101B0	37	AA-22	
CIB'	101B1	37	AA-23	
CIC	101C0	37	AA-22	
CIC'	101C1	37	AA-23	
CIST	40B0	40	AA-42	
CKE	12E9	10	Y-13	
CKL	55F0	11	WR14	
CKN	35A9	10	Y-13	
CKN1	12F0	V	Y-4	
CKN2	12E1	V	Y-4	
CKS	13D0	10	Y-13	
CL1	28A/G1	16	Y-36	
CL1A	28A/G1	16	Y-36	
CL1B	28A/G5	57	Y-10	
CL1C	28A/G2	57	Y-10	
CL2	48A1	17	WR5	
CL2A	48A1	17	WR4	
CL3	48B1	17	WR5	
CL3A	92C9	40	AA-40	
CL4	48C1	17	WR5	
CL5	48E1	17	WR5	
CL5A	48F1	V	Y-4	
CL6	48F1	17	WR5	
CL7	48G1	16	Y-32	
CL8	48H1	16	Y-32	
CL8A	48D5	59	RR5	
CL13	22E5	17	Y-32	
CL18	22E5	16	Y-32	
CLS	28A/G6	16	Y-36	
CLSA	28A/G6	16	Y-36	
CMS	9B1	2	Y-17	
CN	62F0	11	WL10	
CNA	62F0	26	WL25	
CNB	62D0	11	WR10	
CNC	62D2	11	WR10	
CNK	55D9	11	WR10	
CNK1	55E9	11	WR10	
CNR	55E9	11	WR10	
CNTT	55F9	11	WR10	
COF	94G9	40	AA-42	
CON	101E9	37	AA-21	
CON1	101E9	36	AA-12	
COS	7B9	1	Y-19	
COS1	7D0	9	WR21	
COS2	10C0	9	WR21	
CPO	37D7	69	RR7	
CPOA	37E7	69	RR7	
CPT1	72A/A7	56	RR4	
CR	62B9	11	WR16	
CRO,1,2,4,7	32A4	16	Y-40	
CRA	63F0	11	WR14	
CRB	63F1	11	WR14	
CRBA	61C9	66	WL5	
CRK	84D4	11	WR12	
CRK1	68A1	11	WR10	
CRK2	68E1	11	WR10	
CRK3	68B1	11	WR10	
CRS	28A/G9	16	Y-40	
CRSA	28A/G9	16	Y-40	
CRT1	68B7	11	WR10	
CRT2	68D7	11	WR10	
CRT3	68F7	11	WR10	
CS	28B/G1	16	Y-43	
CSA	28B/G2	16	Y-43	
CSP	101A9	Q	AA-13	
CSP	101B9	R	AA-13	
CST	101D0	37	AA-22	
CST'	101D1	37	AA-23	
CT	101F0	37	AA-22	
CT'	101F1	37	AA-23	
CT1	103A7	38	AA-24	
CT2	103D7	38	AA-24	
CT4	103C7	38	AA-24	
CT5	103F7	38	AA-24	
CTAO,1,2,4,7	37B7	28	WL44	
CTAB	55D9	11	WR11	
CTG	76A2	26	WL13	
CTH	101E0	37	AA-23	
CTH'	101E1	37	AA-22	
CTH1	103F5	38	AA-25	
CTH2	103A5	38	AA-25	
CTH4	103D5	38	AA-25	
CTH8	103C5	38	AA-25	
CTRO	104A0	39	AA-28	
CTR1	104B0	39	AA-27	
CTR2	104B0	39	AA-28	
CTR3	104C0	39	AA-27	
CTR4	104C0	39	AA-28	
CTR5	104D0	39	AA-27	
CTR6	104D0	39	AA-27	
CTR7	104C0	39	AA-28	
CTR8	104D0	39	AA-27	
CTR9	104D0	39	AA-27	
CTT	18C0	9	WR23	
CU	101G0	37	AA-22	
CU'	101G1	37	AA-23	
CU1	103A8	38	AA-24	
CU2	103D8	38	AA-24	
CU4	103C8	38	AA-24	
CU5	103F8	38	AA-24	
CUA0,1,2,4,7	37A7	28	WL43	
CW	102B0	37	AA-21	
CX0	39G9	17	WR19	
CXI	53D0	9	WR9	
CZ	102A0	37	AA-21	
D	17A0	20	WR27	
D0,1,2,4,7	33A4	16	Y-44	
DA	71G2	26	WL23	
DA1	71G8	26	WL23	
DAR	22E9	16	Y-4	
DAT	61D3	51	WL5	
DB	87E9	33	AA-56	
DBR	22F9, 61D3	16	Y-3	
DCK	52H1	20	WR30	
DCR	22G0	16	Y-40	
DD8	30C9	16	WL36	
DD8A	30D9	16	WL36	
DD9	30G9	16	Y-37	
DD9A	30E9	16	Y-37	
DIR	5B4	1	Y-22	
DIR1	6C8	9	WR22	
DIR2	5C4	9	WR22	
DISC	40E9	17	WR6	
DL	2A0	10	Y-11	
DL1	22A0	16	Y-41	
DL2	22B0	16	Y-42	
DL3	22C0	16	Y-43	
DL4	22D0	16	Y-44	
DL5	22D0	16	Y-45	
DL6	22E0	16	Y-46	
DL7	22F0	16	Y-47	
DLP	49D9	20	WR26	
DLP1	49F9	20	WR26	
DOC	22B0	37	AA-21	
DON	23B9	15	Y-35	
DOR	7D9	1	Y-22	
DOR1	10A9	9	WR22	
DOR2	10A0	9	WR22	
DOR3	65F0	11	WR17	
DOR4	7F9	61	RR4	
DOS	7C9	1	Y-22	
DOS1	7E0	9	WR21	
DOS2	10B0	9	WR21	
DP	62C0	26	WL23	
DP1	62D0	26	WL23	
DP2	23D6	60		
DPA	46C9	73	Y-2	
DPM	11E0	13	Y-31	
DPMI	11F0	13	Y-26	
DPST	40A0	17	WR6	
DPT	58G3	53	WL28	
DR	50B0	20	WR25	
DS	28B/G2	16	Y-44	
DSA	28B/G2	16	Y-44	
DSC	4CD0	40	AA-37	
DSM	42E8	13	Y-31	
DSP	97B9	34	AA-8	
DSS	65A0	26	WL23	
DT	67E8	14	WL38	
DTI	67B4	14	WL38	
DT2	67D4	14	WL38	
DT3	67F8	14	WL38	
DT4	67F8	14	WL38	
DTI	61D3	51	WL5	
DTF	61D3	20	WL5	
DTT	49E0	20	WR32	
E0,1,2,4,7	33A5	16	Y-45	
EOD	109A2	70	WL29	
EODA	109F2	70	RR7 OR RR8	
EMP	63H1	1	Y-22	
EPS	55E2	74	WR24	
ES	28B/G3	16	Y-45	
ESA	28B/G3	16	Y-45	

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT

SD-25680-01-A7

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-AZ

CBL-176(11-73)

APPARATUS INDEX

DESIG	LOCATION FS	APP FIG.	EQPT
RELAYS			***
FO,1,2,4,7	33A7	16	Y-46
FAC	58G3	53,65	WL28
FAK	38D0	27	WL47
FAS	94G9	40	AA-42
FB0	98D0	35	AA-16
FB1	98D1	35	AA-16
FB2	98D3	35	AA-16
FB3	98D4	35	AA-16
FB4	98D5	35	AA-16
FBK	38E0	27	WL47
FBS	97D0	35	AA-16
FBS1	97D0	35	AA-16
FD	66G7	26	WL24
FD1	66H6	26	WL24
FD2	55B9	11	WR17
FD3	66F7	21	WL33
FD4	66E7	21	WL33
FD5	71B8	21	WL33
FD6	71B7	21	WL33
FDA	71B0	18	WL39
FDB	71B0	18	WL39
FG0	37F3	27	WL48
FG1	37F3	27	WL48
FG2	37F3	27	WL28
FKP	73F2	21	WL29
FLB	87C0	33	AA-52
FLBA	87D0	33	AA-51
FLT	87E0	33	AA-52
FLT0	98E0	35	AA-15
FLT1	98E1	35	AA-15
FLT2	98E3	35	AA-15
FLT3	98E4	35	AA-15
FLT4	98E5	35	AA-15
FLT5	98E7	35	AA-15
FLTA	87E0	33	AA-51
FLU	87F0	33	AA-52
FLU0	98F0	35	AA-14
FLU1	98F1	35	AA-14
FLU2	98F3	35	AA-14
FLU3	98F4	35	AA-14
FLU4	98F5	35	AA-14
FLU5	98F7	35	AA-14
FLUA	87F0	33	AA-51
FMF	74C1	21	WL32
FN0	92A3	40	AA-31
FO'	85F1	33	AA-3
FO1	85G0	33	AA-3
FO2	87B9	33	AA-49
FOT	89F6	33	AA-48
FPT	67D8	11	WR15
FRP	88G7	33	AA-53
FS	288/G4	16	Y-46
FS0-29	38A0	31	WL28,46
FSA	288/G4	16	Y-46
FSG1	11D0	27	WL47
FSG2	11D0	27	WL47
FSG3	11E0	27	WL28
FT0,1,2,3	37C0	28	WL43
FTP	88E9	33	AA-33
FTR	40E0	40	AA-37
FTS	97E0	35	AA-15
FTS1	97E0	35	AA-15
FU0,1,2,4,7	37B0	28	WL43
FUS	97E0	35	AA-14
FUS1	97E0	35	AA-14
FV0	51H0	50	WR31
G	94C4	36	AA-12
G0,1,2,4,7	33A8	16	Y-47
GA	73D9	21	WL30
GR	11E7	19	WL49
GR	11E8	19	WL49
GS	288/G5	16	Y-47
GSA	288/G5	16	Y-47
GT	84D6	11	WR12
GTA	84F5	11	WR11
GTN0	55C9	11	WR12
GT0	55C9	11	WR11
GTT	69C1	11	WR13
H0,1,2,4,7	34B0	16	Y-48
HF	78B0	48	RR2
HF1	77A9	48	RR2
HF2	77A9	48	RR2
HF3	77B9	48	RR2
HF4	77B9	48	RR2
HFD	39D0	16	Y-32
HG0,1,2,4,7	37A0	28	WL43
HLV	81E8	46	RR2
HPA	95E9	40	AA-40
HS	288/G5	16	Y-48
HSA	288/G6	16	Y-48
HT0,1,2,4,7	37D0	30	WL44
IA	91F0	40	AA-45
IA1	91D0	40	AA-46
IAA	91H0	40	AA-45
IAS	97F0	35	AA-14
IAS1	97H0	35	AA-14
IAT	93G4	40	AA-45
IB	87A0	33	AA-52
IB0	98C0	35	AA-18
IB1	98C1	35	AA-18
IB2	98C3	35	AA-18
IB3	98C4	35	AA-18
IB4	98C5	35	AA-18
IBA	87B0	33	AA-51
IBS	97B0	35	AA-18
IBS1	98B0	35	AA-18
ID	30A6	72	RR7 OR RR8
IDA	110H4	72	RR7 OR RR8
IDD	12H4	69	RR7
IDD1	12F4	69	RR7
IDD2	12F4	69	RR7
IDD3	12G4	69	RR7
IFT	89B6	33	AA-48
IFT	89B6	33	AA-48
IG	87B0	33	AA-52
IG0	98C0	35	AA-17
IG1	98C1	35	AA-17
IG2	98C3	35	AA-17
IG3	98C4	35	AA-17
IG5	98C7	35	AA-17
IGA	87C0	33	AA-51
IGH	86A9	20	WR30
IGS	97C0	35	AA-17
IGS1	97C0	35	AA-17
INC	51H1	20	WR31
INT	76C2	26	WL16
INT1	76E5	26	WL16
IO	92B9	40	AA-46
IO1	90C0	40	AA-39
IO2	90A0	40	AA-44
IO3	90B0	40	AA-46
IR	1C9	2	Y-17
IRAB	49F9	20	WR25
IRB	1D9	13	Y-31
IRB0	486	3	WR41
IRB-	4E6	4	WR40
IRB-	4H6	5	RR1
IRD	62A0	26	WL25
IRN	8D1	1	Y-21
IRP0	4A7	3	WR41
IRP-	4E7	4	WR40
IRP-	4G7	5	RR1
IRPS	49C0	20	WR25
IRST	49B0	20	WR27
J0,1,2,4,7	34B2	16	Y-49
JS	288/G6	16	Y-49
JSA	288/G6	16	Y-49
K0,1,2,4,7	34B4	16	Y-50
KA	74F0	21	WL29
KA0,1,2,4	36A/D0	16	Y-41
KA7	36A/E0	16	Y-41
KAA	81G8	47	RR3
KAR0,1,2,4,7	32E0	16	Y-4
KB0,1,2,4,7	36A/F0	16	Y-42
KBR0,1,2,4,7	32E2	16	Y-3
KC0,1,2,4,7	36D2	16	Y-43
KCD0,1	36B/C4	55	RR4
KCD2,4	36B/D4	55	RR4
KCD7	36B/E4	55	RR4
KCD10,15	36B/F4	55	RR4
KCDA0,1	36B/C7	55	RR4
KCDA2,4	36B/D7	55	RR4
KCDA7	36B/E7	55	RR4
KCDP0,1	36B/C0	55	RR4
KCDP2,4	36B/D0	55	RR4
KCDP7	36B/E0	55	RR4
KCDP10,15	36B/F0	55	RR4
KCR0	36D3	59	RR5
KCR1,2,4	32D4	59	RR5
KD0,1,2,4,7	36D3	16	Y-44
KE0,1,2,4,7	36D3	16	Y-45
KF0,1,2,4,7	36D4	16	Y-46
KG0,1,2,4,7	36D4	16	Y-47
KH0,1,2,4,7	36D5	16	Y-48
KJ0,1,2,4,7	36D5	16	Y-49
KK0,1,2,4,7	36D6	16	Y-50
KL0,1,2,4,7	36D6	16	Y-51
KM0	36D7	70	RR8
KM1,2	36E7	70	RR8
KM4,7	56F7	70	RR8
KP	70A/G0	18	WL41
KP1	70A/G0	18	WL41
KPF	73E2	21	WL28
KPS	73A9	21	WL32
KPS1	73E9	21	WL32
KR0	32E2	16	Y-40
KR1,2,4,7	32E4	16	Y-40
KR1A,2A, 4A,7A	32E4	40	AA-37
KS	288/G7	16	Y-50
KSA	288/G7	16	Y-50
KST7	36C9	16	Y-38
L	27D8	15	Y-33
L0,1,2,4,7	34B5	16	Y-51
LA	27D7	15	Y-34
LA1	27G0	15	Y-33
LC	27A9	15	Y-34
LC0-9	38G0	27	WL48
LCG	11C0	27	WL47
LD	27A9	15	Y-34
LE	27A9	15	Y-34
LF	78B0	48	RR2
LF0,3	77F9	48	RR2
LF6,9	77G9	48	RR2
LI0	61C3	51	WL5
LI1	61C3	51	WL5
LICK	61D6	51	WL5
LK	16C9	20	WR27
LKT	49G0	20	WR26
LL	73F9	21	WL34
LLS	22A9	17	WR9
LLS1	22B9	17	Y-35
LLV	81F8	46	RR2
LN	90E8	40	AA-37
LN1	91E0	40	AA-46
LNA	90A8	40	AA-38
LO	84A2	55	WR39
LO-	16A9	22	RR4
LOLP	25A5, 64D3	13	Y-25
LOLPT	78D	26	Y-25
LR	52H2	20	WR30
LR1	61A3	58	WR5
LS	288/G8	16	Y-51
LSA	288/G8	16	Y-51
LSI	86A9	33	AA-50
LT	51H8	Y	WR31
LT	51H8	Z	WR14
LT1,2	52H5	Z	WR14
LT3	52H6	Z	WR14
LV0	38C7	27	WL42
LV1	38D7	27	WL42
LV2-9	38F0	27	WL47
LVG	11B0	27	WL47
M0,2	34D7	70	RR8
M1,4	34D8	70	RR8
M7	34D8	70	RR8
M0-9	37C3	29	WL42
MAC1	64A1	1	Y-21
MAC2	63E9	1	Y-20
MAN	55C0	11	WR17
MB0	21H3	6	Y-7
MB-	21C3-F3	7	Y-7,8,9
MB-	21A3	8	Y-7,8,9
MBN	9A9	2	Y-17
MCA	3A0	28	WL49
MCB	3B0	16	Y-52
MCC	3C0	27	WL49
MCD	3D0	11	WR16
MCE	3D0	16	Y-52
MCF	3F0	20	WR32
MCG	3A8	20	WR32
MCH	3B8	20	WR32
MCI	3B8	16	Y-38
MCJ	3C8	16	Y-38
MCK	3D8	16	Y-38
MCL	3D8	16	Y-4
MCM	3E0	16	Y-38
MCN	3F0	16	Y-4
MCO	3E8	27	WL29
MCP	3707	28	WL44
MCQ	3F8	54	WR28
MCR	3G8	54	WR28
MCS	3G0	54	WR28
MCT	3A5	16	Y-52
MCU	3B5	68	***
MCUA	3B5	68	***
MCV	3A8	28	WL49
MF	50C0	18	WL39
MF1	74A1	21	WL34
MF2,3	74A3	21	WL34
MF4	74A4	21	WL34
MF5	73D9	21	WL29
MF5A	72A/A6	56	RR4
MFN	2E0	12	Y-24
MFP	49C9	20	WR26
MFR	2E0	12	Y-24
MFS	2F0	12	Y-24
MFS1	2F2	59	RR5
MFST	40A0	17	WR6
MFT	58F3	53	WR28
MG	95B2	36	AA-13
MIR	504	1	Y-22
MIR1	6E8	9	WR22
MIR2	5F4	9	WR22
MK	29B1	16	Y-39
MKR	11A0	9	WR19
MKT0	37D3	41	WL42
MKT1	37D3	41	WL42
MN	14C1	1	Y-20
MNF	78D0	46	RR2
MOS	7C9	1	Y-22
MOS1	7F0	9	WR21
MOS2	1080	9	WR21
MP0	21G1	6	Y-7
MP-	21B1-F1	7	Y-7,8,9
MP-	21A1	8	Y-9
MPC1	13B0	1	Y-21
MPC2	13C0	1	Y-21
MR	50C0	20	WR25
MS	28B/F8	70	RR8
MSR	8E1	2	Y-16
MSR1	8F1	2	Y-16
MST	65B0	11	WR17
MST1	63G0	11	WR17
MSTB	67C0	20	WR30
MT	14A1	9	WR20
MTG1	90D6	40	AA-45
MTR	13F0	10	Y-11
MTR1	12C9	10	Y-11
MXF	78E0	46	RR2
N	94C2	36	AA-12
NAI	32G7	V	Y-4
NBL	49A9	20	WR26
NDK	60G9	20	WR30
NDT	49C0	20	WR32
NDT1	49D0	20	WR32
NDT2	49D0	20	WL5
NRR	12A9	10	Y-11
NVA	25C5	13	Y-31
ONT1	10E9	9	WR21
ONT2	10G9	9	WR21
OP	30E9	16	Y-37
OP1	30F9	16	Y-37
OR	1B7	2	Y-17
ORAB	55B0	11	WR17
ORD	62B0	26	WL25
ORH	47A9	9	WR19
ORM	1E9	13	Y-31
ORM1	23D9	16	Y-39
ORN	8C1	1	Y-21
ORON	65E0	11	WR17
ORP	62B0	47	RR3
ORP-	16A9	22	WR39
ORST	65E0	11	WR17
ORT	58H3	53,65	WR28
OS	1A9	2	Y-17
OSA	70A/G9	18	WL41
OSA1	70A/G9	18	WL40
OSB	70B/F1	18	WL41
OSB1	19H5	18	WL40
OSC	70B/F1	18	WL41
OSD	70B/F2	18	WL41
OSE	70B/F3	18	WL41
OSF	70B/F3	18	WL40
OSG	70B/F4	18	WL40
OSH	70B/F5	18	WL40
OSJ	70B/F5	18	WL40
OSK	70B/F6	18	WL40
OSL	70B/F7	18	WL40
OSM	70B/F7	18	WL40
OSN	70B/F8	70	RR7 OR RR8
OST	2G0	9	WR23
OTH	86B0	33	AA-54
OTT	104A0	39	AA-27
OVF	88D7	33	AA-53
OA	51G0	20	WR31
OB	51G1	20	WR31
OF1	89A0	33	AA-49
OF2	89C0	33	AA-49
OFR	83E3	51	WL5
OFT	89G3	33	AA-48
OH	16D9	20	WR27
OK	12F0	9	WR23
ONM1	10D9	1	Y-20
ONM2	10D9	1	Y-20
ONR	23A9	16	Y-39
ONRA	23A9	55	RR4
ONS	41B9	17	WR6
ONS1	41B9	40	AA-38
PC-	16F0,G0	24	WR39
PEA	16B0	24	WR39
PCD	51G5	20	WR32
PCD1	51G5	20	WR32
PCR	51G5	E	WR32
PCT	53D1	9	WR19
PCTA	53D0	17	WR9
PD	62B9	11	WR16
PD0	23A0	18	WL36
PD1	23B0	AB	WL36
PD8	23E0	18	WL36
PD9	23A0	18	WL36
PD11	23B0	AB	WL36
PE	63D9	10	Y-13
PEA	63C9	1	Y-20
PG	78C9	47	RR3
PG1	78E7	47	RR3
PH	2986	15	Y-34
PHC	51G4	20	WR31
PK	62A9	11	WR16
PK1	62E9	11	WR14
PL	42F8	17	WR16
PLM	14E1	16	WR36
PLM1	14G1	16	WR36
PLS	76A1	26	WL16
PM1	88A1	33	AA-55
PM2	87D9	33	AA-55
POR1	10B9	11	WR14
POR2	65G0	11	WR14
POS	9584	36	A-13
PR	73C9	21	WL34
PRC	10B83	61	RR4
PS	6289	11	WR16
PST	27E9	15	Y-34
PT0	29E6	12	Y-25
P	24C5	13	Y-26
P1	27A0	15	Y-35
P2	2780	15	Y-35
P3	27C0	15	Y-35
P4	27C0	15	Y-35
P5	27D0	15	Y-35
P6	27D0	15	Y-35
P6A	27E0	15	Y-35
P11	23A0	16	Y-37
PAC	4689	16	Y-36
PB	62D0	18	WL40
PBC	2386	60	RR6
PBP	62A0	21	WL28
PBT	78A0	49	RR2
PBT1	78A0	49	RR2
PBX	22B9	18	WL36
R	75D3	26	WL23
R1	72B/B4	26	WL23
R2	72B/H4	26	WL24
R4	12D0	V	Y-4
R5	12D0	V	Y-4
RA1	31A/G6	AC,AD	Y-36
RAA	27G0	15	Y-33
RB1	14C1	20	WR27
RB2	15A8	20	WR27
RB3	14D1	20	WR27
RBN0	9C5	24	WR39
RBN-	9E5,G5	24	WR39
RBT	62G0	9	WR19

ISSUE 97D

CB

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

SD-25680-01-A8

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-A8

CBL-176(11-73)

APPARATUS INDEX

DESIG	LOCATION FS	APP FIG.	EQPT
	RELAYS		***
RC	71C0	18	WL39
RCK	35C4	16	Y-40
RCR	96F1	34	AA-6
REC1	44A9	17	WR7
REC2	44B9	40	AA-37
RELI	1588	51	WL5
RG	88F5	33	AA-50
RGD	95C9	S,T	AA-42
RGDI	94D9	S	AA-42
RGDI	94C9	T	AA-42
RI	61G7	51	WL5
RII	61B3	51	WL5
RIF	86B9	33	AA-48
RIFI	89B0	33	AA-48
RIR	5F4	1	Y-19
RIRI	6F8	9	WR22
RIR2	5F4	9	WR22
RIR3	50D0	20	WR24
RLT	86C9	33	AA-52
RN	12C0	1	Y-20
RO	52H1	20	WR30
RON	97A9	34	AA-9
ROS	709	1	Y-19
ROSI	7F0	9	WR21
ROS2	10E0	9	WR20
RP	6209	11	WR16
RPO-9	96G3	34	AA-5
RPO'-9'	96G3	34	AA-6
RPD	3580	11	WR14
RPE1	6381	1	Y-20
RPE2	63E1	9	WR23
RPE3	6381	51	WL5
RPL	96D3	34	AA-9
RPLA	96F6	34	AA-9
RPLT	97C9	1	Y-22
RPS	62F0	11	WR14
RPSI	6380	1	Y-21
RPS2	63E0	9	WR23
RPS2A	6188	51	WL5
RPS3	6380	51	WL5
RPSA	6260	11	WL5
RPST	4080	40	AA-44
RR3	50C0	20	WR24
RR3A	50E0	20	WR24
RR3B	50F0	33	AA-53
RR3C	5000	20	WR24
RRA1	86C9	33	AA-55
RRA2	8609	33	AA-55
RRAB	4909	33	AA-55
RRL	10E0	9	WR22
RRL'	10E3	9	WR22
RRS	97A0	34	AA-8
RRST	49A0	33	AA-50
RRT	89C6	9	WR21
RRTO	49B0	33	AA-51
RRTI	87C9	33	AA-51
RS1	95F9	34	AA-8
RS2	95F9	34	AA-8
RS3	9509	40	AA-44
RS3A	91A0	40	AA-44
RSS	6580	33	AA-53
RSSI	8560	33	AA-53
RSS2	85G1	33	AA-53
RTC	3E8	16	Y-52
RTCI	11A9	10	Y-12
RTC2	11F9	10	Y-12
RTCA	3G8	54	WR28
RTRO	100A0	35	AA-16
RTRI	100B0	35	AA-15
RTR2	100C0	35	AA-16
RTR3	100C0	35	AA-15
RTR4	10000	35	AA-16
RTR5	10000	35	AA-15
RTT	86F9	33	AA-55
RTTI	86E9	33	AA-55
RTV	39E9	17	WR6
RV	44E6	17	WR7
RVB	87G0	33	AA-52
RVBA	87G0	33	AA-51
RVP	92C3	40	AA-34
RVPI	92E3	40	AA-34
RVS	2360	16	Y-32
RVT	86B9	33	AA-48
RVTI	86C9	33	AA-52
RVT2	87C9	33	AA-52
RVTK	7100	18	WR14
S	75A3	26	WL23
SO	85F0	33	AA-2
SOI	318/A8	16	Y-36
SO2	318/C8	16	Y-36
SI	85E0	33	AA-2
SI'	85E1	33	AA-3
S2	85D0	33	AA-2
S2'	85D1	33	AA-3
S3	85C0	33	AA-2
S3'	85C1	33	AA-3
S4	85C0	33	AA-2
S4'	85C1	33	AA-3
S5	85A0	33	AA-2
S5'	85A1	33	AA-3
S6	85A0	33	AA-2
S6'	85A1	33	AA-3
SII	318/B8	16	Y-36
SI2	318/D8	16	Y-36
SAI	93F8	40	AA-43
SAI	22D9	71	***
SCI	23F0	16	Y-38
SCK	62C9	11	WR16
SCN	62C9	11	WR16
SD2A	41C0	40	AA-38
SDS	3C8	16	Y-2
SDT2	41D0	17	WR4
SDT3	4089	17	WR4
SF	73F2	21	WL29
SFI	78C0	48	RR2
SFT	49E0	20	WR32
SG-	1680-00	25	Y-6
SK	65C8	57	Y-10
SKI	65C8	57	Y-10
SLO	92D9	40	AA-45
SLOI	92D9	40	AA-44
SMTR	64E5	63	WL5
SON	7G9	1	Y-22
SONI	7A9	10	Y-13
SP	73A9	21	WL30
SPI	74D0	21	WL29
SP2	74E0	21	WL29
SP5	74F0	21	WL28
SPB	7400	47	RR3
SPE	43G9	17	WR5
SPEI	43A8	10	Y-13
SPF	78E0	46	RR2
SPL	51H4	20	WR31
SPLI	52H4	20	WR31
SPR-	16A0	24	WR39
SPT	6708	11	WR15
SRC	8580	33	AA-3
SRG	79G4	26	WL25
SS	66A6	17	WR5
SSC	10982	62	WL29
SSL	72A/A4	56	WL30
SSP	7339	21	WL30
SSR	72A/A6	56	WL30
ST7	341	16	Y-38
STA	103A4	38	AA-25
STB	103D4	38	AA-25
STC	103C4	38	AA-25
STD	103F4	38	AA-25
STK	73G9	20	WR26
STM	8A1	1	Y-21
STMI	8B1	2	Y-17
STM2	8B1	2	Y-16
STM3	8B1	1	Y-21
STP	73F9	21	WL34
STPO	87A9	33	AA-53
STPR	8806	33	AA-49
STR	87B9	33	AA-53
STRA	110F2	60	RR6
STRG	110D2	60	RR6
STRT	92C9	40	AA-46
STS	28B/G8	16	Y-38
STT	10C9	9	WR23
STVT	43E9	17	WR6
SV	84C7	9	WR18
SY	71F8	26	WL24
SYI	71D8	26	WL24
SY2	90G8	40	AA-46
SY3	90G8	40	AA-46
T	88A9	33	AA-48
TI	87D9	33	AA-48
TA	4609	10	Y-14
TAC	64D1	9	WR20
TAC1	63E9	9	WR20
TAC2	63F9	9	WR20
TAN	51G2	20	WR31
TAN1	52G2	20	WR30
TAN2	52G3	20	WR30
TAN3	52G3	20	WR30
TAN4	52G4	20	WR30
TAPI	46F9	2	Y-16
TAP2	46A9	2	Y-16
TBI	4309	17	WR4
TB2	39F9	17	WR7
TB3	91B9	40	AA-38
TBL	13A0	9	WR23
TBLP	108C5	61	RR4
TCI	1709	20	WR25
TC2	17C9	20	WR25
TC3	90C8	40	AA-38
TC4	91F9	40	AA-38
TCA	51H6	20	WR24
TCB	51H6	20	WR24
TCL-	16D9	22	WR39
TCS	97G0	35	AA-14
TCT	44F6	17	WR9
TCTI	9389	40	AA-37
TD	47C9	9	Y-25
TDI	22G2	16	Y-36
TDA	47C9	9	Y-25
TDM	23E9	16	Y-37
TFO,1,2,4,7	37G3	27	WL48
TG	83F3	32	WR29
TGI	39F9	17	WR8
TG2	39A9	17	WR8
TG3	3989	17	WR8
TG3'	3988	17	WR8
TG4	83D4	20	WL5
TGD	94D9	40	AA-43
TGT	93D9	40	AA-43
TGTI	93H8	40	AA-43
THC	51G4	20	WR31
THTO	38B7	30	WL45
THTI	38B7	30	WL45
THT2	38F7	30	WL42
THT3	38F7	30	WL42
TI	62G9	51	WL5
TIF2	62G9	51	WL5
TIR	50F0	20	WL5
TIRI	6D8	9	WL5
TIRV	62F9	51	WL5
TK	42B8	17	WR8
TKI	41B0	17	WR8
TK2	41B0	40	AA-39
TKR	39B9	17	WR7
TKRI	39D9	17	WR9
TKR2	39G9	17	WR9
TKR3	41C9	69	RR7
TKR4	41F9	69	RR7
TKR5	41E9	69	RR7
TKR6	41E9	69	RR7
TKR7	41D9	69	RR7
TLG	11B9	10	Y-12
TLGI	11C9	10	Y-12
TM	46H3	10	Y-13
TMI	46D0	10	Y-14
TM2	46E0	10	Y-14
TM3	10200	10	Y-11
TM4	102C0	10	Y-11
TMA	46A0	10	Y-14
TMB	46B0	10	Y-14
TMC	46C0	60	RR6
TMN	45D7	17	WR8
TMNI	93C4	40	AA-40
TMT	41E0	17	WR7
TMX	45F8	17	WR8
TMXI	93E4	40	AA-40
TO	2981	16	Y-39
TOL	51H3	20	WR31
TP	6209	11	WR16
TPK	84B3	11	WR15
TPKI	6788	11	WR15
TPT	6788	11	WR15
TPTI	67C8	11	WR15
TR	1209	16	Y-38
TR2	12E9	17	WR4
TR3	1209	20	WL5
TR8	12B9	10	Y-11
TRC	1280	10	Y-12
TRF	49F0	20	WR32
TRFM	504	63	WL5
TRIC	61B9	51	WL5
TRRI	12A0	10	Y-12
TRR2	12C9	10	Y-12
TRS	28B/G9	16	Y-38
TRT	47H4	9	WR18
TRTI	4789	9	WR19
TSR	10C9	9	WR20
TST	52H0	20	WR25
TSTI	49F0	20	WR25
TSTA	61D6	51	WR5
TSTK	45G7	17	WR4
TT	51H3	20	WR31
TTO,1,2,4,7	37E0	30	WL44
TTA	17F0	20	WL5
TTF	62H0	20	WL5
TTE	97A1	34	AA-8
TTG	90C6	40	AA-45
TTGI	91D9	40	AA-40
TTIRI	6D8	9	WL5
TTIR2	5C4	9	WL5
TTK	110H2	60	RR6
TTS	97A0	34	AA-8
TTST	50G0	20	WL5
TVTK	40C9	17	WR4
TWT	73G9	21	WL34
UTO,1,2,4,7	37F0	30	WL44
VFO-4	37B3	28	WL44
VGO,1,2,4,7	37A3	28	WL44
VGIO	37A3	28	WL44
W	47A0	32	WR29
WAT	94E9	40	AA-41
WATR	61G3	51	WL5
WDTF	61E4	51	WL5
WDTI	61G3	51	WL5
WL	47F4	32	WR29
WOK	4780	32	WR29
WS	47D4	32	WR29
WSI	4780	32	WR29
X	30B9	16	Y-38
XCL	58A9	52	WR33
XICL	57F5	52	WR33
XII	62E9	11	WR16
XIR	20C0,5H6	9	WR18
XLT	59C9	52	WR33
XM	20D0	9	WR18
XMRI	20E0	9	WR18
XMR2	20E0	9	WR18
XOR	20A0	9	WR18
XOS	2080	9	WR18
XP	55E0	55	RR4
YO,3,6,9	11082	60	RR6
Z1-4	11002	60	RR6

ISSUE 105A		
MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT		SD-25680-01-A9
BELL TELEPHONE LABORATORIES INCORPORATED	SIZE 6S	PRINTED IN U.S.A.

SD-25680-01-A9

CBL-176(11-73)

APPARATUS INDEX

RELAYS

DESIG	LOCATION FS	APP FIG.	EQPT	×××
CB	84G6	A		
CN1	45C2	17	WR8	
CN2	45B0	17	WR7	
CO1	80G3	46	RR2	
CR1	68B7	11	WRII	
CR2	68D7	11	WRII	
CR3	68F7	11	WRII	
CR4	68A9	11	WRI2	
CR6	68C9	11	WRI2	
CR9	68E9	11	WRI2	
CV1	45G2	17	WR5	
CV2	45G0	17	WR5	
CX1	45F2	17	WR8	
CX2	45E0	17	WR7	
DA	76E0	26	WLI8	
DB	76D0	26	WLI8	
DC	76C0	26	WLI8	
DD	76F0	26	WLI5	
DE	76H0	26	WLI5	
DF	79C4	26	WL27	
DG	79C4	26	WL27	
DH	79C2	26	WL27	
DJ	79C2	26	WL27	
DK	75D0	26	WL22	
DL	75C1	26	WL19	
DM	75A4	26	WL22	
DN	79C3	26	WL27	
DP1	24C8	13	Y-27	
DP2	24D8	13	WLI9	
DP2	72B/G5	26	WLI9	
DP3	72B/F5	26	WL20	
DP4	72B/G5	26	WL20	
DPA	79D1	26	WL24	
DSP	97B7	34	AA-8	
DT1	67B1	14	WL38	
DT2	67D1	14	WL38	
DT4	67A0	14	WL38	
DT6	67C0	14	WL38	
FOT	89F8	33	AA-48	
FOT1	89E9	33	AA-48	
G	94D4	R	AA-11	
GN1	94D2	36	AA-12	
GN2	94D4	36	AA-12	
GTT1	69C2	11	WRI3	
GTT2	69F2	11	WRII	
GTT3	69B2	11	WRII	
GTT4	69C2	11	WRI3	
GTT5	69B0	11	WRI3	
GTT7	69D1	11	WRII	
HT	25H2	13	CA2	
IAT	93G1	40	AA-45	
IAT1	93G4	40	AA-45	
IFT	8988	33	AA-48,49	
IO	90A0	40	AA-44	
LA	27D6	15	Y-34	
LA1	27D7	15	Y-33	
MF	~~74A2~~	~~21~~	~~WL33~~	
MF1	26G4	12	Y-24	
MF2	26D5	12	Y-24	
MF3	26A5	12	Y-24	
~~MF2~~	~~4480~~	17	WR7	
MF4	26B6	12	Y-23	
MF5	26H5	12	Y-23,24	
MG	95B2	R	AA-11	
N	94D2	R	AA-11	
OA1	80C7	46	RR2	
OA2	80B7	46	RR2	
OB1	80E7	46	RR2	
OB2	80E7	46	RR2	
OC1	80G7	46	RR2	
OC2	80G7	46	RR2	
OFT	89G1	33	AA-48	
P	84H4	B	WR20	
P	84H2	P	WR20	
PA1	24D3	13	Y-27	
PA2	24F2	13	Y-27	
PA3	24F2	13	Y-27	
PBL	81D4	46	RR2	
PG	78C6	47	RR3	
PM1	95C2	36	AA-13	
PM2	95C4	36	AA-13	
POS	95B4	R	AA-11	
PT1	29F5	12	Y-23,24	
R	83H2	21	WL32	
R11	24B1	13	Y-27	
R12	24A1	13	Y-27	
R21	25C7	13	Y-27	
R22	25C7	13	Y-27	
RA	27G1	15	Y-32,33,34	
RC	84H5	A	WR21	
RC	84H4	B	WR21	
RC	84G2	P	WR21	
RCR	96F0	34	AA-8	
RPLA	96G5	34	AA-9	
RR1	88C5	33	AA-52	
RR2	88C5	33	AA-51	
RRT	89C8	9	WR20	
RV	92D5	40	W-36	
RV1	44E3	17	WR8	
~~RV2~~	~~4480~~	17	WR7	
RVA	92F5	40	AA-36	
RVAS	92F5	40	AA-36	
RVS	92D5	40	AA-36	
S0	85F2	33	AA-2	
S2	85D2	33	AA-2	
S5	8581	33	~~AA-2~~	
SA1	93G8	40	AA-43	
T	83F2	21	WL32	
TAP	46E7	2	Y-15,17	
TAP1	46E6	2	Y-15	
TCT	44F2	17	WR9	
TCT1	9386	40	AA-39	
TD	81D4	46	RR2	
TD2	8183	46	RR2	
TGT	9306	40	AA-43	
TM	46H1	10	Y-12,14	
TMA	46G0	10	Y-13	
TMN	9381	40	AA-39	
TMX	93E1	40	AA-39	
TMX1	93C0	40	AA-40	
TN	84E6	9	WRI9	
TPK	84C2	11	WRI5	
TRT	47H1	9	WRI9	
TRT1	47G1	9	WRI9	
TT	83C5	20	WR24	
TTS	24B8	13	Y-26	

BLOCKS, CONNECTING

DESIG	LOCATION FS	APP FIG.	EQPT	×××
CB	84G6	A		

CAPACITORS

DESIG	LOCATION FS	APP FIG.	EQPT	×××
ABT	93E6	40	AA-39	
AG1	4482	43	WR3	
AG2	4480	43	WR3	
AO1	80B0	46	RR2	
AO2	80A0	46	RR2	
AO3	80A0	46	RR2	
AO4	80A3	46	RR2	
B1	25G3	13	Y-31	
B2	25E5	13	Y-27	
B3	25F4	13	Y-27	
B4	25F5	13	Y-27	
B5	25F7	13	Y-27	
BO1	80D0	46	RR2	
BO2	80D0	46	RR2	
BO3	80C0	46	RR2	
BO4	80C3	46	RR2	

CAPACITORS

DESIG	LOCATION FS	APP FIG.	EQPT	×××
CB	84G6	A		

CAPACITORS

DESIG	LOCATION FS	APP FIG.	EQPT	×××
CB	84G6	A		

CAPACITORS

DESIG	LOCATION FS	APP FIG.	EQPT	×××
CB	84G6	A		

ISSUE 97D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

SD-25680-01-A10

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

CBL-176(11-73)

APPARATUS INDEX

CAPACITORS ***

DESIG	LOCATION FS	APP FIG.	EQPT
TW	82B5	21	WL35
V1	25F2	13	Y-27
V6	25C0	13	Y-27
VL	81C3	46	RR2
W	47D0	32	WR29
WL	47F1	32	WR29
WS	47D1	32	WR29

COMPONENT ASSEMBLIES ***

DESIG	LOCATION FS	APP FIG.	EQPT
CA1		13	Y-25
CA2		13	Y-19
CA7,8,9		46	RR2
CA10		46	RR2
CA11		46	RR2
CA12		46	RR2
CA13		6	
CA14		6	

CORDS ***

DESIG	LOCATION FS	APP FIG.	EQPT
C	84H6	A	

DIODES ***

DESIG	LOCATION FS	APP FIG.	EQPT
B2	25F7	13	Y-26
CO-5	21D6-F6	6	CA13
CI	94C2	R	AA-11
CII	94E6	R	AA-11
DO-5	21E6-G6	6	CA14
LLA	79B9	13	CA1
LLB	79B9	13	CA1
LT	51F7	20	WR32
MN	107A1	13	Y-11
MN1	107C3	13	
SON	7H6	1	
TD1	81C3	46	RR2
TMT	41G2	17	WR8
TT	51F3	20	WR32
V1	25F1	13	Y-26
V2	25E1	13	
V3	25F2	13	
V4	25E2	13	
V5	25C2	13	
V6	25B2	13	
V7	25C1	13	
V8	25B1	13	
VS1	25B2	13	CA1
VS2	25B2	13	CA1
VS3	25B1	13	CA1

FUSES ***

DESIG	LOCATION FS	APP FIG.	EQPT
AC	26D2	13	Y-26
B	24E2	13	Y-26

HEADSETS ***

DESIG	LOCATION FS	APP FIG.	EQPT
HS	84H2	B	
HS	84F0	P	

INDUCTORS ***

DESIG	LOCATION FS	APP FIG.	EQPT
A	84D7	9	WR18
DF	79D5	26	WL27
DG	79D4	26	WL27
DH	79D3	26	WL27
DJ	79D2	26	WL27
PL2	31A/B7	15	Y-33
R	79H4	26	WL25
RI	79G4	26	WL25
RIA	24B0	13	Y-27
R2	25B7	13	Y-27
RPL1	96F8	34	AA-9
RPL2	96F7	34	AA-9
T	84G4	B	WR20
T	84G2	P	WR20
TI	84H3	B	WR20
TI	84H1	P	WR20
V	82F5	21	WL35

JACKS ***

DESIG	LOCATION FS	APP FIG.	EQPT
CTG	72A/C8	26	WL13
DSP	97B8	34	AA-9
FND	91A5	40	AA-31
L	27E6	15	Y-32
MF2	82D4	21	WL35
MF3	82E4	21	WL35
MF4	71C7	21	WL35
NVA	25C6	13	Y-27
PGI	8187	47	RR3
PLS	79A0	26	WL13
RA	27H1	15	Y-32
TA	84G3	B	UR,AJR
TA	84F0	P	UR,AJR
TB	84H3	B	UR,AJR
TB	84F0	P	UR,AJR
TK	42B9	17	WR7
TTS	24F8	13	Y-27
VI	82D6	21	WL35
VL	81B4, 81C7, 81D8	46	RR2

KEYS ***

DESIG	LOCATION FS	APP FIG.	EQPT
1-P		55	UR,AJR, OR BW
2P		11	
3D		18	
3FD		21	
3FKP		21	
7MAX		26	
7MIN		26	
15MAX		26	
15MIN		26	
24X-D		26	
24MAX		26	
24MIN		26	
900		40	
1600		40	
AAB		13	Y-27
AAT		44	
ABN		17	UR,AJR, OR BW
ACO		9	
ADJ		46	RR2
AGR		43	
AISD		17	
BGO		17	
BL		20	
BLR		20	
C1OF		40	
C2OH		17	
CBT		33	
CBTI		33	
CBTT		20	
CC4		17	
CN		11	
CND		11	
CNTT		11	
CR4		11	UR,AJR, OR BW
CTAB		11	
CK		17	
DC		20	
DISC		17	
DPAN		73	
DSS		18	
DTR		17	
DTT		20	
EODA		18	
EPS		74	
FAS		40	
FKP		21	
HFA		46	RR2
HLD		1	
HLV		46	
IDT1		51	UR,AJR, OR BW
IDT2		51	
IG-		J	
IGH		20	
IO		40	
IRGT		AG,67	
LFA		46	RR2
LGP		47	
LL		21	
LLV		46	
LOLPT		26	
LP-O		26	
LSI		33	UR,AJR, OR BW
MAC		13	
MAN		11	
MIL		10	

KEYS ***

DESIG	LOCATION FS	APP FIG.	EQPT
MIR		2	UR,AJR OR BW
MIRT		9	
MOR		2	
MOS		2	
MOTL		9	
MPIR		2	
MPOR		2	
MPOS		2	
NBL		20	
NCND		11	
NOF2		40	
OPA		45	
ORH		9	
OTR		17	
PI		AA	
PII		AA	
PB		9	
PBX		18	
PBX5		18	
PP		18	
PR		21	
QTR		10	
RAB		11	
RBT		11	
RIF		33	
RLO		55	
RLR		20	
RLT		33	
RPD		11	
RPF		11	
RPS		11	SEE APP FIG
RRO		20	
RRP		11	
RSC		11	
RTP		11	
RTT		33	
RVT		33	
RVTI		33	
SDC		14	
SER		11	
SF		21	
SG-		G	
SGT		67	
SID		69	
SLL		17	
SLO		18	
SOIR		75	
SPD		17	
SRSO-9		23	
SSLB		18	
SSLE		18	
SSR		18	
SSRB		18	
SSRE		18	
STD		14	
STM		1	
STP		21	
STPO		33	
STRT		40	
STT		9	
STVT		17	
SURGE		26	
TA		10	
TD		9	
TDA		9	
TFR		20	

KEYS ***

DESIG	LOCATION FS	APP FIG.	EQPT
TI		51	SEE APP FIG. UR,AJR, OR BW
TIR2		51	
TIRV		51	
TMT		17	
TOF		69	
TON		69	
TPF		11	
TRRO		58	
TST		20	
TTAF		20	
TYR		45	
TWT		21	
VO		21	
V7		21	
WAT		44	
XP		55	
ZRO		11	

LAMPS ***

DESIG	LOCATION FS	APP FIG.	EQPT
A	84B8	9	UR,AJR, OR BW
AAB	27E6	13	Y-26
AD	19F2	18	
AD1	19F2	18	
AD3	19F3	18	
AD4	19F3	18	
BLT	18C8	20	
BP	19F1	18	
CO	18A8	20	
CCK	18A0	9	
CKS	19A0	10	
CRI	68C1	11	
CR2	68D1	11	
CR3	68D1	11	
CR4	68E1	11	
D	18C3	20	
DTI	67D0	14	
DT2	67E0	14	
FD	19C0	11	
FLB	87F7	33	
FLO	87F5	33	
FLT	87F7	33	
FLU	87F6	33	
FPT	67A8	11	
GTNO	69F4	11	
GTO	69G4	11	
IA	19E5	40	
IB	87F9	33	
IFF	87F4	33	
IG	87F8	33	
INC	18F4	20	
IR	18F4	1	
KP	19F0	18	
KPI	19F1	18	
LK	18A7	20	
LO	18A7	20	
MST	1980	9	
MST1	1980	11	
NVA	1G9	13	UR,AJR OR BW

LAMPS ***

DESIG	LOCATION FS	APP FIG.	EQPT
OF	84E5	9	UR,AJR OR BW
OH	18A8	20	
OK	12F9	9	
OR	18G4	1	
ORH	13E6	10	
ORON	19B0	11	
OS	18G4	2	
OSA	19F4	18	
OSB	19F4	18	
OSC	19F5	18	
OSD	19F5	18	
OSE	19F6	18	

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

SD-25680-01-A11

BELL TELEPHONE LABORATORIES
INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

CBL-176(11-73)

APPARATUS INDEX

DESIG	LOCATION FS	APP FIG	EQPT	
LAMPS			XXX	
OSF	19F6	18		UR,AJR OR BW
OSG	19F6	18		
OSH	19F7	18		
OSJ	19F7	18		
OSK	19F8	18		
OSL	19F8	18		
OSM	19F9	18		
OSN	19D9	70	RR7	
PCL	46F8	10		
PCR	18H4	E		
PL	19C5	17		
PPD	46F8	10		
PSI	46F9	10		
RAR	46F7	10		
RB	18A7	20		
RBK	46F7	10		
RLK	18C7	20		
RLO	19C0	55		
RO	18F6	20		
RNAB	87F4	33		
RS	46F7	10		
RT	46F7	10		UR,AJR OR BW
RTT	87F3	33		
RVB	87F6	33		
SCL	46F8	10		
SPD	46F7	10		
SPT	67A8	11		
SSI	46F8	10		
TAN	18F6	20		
TAN1	18G6	20		
TAN2	18G6	20		
TAN3	18H6	20		
TAN4	18F8	20		
TBI	13E6	9		
TC	19D5	40		
TCA	16F8	20		
TCB	16G8	20		
TCN	18C3	20		
TK	19B5	17		
TKI	19B5	17		
TLR	46F6	10		
TMT	19A5	17		
TOL	18G8	20		
WL	18A5	32		
WS	18A6	32		
X	20A5	9		

DESIG	LOCATION FS	APP FIG	EQPT	
NETWORKS			XXX	
CI2	103G2	37	AA-21	
CI3	103G4	37	AA-21	
CI4	103G6	37	AA-21	
CI5	103G8	37	AA-21	
CI6	101A3	37	AA-23	
CI7	101E3	37	AA-23	
CI8	101F3	37	AA-23	
CI9	103C0	37	AA-23	
CI10	103E0	37	AA-23	
CI11	101A2	37	AA-23	
CI12	103D0	37	AA-23	
CI13	103A0	37	AA-23	
CI14	102B1	37	AA-23	
DPI	72A/D8	26	WL-24	
FSI	37H5	27	WL-48	
LDI	27A8	15	Y-34	
LK	4H3	5	WR41	
LVGI	37G1	30	WL44	
MB	9C8	1	Y-22	
MFO,1,2,4,7	31A/B5	12	Y-23	
ONGI	37E5	28	WL44	
ONG2	37D1	28	WL44	
ONG3	37C8	28	WL43	
ONG5	11E5	10	Y-12	
ONRI	28C0	10	Y-13	
ONR2	31B/E9	16		
ONR3	32A9	16		
ONR4	33A6	16		
ONR5	34A7	16		
ONR6	33A9	16	Y-39	
ONR7	34A6	16		
ONR8	34A3	16		
ONR9	62F6	16		
ONRAI	36B/F8	55	RR4	
ONRA2	36B/G5	55	RR4	
ONRA3	36B/GI	55	RR4	
PSI	31A/C8	15	Y-32	
RBN	9B5	2	Y-16	
RM	9H2	1	Y-22	
RONI	97A3	34	AA-9	
RON2	98E9	34	AA-9	
RON3	97H2	34	AA-9	
RPCO-9	96H4	34	AA-7	
RPL	96H5	34	AA-9	
SOA	85F1	33	AA-2	
S2A	85D0	33	AA-2	
S5A	8580	33	AA-2	
SM	9G3	1	Y-22	

DESIG	LOCATION FS	APP FIG	EQPT	
PADS			XXX	
4WMF	26D7	57	Y-10	
C	83E1	21	WL34	
HL	81A1	46	RR2	
LL	81E1	46	RR2	
MF	26F8	12	Y-23	

POTENTIOMETERS			XXX	
AG	44A2	43	WR3	
BI	25F0	13	Y-26	
B2	25E3	13	Y-26	
CL2	45C4	17	WR6	
CR2	68A6	11	WR13	
CR7	68C6	11	WR13	
CR12	68E6	11	WR13	
DPN	4584	17	WR6	
DPX	45E5	17	WR6	
DT8	67A1	14	WL38	
DTIO	67CI	14	WR28	
FOT4	89E7	33	AA-50	
GN1	94F2	Q,R	AA-13	
GN2	94G2	Q,R	AA-12	
GTTI	69A2	11	WL39	
GTT6	69DI	11	WL39	
MFN	45B4	17	WR6	
OFT3	89F1	33	AA-50	
OFT5	89F1	33	AA-50	
OFT7	89E1	33	AA-50	
PA	80A7	46	RR2	
PB	80D7	46	RR2	
PC	80F7	46	RR2	
PMI	95E0	R	AA-13	
PM2	95E4	R	AA-13	
RVW	44D1	17	WR4	
TC4	44F2	17	WR9	
TC14	93A6	40	AA-41	
TGT4	93C6	40	AA-42	
TM5	93B1	40	AA-41	
TM9	93A1	40	AA-41	
TM11	93A1	40	AA-41	
WS	47D1	32	WR29	

RECEIVER			XXX
P	86H6	A	

RECEPTACLE			XXX
MON	26D2	13	

DESIG	LOCATION FS	APP FIG	EQPT	
RESISTORS			XXX	
AO	83E4	20	WR26	
AI	83E4	20	WR26	
AIA	8287	L	WL35	
AIA	8207	M	WL35	
AIA	82E7	N	WL35	
AIB	82E8	N	WL32	
A2	82C8	L	WL35	
A2	3207	M	WL35	
A2	82F7	N	WL35	
A2A	82F8	N	WL35	
A3	82C8	L	WL35	
A3	82D8	M	WL35	
A3	82E8	N	WL35	
AA81	24G8	13	Y-26	
AA82	24G8	13	Y-26	
AA84	25G7	13	Y-26	
AB1	93E5	40	AA-39	
AB2	93E6	40	AA-39	
AB3	93E5	40	AA-39	
AG1	4481	43	WR3	
AG2	44A3	43	WR3	
AG3	4441	43	WR3	
AG4	44A2	43	WR3	
ALM	107B3	9	WR19	
B	14D0	20	WR27	
BI	25E3	13	Y-27	
B2	2504	13	Y-27	
B3	2505	13	Y-27	
B4	25E4	13	Y-27	
B5	25E5	13	Y-27	
B6	25F5	13	Y-27	
B7	24E7	13	Y-27	
B8	25E7	13	Y-27	
B9	25E8	13	Y-27	
BIO	25F8	13	Y-27	
BII	25E8	13	Y-27	
B12	24E5	13	Y-26	
B13	25D6	13	Y-27	
B14	25F4	13	Y-27	
B15	25G4	13	Y-27	
BFR	2C7	1	Y-19	
BFR4	2E8	1	Y-19	
BFR5	2F8	1	Y-19	
BFR6	2F8	1	Y-19	
BGI	43A7	17	WR8	
BG2	42D7	17	WR8	
C31	88B2	33	AA-55	
CB2	88B1	33	AA-55	
CB3	88B1	33	AA-55	
CB4	88C2	33	AA-55	
CB5	88C1	33	AA-55	
CB6	88C1	33	AA-55	

DESIG	LOCATION FS	APP FIG	EQPT	
RESISTORS			XXX	
CB13	88E2	33	AA-56	
CB14	88E2	33	AA-56	
CB15	88F2	33	AA-56	
CB16	88G2	33	AA-56	
CDP	27C8	13	Y-31	
CI1	90A7	40	AA-42	
CI2	103H2	37	AA-21	
CI2	90A6	40	AA-42	
CI3	103H4	37	AA-21	
CI3	90A6	40	AA-42	
CI4	103H6	37	AA-21	
CI4	90A6	40	AA-42	
CI5	103H8	37	AA-21	
CI5	9085	40	AA-42	
CI6	101A3	37	AA-22	
CI6	90F4	40	AA-42	
CI7	101E3	37	AA-23	
CI7	90F3	40	AA-42	
CI8	101G3	37	AA-23	
CI8	93G6	S,T	AA-42	
CI9	93F6	40	AA-42	
CI10	93F7	40	AA-42	
CI11	90G4	40	AA-40	
CI12	94C1	R	AA-11	
CI13	94C3	R	AA-11	
CI14	94E6	R	AA-11	
CI15	94D6	R	AA-11	
CKS	35A0	10	Y-13	
CNI	84D2	11	WR10	
CN2	84D2	11	WR10	
CN3	84D3	11	WR10	
CRI	68A7	11	WR13	
CR3	68A7	11	WR13	
CR4	68A6	11	WR11	
CR5	6888	11	WR11	
CR6	68C7	11	WR13	
CR8	68C7	11	WR13	
CR9	68C6	11	WR11	
CR10	68D8	11	WR11	
CR11	68E7	11	WR13	
CR13	68F7	11	DR12	
CR14	68E6	11	WR11	
CR15	68F8	11	WR11	
CR16	68E7	11	WR11	
CRK1	84B4	11	WR14	
CRK2	84C4	11	WR14	
CRK3	84C4	11	WR14	
CRK4	84F4	11	WR11	
CRK5	84E4	11	WR11	
CTX	14E0	16	WR14	
CW	10280	37	AA-22	
CZ	102A0	37	AA-22	
DF	79D5	26	WL27	
DG	79D4	26	WL27	
DH	79D3	26	WL27	
DJ	79D2	26	WL27	

DESIG	LOCATION FS	APP FIG	EQPT	
RESISTORS			XXX	
DPI	76E9	26	WL16	
DPIA	24D7	13	Y-27	
DP2(CP)	72B/G5	26	WL19	
DP2	76H9	26	WL16	
DP2A	24D8	13	Y-27	
DP3(CP)	72B/F5	26	WL19	
DP3	76D8	26	WL16	
DP3A	24C7	13	Y-27	
DP4(CP)	72B/G5	26	WL19	
DP4	76G9	26	WL16	
DP4A	24D7	13	Y-27	
DP5	76D8	26	WL16	
DP5A	24C6	13	Y-27	
DP6	76F8	26	WL16	
DP6A	2486	13	Y-27	
DP7	76C8	26	WL13	
DP8	76F9	26	WL13	
DP9	7689	26	WL13	
DP10	76F9	26	WL13	
DP15	76C4	26	WL13	
DP16	76E4	26	WL13	
DP17	76A3	26	WL16	
DP18	76A1	26	WL13	
DP19	71G8	26	WL23	
DP21	75B0	26	WL23	
DP22	75D2	26	WL23	
DP23	75C2	26	WL23	
DP24	75E0	26	WL24	
DP25	75C0	26	WL20	
DP26	72B/E5	26	WL20	
DP27	72B/D5	26	WL20	
DP28	72B/E5	26	WL20	
DP31	76E7	26	WL16	
DP32	76H7	26	WL16	
DP33	76D7	26	WL16	
DP34	76G7	26	WL16	
DP35	76C7	26	WL16	
DP36	76F7	26	WL16	
DP37	76C7	26	WL13	
DP38	76F7	26	WL13	
DP39	7687	26	WL13	
DP40	76E7	26	WL13	
DP41	76E8	26	WL16	
DP42	76F8	26	WL13	
DP43	76F8	26	WL13	
DP46	76H4	26	WL16	
DP47	76G4	26	WL16	
DP48	76F1	26	WL16	
DP49	79H3	26	WL25	
DP50	79H4	26	WL25	
DP51	79G5	26	WL25	
DP52	79H5	26	WL25	
DP53	79H4	26	WL25	
DP55	79D6	26	WL25	
DP55	79G7	26	WL25	
DP56	79C6	26	WL25	
DP57	79C0	26	WL25	

8

DRAWING ISSUE

68C	A.2 and
70D	CR PP1 and
73D	PP1 and
78D	SAS
81D	
86D	
88D	

ISSUE 97D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25680-01-A12

6S

SD-25680-01-A12

HIGGINS-4465 M.E.

APPARATUS INDEX

DESIG	LOCATION FS	APP FIG	EQPT
RESISTORS			XXX
DP58	79D0	26	WL25
~~DP59~~	79B7	26	WL25
DP59	79D0	26	WL25
DP60	79B7	26	WL25
DP61	79D3	26	WL26
DP62	79D2	26	WL25
DP63	79C2	26	WL25
DP64	79C1	26	WL25
DP65	79C1	26	WL25
DP66	79D1	26	WL25
DP67	79E7	26	WL25
DP68	79C7, 79D7	26	WL25
DP69	79F7	26	WL26
DP70	75A4	26	WL24
DP71	75A1	26	WL24
DP72	75C4	26	WL13
DP73	76A0	26	WL13
DP74	75D4	26	WL24
DP75	79D5	26	WL24
DP75	79F7	26	WL24
DP76	79C5	26	WL24
DP77	79D7	26	WL24
DP78	79C1	26	WL24
DPMI	11G0	13	Y-26
DSP	97B7	34	AA-8
DSPI	9786	34	AA-8
DTI	67A1	14	WL38
DT2	6781	14	WL38
DT3	67B2	14	WL38
DT4	67C1	14	WL38
DT5	67C1	14	WL38
DT6	67C2	14	WL38
DT7	67A1	14	WL38
DT9	67CI	14	WR28
EMP	63H0	1	Y-21
FOTI	89E8	33	AA-48
FOT2	89E7	33	AA-48
FOT3	89E8	33	AA-50
FOT5	89D8	33	AA-50
FS	37H4	27	WL48
GI	94C5	36	AA-12
GN	95E4	R	AA-11
GN1	94D2	36	AA-12
GN2	94D3	36	AA-12
GN3	94D1	36	AA-12
GN4	94D4	36	AA-12
GN5	94D1	36	AA-12
GN6	94D4	36	AA-13
GN7	94D0	36	AA-12
GN8	94D5	36	AA-12
GN9	94F2	Q	AA-13
GN9	94F3	R	AA-13
GN10	94G3	Q	AA-13
GN10	94G3	R	AA-13
GN11	94B3	Q	AA-13
GN12	94F1	Q	AA-13
GN12	94G1	R	AA-13
GT1	84B4	11	WR13
GT2	84B5	11	WR13
GT3	84F5	11	WR12
GT4	84E5	11	WR12
GT5	84D5	11	WR11
GT6	84E6	11	WR16
GT7	84C5	11	WR11

DESIG	LOCATION FS	APP FIG	EQPT
RESISTORS			XXX
GTTI	69AI	11	WR13
GTT2	69C1	11	WR12
GTT3	69A3	11	WR11
GTT4	69BI	11	WR13
GTT5	69BI	11	WR12
GTT6	69DI	11	WR11
GTT7	69EI	11	WR12
GTT8	69D2	11	WR11
HTA	25H3	13	CA2
HT8	25H4	13	CA2
HTC	25G3	13	CA3
HTE	25H4	13	CA3
IAI	93F1	40	AA-45
IA2	93F2	40	AA-45
IA3	93FI	40	AA-45
IFT1	89A8	33	AA-49
IFT2	89A7	33	AA-48
IFT3	89A8	33	AA-49
IO1	90A1	40	AA-45
IO2	90B1	40	AA-45
IO3	90A1	40	AA-45
IO4	90A2	40	AA-39
IO5	90C3	40	AA-39
L	47E1	32	WR29
LI	27D8	15	Y-32
L2	27D7	15	Y-32
LA	27D6	15	Y-34
LAI	2709	15	Y-32
LCI	27B6	15	Y-34
LC2	27B7	15	Y-34
LK	4H7	5	WR41
LLI	24G7	13	CAI
LL2	24G7	13	CAI
LO	84A2	55	RR4
LOLPT	7989	13	CAI
LPS	84E7	17	WR6
LVG	37GI	30	WL44
MB	9C7	1	Y-22
MF	73E3	21	WL28
MFI	74A0	21	WL30
MFIA	26G3	12	Y-24
MF2	74A8	21	WL32
MF2A	26C5	12	Y-24
MF3	7487	21	WL32
MF3A	2685	12	Y-24
MF4	74B6	21	WL32
MF4A	26B5	12	Y-24
MF5	74C6	21	WL32
MF5A	26G5	12	Y-23
MF6	74C5	21	WL32
MF7	74C5	21	WL32
MF8	74A6	21	WL32
MF9	74A6	21	WL32
MF10	74A5	21	WL32
MGI	9581	36	AA-13
NI	94C1	36	AA-12
NTC	10F3	9	WR21
NVAI	25C6	13	Y-27
NVA2	107A0	13	Y-27
OAI	80B7	46	
OA2	8084	46	
OA3	80C8	46	
OA4	80C7	46	
OA5	80C6	46	RR2
OA6	80A2	46, 48	
OB1	80D7	46	
OB2	80D4	46	
OB3	80E8	46	
OB4	80E7	46	

DESIG	LOCATION FS	APP FIG	EQPT
RESISTORS			XXX
OB5	80E6	46	
OB6	80C2	46,48	
OC1	80G7	46	
OC2	80F4	46	
OC3	80G8	46	RR2
OC4	80G7	46	
OC5	80G6	46	
OC6	80G2	46,48	
OFT1	89G1	33	AA-49
OFT2	89G3	33	AA-49
OFT4	89F0	33	AA-50
OFT6	89F0	33	AA-50
OFT8	89E0	33	AA-50
ONG1	37E4	28	WL44
ONG2	37D1	28	WL43
ONG3	37C7	28	WL43
ONG5	11E9	10	Y-12
ONR1	28A/C0	10	
ONR2	31B/E8	16	
ONR3	3289	16	
ONR4	33A6	16	
ONR5	34B7	16	Y-39
ONR6	33A8	16	
ONR7	3485	16	
ONR8	3483	16	
ONR9	62F7	16	
ONRAI	36B/F8	55	RR4
ONRA2	36B/G5	55	RR4
ONRA3	36B/GI	55	RR4
P	24GI	13	Y-26
PI	24D5	13	Y-31
P2	24C6	13	Y-27
P6	27F0	15	Y-35
PAI	24D3	13	Y-27
PA2	24D3	13	Y-27
PA3	24C4	13	Y-27
PA4	24C4	13	Y-27
PBR	81E4	46	RR2
PBT	81D4	46	RR2
PG0	78D6	47	
PG1	78C6	47	
PG2	78C6	47	
PG3	78C7	47	
PG4	78C7	47	
PG5	78C7	47	
PG6	78C8	47	
PG7	78B8	47	
PG8	78B7	47	
PG9	78B7	47	RR3
PG10	78B6	47	
PG11	7886	47	
PG12	78B7	47	
PG13	78B7	47	
PG14	78B7	47	
PG15	78B8	47	
PG16	78A8	47	
PG17	78A7	47	
PG18	78A7	47	
PM	95E5	R	
PMI	95C2	36	
PM2	95C4	36	
PM3	95C1	36	AA-13
PM4	95C4	36	
PM5	95C0	36	
PM6	95C5	36	
PM7	95A0	36	

DESIG	LOCATION FS	APP FIG	EQPT
RESISTORS			XXX
PM8	95D5	Q	AA-12
PM9	95D2	Q	AA-13
PM9	95E3	R	AA-13
PM10	95E1	Q	AA-13
PM10	95E3	R	AA-13
PM11	95E2	R	AA-13
PM12	95E4	R	AA-12
POSI	9585	36	AA-13
PTO	29F6	12	Y-23
PTI	29F5	12	Y-23
R	14E1	20	WR27
RI	82E1	L	WL30
RI	82E1	M	WL30
RI	82E1	N	WL30
RIA	2481	13	Y-27
RA	27G1	15	Y-34
RAA	27G2, 27G3	15	Y-32
RB	14D0	20	WR27
RBI	25E1	13	Y-32
RB2	25G1	13	Y-32
RC	25AI	13	Y-25
RCR	96F1	34	AA-5
RGI	25C3	13	Y-26
RG2	25C3	13	Y-26
RG3	25B4	13	Y-26
RM	9H2	I	Y-22
RONI	97A3	34	AA-8
RON2	98E9	34	AA-8
RON3	97H2	34	AA-8
RPI	90C8	40	AA-39
RP2	90C7	40	AA-39
RP3	90D7	40	AA-45
RP4	90D7	40	AA-45
RP5	84F7	40	AA-38
RP6	90F2	40	AA-39
RP7	90E2	40	AA-37
RP8	90D2	40	AA-37
RP9	90F5	40	AA-46
RP10	90D7	40	AA-40
RP11	90D7	40	AA-40
RPLA	96F5, 96G4	34	AA-8
RRI	88C5	33	AA-52
RR2	88C7	33	AA-52
RR3	88A6	33	AA-51
RR4	88B6	33	AA-52
RR5	8888	33	AA-50
RR6	88E9	33	AA-53
RR7	88F9	33	AA-53
RR8	88G7	33	AA-53
RR9	88F8	33	AA-53
RR10	98F8	33	AA-53
RR11	88E7	33	AA-54
RR12	88E7	33	AA-54
RR13	88E6	33	AA-52
RR14	88E4	33	AA-52
RR15	88C5	33	AA-51
RRT1	89C8	9	WR20
RRT2	8988	9	WR20
RRT3	89C7	9	WR20
RV	92C2	40	AA-34
RVI	44D2	17	WR7
RVIA	92E0	40	AA-34
RVIB	92F0	40	AA-34
RV2	44DI	17	WR4
RV2A	92E1	40	AA-34

DESIG	LOCATION FS	APP FIG	EQPT
RESISTORS			XXX
RV3	44D4	17	WR7
RV3A	92E2	40	AA-34
RV4	92C0	40	AA-34
RV5	92B1	40	AA-34
RV6	92D1	40	AA-34
RV7	92D1	40	AA-34
RV8	92G5	40	AA-34
RV9	92G4	40	AA-34
RV10	92A2	40	AA-31
RV11	92A3	40	AA-31
RV12	92A4	40	AA-31
RV13	92A4	40	AA-31
RV14	92B1	40	AA-44
RV14A	92B1	40	AA-44
RVA	92E2	40	AA-34
RVSD	44D2	17	WR4
RW	25C4	13	Y-26
S	47C1	32	WR29
SO	85F2	33	AA-2
SOD	85F2	33	AA-2
S2	85D2	33	AA-2
S2D	85E2	33	AA-2
S5	8581	33	AA-2
SF	73F1	21	WL30
SM	9G3	1	Y-22
ST	16C5	20	WR27
STC1	15D4	1	Y-20
STC2	15C4	9	WR23
STC3	15C4	10	Y-12
SVI	84C7	9	WR18
SV2	84B7	9	WR18
TI	82D1	L	WL30
TI	82D1	M	WL30
TI	82D1	N	WL30
TAC1	64D0	9	WL21
TAC2	64C0	9	WR21
TAP	46F9	2	Y-16
TAPI	46E6	2	Y-16
TAP2	46D7	2	Y-16
TAP3	46D6	2	Y-16
TCO	17B3	20	WR25
TC1	44F1	17	WR9
TC1A	17B2	20	WR25
TC2	44F3	17	WR9
TC2A	1786	20	WR25
TC3	44F1	17	WR9
TC3A	17C4	20	WR24
TC4	17C6	20	WR24
TC5	44E1	17	WR9
TC11	93A5	40	AA-39
TC12	93A6	40	AA-39
TC13	93A5	40	AA-40
TD	81C3	46	RR2
TDI	8183	46	RR2
TD2	8183	46	RR2
TD3	81A3	46	RR2

DESIG	LOCATION FS	APP FIG	EQPT
RESISTORS			XXX
TG1	42B6	17	
TG2	42D6	17	
TG3	42A5	17	
TG4	83G7	9	WR6
TG4	42D5	17	
TG5	42A4	17	
TGTI	93D5	40	AA-43
TGT2	93D7	40	AA-42
TGT3	93C5	40	AA-43
TGT5	93C5	40	AA-42
TMI	46G1	10	Y-13
TMIA	93D1	40	AA-39
TM2	46G2	10	Y-13
TM2A	93D1	40	AA-39
TM3	46G1	10	Y-14
TM3A	93D1	40	AA-40
TM4	46G1	10	Y-14
TM4A	93C1	40	AA-40
TM6	93B1	40	AA-39
TM7	93B2	40	AA-39
TM8	93B1	40	AA-40
TM10	93A1	40	AA-40
TN	84E6	9	WR18
TNI	45C1	17	WR7
TN2	45A1	17	WR6
TN3	45C4	17	WR7
TO	2981	16	Y-38
TOI	2981	16	Y-38
TPKI	84B2	11	WR15
TPK2	84D3	11	WR15
TPK3	84DI	11	WR15
TPK4	84D1	11	WR15
TR	84D7	17	WR6
TRA	38A4	27	WL48
TRTI	47G1	9	WR19
TRT2	47G2	9	WR18
TRT3	47G1	9	WR19
TRT4	47G1	9	WR19
TTA	17G0	20	WL5
TTSI	2488	13	Y-26
TTS2	2488	13	Y-26
TV1	45G1	17	WR5
TV2	45F1	17	WR5
TV3	45G3	17	WR4
TW1	82E5	21	
TW2	82D5	21	
TW3	82D5	21	WL35
TW4	82C5	21	
TW5	82C5	21	
TXI	45F1	17	WR7
TX2	45E1	17	WR7
TX3	45F5	17	WR7
TX4	45E2	17	WR5

DRAWING ISSUE		
68D	SSH	
	PBT	
	AMA	
70D	VLS	
	PDI	
	AHT	
71A	RAC	
	PDI	
	AHD	
73D	KMC	
	Vad	
	AHD	
75D	WM	
75A	WM	
78D	SAS	

ISSUE 98B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-AI3

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

SD-25680-01-AI3

HIGGINS 4465 K&E

APPARATUS INDEX

DESIG	LOCATION FS	APP FIG	EQPT
RESISTORS			***
V1	25F3	13	Y-27
V2	25F3	13	
V3	25F3	13	
V4	25G3	13	
V5	25F1	13	
V6	25C1	13	
VC	25A5	13	Y-26
VL	81C3	46	RR2
VLA	81E7	46	
VR1	24B2	13	Y-27
VR2	24C0	13	
VR3	24C1	13	
VR4	24C2	13	
VR5	24F2	13	
VR6	24F2	13	
VR7	24E2	13	
VR8	24E2	13	
VR9	25D2	13	
VR10	25F1	13	
VR11	25G1	13	
VR12	25D4	13	
VR13	25D5	13	
WL	47E1	32	WR29
WL1	47F1	32	
WL2	47F2	32	
WS	47D1	32	
WS1	47D1	32	
WS2	47D2	32	
X	27G5	16	Y-38
XC1	57G6	52	WR33
XC2	58A7	52	
XC3	58B8	52	
XC4	58C8	52	
XC5	59C7	52	
XC6	59D7	52	
XC7	59E8	52	
XC8	59E8	52	

DESIG	LOCATION FS	APP FIG	EQPT
RINGERS			***
R	79D4	26	WL27
R2	79D2	26	WL27
R3	79D3	26	WL27
RT	79D4	26	WL27

SWITCHES			***
FCA	SEE APP FIG	AE	UR42A
FCA		AF	UR42A
FCB		AE	UR42B
FCB		AF	UR42B
IRG SEL		K	UR19B
IRG SEL		AG	UR19B
LLS		17	AJR
PD		18	UR20A
SG SEL		H	UR19C
SRS		42	UR19A

TRANSFORMERS			***
AC	26B0	13	Y-27
AC	82A4	21	WL35
B	25C2	13	Y-27
C1	26B4	36	AA-12
L	81C2	46	RR2
LA	80A3	46	RR2
LB	80C3	46	RR2
LC	80F3	46	RR2
MF1	26E5	12	Y-24
MF2	26A5	12	Y-24
OA	80A7	46	RR2
OB	80C7	46	RR2
OC	80F7	46	RR2
PBL	81C4	46	RR2
TT	83C5	20	WR24

TRANSISTORS			***
HT	25H3	13	CA2
TA	80A4	46	RR2
TB	80D4	46	RR2
TC	80F4	46	RR2
TD	81B3	46	RR2

DESIG	LOCATION FS	APP FIG	EQPT
TUBES, ELECTRON			***
ABT	93E5	40	AA-40
AGT	44B1	43	WR3
B1	25E4	13	Y-27
B2	25E6	13	Y-27
CRT1	68A8	11	WR12
CRT2	68C8	11	WR12
CRT3	68F8	11	WR12
DP	24C7	13	Y-27
DT1	67B1	14	WL38
DT2	67C1	14	WL38
FOT	89E9	33	AA-49
GN	94D3	36	AA-12
GTT	69B1	11	WR12
GTT1	69E1	11	WR12
IAT	93F0	40	AA-45
IFT	89B9	33	AA-49
LOLP	25B3	13	Y-26
MF	26F4	12	Y-24
OFT	89G0	33	AA-49
P	24G2	13	Y-27
PA	24C4	13	Y-27
PM	95C3	36	AA-13
R	24A1	13	Y-27
RLO	84A4	55	RR4
RRT	89C9	9	WR20
RV	44D1	17	WR7
TAP	46E6	2	Y-16
TCT	44F1	17	WR9
TCT1	93A5	40	AA-40
TGT	93C5	40	AA-43
TM	46G0	10	Y-13
TMN	45C1	17	WR7
TMN1	93B0	40	AA-40
TMX	45F1	17	WR7
TMX1	93D0	40	AA-40
TRT	47G1	9	WR19
TSTK	45G1	17	WR5
VR1	24C1	13	Y-27
VR2	24C2	13	
VR3	24D2	13	
VR4	25E1	13	
VR5	25F4	13	
VR6	25A6	13	Y-26
WL	47F1	32	WR29
WS	47D1	32	WR29

DESIG	LOCATION FS	APP FIG	EQPT
VARISTORS			***
B2	25E7	13	Y-27
C1	94B3	Q	AA-13
C11	94B3	Q	AA-13
OA1	80C4	46	RR2
OA2	80C3	46	
OB1	80E4	46	
OB2	80E3	46	
OC1	80G4	46	
OC2	80G3	46	
REC	84H5	A	WR21
REC	84H4	B	WR21
REC	84F1	P	WR21
V1	25F1	13	Y-27
V2	25E1	13	
V3	25F2	13	
V4	25E2	13	
V5	25C2	13	
V6	25B2	13	
V7	25C1	13	
V8	25B1	13	
V9	25B7	13	
V10	25B8	13	

DESIG	LOCATION FS	APP FIG	EQPT

DESIG	LOCATION FS	APP FIG	EQPT

DRAWING ISSUE

68D	SSL	
70D	JEG	
72A	KME	
88D	CB	

ISSUE 97D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2) SD-25680-01-A14

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

SD-25680-01-A14

HIGGINS 4465 K&E

LEAD INDEX CONNECTING CIRCUITS

CIRCUIT TITLE	CKT LEAD INDEX LOC
2W TRUNK LINK CKT	20A4
2W TRUNK LINK AND CONNECTOR CKT	20C4
4W DP OG SENDER CKT	20A5
4W MF INCOMING REGISTER CKT	20E5
4W MF OG SENDER CKT	20A7
4W ORIGINATING REGISTER CKT	20E7
ALARM CKT	15A3
ALARM SENDING CKT	15C3
CENTRAL B INCOMING REGISTER CKT	15D3
COMPLETING MARKER CKT	16F3
DP INCOMING REGISTER CKT	15F4
DP ORIGINATING REGISTER CKT	15A7
DP OUTGOING SENDER CKT	15A8
DIAL TONE MARKER CKT	16F4
INCOMING REGISTER LINK CKT	16A0
INTERFACE AND CONTROL CKT	15E4
JUNCTOR CKT FOR DIAL COIN ZONE SERVICE	16A3
LINE CKT FOR USE WITH AIS	20E8
LINE LINK CKT	16C3
AUXILIARY LINE FOR LLP OR LLP-AIS LINES FOR USE WITH NO 5 ETS	16E3
MASTER TEST CONTROL CKT	16A5, 17A0
MASTER TEST FRAME CONNECTOR CKT	17A4, 18A0
MASTER TEST FRAME JACK, LAMP AND KEY CKT	18E1
MF CURRENT SUPPLY AND DISTRIBUTION CKT	18A3
MF INCOMING REGISTER CKT	18D3
MF OUTGOING SENDER CKT	18A5
MF OUTGOING SENDER CKT FOR USE WITH AIS	1908
MF RECEIVING CKT	18A7
MF SIGNALING CKT	18A8
MISCELLANEOUS CKT FOR ALL FRAMES	18C8
MISCELLANEOUS CKT RR FRAME	18F8
OUTGOING SENDER CONNECTOR CKT	19A0
OUTGOING TRUNK CKT FOR DIAL COIN ZONE SERVICE	19C0
PCI OUTGOING SENDER CKT	19E0
PERSON TO PERSON COLLECT SPECIAL SENDER CKT	19E1
PLANT REGISTER CKT	19A3
POWER, RINGING AND TONE DISTRIBUTING CKT	19E3
REGISTER AND CAMA SENDER TEST	19A4
RP INCOMING REGISTER CKT	19A5
RP OUTGOING SENDER CKT	19F7
"TOUCH-TONE" STATION TEST RECEIVER CKT	20A3
TRAFFIC REGISTER CKT	20A0
TRANSFER REGISTER CKT	20E0
TRANSFER REGISTER IDENTIFIER, CONNECTOR CKT IDENTIFIER PART	20E1
TRANSFER REGISTER LINK CKT	20A3
TRUNK TEST CKT	20E4

LEAD INDEX

DESIG	LOCATION FS	LOCATION CAD
ALARM CKT		
MN	107A0	2F3, 22E1
ALARM SENDING CKT		
HLD	64A4	13F3
CENTRAL B INCOMING REGISTER CKT		
BLG (FIRST)	64D7	33E1, 34F0, 41B3
BLG (INTER.)	64D6	33E1, 34F0, 41B3
BLG (LAST)	64D5	33E1, 34F0, 41B3
BS (FIRST)	5B8	1C7, 34F5
BS (INTER.)	5E8	1C7, 34F5
BS (LAST)	5G8	1C7, 34F5
CFR	88D0	36F0
CFT	88D0	36F0
CN	38D5	34B3
CR	88D0	36F0
CT	88D0	36F0
FR	38D5	34B3
FRI	88D0	36F0
FTI	88D0	36F0
H	64C4	1B7, 34G5
M (FIRST)	5B8	33E1, 34F0, 41B3
M (INTER.)	5D8	33E1, 34F0, 41B3

DESIG	LOCATION FS	LOCATION CAD
CENTRAL B INCOMING REGISTER CKT		
M (LAST)	5F8	33E1, 34F0, 41B3
MI	86D1	34C3
MB (FIRST)	5B8	33E1, 34F0, 41B3
MB (INTER.)	5D8	33E1, 34F0, 41B3
MB (LAST)	5G8	33E1, 34F0, 41B3
MON	14C6	1B7, 34G5
MST	63A5	1B7, 34A3
R	88D0	36F0
RG	38C5	34B3
RPL1	96C6	34C3
RPL2	96C6	34C3
RPL3	96C7	22A7
RPL4	96C7	22A7
RS	95G5	34C3
T	88D0	36F0
INTERFACE AND CONTROL CKT		
AM	10780	13H3
HLD	64A4	13F3
DP INCOMING REGISTER CKT		
BLG (FIRST)	64D7	33E1, 34F0, 41B3
BLG (INTER.)	64D6	33E1, 34F0, 41B3
BLG (LAST)	64D5	33E1, 34F0, 41B3
BS (FIRST)	5B8	1C7, 34F5
BS (INTER.)	5E8	1C7, 34F5
BS (LAST)	5G8	1C7, 34F5
M (FIRST)	5B8	33E1, 34F0, 41B3
M (INTER.)	5D8	33E1, 34F0, 41B3
M (LAST)	5F8	33E1, 34F0, 41B3
MB (FIRST)	5B8	33E1, 34F0, 41B3
MB (INTER.)	5D8	33E1, 34F0, 41B3
MB (LAST)	5G8	33E1, 34F0, 41B3
MON	14F6	1B7, 34G5
MST	63A5	1B7, 34A3
R	24H6	2E3, 16D8
RG	38D5	34B3
SP	11F1	1C7, 34G5
T	24H5	2D3, 16F8
TAN	23E6	1B7, 34G5

DESIG	LOCATION FS	LOCATION CAD
DP INCOMING REGISTER CKT		
CN	38D5	34B3
DPG	64H5	1C7, 34G5
FR	38D5	34B3
H	64C4	1B7, 34G5
M (FIRST)	5B8	33E1, 34F0, 41B3
M (INTER.)	5D8	33E1, 34F0, 41B3
M (LAST)	5F8	33E1, 34F0, 41B3
MB (FIRST)	5B8	33E1, 34F0, 41B3
MB (INTER.)	5D8	33E1, 34F0, 41B3
MB (LAST)	5G8	33E1, 34F0, 41B3
R	24H6	2E3, 16D8
RG	38D5	34B3
SP	11F1	1C7, 34G5
T	24H6	2E3, 16F8
TAN	23E6	1B7, 34G5

DESIG	LOCATION FS	LOCATION CAD
DP ORIGINATING REGISTER CKT		
BS	9G2, 20A2	1B7, 34F3
CN	38D5	34D3
FR	38D5	34D3
H	64A4	1B7, 34F3
LK	9G3	1B7, 34F3
MB	9C8	1B7, 34F3
MON	14C6	1B7, 34F3
MST	63C5	1B7, 34F3
MSTI	63G2	1B7, 34F3
ON	7E8	1B7, 34F3
R	24H6	2E3, 16D8
RG	38D5	34D3
T	24H6	2E3, 16F8

DESIG	LOCATION FS	LOCATION CAD
DP OUTGOING SENDER CKT		
BS	20B2	1B3, 16D2
CN	38E5	1B3, 16D2
DOS	7B7	1B3, 16D2
FR	38E5	1B3, 16D2
H	6484	1B3, 16D2
LK	9G3	1B3, 16D2
PL	42F2	1B3, 16D2
R	24H3	2D3, 16D8
S	38E5	16D2
SB	9D8	1B3, 16D2
SG	7B6	1B3, 16D2
SPE	43A1	1B3, 16D2
T	24H3	2D3, 16F8

DRAWING ISSUE

68D	RLP 92A AND
70D	JEC 28T AND
74D	RAF
79D	FAZ
81D	
83D	

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2) SD-25680-01-A15

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-A15

HIGGINS 4465

LEAD INDEX

DESIG	LOCATION FS	LOCATION CAD
INCOMING REGISTER LINK CKT		
B	1607	35D5, 35E0, 41E0
BL	83E9	5A0, 35C3
CO	17F5	5A0, 35C3
CO(0-14)	5381	35D5, 35E0 41E0
C1(0-14)	5381	35D5, 35C0 41E0
C2(0-14)	5381	35D5, 35E0, 41E0
C3(0-14)	5381	35D5, 35E0, 41E0
C4(0-14)	5382	35D5, 35E0, 41E0
C5(0-14)	5382	35D5, 35E0, 41E0
C6(0-14)	5382	35D5, 35E0, 41E0
C7(0-14)	5383	35D5, 35E0, 41E0
C8(0-14)	5383	35D5, 35E0, 41E0
C9(0-14)	5383	35D5, 35E0, 41E0
C10(0-14)	5384	35D5, 35E0, 41E0
D	17A7	5A0, 35C3
G	16A9	35G3, 35G7, 41E0
H	16E0	5A0, 35C3
HM	16E8	
LK	16C7	5A0, 35C3
OH	16E7	5A0, 35C3
ONO-9 (FIRST)	4B0	35A0-H9 41E0
ONO-9 (INTER.)	4E0	35A0-H9 41E0
ONO-9 (LAST)	4G0	35A0-H9 41E0

DESIG	LOCATION FS	LOCATION CAD
INCOMING REGISTER LINK CKT		
R	8379	5A0, 35C3
RB0-9	14H4	35D5, 35E0, 41E0
RP0-9	1688	35D5, 35E0, 41E0
ST	16C8	35G3, 35G7, 41E0
T	8389	5A0, 35C3

DESIG	LOCATION FS	LOCATION CAD
JUNCTOR CKT FOR DIAL COIN ZONE SERVICE		
CL	41A4	22A0
OA	41A4	22A0

LINE LINK CKT		
E	42A2	22B5
M	42A2	22B5
RO	42A2	22B5
TO	42A2	22B5

AUXILIARY LINE FOR LLP OR LLP-AIS LINES FOR USE WITH NO 5 ETS		
E	42A2	22B5
M	42A2	22B5
RO	42A2	22B5
TO	42A2	22B5

COMPLETING MARKER CKT		
CPNT	20C5	
DIS	20E7	1E7, 22B3
MKB	15E6	16B5
MON (FIRST)	14G9	16E5
MON (INTER.)	14G9	16E5
MON (LAST)	14G8	16C8
MONI	15G6	1685

DESIG	LOCATION FS	LOCATION CAD
COMPLETING MARKER CKT		
MONL	14B6	1C3, 1685
MRL	20E7	42D3
MTR	13F3	1B85
OSM	9D2	1685
OSS	21E8, 21D9	16A5
RA	13G3	16A5
RBT	20G7	1E7, 22B3
RLT	20D5	1E7, 2293
RTST	20A7	1E7
SCT	15H6	3H0, 1685
SON	7G5	1C3, 1685
ST (FIRST)	21E6	16E5
ST (INTER.)	21C6, 21D6	16E5
ST (LAST)	21A6	16A8
TRL	20F7	22D3

DIAL TONE MARKER CKT		
M (FIRST)	9H1	16G5
M (INTER.)	9C1	16G5
M (LAST)	9E1	16F8
ORS	21G8, 21D9	16A5
ST (FIRST)	21F6	55G6
ST (INTER.)	21F6	55G6
ST (LAST)	21G6	55G6

DESIG	LOCATION FS	LOCATION CAD
MASTER TEST CONTROL CKT		
0	72A/C1	25D0
1	72A/C1	25D0
2	72A/C1	25D0
2DT	53F3, 59C1	6H3, 25G5, 28F7, 43E5
3	72A/C1	25D0
4	72A/C1	25D0
4WM	55C	15D2
5	72A/C1	25D0
6	72A/C1	25D0
7	72A/C1	25D0
8	72A/C1	25D0
9	72A/C1	25D0
11	59G1	43G2
A	66C0	28F0
A0,1,2,4,7	32H7	4E0, 11D5, 15D2
A1K	72A/E2	3IF2
A3K	72A/E2	45B0
A4K	72A/E2	45G2
AA0	72A/C2	25D0
AA1	72A/C2	25D0
AA2	72A/C2	25D0
AA3	72A/C2	25D0
AA4	72A/C2	25D0
AA5	72A/C2	25D0
AA6	72A/C2	25D0
AA7	72A/C2	25D0
AA8	72A/C2	25D0
AA9	72A/C2	25D0
AB	53F6	5B3, 28E2
ABS	53F7	5B3, 28E2
AC	12H0	2H0, 28F0
AD	70A/H5	45B0
AD1	70A/H5	45B0
AD3	70A/H5	45B0
AD4	70A/H5	45B0
ADK	72A/E2	3IF2
AK	72A/E2	28C0
AL	107A5	2H0, 28E2
APU0-5	72A/C3	47D0
ATT1	53F8	2B85
AV	71C1	28C0
AVA	70A/H5	45H8, 46E5
AVB	70A/H5	4580
AVD	70A/H5	4580
AVD1	70A/H5	4580
AVD3	70A/H5	4580
B	66C0	28F0
B0,1,2,4,7	33G2	4E0, 11D5, 15D2
BA0	72A/C1	25D0
BA1	72A/C1	25D0
BA2	72A/C1	25D0
BA3	72A/C1	25D0
BA4	72A/C1	25D0
BA5	72A/C1	25D0
BA6	72A/C1	25D0
BA7	72A/C1	25D0
BA8	72A/C1	25D0
BA9	72A/C1	25D0
BK	72A/E1	17B/G2
BP	70A/H5	46E5
BPK	72A/E3	45H8, 46E5

DESIG	LOCATION FS	LOCATION CAD
MASTER TEST CONTROL CKT		
C	6600	28F0
C0,1,2,4,7	33G3	4E0, 11D5, 15D2
CA0	72A/C1	25D0
CA1	72A/C1	25D0
CA2	72A/C1	25D0
CA3	72A/C1	25D0
CA4	72A/C1	25D0
CA5	72A/C1	25D0
CA6	72A/C1	25D0
CA7	72A/C1	25D0
CA8	72A/C1	25D0
CA9	72A/C1	25D0
CAM0	53F4	28E7
CAM1	53F5	28E7
CD0,1,2,4,7,10,15	318/G1	45F0
CDA0,1,2,4,7	318/G1	45F0
CDP0,1,2,4,7,10,15	318/F0	45F0
CK	72A/E1	28C0
CL	57A8	43E5
CPT1	72A/B7	
CSL	53F8	2B85
CXI	53F0	28E2
D	66D0	28F0
D0,1,2,4,7	33G5	4E0, 11D5, 15D2
DA0	72A/C1	25D0
DA1	72A/C1	25D0
DA2	72A/C1	25D0
DA3	72A/C1	25D0
DA4	72A/C1	25D0
DA5	72A/C1	25D0
DA6	72A/C1	25D0
DA7	72A/C1	25D0
DA8	72A/C1	25D0
DA9	72A/C1	25D0
DAT2	53F8	25D0, 28B5
DK	72A/E1	28C0
DL	22D3	
DOR	10A6	2H0, 28E2
E	66E0	28F0
E0,1,2,4,7	33G6	4E0, 11D5, 15D2
EK	72A/E1	17B/F0
F	66E0	28F0
FAC-DP	58D2	43B3
FAC-MF	58E2	43A3
F0,1,2,4,7	33G8	4E0, 11D5, 15D2

DESIG	LOCATION FS	LOCATION CAD
MASTER TEST CONTROL CKT		
FK	72A/E1	28C0
FVD	53F3, 59E1	5B3, 22D5, 25G5, 28E2, 43E5
G	66F0	28F0
G0,1,2,4,7	33G9	4E0, 11D5, 15D2
GK	72A/E1	28C0
H	66F0	28F0
H0,1,2,4,7	34G2	4E0, 11F7, 15F6
HK	72A/E1	28C0
ICL	49A2	43B0
INC	57F1	43C0
J	66F0	28F0
J0,1,2,4,7	34G3	4E0, 11F7, 15A6
JK	72A/E1	28C0
K	66G0	28F0
K0,1,2,4,7	34G5	4E0, 11F7, 15F6
KCN	32H8	11D0
KCS	61A6	2B85
KH7	3680	11G3
KK	72A/E1	28C0
KR	8G2	13C0
KR0,1,2,4,7	32H3	11D0
L	66G0	28F0
L0,1,2,4,7	34G6	4E0, 11F7, 15F6
LK	72A/E1	28C0
LPS	84F9	2GC0
LS	84E9	2H0, 28C0
LT	53F3, 59A1	6H3, 25G5, 28E7, 43C0
LT1	59B1	43E5
LT2	59B1	43E5
LT3	59C1	43E5
M0,1,2,4	34G8	34E5
M7	34G8	15D2
M	9C2	13A0
MAN	53F9	2B85
MC	2C2	2H0, 28E2
MD	66H0	34D7
MK	72A/E0	34D7

DRAWING ISSUE

68D	SEM KPM AMP
70D	LEC KAT AMC
72A	MWP PVC AMT
77A	DMI
78D	CSA
81D	
83D	
86D	
88D	

ISSUE 106B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT

SD-25680-01-A16

BELL TELEPHONE LABORATORIES INCORPORATED

FORM 1128 6S

PRINTED IN U.S.A.

SD-25680-01-A16

HIGGINS 4465

LEAD INDEX

DESIG	LOCATION FS	CAD
MASTER TEST CONTROL CKT		
N	10F1	2H0, 28E2
NAI	32H7	11G3
NATT	53F8	28B5
NCL	58B2	43B1
NCSL	53F8	28B5
NICL	57B1	43B0
NT	59F1	43B1
NTAN	53F4	28E7
NWB	**5388**	43E5
OA	53F7, 59F1	5B3, 22D5, 28E2, 43E7
OA0,1,2,4,7	36B0	11D0
OAS	53F7	5B3, 28E2
OB	53F6, 59F1	5B3, 22D5, 28E2, 43E7
OB0,1,2,4,7	36B0	11D0
OBS	53F6	5B3, 28E2
OCA0,1,2,4,7	36B0	11D0
ODD,1,2,4,7	36B0	11D0
OE0,1,2,4,7	36B0	11D0
OF0,1,2,4,7	36B0	11D0
OG0,1,2,4,7	36B0	11D0
OK	12G0	2H0, 28F0
OR-DP	58C2	43E5
OR-MF	58D2	43E5
OSA	70A/H5	45G2
PCD	53F5, 57G1	5B3, 6G3, 22A3, 28E2, 43D0
PCD1	53F4, 57G1	5B3, 6G3, 22D5, 28E2, 43D0
PCR	53F5	5B3, 6G3, 22D3, 28E2, 43D0
	57F1	
PCT	53F1	28E2
PHC	59G1	43E7
R	84B9	2H0, 28E2
R0	4280	22D5
R1	84G9	46D2
RCY	3803	4G3, 28E2
REC	44A7	4G3, 28F0
REP	107A5	2H0, 28E2

DESIG	LOCATION FS	CAD
MASTER TEST CONTROL CKT		
RT4	53F9	28B5
RT5	53F9	28B5
RVTK	55A0	28B5
SDR1	38D3	4G3, 28E2
SDT2	41D5	4G3, 28E2
SDT3	40B6	4G3, 28E2
SPL	57A4	43A0
SPL1	57A5	
SPL2	57B5	
SSR	72A/C0	2D07
STG	10A3	2H0, 28E2
STT	10C6	13A0
T	84A9	2H0, 28E2
T0	4280	
T1	84F8	46D2
T4	53F9	28B5
T5	53F9	28B5
T7	53F9	28F7
TAN	53F3, 57B1	5B3, 6G3, 22D5, 28E2, 43F0
TAN1	53F2, 57C1	22E7, 28E7, 43F0
TAN2	53F2, 57D1	22E7, 28E7, 43F0
TAN3	53F2, 57D1	22E7, 28E7, 43F0
TAN4	53F1, 57E1	22E7, 28E7, 43F0
TCA	58C2	43B3
TCB	58C2	43B3
TCL0	53B4	43E7
TCL1	53B4	43E7
TCL2	53B5	43E7
TCL3	53B5	43E7
TCL4	53B5	43E7
TCL5	53B5	43E7
TCL6	53B5	43E7
TCL7	53B5	43E7
TCL8	53B5	43E7
TCL9	53B6	43E7
TCL10	5386	43E7
THC	59G1	43E7
TI	53F8	28B5
TOL	53F0, 57E1	5B3, 6G3, 22D5, 28E2, 43D0
TOL1	53F2	28B5
TOL2	53F2	28B5
TOL3	53F1	28H7
TOL4	53F1	28H7
TRIC	61B8	28B5
TRN	59A0	43E5
TSTK	4086	4G3, 28E2

DESIG	LOCATION FS	CAD
MASTER TEST CONTROL CKT		
TT	53F0, 59A1	22D5, 28H7, 43E1
TVTK	40C4	4G3, 28E2, 17B/G2
WAT	**5387**	43E5
WB	**5387**	43E5
X1	1078B5	11G3
X2	1078B5	11G3
X11	5901	43E5

DESIG	LOCATION FS	CAD
MASTER TEST FRAME CONNECTOR CKT		
2DT	52C3	6H3, 25D5
2W	62C5	
4W	62C5	
11	23F6	25D5
A0,1,2,4,7	36A6	3D3, 11D5
A'0,1,2,4,7	32H6	3G5, 12D0
AMA	48C8	3D0, 13E8
AOT	61E2	28E5
AR0,1,2,4,7	32H0	13E8
ATT	61E2	28E5
AVKI	11C5	3D0, 26H2
B0,1,2,4,7	36A6	3D3, 11D5
B'0,1,2,4,7	33G1	3D7, 12D0
BR0,1,2,4,7	32H2	13E8
C0,1,2,4,7	36A6	3D3, 11D5
C',0,1,2,4,7	33G3	3D7, 12D0
CD0,1,2,4,7,10,15	36B/A5	45F2
CD'0,1,2,4,7,10,15	31B/H1	45C2
CDA0,1,2,4,7	36B/A5	45F2
CDA'0,1,2,4,7	31B/H1	45D2
CDP0,1,2,4,7,10,15	36B/A5	45F2
CDP'0,1,2,4,7,10,15	31B/G1	45B2
CI	2B1	
CL1	28A/G0	3D0, 13E8
CL2	48B8	3D0, 13E8
CL3	48B8	3D0, 13E8
CL4	48D8	3D0, 13E8
CL5	48E8	3D0, 13E8
CL6	48F8	3D0, 13E8
CL7	48G8	
CL8	48H8	
CP0	37D9	52E2
CR	62C5	22D5
CR0,1,2,4,7	32H4	3D0, 13E8
CR'0,1,2,4,7	32H5	3G5, 12D0

DESIG	LOCATION FS	CAD
MASTER TEST FRAME CONNECTOR CKT		
CTA0,1,2,4,7	37B9	28E5
CU0,1,2,4,7	37A9	28E5
D	58GI	
D0,1,2,4,7	36A6	3D3, 11D5
D'0,1,2,4,7	33G4	3D7, 12D0
DATI	**61F2**	28E5
DCK	52C3	5F3
DLI-6	22A4	3D0, 13E8
DR0-9	37C6	25F8
DRTO	37D6	25D5, 54F0
DRTI	37D6	25D5, 54F0
DTF	61D2	22D7
DTI	61E2	28E5
E0,1,2,4,7	36A6	3D3, 11D5
E'0,1,2,4,7	33G6	3D7, 12D0
F0,1,2,4	36A6	3D3, 11D5
F7	36A4	3D5, 11D5
F'0,1,2,4,7	33G7	3D7, 12D0
FAC	58GI	
FAK	38E3	26E2
FBK	38E3	26E2
FG0,1	37F6	25E8
FG2	37F6	25F8
FS0-19	38B3	
FS0-29	38B3	
FT0,1	37C2	25D5
FT2,3	37C2	25F8

DESIG	LOCATION FS	CAD
MASTER TEST FRAME CONNECTOR CKT		
FU0,1,2,4,7	37B2	25D5
FV0	51C3	5F3, 22D5, 25D5
G0,1,2,4,7	36A6	3D5, 11D5
G'0,1,2,4,7	33G8	3D7, 12D0
H0,1,2,4,7	36A6	3D5, 11F7
H'0,1,2,4,7	34G2	3D7, 12F2
HG0,1,2,4,7	37A2	25D5
HMS1	11B5	25D5
HT0,1,2,4,7	37D2	26E2
INC	51C3	5F3, 22D5
J0,1,2,4,7	36A6	3D5, 11F7
J'0,1,2,4,7	34G3	3D7, 12F2
K0,1,2,4,7	36A6	3D5, 11F7
K'0,1,2,4,7	34G4	3D7, 12F2
L0,1,2,4,7	36A6	3D5, 11F7
L'0,1,2,4,7	34G6	3D7, 12F2
LC0-9	38E3	26C2
LI0	61C2	28E5
LI1	61C2	28E5
LR	52C3	5F3
LR1	61A2	28E5
LT	51C3	5F3, 6H3, 25D5
LT1	52C3	2F8, 25D5
LT2	52C3	25D5

DESIG	LOCATION FS	CAD
MASTER TEST FRAME CONNECTOR CKT		
LT3	52C3	25D5
LV0,1	38C9	45G5
LV2-9	38E3	26C2
M0,1,2,4	36A6	34C5
M7	36A6	3D3, 11D5
M'0,1,2,4	34G8	34C5
M'7	34G7	3D3, 11G5
M11	32A6	3D3, 11D5
MF	58FI	
MIR	38B3	25F5
MON	14A6	25D5
MOR	38B5	25F5, 28F0
MTR1	12C7	
N7	36A6	34C5
N'7	34G7	52D4
NDK	12B7	3D0, 13E8
OA	51C3	5F3, 22D5
OB	51C3	5F3, 22D5
ON	38B5	
OR	58HI	
PCD	51C3	5F3, 22A3
PCD1	51C3	5F3, 22D5
PCR	52C3	5F3, 22D3
PD	62C5	22D5
PHC	51C3	22D5
PK	62C5	22D5
PKI	62C5	28G7
PS	62C5	22D5
RIK	61B2	28E5
RO	52C3	5F3
RP	62C5	22D5

DRAWING ISSUE

	RLP
68D	
70D	
72A	
79A	RR
81D	
83D	
85A	
86D	
88D	

ISSUE 98B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-AI7

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

SD-25680-01-AI7

HIGGINS 4465

LEAD INDEX

DESIG	LOCATION FS	LOCATION CAD
MASTER TEST FRAME CONNECTOR CKT		
SCK	62C5	22D5
SCN	62C5	22D5
SCT		30D, 13E8
SPL	51C3	5F3
SRT	38B5	25D5
STR	15C7	
TAN	51C3	5F3, 22D5
TAN1-4	52C3	22E7
TCA	51C3	28C0
TCB	51C3	28C0
TF0,1,2,4,7	37G5	25E0
THC	51C3	22D5
THT0,1	38D9	26H2
THT2,3	38D9	54F0
TOL	51C3	5F3, 22D5
TP	62C5	22D5
TRA	38B5	25G2
TRB	12B7	
TRB1	2B1	
TRC	12B4	
TRST	15C7	
TST	52C3	5F3, 22D5
TT	51C3	5F3, 22D5
TT0,1,2,4,7	37E2	26E2
UT0,1,2,4,7	37F2	26E2

DESIG	LOCATION FS	LOCATION CAD
MASTER TEST FRAME CONNECTOR CKT		
VF0-4	37B6	25D5
VG0,1,2,4,7,10	37A5	25D5
WAT	**61G2**	**43F2**
WDTF	**61G2**	**43F2**
WDTI	**61G2**	**43F2**
X11	62C5	22D5

MASTER TEST FRAME JACK, LAMP AND KEY CKT		
DL	2A1	13A0
DLB	2A1	13G3
LK	107C0	13G3
MN	107B0	13G3

DESIG	LOCATION FS	LOCATION CAD
MF CURRENT SUPPLY AND DISTRIBUTION CKT		
R0	82H0	22G5
R1	82E0	22G5
R7	82H0	22G5
T0	82A0	22G5
T1	82A0	22G5
T2	82A0	22G5
T4	82B0	22G5
T7	82C0	22G5
T10	82C0	22G5

MF INCOMING REGISTER CKT		
BLG (FIRST)	64D7	33E1, 34F0, 41B3
BLG (INTER)	64D6	33E1, 34F0, 41B3
BLG (LAST)	64D5	33E1, 34F0, 41B3
BS (FIRST)	5B8	1C7, 34F5
BS (INTER)	5E8	1C7, 34F5
BS (LAST)	5G8	1C7, 34F5
CN	38D5	34B3
FR	38D5	34R3
H	64C4	187, 34G5
M (FIRST)	5B8	33E1, 34F0 41B3

DESIG	LOCATION FS	LOCATION CAD
MF INCOMING REGISTER CKT		
M (INTER)	5D8	33E1, 34F0, 41B3
M (LAST)	5F8	33E1, 34F0, 41B3
MB (FIRST)	5B8	33E1, 34F0, 41B3
MB (INTER)	5D8	33E1, 34F0, 41B3
MB (LAST)	5G8	33E1, 34F0, 41B3
MON	14F6	1B7, 34G5
MST	63A5	1R7
N	26E0	1C7, 34F5
R	26A9	1C7, 34F5
RG	38D5	34B3
T	26A9	1C7, 34F5
TAN	23E6	187, 34G5

DESIG	LOCATION FS	LOCATION CAD
MF OUTGOING SENDER CKT		
BS	20B2	1B3, 16B2, 16D2
CN	38E5	1B3, 16B2, 16D2
FR	38E5	1B3, 16D2
H	64B4	1B3, 16D2
LK	9G3	1B3, 16D2
MOS	7C7	1B3, 16D2
PL	42F2	1B3, 16D2
R	26C9	16B2
S	38E5	16D2
SB	908	1B3, 16D2
SG	7C6	1B3, 16D2
SPE	43A1	1B3, 16D2
T	26C9	16B2

DESIG	LOCATION FS	LOCATION CAD
MF RECEIVING CKT		
±	~~2600~~	~~285~~, 2G3, 39C5
0,1,2,4,7 10	31H3 2600	288
BAT 1,2	2600	
BAT 3	2600	2D7
G	2600	285, 2G3, 39C5
H	29E3	
J	29E2	
L	29E3	
M	29E4	
R	26F9	
T	26F9	

DESIG	LOCATION FS	LOCATION CAD
MF SIGNALING CKT		
H	29E3	
J	29E2	
L	29E3	
M	29E4	

MISCELLANEOUS CKT FOR ALL FRAMES		
+130V	2E6, 2F6	
BAT.	43H5	48C7
EP	43H5	48C7
FA	2A6, 28G, 2D6	1H0
FAI	28G, 2C6, 2D6	1H0
GRD	43H5	48C7
R	43H5	48C7
SP	43H5	48C7
T	43H5	48C7

MISCELLANEOUS CKT RR FRAME		
R0	42A0	4A5
T0	42A0	

DRAWING ISSUE

68D	G.E 694 AND
70D	WE 43A1 AND
86D	
88D	
89D	

89

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-A18

BELL TELEPHONE LABORATORIES INCORPORATED — SIZE 6S

SD-25680-01-A18

HIGGINS 4465

LEAD INDEX

DESIG	LOCATION FS	LOCATION CAD
OUTGOING SENDER CONNECTOR CKT		
MONO-9	14F6	9D0, 9F3 16D0, 16F2, 48B4

OUTGOING TRUNK CKT FOR DIAL COIN ZONE SERVICE		
CL	41A4	22A0
OA	41A4	22A0

PCI OUTGOING SENDER CKT		
2DGS	101D7	6B3
3DGS	101D7	6B3
BS	20B2	1B3, 16D2
CAC	101C7	16B8, 1B3
CN	38E5	16D2
COS	787	16A3
CSP	101A7	16A3
FR	38E5	1B3, 16D2
H	64B4	1B3, 16D2
LK	9G3	1B3, 16D2
P	94B5	16E8

DESIG	LOCATION FS	LOCATION CAD
PCI OUTGOING SENDER CKT		
R	94B5	16E8
R1	94B4	16E8
S	38E5	16D2
SB	9D8	1B3, 16D2
SG	7B6	1B3, 16D2
SPE	43B1	1B3, 16D2
T	94B4	16E8

PERSON TO PERSON COLLECT SPECIAL SENDER CKT		
MIL	46C9	4G5
PCL	46G7	4G5
PPD	46G7	
PSI	46G7	4G5
RAR	46G7	4G5
RB	46G7	4G5
RS	46G7	4G5
RT	46G7	4G5
SCL	46G7	4G5
SPD	46G7	4G5
SSI	46G7	4G5
TLR	46G7	

DESIG	LOCATION FS	LOCATION CAD
PLANT REGISTER CKT		
IR	107C0	1C3, 16G8
IRF	107D0	1C3, 16G8
OR	107C0	1C3, 16G8
ORF	107D0	1C3, 16G8
OS	107D0	1C3, 16G8
OSF	107E0	1C3, 16G8

POWER, RINGING AND TONE DISTRIBUTING CKT		
HTI	25H2	16A7
HT3	25G4	2G3, 13E0
LTI	83C4	6H3 22F7

DESIG	LOCATION FS	LOCATION CAD
REGISTER AND CAMA SENDER TEST		
FCAB	77D2	
H1	77A5	
H2	7785	
H3	7785	
H4	7785	
HR	81D6	
HT	81D6	
KR	20G2	
LO	77F5	
L3	77F5	
L6	77G5	
L9	77G5	
MML	78D2	
PBT	78A1	
PR	8186	
PT	8186	
R	81D8	
STA	80A6	
STB	80D6	
STC	80F6	
T	81D8	
TF	78C5	

DESIG	LOCATION FS	LOCATION CAD
RP INCOMING RFGISTER CKT		
BLG (FIRST)	64D7	33E1, 34F0, 41B3
BLG (INTER.)	64D6	33E1, 34F0, 41B3
BLG (LAST)	64D5	33E1, 34F0, 41B3
BS (FIRST)	588	1C7, 34F5
BS (INTER.)	5E8	1C7, 34F5
BS (LAST)	5G8	1C7, 34F5
CN	38D5	3483
FR	38D5	3483
H	64C4	1B7, 34G5
M (FIRST)	588	33E1, 34F0, 41B3
M (INTER.)	5D8	33E1, 34F0, 41B3
M (LAST)	5F8	33E1, 34F0, 41B3
MB (FIRST)	5B8	33E1, 34F0, 41B3
MB (INTER.)	5D8	33E1, 34F0, 41B3
MB (LAST)	5G8	33E1, 34F0, 41B3
MON	14F6	1B7, 34G5
MST	63A5	1B7, 34A3
RG	38D5	3483

DESIG	LOCATION FS	LOCATION CAD
RP INCOMING REGISTER CKT		
RPL1	96C5	
RPL2	96C5	
RPL3	96C8	22A7
RPL4	96C8	22A7
RPLT	97C8	1083
RS	95F5	

RP OUTGOING SENDER CKT		
BS	20B2	1B3, 16D2
CN	38E5	1B3, 16D2
DSP	9785	16B8
FR	38E5	1B3, 16D2
H	64B4	1B3, 16D2

DESIG	LOCATION FS	LOCATION CAD
RP OUTGOING SENDER CKT		
LK	9G3	1B3, 16D2
ROS	707	1683
RPL1	96C3	16A3
RPL2	96C2	16A3
RS	95G5	16A3
S	38E5	16D2
SB	9D8	1B3, 16D2
SG	7D6	1B3, 16D2

MF OUTGOING SENDER CKT FOR USE WITH AIS		
BS	20B2	
H	64C4	16D2
KAO,1,2,4,7	36A/A1	5180
KBO,1,2,4,7	36A/A1	5180
KCO,1,2,4,7	36A/A1	5180
KDO,1,2,4,7	36A/A1	51C2
KEO,1,2,4,7	36A/A1	51C2
KFO,1,2,4,7	36A/A1	51C2
KGO,1,2,4,7	36A/A1	51C2
KRO,1,2,4,7	32E3	5180
LK	9G3	
MOS	7A7	16D2
OS	38E5	16D2
PL	42G0	16D2
R	26C9	16D2
SB	9D8	
SG	7A6	16D2
SPE	4381	16D2
T	26C9	16D2
TKI	41A6	50D7

DRAWING ISSUE

68D	G.E.
70D	
74D	RAR
81D	
88D	

88

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2) SD-25680-01-AI9

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

SD-25680-01-AI9

HIGGINS 4465 K2E

LEAD INDEX

DESIG	LOCATION FS	LOCATION CAD
TRAFFIC REGISTER CKT		
PCI (CB)	107F0	6C3
PCI (DP)	107E0	1D7, 6C3
PCI (MF)	107F0	1D7, 6C3
PCI (RP)	107G0	1D7, 6C3
PCO (DP)	107E0	1D7, 6C3
PCS (DP)	107F0	1D7, 6C3
PCS (MF)	107G0	1D7, 6C3
PCS (PCI)	107G0	
PCS (RP)	107H0	6C3

DESIG	LOCATION FS	LOCATION CAD
TRANSFER REGISTER CKT		
MB (FIRST)	5B8	33E1, 34F0, 41B3
MB (INTER.)	5D8	33E1, 34F0, 41B3
MB (LAST)	5G8	33E1, 34F0, 41B3
MON	14F6	34H5
MST	6385	34A3
MTRR	11H4	16F7
ONO-9 (FIRST)	4B0	
ONO-9 (INTER)	4E0	
ONO-9 (LAST)	4G0	
R	24G8	16C8
RG	38C5	34B3
T	24G8	16E8
TST	65E3	34B3

DESIG	LOCATION FS	LOCATION CAD
TRANSFER REGISTER LINK CKT		
B	16D7	35D5, 35E0, 41E0
BL	83A9	35B3
CO	17E5	35B3
CO(0-14)	53B1	35D5, 35E0, 41E0
C1(0-14)	53B1	35D5, 35E0, 41E0
C2(0-14)	53B1	35D5, 35E0, 41E0
C3(0-14)	53B1	35D5, 35E0, 41E0
C4(0-14)	53B2	35D5, 35E0, 41E0
C5(0-14)	53B2	35D5, 35E0, 41E0
C6(0-14)	53B2	35D5, 35E0, 41E0
C7(0-14)	53B3	35D5, 35E0, 41E0
C8(0-14)	53B3	35D5, 35E0, 41E0
C9(0-14)	53B3	35D5, 35E0, 41E0
C10(0-14)	5384	35D5, 35E0, 41E0
D	17A7	35B3
G		35G2, 35G7, 41E0
HM	16E6	35B3
LK	16C7	35B3
OH	16E6	35B3
ONO-3	480-G0	35D5, 35E0, 41E0
ON4-9	480-G0	35G2, 35G7, 41E0
R	83A9	35B3
RB0-9	14H4	35D5, 35E0, 41E0
RP0-9	16B8	35D5, 35E0, 41E0
ST	16C8	35G2, 35G7, 41E0
T	83A9	35B3

DESIG	LOCATION FS	LOCATION CAD
2W TRUNK LINK CKT		
E	42C0	2285
M	42C0	2285
RO	42C0	2285
TO	42C0	2285

2W TRUNK LINK AND CONNECTOR CKT		
E	42C0	2285
M	42C0	2285
RO	42C0	485, 2285
TO	42C0	485, 2285

TRUNK TEST CKT		
E	4200	2285
M	4200	2285
R	84A6	28E0
RVTK	7101	28E0
T	84A6	28E0

DESIG	LOCATION FS	LOCATION CAD
4W DP OG SENDER CKT		
4WDP	65A7	10C7
BS	2082	16B2
CN	38E5	16B2
DOS	787	16C2
FR	38E5	16B2
H	6484	16D2
LK	9G3	16D2
PL	42F2	16D2
R	24H3	16D7
S	38E5	16B2
SB	908	16D2
SG	786	16D2
SPE	43A1	16D2
T	24H3	16F7

DESIG	LOCATION FS	LOCATION CAD
4W MF OG SENDER CKT		
4WMF	65B7	10D7
BS	2082	16B2
CN	38E5	16B2
FR	38E5	16B2
H	6484	16D2
LK	9G3	16D2
MOS	7C7	16C2
PL	42F2	16D2
R	26C9	16B2
S	38E5	16B2
SB	908	16D2
SG	7C6	16D2
SPE	43A1	16D2
T	26C9	16B2

DESIG	LOCATION FS	LOCATION CAD
TOUCH-TONE STATION TEST RECEIVER		
BAT	11001	49B7
BS	2082	16B2
CN	38E5	16B2
GRD	11001	49H0
FR	38E5	16B2
H	6484	16D2
HG1,2,3,4	11001	49B7
LK	9G3	16D2
LG1,2,3,4	11C01	49B7
MOS	7C7	16C2
PL	42F2	16D2
R	24F3	49A2
R	26C9	16B2
S	38E5	16B2
SB	908	16D2
SG	7C6	16D2
STR	11001	49B7
SPE	43A1	16D2
T	24F8	49A2
T	26C9	16B2

TRANSFER REGISTER CKT		
BLG (INTER.)	64A8	33E1, 34F0, 41B3
BLG (LAST)	64A8	33E1, 34F0, 41B3
BS (FIRST)	5B8	34F5
BS (INTER.)	5E8	34F5
BS (LAST)	5G8	34F5
CN	38D5	34B3
FR	38D5	34B3
H	64A4	34G3
M (FIRST)	588	33E1, 34F0, 41B3
M (INTER.)	5D8	33E1, 34F0, 41B3
M (LAST)	5F8	33E1, 34F0, 41B3

TRANSFER REGISTER IDENTIFIER, CONNECTOR CKT IDENTIFIER PART		
IDT	61G7	
LO	61D7	
L1	61D7	
LIO	61E7	
LI1	61F7	
RI	61F7	
STA	61E7	
STB	61E7	

4W MF INCOMING REGISTER CKT		
BS	588-H8	34F5
CN	3805	34A2
CPNT	20C5	34D3
FR	3805	34A2
H	64C4	34F5
M	5B8-H8	
MB	588-H8	
MON	14F6	34F5
MST	6345	34A2
N	26E0	34F5
R	26A9	34F5
RG	3805	34A2
SK	65C7	10A7
SK1	65C7	10A7
T	26A9	34F5

4W ORIGINATING REGISTER CKT		
BS	20A2	34E3
CN	3805	34D3
CPNT	20C5	34D3
FR	3805	34D3
H	64A4	34C3
LK	9G3	34E3
ME	9C8	
MON	14C6	34E3
MST	63C5	34E3
MSTI	61G2	34E3
ON	7F8	16G7
R	24H6	1608
RG	3805	34D3
T	24H6	16E8

LINE CKT FOR USE WITH AIS		
E & M LEAD SUPV		
RI	42E0	2285
TI	42E0	2285
REV BAT SUPV		
RO	4280	2285
TO	4290	2285

DRAWING ISSUE

68D	TEM 234 Aud
70D	CKL Pr T 440
72A	MM 2C 1+
74D	RR
78D	CB
79D	RR
81D	CB

ISSUE 105A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2) SD-25680-01-A20

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-A20

HIGGINS 4465 M-5

OPTION INDEX

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
APP FIG A	(102)STD 1	102(19)	APP FIG A
APP FIG B	(102)STD 1 MD 33D		APP FIG B
APP FIG C	(102)STD 1 MD 28D (REPL BY APP FIG D)	127	APP FIG C,84C7,84D7
APP FIG D	(102)STD 1 STD 28D		APP FIG D,84D7
APP FIG E	(102)STD 25D STD 33D	149(37), 154,1215	APP FIG E
APP FIG F	(102)STD 25D MD 33D (REPL BY APP FIG E)	149(37)	APP FIG F,3587,10083
APP FIG G	A&M 26D (REPL BY APP FIG H)		APP FIG G
APP FIG H	(102)STD 26D	102(22), 194	APP FIG H,55E3,55F6, 55G4
APP FIG J	A&M 26D (REPL BY APP FIG K)		APP FIG J,5506,55E6, 55E7,55F3,55H4
APP FIG K	STD 26D A&M 57D (REPL BY APP FIG AG)	196	APP FIG K
APP FIG L	MD 27B (REPL BY APP FIG N)	124	APP FIG L
APP FIG M	A&M 27B (REPL BY APP FIG N) STD 31D	124,141	APP FIG M
APP FIG N	STD 27B MD 31D (REPL BY APP FIG M)	124,141	APP FIG N
APP FIG P	(102)STD 33D	102(23), 188	APP FIG P

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
APP FIG Q	MD 34B (REPL BY APP FIG R)		APP FIG Q
APP FIG R	STD 34B MD 106B		APP FIG R,9500
APP FIG S	MD 34B (REPL BY APP FIG T)	152	APP FIG S
APP FIG T	STD 34B		APP FIG T
APP FIG U	(102)STD 41D	102(22)	APP FIG U,2E1,12E2, 13E2,2388,2880,28A/D3, 3JA/A7,41D1,43B8,48C6
APP FIG V	(102)STD 41D	102(22)	APP FIG V
APP FIG W	MD 45D (REPL BY APP FIG X)	168	APP FIG W,73A3
APP FIG X	STD 45D	167	APP FIG X,73A3
APP FIG Y	MD 50D (REPL BY APP FIG Z)	181	APP FIG Y,51F8
APP FIG Z	STD 50D	177,1214, 1215	APP FIG Z
APP FIG AA	MD 50D (REPL BY APP FIG AB) A&M 70D	182, 1224	APP FIG AA
APP FIG AB	STD 50D A&M 70D	177,1215	APP FIG AB
APP FIG AC	MD 50D (REPL BY APP FIG AD)	183	APP FIG AC
APP FIG AD	STD 50D	177	APP FIG AD
APP FIG AE	A&M 57D (REPL BY APP FIG AF)	154,196	APP FIG AE
APP FIG AF	STD 57D	196	APP FIG AF
APP FIG AG	(102)STD 57D	102(23), 196	APP FIG AG

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
1	STD 1	102(1)	APP FIG 1
2	STD 1	102(3)	APP FIG 2
3	(102)STD 1	102(4)	APP FIG 3
4	(102)STD 1	102(4)	APP FIG 4
5	(102)STD 1	102(4)	APP FIG 5
6	STD 1	102(5)	APP FIG 6
7	(102)STD 1	102(5)	APP FIG 7
8	STD 1	102(5)	APP FIG 8
9	STD 1	102(6)	APP FIG 9
10	STD 1	102(7)	APP FIG 10
11	STD 1	102(8)	APP FIG 11
12	(102)STD 1	102(24)	APP FIG 12, 31A/B1-H1
13	STD 1	102(9)	APP FIG 13
14	(102)STD 1	102(10), 149(30), 1213,1215	APP FIG 14
15	STD 1	102(11), 183	APP FIG 15
16	STD 1	102(12)	APP FIG 16
17	(102)STD 1	102(22), 1215	APP FIG 17,22A2-F2
18	STD 1	102(13), 182,1211	APP FIG 18
19	STD 1	102(14)	APP FIG 19
20	(102)STD 1	102(23), 181,193, 1203,1215, 1273	APP FIG 20, 53E3,54D1,54C0,54C2, 54C6,54D0,54E0, 6082,6088,60C0

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
21	(102)STD 1	102(26), 168	APP FIG 21
22	(102)STD 1	102(23)	APP FIG 22
23	(102)STD 1 MD 26D (REPL BY APP FIG 42)		APP FIG 23,16F4
24	(102)STD 1	102(22)	APP FIG 24
25	(102)STD 1	102(22)	APP FIG 25
26	STD 1	102(15), 137	APP FIG 26
27	(102)STD 1	102(24)	APP FIG 27
28	STD 1	102(16)	APP FIG 28
29	STD 1	102(17)	APP FIG 29
30	(102)STD 1	102(23)	APP FIG 30
31	(102)STD 1	102(22)	APP FIG 31
32	(102)STD 1	102(23), 149(33)	APP FIG 32
33	(102)STD 1	102(23)	APP FIG 33
34	(102)STD 1	102(24)	APP FIG 34
35	(102)STD 1	102(24)	APP FIG 35
36	(102)STD 1 MD 106B	1289	APP FIG 36,9506
37	(102)STD 1 MD 106B	1289	APP FIG 37

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
38	(102)STD 1 MD 106B	1289	APP FIG 38
39	(102)STD 1 MD 106B	1289	APP FIG 39
40	(102)STD 1	102(22), 161, 1289	APP FIG 40
41	(102) STD 1 MD 70D (102) STD 83D	102(49) 149(3)	APP FIG 41
42	(102) STD 26D	102(24)	APP FIG 42
43	(102)STD 25D	102(22), 149(6)	APP FIG 43
44	(102)STD 40D	102(22), 161,184	APP FIG 44
45	(102)STD 40D	102(22)	APP FIG 45
46	(102)STD 45D	102(25)	APP FIG 46
47	(102)STD 45D	102(25)	APP FIG 47
48	(102)STD 45C	102(25), 194	APP FIG 48,73G6
49	(102)STD 45D	102(25)	APP FIG 49
50	STD 57C	102(27), 149(25), 177,193, 1214,1215	APP FIG 50,54C6
51	(102)STD 59D	102(28)	APP FIG 51,60C1,60C3
52	STD 68D	102(33), 1214	APP FIG 52,12A3,12A4, 51HO, 51H1, 51H2 51H4,51H5,52H2,52H3, 52H4,52H5,52H6,57G7
53	STD 68D	102(34), 1214, 1259	APP FIG 53
54	STD 68D	102(35), 1214, 1259	APP FIG 54

* MEANING OF RATING

(102)STD - PART OF A FEATURE - PROVIDED ONLY WHEN THAT FEATURE IS FURNISHED
STD - PROVIDED ON ALL CIRCUITS MANUFACTURED ON ISSUE ON WHICH RATED AS STANDARD
A&M - ADDITIONS AND MAINTENANCE ONLY
MD - MANUFACTURE DISCONTINUED
SPL - SPECIAL

** NUMBER IN ( ) FOLLOWING NOTE NUMBER INDICATES PARAGRAPH WITHIN THAT NOTE

DRAWING ISSUE

68D	WM AMD
89A	RLB WM AMD
700	CR AMD
72A	AMD
78D	SAS
79D	RR
83D	

ISSUE 106B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-A21

BELL TELEPHONE LABORATORIES INCORPORATED — 6S

SD-25680-01-A21

NEC 5495 (REORDER)

OPTION INDEX

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
55	(102)STD 70D	102(36)	APP FIG 55, 55G1, 62A8
56	SPL 65D (102) STD 70D	1209, 1212, 102(42)	APP FIG 56
57	(102)STD 70D	102(36)	APP FIG 57
58	(102)STD 59D	102(28), 198	APP FIG 58
59	(102)STD 70D	102(22)	APP FIG 59, 48H3 APP FIG 59, 48H3
60	(102)STD 70D	102(38)	APP FIG 60, 27E5, 27E6, 108E1
61	(102) STD 70D	102(39)	APP FIG 61, 7F8, 24H6, 30F6, 108E1
62	SPL 70D	1209(b)	APP FIG 62, 109B1
63	(102) STD 70D	102(40)	APP FIG 63, 5D3, 5D4, 11H5, 24G7, 64C8
64	SPL 70D	1210	APP FIG 64, 109E1
65	SPL 70D	1220	APP FIG 65, 56F5, 56G5, 56H4, 56H5
66	(102) STD 70D	102(41) 1215	APP FIG 66, 61C7
67	(102) STD 74D	102(24)	APP FIG 67
68	A&M 81D	1250	APP FIG 68
69	(102)STD 81D	102(45)	APP FIG 69, 28A/G0, 31B/E8, 37D8, 41D7, 41E7
70	(102)STD 81D	102(46)	APP FIG 70, 70B/B8
71	A&M 81D	1250	APP FIG 71
72	(102)STD 81D	102(44)	APP FIG 72
73	A&M 89D	1267	APP FIG 73, 42G5
74	STD 104B	1286	APP FIG. 74
75	(102)STD 106B	102(56)	APP FIG. 75

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
Z	(102)STD 1	102(22), 149(8-10)	APP FIG 16, 32D3
Y	(102)STD 1 STD 33D	149(7)	APP FIG 16
X	(102)STD 1 STD 33D	149(7)	APP FIG 16
W	(102)STD 1 STD 33D	149(7)	APP FIG 16
V	(102)STD 1 STD 33D	149(7)	APP FIG 16, 18
U	(102)STD 1 STD 33D	149(7)	APP FIG 16
T	(102)STD 1 STD 33D	149(7)	APP FIG 16
S	(102)STD 1 STD 33D	149(25), 154	APP FIG 20
R	(102)STD 1	102(22), 149(11), 142	APP FIG 16
Q	(102)STD 1 STD 33D		APP FIG 18
P	(102)STD 1 STD 33D		APP FIG 18
N	(102)STD 1 STD 33D		APP FIG 18
M	(102)STD 1 STD 33D		APP FIG 18
K	(102)STD 1 MD 26D (REPL BY "QM")		APP FIG 18, 27

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
J	(102)STD 1 A&M 78D	1245	APP FIG 11, 69D2, 69F2, 84F4
H	(102)STD 1 A&M 78D	1245	APP FIG 11, 69D2, 69G2, 84A2, 84A3, 84B5, 84C5
G	(102)STD 1	102(20)	84D4, 84E4
F	(102)STD 1	102(20)	84D4
D	(102)STD 1 STD 62D		APP FIG 18
B	(102)STD 1 STD 62D		APP FIG 18
A	(102)STD 1 STD 33D	149(25), 149(33), 1214	APP FIG 20

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
ZA	(102)STD 1 MD 18AR (REPL BY "XX")		APP FIG 17, 43D1
ZB	(102)STD 1 MD 28D (REPL BY "QW")		APP FIG 28
ZC	(102)STD 1 MD 28D (REPL BY "QR")		APP FIG 28
ZD	(102)STD 1 MD 33D	149(5)	3386, 35E6
ZE	(102)STD 1 STD 33D MD 68D (REPL BY "DC")		APP FIG 20, 51H1
ZF	(102)STD 1 MD 50D (REPL BY "KL" & "KM")		56A8
ZG	(102)STD 1 STD 33D MD 68D (REPL BY "DD"		APP FIG 20, 51H2
ZH	(102)STD 1 STD 33D MD 57D (REPL BY "JL")	193	51F2
ZI	(102)STD 1 STD 33D	149(24), 156	APP FIG 16
ZJ	(102)STD 1 STD 33D MD 35D (REPL BY "MM")	149(25), 156	APP FIG 20, 54A1

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
ZK	(102)STD 1 STD 33D	149(4), 1218	APP FIG 16, 36D3
ZL	(102)STD 1 MD 33D	149(5)	3387, 35E7, 36C4
ZM	(102)STD 1 STD 33D	149(4), 1218	APP FIG 16, 36D4
ZN	(102)STD 1 MD 33D	149(5)	3388, 35E8, 36C4
ZO	(102)STD 1 STD 33D	149(4), 1218	APP FIG 16, 36C3, 36D4
ZP	(102)STD 1 MD 33D	149(5)	34C1, 35E8, 36C6
ZQ	(102)STD 1 STD 33D	149(4), 185, 1218	APP FIG 16, 36C5
ZR	(102)STD 1 MD 62D	149(5)	34C3, 35E8, 36C6
ZS	(102)STD 1 STD 62D	149(4)	APP FIG 16, 36D6
ZT	(102)STD 1 MD 33D	149(5)	34C4, 35E8, 36C7
ZU	(102)STD 1 STD 62D	149(4)	APP FIG 16
ZV	(102)STD 1 MD 33D	149(5)	34C5, 35E9, 36C9
ZW	(102)STD 1 STD 62D	149(4), 185	APP FIG 16, 36D9, 36G6, 36H6

* MEANING OF RATING

(102)STD - PART OF A FEATURE - PROVIDED ONLY WHEN THAT FEATURE IS FURNISHED
STD - PROVIDED ON ALL CIRCUITS MANUFACTURED ON ISSUE ON WHICH RATED AS STANDARD
A&M - ADDITIONS AND MAINTENANCE ONLY
MD - MANUFACTURE DISCONTINUED
SPL - SPECIAL

** NUMBER IN ( ) FOLLOWING NOTE NUMBER INDICATES PARAGRAPH WITHIN THAT NOTE

DRAWING ISSUE: 68D, 69A, 70D, 72A, 73D, 74D, 75A, 78D, 81D, 86D, 89D

ISSUE 106B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-A22

BELL TELEPHONE LABORATORIES INCORPORATED — FORM 65

SD-25680-01-A22

HIGGINS 4465

OPTION INDEX

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
ZX	(102)STD 1 STD 62D	149(5)	34F7,35E9,35H9,36A/B8
ZY	(102)STD 1 STD 33D	149(31)	APP FIG 20
ZZ	(102)STD 1 STD 33D	149(33), 1214	APP FIG 20
YA	(102)STD 1 MD 15D (REPL BY "UA")	133,137, 1203	APP FIG 1,9,20,26, 79D1
YB	(102)STD 1 STD 33D	149(32), 167, 1217, 1218	APP FIG 1,9,18,20
YC	(102)STD 1 MD 15D (REPL BY "UC")	123	APP FIG 1,9,17
YD	(102)STD 1 STD 33D	149(6)	APP FIG 1,9,17
YE	(102)STD 1 STD 33D	149(6)	APP FIG 1,2,9,10
YF	(102)STD 1 A&M 50D (REPL BY "KL" & "KM")	178,179	APP FIG 11, 56A8
YG	(102)STD 1 STD 62D		APP FIG 18
YH	(102)STD 1 STD 33D MD 50D	149(25), 154	APP FIG Y
YI	(102)STD 1	102(2), 1280	64A4

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
YJ	(102)STD 1	102(19)	31A/B4
YK	(102)STD 1 MD 15D (REPL BY "UK")	130	APP FIG 1,9,20,33,35, 60D4
YL	(102)STD 1 MD 15D (REPL BY "UL")	130	APP FIG 1,9,20,33,35, 60D4
YM	(102)STD 1 A&M 68D	1213,1215	APP FIG 20,51F4,51G4, 51H5,52G4,54F4
YN	(102)STD 1 A&M 68D	149(38), 166,1213	54G5,54H5,54H6
YO	(102)STD 6B	102(19)	11A2,17A3,18D5,60A8, 60F5
YP	(102)STD 1 MD 15D (REPL BY "VP")	152,161	APP FIG 1,9,10,16,17,40
YQ	(102)STD 1	102(22)	APP FIG 35, 35B5,100C2
YR	(102)STD 1 MD 15D (REPL BY "VR","VT" OR "VV")	166	APP FIG 1,9,16,17,18,34, 35,40
YS	(102)STD 1	102(22)	APP FIG 34,35,35C6
YT	(102)STD 1	102(22)	APP FIG 34,35,35C6
YU	(102)STD 1 STD 330	149(18), 1203	APP FIG 35
YV	(102)STD 1 MD 106B	149(19), 1289	APP FIG 18,37,38,39
YW	(102)STD 1 MD 106B	149(19), 1289	APP FIG 37,38,39

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
YX	(102)STD 1 MD 33D	149(19)	APP FIG 39,104B1,104D1, 104E1,105C5
YY	(102)STD 1 MD 106B	149(19), 1289	APP FIG 39,104B1,104C1, 104D1,104E1,105C5
YZ	(102)STD 1 MD 33D	149(19)	APP FIG 39
XA	(102)STD 1	102(19)	60F6
XB	(102)STD 9D STD 33D	149(26), 1214, 1215	APP FIG 20,52G4,54B7, 54D5,54F6
XC	(102)STD 9D STD 33D	149(37), 1215	APP FIG 20,35,52E5, 52G4,54B7,54D5,54F6
XD	(102)STD 1 STD 33D	149(20), 161,165	APP FIG 17
XE	(102)STD 1 STD 33D	149(13), 173	APP FIG 9,84C7
XF	STD 9D	113	APP FIG 16,12C4,28B/B9
XG	(102)STD 9D MD 33D	149(27)	54A7,54D6
XH	(102)STD 9D STD 33D	149(26) 1215	APP FIG 20
XI	MD 9D (REPL BY "XF")		28B/B9

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
XL	(102)STD 11D MD 15D (REPL BY "WZ" OR "VB")		APP FIG 11,84B2
XM	(102)STD 11D A&M 78D	1203, 1245	APP FIG 11,55F7,56E8
XN	(102)STD 11D MD 15D (REPL BY "VC")		APP FIG 11,65E1
XO	(102)STD 11D	102(20), 1245	55F6,55G4,84A2,84A3, 84B5,84C5
XP	(102)STD 11D A&M 78D	1245	55E5
XQ	(102)STD 11D	102(20)	APP FIG 11,56D5,84E2
XR	MD 11D (REPL BY "XS")		79E7,79F7,79F8,79H0, 79G7
XS	STD 11D		62F0,79E7,79F7,79G0, 79G7
XT	MD 11D (REPL BY "XU")		63D1,63E1,84E2
XU	STD 11D	107	63D0
XV	(102)STD 1 STD 33D	149(16)	APP FIG 17
XW	(102)STD 13B STD 33D	149(12)	APP FIG 17,40D5,43D3, 43D4,101C7
XX	(102)STD 18AR STD 33D	114, 149(6), 165	APP FIG 17,43C1,43D0

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
XY	(102)STD 1 STD 33D	149(14), 173	APP FIG 9
XZ	(102)STD 1 STD 33D	149(15)	APP FIG 9,10,13F1,
WA	MD 13B (REPL BY "WB")		40D4,43G6,91C0
WB	STD 13B	110	40C4,43G6,91C0
WC	(102)STD 13B STD 33D	149(12)	APP FIG 17,39E2,39E3, 39F2,43D2,43D3
WD	(102)STD 13B STD 33D	149(12)	APP FIG 17,39E1,40F1
WE	MD 13B (REPL BY "WF")		60A5,83E7
WF	STD 13B	109	60A5,83E7
WG	(102)STD 11D	102(20), 132,137, 1245	
WH	(102)STD 13B STD 33D	149(29)	APP FIG 20,60C7
WI	(102) STD 90 MD 70D (102) STD 83D	102(49), 149(3)	APP FIG 28,21B5
WJ	(102)STD 11D	102(19,20), 1245	65E1
WK	MD 13B (REPL BY "WL")		13C2,13D1

* MEANING OF RATING

(102)STD - PART OF A FEATURE - PROVIDED ONLY WHEN THAT FEATURE IS FURNISHED
STD - PROVIDED ON ALL CIRCUITS MANUFACTURED ON ISSUE ON WHICH RATED AS STANDARD
A&M - ADDITIONS AND MAINTENANCE ONLY
MD - MANUFACTURE DISCONTINUED
SPL - SPECIAL

** NUMBER IN ( ) FOLLOWING NOTE NUMBER INDICATES PARAGRAPH WITHIN THAT NOTE

DRAWING ISSUE
68D WM WN AM
70D RAC MAS AUP
72A HWT Add Sht
78D DM
83D
86D

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-A23

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

SD-25680-01-A23

HIGGINS 4465 K3

21

OPTION INDEX

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
WL	STD 138		13C2,13D1
WR	(102)STD 21D STD 33D A&M 68D	128, 149(34), 154	APP FIG 20
WU	MD 138 (REPL BY "WV")		APP FIG 12
WV	STD 138		APP FIG 12
WW	MD 138 (REPL BY "WX")		APP FIG 13
WX	STD 138		APP FIG 13
WY	MD 15D REPL BY "WZ" OR "VB")		APP FIG 11, 84B2
WZ	(102)STD 15D	102(20), 1245	APP FIG 11, 68D5, 84B2

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
VA	MD 15D (REPL BY "WY" OR "VB")		APP FIG 11
VB	(102)STD 15D	102(20), 1245	APP FIG 11
VC	(102)STD 15D A&M 78D	1245	APP FIG 11, 65E1
VD	MD 15D (REPL BY "VE")		4302
VE	STD 15D		
VF	MD 15D (REPL BY "VG")		APP FIG 26
VG	STD 15D		APP FIG 26
VH	MD 15D (REPL BY "VI")		APP FIG 26
VI	STD 15D		APP FIG 26
VJ	MD 15D (REPL BY "VK")		APP FIG 13
VK	STD 15D MD 102B (REPL BY "ZVT")	1281	APP FIG 13
VL	MD 15D (REPL BY "VM")		APP FIG 13
VM	STD 15D		APP FIG 13
VN	MD 15D (REPL BY "VO")		APP FIG 12
VO	STD 15D		APP FIG 12

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
VP	(102)STD 15D MD 106B	152,161, 1289	APP FIG 1,9,10,15,17, 40
VQ	MD 18AR (REPL BY "XX")		4302
VR	(102)STD 15D	102(22)	APP FIG 1,9,16,17,18,34, 35,40
VS	MD 15D (REPL BY "VR","VT" OR "VV")		
VT	(102)STD 15D	102(22)	
VU	MD 15D (REPL BY "VR","VT" OR "VV")		APP FIG 40
VV	(102)STD 15D	102(22)	APP FIG 40
VW	MD 15D (REPL BY "VX")		APP FIG 15
VX	STD 15D		APP FIG 15
VY	MD 15D (REPL BY "VZ")		APP FIG 9
VZ	STD 15D		APP FIG 9

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
UA	(102)STD 15D STD 33D	133,137, 149(28), 1218	APP FIG 1,9,20,26
UB	MD 15D (REPL BY "UD")		APP FIG 16
UC	(102)STD 15D STD 33D	123, 149(6)	APP FIG 1,9,17
UD	STD 15D		APP FIG 16
UE	MD 15D (REPL BY "UF")		APP FIG 17
UF	STD 15D		APP FIG 17
UG	MD 15D (REPL BY "UH")		APP FIG 21
UH	STD 15D		APP FIG 21
UI	MD 15D (REPL BY "UJ")		APP FIG 21
UJ	STD 15D		APP FIG 21
UK	(102)STD 15D	102(23), 130	APP FIG 1,9,20,33,35
UL	(102)STD 15D	102(23), 130	APP FIG 1,9,17,20,33, 35

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
UM	MD 15D (REPL BY "UN")		
UN	STD 15D		
UO	MD 15D (REPL BY "UP")		APP FIG 15
UP	STD 15D		APP FIG 15
UQ	MD 15D (REPL BY "UR")		APP FIG 36
UR	STD 15D MD 106B		APP FIG 36
UU	MD 15D (REPL BY "UV")		APP FIG 15
UV	STD 15D		APP FIG 15
UW	(102)STD 17B MD 33D	149(22), 1208	29C4,29C5
UX	(102)STD 17B MD 33D	149(22), 1208	29C4
UY	(102)STD 17B MD 33D	149(22), 1208	29C4
UZ	(102)STD 17B MD 33D	149(22), 1208	29D4

* MEANING OF RATING

(102)STD - PART OF FEATURE - PROVIDED ONLY WHEN THAT FEATURE IS FURNISHED
STD - PROVIDED ON ALL CIRCUITS MANUFACTURED ON ISSUE ON WHICH RATED AS STANDARD
A&M - ADDITIONS AND MAINTENANCE ONLY
MD - MANUFACTURE DISCONTINUED
SPL - SPECIAL

** NUMBER IN ( ) FOLLOWING NOTE NUMBER INDICATES PARAGRAPH WITHIN THAT NOTE

DRAWING ISSUE: 68D, 72A, 78D SAS, 80A RR

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-A24

BELL TELEPHONE LABORATORIES INCORPORATED — SIZE 6S

SD-25680-01-A24

HIGGINS 4465 H4E

OPTION INDEX

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
TA	(102)STD 17B MD 33D	149(22), 1208	29D4
TB	(102)STD 17B MD 33D	149(22), 1208	29D4
TC	(102)STD 17B MD 33D	149(22), 1208	29D4
TD	(102)STD 17B MD 33D	149(22), 1208	29E4
TE	(102)STD 17B MD 33D	149(22), 1208	29E4
TF	MD 19B (REPL BY "TG")		73F2,73G2,82E1
TG	STD 19B		APP FIG 21, 73G2
TJ	MD 19B (REPL BY "TK")		4003,4181
TK	STD 19B		4181
TL	(102)STD 19B MD 33D	149(17)	11C6,13G1,40F7
TM	(102)STD 19B STD 33D	149(13-15)	APP FIG 10, 11B6,11B7,13F1,40E6, 40F6
TN	MD 19B (REPL BY "TO")	1253	42D1
TO	STD 19B	1253	42D1

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
TP	(102)STD 21D MD 35D (REPL BY "TQ")	149(23), 159	53E3,54B4
TQ	(102)STD 21D STD 35D A&M 68D	149(35), 158,159	APP FIG 20, 18F5,53E3, 54A4
TR	(102)STD 21D STD 35D A&M 68D	149(35), 158,159	APP FIG 20, 52G2, 52H2
TS	(102)STD 21D STD 35D A&M 68D	149(35), 158,159	APP FIG 20, 52G3, 52H3
TT	(102)STD 21D STD 35D A&M 68D	149(35), 158,159	APP FIG 20, 52G3, 52H3
TU	(102)STD 21D STD 35D A&M 68D	149(35), 158,159	APP FIG 20, 52G4 52H4
TZ	(102)STD 21D STD 33D	149(36), 1214	APP FIG 20, 3F2

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
SA	(102)STD 21D STD 33D MD 50D	149(25)	APP FIG Y
SB	MD 19B (REPL BY "SC")		APP FIG 13,16 11F2,24F5,24F6,24G6
SC	STD 19B		APP FIG 13, 11F2
SD	MD 19B (REPL BY "SE")		4A6,4A7,4D6,4D7,4G6, 4G7
SE	STD 19B		4A6,4A7,4D6,4D7,4G6, 4G7
SF	STD 21D		APP FIG 1
SG	(102)STD 21D	102(22,23), 1289	APP FIG 1
SJ	MD 21D (REPL BY "SK")		APP FIG 20
SK	STD 21D		49A8
SL	MD 20AR (REPL BY "SM")		23E8
SM	STD 20AR	115	23E8
SN	MD 22B (REPL BY "SO")		72A7,72B/B2,72B/D5, 72B/E5,72B/F5,72B/G2, 72C8,72D8,72F7
SO	STD 22B		APP FIG 26, 72A7,72F7,75A5,75C5, 75D5
SP	MD 22B (REPL BY "SQ")		APP FIG 33,85A0,85A1 85D5, 85E5

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
SQ	STD 22B		APP FIG 33, 85A0,85D4,85E4
SR	MD 22B (REPL BY "SS")		APP FIG 34, 96G5
SS	STD 22B		APP FIG 34
ST	MD 25D (REPL BY "SU")		28A/B7,28A/C7, 28A/G6,32B0, 32F4, 32F5, 35C3, 6682
SU	STD 25D	119,165, 1218	28A/B8,32B0,32C3, 32F4, 35C3,35D2,6682
SV	(102)STD 25D	102(22), 149(8-10)	APP FIG 16, 3E1, 35C2
SW	(102)STD 25D	102(22), 149(9,10),	APP FIG 16, 32A2, 6682
SX	(102)STD 25D	102(22), 149(10),	APP FIG 16, 6682
SY	(102)STD 25D	102(22), 149(9-10), 1289	APP FIG 16,35C2
SZ	(102)STD 25D STD 33D	149(21)	20G2

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
RA	MD 24D (REPL BY "RB")		35B7
RB	STD 24D	117	35C7
RC	MD 24C (REPL BY "RE")		11C6,11C7,11D6
RD	MD 24D (REPL BY "RE")		11C6,11C7
RE	(102)STD 24D STD 33D	149(13-15)	11C6,11C7
RF	STD 24D	118	66F4
RG	MD 24D (REPL BY "RH")	116	APP FIG 13, 26D0,26D1
RH	STD 24D		APP FIG 13, 26E2
RI	MD 25D (REPL BY "RJ")		20F4
RJ	STD 25D	120	20E4
RM	STD 25D	121	8G2,8G3
RN	MD 25D (REPL BY "RO")		APP FIG A, B

* MEANING OF RATING

(102)STD - PART OF A FEATURE - PROVIDED ONLY WHEN THAT FEATURE IS FURNISHED
STD - PROVIDED ON ALL CIRCUITS MANUFACTURED ON ISSUE ON WHICH RATED AS STANDARD
A&M - ADDITIONS AND MAINTENANCE ONLY
MD - MANUFACTURE DISCONTINUED
SPL - SPECIAL

** NUMBER IN ( ) FOLLOWING NOTE NUMBER INDICATES PARAGRAPH WITHIN THAT NOTE

DRAWING ISSUE
68D
70D
72A
77A
81D
88D

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-A25

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-A25

HIGGINS 4463

OPTION INDEX

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
RO	STD 25D A&M 79D (REPL BY ZZP)	1247	APP FIG A,B
RP	MD 25D (REPL BY "RQ")		APP FIG 13
RQ	STD 25D		APP FIG 13
RT	(102)STD 25D A&M 59D (REPL BY "RU")	1204	APP FIG 11
RU	(102)STD 25D STD 59D MD 74D (REPL BY "AR")	1204, 1236	APP FIG 11,84C1
RX	(102)STD 26D	102(22)	27B4,39A6,42D4,43A2, 45E2
RY	MD 26D (REPL BY "RX" OR "RZ")	123	APP FIG 17, 39B6,45E3, 45E4
RZ	(102)STD 26D STD 33D	149 (6)	APP FIG 17, 39A6,42E5,42G6,44B3, 44C3,45E4

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
QA	MD 26D (REPL BY "QB")		APP FIG 17
QB	STD 26D	122	APP FIG 17
QC	MD 26D (REPL BY "QD")		
QD	STD 26D		
QE	(102)STD 26D STD 33D A&M 68D	149(25), 154,	53C4,53E4,54F0,54F3, 54G0
QF	(102)STD 26D STD 33D A&M 68D	149(25),	53C4,53E4,54F0,54F2
QG	MD 28D (REPL BY "QH")		9C7,9C8
QH	STD 28D		9C8
QI	MD 28D (REPL BY "QJ")		70F4,79D4
QJ	STD 28D		APP FIG 26
QK	MD 28D (REPL BY "QL")		APP FIG 27
QL	STD 28D		APP FIG 27
QM	(102)STD 28D	102(24)	APP FIG 27
QN	MD 28D (REPL BY "QO")		APP FIG 31
QO	STD 28D		APP FIG 31
QP	MD 28D (REPL BY "QQ")		APP FIG 28

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
QQ	STD 28D		APP FIG 28
QR	(102)STD 28D STD 33D	149(2)	APP FIG 28
QS	MD 28D (REPL BY "QT")		APP FIG 30
QT	STD 28D		APP FIG 30
QU	MD 28D (REPL BY "QV")		APP FIG 29
QV	STD 28D		APP FIG 29
QW	(102)STD 28D STD 33D	149(1)	APP FIG 28
QX	MD 28D (REPL BY "QY")		APP FIG 28
QY	STD 28D MD 50D (REPL BY "KD")		APP FIG 28
QZ	MD 28D (REPL BY "PA")		APP FIG 16

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
PA	STD 28D MD 50D (REPL BY "KE")		APP FIG 16
PB	MD 28D (REPL BY "PC")		APP FIG 27
PC	STD 28D MD 50D (REPL BY "KF")		APP FIG 27
PD	MD 28D (REPL BY "PE")		APP FIG 41
PE	STD 28D		APP FIG 41
PF	MD 28D (REPL BY "PG")		APP FIG 19,11E8,11E9
PG	STD 28D MD 50D (REPL BY "KG")		APP FIG 19,11E8
PH	MD 27B (REPL BY "PI")	163	96D4,96D6,96E5
PI	STD 27B	125,145	96C6,96C8,96D5,96D6, 96E5,96F6,96F8,96G7, 96G8
PJ	MD 27B (REPL BY "PK")		96C6,96D5,96E6
PK	STD 27B	126,145	96C6,96D5,96D6,96E6, 96F6,96F8,96G7,96G8
PL	MD 30D (REPL BY "PO")	130	APP FIG 20

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
PM	MD 30D (REPL BY "PO")	130	APP FIG 20
PN	MD 30D (REPL BY "PO")		APP FIG 20, 1783,1784, 1786
PO	STD 30D	129	APP FIG 20,1783
PP	MD 30D (REPL BY "PQ")		APP FIG 20
PQ	STD 30D		APP FIG 20
PR	STD 30D	131	35C4,35C5
PS	MD 30D (REPL BY "PU")		9180,91C2
PT	MD 30D (REPL BY "PU")	138	APP FIG 40,91C2
PU	STD 30D		91C2
PV	MD 30D (REPL BY "PW")	137	APP FIG 26
PW	STD 30D	134,137	APP FIG 26
PX	STD 30D	132,137, 1218	
PY	MD 30D (REPL BY "PZ")	137	79G7,79H7
PZ	STD 30D	137	79G7

* MEANING OF RATING

(102)STD - PART OF A FEATURE - PROVIDED ONLY WHEN THAT FEATURE IS FURNISHED
STD - PROVIDED ON ALL CIRCUITS MANUFACTURED ON ISSUE ON WHICH RATED AS STANDARD
A&M - ADDITIONS AND MAINTENANCE ONLY
MD - MANUFACTURE DISCONTINUED
SPL - SPECIAL

** NUMBER IN ( ) FOLLOWING NOTE NUMBER INDICATES PARAGRAPH WITHIN THAT NOTE

DRAWING ISSUE

68D	WE ADD Disp
70D	CR 64) ADD
74D	KE6
78D	SAS
80A	PAZ
86D	

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR,REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-A26

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-A26

HIGGINS 4465

OPTION INDEX

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
OA	MD 30D (REPL BY "OB")	137	
OB	STD 30D	137	
OC	STD 30D	133,136, 137,1218	
OD	MD 30D (REPL BY "OE")	136,137	
OE	STD 30D	136,137, 1218	APP FIG 26
OF	MD 30D (REPL BY "OG")	132,137	79F7
OG	STD 30D	137	79F7
OH	STD 30D	132,137	
OJ	MD 30D (REPL BY "OK")	132,137	
OK	STD 30D	137	
OL	MD 30D (REPL BY "OM") / STD 34B	133,137, 151,1218	79C8
OM	STD 30D / MD 34B (REPL BY "OL")	151	79C7,79C8
ON	MD 30D (REPL BY "OQ")	133,137	

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
OP	MD 30D (REPL BY "OQ")	135,137	
OQ	(102)STD 30D / STD 33D	137, 149(28), 1218	
OR	MD 30D (REPL BY "OS")	133,137	
OS	(102)STD 30D / STD 33D	137, 149(28), 151,1218	
OT	MD 30D (REPL BY "OU")		APP FIG 9
OU	STD 30D		APP FIG 9
OV	MD 31D (REPL BY "OY", "OZ" & "NA")	139	APP FIG 33, 88B5, 88B6, 88E5
OW	MD 31D (REPL BY "OY","OZ" & "NA")	139	APP FIG 33, 88C6
OX	MD 31D (REPL BY "OY","OZ" & "NA")	139	88B7
OY	STD 31D	139,160	APP FIG 33,88B5
OZ	STD 31D	139	88G2
NA	STD 31D	139	89G2
NB	MD 31D (REPL BY "NC")	139	APP FIG 33, 87A6
NC	STD 31D	139	88D8

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
ND	(102)STD 31D / MD 106B	1289	102D3
NE	(102)STD 31D / MD 106B	1289	102D3
NF	MD 31D (REPL BY "NG")		20G4
NG	STD 31D	140	20G4
NH	MD 31D (REPL BY "NI")	142	31B/A7,31B/A8,31B/B7, 31B/B8,31B/C7,31B/C8, 31B/D7,31B/D8
NI	STD 31D		31B/B7,31B/B8,31B/D7,31B/D8
NJ	STD 31D	143	APP FIG 17
NK	MD 33D (REPL BY "NL" & "NN")		54E0,54E2
NL	STD 33D / A&M 68D	144	54B1,54C2,54D2,54E0, 54E2,54F0,54F2
NM	MD 33D (REPL BY "NL" & "NN")		
NN	STD 33D / A&M 68D	144	54B1,54C2,54D0,54D1
NO	STD 32B		27D6,27D7
NP	MD 32B (REPL BY "NQ")	145	APP FIG 34,96F8,96G8
NQ	STD 32B	146,163	APP FIG 34
NR	MD 32B (REPL BY "NS")		
NS	STD 32B	147	

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
NT	MD 33D (REPL BY "NU")		APP FIG 31
NU	(102)STD 33D	102(24)	APP FIG 31
NV	MD 33D (REPL BY "NW")		11A6
NW	STD 33D	148, 1218	11A6
NX	(102)STD 33D	102(24)	APP FIG 27, 3E7
NY	MD 33D (REPL BY "NZ")		APP FIG 27
NZ	(102)STD 33D	102(24)	APP FIG 27
MA	MD 35D (REPL BY "MB")	158	APP FIG 20, 60A3
MB	STD 35D / A&M 68D	154,158	APP FIG E,20, 18H3, 36B1-B4,51D6,60A2
MC	STD 35D / A&M 68D	154,1215	53C4,53C5,53D4,53D5, 53E5,54F4,54G0
MD	MD 35D (REPL BY "ME")	156	APP FIG 20
ME	STD 35D / MD 68F	154,158	APP FIG 20
MF	MD 32E (REPL BY "MG")		30J

APP OR WRG	RATED ON ISSUE*	REFERENCE NOTES**	LOCATION
MG	STD 32B	150,1214, 1218	APP FIG 16,3D1,35C4, 62F5
MH	STD 34B	137,151	79A1,79C9
MI	MD 34B (REPL BY "MH")	137,151	79B1,79C7,79C9,79D9
MJ	MD 34B (REPL BY "MH")	151	
MK	MD 34B (REPL BY "MH")	137,151	
ML	MD 35D (REPL BY "MM")		53E0,54A0,54B3
MM	STD 35D	153,1214, 1215	APP FIG 20
MN	MD 34B (REPL BY "MC")		APP FIG 9,10
MO	STD 34B	153	APP FIG 9,10
MP	STD 35D		7D1,16D1,40D6
MQ	MD 40D (REPL BY "MR")		39C8,39D1,39D4,39D5, 39F4,39G3,39G6,41B1, 41D4
MR	STD 40D	161	39C9,39D5,39D6,39E3, 39E4,39E5,39F4,39F5, 39F6,39G4,41A3,41B1, 41D4,42G3,42G4,48D3, 101C8,102C2,102E2
MS	STD 40D	161,164	APP FIG 10

* MEANING OF RATING

(102)STD - PART OF A FEATURE - PROVIDED ONLY WHEN THAT FEATURE IS FURNISHED
STD - PROVIDED ON ALL CIRCUITS MANUFACTURED ON ISSUE ON WHICH RATED AS STANDARD
A&M - ADDITIONS AND MAINTENANCE ONLY
MD - MANUFACTURE DISCONTINUED
SPL - SPECIAL

** NUMBER IN ( ) FOLLOWING NOTE NUMBER INDICATES PARAGRAPH WITHIN THAT NOTE

DRAWING ISSUE

68D	WM NAB AHD
70D	JEG MRS AHD
72A	KMJ
60A	PAZ

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-A27

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-A27

HIGGINS 4465 M&E

OPTION INDEX

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
MT	MD 36B (REPL BY "MU")	160	APP FIG 33
MU	STD 36B	160	APP FIG 33
MV	MD 35D (REPL BY "MW")		
MW	STD 35D	158	
LC	MD 40D (REPL BY "LD")		37E5,107E2
LD	STD 40D		37E5
LG	A&M 40D	163	APP FIG 1,96C8
LH	MD 40D (REPL BY "LI")		19A3,41E4,41E5
LI	STD 40D	162	19A2,19A3,41E3,41E4, 41E5
LJ	MD 40D (REPL BY "LK")		APP FIG 17
LK	STD 40D	161	APP FIG 17
LL	STD 40D	161	APP FIG 17
LM	MD 41D (REPL BY "LP")		APP FIG 16
LN	MD 42B (REPL BY "LO")	166	APP FIG 40
LO	STD 42B	166	APP FIG 40
LP	STD 41D	165	APP FIG 16,32F3,35A0, 36A/B1, 36A/B2,36A/B3, 36A/B4,48F3
LS	A&M 44A	163	96F6,96F8,96G7,96G9
LT	STD 44A	161	APP FIG 17
LU	A&M 44A	165	APP FIG 17
LV	(102)STD 45D	102(25)	84C2,84G6
LW	(102)STD 45D	102(25)	84C2,84G6
LX	MD 45D (REPL BY "LY")		APP FIG 21,26, 55A7,62B1,62D1,73A8, 74C4,74C7,84A1,84B1
LY	STD 45D	167,1203	APP FIG 9,11,18,21,26, 71A3,7186,71D4, 72A/F8, 73G5,74C4, 77E2
LZ	MD 45D (REPL BY "KA")		APP FIG 13
KA	STD 45D		APP FIG 13
KB	MD 46B (REPL BY "KC")		31A/A1
KC	STD 46B	1208	31A/A3
KD	STD 50D		APP FIG 28
KE	STD 50D		APP FIG 16
KF	STD 50D		APP FIG 27
KG	STD 50D		APP FIG 19
KH	MD 48D (REPL BY "KI")	173,174	APP FIG 9,84C6,84E6, 84F6
KI	STD 48D	174	APP FIG 9,84C6,84D6, 84F6
KJ	MD 50D (REPL BY "KK")		APP FIG 16 30A0,31A/A5,31F5, 32A9,51E7,52E6,70B1, 70B2,70C2,70E1,70E2, 70E3,70F2,72F1,72F3, 72G0,72G1
KK	STD 50D	177, 191,194, 1215	APP FIG 16 14F2,23A2,30F6, 31A/A5,31A/A6,32B8, 3iF5, 32A8, 51E7,51E8,52E5,52E6, 52F7,70B0,70B2,70E0, 70E2,70E3,70F3,72F1, 72G0
KL	STD 50D / A&M 68D	177,179	APP FIG 11
KM	STD 50D / A&M 68D	177,191, 1287	56A8,56A9,56E7,56E8, 56F1,56F5,56F7,56F9
KN	(102)STD 50D / A&M 68D	1213	56F3
KO	(102)STD 50D / A&M 69D	1213	56F3,56G4
KP	(102)STD 50D / STD 59D	1204, 1215	14F4,15A6,15A7,35B2,
KQ	(102)STD 50D / A&M 59D (REPL BY "KP")	1204	14F4,30B8,35B2,56B9, 56G1,56H2,56H3,56H4,
KR	(102)STD 50D / A&M 59D (REPL BY "KP")	1204, 1215	APP FIG 16, 23F2,23F3,35B2
KS	(102)STD 50D / A&M 59D (REPL BY "KP")	1204	35B2,56G2
KT	MD 50D (REPL BY "KU")	180	APP FIG 16
KU	STD 50D	177, 1214	APP FIG 16
KV	(102)STD 50D / MD 59D (REPL BY "KP")	1204	30B8
KW	MD 50D (REPL BY "KX" & "KZ")	185	APP FIG 16
KX	STD 50D	186	APP FIG 16
KY	MD 50D (REPL BY "KX" & "KZ")	185	APP FIG 16
KZ	STD 50D	186	APP FIG 16
JA	(102) STD 50D	(102(23) 187	APP FIG 30,79D1
JB	(102)STD 50D	102(23)	APP FIG 16,18D6,47A2
JC	(102)STD 50D	102(23), 1215	APP FIG 20,18D6, 47A2,47B2
JD	STD 50D		22G2,45F7
JE	MD 50D (REPL BY "JD")	188	APP FIG 10,16, 45F7,46B9
JF	MD 50D (REPL BY "JG")		APP FIG 42
JG	STD 50D / A&M 57D (REPL BY "IR")	189,196	APP FIG 42, 6G4,6G6,6M4,6M6
JH	(102)STD 50D	102(22), 192, 1291	APP FIG 16,35C4,48G3, 48G8
JI	(102)STD 50D / MD 59D (REPL BY "JJ") / (102)STD 70D	102(22)	31A/B1,31A/G2, 31F2,31F4
JJ	(102)STD 50D / STD 59D / (102)STD 70D	102(22) 199	APP FIG 16,23H2, 23H4,31A/C1,31A/G3, 31E3,48H1,48H2,48H8
JK	MD 57D (REPL BY "JL")		56H2
JL	(102)STD 57D / A&M 68D	149(25), 177	22C8,5ID2,51F2
JM	(102)STD 53D	102(22)	APP FIG 17, 22B5, 42B2

* MEANING OF RATING

(102)STD - PART OF A FEATURE - PROVIDED ONLY WHEN THAT FEATURE IS FURNISHED
STD - PROVIDED ON ALL CIRCUITS MANUFACTURED ON ISSUE ON WHICH RATED AS STANDARD
A&M - ADDITIONS AND MAINTENANCE ONLY
MD - MANUFACTURE DISCONTINUED
SPL - SPECIAL

** NUMBER IN ( ) FOLLOWING NOTE NUMBER INDICATES PARAGRAPH WITHIN THAT NOTE

DRAWING ISSUE	
68D	WM, MM, AM, AMB
70D	JEC, MAS, AMY
73D	KSM, DMH, AMF
74D	CMC
78D	SAS
81D	
86D	
88D	

ISSUE 106B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-A28

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-A28

HIGGINS 4465

OPTION INDEX

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
JP	MD 53D (REPL BY "JQ")	191	56F6, 56G1, 56G5
JQ	STD 53D A&M 68D	190, 1201, 1207	56F2, 56F6, 56F7, 56G5, 56H6
JR	MD 53D (REPL BY "JS")	1207	APP FIG 16, 30A6, 30C2, 30C3, 32C8, 32C9
JS	STD 53D	190, 1207	APP FIG 16, 30A6, 30B2, 30C3, 30C4, 30C7, 32B8
JT	MD 53D (REPL BY "JU")	191	14F1, 14F2, 23A4, 30H1, 70A/C1
JU	STD 53D	190	APP FIG 16, 14F1, 14F3, 23A4, 23E1, 27H5, 30B2, 30B7, 30C5, 30C6, 30C7, 30D6, 30G1, 30H1, 70A/C1, 72A/G8
JV	(102)STD 53D STD 59D	1204, 1215	APP FIG 16, 18
JW	MD 50D (REPL BY "JX")		39D3
JX	STD 50D	192	39C3
JY	MD 57D (REPL BY "JL")		51D2
JZ	(102)STD 57D	102(22)	2286

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
ID	(102)STD 59D	102(29), 1203	
IE	(102)STD 59D	102(28), 198	
IF	(102)STD 59D	102(29), 1203	17F2, 60A6, 83B1, 83C1, 83D3
IG	(102)STD 59D	102(28), 198	17F1, 60A6, 81D9, 83B1, 83D1, 83D3
IH	(102)STD 59D	102(28), 198	APP FIG 9, 20, 6D8, 6E7, 22C7, 49D6, 49D7, 49D8, 50G2, 55A7, 56C8, 60B0, 60B2, 60B3, 60G8, 61D3, 62D2, 83E1, 83F7
II	(102)STD 59D	102(28), 198	APP FIG 20, 12D7
IJ	(102)STD 59D	102(29), 1203	6C7, 62A1
IK	(102)STD 59D	102(28), 192	6C7, 62A1
IL	MD 57D (REPL BY "IM")		APP FIG 13
IM	STD 57D		APP FIG 13
IN	A&M 57D (REPL BY "IO")	194, 196	APP FIG 18
IO	STD 57D A&M 70D	177, 196	APP FIG 18
IP	A&M 57D (REPL BY "IQ")	194, 196	APP FIG H
IQ	STD 57D	196	APP FIG H
IR	STD 57D	189, 196	APP FIG 42
IS	(102)STD 59D	102(28)	14C3, 15B6, 15D5, 46F2, 47B7, 49D6, 49G8, 49H1, 60C1, 60C2, 61A3, 61B7, 61B8, 61E3, 61G4 62G5, 62G6, 63E2, 63F2, 64E1, 65E2, 83A2, 83A3, 83C2

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
IT	(102)STD 59D	102(29), 198	11B2, 11D7; 20E5, 47B6. 55C1, 63D1, 63D3
IU	(102)STD 59D	102(28)	11B2, 11D7, 20F6, 47C7, 55C1, 63B2, 63D4, 63E4
IV	A&M 59D	198	APP FIG 20, 49D6, 60A6, 60C1, 60G9
IW	MD 58B (REPL BY "IX")	170	APP FIG 46
IX	STD 58B MD 74D (REPL BY "AN")	170	APP FIG 46
IY	MD 58B (REPL BY "IZ")		APP FIG 46
IZ	STD 58B		APP FIG 46
GA	(102)STD 59D	102(29), 102(40)	4F7
GB	(102)STD 59D	102(31),	
GC	(102)STD 59D	102(28), 102(36), 1203, 1245	APP FIG 11
GD	STD 59D	1202	APP FIG 28, 37D8
GE	MD 59D (REPL BY "GF")	1201	56H6
GF	STD 59D A&M 68D	197	
GG	STD 59D A&M 68D	197	APP FIG 18, 56H6
GH	(102)STD 59D	102(28), 102(29), 1203	46F1, 60A6

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
GI	(102)STD 62D	102(30)	55C2, 67E5, 70A/A2, 70A/F1, 70A/F8, 70B/C7, 71B1
GJ	(102)STD 62D	102(30)	APP FIG 18, 55A1, 62B2, 65F1, 67E5, 70A/A2, 70A/F8, 70B/C7, 71C1, 71F5
GK	STD 62D	1205, 1218	77B5, 7787, 77E6
GO	(102)STD 64D	102(31), 1207	56G5, 56H5
GP	(102)STD 64D	102(31), 1214, 1215	56G5, 56H5
GQ	(102)STD 64D	102(31)	
GR	(102)STD 64D	102(31), 1207	
GS	(102)STD 64D	102(31), 1207	
GT	A&M 68D	1215	51G7, 52H6, 54C1, 54E0, 54F1, 54G1
GU	A&M 68D	1204, 1215	56B9, 56G1, 56H4
GV	A&M 68D	1204, 1215	56G2
GW	A&M 68D	1214	51G7, 52H6, 54C1, 54E0, 54F1, 54G1
GX	STD 68D	1204, 1214, 1215	APP FIG Z, 52E6, 52G6

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
GY	(102)STD 68D	102(31), 1215	
GZ	A&M 68D	177, 1204, 1215	APP FIG 18, 22C8, 23D1
FA	STD 68D	1214	23D1
FB	STD 68D	1214	APP FIG 20, 51D6, 51E6, 51G6, 51G7, 58A5, 58B3, 58B5, 58C3, 58C5
FC	STD 68D	1214	APP FIG 20
FD	STD 68D	1214	APP FIG 20
FE	STD 68D	1214	APP FIG 20
FF	STD 68D	1214	APP FIG 20
FG	STD 68D	1214	APP FIG 20
FH	A&M 68D	1215 149(20) 149(37) 1213	APP FIG 20, 52G4
FI	A&M 68D	1215	54B2
FJ	A&M 6A0	154, 1215	53E4, 53E5, 53E1, 53E3

* MEANING OF RATING

(102)STD - PART OF A FEATURE - PROVIDED ONLY WHEN THAT FEATURE IS FURNISHED
STD - PROVIDED ON ALL CIRCUITS MANUFACTURED ON ISSUE ON WHICH RATED AS STANDARD
A&M - ADDITIONS AND MAINTENANCE ONLY
MD - MANUFACTURE DISCONTINUED
SPL - SPECIAL

** NUMBER IN ( ) FOLLOWING NOTE NUMBER INDICATES PARAGRAPH WITHIN THAT NOTE

DRAWING ISSUE: 68D, 69A, 70D, 71A, 72A, 73D, 74D, 77A, 78D, 81D, 82A, 84AC, 86D

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-A29

BELL TELEPHONE LABORATORIES INCORPORATED

PAGE 65

SD-25680-01-A29

HIGGINS 4465 INK

OPTION INDEX

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
FK	A&M 68D	1215, 1235	53D3, 53D4, 53D5, 53E1, 53E5, 53E6, 54A3, 54A6, 54A8, 54C6, 54E5, 54F4, 54G4, 60A0, 60A1, 60A3
FL	A&M 68D	149(26), 149(37), 1215	51H5, 53E5, 54B7, 54D5
FM	A&M 68D	158, 1215	APP FIG 20, 53C1, 53C2, 53D1, 53D2, 54A0, 54A1, 54A3
FQ	STD 68D	1214	APP FIG 20
FQ	A&M 68D	149(25), 1215	54D1
FR	STD 68D	1214, 1288	APP FIG 11, 12A1, 12A3, 49A3, 53B1, 53B2, 53B3, 53B4, 53C1, 53C2, 53C3, 53C4, 53E0, 53E1, 56A8, 56A9, 56C8, 57A6, 57A7, 57H1, 58B2, 58E6, 59H2, 60A2, 6080
FS	A&M 68D	149(37), 154, 1215	52H5, 53E5, 54E4, 54F5
FT	MD 68D		56A7
FU	STD 68D	1214	56A7
FV	STD 68D	149(25), 149(37), 1213, 1214, 1215	APP FIG 20, 51F4, 51F5, 51G4, 51G5
FW	MD 68D	1215	53E2, 54A0
FX	STD 68D	102(27), 1214	51D2, 51F2
FY	A&M 68D	1213, 1215	APP FIG 14, 67C2

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
FZ	(102)STD 68D	102(10), 1223	67C0
EA	A&M 68D	1223	APP FIG 14, 67F6
EB	MD 59D (REPL BY "EC")		APP FIG 9
EC	STD 59D	1206	APP FIG 9
ED	(102)STD 67D	102(32)	24F7, 79A1, 79B9
EE	(102)STD 67D	102(32)	APP FIG 13, 26
EF	(102)STD 67D	102(32)	1382, 20D4, 47B8, 8486
EG	(102)STD 67D	102(32)	APP FIG 9, 20D4, 8486
EH	STD 65D (102)STD 81D	1209, 1211 102(46)	72A/E3, 72A/G3
EI	SPL 65D (102)STD 81D	1209 102(46)	APP FIG 18
EJ	STD 65D	1210, 1211	70A/F8, 70F4
EK	SPL 65D	1210	
EL	STD 65D MD 78D	1209, 1211, 1212, 1246	72A/G4
EM	SPL 65D STD 78D	1209, 1212, 1246	APP FIG 18, 77A4, 77B4, 77G2

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
EN	STD 65D, (102) STD 79D, STD 106B	1211, 1212, 1289	70B2, 72A/D6
EO	SPL 65D, (102) STD 79D, MD 106B	1212, 1289	APP FIG 18, 34D7
EP	A&M 70D	177, 1215	70A/C2, 70A/D7, 70A/F6, 72A/H5, 72A/C6
EQ	STD 70D	1217	APP FIG. 18, 23A2, 70A/C3, 70A/D7, 70A/E4, 70A/F6, 70A/F8, 70A/G1, 70A/G6, 72A/B2, 72A/D6, 72A/G7, 72A/H5
ER	MD 70D	1215	23A2, 23B2, 70A/B2, 70A/C2, 70A/E0, 70A/E3-E5, 70A/F2, 72A/G9, 72A/G7
ES	A&M 70D	177, 1215	APP FIG. 19, 23D0, 23D1, 23D2, 23D3, 23E1, 23F1, 70A/A4, 70A/C6
ET	STD 70D	1215, 1217	70A/A2, 70A/B2, 70A/C1, 70A/C2, 70A/E0, 70A/E2, 70A/E4, 70A/E5, 72A/G9
EU	A&M 70D	190, 1215	APP FIG. 18
EV	A&M 70D	1204, 1215, 1224	23F4
EW	A&M 70D	1224	23B2, 23F1, 23F2, 23F3, 23F4
EX	SPL 70D	1220	56G4
EY	A&M 68D	1215, 1235	APP FIG 20
EZ	A&M 68D	1215, 149(28)	APP FIG 20
DA	A&M 68D	1215, 1235	53C1, 53C2, 53C3, 53C4
DB	A&M 68D	1215, 149(38)	51H0, 51H1
DC	STD 70D	1214, 149(25) 149(38)	APP FIG 20, 51G1

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
DD	STD 70D	1214, 149(25)	APP FIG 20
DE	MD 70D (REPL BY "DG")		35B4
DF	MD 70D	1215	APP FIG 16
DG	STD 70D	1217	35A3, 35A4
DH	(102)STD 70D	102(52)	APP FIG. 28, 54, 3G8, 3G2 23A7, 36B/B2, 36B/B5, 36B/B9, 62A6
DI	(102)STD 70D	102(36)	APP FIG. 56 72A/B6, 77G2
DJ	(102)STD 70D	102(37)	20E3, 56A3, 56B4, 56B6, 72A/C3, 84G7, 84G8
DK	(102)STD 70D	102(36)	APP FIG. 11, 20E3, 56B5, 56B8, 84A5, 84G7, 84G8
DL	(102)STD 70D	102(37), 1215	35C2
DM	(102)STD 70D	102(36)	35C1, 35D0, 35E0, 35H1, 35H2
DN	(102)STD 70D STD 106B	1215, 1289	57A7
DO	(102)STD 70D MD 106B	1289	56B8, 57A7, 57C7, 63F3
DP	(102)STD 70D	102(36), 102(37)	29A/C6, 29A/D3, 29A/E5, 31B/A2, 66A3
DQ	(102)STD 70D	102(36)	APP FIG. 16 28A/A6, 28A/B1, 28A/B6, 28A/E4, 31B/A2, 31B/H1, 31B/H2, 66A3
DR	(102)STD 70D	102(36), 102(37), 1215	28A/F6, 28A/G1

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
DS	(102)STD 70D	102(36)	APP FIG 57, 28A/D6, 28A/E1, 28A/F1, 65A7, 65B7
DT	(102)STD 70D	102(36), 102(37), 1215	29C1, 63D4
DU	(102)STD 70D	102(36)	29C1, 63D4, 63D5
DV	MD 70D (REPL BY "DW")		APP FIG 9
DW	STD 70D	1218	APP FIG 9
DX	A&M 73D	1215, 1234	83D4
DY	STD 70D	1234	83D4
CA	(102)STD 67D	102(32)	APP FIG. 13
CB	(102)STD 70D	102(22)	11F8, 31A/E3, 31A/F3, 31A/H3
CC	(102)STD 70D	102(22), 199	APP FIG 16.59, 11F8, 23G1, 23G5, 23H1, 23H5, 31A/3C, 33A1, 48H4, 48H7, 48H8
CD	(102)STD 70D	102(36), 102(37), 1215	48D3
CE	(102)STD 70D	102(36)	48D3
CF	(102)STD 70D	102(36), 102(37), 1215	48B3, 92C6
CG	(102)STD 70D	102(36)	48C3, 48E3, 92C6
CH	(102)STD 70D	102(36), 102(37), 1215	26F7, 26G6

* MEANING OF RATING

(102)STD - PART OF A FEATURE - PROVIDED ONLY WHEN THAT FEATURE IS FURNISHED
STD - PROVIDED ON ALL CIRCUITS MANUFACTURED ON ISSUE ON WHICH RATED AS STANDARD
A&M - ADDITIONS AND MAINTENANCE ONLY
MD - MANUFACTURE DISCONTINUED
SPL - SPECIAL

** NUMBER IN ( ) FOLLOWING NOTE NUMBER INDICATES PARAGRAPH WITHIN THAT NOTE

DRAWING ISSUE	
68D	WM MB MD
70D	RAC MC3 AW3
72A	MM1 MB MD
73D	RAC MB MD
75A	DMC
77A	DM
78D	DM
79D	PAZ
80A	PAZ
81D	
82A	
83D	
86D	
88D	

ISSUE 106B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-A30

BELL TELEPHONE LABORATORIES INCORPORATED SIZE 6S

SD-25680-01-A30

HIGGINS 4465 MADE IN U.S.A.

OPTION INDEX

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
CI	(102)STD 70D	102(36)	26E8, 26E9, 26F6, 26G6
CJ	(102)STD 70D A&M 78D	102(36), 102(37), 1215, 1245	69E2
CK	(102)STD 70D	102(36)	69E3
CL	(102)STD 59D	102(28), 102(29)	20E5
CM	MD 70D	1221	28A/A1, 28A/F9, 28B/A0 28B/A8, 28B/D0, 28B/D1, 28B/D2, 28B/D3, 28B/E0, 35E4, 35E5, 35E6, 35E7
CN	STD 70D	1218, 1221	28A/A1, 28A/A7, 28A/A8, 28A/A9, 28A/E8, 28A/G9, 28B/A0-A8, 28B/D1-D3, 34E4-E7
CO	STD 73D	1232	55F7
CP	(102) STD 73D A&M 78D	1215, 1232, 1245	55C7, 69B1, 69B2, 84E5
CQ	SPL 73D	1232	55C7, 84D5, 84E5
CR	(102) STD 73D A&M 78D	1515, 1232, 1245	APP FIG 11, 56E5
CS	(102)STD 73D	102(20), 1215, 1232, 1245	56B3
CT	SPL 73D	1232	56B3, C4, C5, C6
CU	(102)STD 70D	1C2(22A), 1262	APP FIG 16
CV	MD 70D (REPL BY CW)	1215, 1233	73E0, 73F0
CW	STD 70D	1233	73E0, 73E1, 73F0, 73F1
CX	A&M 68D	1215, 1235	56D9
CY	(102)STD 70D	102(36), 1215	APP FIG 1, 16, 57, 4201, 42E1
CZ	MD 67D (REPL BY BA)		5G6, 9G6, 9G7

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
BA	STD 67D	1219	4A9, 5G6, 9G6
BB	A&M 70D	199	APP FIG 16, 23G1, 23H5, 31A/D1, 31A/F1, 48H4, 48H7, 48H8
BC	(102) STD 70D	102(22), 199	22G1
BD	(102) STD 70D	102(22), 199	22G1
BE	STD 70D	1222	8C1
BF	MD 70D	1215	APP FIG 16
BG	(102) STD 70D	102(22) 1215	22G3, 28A/F0, 28A/F1
BH	(102) STD 70D	102(22)	APP FIG 16
BI	(102) STD 70D	102(22), 1215	APP FIG 17, 48B4
BK	(102) STD 70D	102(22), 1289	92C5, 92C8
BL	MD 70D	1215	92C5, 92C8
BN	(102) STD 70D	102(22), 199	39F3
BO	MD 70D (REPL BY BP)	1212, 1215, 1225, 1226	34D6
BP	SPL 70D	1225, 1226	34D5, 35E9
BQ	STD 70D	1225	55G7, 56E7

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
BR	(102)STD 70D A&M 78D	1215, 1225 1232, 1245	55G6
BS	SPL 70D	1225	34D5, 34D6, 34C7, 55C8, 55G6
BT	A&M 78D (102) STD 70D	1215, 1225 1245	55C8
BU	A&M 78D (102)STD 70D	1215, 1225, 1245	55E6
BV	SPL 70D	1225	55G6
BW	(102) STD 70D	102(38), 1215	33C1
BX	(102) STD 70D	102(38)	24F7, 33B1
BY	(102) STD 70D	102(38)	27E4, 27E5
BZ	STD 70D	1241	APP FIG 13
AA	STD 70D	1210, 1215	14F2
AB	STD 70D (102) STD 81D	1215, 1220 102(44)	30A1, 30D0, 30E4, 32B7
AC	SPL 70D (102) STD 81D	1220 102(44)	30A0, 30D0, 30E4
AD	MD 70D	1204, 1215, 1230	APP FIG 16
AE	STD 70D	1204, 1230	APP FIG 16, 60
AF	STD 70D	190, 1215, 1220	23C1, 23E1
AG	SPL 70D	1220	23C1, 23F1
AH	STD 70D	1220	72A/D7

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
AI	MD 70D	177, 1215, 1220	70A/B1, 70A/B5, 72A/F7
AJ	SPL 70D	1220	70A/B1, 70A/B5, 72A/F7, 72A/G7
AK	SPL 70D	1225	APP FIG 11, 55F1, 69G1
AL	MD 74D	1215	APP FIG 46
AM	STD 74D	1238	APP FIG 46
AN	STD 74D	1238	APP FIG 46
AO	MD 74D	1215	APP FIG 48
AP	STD 74D	1238	APP FIG 46
AQ	SPL 65D	1212, 1225	APP FIG. 11
AR	STD 74D	1236	APP FIG 11, 9C1
AS	MD 74D (REPL BY AU)	1215, 1237	APP FIG 16, 17
AT	(102) STD 74D	102 (22A)	3B1
AU	(102) STD 740	102 (22), 1215, 1242, 1250	APP FIG 16, 17
AV	MD 74D (REPL BY AW)	1215, 1239(a)	60C0, 60D6, 60D7
AW	STD 74D	1215, 1239(a)	60D0, 60D6, 60D7
AY	MD 70D (REPL BY AZ)	1240	APP FIG 16
AZ	STD 70D	1240	APP FIG 16
ZZA	MD 74D (REPL BY APP FIG 67)	1215	APP FIG AG
ZZB	(102) STD 74D	102(22)	7C2, 16E1
ZZC	STD 76B	1243, 1252	55C1, 62E2
ZZD	MD 76B (REPL BY ZZE)	1244	APP FIG 9, 20C2
ZZE	STD 76B	1244	APP FIG 9, 11
ZZF	(102) STD 78D	(102)20, 1215, 1245	56B3, 56C7, 84B3

APP OR WRG	RATED ON ISSUE *	REFERENCE NOTES **	LOCATION
ZZG	(102) STD 78D	(102)20	56B3, C3, C4, C5, C6, 84B3
ZZH	(102) STD 78D	(102)20, 1215, 1245	APP FIG 11
ZZI	(102) STD 78D	(102)20, 1215, 1245	62F1
ZZJ	(102) STD 78D	(102)20	62F1
ZZK	(102) STD 78D	(102)20	APP FIG 11
ZZL	STD 78D	1212	56A5
ZZM	SPL 78D MD 106B	1212	APP FIG 11, 56A4, A5, B4
ZZN	(102)STD 79D STD 106B	1289	56D6, 56D7
ZZO	(102)STD 79D MD 106B	1289	APP FIG 11, 56C6, 62E6
ZZP	STD 79D		APP FIG A, B
ZZQ	A&M 79D (REPL BY ZZR)	1247	APP FIG P
ZZR	STD 79D		APP FIG P
ZZS	MD 81D	1215, 1248	39E2, 48D5
ZZT	(102) STD 81D	102(22) 1215, 1248	48D5
ZZU	MD 81D (REPL BY ZZV)	1249	12B4
ZZV	STD 81D	1249	23A7, 12C4
ZZW	A&M 81D	1215, 1250	APP FIG 17, 41A6
ZZX	A&M 83D	1235	53D9
ZZY	MD 79D	1251	APP FIG 11
ZZZ	STD 79D	1251	APP FIG 11
ZYA	MD 81D (REPL BY ZYB)	1252	66G6
ZYB	STD 81D	1252	66G6
ZYC	(102) STD 81D	102(44)	APP FIG 18, 70, 66H1 72A/C5, 72A/G0
ZYD	(102) STD 81D	102(22) 1250	APP FIG 17
ZYE	STD 81D	1256	11DG1
ZYF	(102) STD 81D	102(44)	30A5

* MEANING OF RATING

(102) STD - PART OF A FEATURE - PROVIDED ONLY WHEN THAT FEATURE IS FURNISHED
STD - PROVIDED ON ALL CIRCUITS MANUFACTURED ON ISSUE ON WHICH RATED AS STANDARD
A&M - ADDITIONS AND MAINTENANCE ONLY
MD - MANUFACTURE DISCONTINUED
SPL - SPECIAL

** NUMBER IN ( ) FOLLOWING NOTE NUMBER INDICATES PARAGRAPH WITHIN THAT NOTE

DRAWING ISSUE

70D	APS A&T
72A	MD APS A&T
73D	MD APS A&T
74D	OMC
75A	OMC
76B	DM
77A	DM
78D	DM
79D	PMG
80A	PMG
81D	
82A	
83D	
84AC	
85A	
86D	
88D	

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-A31

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-A31

OPTION INDEX

APP OR WRG	RATED ON ISSUE X	REF NOTES XX	LOCATION
ZYG	(102)STD 86D STD 106B	1215, 1235, 1289	57A7
ZYH	(102)STD 86D MD106B	1269	56B8,57A7
ZY1	A&M 86D	1215, 1235	56D8
ZYJ	A&M MD106B	1235	53B7,B8,56C8
ZYK	(102)STD 86D MD106B	1235, 1289	APP FIG 16,20,51, 56D8,60B2,E2,F3, 61E3,F3,G3
ZYL	(102)STD 70D STD 84AC	102, (36) 1258	APP FIG 27,38C8, D8,E8
ZYM	MD 83D (REPL BY ZYN)	1215	37D5,E5
ZYN	STD 83D	1255, 1260	APP FIG 28
ZYO	MD 70D (REPL BY ZYP)	1231	APP FIG 13
ZYP	STD 70D	1231	APP FIG 13
ZYQ	STD 83D	1257	41F0
ZYR	STD 83D	1214, 1215, 1259	3F7
ZYS	MD 83D (REPL BY ZYT)	1215, 1259	51E7,58H4
ZYT	STD 83D	1214, 1259	58H4
ZYU	STD 83D	1214, 1259	APP FIG 53,65
ZYV	(102)STD 86D STD 106B	1215, 1289	60A9
ZYW	(102)STD 86D MD 106B	1289	60A8
ZYX	(102)STD 86D STD 106B	1289	82E2
ZYY	(102)STD 86D MD 106B	1289	83D2
ZYZ	A&M 57D	189	6G4,G6,H4,H6
ZXA	(102)STD 86D	102 (12)	28B/B8,E8, 34E7,F7,3589, 36A/B8
ZXB	(102)STD 86D	102 (12)	APP FIG 16,54,70, 28B/B7,34F7,F8, 36A/B8
ZXC	MD 86D (REPL BY ZXD)	1215, 1260	APP FIG 54, 58F1,G1,H1
ZXD	STD 86D	1214, 1260	58F1,G1,H1
ZXE	MD 86D (REPL BY ZXF)	1215, 1269	72A/F0
ZXF	(102)STD 86D	102 (46), 1269	APP FIG 70,19H9, 72A/F0
ZXG	STD 86D	1215, 1250, 1262, 1271	APP FIG 16
ZXH	(102)STD 86D	102 (22A), 1215, 1250, 1262	APP FIG 16,3H4
ZXI	MD 86D (REPL BY ZXJ)	1215, 1261	APP FIG 16
ZXJ	(102)STD 86D	102 (22), 1261	APP FIG 16, 53B7,B8
ZXK	(102)STD 86D	102 (45), 1215	23G3,H3,H4
ZXL	(102) STD 86D	102 (45)	23G2,G4
ZXM	MD 86D (REPL BY ZXN)	1215, 1261	APP FIG 16
ZXN	STD 86D	1261	APP FIG 16
ZXO	MD 86D (REPL BY ZXP)	1215, 1261	APP FIG 16
ZXP	STD 86D	1261	APP FIG 16
ZXQ	MD 86D (REPL BY ZXR)	1261	APP FIG 16
ZXR	STD 86D	1261	APP FIG 16
ZXS	(102)STD 86D	102(22) 1215	APP FIG 16, 22E7
ZXT	(102)STD 86D	102 (45)	APP FIG 16
ZXU	(102) STD 81D	102 (22A), 1215, 1250, 1262	3B1
ZXV	(102) STD 81D	102 (50)	APP FIG 69
ZXW	MD 83D (REPL BY ZXX)	1263	21A6,C6,E8, G5,G8
ZXX	STD 83D	1263	21A6,C6,D6,E6, E8,G6,G8
ZXY	(102)STD 88D	102 (51), 1215	25G4
ZXZ	(102)STD 88D	102 (51)	APP FIG 13
ZWA	(102)STD 88D	102 (23), 1265	APP FIG 30,38F8
ZWB	MD 88D (REPL BY ZWC)	1215, 1266	26C0,E3
ZWC	STD 88D		26E3
ZWD	MD 88D (REPL BY ZWE)	116, 1266	26D0,D1,F3
ZWE	STD 88D		26F3
ZWF	STD 89D	1215, 1267	APP FIG 17,39F1, 43E6
ZWG	A&M 89D	1267	APP FIG 17,39F1, 43E6
ZWH	A&M 88D	1268	3E2
ZWI	MD 91D (REPL BY ZWJ)	1215, 1270, 1290	39C6,43E2
ZWJ	STD 91D	122, 1270, 1290	39C6,43E2
ZWK	(102)STD 70D	102 (22)	28A/F0
ZWL	STD 68D	102 (34)	58B7,C3,C7,D3
ZWM	STD 68D	102(34)	58B7,C2,D2
ZWN	A&M 81D	1250	3A2
ZWO	(102)STD 81D	102 (22A), 1215, 1250	3A2
ZWP	MD 96AC (REPL BY ZWQ)	1272	APP FIG 16
ZWQ	STD 96AC	1272	APP FIG 16
ZWR	(102)STD 96AC	102 (22)	23G1,H1
ZWS	(102)STD 96AC	102 (22)	23G1
ZWT	(102)STD 95D STD 102B	102 (53)	64A4
ZWU	(102)STD 95D STD 102B	102 (53)	APP FIG. 10,64A4, 107B0
ZWV	MD 98B (REPL BY ZWX)		APP FIG. 26,76C8, C9,F9,H8
ZWX	STD 98B		APP FIG. 26,76C9, G8,G9,H8
ZWY	MD 98B (REPL BY ZWZ)		APP FIG. 40,92A3, B4,D2,E0,F2
ZWZ	STD 98B		APP FIG. 40,92A3, B4,C0,D2,F2
ZVA	MD 96AC (REPL BY ZVB)	1215, 1239, 1273	60D0,D6
ZVB	STD 96AC	1239, 1273	60D1,D6,D7
ZVC	(102) STD 97D	102	APP FIG. 16
ZVD	MD 97D (REPL BY ZVE)	1274	23B5
ZVE	STD 97D	1274	APP FIG. 60
ZVF	(102) STD 97D	102	39G1,44E6
ZVG	MD 100B	1277	79F0
ZVH	STD 100B	1277	1886,79F0
ZVI	MD 101AC (REPL BY ZVJ)	1278	3A3
ZVJ	STD 101AC	1278	3A3, D4
ZVK	MD 100B (REPL BY ZVL)		APP FIG. 11
ZVL	STD 100B		APP FIG. 11
ZVM	(102) STD 100B		56B5
ZVN	(102) STD 100B		56B5
ZVO	MD 100B		56C6
ZVP	STD 100B	102, 1277	APP FIG. 9
ZVQ	(102) STD 100B	102, 1277	79G0
ZVR	(102) STD 100B	102, 1277	79H0
ZVS	MD 102B	1281	APP FIG. 13
ZVT	STD 102B	1281	APP FIG. 13
ZVW	STD 103A	1282	3D7
ZVX	MD 104B (REPL BY ZVY)	1285	21E8
ZVY	STD 104B	1285	21E9
ZVZ	A&M ONLY 104B	1287	56E7,F8
ZUA	A&M ONLY 104B	1287	56E7,F8
ZUB	A&M ONLY 105A	1288	APP FIG. 20
ZUC	STD 105A	1288	51F3,F7
ZUD	(102) STD 105A	102 (55)	APP FIG. 17, 11B1, 41F1
ZUE	(102) STD 105A	102 (55)	41F1
ZUF	STD 105B	1292	7H6, 12A6

DRAWING ISSUE
83D
84AC
85A
86D
88D
89D

X MEANING OF RATING

(102)STD - PART OF A FEATURE - PROVIDED ONLY WHEN THAT FEATURE IS FURNISHED
STD - PROVIDED ON ALL CIRCUITS MANUFACTURED ON ISSUE ON WHICH RATED AS STANDARD
A&M - ADDITIONS AND MAINTENANCE ONLY
MD - MANUFACTURE DISCONTINUED
SPL - SPECIAL

XX NUMBER IN ( ) FOLLOWING NOTE NUMBER INDICATES PARAGRAPH WITHIN THAT NOTE

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-A32

BELL TELEPHONE LABORATORIES INCORPORATED

DRAWING SIZE 6S

SD-25680-01-A32

CBL-176 (9-68) (A)

FS I
MONITORING ALLOTTER

DRAWING ISSUE	
68D	DM RLP AWD
70D	GC PAT AMP
82A	

APA -48 E16 IOB IOT 700 — 3 APA — E3
APB -48 E16 IOB IOT 700 — 3 APB — E3
APC -48 E16 IOB IOT 700 — 3 APC — E3
APD -48 E16 IOB IOT 700 — 3 APD — E3
APE -48 E16 IOB IOT 700 — 3 APE — E3
APF -48 E16 IOB IOT 700 — 3 APF — E3
APG -48 E16 IOB IOT 700 — 3 APG — E3
APH -48 E16 IOB IOT 700 — 3 APH — E3
APJ -48 E16 IOB IOT 700 — 3 APJ — E3
APK -48 E16 12B 12T 1500 — 3 APK — E3

APA 1 3T 2 — APA 2 3B — 3B 1 APB 2
APB 1 3T 2 — APB 2 3B — 3B 1 APC 2
APC 1 3T 2 — APC 2 3B — 3B 1 APD 2
APD 1 3T 2 — APD 2 3B — 3B 1 APE 2
APE 1 3T 2 — APE 2 3B — 3B 1 APF 2
APF 1 3T 2 — APF 2 3B — 3B 1 APG 2
APG 1 3T 2 — APG 2 3B — 3B 1 APH 2
APH 1 3T 2 — APH 2 3B — 3B 1 APJ 2
APJ 1 3T 2 — APJ 2 3B — 3B 1 APK 2
APK 1 3T 2 — APK 2 3B

APA 9T 8 — 4 5 APA 6T
APB 4 5 APB 6T
APC 4 5 APC 6T
APD 4 5 APD 6T
APE 4 5 APE 6T
APF 4 5 APF 6T
APG 4 5 APG 6T
APH 4 5 APH 6T
APJ 4 5 APJ 6T
APK 4 5 6T — APK 5T 4 — APJ

10 APK 11T

ONMI 5 6B — E9
TAPI 4 5T — E3

9H5 LK-OR — STMI 2T — E3

YE MOS L KEY 2 — 3A OR 3C

E3 APB-H,J 8B 7 — APB-H,J OS — OS IOT 8B 950 E16 -48 — 3 OS E3
E3 APA 8B 7 — YE MOS L KEY 2 3D OR 3B — 5B 4 OS
MOR L KEY 1 2 3A OR 3C
OR — OR IOT 8B 950 E16 -48 — 3 OR E3
E3 APK 8B 7 — MOR L KEY 2 3D OR 3B — 5B 4 OR
IR — IR IOT 8B 950 E16 -48 — 3 IR E3
2 3T STM2 — 5 6B STM2 — MIR L KEY 2 3D OR 3B — 5B 4 IR
E3 STMI 4B 3 — MPIR L KEY 2 3C OR 3A
E3 IR 7T 6 — 63 TRFM 5 — IRB 6T 6B 700 E18 -48 — 3 IRB E5
E5 AAB 6B 5
E8 DOR 9B 8 — MACI 4B 3 — ZYO, ZYP ORM 4T,6T 4B,6B 700 E18 -48 — 3 ORM E5
B4 MAC L KEY 2 30 — AC RW LW 1130 E18 -48
NVA — NVA 12T — B1 -48

3 4B MBO — 3 4B IRBO
(IST) 7 — (IST) 4
THRU INTER. APP FIGURES 4 & 7
3 4B MB- — 3 4B IRB-
7 (LAST) — 4 (LAST)
5
3 4B MB- E3 — 3 4B IRB- D7

82

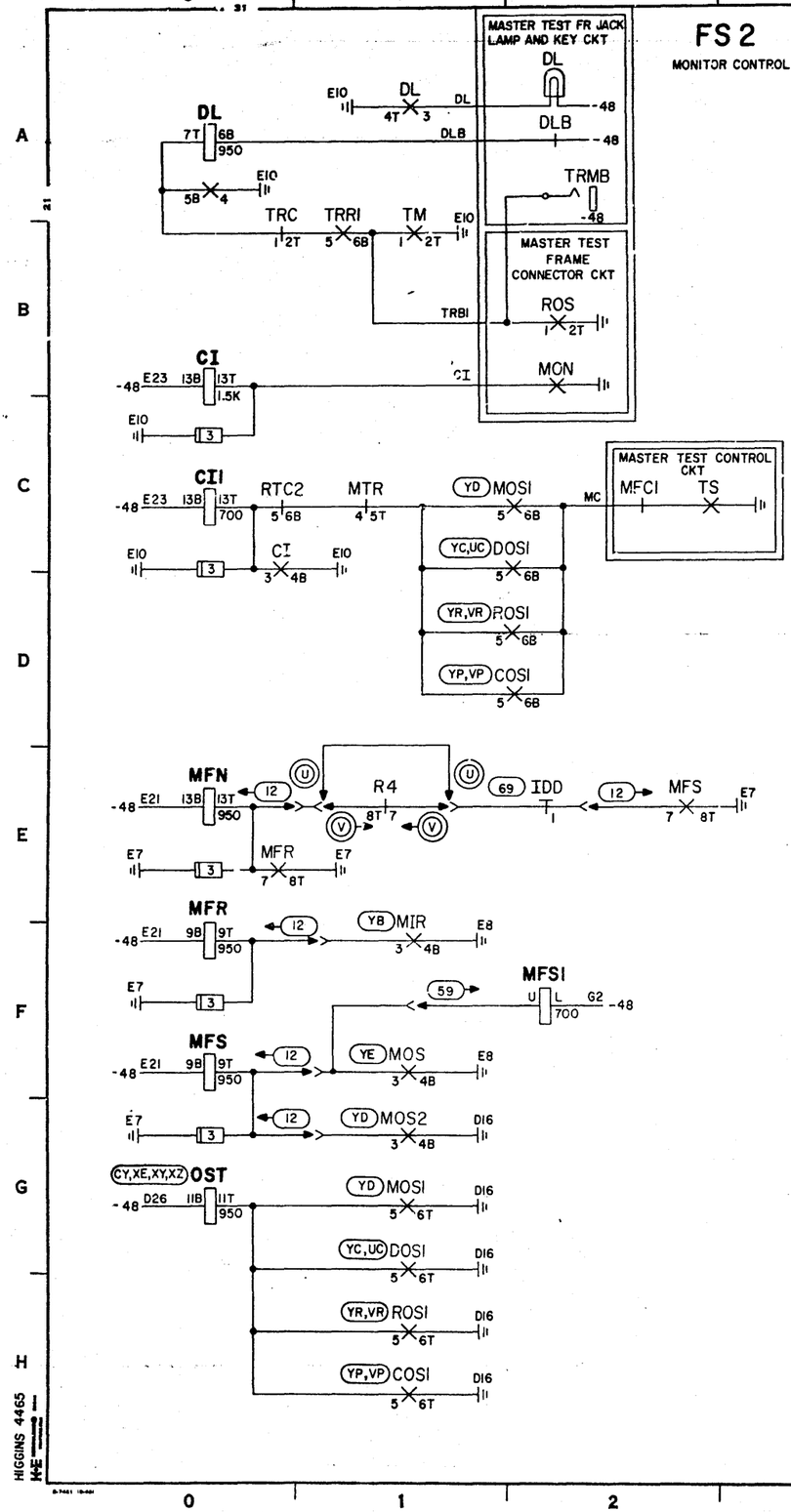
MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

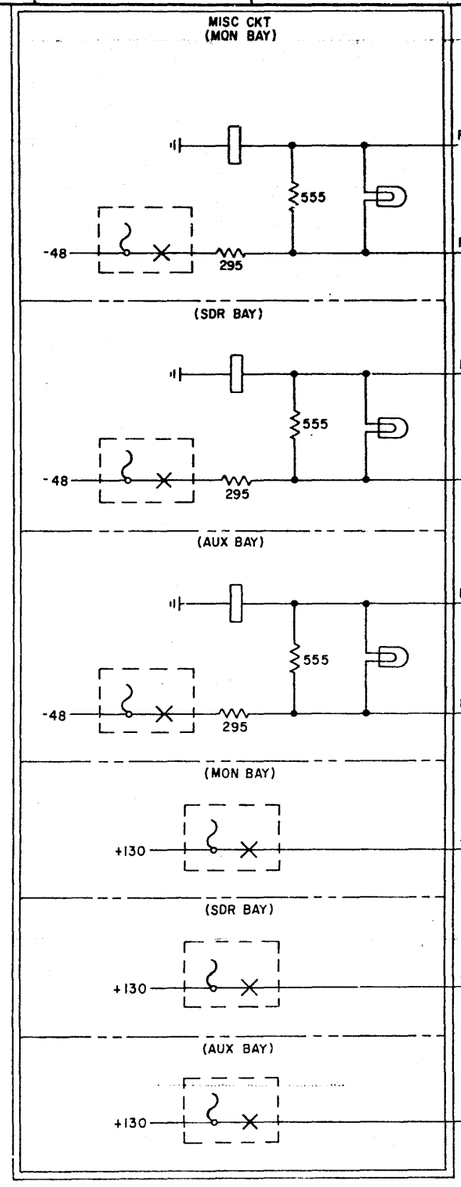
SD-25680-01-BI

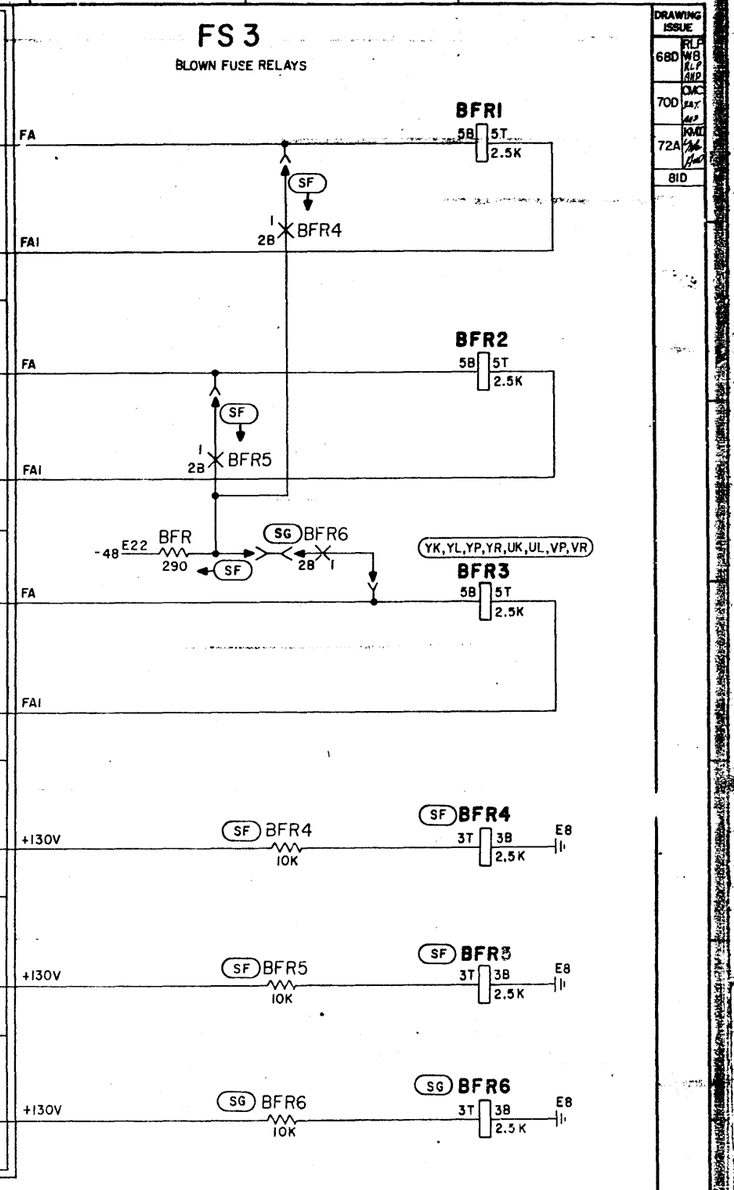
BELL TELEPHONE LABORATORIES INCORPORATED — 6S

SD-25680-01-BI

HIGGINS 4465 M-E







DRAWING ISSUE

68D	RLP WB RLP AND
70D	CMC RAY REP
72A	KMC Abs Rmt
81D	

81

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

2

SD-25680-01-B2

BELL TELEPHONE LABORATORIES
INCORPORATED

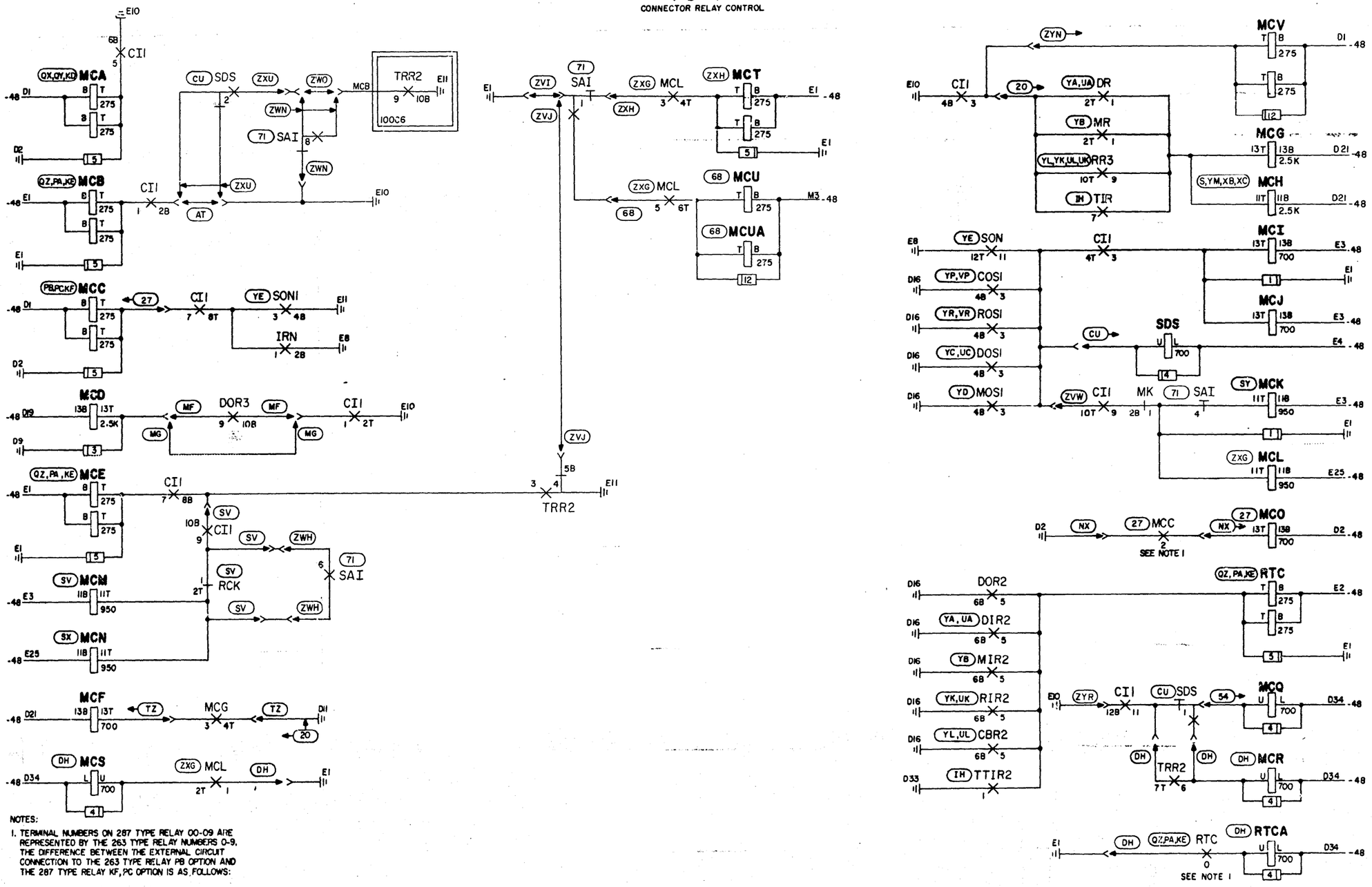
65

PRINTED IN U.S.A.

SD-25680-01-B2

HIGGINS 4465 K-E

FS 4
CONNECTOR RELAY CONTROL



DRAWING ISSUE

68D	DD RLY AMP
70D	CMC SAT AMP
72A	RSD PWR AMP
74D	WIR CR
78D	CR
79D	PG
80A	PG
81D	
83D	
85A	
86D	
88D	

ISSUE 103A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-B3

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25680-01-B3

HIGGINS 4465

FS 5

INCOMING REGISTER PREFERENCE AND SELECTION

INC OR TR REG LINK CKT (FIRST LINK GR)

INC OR TR REG LINK CKT (SEC THRU PREC INTER. LINK GROUPS

INC OR TR REG LINK CKT (INTER. LINK GR)

INC OR TR REG LINK CKT (SUCC INTER. THRU NEXT TO LAST LINK GROUPS

INC OR TR REG LINK CKT (LAST LINK GR)

RP-

A (1 ST) PCAO

SRS SW SECT 4

SRS SW SECT 3

SRSO-9 L KEY 3 4

SRSO-9 L KEY 6 5

B (1 ST) PCO

D (1 ST) SPRO

C (1 ST) RBNO

A (INTER.) PCA-

D (INTER.) SPR-

B (INTER.) PC-

C (INTER.) RBN-

A (LAST) PCA-

D (LAST) SPR-

B (LAST) PC-

C (LAST) RBN-

THRU OTHER APP FIGURES 24

THRU OTHER APP FIGURES 4

IRPO

IRBO

IRP-

IRB-

S-1750

P-850

LAST REG IN LINK GR 0

NEXT TO LAST REG

LAST REG

STT

STM

SON

CBR

DIR

MIR

RIR

RN

LK 33K±20%

THIS WIRING TO BE APPLIED ONLY TO FIRST RELAY OF THE REG GR OR GROUPS ASSIGNED TO STATION DIAL TR REGISTERS. STATION DIAL TR REGISTERS MUST BE ASSIGNED TO THE HIGHEST NUMBERED GR OR GROUPS WHERE THE CKT IS ARR TO TST BUT NOT MONITOR TR REGISTERS.

NOTE:
1. ONE APP FIG. 24 ASSOC WITH EACH INC REG LK GR (MAX 15).
2. ONE APP FIG. 3,4 OR 5 ASSOC WITH EACH REG (MAX 10 PER LK GR) AS FOLLOWS:
   APP FIG. 3 & 5 ASSOC WITH 1ST & LAST REG IN 1ST & LAST REG LK GR RESP.
   ONE APP FIG. 4 PER REG ASSOC WITH ALL OTHER REG.

DRAWING ISSUE

68D	POT, RLP, AMP, OVC
70D	P.P.T., ANC

ISSUE 91D

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-B4

BELL TELEPHONE LABORATORIES INCORPORATED

SYM 6S

PRINTED IN U.S.A.

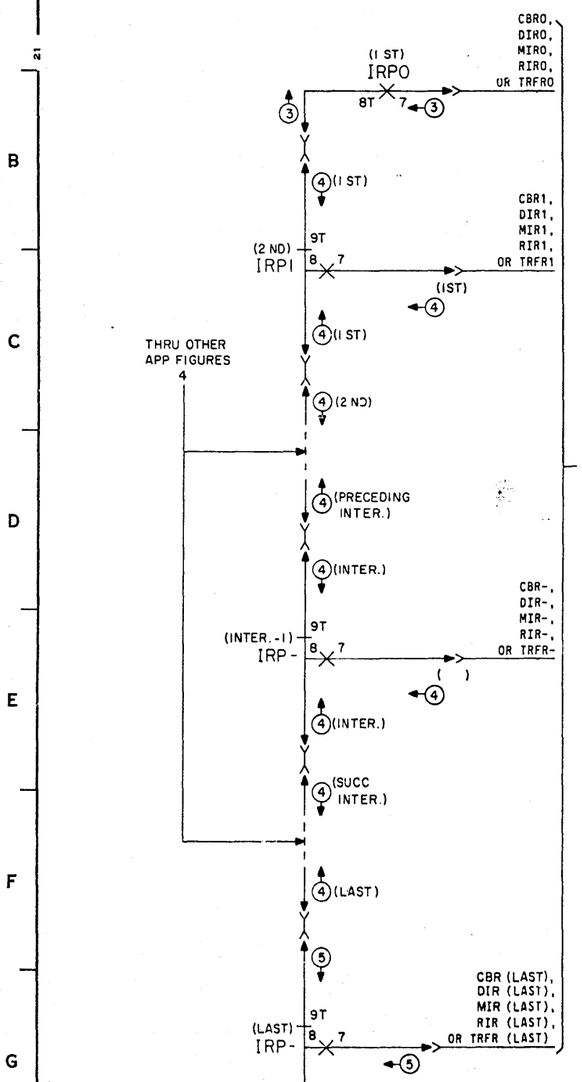
SD-25680-01-B4

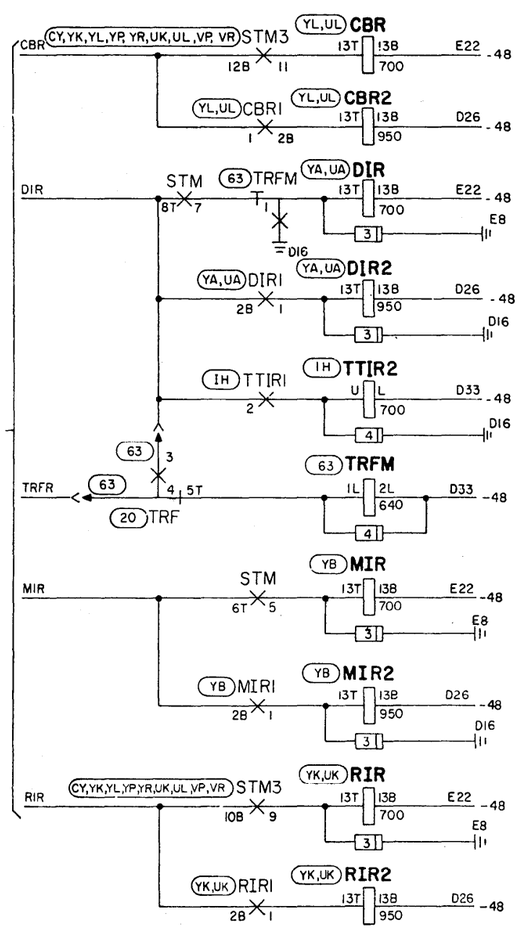
HIGGINS 4465 K&E

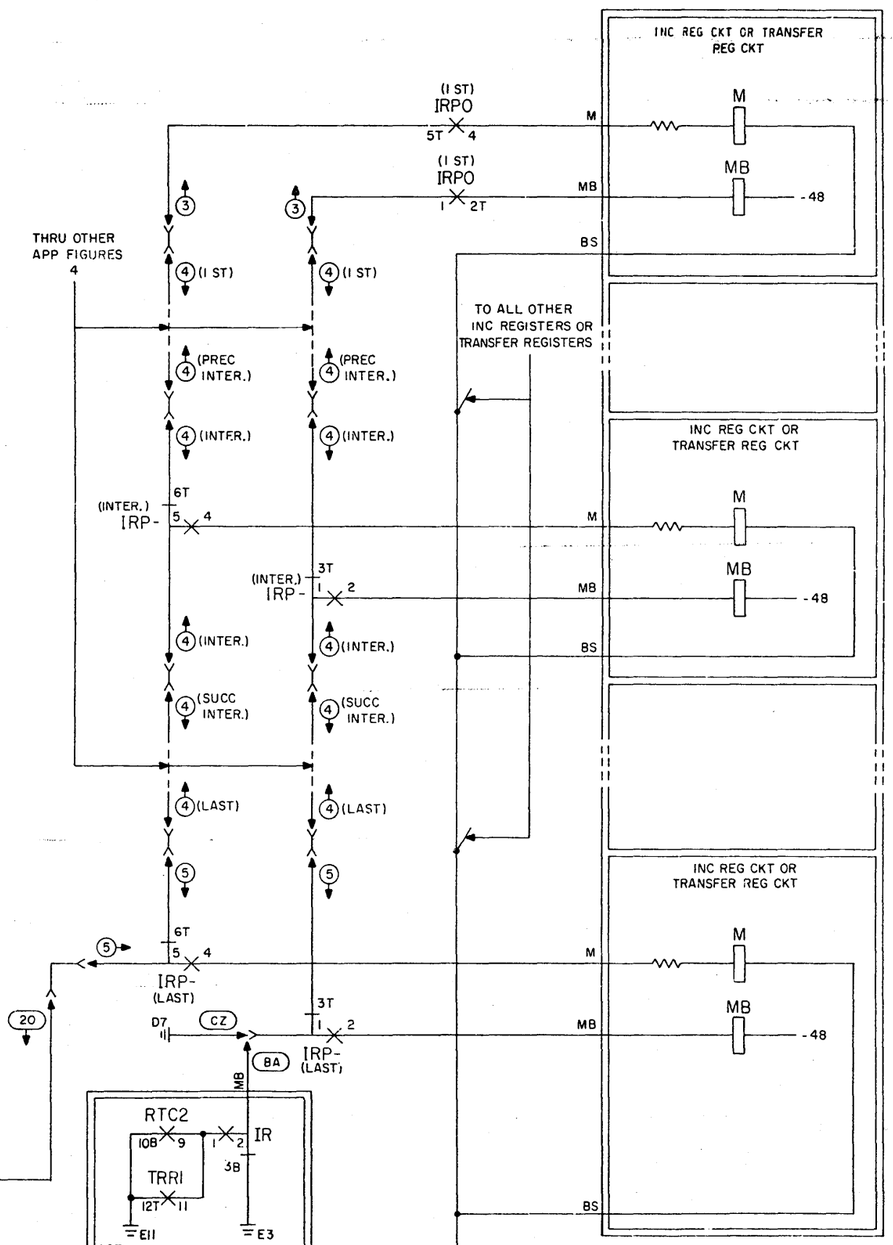
FS 6

INCOMING REGISTER CONTROL

DRAWING ISSUE	
68D	AKY RLP AHD
70D	CMC PAT AHD
72A	KMT PWL ALM







NOTES:
1. WHEN APP FIG 63 IS PROVIDED, CONNECT 7T(IRP-) RELAYS ASSOCIATED WITH CENT B REGISTERS, DP INC REGISTERS, MF INC REGISTERS, RP INC REGISTERS OR TRANSFER REGISTERS TO CBR, DIR, MIR, RIR, OR TRFR LEADS RESPECTIVELY. WHEN APP FIG 63 IS NOT PROVIDED, CONNECT 7T(IRP-) RELAYS ASSOCIATED WITH CENT B REGISTERS, DP INC REGISTERS OR TRANSFER REGISTERS, MF INC REGISTERS OR RP INC REGISTERS TO CBR, DIR, MIR OR RIR LEADS RESPECTIVELY.

72

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-B5

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-B5

HIGGINS 4465 K&E

FS 7

TYPE OF REGISTER

CONNECT "CBR-" (CENT "B" REG GROUPS), "DIR-" (DP INC REG GROUPS), "MIR-" (MF INC REG GROUPS), "RIR-" (RP INC REG GROUPS), "SP1-" (SPLIT REG GROUP 1) OR "SP2-" (SPLIT REG GROUP 2) TO "CBR", "DIR", "MIR", "RIR", "SP1", OR "SP2" RESPECTIVELY

AG IRG SEL SW SECT 3 — 12 ALL 0-9 1-10 (AG) — SP2 0-9, SP1 0-9, CBR0-9, DIR0-9, MIR0-9, OR RIR0-9

AG IRG SEL SW SECT 4 — ZZA,67 IRGT L KEY 1 2 3A 12 ALL 0-4 1-5 (AG) — SP2 10-14, SP1 10-14, CBR10-14, DIR10-14, MIR10-14, OR RIR10-14

D16 STT 4T 3 — 7C3 STT — AG (IST) J IGO L KEY 2 3A — (IST) J — CBR0, DIR0, MIR0, OR RIR0

K (IST) J

THRU OTHER APP FIGURES J

(2ND) J (2ND) J (INTER.) J IG- L KEY 2 3A (EVEN) 3B (ODD) — ( ) J — CBR -, DIR -, MIR -, OR RIR -

(INTER.) J (14TH) J (14TH) J

(15TH) J IG14 L KEY 2 3A (EVEN) 3B (ODD) — (15TH) J — CBR14, DIR14, MIR14, OR RIR14

IRG SEL SW SECT 2 — 18 ALL 0-14 1-15 (K) — CBR 0-14, DIR 0-14, MIR 0-14, RIR 0-14, SP1 0-14, SP2 0-14

42 SRS SW SECT 5 — SP1 JG,ZYZ 12 ALL 0-6 1-7 JG,ZYZ RIR - ; 7-9 8-10 JG,ZYZ MIR -

SECT 6 — SP2 JG,ZYZ 12 ALL 0-6 1-7 JG,ZYZ DIR - ; 7-9 8-10 JG,ZYZ MIR -

CBR — YL,JL CBRI 13T 13B 950 D26-48

DIR — IJ — YA,JA DIRI 13T 13B 950 D26-48

IK — IH TTIRI IH U L 700 D26-48

1 2 3C — LY PB L KEY

IH — 20,JC TFR L KEY 30 2 — IH TIRI U L 700 D33-48

MIR — YB MIRI 13T 13B 950 D26-48

RIR — YK,UK RIRI 13T 13B 950 D26-48

DRAWING ISSUE	
68D	JLF ALP AHO
74D	CF
82A	
84AC	

84

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2) SD-25680-01-B6

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25680-01-B6

HIGGINS 4465 K-E

FS 8
OUTGOING SENDER ORIGINATING REGISTER CONTROL

CONNECT "COS", "DOS", "MOS", OR "ROS", LEADS ASSOC WITH PCI, DP, MF, OR RP OUT SENDER GROUPS TO "COS", "DOS", "MOS", OR "ROS", RESPECTIVELY.

THRU OTHER APP FIGURES G

AIS MF SDR CKT
PCI OG SDR CKT
DP OG SDR CKT
MF OG SDR CKT
RP OG SDR CKT

2W ORIGINATING REGISTER CKT
4W ORIGINATING REGISTER CKT

4H2

MARKER CKT

MAC2 DOR DOR

SON-S SON SON-P

DRAWING ISSUE
680 NB RLP AND
700 JEG PAC AND
74D CF
81D

ISSUE 106B

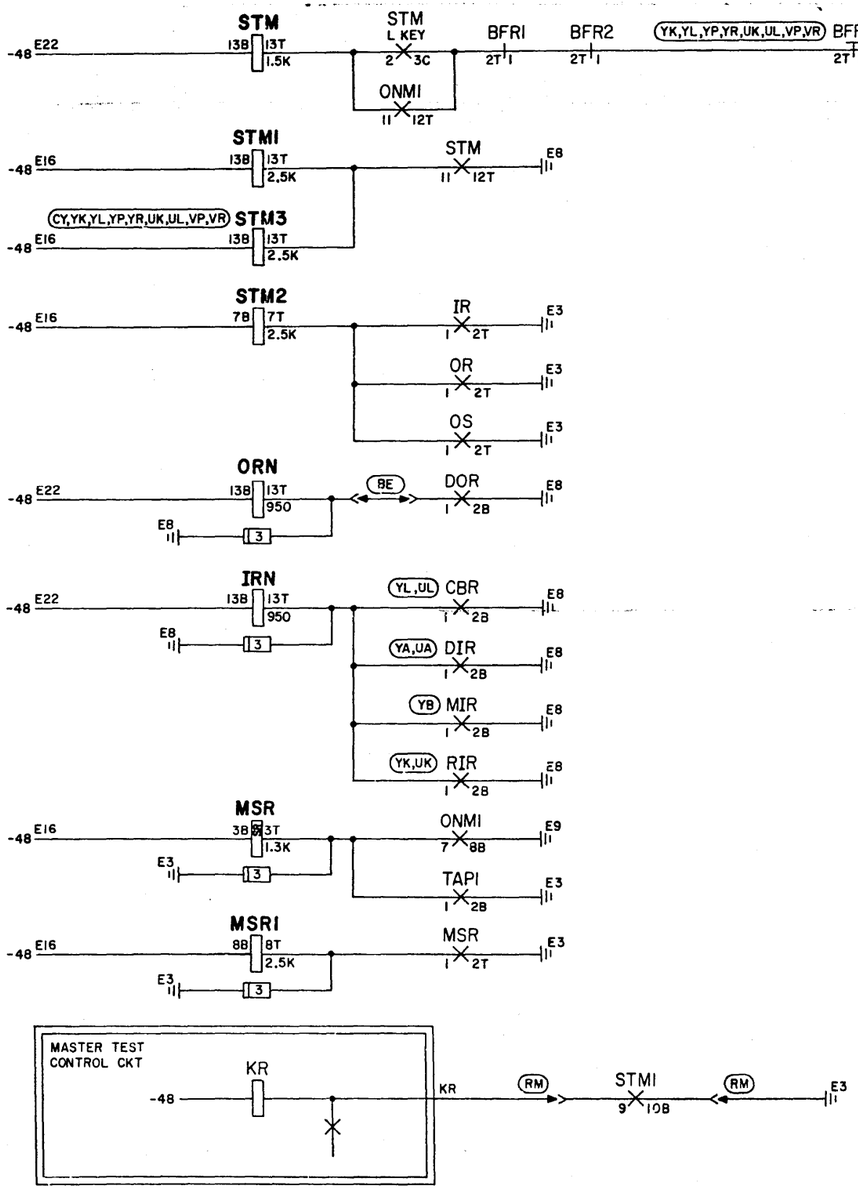
MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)
SD-25680-01-87

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-87

HIGGINS 4465 KE

FS 9
MONITORING CONTROL



DRAWING ISSUE
68D GAV KLP AHD
70D JEG PAT AMP

70

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT	(2)	SD-25680-01-B8
BELL TELEPHONE LABORATORIES INCORPORATED	6S	PRINTED IN U.S.A.

SD-25680-01-B8

HIGGINS 4465 K&E

FS 10
MONITORING PARTICULAR CIRCUIT

DRAWING ISSUE
68D DD RLP AMD
70D SAV RPX AMP

STM1 E3 12B 11
STM2 5T 6T
MPOR L KEY 2 1 3B OR 3D
(YE) MPOS L KEY 2 1 3B OR 3D
MPIR L KEY 2 1 3B OR 3D
MIR L KEY 2 1 3A OR 3C
MBN 13T 13B 1.5K E16 -48 / 3 E3
CMS 6T 68 700 E16 -48 / 3 E3
DOR E8 12T 11
(YE) SON E8 12B 11
CMS 3 4 5T
MSRI E3 7B 6 OS 7T 6
TRB E10 6T 5
MSRI E3 4T 3 IR 7B 6
RBN E3 1
MSRI E3 7T 6 OR 9T 8
(24) (IST)
PCAO 12B 11
(IST) RBNO 13T 13B 2.5K D- -48
MPOR L KEY 2 3C OR 3A
DOR2 DI6 12B 11 (QG)
MB 33K
3 MB
(QG,QH) MB
M MB -48 ORIG REG CKT
RN 3 48 DOR 6 7B
E22 -48
TO OTHER TYPE SENDERS
E8
(YE) MPOS L KEY 2 3C OR 3A
M SB -48 SENDER CKT
E9 (CZ) (BA)
(YE) SON 9 10T E8
(YP,VP) COSI DI6 7 8B
(YC,UC) DOSI DI6 7 8B
(YD) MOSI DI6 7 8B
(YR,VR) ROSI DI6 7 8B
(YE) SON1 2B
(24) (2ND)
THRU OTHER APP FIGURES 24
(24) (PREC INTER.)
(24) (INTER.)
(INTER.) PCA- 12B 11
(INTER.) RBN- 13T 13B 2.5K D- -48
(24) (SUCC INTER.)
(24) (NEXT TO LAST)
(24) (LAST)
(LAST) PCA- 12B 11
(LAST) RBN- 13T 13B 2.5K D- -48
(YP,VP) COS2 DI6 8T 7
(YC,UC) DOS2 DI6 8T 7
(YD) MOS2 DI6 8T 7
(YR,VR) ROS2 DI6 8T 7
(YP,VP) COS 8T 7
(YC,UC) DOS 8T 7
(YE) MOS 8T 7
(YR,VR) ROS 8T 7
(YP,VP) COS2 DI6 10B 9
(YC,UC) DOS2 DI6 10B 9
(YD) MOS2 DI6 10B 9
(YR,VR) ROS2 DI6 10B 9
(YP,VP) COS E8 5 6T
(YC,UC) DOS E8 5 6T
(YE) MOS E8 5 6T
(YR,VR) ROS E8 5 6T
E11 RTC2 10B 9
E11 TRRI 12T 11
BA IR 1 2 3B BA MB 5G6
CZ CZ BA E3
AS BS 4A8
RN E9 6B 5
7 DOR 8T
DOR2 DI6 8T 7
MPOR L KEY 6B OR 6D 5
LK-OR
STM1 E3 1 2T
1H2
RM 33K E22 -48
3 RM E8
SM 33K E22 -48
3 SM E22 -48
XOR P-5.5 XM -48 20A2
XOS P-5.5 XM -48 2082
MARKER CKT
MON
TRK LINK CONN CKT
OUT SDR LINK CKT
ORIG REG CKT
SENDER CKT
OSM
BS
LK
(LAST) MP- 5 4 6T
(LAST MKR) M
(7) (LAST)
THRU OTHER APP FIGURES 7
(7) (SUCC INTER.)
(7) (INTER.)
(INTER.) MP- 5 4 6T
(INTER. MKR) M
(7) (PREC INTER.)
(7) (IST)
5T (IST) MPO 4
(IST MKR) M
OR CMS 2 3B 7T 6
DT OR MASTER TEST CONTROL CKT
MA TST FR CONN CKT

70

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)
SD-25680-01-B9

BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-25680-01-B9

HIGGINS 4465 K&E

FS II

SENDER REGISTER TEST CONTROL

DRAWING ISSUE

68D	TEM R.P. AND
71A	SAV Part and
78D	CR

DOR2 (D26 13B 13T 950, D16 3) → DORI 3 4T

(YC,UC) DOS2 (D26 13B 13T 950) → (YC,UC) DOSI 3 4T

(YD) MOS2 (D26 13B 13T 950) → (YD) MOSI 3 4T

(YP,VP) COS2 (D26 13B 13T 950) → (YP,VP) COSI 3 4T

BT2 (D26 5B 7T 2.5K, D16 3) → (IH) TTIRI 7

(YA,UA) DIRI 3 4T

(YB) MIRI 3 4T

(YL,UL) CBRI 3 4T

(YK,UK) RIRI 9 10B

(YK,YR,UK,VR) RRL 5 6T

MT (D16 1 2T)

(YR,VR) ROSI 4T 3

(YK,UK) RIRI 4T 3

(YK,YR,UK,VR) 5 6T RRL'

(YK,YR,UK,VR) RRL (D26 5B 7T 700) → (YK,YR,UK,VR) RRL' 7B 9T 700 → (YK,YR,UK,VR) RRL 4T 3 → (YK,YR,UK,VR) RRT 2T 1 → OK 4T 3 → D16

(YR,VR) ROS2 (D26 13B 13T 950) → (YR,VR) ROSI 9 10B → (YK,YR,UK,VR) RRL 3 4B → D16

STG → SRTI (6 TO.) NI KR

OR KEY, MF KEY, MLF KEY

IR KEY

SDR KEY

OR KEY

DT KEY, OR-IG KEY, INC KEY

MASTER TEST CONTROL CKT SD-25800-01-65B-G5

SD-25800-B95A-

DOR → STT 2T 1

STT → (LX) (SI) (GJ) RVTK 3 4B (GI) DORI (13T 13B 950, D26 -48)

(LY) PB L KEY (LY) (LY) (GJ) RVTK (D3, 11 12T)

(D9) (ID) (LY) PORI 8T 7 1 2 3B

(IE) (IE) (IE) (LY)

(IH) TTIRI 1

PORI (9T 9B 950, DI9 -48)

STT → MSRI 1 2T → STT L KEY 2 3D → STT (13T 13B 1.5K D26 -48)

D16 → ONTI 8T 7 → TSR (3T 3B 1.3K D26 -48)

E8 → IRN 2T 1 → ONMI (13T 13B 950 E22 -48, E9 1)

E8 → ORN 2T 1

E8 → (YE) SON 2T 1 → ONM2 (13T 13B 950 E22 -48)

D16 → (YR,VR) ROS2 2B 1 → ONTI (13T 13B 950 D26 -48, D16 1)

D16 → (YP,VP) COS2 2B 1

D16 → (YD) MOS2 2B 1

D16 → (YC,UC) DOS2 2B 1

D16 → (YK,UK) RIR2 2B 1

D16 → (YL,UL) CBR2 2B 1

D16 → (YB) MIR2 2B 1

D16 → (YA,UA) DIR2 2B 1

D16 → DOR2 2B 1

D33 → (IH) TTIR2 2 → ONT2 (13T 13B 950 D25 -48)

MASTER TEST CONTROL CKT

N → SRTI 1.5K → N → TSR 2B 1 → DORI 1 2B → NTC 300 → D26 -48

DORI → BTI 3 4B

(YC,UC) DOSI 1 2B

(YD) MOSI 1 2B

(YP,VP) COSI 1 2B

(YR,VR) ROSI 1 2B

78

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B10

BELL TELEPHONE LABORATORIES INCORPORATED — 6S

SD-25680-01-B10

HIGGINS 4465

FS 12
CONTROL

MKR
LVG
LCG
FSG1
FSG2
FSG3
DPM
DPM1
MARKER CKT
MASTER TEST FR CONN CKT
INCOMING DP REGISTER CKT
TRANSFER REGISTER CKT
RTC1
TLG
MCA
MCC
MCI
TMT
SONI
IRN
ORN
ONT2
ONM2
ONG5
RRA2
RPS3
RPS2A
DIR
DIRI
MIRI
CBRI
RIRI
DORI
TTIRI
GR(T)
GR(B)
DCR
CL8
MFSI
RTC2
HMSI
AVKI
CKE
SPEI

NOTES:

1. TERMINAL NUMBERS ON 287 TYPE RELAY 00-09 ARE REPRESENTED BY THE 263 TYPE RELAY NUMBERS 0-9 THE DIFFERENCE BETWEEN THE EXTERNAL CIRCUIT CONNECTION TO THE 263 TYPE RELAY QX OPTION ON (MCA) AND PB ON (MCC) AND THE 287 TYPE RELAY KD,QY OPTION ON (MCA) AND KF,PC ON (MCC) IS AS FOLLOWS:

EXTERNAL CKT — FIXED SPRING 287 TYPE — FIXED SPRING 263 TYPE

ISSUE	105A
MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)	SD-25680-01-B11
BELL TELEPHONE LABORATORIES INCORPORATED	6S

SD-25680-01-B11

HIGGINS 4465 K-E

FS 13
CONTROL

TRRI
TRC
RN
R5
R4
CKN2
CKNI
OK
MASTER TEST CONTROL CKT
ROT KEY
MASTER TEST FR CONN CKT
TRCI
TM4
TM
TMI
QTR NL KEY
CTT
ONM2
ONMI
MM
CL5A
TRR2
RTC2
MTR
ONT2
NRR
MACI
MAC2
TM3
SPEI
SON
ORN
IRN
ONMI
HLD L KEY
TRC
TBL
TAC2
SID L KEY
CPO
IDD2
IDD1
IDD3
IDD
RPE2
XLT
XCL
XICL
CKN
CKE
DL
CI
MARKER CKT
NDK
BI
ON
RMI
MCI
MTRI
TRB
NRR
P-850
S-1750
S-1950
COS2
DOS2
MOS2
ROS2
TRR2
TR3
TR
TR2
CKS
CKE
1109

DRAWING ISSUE
68D CML RLP AND
70D SAV FSC AND
72A KMT TRK AND
81D
83D
85A

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B12

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

HIGGINS 4465 KYE

SD-25680-01-B12

FS 14
CONTROL

TACI
65E2
ORON
TDA
MKR
TDA
TBL
TAC2 TBL OK
10T 88 D26 -48
1.5K
12H2

TBL
-48 D26 10B 10T 700
OK 2T 1
ONTI 7 88
8 TBL 9T
D16

EG EF
TAC2 RPE2 ORH MKR D15
3 4T 11 12T 4 58 3T 2
28 1 CTT

33 YK,JK BK 3 48 F3
17 TBI 4 5T D18
TB2 6B 5 D17
52
40 TB3 6 7B F18

XLT 4 D12
XCL 4
XICL 4
5 ONTI 6T

MPCI
-48 E22 68 6T 1.3K
E8 3
4 MPC2 58

MPC2
-48 E22 68 6T 1.3K
E8 3
1 3T 2 MPCI

ONMI 1 2T WL WK
ONMI 1 2B WL
TMI 6 7T E10
E9

TBL
TRC 3 4B E10
12E4

TBL 6707
20 TBL 6007
37 TBL 10288

14
DT2 1 2 38
DTI 1 2 3T
DT 1 2 38
14
-14
CKS 5689
20
CKS 1800

3A 2 1
STD L KEY
1 2 3D
STD L KEY
14

TBL 7T 6 5
-14

CKS
-48 E24 6B 6T 1.3K
E11 3

WK WL ONT2 7 88 WL WK RTC2 7 88
PE 4 5B ONM2 1 2T E9

MPCI 4 58 WL MPC2 38 2 E8

ORH
ORH 5T 4 CKE 2 38 B3 -48

CKS 58 4 69 IDDI 8
CKNI 38 2

TBL
D16 TBL 6B 5 B1 -48

MTR 7B 6
ONT2 1 2T D16

MTR
-48 E24 8B 8T 950
E10 3

XZJM TLGI 3T 2 XZJM
TL TL

YE SONI 5 6T RA

MONI 3 4T
5 7T 6 MONI
TRLI 5T 4 TRR 88 7 TRI 1 2B DISC MASTER TEST FRAME CONN CKT
MONI 8 9T FM 7 8T
GP2 1 2B
RAV2 1 2T
MARKER CKT

MTR S MANUAL SC SCG
CP- R-
TST 6 7B
TRR 4 58
TRI 7 8B
TRLI 1 2T

DRAWING ISSUE
68D
70D
72A
81D

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT
(2)
SD-25680-01-813

BELL TELEPHONE LABORATORIES
INCORPORATED
65

SD-25680-01-813

HIGGINS 4465

FS 15
CONTROL

MASTER TEST FRAME CONN CKT

MARKER CKT

DRAWING ISSUE
68D PG
69A TJD JR
70D JR KMC
72A KMC
79D PG

MT
MM
RB1
RB3
CG
3D
PLN
PLNI
CGC
DD8A
ONR
ORIGINATING REGISTER CKT
ORIGINATING REGISTER MKR CONN CKT
INCOMING REGISTER OR TRANSFER REGISTER CKT
INC REG MKR CONN CKT
OUTGOING SENDER CONN CKT
INCOMING REGISTER LINK CKT OR TRANSFER REGISTER LINK CKT
INCOMING REGISTER OR TRANSFER REGISTER CKT

MCA
SEE NOTE 1
B3
MON
CKG6
STT
STM
MTR
RPE2
RPE3
RELI
DOR2
DIR2
MIR2
RIR2
CBR2
TTIR2
4WT
CRBA
PEA
DOR
DIR
MIR
RIR
CBR
SRSO-9
L KEY
SRS SW SECT 2
12 ALL 0-9 1-10
TO OTHER APP FIGS 25 (I APP FIG 25 PER SENDER GRP
TO OTHER APP FIGS 22 (I APP FIG 22 PER INC REG LINK GRP)
SG-
MONO-9
LO-
RBO-9
RBO
RPO
RP-
RLK
RB
226
M
ON
MST
3DM
PLN
DD8A
DD9A
RC
MC
SA-
MA
MSRI
OR
OS
CMS
(LAST) MKR MON
(1ST) MKR MON
MPO
MP-
THRU INTER APP FIGS 7

NOTES:
1. THE DIFFERENCE BETWEEN THE EXTERNAL CIRCUIT CONNECTION TO THE 263 TYPE RELAY QX OPTION AND THE 287 TYPE RELAY KD,QY OPTION IS AS FOLLOWS:

EXTERNAL CKT
FIXED SPRING 287 TYPE
FIXED SPRING 263 TYPE

ISSUE 91D

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-B14

BELL TELEPHONE LABORATORIES INCORPORATED

SYS SCLS 6S

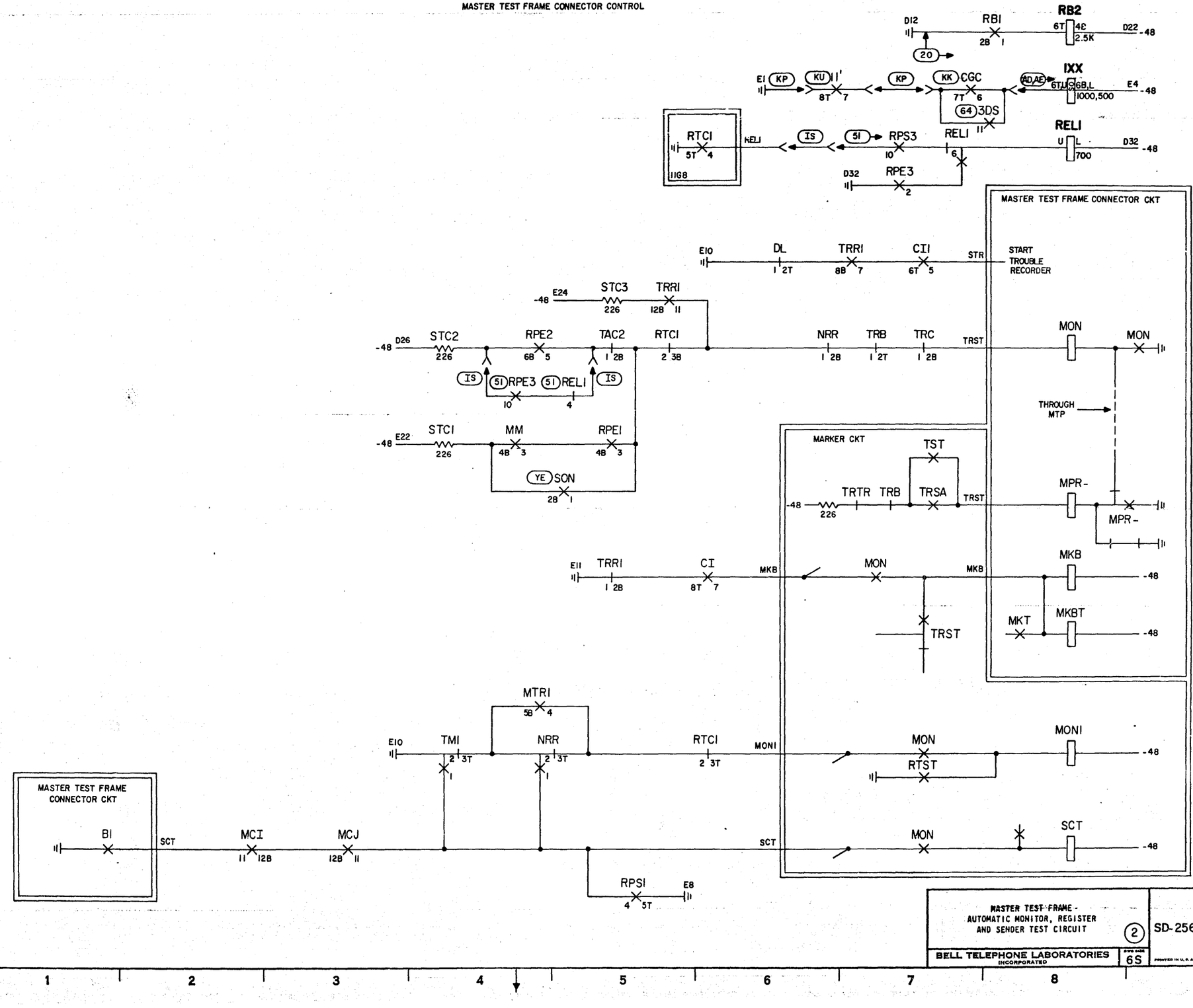
PRINTED IN U.S.A.

SD-25680-01-B14

HIGGINS 4465

FS 16

MASTER TEST FRAME CONNECTOR CONTROL



FS 17
SENDER REGISTER SELECTION

SPR- -48 D- 138 13T 1.5K (24)
PCA- -48 D- 138 13T 2.5K PC- 11 12T (24)
SGO -48 E12 11B 11T 2.5K (1ST) (25)
SG- -48 E12 11B 11T 2.5K (INT) (25)
SGIO -48 E12 11B 11T 2.5K (11TH) (25)
SG11 -48 E12 11B 11T 2.5K (12TH) (25)
PCO -48 D- 138 13T 2.5K SPRO 11 12T (1ST) (24)
PC- -48 D- 138 13T 2.5K SPR- 11 12T (INT) (24)
PC14 -48 D- 138 13T 2.5K SPR14 11 12T (15TH) (24)

MPIR L KEY 6B OR 6D 5 — MPIR L KEY 5 6C OR 6A
SGO L KEY 3A 2 1 — (G) (H)
SG- L KEY (EVEN) 3A (ODD) 3B 2 1 — (G) (H)
SG- L KEY (EVEN) 3A (ODD) 3B 2 — (G) (H)
THRU INTER APP FIGURES G
(67) SGT L KEY 1 2 3B
(YE) MPOS L KEY 6C OR 6A 5
STMI 1 2B E3

(IP,IQ) SG SEL SW SECT 1
1 0 ALL 12
2-10 1-9
MP 11 10
(AG) IRG SEL SW SECT 1
0 1 0 ALL 12
1-9 2-10 1-9
(ZZA,67) IRGT L KEY 1 2 30 B1
(AG) IRG SEL SW SECT 2
10-13 1-4 0-3 ALL 12
5 4
ZZB

IGO L KEY 30 2 1 — (AG) (J) (K)
IG- L KEY (EVEN) 3D (ODD) 3C 2 1 — (AG) (J) (K)
IG- L KEY (EVEN) 3D (ODD) 3C 2 — (AG) (J) (K)
THRU INTER. APP FIGURES J
IRG SEL SW SECT 1
1 0 ALL 18
2-14 1-13
15 14

(YL,UL) CBRI 5 6B DI6
(YA,UA) DIRI 5 6B DI6
(YB) MIRI 5 6B DI6
(YK,UK) RIRI 5 6B DI6
(IH) TTIRI 5 D33

DI2 C 2 3T — (20) (22) — TCL- 11 12B — LO- 13T 13B 950 D- -48
DI2 LK 7T 6 2T — LKT 4 — RB2 5T — (20)
(42) 12 ALL SRS SW SECT 1 0-9 1-10 (42)
SRS0-9 L KEY 7 8 — (23) — (22) — (23)
MULT TO CORR CONTACTS OF OTHER (ORP-) RELAYS
ORP- 0 10 11B 1 8 9B 2 6 7B 3 4 5B 4 1 2T 5 3 4T 6 5 6T 7 7 8T 8 9 10T 9 11 12T
RPO-9

(22) ORP- 1 3B G TO INCOMING REGISTER LINK CKT
D- LO- 13T 12B D- -48 12T 11 — ORP- 7CO — (22)

INCOMING REGISTER LINK OR TRANSFER REGISTER LINK CKT
RP-- -48
TPOO

-48 D21 ST 226 — IRST 4T 3 — C 6B 5 — LKT 1 2B — (ZY) BLI 3T 2 — (20) — (24) — PC- 12B 11 — ST
LK 11 12B

INCOMING REGISTER CKT
-48 RLK 226

INCOMING REGISTER LINK CKT OR TRANSFER REGISTER LINK CKT
RP- — LK — RB3 2T 1 — LK 13B 13T 700 DI2
TP — TP MON — B — (22) — TCL- 13T 13B 950 D- -48

DI2 IRST 6B 5 — 14D2
OH 12T 10B 950 D22 -48 — (20)
CH 2 1 3T — OH 8T 7 — LK 12T 11 — (ZY) BL (ZY) BLTI 12T 11 5B 4 DI2
OH 4 5B — LK 4 5B — DC L KEY B2 6A OR 6C 5

OH HM — TO TRANSFER REGISTER LINK CKT

INCOMING REGISTER LINK CKT
TPO — TP- — TP- — SEL
TP — LH HOLD -48 — XPT

INCOMING REGISTER OR TRANSFER REGISTER CKT
TRL ON — T4 T5 MAN — DCK — H -48 — DCK -48

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-B16

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-B16

HIGGINS 4465

FS 18

INCOMING REGISTER CONTROL

DRAWING ISSUE		
68D	MD RLP AHD	CB
77A	CR	CB
78D	CR	CB

TRANSFER REGISTER LINK CKT

XPT

TRANSFER REGISTER CKT

(SAME AS INC REGISTER CKT SHOWN BELOW)

INCOMING REGISTER LINK CKT

INCOMING REGISTER CKT

ON, TCI, 2U, 2L, 700±1%, -48, LR, 1U, 1L, MST

D, C, TSTI, TTA, RRAB, RRAI, RR3, SFT, RG, T, TI, RTT, CB3B, DB, TC1A, TC0, RR3C, TC2A, TC3A, TC2, TC4, IRST, CA, BL, OH, TG4, TTAF, IBA, LK, MSTB, MANI, MRL, H, RV4, RVS, DD, RVI

TRANSFER REGISTER LINK CKT

TRANSFER REGISTER CKT

INCOMING REGISTER LINK CKT

RP INCOMING REGISTER CKT

MF INCOMING REGISTER CKT

DP INCOMING REGISTER CKT

78

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2) SD-25680-01-817

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-817

HIGGINS 4465 H-E

FS 19
LAMP CONTROL

CCK -48 B2 — YL,UL CBR2 10B 9 — CTT 48 3 D16 11
YA,UA DIR2 10B 9
YB MIR2 10B 9
YK,UK RIR2 10B 9
IH TTIR2 4
MO — 2A QTR 1 NL KEY — MO
CTT 5B 5T 950 — RPE2 3 48 — DORI 5 68 — D16 11
D16 11 — 3
20
12H3 OK — 1 2 NDK — CCK 3T 2 1
YK,UK RIR3 9B 8 7
D -48 B2 — 3T 1 2 D
TCN -48 B2 — 3T 2 1 TC2
IRAB 9B 8 7
YO
20 — 33 — 3B 2 1 RRTI — 33 — 20
13L7 CKS
12H2 ACK
89E1 BK
20 — 33 — RTTI 5 68 — 1 2B RTTI
38 2 1 RTT
98 8 7 RRAB
1 2 38 RRA2

B4 — ZVH — 5 6C SURGE KEY — YA,UA 5 2 SRG — ZVH
WL -48 B2 — 3T 2 WOK — 32 — 20
WS -48 B2 — 1 2T WS — WS 4T 3 — 32 — 20
JC — JB
JC — 5B 4 3 — JC — TRF
78 6 5 — YK,YL,UK,UL RR3A 3T 1 2
ZZ,YK,YL,UK,UL SFT
RB -48 B2 — 1 3B 2 RB2
LO -48 B2 — RB3 1 2B
LK -48 B2 — 48 3 RB3 — 2 3B 1 LK
OH -48 B2 — 1 3B 2 OH
CO -48 B2 — 1 3B 2
C 3B 2 1
IRST 9 10T D12 11
RLK -48 B2 — LK 8 9 10T
ZY BLT -48 B2 — ZY 10T 9 BL 8
8 10B 9 LK
5T 4 3 ZY BLTI

MB INC — D11 — MB INC 7T 6 — B1 -48 — 20
IR — E8 — IRN 4T 3 — B1 -48
OR — E8 — ORN 8T 7 — B1 -48
48H0 ONS — E11 — YE SONI 8 9T — STMI 5 6T — OS — B1 -48
(E) PCR — D11 — MB (E) PCR 88 7 — MB — B1 -48

RO — D11 — RO 2B 1 — B2 -48 — 20
TAN — D11 — TQ DD,ZG TAN 4T 3 — TQ — B1 -48 — 20
TR TANI — D11 — TR TANI 2B 1 — B1 -48 — 20
TS TAN2 — D11 — TS TAN2 2B 1 — B1 -48 — 20
TT TAN3 — D11 — TT TAN3 2B 1 — B1 -48 — 20

TU TAN4 — D11 — TU TAN4 2B 1 — B1 -48 — 20
MB TCA — D11 — MB TCA 11T 10 — B1 -48 — 20
MB TCB — D11 — MB TCB 11T 10 — B1 -48 — 20
TOL — D11 — FM MM TOL 7T 6 — FM — B1 -48 — 20

DRAWING ISSUE
68: WM P.P. C-D
70: FPS P.T. W.E.
72A: KVI Mod. Gnd
81D

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-818

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-818

HIGGINS 4465 K&E

FS 20
LAMP CONTROL

41F5 — LH YE SONI I7 LH; 68 5; LI LI

LGI TMT

CKS: -48 B1 — 1 CKS 2 3T — ONT2 7 8T — OK 7T 6 — D16 11

MST: -48 B3 — MKR 68 5 — RPE2 9 10B

ORON: -48 B3 — ORON 9 10T

MSTI: -48 B3 — MSTI 1 2B

FD: -48 B3 — FD2 6 7B — D9 11

55 RLO: -48 B4 — 55 LO 11 — GI 11

LI — 17 — ONS 12T 11 — TKI 68 5 — PL 2 3T 1 — TGI 2 3B 1

LH — LI — TMT 9T 8

TMT: B1 -48

TKI: B1 -48

TK2 11B 10 — 40 17 — ZVC — HFD 39GI

TC4 7T 6 5 — 40 17

TK: B1 -48

YR,VR TTGI 3B 2 1 — 40 17

PL: B1 -48

2T 1 YP,VP TGT — 3 YP,VP TGTI 4B

YR,VR IAI 3T 2 1

TC: B1 -48

YR,VR IO3 6B 5 4

YR,VR IO1 8B 7 6

YR,VR IA: B1 -48

40 — 2T 1 ONSI

YR,VR IAA 4B 3

YR,VR IAA 9B 8

3T 2 1 YP,VP HPA

ZXF OSN: -48 B4

ZYC OSN 2

YB KP — YB KPI — YB BP — AD — ADI — EQ AD3 — EQ AD4 — OSA — OSB — OSC — OSD — OSE — Q OSF — P OSG — N OSH — M OSJ — D OSK — B OSL — YG OSM

All: -48 B4; 7 8 9B

OSB 2 3T — OSBI 1 2T — D3

OSBI: 5T 5B 950 D5 -48; 3 D3

DRAWING ISSUE
68D GAI ALP AHA
70D RES PJT
86D

ISSUE 97D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-819

BELL TELEPHONE LABORATORIES INCORPORATED — SYS CODE 6S

SD-25680-01-819

HIGGINS 4465 M-E

FS 21
CROSS DETECTION

XOR
XM
XOR
STM L KEY
STT L KEY
XOS
XIR
XM
XMR2
XMRI
ACO
BT
DOP3
ORST
MKR
RBT
TRT
RPSA
TRTI
4WT
CRBA
CPNT
RLT
MRL
DIS
TRL
TTAF
IDT2
TI
CRA
RPE3
CBRI
DIRI
DORI
MIRI
RIRI
TTIRI
RTST
MON
RL
MD
RD
MONI
CPNT
RLG
RRK
DISI
DIS2
RTA
TRL
RBT
BS TO ORIG REG CKT
BS TO OG SDR CKT
KR TO REG & CAMA SDR TST CKT
4W ORIGINATING REGISTER CKT OR 4W INCOMING REGISTER CKT
ORIGINATING REGISTER MARKER CONN CKT OR INCOMING REGISTER MARKER CONN CKT
MARKER CKT
ORIGINATING REGISTER CONN CKT
ORIG REG CKT
62F9

DRAWING ISSUE
68D DLS RLP AMD
69A TJD RLP AMD
70D JES PAT AMD
72A AMT AML AMD
76B CR

76

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)
SD-25680-01-B20
BELL TELEPHONE LABORATORIES INCORPORATED
65

SD-25680-01-B20
HIGGINS 4495

FS 22
MARKER CONTROL.

DRAWING ISSUE 83D 86D

COMPLETING MARKER

MARKER CKT

CONNECT TO LIKE NUMBERED (MB-) RELAYS

TO OTHER INTER APP FIG 7

THRU INTER APP FIG 7

DIAL TONE MARKER

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25680-01-B21

ISSUE 104B

SD-25680-01-B21

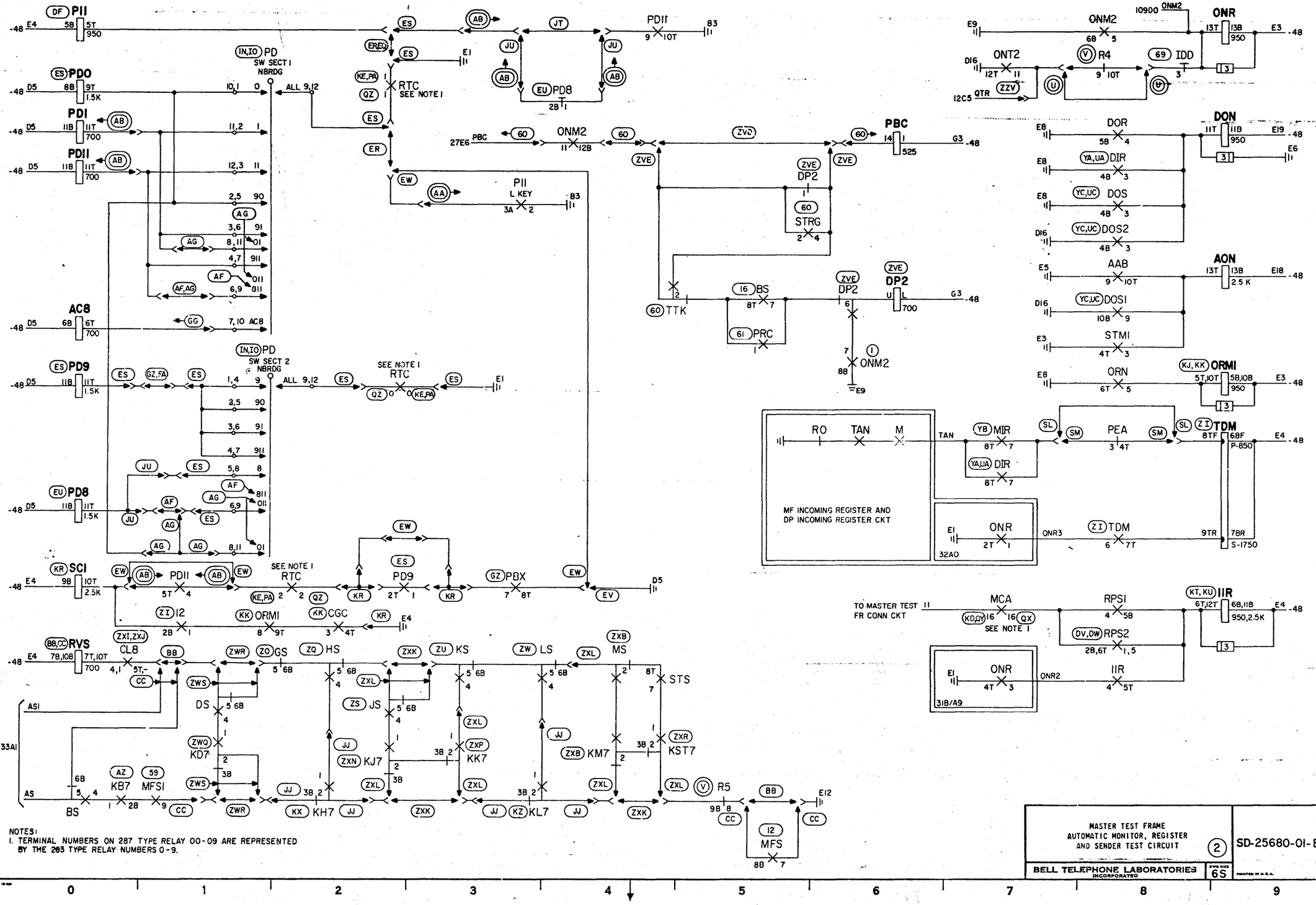
FS 23
SENDER TEST

DRAWING ISSUE
68D BEM RLP AHB
70D RAC PB2-1 AHB
74D CP
80A PG
81D
86D

DL1 DL2 DOC DL3 DL4 DL5 DL6 DL7 DCR
MCJ LLSI TR DOS2 MOS2 DOR3 TIRI PBX PBX5 AISD SAI
LLS SW SECT 1 LLS SW SECT 2 LLS LLSI
CLI8 R4 CLI3 MOSI MFSI CLI TDI PAC KRO KRI KR2 KR4 KR7
KARO,1,2,4,7 DAR KBRO,1,2,4,7 DBR
IDD SONI ONRI
MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)
SD-25680-01-B22
BELL TELEPHONE LABORATORIES INCORPORATED
ISSUE 93D

SD-25680-01-B22

FS 24
SENDER REGISTER TEST



ISSUE
68D JR RLP AHG
69A ADW RLP AHG
70D RAG DAL AAK
72A KMH JM AHG
75A CP
81D
82A
84AC
86D

ISSUE 101A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B23

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-B23

HIGGINS 4465 K&E

PART OF FS 25

DP AMPLIFIER, REPEATER AND BIAS CONTROLLER

DRAWING ISSUE	
68D	TEM ILP AND JEG PRT AND
70D	
71A	SA/ PRT AND
75A	CF
79D	PC
82A	
89D	

AC 5 210 6 210 7 — 26A2 — R — E1 — RI2 4 — RIA 175 INDR — RII 4 — RIA 270K — VRI 33K — VR4 10K ±5% — VR2 1 MEG — VR3 1 MEG — VRI — VR2 — VR3 — B 1/16 AMP — VR7 37.4K — VR8 30.1K — PA2 .1 — VR6 3010 — VR5 4530 — PA3 .1 — P — BZ P 10 MEG — E5 — DSM — DI 25C0 — 73 DPA — 43H6 — DP OUTGOING SENDER CKT — 4W DP OUTGOING SENDER CKT — E6

AC 12 .31 13 — B — A0 — 16 .255 15 .255 14 — C — D — D4, D7 — 26A1

PA4 100K — PA2 470K — PA1 1 MEG — PA1 2000PF — PA — PA3 1 MEG — -48 E18 — PI 4.8K ±1% — AON 128 11 — P2 20K ±5% — DP5A .1MEG — P — S-2600 — VJ,VK,ZVT CDP — P-200 — AON 3 48 — E5 11 — DP6A 20K ±5% — DP3A 511K — DP4A 100K — DP1A 7.5K ±5% — DP — DP1 .015 — DP2 300PF — DP2A 205K — E1

TTS .2 — AAB 5 6T — TTSI 390K — TTS2 510K — E18 -48

E5 — BI2 10K — AAB 2B 1 — ORM 3T 2 — 63 SMTR 10 — DI 25B0 — B7 2K ±5% — 25F6

E4 — AAB 8B 7

BLM 2B — BLM 2T — SB — SC — DPMI — DPM — 11G2 — DP INCOMING REGISTER CKT

ED — EE — LOLP — LL1 309K — LL2 690K — LOLP — BX — AAB 1 2T — ZYP — ORM 5T 4 — "TOUCH-TONE" STATION TEST RCVR — 63 SMTR 9 — AAB 268 ±.5% — AAB2 10K ±1% — E4 — AABI 268 ±.5% — E17 -48 — TTS — 63 SMTR 11 — TR REGISTER CKT — ORM 2 3B 1 — CA — RGI 470K — LOLP — 25C2

4W ORIG REGISTER CKT — DP ORIG REGISTER CKT — 61 — E6

ISSUE 102B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B24

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

HIGGINS 4465 K&E

SD-25680-01-B24

PART OF FS 25

DR AMPLIFIER, REPEATER AND BIAS CONTROLLER

DRAWING ISSUE

68D	TEM RLP AMP
69A	TEM RLP AMP RPS POT. ENG
71A	~~800~~

LOLP 6TR 6BR S-3.3K EE OR 78 6 CA

VC 20K VR6 5 2 E4

-130 GI RC 2775 EE STMI 11 12T EE

E4 VS3 VS2 VSI L L L

24F6 DI 24H2 DI'

V8 V6 V7 V5 RP, RQ VAR, DIODE

V6 8 V6 51K

RG3 240K LOLP 26AO

RG2 1MEG RG1 470K RW 10K

24G8 CA

R2 INDR 175 V9 VAR V10 VAR AC 26A1

NVA1 6.5K R22 4 R21 4

NVA 3B 5T 2.5K NVA

AC R2B R1B E2 +130

I2 MF 26G5

B 6 8 1.4K 2.9K 5 7 2 4 1.4K 2K 3 1

B2 10K (IL,IM) VR12 18K,9.1K (IL) VR13 18K B3 20K B13 20K

VR9 3.9K

2T IRB 5T IRB RB1 402 VR4 5 2 E17 -48

VR10 17K OR 16.9K

CW B1 POT. 2K 10% 3 2 1 V5 22K

WW, WX VR11 2K ±5% 1.3K ±5%

2B IRB 5B IRB WW, WX RB2 410 ±5% 402 ±5% E17 -48

V2 V4 RP, RQ VAR, DIODE V1 V3

B1 470K B1 6 5 4 7 3 8 9 1 2 E4

B4 470K

V1 42.2K V2 9760 V3 4870 V4 2490

V1 8 SEE NOTE 302

B14 470K ±5% B3 3000PF 26AO B15 180K ±5% E5

VR5 5 2 E5

ZXY HT3 TO TONE SUPPLY CKT

ZXZ

-48 E18 HTC 12K±1% HTA 150K±1%

HT HTI .2 HT HTE 1.5K±1% E4 HTB 13.5K±1%

TO TONE SUPPLY CKT (PRECISE TONE)

B2 1000PF B5 1MEG B4 50 B6 400 E18 -48

B2 6 5 4 7 3 8 9 1 2 26AO

B8 100K ±10% LZ B2 VAR KA B2 B9 10K

B5 8

B11 1.8K B2 POT. 250 ±10% CW B10 470 ±10% AON 68 E5

B7 6 ORM AAB 24E9

AAB 7 8T 100 ±1% 350 ±1% E18 -48 AAB4

AAB L KEY 5 6 E5 AAB 11T 9B E18 -48 700

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT

(2)

SD-25680-01-B25

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

88

SD-25680-01-B25

HIGGINS 4465

FS 26
AC SUPPLY

DRAWING ISSUE	
68D	MD, ALP, HMD
70D	JEG, TRT, MMD
72A	MMT, XXL, MMD
81D	
88D	
89D	

AC

64 · 2583, F4, F6 · 2588 · 24E1 · 24A1 · 94E3 GN · 95C3 PM · F10 · C1

.30 · .86 · .255 · .255 · .31 · .210 · .210 · .63 · 85 · .4 · .5 · 5.5

SEE NOTE 1

MF RECEIVING CKT

ZWB · ZWD · RG · RH · RG,RH · ZWB,ZWC · ZWD,ZWE

BAT1 MFN 7 8B E20 -48

BAT2 MFN 11 12B ZWD E21 -48

BAT3 MFN 9 10B RG E20 -48

10. 10 7T 5B 400 E21 -48

E7 MFN 4T 3 10 1 2B 3 E7

MF INCOMING REGISTER CKT — N YB MIR2 8T 7 TWT 21 2T 1 LL 6 7T D6

L2B AC L1B

1 AMP, 2 AMP AC

MON

SEE NOTE 206

TO ±105, ±115 OR ±125V AC 50-60 CPS SUPPLY

MF3 · MF2 BC · WU 5000PF · WW 500PF · MF4A 825K · MF4 1 · E7 MF3A 53K · MF2A 453K · MF2 1

MF · MFIA 300 · MFI 50 · A0

MFI · MF5A 1.8K · MF5 8 · 2508 MF

MFR · MFS · 6T · 3T · 5B · 6B · 3B · 2B · F · P · T · R

MF INCOMING REGISTER CKT · 43H6 · 73 DPA · MF OUTGOING SENDER CKT · AIS MF SDR CKT

CY 4WMF PAD · SEE NOTE 105

MF PAD · CI · CH

MF RECEIVING CKT

NOTES:
1. WHEN LINE VOLTAGE FURNISHED IN OFFICE IS ±105V AC CONNECT TO TERMINAL 2, WHEN ±115V AC CONNECT TO TERMINAL 3 OR WHEN ±125V AC CONNECT TO TERMINAL 4.

89

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B26

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

SD-25680-01-B26

HIGGINS 4465 H2E

FS 27
DIAL PULSE COUNTING

P1 P2 P3 P4 P5 P6 P6A
P1-S P1-P
P-850 S-1750 P-120 S-125 P-300 S-700 P-190,185 S-2600 P-200 S-850,800
700 950 400 350 T-110
LC1 1 MEG ±20% LC2 1 MEG ±20%
CDP 1K,2755 P1-9.5, P1-9.5, P-12 P2-9.5, P2-9.5, S-200
LA .25 510 LAI 4.28-4.36 350
L 500 LI 1700 700
EMP RPEI P AAB PBC 2383 STRA 110E4
PH RAI BLM DON TO DON PST 2986
RAA TTK LAI 31A/C8
RA 21.4-21.8 100 100 1.9K 1000
PRC IIA IIB IIC IID 11 11' 12 12' DD9 DD9A OP OPI DD8A DD8 28A/DO
TB2 39FO
TTK
1.3K 2.5K 1.3K 400

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B27

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-B27

HIGGINS 4465 K-E

PART OF FS 28

DIGIT STEERING

DRAWING ISSUE	
TOD	MLM AF BF
77A	CR
80A	PG
81D	
85A	
86D	

ONR · 36A/G7 · 34C8 · 28B/A8 · 6T 5

57 CDS · 57 CDAS · DS CLIB · DQ

22G5, DLG · 32B5, · 48H4 · 69 IDD · R CLS 38 1 2 · V U 6T 5 R4

48H5 DLGI 17 · 37D8 DLGI 69 · YE ONRI · YE SONI · E11 · -48 E24 33K · 3 4T

27G7 1 · 4

F2 · 128 TR 11 · 2980 · 69 CPO 6 TR 37D8

5 · CY,R,YR,VR TDI 2 1 3B · BI · 3 · GI · CLI3 4 5T · ZWX · BG · ZXV CPOA 11 · ZXT CLI8 3 · 69 · BI

MCI 2T 1 · TO MASTER TST FRAME CONN CKT · 31B/F8 · ONR2

BF,BH,CY CLI 3 E4 -48 · 6TF OR 9TF · 7TR OR 10TR · 6BF OR 8BF · A-850 7BR OR S-1750 · E4 -48

ZXT CLI8 2 · DS · BF,BH,CY 5T CLI 4 · BI · BG · 1 2B CLI3 · DS · DR · CY 4WDP 1

BF,BH,CY CLIA 1 E4 -48 · 10T R CLIA 10B 40O · E4 -48

DS CLIC 4 E27 -48 · U L 700 · E27 -48

V U V R5 9 8 10T · DP · DQ · 57 SKI · 57 SK 7 · 2 · CY 4WDP 2 · 1 2,3B · BF,BH,CY CLI · DP · ZXT CLI8 4

57 CDPS · 57 CDS · DQ · 11 · 57 CDAS · 5 · 57 SKI · 57 CDPS 5 · 57 CDS 5

57 CDPS 4 E27 -48 · U L 700 · E27 -48

57 CDS 4 E27 -48 · U L 700 · E27 -48

57 CDAS 4 E27 -48 · U L 700 · E27 -48

DS CLIB · U L 700 · E27 -48

DQ · DP · 57 CDAS 10 · 57 CDS 10 · DQ 6T 5 4 · R CLS · DS · 3T 2 1 BF,BH,CY CLI · CY 4WDP 3 · DS CLIB 6 · 57 CDS 12 · DS · 57 CDAS 12 · DS · DR · R CLS 3T 1 2 · ST · SU

R CLS 3 E4 -48 · 10T 10B 40O · R · -48

DQ,SX ARS 1 3B 2 · CM · CN · DQ,SW BRS 1 3B 2 · Z CRS 1 3B 2 · 6 28B/AO · 5 28B/AO · 4 28B/BO

ST · DQ,SX ARS · DQ,SW BRS · Z CRS · SU 5 6T 4 · 3 28B/CO

SX DAR 2 3T 1 · SW DBR 2 3T 1 · ST Z DCR 2 3T 1 · 2 28B/AO

SU · DQ,SW BRS 3T 1 2 · SU · CN · CM · SU · DQ,SX ARS 3T 1 2 · SU · SX DAR 1 2 3B · SW DBR · SU CM 1 2 3B · 1 28B/FO

ST Z DCR · Z CRS 3T 1 2 · CM · CN

SX,DQ ARS 1 E25 -48 · 10T 10B 40O · DQ,SX SX ARS,ARSA · -48

SW,DQ BRS 1 E25 -48 · 10T 10B 40O · DQ,SW SW BRS,BRSA · -48

Z CRS 1 E5 -48 · 10T 10B 40O · Z Z CRS,CRSA · -48

ISSUE 92A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

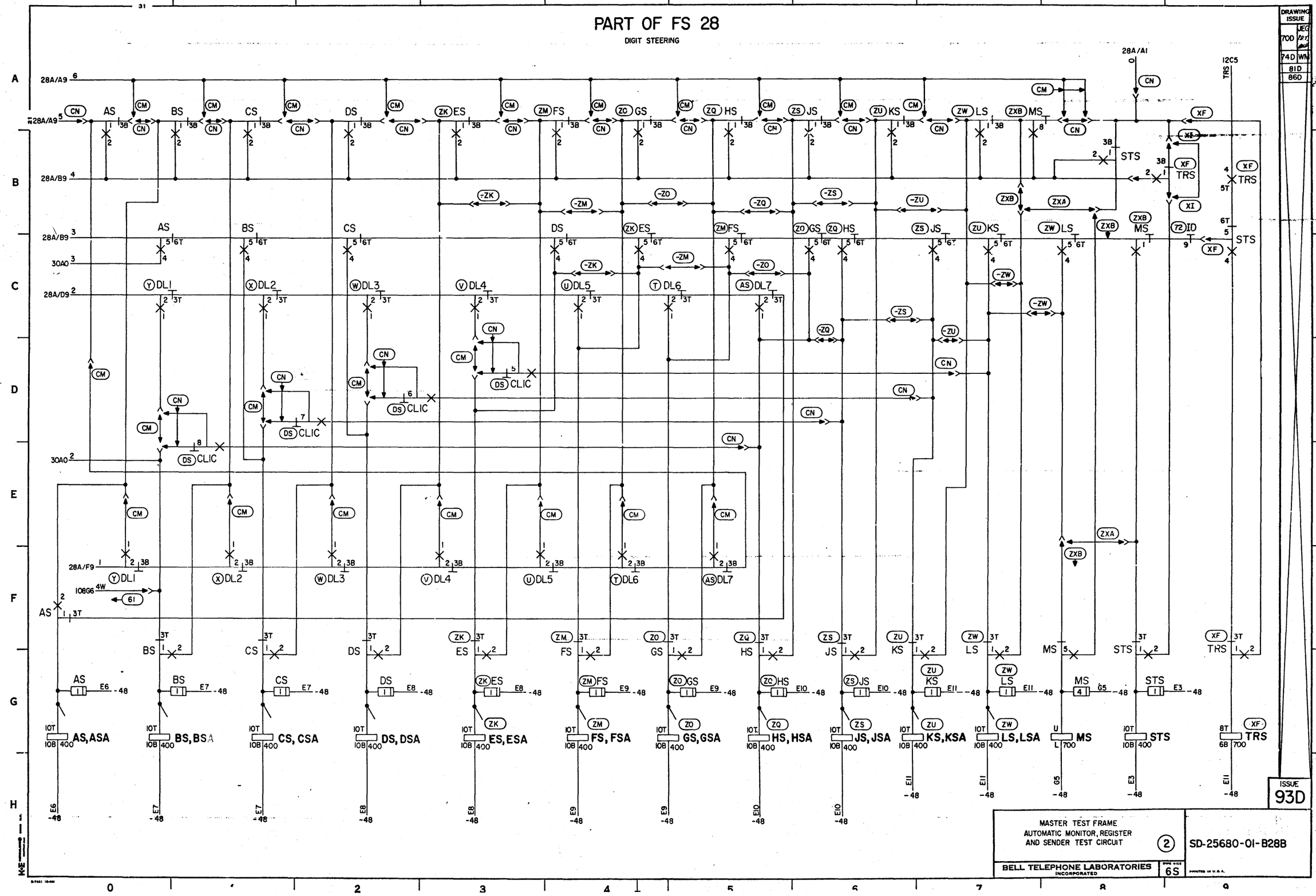
SD-25680-01-B28A

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-B28A

PART OF FS 28

DIGIT STEERING



MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B28B

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

PRINTED IN U.S.A.

SD-25680-01-B28B

FS 29
STEERING CONTROL

43CO PH (17)
28A/DO -48 E3
TO 100
TOI 1K
ONR 12T 11
TO S-1000
TO P-200
3 4T DON
(12) MFN 9 10T PTO 3 7
(12)
TO 3 7 4
(12)
(12)
(12)
60 TTK T4 3T
MK
(LM,LP) MK 4T,6T 3B,5B 1.3K E3 -48
3
DU 8T ONR 7
TMB 4T 3
DU
DT
E8 (YB) MIR 8B 7
E8 (YA,UA) DIR 8B 7
E8 ORN 4T 3
6 7T RTC2
E8 (YC,UC) DOS 8B 7
DI6 (YC,UC) DOSI 12B 11
E8 (YE) MOS 8B 7
DI6 (YD) MOSI 12B 11
E7 IO 4T 3
5 6T MFN
1 2T MFN
7 8T MFN
J L H
SP
CK2
LK -48
CK2
MF SIGNALING AND RECEIVING CKT
M
(12)
PTI 8.56-8.72
PTI 226 E7
DON 7 8T
(AC,AD) RAI 4,3 5T,4T PH 3 4T E6
60 STRA 8 E6
70 EOD 9 D6
L 27E2
1 E6
PH 7T 5B 400 E19 -48
DON 1 2B
DON 5 6T
(AC,AD) RAI 3T,3B 2 1
PST 3 4T E6
BLM 3 4T E6
(UW)
(UX) (ZK) ES (UX) 7 8B
(UW) (YB) MIR 9 10B E8
(UY) (ZM) FS (UY) 7 8B
(UZ) (ZO) GS (UZ) 7 8B
(TA) (ZQ) HS (TA) 7 8B
(TB) (ZS) JS (TB) 7 8B
(TC) (ZU) KS (TC) 7 8B
(TD) (ZW) LS (TD) 7 8B
(TE) STS (TE) 7 6B
MFN 12T 11 PTO 6 1 S-2600 MFN 5 6B E21 -48
E7 MFN 2B 1 PTO 540 ±1% 2 5 P-200

DRAWING ISSUE
58D CM
70D JNR
72A KM
73D KM
75A WM
81D

ISSUE 9ID

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2) SD-25680-01-829
BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-829

HIGGINS 4465 K&E

FS 30
STEERING CONTROL

DRAWING ISSUE	
68D	DD
69A	
70D	
73D	
75A	WM
81D	

ONR
ONR2
ZYF
TDM
ORMI
DOR4
PLNI
DD8A
DD8
DD8A
DD9A
DD9
OP
OPI
RAI
STRA
DON
PI
CGC
A0
A1
A2
A4
A7
AA7
IDD3
IXX
OPI

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2)

SD-25680-01-830

BELL TELEPHONE LABORATORIES
INCORPORATED

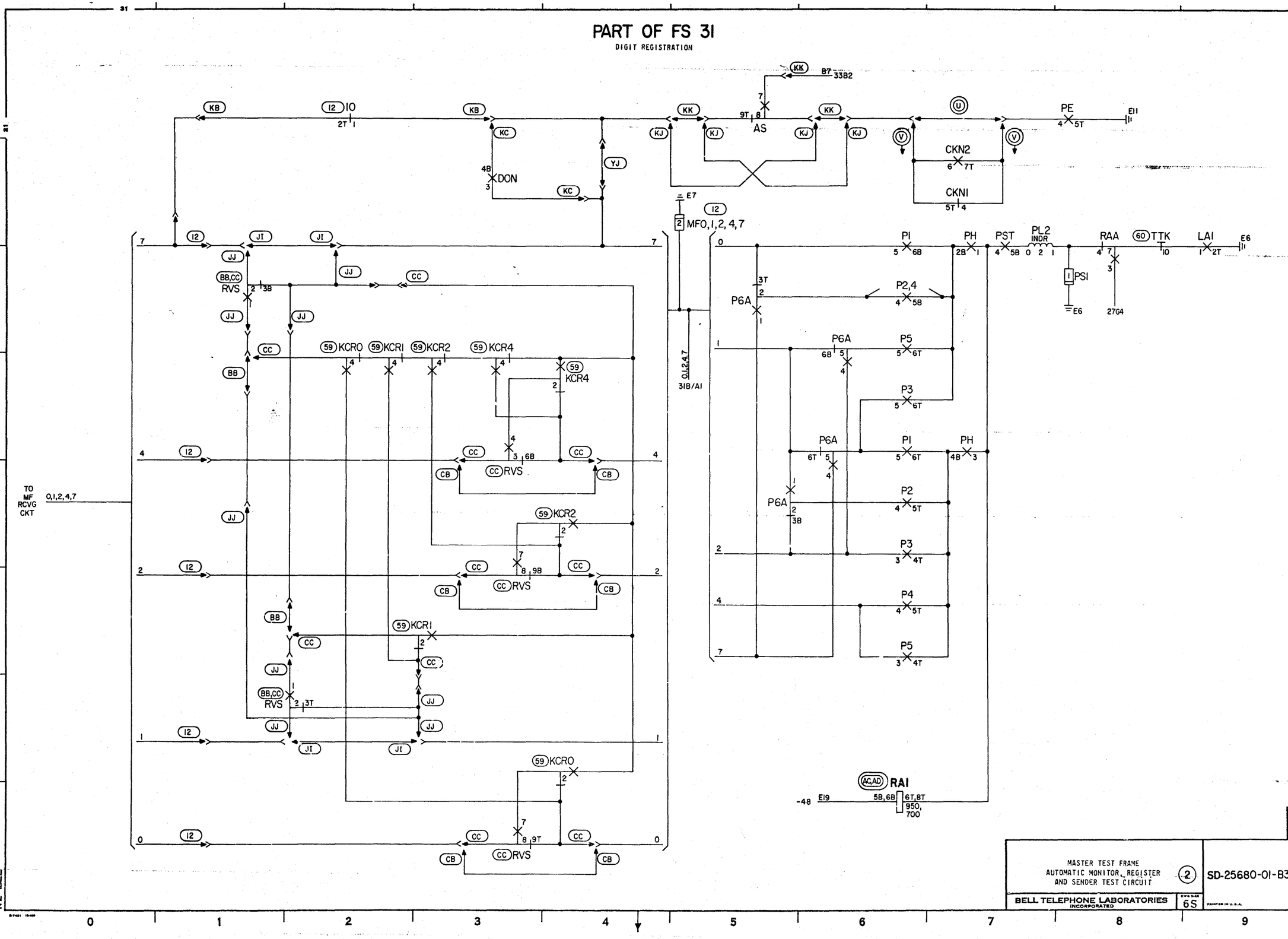
SIZE 6S

SD-25680-01-830

HIGGINS 4465 M/E

PART OF FS 31

DIGIT REGISTRATION



DRAWING ISSUE 700 DEC 69 Rev

ISSUE 91D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B31A

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-B31A

PART OF FS 31
DIGIT REGISTRATION

SEE NOTES 224 AND 238 FOR CROSS CONNECTION INFORMATION

DRAWING ISSUE
70D OMC
72A OMC
79D PG
81D
85A

31A/D5 0,1,2,4,7 — 110C8 0,1,2,4,7

DP / DQ

B
57 CDPS 0 1 2 3 4 5 6 7

32E7
55 CDP0,2,7,15 — 0,2,7,15 — 1L 2L 640
55 CDP1,4,10 — 1,4,10 — 1U 2U 640
CDP0,1,2,4,7 — DQ — ONR1 — ONRA 36B/H1

55 I-P 55 XP
55 I-P
55 I-P 55 XP
55 I-P

CDP0,1,2,4,7,10,15 — DQ — 110G9

B
57 CDS

32E8
55 CDO,2,7 — 0,2,7 — 1L 2L 640
55 CDI,4,10,15 — 1,4,10,15 — 1U 2U 640
CDO,1,2,4,7 — DQ — ONR2 — ONRA 36B/H4

B
57 CDAS

55 CDA0,2 — 0,2 — 1L 2L 640
55 CDA1,4 — 1,4 — 1U 2U 640
55 CDA7 — 7 — 1L 2L 960 — G1 -48
DQ — ONR3 — ONRA 36B/F8

A
R CLIA 0 1 2 4 7
9T R CLIA
6T R CLIA
3T R CLIA
3B R CLIA 6B

R CLSA

32C0 0,1,2,4,7

AO NH ARO SCI NI ZXV CPOA 1 — AI
1 — NI ARI — ZXV CPOA 2
NH AR2,4,7 SII NI ZXV CPOA 2,4,7 — 3,4,5 — A2,4,7
BO NH BRO SO2 NI ZXV CPOA 6
BI NI BRI — ZXV CPOA 7
NH BR2,4,7 SI2 NI ZXV CPOA 2,4,7 — 8,9,10 — B2,4,7

30A5 23G7 14G2 ONR2

R SO1 8TR 6BR S-1750 7TF 5BF E4 -48 P-850 4B 3
R SI1 8TR 6BR S-1750 7TF 5BF E4 -48 P-850 4B 3
R SO2 8TR 6BR S-1750 7TF 5BF E4 -48 P-850 4B 3
R SI2 8TR 6BR S-1750 7TF 5BF E4 -48 P-850 4B 3

ONR2
-48 E3 33K ±20%
1 ONR2 — 69 — 28A/G0
3 4T ONR — 61 — 108B7
E1

24-18 DH RTCA
CDP0,1,2,4,7,10,15

MASTER TEST CONTROL CKT
MASTER TEST FR CONN CKT

DH RTCA 17-11 — CDO,1,2,4,7,10,15
DH RTCA 10-6 — CDA0,1,2,4,7
DH MCR 24-18 — CDP'0,1,2,4,7,10,15
DH MCR 17-11 — CD'0,1,2,4,7,10,15
DH MCR 10-6 — CDA'0,1,2,4,7

DQ — CDA'0,1,2,4,7 — 36B/B7
DQ — CD'0,1,2,4,7,10,15 — 36B/B4
DQ — CDP'0,1,2,4,7,10,15 — 36B/B4

SD-25680-01-B31B

85

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B31B

BELL TELEPHONE LABORATORIES

SD-25680-01-B32

HIGGINS 4465 K-E

PART OF FS 31
DIGIT REGISTRATION

MARKER CKT | MA TST FR CONN CKT | MASTER TEST CONTROL CKT | MARKER CKT | MA TST FR CONN CKT | MASTER TEST CONTROL CKT

A MCL — ARO,1,2,4,7 — KARO,1,2,4,7 (E25 68R, 8TR, S-1750, 7TF, 5BF E25, P-850, -48, 3) — KARO,1,2,4,7 (SX) 2B 1

318/E6 0,1,2,4,7 (ST, SU) — D — SX ARSA 8 7 9T; SX ARSA 5 4 6T; SX ARSA 2 3T; SX ARSA 2 1 3B; SX ARSA 5 4 6B

ARO,1,2,4,7 — 5T 5B E25 950 -48 — SX — 48 3 SX

A MCN

SW KBRO,1,2,4,7 (E25 68R, 8TR, S-1750, 7TF, 5BF E25, P-850, -48, 3) — SW KBRO,1,2,4,7 (2B 1) — SW

B SY MCK — BRO,1,2,4,7

D SW BRSA — 0,1,2,4,7 (SW, SU, ST)

SW BRO,1,2,4,7 — 5T 5B E25 950 -48 — SW — 48 3 SW

AIS MF SDR CKT — M

KRO,1,2,4,7 — 20-24 (68) MCU

B MCM

CC KCRO (U L G2 2.5K -48)

Z KRO (E5 6BR, 8TR, S-1750, 7TF, 5BF E5, P-850, -48, 3, TR F2, 6T 5 1 2B) — Z KRO (2B 1) — Z

KCRI,2,4

LP — KRO,1,2,4,7

A MCI — CRO,1,2,4,7 (ST, SU)

A SY MCK

A MCM

KRIA,2A,4A,7A (FI7 3B, 3T, 40, 2.5K -48) — CC

Z,YR,YP,VR,VP — KRI,2,4,7 (E5 6BR, 8TR, S-1750, 7TF, 5BF E5, P-850, -48, 3, TR F2, 6T 5) — KRI,2,4,7 (2B 1)

Z,YR,YP,VR,VP — KRI,1,2,4,7

D Z CRSA — Z CRO,1,2,4,7 — 5T 5B E25 950 -48

62 SSC — 110E5 — 0,1,2,4

48 3 Z CRO,1,2,4,7

SEE NOTE 1 — (KE,QZ,PA) MCE — CR'0,1,2,4,7 — SU — ST

DLG — SONI — 284/AO

MA TST FR CONN CKT

C (KE,QZ,PA) MCE — SEE NOTE 1 — A'0,1,2,4,7

C (KE,QZ,PA) RTC — SEE NOTE 1 — A0,1,2,4,7 — 364/AI

ASA 8 7 9T; ASA 5 4 6T; ASA 2 3T; ASA 2 1 3B; ASA 5 4 6B — 69 CPO — 69 IDD3 — 7' — 0,1,2,4,7 — 3300

EI (R) SII (1 2B) (R) SOI (2B 1) (R) SI2 (1 2B) (R) SO2 (2B 1) (KE,QZ,PA) MCB (3 SEE NOTE 1) MII

(JR,JS) AO — 0 7T,10T 5B,8B E6 400 -48 — 2B,7B 1,6

(JR,JS) AI — 1 7T,10T 5B,8B E6 400 -48 — 2B,7B 1,6

EI (DF) PII — 3 4B — ZI 12' — 4 5B 4 — 11' — 5B 1

ORMI — 1 2B — 3B 2 — ZI TDM

21 — SF L KEY 5A 4 — 3FD L KEY 5B 4

3 4B A2,4,7 — 5B,8 (AD,AE) IXX — 7T (KK) OPI 6 — AB — 4 61 IIC — 1 61 IID

KA 36A/E0

JR — JS — PLNI 4 5T (JV) PLNI 3

60 STRA 9 — 60 TTK 5 — (KK) OPI 28 1 — (KK) CGC 2T 1

(KJ,KK) A2 — 2 7T,10T 5B,8B E6 400 -48 — 28,7B 1,6

JV DD8 8T 7 — 1 2T — KK DD9 28 1 2T 1 — KK — KJ

(KJ,KK) A4,7 — 4,7 7T,10T 5B,8B E6 400 -48 — 28,7B 1,6

AA7 -48 E3 — U L G5 -48 400 — AA7 4 — 69 — 7'

ONR3 33K ±20% — 1 ONR3 — 69 IDD1 12 — 1 2T ONR — E1 G5 E1

318/A3 CDP0,1,2,4,7 — 61 IIA — 12,11,10,9,7 — 12,11,10,9,7 — 61 IIB

SEE NOTE 2

318/C3 CDO,1,2,4,7 — 61 IIC — 12,11,10,9,7 — 12,11,10,9,7 — 61 IID

SEE NOTE 2

NAI — R5 — 5T 5B E26 2.5K -48 — 7T 6

KCN — NAI R4 R5 — 28 1 — 48 3 — 3 4B — EI2

99AI A0,1,2,4,7

105AI A0,1,2,4,7

D11 EPS 2T 1 — 74

D9 MAN 9T 8 — 4

D11 EPS 4T 3 — 74

D9 MAN 4T 3 — 7

NOTES:
1. TERMINAL NUMBERS ON 287 TYPE RELAYS 00-09 ARE REPRESENTED BY THE 263 TYPE RELAY TERMINAL NUMBERS 0-9.
THE DIFFERENCE BETWEEN THE EXTERNAL CKT CONNECTION TO THE 263 TYPE RELAY QZ OPTION AND THE 287 TYPE RELAY KE,PA OPTIONS IS AS FOLLOWS:

EXTERNAL CKT — FIXED SPRING 287 TYPE — FIXED SPRING 263 TYPE

2. CONTACTS 12,11,10,9,7 CORRESPOND TO LEADS 0,1,2,4,7 RESPECTIVELY.

BELL TELEPHONE LABORATORIES INCORPORATED — 6S — MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT — (2) — SD-25680-01-B32 — ISSUE 104B

DRAWING ISSUE

SD-25680-01-833

HIGGINS 4465 K-E

PART OF FS 31
DIGIT REGISTRATION

MASTER TEST CONTROL CKT

NOTES:
1. THE DIFFERENCE BETWEEN THE EXTERNAL CIRCUIT CONNECTION TO THE 263 TYPE RELAY QZ OPTION AND THE 287 TYPE RELAY KE,PA OPTION IS AS FOLLOWS:

EXTERNAL CIRCUIT — FIXED SPRING 287 TYPE — FIXED SPRING 263 TYPE

32E7 0,1,2,4,7

A BSA 9T, 6T, 3T, 3B, 6B

B0,1,2,4,7 — 5T 58 E7 -48 950 — 48 3

72A/F5 B7 — BX — BW — AS 7 8 98 — CC AS AS! 23GO — BX — 60 TTK 9 PPCS 55DO

KK — OP 5 6T B7 — AS — PE — 31A/A6

MA TST FR CONN CKT — B'0,1,2,4,7 — B'0,1,2,4,7

36A/A5 B (KE,PA,QZ) MCE — 0 10 1 11 2 12 4 13 7 14 — SEE NOTE 1

B0,1,2,4,7 — B (KE,PA,QZ) RTC — SEE NOTE 1

99A3 B0,1,2,4,7 — 105A3 B0,1,2,4,7

A CSA

C0,1,2,4,7 — 5T 58 E7 -48 950 — 48 3 — ONR5

72A/F4 C7 — 99A4 C0,1,2,4,7 — 105A4 C0,1,2,4,7

C0,1,2,4,7 — C (KE,PA,QZ) RTC — 0 15 1 16 2 17 4 18 7 19 — SEE NOTE 1

MA TST FR CONN CKT — C'0,1,2,4,7 — C'0,1,2,4,7

C (KE,PA,QZ) MCE — SEE NOTE 1

A DSA

DO,1,2,4,7 — 5T 58 E8 -48 950 — 48 3 — 36F3 KE

72A/F4 D7 — 99A5 DO,1,2,4,7 — 105A6 DO,1,2,4,7

D'0,1,2,4,7 — D (KE,PA,QZ) MCE — 0 20 1 21 2 22 4 23 7 24 — SEE NOTE 1

DO,1,2,4,7 — D (KE,PA,QZ) RTC — SEE NOTE 1

H (ZK) ESA 9T, 6T, 3T, 3B, 6B

G5 — 69 IDDI — 11

(ZK) EO,1,2,4,7 — 5T 58 E8 -48 950 — 48 3

EO,1,2,4,7 — E (KE,PA,QZ) RTC — 25 26 27 28 29 — SEE NOTE 1

72A/F3 E7 — ZD — 99A7 EO,1,2,4,7 — 105A8 EO,1,2,4,7

-48 E3 — ONR4 33K±20% — ONR4 — 11 12B ONR — E2 E2

E'0,1,2,4,7 — E (KE,PA,QZ) MCE — SEE NOTE 1

MA TST FR CONN CKT — E'0,1,2,4,7

H (ZM) FSA

(ZM) FO,1,2,4,7 — 5T 58 E9 -48 950 — 48 3 — 36F4 KG — 61H4 ONR

72A/F3 F7 — ZL — 99A8 FO,1,2,4,7 — 105A9 FO,1,2,4,7

F'0,1,2,4,7 — F (KE,PA,QZ) MCE — 30 31 32 33 34 — SEE NOTE 1

FO,1,2,4,7 — F (KE,PA,QZ) RTC — SEE NOTE 1

G5 — 69 IDDI — 7

H (ZO) GSA

(ZO) GO,1,2,4,7 — 5T 58 E9 -48 950 — 48 3

72A/F2 G7 — ZN — 99A9 GO,1,2,4,7 — 106A3 GO,1,2,4,7

-48 E3 — (ZM) ONR6 33K±20% — (ZM) ONR6 — 3 4B ONR — E2 E2

MA TST FR CONN CKT — G'0,1,2,4,7 — G'0,1,2,4,7

G (KE,PA,QZ) MCE — 35 36 37 38 39 — SEE NOTE 1

GO,1,2,4,7 — G (KE,PA,QZ) RTC — SEE NOTE 1

0,1,2,4,7 — 34E0

ST7 — 34B0

BELL TELEPHONE LABORATORIES INCORPORATED — DESIGNED 6S — (2) — SD-25680-01-B33

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT

81

DRAWING ISSUE: 68D DD KLP AMD; 70D APS; 74D CF; 75A; 81D

HIGGINS 4465

MASTER TEST CONTROL CKT

PART OF FS 31
DIGIT REGISTRATION

3309 0,1,2,4,7

3389 ST7

36F5 KJ

ZQ HSA 8 7 9T
HSA 5 4 6T
HSA 2 1 3T
HSA 2 1 3B
HSA 5 4 6B

0,1,2,4 7

72A/F2 H7

99A9 H7

ZP

ZQ H0,1,2,4,7
5T 5B 950 E10 -48
48 3

106A3 H0,1,2,4,7

36A/A9

MA TST FR CONN CKT

H'0,1,2,4,7

B KE,QZ,PA MCE
0 40 0
1 41 1
2 42 2
4 43 4
7 44 7
SEE NOTE 1

H0,1,2,4,7

B KE,QZ,PA RTC SEE NOTE 1

C KE,QZ,PA RTC
0 45 0
1 46 1
2 47 2
4 48 4
7 49 7
SEE NOTE 1

J0,1,2,4,7

MA TST FR CONN CKT

J'0,i,2,4,7

J'0,1,2,4,7

C KE,QZ,PA MCE SEE NOTE 1

A ZS JSA

72A/F1 J7

106A5 J7

ZR

ZS J0,1,2,4,7
5T 5B 950 E10 -48
48 3

69 IDDI G5 9

ZQ ONR8
-48 E3 33K ±20% ONR8 E1

9 ONR 10T E1

A ZU KSA

72A/F1 K7

ZT

ZU K0,1,2,4,7
5T 5B 950 E11 -48
48 3

36F6 KL

K'0,1,2,4,7

K0,1,2,4,7

D KE,QZ,PA MCE
0 50 0
1 51 1
2 52 2
4 53 4
7 54 7
SEE NOTE 1

D KE,QZ,PA RTC SEE NOTE 1

ZW LSA 5 4 6B

2 3T

2 1 3B

ZXB

L2 BS

72A/F1 L7

ZV

ZW LO,1,2,4,7
5T 5B 950 E11 -43
48 3

69 IDDI G5 5

ZU ONR7
-48 E3 33K ±20% ONR7 E2

5 ONR 6B E2

L0,1,2,4,7

MA TST FR CONN CKT

L'0,1,2,4,7

E KE,QZ,PA RTC
0 55 0
1 56 1
2 57 2
4 58 4
7 59 7
SEE NOTE 1

E KE,QZ,PA MCE SEE NOTE 1

7 9 10 11 12 ZXB MS

5B STS 4 ZXB

SC3 BS 6A ZRO L KEY 5 4 SCI BS SC BS

SRI BP BO SR BP 4 5B MST D9

SR2 BP BO BP SR3

LO BP BP LI

6D EO SSR L KEY

EO,BS

ZXA ZXB ZXB ZXB ZXA

MCB 2 SEE NOTE 1

ZX

72A/F0 M7

ST7 5T 5B 950 E3 -48
48 3

33A3 ONR5 36D9 KST 36F2 KC

69 IDDI G5 3

N'7

MCB 1 SEE NOTE 1

M'0,1,2,4

M'0,1,2,4

DH MCR 1-4

72A/E0 N7

ZXB ZXB ZXB

ONR5
-48 E3 33K ±20% ONR5 E2

2B ONR E2

MASTER TEST CONTROL CKT

M 0,1,2,4,7

DH RTCA 0,1,2,4 1-4 0,1,2,4

QZ,PA,KE RTC 7 4 7

M0,2
0,2 1L 2L 640 G5 -48
1 M0,2 4

MI,4
1,4 1U 2U 640
11 MI,4 4

M7
7 1U 2U 640
10 4

M ONR E1 5 6T
ZXB
28A/A0

NOTES:
1. TERMINAL NUMBERS ON 287 TYPE RELAY 00-09 ARE REPRESENTED BY THE 263 TYPE RELAY NUMBERS 0-9.
THE DIFFERENCE BETWEEN THE EXTERNAL CKT CONNECTION TO THE 263 TYPE RELAY QZ OPTION AND THE 287 TYPE RELAY KE,PA OPTION IS AS FOLLOWS:

EXTERNAL CKT
FIXED SPRING 287 TYPE
FIXED SPRING 263 TYPE

BELL TELEPHONE LABORATORIES INCORPORATED

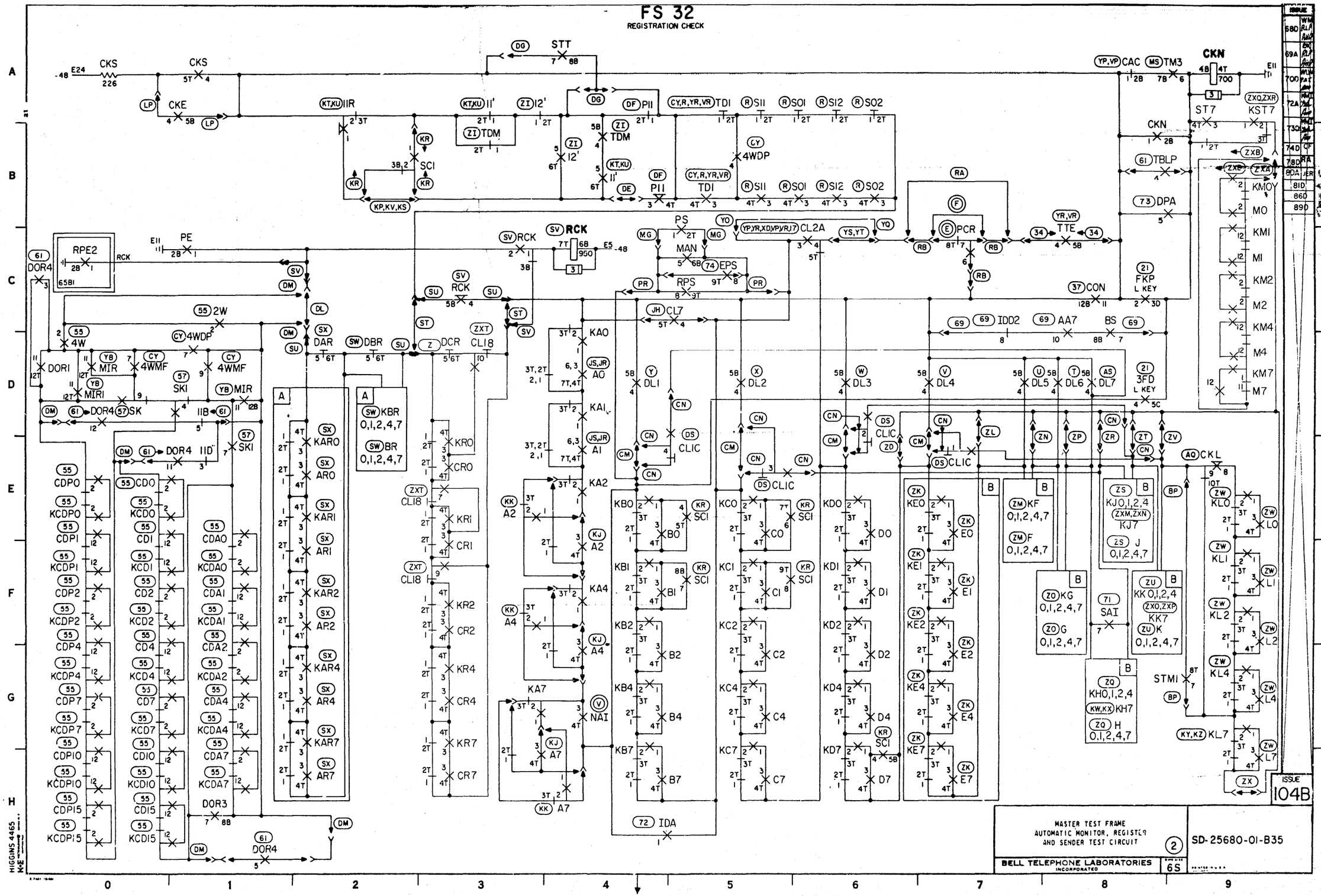
MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT

65 2 SD-25680-01-B34

86

DRAWING ISSUE
E3 680
D18 810
C7 740
M1 700
D98 860

FS 32
REGISTRATION CHECK



PART OF FS 33
REGISTER OUTPUT

TO AIS MF SDR CKT

TO MASTER TEST FR CONN CKT

TO MASTER TEST CONTROL CKT

SEE SHEET NOTE 1

33GI

34GI

32H6

SEE NOTE 2

KST7

KMO

KMI

KM2

KM4

KM7

KM

KA

KC

KE

KG

KJ

KL

KA0,1,2,4

KA7

KB0,1,2,4

KB7

KD0,1,2,4 KD7

KH7

KJ7

KK7

KL7

ONR

MCB

MCU

MCUA

MCT

MCS

MCQ

3DA

3DB

LP

ZXH

ZXB

ZXA

ZXQ,ZXR

DH

NOTES:

1. TERMINAL NUMBERS ON 287 TYPE RELAY 00-09 ARE REPRESENTED BY THE 263 TYPE RELAY NUMBERS 0-9. THE DIFFERENCE BETWEEN THE EXTERNAL CIRCUIT CONNECTION TO THE 263 TYPE RELAY, QZ OPTION, AND THE 287 TYPE RELAY, KE, PA OPTION IS AS FOLLOWS:

EXTERNAL CKT — FIXED SPRING 287 TYPE — FIXED SPRING 263 TYPE

2. CONNECT CONTACTS OF RELAYS (3DA) AND (3DB) TO CONTACTS OF (MCB) RELAY AS SHOWN.

RELAY	CONTACT	(MCB) RELAY CONTACT	RELAY	CONTACT	(MCB) RELAY CONTACT
3DA	12	14	3DB	12	24
	11	13		11	23
	10	12		10	22
	9	11		9	21
	8	10		8	20
	7	9		7	19
	6	-		6	18
	5	8		5	17
	4	7		4	16
	3	6		3	15
	2	5		2	29
	1	-		1	-

DRAWING ISSUE 86D

ISSUE 96AC

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-836A

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

SD-25680-01-836A

PART OF FS 33
REGISTER OUTPUT

TO MASTER TEST FRAME CONN CKT

CDP0,1,2,4,7,10,15 — CD0,1,2,4,7,10,15 — CDA0,1,2,4,7

DH 54 MCQ — DH 54 MCQ — DH 54 MCQ

24-18 — 17-11 — 10-6

DH MCS — DH MCS — DH MCS

CDP'0,1,2,4,7,10,15 318/H3 — 318/H3 CD'0,1,2,4,7,10,15 — 318/H3 CDA'0,1,2,4,7

24-18 — 17-11 — 10-6

55 — 55 — 55

0 1 2 4 7 10 15 — 0 1 2 4 7 10 15 — 0 1 2 4 7

KCDP0	KCD0	KCDA0
2L IL 2450, 4, KCDP0 I	2L IL 2450, 4, KCD0 I	2L IL 2450, 4, KCDA0 I
KCDP1	KCD1	KCDA1
2U IU 2450, 4, KCDP1 II	2U IU 2450, 4, KCD1 II	2U IU 2450, 4, KCDA1 II
KCDP2	KCD2	KCDA2
2L IL 2450, 4, KCDP2 I	2L IL 2450, 4, KCD2 I	2L IL 2450, 4, KCDA2 I
KCDP4	KCD4	KCDA4
2U IU 2450, 4, KCDP4 II	2U IU 2450, 4, KCD4 II	2U IU 2450, 4, KCDA4 II
KCDP7	KCD7	KCDA7
2L IL 2450, 4, KCDP7 I	2L IL 2450, 4, KCD7 I	-48 GI, 2U IU 2450, 4, KCDA7 8
KCDP10	KCD10	ONRA1
2U IU 2450, 4, KCDP10 II	2U IU 2450, 4, KCD10 II	-48 GI, 33K; ONRA1 II; 318/F5 ONR3, 55; ONRA 3; GI II
KCDP15	KCD15	
2L IL 2450, 4, KCDP15 I	2U IU 2450, 4, KCD15 II	
-48 GI, 33K; ONRA3 II; 318/B4 ONRI, 55; ONRA I; GI II	-48 GI, 33K; ONRA2 II; 318/D5 ONR2, 55; ONRA 2; GI II	

ISSUE 91D

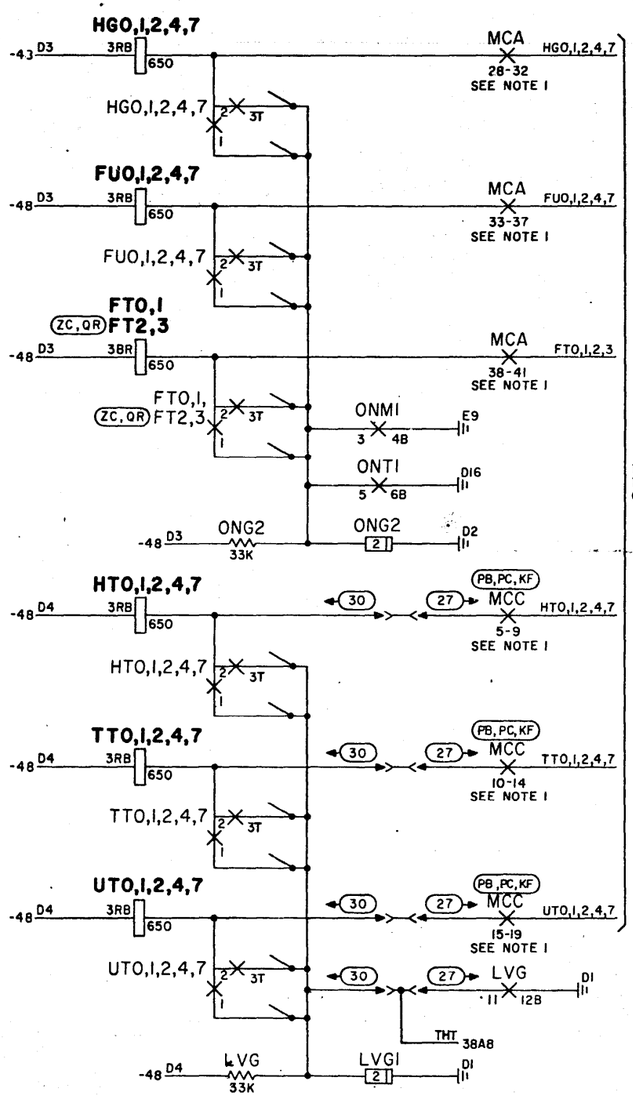
DRAWING ISSUE: 70D JRR; 72A KMT

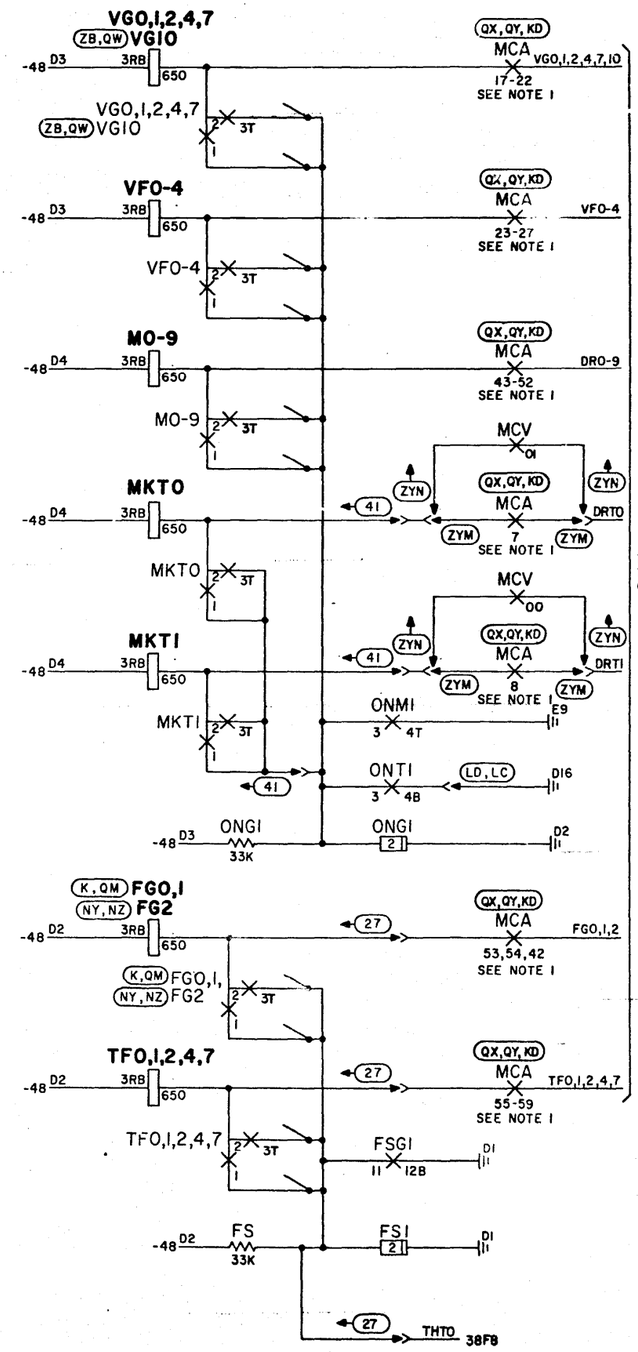
MASTER ~~TEST FRAME~~
AUTOMATIC MONITOR, REGISTER AND SENDER TEST FRAME (2) SD-25680-01-B368

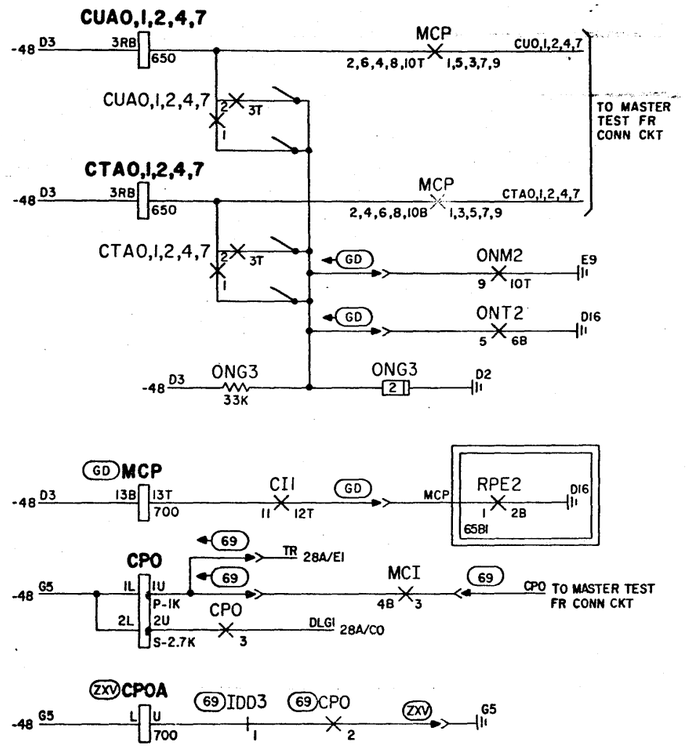
BELL TELEPHONE LABORATORIES INCORPORATED — SIZE 6S

SD-25680-01-B368

FS 34
LINE LINK LOCATION

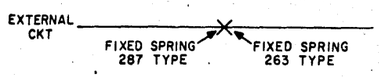






NOTES:

1. TERMINAL NUMBERS ON 287 TYPE RELAY 00-09 ARE REPRESENTED BY THE 263 TYPE RELAY NUMBERS 0-9. THE DIFFERENCE BETWEEN THE EXTERNAL CKT CONNECTION TO THE 263 TYPE RELAY, QX OPTION ON (MCA) AND PB OPTION ON (MCC), AND THE 287 TYPE RELAY QY,KD OPTION ON (MCA) AND KF,PC OPTION ON (MCC) IS AS FOLLOWS:



DRAWING ISSUE
68D
81D
83D
85A
88D

88

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)
SD-25680-01-837

BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-25680-01-837

HIGGINS 4465 K&E

FS 35
TRUNK LINK CONTROL

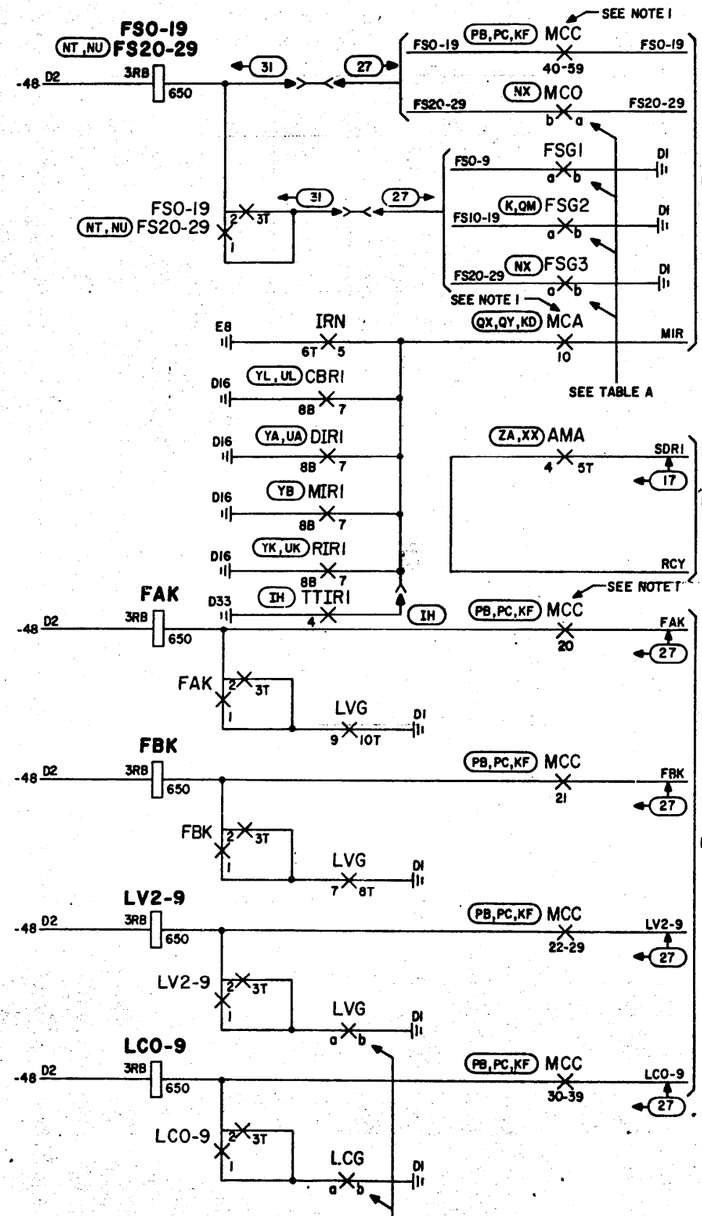


TABLE A

LEADS	CONTACT	
	a	b
0	9	10T
1	7	8T
2	5	6T
3	3	4T
4	1	2T
5	1	2B
6	3	4B
7	5	6B
8	7	8B
9	9	10B

NOTES:
1. TERMINAL NUMBERS ON 287 TYPE RELAY 00-09 ARE REPRESENTED BY THE 263 TYPE RELAY NUMBERS 0-9. THE DIFFERENCE BETWEEN THE EXTERNAL CIRCUIT CONNECTION TO THE 263 TYPE RELAY QX OPTION ON (MCA), AND PB OPTION ON (MCC), AND THE 287 TYPE RELAY QY, KD OPTION ON (MCA) AND PC, KF OPTION ON (MCC) IS AS FOLLOWS:

EXTERNAL CKT — FIXED SPRING 287 TYPE — FIXED SPRING 263 TYPE

DRAWING ISSUE
68D DD
70D
81D
82A
88D

88

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)
SD-25680-01-B38

BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-25680-01-B38

FS 36
SENDER TEST

DRAWING ISSUE
68D CM
70D POT
73D RM
79D PG
81D
85A
89D

ISSUE 97D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B39

BELL TELEPHONE LABORATORIES
INCORPORATED
SHEET 65

SD-25680-01-B39

HIGGINS 4465 K&E

FS 37
SENDER TEST

MASTER TEST CONTROL CKT

DRAWING ISSUE
68D GLS ALP AND
81D
85A

YD MFST -48 D27 9B 10T 950 — 17 — YD MOSI 7 8T — D16

YC,UC DPST -48 D27 7B 9T 700 — 17 — YC,UC DOSI 7 8T — D16

YR,VR RPST -48 F15 13B 13T 700 — 40 — YR,VR ROSI 7 8T — ED 109F0

YP,VP CIST -48 F16 13B 13T 700 — 40 — YP,VP COSI 7 8T — ONT2 5 6T — D16

SDR2 TCB SDTI KEY SDT3 KEY STK STK -48

SDT3 KEY — SDT3 — TSTK 9 10B — TSTK — TBI 5 6B — ZA,XX AMA 1 2B — ONS 12B 11 — ONSI 2B 1 — ZA,XX SDT3 12T 11B 2.5K D28 -48

TVTK

QA,QB DISC L KEY 3A,3A OR 3C 2 — ABN L KEY 3A 2 — 17 — 40

DSC -48 F17 11B 11T 1.5K — 40 — 17 — TC4 3 4B — ONSI 11 12B — WA F18

TJ — TK2 7 8T — TJ — 100B6 FTR 6B

YR,VR FTR -48 F17 5B 4T 950 — 40 — ZA,XX SDT3 10 11T — 17 — 17 — 40 — 40 — 4 5 — 35 — FUS F9

4B YR,VR FTR 3 — 4 5T TCTI

8 9T ABNI

ABNI -48 F17 10B 10T 700 — 40 — WD — 17 — WC,WD RTV 3 4B — 17 — 40 — WD

10T DSC 9

40 — 35 — IBS 4 5B — 35 — 40 — 34 — ARP5 2B 1 — 34 — 40 — SD2A 8 9T

YR,VR RPST F16 1 2T

WB — 17 — XW — YP,VP CAC 2T 1 — YP,VP COSI 10B 9 — 17 — XW — WC,WD,XW STVT 3 4 — WB — 5T

45 — 17 — MR — 2 3C TVR L KEY — MR — 45 — 17 — 2T WC,WD RTV 1

ZA,XX SDT3 6 7T — WA

17 — 40 — YR,VR FTR 2B 1 — 17 — 40 — YP,VP CISI 10T 9 — TMNI 48 3 — TVTK 4T 3 — TVTK 6T 6B 700 D28 -48

PL 3 4 5B — ZA,XX SS 1 2T

69 TKR5 — 4 — 69 TKR3 4

9 TMT 10B

QA,QB DISC L KEY 2 3D,3D OR 3B — TMT 7T 6 — DISC 5T 5B 950 D29 -48

TM — 17 — XZ,TM 1 TLGI 2B — 17 — TM — TL — 69 IDD3 5

ZA,XX ABN 7 8T — TVTK 4 5B — 7B PL 6

DIB ONS 8B 7 — ABN L KEY 2 3D — 3T 2 1 PL — ZA,XX SDT3 9 10B — ZA,XX AMA — ZA,XX ABN 10T 9B 700 D28 -48

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT
(2)
SD-25680-01-B40

BELL TELEPHONE LABORATORIES INCORPORATED
SYS SIZE 6S

SD-25680-01-B40

HIGGINS 4465 K&E

FS 38
SENDER TEST

TO OUTGOING TRK CKT OR JUNCTOR CKT FOR DIAL COIN ZONE SERVICE

TO AIS MF SDR CKT

TKI
TK2
SD2A
SDT2
TMT
SDT3
TKR3
TKR4
TKR5
TKR6
TKR7
ONS
ONSI

MASTER TEST CONTROL CKT

C4MT
REC1
OPA
TKR1
TMT
TC4
CIST
RPST
TKR5
TKR3
IO1
LNI
TGT1
IO
CL5A
LLS
TACI
SAI
SPEI
DOS2
MOS2
ROS2
COS2
TB2
TKR
TKR5
TKR6
TKR4
TGN
SONI
LGI

DRAWING ISSUE
68D
81D
83D
85A

ISSUE 105A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-B41

HIGGINS 4465

SD-25680-01-B41

FS 39

SENDER TEST

DRAWING ISSUE	
68D	DLS RLA AHH
74D	CF
81D	
83D	
89D	

LINE LINK CKT OR AUXILIARY LINE FOR LLP OR LLP-AIS LINES FOR USE WITH NO. 5 ETS

9000

TO MISC CKT

TO MASTER TEST CONTROL CKT

TO AIS LINE CKT (REV BAT SUPV)

TO 2W TRUNK LINK OR 2W TRUNK LINK AND CONN CKT

TO TRUNK TEST CKT (FOR CONN TO 4W TRUNK LINK CKT)

TO AIS LINE CKT (E & M SUPV)

DP OUTGOING SENDER CKT

MF OUTGOING SENDER CKT

TO AIS MF SDR CKT

TK

BG1

DSM

PL

AG

CL6

TG1 2898

TG2 2898±1%

TG3 440

TG4 440

TG5 1K

TKR

RV

SOTR L KEY

AGR

TMT 41FO

SI-440±1%

S2-440±1%

P-135

P-6.5K

BG2 59K

HIGGINS 4465 M&E

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B42

BELL TELEPHONE LABORATORIES INCORPORATED

SHEET SIZE 65

PRINTED IN U.S.A.

FS 40
SENDER TEST

DRAWING ISSUE
68D DD KLP AHH
81D
89D

DP OUTGOING SENDER CKT AND MF OUTGOING SENDER CKT

PCI OUTGOING SENDER CKT

MASTER TEST CONTROL CKT

SPE TO AIS MF SDR CKT

TBI

SPEI

CHPE

SPE

STVT

ISSUE 100B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B43

BELL TELEPHONE LABORATORIES INCORPORATED — SIZE 6S

TO MISC CKT FOR ALL FRAMES

SD-25680-01-B43

HIGGINS 4465 K&E

FS 41
TIMING

AG POT. 500K CW

AG3 777K — AG4 657K — AGR — AG2 1K — AGR (43) (17)

AGT — AG1 100K — AG2 1000PF — AG1 2.14-2.18

(43) (17) RV 2T 1 (RZ) TG3 8 9T

AG 4 5T 3 — RV 7B 6

(43) (17) (RZ) TG2 3 4T (RZ) (17) (43)

AGR 8 9T — AGT 7T 6B 2.5K — DI7

+130 D4 — (17) (YD,YC,UC) RV2 10K — (YC,UC) RVSD 1 MEG — (YC,YP,YR,UC,LU,VP,VR) CL3 3T 2 1 — (YC,UC) DPST 7 8T

+130 D8 — CW 2* 3 1 (YD,YC,UC) RVW POT. 50K — (YD) MFST 7 8B

RV — RV2 1000PF — DI7 — RV1 100K — RV1 2.13-2.27 — RV3 1K — 2T 1 TG3

TG3 4T 3 — TB2 3 4B — RV 12T 11B 2.5K — (ZVC) HFD 5 — E1

(ZVF) — DI7

RV 10 11T

+130 D4 — (17) (NJ) TC5 10K — PCTA 3 4T (NJ)

TC4 POT. 50K CW — TC3 24.3K

TCT — TC1 100K — TCT 2.13-2.27 — TC2 1K — 3B 2 1 SPE

TCT 5T 5B 2.5K — DI7

MASTER TEST CONTROL CKT: REC SDR — REC

(LJ,LK) REC1 4T,7T 3B,7B 2.5K — D27 — 48

EII NRR 6B 5 — (17) (17) (40) — REC2 4T 3B 2.5K — FI7 — 48

DRAWING ISSUE
68D RLB RLP AHQ
70D OMC ASL AHQ

ISSUE 97D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT
(2)
SD-25680-01-B44

BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-25680-01-B44

HIGGINS 4465

FS 42
TIMING

+130 D4 (17) — CN2 1000 PF — D17

TN2 47K — (XD,YR,YP,VR,VP) CL2 2 3T 1 — (YC,UC) DPST 6B 5

CW 3 2 1 (.C,UC) DPN POT. 500K

(YD) MFST 6B 5

CW 3 2 1 (YD) MFN POT. 250K

CW 3 2 1 (XD) CL2 POT. 250K

TMN 2 1 4 — TN1 100K — CN1 2.13-2.27

TN3 1K — 4 5T TB2 — 1 2B TKI — TKI 3 4B — TMN 7T 6B 2.5K — D17

42B6 RZ RY

+130 D4 (17) — CX2 1000 PF — D17

TX2 402K — (RZ) TX4 562K — (RY) CL6 1 2 3T — (RX) — (RZ) — (RY) — (RZ) — (RX)

CW 3 2 1 DPX POT. 500K

(XD,YP,YR,VP,VR) CL2A 2B 1 — TG1 7 8T

RECI 2B 1

TB2 6 7T

TKI 1 2T

TMX 2 1 4 — TX1 100K — CX1 2.13-2.27

TX3 1K

TKI 3 4T — (JD) — (JE) PAC 2T 1 (JE) — TMX 6T 6B 2.5K — D17

+130 D4 (17) — CV2 1000 PF — D18

TSTK 2 1 4 — TV1 100K — CV1 2.13-2.27

TV2 1 MEG — TV3 1K — 3 4B TBI — 3B 2 1 TVTK

TSTK 12T 11B 2.5K — D18

DRAWING ISSUE

68D	PCT R.P. Apr.
70D	CMI 4-4 : r.

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2) SD-25680-01-B 45

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

SD-25680-01-B 45

HIGGINS 4465 K/E

FS 43
TIMING

DRAWING ISSUE	
68D	DM RLP AHD
69A	TJD RLP AHD
700	CMC ASL AHD MWL
72A	
89D	

TMA
-48 E23 5BF 4TF P-1K
6BR 5TR S-2.4K
3 TMA-S E10
3 TMA-P E10
TMB 2T 1
ONTI 3 4T DI6
TMA 4B 3
TMI 2 3B
TRR2 1 2B
MS TM3 3T 2 1
MS TM4 3T 2
TM2 1 2B E10
ONTI 1 2T DI6
ONMI 9 10T
PEA 2T 1
DON 10B 9
30 TMC 10
AC,AD RAI 3,6 4B,7T E6
YL,UL CBR 7 8T E8
PST 2T 1 E6
YB MIR 9 10T E8
YE SON 3 4T E8
34 RS2 2 3 F17
E3 AP A-H 5B 4
E3 AP J,K 5B 4
TAPI 2 3T
TAP2 5T 3B 1.3K E16 -48
3 E3
MIL L KEY 2 3B
JE
PAC 5T 4B 450 E5 -48
PAC 3B 1 2
ONR 9 10B JE E2
JE
MIL TO PPCS SENDER CKT
TA L KEY 2 3C
DI6 STT 12B 11
DI8 TMT 5T 4
17
FI7 YP,VP WAT 48 3
40
73 DPAN L KEY 2 3B
73 DPA U L 700 E4 -48
DI5 RBT 5T 4
MKR 5T 4
DOR2 12T 11
DI6 TBL 9B 8
DI6 OK 4B 3
TA 4T 4B 1.5K E23 -48
3 E10
60
-48 G3 TMC L U 700
4
STRA 5 6
TMC 60
ONMI 5 6T E9
20
TMI -18 E23 6B 8T 700
TRRI 1 2T
TM 4 5B
TMI 5B 4
6T TRRI 5
8T PEA 7
TM2 -48 E23 6B 6T 960
E10 3
TMB 2B 1
TM2 5B 4
20 IV TTAF IV 7
GH
LR 5 6T
20
20
58 LRI 3
+130 E1 TAPI 1000 PF
TAP 2 1 4
E3
TAP3 5.11 MEG
TAPI 100K
TAP2 1K
TAP 19.4-20.6
MSR 1 2B
TAP2 2B 1
TAPI 3 4B
TAP2 1 2T
TAP2 3 4T
TAPI 6T 5B 2.5K
TAP 1.5K E3
+130 E3 TMA 1000 PF E10
TM3 4.59 MEG
TM4 1.15 MEG
3T 1 2 TM2
TM 2 4
TMI 100K
TM 13.96-14.04
TM2 1K
1 2T TA
3T 2 1 TMA
TM 7T 6B 2.5K E10
-48 B4 JE
TLR RBK RAR RS RT SPD PPD SCL PCL SSI PSI
TLR RB RAR RS RT SPD PPD SCL PCL SSI PSI
TO PPCS SENDER CKT

89

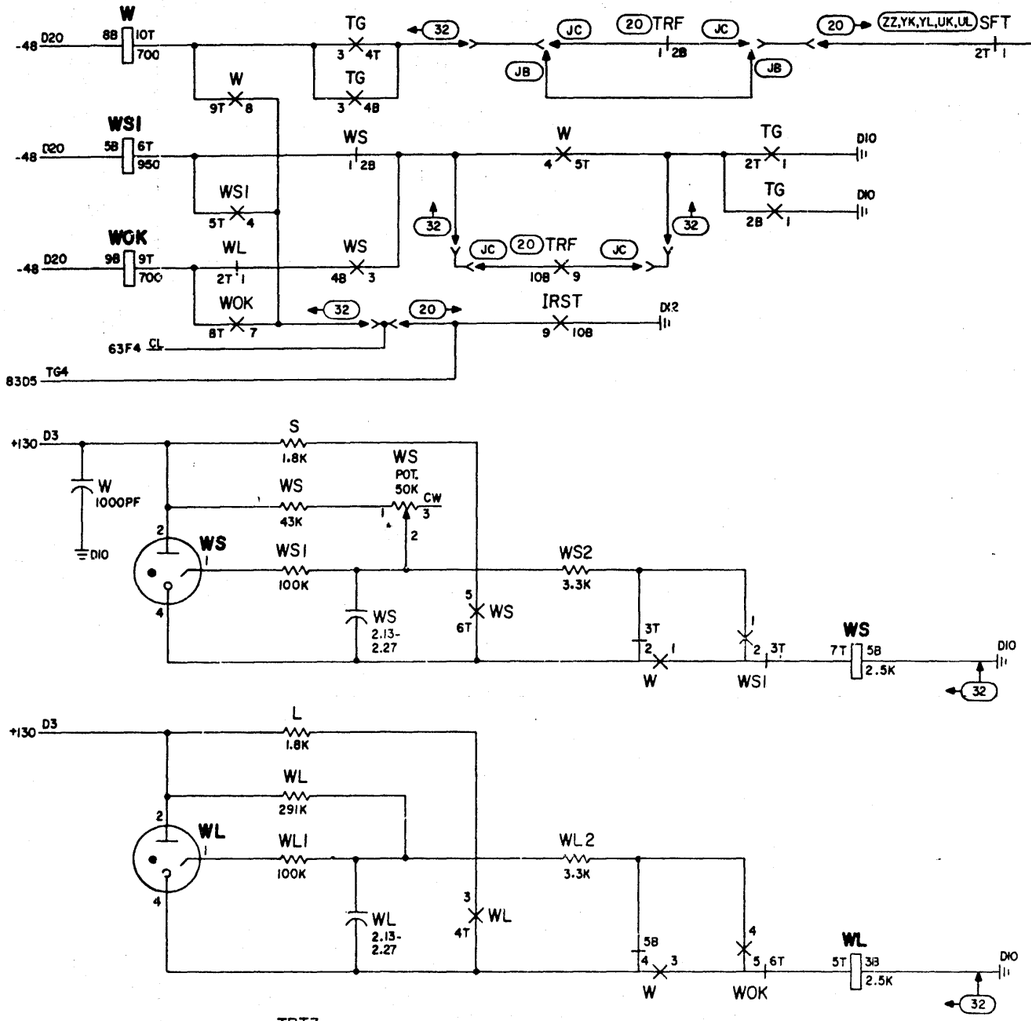
MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT
(2)
SD-25680-01-B46

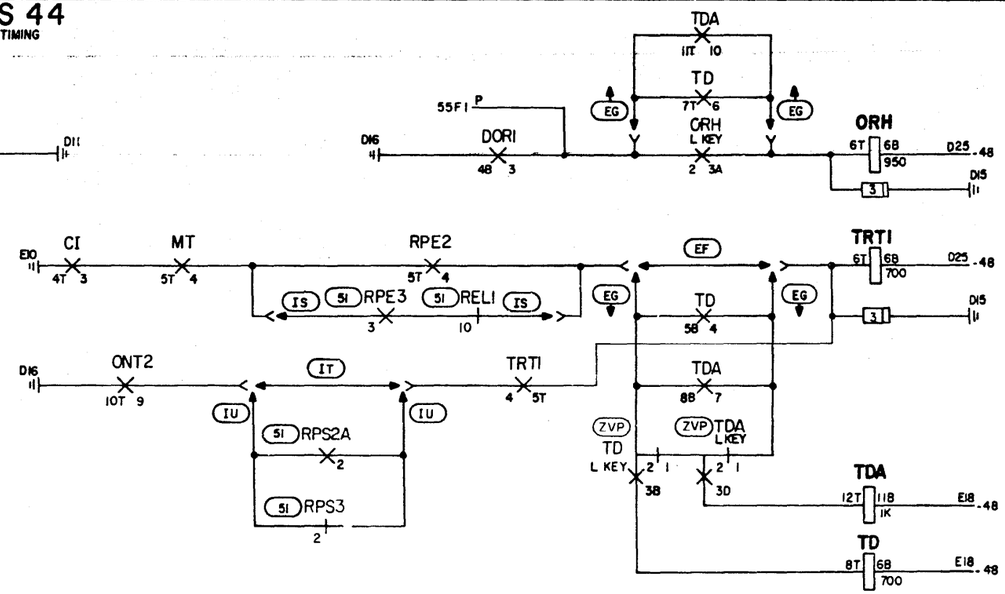
BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-25680-01-B46

HIGGINS 4465 K-E

FS 44
TIMING





DRAWING ISSUE	
58D	DD ALP ANP
59A	SSL ALP ANP
70D	JKP BSL ANP
72A	KMD ALP CBP
76B	RA
81D	

ISSUE 102B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-B47

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-B47

HIGGINS 4465

FS 45
SENDER CLASS

CL2 XD,YR,YP,VR,VP
-48 D27 8BF IOTF P-850 9BR IITR S-1750 DI7 3
CL2A XD,YR,YP,VR,VP
-48 D27 7B 8T 2.5K
CL3 YC,YP,YR,UC,LU,VP,VR
-48 D27 8BF IOTF P-850 9BR IITR S-1750 DI7 3
AMA XX,ZA
-48 D27 7BF 8TF P-850 8BR 9TR S-1750 DI7 3
CL4 LT,YC,YR,UC,VR
-48 D27 6BF 6TF P-850 7BR 7TR S-1750 DI7 3
C4MM
-48 D27 8B IOT 700
C4MT
-48 D27 12B 13T 1.5K
CL5 YC,UC,LU
-48 D27 6BF 6TF P-850 7BR 7TR S-1750 DI7 3
CL5A
-48 E26 13B 13T 700
CL6 RY,RZ
-48 D27 6BF,9BF 6TF,9TF P-850 7BR,9BR 7TR,10TR S-1750 DI7 3
CL7
-48 E4 6BF 9TF P-850 7BR 10TR S-1750 EI 3
CL8 ZXI,ZXJ
-48 E4 6BF,2L 9TF,2U P-850 7BR,1L 10TR,1U S-1750 EI 3 SEE TABLE A
18G2 ONS

BI CLI3 5 5B
CL5A 9 8 10B
XX,ZA AMA 3 4B
YE MOS IOT 9
LL CC4 L KEY 2C 1
YD MFST 4B 3
LT,YC,YR,UC,VR CL4 4 5B
YC,YP,YR,UC,LU,VP,VR CL3 6 7B
YC,UC,LU CL5 4 5B
RY,RZ CL6 4 5B
CL7 7 8T
TR2 1 2T
7,2 8T,-
4,3 5B,-
CD CE CY 4WMF
SK SKI 65D8
71 SAI 12
CLI3 CL8 SAI BI CLI3 2T 1
ONS 10B 9 9 10T
59 CL8A L U 700 ZZS,ZZT 59 MFSI CL8A 3
69 28A/AO,CO IDD 4 R4 6T 5
ONRI E24 33K. ONRI E11 SONI 3 4T

BI CLI3 8T 7 6
CL3 8 9T
TR2 3 4T
XX,ZA AMA TR2 7T 6 7 8B
YC,YP,YR,UC,LU,VP,VR CL3 TR2 3 4T
LT,YC,YR,UC,VR CL4 TR2 4 5T 3 4B
YC,UC,LU CL5 TR2 5T 4 5 6B
RY,RZ CL6 TR2 4 5T 7 8T
CL7 TR2 7 8T 1 2T
XX,ZA AMA TR2 7T 6 7 8B
MCJ 10B 9 CL2
MCJ 8B 7 CL3
MCI 6T 5 AMA
MCJ 6B 5 CL4
MCJ 4B 3 CL5
MCJ 2B 1 CL6
MCT ∞ SEE NOTE 1 MCB 0 JH CL7
MCT 01 MCB SEE NOTE 1 BB CL8
MCI 2B 1 CC CL8

DLG DLGI

TO MASTER TEST FR CONN CKT

TABLE A

OPT	COIL RES a	b
ZXI	P-850	S-1750
ZXJ	S-390	P-390

NOTES:

1. TERMINAL NUMBERS ON 287 TYPE RELAY 00-09 ARE REPRESENTED BY THE 263 TYPE RELAY NUMBERS 0-9.

   THE DIFFERENCE BETWEEN THE EXTERNAL CIRCUIT CONNECTION TO THE 263 TYPE RELAY QZ OPTION AND THE 287 TYPE RELAY KE, PA OPTION IS AS FOLLOWS:

EXTERNAL CKT — FIXED SPRING 287 TYPE — FIXED SPRING 263 TYPE

DRAWING ISSUE

68D	DD RLP AHQ	C9
70D	JR ASL AHQ	C8
72A	KMJ AHQ AHQ	A
74D	CF	C8
81D		B
86D		

ISSUE 93D

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-B48

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-B48

HIGGINS 4465 K&E

FS 46
INCOMING REGISTER TEST

MASTER TEST CONTROL CKT
ICL SW
ALL 11
ICL
20 MSTB FR
7 8B

RRST
-48 F4 12B 12T 700
IBA 4 5T
33 20
RRST 11T 10
YK,YL,UK,UL RR3A 6 7T
IRST 11 12T D12

IRST
-48 D22 13B 13T 2.5K
20
YL,UL CBR2 3 4B D16
YA,UA DIR2 3 4B D16
YB MIR2 3 4B D16
YK,UK RIR2 3 4B D16
IH TTIR2 3 D33

RRTO
-48 F3 4B 6T 950
33 20
7 YK,YL,UK,UL RR3 8T
20

IRPS
-48 D22 11B 11T 1.5K
YA,UA DR 3 4B
YB MR 3 4B
RPS L KEY 2D 1 B3

EZ NDT
-48 D21 13B 13T 2.5K
20
WR NDTI
-48 D21 13B 13T 2.5K
FK DTT L KEY 1 2 3C
RLR L KEY 1 2 3B OR 3D
YA,UA DR 9 10B D12
YB MR 9 10B D12
YK,YL,UK,UL RR3A 10 11B D12
IH TIR 2 D33

EY NDT2
-48 D33 L U 2.5K

EZ DTT
-48 D21 13B 13T 2.5K
DC L KEY 4A OR 4C 3

ZZ,YK,YL,UK,UL SFT
-48 D21 10B 10T 700
IRPS 9 10B
2B YK,YL,UK,UL RR3A
7 TSTI 8T

TSTI
-48 D22 8B 9T 2.5K
TST L KEY 3B 2

TRF
-48 D22 11B 11T 1.5K
TFR L KEY 3A 2
JC

LKT
-48 D22 5B 5T 950
20
LR 7 8T
20 TBL 3 4T D16
20
IS 5B LRI 1 IS
20

NBL L KEY 2 3D
SJ SJ
NBL 5T 5B 2.5K D22 -48
20
SK
D12 YA,UA DR 6B 5
D12 YB MR 6B 5
D12 YK,YL,UK,UL RR3 8B 7
D32 IH TIR 3
1 2 3C
ZY BL 13T 13B 1.5K D22 -48
BL L KEY

D12 ZY BL 1 2T
YA,UA DLP 1 2T
ZY BLI 4T 1B 1.3K D22 -48
20

D10 WOK 5B 4 32 20
YB MR 6T 5
YB MFP 6T 4B 2.5K D22 -48
YA,UA DR 6T 5
D32 RPS2A 11
IS IH TG4 2 IH IH IH TIR 1 IH
D33 IV
D12 IRST 2T 1
ZY BL 12B 11
YA,UA DLP 11T 10B 700 D22 -48

ZY BLT 4B 3
ZY BLTI 8T 8B 950 D22 -48
WH BLR WH 4B 3
ZY BLTI 7B 6
BLR L KEY 3C
WH BLR 6T 5B 2.5K D22 -48
WH

D12 YA,UA DLP 2B 1
YA,UA DLPI 5T 3B 2.5K D22 -48
20

B3 RAB L KEY 1 2C
20 YL,UL CBR3 11B 10
IRAB 11T 10B 1.5K D22 -48
YA,UA DR 2B 1
IH TIR IS 12 IS
YB MR 2B 1
YK,UK RIR3 11B 10 20
33 13T 12B 700 F5 -48
RRAB

DRAWING ISSUE		
68D	DD	RLP AHD
69A	TJD	RLP AHD
70D	PDL	ALL AHD
72A	MKT	ALL AHD
75A	CF	CB
78D	CR	CB

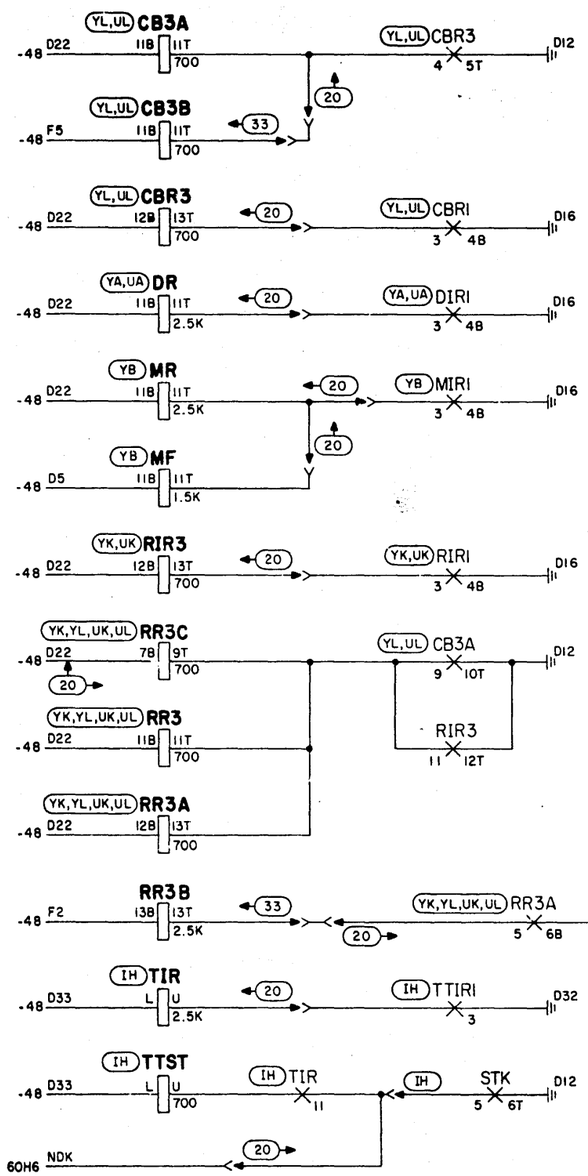
78

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)
SD-25680-01-B49
BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-B49

HIGGINS 4465

FS 47
INCOMING REGISTER TEST



DRAWING ISSUE
68D AKT RLP AMD

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT
(2)

SD-25680-01-B50

BELL TELEPHONE LABORATORIES
INCORPORATED
SIZE 6S

SD-25680-01-B50

HIGGINS 4465 HE

SD-25680-01-B51

HIGGINS 4465

FS 48
INCOMING CLASS

59C8 XLT
61C4 DTF
61D6 LICK
IRST 7 88 D12 11
-48 D21
DB A 52
OA 10B 10T 700
OA 9T 8 A
MCG 10B 9 A OA
-48 D21 -52,ZE 52
OB ZE,DC 78,88 8T,8T 2500, 700
OB 7T 6 ZE,DC
MCG 8B 7 ZE,DC OB
FC,MA,MB INC
-48 D21 8B,48,88 8T,6T,8T 2.5K
INC 5T 4
MCG 2T 1 INC
-48 D21 -52,ZG 52
TAN ZG,DD 6B 6T 2500, 700
TAN 5B 4 ZG,DD
MCG 2B 1 ZG,DD TAN
FVD -49 D21 8B 8T 2.5K
FVD 7T 6 50 20
ZH 50 20 ZH
MCG 6B 5 JY FVD
JL,FX 50
QX,KD,QY MCA 0 SEE NOTE 1
JL,FX FVD
MD,ME,FO TT
-48 D21 5B,5B,6B 7T,7T,6T 2500, 2500, 700
MD,ME,FO TT 6T,6T,5T 5,5,4
ZUC
S,YM,XB,XC MCH 10B 9 TT
ZUB TT ZUB
ZJ,MM TOL
-48 D21 7T,8T 5B,7B 2.5K
ZJ,MM TOL 6T,5T 5,4
S,YM,XB,XC MCH 8B 7 TOL
SPL
-48 D21 10B 11T 700
SPL 10T 9
MCG 12B 11 SPL
-48 D21 YM 52
YM,FV PHC 7B,10B 7T,10T 950, 700
PHC 6T 5 YM,FV
S,YM,XB,XC MCH 6B 5 YM,FV PHC
-48 D21 YM 52
YM,FV THC 7B,10B 7T,10T 950, 700
THC 6T 5 YM,FV
S,YM,XB,XC MCH 4B 3 YM,FV THC
-48 D21 FL 52
XH PCDI 6B 8T 700
PCDI 7T 6 XH
S,YM,XB,XC MCH 6T 5 XH PCDI
-48 D21 FL 52
XB PCD 6B 8T 700
PCD 7T 6 XB
S,YM,XB,XC MCH 9 10T XB PCD
XICL 57G6
TCA -48 B1 11B 12T 2.5K
TCA 1,3 2B,4B MB,FB
S,YM,XB,XC MCH 4T 3 MB,FB MB,FB TCA
TCB -48 D21 11B 12T 2.5K
TCB 1,3 2B,4B MB,FB
S,YM,XB,XC MCH 2T 1 MB,FB QX,KD,QY TCB
LT
KK MCA 1 SEE NOTE 1 20
YH LT -48 D21 7B 8T 2.5K
Y ZUB ZUC
MCG 4B 3 20 KJ KK LT
TANI
7T YH LT 6
Z 20 Y GT,GW
58H4 ORST ZYS KK
ORST 7 8B D9 11
LT 10B 11T 2.5K 120 -48
10T 9 LT
LTI
52F7
2DT

TO MASTER TEST FR CONN CKT

NOTES:
1. TERMINAL NUMBERS ON 287 TYPE RELAY 00-09 ARE REPRESENTED BY THE 263 TYPE RELAY NUMBERS 0-9.
THE DIFFERENCE BETWEEN THE EXTERNAL CIRCUIT CONNECTION TO THE 263 TYPE RELAY QX OPTION AND THE 287 TYPE RELAY KD,QY OPTION IS AS FOLLOWS:

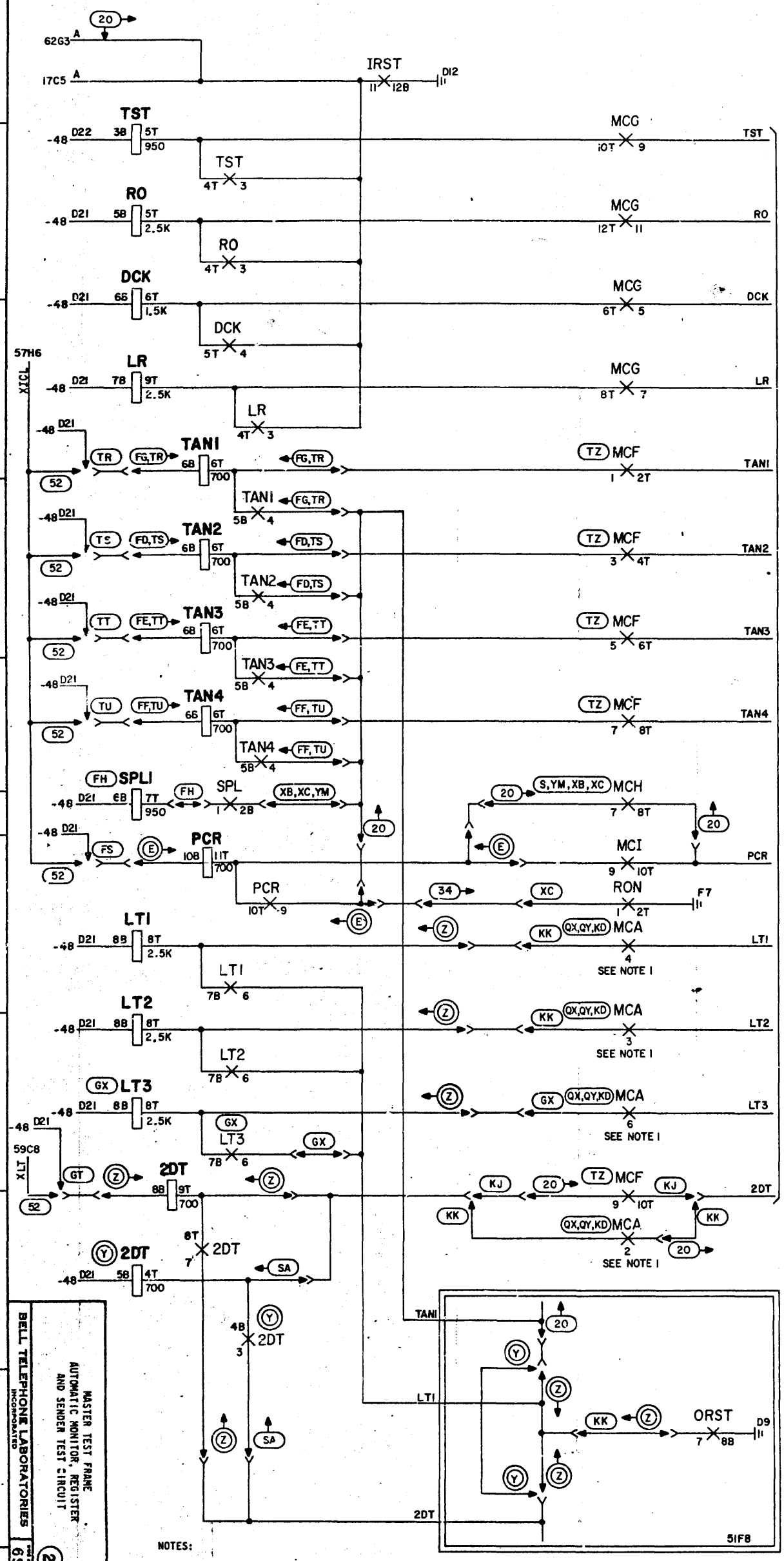
EXTERNAL CIRCUIT — FIXED SPRING 287 TYPE — FIXED SPRING 263 TYPE

BELL TELEPHONE LABORATORIES INCORPORATED
MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT
6S 2
SD-25680-01-B51
105A ISSUE

DRAWING ISSUE
68D RA
78D RA
83D

HIGGINS 4465 K-E

FS 49
INCOMING CLASS



TO MASTER TEST FR CONN CKT

NOTES:

1. TERMINAL NUMBERS ON 287 TYPE RELAY 00-09 ARE REPRESENTED BY THE 263 TYPE RELAY NUMBERS 0-9.

   THE DIFFERENCE BETWEEN THE EXTERNAL CIRCUIT CONNECTION TO THE 263 TYPE RELAY QX OPTION AND THE 287 TYPE RELAY KD,QY OPTION IS AS FOLLOWS:

EXTERNAL CKT — FIXED SPRING 287 TYPE — FIXED SPRING 263 TYPE

BELL TELEPHONE LABORATORIES INCORPORATED

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT

6S 2

SD-25680-01-B52

73

DRAWING ISSUE
6901 CM
724A KMD
730A KMD

SD-25680-01-B53

HIGGINS 4465 H-E

FS 50
INCOMING REGISTER RECEIVING

MASTER TEST CONTROL CKT

TOL SDR4 — TOL — EZ NDT 4T 3 — TOL

ICL SW — ALL — TOL, TAN, PCDI, PCD, PCR

FVDT — 2DTT — TT — TT

TSC SW — IR — ALL — 4 TCBT — TOL4 — TAN4
3 TCBT — TOL3 — TAN3
2 TCBT — TOL2 — TAN2
1 TCBT — TOLI — TANI

IC SW — 0 TOL / TAN — ALL ALL — IC SW TOL / TAN

TAN SDR3 — TAN

IC SW — TAN / FVD — ALL ALL — TAN / FVD

2DT L KEY — 2DT

SPL L KEY — IC SW — NTAN — ALL ALL — NTAN

CAMO L KEY — CAMO

PC — PCDI L KEY — PCDI

PCD L KEY — PCD

CAMI L KEY — CAMI

IC SW — ALL — SPL L KEY — OB, OBS

SPL L KEY — AB, ABS

SPL L KEY — OA, OAS

ATT L KEY — ATTI
NATT L KEY — NATT
NCSL L KEY — NCSL
CSL L KEY — CSL
DAT L KEY — DAT2
TI L KEY — TI
TRF L KEY — T4
4DG L KEY
RTRF L KEY — RT4, RT5
5DG L KEY
NATT L KEY — TRF L KEY — T5
7DG L KEY — MAN
ZZX — T7

FK XE,XY,XZ OST — CXI 11T 11B D26 -48 700
FR — CXI — 54E0
ML TOL — NJ — 17 PCTA 8TR 8BR D28 -48 S-700
7TF 7BF D28 -48 P-700
XY,XZ PCT 11T 11B D26 -48 700

FM WR NDTI — TOL4 12B 11
TAN4 8T 7
TOL3 10B 9
TAN3 6T 5
TOL2 8B 7
TAN2 4T 3
TOLI 12T 11
TANI 2T 1

EZ DTT — 10T 9
EZ NDT — TAN 10T 9
20 TP — LT
TQ — FVD
EZ NDT — FVD 8T 7
EZ DTT — FVDI 8T 7
WR NDTI — 2DT 10T 9
QE,QF — NTAN 2B 1
MC — CAMO 3 4B
EZ NDT — PCDI 12T 11
PCD 4B 3
5 XE,XY,XZ OST — PCR 6B
20 — CAMI 5 6B
EZ NDT — OB 12B 11
OBI
OBS 10B 9
OBSI
AB 8B 7
ABI
ABS 6B 5
ABSI
OA 6T 5
OAI
OAS 2T 1
OASI
EY NDT2 — ATTI 6
NATT 12
NCSL 7
CSL
DAT2 8
RT5
TI 9
T4 12
RT4
MAN 10
T5 11
T7 5

22 TCLO-14 9 10B
C0 (0-14) DA — TCL0 FR — C0(0-14)
C1 (0-14) DA — TCL1 FR — C1(0-14) 7 8B
C2 (0-14) DA — TCL2 FR — C2(0-14) 5 6B
C3 (0-14) DA — TCL3 FR — C3(0-14) 3 4B
C4 (0-14) DA — TCL4 FR — C4(0-14) 1 2B
C5 (0-14) DA — TCL5 FR — C5(0-14) 1 2T
C6 (0-14) DA — TCL6 FR — C6(0-14) 3 4T
C7 (0-14) DA — TCL7 FR — C7(0-14) 5 6T
C8 (0-14) DA — TCL8 FR — C8(0-14) 7 8T
C9 (0-14) DA — TCL9 FR — C9(0-14) 9 10T
C10 (0-14) DA — TCL10 FR — C10(0-14) 11 12T

INCOMING REGISTER LINK CKT OR TRANSFER REGISTER LINK CKT
INCOMING REGISTER CKT OR TRANSFER REGISTER CKT
CL- — CL- — (TRUNK CLASS) — -48

MASTER TEST CONTROL CKT
TCL SW — ALL
TCL0 1 0
TCL1 2 1
TCL2 3 2
TCL3 4 3
TCL4 5 4
TCL5 6 5
TCL6 7 6
TCL7 8 7
TCL8 9 8
TCL9 10 9
TCL10 11 10

IM NCSL L KEY — 5
IM CSL L KEY — 4
IN NATT L KEY — 5
IN ATT L KEY — 6
8 WBCX L KEY
9 WAT L KEY
10 NWBCX L KEY

WB EY NDT2 ZYJ 3 ZYJ — WB
WAT EY NDT2 ZYJ 2 ZYJ — WAT
NWB EY NDT2 ZYJ 1 ZYJ — NWB

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT
BELL TELEPHONE LABORATORIES INCORPORATED
DATE ISSUED 6S
2
SD-25680-01-B53
88

DRAWING ISSUE 68D 86D 83D 72A NB

FS 5I

CLASS AND TRANSLATOR CHECK

DRAWING ISSUE	
68D	1A5, 2A, 4A, D
72A	1A5, 2A, 4A, D
88D	

CCK 60A0

SPL 2T 1 — ML — MD,ME TT 3 48 — ZJ — ZJ,MM TOL 3 48

TOL — FM — TT — FM — TANI — FW — TRF 9 10T

20 — PII L KEY 4 5 — AA — 6A — FI — AA — FI — 8T 7 6 — AB PDII — FI

FM — NL,NN — GT — Z LT 3 4 5T — GT — Y — 3 — YH LT 4 5T — NL,NN — Y — Y — GT

LT — 20 — GT

20 — NM — FQ — 50 FVD 1 2B — FQ — NN — KT,KU IIR 2B,4B 1,3 — NN — NL

FVD — 20 — FQ — FQ 3 4B — 53E0

NL — KT,KU IIR 5B,10B 4,9 — Y — 3T 2 1 — GT — NL

2DT — NL — NK — NK — GT — SA 2DT — 3T 2 1 — GT — NK — NK — Z 2DT

SA — Y 2DT Y — 1 2B — NK — NK — QF — QE — NL — NK — GT — Z 2DT 6 7B — GT

NTAN — QE,QF — QE — YH — Y LT Y — 6B 5 — GT — GT — Z LT 9B 8 — QE

MC — MB TCB 5 6B

CAMO — PCDI — PCD — PCR — CAMI — OB — OBS — AB — ABS — OA — OAS

SPL 6B 5 — FK — FM — TOL 2 1 3T — FM — ML — TP

TQ — TU TAN4 5T 4 3 — TT TAN3 5T 4 3 — TS TAN2 5T 4 3 — TR TANI 5T 4 3 — TQ — TP

TU TAN4 — TT TAN3 — TS TAN2 — TR TANI — 2T 1

ZJ — DD,ZG TAN 3B 2 1 — FK — INC 3B 2 1 — FK — 20

XG — XB,XC — XH PCDI 5T 4 — E PCR 5T 4 3 — XB PCD 5T 4 3 — XB,XC — FL

XB,XC — FV SPLI 3B 2 — FL — INC 3T 2

XH PCDI 1 2T — FK — XG — XB,XC — FL

FQ — 50 FVD 3 4 5T — FK

A OA 2T 1 — DC,ZE OB 2T 1 — FK

YM PHC 3 48 — YM THC 3 4T — A OA 4T 3 — ZE,DC OB 3 4 5T — A QA 7B 6 5

PCDI — XB PCD 2T 1 — FL — XH PCDI 1 2 3B — XB,XC — FK — XG

PCD — E PCR 2T 1 — FS — XB PCD 1 2 3B — FK — YM THC 1 2B — YM PHC 1 2B

PCR — FS — E PCR 1 2 3B — FK — XG — XB,XC — FS

CAMI — MB TCB 4B 3 — ME TT 1 2T — MC — FK

OB — FK — 20 SPL 8T 7 6 — YM — YM THC 68 5 — YM THC 3 4B 5 — YM PHC 4T 3 — YM PHC 5 — FV SPLI 6B

OBS — FK — YN — YM — YN

AB — YK,YL,UK,UL RR3 2 3T 5T 4 1 3 — 20 SPL — YN — YM — YN — FV SPLI 3T 2 1

FK — 20 MSTB 6T 5 — YK,YL,UK,UL IGH 2 3T — YM — FK — YM — FV SPLI 6T 5 4

ABS — FK — 6B 5 4 — 20 MSTB 8T 7 — 5 6T — FK — YM — YN

YK,YL,UK,UL RR3 — YK,YL,UK,UL IGH — FK — YN

OA — 20 SPL 9B 8 7

OAS — FK

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B54

BELL TELEPHONE LABORATORIES INCORPORATED — 6S

SD-25680-01-B54

HIGGINS 4465 K4E

FS 52
REGISTER CHECK

MASTER TEST CONTROL CKT
ST NL KEY TKTI
RVTK
RVTK 10T 9
GJ
D9 ORON 6B 5
2P 2 3T 1
FPT 7B 6
XN,VC CTAB 8 9E 7
RPS 2B
6B 5 RPS
MAN 6 7T 5
XL,WY,WZ CN 5 6B 4
XL,WY,WZ CNK 11B 10
H,XO CNKI 3 2
J
POR2 3 4 5B
LY
LX
D12 D 2 3B
YA,UA DLPI 4T 3
IRAB 1 2T
IRPS 1 2T
IH TTST 7 20
21 GA
20
LY
GA 73E6
SY SY1 71G5
DRAWING ISSUE 68D 70D 72A 73D 76B R4 77A CR

ORAB
-48 D19 10B 10T 700
RAB L KEY 2B 1
RPD
-48 D19 7B 8T 2.5K
RPD L KEY 2B 1
OSBI 1 2B
ZZC
LX,LY FDI 7B,9B 6,8
FD2 9T 8B 700 D17 -48
3 D9

CN ORST L KEY ZZC
RPD
2C RPD L KEY
62F3
GJ
1 2T RVTK
GI
GJ
D8 XL,WY,WZ CN 10T 9
XN,VC GT 7 3 4
XN,VC GTT 2 3T 1
69A3
2T XN,VC GTNO 1
XN,VC GTO 7B 6
H CNTT 4B 3
XN,VC CTAB 7 8 6
XL,WY,WZ CN 8B 7
XO
XL,WY,WZ CNK 5 6T 4
XL,WY,WZ CNR 4 5T H
3D 1 2
CCK 56A0
CN L KEY
D9 ORST 6T 5

D9 ORON 8T 7
XN,VC GTT 4B 3
RPS 3T 1
XM CTAB L KEY 2 1 3C
CQ H CNTT 1 2T CP CP CQ
ZRO L KEY 20 1 BS BT
XN,VC GTNO 4 5T
XN,VC GTNO 6 7 6B 950 D18 -48
3 D8
XN,VC GTO 9T 8B 700 D18 -48
3 D8
XN,VC GTO 7 8T
XN,VC CTAB 13T 12B 700 D18 -48
XN,VC CTAB 11 12T
XL,WY,WZ CNK 12T 12B 1.5K D18 -48
XN,VC CTAB 9 10T
XL,WY,WZ CNK 10 11T
XL,WY,WZ CNK 5 6B
J CNKI 4T 1B 850 D18 -48
XL,WY,WZ CNR 11T 11B 700 D18 -48
H CNTT 2B 1
XL,WY,WZ CNR 7 8T
CNTT L KEY 2 3B
H CNTT 7T 5B 2.5K D18 -48

33A1 PPCS
MAN
-48 D19 10B 10T 2.5K
MAN L KEY 2A 1
IT
IH
IU
TIRI 12
IU
IU
74
5 6A EPS L KEY
10T EPS 10B 2.5kΩ
220 -48
XP
-48 GI L U 700
XP L KEY 3C 2
IRST 7 8T 17D4
I-P
-48 GI L U 700
I-P L KEY 3D 2
55 P
DORI 3 48 47A7
EO PP L KEY
AQ CKL
-48 D19 12B 13T 700
3B 2
AQ CKL 4 5T
AK
CKL
CNK 7 8B CN 7 8T 69G1
MASTER TEST CONTROL CKT
4W
55 4WT KE,QZ,PA RTC
-48 GI L U 700
3
55 4WM
XE,XY,XZ,CY OST 10T 9
SER L KEY 2 3B
ORAB 9B 8
RPD CO 6B 5
RPS 5T 4
FD2 2 1 3T
H,XO
MSTI 4B 3
GC CRB 5T 4
XM
RPS 12T 11
BR MAN 2T 1
BV
BR ZRO L KEY 2 3A
BQ
BS
XN,VC CTAB 5T 4
XO
XP BU
BV
J
H,XO
J
J
J
J
H
BS
H
BS
H
J
J
J
J
H
7T XN,VC CTAB 6
J
J

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT
2
SD-25680-01-B55
BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-25680-01-B55
HIGGINS 4465 K&E

FS 53
REGISTER CHECK

FS 54
CLASS AND TRANSLATOR CHECK

DRAWING ISSUE
78D CH
79D AZ
81D
d6D

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25680-01-856

SD-25680-01-856

FS 55
INCOMING CLASS CHECK

MASTER TEST CONTROL CKT

ICL SW

FR ICL 11 ALL OFF 12 NICL

11 IRST 12T DI2

49A2

TAN 1 TAN — DD TAN 4 3 5T

TANI 2 TANI — FG TANI 2 1 3B

TAN2 3 TAN2 — FD TAN2 2 1 3B

TAN3 4 TAN3 — FE TAN3 2 1 3B

TAN4 5 TAN4 — FF TAN4 2 1 3B

TOL 6 TOL — MM TOL 6B 5 1 2B

INC 7 INC — FC INC 2 1 3T

PCR 8 PCR — (E) PCR 2 1 3B

PCD 9 PCD — XB PCD 2 1 3B

PCDI 10 PCDI — XH PCDI 2 1 3B

FR

DD TAN 2 1 3B

FG TANI 4 3 5T

FD TAN2 4 3 5T

FF TAN4 4 3 5T

MM TOL 2 1 3T

FC INC 2 1 3B

(E) PCR 4 3 5T

XB PCD 4 3 5T

5T 4 3 XH PCDI

TRRI 12A2

SPL — MASTER TEST CONTROL CKT SPL L KEY — SPLI

SPL2

SPL 7 6 8T

SPL 8 9B 7

FR ZYG DN FR CL 11 ALL — MASTER TEST CONTROL CKT CL SW — 5881

ZYH ZYH DO DO

IH TIRI 11

55 4WT 7

11 YB MIRI 12B

DO

WB 5688

4W CL 56A1

52 XICL -48 D21 1L 1U P-8

700 FC INC 4 5B 52 DI2 11

700 XCI 52

MM TOL 3 4B

XICL 51H6

XICL 52H2

DRAWING ISSUE 72A CK WM 2nd 86D CB

ISSUE 94A CB

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2) SD-25680-01-B857

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

SD-25680-01-B857

FS 56
CLASS CHECK

MASTER TEST CONTROL CKT

DRAWING ISSUE
72A
83D
86D

57A8 — DN, DO, DO, FR, CL, 4WT 7 — 11 ALL

CL SW

OFF 12 NCL
TCA 10 TCA
TCB 9 TCB
OR-DP 1 OR-DP
OR-MF 2 OR-MF
FAC-DP 3 FAC-DP
FAC-MF 4 FAC-MF
OR 5 OR

FR

FB TCA 6B 5 — 1 2B
FB TCB 6B 5 — 1 2B

ZWM 53 DPT ZWM — 7 — ZWL ZWL
53 MFT 7
53 ORT 11
ZWM 53 DPT ZWM — 2 — ZWL ZWL
53 FAC 2
53 MFT 2 — ZWL

FB FB

FB TCA 2 1 3T
F3
TCB 2 1 3T
FB FB
F4
53 ORT 12
53 FAC 3
53 DPT 8
53 MFT 8

FR TRN 59A0
TRRI 12A2

D12 — 52 — FB TCA 5T 4 — 700 — 52 XCL IU IL P-8 — D21 -48
52 XG2 700
FB TCB 5T 4
ZWM 53 DPT ZWM 700 — ZWL 3 ZWL — 52 XC3 700
53 ORT 8
53 MFT 3
ZWM 53 DPT ZWM 700 — ZWL 4 ZWL — 52 XC4 700
53 FAC 4
53 MFT 4
FB TCA 7T 6 — 53 ORT 9
53 FAC 5
53 DPT 6
FB TCB 7T 6 — 53 MFT 6

MARKER CKT — MASTER TEST FRAME CONNECTOR CKT

MF -48 — MF — ZXC 54 MCQ 4 ZXC — ZXD ZYN MCV 04 ZXD — 53 MFT U L 700 D34 -48 — ZYU MFT 4 — MFT 1
DP -48 — D — ZXC 54 MCQ 3 ZXC — ZXD ZYN MCV 03 ZXD — 53 DPT U L 700 D34 -48 — ZYU DPT 4 — DPT 1
FAC -48 — FAC — ZXC 54 MCQ 2 ZXC — ZXD ZYN MCV 02 ZXD — 53,65 FAC IL 2L 640 D34 -48 — ZYU FAC 4 — FAC 1
OR -48 — OR — ZXC 54 MCQ 1 ZXC — ZXD ZYN MCV 05 ZXD — 53,65 ORT IU 2U 640 D34 -48 — ZYU ORT 4 — ORT 10

53 — 53,65 — 53,65 — ZYT

ONM2 11 12T D9 11
ORST 9 10T

ORST ZYS — ZYS — KK — KK — ORST 7 8B D9 11
5IF7

ISSUE 92A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)
SD-25680-01-B58

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

SD-25680-01-B58

K&E

FS 57
TRANSLATOR CHECK

MASTER TEST CONTROL CKT

TRNA SW — 11 ALL

58E7 TRN

TT 1 — TT — (FO) TT 2/1 3B

LT 2 — LT — (Z) LT 2/1 3B — LT — LTI

LTI 3 — LTI — (Z) LTI 4/3 5B

LT2 4 — LT2 — (Z) LT2 4/3 5B

LT3 5 — LT3 — (GX) LT3 4/3 5B

2DT 6 — 2DT — (Z) 2DT 2/1 3T

XII 7 — XII — XII 6B/5 2B/1

II 8 — II — IIR 4/3 5B

FVD 9 — FVD — (50) FVD 4/3 5B

OFF 12

TRNC SW — 11 ALL — OFF 12 — NT

OA 1 — OA — (A) OA 6/5 7T

OB 2 — OB — (DC) OB 4/3 5T

PHC 3 — PHC — (FV) PHC 6/5 7B

THC 4 — THC — (FV) THC 6/5 7B

FR

TT — TTI — LT2 — F1 — F2

(FO) TT 2/1 3T

(Z) LT 4/3 5T

(Z) LTI 4/3 5T

(Z) LT2 4/3 5T

(GX) LT3 4/3 5T

(Z) 2DT 5/4 6T

XII 2/1 3T

IIR 7/6 8B

(50) FVD 4/3 5T

F2

(A) OA 6/5 7B

(DC) OB 2/1 3B

(FV) PHC 9B/8 — (FV) PHC 1/2B

(FV) THC 2B/1 — (FV) THC 9B/8

TRRI

RTC2 10/11T (FR) — TRRI 13T 13B -48

12A2

CCK (FR) — MST CKS 8B/7 — CKS -48 — 13C7

MSTB 5/6B — IRPS 7/8B — CCK -48

6 — NDK -48

56A9

60A0

62E9 XLT

52H6 XLT

51H0 XLT

D12 (52) — (Z) LTI 7T/6 — 700 — (52) XLT IU IL P-8 -48

(52) XC5 700

(Z) LT2 7T/6

(GX) LT3 7T/6 — 700

(52) XC6 700

(50) FVD 7B/6

IIR 7T/6 — 700

(52) XC7 700

(Z) LT 7B/6 — 700

LT4 — (52) XC8 700

(FO) TT 5B/4 — TT2 — TT3

DRAWING ISSUE 72A

ISSUE 93D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2) SD-25680-01-B59

BELL TELEPHONE LABORATORIES INCORPORATED

6S

PRINTED IN U.S.A.

SD-25680-01-B59

FS 58
REGISTER CHECK

MSTB 5 6B 5688 — CCK FR,IH

20 RRO L KEY FR — 54A8 CCK FK — 2A — IR TIRI — TR — TRI

RR3 — 2 1 3B — YM PHC 2T — YM THC

MA — MB MB — TCB 2 1 3T — 3T 2 1 TCA

20 IH — DTF 4 — ZYK 20 — ZYK WDTF 4 — IV — IS — 20

51 TI 7 — IS IS 58 LRI 10 — IV IV

D33 AV — ZYK WDTF 5 — IH DTF 5 — 58 OFR 4 — AW

20 DCK — DCK 60D6 — 2 3T 1 — 20 DC L KEY 2A OR 2C B2 — ZVB — ZVA — D33

51 DAT 8 — 51 ATT 7 — 51 AOT 8 — ZYK 7 8 ZYK — ZYK WATR 8

51 TI 4 — ZYK WDTI 8 — ZYK — 51 DTI 8 — 51 LII 6 — 51 RII 6 — 51 LIO 6 — 6 — 51 RPE3 12

IS — 58 LRI 2 — IH — IH

RLR L KEY DC L KEY — 2C OR 2A — 2D OR 2B — WE WF — BLR L KEY 2B — WF

IV TTAF 8 — 20 OFR 6 IV — 58 LRI — IG IG — IF IF — IV IV — GH — 20 LR 1 2B

TST L KEY 2 1 3C — 2B TST — TST 1 2T — YO — 20 20 — 33 33 — YL,UL CBRO 5 6T 5 6B — RTT 4 4 — 33

CCK 4T 3B D21 48 2.5K — ZYV — ZYW — 58 TRRO L KEY 3C — 8B 7 — IRPS — 6 — ZYW — 20

DI2 BLR 5T 4 — WH — RLR L KEY B2 4 5C OR 5A — DC L KEY 3 4D OR 4B — 3B 2 DCK — LR 4B 3 — 20

ZVA — AV — ZVA DCK 60D1 — ZVB — D32 ZVB — 12 58 LRI — AV — 20 TBL

RRO L KEY 3D 2 1 — YK,YL,UK,UL

DI2 TC2 3 4B — MSTB 2T 1 — 20

DIO WSI 4B 3 — 32

DIO WL 2B 1

1 RO 2T — 20 — 33 4 — F5 5 6T RTT — 33 — DII YO — 20 — RO 4B 3 — XA — 20 — 21 — 1 2 3B 3FD L KEY — 21 — 20

20 — 20 — IH TIRI 10 — 20 — IH — TTA 10 — IV IV — IH NDK 1 2B — IH — IH

D12 STK 6T 5 — NDK — 5060

NDK 4T 3B D21 48 2.5K

ONTI 8B 7 — OK 1 2T — TBL 10T 108 700 D26 48 — 1387

DRAWING ISSUE

58D	TEM AUT APP
69A	JEF AUT APP
74D	CR
78D	CR
86D	CR

ISSUE 96AC

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD- 25680-01-860

BELL TELEPHONE LABORATORIES INCORPORATED — 6S

SD-25680-01-860

HIGGINS 4465 M-E

FS 59
TRANSFER REGISTER TEST

FS 60
SIMULATED LINE IDENTIFIER

TRANSFER REGISTER CKT | TRANSFER-REGISTER MKR CONN CKT | COMPL MKR CKT | MA TST FR CONN CKT

LR T4 T5 MAN RC- MC- LRI -48
ROI
RIK RC- MC-
RLK RO LIO RC- MC-
LII RC- MC-
TI RC- MC- DTF XCLS -48
RC- MC- DTI
ATT DATI RC- MC- AOT -48
ATT RC- MC- ATT -48
DATI RC- MC- DAT -48
TI WB WBT WDTF -48
WAT WDTI -48
WB WAT -48
WAT -48

LRI (IH) MCF 48 3 (IH) (58) LRI U L D32 -48 700 (58) 4
RIK (IS) (20) MCD 6T 5 (51) RII U L D32 -48 700 4 (IS)
LIO (IS) (20) MCD 2T 1 (51) LIO U L D32 -48 700 4 (IS)
LII (IS) (20) MCD 4T 3 (51) LII U L D32 -48 700 4
DTF (TZ) MCF 2B 1 (IH) DTF U L D32 -48 2.5K (IH) 10 DTFI
DTI a (TZ) -48 D32 MCF (IS) c d SEE TABLE A (51) b 2L 2U S-2.7K IU IL D32 -48 P-IK (II) TR3 D33 10 f (51) e 2
AOT -48
ATT -48
DAT -48
DATI
WDTF (ZYK) WDTF (TZ) MCF 12T 11 (ZYK) U L D32 -48 2.5K 10
WDTI (ZYK) WDTI (TZ) -48 D32 MCF 10T 9 (ZYK) 2L 2U S-2.7K IU IL D32 -48 P-IK (II) TR3 D33 10 (ZYK) 5
WAT (ZYK) WATR (TZ) -48 D32 MCG 48 3 (ZYK) 2L 2U S-2.7K IU IL D32 -48 P-IK (II) TR3 D33 10 6

DTF: 7 8B IRST 51H0 | IRST 7 8T 17E4
ZYK: IS
ONR6: 33A7 3 48 ONR E2

TABLE A

LEAD a	REL b	(MCF) REL CONT c	d	REL e	(TR3) REL CONT f
DTI	DTI	6B	5	DTI	1
AOT	AOT	8B	7	AOT	2
ATT	ATT	10B	9	ATT	3
DATI	DAT	12B	11	DAT	4

MASTER TEST CONTROL CKT
(51) RPE3 4 (51) RELI 8 KCS
TI -48
TRIC RIA IDST TRT L KEY TRIC
TRIC U L D32 -48 2.2K (51)
D16 (IS) RPS2 68 5 (IS) (51) RPS2A U L D32 -48 700
(DW) RPS2 1 2T 12
D9 (66) (GC) CRB 48 3 (66) CRBA U L D32 -48 700
(55) 4WT

LICK -42 D32 L U 700 6 LICK (51) CRBA 2 (51) TIRV 10 LO LI
5IH0 88 7 LICK (51)
(51) TSTA D32 U L 700 (51)
(66) CRBA STA STB 3
D32 (51) TI 2 (51) (66) CRBA 1 (51) TIRV 4 LIO LII
(51) LICK 4 2 (51) TIRV

D32 (66) CRBA (51) TSTA 4 (51) RI 2 (51) TRIC 2 RI
(51) 5 LICK 10
D32 (51) TRIC 10 (51) IDTI L KEY IDT
(51) 1 2 3A (66) CRBA 5 (51) RPS3 8 3C 1 2 (51) RI U L D32 -48 2.2K (51) IDT2 L KEY

TR REG ID CONN CKT-ID PART	PREF CONT CKT	TR REG ID CONN CKT-REG PART	TRANSFER REGISTER CKT
TSTA		RIA	LIOA LIO LII TIRI
TSTA		RIA	LIIA
TSTB		RIB	TIRI ST RI
TSTB		RIB	
TSTB		RIB	LIO
TSTB		RIB	LII
TSTA		RIA	RI
TSTA		RIA	IDT

DRAWING ISSUE

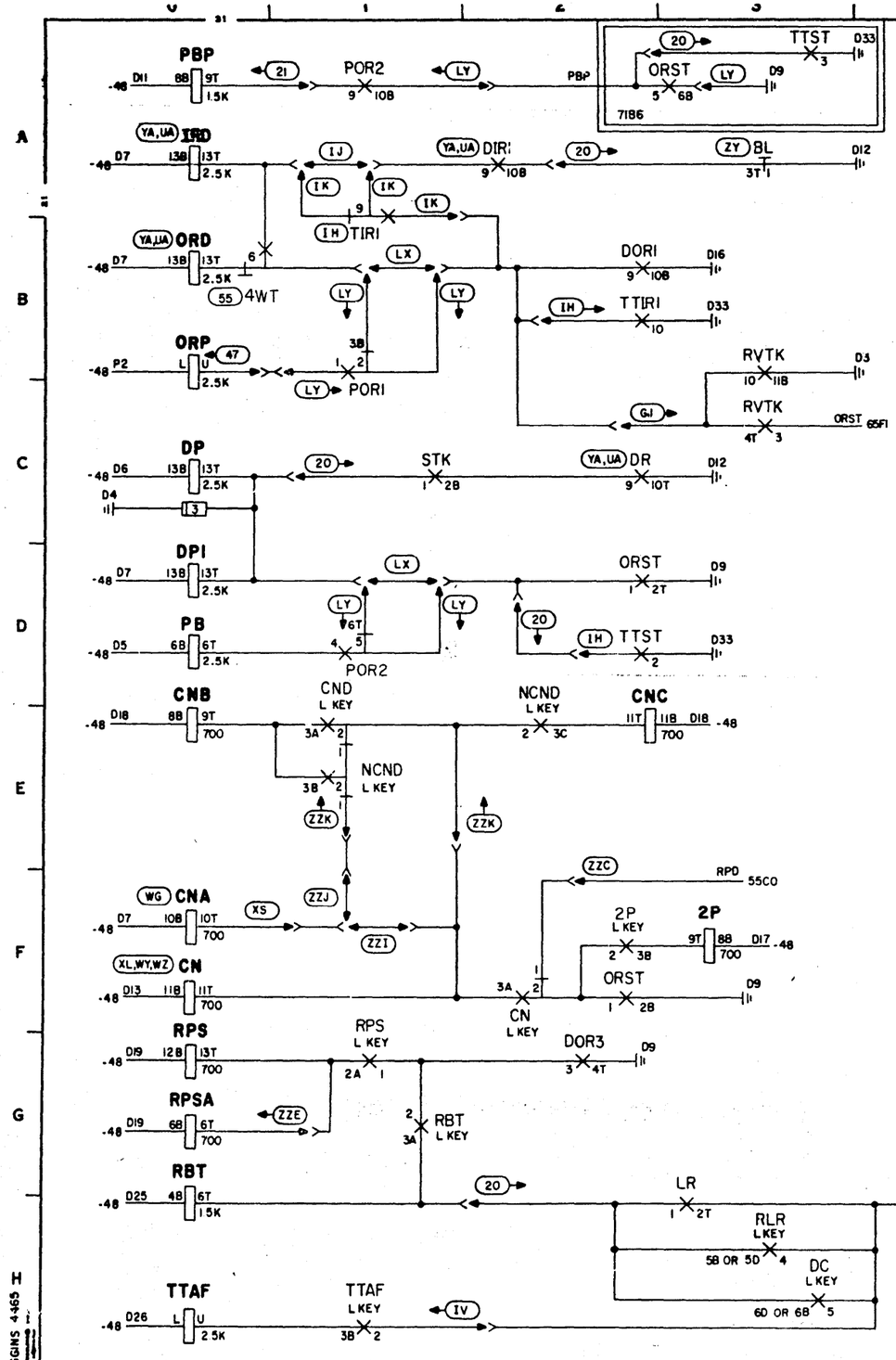
68D	TEM RLP AHD
69A	EJD RLP AHD
72A	KME [illegible]
75A	CF
78D	CR
86D	

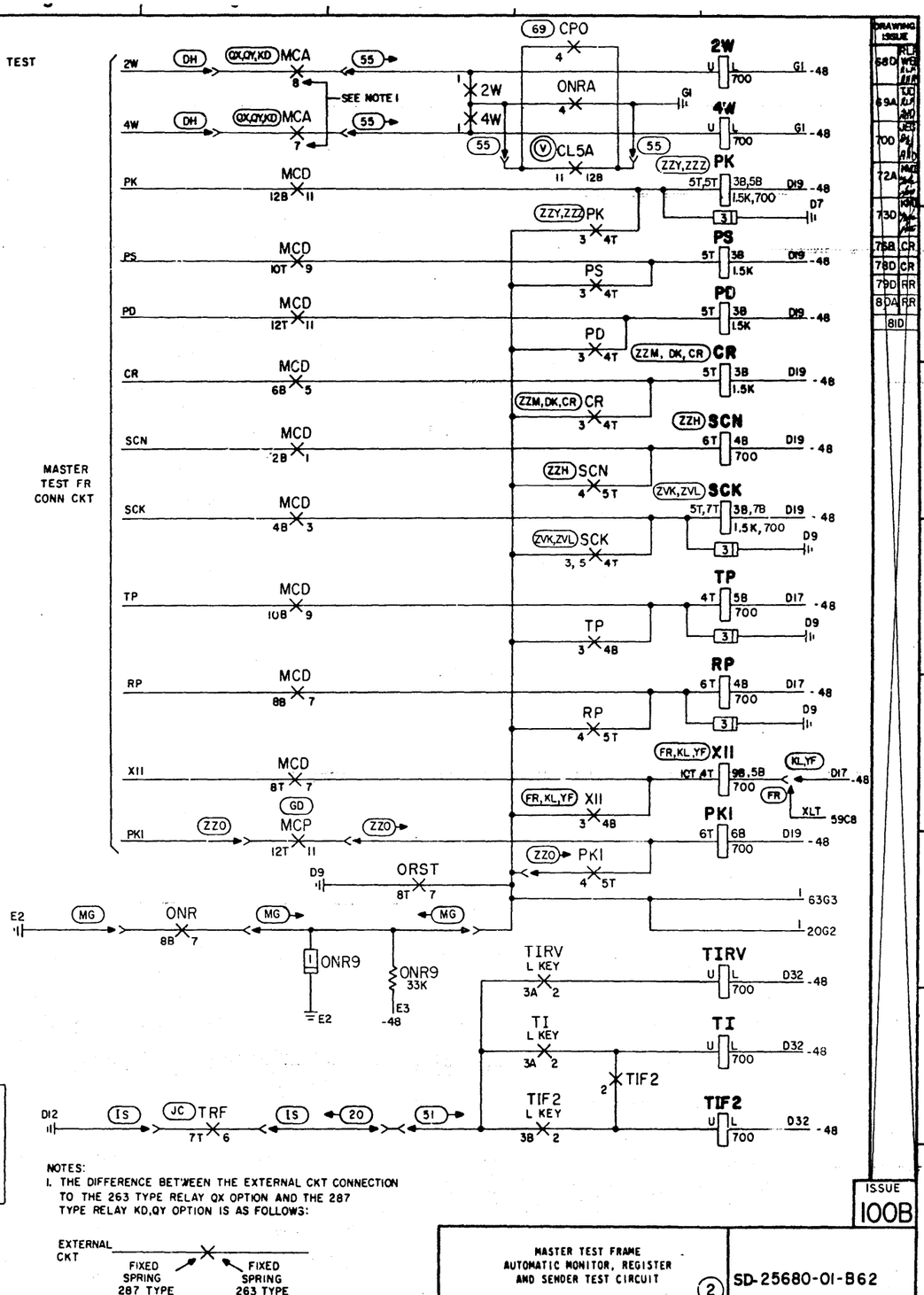
MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)
SD-25680-01-B61
BELL TELEPHONE LABORATORIES INCORPORATED
6S
86

SD-25680-01-B61
HIGGINS 4465 K&E

FS 61

ORIGINATING REGISTER TEST





NOTES:
1. THE DIFFERENCE BETWEEN THE EXTERNAL CKT CONNECTION TO THE 263 TYPE RELAY QX OPTION AND THE 287 TYPE RELAY KD,QY OPTION IS AS FOLLOWS:

EXTERNAL CKT — FIXED SPRING 287 TYPE — FIXED SPRING 263 TYPE

DRAWING ISSUE	
58D	RL WG LA AM
69A	TJC ZJ AM
700	PJ AM
72A	HWC AM
730	KW AM
75B	CR
78D	CR
79D	RR
80A	RR
81D	

ISSUE 100B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)	SD-25680-01-B62
BELL TELEPHONE LABORATORIES INCORPORATED	SHEET 65

SD-25680-01-B62

HIGGINS 4465 ME

FS 62

REGISTER AND SENDER TEST

DRAWING ISSUE	
68D	AMD ALP AMD
69A	ABM ALP AMD
70D	CR PM AMD
72A	KMD ALP AMD
75A	CF

PEA 1 28

RPSI 6B 6T 700 — E22 -48 — E8 3

RPEI 5B 6T 90 — E8 3

RPSI 1 2T — ONM2 1 28 — E9

RPS3 L U 950 — D32 -48

RPE3 L U 950

RPS3 5 — IU

TIF2 6 — RPE3 1 — TI 6

51 — IU — IT

XT — XU — 8B RPE2 7 — 2 10T 9 RPE2 8 — 84E1

IS

(63) TRFM T 2

(YL,JL) CBR 3 4T

(YA,UA) DIR 3 4T

(YB) MIR 3 4T

(YK,UK) RIR 3 4T

DOR 3 4T

(63) SMTR 12 — D16

MST — M — TC2 — INCOMING REGISTER CKT

MST — M — TC2 — RI — TRANSFER REGISTER CKT

MST — M — MST — ORIGINATING REGISTER CKT

(YK,UK) RIR2 3 4T

(YL,JL) CBR2 3 4T

(DT) (YB) MIR2 3 4T

DU — 4T DOR2 3

IU — IT — 51 — IS

(YA,UA) DIR2 3 4T

(IH) TTIR2 11

TI 8

(DV,CW) RPS2 D26 7B,7B 8T,7T 700 — D16 3

RPE2 11B 13T 700 — D16 3

(DV,DW) RPS2 5T,4T 4,3

ONTI 9 10T — D16

83E2 OFR

GC CR4 L KEY 3C

GC CRB 3T 2

(GC) CRA 4B 4T 700 — D19 -48

(GC) CRB 8B 10T 700

(GC) CRA 1 2T

DO — CL — IRST 9 10B — 47C0

ORST 7 8T — D9 — 62F9

ORIGINATING REGISTER CKT — M — MSTI — -48

MSTI 8BR 4TR S-1750

MSTI 1 2T

DOR2 9 10T — MSTI

78F 8TF P-850 — D19 -48 — D9 3 — 69E4

EMP 500 — E22 -48

EMP R8I 2RT 19

DOR 9 10T — E8 3

E8 RPEI 5T 4 — PEA 9T 7B 500 E22 -48 — E8 3

E11 (YE) SPEI 2B 1 — PH 2T 1 — PE 6T 6B 1.3K E24 -48 — E11 3

(YL,UL) CBR 10B 9

E8 PEA 4B 3 — (YK,UK) RIR 10B 9

E9 ONMI 10B 9 — MACI 5T 4 — MAC2 9T 7B 700 E22 -48 — E8 3

MAC2 7 8T

D16 ONTI 10B 9 — TAC 5 2 3 — TACI 8T 7B 700 D26 -48 — D16 3

1 TACI 2T

7 TAC2 8T

TACI 2B 1 — TAC2 9T 8B 700 D26 -48 — D16 3

75

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B63

BELL TELEPHONE LABORATORIES INCORPORATED — 6S

SD-25680-01-B63

HIGGINS 4465 K&E

FS 63

REGISTER AND SENDER TEST

TO INTERFACE AND CONTROL CKT

TO ALARM SENDING CKT

TRANSFER REGISTER CKT

ORIGINATING REGISTER CKT

OUTGOING SENDER CKT

INCOMING REGISTER

REG LINK CKT

DP-INCOMING REGISTER CKT

MACI

TAC

BTI

BLM

SMTR

(LAST REG) (INTER. REG) (FIRST REG)

THRU INTER. APP FIG. 4

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-B64

BELL TELEPHONE LABORATORIES INCORPORATED

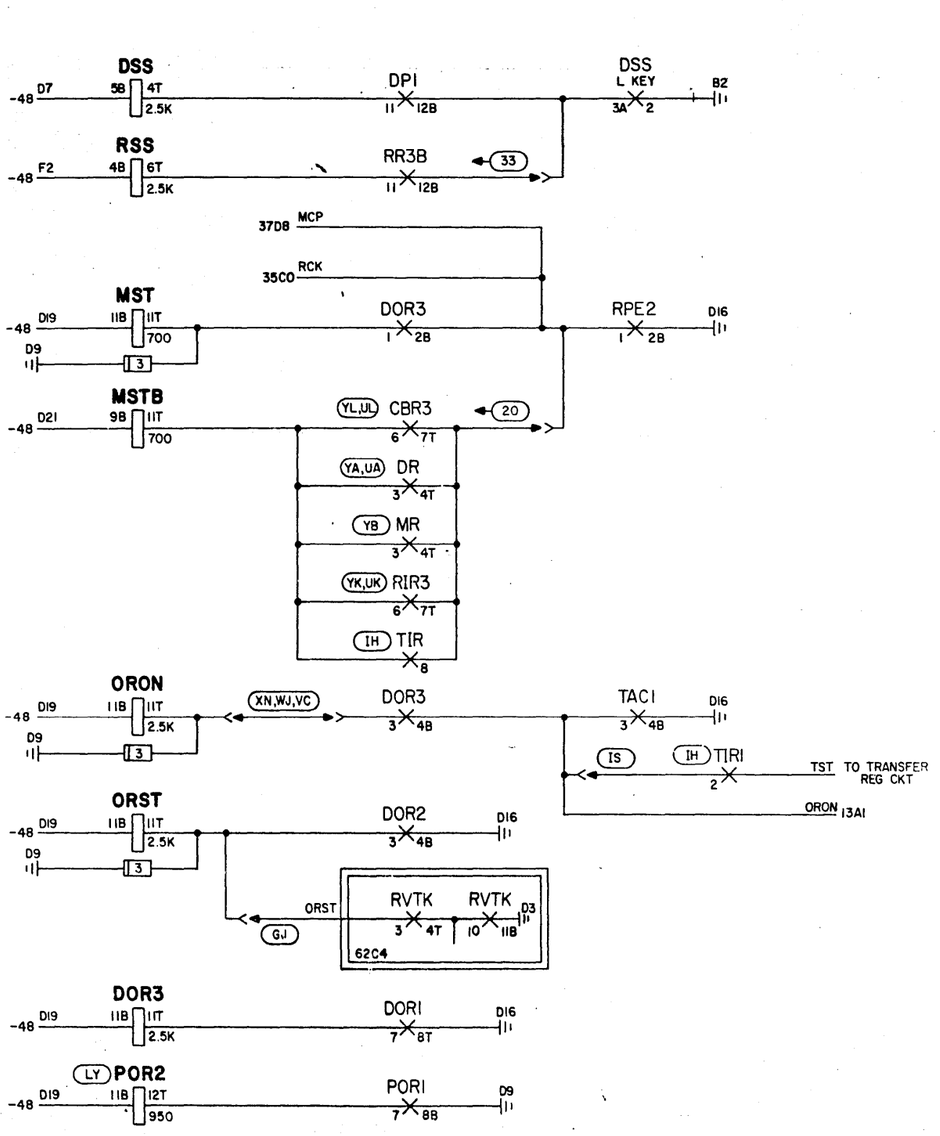
65

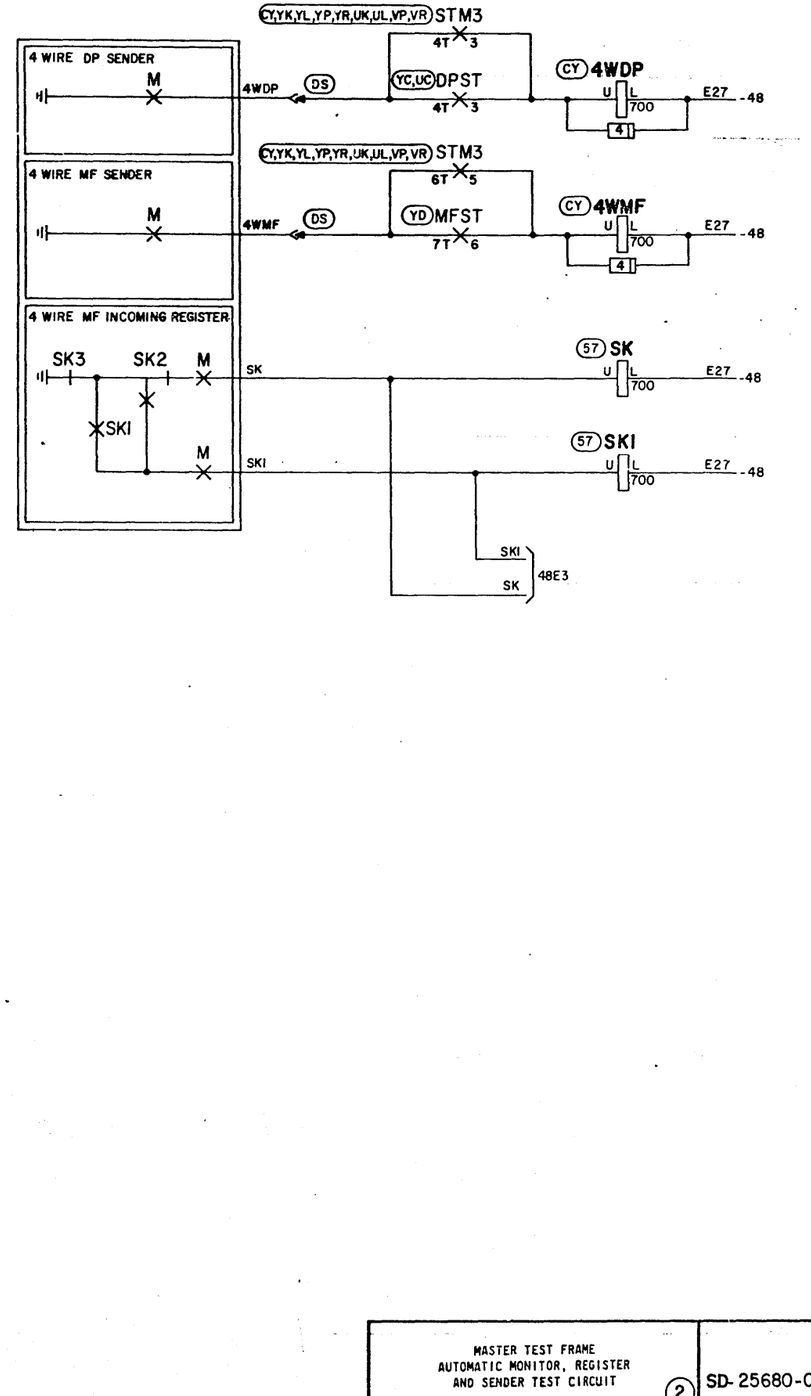
ISSUE 105A

SD-25680-01-B64

HIGGINS 4465 M/E

FS 64
REGISTER AND SENDER TEST





DRAWING ISSUE

68D	CMC RLP MHD
70D	PDL Bay RLP
72A	HWL Jnk Jmr
78D	CR

78

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B65

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

SD-25680-01-B65

HIGGINS 4465 K&E

FS 65
FINAL DIGIT CONTROL

DRAWING ISSUE
68D DM RLP AMD
70D ECG RAJ AMJ
81D

MASTER TEST CONTROL CKT

ALL POSITIONS EXCEPT "OFF"

Asw ALL A OSA 4 5B
Bsw ALL B ASA
SSLB L KEY EM B2 2 3C
SSRB L KEY B2 2 3D
OSB 4 5B
Csw ALL C BSA
OSC 4 5B
Dsw ALL D CSA
OSD 4 5B
Esw ALL E DSA
SSLE L KEY EI B2 5 6C
SSRE L KEY B2 5 6D
OSE 4 5B
Fsw ALL F ESA
Q OSF 4 5B
Gsw ALL G FSA
P OSG 4 5B
Hsw ALL H GSA
N OSH 4 5B
Jsw ALL J HSA
M OSJ 4 5B
Ksw ALL K JSA
D OSK 4 5B
Lsw ALL L ZU KSA 7 8B
B OSL 4 5B
Msw ALL MD ZYC YG OSM 4 5B ZYC

R CLIA 7 8 9B
R CLSA 7 8 9B
ST SU SX SW
SX SU ARSA 7 8 9B
SW SU BRSA 7 8 9B
SU ST
Z CRSA 7 8 9B

DP DQ
57 CDAS 9 E13
57 CDS 9 E13
57 CDPS 9 E13
I7 ZA,XX SDT3 9T 8
ZA,XX SS 5T 5B 950 D28 -48
9 D18

20 21
STK 2T 1 20 D21
ORST 4T 3 D9
RF OSAI 2B 1 21 SF L KEY 4 5D RF
ORST 70B/C8
D3 AD 4 5B
D3 ADI 4 5B EQ AD3 4 5B
D3 EQ AD4 4 5B
D3 YB BP 4 5B
YB MF 3 4, 5B
21
FD3 3T 1 2
FD3 3B 1 2
FD4 9T 9B 700 D11 -48
FD3 8T 6B 700 D11 -48
LY FDI 8T 7
ZYB LX,LY FDI ZYA 4,6 5B,7B ZYA ZYB
FD 4T 3B 700 D7 -48
3 FD D4
LX,LY FDI 9T,11T 8B,10B 700 3
D9 ORST 4B 3
D12 IRST 6T 5 20
FD 2B 1

81

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B66

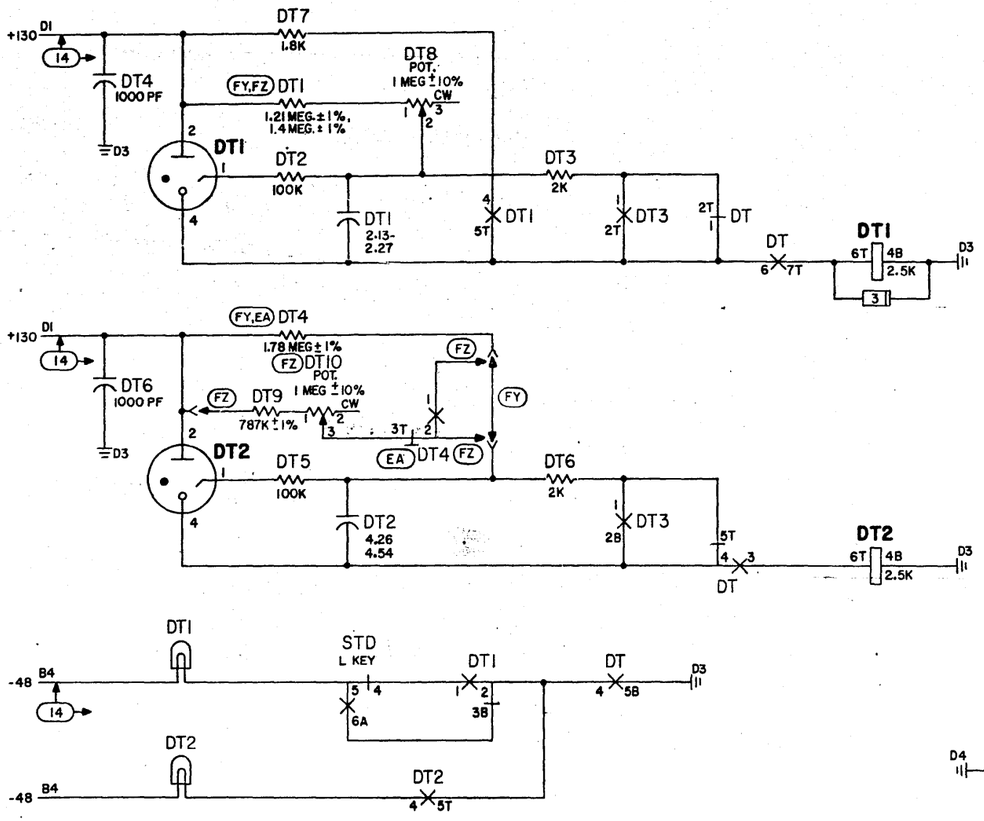
BELL TELEPHONE LABORATORIES INCORPORATED 6S

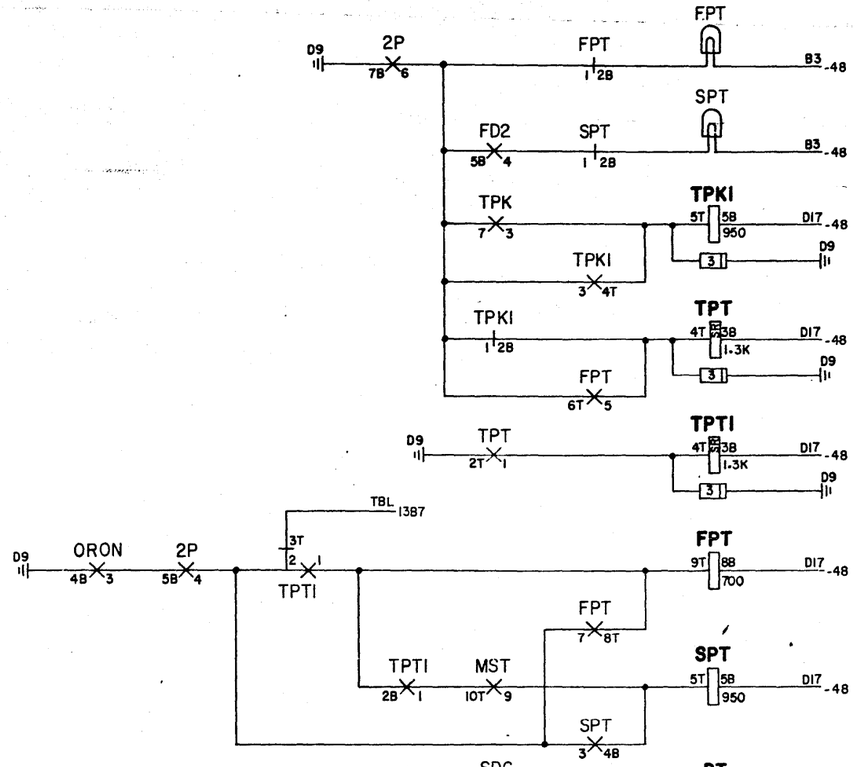
SD-25680-01-B66

HIGGINS 4465 K&E

FS 66

DIGIT TIMING AND TWO PARTY CONTROL





DRAWING ISSUE

68D DD AP AHD

73D HWD AP AHD CB

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B67

BELL TELEPHONE LABORATORIES INCORPORATED 6S

73

SD-25680-01-B67

HIGGINS 4465

FS 67
TIMING

DRAWING ISSUE	
68D	CM, A1P, A1W
73D	LF, 2A, AM
78D	RA

XL,WY,WZ CRK1 88 10T 700 D8 3 -48 DI8
XL,WY,WZ CRK2 88 10T 700 -48 DI8
XL,WY,WZ CRK3 78 8T 2.3K -48 DI8
XL,WY,WZ CRK1 1 3T 2
XL,WY,WZ CRK2 1 3T 2
XL,WY,WZ CRK2 6 7T
XL,WY,WZ CNR 7 8B D8
XL,VA,VB CRK 3 7 4
XL,WY,WZ CRTI 2 3T 1
XL,WY,WZ CNR 38 1 2 D8
XL,WY,WZ CNR 9 10B
XL,WY,WZ CRK1 2 1 38
WZ 7 MST 8T WZ
XL,WY,WZ CR1 -48 B3
XL,WY,WZ CRTI 38 2 1
XL,WY,WZ CNR 1 2T D8
XL,WY,WZ CR2 -48 B3
XL,WY,WZ CRT2 38 2 1
XL,WY,WZ CR3 -48 B3
XL,WY,WZ CRT3 2T 1
GC CR4 -48 B3
GC CRB 8 9T D8

XL,WY,WZ CR2 POT. 100K CW 3 2 1
XL,WY,WZ CR1 187K ±1% D2 +130
XL,WY,WZ CR4 1000PF D8
XL,WY,WZ CR4 2K
XL,WY,WZ CR3 100K
XL,WY,WZ CRTI
XL,WY,WZ CR1 2.13-2.27
XL,WY,WZ CR5 1.8K
XL,WY,WZ CRTI 4 5T
XL,WY,WZ CRTI 4B 6T 2.5K 3
XL,WY,WZ CR7 POT. 100K CW 3 2 1
XL,WY,WZ CR6 187K ±1% D2 +130
XL,WY,WZ CR9 2K
XL,WY,WZ CR6 1000PF D8
XL,WY,WZ CR8 100K
XL,WY,WZ CRT2
XL,WY,WZ CR2 2.13-2.27
XL,WY,WZ CR10 1.8K
XL,WY,WZ CRT2 4 5T
XL,WY WZ CRT2 4B ,7B 6T,7T 2.5K 3
CR12 POT. 100K CW 3 2 1
CR11 187K ±1% CR D2 +130
CR XQ CR16 14K ±2% XQ
XL,WY,WZ CR9 1000PF D8
XL,WY,WZ CRK2 2 1 38
XL,WY,WZ CR14 2K
XL,WY,WZ CR13 100K
XL,WY,WZ CRT3
XL,WY,WZ CR3 2.13-2.27
XL,WY,WZ CR15 1.8K
XL,WY,WZ CRT3 3 4T
4 MST 5T
WZ 68 5 CRT2 WZ
XL,WY,WZ CRT3 38 6T 2.5K 3

78

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B68

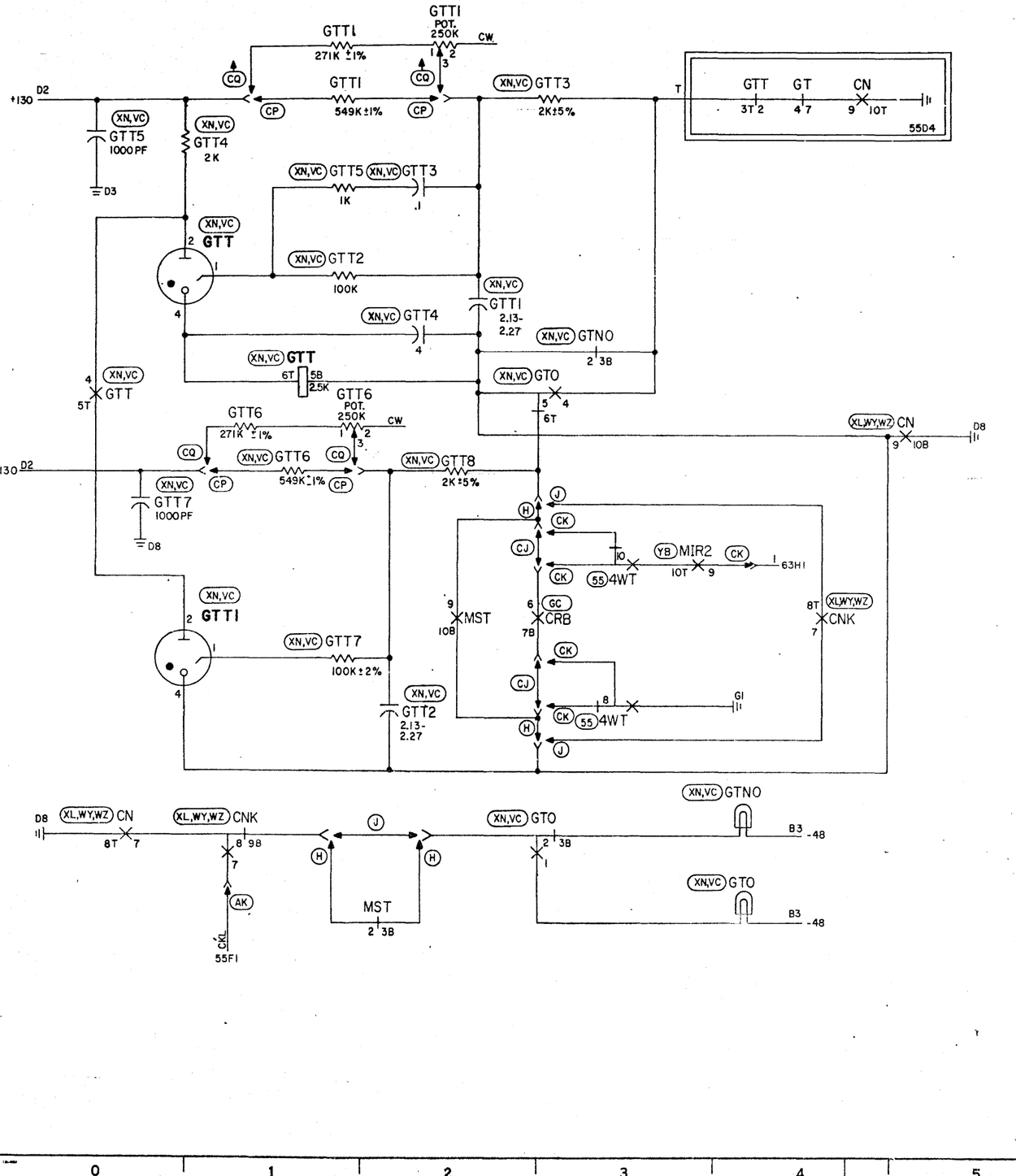
BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25680-01-B68

HIGGINS 4465 HE

FS 68
TIMING



DRAWING ISSUE	
68D	RDT QLP AMD
70D	VEG Exp AMD
73D	KMT TPC Gen

73

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B69

BELL TELEPHONE LABORATORIES INCORPORATED

SWS FILE 6S

PRINTED IN U.S.A.

SD-25680-01-B69

HIGGINS 4465 K-E

PART OF FS 69

OUT STEERING

DRAWING ISSUE	
70D	CR
71A	SAV
72A	
77A	RA
87A	

GA 21 20 STK DI2 47 SPB PGI P2 FD4 KA D6 7182

SYI R DP D4 7IE6

KPO AV PB LY ET ER SG GI 68 5 PORI LY GJ YB MF EO SSR L KEY 3A AA ES PDII AB PDO 98 7 3T AJ AI PDO 2B PD9 58 PDI 3C PII L KEY 3D KP KPI BP 6T 4 5 6 PD8 7B 8B JU JT EU EP EQ AD ADI AD3 AD4 OSA 38 6T 5 4 IOT 9 MF 55 I-P 6D 6C PI L KEY D3 3 IOT 108 700 D5 -48 RVTK 98 8 7 EK EJ OSA 48 4T OSAI L5 708/CO

TO MASTER TEST CONTROL CKT

AVA BP AVB AD ADI AVC AVDI AD3 AD4 AVD3 OSA

87

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B70A

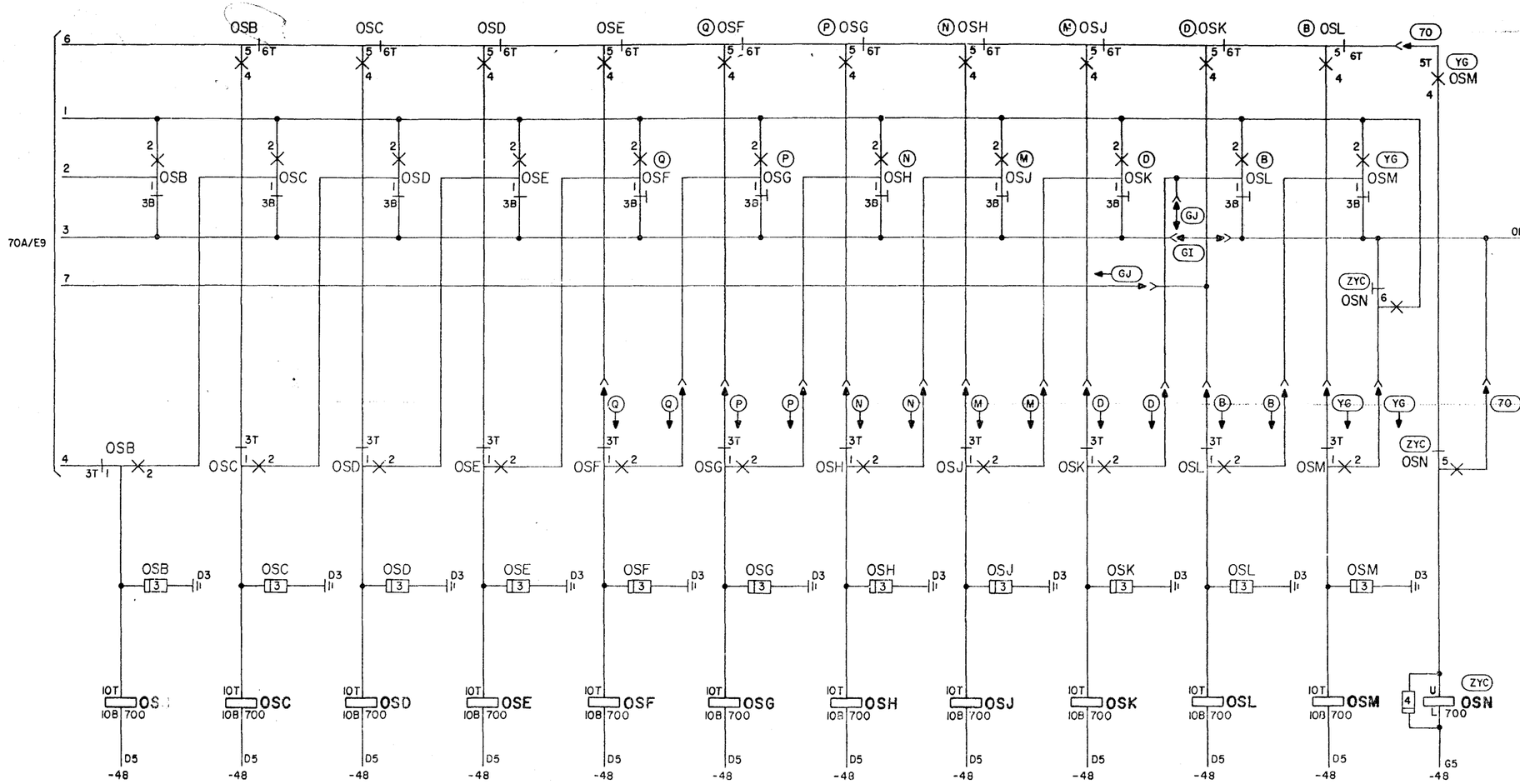
BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-B70A

PART OF FS 69

OUT STEERING



DRAWING ISSUE
70D
71A
81D

81

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B708

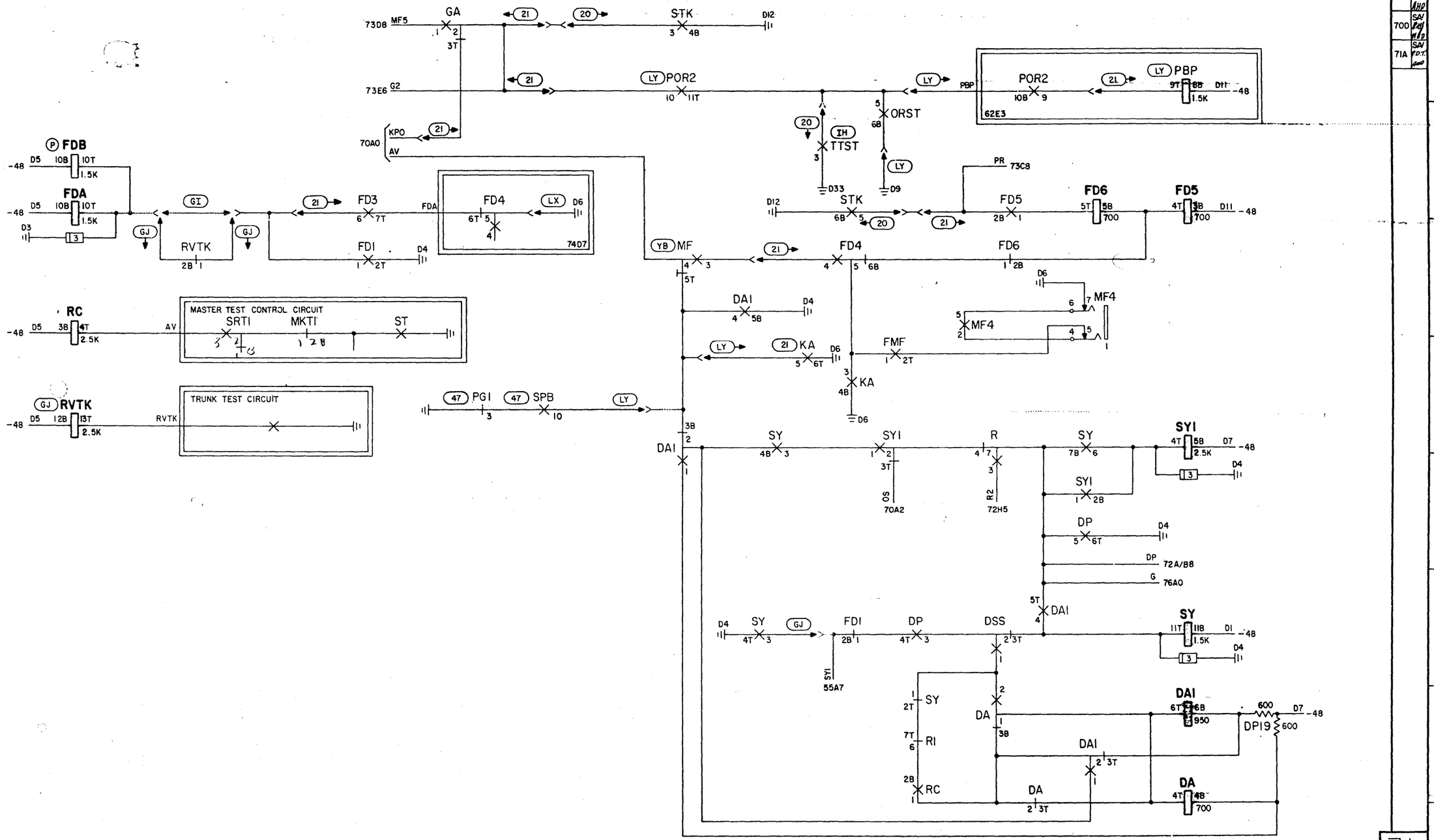
BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-B708

FS 70
OUT STEERING CONTROL



71

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-871

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

DRAWING ISSUE

68D	CMC	RLP
		AHP
70D	SAV	RLP
		WLD
71A	SAV	PDT
		WWD

SD-25680-01-871

HIGGINS 4465 K4E

SD-25680-01-872A

PART OF FS 71

DIAL PULSE COUNTING

MASTER TEST CONTROL CIRCUIT

(A-H, J-M)10 L KEY OR SW

MO-9 L KEY OR SW

(F-H, J-L)0-9 L KEY OR SW

E0-9 L KEY OR SW

(A-D)0-9 L KEY OR SW

CPU/CDA SW

BPU/CDU SW

BPI L KEY

APU/CDPU SW

API L KEY

SD-25800-01

B18A-E-4

OSN OSM OSL OSK OSJ OSH OSG OSF OSE OSD OSC OSB OSA AD4 AD3 AD1 AD BP

FDB FDA FD2 EODA SSRE SSLE SSLB SSRB SSR CPTI MF5A MF5 RTCA DPI MF CTG DP PD0 PD9 PB KPI KP

SSL SSR 10F 11F 12F 13F

72B/D0 E7 86C1 73C0 86C2 73F0 78E5 73C8

GR SEE NOTE 1

NOTE:
1. THE DIFFERENCE BETWEEN THE EXTERNAL CKT CONNECTION TO THE 263 TYPE REL PF OPTION AND THE 287 TYPE REL KG, PG OPTION IS AS FOLLOWS:

EXTERNAL CKT — FIXED SPRING 287 TYPE — FIXED SPRING 263 TYPE

BELL TELEPHONE LABORATORIES INCORPORATED

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT

6S PWG 118

SD-25680-01-872A

ISSUE 98B

DRAWING ISSUE 81D 86D 88D

PART OF FS 71

DIAL PULSE COUNTING

DRAWING ISSUE
70D JNR 6-9-71
81D

DPI 1 2B — O' A 2 1 — D4 A 1 — O R L 500 — O' R L 245 — SO — SN — 3 — RI 2B 1 — DP 1 2B — D6 -48

DPI 9 9 10T — A — 9', 9

DPI 8 7 8T — A — 8', 8 — RI 2T 1

DPI 7 5 6T — A — 7', 7 — RI 4T 3

DPI 6 3 4T — A — 6', 6 — 72A/A1

DPI 5 1 2T — A — 5', 5

DPI 4 9 10B — A — 4', 4

DPI 3 7 8B — A — 3', 3

DPI 2 5 6B — A — 2', 2

DPI 1 3 4B — 1', BD — SN — SO — 3 — D4 A 1 — R L 1K — R L 245 — 2 A 1 — 1'

(SN,SO) DP27 — I MEG 9.1K±5% — SO — SN — D4 — 1

(SN,SO) DP28 — I MEG 9.1K±5% — SO — SN — D4 — 2 — 75C6

(SN,SO) DP26 — I MEG 9.1K±5% — SO — SN — D4 — 3

SO — DP3 150 — DP3 2

SO — DP2 150 — DP2 2

SO — DP4 150 — DP4 2

R2 LBI ILT S-875 — D7 -48

BD2 LBI ILT S-875 — D7 -48 — RBI 2RT P-230

RI -48 D7 — 10B 10T 700

RBI 2RT P-230 — D4 — 3

R2 — 3 4 7 R 71E7 — DP 5 6T — D4

81

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B72B

BELL TELEPHONE LABORATORIES INCORPORATED — SIZE 6S

SD-25680-01-B72B

FS 72
MF DIGIT CONTROL

DRAWING ISSUE
68D
700
72A
81D

MF5 0F 5T,1L 3B,2L 200,640
MF5 9F 5T,1U 3B,2U 200,640
MF5 8F 5T,1L 3B,2L 200,640
MF5 7F 5T,1U 3B,2U 200,640
MF5 6F 5T,1L 3B,2L 200,640
MF5 5F 5T,1U 3B,2U 200,640
MF5 4F 5T,1L 3B,2L 200,640
MF5 3F 5T,1U 3B,2U 200,640
MF5 2F 5T,1L 3B,2L 200,640
MF5 1F 5T,1U 3B,2U 200,640
DIO -48
72A/A2

KPF 5T 3B 200
SF L KEY 3D
SF 90
MF 90 -48
72A/E9
KP
KPI
CW CV TF TG
FKP 4T 4B 950 DII -48
3FD L KEY 2 3C
72A/F5 AK
SF 5T 3B 200 DIO -48
FKP L KEY 3A
3KPF 9T 7B 700 DIO -48
3FKP L KEY

SLO L KEY 3B
KPS 11T 9B 700 DIO -48
KPF 3 4T
3KPF 7 8T
KPS 9 10T
SP 6T,11T 6B,10B 2.5K DIO -48
KP 5B 4
KPI 5B 4
PBP 8T 7
SP 4 5B
DSS L KEY 3D
SSP 6T 6B 1.5K DIO -48
SSP 4 5T
STK 6B 5
PR 6T 6B 1.5K DII -48
PR L KEY 3A
PR 4 5T
71B7
STK 4B 3
GA 3T
MF5 13T 13B 2.5K DIO -48
71A2
MFP 5T 4
IRAB 5 6B
IRPS 1 2B
GA 6T 6B 1.5K DIO -48
55A9 GA
GA 4 5T
71A2 G2
KPS 2T 1
KPSI 4T 1B 2.3K DII -48
DSS 78C2
MR 10T 9
STP L KEY 3D
STP 5T 5B 2.5K DII -48
LL L KEY 3D
LL 8T 8B 2.5K DII -48
TWT L KEY 3D
TWT 8T 8B 2.5K DII -48
BT2 6T 5
STK 7T 7B 950 D22 -48

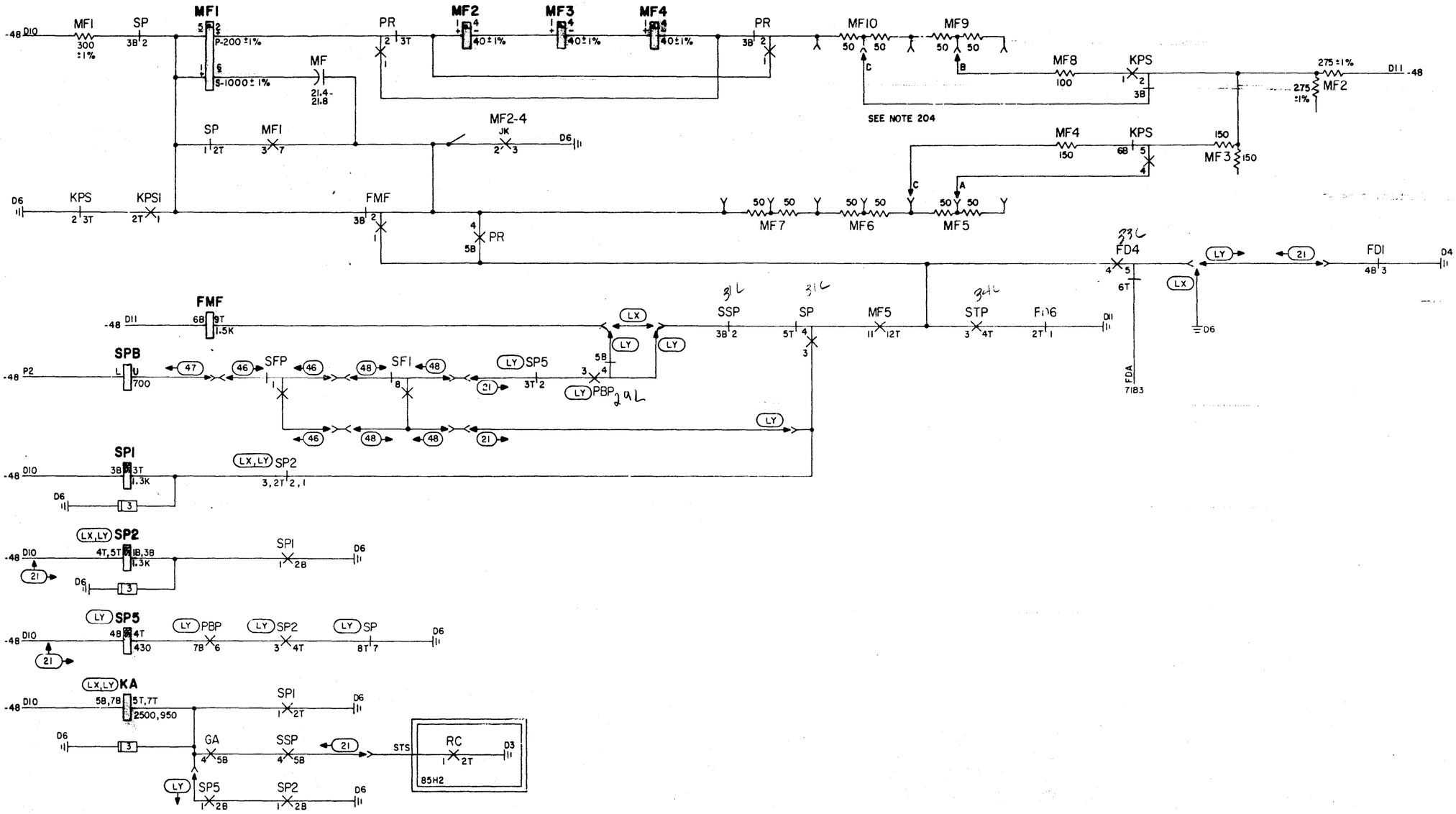
81

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)
SD-25680-01-B73
BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-25680-01-B73

HIGGINS 4465

FS 73
MF PULSE GENERATOR



DRAWING ISSUE
68D DD AUG 1962

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B74

BELL TELEPHONE LABORATORIES INCORPORATED

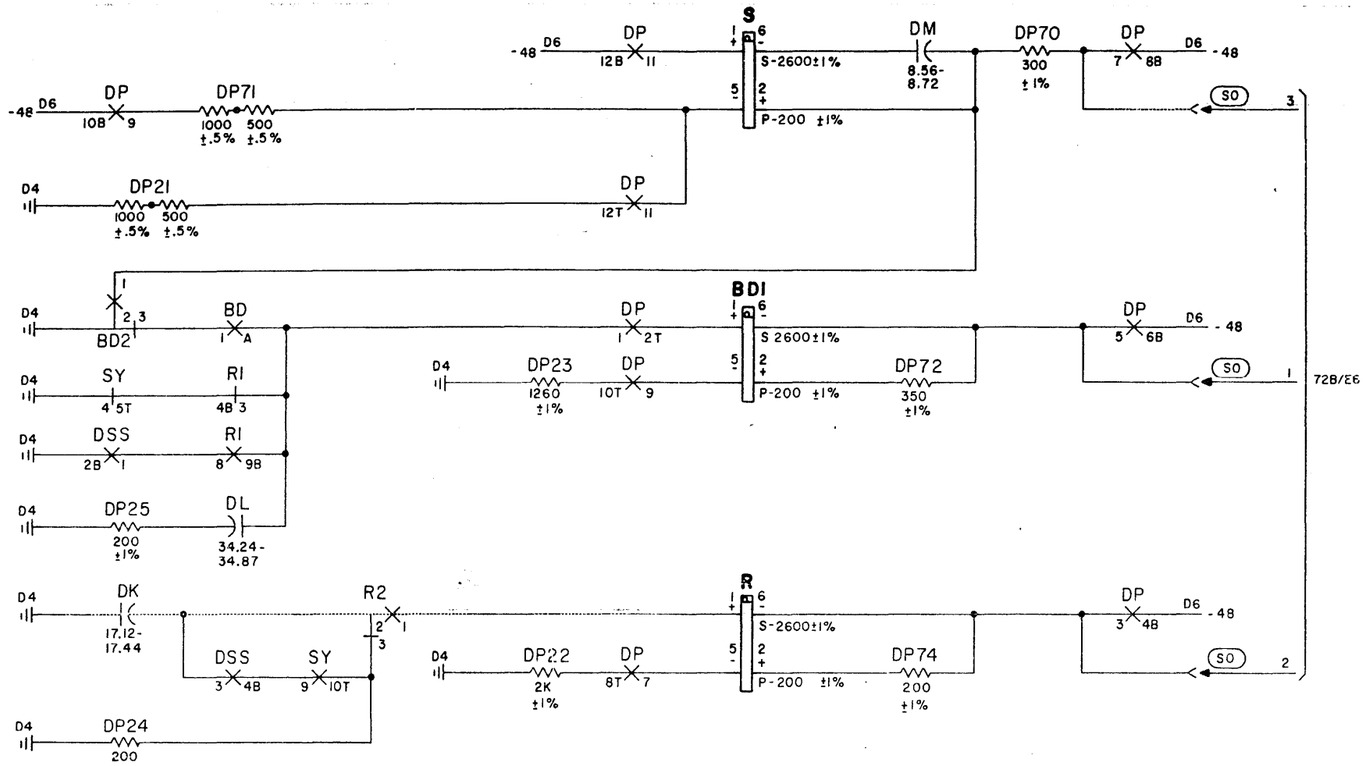
6S

PRINTED IN U.S.A.

SD-25680-01-B74

HIGGINS 4465 M.E.

FS 74
DIAL PULSE GENERATOR



DRAWING ISSUE

68D	RLP WB
70D	RPS DAT

70

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B75

BELL TELEPHONE LABORATORIES
INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

HIGGINS 4465

SD-25680-01-B75

FS 75
DIAL PULSE GENERATOR

DRAWING ISSUE
68D NB R4P AHD
730 KMC 1A2 AHD

DP 6T 5 7IE8 G
DP73 210 ±1%
DP18 210±1% D8 -48
PLS 29 98 P-200±1% (ZWV) P-200±2% (ZWX) 32 S-1000±1% (ZWV) S-1000±2% (ZWX)
CTG 29 98 P-200±1% (ZWV) P-200±2% (ZWX) 32 S-1000±1% (ZWV) S-1000±2% (ZWX)
DPI7 300 ±1% D8 -48
15,7 (ZWV,ZWX) INTI
14,5 13,4 YA,UA (20) OH 5 6T — DLP 10T 9 (20)
BDI 7 3 (ZWV,ZWX) INT 29 98 P-200±1% (ZWV) P-200±2% (ZWX) 32 S-1000±1% (ZWV) S-1000±2% (ZWX)
DPI5 300 ±1% D8 -48
DC 6.42-6.54 — 24MAX L KEY 3C — 24MIN L KEY 3C — 15MAX L KEY 3C — 15MIN L KEY 3C — 7MAX L KEY 3C — 7MIN L KEY 3C
DB 9.63-9.81
DA 14.98-15.26
SURGE L KEY 2C
24MAX L KEY 6D — 24MIN L KEY 6D — 15MAX L KEY 6D — 15MIN L KEY 6D — 7MAX L KEY 6D — 7MIN L KEY 6D
DPI6 800 ±1%
SURGE L KEY 5
15,7 (ZWV,ZWX) INT 14,5 13,4
DP48 200 ±1%
DD 12.84-13.08 — 24MAX L KEY 3B — 24MIN L KEY 3B — 15MAX L KEY 3B — 15MIN L KEY 3B — 7MAX L KEY 3B — 7MIN L KEY 3B
DE 21.4-21.8
SURGE L KEY 2B
24MAX L KEY 6A — 24MIN L KEY 6A — 15MAX L KEY 6A — 15MIN L KEY 6A — 7MAX L KEY 6A — 7MIN L KEY 6A
DP47 400 ±1%
DP46 1K±1%
SURGE L KEY 5
(ZWV,ZWX) INTI 29 98 P-200±1% (ZWV) P-200±2% (ZWX) 32 S-1000±1% (ZWV) S-1000±2% (ZWX) D8 -48

24MAX L KEY 3D — 24MIN L KEY 3D — 15MAX L KEY 3D — 15MIN L KEY 3D — 7MAX L KEY 3D — 7MIN L KEY 3D — SURGE L KEY
24MAX L KEY 3A — 24MIN L KEY 3A — 15MAX L KEY 3A — 15MIN L KEY 3A — 7MAX L KEY 3A — 7MIN L KEY 3A — SURGE L KEY

D8 -48 (ZWX) DP9 250 ±1%
(ZWV) DP9 500 ±1% D8 -48
A DP39 1 2 3 4 5 6
A DP37 (SEE NOTE 203) 1 2 3 4 5 6 50±1% 100±1% 200±1% 400±1% 800±1%
S (ZWV) (ZWX) 500 ±.5% 1000 ±.5% (ZWV) (ZWX) D8 -48
DP7
A DP35 1 2 3 4 5 6
S (ZWV) 1041 ±1% 797 ±1% D8 -48
(ZWV) DP5 (ZWX) DP5 D8 -48 500 ±1%
(ZWX) DP3 500 ±1% D8 -48 (ZWV) DP3
A DP33 1 2 3 4 5 6
A DP31 1 2 3 4 5 6
S 100 ±1% 1300 ±1% 800 ±1% 800 ±1% DP41
(ZWV) DPI D8 -48 3.1K ±1%
(ZWX) DPI D8 -48 2K ±1%
B DP40 (SEE NOTE 203) 1 2 3 4 5 6 10±1% 20±1% 40±1% 80±1% 160±1%
S 250 ±1% 250 ±1% DP43
D8 -48 (ZWX) DPIO 600 ±1% (ZWV) DPIO D8 -48 400 ±1%
B DP38 1 2 3 4 5 6
S 125 ±1% 250 ±1% DP42
DP8 D8 -48 270 ±1%
A DP36 1 2 3 4 5 6
DP6 (ZWV) D8 -48 1000 ±.5% 500 ±.5% (ZWX)
A DP34 1 2 3 4 5 6
S (ZWX) 1.1K ±1% 2.4K ±1% DP4
A DP32 1 2 3 4 5 6
(ZWX) DP2 D8 -48 1.2K ±1%
DP2 D8 -48 1.7K ±1% (ZWV)

ISSUE 98B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)
SD-25680-01-B76
BELL TELEPHONE LABORATORIES INCORPORATED 6S
PRINTED IN U.S.A.

SD-25680-01-B76

HIGGINS 4465 K-E

FS 76
TOUCH-TONE CONTROL

DRAWING ISSUE	
68D	WM ALP AHD
70D	JR DAJ AHD
73D	KMT [illegible]

D6 LY PBP 21 5T 4

56 EM,DI SSL 9

SSR 2

56 DI

IF,4F,7F 9,2,9 — 56 49 EM,DI

OF,2F,5F,8F 2,2,9,2 — 49

3F,6F,9F 9,2,9 — 56 49 EM,DI

10F,11F,12F,13F 2,9,2,9 — DI GK 49

PBT 2 HI — 49 48 — HF1 1U 2U 640 P1 -48

PBT 3 H2 — 49 48 — HF2 1L 2L 640 P1 -48

PBT 4 H3 — 49 48 — HF3 1U 2U 640 P1 -48

REGISTER AND CAMA SENDER TEST CKT

PBT 1 H4 GK — 49 48 GK — HF4 1L 2L 640 P1 -48

AE,AF FCA SW SECT 1 NBRDG

P1 — ADJ L KEY 5 6 — LFA L KEY 5 4 6 — HFA L KEY 8 9 — 46 48 — HF 10 — 48 9,12 ALL

1 10,1 — 48
2 11,2 — 48
3 12,3 — 48
5 2,5 GK — 48
4 1,4 — 48

48 46 — 3 SPF — 46

2 SPF — 46 48 — SF1 4 — 49 48

4 SPF — 46 48 — 3 LF — 48 9,12 ALL

AE,AF FCA SW SECT 2 NBRDG

1 10,1 — 48
2 11,2 — 48
3 12,3 — 48
4 1,4 — 48
5 2,5 GK — 48

4 SSR — 11 SSL

REGISTER AND CAMA SENDER TEST CIRCUIT FCAB — PBT 11 — 49 — 4 LY PORI 5T — LY — D9

56 — 11 13F DI

1F,2F,3F 11,4,11 — DI — 49

10F 4 — DI

11F 11 — DI

4F,5F,6F 4,11,4 — DI — 49

12F 4 — DI

7F,8F,9F 11,4,11 — DI — 49

EM,DI — 49

0F 4 — 49

PBT 5 LO — 49 48 — LF0 1U 2U 640 P1 -48

PBT 6 L3 — 49 48 — LF3 1L 2L 640 P1 -48

PBT 7 L6 — 49 48 — LF6 1U 2U 640 P1 -48

PBT 8 L9 — 49 48 — LF9 1L 2L 640 P1 -48

REGISTER AND CAMA SENDER TEST CKT

73

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-B77

BELL TELEPHONE LABORATORIES INCORPORATED — 6S

SD-25680-01-B77

HIGGINS 4465 K&E

FS 77
TOUCH-TONE CONTROL

DRAWING ISSUE
SSD DM RLP AHD
70D JEG RLP AHD

REGISTER AND CAMA SENDER TEST CKT
PB

PBT
PBTI
HF
LF
SFI
MNF
MXF
SPF
2.5K
2450
700

FCB SW SECT 1
FCB SW SECT 2
SFH
SFL
MNF
ALL
OFF
DSS 73G6
TO REGISTER AND CAMA SENDER TEST CKT
TF 72A/E8

MML REGISTER AND CAMA SENDER TEST CKT
PBTI
LY PBP
ADJ L KEY
ORP

PGI18 1600 800 | PGI7 200 100 | PGI6 400 ±1% 50 ±1%
PGI0 1K 1.6K
PG9 1600 800 | PG8 200 100 | PG7 400 ±1% 50 ±1%
PGI1 50 | PG12 100 200 | PG13 400 800 ±1% | PG14 1.6K | PG15 3.2K
PGI 750 250
PG2 50 | PG3 100 200 | PG4 400 800 ±1% | PG5 1.6K | PG6 3.2K
PG 8.56 8.72
PGO 2.5K
(SEE NOTE 229)
LGP L KEY
PG
S-3300
P-700
PGI
SPB
PGI L U 270
PG
SPB
PGI JACK
ORP
P1
P2

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT
(2)
SD-25680-01-B78
BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-25680-01-B78

HIGGINS 4465 H4E

FS 78
DIAL PULSING CONTROL

(IR LEAK)

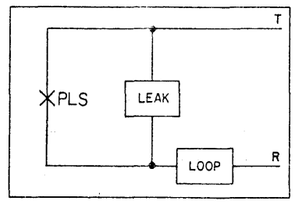
(OR LEAK)

(IR LOOP)

(OR LOOP)

(SURGE)

NOTE:
1. FS 78 SHEET SCHEMATIC.



DRAWING ISSUE	
68D	CRF RLP AHD
78D	TM

ISSUE 102B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B79

BELL TELEPHONE LABORATORIES
INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-B79

HIGGINS 4465 K2E

FS 79
TOUCH-TONE GENERATOR

DRAWING ISSUE
68D ITEM 4 AP AND CF
74D

A04 SEE NOTE 170
B04 SEE NOTE 170

IW,IX,AN A03 MNF 3,4 1210PF, 1020PF, 1020PF
IW,IX,AN A02 MXF 10,11 150PF, 1000PF, 1000PF
IW,IX,AN A01 .0316, .0324, .0324
AO,AP OA6 1330 -48 PI
HF1 HF2 HF3 HF4

IW,IX,AN B03 MNF 1,2 2050PF, 1740PF, 1740PF
IW,IX,AN B02 MXF 9,9 1960PF, 1650PF, 1650PF
IW,IX,AN B01 .0536, .0549, .0549
AO,AP OB6 1330 -48 PI
LF3 LF6 LF9

AO,AP OC6 1330 -48 P
SPF
C01 .021

LA TA OA2 61.9 OA1 VAR OA2 VAR
LB TB OB2 61.9 OB1 VAR CB2 VAR
LC TC OC2 61.9 OC1 VAR OC2 VAR

TO STA REG AND CAMA SDR TEST CKT
TO STB REG AND CAMA SDR TEST CKT
TO STC REG AND CAMA SDR TEST CKT
PBTI ORP P2

HFA L KEY LFA L KEY ADJ L KEY

PA POT. 1K CW OA1 796
PB POT. 1K CW OB1 796
PC POT. 1K CW OC1 796

OA OA2 OA5 4020 OA4 2K OA1 OA3 1.8K
OB OB2 OB5 4020 OB4 2K OB1 OB3 1.8K
OC OC2 OC5 OC20 OC4 2K OC1 OC3 1.8

LF HF SPF T P R 8IDO

74

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)
SD-25680-01-880

BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-25680-01-880

HIGGINS 4465

FS 80
"TOUCH-TONE" GENERATOR

DRAWING ISSUE
68D DMC RLP AMD
81D

HL PAD
IY 15db
IZ 12db
IY 1387
IZ 894.3
300 300
129.8 IY
201.2 IZ
300 7 300
IZ 894.3
IY 1387

TD3 IK PI
TD2 11K
TD 2740
TDI 825 PI -48
VL JK
PBTI
TO REGISTER AND CAMA SENDER TEST CIRCUIT
PT PR
SPB PGI KAA

HLV HLV LLV LLV LLV LLV HLV HLV
L RC VL IK VL .383 PI
PBL RC
PBT 750 PBTI PBR 750 PBTI
TO REGISTER AND CAMA SENDER TEST CIRCUIT
HT HR
TD 8 PBL 4 ORP VLA 5110
VL JK
TO REG & CAMA SDR TEST CKT
IG 83DO 84CO

HLV L KEY 2 3C HLV 1U 2U 640 PI -48
LLV L KEY 2 3D LLV 1L 2L 640 PI -48
LY KA 6B 5 KAA U L 270 P2 -48

LL PAD 10db
649 300 300 649
277.3

80F9

81

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)
SD-25680-01-B81

BELL TELEPHONE LABORATORIES INCORPORATED
6S

HIGGINS 4465 K&E

SD-25680-01-B81

FS 81
MULTIFREQUENCY CONTROL

DRAWING ISSUE
68D CML 00 AND

MULTIFREQUENCY CURRENT SUPPLY AND DISTRIBUTION CKT

T0 T1 T2 T4 T7 T10 R1 R0 R7

L,M,N · W,X · 21 · TF · TG

VO L KEY 1 2

IF 2T,- 1,12 2F
2T,- 1,5 3F
2T,- 1,12 4F,6F
2T,- 1,5 5F
2T,- 1,12 7F,9F
2T,- 1,12 0F,8F
2T,- 1,5

KA 3 4T 2T

V7 L KEY 8 7

STP 2B FD4 3T 2
3KPF 4T 3
KPF 2T 1
3KPF 6T 5
SF 2T 1

TI 470,620,620
MF2 2 5 6 7 MF2
FMF 7 8T 4 5

RI 470,620,620
SF 2B 1
3KPF 4B 3
FMF 4 5T
MF3 2 5 6 7 MF3

TF · TG
STP 1 2T FD4 3B 2
FKP 3T 2 1
3KPF 2B 1
KPF 2B 1

0F 2B,- 1,1
IF,7F 2B,- 1,8
2F,4F 2B,- 1,1
3F,5F 2B,- 1,8
8F 2B,- 1,1
6F 2B,- 1,1
9F 2B,- 1,8
VO L KEY 3 4
V7 L KEY 6 5

KA 1 2T

AC RC
6 30 5 2 30 1 8 20 7 4 20 3

TWT 4 5T 3
TW .04455-.04545
200 TW5
100
50 TW4
25
SEE NOTE 106
11 TW3
7
4 TW2
2
50 TWI
4 9 3 2 9 1 V INDR
3 4 58 TWT

6 7T TWT
6 7 VI 4 5 1
78 6 TWT

2T 1 LL
1 2B LL

LL 3 4 5T T
58 3 4 R LL

21

AIA 198 198
125 A3
125
198 198 A2
AIA 190.2 190.2
A3 289.5
190.2 190.2 A2
AIA 133 AIB 133
275 A3
275
A2 133 A2A 133

P · L · M · N

8360

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)
SD-25680-01-B82

BELL TELEPHONE LABORATORIES INCORPORATED
SIZE 6S

SD-25680-01-B82

HIGGINS 4465 K&E

FS 82
T AND R CONTROL

DRAWING ISSUE
68D
69A
700
73D
78D RA
86D

84H9 MIRT L KEY / MIRT L KEY

TO TRANSFER REGISTER LINK CKT

INCOMING REGISTER LINK CKT

INCOMING REGISTER CKT

79A9 LEAK LOOP PLS

81C9

82D9 C PAD SEE NOTE 105

63F2 ONTI OFR

TG LBI LTI 500 4RB 4RT 500 SEE NOTE 1

IRAB 29.4K

IRPS 6340±1%, 6810±1%

POWER, RINGING, AND TONE DISTG CKT LTI 84E6

IN P-25 IN S-500

IRST 47C0

88A4

RP TP ONI, CK

TG4 1K D33

NOTES:
1. CONTACTS 1,2T AND 1,2B OF THE (TG) RELAY ARE OPERATED WHEN LT1 IS POSITIVE WITH RESPECT TO 4RT, AND CONTACTS 3,4B AND 3,4T ARE OPERATED WHEN LT1 IS NEGATIVE WITH RESPECT TO 4RT.

86

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B83

BELL TELEPHONE LABORATORIES INCORPORATED

6S

HIGGINS 4465 K&E

FS 83
T&R CONTROL

LINE LINK

ORIG TEST LINE

MASTER TEST CONTROL CKT

TO TRUNK TEST CKT

LEAK

PLS

LOOP

7989

POR2

CNK

2P

FPT

TPKI

DOR3 TPK

RP

CNB

SY

SFB

FD1

RSC L KEY

CRK1 300 ±1%

CRK2

CRK3

CRK4 600 ±1%

CRK5 1.5K ±1%

GTI

GT2

GTA

CTAB

GT7

GT5 1700 ±1%

GT4 1725 ±1%

GT3 1155 ±1%

GT6

GTO

GTNO

CNR

CNTT

RVTK

DOR2

TDA

ORAB

STT

STT LS

STT R

SV2

SV1

SV

CXI

PCT

TACI

TN 600

TN 01

OF

LLS

LPS

SAI

ONS

TR

DISC ONS

ONSI

RP5

DSC ONSI

4WT

MOTL L KEY

MIRT L KEY

CB CONN BLOCK

C CORD G

R RCVR

CNC

CN3 2500±1%

CN2 2500±1%

CN1 42±1% 1000±1%

TPK2 1150±1% 2000±1% 2000±1%

TPK3 30±1% 1900±1% 1200±1%

TPK4 117±1% 903±1% 170±1% 97±1% 1740±1% 1200±1% 143±1% 2652±1% 1900±1%

RRP L KEY

RPF L KEY

TPF L KEY

RTP L KEY

RPE2

TAC2

RPS

CRT2

CRK

CRK3

CRK4

CRK5

FD2

CNR

HS HEADSET

TA

TB

REC VAR

RC

T IND COIL

TI INDR

P

SD-25680-01-884

HIGGINS 4465

ISSUE 104B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-884

BELL TELEPHONE LABORATORIES INCORPORATED

6S

FS 84
REVERTIVE PULSE COUNTING

DRAWING ISSUE 68D CRR RLI AHD

S6 S6' S5 S5' S5A SRC S4 S4' S3 S3' S2 S2' S2A S2D S1 S1' SO BO' SOA FO1 FO' SRC SRCT RSS1 RSS2 RSS RSSI RSS2T RC STS

IB IG FLB FLT FLU IBA IGA FLBA FLUA

(0,1)T (2,3)T (4,5)T (6,7)T (8,9)T (0-4)T (5-9)T (0,5)T (1,6)T (2,7)T (3,8)T (4,9)T OTH

IGH IGA AF FRP SI STR STPR STPO RRST RVBA FLTA CA TSTI SFT RSS RSS2 SRC

YK,YL,UK,UL ZZ,YK,YL,UK,UL

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B85

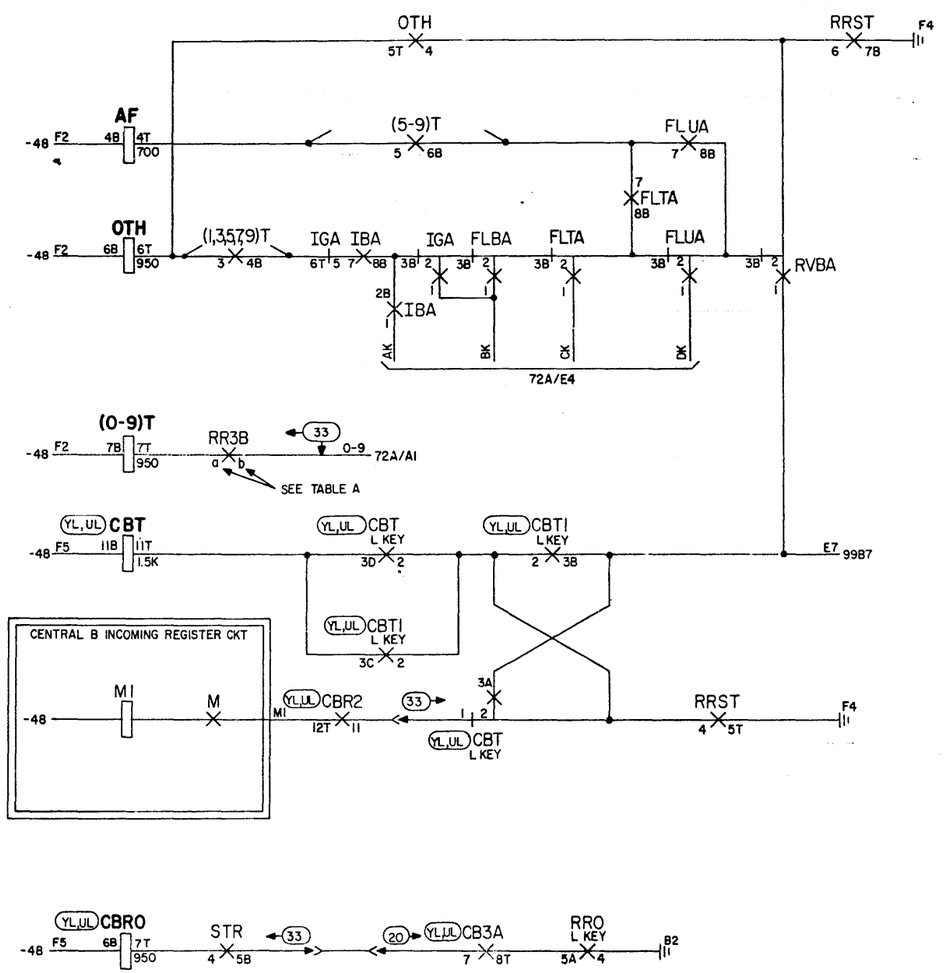
BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-B85

HIGGINS 4465 K&E

FS 85

REVERTIVE PULSE CONTROL



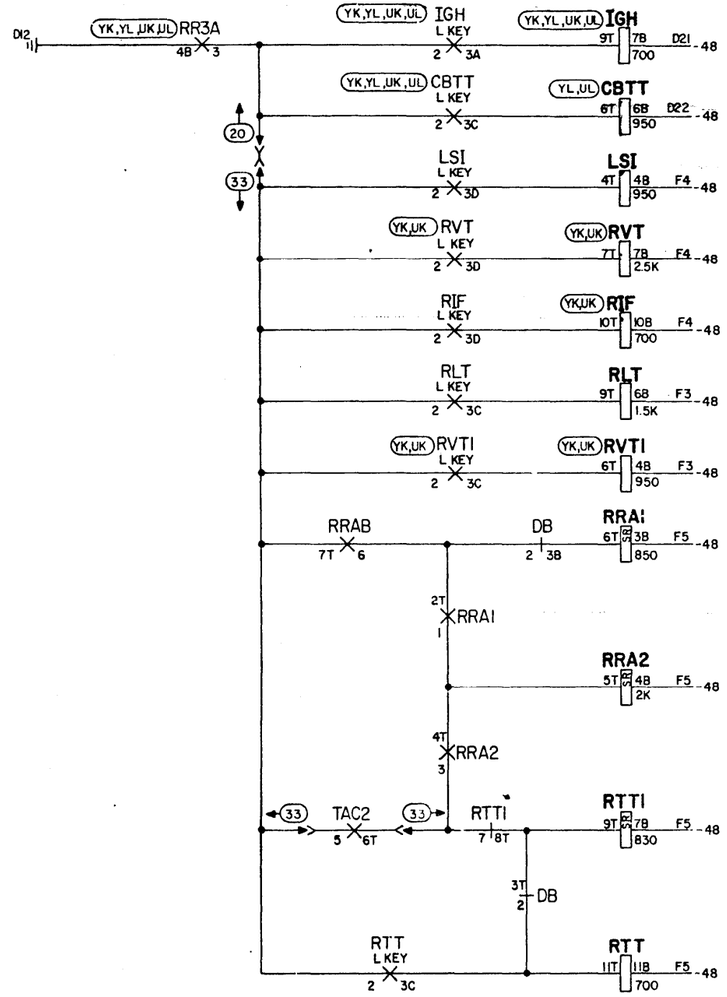


TABLE A

LEAD	CONT	
	a	b
0	1	2B
1	3	4B
2	5	6B
3	7	8B
4	9	10B
5	1	2T
6	3	4T
7	5	6T
8	7	8T
9	9	10T

DRAWING ISSUE

68D	WEG RLP AWD
70D	WEG DBJ RAB
81D	

81

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B86

BELL TELEPHONE LABORATORIES
INCORPORATED

SHEET SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-B86

HIGGINS 4465 M-E

0-PAGE 10-66

FS 86
REVERTIVE PULSE CONTROL

DRAWING ISSUE
68D BEM ALP AHD

IB 108 10T 700 F2 3
IBA 98 9T 950
IG 108 10T 700 F2 3
IGA 98 9T 950
FLB 108 10T 700 F2 3
FLBA 98 9T 950
FLT 108 10T 700 F2 3
FLTA 98 9T 950
FLU 108 10T 700 F2 3
FLUA 98 9T 950
RVB 108 10T 700 F2 3
RVBA 98 9T 950
F3 -48

IB 1 2T
IB 4 5B
IG 1 3T
IG 4 5B
FLB 1 3T
FLB 4 5B
FLT 1 3T
FLT 4 5B
FLU 1 3T
FLU 4 5B
RVB 1 3T
RVB 4 5B

3B 1 2 IB
3B 1 2 IG
3B 1 2 FLB
3B 1 2 FLT
3B 1 2 FLU
3B 1 2 RVB

IB 4 5 6T
IG 4 5 6T
FLB 4 5 6T
FLT 4 5 6T
FLU 4 5 6T

(33) (20) (YK,YL,UK,UL) CA 3B 2

(YK,UK) OF2 2T 1
FO' 1 A 2
FOT 2B 1

(33) (20) (YK,YL,UK,UL) RR3A 4 5T
STK 3 4T D12

(NB) FLUA 5 6T (NB)
(NB) FLBA 8T 7 (NB)
STPO L KEY 2 3A
STPO 8T 8B 700 F2 -48
STPO 6 7T
RVBA 8T 7
(YK,UK) RIF 9B 8

FO2 9T 7B 400 F4 -48
FO2 3 4T
F3

F4 (33) RRST 5B 4
FLTA 8T 7
(YK,UK) RVTI 2 3B 1
RRTO 2 3T 1
STR 6 7T
STR 8T 6B 700 F2 -48
FOI 1 2B
RVB 8 9B
(YK,UK) OFI 5B 4
RRTI 4 5T
RRTI 6T 4B 950 F3 -48
RVT2 1 2B
(YK,UK) RVT2 4T 3B 1.3K F3 -48
DB 7T 6
(YK,UK) RG 5T 4
(YK,UK) T 5T 4
(YK,UK) TI 8T 7B 2.5K F4 -48
(YK,UK) TI 6 7T
(YL,UL) PMI 5 2
(YL,UL) PM2 6T 6B 950 F5 -48
(YL,UL) PM2 4 5T

D12 D 5B 4 (20) (33) DB 8T 6B 700 F5 -48

RTT B2 -48
RTTI 4B 3
RTT 9 10B
RRAB B2 -48
RRAB 4 5T
IFF B2 -48
OFT 3B 2 1
FLO B2 -48
IFT 6T 5
(YK,UK)

F3 (33) (YK,UK) BK 2B 1
(YK,UK) RIF 9T 8
F5 (33) (YL,UL) CBT 1 2T
(YK,UK) TI 1 2B

RVB B3 -48
CB3B 6B 5
FLU B3 -48
FLT B3 -48
FLB B3 -48
IG B3 -48
IB B3 -48
7 8 9T
IB 8T 7
3T 2 1 RTT

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B87

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

SD-25680-01-B87

HIGGINS 4465 K&E

FS 87
CENTRAL B CONTROL

PMI
12K
CFR
CB3 800±1% 400±1%
CB2 200±1% 100±1%
CB1 50±1%
(SEE NOTE 216)
CFT
CB6 800±1% 400±1%
CB5 200±1% 100±1%
CB4 50±1%
(SEE NOTE 216)
CENTRAL B INCOMING REGISTER CKT
FTI
FRI
CBT
CBA2
PM2
CB3B (YL,UL)
CR
CT
CB14 (YL,UL) 1.6K±1%
CB13 (YL,UL) 1.6K±1%
CBA (YL,UL)
CB15 (YL,UL) 500
CB16 (YL,UL) 500
CBR0 (YL,UL)
CBR3 (YL,UL)
BRP
RIR3 (YK,UK)
NA

FS 88
REVERTIVE PULSE CONTROL

8307
T (YK,UK) 5B 6T T-3K F3
OF2 (YK,UK)
RRT1 3T
RR3 700±1%
RLT 3T
F01 4B
F02 4B
BO' 2
RVBA 2 3T
RIF (YK,UK) 1 2B
RR5 (YK,UK) 510±1% 5700±1%
IFT (YK,UK) 2B
RR4 387.5±1% 387.5±1%
BRP 6T
RR2 (MT,MU) .5, 4.28-4.36
RRI 2.04-2.16
RRI5 100±1%
RRI 56±1%
RRL' (YK,YR,UK,VR) F2
RR2 30K±1% OR 30.1K±1% F2
RRL' 8T
STPR R L 125
OVF (YK,UK) P-80 S-1000
RTT 10T
RVB 6T T-60
STPO
FTP RB1 2RT 100
RR6 2000±1% 1760±1%
RR7 210±1% F1
OF2 (YK,UK) 5B
RRI4 475±1% 325±1%
RRI3 1K±1%
BRP
FRP 4T
RRI1 3.2K±1%
RRI2 955±1% F2-48
RG (YK,UK) 6T 5B 1.3K F4-48
FLBA 8B
STPO 7B
RR9 3K±1% 3K±1%
RRI0 1510±1% F2-48
CBA (YL,UL) A
CBAI (YL,UL) 6T 5B 1.3K F5-48
CBAI (YL,UL) 5T
CBA2 (YL,UL) 8T 8B 950 F5-48
FTP (NB) 2T
FRP (NB) 5T 18 2.5K F2-48
STPO (NB) 4 5B
RR8 (NB) 4K F2-48

DRAWING ISSUE
68D DD RLP AND

68

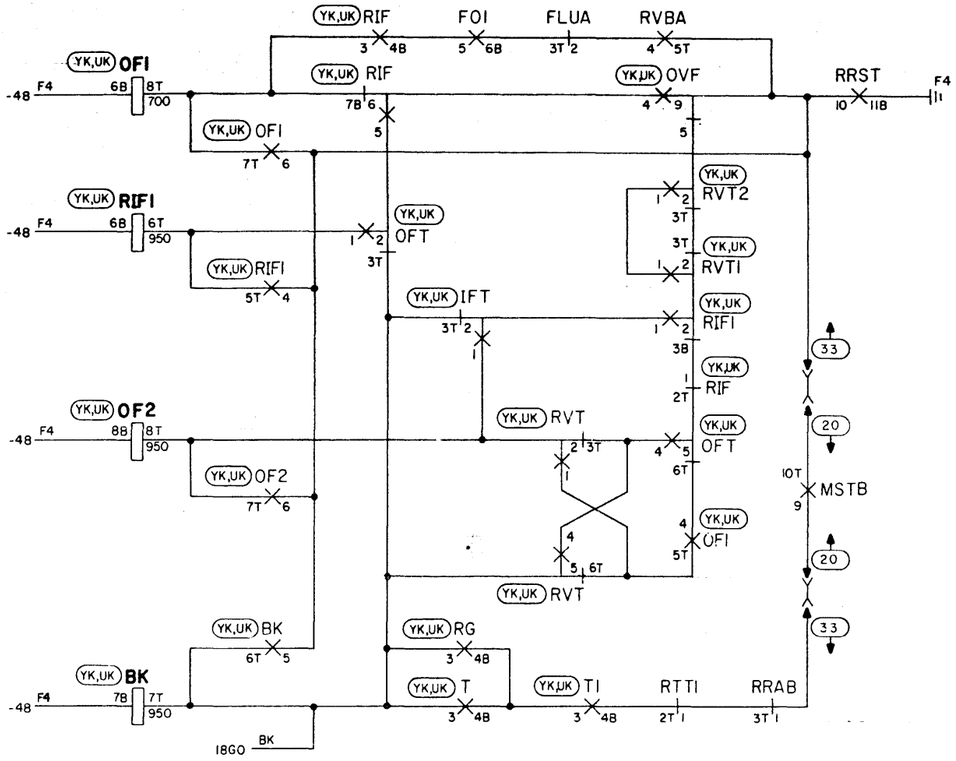
MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)
SD-25680-01-B88

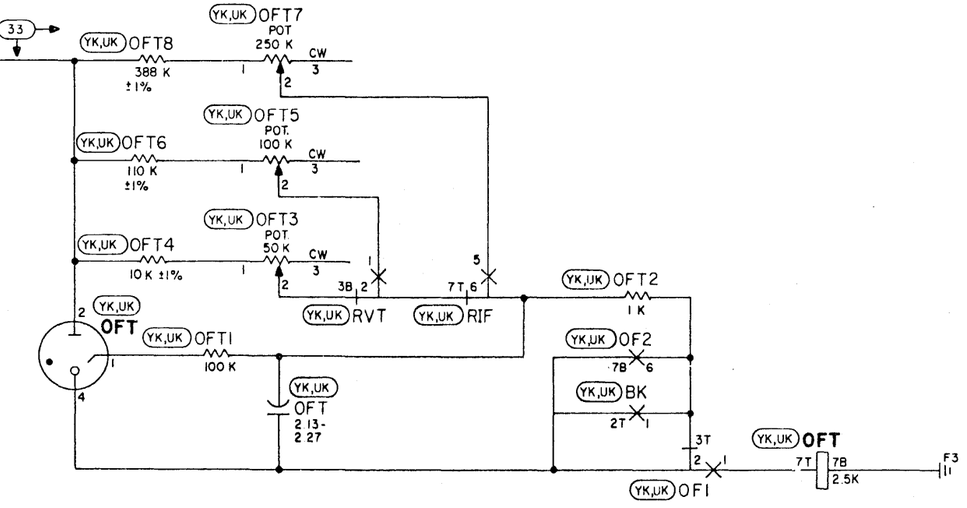
BELL TELEPHONE LABORATORIES INCORPORATED
SIZE 6S

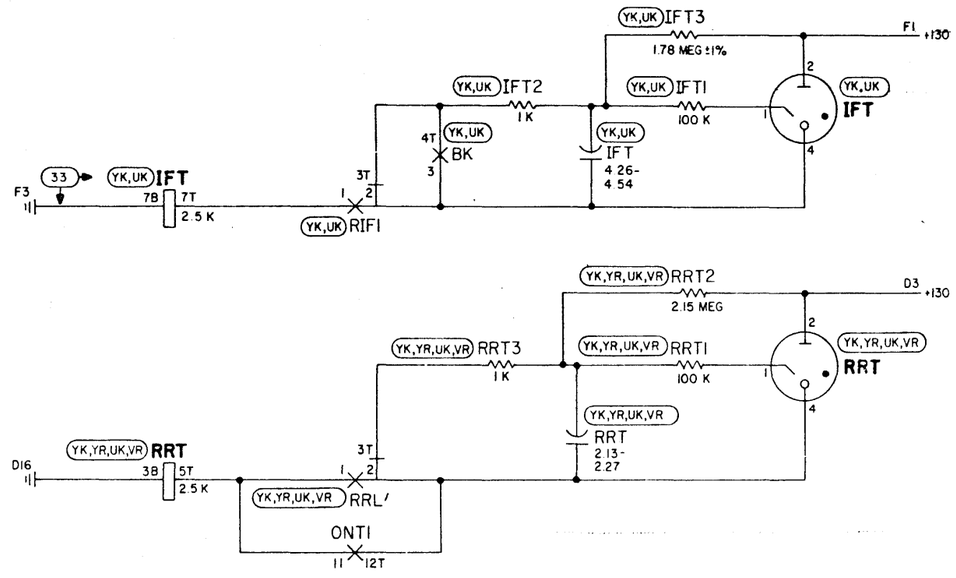
SD-25680-01-B88

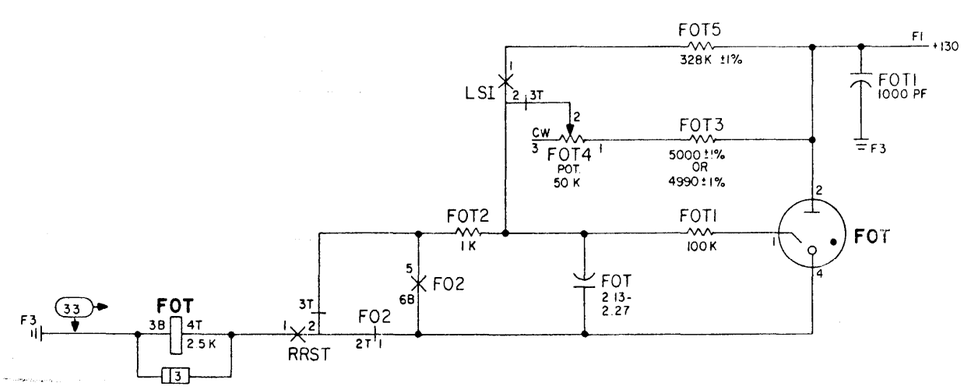
HIGGINS 4465

FS 89
REVERTIVE PULSE TIMING









DRAWING ISSUE
68D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B89

BELL TELEPHONE LABORATORIES
INCORPORATED

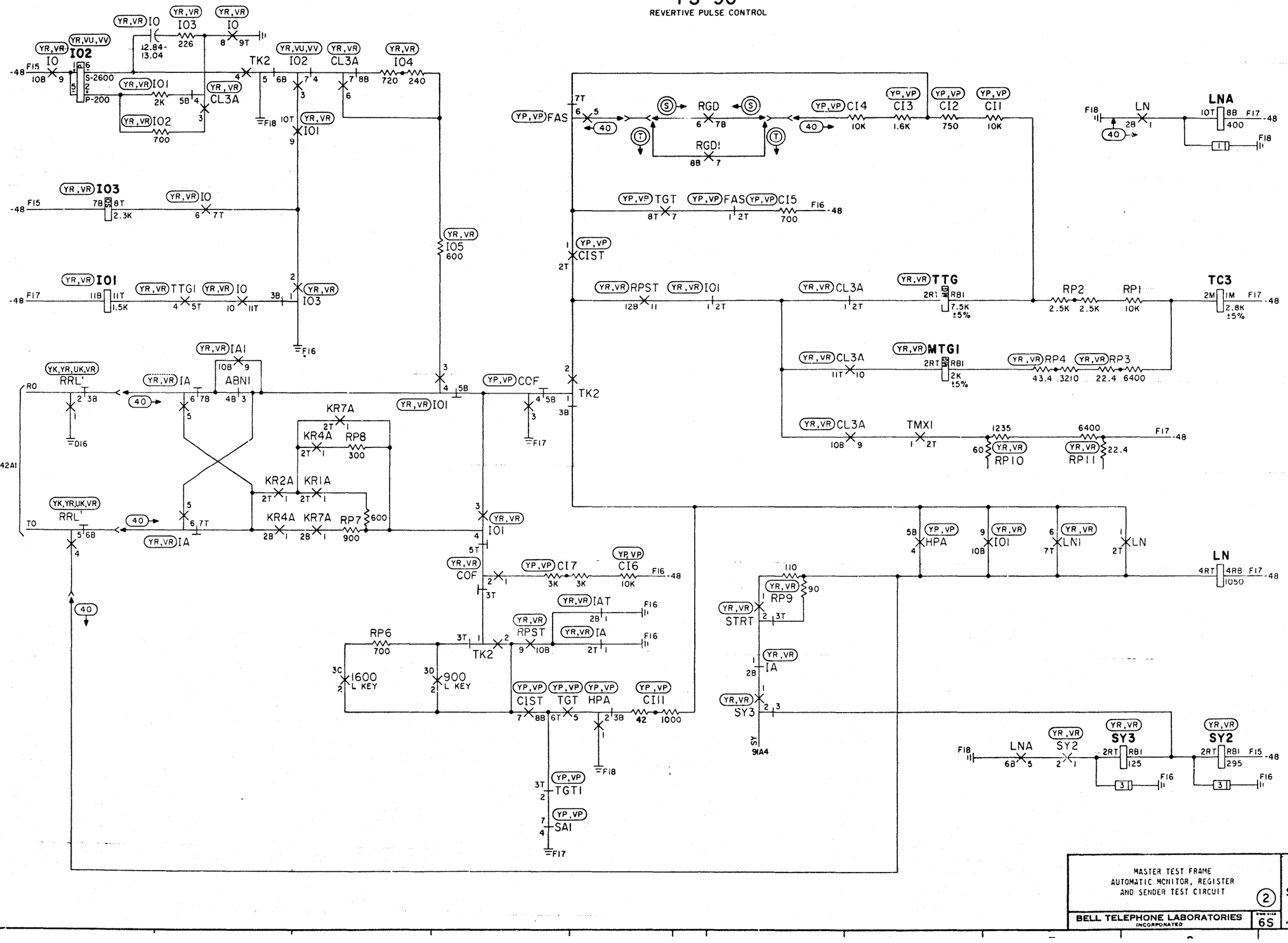
6S

SD-25680-01-B89

HIGGINS 4465

FS 90
REVERTIVE PULSE CONTROL

DRAWING ISSUE 680 BEM KLP AHD



68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B90

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-B90

HIGGINS 4465 K&E

FS 91

REVERTIVE PULSE CONTOL

DRAWING ISSUE 68D DM KLP AMD

ISSUE 98B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25680-01-B91

SIZE 6S

SD-25680-01-B91

HIGGINS 4465 K&E

FS 92
REVERTIVE PULSE GENERATOR

DRAWING ISSUE
68D JEG RLA DHD
70D WLW GGJ MJD
86D

FND
RVP
RVP1
RS3A
RS3A
FND JK
RV
RVA
RVIB
RV14
RV14A
RV4
RV5
RV6
RV7
RV2A
RV3A
RVIA
RV10
RV11
RV12
RV13
RVP1
RPST
IO
CL3
STRT
SLO
RVS
RVAS
RV9
RV8
IA1
TC4
TMT
4WMF
CL3A
SLO
SLO1

(SEE NOTE 217)

ISSUE 98B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)
SD-25680-01-B92

BELL TELEPHONE LABORATORIES
INCORPORATED
DWG SIZE 6S

SD-25680-01-B92

HIGGINS 4465

FS 93
REVERTIVE PULSE TIMING

DRAWING ISSUE
68D JR KLP AHD

+130 F3 — 40 — TM10 75K — TM11 POT. 100 K CW — (YP,VP) CIST 5 6T
TM8 10K — TM9 POT. 50K CW — (YR,VR) RPST 5 6T
TMNI 2 — 1 — 4
TM6 100 K — TM7 1K — TMN 2.13-2.27
98 8 7 — TK2 — TB3 4 5T — TMNI 4 5T — TMNI 6T 5B 25K

+130 F3 — TM4A 402 K ±1% — TM5 POT. 500 K CW
TMXI 1000 PF
TM3A 2.21 MEG ±1% — 9T 7 8 (YR,VR) CL3A
TMXI 2 — 1 — 4
TM1A 100 K — TM2A 1K — TMX 2.13-2.27
(YP,VP) FAS 2B 1 — (YR,VR) CL3A 1 2B — TC4 9B 8
(YP,VP) AMAI 4T 3
REC2 2B 1
6T 5 — TK2 — TMXI 4 — TMXI 5 6T — TMXI 7T 7B 25K

+130 F3 — (YR,VR) IAT (LN) 2.21 MEG ±1% (LO) 1.2 MEG ±1% — IA3
(YR,VR) IA1 100 K — (YR,VR) IA2 1K
(YR,VR) IAT 2.13-2.27
LNA 1 2B — TB3 5B 4 — 7T 6 5
(YR,VR) IAT 6 7T — (YR,VR) IAA
(YR,VR) IAT1 0.01
(YR,VR) IAT 8T 7B 25K — ON D9
7 — ONSI 8B — F18

+130 F3 — TCI3 75K — TCI4 POT. 100 K CW
TCTI 2 — 1 — 4
TCI1 100 K — TCI2 1K — TCTI 2.13-2.27
LNA 6T 5 — (YR,VR) IAA 4T 3 — (YR,VR) IAI 6 7T
(YR,VR) IO3 2T 1
40 — (S) RGDI 4B 3 (S) — 40 — TCTI 6T 4B 25K
(T) (T) — RGDI 9 10B

+130 F3 — (YP,VP) TGT5 732 K — (YP,VP) FAS 7B 6 5
(YP,VP) TGT3 36.1K ±1% — (YP,VP) TGT4 POT. 100 K CW
TGT 2 — 1 — 4
(YP,VP) TGT1 100 K — (YP,VP) TGT 2.13-2.27
(YP,VP) TGT2 1K ±1% — 40 (T) (S) RGD 3B 2 1 — RGDI 3B 2 1 — 40 (T) (S) — 40 — (YP,VP) TGT 9T 9B 25K
(YP,VP) TGT 3 48
ON G4

40 — +130 F3 — AB3 732 K ±1%
ABT 2 — 1 — 4
ABI 100K — AB2 1K — ABT 2.13-2.27
7B 6 TC4 2T 1 SD2A — DSC 4 5B — 7B 6 SD2A — 3
ABT 6T 4B 25K — F18

-48 F16 — 40 — (YP,VP) CI9 605 ± 5% — (YP,VP) CI10 340 ±1% — (YP,VP) CIST 5 6B — (YP,VP) SAI 2 5 — (YP,VP) CIST 1 2B — F17
P-200 ±1% — S-2600 ±1% — (YP,VP) SAI 4.28-4.36 — F17
-48 F16 — CI8 270 ±1% — RGDI 4 5 — (T) 40 6 — F17 68
-48 F16 — CI8 270 ±1% — RGD 4 5B — 1 RGDI 2B — F17
(YP,VP) TGTI 5B 6T 1300 — (YP,VP) TGT 5 6B — F17
-48 F16 — 40

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2) SD-25680-01-B93

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

SD-25680-01-B93

HIGGINS 4465 K&E

PCI OUTGOING SENDER CKT

TO SENDER LINK CKT

LRI TTK CII TG2 OF TG EP FP PGI LNG GR BPG PR PT RS LPG LP8 -48 LNB -48 PR HN -48 FP RR -48 CR- TG2 CII EP MI MI FP MI MI PGI

95A6

FS 94
PCI SENDER CONTROL

CI VAR CTI VAR F10 CSP GNII 10K CII3 3010 CII2 3830 N1 4.8K N 2RT RBI 840 G 2RT RBI 840 G1 4.8K +130 F2 GN3 200K GN1 1MEG GN 26A3 GN2 1MEG GN4 200K GN7 2MEG GN5 510K GN1 .094-.100 GN2 .094-.100 GN6 510K GN8 2MEG CII5 5100 OR 5110 CII CII4 1780 RGDI TGD 5T 5B 700 F16 -48 TGD RGDI 10T,12T 88,11B 700,400 RGD 7T,4T 6,3 RDGI WAT L KEY 950 AMAI AMA 950 F17 -48 ABN2 6T 6B 2.5K F11 -48 DSC 10B CIOF L KEY TGTI COF 9T 9B 1.5K F16 -48 FAS L KEY 11T 11B 1.5K CIST

GNI POT. 50 GN9 210 ±1% 326 ±1% 20 ±1% 400 ±1% GNI2 270 ±1% 620 ±1% CU' GN2 POT. 50 GNIO CONI

95A0

FS95

PCISENDER CONTROL

DRAWING ISSUE 68D RDT RLP AHD

94H1

PM7 2 MEG

PM5 510K

PM3 200K

PM1 IMEG

PM1 .094-.1

PM2 IMEG

PM2 0.094-0.10

PM4 200K

PM6 510K -48

PM 26A3

MG

MG1 4.8K +130 F2

MG 2RT RBI 840

POS

POS 1 RBI 2RT 840

POS1 4.8K +130 F2

9485

CSP

RGD 2B 1 F17

CIST 8T 7 YP,VP

WAT 2T 1 YP,VP

TMX1 6B 5 F18

FAS YP,VP

RGD S,T 8T,5T 88,38 700,2500 F16 -48

CSP Q,R 4 5T

PM9 37

CONI 4 5T

PM8 270±1%

PM10 75 ±1% 110 ±1%

PM1 POT. 100

PM11 480 ±1%

PM9 210 ±1%

PM10 210 ±1%

PM12 580 ±1%

PM2 POT. 100

GN C 720 ±1% B 133 ±1%

PM A 1.2K ±1% 1.9K ±1%

SEE NOTE 305

CHPE F15 5T 4

HPA YP,VP 6T 68 400 F17 -48

RP INCOMING REGISTER CKT

LA M

RIR YK,UK 10T 9

CENTRAL B INCOMING REGISTER CKT

LA M

CBR YL,UL 10T 9

RP OUTGOING SENDER CKT

ONI FO' M

ROS YR,VR 10T 9

ROS2 YR,VR 10T 9

RPST YR,VR 4B 3

RSI,2 8+ 7- 4K F8 -48

RS3 VR,YR 8+ 7- 4K F15 -48

RS

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B95

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

HIGGINS 4465

SD-25680-01-B95

FS 96

REVERTIVE PULSE MONITORING

DRAWING ISSUE 68D LP RLP AHD

RP OUTGOING SENDER CKT

RP INCOMING REGISTER CKT

CENTRAL "B" INCOMING REGISTER CKT (SAME AS RP INCOMING REGISTER CKT SHOWN ABOVE)

STP OF

STP M

L 48

RPL1 RPL2 RPL3 RPL4

ROS ROSI RIR CBR RIRI CBRI RPLT

RPL 4T 18 32

RCR RSI RCR .25

ARP5-8 ARPI-4 ARPI-9 ARPO RON RS2 RRS

RPO-9 RPO'-9' RPO' RPI' RP9' RPC0-9 RPL RPLA DSP

THROUGH INTERMEDIATE (RP-') CONTACTS

P2-30±10%

PI-30±10%

S-3000±1%

(SEE NOTE 225)

RPL1 INDR 4 155 3 RPL2 INDR 4 155 3

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-B96

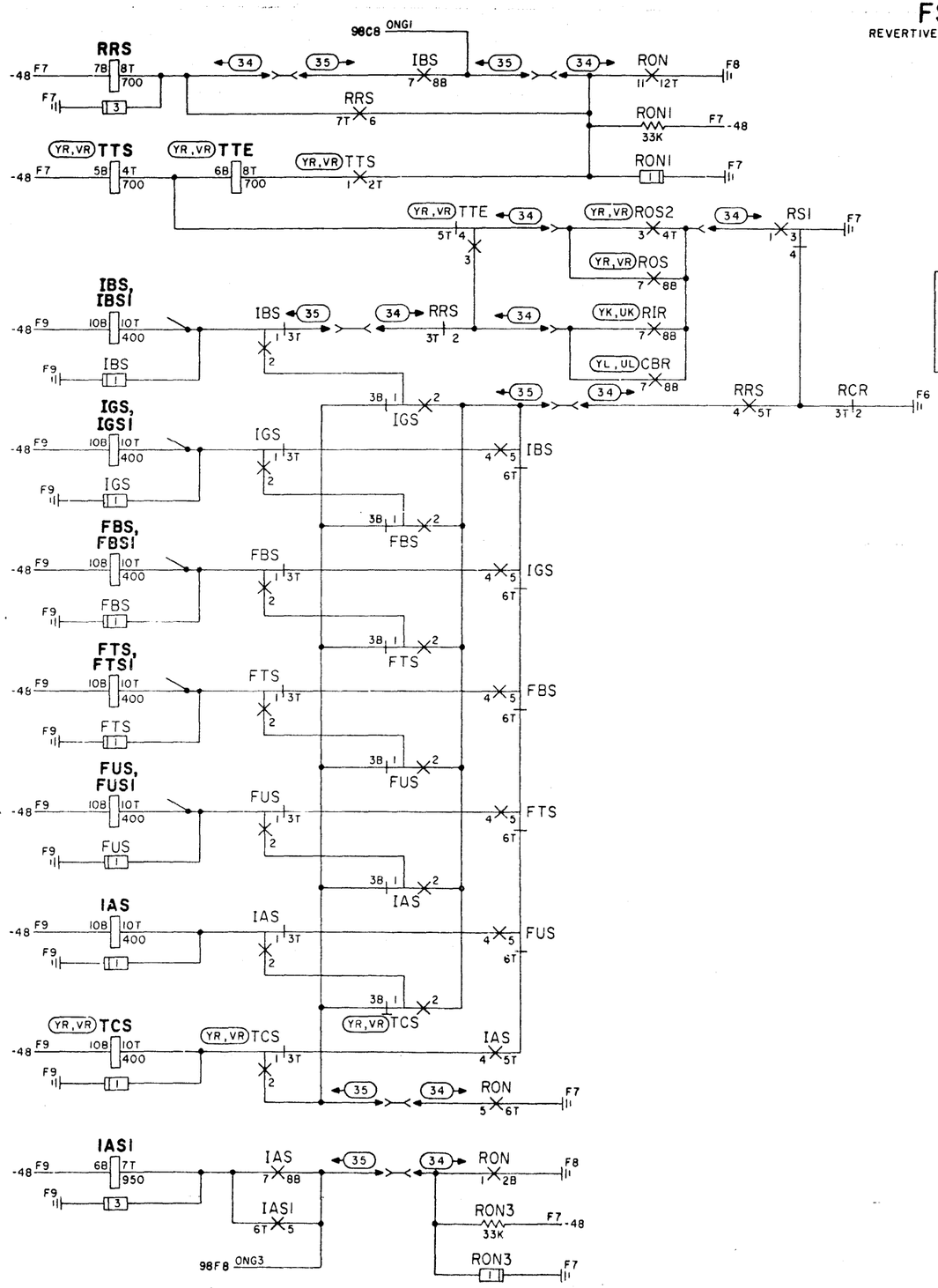
BELL TELEPHONE LABORATORIES INCORPORATED

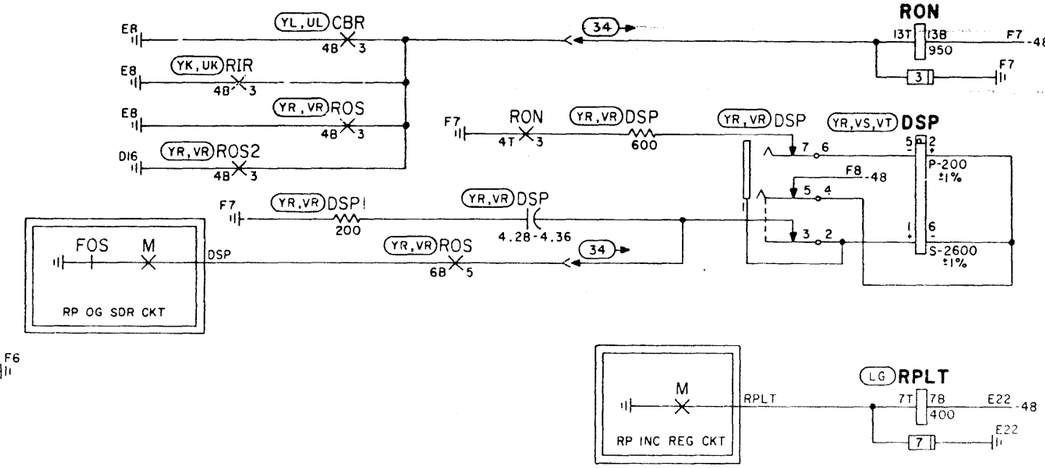
68

SD-25680-01-B96

HIGGINS 4465 K-E

FS 97
REVERTIVE PULSE CONTROL





MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)	SD-25680-01-B97
BELL TELEPHONE LABORATORIES INCORPORATED	6S

DRAWING ISSUE 68D

68

SD-25680-01-B97

HIGGINS 4465 K/E

FS 98

REVERTIVE PULSE REGISTER

DRAWING ISSUE 680 RDT

ARP0 ARP1 ARP2 ARP3 ARP4 ARP5 ARP6 ARP7 ARP8 ARP9 RS2 F10

APR5 RSI F7

IBSI IBO IBI IB2 IB3 IB4

IGSI IGO IGI IG2 IG3 IG5

FBSI FBO FBI FB2 FB3 FB4

FTSI FLTO FLTI FLT2 FLT3 FLT4 FLT5

FUSI FLUO FLUI FLU2 FLU3 FLU4 FLU5

ONGI — 97A2 — RON F8

RON F8 — RON2 F7 — RON2 F7 33K -48

ONG3 — 97HI — RON F8

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B98

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25680-01-B98

HIGGINS 4465 K&E

HIGGINS 4465 K+E

FS 99
REVERTIVE PULSE REGISTRATION

YU IG5 1 2 3T
35 34 YR,VR 38 2 TTE YC,YR,UC,VR,LT CL4 1 2 3T F8 D17
35 17
35 17

IG0,1 2T 1 — IB1,2 2T 1 — IB3 2T 1 — IB0 2T 1 — IB4 2T 1 — 0
F9 IG0,1 4T 3 — IB4 4T 3 — 1
IB1 4T 3 — 2
IB2,3 4T 3 — 4
IB0 4T 3 — 7
IG2,3 2T 1 — IB3 2B 1 — 0
IB0,1,2 2B 1 — 1
IB4 2B 1 — 2
F9 IG2,3 4T 3 — IB0 4B 3 — 4
IB1,4 4B 3 — 2
IB2 4B 3 — 4
IB3 4B 3 — 7

B — XC,YK,YL,UK,UL RTR0
0 2B 1 0
1 4B 3 1
2 6B 5 2
4 8B 7 4
7 10B 9 7
35 AO,1,2,4,7 -48
AO,1, 2,4,7
32F8

C — XC,YK,YL,UK,UL RTR0
0 2T 1 0
1 4T 3 1
2 6T 5 2
4 8T 7 4
7 10T 9 7
35 BO,1,2,4,7 -48
BO,1, 2,4,7
33D2

A
F9 IG0,2 2B 1 A — FB1,2,4 2T 1 — FB3 2T 1 — FB0 2T 1 — 0
F9 IG0,2 48 3 B — FB1 4T 3 — FB2,3 4T 3 — FB4 4T 3 — FB0 4T 3 — 1 2 4 7
F9 IG1,3 2B 1 C — FB2 2B 1 — FB0,3 2B 1 — FB1,4 2B 1 — 0 1 2
F9 IG1,3 4B 3 D — FB0,1 4B 3 — FB2,3,4 4B 3 — 4 7

B — YQ,YT RTR2
35 CO,1,2,4,7 -48
CO,1, 2,4,7
33D3

B — XC,YK,YL,UK,UL RTR1

B — YS,YT RTR4
35 DO,1,2,4,7 -48
DO,1, 2,4,7
33D4

C — YQ,YT RTR2

C — XC,YK,YL,UK,UL RTR1

C — YS,YT RTR4
0,1,2,4 7 35 EO,1,2,4,7 -48
F9 XC,YK,YL,UK,UL RTR1 12T 11 35
EO,1, 2,4,7
33D6

F9 FLT5 2 3T A
F9 FLT5 1 2 3B B
C
D
A FLT0-4

B — YQ,YT RTR3

F9 FLU5 2 3T A
F9 FLU5 1 2 3B B
C
D
A FLU0-4

B — YS,YT RTR5

C — YQ,YT RTR3
35 FO,1,2,4,7 -48
FO,1, 2,4,7
33D7

C — YS,YT RTR5
0,1,2,4 7 35 GO,1,2,4,7 -48
F9 YQ,YT RTR3 12T 11
F9 YS,YT RTR5 12T 11 35
GO,1, 2,4,7
33D9

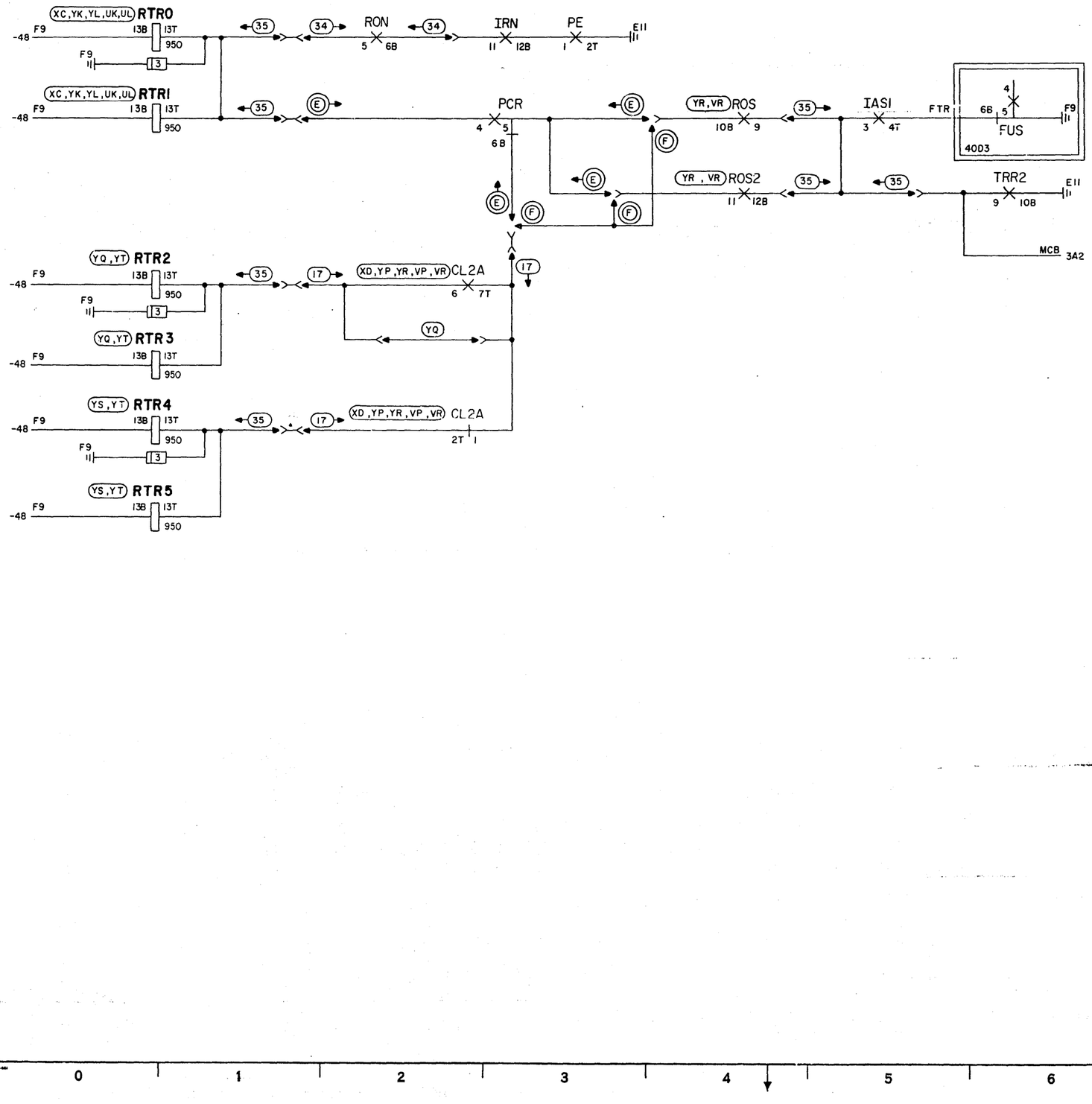
H7
H7 -48
34C1

F4 RRST 78 6 RVBA 33 E7
2 3B
86D4

BELL TELEPHONE LABORATORIES INCORPORATED
MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT
SIZE 6S
SD-25680-01-B99
70
DRAWING ISSUE 70D 68D

FS 100

RP REGISTRATION CONTROL



SD-25680-01-B100

HIGGINS 4465 K+E

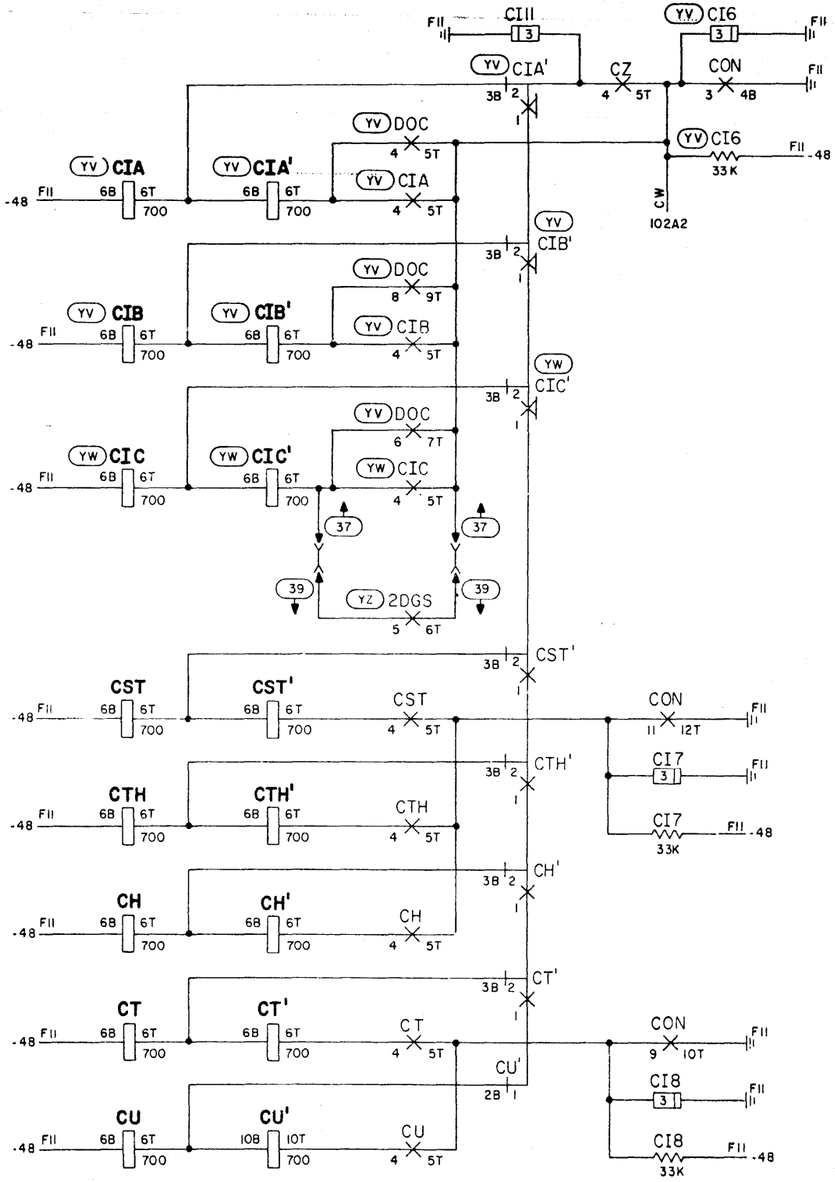
DRAWING ISSUE		
58D	JRN KLP AHD	CB
74D	RDT	CB

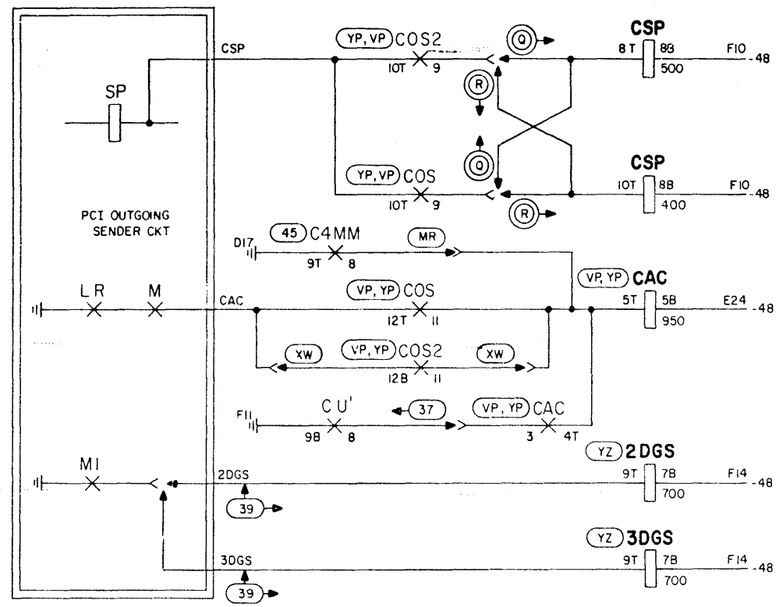
ISSUE 94A

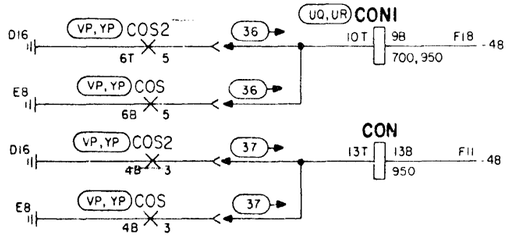
MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)	SD-25680-01-B100
BELL TELEPHONE LABORATORIES INCORPORATED	SIZE 6S

PRINTED IN U.S.A.

FS 101
PCI REGISTER







DRAWING ISSUE 68D

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-8101

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

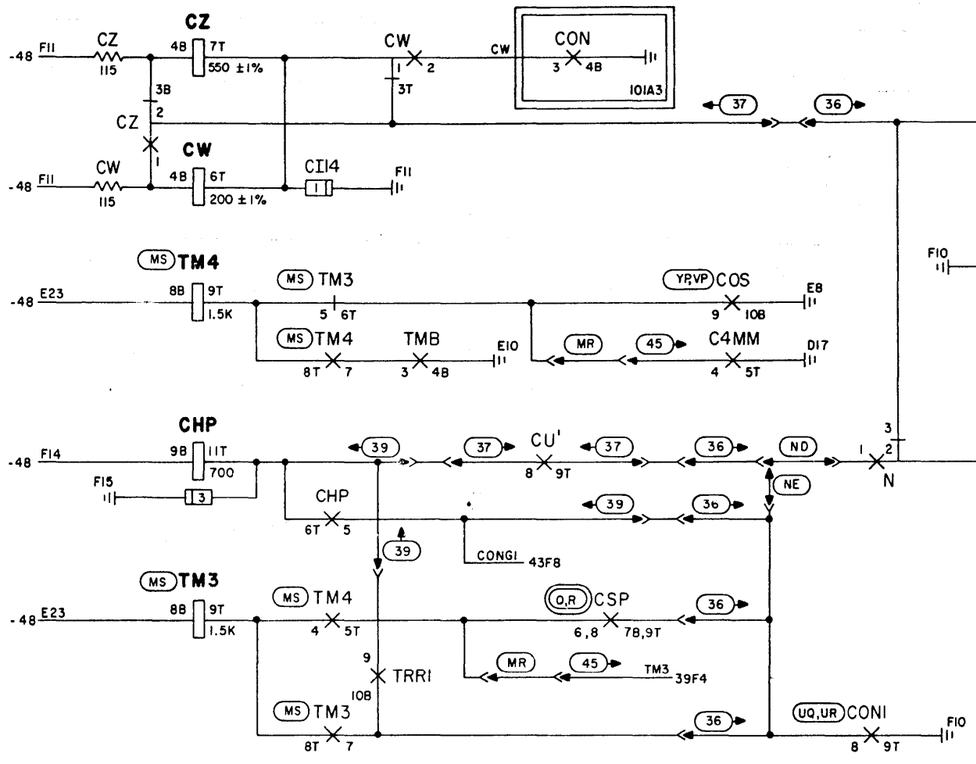
PRINTED IN U.S.A.

HIGGINS 4465

SD-25680-01-8101

FS 102

PCI REGISTER



DRAWING ISSUE
68D ITEM RLP WHD

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B102

BELL TELEPHONE LABORATORIES INCORPORATED

6S

PRINTED IN U.S.A.

SD-25680-01-B102

HIGGINS 4465 M&E

0 1 2 3 4 5 6 7 8 9

A B C D E F G H

FS 103
PCI REGISTER

DRAWING ISSUE
68D JR RLP AHP

CIA CIB CIC CST CTH CH CT CU
CII3 FII
CAI CBI CCI STA CTH2 CHI CTI CUI
CIA' CIB' CIC' CST' CTH' CH' CT' CU'
CW CZ
CI9 CII2 CII0
CA4 CB4 CC4 STC CTH8 CH4 CT4 CU4
CA2 CB2 CC2 STB CTH4 CH2 CT2 CU2
CA5 CB5 CC5 STD CTH1 CH5 CT5 CU5
CON CI2 CI3 CI4 CI5
33K

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B103

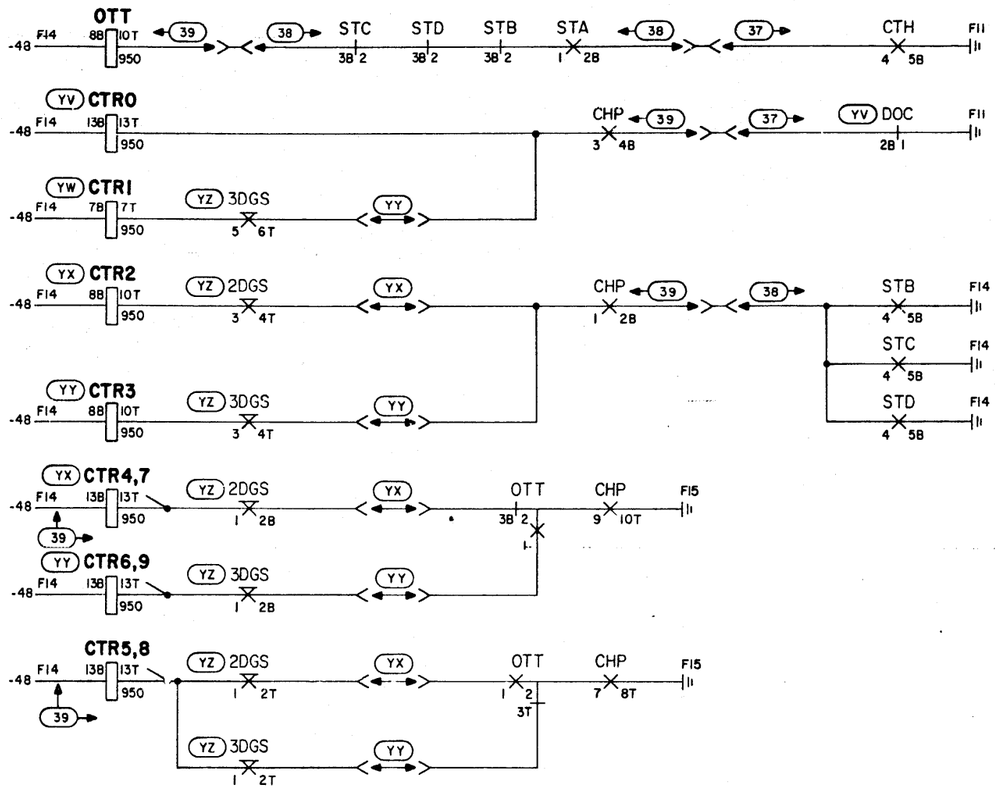
BELL TELEPHONE LABORATORIES
INCORPORATED
6S

SD-25680-01-B103

HIGGINS 4465

FS 104

PCI REGISTRATION CONTROL



DRAWING ISSUE
68D ADT RLP AMD

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B104

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-B104

HIGGINS 4465 K-E

SD-25680-01-B105

HIGGINS 4465 K·E

PART OF FS 105

PCI REGISTRATION

A

F14 CA2 9B 8 CA1 1 2B 2B 1 CA5 0

F14 CA4 6 5 7B CA2 1 2B CA1 6 5 7T CA5 9B 8 1 2

F14 CA5 1 2T CA4 4T 3 CA2 4T 3 4

F14 CA2 1 2T CA5 4T 3 CA1 4T 3

F14 CA5 7B 6 5 CA4 2B 1 7B 5 6 7B F14 CA2 CA1 5

F14 CA2 6 7T 5 CA4 6 7T 5 CA1 1 2T CA5 7T 6 5 7

(38)

B (39) CTRO

0 2T 1 0 0
1 4T 3 1 1
2 6T 5 2 2
4 8T 7 4 4
7 10T 9 7 7

(YV) AO, 1, 2, 4, 7 — AO, 1, 2, 4, 7 -48

32F8

A CBI, 2, 4, 5 (38)

C (39) CTRO

0 2B 1 0 0
1 4B 3 1 1
2 6B 5 2 2
4 8B 7 4 4
7 10B 9 7 7

(YV) BO, 1, 2, 4, 7 — BO, 1, 2, 4, 7 -48

A (YW) CCI, 2, 4, 5 (38)

(39, YW) CTRI

0 4B 3 0 0
1 2B 1 1 1
2 2T 1 2 2
4 4T 3 4 4
7 6T 5 7 7

F14 CTH1 6 5 7B CTH8 1 2B CTH2 7B 6 5 CTH4 1 2B 0

F14 CTH1 9B 8 CTH8 9B 8 6 7B CTH2 9B 8 CTH4 9B 8 5

F14 CTH1 1 2B 5 CTH2 1 2B CTH4 6 7B

F14 CTH8 9B 8 1

F14 5 7T 6 CTH1 5 6 7T CTH8 CTH2 6 5 7T 2

F14 7T 6 5 CTH4

F14 CTH1 1 2T CTH8 1 2T CTH2 1 2T 4

F14 CTH1 4T 3 CTH2 4T 3 CTH4 4T 3 7

(38)

C (39, YX) CTR4

0, 1 / 2, 4, 7

CO, 1, 2, 4, 7 — CO, 1, 2, 4, 7 -48

F15 OTT. 5T 4 (YX) (YZ) 2DGS 4P 3 0

F15 OTT 7T 6 (YX) (YZ) 2DGS 6B 5 1

(YY)

(YZ) 3DGS 4B 3 0

(YZ) 3DGS 6B 5 1

(39)

A CHI, 2, 4, 5 (38)

C (39) CTR3

B (39, YX) CTR4

0, 1 / 2, 4, 7

DO, 1, 2, 4, 7 — DO, 1, 2, 4, 7 -48

C (39, YY) CTR6

B (39) CTR5

A CT1, 2, 4, 5 (38)

C (39, YX) CTR7

EO, 1, 2, 4, 7 — EO, 1, 2, 4, 7 -48

B (39, YY) CTR6

C (39) CTR8

A CU1, 2, 4, 5 (38)

B (39, YX) CTR7

FO, 1, 2, 4, 7 — FO, 1, 2, 4, 7 -48

TO, 1, 2, 4, 7 — UO, 1, 2, 4, 7

106FO

3302-7

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

6S (2) SD-25680-01-B105

PRINTED IN U.S.A.

70

DRAWING ISSUE — 68D KEG — 70D SAM 9-4-64 MN

SD-25680-01-B106

HIGGINS 4465

PART OF FS 105

PCI REGISTRATION

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

2

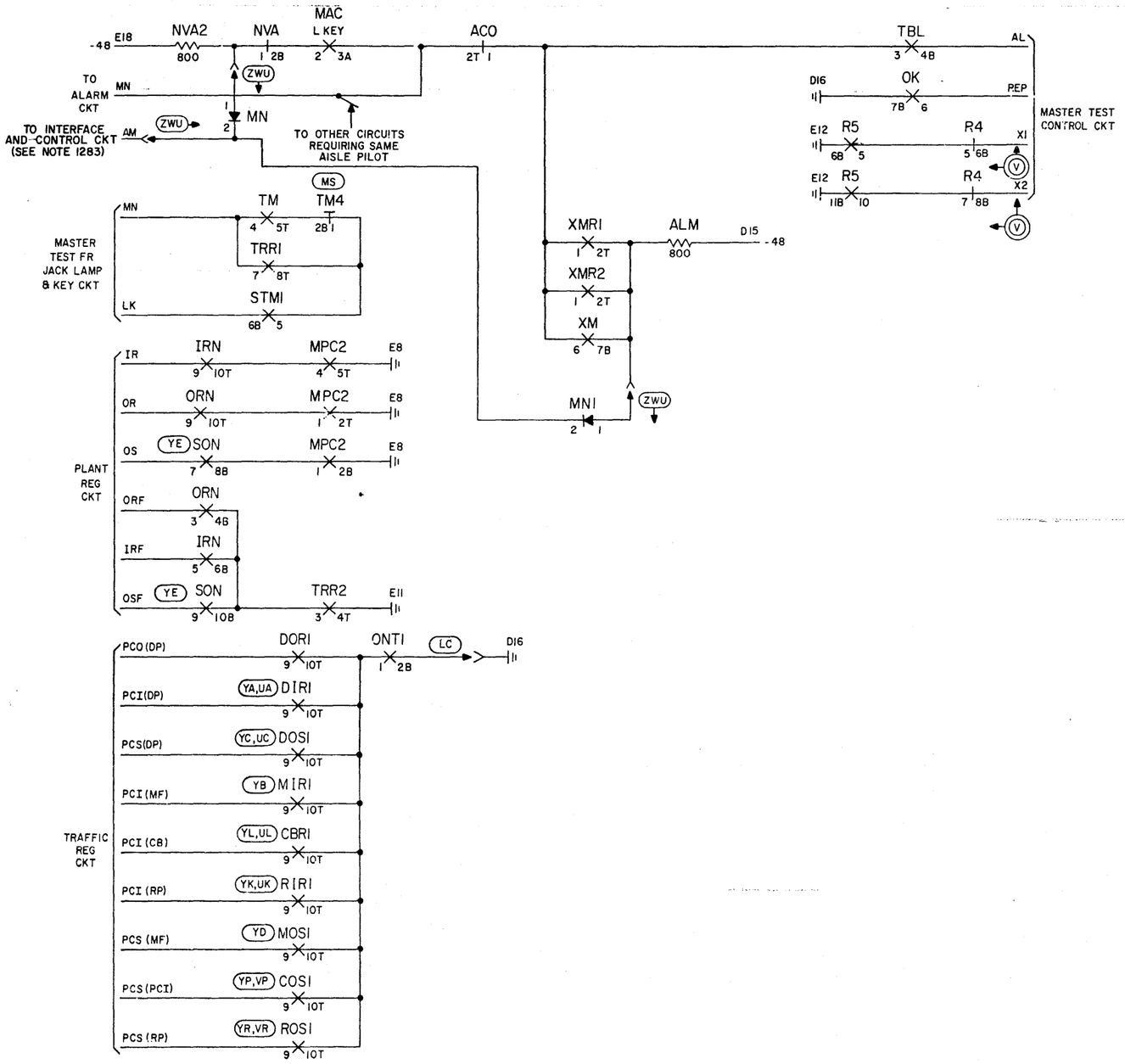
SD-25680-01-B106

68

DRAWING ISSUE
RDT
6801 AUD

FS 106

PLANT AND TRAFFIC REGISTER CONTROL



DRAWING ISSUE 68D RDT WLP AHD

ISSUE 102B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-B107

BELL TELEPHONE LABORATORIES INCORPORATED 65

SD-25680-01-B107

HIGGINS 4465 K&E

FS 107
FOUR WIRE MONITORING CONTROL

DRAWING ISSUE
70D JAR 4/9 AJG
75A RDT

G3 (60) STRA 3 — (61) — IIB 2 — PRC 6 — IID 5 — PRC 3 — (61) — IIC 1 — IIA 1 PRC 7 — IIB 8

PRCA: -48 G3 4 — 2U S-700 2L — -48 G3 — IL P-700 IU PRC — 4 PRCB

(61) — ∝ 30F8

IIB: U L 700 4 — G3 -48

ONR: (61) — 3 ONR 4T — EI

318/F9

IID: 6 IID — U L 700 4 — G3 -48

(61) — AS 5 6B 4 — (61) — TBLP U L 700 G3 -48 — 8

(61) — 6 (60) Z4 8 — G2

(61) — IIB 4

⊗ SBC

⊗ TBL

3087: A1 AO DD8A DOR4 — IIA — IIB 6

IIA: U L 700 4 G3 -48 — 3 IIA

PRC 8

PRC 5

IIC 3

IIC: U L 700 4 G3 -48

IID 4

4W

(61) — 3T — BS 1 2 — BS

288/F0

EI (60,61) — ORMI 3 48 — (61)

ORMI 110H0

RAI 5B 4 — A — (61) — DPST — CL3 — TG3

390I

SBR4 — (61) DOR4 9 — (60) Z3 10 12 — SSC 109B1

SBL4 — (61) DOR4 10 13 — (60) Z1 11 — (60) Y9 10 12 — G2

75

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-B108

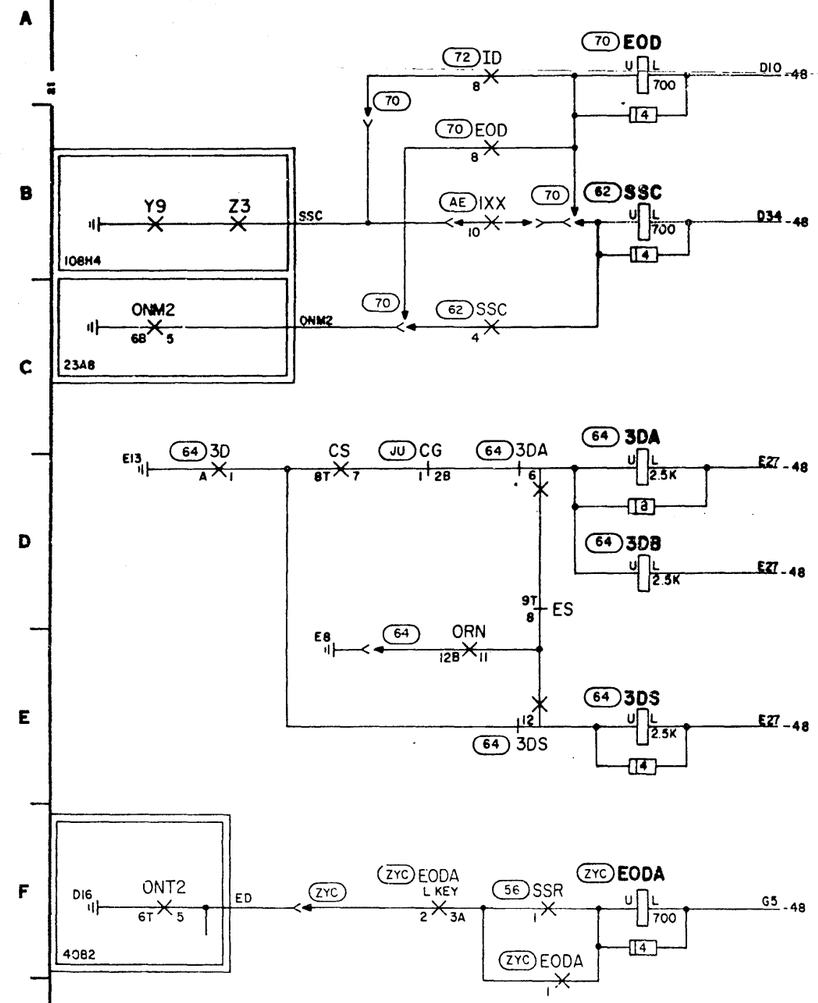
BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-B108

FS 108
SPECIAL CONTROLS



DRAWING ISSUE
700
77A RA
81D

81

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-8109

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

SD-25680-01-8109

FS 109

"TOUCH-TONE" TRANSLATION

DRAWING ISSUE	
70D	RPS 961 AUD
75A	2DT
81D	
82A	

TO "TOUCH-TONE" STATION TEST RECEIVER

LGI,LG2,LG3,LG4 — Y0,Y3,Y6,Y9 — 14 1 525 — PBC 12 10 — 60 — G4 -48

HGI,HG2,HG3,HG4 — ZI,Z2,Z3,Z4 — 14 1 525

STR — STRG — 14 1 525

BAT.

GRD — G3

RPEI 27E5 — STRA — STRA 1 — 60 — 32C5 7

3 5 60 STRG — 60 STRA U L 400 G3 -48 — 4

ORMI 108F2 — ORMI — 60 — ZYE

D16 — 63 TRFM 3

G2 6 STRA — TTK U L 700 G3 -48 — 4

TTK 1 — 60 — 72 — ID

IDA — ID 10 — IDA IL 2L 640 G5 -48

TABLE A

LEAD	CONT a	OF RELAY
0	58	PI
1	1S	P6A
2	3T	P3
4	4T	P4
7	4T	P6A

Y0 3 5 — Z1 3 5 — 0
Z2 3 5
Z3 3 5 — 1
Y3 3 5 — Z1 4 2
Z2 4 2
Z4 3 5
Y6 3 5 — Z3 4 2 — 2
Z1 7 9 — Y0 4 2
Y3 4 2 — 4
Y9 3 5
Y6 4 2 — 7
Z2 7 9 — Y0 7 9
Y3 7 9
Z3 7 9 — Y6 7 9
Z2 8 6 — Y9 4 2
Z2 11 13 — Y9 7 9

60 — 7 61 DOR4 — 60 — CDP4

Z4 7 9 — Y9 8 6 — CDP10
Y0 8 6

60 — 4 61 DOR4

Z4 11 13 — Y3 8 6 — CDP1
Y6 8 6 — CDP2
Y0 11 13 — CDP0

60 — CDP0,1,2,4,7,10,15 — 31B/DI

Z1 8 6
Z3 8 6 — 60 — 61 IIB 1 — 60 — CDP15
Z3 11 13
Y9 11 13 — Z4 4 2 — CDP7

SEE TABLE A — 60 — a — DP — DQ — 31B/AI

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25690-01-B110

BELL TELEPHONE LABORATORIES INCORPORATED — 6S

SD-25690-01-B110

APP FIG A

BLOCK, CONNECTING

DESIG	LOC	CODE
CB	84G6	IIC OR H.B.JONES CO. 2-140-3/4 W.T.S.

CAPACITOR

DESIG	LOC	CODE
RC	84H5	441A OR 141A

CORD RECEIVER

DESIG	LOC	CODE
C	84H6	R2BR

RECEIVER

DESIG	LOC	CODE
R	84H6	719A

VARISTOR

DESIG	LOC	CODE
(RN) REC	84H5	33A
(RO) REC	84H5	33L
(ZZP) REC	84H5	100A

APP FIG B

CAPACITOR

DESIG	LOC	CODE
P	84H4	441A OR 141A
RC(RC.1) (RC.2)	84H4	[2] 441A OR 141A

INDUCTOR

DESIG	LOC	CODE
T	84G4	178E(IND COIL)
T1	84H3	307N

JACK

DESIG	LOC	CODE
TA	84G3	223A OR 223AM
TB	84H3	

SET, TELEPHONE HEAD

DESIG	LOC	CODE
HS	84H2	52A OR 52S OR (298B PLUG, L4R CORD, 396A TRANSMITTER, 716D RCVR

VARISTOR

DESIG	LOC	CODE
(RN) REC	84H4	33A
(RO) REC	84H4	33L
(ZZP) REC	84H4	100A

APP FIG C
(WRG ONLY)

APP FIG D
(WRG ONLY)

APP FIG E

RELAY

DESIG	PCR		
CODE	U934		
OPTION			
	CONT NO.	CONT ARR	LOC
TOP	10,9	M	52G5
	8,7,6	BM	35C7
	5,4,3	BM	a
	2,1	B	54E4
BOT	3,2,1	BM	b
	6,5,4	BM	100B3
	9,8,7	BM	18H3
COIL			52G5

a: (FR) 57F4; (XB,XC) 54A7

b: (FR) 57F2; (FK) 54F5

LAMP

DESIG	LOC	CODE
(MB) PCR	18H4	2Y

APP FIG F
(WRG ONLY)

DRAWING ISSUE
680 ADT ORLP AND
72A WWT ORLP AND FVG
79D
83D

83

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25680-01-C1

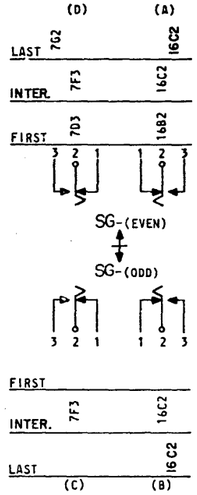
6S

SD-25680-01-C1

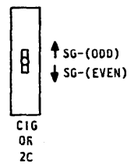
HIGGINS 4465 K&E

APP FIG G

KEY OR KEY UNIT
CIG 2C



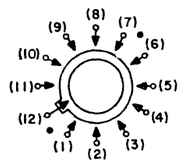
KEY TOP



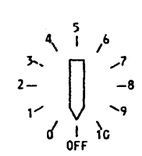
APP FIG H

SWITCH
(IP)(IQ) SG-SEL

SECT 1,2



SWITCH TOP

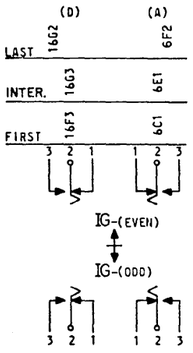


SWITCH

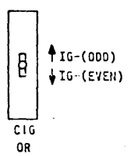
DESIG	SG SEL				SG SEL			
CODE	KS-13633,L52				KS-14618,L39			
OPTION	IP				IQ			
SECT	1		2		1		2	
	TERM.	LOC	TERM.	LOC	TERM.	LOC	TERM.	LOC
X	1-12	16D2	1-11 12	7C2 7C3	1-12	16D2	1-11 12	7C2 7C3

APP FIG J

KEY OR KEY UNIT
CIG 2C



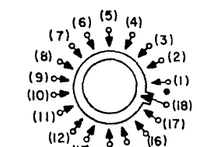
KEY TOP



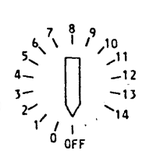
APP FIG K

SWITCH
IRG SEL

SECT 1,2



SWITCH TOP



SWITCH

DESIG	IRG SEL			
CODE	KS-14721,L1			
OPTION				
SECT	1		2	
	TERM.	LOC	TERM.	LOC
X	1-15 16,17 18	16G3 16G3	1-15 16,17 18	6G1 6G1

DRAWING ISSUE

68D	DM RLP AMD
73D	KMT

73

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C2

BELL TELEPHONE LABORATORIES
INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

HIGGINS 4465 K2E

SD-25680-01-C2

APP FIG L

RESISTOR

DESIG	LOC	CODE
A1A	82B7	19UR
A2	82C8	19UR
A3	82C8	19PP
R1	82E1	18BC
T1	82D1	18BC

APP FIG M

RESISTOR

DESIG	LOC	CODE
A1A	82D7	19SK
A2	82D7	19SK
A3	82D8	18JK
R1	82E1	18FL
T1	82D1	18FL

APP FIG N

RESISTOR

DESIG	LOC	CODE
A1A	82E7	18ER
A1B	82E8	18ER
A2	82F7	18ER
A2A	82F8	18ER
A3	82E8	19LM
R1	92E1	18FL
T1	82D1	18FL

APP FIG P

CAPACITOR

DESIG	LOC	CODE
P	84H2	444A
RC(RC.1) (RC.2)	84G2	[2] 441A OR 141A

INDUCTOR

DESIG	LOC	CODE
T	84G2	181A (IND COIL)
T1	84H1	307N

JACK

DESIG	LOC	CODE
TA	84F0	223A OR
TB	84F0	223AM

SET ,TELEPHONE HEAD

DESIG	LOC	CODE
HS	84F0	524 OR 525

VARISTOR

DESIG	LOC	CODE
(ZZQ) REC	84F1	33L
(ZZR) REC	84F1	100A

APP FIG Q

RELAY

DESIG	CSP				
CODE	U740				
OPTION					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	7,6	M	10284			
	5,4	M	95C6			
	3,2,1	BM	9586			
BOT	3,2,1	BM	94D5			
	5,4	M	9482			
	7,6	M	10202			
COIL			101A9			

POTENTIOMETER

DESIG	LOC	CODE
GN1	94F2	KS-13650,L1,50
GN2	94G2	KS-13650,L1,50

RESISTOR

DESIG	LOC	CODE
GN9	94F2	19BS
GN10	94G3	19BS
GN11	94B3	18JW
GN12	94F1	18FA
PM8	95D5	18FA
PM9	95D2	18A
PM10	95E1	19GC

VARISTOR

DESIG	LOC	CODE
CI	94B3	400B
CII	94B3	400B

APP FIG R

RELAY

DESIG	CSP				
CODE	U1051				
OPTION					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8	M	10202			
	7,6	M	10284			
	5,4	M	95C6			
	3,2,1	BM	9586			
BOT	2,1	B	9586			
	5,4,3	BM	94D6			
	7,6	M	94C3			
COIL			101B9			

CAPACITOR

DESIG	LOC	CODE
G	94D4	437A
MG	95B2	437A
N	94D2	437A
POS	9584	437A

VARISTOR

DESIG	LOC	CODE
CI	94C2	400B
CII	94E6	400B

DIODE

DESIG	LOC	CODE
CI	94C2	400J
CII	94E6	400J

POTENTIOMETER

DESIG	LOC	CODE
GN1	94F2	KS-13650,L1,50
GN2	94G2	KS-13650,L1,50
PM1	95E0	KS-13650,L1,100
PM2	95E4	KS-13650,L1,100

RESISTOR

DESIG	LOC	CODE
CII2	94C1	144E OR 140C OR KS-20289,L6C,3830
CII3	94C3	144E OR 140C OR KS-20287,L6C,3010
CII4	94E6	144E OR 140C OR KS-20289,L6C,1780
CII5	94D6	144E OR 140C OR KS-20289,L6C,5110
GN	95E4	19DG
GN9	94F3	19AAE
GN10	94G3	19AAE
GN12	94G1	18FL

RESISTOR

DESIG	LOC	CODE
PM	95E5	19TE
PM9	95E3	18FD
PM10	95E3	18FD
PM11	95E2	18JY
PM12	95E4	18BD

DRAWING ISSUE

68D	OMP RLP AMD
78D	RA
79D	FMG
83D	

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR,REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-C3

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-C3

HIGGINS 4465 K-E

APP FIG S

RELAY

DESIG	RGD			RGD1					
CODE	U722			U601					
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
				9,8	M	94E8			
	7,6	M	94E7	7,6	M				
	5,4,3	BM		5,4	M	94D7			
	2,1	B	91B7	3,2,1	BM	43E7			
BOT	3,2,1	BM	93D7	1,2	B	93G7			
	5,4	M	93G7	5,4,3	BM	93B7			
	7,6	M	90A5	7,6	M	91B7			
COIL			95C9			94D9			

RESISTOR

DESIG	LOC	CODE
CI8	93G6	18FA

APP FIG T

RELAY

DESIG	RGD			RGD1					
CODE	U1244			U1396					
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
				11,10	M	91B7			
				9,8	M	94E8			
				7,6	M				
	4,3	M	94E7	5,4	M	94D7			
	2,1	B	91B7	3,2,1	BM	43E7			
BOT	2,1	M	95B5	3,2,1	BM	93E7			
				6,5,4	BM	93G6			
				8,7	M	90B5			
				10,9	M	93B7			
COIL			95C9			94C9			

RESISTOR

DESIG	LOC	CODE
CI8	93G6	18FA

APP FIG U

WIRING ONLY

APP FIG V

RELAY

DESIG	CKN1			CKN2			CL5A			NAI			R4			R5		
CODE	U426			U426			U1414			U1227			U382			U1057		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP													12,11	M	12E0			
							12,11,10	BM	12E2				10,9	B	23A8	12,11	M	12D1
							9,8	B					8,7	B	2E1	10,9,8	BM	28A/D4
	7,6	M	12F1	7,6	M	31A/B7	7,6	B					6,5	B	28A/B1	7,6	M	32G7
	5,4,3	BM	31A/B7	5,4,3	BM	12F2	5,4	B	41E1	4,3	M	35G4	4,3	B	22E6	5,4	M	39C5
	2,1	B	43B9	2,1	B		2,1,3	MB	43A1	2,1	B		2,1	B		2,1,3	MB	
BOT	3,2,1	BM	13E3	3,2,1	BM		2,1,3	MB		2,1	B	32G8	2,1	B	39C6	2,1	B	12D1
	5,4	M	12D1	5,4	M		5,4	M	12D2	4,3	M		4,3	B	32G8	4,3	M	32G8
							7,6	M					6,5	B	10785	6,5	M	10784
							10,9,8	BM	4882				8,7	B	10785	9,8,7	BM	23H5
							12,11	M	62A1				10,9	B		11,10	M	10784
													12,11	M	12D1			
COIL			12F0			12E1			48F1			32G7			12D0			12D0

DRAWING ISSUE

68D	RLP AHO
70D	CR
72A	
81D	
82A	
86D	

ISSUE 96AC

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2)

SD-25680-01-C4

BELL TELEPHONE LABORATORIES
INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-C4

HIGGINS 4465 INK

APP FIG W

RELAY

DESIG	0F	1F	2F	3F	4F	5F	6F
CODE	U6089	U6089	U6089	U6089	U6089	U6089	U6089
OPTION							
CONT NO.	TOP	4,3	4,3	4,3	4,3	4,3	4,3	4,3
CONT ARR	TOP	M	M	M	M	M	M	M
LOC	TOP							
CONT NO.	2,1	2,1	2,1	2,1	2,1	2,1	2,1	2,1
CONT ARR	2,1	M	M	M	M	M	M	M	M
LOC	2,1	82B2	82A2	82A2	82A2	82B2	82B2	82B2
CONT NO.	BOT	2,1	2,1	2,1	2,1	2,1	2,1	2,1
CONT ARR	BOT	M	M	M	M	M	M	M	M
LOC	BOT	82F2	82F2	82G2	82G2	82G2	82G2	82G2
CONT NO.	COIL							
CONT ARR	COIL							
LOC	COIL	73A2	73E2	73D2	73D2	73C2	73C2	73B2

RELAY

DESIG	7F	8F	9F
CODE	U6089	U6089	U6089
OPTION			
CONT NO.	TOP	4,3	4,3	4,3
CONT ARR	TOP	M	M	M
LOC	TOP			
CONT NO.	2,1	2,1	2,1	2,1
CONT ARR	2,1	M	M	M	M
LOC	2,1	82B2	82B2	82B2
CONT NO.	BOT	2,1	2,1	2,1
CONT ARR	BOT	M	M	M
LOC	BOT	82F2	82G2	82H2
CONT NO.	COIL			
CONT ARR	COIL			
LOC	COIL	73B2	73B2	73A2

RELAY

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

RELAY

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

APP FIG X

RELAY

DESIG	0F	1F	2F	3F	4F	5F	6F	7F	8F	9F			
CODE	AK6	AK6	AK6	AK6	AK6	AK6	AK6	AK6	AK6	AK6			
OPTION													
CONT ARR	12		BM	BM		BM	BM		BM	BM			
LOC	12		82A2	82A2		82B2	82B2		82B2	82B2			
CONT ARR	11		BM	BM		BM	BM		BM	BM			
LOC	11		77F4	77F4		77F4	77F4		77G4	77G4			
CONT ARR	10		BM	BM		BM	BM		BM	BM			
LOC	10												
CONT ARR	9		BM	BM		BM	BM		BM	BM			
LOC	9		77A3	77B3		77A3	77A3		77A3	77B3			
CONT ARR	8		BM	BM		BM	BM		BM	BM			
LOC	8		82F2	82G2		82G2	82F2		82F2	82H2			
CONT ARR	7												
LOC	7												
CONT ARR	6												
LOC	6												
CONT ARR	5	BM	BM		BM	BM		BM	BM				
LOC	5	82B2	82A2		82B2	82B2		82B2	82B2				
CONT ARR	4	BM	BM		BM	BM		BM	BM				
LOC	4	77G4	77F4		77F4	77F4		77F4	77G4				
CONT ARR	3	BM	BM		BM	BM		BM	BM				
LOC	3												
CONT ARR	2	BM	BM		BM	BM		BM	BM				
LOC	2	77A3	77A3		77A3	77B3		77A3	77A3				
CONT ARR	1	BM	BM		BM	BM		BM	BM				
LOC	1	82F2	82G2		82G2	82G2		82G2	82G2				
CONT ARR	COIL												
LOC	COIL	73A2	73E2	73D2	73D2	73C2	73C2	73B2	73B2	73B2	73A2		
DESIG													
CODE													
OPTION													

RELAY

DESIG																				
CODE																				
OPTION																				
CONT ARR	12																			
LOC	12																			
CONT ARR	11																			
LOC	11																			
CONT ARR	10																			
LOC	10																			
CONT ARR	9																			
LOC	9																			
CONT ARR	8																			
LOC	8																			
CONT ARR	7																			
LOC	7																			
CONT ARR	6																			
LOC	6																			
CONT ARR	5																			
LOC	5																			
CONT ARR	4																			
LOC	4																			
CONT ARR	3																			
LOC	3																			
CONT ARR	2																			
LOC	2																			
CONT ARR	1																			
LOC	1																			
CONT ARR	COIL																			
LOC	COIL																			
DESIG																				
CODE																				
OPTION																				

DRAWING ISSUE

68D	SSL RLP AHD

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C5

BELL TELEPHONE LABORATORIES
INCORPORATED

65

SD-25680-01-C5

HIGGINS 4465

APP FIG Y

RELAY																				
DESIG	2DT			LT																
CODE	U419			U1310																
OPTION	SA			YH																
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				7,6	M	51G7														
				5,4,3	BM	54C1														
	3,2,1	BM	54E1	2,1	B															
BOT	2,1	M	54F1	2,1	B															
	4,3	M	52G7	4,3	B															
				6,5	M	54F1														
COIL			52H7			51H7														

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

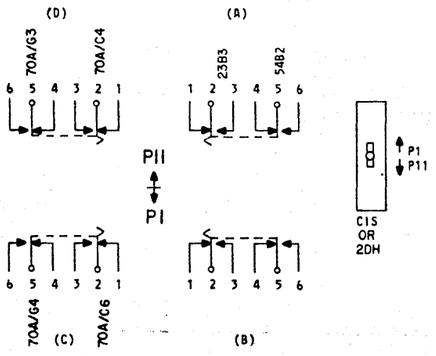
APP FIG Z

RELAY																				
DESIG	2DT			LT			LT1			LT2			LT3							
CODE	U351			U1261			U386			U386			U386							
OPTION													GX							
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				10,9	M	51G8														
	8,7	M	52G7	8,7,6	BM		7,6	M	59C7	7,6	M	b	7,6	M	59D7					
	6,5,4	BM	59C5	5,4,3	BM	b	5,4,3	BM	59B5	5,4,3	BM	a	5,4,3	BM	a					
	3,2,1	BM	a	2,1	B		2,1	B	56F3	2,1	B	56F4	2,1	B	56F6					
BOT	3,2,1	BM		3,2,1	BM	a	2,1	B		2,1	B		2,1	B						
	5,4	M	56H3	5,4	M	56H3	5,4,3	BM	a	5,4,3	BM	59B3	5,4,3	BM	59C3					
	7,6	M	54F1	7,6	M	59E7	7,6	M	52G5	7,6	M	52G6	7,6	M	52G6					
				9,8	M	54G1														
COIL			52H6			51H8			52H5			52H5			52H6					
			FR 59C3			FR 59A3			FR 59B3			FR 59B5			FR 59C5					
			a GT 54E1			a KM 56F2			a KN 56F4			a JQ 56G5			a GX 56H4					
						FR 59A5						b JP 56G5								
						b GT 54C2						FR 59D7								

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

APP FIG AA

KEY OR KEY UNIT
CIS 20H



KEY TOP

APP FIG AB

RELAY																				
DESIG	PDI			PDII																
CODE	U937			U937																
OPTION																				
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	10,9	M		10,9	M	23A4														
	8,7,6	BM	56F4	8,7,6	BM	54B2														
	5,4	M	56H5	5,4	M	23F1														
	3,2,1	BM	56H1	3,2,1	BM	56F3														
BOT	3,2,1	BM		3,2,1	BM															
	6,5,4	BM		6,5,4	BM	56G2														
	9,8,7	BM	70A/C7	9,8,7	BM	70A/A4														
COIL			23B0			23B0														

DRAWING ISSUE
680 SSI RLP AND
70D CR 727 AND
72A KMB 5-6-70

72

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C6

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-C6

HIGGINS 4465

E-7422-B-2(8-64)

APP FIG AC

RELAY

DESIG	RA1					
CODE	U897					
OPTION						
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	5,4	M	29A5			
	2,1,3	MB	29C5			
BOT	2,1	M	39CO			
	4,3	M	46A6			
COIL			31A/G6			

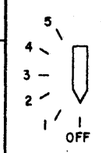
APP FIG AD

RELAY

DESIG	RA1					
CODE	U607					
OPTION						
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	7,6	M	46A6			
	5,4,3	BM	2948			
	2,1	B	30F7			
BOT	2,1,3	MB	29C5			
	5,4	M	39CO			
COIL			31A/G6			

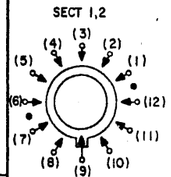
APP FIG AE

SWITCH TOP



SWITCH
FCA

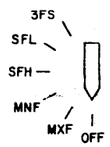
SECT 1,2



SWITCH

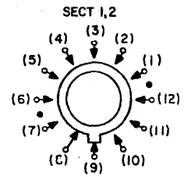
DESIG	FCA			
CODE	KS-13633,L104			
OPTION				
SECT	1		2	
	TERM.	LOC	TERM.	LOC
	1,2	77C5	1,2	77D5
	3-8		3-8	
	9-12	77C5	9-12	77D5

SWITCH TOP



SWITCH
FCB

SECT 1,2

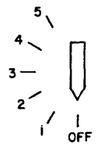


SWITCH

DESIG	FCB			
CODE	KS-13633,L106			
OPTION				
SECT	1		2	
	TERM.	LOC	TERM.	LOC
	1	78B3	1,2	78C3
	2-7		3-7	
	8	78B3	8-12	78C3
	9-11			
	12	78B3		

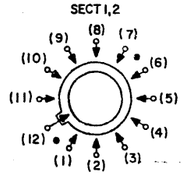
APP FIG AF

SWITCH TOP



SWITCH
FCA

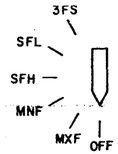
SECT 1,2



SWITCH

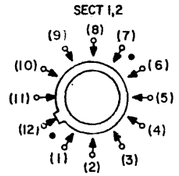
DESIG	FCA			
CODE	KS-14618,L39			
OPTION				
SECT	1		2	
	TERM.	LOC	TERM.	LOC
	1-5	77C5	1-5	77D5
	6-11		6-11	
	12	77C5	12	77D5

SWITCH TOP



SWITCH
FCB

SECT 1,2

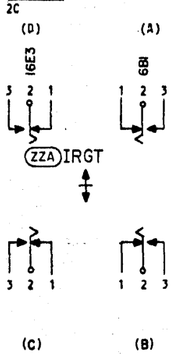


SWITCH

DESIG	FCB			
CODE	KS-14618,L52			
OPTION				
SECT	1		2	
	TERM.	LOC	TERM.	LOC
	1,2		1-5	78C3
	3,4	78B3	6-10	
	5-10		11,12	78C3
	11	78B3		
	12			

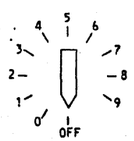
APP FIG AG

KEY UNIT
2C



KEY TOP

SWITCH TOP

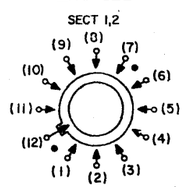


SWITCH

DESIG	IRG SEL							
CODE	KS-14618,L41							
OPTION								
SECT	1		2		3		4	
	TERM.	LOC	TERM.	LOC	TERM.	LOC	TERM.	LOC
	1-10	16D3	1-5	16E3	1-10	6A2	1-5	6B2
	11		6-11		11		6-11	
	12	16D3	12	16E3	12	6A2	12	6B2

SWITCH
IRG SEL

SECT 1,2



DRAWING ISSUE

68D	JBS RLP AHD
70D	CR EXT. and
73D	EXT. Pds 1 and
74D	CMC

74

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

SD-25680-01-C7

BELL TELEPHONE LABORATORIES
INCORPORATED

SD-25680-01-C7

HIGGINS-4465

PART OF APP FIG 1

RELAY

DESIG	BFR1			BFR2			BFR3			BFR4			BFR5			BFR6		
CODE	UA93			UA93			UA93			U624			U624			U624		
OPTION							a			SF			SF			SG		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	4,3	M		4,3	M		4,3	M										
	2,1	B	8A2	2,1	B	8A2	2,1	B	8A3	2,1	M		2,1	M		2,1	M	
BOT	2,1	B		2,1	B		2,1	B		2,1	M	288	2,1	M	2C7	2,1	M	2C8
	4,3	M		4,3	M		4,3	M										
COIL			2A9			2B9			2C9			2E9			2F9			2F9

a YK,YL,YP,YR,UK, UL,VP,VR

RELAY

DESIG	CBR			COS			DIR			DOR			DOS			EMP		
CODE	U65			U65			U65			U891			U65			L23		
OPTION	YL,UL			YP,VP			YA,UA						YC,UC					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	96D5	12,11	M	101C8	12,11	M		12,11	M	980	12,11	M				
	10,9	M	9506	10,9	M	10188	10,9	M	11E1	10,9	M	63H2	10,9	M	42E4			
	8,7	M	4685	8,7	M	9F3	8,7	M	23E7	8,7	M	9H4	8,7	M	9F3			
	6,5	M	14F5	6,5	M	9D7	6,5	M	14E5	6,5	M	14D5	6,5	M	9E7			
	4,3	M	63A5	4,3	M	43B3	4,3	M	63B5	4,3	M	63B5	4,3	M	43B4			
	2,1	M	64C2	2,1	M	64B2	2,1	M	64C2	2,1	M	64A2	2,1	M	64B2	3,2,1	BM	27E5
BOT	2,1	M	8D2	2,1	M	7A8	2,1	M	8D2	3,2,1	BM	8C2	2,1	M	7A8			
	4,3	M	9746	4,3	M	101F8	4,3	M	2388	5,4	M	2388	4,3	M	23C8			
	6,5	M	4G3	6,5	M	101E8	6,5	M	4G3	7,6	M	9C7	6,5	M				
	8,7	M	97C3	8,7	M	43F4	8,7	M	29C0	9,8	M	1E8	8,7	M	29D0			
	10,9	M	6308	10,9	M	102C3	10,9	M	11F2	11,10	M	708	10,9	M				
	12,11	M	96E6	12,11	M		12,11	M					12,11	M				
COIL			5A4			7B9			584			709			7C9			63H1

RELAY

DESIG	IRN			MAC1			MAC2			MIR			MM			MOS		
CODE	U81			U499			U834			U65			U533			U65		
OPTION										YB						YE		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M								12,11	M	35D0				12,11	M	
	10,9	M	107C1							10,9	M	4685				10,9	M	48D2
	8,7	M	64A2				8,7	M	63E8	8,7	M	23E7				8,7	M	9F3
	6,5	M	38C1				6,5	M	7D8	6,5	M	14E5				6,5	M	9E7
	4,3	M	18F3	5,4	M	63E8	4,3	M		4,3	M	63B5	5,4	M	7G7	4,3	M	43A2
	2,1	M	1008	3,2,1	BM		2,1	M		2,1	M	64C2	3,2,1	BM	12A7	2,1	M	64B2
BOT	2,1	M	3C2	2,1	B	12D5	2,1	M	12D5	2,1	M	8E2	2,1	B	12C2	2,1	M	7A8
	4,3	M	12E4	4,3	M	1E8	4,3	M		4,3	M	2F1	4,3	M	15D4	4,3	M	2F1
	6,5	M	10700				6,5	M	7G8	6,5	M	4G3				6,5	M	
	8,7	M	11B8							9,7	M	29C0				8,7	M	29E0
	10,9	M	11D6							10,9	M	29C6				10,9	M	22E6
	12,11	M	100A3							12,11	M	35D1				12,11	M	
COIL			8D1			64A1			63E9			5D4			14C1			7C9

RELAY

DESIG	MPC1			MPC2			ONM1			ONM2			ORN			PEA		
CODE	U569			U569			U144			U144			U144			U459		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP							12,11	M	8A1	12,11	M	58G5	12,11	M				
							10,9	M	46A4	10,9	M	3788	10,9	M	107C0			
							8,7	M	12C1	8,7	M	12A6	8,7	M	1863	8,7	M	46E2
							6,5	M	4603	6,5	M	12C4	6,5	M	2308	6,5	M	1404
	5,4	M		5,4	M	107C1	4,3	M	37E5	4,3	M	12A4	4,3	M	29D0	4,3	B	23E8
	3,2,1	BM	13C1	3,2,1	BM	107C1	2,1	M	13C2	2,1	M	1304	2,1	M	1008	2,1	B	46A5
	3,2,1	BM		3,2,1	BM	107D1	2,1	M	13C3	2,1	M	6382	2,1	M	64A2	2,1	B	63A1
	5,4	M	13E2	5,4	M	13C1	4,3	M	37C1	4,3	M	1108	4,3	M	10700	4,3	M	6307
BOT							6,5	M	185	6,5	M	23A8	6,5	M	1204	6,5	M	
							8,7	M	8E2	8,7	M	23D6	8,7	M	3884			
							10,9	M	63E7	10,9	M		10,9	M	1188			
							12,11	M	12E3	12,11	M	2384	12,11	M	109E1			
COIL			13B0			13C0			1009			1009			8C1			63C9

RELAY

DESIG	RIR			RN			ROS			RPE1			RPLT			RPS1		
CODE	U65			U51			U65			U533			U502			U1375		
OPTION	YK,UK						YR,VR						LG					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	96D5				12,11	M	96C3									
	10,9	M	95F6				10,9	M	9506									
	8,7	M		10,9,8	BM		8,7	M	9G3									
	6,5	M	14E5	7,6,5	BM	12C1	6,5	M	9F7									
	4,3	M	63B5	4,3	B	7G7	4,3	M	4384	5,4	M	63C8	6,5,4	BM	96E5	5,4	M	15H5
	2,1	M	64C2	2,1	B	4H2	2,1	M	6482	3,2,1	BM	14F3	3,2,1	BM	96D5	3,2,1	BM	63B1
BOT	2,1	M	8E2	2,1	B	64A3	2,1	M	7A8	2,1	B	27E5	2,1,3	MB	96D7	3,2,1	BM	7G8
	4,3	M	97A5	4,3	B	9C7	4,3	M	9786	4,3	M	15D5	6,5,4	BM	96C7	5,4	M	23F8
	6,5	M	4H3	6,5	B	9G4	6,5	M	9786									
	8,7	M	9783	9,8,7	BM		8,7	M	9783									
	10,9	M	63D8				10,9	M	10084									
	12,11	M	9605				12,11	M	96C2									
COIL			5F4			12C0			709			63B1			97C9			63B0

RELAY

DESIG	SON			STM			STM3											
CODE	U1144			U495			U115											
OPTION	YE						a											
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	387	12,11	M	8B2	12,11	M	783									
	10,9	M	983	10,9	M	7E8	10,9	M	708									
	8,7	M	12E4	8,7	M	5B4	8,7	M										
	6,5	M	4G2	6,5	M	5E4	6,5	M	65B8									
	4,3	M	4685	4,3	M	7C8	4,3	M	65A8									
	2,1	M	1008	2,1	M	7C8	2,1	M										
BOT	2,1	M	15E5	2,1	M	4G2	2,1	M										
	4,3	M	768	4,3	M	4H2	4,3	M										
	6,5	M	12D4	6,5	M	14C2	6,5	M										
	8,7	M	10700	8,7	M	7G7	8,7	M										
	10,9	M	107E1	10,9	M	14C2	10,9	M	5F4									
	12,11	M	980	12,11	M	64G2	12,11	M	5A4									
COIL			7G9			8A1			881									

a YK,YL,YP,YR,UK, UL,VP,VR,CY

DRAWING ISSUE	
68D	WM RLR PHD
70D	CR PDT and
71A	SA PP and
83D	
86D	CB

ISSUE 97D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-C8

BELL TELEPHONE LABORATORIES INCORPORATED — SERVICE 6S

PRINTED IN U.S.A.

SD-25680-01-C8

HIGGINS 4465

E-7422-8-2(8-64)

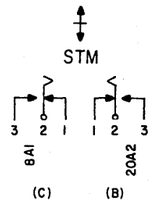
PART OF APP FIG 1

DIODE

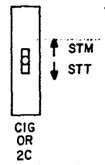
DESIG	LOC	CODE
(ZUF) SON	7H6	426G

KEY OR KEY UNIT
CIG 2C

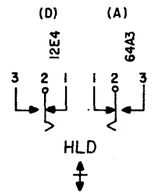
(STT) PART OF KEY
SHOWN IN APP FIG 9



KEY TOP

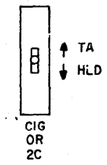


KEY OR KEY UNIT
CIG 2C



(TA) PART OF KEY
SHOWN IN APP FIG 10

KEY TOP



LAMP

DESIG	LOC	CODE
IR	18F4	2Y
OR	18G4	2Y

NETWORK

DESIG	LOC	CODE
(YA,UA) DIR	5B4	[1]177C OR 181C
(YB) MIR	5D4	
DOR	7D9	[1/2]177C OR 181C
(YC,UC) DOS	7C9	[1]177C OR 181C
(YD) MOS	7C9	
EMP	63H1	[1/2]177K OR 181K
IRN	8D1	[1]177C OR 181C
RPS1	63B0	
MAC1	64A1	[1]177C OR 181C
MAC2	63E9	
MB	9C8	[1]177C OR 181C
RM	9H2	
MM	14C1	[1]177C OR 181C
RN	12C0	
MPC1	13B0	[1]177C OR 181C
MPC2	13C0	
ONM1	10D9	177E OR 181E
ORN	8C1	[1/2]177C OR 181C
PEA	63C9	[1]177C OR 181C
RPE1	63B1	
(YK,UK) RIR	5E4	[1]177C OR 181C
(YR,VR) ROS	7D9	
(LG) RPLT	97C9	185A
(YE) SON-P	7H9	[1]177C OR 181C
SON-S	7H8	
SM	9G3	[1/2]177C OR 181C

RESISTOR

DESIG	LOC	CODE
8FR	2C7	18DF
(SF) 8FR4	2E8	
8FR5	2F8	KS-19152,L1,10K
(SG) 8FR6	2F8	
EMP	63H0	18AC
MB	9C7	
RM	9H2	KS-19150,L1,33K
(YE) SM	9G3	
STC1	15D4	18AG

DRAWING ISSUE
68D WM RLP HHP

ISSUE
106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C9

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

PRINTED IN U.S.A.

SD-25680-01-C9

HIGGINS 4465 K&E

8-7481 18-597

APP FIG 2

RELAY

DESIG	APA			APB			APC			APD			APE			APF			APG		
CODE	U1342			U1342			U1342			U1342			U1342			U1342			U1342		
OPTION	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8,7	BM		9,8,7	BM		9,8,7	BM		9,8,7	BM		9,8,7	BM		9,8,7	BM		9,8,7	BM	
	6,5,4	BM	1B4	6,5,4	BM	1C4	6,5,4	BM	1D4	6,5,4	BM	1E4	6,5,4	BM	1E4	6,5,4	BM	1F4	6,5,4	BM	1G4
	2,1,3	MB	1A2	2,1,3	MB	1B2	2,1,3	MB	1C2	2,1,3	MB	1D2	2,1,3	MB	1D2	2,1,3	MB	1E2	2,1,3	MB	1F2
BOT.	2,1,3	MB	1B3	2,1,3	MB	1B3	2,1,3	MB	1C3	2,1,3	MB	1D3	2,1,3	MB	1D3	2,1,3	MB	1E3	2,1,3	MB	1F3
	6,5,4	BM	46A7	6,5,4	BM	46A7	6,5,4	BM	46A7	6,5,4	BM	46A7	6,5,4	BM	46A7	6,5,4	BM	46A7	6,5,4	BM	46A7
	9,8,7	BM	1B7	9,8,7	BM	1A6	9,8,7	BM	1A6	9,8,7	BM	1A6	9,8,7	BM	1A6	9,8,7	BM	1A6	9,8,7	BM	1A6
COIL			1A0			1B0			1C0			1D0			1D0			1E0			1F0

RELAY

DESIG	APH			APJ			APK			CMS			IR			MBN			MSR		
CODE	U1342			U1342			U1324			U234			U179			U495			Y63		
OPTION	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC
TOP																12,11	M	21A6			
																10,9	M	21A6			
							11,10	M	1B4				9,8	M		8,7	M	21A6			
	9,8,7	BM		9,8,7	BM		9,8,7	BM	1B3				7,6	M	1D8	6,5	M	21A6			
	6,5,4	BM	1G4	6,5,4	BM	1H4	6,5,4	BM	1H4	5,4,3	BM	9B2	5,4	M	4A9	4,3	M	21A6			
	2,1,3	MB	1G2	2,1,3	MB	1G2	2,1,3	MB	1H2	2,1	B	14G3	3,2,1	BM	0	2,1	M	21A6	2,1	M	8F2
BOT.	2,1,3	MB	1G3	2,1,3	MB	1G3	2,1,3	MB	1H3	3,2,1	BM	9E0	3,2,1	BM	9G7	2,1	M	21A6	2,1	M	46E8
	6,5,4	BM	46A7	6,5,4	BM	46B7	6,5,4	BM	46B7	5,4	M		5,4	M	1D8	4,3	M	21A6			
	9,8,7	BM	1A6	9,8,7	BM	1A6	9,8,7	BM	1C7				7,6	M	9B5	6,5	M	21A6			
							11,10	M								8,7	M	21A6			
																10,9	M	21A6			
																12,11	M	21A6			
COIL			1G0			1G0			1H0			9B1			1C9			9A9			8E1
															a 8B2 21E8						

RELAY

DESIG	MSR1			OR			OS			STM1			STM2			TAP1			TAP2		
CODE	U189			U179			U179			U115			U199			U216			Y62		
OPTION	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC
TOP										12,11	M	25A2									
										10,9	M	7F8									
				9,8	M	9B7	9,8	M	21F8	8,7	M	35G8									
	7,6	M	9B6	7,6	M	9E0	7,6	M	9A8	6,5	M	18G3									
	5,4,3	BM	9B4	5,4	M	21G9	5,4	M	14G7	4,3	M	2308	6,5,4	BM	9A1	5,4	M	1B5	4,3	M	46F8
	2,1	B	10C8	3,2,1	BM	8C2	3,2,1	BM	8C2	2,1	M	1H3	3,2,1	BM	1D6	3,2,1	BM	46A8	2,1	B	46E8
BOT	2,1	B	14G7	3,2,1	BM	14G7	3,2,1	BM	4A9	2,1	M	16B4	3,2,1	BM	11H4	2,1	M	8F2	2,1	M	46E8
	5,4,3	BM	7F7	5,4	M	1C8	5,4	M	1A8	4,3	M	1D7	6,5,4	BM	1D7	4,3	M	46E8			
	7,6	M	9A8	7,6	M	25A5	7,6	M		6,5	M	107C1									
										8,7	M	21E9									
										10,9	M	8G2									
										12,11	M	9A0									
COIL			8F1			1B9			1A9			8B1			8B1			46F9			46A9

RELAY

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

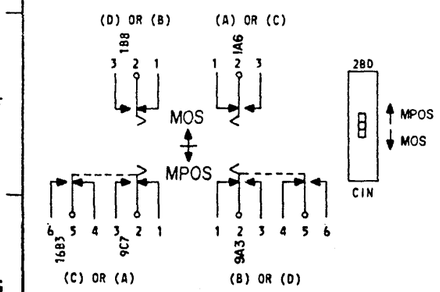
CAPACITOR

DESIG	LOC	CODE
TAP(TAP.1) (TAP.2)	46E7	[2] 268C
TAP1	46E6	KS-13366,L3,1000PF OR KS-13367,L30,1000PF

KEY OR KEY UNIT

YE CIN 2B0

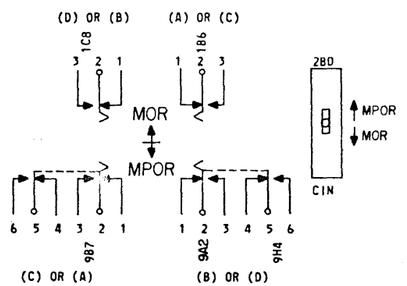
KEY TOP



KEY OR KEY UNIT

CIN 2B0

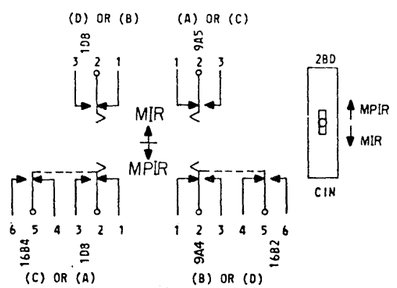
KEY TOP



KEY OR KEY UNIT

CIN 2B0

KEY TOP



LAMP

DESIG	LOC	CODE
OS	18G4	2Y

NETWORK

DESIG	LOC	CODE
APA	1A1	[1] 177C OR 181C
APB	1B1	
APC	1C1	[1] 177C OR 181C
APD	1D1	
APE	1E1	[1] 177C OR 181C
APF	1E1	
APG	1F1	[1] 177C OR 181C
APH	1G1	
APJ	1H1	[1] 177C OR 181C
APK	1H1	
CMS	981	[1/2] 177C OR 181C
IR	1D8	[1] 177C OR 181C
OR	1B9	
MBN	9A9	[1] 177C OR 181C
OS	1A9	
MSR	8E1	[1] 177C OR 181C
MSR1	8F1	
RBN	985	177E OR 181E
TAP2	46A9	[1] 177C OR 181C

RESISTOR

DESIG	LOC	CODE
TAP	46F9	KS-19152,L3,1.5K
TAP1	46E6	KS-19150,L3,100K
TAP2	46D7	KS-19150,L3,1K
TAP3	46D6	147D OR 141A,5.11 MEG

TUBE, ELECTRON

DESIG	LOC	CODE
TAP	46E6	313CC

DRAWING ISSUE

68D	CM, RLP, AWP
70D	CR, PAT, AMP
71A	SA, PAT, AMP
83D	CP
86D	JB

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2) SD-25680-01-C10

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-C10

HIGGINS 4465

APP FIG. 3

(FIRST IR)

RELAY																		
DESIG	IRBO			IRPO														
CODE	U261			UA107														
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				9,8,7	BM	5A1												
				6,5,4	BM													
	3,2,1	BM	4A6	2,1,3	MB	5B7												
BOT	2,1	M		2,1,3	MB	4A8												
	4,3	M	1E7	6,5,4	BM	4B7												
				9,8,7	BM	64E7												
COIL			4B6			4A7												

NETWORK

OPT	DESIG	LOC	CODE
	IRPO	4A6	(SEE TABLE A)

APP FIG. 4

(INTER. IR)

RELAY																		
DESIG	IRB-(FIRST)			IRP-(FIRST)			IRB-(INTER.)			IRP-(INTER.)			IRB-(LAST)			IRP-(LAST)		
CODE	U261			UA107			U261			UA107			U261			UA107		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				9,8,7	BM	5E0				9,8,7	BM	5E0				9,8,7	BM	5E0
				6,5,4	BM	5D6				6,5,4	BM	5D6				6,5,4	BM	5D6
	3,2,1	BM	4E6	2,1,3	MB	5D6	3,2,1	BM	4E6	2,1,3	MB	5D6	3,2,1	BM	4E6	2,1,3	MB	5D6
BOT	2,1	M		2,1,3	MB	4E8	2,1	M		2,1,3	MB	4E8	2,1	M		2,1,3	MB	4E8
	4,3	M	1F7	6,5,4	BM	4E7	4,3	M	1F7	6,5,4	BM	4E7	4,3	M	1F7	6,5,4	BM	4E7
				9,8,7	BM	64E6				9,8,7	BM	64E6				9,8,7	BM	64E6
COIL			4E6			4E7			4E6			4E7			4E6			4E7

NETWORK

OPT	DESIG	LOC	CODE
	IRP-	4D6	(SEE TABLE A)

APP FIG. 5

(LAST IR)

RELAY																		
DESIG	IRB-			IRP-														
CODE	U261			UA107														
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				9,8,7	BM	5G0												
				6,5,4	BM	5F6												
	3,2,1	BM	4G6	2,1,3	MB	5G6												
BOT	2,1	M		2,1,3	MB	4G8												
	4,3	M	1G7	6,5,4	BM	4H7												
				9,8,7	BM	64E5												
COIL			4H6			4G7												

NETWORK

OPT	DESIG	LOC	CODE
	IRP-	4G6	(SEE TABLE A)
	LK	4H3	

RESISTOR

OPT	DESIG	LOC	CODE
	LK	4H3	KS-19150,L3,33kΩ

TABLE A

NETWORK	CODE
IRP0,IRP1	[1]177H OR [2]177E OR [2]181E
IRP2,IRP3	[1]177H OR [2]177E OR [2]181E
IRP4,LK	[1]177H OR [2]177E OR [2]181E
IRP5,IRP6	[1]177H OR [2]177E OR [2]181E
IRP7,IRP8	[1]177H OR [2]177E OR [2]181E
IRP9	177E OR 181E

DRAWING ISSUE

ISSUE 99A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C11A

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

E-7488-B (10-69)

SD-25680-01-C11A

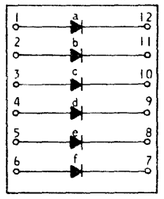
APP FIG. 6

(FIRST MP)

RELAY

DESIG	MBO			MPO														
CODE	U261			U1298														
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				6,5,4	BM	9H1												
	3,2,1	BM	21G4	3,2,1	BM	14G9												
BOT	2,1	M		2,1,3	MB	21G1												
	4,3	M	1E6															
COIL			21G3			21G1												

COMPONENT ASSEMBLY



DESIG		CA13			CA14		
CODE		ED-94823-( ),G477			ED-94823-( ),G477		
OPTION							
COMPONENT		DESIG	LOC	CODE	DESIG	LOC	CODE
DIODES	a	C0	21E6	446K	D0	21G6	446K
	b	C1	21E6	446K	D1	21E6	446K
	c	C2	21E6	446K	D2	21E6	446K
	d	C3	21E6	446K	D3	21E6	446K
	e	C4	21E6	446K	D4	21E6	446K
	f	C5	21D6	446K	D5	21E6	446K

NETWORK

OPT	DESIG	LOC	CODE
	MBOP	21H4	[1]177C OR 181C
	MBOS	21H4	
	MPO	21G1	177E OR 181E

APP FIG. 7

(INTER. MP)

RELAY

DESIG	MB-(FIRST)			MP1(FIRST)			MB-(INTER.)			MP-(INTER.)			MB-(LAST)			MP-(LAST)		
CODE	U261			U1298			U261			U1298			U261			U1298		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
				6,5,4	3M	9G0				6,5,4	BM	9G0				6,5,4	BM	9G0
	3,2,1	BM	21E4	3,2,1	6M	14G9	3,2,1	BM	21B4-E4	3,2,1	BM	14G9	3,2,1	BM	21B4	3,2,1	BM	14G9
BOT	2,1	M		2,1,3	MB	21F1	2,1	M		2,1,3	MB	21C1-E1	2,1	M		2,1,3	MB	21B1
	4,3	M	1F6				4,3	M	1F6				4,3	M	1F6			
COIL			21F3			21F1			21C3-F3			21C1-E1			21C3			21B1

NETWORK

OPT	DESIG	LOC	CODE
	MB-P	21B4-G4	[1]177C OR 181C
	MB-S	21B4-F4	
	MP-	21C2-F2	177E OR 181E

APP FIG. 8

(LAST MP)

RELAY

DESIG	MB-			MP-														
CODE	U261			U1298														
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				6,5,4	BM	9E1												
	3,2,1	BM	21A4	3,2,1	BM	14G8												
BOT	2,1	M		2,1,3	MB	21A0												
	4,3	M	1G6															
COIL			21A3			21A1												

NETWORK

OPT	DESIG	LOC	CODE
	MB-P	21C4	[1]177C OR 181C
	MB-S	21C4	
	MP-	21A2	177E OR 181E

CRAWING ISSUE

ISSUE 99A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C11B

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25680-01-C11B

E-7488-8 (10-69)

PART OF APP FIG 9

RELAY																							
DESIG	ACO			BT1						CBR1			CBR2			COS1			COS2			CTT		
CODE	U1244			U467						U81			U81			U81			U81			U520		
OPTION										YL,UL			YL,UL			YP,VP			YP,VP					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP										12,11	M	96C8	12,11	M	86D1	12,11	M		12,11	M	12A6			
										10,9	M	107F1	10,9	M		10,9	M	107G1	10,9	M	1U1A8			
										8,7	M	64E4	8,7	M		8,7	M	40C1	8,7	M	9E8			
										6,5	M	20A6	6,5	M	1405	6,5	M	2H1	6,5	M	101E8			
	4,3	M	20G1	5,4	M					4,3	M	10D1	4,3	M	6305	4,3	M	10C1	4,3	M	43F4	4,3	M	1284
	2,1	B	107A2	3,2,1	BM	64E3				2,1	M	11F7	2,1	M	64F2	2,1	M	14B2	2,1	M	64E2	2,1	B	
BOT	2,1	M		2,1	B	5G0				2,1	M	584	2,1	M	10F8	2,1	M	10H2	2,1	M	13B4	3,2,1	BM	84F8
				4,3	M	10G2				4,3	M	5082	4,3	M	4983	4,3	M	3C7	4,3	M	18A2	6,5,4	BM	84F7
										6,5	M	16A4	6,5	M	3G7	6,5	M	2D2	6,5	M	41C7	8,7	M	84E8
										8,7	M	38C1	8,7	M		8,7	M	9B3	8,7	M	788	10,9	M	84B7
										10,9	M		10,9	M	18A2	10,9	M	40C5	10,9	M	907			
										12,11	M	9606	12,11	M		12,11	M		12,11	M	101C8			
COIL			20F0			64F1						688			584			7D0			10C0			18C0

RELAY																							
DESIG	DIR1			DIR2			DOR1			DOR2			DOS1			DOS2			MIR1			MIR2		
CODE	U81			U81			U81			U81			U81			U81			U81			U81		
OPTION	YA,UA			YA,UA									YC,UC			YC,UC			YB			YB		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M		12,11	M		12,11	M	3500	12,11	M	46C8	12,11	M		12,11	M	1286	12,11	M	3500	12,11	M	
	10,9	M	107E1	10,9	M	64H5	10,9	M	107G1	10,9	M	63G2	10,9	M	107F1	10,9	M	42F4	10,9	M	107F1	10,9	M	69E3
	8,7	M	64F4	8,7	M	64G5	8,7	M	65F1	8,7	M	9H4	8,7	M	40B1	8,7	M	9E3	8,7	M	64F4	8,7	M	26E0
	6,5	M	2086	6,5	M	2086	6,5	M	2086	6,5	M	14C5	6,5	M	2G1	6,5	M	43G4	6,5	M	2086	6,5	M	14C5
	4,3	M	10C1	4,3	M	63E5	4,3	M	10A1	4,3	M	63D5	4,3	M	10B1	4,3	M	42F4	4,3	M	10D1	4,3	M	6305
	2,1	M	11E7	2,1	M	64E2	2,1	M	11G7	2,1	M	64D2	2,1	M	14A2	2,1	M	64D2	2,1	M	11F7	2,1	M	64F2
BOT	2,1	M	5C4	2,1	M	10G8	2,1	M	10F2	2,1	M	10F8	2,1	M	10G2	2,1	M	10F8	2,1	M	5E4	2,1	M	10G8
	4,3	M	50C2	4,3	M	49B3	4,3	M	47A7	4,3	M	5082	4,3	M	3C7	4,3	M	23C8	4,3	M	50C2	4,3	M	4983
	6,5	M	16A4	6,5	M	3F7	6,5	M	18C2	6,5	M	16A4	6,5	M	2C2	6,5	M	41B7	6,5	M	16A4	6,5	M	3F7
	8,7	M	38C1	8,7	M		8,7	M	3884	8,7	M	9B3	8,7	M	9B3	8,7	M	788	8,7	M	38C1	8,7	M	1882
	10,9	M	62A2	10,9	M	1882	10,9	M	62B2	10,9	M	40C5	10,9	M	23C8	10,9	M	9E7	10,9	M	56B8	10,9	M	
	12,11	M		12,11	M		12,11	M		12,11	M	9C7	12,11	M	29D0	12,11	M	2285	12,11	M	57C7	12,11	M	
COIL			6C8			5C4			10A9			10A0			7E0			1080			6E8			5F4

RELAY																							
DESIG	MKR			MOS1			MOS2			MT			OK			ONT1			ONT2			ORH		
CODE	U937			U81			U81			U533			U1262			U81			U81			U679		
OPTION				YD			YD																	
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				12,11	M	43E2	12,11	M	1286							12,11	M	89D6	12,11	M	23A7			
				10,9	M	107G1	10,9	M								10,9	M	63E2	10,9	M	47B6			
	10,9	M	11B1	8,7	M	40A1	8,7	M	9E3				9,8	M	12G2	8,7	M	10C8	8,7	M	19A1			
	8,7,6	BM	20F3	6,5	M	2G1	6,5	M	43G4				7,6,5	BM	a	6,5	M	13C4	6,5	M	40C2			
	5,4	M	46C7	4,3	M	10B1	4,3	M	42G4	5,4	M	4785	4,3	B	10E4	4,3	M	46A2	4,3	M	11B2			
	3,2,1	BM	a	2,1	M	14A2	2,1	M	64D2	3,2,1	BM	10B2	2,1	B	13A1	2,1	M	46B3	2,1	M	13F4			
BOT	3,2,1	BM	20E4	2,1	M	10G2	2,1	M	10E8	2,1	B	64E0	2,1	M		2,1	M	10E1	2,1	M	12A4			
	6,5,4	BM	19B1	4,3	M	2G1	4,3	M	2G1	4,3	M	11A1	5,4,3	BM	b	4,3	M	37E5	4,3	M	11D6			
	9,8,7	BM	13A2	6,5	M	41B7	6,5	M	41B7				7,6	M	10A4	6,5	M	37C1	6,5	M	37C8			
				8,7	M	9C3	8,7	M	7C8							8,7	M	13A1	8,7	M	13D2			
				10,9	M	22E6	10,9	M	9F7							10,9	M	63E7	10,9	M	12C4			
				12,11	M	29E0	12,11	M	2286							12,11	M	20E4	12,11	M	64D0			
COIL			11A0			7F0			1080			14A1			12F0			10E9			10G9			18C0

a 13B3 11B7

a 12G8 19A1

b 46D7 64F0

RELAY																							
DESIG	ORH			OST			PCT			RBT			RIR1			RIR2			ROS1			ROS2		
CODE	U679			U57			U1113			U217			U81			U81			U81			U81		
OPTION				XE,XY,XZ,CY			XY,XZ						YK,UK			YK,UK			YR,VR			YR,VR		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP													12,11	M	96C8	12,11	M		12,11	M	96C3	12,11	M	1286
				10,9	M	55H1							10,9	M	107G1	10,9	M		10,9	M	107H1	10,9	M	9506
				8,7	M		10,9	M					8,7	M	64F4	8,7	M		8,7	M	40B1	8,7	M	9F3
				6,5	M		8,7	M	84E8				6,5	M	20C6	6,5	M	14D5	6,5	M	2H1	6,5	M	
	5,4	M	13E5	4,3	M	53E1	6,5,4	BM	84C8	5,4	M	46C7	4,3	M	10C2	4,3	M	63C5	4,3	M	10B2	4,3	M	9783
	3,2,1	BM	47G2	2,1	M	53E0	3,2,1	BM	84C7	3,2,1	BM	20F4	2,1	M	11F7	2,1	M	64F2	2,1	M	14B2	2,1	M	64E2
BOT	3,2,1	BM		2,1	M	53E5	3,2,1	BM	84G8	3,2,1	BM	20D3	2,1	M	5F4	2,1	M	10F8	2,1	M	10H2	2,1	M	10E8
	5,4	M	13B3	4,3	M	53E3	6,5,4	BM	84G7				4,3	M	5002	4,3	M	49C3	4,3	M	3C7	4,3	M	9785
				6,5	M	53E5	8,7	M	84E8				6,5	M	16B4	6,5	M	3F7	6,5	M	2D2	6,5	M	41B7
				8,7	M		10,9	M	84C8				8,7	M	38D1	8,7	M		8,7	M	9C3	8,7	M	708
				10,9	M								10,9	M	10D1	10,9	M	1882	10,9	M	10E1	10,9	M	9E7
													12,11	M	9606	12,11	M		12,11	M	96C2	12,11	M	10084
COIL			47A9			2G0			53D1			62G0			6F8			5F4			7F0			10E0

RELAY																							
DESIG	RPE2									RRL			RRL'										
CODE	U1181									U112			U500										
OPTION										YK,YR,UK,VR			YK,YR,UK,VR										
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC								
TOP																							
	12,11	M	1383																				
	10,9,8	BM	84E2																				
	7,6	M	14C4							6,5	M	10D2	8,7	M	8806								
	5,4	M	4786							4,3	M	10E3	6,5,4	BM	10D2								
	2,1,3	MB	12G2							2,1	M		3,2,1	BM	89D7								
BOT	2,1	M	65B2							2,1	M		3,2,1	BM	9000								
	4,3	M	18C1							4,3	M	10E2	6,5,4	BM	90E0								
	6,5	M	15C4																				
	8,7	B	63E1																				
	10,9	M	19B1																				
COIL			63E1									10E0			10E3								

DRAWING ISSUE

68D TEM RLP AHC

70D OMC

72A KMB

73D KMB

81D

86D

ISSUE 99A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C12

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-C12

HIGGINS 4465

E-7422-8-2(8-64)

PART OF APP FIG 9

RELAY																																			
DESIG	RRT			STT			SV			TAC			TAC			TAC1			TAC2																
CODE	U1222			U495			S520			206GM			280CH			U119			U1149																
OPTION	YK,YR,UK,VR						XE,XY			VY			VZ																						
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC														
TOP				12,11	M																														
				10,9	M	8488																														
				8,7	M	14B2													8,7	M	63F8														
				6,5	M	84A8										7,6	M	84C8	6,5	M	86E7														
	4,3	M		4,3	M	6C0										5,4	M	64D0	4,3	M	13B2														
	2,1	B	10E4	2,1	M	10A7	3,2,1	BM	84F6	3,5,2	BM	63E7	3,5,2	BM	63E7	3,2,1	BM	63F8	2,1	M	32F1														
	2,1	B		2,1	M	3884										2,1	M	63F7	2,1	B	15C5														
BOT				4,3	M	4G1										4,3	M	65E2	5,4,3	BM	84E2														
				6,5	M	20G5										6,5	M	4186	7,6	M	12H0														
				8,7	M	35A4																														
				10,9	M	84E9																														
				12,11	M	4687																														
COIL			89C6			10C9			84C7			64D1			64D1			63E9			63F9														

RELAY																																			
DESIG	TBL			TD			TDA			TRT			TRT1			TSR			XIR																
CODE	U1307			U426			U194			U195			U1375			T80			U1410																
OPTION				EG			EG			ZZD																										
	CONT 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	47A8																												
	9,8	M	1381				9,8,7	BM																												
	7,6,5	BM	1305	7,6	M	47A8	6,5	B	84A6																											
	4,3	M	49G3	5,4,3	BM		4,3	B																												
	2,1	B	12F1	2,1	B	20E4	2,1	B	20E4	3,2,1	BM	2004	3,2,1	BM	2003	2,1	B		2,1	M	2001															
	2,1	B		3,2,1	BM	79H1	3,2,1	BM		2,1	M	11A2	3,2,1	BM	47H3	2,1	B	TOP1	2,1	M																
BOT	4,3	M	107A4	5,4	M	47B8	6,5,4	BM	13A2				5,4	M																							
	7,6,5	BM	13E6				8,7	M	47B8																											
	9,8	M	4607				10,9	M	13A1																											
COIL			13A0			47C9			47C9			47H4			47B9			10C9			a														

a 5H6 20C0

RELAY																																			
DESIG	XM			XMR1			XMR2			XOR			XOS			BT2			BT2																
CODE	U386			U261			U361			U1409			U1409			U218			U308																
OPTION													YE			EB			EC																
	CONT 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																
																6,5	M	73G8	6,5	M	73G8														
	7,6	M	20A5													4,3	M	4A1	4,3	M	4A1														
	5,4,3	BM	8A4							4,3	M	2081	4,3	M	20C1	2,1	B	64G3	2,1	B	64G3														
	2,1	B	5H5	3,2,1	BM	10783	3,2,1	BM	107C3	2,1	M	2081	2,1	M	20C1	2,1	B		2,1	B																
	2,1	B	2080	2,1	M	20F1	2,1	M	20E1	2,1	M		2,1	M		4,3	M	4G9	1,3	M	4G9														
BOT	5,4,3	BM	20A0	4,3	M	2085	4,3	M	2085										6,5	M	4F8															
	7,6	M	107C3																																
COIL			2000			20E0			20E0			20A0			2080			10C0			10C0														

RELAY																																			
DESIG	RPS2			RPS2			TRT																												
CODE	U119			U82			U542																												
OPTION	DV			DW			ZZE																												
	CONT NO	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC														
TOP																																			
	7,6	M		6,5	M	23F8																														
	5,4	M	63E2	4,3	M	63E2	5,4	M	2004																											
	3,2,1	BM		2,1	B	61C7	3,2,1	BM	2003																											
	2,1	M	23F8	2,1	B		3,2,1	BM	11A2																											
	4,3	M	64E0	4,3	M	64E0																														
BOT	6,5	M	6188	6,5	M	6188																														
COIL			63E0			63E0			4/H4																											

RELAY																																			
DESIG	TIR1			TTIR1			TTIR2																												
CODE	AJ15			AJ15			AJ15																												
OPTION	IH			IH			IH																												
	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	EBM	55C1	EBM	11G7	EBM	14D5																													12
11	EBM	5786	EBM	20C6	EBM	63E5																													11
10	EBM	60G7	EBM	62B2	EBM																														10
9	EBM	6281	EBM	64G4	EBM																														9
8	EMB		EMB		EMB																														8
7	EBM	83D4	EBM	10C1	EBM	64E2																													7
6	EMB		EMB		EMB																														6
5	EMB	60A1	EMB	1684	EMB																														5
4	EBM	22C7	EBM	38D1	EBM	1882																													4
3	EBM	56D9	EBM	50F2	EBM	49C3																													3
2	EBM	65E3	EBM	5C4	EBM	10H8																													2
1	EBM	83G7	EBM	1087	EBM	3G7																													1
COIL		60B		60B		5C4																													COIL

DRAWING ISSUE

68D	FEX XLP AEF
70D	FWS
72A	FBS
75A	BKC
78B	DM
78D	DM
81D	
86D	

ISSUE 102B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C13

BELL TELEPHONE LABORATORIES INCORPORATED — 6S

SD-25680-01-C13

NIGGINS 4465

E-74481-0-0-(11-66)

PART OF APP FIG 9

CAPACITOR

DESIG	LOC	CODE
(YK,YR,UK,VR) RRT	89C8	228B
(XE,XY) TN	84E6	441K
TRT	47H1	228B
TRT1	47G1	KS-13366,L3,1000PF OR KS-13367,L30,1000 PF

INDUCTOR

DESIG	LOC	CODE
(XE) A	8407	274J

KEY OR KEY UNIT (MH) CIGA 2SP

KEY TOP: ACO / QTR — CIGA OR 2SP

(QTR) PART OF KEY SHOWN IN APP FIG 10

ACO — 1 2 — 20F1 — (C) (B)

KEY OR KEY UNIT (MO) CILF 2UU

KEY TOP: ACO / QTR — CILF OR 2UU

(QTR) PART OF KEY SHOWN IN APP FIG 10

ACO — 2 1 1 2 — 20F1 — (C) (B)

KEY OR KEY UNIT CIDK 2BF

(D) (A)

8419 — 8469

2 1 1 2

MIRT / MOTL

2 1 1 2 — 8468 8467 — (C) (B)

KEY TOP: MOTL / MIRT — CIDK OR 2BF

KEY OR KEY UNIT CIG 2C

(D) (A)

47A8

3 2 1 1 2 3

ORH

(BLR) PART OF KEY SHOWN IN APP FIG 20

KEY TOP: BLR / ORH — CIG OR 2C

KEY OR KEY UNIT CIG 2C

KEY TOP: PB / TWT — CIG OR 2C

(TWT) PART OF KEY SHOWN IN APP FIG 21

(LY) PB

3 2 1 1 2 3 — 607 1088 — (C) (B)

KEY OR KEY UNIT CIG 2C

(D) (A)

1008 2082

3 2 1 1 2 3

STT

(STM) PART OF KEY SHOWN IN APP FIG 1

KEY TOP: STM / STT — CIG OR 2C

KEY UNIT (ZVP) 2C

(D) (A)

47C8

3 2 1 1 2 3

TDA

TD

3 2 1 1 2 3 — 79F0 47C8 — (C) (B)

KEY TOP: TD / TDA — 2C

LAMP

DESIG	LOC	CODE
(XE,XY) A	84D8	13A(RES)
CCK	1840	
MST	1980	
OF	8AE5	2Y
(KI) OK	12F9	
TBL	13E6	
X	2045	

NETWORK

DESIG	LOC	CODE
BT2	10C0	[1/2]177C OR 181C
CTT	18C0	[1]177C OR 181C
OK	12F0	
DIR2	5C5	[1]177C OR 181C
DOR2	10A0	
MIR2	5E4	[1/2]177C OR 181C
MKR	11A0	[1/2]177C OR 181C
MT	14A1	[1/2]177C OR 181C
ONT1	10E9	177E OR 181E
ORH	47A9	[1]177C OR 181C
TRT1	47B9	
RPE2	63E1	[1]177C OR 181C
RPS2	63E0	
TAC1	63E9	[1]177C OR 181C
TAC2	63F9	
(IH) TTIR2	5C4	185A

RESISTOR

DESIG	LOC	CODE
ALM	10783	18CN
NTC	10F3	18AF
RRT1	89C8	KS-19150,L3,100K
(YK,YR,UK,VR) RRT2	8988	147D OR 141A,2.15 MEG
RRT3	89C7	KS-19151,L3,1K
STC2	15C4	18AG
(XE) SV1	84C7	19SN
SV2	84B7	19GA
(OT) TAC1	6400	18R
(OU) TAC1	6400	18T
(OT) TAC2	64C0	19VS
(OU) TAC2	64C0	19LY
(IH) TG4	83G7	188H
(KH) TN	84F6	18AE
TRT1	47G1	KS-19150,L3,100K
TRT2	47G2	188H
TRT3	47G1	144E OR 140A,OR KS-20289, L6C,110K
TRT4	47G1	144E OR 140A,OR KS-20289, L6C,493K

TUBE,ELECTRON

DESIG	LOC	CODE
(YK,YR,UK,VR) RRT	89C9	313CC
TRT	47G1	313CC

DRAWING ISSUE: 68D (TEM RLP 444) 83D

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-C14

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

SD-25680-01-C14

HIGGINS 4465 K-E

PART OF APP FIG 10

RELAY

DESIG	CAC			CI			CI1			CKE			CKN			CKS		
CODE	U520			U588			U64			U569			U735			U569		
OPTION	YP, VP																	
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				12,11	M		12,11	M	3707									
				10,9	M		10,9	M	307									
				8,7	M	15E6	8,7	M	3C1									
				6,5	M	12B1	6,5	M	15C7									
	4,3	M	101C8	4,3	M	47B5	4,3	M	3B7	5,4	M	12A3				5,4	M	35A1
	2,1	B	40C5	2,1	B	1288	2,1	M	302	3,2,1	BM		3,2,1	BM	12A3	3,2,1	BM	19A1
BOT	2,1	B	35A8	2,1	B		2,1	M	3B1	3,2,1	BM	13E6	3,2,1	BM	3588	3,2,1	BM	12E8
	4,3	M		4,3	M	2C0	4,3	M	3A6	5,4	M	35A1				5,4	M	13E1
				6,5	M	12C8	6,5	M	3A1									
				8,7	M	38A5	8,7	M	301									
				10,9	M		10,9	M	3E1									
				12,11	M		12,11	M	3F7									
COIL			101C9			280			2C0			12E9			35A9			13D0

RELAY

DESIG	DL			MTR			MTR1			NRR			PE			RTC1		
CODE	U220			U576			U521			U984			U569			U532		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	6,5	M		7,6	M	12A8				7,6	M	1289						
	4,3	M	2AJ	5,4,3	BM	2C1	5,4	M	12C8	5,4	M	1203	5,4	M	31A/A8	5,4	M	11F7
	2,1	B	15C6	2,1	B	14C3	3,2,1	BM		3,2,1	BM	15G4	3,2,1	BM	100A3	3,2,1	BM	15G5
	3,2,1	BM	12B2	2,1	B	20E1	3,2,1	BM	12B8	2,1	B	15C6	3,2,1	BM	35C1	3,2,1	BM	15C5
	5,4	M	2A0	5,4,3	BM	12C4	5,4	M	15F4	4,3	B	12A4	5,4	M	1304	5,4	M	11B8
BOT				7,6	M	13F1				6,5	M	44B7						
COIL			2A0			13F0			12C9			12A9			6309			11A9

RELAY

DESIG	RTC2			SON1			SPE1			TA			TLG			TLG1		
CODE	U1396			U1307			U271			U75			U90			U90		
OPTION				YE			YE									XZ, TM		
	CONT 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	12A2															
	9,8	M	64A3	9,8	M	1863												
	7,6	M	2901	7,6,5	BM	1302	6,5	M					7,6	M		7,6	M	11C2
	5,4	M	12B4	4,3	M	28A/C1	4,3	M	41A7				5,4	M	11D2	5,4	M	1102
	3,2,1	BM	12A7	2,1	B		2,1	B	1204	3,2,1	BM	46H2	3,2,1	BM	11D2	3,2,1	BM	13F1
BOT	3,2,1	BM	1203	2,1	B	9D2	3,2,1	BM	6307	3,2,1	BM		2,1	M		2,1	M	4CE6
	6,5,4	BM	2C0	4,3	M	3C2	5,4	M	4389				4,3	M	11C2	4,3	M	11C2
	8,7	M	1303	7,6,5	BM	41E5							6,5	M	11C8	6,5	M	11D8
	10,9	M	9G6	9,8	M	11B7												
COIL			11F9			7A9			43A8			46D9			11B9			11C9

RELAY

DESIG	TM			TM1			TM2			TM3			TM4			TMA		
CODE	U108			U67			U679			U457			U457			U346		
OPTION										MS			MS					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
				7,6	M	13C4				3,7	M	102E1	3,7	M	102C1			
	6,5,4	BM	10791	5,4	M	1283	5,4	M		6,5,4	BM	102C1	6,5,4	BM	10201			
	3,2,1	BM	2A1	3,2,1	BM	1504	3,2,1	BM	46G1	3,2,1	BM	46A4	3,2,1	BM	46B3	3,2,1	BM	46H2
BOT	3,2,1	BM	1283	3,2,1	BM	46A2	3,2,1	BM	46B3	2,1	B	1203	2,1	B	10781	2,1	M	46B1
	5,4	M	46D2	5,4	M	46E1	5,4	M	46F1	5,4,3	BM		5,4,3	BM	12C2	4,3	M	46A2
										7,6	M	35A9	7,5	M				
COIL			46H3			46D0			46E0			102D0			102C0			46AC

RELAY

DESIG	TM8			TR8			TRC			TRR1			TRR2					
CODE	U1273			U220			U72			U588			U333					
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP										12,11	M	9C6						
										10,9	M	12A1						
										8,7	M	10781	10,9	M	1208			
				6,5	M	988	6,5	M	1281	6,5	M	46E2	8,7,6	BM	368			
	4,3	M	29C1	4,3	M		4,3	M		4,3	M	1208	5,4,3	BM	10781			
	2,1	B	46A2	2,1	B	15C7	2,1	B	2A0	2,1	B	4601	2,1	B	1203			
	2,1	B	46E1	3,2,1	BM		2,1	B	15C7	2,1	B	15E5	2,1	B	46A2			
	4,3	M	102C1	5,4	M	12AR	4,3	M	12E4	4,3	M	1281	5,4,3	BM	304			
BOT										6,5	M	2A1	8,7,6	BM	1208			
										8,7	M	15C7	10,9	M	10086			
										10,9	M	102E1						
										12,11	M	15C5						
COIL			4680			1289			1280			12A0			12C9			

RELAY

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

DRAWING ISSUE

68D	RDT RLP AWJ
70D	CWC Pol and KWB JAA Ang
72A	KWB JAA Ang
81D	

ISSUE 101A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C15

BELL TELEPHONE LABORATORIES INCORPORATED

DRG SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-C15

HIGGINS 4465

E-7422-B-2(8-64)

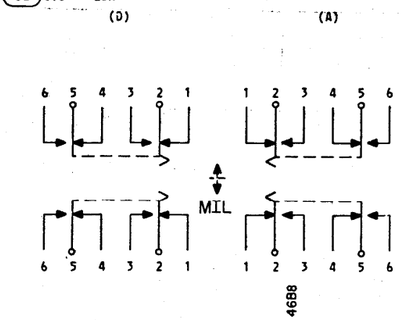
PART OF APP FIG 10

CAPACITOR

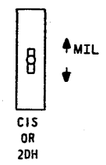
DESIG	LOC	CODE
TM(TM.1)	46H1	[1]3268C
(TM.2)		[2]228B
(TM.3)		
TMA	46G0	KS-13366,L3,1000PF OR KS-13367,L30,1000PF

KEY OR KEY UNIT

(JE) C1S 2DH

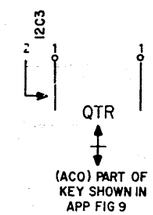


KEY TOP

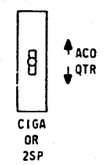


KEY OR KEY UNIT

(MN) C1GA 2SP

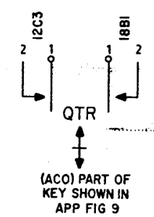


KEY TOP

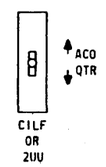


KEY OR KEY UNIT

(MO) C1LF 2UU

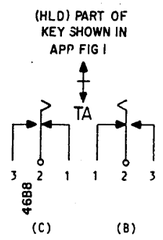


KEY TOP

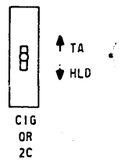


KEY OR KEY UNIT

C1G 2C



KEY TOP



LAMP

DESIG	LOC	CODE
CKS	19A0	
ORH	13E6	
PCL	46F8	
PPD	46F8	
PSI	46F9	
RAR	46F7	
(JE) RBK	46F7	2Y
RS	46F7	
RT	46F7	
SCL	46F8	
SPD	46F7	
SSI	46F8	
TLR	46F6	

NETWORK

DESIG	LOC	CODE
CI	28D	[1] 177C OR 181C
CI1	2C0	
CKE	12E9	[1] 177C OR 181C
TLG	11B9	
CKN	35A9	[1] 177C OR 181C
CKS	13D0	
MTR	13F0	[1] 177C OR 181C
MTR1	12C9	
NRR	12A9	[1/2]177C OR 181C
ONG5	11E8	177E OR 181E
(YE) ONR1	28C0	177E OR 181E
PE	63D9	[1] 177C OR 181C
(YE) SONI	7A9	
RTC1	11A9	[1] 177C OR 181C
(YE) SPE1	43A8	
RTC2	11F9	177E OR 181E
TA	46D9	[1] 177C OR 181C
TM2	46E0	
(XZ,TM) TLG1	11C9	[1/2]177C OR 181C
TMA-P	46B1	[1] 177C OR 181C
TMA-S	46B1	
TMB	4680	[1/2]177C OR 181C

RESISTOR

DESIG	LOC	CODE
CKS	35A0	184G
ONG5	11E9	KS-19150,L3, 33K
(YE) ONR1	28C0	KS-19150,L3,33K
STC3	15C5	184G
TM1	46G1	KS-19150,L3 ,100K
TM2	46G2	188H
TM3	46G1	147D OR 141A,459MEG
TM4	46G1	147D OR 141A,1.15MEG

TUBE, ELECTRON

DESIG	LOC	CODE
TM	46G0	313CC

ISSUE
68D RDT R-L AHG
83D

ISSUE
101A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2) SD-25680-01-C16

BELL TELEPHONE LABORATORIES
INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-C16

HIGGINS 4465 K&E

A B C D E F G H

0 1 2 3 4 5 6 7 8 9

PART OF APP FIG 11

RELAY

DESIG	ZP	BT	CN	CNK	CNK1	CNR
CODE	U351	U103	U1113	U1324	Y127	U1113
OPTION			XL,WY,WZ	XL,WY,WZ	J	XL,WY,WZ

	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP							10,9	M	55C3	11,10	M	55E8				10,9	M	84E4
	8,7	M					8,7	M	69F0	8,7	BM	69E4				8,7	M	55F8
	6,5,4	BM	84B1	5,4	M	56B2	6,5,4	BM	84A4	6,5,4	BM	55G4				6,5,4	BM	b
	3,2,1	BM	55A2	3,2,1	BM		3,2,1	BM	56A2	2,1,3	MB	84A2	3,2,1	BM	55B6	3,2,1	BM	a
BOT	3,2,1	BM	56A1	3,2,1	BM	20G1	3,2,1	BM	84G5	2,1,3	MB	84C5				3,2,1	BM	68B5
	5,4	M	67D6	5,4	M		6,5,4	BM	55A4	6,5,4	BM	55E8				6,5,4	BM	56B2
	7,6	M	67A7				8,7	M	55F4	9,8,7	BM	69F1				8,7	M	68B2
							10,9	M	69D5	11,10	M	55B5				10,9	M	68C5
COIL			62F3			20G0			62F0			55D9			55E9			55E9

a 68C2 84F4

b (H) 55G5 (ZZK) 84C0

RELAY

DESIG	CNTT	CR	CRA	CRB	CRK	CRK
CODE	U218	U1248	U580	U1317	23999	28DAN
OPTION	H	CR,DK,ZZM	GC	GC	XL,VA	VB

	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP										9,8	M	68E1						
	6,5	M	56B3							7,6	M	56E9						
	4,3	M		4,3	M	62C8				5,4	M	55F6						
	2,1	B	a	2,1	M	56D6	3,2,1	BM	63G2	3,2,1	BM	63F3	4,7,3	BM	68A4	4,7,3	BM	68A6
BOT	2,1	B	55F7	2,1	M	56B6	3,2,1	BM	20F6	2,1	B							
	4,3	M	55E4							5,4,3	BM	61C7						
										7,6	M	69E3						
COIL			55F9			62B9			63F0			63F1			A6D4			84D4

a 55C8 84D5

RELAY

DESIG	CRK1	CRK2	CRK3	CRT1	CRT2	CRT2
CODE	U485	U485	U592	U542	U542	U199
OPTION	XL,WY,WZ	XL,WY,WZ	XL,WY,WZ	XL,WY,WZ	XL,WY	WZ

	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8	B		9,8	B													
	7,6	M		7,6	M	68B1	7,6	M										
	5,4	B	56C4	5,4	B		5,4	M		5,4	M	68B8	5,4	M	68D8	6,5,4	BM	69D8
	2,1,3	MB	68B2	2,1,3	MB	68B1	3,2,1	BM	84D3	3,2,1	BM	68A4	3,2,1	BM	84E2	3,2,1	BM	84E2
BOT	2,1,3	MB	68C3	2,1,3	MB	68E4	2,1,3	MB	84E4	3,2,1	BM	68C2	3,2,1	BM	68D2	3,2,1	BM	68D2
	5,4	B		5,4	B		6,5,4	BM	84E3							6,5,4	BM	68F6
	7,6	M		7,6	M													
COIL			68A1			68B1			68B1			68B7			68D7			68D7

RELAY

DESIG	CRT3	CTAB	DOR3	FD2	FPT	GT
CODE	U1244	U639	U236	U351	U1149	23999
OPTION	XL,WY,WZ	XN,VC				XN

	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				12,11	M	55D8	10,9	M	84G2									
				10,9,8	BM	55D8	8,7	M	64C6				8,7	M	67D8			
				7,6	M	55F3	6,5	M	84D4	8,7	M	56A0	6,5	M	67C8			
	4,3	M	68F8	5,4	M	55H7	4,3	M	62G2	6,5,4	BM	72A/H5	4,3	M	84B1			
	2,1	B	68D1	2,1,3	MB	84C4	2,1	M	20G1	3,2,1	BM	55E5	2,1	M	5661	4,7,3	BM	55C3
BOT	2,1	M	56C2	2,1	B	67E6	2,1	M	65B1	3,2,1	BM	84C0	2,1	B	6748			
				4,3	M	56D2	4,3	M	65E1	5,4	M	67A7	5,4,3	BM				
				6,5	M		6,5	M	22C7	7,6	M	19C1	7,6	M	55A2			
				9,8,7	BM	55A3	8,7	M	35H1									
				11,10	M	84E2	10,9	M	3D1									
COIL			68F7			55D9			65F0			55B9			67D8			84D6

RELAY

DESIG	GT	GTA	GTNO	GTO	GTT	MAN
CODE	28DAM	S509	U219	U351	U143	U275
OPTION	VC	H	XN,VC	XN,VC	XN,VC	

	CONT 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	55D8				9,8	M	32E9
							5,4	M	55C8	6,5,4	BM	69C3	5,4	M	69C0	7,6,5	BM	55A4
	4,7,3	BM	55C3	2,1	M	84D5	3,2,1	BM	55D3	3,2,1	BM		3,2,1	BM	55D3	4,3	M	32E9
BOT							3,2,1	BM	69C3	3,2,1	BM	69F3	2,1	B		2,1	M	55G7
							5,4	M	84F5	5,4	M	84E5	4,3	M	55C5	4,3	B	
										7,6	M	55D4				7,6,5	BM	35C5
																9,8	M	56E6
COIL			84D6			84F5			55C9			55C9			69C1			55C0

RELAY

DESIG	MCD	MST	MST1	ORAB	ORON	ORST
CODE	U115	U1113	U90	U1307	U236	U236
OPTION						

	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	6286										10,9	M	1981	10,9	M	58G5
	10,9	M	6286															
	8,7	M	62E6	10,9	M	67D7							8,7	M	55C5	8,7	M	62E7
	6,5	M	61B3	8,7	M	68D5	7,6	M	67F7	7,6,5	BM	56A3	6,5	M		6,5	M	55H2
	4,3	M	61C3	6,5,4	BM	68F5	5,4	M		4,3	M	56B1	4,3	M		4,3	M	70C9
	2,1	M	61C3	3,2,1	BM		3,2,1	BM	63G2	2,1	B	67E7	2,1	M		2,1	M	62D2
BOT	2,1	M	62C6	3,2,1	BM	69G2	2,1	M	19C1	2,1	B	84B6	2,1	M		2,1	M	62F2
	4,3	M	62C6	6,5,4	BM	34C7	4,3	M	55F6	4,3	M	56D2	4,3	M	67D6	4,3	M	66H4
	6,5	M	62C6	8,7	M	56D9	6,5	M		7,6,5	BM		6,5	M	55A1	6,5	M	71B6
	8,7	M	62D6	10,9	M	69E2				9,8	M	55E7	8,7	M		8,7	M	51D8
	10,9	M	62D6										10,9	M		10,9	M	
	12,11	M	62A6															
COIL			300			6580			63G0			55B0			65E0			65E0

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SHEET 6S

SD-25680-01-C17

SD-25680-01-C17

HIGGINS 4465

E 7428-B-2(8-64)

PART OF APP FIG 11

RELAY

DESIG	PD			PK			POR1			POR2			PS			RP			RPD		
CODE	U1248			U1248			U98			U1025			U1248			U168			U1329		
OPTION				ZZY			LY			LY											
	CONT 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	71A4									
							8,7	M	1087	9,8,7	BM	84A0							7,6	M	56B7
	4,3	M	6288	4,3	M	62A8	6,5,4	BM	77D3	6,5,4	BM	62D1	4,3	M	6288	5,4	M	62E8	5,4	M	56A6
	2,1	M		2,1	M	56D6	3,2,1	BM		2,1,3	MB		2,1	M	35B5	3,2,1	BM	56C1	3,2,1	BM	67E6
BOT.	2,1	M	56A7	2,1	M		3,2,1	BM	62C1	2,1	B		2,1	M	56B7	2,1,3	MB	84B3	2,1	B	56B6
							6,5,4	BM	70A/A3	5,4,3	BM	55A6							4,3	M	56B1
							8,7	M	65G1	8,7,6	BM	84C1							6,5	M	55F7
										10,9	M	62A1									
COIL			6289			62A9			1089			65G0			6289			6209			5580

RELAY

DESIG	RPS			SCK			SCN			SPT			TP			TPK			TPK		
CODE	U639			U1248			U168			U520			U419			2396G			Z80AN		
OPTION				ZVK			ZZH									UN			UN		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	55G6																		
	10,9,8	BM	33C5																		
	7,6	M	5681																		
	5,4	M	55F7	4,3	M	62D8	5,4	M	62C8	4,3	M	56C1									
	2,1,3	MB	55C7	2,1	M	5687	3,2,1	BM	a	2,1	B		3,2,1	BM	56C1	4,7,3	BM	6787	4,7,3	BM	6787
BOT.	2,1	B	55A3	2,1	M	5685	2,1,3	MB	84D5	2,1	B	67A8	2,1	M	56C1						
	4,3	M	5686							4,3	M	67E8	4,3	M	62D8						
	6,5	M	55A3																		
	9,8,7	BM	5686																		
	11,10	M	84D3																		
COIL			62F0			62C9			62C9			67D8			62D9			8483			8483

a (ZVN,ZVO,CT) 5685
(CR) 56E5

RELAY

DESIG	TPK1			TPT			TPT1			X11			X11			CKL			RPSA		
CODE	U520			Y95			Y95			U419			U139			U1073			U1375		
OPTION										YF,KL			FR			AQ			ZZE		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																12,11	M				
													9,8	M		10,9,8	BM	35E9			
													7,6	M		7,6	M				
	4,3	M	6788										5,4	M		5,4	M	55F1	5,4	M	
	2,1	B		3,2,1	BM	67C7	3,2,1	BM	67D7	3,2,1	BM	a	3,2,1	BM	59D5	2,1,3	MB		3,2,1	BM	20D3
BOT.	2,1	B	6787	2,1	M		2,1	M	67D7	2,1	M	56H3	2,1	B	59D3	2,1,3	MB		3,2,1	BM	
	4,3	M	8481							4,3	M	62E8	4,3	M	5902	6,5,4	BM		5,4	M	
													6,5	M	59D3	9,8,7	BM				
													8,7	M		11,10	M				
COIL			6788			6788			67C8			62E9			62E9			55F0			6260

a (YF) 56A8
(ZVZ) 56F7

RELAY

DESIG	CNB			CNC			PK			PKI						SCK					
CODE	U351			U1113			U717			U254						U712					
OPTION	ZZK			ZZK			ZZZ			ZZO						ZVL					
	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				10,9	M																
	8,7	M	84C1	8,7	M	34C2															
	6,5,4	BM		6,5,4	BM		4,3	M	62A8	5,4	M	62F8				6,5,4	BM	62D8			
	3,2,1	BM	84C2	3,2,1	BM	56C3	2,1	M	56D6	3,2,1	BM	56C8				3,2,1	BM	5687			
	3,2,1	BM	56C7	3,2,1	BM	84C1	2,1	B	5608	3,2,1	BM	56D7				3,2,1	BM	56B5			
BOT.	5,4	M		6,5,4	BM		4,3	M		5,4	M					6,5,4	BM	56C5			
	7,6	M		8,7	M																
				10,9	M																
COIL			6200			6202			62A9			62E9						62C9			

CAPACITOR

	DESIG	LOC	CODE
	CR1	68B7	
	CR2	68D7	2288
	CR3	68F7	
(XL,WY,WZ)	CR4	63A9	KS-13366,L3,1000PF OR
	CR6	68C9	KS-13367,L30,1000PF
	CR9	68E9	
	GTT1	69C2	
	GTT2	69F2	2288
(XN,VC)	GTT3	69B2	441K OR 141K
	GTT4	69C2	437A OR 137A
	GTT5	6980	KS-13366,L3,1000PF OR
	GTT7	69E0	KS-13367,L30,1000PF
(ZZK,AR,RU)	TPK (TPK.1)	84C2	[2]437A
	(TPK.2)	84C2	

DRAWING ISSUE

68D	BEM
70D	FAC
71A	SAI
72A	
73D	
74D	ONC
75B	DM
78D	DM
79D	FAC
83D	
86D	

ISSUE 104B

MASTER TEST NAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-C18

BELL TELEPHONE LABORATORIES INCORPORATED

SHEET 65

SD-25680-01-C18

HIGGINS 4465

PART OF APP FIG II

KEY OR KEEY UNIT
C1G 2C

KEY TOP

KEY OR KEY UNIT
C1MJ 2AP

KEY TOP

KEY OR KEY UNIT
C1G 2C

KEY TOP

KEY OR KEY UNIT
C1DK 2BF

KEY TOP

KEY OR KEY UNIT
C1FH 2LL

KEY TOP

KEY OR KEY UNIT
C1DM 2BBJ

KEY TOP

KEY OR KEY UNIT
C1G 2C

KEY TOP

KEY OR KEY UNIT
C1MY 2KM

KEY TOP

KEY OR KEY UNIT
C1DM 2BJ

KEY TOP

KEY UNIT
2C

KEY TOP

DRAWING ISSUE	
58D	BEM
70D	RAC
73D	KMR
74D	CMC
76B	FLK
76D	FLK

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C19A

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

SD-25680-01-C19A

HIGGINS 4465

PART OF APP FIG II

LAMP

OPTION	DESIG	LOC	CODE
XL,WY,WZ	CR1	68C1	
	CR2	68D1	
	CR3	68D1	
GC	CR4	68E1	
	FD	19CD	
	FPT	67A8	2Y
XN,VC	GTNO	69F4	
	GTO	69G4	
	MSTI	19B0	
	ORON	19B0	
	SPT	67A8	

NETWORK

OPTION	DESIG	LOC	CODE
XL,WY,WZ	CRKI	68A1	[1/2]177C OR 181C
	CRTI	68B7	[1]177C OR 181C
	CRT2	68D7	
	CRT3	68F7	[1/2]177C OR 181C
	FD2	55B9	[1/2]177C OR 181C
XN,VC	GTNO	55C9	[1]177C OR 181C
	GTO	55C9	
	MCD	3D0	[1]177C OR 181C
	SCK	62C9	
	MST	65B0	[1]177C OR 181C
	MSTI	63G0	
	ORON	65E0	[1]177C OR 181C
	ORST	65E0	
	PK	62A9	[1/2]177C OR 181C
	RP	62D9	[1]177C OR 181C
	TP	62D9	
	TPKI	67B8	[1/2]177C OR 181C
	TPT	67B8	[1]177C OR 181C
	TPTI	67C8	

POTENTIOMETER

OPTION	DESIG	LOC	CODE
XL,WY,WZ	CR2	68A6	KS-13650,L1,100K
	CR7	68C6	
CR	CRI2	68E6	
CQ	GTTI	69A2	KS-13790,L1,250K
	GTT6	69D1	

RESISTOR

OPTION	DESIG	LOC	CODE
	CN1	84D2	198S
ZZK	CN2	84D2	190A
	CN3	84C2	18FS
	CR1	68A7	144E OR 140A,OR KS-20289, L6C,187K
	CR3	68A7	KS-19150,L3,100K
	CR4	68A6	188A
XL,WY,WZ	CR5	68B8	18EY
	CR6	68C7	144E OR 140A, OR KS-20289, L6C,187K
	CR8	68C7	KS-19150,L3,100K
	CR9	68C6	188A
	CR10	68D8	18EY
CR	CR11	68E7	144E OR 140A, OR KS-20289, L6C,187K
	CR13	68F7	KS-19150,L3,100K
XL,WY,WZ	CR14	68E6	188A
	CR15	68F8	18EY
XQ	CR16	68E7	147E OR 141C,14K
	CRK1	84B4	188U
	CRK2	84C4	19SD
	CRK3	84C4	19UE
XL,WY,WZ	CRK4	84C4	18GH
	CRK5	84F4	18GE
	GT1	84B4	19BR
	GT2	84B5	19CC
	GT3	84F5	19PU
XN,VC	GT4	84E5	18KK
	GT5	84D5	18DS
	GT6	84E6	19RG
	GT7	84C5	19RM
CP	GTTI	69A1	144E OR 140A, OR KS-20289, L6C,549K
CQ	GTTI	69A1	147D,271K
	GTT2	69C1	KS-19150,L3,100K
XN,VC	GTT3	69A3	188A
	GTT4	69B1	

RESISTOR

OPTION	DESIG	LOC	CODE
CP	GTT5	69B1	KS-19150,L3,1K
CC	GTT6	69D1	147D,271K
	GTT6	69D1	144E OR 140A,OR KS-20289,L6C 549K
XN,VC	GTT7	69E1	KS-19150,L3,100K
	GTT8	69D2	188A
	TPK1	84B2	19MH
	TPK2	84D3	19TL
RT	TPK2	84D3	19YN
ΔR,RU	TPK3	84D1	19HS
RT	TPK3	84D1	19TE
ΔR,RU	TPK4	84D1	19DJ
RT	TPK4	84D1	19MM
RU	TPK4	84D1	19YU

TUBE, ELECTRON

UPTION	DESIG	LOC	CODE
XL,WY,WZ	CRT1	68A8	313CC
	CRT2	68C8	
	CRT3	68F8	
XN,VC	GTT	69B1	
	GTT1	69E1	

DRAWING ISSUE 780 FJK

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

SD-25680-01-C19B

(2)

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

SD-25680-01-C19B

APP FIG 12

RELAY

DESIG	1C			MFN			MFN			MFS			PTO			PTO		
CODE	U136A			U144			U98			U98			235FC			280A		
OPTION													V1			V0		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				12,11	M	29E6												
				10,9	M	29D3												
				8,7	M	29C4												
	6,5	M		6,5	M	29D2	8,7	M	2E0	8,7	M	2E2						
	4,3	M	29C2	4,3	M	2EE0	6,5,4	BM	26A6	6,5,4	BM	26B5						
	2,1	B	31A/A2	2,1	M	29D3	3,2,1	BM	26B8	3,2,1	BM	26B7	4,7,3	BM	29E3	4,7,3	BM	29B3
BOT	2,1	M	26E1	2,1	M	29F6	3,2,1	BM	26G6	3,2,1	BM	26D9						
	4,3	M		4,3	M		6,5,4	BM	26E6	6,5,4	BM	26F8						
				6,5	M	29E7	8,7	M		8,7	M	23H5						
				8,7	M	26C0												
				10,9	M	26D0												
				12,11	M	26D0												
COIL			26E1			2E0			2E0			2F0			29E6			29F6

RELAY

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

CAPACITOR

DESIG	LOC	CODE
MF1	26G4	KS-13541,50
MF2	26D5	142C
(WU) MF3	26A5	KS-13366,L3,.005
(WV) MF3		KS-13366,L3,.0005 OR KS-13367,L30,.0005
MF4	26B6	441A OR 141A
MF5(MF5.1) (MF5.2)	26H5	[2]437QA OR 137QA
PT1(PT1.1) (PT1.2)	29F5	[2]437QA OR 137QA

TUBE, ELECTRON

DESIG	LOC	CODE
MF	26F4	396A OR 2C51

NETWORK

DESIG	LOC	CODE
1C MFN	26E1 2E0	[1]177C OR 181C
MF0	31A/B5	[1/2]177K OR 181K
MF1	31A/B5	[1/2]177K OR 181K
MF2	31A/B5	[1/2]177K OR 181K
MF4	31A/B5	[1/2]177K OR 181K
MF7	31A/B5	[1/2]177K OR 181K
MFR MFS	2E0 2F0	[1]177C OR 181C

PAD

DESIG	LOC	CODE
MF	26F8	1C(SEE NOTE 105)

RESISTOR

DESIG	LOC	CODE
MF1A	26G3	KS-19151,L1,300
MF2A	26C5	144E OR 140B OR KS-20289,L6C,453K
MF3A	26B5	144E OR 140B OR KS-20289,L6C,53k
MF4A	26B5	144E OR 140C OR KS-20289,L6C,825K
MF5A	26G5	18EY
PT1	29F5	18AG
PTC	29F6	18GY

TRANSFORMER

DESIG	LOC	CODE
MF1	26E5	186C
MF2	26A5	94H(RC)

DRAWING ISSUE

68D	WM 2-1 4-3
70C	F&C 1-21 WM
82A	
83D	
86D	

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-C20

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-C20

HIGGINS 4465

E-7422-8-1(8-64)

PART OF APP FIG 13

RELAY

DESIG	AAB			AON			BLM			CDP			CDP			CDP			DPM		
CODE	U1363			U115			U1367			239GE			280BS			316R			U735		
OPTION										VJ			VK			ZVT			SB		
	CONT 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
				12,11	M	27D7															
TOP	10,9	M	23C8	10,9	M	27D5															
	8,7	M	25F7	8,7	M	27C7															
	6,5	M	2488	6,5	M																
	4,3	M	27E5	4,3	M	27C7	4,3	M	29C6												
	2,1	M	24F8	2,1	M	27G2	2,1	M	24G6	4,7,3	BM	24C6	4,7,3	BM	24C6	4,5,7	BM	24C6	3,2,1	BM	11F2
	2,1	B	24E5	2,1	M	27C6	2,1	M	24F4										3,2,1	BM	24G5
BOT.	4,3	M	24F8	4,3	M	24D6	4,3	M													
	6,5	M	1E8	6,5	M	25F8															
	8,7	M	24E5	8,7	M																
				10,9	M																
				12,11	M	24D5															
COIL			25G7			23C9			64G1			27C7			27C7			27C7			11E0

RELAY

DESIG	DPM			DPM1			DSM			IRB			LGLP			NVA			ORM		
CODE	U1375			Y303			U293			U234			U91			U1222			U735		
OPTION	SC			SC									EE						ZYC		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
	5,4	M	24G6	4,3	B	24F5				5,4,3	BM	25E0	4,3	M	24G7	4,3	M	8A4			
	3,2,1	BM	11F2	2,1	B	24F6	3,2,1	BM	24G3	2,1	B	25E0	2,1	B	24F7	2,1	B	16B	3,2,1	BM	24E6
	3,2,1	BM	24G5	2,1	B		2,1	B	24G2	3,2,1	BM	25G0	2,1	B		2,1	B	16A1	3,2,1	BM	24G8
BOT.	5,4	M		4,3	M		4,3	M	24G2	5,4	M	25G0	4,3	M	64D3						
COIL			11E0			11F0			42E8			1D9			a			25C5			1E9
															a 25A5 64D3						

RELAY

DESIG	ORM			P			P														
CODE	U1375			239GR			280A														
OPTION	ZYP			VL			VM														
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
	5,4	M	24F8																		
	3,2,1	BM	24E6	4,7,3	BM	27E5	4,7,3	BM	27E5												
BOT	3,2,1	BM	24G8																		
	5,4	M																			
COIL			1E9			24C5			24C5												

RELAY

AC

KS-5483,L24

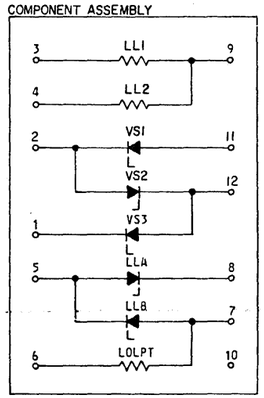
L2B 26C2

↑ L1B

RW LW iF9

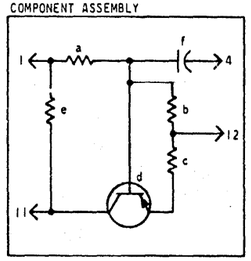
R2B ↓ R1B 25C7

COMPONENT ASSEMBLY



DESIG	CAI		
CODE	ED-94823-( ),G474		
OPTION	EE		
COMPONENT	DESIG	LOC	CODE
DIODE	LLA	79B9	426AG
DIODE	LLB	79B9	426AL OR 426M
DIODE	VS1	25B2	426AJ OR 426S
DIODE	VS2	25B2	426AJ OR 426S
DIODE	VS3	25B1	426AL OR 426M
RESISTOR	LL1	24G7	221A OR KS-20810,L1A,309K
RESISTOR	LL2	24G7	221A OR KS-20810,L1A,690K
RESISTOR	LOLPT	79B9	KS-14603,L1C,576

COMPONENT ASSEMBLY



DESIG		CA2		
CODE		ED-94859-(),G167		
OPTION		ZXZ		
COMPONENT		DESIG	LOC	CODE
CAPACITOR	f	HT	25H2	570G
RESISTOR	a	HTA	25H3	KS-16311,L3A,150K
	b	HTB	25H4	KS-16311,L3A,13.5K
	c	HTE	25H4	KS-16311,L3A,1.5K
	e	HTC	25G3	KS-16312,L3A,12K
TRANSISTOR	d	HT	25H3	51F

CAPACITOR

DESIG	LOC	CODE
B1	25G3	441A OR 141A
B2	25E5	401D,.001
B3	25F4	401D,.003
B4	25F5	KS-13541,50
B5(B5.1) (B5.2)	25F7	[2] 437A OR 137A
DP1	24C8	475U OR 175U
DP2	24D8	401D OR 4000,300PF
PA1	24D3	401D,.002
PA2	24F2	442C OR 142C
PA3	24F2	442C OR 142C
R11(R11.1) (R11.2)	24B1	[2] 288A
R12(R12.1) (R12.2)	24A1	[2] 288A
R21	25C7	287A
R22	25C7	287A
TTS	2488	441W OR 141W
V1(V1.1) (V1.2)	25F2	[2] 437A
V6(V6.1) (V6.2)	25C0	[2] 437A

DIODE

	DESIG	LOC	CODE
KA	B2	25F7	400J
ZWU	MN	107A1	446F
ZWU	MN1	107C3	446F
RQ	V1	25F1	6RS5K12 SEL RECT G.E.CO. OR ✓
	V2	25E1	6RS5GH5PA81 SEL RECT G.E.CO. OR
	V3	25F2	63-0030 SEL RECT, INTERNATIONAL RECT CO.
	V4	25E2	
	V5	25C2	
	V6	25B2	
	V7	25C1	
	V8	25B1	

FUSE

	DESIG	LOC	CODE
RG	AC	26D2	LITTLE FUSE SLO-BLO 1 AMP
RH	AC	26D2	LITTLE FUSE SLO-BLO 2 AMP
	B	24E2	CAT. AGX 1/16 AMP BUSSMAN MFG CO OR CAT. 8AG 1/16 AMP LITTLE FUSE,361 (000) SERIES

INDUCTOR

DESIG	LOC	CODE
R1A	24B0	278C
R2	25B7	

JACK

DESIG	LOC	CODE
NVA	25C6	239A OR 239AM
TTS	24F8	

DRAWING ISSUE

68D	RBT XLP AHP	
71A	SAP PAT AMP	
73D	KMJ MA AMP	
81D		
82A		
83D		
88D		

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C21

BELL TELEPHONE LABORATORIES INCORPORATED

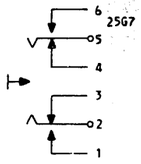
SIZE 6S

SD-25680-01-C21

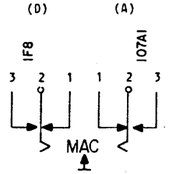
HIGGINS 4465

PART OF APP FIG 13

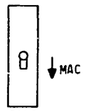
KEY
AAB
928



KEY OR KEY UNIT
CILA 2GP



KEY TOP



CILA
OR
2GP

LAMP

DESIG	LOC	CODE
AAB	27E6	2Y
NVA	1G9	2Y

NETWORK

DESIG	LOC	CODE
BLM	64G1	177E OR 181E
(SB,SC) DPM	11E0	CI] 177C OR 181C
DSM	42F7	
(SC) DPMI	11G1	[1/2]177H
IRB	1E9	CI] 177C OR 181C
ORM	1F9	

POTENTIOMETER

DESIG	LOC	CODE
B1	25F0	KS-13650,L1,2K
B2	25E8	KS-13650,L1,250

RECEPTACLE

DESIG	LOC	CODE
(RG) MON	26D2	HUBBELL 7524 (BASE) HUBBELL 7506 (CONN BODY) HUBBELL 7589 (PLUG CAP)

RESISTOR

DESIG	LOC	CODE
AAB1	24G8	19SG
AAB2	24G8	18KF
AAB4	25G7	19UY
B1	25E3	KS-19150,L2 OR L1,470K
B2	25D4	KS-19152,L3 OR L1,10K
B3	25D5	KS-19152,L1,20K
B4	25E4	KS-19150,L3 OR L1,470K
B5	25E5	KS-19150,L3 OR L1,1MEG
B6	25F5	18AJ
B7	24E7	KS-19150,L1,2K
B8	25E7	KS-19150,L2,100K
B9	25E8	KS-19150,L3,10K
B10	25F8	KS-19150,L2,470
B11	25E8	18EY OR KS-19150,L2,1.8K
B12	24E5	KS-19150,L3 OR L1,10K
B13	25D6	KS-19152,L1,20K
B14	25F4	KS-19150,L3 OR L1,470K
B15	25G4	KS-19150,L1,180K
(ZVS) CDP	27C8	18BM
(ZVT) CDP	27C8	18GM
DP1A	24D7	KS-19151,L1,7.5K
DP2A	24D8	144E OR 140C OR KS-20289,L6C,205K
DP3A	24C7	144E OR 140B OR KS-20289,L6C,511K
DP4A	24D7	144E OR 140B OR KS-20289,L6C,100K
DP5A	24C6	KS-19150,L1,100K
DP6A	24B6	KS-19152,L1,20K
(SC) DPMI	11G0	KS-19151,L1,200
NVA1	25C6	18KJ
NVA2	107A0	18CN
(BZ) P	24G1	KS-19150,L1,10MEG
P1	24D5	18KB
P2	24C6	KS-19152,L1,20K
PA1	24D3	KS-19150,L2 OR L1,1MEG

RESISTOR

DESIG	LOC	CODE
PA2	24D3	KS-19150,L2 OR L1,470K
PA3	24C4	KS-19150,L2 OR L1,1MEG
PA4	24C4	KS-19151,L2 OR L1,100K
RIA	24B1	KS-19152,L1,270K
RB1	25E1	144E OR 140B OR KS-20289,L6C,402
(WW) RB2	25G1	140B,410
(WX) RG2	25G1	144E OR KS-20289,L6C,402
(EE) RC	25A1	18GM
(CA) RG1	25C3	KS-19150,L1,470K
(CA) RG2	25C3	KS-19150,L1,1MEG
(CA) RG3	25B4	KS-19150,L1,240K
(CA) RW	25C4	KS-19152,L1,10K
TTS1	24B8	KS-19150,L3 OR L1,390K
TTS2	24B8	KS-19150,L3 OR L1,510K
V1	25F3	144E OR 140C OR KS-20289,L6C,42.2K
V2	25F3	144E OR 140B OR KS-20289,L6C,9760
V3	25F3	144E OR 140C OR KS-20289,L6C,4870
V4	25G3	144E OR 140C OR KS-20289,L6C,2490
V5	25F1	KS-19150,L3,22K
V6	25C1	144E OR 140C OR KS-20289,L6C,51.1K
(CA) VC	25A5	KS-19113,L2A,20K
VR1	24B2	KS-19152,L3 OR L1,33K
VR2	24C0	KS-19150,L3 OR L1,1MEG
VR3	24C1	KS-19150,L3 OR L1,1MEG
VR4	24C2	KS-8512,L20A OR L20,10K
VR5	24F2	144E OR 140B OR KS-20289,L6C,4530
VR6	24F2	144E OR 140B OR KS-20289,L6C,3010
VR7	24E2	144E OR 140C OR KS-20289,L6C,37.4K
VR8	24E2	144E OR 140C OR KS-20289,L6C,30.1K
VR9	25D2	KS-19152,L2,3.9K
VR10	25F1	144E,16.9K OR 140C,17K OR KS-20289,L6C,16.9K
(WW) VR11	25G1	KS-19152,L3 OR L1,2K
(WX) VR11	25G1	KS-19152,L1,1.3K
(IL) VR12	25D4	KS-19152,L3 OR L1,18K
(IM) VR12	25D4	KS-19113,L4A,9.1K
(IL) VR13	25D5	KS-19152,L3 OR L1,18K

TRANSFORMER

DESIG	LOC	CODE
AC	26B0	360L
B	25C2	233D

TUBE,ELECTRON

DESIG	LOC	CODE
B1	25E4	396A OR 2C51
B2	25E6	396A OR 2C51
DP	24C7	396A OR 2C51
(CA) LOLP	25B3	396A
P	24G2	0A2
PA	24C4	396A OR 2C51
R	24A1	412A
VR1	24C1	396A OR 2C51
VR2	24C2	0B2
VR3	24D2	0A2
VR4	25E1	0B2
VR5	25F4	0B2
(CA) VR6	25F4	0C2

VARISTOR

DESIG	LOC	CODE
(LZ) B2	25E7	31A
V1	25F1	
V2	25E1	
V3	25F2	
(RP) V4	25E2	KS-13363,L1
V5	25C2	
V6	25B2	
V7	25C1	
V8	25B1	
[2] V9,10	25B3	KS-13634

DRAWING ISSUE

68D	RDT	RLP AHE
70D	RDT	AMD RPS
71A	PMC	AMP RPS
75A	CMC	

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SCANNER TEST CIRCUIT (2) SD-25680-01-C22

BELL TELEPHONE LABORATORIES INCORPORATED 65

SD-25680-01-C22

HIGGINS 4465 K-2

APP FIG 14

RELAY DESIG	DT			DT1			DT2			DT3			DT4					
CODE	U722			U542			U542			U141			U254 EA					
OPTION	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	7,6	M	67B3															
	5,4,3	BM	67D3	5,4	M	67B2	5,4	M	67E1				5,4	M				
	2,1	B	67B3	3,2,1	BM	13C6	3,2,1	BM		3,2,1	BM	67B2	3,2,1	BM	67C1			
BOT	3,2,1	BM	13C6	3,2,1	BM	67E2	3,2,1	BM	13C5	3,2,1	BM	67D2	3,2,1	BM				
	5,4	M	67E2										5,4	M				
	7,6	M																
COIL			67E8			67B4			67D4			67F8			67F8			

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

DRAWING ISSUE

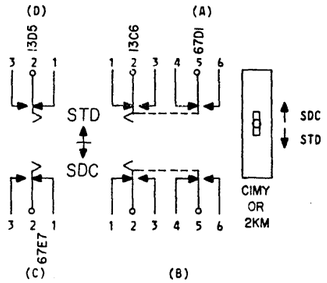
68D	CM, KLP, AHD
73D	PMT, AJL, HMS
78D	SAG
83O	RS

CAPACITOR

DESIG	LOC	CODE
DT1	67B1	228B
DT2(DT2.1) (DT2.2)	6701	[2]228B
DT4	67A0	KS-13368, L3, 1000 PF OR KS-13367, L30, 1000PF
DT6	67C0	

KEY OR KEY UNIT

CIMY 2KM



KEY TOP

LAMP

DESIG	LOC	CODE
DT1	67D0	2Y
DT2	67E0	2Y

NETWORK

DESIG	LOC	CODE
DT	68E8	[1] 177C OR 181C
DT3	68F8	[1/2] 177C OR 181C
DT1	67B4	

POTENTIOMETER

DESIG	LOC	CODE
DT8	67A1	KS-13650, L1, 1MEG
(FZ) DT10	67C1	KS-13790, L1, 1MEG

RESISTOR

	DESIG	LOC	CODE
(FY,FZ)	DT1	67A1	147D OR 141A, 1.21 MEG, 1.4 MEG
	DT2	67B1	KS-19150, L3, 100K
	DT3	67B2	KS-19151, L1, 2K
(FY,EA)	DT4	67C1	147D OR 141A, 1.78 MEG
	DT5	67C1	KS-19150, L3, 100K
	DT6	67C2	KS-19151, L1, 2K
	DT7	67A1	18EY
(FZ)	DT9	67C1	147D, 787K

TUBE, ELECTRON

DESIG	LOC	CODE
DT1	67B1	313CC
DT2	67C1	313CC

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-C23

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-C23

HIGGINS 4465

E-7422-8-1 (8-64)

APP FIG 15

RELAY

DESIG	DON			L			L			LA			LA1			LC			LD		
CODE	U57			239HE			280W			L503			U219			U6022			U6020		
OPTION				UO			UP														
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	10,9	M	27E8																		
	8,7	M	29A4																		
	6,5	M	29B5																		
	4,3	M	29A2										5,4	M	27F1						
	2,1	M	27E7	5,9,4	BM	27D6	5,9,4	BM	27D6	3,2,1	BM	27G1	3,2,1	BM	3A/B9	2,1	M	27A7	2,1	B	27A7
BOT.	2,1	M	29B5										3,2,1	BM		2,1	M	27B7	2,1	M	27B8
	4,3	M	3A/B3										5,4	M	27G1						
	6,5	M																			
	8,7	M	30F6																		
	10,9	M	46A5																		
COIL			23B9			27D8			27D6			27D7			27G0			27A9			27A9

RELAY

DESIG	LE			P1			P2			P3			P4			P5			P6		
CODE	U6021			U6015			U6017			U6016			U6017			U6016			U6018		
OPTION																					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				8,7	M	27B1															
				6,5	M	3A/D6				6,5	M	31A/D6				6,5	M	31A/C6	6,5	M	27A1
	4,3	M	27B8	4,3	M	27D2	5,4	M	31A/E6	4,3	M	31A/E6	5,4	M	31A/F6	4,3	M	31A/F6	4,3	M	27D2
	2,1	B	27A8	2,1	B	30F7	2,1,3	MB	27B1	2,1	B	27A1	2,1,3	MB	27D1	2,1	B	27A1	2,1	M	27E0
BOT.	2,1	B	27B3	2,1	B		3,2,1	BM	27A2	2,1,3	MB	27C1	3,2,1	BM	27A3	2,1,3	MB	27D1	2,1	B	
	4,3	M	27A3	4,3	M	27B1	5,4	M	31A/C6	5,4	M	27C2	5,4	M	31A/C6	5,4	M	27D2	4,3	M	27E0
				6,5	M	31A/B6													6,5	M	
COIL			27A9			27A0			27B0			27C0			27C0			27D0			27D0

RELAY

DESIG	P6A			PH			PST			RAA 239GR VW			RAA 280A VX								
CODE	U199			U1364			U607														
OPTION																					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
				6,5	M		7,6	M	39C1												
	6,5,4	BM	31A/D6	4,3	M	29A5	5,4,3	BM	29B6												
	3,2,1	BM	31A/C5	2,1	B	6308	2,1	B	4686	4,7,3	BM	31A/B8	4,7,3	BM	31A/B8						
BOT	3,2,1	BM	31A/E5	2,1	M	31A/B7	2,1,3	MB	27F8												
	6,5,4	BM	31A/C6	4,3	M	31A/D7	5,4	M	31A/B7												
COIL			27E0			29B6			27E9			27G0			27G0						

RELAY

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

CAPACITOR

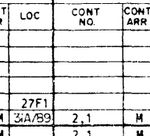
DESIG	LOC	CODE
LA	27D6	441D OR 141D
LA1	27D7	437QA OR 137QA
RA(RA.1-.3)	27G1	[3] 437QA
(RA.4,.5)		[2] 437QA OR 137QA

INDUCTOR

DESIG	LOC	CODE
PL2	31A/B7	200CL

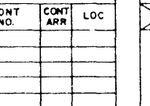
JACK

L
289A OR 289AM



JACK

RA
242A OR 242AM



NETWORK

DESIG	LOC	CODE
DON	23B9	[1] 177C OR 181C
L	27D7	
LA1	27G0	177C OR 181C (SEE NOTE 1)
LD	27A9	177G OR 181G
LD1	27A8	177G OR 181G
LE	27A7	[1/2] 177C OR 181C
P1-P	27B1	
P1-S	27B0	
P2	27B0	
P3	27C0	177G OR 181G
P4	27C0	
P5	27D0	
P6	27D0	
PH	29B6	177E OR 181E
PS1	31C8	177E OR 181E
PST	27E9	177C OR 181C (SEE NOTE 1)

RESISTOR

DESIG	LOC	CODE
L1	27D8	19TU
L2	27D7	18AC
LA	27D6	KS-19150,L1,510
LA1	27D9	18AS
LC1	27B6	KS-19150,L3,1MEG
LC2	27B7	KS-19150,L3,1MEG
P6	27F0	18BX
RA	27G1	19FG
(UV) RAA	27G2	18FN
(UU) RAA	27G3	19TM

NOTES:

1. (LA1) NETWORK E/W (CL7) NETWORK IN APP FIG 16 & (PST) NETWORK E/W (CL8) NETWORK IN APP FIG 16.

DRAWING ISSUE

68D	CM, RLP AND
70D	CM, RLP AND
83D	

ISSUE 97D CB

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C24

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-C24

HIGGINS 4465

PART OF APP FIG 16

RELAY																	
DESIG	1XX			11			11			11'			11'			11R		
CODE	U879			U1364			U1354			U1360			U6133			U219		
OPTION	AD			KT			KU			KT			KU			KT		
	CONT 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	15A6			
	5,4,3	BM	30C8	4,3	M	30A7	5,4	M	30A7	4,3	B	27G6	4,3	B	27G6	5,4	M	23G8
	2,1	B		2,1	B		3,2,1	BM	30E3	2,1	B	35A3	2,1	B	35A3	3,2,1	BM	35A2
	3,2,1	BM	30C5	2,1	M		3,2,1	BM	30G9	3,2,1	BM	30A7	3,2,1	BK	30A7	3,2,1	BM	54D2
BOT	5,4	M	32B7	4,3	M	27G6	5,4	M	27G6	5,4	M	32B6	5,4	M	32B6	5,4	M	54E2
													7,6	M	30A6			
COIL			15A8			30A9			30A9			30A8			30A8			23F9

RELAY																	
DESIG	11R			12			12'			A0			A0			A1		
CODE	U58			U1364			U1360			U1364			U1355			U1364		
OPTION	KU			ZI			ZI			JR			JS			JR		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	11,10	M																
	9,8	M	56G3										9,8	M	30G1			
	7,6	M	59E7	6,5	M		6,5	M	3584	6,5	M	30A3	7,6	M	3504	6,5	M	30A2
	5,4	M	23G8	4,3	M	30C7	4,3	B	27G6	4,3	M	35D4	5,4	M	30A3	4,3	M	35E4
	3,2,1	BM	35A2	2,1	B		2,1	B	35A3	2,1	B	35D4	3,2,1	BM	35D4	2,1	B	35E4
	2,1	B	56F2	2,1	M	23F1	3,2,1	BM	3087	2,1	M	32C6	2,1	B	30H1	2,1	M	32C6
BOT	5,4,3	BM	a	4,3	M	27G6	5,4	M	32B6	4,3	M	30C1	5,4,3	BM	30C1	4,3	M	30C1
	8,7,6	BM	b										7,6	M				
	10,9	M	54E2															
COIL			23F9			3089			30C8			32C6			32C6			32C6

a		
	MM	54D2
	FR	59D3

b		
	KM	56G3
	FR	59D5

RELAY																	
DESIG	A1			A2			A2			A4			A4			A7		
CODE	U1355			U1364			U1355			U1364			U1355			U1364		
OPTION	JS			KJ'			KK			KJ'			KK			KJ		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8	M					9,8	M	30H3				9,8	M	30F1			
	7,6	M	35E4	6,5	M	30B3	7,6	M	30C1	6,5	M	30C3	7,6	M	30C2	6,5	M	30C3
	5,4	M	30A2	4,3	M	35F4	5,4	M	30B3	4,3	M	35G4	5,4	M	30C3	4,3	M	35H4
	3,2,1	BM	35E4	2,1	B	35F4	3,2,1	BM	35E3	2,1	B	35G4	3,2,1	BM	35F3	2,1	B	35H4
	2,1	B	30D7	2,1	M	32C8	2,1	B	30E7	2,1	M	32C9	2,1	B	30G0	2,1	M	32C9
BOT	5,4,3	BM	30C1	4,3	M	32C7	5,4,3	BM	32C7	4,3	M	32C7	5,4,3	BM	32C7	4,3	M	32C7
	7,6	M					7,6	M	32C8				7,6	M	32C9			
COIL			32C6			32C8			32C8			32C9			32C9			32C9

RELAY																	
DESIG	A7			AR0			AR1			AR2			AR4			AR7		
CODE	U1355			U520			U520			U520			U520			U520		
OPTION	KK			SX			SX			SX			SX			SX		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8	M	30E0															
	7,6	M																
	5,4	M	30C3	4,3	M	35E2	4,3	M	35F2	4,3	M	35F2	4,3	M	35G2	4,3	M	35H2
	3,2,1	BM	35H4	2,1	B	35E2	2,1	B	35F2	2,1	B	35F2	2,1	B	35G2	2,1	B	35H2
	2,1	B	30D6	2,1	B		2,1	B		2,1	B		2,1	B		2,1	B	
BOT	5,4,3	BM	32C7	4,3	M	32A0	4,3	M	32A0	4,3	M	32A0	4,3	M	32A0	4,3	M	32A0
	7,6	M	32C9															
COIL			32C9			32A0			32A0			32A0			32A0			32A0

RELAY																	
DESIG	ARS			ARSA			AS			ASA			B0			B1		
CODE	UA107			U226			UA107			U226			U520			U520		
OPTION	DQ SX			SX														
	CONT 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		9,8,7	BM	32C0	9,8,7	BM	31A/A5	9,8,7	BM	32F6						
	6,5,4	BM	28A/B8	6,5,4	BM	32C0	6,5,4	BM	28B/B0	6,5,4	BM	32F6	4,3	M	35E5	4,3	M	35F5
	2,1,3	MB	28A/G7	3,2,1	BM	32C1	2,1,3	MB	28B/F0	3,2,1	BM	32E6	2,1	B	35E5	2,1	B	35F5
	2,1,3	MB	28A/A7	3,2,1	BM	32C1	2,1,3	MB	28B/A0	3,2,1	BM	32E6	2,1	B		2,1	B	
BOT	6,5,4	BM		6,5,4	BM	3281	6,5,4	BM	108C4	6,5,4	BM	32E6	4,3	M	33A0	4,3	M	33A0
	9,8,7	BM		9,8,7	BM	66B2	9,8,7	BM	33B1	9,8,7	BM	66C2						
COIL			28A/G7			28A/G7			28B/G0			28B/G0			33A0			33A0

RELAY																	
DESIG	B2			B4			B7			[5] BR0,1,2,4,7			BRS			BRSA		
CODE	U520			U520			U520			U520			UA107			U226		
OPTION										SW			SW			SW		
	CONT 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		9,8,7	BM	32C2
	4,3	M	35G5	4,3	M	35G5	4,3	M	35H5	4,3	M	35E2	6,5,4	BM	28A/B8	6,5,4	BM	32C2
	2,1	B	35G5	2,1	B	35G5	2,1	B	35H5	2,1	B	35E2	2,1,3	MB	28A/F8	3,2,1	BM	32C2
	2,1	B		2,1	B		2,1	B		2,1	B		2,1,3	MB	28A/A8	3,2,1	BM	32C2
BOT	4,3	M	33A0	4,3	M	33A0	4,3	M	33A0	4,3	M	32A2	6,5,4	BM		6,5,4	BM	32C2
													9,8,7	BM		9,8,7	BM	66B2
COIL			33A0			33A0			33A0			32A2			28A/G8			28A/G8

DRAWING ISSUE	
68D	WM KLP AND JES
70D	PAT
72A	
73D	
80A	RR
81D	

81

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C25

BELL TELEPHONE LABORATORIES INCORPORATED

FORM 65

PRINTED IN U.S.A.

SD-25680-01-C25

E-7422-8-2(8-64)

PART OF APP FIG 16

RELAY	BS			BSA			C0			C1			C2			C4		
DESIG	BS			BSA			C0			C1			C2			C4		
CODE	UA107			U226			U520			U520			U520			U520		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8,7	BM	23C5	9,8,7	BM	33E0												
	6,5,4	BM	28B/B1	6,5,4	BM	33E0	4,3	M	35E5	4,3	M	35F5	4,3	M	35G5	4,3	M	35G5
	2,1,3	MB	28B/G0	3,2,1	BM	~~33D1~~	2,1	B	35E5	2,1	B	35F5	2,1	B	35G5	2,1	B	35G5
BOT	2,1,3	MB	28B/A1	3,2,1	BM	33D1	2,1	B		2,1	B		2,1	B		2,1	B	
	6,5,4	BM	23H0	6,5,4	BM	33D1	4,3	M	33A2	4,3	M	33A2	4,3	M	33A2	4,3	M	33A2
	9,8,7	BM	35C8	9,8,7	BM	66D2												
COIL			28B/G1			28B/G1			33A2			33A2			33A2			33A2

RELAY	C7			CG			CGC						CL1A			CL7		
DESIG	C7			CG			CGC						CL1A			CL7		
CODE	U520			UA10			U934						U226			U102		
OPTION				JU			KK						R			JH		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP							10,9	M	14F1									
				6,5	M		8,7,6	BM	15A7				9,8,7	BM	31B/B5	8,7	M	48G1
	4,3	M	35H5	4,3	M		5,4,3	BM	23F2				6,5,4	BM	31B/B5	6,5,4	BM	35C5
	2,1	B	35H5	2,1	B		2,1	B	32A8				3,2,1	BM	31B/B5	3,2,1	BM	
BOT	2,1	B		2,1	B	109C1	3,2,1	BM	30G3				3,2,1	BM	31B/C6	3,2,1	BM	39C4
	4,3	M	33A2	4,3	M	14F1	6,5,4	BM	30H4				6,5,4	BM	31B/C6	5,4	M	48G3
							9,8,7	BM					9,8,7	BM	66A2			
COIL			33A2			14E1			14F1						28A/G1			48G1

RELAY	CL8			CLS			CLSA			[5]CR0,1,2,4,7			CRS			CRSA		
DESIG	CL8			CLS			CLSA			[5]CR0,1,2,4,7			CRS			CRSA		
CODE	U102			UA107			U226			U520			UA107			U226		
OPTION	ZXI			R			R			Z			Z			Z		
	CONT 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	48H1	9,8,7	BM		9,8,7	BM	31B/D6				9,8,7	BM		9,8,7	BM	32C4
	6,5,4	BM	23G0	6,5,4	BM	28A/C6	6,5,4	BM	31B/D6	4,3	M	35E3	6,5,4	BM	28A/B9	6,5,4	BM	32C4
	3,2,1	BM	11F8	2,1,3	MB	28A/G6	3,2,1	BM	31B/D6	2,1	B	35E3	2,1,3	MB	28A/G8	3,2,1	BM	32C4
BOT	3,2,1	BM	22G1	2,1,3	MB	28A/B1	3,2,1	BM	31B/D6	2,1	B		2,1,3	MB	28A/A9	3,2,1	BM	32C4
	5,4	M	48H3	6,5,4	BM		6,5,4	BM	31B/D6	4,3	M	32B5	6,5,4	BM		6,5,4	BM	32C4
				9,8,7	BM		9,8,7	BM	66A2				9,8,7	BM		9,8,7	BM	66C2
COIL			48H1			28A/G6			28A/G6			32A4			28A/G9			28A/G9

RELAY	CS			CSA			D0			D1			D2			D4		
DESIG	CS			CSA			D0			D1			D2			D4		
CODE	UA107			U226			U520			U520			U520			U520		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8,7	BM	109C1	9,8,7	BM	33D2												
	6,5,4	BM	28B/B2	6,5,4	BM	33D2	4,3	M	35E6	4,3	M	35F6	4,3	M	35G6	4,3	M	35G6
	2,1,3	MB	28B/G1	3,2,1	BM	33D2	2,1	B	35E6	2,1	B	35F6	2,1	B	35G6	2,1	B	35G6
BOT	2,1,3	MB	28B/A1	3,2,1	BM	33D2	2,1	B		2,1	B		2,1	B		2,1	B	
	6,5,4	BM		6,5,4	BM	33D2	4,3	M	33A4	4,3	M	33A4	4,3	M	33A4	4,3	M	33A4
	9,8,7	BM		9,8,7	BM	66D2												
COIL			28B/G1			28B/G2			33A4			33A4			33A4			33A4

RELAY	D7			DAR			DBR			DCR			DD8			DD8A		
DESIG	D7			DAR			DBR			DCR			DD8			DD8A		
CODE	U520			U102			U102			U102			U1205			U506		
OPTION				SX			SW			Z			JV			JV		
	CONT 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		8,7	M		8,7	M		6,5	M	30D8	7,6	M	
	4,3	M	35H6	6,5,4	BM	35D2	6,5,4	BM	35D2	6,5,4	BM	35D3	4,3	M		5,4,3	BM	
	2,1	B	35H6	3,2,1	BM	28A/D7	3,2,1	BM	28A/D8	3,2,1	BM	28A/D9	2,1	B	32C8	2,1	B	14F2
BOT	2,1	B		3,2,1	BM	28A/F6	3,2,1	BM	28A/F7	3,2,1	BM	a	2,1	B		2,1	B	27H6
	4,3	M	33A4	5,4	M		5,4	M		5,4	M		4,3	M	27H6	5,4,3	BM	30B6
													6,5	M	30C8	7,6	M	30D8
COIL			33A4			22E9			22F9			22G0			30C9			30D9

(CM) 28A/F9 & (CC) 11F8

RELAY	DD9			DD9A			DL1			DL2			DL3			DL4		
DESIG	DD9			DD9A			DL1			DL2			DL3			DL4		
CODE	U1205			U1205			U102			U102			U102			U102		
OPTION	KK			KK			Y			X			W			V		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	6,5	M		6,5	M		8,7	M	22A2	8,7	M	22B2	8,7	M	22C2	8,7	M	22D2
	4,3	M	30E8	4,3	M		6,5,4	BM	22A1	6,5,4	BM	22B1	6,5,4	BM	22C1	6,5,4	BM	22D1
	2,1	B	32A8	2,1	B	27H6	3,2,1	BM	28B/C0	3,2,1	BM	28B/C1	3,2,1	BM	28B/C2	3,2,1	BM	28B/C3
BOT	2,1	B		2,1	B	14F2	3,2,1	BM	28B/F0	3,2,1	BM	28B/F1	3,2,1	BM	28B/F2	3,2,1	BM	28B/F3
	4,3	M	30G8	4,3	M	30E8	5,4	M	35D4	5,4	M	35D5	5,4	M	35D6	5,4	M	35D7
	6,5	M	27H6	6,5	M													
COIL			30G9			30E9			22A0			22B0			22C0			22D0

DRAWING ISSUE
68D WM FLP ABL
70D JEG FAT MM
75A GMC CB
81D
86D CB

ISSUE 97D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C26

BELL TELEPHONE LABORATORIES INCORPORATED

SPEC CODE 6S

PRINTED IN U.S.A.

E-7422-B-2(8-64)

SD-25680-01-C26

PART OF APP FIG 16

RELAY																				
DESIG	DL5			DL6			DL7			DS			DSA			E0				
CODE	U102			U102			U102			UA107			U226			U520				
OPTION	U			T			AS									ZK				
	CONT 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	22E2	8,7	M	22E2	8,7	M		9,8,7	BM		9,8,7	BM	33D4					
	6,5,4	BM	22E1	6,5,4	BM	22E1	6,5,4	BM		6,5,4	BM	28B/B4	6,5,4	BM	33D4	4,3	M	35E7		
	3,2,1	BM	28B/C4	3,2,1	BM	28B/C5	3,2,1	BM	28B/C5	2,1,3	MB	28B/G2	3,2,1	BM	33D4	2,1	B	35E7		
BOT	3,2,1	BM	28B/F3	3,2,1	BM	28B/F4	3,2,1	BM	28B/F5	2,1,3	MB	28B/A2	3,2,1	BM	33D4	2,1	B			
	5,4	M	35D7	5,4	M	35D8	5,4	M	35D8	6,5,4	BM	23G1	6,5,4	BM	33D4	4,3	M	33A5		
										9,8,7	BM		9,8,7	BM	66E2					
COIL			22D0			22E0			22F0			28B/G2			28B/G2			33A5		

RELAY																				
DESIG	E1			E2			E4			E7			ES			ESA				
CODE	U520			U520			U520			U520			UA107			U226				
OPTION	ZK			ZK			ZK			ZK			ZK			ZK				
	CONT 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	109D2	9,8,7	BM	33E4		
	4,3	M	35F7	4,3	M	35G7	4,3	M	35G7	4,3	M	35H7	6,5,4	BM	28B/B4	6,5,4	BM	33E5		
	2,1	B	35F7	2,1	B	35G7	2,1	B	35G7	2,1	B	35H7	2,1,3	MB	28B/G3	3,2,1	BM	33E5		
BOT	2,1	B		2,1	B		2,1	B		2,1	B		2,1,3	MB	28B/A3	3,2,1	BM	33E5		
	4,3	M	33A5	4,3	M	33A5	4,3	M	33A5	4,3	M	33A5	6,5,4	BM		6,5,4	BM	33E5		
													9,8,7	BM	29C5	9,8,7	BM	66F2		
COIL			33A5			33A5			33A5			33A5			28B/G3			28B/G3		

RELAY																				
DESIG	[5] FC,1,2,4,7			FS			FSA			[5] GO,1,2,4,7			GS			GSA				
CODE	U520			UA107			U226			U520			UA107			U226				
OPTION	ZM			ZM			ZM			ZO			ZO			ZO				
	CONT 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		9,8,7	BM	33D7				9,8,7	BM		9,8,7	BM	33D8		
	4,3	M	35E7	6,5,4	BM	28B/B5	6,5,4	BM	33D7	4,3	M	35F8	6,5,4	BM	28B/B6	6,5,4	BM	33D8		
	2,1	B	35E7	2,1,3	MB	28B/G4	3,2,1	BM	33D7	2,1	B	35F8	2,1,3	MB	28B/G4	3,2,1	BM	33D8		
BOT	2,1	B		2,1,3	MB	28B/A4	3,2,1	BM	33D7	2,1	B		2,1,3	MB	28B/A4	3,2,1	BM	33D8		
	4,3	M	33A7	6,5,4	BM		6,5,4	BM	33D7	4,3	M	33A8	6,5,4	BM	23G2	6,5,4	BM	33D8		
				9,8,7	BM	29C5	9,8,7	BM	66F2				9,8,7	BM	29D5	9,8,7	BM	66F2		
COIL			33A7			28B/G4			28B/G4			33A8			28B/G5			28B/G5		

RELAY																				
DESIG	[5] HO,1,2,4,7			HS			HSA			[5] JO,1,2,4,7			JS			JSA				
CODE	U520			UA107			U226			U520			UA107			U226				
OPTION	ZQ			ZQ			ZQ			ZS			ZS			ZS				
	CONT 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		9,8,7	BM	34E0				9,8,7	BM		9,8,7	BM	34E2		
	4,3	M	35G8	6,5,4	BM	28B/B6	6,5,4	BM	34E0	4,3	M	35E8	6,5,4	BM	28B/B7	6,5,4	BM	34E2		
	2,1	B	35G8	2,1,3	MB	28B/G5	3,2,1	BM	34E1	2,1	B	35E8	2,1,3	MB	28B/G6	3,2,1	BM	34E2		
BOT	2,1	B		2,1,3	MB	28B/A5	3,2,1	BM	34E1	2,1	B		2,1,3	MB	28B/A6	3,2,1	BM	34E2		
	4,3	M	34B0	6,5,4	BM	23G2	6,5,4	BM	34D1	4,3	M	34B2	6,5,4	BM	23G2	6,5,4	BM	34E2		
				9,8,7	BM	29D5	9,8,7	BM	66G2				9,8,7	BM	29D5	9,8,7	BM	66G2		
COIL			34B0			28B/G5			28B/G6			34B2			28B/G6			28B/G6		

RELAY																				
DESIG	[5] KO,1,2,4,7			KA0			KA1			KA2			KA4			KA7				
CODE	U520			U113			U113			U113			U113			U113				
OPTION	ZU																			
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC		
TOP																				
	4,3	M	35F8																	
	2,1	B	35F8	3,2,1	BM	35D4	3,2,1	BM	35D4	3,2,1	BM	35E4	3,2,1	BM	35F4	3,2,1	BM	35G3		
BOT	2,1	B		2,1	M	36D1	2,1	M	36A/D1	2,1	M	36A/D1	2,1	M	36A/D1	2,1	M	36A/E1		
	4,3	M	34B4																	
COIL			34B4			36A/D0			36A/D0			36A/D0			36A/D0			36A/E0		

RELAY																				
DESIG	KAR0			KAR1			KAR2			KAR4			KAR7			KB0				
CODE	U272			U272			U272			U272			U272			U113				
OPTION	SX			SX			SX			SX			SX							
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC		
TOP																				
	6,5	M		6,5	M		6,5	M		6,5	M		6,5	M						
	4,3	M	35E2	4,3	M	35E2	4,3	M	35F2	4,3	M	35G2	4,3	M	35G2					
	2,1	B	35E2	2,1	B	35E2	2,1	B	35F2	2,1	B	35G2	2,1	B	35G2	3,2,1	BM	35E4		
BOT	2,1	M	32E0	2,1	M	32E0	2,1	M	32E0	2,1	M	32E0	2,1	M	32E0	2,1	M	36A/F1		
	4,3	M	22E8	4,3	M	22E8	4,3	M	22E8	4,3	M	22E8	4,3	M	22E8					
COIL			32E0			32E0			32E0			32E0			32E0			36A/F0		

DRAWING ISSUE

68D	WM RLP AHM
70D	CR PAT AHM
74D	GMC
75A	GMC
86D	

ISSUE 96AC

SD-25680-01-C27

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C27

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

E-7428-B-2(8-64)

PART OF APP FIG 16

RELAY

DESIG	KB1			KB2			KB4						[5] KBR0,1,2,4,7			KC0		
CODE	U113			U113			U113						U272			U113		
OPTION													SW					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP													6,5	M				
													4,3	M	35D2			
	3,2,1	BM	35F4	3,2,1	BM	35F4	3,2,1	BM	35G4				2,1	B	35D2	3,2,1	BM	35E5
	2,1	M	36A/F1	2,1	M	36A/F1	2,1	M	36A/F1				2,1	M	32E2	2,1	M	36D2
BOT													4,3	M	22F8			
COIL			36A/F0			36A/F0			36A/F0						32E2			36D2

RELAY

DESIG	KC1			KC2			KC4			KC7			KD0			KD1		
CODE	U113			U113			U113			U113			U113			U113		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	3,2,1	BM	35F5	3,2,1	BM	35F5	3,2,1	BM	35G5	3,2,1	BM	35H5	3,2,1	BM	35E6	3,2,1	BM	35F6
	2,1	M	36D2	2,1	M	36D2	2,1	M	36D2	2,1	M	36D2	2,1	M	36D3	2,1	M	36D3
BOT																		
COIL			36D2			36D2			36D2			36D2			36D3			36D3

RELAY

DESIG	KD2			KD4						KE0			KE1			KE2		
CODE	U113			U113						U113			U113			U113		
OPTION										ZK			ZK			ZK		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	3,2,1	BM	35F6	3,2,1	BM	35G6				3,2,1	BM	35E6	3,2,1	BM	35F6	3,2,1	BM	35F6
	2,1	M	36D3	2,1	M	36D3				2,1	M	36D3	2,1	M	36D3	2,1	M	36D3
BOT																		
COIL			36D3			36D3						36D3			36D3			36D3

RELAY

DESIG	KE4			KE7			[5] KF0,1,2,4,7			[5] KG0,1,2,4,7			[4] KH0,1,2,4			KH7		
CODE	U113			U113			U113			U113			U113			U113		
OPTION	ZK			ZK			ZM			Z0			ZQ			KW		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	3,2,1	BM	35G7	3,2,1	BM	35H6	3,2,1	BM	35E7	3,2,1	BM	35F8	3,2,1	BM	35G8	3,2,1	BM	35G8
	2,1	M	36D3	2,1	M	36D3	2,1	M	36D4	2,1	M	36D4	2,1	M	36D5	2,1	M	36D5
BOT																		
COIL			36D3			36D3			36D4			36D4			36D5			36D5

RELAY

DESIG	KH7			[4] KJ0,1,2,4			KJ7			KJ7			[4] KK0,1,2,4			KK7		
CODE	U157			U113			U113			U157			U113			U113		
OPTION	KX			ZS			ZXM			ZXN			ZU			ZX0		
	CONT 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	36D5							5,4	M	36D5						
	3,2,1	BM	35G8	3,2,1	BM	35E8	3,2,1	BM	35E8	3,2,1	BM	35E8	3,2,1	BM	35E8	3,2,1	BM	35F8
	3,2,1	BM	23H2	2,1	M	36D5	2,1	M	36D5	3,2,1	BM	23H2	2,1	M	36D6	2,1	M	36D6
BOT																		
COIL			36D5			36D5			36D5			36D5			36D6			36D6

RELAY

DESIG	KK7			[4] KL0,1,2,4			KL7			KL7			KD7			KD7		
CODE	U157			U113			U113			U157			U113			U157		
OPTION	ZXP			ZW			KY			KZ			ZWP			ZWQ		
	CONT 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	36D6							5,4	M	36D6						
	3,2,1	BM	35F8	3,2,1	BM	36E9-G9	3,2,1	BM	35G9	3,2,1	BM	35G9	3,2,1	BM	35H6	3,2,1	BM	35H6
	3,2,1	BM	23H3	2,1	M	36D6	2,1	M	36D6	3,2,1	BM	23H3	2,1	M	36D3	3,2,1	BM	23H1
BOT																		
COIL			36D6			36D6			36D6			36D6			36D3			36D3

DRAWING ISSUE

66D	WM ELF AHP	
70D	CH PAT MAS	
75A	OMC	A
78D	RA	CB
86D		B

ISSUE 96AC

SD-25680-01-C28

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C28

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

E-7422-B-2(8-64)

PART OF APP FIG 16

RELAY

DESIG	KR0			KR1			KR2			KR4			KR7			KS		
CODE	U272			U272			U272			U272			U272			UA107		
OPTION	Z			YP,YR,VP,VR,Z			YP,YR,VP,VR,Z			YP,YR,VP,VR,Z			YP,YR,VP,VR,Z			ZU		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	6,5	M	32E3	6,5	M	32E4	6,5	M	32E4	6,5	M	32E4	6,5	M	32E4	9,8,7	BM	
	4,3	M	35E3	4,3	M	35E3	4,3	M	35F3	4,3	M	35G3	4,3	M	35G3	6,5,4	BM	28B/B7
	2,1	B	35E3	2,1	B	35E3	2,1	B	35F3	2,1	B	35G3	2,1	B	35G3	2,1,3	MB	28B/F6
BOT	2,1	M	32D3	2,1	M	32D4	2,1	M	32D4	2,1	M	32D4	2,1	M	32D4	2,1,3	MB	28B/A6
	4,3	M	22G3	4,3	M	22G4	4,3	M	22H4	4,3	M	22H4	4,3	M	22H4	6,5,4	BM	23G3
																9,8,7	BM	29D5
COIL			32E2			32E4			32E4			32E4			32E4			28B/G7

RELAY

DESIG	KSA			KST7			KST7			LS			LSA			MCI		
CODE	U226			U113			U157			U107			U226			U65		
OPTION	ZU			ZXQ			ZXR			ZW			ZW					
	CONT 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	34E4							9,8,7	BM		9,8,7	BM	34F5	6,5	M	48C7
	6,5,4	BM	34E4				5,4	M	36A/D9	6,5,4	BM	28B/C8	6,5,4	BM	34F5	4,3	M	1288
	3,2,1	BM	34E4	3,2,1	BM	35A9	3,2,1	BM	35A9	2,1,3	MB	28B/G7	3,2,1	BM	34F5	2,1	M	28A/G0
BOT	3,2,1	BM	34E4	2,1	M	36A/D9	3,2,1	BM	23H4	2,1,3	MB	28B/A7	3,2,1	BM	34F5	2,1	M	a
	6,5,4	BM	34E4							6,5,4	BM	23G4	6,5,4	BM	34F5	4,3	M	b
	9,8,7	BM	66G2							9,8,7	BM	29E5	9,8,7	BM		6,5	M	32G4
																8,7	M	32G4
																10,9	M	32G4
																12,11	M	15H2
COIL			28B/G7			36A/C9			36A/C9			28B/G7			28B/G7			38B

a (ST) 32G4 (CC) 48H7

b (SR) 32G4 (69) 37D8

RELAY

DESIG	MCJ			MCK			MCL			MCM			MCN			MK		
CODE	U65			U57			U57			U57			U57			U603		
OPTION				SY			ZXG						SX			LM		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	22E2															
	10,9	M	22D2	10,9	M	32G2	10,9	M		10,9	M	32G3	10,9	M				
	8,7	M	22D2	8,7	M	32G2	8,7	M		8,7	M	32G3	8,7	M				
	6,5	M	22C2	6,5	M	32G2	6,5	M	38A	6,5	M	32G3	6,5	M				
	4,3	M	22B2	4,3	M	32G2	4,3	M	3A4	4,3	M	32G3	4,3	M				
	2,1	M	22A2	2,1	M	32G2	2,1	M	3G1	2,1	M	32G3	2,1	M		3,2,1	BM	2981
BOT	2,1	M	48F7	2,1	M	32G4	2,1	M	32G0	2,1	M	32G5	2,1	M	32G2	2,1	B	3D7
	4,3	M	48E7	4,3	M	32G4	4,3	M	32G0	4,3	M	32G5	4,3	M	32G2			
	6,5	M	48D7	6,5	M	32G4	6,5	M	32G0	6,5	M	32G5	6,5	M	32G2			
	8,7	M	48B7	8,7	M	32G4	8,7	M	32G0	8,7	M	32G5	8,7	M	32G2			
	10,9	M	48A7	10,9	M	32G4	10,9	M	32G0	10,9	M	32G5	10,9	M	32G2			
	12,11	M	15H3															
COIL			3C8			3D8			3D8			3E0			3F0			2981

RELAY

DESIG	MK			ONR			OP			OP1			ORM1			ORM1		
CODE	U467			U144			U1205			U506			U520			U1307		
OPTION	LP						KK			KK			KJ			KK		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				12,11	M	2981												
				10,9	M	34A3												
				8,7	M	29C1										9,8	M	23F1
				6,5	M	28A/A0	6,5	M	33B2	7,6	M	32B7				7,6,5	BM	
	5,4	M	39C4	4,3	M	31B/E9	4,3	M	27H6	5,4,3	BM	a	4,3	M	30B5	4,3	M	3095
	3,2,1	BM	2981	2,1	M	32A9	2,1	B		2,1	B	27H6	2,1	B	30B4	2,1	B	3084
BOT	2,1	B	3D7	2,1	M	34A8	2,1	B	32B8	2,1	B	32A8	2,1	B	32B6	2,1	B	32B6
	4,3	M	12E1	4,3	M	33A9	4,3	M	30F8	5,4,3	BM	b	4,3	M	108E2	4,3	M	
				6,5	M	34A6	6,5	M	30F8	7,6	M	30F8				7,6,5	BM	30C0
				8,7	M	62F6										9,8	M	
				10,9	M	a												
				12,11	M	33A6												
COIL			2981			23A9			30E9			30F9			23D9			23D9

a (DH) 23A8 (JE) 46B9

a (AB) 30D0 (AC) 30E4

b (AB) 30A1 (ZYC) 30A5

RELAY

DESIG	P11			PAC			PLN			PLN1			RCK					
CODE	U520			U617			U440			U934			U1412					
OPTION	DF			JE			JV			JV			SV					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP										10,9	M	14G1						
										8,7,6	BM	32C8	6,5	M				
	4,3	M	3584	4,3	B	22G1				5,4,3	BM	32C8	4,3	B				
	2,1	B	35A4	2,1	B	45F7	3,2,1	BM		2,1	B	30B7	2,1	B	3E1			
BOT	2,1	B		2,1,3	MB	4688	3,2,1	BM	14G2	3,2,1	BM	30C2	2,1,3	MB	35C3			
	4,3	M	3286							6,5,4	BM	30C4	5,4	M	35C3			
										9,8,7	BM	30G3						
COIL			23A0			4689			14E1			14G1			35C4			

RELAY

DESIG	S01			S02			S11			S12			SC1			ST7		
CODE	U272			U272			U272			U272			U200			U520		
OPTION	R			R			R			R			KR					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP													9,8	M	35F6			
	6,5	M		6,5	M		6,5	M		6,5	M		7,6	M	35E6			
	4,3	M	3586	4,3	M	3586	4,3	M	3585	4,3	M	3586	5,4	M	35E5	4,3	M	35A9
	2,1	B	35A6	2,1	B	35A6	2,1	B	35A5	2,1	B	35A6	3,2,1	BM		2,1	B	35A9
BOT	2,1	M	32C6	2,1	M	32B6	2,1	M	32D6	2,1	M	32C6	3,2,1	BM	35B3	2,1	B	
	4,3	M	31B/A8	4,3	M	31B/C8	4,3	M	31B/B8	4,3	M	31B/D8	6,5,4	BM	35G6	4,3	M	3487
													8,7	M	35F5			
COIL			31B/A8			31B/C8			31B/B8			31B/C8			23F0			3487

DRAWING ISSUE

68D	WM	RA AHD
70D	CR	RA AHD
72A	KM	RA AHD
74D	OC	
79D	RR	
80A	RR	
81D		
85A		
86D		

ISSUE 96AC

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C29

BELL TELEPHONE LABORATORIES INCORPORATED

BWG SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-C29

HIGGINS 4465

E-7422-8-2(8-64)

PART OF APP FIG 16

RELAY	STS			TD1			TDM			TO			TO			TR		
DESIG																		
CODE	UA107			U220			U127			239JR			280AP			U65		
OPTION				CY,R,YR,VR			ZI			UB			UD					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																12,11	M	22E2
																10,9	M	22E2
																8,7	M	22D2
	9,8,7	BM	23G4	6,5	M		7,6	M	23F8							6,5	M	22C2
	6,5,4	BM	28B/C9	4,3	M	35B5	5,4,3	BM	30A4							4,3	M	22B2
	2,1,3	MB	28B/G8	2,1	B	35A5	2,1	B	35B3	4,7,3	BM	29B2	4,7,3	BM	29B2	2,1	M	22A2
BOT	2,1,3	MB	28B/B8	3,2,1	BM	28A/E0	3,2,1	BM	32B7							2,1	M	32E4
	6,5,4	BM	34F6	5,4	M	22G4	5,4	M	35B4							4,3	M	32D5
	9,8,7	BM	29E5													6,5	M	32D5
																8,7	M	32D5
																10,9	M	32D5
																12,11	M	28A/D0
COIL			28B/G8			22G2			23E9			29B1			29B1			12D9

RELAY	TRS			X			CL1			CL1			RVS			RVS		
DESIG																		
CODE	U559			U520			U103			U712			U721			U611		
OPTION	XF						BF			BH,CY			BB			CC		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	7,6	M								8,7	M	22E6				9,8,7	BM	31A/H3
	5,4	M	28B/B9	4,3	M	27G6	5,4	M	28A/F1	6,5,4	BM	28A/F1	6,5,4	BM		6,5,4	BM	
	2,1,3	MB	28B/G9	2,1	B		3,2,1	BM	28A/E6	3,2,1	BM	28A/E6	3,2,1	BM	31A/G1	3,2,1	BM	31A/G1
	2,1,3	MB	28B/B9	2,1	B		3,2,1	BM	28A/E4	3,2,1	BM	28A/E4	3,2,1	BM	31A/C1	3,2,1	BM	31A/C1
BOT	5,4	M		4,3	M		3,4	M	22G4	5,4	M	22G4	6,5,4	BM		6,5,4	BM	31A/E3
										7,6	M					9,8,7	BM	31A/F3
COIL			28B/G9			3089			28A/G1			28A/G1			23G0			23G0

RELAY	L0			L1			L2			L4			L7					
DESIG																		
CODE	U520			U520			U520			U520			U520					
OPTION	ZW			ZW			ZW			ZW			ZW					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	4,3	M	35E9	4,3	M	35F9	4,3	M	35F9	4,3	M	35G9	4,3	M	35H9			
	2,1	B	35E9	2,1	B	35F9	2,1	B	35F9	2,1	B	35G9	2,1	B	35H9			
	2,1	B		2,1	B		2,1	C		2,1	B		2,1	B				
BOT	4,3	M	34B5	4,3	M	34B5	4,3	M	34B5	4,3	M	34B5	4,3	M	34B5			
COIL			34B5			34B5			34B5			34B5			34B5			

RELAY	KB7			KB7														
DESIG																		
CODE	U113			U157														
OPTION	AY			AZ														
	CONT 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	36A/G1												
	3,2,1	BM	35H4	3,2,1	BM	35H4												
	2,1	M	36A/G1	3,2,1	BM	23H0												
BOT																		
COIL			36A/F0			36A/F0												

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

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

DRAWING ISSUE

68D	WWS RLP
70D	CR
75A	GMC
80A	RR
81D	
86D	

86

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C30

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

SD-25680-01-C30

HIGGINS 4465
E-7422-8-2(8-64)

PART OF APP FIG 16

RELAY

DESIG	MCB			MCE			RTC			MCT
CODE	263A	287A	287E	263E	287A	287E	263A	287A	287E	287E
OPTION	QZ	PA	KE	QZ	PA	KE	QZ	PA	KE	ZXH
59	36A6	36A6	36A6	34G6	34G6	34G6	34F5	34F5	34F5	36A/B7
58	36A6	36A6	36A6	34G6	34G6	34G6	34F5	34F5	34F5	36A/B7
57	36A6	36A6	36A6	34G6	34G6	34G6	34F5	34F5	34F5	36A/B7
56	36A6	36A6	36A6	34G6	34G6	34G6	34F5	34F5	34F5	36A/B7
55	36A6	36A6	36A6	34G6	34G6	34G6	34F5	34F5	34F5	36A/B7
49	36A5	36A5	36A5	34G3	34G3	34G3	34G2	34G2	34G2	36A/B6
48	36A5	36A5	36A5	34G3	34G3	34G3	34G2	34G2	34G2	36A/B6
47	36A5	36A5	36A5	34G3	34G3	34G3	34G2	34G2	34G2	36A/B6
46	36A5	36A5	36A5	34G3	34G3	34G3	34G2	34G2	34G2	36A/B6
45	36A5	36A5	36A5	34G3	34G3	34G3	34G2	34G2	34G2	36A/B6
39	36A4	36A4	36A4	33F8	33F8	33F8	33F9	33F9	33F9	36A/B4
38	36A4	36A4	36A4	33F8	33F8	33F8	33F9	33F9	33F9	36A/B4
37	36A4	36A4	36A4	33F8	33F8	33F8	33F9	33F9	33F9	36A/B4
36	36A4	36A4	36A4	33F8	33F8	33F8	33F9	33F9	33F9	36A/B4
35	36A4	36A4	36A4	33F8	33F8	33F8	33F9	33F9	33F9	36A/B4
29	36A3	36A3	36A3	33F6	33F6	33F6	33F5	33F5	33F5	36A/B3
28	36A3	36A3	36A3	33F6	33F6	33F6	33F5	33F5	33F5	36A/B3
27	36A3	36A3	36A3	33F6	33F6	33F6	33F5	33F5	33F5	36A/B3
26	36A3	36A3	36A3	33F6	33F6	33F6	33F5	33F5	33F5	36A/B3
25	36A3	36A3	36A3	33F6	33F6	33F6	33F5	33F5	33F5	36A/B3
19	36A2	36A2	36A2	33F3	33F3	33F3	33F2	33F2	33F2	36A/B2
18	36A2	36A2	36A2	33F3	33F3	33F3	33F2	33F2	33F2	36A/B2
17	36A2	36A2	36A2	33F3	33F3	33F3	33F2	33F2	33F2	36A/B2
16	36A2	36A2	36A2	33F3	33F3	33F3	33F2	33F2	33F2	36A/B2
15	36A2	36A2	36A2	33F3	33F3	33F3	33F2	33F2	33F2	36A/B2
09	36A1	36A1	36A1	32G6	32G6	32G6	32G6	32G6	32G6	36A/B1
08	36A1	36A1	36A1	32G6	32G6	32G6	32G6	32G6	32G6	36A/B1
07	36A1	36A1	36A1	32G6	32G6	32G6	32G6	32G6	32G6	36A/B1
06	36A1	36A1	36A1	32G6	32G6	32G6	32G6	32G6	32G6	36A/B1
05	36A1	36A1	36A1	32G6	32G6	32G6	32G6	32G6	32G6	36A/B1
COIL	38O	38O	38O	3DO	3DO	3DO	3E8	3E8	3E8	3A5
54	36A6	36A6	36A6	34F4	34F4	34F4	34G5	34G5	34G5	36A/B6
53	36A6	36A6	36A6	34F4	34F4	34F4	34G5	34G5	34G5	36A/B6
52	36A6	36A6	36A6	34F4	34F4	34F4	34G5	34G5	34G5	36A/B6
51	36A6	36A6	36A6	34F4	34F4	34F4	34G5	34G5	34G5	36A/B6
50	36A6	36A6	36A6	34F4	34F4	34F4	34G5	34G5	34G5	36A/B6
44	36A5	36A5	36A5	34F1	34F1	34F1	34G2	34G2	34G2	36A/B5
43	36A5	36A5	36A5	34F1	34F1	34F1	34G2	34G2	34G2	36A/B5
42	36A5	36A5	36A5	34F1	34F1	34F1	34G2	34G2	34G2	36A/B5
41	36A5	36A5	36A5	34F1	34F1	34F1	34G2	34G2	34G2	36A/B5
40	36A5	36A5	36A5	34F1	34F1	34F1	34G2	34G2	34G2	36A/B5
34	36A4	36A4	36A4	33F7	33F7	33F7	33F8	33F8	33F8	36A/B4
33	36A4	36A4	36A4	33F7	33F7	33F7	33F8	33F8	33F8	36A/B4
32	36A4	36A4	36A4	33F7	33F7	33F7	33F8	33F8	33F8	36A/B4
31	36A4	36A4	36A4	33F7	33F7	33F7	33F8	33F8	33F8	36A/B4
30	36A4	36A4	36A4	33F7	33F7	33F7	33F8	33F8	33F8	36A/B4
24	36A3	36A3	36A3	33F4	33F4	33F4	33F5	33F5	33F5	36A/B3
23	36A3	36A3	36A3	33F4	33F4	33F4	33F5	33F5	33F5	36A/B3
22	36A3	36A3	36A3	33F4	33F4	33F4	33F5	33F5	33F5	36A/B3
21	36A3	36A3	36A3	33F4	33F4	33F4	33F5	33F5	33F5	36A/B3
20	36A3	36A3	36A3	33F4	33F4	33F4	33F5	33F5	33F5	36A/B3
14	36A2	36A2	36A2	33F1	33F1	33F1	33F2	33F2	33F2	36A/B2
13	36A2	36A2	36A2	33F1	33F1	33F1	33F2	33F2	33F2	36A/B2
12	36A2	36A2	36A2	33F1	33F1	33F1	33F2	33F2	33F2	36A/B2
11	36A2	36A2	36A2	33F1	33F1	33F1	33F2	33F2	33F2	36A/B2
10	36A2	36A2	36A2	33F1	33F1	33F1	33F2	33F2	33F2	36A/B2
04	36A/A8	36A/A8	36A/A8	32G5	32G5	32G5	34F8	34F8	34F8	36A/A8
03	32A6	32A6	32A6	32G5	32G5	32G5	55G1	55G1	55G1	
02	34G7	34G7	34G7	32G5	32G5	32G5	23F1	23F1	23F1	
01	a	a	a	32G5	32G5	32G5	23B3	23B3	23B3	48G7
00	48G7	48G7	48G7	32G5	32G5	32G5	a	a	a	48G7
COIL	38O	38O	38O	3DO	3DO	3DO	3E8	3E8	3E8	3A5

THE TERMINAL NO. OF THE 263 TYPE RELAY 0-9 ARE REPRESENTED BY THE 287 TYPE RELAY TERMINAL NO. 00-09.

a (BB) 48H7 (ZXB) 34G7

a (ES) 23D2 (DH) 3G8

RELAY

DESIG	IXX		SDS		CL8		CL18		HFD	
CODE	AJ60		AJ15		AJ521 OR AJ524		AJ15		AF9	
OPTION	AE		CU		ZXJ		ZXT		ZVC	
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12			EBM		M		EBM		EM	
11			EBM		M		EBM			
10	EBM	1098	EBM		M		EBM	35D3	M	
9			EBM		M		EBM	35F2	B	
8	EBM	32B7	EMB		EBM	22F6	EMB		EBM	
7			EBM				EBM	35E2	B	
6	EBM	30C8	EMB		EBM	22G1	EMB		EMB	
5			EMB				EMB	22E6	B	44E5
4	EBM	30C5	EBM		EBM	11F8	EBM	28A/E5	EBM	39G1
3			EBM		M	48H3	EBM	28A/F0		
2			EBM	3A1	M	48H1	EBM	28A/E1	M	
1			EBM	3F8	M	23G0	EBM	22G3		
COIL	X	15A8	X	3C8	X	48H1	X	22E5	X	39D0

NETWORK DESIG	LOC	CODE
11'	30B5	177E OR 181E
(KT,KU) 11R	23F9	[1/2] 177C OR 181C
(DQ,SX) ARS	28A/G7	177E OR 181E
AS	28B/G0	
(DQ,SW) BRS	28A/G8	
BS	28B/G1	
(CY,BF,BH) CL1	28A/G0	[1/2] 177C OR 181C
(CY,BF,BH) CL1A	28A/G1	177E OR 181E
(JH) CL7	48G1	[1/2]177C OR 181C M/W (LA1) IN APP FIG 15
(JJ) CL8	48H1	[1/2]177C OR 181C M/W (PST) IN APP FIG 15
(ZXT) CLI8	22E5	185A
(R) CLS	28A/G6	177E OR 181E
(Z) CRS	28A/G9	
CS	28B/G1	
(JV) DD8	30C9	185A
(JV) DD8A	30D9	
(KK) DD9	30G9	
(KK) DD9A	30E9	
(Y) DL1	22A0	[1]177C OR 181C
KA0	36D0	
(X) DL2	22B0	[1]177C OR 181C
KB0	36A/F0	
(W) DL3	22C0	[1]177C OR 181C
KC0	36D2	
(V) DL4	22D0	[1]177C OR 181C
KD0	36D3	
(U) DL5	22D0	[1]177C OR 181C
(ZK) KE0	36D3	
(T) DL6	22E0	[1]177C OR 181C
(ZM) KF0	36D4	
DS	28B/G2	177E OR 181E
(ZK) ES	28B/G3	
(ZM) FS	28B/G4	
(ZO) GS	28B/G5	
(ZQ) HS	28B/G5	177E
(ZS) JS	28B/G6	177E OR 181E
KA1	36A/D0	[1]177C OR 181C
KA2	36A/D0	
KA4	36A/C0	[1]177C OR 181C
KA7	36A/E0	
KAR0	32E0	[1/2] 177C OR 181C
(SX) KAR1	32E0	[1]177C OR 181C
KAR2	32E0	
KAR4	32E0	[1]177C OR 181C
KAR7	32E0	
KB1	36A/F0	[1]177C OR 181C
KB2	36A/F0	
KB4	36A/F0	[1]177C OR 181C
(AY,AZ) KB7	36A/F0	

NETWORK DESIG	LOC	CODE
KBR0	32E2	[1/2] 177C OR 181C
(SW) KBR1	32E2	[1]177C OR 181C
KBR2	32E2	
KBR4	32E2	[1]177C OR 181C
KBR7	32E2	
KC1	36D2	[1]177C OR 181C
KC2	36D2	
KC4	36D2	[1]177C OR 181C
KC7	36D2	
KD1	36D3	[1]177C OR 181C
KD2	36D3	
KD4	36D3	
(ZMP,ZMQ) KD7	36D3	[1]177C OR 181C
KE1	36D3	[1]177C OR 181C
(ZK) KE2	36D3	
KE4	36D3	[1]177C OR 181C
KE7	36D3	
KF1	36D4	[1]177C OR 181C
(ZM) KF2	36D4	
KF4	36D4	[1]177C OR 181C
KF7	36D4	
KG0	36D4	[1/2] 177C OR 181C
KG1	36D4	[1]177C OR 181C
(ZO) KG2	36D4	
KG4	36D4	[1]177C OR 181C
KG7	36D4	
KH0	36D5	[1/2]177C OR 181C
(ZQ) KH1	36E5	[1]177C OR 181C
KH2	36E5	
KH4	36F5	[1]177C OR 181C
(KW,KX) KH7	36F5	
KL0	36D7	[1/2]177C OR 181C
(ZW) KL1	36E7	[1]177C OR 181C
KL2	36E7	
KL4	36F7	[1]177C OR 181C
(KY,KZ) KL7	36F7	
KJ0	36D6	[1/2] 177C OR 181C
KJ1	36D6	[1]177C OR 181C
(ZS) KJ2	36D6	
KJ4	36D6	[1]177C OR 181C
KJ7	36D6	
KK0	36D7	[1/2] 177C OR 181C
KK1	36D7	[1]177C OR 181C
(ZU) KK2	36D7	
KK4	36D7	[1]177C OR 181C
KK7	36D7	
(Z) KR0	32E3	[1]177C OR 181C
(SV) RCK	35C4	
KR1	32E4	[1]177C OR 181C
(Z,YR,YP,VR,VP) KR2	32E4	
KR4	32E4	[1]177C OR 181C
KR7	32E4	
(ZU) KS	28B/G7	177E OR 181E
KST7	36C9	[1/2] 177C OR 181C
(ZW) LS	28B/G8	177E
(KE,QZ,PA) MCB	38O	177J OR 181J
MCE	3DO	177J OR 181J
MCI	3B8	177E OR 181E
(SY) MCK	3D8	[1]177H OR 181H
STS	28B/G8	
(ZXH) MCT	3A5	177E

NETWORK DESIG	LOC	CODE
(LM,LP) MK	29B1	[1]177C
ONR	23A9	
ONR2	31B/E9	177E OR 181E
ONR3	32A9	[1]177H OR 181H
(MG) ONR9	62F6	
ONR4	33A6	
ONR5	34A7	
ONR6	35A9	177E OR 181E
ONR7	34A6	
ONR8	34A3	
(KK) OP	30E9	185A
OP1	30F9	185A
(KJ,KK) ORM1	23D9	[1/2] 177C OR 181C
(KE,QZ,PA) RTC	3E8	177J OR 181J
(CU) SDS	3D8	185A

RESISTOR DESIG	LOC	CODE
(JU) CTX	14E0	181FA
ONR2	31B/E8	
ONR3	3289	
ONR4	33A6	
ONR5	3487	
(ZM) ONR6	3388	KS-19150,L3,33K
(ZU) ONR7	3485	
(ZQ) ONR8	3483	
(MG) ONR9	62F7	
TO	2981	18U
TO1	2981	188H
X	27G5	18AJ

DRAWING ISSUE

680	WM WF JH
700	JH
72A	
740	CMC
75A	CMC
780	RA
80A	RR
81D	
860	CB

ISSUE 97D

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-C31

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-C31

HIGGINS 4465 H4E

PART OF APP FIG 17

RELAY																							
DESIG	ABN			AMA			BGO			BG1			BG1			CL2							
CODE	U503			U90			U53			239GK			280CJ			U300							
OPTION	ZA,XX			ZA,XX			YC,UC			YC			UC			YP,YR,XD,VP,VR							
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC					
TOP																9,8	M	39E2					
	9,8,7	BM	40F7	7,6	M	48C5	8,7	M	42A6							7,6	M	39D0					
	6,5,4	BM		5,4	M	38C2	6,5,4	BM	42C7							5,4	M	48A5					
	3,2,1	BM	43H7	3,2,1	BM	40F8	3,2,1	BM		4,7,3	BM	43A1	4,7,3	BM	43A1	3,2,1	BM	45A2					
BOT	3,2,1	BM	43H8	2,1	M	40B7	3,2,1	BM	42C7							2,1	B	39C2					
	6,5,4	BM	43F3	4,3	M	48C3	5,4	M	42D6							5,4,3	BM	39F2					
	8,7	M		6,5	M	94F7	7,6	M	43A1							7,6	M	48A3					
COIL			40F9			48C1			39A9			a			a			48A1					

a: P-4208, S-43A8 (BG1 YC); P-4208, S-43A8 (BG1 UC)

RELAY																							
DESIG	CL2A			CL3			CL4			CL5			CL6			CL6							
CODE	U1310			U892			U103			U103			U103			U712							
OPTION	YP,YR,XD,VP,VR			LU,YC,YP,YR,UC,VP,VR			YC,YR,UC,VR,LF			YC,UC,LU			RY			RZ							
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC					
TOP				9,8	M	48B4																	
	7,6	M	10082	7,6	M	39D4																	
	5,4,3	BM	35C6	5,4	M	92C7	5,4	M	48D5	5,4	M	48E5	5,4	M	48F5	6,5,4	BM	48F5					
	2,1	B	10002	3,2,1	BM	44D3	3,2,1	BM	99H1	3,2,1	BM	43A2	3,2,1	BM	45E4	3,2,1	BM	45E4					
BOT	2,1	B	45E6	2,1	B	39C2	3,2,1	BM		3,2,1	BM	42D7	3,2,1	BM	39A7	3,2,1	BM	39A7					
	4,3	B		5,4,3	BM	39A2	5,4	M	48D3	5,4	M	48E3	5,4	M	48G3	5,4	M						
	6,5	M	39A5	7,6	M	48B3										7,6	M	42G5					
COIL			48A1			4881			48C1			48E1			48F1			48F1					

RELAY																							
DESIG	CXO			DISC			DPST			LLS			LLS1			MFST							
CODE	U68			U520			U834			U844			U1324			U1407							
OPTION	XV						YC,UC			JM			AS			YD							
	CONT 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	44D3				11,10	M	22F3	9,8	M	39C3					
	9,8,7	BM	42B3				6,5	M	39C1	8,7	M	84E7	9,8,7	BM	22E3	7,6	M	65B8					
	6,5,4	BM	42C4	4,3	M	43F2	4,3	M	65A8	6,5,4	BM		6,5,4	BM	22D3	5,4	M	48F2					
	3,2,1	BM	42D2	2,1	B	84D7	2,1	M	39A0	3,2,1	BM		2,1,3	MB	22D3	3,2,1	BM	39A1					
BOT	3,2,1	BM		2,1	B	43A4	2,1	M	39D3	3,2,1	BM		2,1,3	MB	22C3	2,1	M	3981					
	6,5,4	BM	42C3	4,3	M	43E7	4,3	M		6,5,4	BM	41G1	6,5,4	BM	22B3	4,3	M	48E2					
							6,5	M	45A3	8,7	M	84F8	9,8,7	BM	22A3	6,5	M	45B3					
													11,10	M	2288	8,7	M	44D3					
COIL			39G9			40E9			40A0			22A9			22B9			40A0					

RELAY																							
DESIG	ONS			PCTA			PL			RECI			RECI			RTV							
CODE	U81			U1175			U601			U185			U199			U1334							
OPTION				NJ						LJ			LK			WC,WD							
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC					
TOP	12,11	M	1983																				
	10,9	M	41E2																				
	8,7	M	84D7				9,8	M	39D5														
	6,5	M	8408	6,5	M		7,6	M	39D5														
	4,3	M	4301	4,3	M	44E2	5,4	M	43D2				6,5,4	BM	4182	4,3	M	39E8					
	2,1	M	39H0	2,1	B		3,2,1	BM	1984	3,2,1	BM	43G6	3,2,1	BM	43G6	2,1	M	40D6					
BOT	2,1	M	41B2	2,1	B		2,1	B	39E3	2,1	M	45E6	3,2,1	BM	45E6	2,1	M						
	4,3	M	4308	4,3	M		5,4,3	BM	40D7				6,5,4	BM		4,3	M	40F2					
	6,5	M	4105	6,5	M		7,6	M	40F8														
	8,7	M	40F6																				
	10,9	M	48H1																				
	12,11	M	4088																				
COIL			4189			5300			42F8			44A9			44A9			39E9					

RELAY																							
DESIG	RV			SDT2			SDT3			SPE			SS			STVT							
CODE	U1312			U520			U58			U234			U425			U1261							
OPTION				ZA,XX			ZA,XX						ZA,XX			WC,WD,XW							
	CONT 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	44E5				11,10	M	40E1														
	9,8,7	BM	4286				9,8	M	66A6							10,9	M	43E9					
	6,5	B	39D4				7,6	M	40C7							8,7,6	BM	91D1					
	4,3	B	43E2	4,3	M		5,4	M	43C1	5,4,3	BM	a	4,3	B	43D2	5,4,3	BM	40C6					
	2,1	B	44B3	2,1	B	43A5	3,2,1	BM	43C2	2,1	B	39F1	2,1	B	40D8	2,1	B	43G6					
BOT	2,1	B	4205	2,1	B		2,1	B	91F7	3,2,1	BM	44G4	2,1	B	39E2	3,2,1	BM	39E7					
	5,4,3	BM	42C6	4,3	M	43G2	5,4,3	BM	43G7	5,4	M	b	4,3	M		5,4	M	43D2					
	8,7,6	BM	44B4				6,7,6	BM	91C7							7,6	M	43D4					
	10,9	M	42G7				10,9	M	40F8							9,8	M	39E6					
COIL			44E6			4100			4089			43G9			66A6			43E9					

a: ZWF 39F1; ZWG 43F5

b: ZWF 43E6; ZWG 39F1

RELAY																							
DESIG	TB1			TB2			TCT			TG1			TG2			TG3							
CODE	U90			U1320			U566			U1113			Y223			U1307							
OPTION																							
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC					
TOP				9,8	M	41D7				10,9	M	39G7				9,8	M	44B4					
	7,6	M		7,6	M	45E6				8,7	M	45E6				7,6,5	BM	42B5					
	5,4	M	13B2	5,4	M	45C5	4,3	M	43A3	6,5,4	BM	39E1	4,3	M	44C4	4,3	M	44E5					
	3,2,1	BM	43A4	3,2,1	BM	43A4	2,1	B	39F3	3,2,1	BM	39D5	2,1	B	39A3	2,1	B	44E4					
BOT	2,1	M	4309	2,1	B	39G8	2,1	B		3,2,1	BM	1984	2,1	B	3983	2,1	B	39A3					
	4,3	M	45G3	4,3	B	44E5	4,3	M		6,5,4	BM	39A4	4,3	M	42E5	4,3	M	3987					
	6,5	M	4087	6,5	M	13C2				8,7	M	3983				7,6,5	BM	42C5					
				8,7	M	39F7				10,9	M	39E3				9,8	M	42D3					
COIL			4309			39F9			44F6			39F9			39A9			3989					

DRAWING ISSUE

68D	CM, RLA, AHG
70D	VEQ for det
74D	34C
81D	
89D	

ISSUE 105A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2) SD-25680-01-C32

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-C32

5944 SINGHI

E-7422-6-2(8-64)

PART OF APP FIG 17

RELAY																							
DESIG	TG3'			TK			TK			TK1			TKR			TKR1			TKR2				
CODE	U1375			239J8			280BF			U1307			U1321			U521			U94				
OPTION				UE			UF									XD			XD				
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC		
TOP										9,8	M	42B3	9,8	M									
										7,6,5	BM	39G0	7,6,5	BM	42B5				6,5	M	43A5		
	5,4	M								4,3	M	45F6	4,3	M	41E7	5,4	M	39D7	4,3	M	39G7		
	3,2,1	BM	39C5	5,9,4	BM	39G0	5,9,4	BM	39G0	2,1	B	45F6	2,1	M	42D3	3,2,1	BM	39E3	2,1	B			
BOT.	3,2,1	BM	39C4							2,1	B	45C5	2,1,3	MB	39B5	3,2,1	BM	41A3	2,1	B	39E3		
	5,4	M								4,3	M	45D6	6,5,4	BM	42C5	5,4	M	39G2	4,3	M	39E3		
										7,6,5	BM	19B3	8,7	M									
										9,8	M	42C4											
COIL			39B8			42B8			42B8			41B0			39B9			39D9			39G9		

RELAY																							
DESIG	TIN			TMT			TMX			TR2			TSTK			TVTK			CL13				
CODE	U148			U58			U259			U699			U1312			U234			U1434				
OPTION																			BI				
	CONT 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	92G3							11,10	M	43F3								
				9,8	M	19A4				8,7	M	48F6	9,8,7	BM	43C3				10,9	M	48H2		
	6,5	M	39D5	7,6	M	40E8				6,5	M	48A6	6,5	B					8,7,6	BM	48B4		
	4,3	M	39E3	5,4	M	46C7	5,4,3	BM	39D4	4,3	M	43B5	4,3	B		5,4,3	BM	40C8	5,4,3	BM	28A/F1		
	2,1	B		3,2,1	BM	43F2	2,1	B	39D8	2,1	M	48G2	2,1	B	43D3	2,1	B		2,1	B	48H2		
BOT.	3,2,1	BM	39F3	2,1	B	41B4	3,2,1	BM	39G4	2,1	M	48H2	2,1	B	43C3	3,2,1	BM	45G4	2,1	B	28A/F1		
	5,4	M	39B2	5,4,3	BM	43C3	5,4	M		4,3	M	48D6	5,4,3	BM	43H7	5,4	M	40F8	4,3	B	22F3		
				8,7,6	BM	11B6				6,5	M	48E6	8,7,6	BM	91F7				6,5	B	48B1		
				10,9	M	40E7				8,7	M	48C6	10,9	M	40B6				8,7	PM	22F6		
COIL			45D7			41E0			45F8			12E9			45G7			40C9			22E5		

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

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

CAPACITOR

DESIG	LOC	CODE
CN1	45C2	228B
CN2	45B0	KS-13366,L3,1000PF OR KS-13367,L30,1000PF
CV1	45G2	228B
CV2	45G0	KS-13366,L3,1000PF OR KS-13367,L30,1000PF
CX1	45F2	228B
CX2	45E0	KS-13366,L3,1000PF OR KS-13367,L30,1000PF
RV1	44E3	228B
RV2	44D0	KS-13366,L3,1000PF OR KS-13367,L30,1000PF
TCT	44F2	228B

DIODE

	DESIG	LOC	CODE
ZUD	TMT	41G2	426G

JACK

DESIG	LOC	CODE
TK	42B9	239A OR 239AM

ISSUE

68D	CM RLH AHJ
70D	RPS PDT AHJ
81D	
83D	
86D	
89D	

ISSUE 105A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-C33

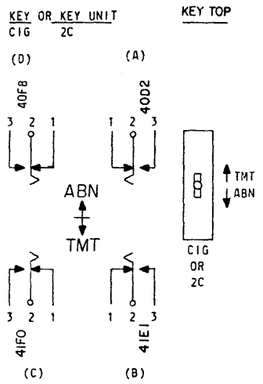
BELL TELEPHONE LABORATORIES INCORPORATED

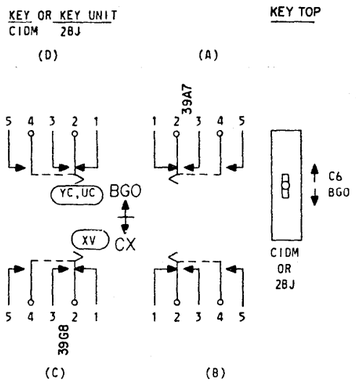
PROJECT 65

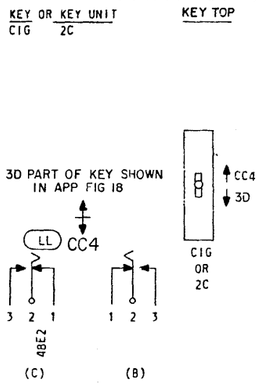
SD-25680-01-C33

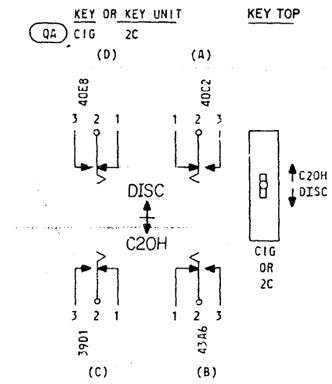
HIGGINS 4465

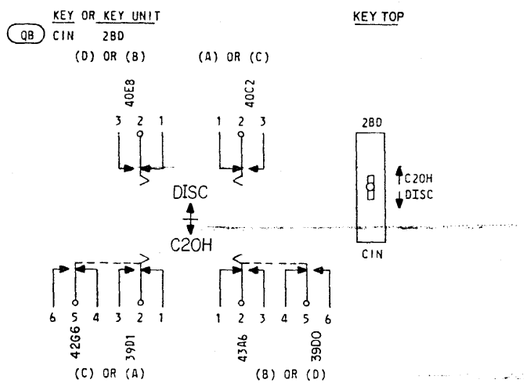
PART OF APP FIG 17

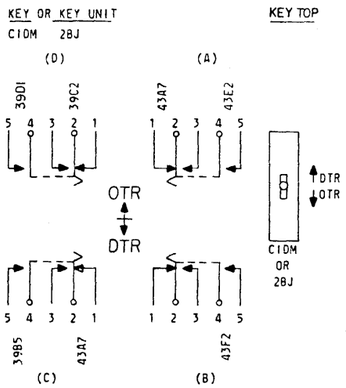


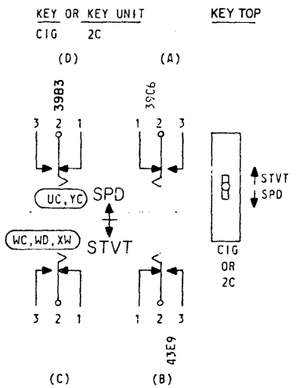












LAMP

DESIG	LOC	CODE
PL	19C5	2Y
TK	19B5	
TKI	19B5	
TMT	19A5	

NETWORK

DESIG	LOC	CODE
ZA,XX	AMA	48C1	[1/2]177C OR 181C
XD,YR,YP,VR,VP	CL2	43A1	[1]177C OR 181C
YC,YP,YR,UC,UL,VP,VR	CL3	43B1	
LT,YC,YR,UC,VR	CL4	48C1	[1]177C OR 181C
YC,UC,LU	CL5	48E1	
RY,RZ	CL6	48F1	[1/2]177C OR 181C
	CLI3	22H0	185A
WC,WD	RTV	39F8	177A OR 181A
ZA,XX	SS	66A4	177A OR 181A

POTENTIOMETER

DESIG	LOC	CODE
XD	CL2	45C4	KS-13650,L1,250K
YC,UC	DPN	45B4	KS-13650,L1,500K
	DPX	45E5	
YD	MFN	45B4	KS-13650,L1,250K
YD,YC,UC	RVW	44D1	KS-13650,L1,50K
	TC4	44F2	

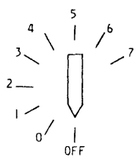
RESISTOR

DESIG	LOC	CODE
YC,UC BG1	43A7	147E OR 141C,4020
YC,UC BG2	42D7	144E OR 140C OR KS-20289,L6C,59K
ZYD LPS	84E7	KS-19152,L1,10
RV1	44D2	KS-19150,L3,100K
YD,YC,UC RV2	44D1	KS-19152,L1,10K
RV3	44D4	18BH
YC,UC RVSD	44D2	144E OR 140C OR KS-20289,L6C,1 MEG
TC1	44F1	KS-19150,L3,100K
TC2	44F3	KS-19151,L3,1K
TC3	44F1	144E OR 140A OR KS-20289,L6C,24.3K
NJ TC5	44E1	KS-19152,L1,10K
TG1	42B6	18EK
TG2	42D6	18EK
YC,UC TG3	42A5	18CK
YC,UC TG4	42D5	18CK
XV TG5	42A4	18BH
TN1	45C1	KS-19150,L3,100K
TN2	45A1	144E OR 140A OR KS-20289,L6C,47K

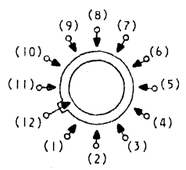
RESISTOR

DESIG	LOC	CODE
TN3	45C4	18BH
TR	84D7	18BM
TV1	45G1	KS-19150,L3,100K
TV2	45F1	144E OR 140A OR KS-20289,L6C,1 MEG
TV3	45G3	18BH
TX1	45F1	KS-19150,L3,100K
TX2	45E1	144E OR 140C OR KS-20289,L6C,402K
TX3	45F5	18BH
RZ TX4	45E2	145A,562K

SWITCH TOP



SWITCH
LLS
SECT 1,2

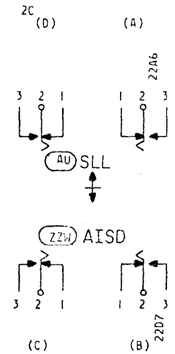


DESIG	LLS			
CODE	KS-14618,L39			
OPTION	AS			
SECT.	1		2	
	TERM.	LOC	TERM.	LOC
	2-8	22A4	1-7	22A7
	12	22A4	12	22A7

TUBE,ELECTRON

DESIG	LOC	CODE
RV	44D1	313CC
TCT	44F1	
TMN	45C1	
TMX	45F1	
TSTK	45G1	

KEY UNIT



KEY TOP

DRAWING ISSUE

68D	CM, RLP, AHD
70D	SAI, PDN, and
73D	KWD, JKS, and
74D	CMC
81D	
83D	

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-C34

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-C34

HIGGINS 4465 K&E

0 1 2 3 4 5 6 7 8 9

A B C D E F G H

PART OF APP FIG 18

RELAY

DESIG	AC8			AD			AD1			AD3			AD4			BP		
CODE	U254			U1342			U1342			U1342			U1342			U1342		
OPTION	GG									EQ			EQ			YB		
	CONT 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	72A/H7	9,8,7	BM	72A/H6	9,8,7	BM	72A/H6	9,8,7	BM	72A/H5	9,8,7	BM	72A/H8
	5,4	M		6,5,4	BM	70A/D6	6,5,4	BM	70A/D6	6,5,4	BM	70A/D8	6,5,4	BM	70A/D8	6,5,4	BM	70A/D3
	3,2,1	BM		2,1,3	MB	70A/F4	2,1,3	MB	70A/F5	2,1,3	MB	70A/F7	2,1,3	MB	70A/F7	2,1,3	MB	70A/F2
BOT	3,2,1	BM	56H6	2,1,3	MB	70A/E3	2,1,3	MB	70A/E5	2,1,3	MB	70A/E6	2,1,3	MB	70A/E7	2,1,3	MB	70A/E1
	5,4	M		6,5,4	BM	66F4	6,5,4	BM	66G4	6,5,4	BM	66G4	6,5,4	BM	66G4	6,5,4	BM	66G4
				9,8,7	BM	19H2	9,8,7	BM	19H2	9,8,7	BM	19H3	9,8,7	BM	19H3	9,8,7	BM	15H1
COIL			2300			70A/G4			70A/G5			70A/G7			70A/G8			70A/G2

RELAY

DESIG	FDA			FDB			KP			KP1			MF			OSA		
CODE	U177			U177			U1342			U1342			U333			U1342		
OPTION				P			YB			YB			YB					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP													10,9	M	70A/C0			
	9,8,7	BM	72A/H2	9,8,7	BM	72A/G0	9,8,7	BM	72A/G9	9,8,7	BM	72A/G9	8,7,6	BM		9,8,7	BM	72A/H5
	6,5,4	BM	72A/H3	6,5,4	BM	72A/F0	6,5,4	BM	70A/B0	6,5,4	BM	70A/B0	5,4,3	BM	71C4	6,5,4	BM	70A/D9
	3,2,1	BM	72A/H4	3,2,1	BM	72A/G0	2,1,3	MB	70A/E0	2,1,3	MB	70A/F0	2,1	B		2,1,3	MB	70A/G8
BOT	3,2,1	BM	72A/E9	3,2,1	BM	72A/H2	2,1,3	MB		2,1,3	MB	70A/E0	2,1	B	70A/B2	2,1,3	MB	70A/E8
	6,5,4	BM	72A/H4	6,5,4	BM	72A/H2	6,5,4	BM	73B6	6,5,4	BM	73B6	5,4,3	BM	66G5	6,5,4	BM	66C1
	9,8,7	BM	72A/H4	9,8,7	BM	72A/H1	9,8,7	BM	19H0	9,8,7	BM	19H1	8,7,6	BM	70A/C2	9,8,7	BM	72A/H5
													10,9	M	72A/D8			
COIL			7180			7180			70A/G0			70A/C0			50C0			70A/G9

RELAY

DESIG	OSA1			OSB			OSB1			OSC			OSD			OSE		
CODE	U580			U1342			U1334			U1342			U1342			U1342		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
				9,8,7	BM	72A/H4				9,8,7	BM	72A/H4	9,8,7	BM	72A/H4	9,8,7	BM	72A/H3
				6,5,4	BM	70B/B1	4,3	M		6,5,4	BM	70B/B2	6,5,4	BM	70B/B3	6,5,4	BM	70B/B3
	3,2,1	BM	19H4	2,1,3	MB	70B/D1	2,1	M	19G4	2,1,3	MB	70B/D1	2,1,3	MB	70B/D2	2,1,3	MB	70B/D3
BOT	3,2,1	BM	66F4	2,1,3	MB	70B/C1	2,1	M	55B1	2,1,3	MB	70B/C2	2,1,3	MB	70B/C2	2,1,3	MB	70B/C3
				6,5,4	BM	66C1	4,3	M		6,5,4	BM	66D1	6,5,4	BM	66E1	6,5,4	BM	66E1
				9,8,7	BM	19G4				9,8,7	BM	19H5	9,8,7	BM	19H5	9,8,7	BM	19H6
COIL			70A/G9			70B/F1			19H5			70B/H1			70D/F2			70B/F3

RELAY

DESIG	OSF			OSG			OSH			OSJ			OSK			OSL		
CODE	U1342			U1342			U1342			U1342			U1342			U1342		
OPTION	Q			P			N			M			D			B		
	CONT 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	72A/H2	9,8,7	BM	72A/H2	9,8,7	BM	72A/H2	9,8,7	BM	72A/H1	9,8,7	BM	72A/H1	9,8,7	BM	72A/H0
	6,5,4	BM	70B/B4	6,5,4	BM	70B/B5	6,5,4	BM	70B/B5	6,5,4	BM	70B/B6	6,5,4	BM	70B/B7	6,5,4	BM	70B/B7
	2,1,3	MB	70B/D3	2,1,3	MB	70B/D4	2,1,3	MB	70B/D5	2,1,3	MB	70B/D5	2,1,3	MB	70B/D6	2,1,3	MB	70B/D7
BOT	2,1,3	MB	70B/C4	2,1,3	MB	70B/C4	2,1,3	MB	70B/C5	2,1,3	MB	70B/C6	2,1,3	MB	70B/C6	2,1,3	MB	70B/C7
	6,5,4	BM	66F1	6,5,4	BM	66F1	6,5,4	BM	66G1	6,5,4	BM	66G1	6,5,4	BM	66G1	6,5,4	BM	66G1
	9,8,7	BM	19H6	9,8,7	BM	19H7	9,8,7	BM	19H7	9,8,7	BM	19H7	9,8,7	BM	19H8	9,8,7	BM	19H8
COIL			70B/F3			70B/F4			70B/F5			70D/F5			70B/F6			70B/F7

RELAY

DESIG	OSM			PB			PBX			PDJ			PD8			PD9		
CODE	U1342			U250			U1323			U457			U333			U333		
OPTION	YG			LY			GZ			ES			EU			ES		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP													10,9	M	72A/F8	10,9	M	
	9,8,7	BM	72A/G0				8,7	M	23F3	8,7	M	72A/F7	8,7,6	BM	56N6	8,7,6	BM	72A/C7
	6,5,4	BM	70B/B8	5,4,3	BM	72A/G8	6,5,4	BM		6,5,4	BM	56F6	5,4,3	BM	56F7	5,4,3	BM	56F1
	2,1,3	MB	70B/D7	2,1	B		3,2,1	BM	56F1	3,2,1	BM	70A/A3	2,1	B	72A/G7	2,1	B	23F2
BOT	2,1,3	MB	70B/C8	3,2,1	BM	70A/A0	3,2,1	BM		2,1	B	70A/B2	2,1	B	23B4	2,1	B	72A/F7
	6,5,4	BM	66H1	5,4	M	72A/D9	5,4	M		5,4,3	BM	a	5,4,3	BM	70A/C1	5,4,3	BM	70A/B6
	9,8,7	BM	19G9							7,6	M	b	8,7,6	BM		8,7,6	BM	7CA/D1
													10,9	M		10,9	M	72A/G8
COIL			70B/F7			6200			2289			33A0			23E0			2300

a (A1) 72A/F7
(AJ) 72A/D7

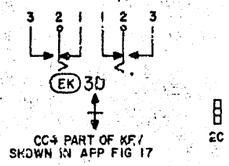
b (AJ) 70A/C2
(65) 36H6

RELAY

DESIG	RC			RVTK								
CODE	U113			U227								
OPTION				GJ								
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				12,11	M	1089						
				10,9	M	55A1						
				8,7	M	84A6						
				6,5	M	36A5						
				4,3	M	42C3						
	3,2,1	BM	85H2	2,1	B	55C1						
	2,1	M	71G6	2,1	B	71C1						
BOT				4,3	B	7048						
				6,5	D	67E5						
				2,8,7	BM	7CA/F9						
				11,10	M	6083						
COIL			71C0			7100						

KEY UNIT 2C

KEY TOP



CC4 PART OF KF/ SHOWN IN APP FIG 17

DRAWING ISSUE

680	ITEM 6[illegible] AND [illegible]
70D	[illegible]
72A	[illegible]
81D	

81

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25690-01-C35

BELL TELEPHONE LABORATORIES INCORPORATED

6S

PRINTED IN U.S.A.

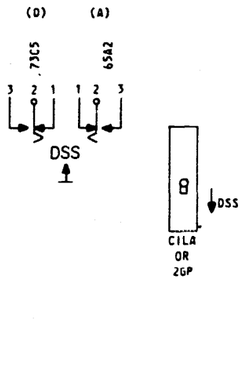
HIGGINS 4465

E-7422-B-2(8-64)

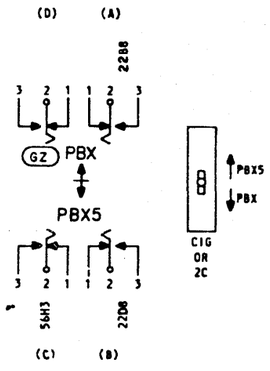
SD-25690-01-C35

PART OF APP FIG 18

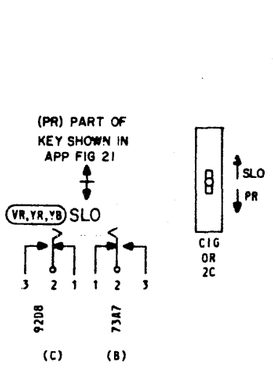
KEY OR KEY UNIT: CILA 2GP — KEY TOP



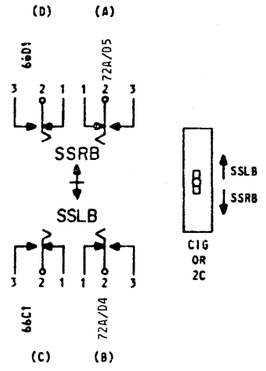
KEY OR KEY UNIT: CIG 2C — KEY TOP



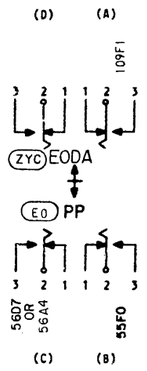
KEY OR KEY UNIT: CIG 2C — KEY TOP



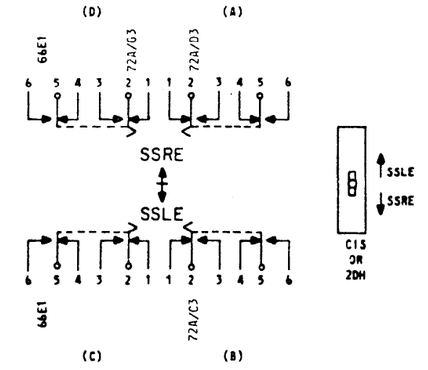
KEY OR KEY UNIT: EM CIG 2C — KEY TOP



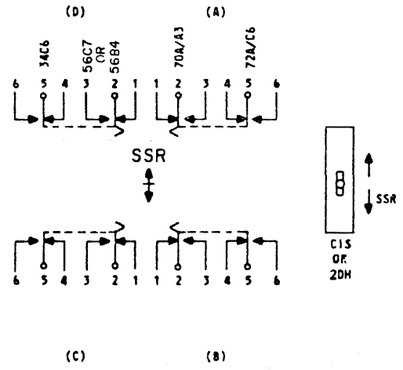
KEY UNIT: 2C — KEY TOP



KEY OR KEY UNIT: EI CIS 2DH — KEY TOP



KEY OR KEY UNIT: E0 CIS 2DH — KEY TOP

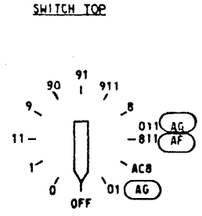


LAMP DESIG	LOC	CODE
AD	19F2	
AD1	19F2	
EQ AD3	19F3	
EQ AD4	19F3	
YB BP	19F1	
YB KP	19F0	
KP1	19F1	
OSA	19F4	
OSB	19F4	
OSC	19F5	
OSD	19F5	
OSE	19F6	
Q OSF	19F6	2Y
P OSG	19F6	
N OSH	19F7	
M OSJ	19F7	
D OSK	19F8	
B OSL	19F8	
YG OSM	19F9	

NETWORK DESIG	LOC	CODE
AD	70A/G4	[1] 177C OR 181C
YB BP	70A/G2	
AD1	70A/G5	[1] 177H OR 181H
OSA	70A/G9	
EQ AD3	70A/G7	185A
EQ AD4	70A/G8	
FDA	71B0	[1][2] 177C OR 181C
YB KP	70A/G0	[1] 177C OR 181C
YB KP1	70A/G0	
OSB	70B/E1	[1] 177C OR 181C
OSC	70B/E2	
YG OSB1	19H5	[1] 177C OR 181C
YG OSM	70B/E8	

NETWORK DESIG	LOC	CODE
OSD	70B/E2	[1] 177C OR 181C
OSE	70B/E3	
Q OSF	70B/E4	[1] 177C OR 181C
P OSG	70B/E4	
N OSH	70B/E5	[1] 177C OR 181C
M OSJ	70B/E6	
D OSK	70B/E6	[1] 177C OR 181C
B OSL	70B/E7	

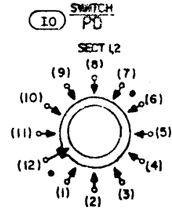
SWITCH TOP



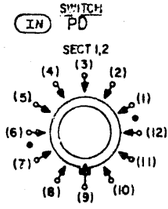
SWITCH

DESIG	PD							
CODE	KS-14618, L39				KS-13633, L104			
OPTION	IO				IN			
SECT.	1		2		1		2	
	TERM.	LOC	TERM.	LOC	TERM.	LOC	TERM.	LOC
	1-3	23A1	1		1		1-6	23D1
	4		2		2-4	23A1	7	
	5-7	23A1	3		5		8,9	23D1
	8		4-9	23D1	6-12	23A1	10	
	9-12	23A1	10				11	
			11,12	23D1	-		12	

IO SWITCH PD



IN SWITCH PD



APP FIG 19

RELAY DESIG	GR
CODE	2630
OPTION	PF
49	72A/C1
48	72A/C1
47	72A/C1
46	72A/C1
45	72A/C1
39	72A/C1
38	72A/C1
37	72A/C1
36	72A/C1
35	72A/C1
29	72A/C1
28	72A/C1
27	72A/C1
26	72A/C1
25	72A/C1
19	72A/C1
18	72A/C1
17	72A/C1
16	72A/C1
15	72A/C1
9	
8	
7	
6	
5	
COIL	11E7
44	72A/C1
43	72A/C1
42	72A/C1
41	72A/C1
40	72A/C1
34	72A/C1
33	72A/C1
32	72A/C1
31	72A/C1
30	72A/C1
24	72A/C1
23	72A/C1
22	72A/C1
21	72A/C1
20	72A/C1
14	72A/C1
13	72A/C1
12	72A/C1
11	72A/C1
10	72A/C1
4	
3	
2	
1	
0	
COIL	11E8

RELAY DESIG	GR	GR
CODE	287A	287E
OPTION	PG	KG
59		
58		
57		
56		
55		
49	72A/C1	72A/C1
48	72A/C1	72A/C1
47	72A/C1	72A/C1
46	72A/C1	72A/C1
45	72A/C1	72A/C1
39	72A/C1	72A/C1
38	72A/C1	72A/C1
37	72A/C1	72A/C1
36	72A/C1	72A/C1
35	72A/C1	72A/C1
29	72A/C1	72A/C1
28	72A/C1	72A/C1
27	72A/C1	72A/C1
26	72A/C1	72A/C1
25	72A/C1	72A/C1
19	72A/C1	72A/C1
18	72A/C1	72A/C1
17	72A/C1	72A/C1
16	72A/C1	72A/C1
15	72A/C1	72A/C1
09		
08		
07		
06		
05		
COIL	11E7	11E7
54		
53		
52		
51		
50		
44	72A/C1	72A/C1
43	72A/C1	72A/C1
42	72A/C1	72A/C1
41	72A/C1	72A/C1
40	72A/C1	72A/C1
34	72A/C1	72A/C1
33	72A/C1	72A/C1
32	72A/C1	72A/C1
31	72A/C1	72A/C1
30	72A/C1	72A/C1
24	72A/C1	72A/C1
23	72A/C1	72A/C1
22	72A/C1	72A/C1
21	72A/C1	72A/C1
20	72A/C1	72A/C1
14	72A/C1	72A/C1
13	72A/C1	72A/C1
12	72A/C1	72A/C1
11	72A/C1	72A/C1
10	72A/C1	72A/C1
04		
03		
02		
01		
00		
COIL	11E8	11E8

DRAWING ISSUE

680	TEM CI AND FLAG
700	72A
730	HOME
780	SAS
790	HVG
810	

ISSUE 100B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-C36

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-C36

HIGGINS 4463 HE

PART OF APP FIG 20

RELAY BL

DESIG	BL			BLI			BLR			BLT			BLTI			C		
CODE	U188			Y126			U143			U421			U576			U1113		
OPTION	ZY			ZY			WH			ZY			ZY					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	16E9															
	10,9,8	BM	18D8													10,9	M	17E1
	7,6	M	83A3										7,6	M	83D8	8,7	M	8388
	5,4	M	17E4				5,4	M	6086	4,3	M	8382	5,4,3	BM	18E8	6,5,4	BM	14C2
	2,1,3	MB	a	3,2,1	BM	16C6	3,2,1	BM		2,1	B		2,1	B	83A2	3,2,1	BM	a
BOT	2,1,3	MB					2,1	B	83E8	2,1	B		2,1	B		3,2,1	BM	18B8
	5,4	M	83E8				4,3	M	49E7	4,3	M	49D7	5,4,3	BM	16E9	6,5,4	BM	16C6
	7,6	M	83C2										7,6	M	49E7	8,7	M	83C8
	10,9,8	BM	6406													10,9	M	17A1
	12,11	M	49D7															
COIL			49B9			49B9			49E9			83A3			49D9			17E0
		a	49B7 62A3														a	83E7 16A5

RELAY CA

DESIG	CA			CB3A			CBR3			CBTT			CCK			D		
CODE	U67			U1113			U1073			U679			U113			U67		
OPTION	YK,YL,UK,UL			YL,UL			YL,UL			YL,UL								
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP							12,11	M	83E4									
				10,9	M	30D2	10,9,8	BM	5H4									
	7,6	M	17G1	8,7	M	86F2	7,6	M	65C1							7,6	M	17B0
	5,4	M	17E3	6,5,4	BM		5,4	M	50A2	5,4	M					5,4	M	83D4
	3,2,1	BM		3,2,1	BM		2,1,3	MB		3,2,1	BM	83C6	3,2,1	BM	18D1	3,2,1	BM	18D3
BOT	3,2,1	BM	87A4	3,2,1	BM		2,1,3	MB		3,2,1	BM	83C6	2,1	M		3,2,1	BM	55A6
	5,4	M	85G6	6,5,4	BM		6,5,4	BM	83E7	5,4	M	83C5				5,4	M	87E7
				8,7	M		9,8,7	BM	88G3									
				10,9	M		11,10	M	49F7									
COIL			17G0			50A0			50B0			86A9			60A9			17A0

RELAY DCK

DESIG	DCK			DLP			DLPI			DR			DTT			IGH		
CODE	U460			U934			U1222			U236			U115			U500		
OPTION				YA,UA			YA,UA			YA,UA			EZ			YK,YL,UK,UL		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP													12,11	M				
										10,9	M	62C2	10,9	M	53D2			
				10,9	M	76B2				8,7	M	83F4	8,7	M	53D3			
				8,7,6	BM	83C3				6,5	M	49C7	6,5	M	53D7	8,7	M	85F8
	5,4	M	52G2	5,4,3	BM	83B3	4,3	M	55A6	4,3	M	65C1	4,3	M		6,5,4	BM	54H5
	3,2,1	BM	60D0	2,1	B	4988	2,1	B	83D3	2,1	M	3A7	2,1	M	53D7	3,2,1	BM	54H5
BOT	3,2,1	BM	60C6	3,2,1	BM	49F8	2,1	B	83D7	2,1	M	49F7	2,1	M		3,2,1	BM	
	5,4	M		6,5,4	BM	83D6				4,3	M	49C1	4,3	M		6,5,4	BM	85A5
				9,8,7	BM	83A2				6,5	M	49A6	6,5	M	53D7			
										8,7	M		8,7	M	53D6			
										10,9	M	49C3	10,9	M	53D6			
													12,11	M	53D6			
COIL			52H1			49D9			49F9			5080			49E0			86A9

RELAY INC

DESIG	INC			INC			IRAB			IRPS			IRST			LK		
CODE	U157			U530			U51			U333			U115			U1182		
OPTION	MA			FC,MB														
	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP													12,11	M	49A3			
													10,9	M	1889	12,11	M	1608
							10,9,8	BM	83E4	10,9	M		8,7	M	17E4	10,9,8	BM	1808
				7,6	M	18F3	7,6,5	BM	83A1	8,7,6	BM		6,5	M	66H4	7,6	M	16A5
	5,4	M	51G1	5,4	M	51G1	4,3	B	83C2	5,4,3	BM	83A1	4,3	M	16C5	5,4	3	
	3,2,1	BM	a	3,2,1	BM	a	2,1	B	55A7	2,1	B	55A7	2,1	M	49D6	2,1,3	MB	17D7
	3,2,1	BM	b	3,2,1	BM	b	2,1	B		2,1	B	7306	2,1	M	14C2	2,1,3	MB	1888
BOT				5,4	M	57F6	4,3	B	83H4	5,4,3	BM	83F7	4,3	M	14D2	5,4	M	16E9
				7,6	M		6,5	B	7306	8,7,6	BM	60A9	6,5	M	14D2	7,6	M	64G7
							9,8,7	BM	1804	10,9	M	49E2	8,7	M	51F0	10,9,8	BM	18F7
													10,9	M	47C2	12,11	M	16C8
													12,11	M	52F0			
COIL			51H1			51H1			49F9			49C0			49B0			16C9
	a	(FL) 54C7 (FR) 57F4		a	(FL) 54C7 (FR) 57F2													
		(FR) 57F4			(FR) 57F4													
	b	(FK) 54A6		b	(FK) 54A6													

RELAY LKT

DESIG	LKT			LR			MCF			MCG			MCH			MFP		
CODE	U425			U456			U65			U115			U236			U542		
OPTION							TZ						S,XB,XC,YM			YB		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP							12,11	M	61E3	12,11	M	52E1						
							10,9	M	a	10,9	M	52E0	10,9	M	51D5			
				8,7	M	49G1	8,7	M	52E4	8,7	M	52E2	8,7	M	52E4			
				6,5	M	4672	6,5	M	52E3	6,5	M	52E1	6,5	M	51D5			
	4,3	B		4,3	M	52G2	4,3	M	52E3	4,3	M	3F1	4,3	M	51D6	5,4	M	73D5
	2,1	B	16A6	2,1	M	62G3	2,1	M	52E2	2,1	M	51D1	2,1	M	51D6	3,2,1	BM	
BOT	2,1	B	16C6	2,1	B	60A7	2,1	M	61D3	2,1	M	5102	2,1	M		3,2,1	BM	83H3
	4,3	M		4,3	M	60C7	4,3	M	61A3	4,3	M	a	4,3	M	51D4			
				6,5	M		6,5	M	61E3	6,5	M	51D2	6,5	M	51D5			
							8,7	M	61E3	8,7	M	51D1	8,7	M	51D3			
							10,9	M	61E3	10,9	M	51D0	10,9	M	51D3			
							12,11	M	61E3	12,11	M	5104						
COIL			49G0			52H2			3F0			3A8			3B8			49C9
							a (KJ) 52E6 (ZYK) 61F3			a (KJ) 51D7 (ZYK) 61G3								

RELAY MR

DESIG	MR			MSTB			NBL			NDK			NDT			NDTI		
CODE	U236			U1363			U543			U113			U115			U115		
OPTION	YB												EZ			WR		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP													12,11	M	53D4	12,11	M	53D1
	10,9	M	73F7	10,9	M	89C3							10,9	M	53D3	10,9	M	53D3
	8,7	M		8,7	M	54H4							8,7	M	53D3	8,7	M	53D1
	6,5	M	49C8	6,5	M	5464							6,5	M	53D7	6,5	M	53D1
	4,3	M	65D1	4,3	M	67F7	4,3	M					4,3	M	53D0	4,3	M	53D1
	2,1	M	3A7	2,1	M	60D7	2,1	M	8388	3,2,1	BM	18D1	2,1	M	53D7	2,1	M	53D1
BOT	2,1	M	49G7	2,1	B		2,1	M	83C8	2,1	M	60G8	2,1	M	53D5	2,1	M	53D4
	4,3	M	49C1	4,3	M	17C7	4,3	M	84E8				4,3	M	53D5	4,3	M	53D4
	6,5	M	49A6	6,5	M	56C8							6,5	M	53D7	6,5	M	53D5
	8,7	M		8,7	M	49A3							8,7	M	53D6	8,7	M	53D1
	10,9	M	49D3										10,9	M	53D6	10,9	M	53D1
													12,11	M	53D5	12,11	M	53D1
COIL			50C0			65C0			49A9			60G9			49C0			49D0

DRAWING ISSUE

68D	CM, RLP, AHP
72A	MKH, 7Feb, Neo
73D	MKH, 7Feb, Neo
74D	KEG
75A	KEG
86D	

86

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C37

BELL TELEPHONE LABORATORIES INCORPORATED

SHEET SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-C37

HIGGINS 4465

E-7422-8-2(8-64)

PART OF APP FIG 20

RELAY	OA						OH			PCB			PCD1			PHC		
DESIG																		
CODE	U79						U1024			U426			U426			U1018		
OPTION	A									XB			XH			YM		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8	M	51G1				11,10	M	17F4									
	7,6,5	BM	59F3				9,8,7	BM	16E8	7,6	M	51G6	7,6	M	51G5	6,5	M	51G4
	4,3	B	54D6				6,5,4	BM	7682	5,4,3	BM	b	5,4,3	BM	b	4,3	B	54G6
	2,1	B	54C5				2,1,3	MB	1608	2,1	B	54D4	2,1	B	54C7	2,1	B	6084
BOT	2,1	B					3,2,1	BM	1888	3,2,1	BM	a	3,2,1	BM	a	2,1	B	54F6
	4,3	B					6,5,4	BM	16E8	5,4	M		5,4	M		4,3	B	54D5
	7,6,5	BM	a				9,8,7	BM	a							6,5	M	54G6
	9,8	M																
COIL			51G0						16D9			51G5			51G5			51G4
	a (FK) 54D6 (FR) 59F5						a 17H4 17D7			a (FK) 54E5 (FR) 57G2 b (XB,XC) 54A8 (FR) 57G4			a (XB,XC) 54D5 (FR) 57G2 b (XB,XC) 54A7 (FR) 57H4					

RELAY	PHC			RB1			RB2			RB3			RIR3			RO		
DESIG																		
CODE	U79			UA86			U542			U1371			U1073			U340		
OPTION	FV												YK,UK					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8	M											12,11	M	50E2			
	7,6,5	BM	51G4										10,9,8	BM	5G4			
	4,3	B					5,4	M	16A6	4,3	M	14D2	7,6	M	65D1			
	2,1	B		3,2,1	BM	14D2	3,2,1	BM	14C1	2,1	M	16C8	5,4	M		4,3	M	52G1
BOT	2,1	B	59G5	3,2,1	BM	15A8	3,2,1	BM	18B7	2,1	B	18B7	2,1,3	MB	83C7	2,1	M	18F5
	4,3	B								4,3	M	18B7	6,5,4	BM	88G3	4,3	M	60F6
	7,6,5	BM	59G3										9,8,7	BM	18D2			
	9,8	M	59G5										11,10	M	49G7			
COIL			51G4			14C1			15A8			14D1			5000			52H1

RELAY	RR3			RR3A			RR3C			SFT			SPL			SPL1		
DESIG																		
CODE	U1113			U639			U500			U79			U934			U192		
OPTION	YK,YL,UK,UL			YK,YL,UK,UL			YK,YL,UK,UL			YK,YL,UK,UL,ZZ						FH		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				12,11	M													
	10,9	M	3B7	10,9,8	BM	83A7				9,8	M	17C1	10,9	M	51G4			
	8,7	M	49C2	7,6	M	49A3	8,7	M	64E4	7,6,5	BM		8,7,6	BM	a			
	6,5,4	BM	1780	5,4	M	87A6	6,5,4	BM	17F3	4,3	B	85G3	5,4,3	BM	54G4	6,5,4	BM	54G6
	3,2,1	BM	54H4	2,1,3	MB	18D7	3,2,1	BM	83E8	2,1	B	47A4	2,1	B	54A0	3,2,1	BM	54G6
BOT	3,2,1	BM	60A4	2,1	B	49F1	3,2,1	BM	1784	2,1	B	83E8	3,2,1	BM	52G4	3,2,1	BM	54B7
	6,5,4	BM	54H4	4,3	M	86A7	6,5,4	BM	1785	4,3	B		6,5,4	BM	54A3	5,4	M	
	8,7	M	4986	6,5	M	50F2				7,6,5	BM	18E6	9,8,7	BM	57A6			
	10,9	M		9,8,7	BM	83A7				9,8	M	17H4						
				11,10	M	49D3												
COIL			50E0			50E0			5000			49E0			51H4			52H4
															a (FK) 54F5 (FR) 57B5			

RELAY	STK						TAN1			TAN2			TAN3			TAN4		
DESIG																		
CODE	U1301						U234			U234			U234			U234		
OPTION							TR,FG			TS,FD			TT,FE			TU,FF		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	6,5	M	a															
	4,3	M	87A6				5,4,3	BM	b	5,4,3	BM	b	5,4,3	BM	b	5,4,3	BM	b
	2,1	M	66F3				2,1	B	5485	2,1	B	5485	2,1	B	5485	2,1	B	5484
BOT	2,1	M	62C2				3,2,1	BM	a	3,2,1	BM	a	3,2,1	BM	a	3,2,1	BM	a
	4,3	M	71A4				5,4	M	52G3	5,4	M	52G3	5,4	M	52G4	5,4	M	52G4
	6,5	M	7186															
COIL			7369						52G2			52G3			52G3			52G4
			6066 50G2						a (TR) 18G5 (FR) 57C2 b (TQ) 54A5 (FR) 57C4			a (TS) 18G5 (FR) 57C2 b (TQ) 54A5 (FR) 57D4			a (TT) 18H5 (FR) 57D2 b (TQ) 54A5 (FR) 57D4			a (TU) 18F7 (FR) 57E2 b (TQ) 54A4 (FR) 57E4

RELAY	TC1			TC2			TCA			TCA			TCB			TCB		
DESIG																		
CODE	Y139			U499			U50			U1329			U50			U1329		
OPTION							MB			FB			MB			FB		
	CONT 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	18F7				11,10	M	18G7			
							9,8	M					9,8	M				
							7,6	M		7,6	M	58C7	7,6	M		7,6	M	58D7
				5,4	M	17C8	5,4	M		5,4	M	58A7	5,4	M		5,4	M	58A7
	2,1	B		3,2,1	BM	1803	3,2,1	BM	60B3	3,2,1	BM	5885	3,2,1	BM	60B2	3,2,1	BM	58C5
BOT	2,1	M	17C8	2,1	B	17C5	2,1	M	51G6	2,1	B	5884	2,1	M	51G7	2,1	B	58C4
				4,3	M	60D6	4,3	M		4,3	M	51G6	4,3	M		4,3	M	51G7
							6,5	M	5884	6,5	M	5884	6,5	M	54G0	6,5	M	58C4
							8,7	M					8,7	M				
							10,9	M					10,9	M				
COIL			17D9			17C9			51H6			51H6			51H6			51H6

RELAY	THC			THC			TOL			TOL			TRF		
DESIG															
CODE	U1018			U79			U270			U1329			U333		
OPTION	YM			FV			ZJ			MM			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
TOP				9,8	M								10,9	M	54A0
	6,5	M	51G5	7,6,5	BM	51G5	6,5	M	51G3	7,6	M	18G7	8,7,6	BM	62G6
	4,3	B	5405	4,3	B		4,3	B		5,4	M	51G3	5,4,3	BM	5D3
	2,1	B	6084	2,1	B		2,1	B		3,2,1	BM	a	2,1	B	
BOT	2,1	B	54E6	2,1	B	59G4	2,1	B		2,1	B	57E2	2,1	B	47A3
	4,3	B	54F5	4,3	B		4,3	M	54A3	4,3	M	b	5,4,3	BM	1806
	6,5	M	54F6	7,6,5	BM	59G3				6,5	M	57E2	8,7,6	BM	
				9,8	M	59G5							10,9	M	47B2
COIL			51G4			51H4			51H3			51H3			49F0
										a (FM) 54A3 (FR) 57E4 b (FM) 54A3 (FR) 57G6					

DRAWING ISSUE

68D	CM, RLP, 4150	
70D	RAC, PBT, SRP	
72A	KMT, 3B6, Line	
73D	KMT, 3B6, Line	
78D	SAS	

78

SD-25680-01-C38

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2) SD-25680-01-C38

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

HIGGINS 4465

E-7422-B-2(8-64)

PART OF APP FIG 20

RELAY

DESIG	TST			TST1			TT			TT			TT			OB		
CODE	U1238			U53			U270			U407			U254			U722		
OPTION							MD			ME			FO			DC		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				8,7	M	49F1	6,5	M	51G3	6,5	M	51G3				7,6	M	51G5
	4,3	M	51G1	6,5,4	BM	17A6	4,3	B		4,3	M		5,4	M	51G3	5,4,3	BM	a
	2,1	B	60A8	3,2,1	BM	83B2	2,1	B		2,1	M	54F4	3,2,1	BM	59A5	2,1	B	54C5
	2,1	M	6088	3,2,1	BM	85G3	2,1	B		2,1	M		3,2,1	BM	59A3	3,2,1	BM	59G3
BOT				5,4	M	17D8	4,3	M	54A1	4,3	M	54A1	5,4	M	59E7	5,4	M	
				7,6	M	1781										7,6	M	
COIL			52H0			49F0			51H3			51H3			51H3			51G1

a (FK) 54D6 (FR) 59F3

RELAY

DESIG	OB			TAN			TAN											
CODE	U1310			U259			U234											
OPTION	ZE			ZG			DD											
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	7,6	M	51G1															
	5,4,3	BM	54D6	5,4,3	BM	18F5	5,4,3	BM	a									
	2,1	B	54C5	2,1	B		2,1	B										
BOT	2,1	B		3,2,1	BM	54A6	3,2,1	BM	b									
	4,3	B		5,4	M	51G2	5,4	M	51G2									
	6,5	M																
COIL			51G1			51G2			51G2									

a (TQ) 18F5 (FR) 57B2

b (FK) 54A6 (FR) 57B4

RELAY

DESIG	DIF		NDT2		TG4		TIR		TR3		TTA		TTAF		TTST						DESIG
CODE	AF9		AF83		AF54		AF83		AF24		AF139		AF9		AJ15						CODE
OPTION	IH		EY		IH		IH		II		IV		IV		IH						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	EM		M	5308	M	8304	M	49G7	M				EM		EBM	83A3					12
11			M	5309			M	50G1	M						EBM	83C2					11
10	M	61D3	M	5309	BM	17F2	M		M		M	6068	M		EBM						10
9	B		M	5308			M		M		B		B		EBM	83C1					9
8	EBM	56C8	M	5308	BM	83D3	M	65D1	M		EBM	17B2	EBM	60A6	EMB						8
7	B		M	5308	B		M	387	M		B		B	46F1	EBM	55A8					7
6	EMB		M	5307	BM	17G1	M		M	61G4	EMB		EMB		EMB						6
5	B	60C0	M	5309	B	83F7	M		M	61G4	B		B	17F1	EMB						5
4	EBM	6082	M		BM		M		M	61E4	EBM		EBM	20G5	EBM						4
3			M	5387			M	4986	M	61E4	B				EBM	71B6					3
2	M	56D8	M	5387	M	4906	M	4903	M	61E4			M	67F7	EBM	62D2					2
1			M	5388			M	4907	M	61E4					EBM	83D2					1
COIL		6103		4900		8304		50F0		12D9		17F0		62H0		5060					COIL

DRAWING ISSUE

68D	CM, RLB, AMD
72A	HMB, JMA, AMD
73D	HMB, JMA, AMD
83D	
86D	

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2) SD-25680-01-C39

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

SD-25680-01-C39

HIGGINS 4465
B-7422-8-1 (8-64)

PART OF APP FIG 20

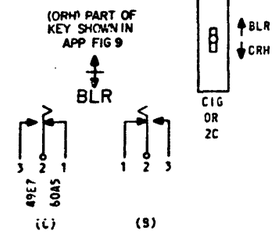
CAPACITOR DESIG	LOC	CODE
(YL,UL) TT	93C5	441K OR 141K

DIODE DESIG	LOC	CODE
(ZUB) LT	51F7	426G
(ZUB) TT	51F3	426G

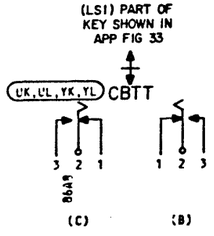
KEY OR KEY UNIT: CIG 2C

KEY TOP

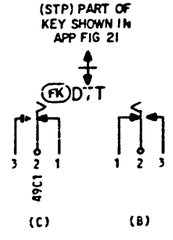
(ORH) PART OF KEY SHOWN IN APP FIG 9

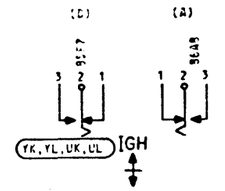


(LS1) PART OF KEY SHOWN IN APP FIG 33

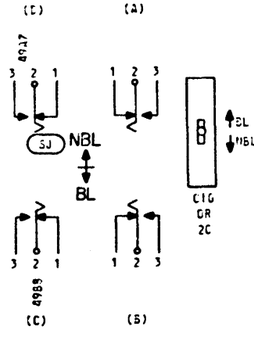


(STP) PART OF KEY SHOWN IN APP FIG 21



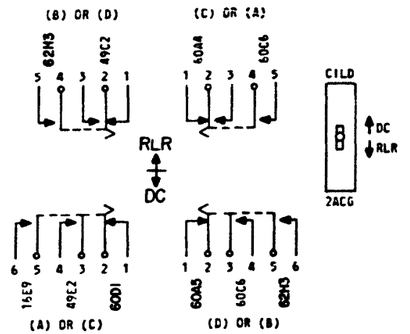


(DPAN) PART OF KEY SHOWN IN APP FIG. 73



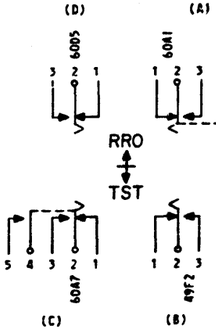
KEY OR KEY UNIT: CILD 2ACG

KEY TOP



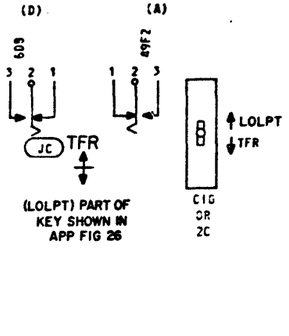
KEY OR KEY UNIT: CIMJ 2AP

KEY TOP



KEY OR KEY UNIT: CIG 2C

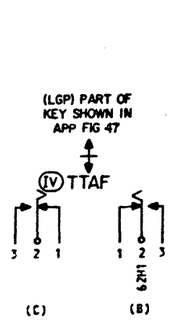
KEY TOP



KEY OR KEY UNIT: CIG 2C

KEY TOP

(LGP) PART OF KEY SHOWN IN APP FIG 47



LAMP DESIG	LOC	CODE
(ZY) BLT	18C9	2Y
CO	18A8	
D	19C3	
(KB) INC	18F4	
LK	18A7	
LC	18A7	
CH	18A8	
RB	18A7	
RLK	18C7	
RO	18F6	
(TQ) TAN	18F6	
(TR) TAN1	18G6	
(TS) TAN2	18G6	
(TT) TAN3	18H6	
(TU) TAN4	18F8	
(KB) TCA	18F8	
(KB) TCB	18G8	
TCN	18C3	
(FM) TOL	18G8	

RESISTOR DESIG	LOC	CODE
(PO) AO	83E4	144E OR 140A OR KS-20289,L6C,6810
(PP) AO	83E4	140A,6340
A1	83E4	144E OR 140A OR KS-20289,L6C,29.4K
B	14D0	18FB
R	14E1	18BW
RB	14D0	59C
ST	16C5	18AG
(PO) TC1A	17B7	18DU
(PN) TC1A	17B2	18L
TC2A	17B6	18KE
(PL,PN) TC3A	17C4	18EK
(PL,PN) TC4	17C6	19CU
(PN) TC0	17B3	18DS
(IV) TTA	17G0	18FB

TRANSFORMER DESIG	LOC	CODE
(YL,UL) TT	83C5	103B(RC)

ISSUE 105A

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-C40

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-C40

HIGGINS 4465 M&E

PART OF APP FIG 21

RELAY																				
DESIG	3KPF			FD3			FD4			FD5			FD6			FKP		
CODE	U834			U559			U844			U422			U421			U141		
OPTION																TG		
	CONT 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	73A6															
	6,5	M	82D2	7,6	M	7182	8,7	M										
	4,3	M	82C2	5,4	M		6,5,4	BM	74C7				4,3	M				
	2,1	M	-	2,1,3	MB	66E6	3,2,1	BM	82C3	3,2,1	BM		2,1	B	74C6	3,2,1	BM	82F1
BOT	2,1	M	82F7	2,1,3	MB	66F6	3,2,1	BM	82E2	2,1	M	7187	2,1	B	71C7	3,2,1	BM	
	4,3	M	82E2	5,4	M		6,5,4	BM	71C6				4,3	M				
	6,5	M					8,7	M										
COIL			73H2			66F7			66E7			7188			7187			73F2

RELAY																				
DESIG	FMF			FMF			GA			KA			KA			KPF		
CODE	U539			U1323			U460			U543			U1391			U6089		
OPTION	SEE NOTE 1			SEE NOTE 1						LX			LY					
	CONT 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	82D3	8,7	M	82D3							6,5	M	71D5			
	6,5,4	BM	82E3	6,5,4	BM	82E3	5,4	M	73E8	4,3	M	8283	4,3	M	8283	4,3	M	73A6
	3,2,1	BM	71D6	3,2,1	BM	71D6	3,2,1	BM	71A3	2,1	M	82F3	2,1	M	82F3	2,1	M	82D2
BOT	3,2,1	BM	74B2	3,2,1	BM	74B2	3,2,1	BM		2,1	M		2,1	M		2,1	M	82F2
	5,4	M		5,4	M		5,4	M	74G1	4,3	M	71D6	4,3	M	71D6			
													6,5	M	81G7			
COIL			74C1			74C1			73D9			74F0			74F0			73E2

RELAY																				
DESIG	KPS			KPS1			LL			MF1			MF1			MF2		
CODE	U1289			Y88			U189			239GG			280AN			239GF		
OPTION										UG			UH			UI		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	10,9	M	73A8															
	8,7	M	73C8				7,5	M	26E1									
	6,5,4	BM					5,4,3	BM	82A9									
	3,2,1	BM	a	3,2,1	BM	74B1	2,1	B	82B6	4,7,3	BM	74B1	4,7,3	BM	74B1	3,5,2	BM	82D3
BOT	3,2,1	BM	74A7				2,1	B	82F6									
	6,5,4	BM	74B7				5,4,3	BM	82G9									
	8,7	M					7,6	M										
COIL			73A9			73E9			73F9			74A1			74A1			74A3
		a	7480															
			73E8															

RELAY																				
DESIG	MF2			MF3			MF3			MF4			MF4			MF5		
CODE	280AR			239GF			280AR			239GF			280AR			U115		
OPTION	UJ			UI			UJ			UI			UJ					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																12,11	M	74C5
																10,9	M	73A1
																8,7	M	73B1
																6,5	M	73B1
																4,3	M	73C1
	3,5,2	BM	82D3	3,5,2	BM	82E3	3,5,2	BM	82E3	3,5,2	BM	71C6	3,5,2	BM	71C6	2,1	M	73C1
BOT																2,1	M	73A1
																4,3	M	73E1
																6,5	M	73D1
																8,7	M	73D1
																10,9	M	73C1
																12,11	M	72A/A6
COIL			74A3			74A3			74A3			74A4			74A4			73D9

RELAY																				
DESIG	PBP			PR			SF			SP			SP			SP1		
CODE	U1258			U460			U6089			U259			U1261			Y98		
OPTION	LY									LX			LY					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP													10,9	M				
	8,7	M	73B7										8,7,6	BM	74F2			
	6,5,4	BM	77A1	5,4	M	73C8	4,3	M		5,4,3	BM	74C5	5,4,3	BM	74C5			
	3,2,1	BM	78D2	3,2,1	BM	74A2	2,1	M	82D2	2,1	B	74B1	2,1	B	74B1	2,1	M	74F1
BOT	2,1	B	73A8	3,2,1	BM	74A4	2,1	M	82E2	3,2,1	BM	74A0	3,2,1	BM	74A0	2,1	M	74E1
	5,4,3	BM	74D3	5,4	M	74C3				5,4	M	7388	5,4	M	7388			
	7,6	M	74F1										7,6	M				
													9,8	M				
COIL			G2A0			73C9			73F2			73A9			73A9			74D0

RELAY																				
DESIG	SP2			SP2			SP5			SSP			STP			TWT		
CODE	Y126			Y203			Y209			U460			U543			U189		
OPTION	LX			LY			LY											
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																7,6	M	82B6
				4,3	M	74F1				5,4	M	73C8	4,3	M	74C6	5,4,3	BM	82A5
	3,2,1	BM	74D1	2,1	B	74D1	3,2,1	BM	74D3	3,2,1	BM		2,1	M	82E2	2,1	B	26E1
BOT				2,1	M	74G1	3,2,1	BM	74G1	3,2,1	BM	74C4	2,1	M	82C2	2,1	B	
										5,4	M	74G1	4,3	M		5,4,3	BM	8265
																7,6	M	8266
COIL			74E0			74E0			74F0			73B9			73F9			73G9

NOTES:
1. RELAY CODE U539 REPLACED BY U1323.

DRAWING ISSUE	
68D	NOT GLP AND
70D	FAC ART AND
78D	SAS

78

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C41

BELL TELEPHONE LABORATORIES
INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-C41

HIGGINS 4465

E-7428-8-2(8-64)

PART OF APP FIG 21

DRAWING ISSUE
680 MDT RLP AHO
83D

CAPACITOR

DESIG	LOC	CODE
MF(MF.1) (MF.2) (MF.3) (MF.4) (MF.5)	74A2	[5] 437QA OR 137QA
R	83H2	437QA OR 137QA
T	83F2	437QA OR 137QA
TW	82B5	475BR OR 175BR

INDUCTOR

DESIG	LOC	CODE
V	82F5	167F

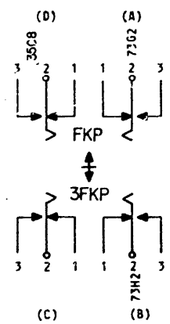
JACK
24CA OR 240AM OR
240C OR 240CM

	MF2	MF3	MF4
7	82D4	82E4	71C7
5	82D4	82E4	71C7
3	74B3	74B3	74B3

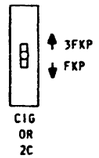
JACK
242A OR 242AM OR
242C OR 242CM

VI
7 82D6
6
5 82D6
4
3
2
1

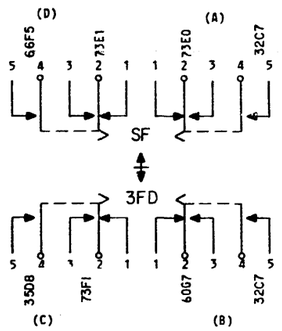
KEY OR KEY UNIT
C1G 2C



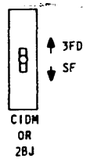
KEY TOP



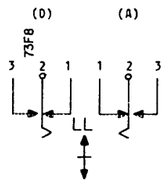
KEY OR KEY UNIT
C1DM 2BJ



KEY TOP

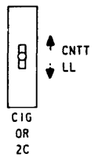


KEY OR KEY UNIT
C1G 2C

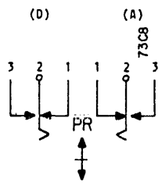


(CNTT) PART OF
KEY SHOWN IN APP FIG 11

KEY TOP

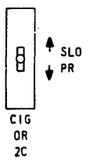


KEY OR KEY UNIT
C1G 2C

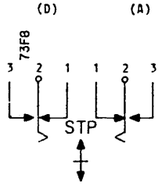


(SLO) PART OF
KEY SHOWN IN APP FIG 18

KEY TOP

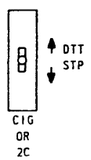


KEY OR KEY UNIT
C1G 2C

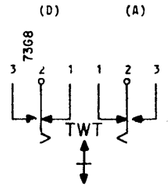


(DTT) PART OF
KEY SHOWN IN APP FIG 20

KEY TOP

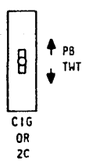


KEY OR KEY UNIT
C1G 2C

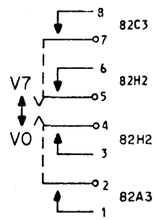


(PB) PART OF
KEY SHOWN IN APP FIG 9

KEY TOP



KEY
498AL



KEY TOP

NETWORK

	DESIG	LOC	CODE
(LX,LY)	KA	74F0	[1/2]177C OR 181C
	SP1	74D0	[1] 177C OR 181C
(LX,LY)	SP2	74E0	

PAD

DESIG	LOC	CODE
C	83E1	1C WITH 89 TYPE RES

RESISTOR

DESIG	LOC	CODE
MF	73E3	59P
MF1	74A0	18BU
MF2	74A8	19LM
MF3	74B7	19LB
MF4	74B6	18F
MF5	74C6	19AM
MF6	74C5	19AM
MF7	74C5	19AM
MF8	74A6	18V
MF9	74A6	19AM
MF10	74A5	19AM
SF	73F1	18Y
TW1	82E5	18T
TW2	82D5	19KU
TW3	82D5	19PA
TW4	82C5	19NS
TW5	82C5	19NU

TRANSFORMER

DESIG	LOC	CODE
AC	82A4	94F(RC)

83

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C42

BELL TELEPHONE LABORATORIES
INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-C42

HIGGINS 4463 K-E

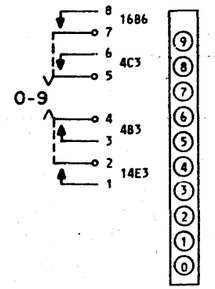
APP FIG 22

RELAY DESIG	LO-			ORP-			TCL-											
CODE	U81			U106			U81											
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	16A8	12,11	M	16A8	12,11	M	53B0									
	10,9	M	14G4	10,9	M	16A8	10,9	M	53B0									
	8,7	M	14G4	8,7	M	16A8	8,7	M	53B0									
	6,5	M	14G4	6,5	M	16A8	6,5	M	53B0									
	4,3	M	14G4	4,3	M	16A8	4,3	M	53B0									
	2,1	M	14G4	2,1	M	16A3	2,1	M	53B0									
BOT	2,1	M	14G4	2,1,3	MB	16A8	2,1	M	53B0									
	4,3	M	14G4	5,4	M	16A8	4,3	M	53B0									
	6,5	M	14G4	7,6	M	16A8	6,5	M	53B0									
	8,7	M	14G4	9,8	M	16A8	8,7	M	53B0									
	10,9	M	14G4	11,10	M	16A8	10,9	M	53B0									
	12,11	M					12,11	M	16A8									
COIL			16A9			16A9			16D9									

APP FIG 23

KEY: SRS E1CL

KEY TOP E1CL



APP FIG 24

RELAY DESIG	PCO(FIRST)			PC-(INTER)			PCI4(15TH)			PCAO(FIRST)			PCA-(INTER)			PCA-(LAST)		
CODE	U115			U115			U115			U115			U115			U115		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	16B1	12,11	M	16D1	12,11	M	16B1	12,11	M		12,11	M		12,11	M	
	10,9	M	4B4	10,9	M	4E4	10,9	M	4F4	10,9	M	4B0	10,9	M	4E0	10,9	M	4F0
	8,7	M	4B4	8,7	M	4E4	8,7	M	4F4	8,7	M	4B0	8,7	M	4E0	8,7	M	4F0
	6,5	M	4B4	6,5	M	4E4	6,5	M	4F4	6,5	M	4B0	6,5	M	4E0	6,5	M	4F0
	4,3	M	4B4	4,3	M	4E4	4,3	M	4F4	4,3	M	4B0	4,3	M	4E0	4,3	M	4F0
	2,1	M	4B4	2,1	M	4E4	2,1	M	4F4	2,1	M	4B0	2,1	M	4E0	2,1	M	4F0
BOT	2,1	M	4B4	2,1	M	4E4	2,1	M	4F4	2,1	M	4B0	2,1	M	4E0	2,1	M	4F0
	4,3	M	4B4	4,3	M	4E4	4,3	M	4F4	4,3	M	4B0	4,3	M	4E0	4,3	M	4F0
	6,5	M	4B4	6,5	M	4E4	6,5	M	4F4	6,5	M	4B0	6,5	M	4E0	6,5	M	4F0
	8,7	M	4B4	8,7	M	4E4	8,7	M	4F4	8,7	M	4B0	8,7	M	4E0	8,7	M	4F0
	10,9	M	4B4	10,9	M	4E4	10,9	M	4F4	10,9	M	4B0	10,9	M	4E0	10,9	M	4F0
	12,11	M	16B8	12,11	M	16B8	12,11	M	16B8	12,11	M	9C5	12,11	M	9D5	12,11	M	9G5
COIL			16F0			16F0			16G0			16B0			16B0			16B0

RELAY DESIG	RBNO(FIRST)			RBN-(INTER)			RBN-(LAST)			SPRO(FIRST)			SPR-(INTER)			SPR-(LAST)		
CODE	U115			U115			U115			U826			U826			U826		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M		12,11	M		12,11	M		12,11	M	16F1	12,11	M	16G1	12,11	M	16G1
	10,9	M	4D4	10,9	M	4E4	10,9	M	4F4	10,9	B	4D0	10,9	B	4E0	10,9	B	4F0
	8,7	M	4D4	8,7	M	4E4	8,7	M	4F4	8,7	B	4D0	8,7	B	4E0	8,7	B	4F0
	6,5	M	4D4	6,5	M	4E4	6,5	M	4F4	6,5	B	4D0	6,5	B	4E0	6,5	B	4F0
	4,3	M	4D4	4,3	M	4E4	4,3	M	4F4	4,3	B	4D0	4,3	B	4E0	4,3	B	4F0
	2,1	M	4D4	2,1	M	4E4	2,1	M	4F4	2,1	B	4D0	2,1	B	4E0	2,1	B	4F0
BOT	2,1	M	4D4	2,1	M	4E4	2,1	M	4F4	2,1	B	4D0	2,1	B	4E0	2,1	B	4F0
	4,3	M	4D4	4,3	M	4E4	4,3	M	4F4	4,3	B	4D0	4,3	B	4E0	4,3	B	4F0
	6,5	M	4D4	6,5	M	4E4	6,5	M	4F4	6,5	B	4D0	6,5	B	4E0	6,5	B	4F0
	8,7	M	4D4	8,7	M	4E4	8,7	M	4F4	8,7	B	4D0	8,7	B	4E0	8,7	B	4F0
	10,9	M	4D4	10,9	M	4E4	10,9	M	4F4	10,9	B	4D0	10,9	B	4E0	10,9	B	4F0
	12,11	M		12,11	M		12,11	M		12,11	M		12,11	M		12,11	M	
COIL			9C5			9E5			9G5			16A0			16A0			16A0

RELAY DESIG																		
CODE																		
OPTIC-																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
BOT																		
COIL																		

APP FIG 25

RELAY DESIG	SG-																	
CODE	U236																	
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	10,9	M	14F6															
	8,7	M	14F6															
	6,5	M	14F6															
	4,3	M	14F6															
	2,1	M	14F6															
BOT	2,1	M	14F6															
	4,3	M	14F6															
	6,5	M	14F6															
	8,7	M	14F6															
	10,9	M	14F6															
COIL			16B0-D0															

DRAWING ISSUE

68D	CML KLP AHD KEG
74D	KCB

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C43

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-C43

HIGGINS 4465

E-7422-8-2(8-64)

PART OF APP FIG 26

RELAY

DESIG	0			0'			1			1'			2			2'		
CODE	208G			208B			208G			208C			208G			208B		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	2,A,1	BM	72B/B2	2,A,1	BM	72B/A1	2,A,1	BM	72B/H1	2,A,1	BM	72B/H2	2,A,1	BM	72B/G2	2,A,1	BM	72B/G2
BOT																		
COIL			72B/B3			72B/B2			72B/G3			72B/G2			72B/G2			72B/G2

RELAY

DESIG	3			3'			4			4'			5			5'		
CODE	208G			208B			208G			208B			208G			208B		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	2,A,1	BM	72B/F2	2,A,1	BM	72B/F2	2,A,1	BM	72B/F2	2,A,1	BM	72B/F2	2,A,1	BM	72B/E2	2,A,1	BM	72B/E2
BOT																		
COIL			72B/F2			72B/F2			72B/F2			72B/F2			72B/E2			72B/E2

RELAY

DESIG	6			6'			7			7'			8			8'		
CODE	208G			208B			208G			208B			208G			208B		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	2,A,1	BM	72B/E2	2,A,1	BM	72B/E2	2,A,1	BM	72B/D2	2,A,1	BM	72B/D2	2,A,1	BM	72B/C2	2,A,1	BM	72B/C2
BOT																		
COIL			72B/D2			72B/D2			72B/D2			72B/D2			72B/C2			72B/C2

RELAY

DESIG	9			9'			BD			BD1			BD1			BD2		
CODE	208G			208B			208C			239FC			208A			566		
OPTION										VD			VE					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	2,A,1	BM	72B/C2	2,A,1	BM	72B/C2	2,A,1	BM	72B1	4,7,3	BM	76B2	4,7,3	BM	76B2	3,2,1	BM	75C0
BOT																		
COIL			72B/C2			72B/C2			72B/G2			75B3			75B3			72B/H3

RELAY

DESIG	CNA			CTG			DA			DA1			DP			DP1		
CODE	U611			209FF			U497			U219			U115			U115		
OPTION	WG			ZWV														
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP													12,11	M	75B2	12,11	M	
													10,9	M	75C2	10,9	M	72B/B0
													8,7	M	75D2	8,7	M	72B/C0
	9,8,7	BM	79E8										6,5	M	71E7	6,5	M	72B/D0
	6,5,4	BM	79E7							5,4	M	71F7	4,3	M	71F6	4,3	M	72B/D0
	3,2,1	BM		13,14,15	BM	72A/D8	3,2,1	BM	71G7	3,2,1	BM	71G7	2,1	M	75B2	2,1	M	72B/E0
BOT	3,2,1	BM	79D8				2,1,3	MB	71G7	3,2,1	BM	71D4	2,1	M	72B/B4	2,1	M	72B/A0
	6,5,4	BM	79G0							5,4	M	71C5	4,3	M	75D5	4,3	M	72B/H0
	9,8,7	BM	79F8										6,5	M	75B5	6,5	M	72B/G0
													8,7	M	75A5	8,7	M	72B/F0
													10,9	M	75A0	10,9	M	72B/E0
													12,11	M	75A2	12,11	M	65A1
COIL			62F0			76A2			71G8			71G8			62C0			6200

RELAY

DESIG	DSS			FD			FD1			FD1			INT			INT1		
CODE	U158			U422			U1149			U341			209FF			209FF		
OPTION							LX			LY			ZWV			ZWV		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP										10,9	M	84A3						
							8,7	M	84A3	8,7	B	66G6						
							6,5	M	A4C6	6,5	M	84C6						
							4,3	M	67E4	4,3	M	67E4						
	3,2,1	BM	71F7	3,2,1	BM		2,1	M	71C2	2,1	M	71C2	13,14,15	BM	76F0	13,14,5	BM	76B3
BOT	2,1	M	75C0	2,1	M	66H6	2,1	B	71F6	2,1	B	71F6						
	4,3	M	75D1				5,4,3	BM	66G6	4,3	B	74C8						
							7,6	M	5588	7,6,5	BM	a						
										9,8	M	5588						
COIL			65A0			66G7			66H6						76C2			76E5

a
- ZYA 66G6
- ZYB 72A/G0

DRAWING ISSUE

ISSUE 100B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

SD-25680-01-C44

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 65

PRINTED IN U.S.A.

E-7422-B-2(8-64)

PART OF APP FIG 26

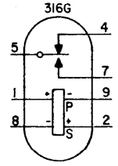
RELAY																													
DESIG	IRD			LOLPT			ORD			PLS			R			R			RI										
CODE	U115			U234			U115			209FF			239FC			280A			U79										
OPTION	YA,UA			EE			YA,UA			ZWV			VH			VI													
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC								
TOP	12,11	M	79C8				12,11	M	79E8																				
	10,9	M					10,9	M																					
	8,7	M	79C8				8,7	M	79E8										9,8	M									
	6,5	M	79F0				6,5	M	79F0										7,6,5	BM	71G6								
	4,3	M		5,4,3	BM		4,3	M	79F0										4,3	B	72B/D4								
	2,1	M		2,1	B	79A1	2,1	M	79G0	13,14,15	BM	79A0	4,7,3	BM	71D7	4,7,3	BM	71D7	2,1	B	72B/C4								
BOT.	2,1	M	79B8	3,2,1	BM	79B9	2,1	M	79H8										2,1	B	72B/B4								
	4,3	M	79E0	5,4	M		4,3	M	79G0										4,3	B	75C1								
	6,5	M	79G3				6,5	M	79H3										7,6,5	BM									
	8,7	M	79G5				8,7	M	79H5										9,8	M	75C1								
	10,9	M					10,9	M																					
	12,11	M					12,11	M																					
COIL			62A0			780			62B0			76A1			75D3			75D3			72B/H2								

RELAY																													
DESIG	RZ			S			S			SRG			SRG			SY			SY1										
CODE	S66			239FC			280A			206L			280J			U333			U158										
OPTION				VF			VG			YA			UA																
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC								
TOP																10,9	M	75D1											
																8,7,6	BM	84G6											
																5,4,3	BM	α											
	3,2,1	BM	75D1	4,7,3	BM	79H3	4,7,3	BM	79H3	3,5,2	BM	18B6	3,5,2	BM	18B6	2,1	B	71G6	3,2,1	BM	71D6								
BOT.																2,1	B	84B2	2,1	M	71E7								
																5,4,3	BM	71D5	4,3	M									
																8,7,6	BM	71D7											
																10,9	M	72A/D8											
COIL			72B/H4			75A3			75A3			79G4			79G4			71F8			71D8								
																	α	75C0 71F5											

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

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

RELAY 316G



(ZWX) CTG	(ZWX) INT	(ZWX) INTI	(ZWX) PLS
72A/D8	76F0	76A3	79A0
76A2	76C2	76E5	76A1

CAPACITOR

DESIG	LOC	CODE
DA(DA.1)	76E0	[3] 437QA OR 137QA
(DA.2)		[1] 439QA
(DA.3)		
(DA.4)		
DB(DB.1)	76D0	[2] 437QA OR 137QA
(DB.2)		[1] 441QA OR 141QA
(DB.3)		
DC(DC.1)	76C0	437QA OR 137QA
(DC.2)		439QA OR 139QA
DD(DD.1)	76F0	[3] 437QA OR 137QA
(DD.2)		
(DD.3)		
DE(DE.1)	76H0	[5] 437QA OR 137QA
(DE.2)		
(DE.3)		
(DE.4)		
(DE.5)		
DF	79C4	439QA
DG	79C4	439QA
DH(DH.1)	79C2	439QA
(DH.2)		441QG
DJ(DJ.1)	79C2	439QA
(DJ.2)		441QG

CAPACITOR

DESIG	LOC	CODE
DK(DK.1)	75D0	[4] 437QA OR 137QA
(DK.2)		
(DK.3)		
(DK.4)		
DL(DL.1)	75C1	[8] 437QA OR 137QA
(DL.2)		
(DL.3)		
(DL.4)		
(DL.5)		
(DL.6)		
(DL.7)		
(DL.8)		
DM(DM.1)	75A4	[2] 437QA OR 137QA
(DM.2)		
DN(DN.1)	79C3	439QA
(DN.2)		441QA
(SO) DP2	72B/G5	439A
(SO) DP3	72B/F5	439A
(SO) DP4	72B/G5	439A
(OE) DPA(DPA.1)	79D1	439QA
(DPA.2)		441QA

INDUCTOR

DESIG	LOC	CODE
(QJ) DF	79D5	274F
(QJ) DG	79D4	
(QJ) DH	79D3	
(QJ) DJ	79D2	
R	79H4	274B
(YA,UA) RI	79G4	274G

JACK

DESIG	LOC	CODE
CTG	72A/C8	239A OR 239AM
PLS	79A0	

DRAWING ISSUE

68D	BEM RLA AHC
70D	RAC FPZ MP
81D	
83D	

ISSUE 102B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C45

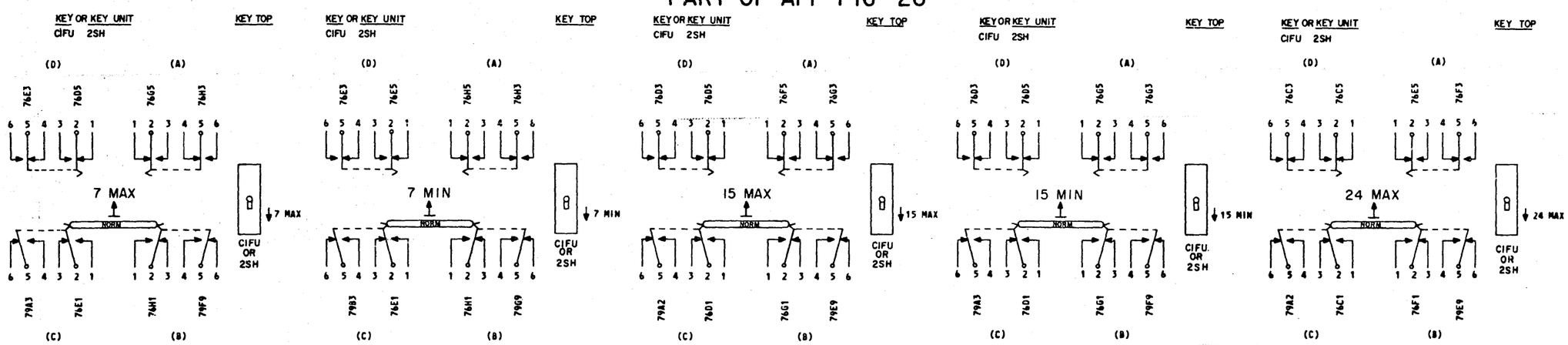
BELL TELEPHONE LABORATORIES INCORPORATED — SIZE 6S

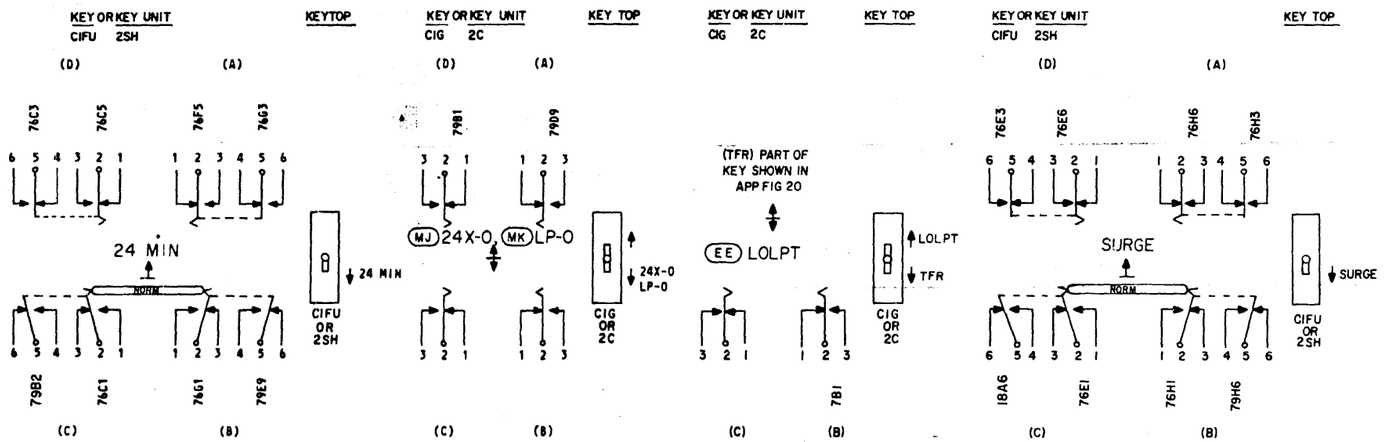
SD-25680-01-C45

HIGGINS 4465

E-7422-B-8(10-62)

PART OF APP FIG 26





NETWORK DESIG	LOC	CODE
0	72B/B3	☐☐ 177C OR 181C
9	72B/C2	
1	72B/G3	☐☐ 177C OR 181C
2	72B/G2	
3	72B/F2	☐☐ 177C OR 181C
4	72B/F2	
5	72B/E2	☐☐ 177C OR 181C
6	72B/D2	
7	72B/D2	☐☐ 177C OR 181C
8	72B/C2	
DP	62C0	☐/2☐ 177C OR 181C
(SN) DPI	72A/D8	177A OR 181A
FD	66H7	☐☐ 177C OR 181C
(LX,LY) FDI	66H6	
R2	72B/H4	☐/2☐ 177C OR 181C
SY	71F8	☐☐ 177C OR 181C
SYI	71D8	

RESISTOR DESIG	LOC	CODE
DF	79D5	145C,1620
(QJ) DG	79D4	145C,1620
DH	79D3	145C,1620
DJ	79D2	145C,1620
(ZWV) DPI	76E9	18DU
DP2	76H9	18DS
(SO) DP2(CP)	72B/G5	KS-19152, L1, 150
(ZWV) DP3	76D8	19RB
(SO) DP3(CP)	72B/G5	KS-19152,L1,150
DP4	76G9	19SN
(SO) DP4(CP)	72B/G5	KS-19150,L1,150
(ZWV) DP5	76D8	19RG
DP6	76F8	19PJ
DP7	76C8	19PJ
DP8	76F9	18FA
(ZWV) DP9	76B9	18AP
DP10	76F9	18BG
DP15	76C4	18BU
DP16	76E4	18GF
DP17	76A3	18BU
DP18	76A1	18FD
DP1	76E9	18CR
DP2	76H8	18KY
(ZWX) DP3	76D9	18AP
DP5	76D9	18AP
DP9	76B8	18LA
DP10	76E9	18GH

RESISTOR DESIG	LOC	CODE
DP19	71G8	19EY
DP21	75B0	19PJ
DP22	75D2	18CR
DP23	75C2	18CP
DP24	75E0	18G
DP25	75C0	18BJ
(SO) DP26	72B/E5	KS-19151,L1,9.1K
(SN) DP26	72B/E5	KS-19151,L3,1 MEG
(SO) DP27	72B/D5	KS-19151,L1,9.1K
(SN) DP27	72B/D5	KS-19151,L3,1 MEG
(SO) DP28	72B/E5	KS-19151,L1,9.1K
(SN) DP28	72D8	KS-19151,L3,1 MEG
DP31	76E7	36CK OR 36DF
DP32	76H7	36CK OR 36DF
DP33	76D7	36CK OR 36DF
DP34	76G7	36CK OR 36DF
DP35	76C7	36CK OR 36DF
DP36	76F7	36CK OR 36DF

RESISTOR DESIG	LOC	CODE
DP37	76C7	36CK OR 36DF
DP38	76F7	36CJ OR 36DE
DP39	76B7	36CK OR 36DF
DP40	76E7	36CJ OR 36DE
DP41	76E8	19UU
DP42	76F8	19PK
DP43	76F8	19HD
DP46	76H4	18BM
DP47	76G4	18BG
DP48	76F1	18BT
(YA,UA) DP49	79H3	18KF
DP50	79H4	18KF
DP51	79G5	18CR
(MS) DP52	79H5	18AS
(NR) DP52	79H5	19TL
(NR) DP53	79H4	18BM
DP55	79D6	19RF
	79F7	19RF
(OB) DP56	79CA	19RM
(OA) DP56	79C6	19NF

RESISTOR DESIG	LOC	CODE
(YA,UA) DP57	79C0	19RP
(OS) DP58	79D0	18KB
(OR) DP58	79D0	19PS
DP59	79D0	19CJ
(YA,UA)	79B7	19CJ
DP60	79B7	18FS
DP61	79D3	18JW
(OD) DP62	79D2	18EW
DP63	79C2	18JW
(OC) DP64	79C1	18JW
DP65	79C1	18JW
DP66	79D1	18JW
(PV) DP67	79D7	19UE
(PW) DP67	79E7	18AP
(OQ) DP68	79D7	19RN
(OP) DP68	79D7	19UE
(ON) DP68	79C7	18DU

RESISTOR DESIG	LOC	CODE
DP69	79F7	19KU
DP70	79A4	18BU
DP71	79A1	19PJ
DP72	75C4	18AS
DP73	76A0	18FD
DP74	75D4	18BT
(OH) DP75	79F7	19RP
	79D5	19RP
(OK) DP76	79C5	19YM
(OJ) DP76	79C5	19RC
(PX) DP77	79D7	19TL
(OE) DP73	79C1	18AE

RINGER DESIG	LOC	CODE
(QJ) R	79D4	8A
(QI) R2	79D2	8A
(QI) R3	79D3	8A
(QI) RT	79D4	8A

DRAWING ISSUE	
68D	DEM F.L.P. AHC
70D	CR PMT AHP
78D	SAS
81D	

ISSUE 102B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-C46

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-C46

HIGGINS 4465 M-E

APP FIG 27

RELAY

DESIG	FAK			FAK			FBK			FBK			[2] FGO,1			[2] FGO,1		
CODE	EA3			EA27			EA3			EA27			EA3			EA27		
OPTION	QK			QL			QK			QL			K			QM		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	3,2,1	MM	38E0	3,2,1	MM	38E0	3,2,1	MM	38E0	3,2,1	MM	38E0	3,2,1	MM	37F4	3,2,1	MM	37F4
BOT	3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM	
COIL			38D0			38D0			38E0			38E0			37F3			37F3

RELAY

DESIG	FG2			FG2			FSG1		
CODE	EA3			EA27			U65		
OPTION	NY			NZ					
	CONT NO.	CONT ARR	LOC	CONT. NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP							12,11	M	11A7
							10,9	M	38B2
							8,7	M	38B2
							6,5	M	38B2
							4,3	M	38B2
	3,2,1	MM	37F4	3,2,1	MM	37F4	2,1	M	38B2
BOT	3,2,1	MM		3,2,1	MM		2,1	M	38B2
							4,3	M	38B2
							6,5	M	38B2
							8,7	M	38B2
							10,9	M	38B2
							12,11	M	37G5
COIL			37F3			37F3			11D0

RELAY

DESIG	MCC		
CODE	263A	287A	287E
OPTION	PB	PC	KF
59	38A2	38A2	38A2
58	38A2	38A2	38A2
57	38A2	38A2	38A2
56	38A2	38A2	38A2
55	38A2	38A2	38A2
49	38A2	38A2	38A2
48	38A2	38A2	38A2
47	38A2	38A2	38A2
46	38A2	38A2	38A2
45	38A2	38A2	38A2
39	38G2	38G2	38G2
38	38G2	38G2	38G2
37	38G2	38G2	38G2
36	38G2	38G2	38G2
35	38G2	38G2	38G2
29	38F2	38F2	38F2
28	38F2	38F2	38F2
27	38F2	38F2	38F2
26	38F2	38F2	38F2
25	38F2	38F2	38F2
19	37F2	37F2	37F2
18	37F2	37F2	37F2
17	37F2	37F2	37F2
16	37F2	37F2	37F2
15	37F2	37F2	37F2
09	37D2	37D2	37D2
08	37D2	37D2	37D2
07	37D2	37D2	37D2
06	37D2	37D2	37D2
05	37D2	37D2	37D2
COIL	3C0	3C0	3C0
54	38A2	38A2	38A2
53	38A2	38A2	38A2
52	38A2	38A2	38A2
51	38A2	38A2	38A2
50	38A2	38A2	38A2
44	38A2	38A2	38A2
43	38A2	38A2	38A2
42	38A2	38A2	38A2
41	38A2	38A2	38A2
40	38A2	38A2	38A2
34	38G2	38G2	38G2
33	38G2	38G2	38G2
32	38G2	38G2	38G2
31	38G2	38G2	38G2
30	38G2	38G2	38G2
24	38F2	38F2	38F2
23	38F2	38F2	38F2
22	38F2	38F2	38F2
21	38E2	38E2	38E2
20	38D2	38D2	38D2
14	37E2	37E2	37E2
13	37E2	37E2	37E2
12	37E2	37E2	37E2
11	37E2	37E2	37E2
10	37E2	37E2	37E2
04	38A5	38A5	38A5
03	11C6	11C6	11C6
02	3E8	3E8	3E8
01	3B8B	3B8B	3B8B
00	3B8B	3B8B	3B8B
COIL	3C0	3C0	3C0

RELAY

DESIG	FSG2			FSG3			[10] LCO-9			[10] LCO-9			LCG			LVO		
CODE	U65			U65			FA3			EA27			U65			EA27		
OPTION	K,QM			NX			QK			QL						ZYL		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	11A5	12,11	M	11A6							12,11	M	11A7			
	10,9	M	38B2	10,9	M	38B2							10,9	M	38G1			
	8,7	M	38B2	8,7	M	38B2							8,7	M	38G1			
	6,5	M	38B2	6,5	M	38B2							6,5	M	38G1			
	4,3	M	38B2	4,3	M	38B2							4,3	M	38G1			
	2,1	M	38B2	2,1	M	38B2	3,2,1	MM	38G0	3,2,1	MM	38G0	2,1	M	38G1	3,2,1	MM	38D7
BOT	2,1	M	38B2	2,1	M	38B2	3,2,1	MM		3,2,1	MM		2,1	M	38G1	3,2,1	MM	
	4,3	M	38B2	4,3	M	38B2							4,3	M	38G1			
	6,5	M	38B2	6,5	M	38B2							6,5	M	38G1			
	8,7	M	38B2	8,7	M	38B2							8,7	M	38G1			
	10,9	M	38B2	10,9	M	38B2							10,9	M	38G1			
	12,11	M	38E8	12,11	M								12,11	M	38D8			
COIL			11D0			11E0			38G0			38G0			11C0			38C7

RELAY

DESIG	LVI			[8] LV2-9			[8] LV2-9		
CODE	EA27			EA3			EA27		
OPTION	ZYL			QK			QL		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP									
	3,2,1	MM	38E7	3,2,1	MM	38F0	3,2,1	MM	38F0
BOT	3,2,1	MM		3,2,1	MM		3,2,1	MM	
COIL			38D7			38F0			38F0

RELAY

DESIG	LVG			MCO			[5] TFO,1,2,4,7			[5] TFO,1,2,4,7								
CODE	U65			U65			EA3			EA27								
OPTION				NX			QK			QL								
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	11A7	12,11	M	38C8												
	10,9	M	38E1	10,9	M	38A2												
	8,7	M	38F1	8,7	M	38A2												
	6,5	M	38F1	6,5	M	38A2												
	4,3	M	38F1	4,3	M	38A2												
	2,1	M	38F1	2,1	M	38A2	3,2,1	MM	37G4	3,2,1	MM	37G4						
BOT	2,1	M	38F1	2,1	M	38A2	3,2,1	MM		3,2,1	MM							
	4,3	M	38F1	4,3	M	38A2												
	6,5	M	38F1	6,5	M	38A2												
	8,7	M	38F1	8,7	M	38A2												
	10,9	M	38F1	10,9	M	38A2												
	12,11	M	37F2	12,11	M	38D8												
COIL			11B0			3E8			37G3			37G3						

NETWORK

DESIG	LOC	CODE
FS1	37H5	[1/2] 177K OR 181K
FSG	11D0	177E OR 181E
LCG	11C0	[1] 177C OR 181C
LVG	11B0	
(PB,PC,KF) MCC	3C0	177J OR 181J

RESISTOR

DESIG	LOC	CODE
FS	37H4	KS-19150,L3,33K
TRA	38A4	18AG

DRAWING ISSUE

62D	CM, RLP, AGD
70D	CR, PDL, AMD
82A	
88D	

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C47

BELL TELEPHONE LABORATORIES INCORPORATED

PROJECT 6S

PRINTED IN U.S.A.

SD-25680-01-C47

HIGGINS 4465

E-7422-6-2(8-64)

PART OF APP FIG 28

RELAY																							
DESIG	CTA0			CTA1			CTA2			CTA4			CTA7			CUA0							
CODE	EA27			EA27			EA27			EA27			EA27			EA27							
OPTION	GD			GD			GD			GD			GD			GD							
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC					
TOP																							
	3,2,1	MM	37B7	3,2,1	MM	37B7	3,2,1	MM	37B7	3,2,1	MM	37B7	3,2,1	MM	37B7	3,2,1	MM	37A7					
	3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM						
BOT																							
COIL			37B7			37B7			37B7			37B7			37B7			37A7					

RELAY																							
DESIG	CUA1			CUA2			CUA4			CUA7			FT0			FT0							
CODE	EA27			EA27			EA27			EA27			EA3			EA27							
OPTION	GD			GD			GD			GD			QP			QQ							
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC					
TOP																							
	3,2,1	MM	37A7	3,2,1	MM	37A7	3,2,1	MM	37A7	3,2,1	MM	37A7	3,2,1	MM	37C0	3,2,1	MM	37G0					
	3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM						
BOT																							
COIL			37A7			37A7			37A7			37A7			37C0			37C0					

RELAY																							
DESIG	FT1			FT1			FT2			FT2			FT3			FT3							
CODE	EA3			EA27			EA3			EA27			EA3			EA27							
OPTION	QP			QQ			ZC			QR			ZC			QR							
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC					
TOP																							
	3,2,1	MM	37C0	3,2,1	MM	37C0	3,2,1	MM	37C0	3,2,1	MM	37C0	3,2,1	MM	37C0	3,2,1	MM	37C0					
	3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM						
BOT																							
COIL			37C0			37C0			37C0			37C0			37C0			37C0					

RELAY																							
DESIG	FU0			FU0			FU1			FU1			FU2			FU2							
CODE	EA3			EA27			EA3			EA27			EA3			EA27							
OPTION	QP			QQ			QP			QQ			QP			QQ							
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC					
TOP																							
	3,2,1	MM	37B0	3,2,1	MM	37B0	3,2,1	MM	37B0	3,2,1	MM	37B0	3,2,1	MM	37B0	3,2,1	MM	37B0					
	3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM						
BOT																							
COIL			37B0			37B0			37B0			37B0			37B0			37B0					

RELAY																							
DESIG	FU4			FU4			FU7			FU7			HG0			HG0							
CODE	EA3			EA27			EA3			EA27			EA3			EA27							
OPTION	QP			QQ			QP			QQ			QP			QQ							
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC					
TOP																							
	3,2,1	MM	37B0	3,2,1	MM	37B0	3,2,1	MM	37B0	3,2,1	MM	37B0	3,2,1	MM	37A0	3,2,1	MM	37A0					
	3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM						
BOT																							
COIL			37B0			37B0			37B0			37B0			37A0			37A0					

RELAY																							
DESIG	HG1			HG1			HG2			HG2			HG4			HG4							
CODE	EA3			EA27			EA3			EA27			EA3			EA27							
OPTION	QP			QQ			QP			QQ			QP			QQ							
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC					
TOP																							
	3,2,1	MM	37A0	3,2,1	MM	37A0	3,2,1	MM	37A0	3,2,1	MM	37A0	3,2,1	MM	37A0	3,2,1	MM	37A0					
	3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM						
BOT																							
COIL			37A0			37A0			37A0			37A0			37A0			37A0					

DRAWING ISSUE
68D JGS RLP AHD

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C48

BELL TELEPHONE LABORATORIES INCORPORATED — SIZE 6S

PRINTED IN U.S.A.

68

SD-25680-01-C48

HIGGINS 4465

E-7422-8-2(8-64)

PART OF APP FIG 28

RELAY																				
DESIG	HG7			HG7			MCP			VF0			VF0			VF1				
CODE	EA3			EA27			U65			EA3			EA27			EA3				
OPTION	QP			QQ			QD			QP			QQ			QP				
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC		
TOP							12,11	M	62E6											
							10,9	M	37A8											
							8,7	M	37A8											
							6,5	M	37A8											
							4,3	M	37A8											
	3,2,1	MM	37A0	3,2,1	MM	37A0	2,1	M	37A8	3,2,1	MM	37B4	3,2,1	MM	37B4	3,2,1	MM	37B4		
BOT	3,2,1	MM		3,2,1	MM		2,1	M	37B8	3,2,1	MM		3,2,1	MM		3,2,1	MM			
							4,3	M	37B8											
							6,5	M	37B8											
							8,7	M	37B8											
							10,9	M	37B8											
							12,11	M												
COIL			37A0			37A0			37D7			37B3			37B3			37B3		

RELAY																				
DESIG	VF1			VF2			VF2			VF3			VF3			VF4				
CODE	EA27			EA3			EA27			EA3			EA27			EA3				
OPTION	QQ			QP			QQ			QP			QQ			QP				
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC		
TOP																				
	3,2,1	MM	37B4	3,2,1	MM	37B4	3,2,1	MM	37B4	3,2,1	MM	37B4	3,2,1	MM	37B4	3,2,1	MM	37B4		
BOT	3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM			
COIL			37B3			37B3			37B3			37B3			37B3			37B3		

RELAY																				
DESIG	VF4			VG0			VG0			VG1			VG1			VG2				
CODE	EA27			EA3			EA27			EA3			EA27			EA3				
OPTION	QQ			QP			QQ			QP			QQ			QP				
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC		
TOP																				
	3,2,1	MM	37B4	3,2,1	MM	37A3	3,2,1	MM	37A3	3,2,1	MM	37A3	3,2,1	MM	37A3	3,2,1	MM	37A3		
BOT	3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM			
COIL			37B3			37A3			37A3			37A3			37A3			37A3		

RELAY																				
DESIG	VG2			VG4			VG4			VG7			VG7			VG10				
CODE	EA27			EA3			EA27			EA3			EA27			EA3				
OPTION	QQ			QP			QQ			QP			QQ			ZB				
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC		
TOP																				
	3,2,1	MM	37A3	3,2,1	MM	37A3	3,2,1	MM	37A3	3,2,1	MM	37A3	3,2,1	MM	37A3	3,2,1	MM	37A3		
BOT	3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM			
COIL			37A3			37A3			37A3			37A3			37A3			37A3		

RELAY																				
DESIG	VG10																			
CODE	EA27																			
OPTION	QW																			
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC		
TOP																				
	3,2,1	MM	37A3																	
BOT	3,2,1	MM																		
COIL			37A3																	

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

DRAWING ISSUE

68D	LGS KLP AHD
79D	RR

79

SD-25680-01-C49

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2)

SD-25680-01-C49

BELL TELEPHONE LABORATORIES
INCORPORATED

SIZE 65

PRINTED IN U.S.A.

HIGGINS 4465

E-7422-B-2(8-64)

PART OF APP FIG 28

RELAY

DESIG	MCA	MCA	MCA	MCV
CODE	263A	287A	287E	287E
OPTION	QX	QY	KD	ZYN
59	37G5	37G5	37G5	
58	37G5	37G5	37G5	
57	37G5	37G5	37G5	
56	37G5	37G5	37G5	
55	37G5	37G5	37G5	
49	37C5	37C5	37C5	
48	37C5	37C5	37C5	
47	37C5	37C5	37C5	
46	37C5	37C5	37C5	
45	37C5	37C5	37C5	
39	37C2	37C2	37C2	
38	37C2	37C2	37C2	
37	37B2	37B2	37B2	
36	37B2	37B2	37B2	
35	37B2	37B2	37B2	
29	37A2	37A2	37A2	
28	37A2	37A2	37A2	
27	37B5	37B5	37B5	
26	37B5	37B5	37B5	
25	37B5	37B5	37B5	
19	37A5	37A5	37A5	
18	37A5	37A5	37A5	
17	37A5	37A5	37A5	
16	23F7	23F7	23F7	
15	14A5	14A5	14A5	
09	38B5	38B5	38B5	
OR	a	a	a	
07	b	b	b	38F8
06	52E6	52E6	52E6	39F8
05	52B5	52B5	51B5	58H2
COIL	3A0	3A0	3A0	3A8
54	37F5	37F5	37F5	
53	37F5	37F5	37F5	
52	37C5	37C5	37C5	
51	37C5	37C5	37C5	
50	37C5	37C5	37C5	
44	37C5	37C5	37C5	
43	37C5	37C5	37C5	
42	37F5	37F5	37F5	
41	37C2	37C2	37C2	
40	37C2	37C2	37C2	
34	37B2	37B2	37B2	
33	37B2	37B2	37B2	
32	37A2	37A2	37A2	
31	37A2	37A2	37A2	
30	37A2	37A2	37A2	
24	37B5	37B5	37B5	
23	37B5	37B5	37B5	
22	37A5	37A5	37A5	
21	37A5	37A5	37A5	
20	37A5	37A5	37A5	
14	38D4	38D4	38D4	
13	38D4	38D4	38D4	
12	38C4	38C4	38C4	
11	38B5	38B5	38B5	
10	38C2	38C2	38C2	
04	52E5	52E5	52E5	58F2
03	52E6	52E6	52E6	58G2
02	52E7	52E7	52E7	58H2
01	51D7	51D7	51D7	37D5
00	51E2	51E2	51E2	37D5
COIL	3A0	3A0	3A0	3A8

NOTE:
THE TERMINAL NO. OF THE 263 TYPE RELAY 0-9 ARE REPRESENTED BY THE 287 TYPE RELAY TERMINAL NO. 00-09.

a (ZYM) 37D5
(DH) 62A6

b (ZYM) 37D5
(DH) 62A6

NETWORK

	DESIG	LOC	CODE
(KD,QX,QY)	MCA	3A0	177J OR 181J
	ONG1	37E5	[1]177K OR 181K
	ONG2	37D1	
(GD)	ONG3	37C8	[1/2]177K
(ZYN)	MCV	3A8	180A

RESISTOR

DESIG	LOC	CODE
ONG1	37E4	KS-19150,L3,33K
ONG2	37D1	KS-19150,L3,33K
(GD) ONG3	37C7	KS-19150,L3,33K

DRAWING ISSUE

68D	LCS RLP AMP
70D	CR Part omit
83D	
86D	
88D	

88

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD- 25680- 01-C50

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

SD-25680-01-C50

HIGGINS 4465 KE

APP FIG 29

RELAY																	
DESIG	[10]M0-9			[10]M0-9													
CODE	EA3			EA27													
OPTION	QU			QV													
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	3,2,1	MM	37C4	3,2,1	MM	37C4											
BOT	3,2,1	MM		3,2,1	MM												
COIL			37C3			37C3											

APP FIG 30

RELAY																	
DESIG	[5]HT0,1,2,4,7			[5]HT0,1,2,4,7			[2]THT0,1			[5]TT0,1,2,4,7			[5]TT0,1,2,4,7			[5]UT0,1,2,4,7		
CODE	EA3			EA27			EA27			EA3			EA27			EA3		
OPTION	QS			QT			JA			QS			QT			QS		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	3,2,1	MM	37E0	3,2,1	MM	37E0	3,2,1	MM	38B7	3,2,1	MM	37E0	3,2,1	MM	37E0	3,2,1	MM	37F0
BOT	3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM	
COIL			3700			3700			38B7			37E0			37E0			37F0

RELAY																	
DESIG	[5]UT0,1,2,4,7			[2]THT2,3													
CODE	EA27			EA27													
OPTION	QT			ZWA													
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	3,2,1	MM	37F0	3,2,1	MM	38F7											
BOT	3,2,1	MM		3,2,1	MM												
COIL			37F0			38F7											

NETWORK

DESIG	LOC	CODE
LVG1	37G1	[1/2]177L OR 181L

RESISTOR

DESIG	LOC	CODE
LVG	37G1	KS-19150,L3,33K

APP FIG 31

RELAY																	
DESIG	[20]FS0-19			[20]FS0-19			[10]FS20-29			[10]FS20-29							
CODE	EA3			EA27			EA3			EA27							
OPTION	QN			QO			NT			NU							
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	3,2,1	MM	3880	3,2,1	MM	3880	3,2,1	MM	3880	3,2,1	MM	3880						
BOT	3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM							
COIL			38A0			38A0			38A0			38A0						

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

DRAWING ISSUE

68D	DM ALP AMD
88D	CB

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

SD-25680-01-C51

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-C51

HIGGINS 4465

E-7422-8-2(8-64)

APP FIG 32

RELAY

DESIG	TG			W			WL			W0K			WS			WS1		
CODE	266B			U1317			U1244			U844			U218			U499		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				9,8	M	47A1												
				7,6	M					8,7	M	47C1	6,5	M	47D2			
	4,3	M	47A1	5,4	M	47B2	4,3	M	47F2	6,5,4	BM	47G3	4,3	M	1886	5,4	M	47B1
	2,1	M	47B3	3,2,1	BM	47E3	2,1	B	4781	3,2,1	BM	1885	2,1	B	1886	3,2,1	BM	47E3
BOT	2,1	M	47B3	2,1	B		2,1	M	60E6	3,2,1	BM		2,1	B	4781	2,1	B	
	4,3	M	47A1	5,4,3	BM	47G3				6,5,4	BM	49C6	4,3	M	4781	4,3	M	60E6
				7,6	M					8,7	M	83E6						
COIL			83F3			47A0			47F4			4780			47D4			4780

RELAY

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

CAPACITOR

DESIG	LOC	CODE
W	47D0	KS-13366,L3,1000PF OR KS-13367,L30,1000PF
WL	47F1	2288
WS	47D1	2288

LAMP

DESIG	LOC	CODE
WL	18A5	2Y
WS	18A6	2Y

POTENTIOMETER

DESIG	LOC	CODE
WS	47D1	KS-13650,L1,50K

RESISTOR

DESIG	LOC	CODE
L	47E1	18EY
S	47C1	18EY
WL	47E1	144E OR 140A OR KS-20289,L6C,291K
WL1	47F1	KS-19150,L3,100K
WL2	47F2	KS-19150,L3,3.3K
WS	47D1	KS-19151,L1,43K
WS1	47D1	KS-19150,L3,100K
WS2	47D2	KS-19150,L3,3.3K

TUBE,ELECTRON

DESIG	LOC	CODE
WL	47F1	313CC
WS	47D1	313CC

PART OF APP FIG 33

RELAY

DESIG	0T			1T			2T			3T			4T			5T		
CODE	U1301			U1301			U1301			U1301			U1301			U1301		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	6,5	M		6,5	M		6,5	M		6,5	M		6,5	M		6,5	M	
	4,3	M	95C7	4,3	M	85C7	4,3	M	85C7	4,3	M	85C7	4,3	M	95C7	4,3	M	85B7
	2,1	M	85B7	2,1	M	85B7	2,1	M	85B7	2,1	M	85B7	2,1	M	85B7	2,1	M	85B7
BOT	2,1	M	85A7	2,1	M	85A7	2,1	M	85A7	2,1	M	85A7	2,1	M	85A7	2,1	M	85A7
	4,3	M		4,3	M	8681	4,3	M		4,3	M	8681	4,3	M		4,3	M	8681
	6,5	M		6,5	M		6,5	M		6,5	M		6,5	M		6,5	M	86A2
COIL			86C0			86C0			86C0			86C0			86C0			86C0

RELAY

DESIG	6T			7T			8T			9T			AF			BO1		
CODE	U1301			U1301			U1301			U1301			U580			203C		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	6,5	M		6,5	M		6,5	M		6,5	M							
	4,3	M	95C7	4,3	M	85C7	4,3	M	85C7	4,3	M	85C7						
	2,1	M	85B7	2,1	M	85B7	2,1	M	85B7	2,1	M	85B7	3,2,1	BM	85B4	2,A,1	BM	98A7
BOT	2,1	M	85A7	2,1	M	85A7	2,1	M	85A7	2,1	M	85A7	3,2,1	BM				
	4,3	M		4,3	M	8681	4,3	M		4,3	M	8681						
	6,5	M	86A2	6,5	M	86A2	6,5	M	86A2	6,5	M	86A2						
COIL			86C0			86C0			86C0			96C0			86A0			95F1

DRAWING ISSUE

68D	CM, RLP, AHV
83D	

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C 52

BELL TELEPHONE LABORATORIES INCORPORATED

SHEET 65

PRINTED IN U.S.A.

E-74221-B-2(8-64)

SD-25680-01-C52

PART OF APP FIG 33

RELAY

DESIG	BK			BRP			CB3B			CBA			CBA1			CBA2		
CODE	U1391			U199			U1113			G89			U431			U576		
OPTION	YK,UK			OY			YL,UL			YL,UL			YL,UL			YL,UL		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP							10,9	M	88E2									
	6,5	M	89D1				8,7	M	88E2							7,6	M	
	4,3	M	8787	6,5,4	BM	8885	6,5,4	BM	17E1				5,4	M	88G6	5,4,3	BM	88D2
	2,1	M	89G3	3,2,1	BM	8887	3,2,1	BM		1,A	M	88F6	3,2,1	BM		2,1	B	83E5
BOT	2,1	M	87G2	3,2,1	BM	88E5	3,2,1	BM					2,1	M		2,1	B	
	4,3	M	1382	6,5,4	BM		6,5,4	BM	87G6				4,3	M		5,4,3	BM	88D2
	6,5	M					8,7	M	88D3							7,6	M	
							10,9	M	88D3									
COIL			89D0			88G1			5080			88F1			88F7			88G7

RELAY

DESIG	CBRO			CBT			DB			FLB			FLBA			FLT		
CODE	U192			U333			U67			U1342			U98			U1342		
OPTION	YL,UL			YL,UL														
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				10,9	M	83C7												
				8,7,6	BM	88F1	7,6	M	87D6	9,8,7	BM	87H7	8,7	M	87A7	9,8,7	BM	87H7
	6,5,4	BM	6088	5,4,3	BM	88E1	5,4	M		6,5,4	BM	87E3	6,5,4	BM		6,5,4	BM	87F3
	3,2,1	BM	88F2	2,1	B	87G5	3,2,1	BM	86E8	2,1,3	MB	87D1	3,2,1	BM		2,1,3	MB	87E1
BOT	3,2,1	BM	88G2	2,1	B		3,2,1	BM	86C8	2,1,3	MB	87C2	3,2,1	BM	8682	2,1,3	MB	87E2
	5,4	M		5,4,3	BM	88D2	5,4	M	17E2	6,5,4	BM	87D7	6,5,4	BM	85G7	6,5,4	BM	87E1
				8,7,6	BM	88D2				9,8,7	BM	85B6	8,7	M	88F6	9,8,7	BM	85C6
				10,9	M	83C7												
COIL			86F0			85C0			87E9			87C0			87D0			87E0

RELAY

DESIG	FLTA			FLU			FLUA			F0'			F01			F02		
CODE	U98			U1342			U98			208C			U1363			U380		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP													10,9	M	85G1			
													8,7	M	83C4	8,7	B	
	8,7	M	87B6	9,8,7	BM	87H6	8,7	M					6,5	M	8582	6,5	B	
	6,5,4	BM		6,5,4	BM	87G2	6,5,4	BM	87A6				4,3	M	85A3	4,3	M-B	87B8
	3,2,1	BM		2,1,3	MB	87F1	3,2,1	BM	89A2	2,A,1	BM	87A4	2,1	M	85E2	2,1		89F7
BOT	3,2,1	BM	8682	2,1,3	MB	87F2	3,2,1	BM	86B3				2,1	B	87C6	2,1	M-B	
	6,5,4	BM	85G8	6,5,4	BM	87F1	6,5,4	BM	85G8				4,3	M	88A7	4,3		88A7
	8,7	M	86B3	9,8,7	BM	85C6	8,7	M	86A3				6,5	M	89A2	6,5	M	89F7
													8,7	M				
COIL			87E0			87F0			87F0			85F1			85G0			87B9

RELAY

DESIG	FOT			FRP			FTP			FTP			IB			IBA		
CODE	U113			U309			S516			S522			U1342			U98		
OPTION				NB						NB								
	CONT 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	87G8	8,7	M	17H2
				4,3	M	88E6							6,5,4	BM	87C2	6,5,4	BM	49A1
	3,2,1	BM		2,1	M	85E5	3,2,1	BM	88G6	3,2,1	BM	88G6	2,1,3	MB	87A1	3,2,1	BM	
BOT	2,1	M	87B4										2,1,3	MB		3,2,1	BM	86B2
													6,5,4	BM	87B1	6,5,4	BM	85G7
													9,8,7	BM	8546	8,7	M	86B1
COIL			89F6			88G7			88E9			88E9			87A0			87B0

RELAY

DESIG	IFT			IG			IGA			LSI			OF1			OF2		
CODE	U199			U1342			U98			U141			U67			U576		
OPTION	YK,UK												YK,UK			YK,UK		
	CONT 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	87H8	8,7	M					7,6	M	89A1	7,6	M	89C1
	6,5,4	BM	87G5	6,5,4	BM	8702	6,5,4	BM	86B1				5,4	M	89D3	5,4,3	BM	88A5
	3,2,1	BM	89B2	2,1,3	MB	8781	3,2,1	BM	85B5	3,2,1	BM	89E7	3,2,1	BM	89H3	2,1	B	87A3
BOT	3,2,1	BM	8888	2,1,3	MB	8782	3,2,1	BM	8682	3,2,1	BM		3,2,1	BM		2,1	B	
	6,5,4	BM		6,5,4	BM	87C1	6,5,4	BM	85G7				5,4	M	87D6	5,4,3	BM	88D4
				9,8,7	BM	85B6	8,7	M								7,6	M	89G3
COIL			89B6			87B0			87C0			86A9			89A0			89C0

RELAY

DESIG	OFT			OTH			OVF			OVF			PM1			PM1		
CODE	U199			U219			239FU			280G			206FH			280AD		
OPTION	YK,UK						YK			UK			YL			UL		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	6,5,4	BM	89C3	5,4	M	86A2												
	3,2,1	BM	8981	3,2,1	BM	8588	5,9,4	BM	89A3	5,9,4	BM	89A3	3,5,2	BM	8707	3,5,2	BM	8707
BOT	3,2,1	BM	87G4	3,2,1	BM	8588												
	6,5,4	BM		5,4	M													
COIL			89G3			86B0			88D7			88D7			88A1			88A1

DRAWING ISSUE

68D CK1 RP AH0

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C53

BELL TELEPHONE LABORATORIES INCORPORATED

FORM 6S

PRINTED IN U.S.A.

SD-25680-01-C53

HIGGINS 4465

E-7422-B-2(8-64)

PART OF APP FIG 33

RELAY

DESIG	PM2			RG			RIF			RIF1			RLT			RR38		
CODE	U679			U467			U1307			U679			U1323			U115		
OPTION	YL,UL			YK,UK			YK,UK			YK,UK								
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																12,11	M	
																10,9	M	86C1
							9,8	M	87G4							8,7	M	86C1
							7,6,5	BM	89G2				8,7	M	88A5	6,5	M	86C1
	5,4	M	87E8	5,4	M	87D7	4,3	M		5,4	M	89B1	6,5,4	BM		4,3	M	86C1
	3,2,1	BM	88D3	3,2,1	BM		2,1	B	89C3	3,2,1	BM	89B7	3,2,1	BM	88A6	2,1	M	86C1
BOT	3,2,1	BM	88D3	2,1	B	17D1	2,1	B	88A8	3,2,1	BM	89B3	3,2,1	BM	88D6	2,1	M	86C1
	5,4	M		4,3	M	89D2	4,3	M	89A1	5,4	M		5,4	M	88C7	4,3	M	86C1
							7,6,5	BM	89A1							6,5	M	86C1
							9,8	M	8786							8,7	M	86C1
																10,9	M	86C1
																12,11	M	6581
COIL			87D9			88F5			86B9			8980			86C9			50F0

RELAY

DESIG	RRA1			RRA2			RRAB			RRST			RRT0			RRT1		
CODE	Y269			Y107			U1073			U940			U162			U162		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP							12,11	M	17D2	11,10	M	49A1						
							10,9,8	BM	17A4	9,8	M							
							7,6	M	86C7	7,6	M							
	5,4	M	17B4	4,3	M	86E8	5,4	M	87G4	5,4	M	86D3	5,4	M		5,4	M	87C8
	3,2,1	BM	8608	2,1	B	89A2	2,1,3	MB	89D3	3,2,1	BM	89F6	3,2,1	BM	87B7	3,2,1	BM	88A5
BOT	2,1	B		3,2,1	BM	18G2	2,1,3	MB		3,2,1	BM		3,2,1	BM		3,2,1	BM	18E5
							6,5,4	BM		5,4	M	8786						
							9,8,7	BM	18F2	7,6	M	86A4						
							11,10	M		9,8	M	85E9						
										11,10	M	89A3						
COIL			86C9			8609			49G9			49A0			4980			87C9

RELAY

DESIG	RSS			RSS1			RSS2			RTT			RTT1			RVB		
CODE	U157			U580			U580			U1113			Y254			U1342		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP										10,9	M	88E6	8,7	M	86E8			
										8,7	M	17D2	6,5	M		9,8,7	BM	87H6
	5,4	M	85H1							6,5,4	BM	60G4	4,3	B		6,5,4	BM	88E7
	3,2,1	BM		3,2,1	BM		3,2,1	BM	85H1	3,2,1	BM	87G9	2,1	B	89D3	2,1,3	MB	87G1
BOT	3,2,1	BM	85G5	3,2,1	BM	85G1	3,2,1	BM	85F4	3,2,1	BM	18F1	2,1	B	18F1	2,1,3	MB	87G2
										6,5,4	BM	6088	4,3	B	87G3	6,5,4	BM	87G1
										8,7	M		6,5	M	18F1	9,8,7	BM	87C6
										10,9	M	87G3						
COIL			6580			85G0			85G1			86F9			86E9			87G0

RELAY

DESIG	RVBA			RVT			RVT1			RVT2			SO			S1		
CODE	U98			U199			U162			Y95			2086			2086		
OPTION										YK,UK								
	CONT 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	87B6															
	6,5,4	BM	89A3	6,5,4	BM	89D2	5,4	M										
	3,2,1	BM	88A8	3,2,1	BM	89C2	3,2,1	BM	89B3	3,2,1	BM	89B3	2,A,1	BM	85F1	2,A,1	BM	85E1
BOT	3,2,1	BM	86A3	3,2,1	BM	89G1	3,2,1	BM	87B7	2,1	M	87D8						
	6,5,4	BM	85G8	6,5,4	BM													
	8,7	M																
COIL			3760			8689			86C9			87C9			85F0			85E0

RELAY

DESIG	S1'			S2			S2'			S3			S3'			S4		
CODE	2086			2086			2086			2086			2086			2088		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	2,A,1	BM	85C5	2,A,1	BM	85D1	2,A,1	BM	85D3	2,A,1	BM	85C1	2,A,1	BM	85C3	2,A,1	BM	85C1
BOT																		
COIL			85E1			85D0			85D1			85C0			85C1			85C0

RELAY

DESIG	S4'			S5			S5'			S6			S6'			SRC		
CODE	2088			2086			2088			2088			2088			U311		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																5,4,3	BM	85E3
	2,A,1	BM	85C3	2,A,1	BM	85B2	2,A,1	BM	85B3	2,A,1	BM	85A2	2,A,1	BM	85D5	2,1	B	85A3
BOT																3,2,1	BM	85G1
COIL			85C1			85A0			85A1			85A0			85A1			85B0

DRAWING ISSUE

680 CM, 2, P, AD

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C54

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-C54

HIGGINS 4465

E-7422-8-2(8-64)

PART OF APP FIG 33

RELAY

DESIG	STPO			STPR			STR			T			T1					
CODE	U722			269A			U67			U467			U1329					
OPTION	NB									YK,UK			YK,UK					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	7,6	M	87B9				7,6	M	87C9				7,6	M	87D8			
	5,4,3	BM					5,4	M		5,4	M	87D7	5,4	M	17H3			
	2,1	B	95H7	1,A	M	85E6	3,2,1	BM	85D5	3,2,1	BM		3,2,1	BM				
BOT	3,2,1	BM	98E9				3,2,1	BM	85E7	2,1	B	17D2	2,1	B	87G5			
	5,4	M	88G7				5,4	M	86F1	4,3	M	89D2	4,3	M	89D2			
	7,6	M	98F7										6,5	M	17D3			
COIL			87A9			88D6			87B9			88A9			87D9			

RELAY

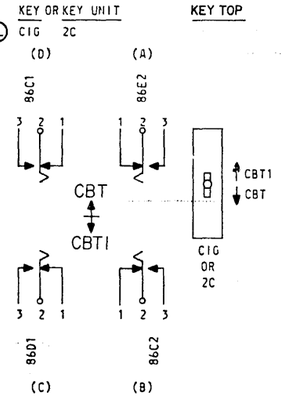
DESIG																		
CODE																		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
BOT																		
COIL																		

CAPACITOR

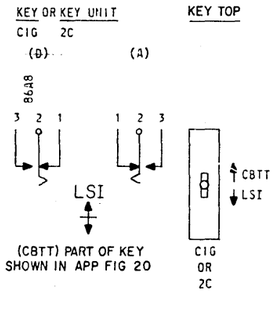
DESIG	LOC	CODE
FOT	89F8	228B
FOT1	89E9	KS-13366,L3,1000 PF OR KS-13367,L30,1000PF
(YK,UK) IFT (IFT.1) (IFT.2)	89B8	[2] 228
(YK,UK) OFT	89G1	228B
(OW) RR1	88C5	439QE
(MU) RR2	88C5	437QA
(MT) RR2	88C5	441B
(SP) S0	85F2	439A OR 139A
(SP,SQ) S2	85D2	439A OR 139A
(SP) S5	8581	439A OR 139C

KEY OR KEY UNIT — CIG 2C — KEY TOP

(YL,UL)

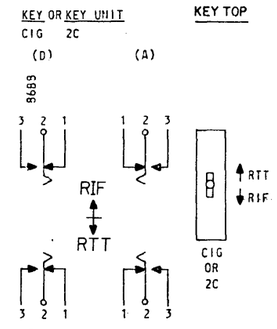


KEY OR KEY UNIT — CIG 2C — KEY TOP



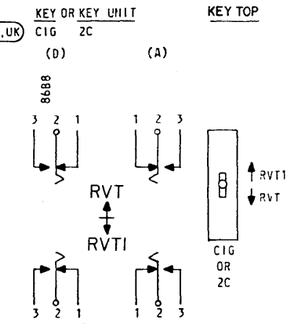
(CBTT) PART OF KEY SHOWN IN APP FIG 20

KEY OR KEY UNIT — CIG 2C — KEY TOP

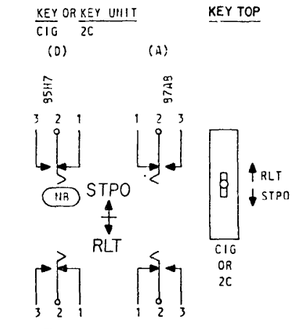


KEY OR KEY UNIT — CIG 2C — KEY TOP

(YK,UK)



KEY OR KEY UNIT — CIG 2C — KEY TOP



LAMP

DESIG	LOC	CODE
FL8	87F7	
(YK,UK) FLO	87F5	
FLT	87F7	
FLU	87F6	
IB	87F9	
(YK,UK) IFF	87F4	2Y
IG	87F8	
RRAB	87F4	
RTT	87F3	
RVB	87F6	

NETWORK

DESIG	LOC	CODE
FL3	9C0	[1] 177C OR 181C
FLT	9E0	
FLU	9F0	[1] 177C OR 181C
RVB	9G0	
FO1	85G0	[1] 177C OR 181C
SRC	85C0	
FO2	989	[1/2] 177H OR 181H
FOT	89F6	[1/2] 177C OR 181C
IB	940	[1] 177C OR 181C
IG	980	
(SQ) S0	95F2	177A OR 181A
S0A	85F1	177F OR 181F
S1	85E5	177F OR 181F
S2A	85C0	177F OR 181F
S3	85D0	177F OR 181F
(SQ) S4	85C0	177F OR 181F
S5	8581	[1/2] 177C OR 181C
S5A	85B0	177F OR 181F
S6	85A0	177F OR 181F

POTENTIOMETER

DESIG	LOC	CODE
FOT4	89E7	KS-13650,L1,50K
OFT3	89F1	KS-13650,L1,50K
(YK,UK) OFT5	89F1	KS-13650,L1,100K
OFT7	89E1	KS-13650,L1,250K

RESISTOR

DESIG	LOC	CODE
CB1	88B2	19GB
CB2	9881	19HU
CB3	9881	19NT
CB4	88C2	18GB
(YL,UL) CB5	98C1	19HU
CB6	88C1	19NT
CB13	88E2	18GE
CB14	88E2	18GE
CB15	98F2	18AC
CB16	88G2	18AC
FOT1	89E8	KS-19150,L3,100K
FOT2	89E7	KS-19151,L3,1K
FOT3	89E8	144E,4990 OR 140A,5K OR KS-20289,L6C,4990
FOT5	89D8	144E OR 140A OR KS-20289,L6C,388K
IFT1	89A8	KS-19150,L3,100K
IFT2	89A7	KS-19151,L3,1K
IFT3	89A8	147D OR 141A,1.78 MEG
OFT1	89G1	KS-19150,L3,100K
(YK,UK) OFT2	89G3	KS-19151,L3,1K
OFT4	89F0	144E OR 140A, OR KS-20289,L6C,10K
OFT6	89F0	144E OR 140A OR KS-20289,L6C,110K
OFT8	89E0	144E OR 140A, OR KS-20289,L6C,388K
(OW) RR1	88C5	18FH
(OW) RR2	88C7	144E,30.1K OR 140A,30K OR KS-20289,L6C,30.1K
RR3	88A6	18KE
RR4	88B6	19TA
(YK,UK) RR5	8888	19RT

RESISTOR

DESIG	LOC	CODE
RR6	88E9	19WC
RR7	98F9	18FD
RR8	9867	19FC
(MB) RR9	98F8	19RP
RR10	98F8	18DA
RR11	89E7	18FR
RR12	88E7	19CB
RR13	88E6	188M
RR14	88E4	19GP
(OV) RR15	88C5	188W
(SP) S0	85F2	KS-19151,L3,330
(SQ) S0D	85F2	KS-19151,L1,9.1K
(SP) S2	8502	KS-19151,L3,220
(SQ) S2	8502	KS-19152,L1,150
(SQ) S2D	85E2	KS-19151,L1,9.1K
(SP) S5	9581	KS-19151,L3,680

TUBE,ELECTRON

DESIG	LOC	CODE
FOT	89E9	313CC
(YK,UK) IFT	89B9	313CC
OFT	89G0	313CC

DRAWING ISSUE
68D CM, ALP, AAD
83D

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C55

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

SD-25680-01-C55

HIGGINS 4465

E-7422-8-1(8-64)

PART OF APP FIG 34

RELAY

DESIG	ARP0			ARP1			ARP2			ARP3			ARP4			ARP5		
CODE	U6078			U6078			U6078			U6078			U6078			U6078		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	0,7	M		8,7	M	96E2	8,7	M	96E2	8,7	M	96E2	8,7	M	96E2	8,7	M	96E2
	6,5	M		6,5	M	98A1	6,5	M	98A2	6,5	M	98A3	6,5	M	98A3	6,5	M	98A4
	4,3	B	98A1	4,3	B	98A1	4,3	B	98A2	4,3	B	98A3	4,3	B	98A4	4,3	B	98A5
	2,1	B		2,1	B		2,1	B		2,1	B		2,1	B		2,1	B	9888
BOT	2,1	B		2,1	B		2,1	B		2,1	B		2,1	B		2,1	B	40F3
	4,3	B	96F1	4,3	B	96E1	4,3	B	96E1	4,3	B	96E1	4,3	B	96E1	4,3	B	96E1
	6,5	M		6,5	M	96E1	6,5	M	96E1	6,5	M	96E1	6,5	M	96E1	6,5	M	
	8,7	M		8,7	M		8,7	M		8,7	M		8,7	M		8,7	M	
COIL			96F3			96F3			96F3			96F3			96F3			96F3

RELAY

DESIG	ARP6			ARP7			ARP8			ARP9			DSP 239GR YR,VS			DSP 280A VT		
CODE	U6078			U6078			U6078			U6078								
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	8,7	M	95E2	8,7	M	96E2	8,7	M	96E2	8,7	M	96E2						
	6,5	M	98A5	6,5	M	98A6	6,5	M	98A7	6,5	M	98A7						
	4,3	B	98A6	4,3	B	98A6	4,3	B	98A7	4,3	B	98A8						
	2,1	B		2,1	B		2,1	B		2,1	B		4,7,3	BM	9666	4,7,3	BM	9666
BOT	2,1	B		2,1	B		2,1	B		2,1	B							
	4,3	B	96E1	4,3	B	96E1	4,3	B	96E1	4,3	B							
	6,5	M		6,5	M		6,5	M		6,5	M							
	8,7	M		8,7	M		8,7	M		8,7	M							
COIL			96F3			96F3			96F3			96F3			9789			9789

RELAY

DESIG	RCR			RON			[19] RP0-9			[10] RP0'-9'			RPL			RPL4 PI,PK,LS		
CODE	U1401			U81			208G			208B			267B			280K		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				12,11	M	97A3												
	11,10	M	96F1	10,9	M	~~9600~~												
	9,8	M	96F1	8,7	M	~~96E0~~												
	7,6	M	96F1	6,5	M	97G2												
	5,4	M	96F1	4,3	M	97B7												
	3,2,1	BM	a	2,1	M	52E5	2,A,1	BM	96H2	2,A,1	BM	96G5-H5	3,5,2	BM	96G7	5,9,4	BM	96G9
BOT	2,1	M	96F1	2,1	M	97H2												
	4,3	M	96F1	4,3	M	98E9												
	6,5	M	96F1	6,5	M	100A2												
	8,7	M	96F1	8,7	M	96F9												
	10,9	M	96F1	10,9	M	96G9												
				12,11	M	~~96F6~~												
COIL			96F1			97A9			96G3			96G3			96D3			96F6
	a		97C4 96F1															

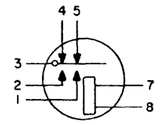
RELAY

DESIG	RRS			TTE			TTS											
CODE	U119			U426			U419											
OPTION				YR,VR			YR,VR											
	CONT NO.	CONT ARR	LOC	CONT NO	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	7,6	M	97A1	7,6	M													
	5,4	M	97C3	5,4,3	BM	97B2												
	3,2,1	BM	97B2	2,1	B		3,2,1	BM	97A1									
BOT	2,1	M	96F0	3,2,1	BM	99H1	2,1	M										
	4,3	M		5,4	M	35C8	4,3	M										
	6,5	M																
COIL			97A0			97A1			97A0									

RELAY

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

RELAY



DESIG	RS1	RS2
CODE	276J	276J
OPTION		
8	95F9	95F9
7	95F9	95F9
6		
5	9888	98A9
4	9784	96F0
3	a	a
2	96F0	46C5
1	9784	91F5
	a	a
	9784	46C5
	96F0	96F0
	9888	98A9
		91F5

DRAWING ISSUE

68D	WM AUP AWO

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C56

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-C56

HIGGINS 4465

E-7422-8-2(8-64)

PART OF APP FIG 34

CAPACITOR

DESIG	LOC	CODE
(YR,VR) DSP	9787	437QA
RCR	96F0	441D
(NQ) RPLA	96G5	439A

INDUCTOR

DESIG	LOC	CODE
(NQ) RPL1	96F8	274K
RPL2	96F7	

JACK

DESIG	LOC	CODE
(YR,VR) DSP	9788	242A OR 242AM

NETWORK

DESIG	LOC	CODE
ARP0	95G2	[1]177C OR 181C
ARP1	96G2	
ARP2	96G2	[1]177C OR 181C
ARP3	96G2	
ARP4	96G2	[1]177C OR 181C
ARP5	96G2	
ARP6	96G2	[1]177C OR 181C
ARP7	96G2	
ARP8	96G2	[1]177C OR 181C
ARP9	96G2	
RON	97A9	[1]177C OR 181C
RRS	97A0	
RON1	97A3	[1]177H OR 181H
RON2	98E9	
RON3	97H2	[1/2] 177H OR 181H
RP0	96H2	[1]177C OR 181C
RP1	96H2	
RP2	96H2	[1]177C OR 181C
RP3	96H2	
RP4	96H2	[1]177C OR 181C
RP5	96H2	
RP6	96H2	[1]177C OR 181C
RP7	96H2	
RP8	96H2	[1]177C OR 181C
RP9	96H2	
(SS) RPC0-9	96H4	[10] 177F OR 181F
(SR) RPL	96H5	177F OR 181F

RESISTOR

DESIG	LOC	CODE
(YR,VR) DSP	9787	18GH
DSP1	9786	18BT
RCR	96F1	KS-5643,L426,90.9
RON1	97A3	KS-19150,L3,33K
RON2	98E9	
RON3	97H2	
(NQ) RPLA	96G4	19SN
(NP) RPLA	96F4	19YN

DRAWING ISSUE
68D WM RLP AHP
83D

83

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C57

BELL TELEPHONE LABORATORIES
INCORPORATED

SIZE 6S

SD-25680-01-C57

HIGGINS 4465

PART OF APP FIG 35

RELAY

DESIG	FB0			FB1			FB2			FB3			FB4			FB5		
CODE	U1301			U1301			U1301			U1301			U1301			UA107		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	6,5	M	98D0	6,5	M	98D2	6,5	M	98D3	6,5	M	98D4	6,5	M	98D6	9,8,7	BM	
	4,3	M	99G5	4,3	M	99G4	4,3	M	99G5	4,3	M	99G5	4,3	M	99G5	6,5,4	BM	97E2
	2,1	M	99G4	2,1	M	99G4	2,1	M	99G4	2,1	M	99G4	2,1	M	99G4	2,1,3	MB	97D1
BOT	2,1	M	99G6	2,1	M	99G6	2,1	M	99G5	2,1	M	99G6	2,1	M	99G6	2,1,3	MB	97D2
	4,3	M	99G6	4,3	M	99G6	4,3	M	99G6	4,3	M	99G6	4,3	M	99G6	6,5,4	BM	
	6,5	M		6,5	M		6,5	M		6,5	M		6,5	M		9,8,7	BM	
COIL			98D0			98D1			98D3			98D4			98D5			97D0

RELAY

DESIG	FBS1			FLT0			FLT1			FLT2			FLT3			FLT4		
CODE	U226			U1301			U1301			U1301			U1301			U1301		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8,7	BM		6,5	M	98E0	6,5	M	98E2	6,5	M	98E3	6,5	M	98E4	6,5	M	98E6
	6,5,4	BM	98D6	4,3	M	99G7	4,3	M	99G7	4,3	M	99G7	4,3	M	99G7	4,3	M	99G7
	3,2,1	BM	98D5	2,1	M	99G7	2,1	M	99G7	2,1	M	99G7	2,1	M	99G7	2,1	M	99G7
BOT	3,2,1	BM	98D1	2,1	M	99G7	2,1	M	99G7	2,1	M	99G7	2,1	M	99G7	2,1	M	99G7
	6,5,4	BM	98D2	4,3	M	99G7	4,3	M	99G7	4,3	M	99G7	4,3	M	99G7	4,3	M	99G7
	9,8,7	BM	98D3	6,5	M		6,5	M		6,5	M		6,5	M		6,5	M	
COIL			97D0			98E0			98E1			98E3			98E4			98E5

RELAY

DESIG	FLT5			FLU0			FLU1			FLU2			FLU3			FLU4		
CODE	U420			U1301			U1301			U1301			U1301			U1301		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				6,5	M	98F0	6,5	M	98F2	6,5	M	98F3	6,5	M	98F4	6,5	M	98F6
	5,4	M	98E7	4,3	M	99G8	4,3	M	99G8	4,3	M	99G8	4,3	M	99G8	4,3	M	99G8
	3,2,1	BM	99G7	2,1	M	99G8	2,1	M	99G9	2,1	M	99G8	2,1	M	99G8	2,1	M	99G8
BOT	3,2,1	BM	99H7	2,1	M	99G8	2,1	M	99G8	2,1	M	99G8	2,1	M	99G8	2,1	M	99G8
				4,3	M	99G8	4,3	M	99G8	4,3	M	99G8	4,3	M	99G8	4,3	M	99G8
				6,5	M		6,5	M		6,5	M		6,5	M		6,5	M	
COIL			98E7			98F0			98F1			98F3			98F4			98F5

RELAY

DESIG	FLU5			FTS			FTS1			FUS			FUS1			IAS		
CODE	U420			UA107			U226			UA107			U226			UA107		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				9,8,7	BM		9,8,7	BM	98E7	9,8,7	BM		9,8,7	BM	98F7	9,8,7	BM	43B1
	5,4	M	98F7	6,5,4	BM	97F2	6,5,4	BM	98E6	6,5,4	BM	97F2	6,5,4	BM	98E6	6,5,4	BM	97G2
	3,2,1	BM	99G7	2,1,3	MB	97E1	3,2,1	BM	98E5	2,1,3	MB	97E1	3,2,1	BM	98F4	2,1,3	MB	97F1
BOT	3,2,1	BM	99H8	2,1,3	MB	97E2	3,2,1	BM	98E1	2,1,3	MB	97E2	3,2,1	BM	98F1	2,1,3	MB	97F2
				6,5,4	BM		6,5,4	BM	98E2	6,5,4	BM	40E3	6,5,4	BM	98F2	6,5,4	BM	
				9,8,7	BM		9,8,7	BM	98E3	9,8,7	BM		9,8,7	BM	98F3	9,8,7	BM	97H1
COIL			98F7			97E0			97E0			97E0			97E0			97F0

RELAY

DESIG	IAS1			IB0			IB1			IB2			IB3			IB4		
CODE	U220			U1301			U1301			U1301			U1301			U1301		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	6,5	M	97H1	6,5	M	98C0	6,5	M	98C2	6,5	M	98C3	6,5	M	98C4	6,5	M	98C6
	4,3	M	10085	4,3	M	99F2	4,3	M	99F1	4,3	M	99F1	4,3	M	99F1	4,3	M	99F1
	2,1	B		2,1	M	99F1	2,1	M	99F0	2,1	M	99F0	2,1	M	99F0	2,1	M	99F1
BOT	3,2,1	BM	91F4	2,1	M	99F2	2,1	M	99F2	2,1	M	99F2	2,1	M	99F2	2,1	M	99F2
	5,4	M		4,3	M	99F3	4,3	M	99F3	4,3	M	99F3	4,3	M	99F3	4,3	M	99F3
				6,5	M		6,5	M		6,5	M		6,5	M		6,5	M	
COIL			97H0			98C0			98C1			98C3			98C4			98C5

RELAY

DESIG	IBS			IBS1			IG0			IG1			IG2			IG3		
CODE	UA107			U226			U1301			U1301			U1301			U1301		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8,7	BM		9,8,7	BM	98C7	6,5	M	98C0	6,5	M	98C2	6,5	M	98C3	6,5	M	98C4
	6,5,4	BM	97C2	6,5,4	BM	98C6	4,3	M	99G1	4,3	M	99G1	4,3	M	99G3	4,3	M	99G3
	2,1,3	MB	97B1	3,2,1	BM	98C5	2,1	M	99G0	2,1	M	99G0	2,1	M	99G2	2,1	M	99G2
BOT	2,1,3	MB		3,2,1	BM	98C1	2,1	M	99H4	2,1	M	99H5	2,1	M	99H4	2,1	M	99H5
	6,5,4	BM	40F2	6,5,4	BM	98C2	4,3	M	99H4	4,3	M	99H6	4,3	M	99H4	4,3	M	99H6
	9,8,7	BM	97A2	9,8,7	BM	98C3	6,5	M		6,5	M		6,5	M		6,5	M	
COIL			97B0			98C0			98C0			98C1			98C3			98C4

DRAWING ISSUE

68D

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C58

BELL TELEPHONE LABORATORIES INCORPORATED — SIZE 6S

SD-25630-01-C58

HIGGINS 4465

E-7422-8-2(8-64)

PART OF APP FIG 35

RELAY

DESIG	IGS			IGS			IGS1			RTR0			RTR1			RTR2		
CODE	U420			UA107			U226			U81			U81			U81		
OPTION	YU									YK,YL,XC,UK,UL			YK,YL,XC,UK,UL			YQ,YT		
✕	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP										12,11	M		12,11	M	59C7	12,11	M	
										10,9	M	99D3	10,9	M	99D6	10,9	M	99D6
										8,7	M	99D3	8,7	M	99D6	8,7	M	99D6
				9,8,7	BM		9,8,7	BM	98D7	6,5	M	99D3	6,5	M	99D6	6,5	M	99D6
	5,4	M	98C7	6,5,4	BM	97D2	6,5,4	BM	98D6	4,3	M	99D3	4,3	M	99D6	4,3	M	99D6
	3,2,1	BM	99G0	2,1,3	MB	97C1	3,2,1	BM	98D5	2,1	M	99D3	2,1	M	99D6	2,1	M	99D6
BOT	3,2,1	BM		2,1,3	MB	97C2	3,2,1	BM	99D1	2,1	M	99D1	2,1	M	99D5	2,1	M	99D5
				6,5,4	BM		6,5,4	BM	98D2	4,3	M	99D1	4,3	M	99D5	4,3	M	99D5
				9,8,7	BM		9,8,7	BM	98D3	6,5	M	99D1	6,5	M	99D5	6,5	M	99D5
										8,7	M	99D1	8,7	M	99D5	8,7	M	99D5
										10,9	M	99D1	10,9	M	99D5	10,9	M	99D5
										12,11	M		12,11	M		12,11	M	
COIL	✕	✕	98C7	✕	✕	97C0	✕	✕	97C0	✕	✕	100A0	✕	✕	100B0	✕	✕	100C0

RELAY

DESIG	RTR3			RTR4			RTR5			TCS								
CODE	U81			U81			U81			UA107								
OPTION	YQ,YT			YS,YT			YS,YT			YR,VR								
✕	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	12,11	M	99C9	12,11	M		12,11	M	99C9									
	10,9	M	99D8	10,9	M	99D7	10,9	M	99D9									
	8,7	M	99D8	8,7	M	99D7	8,7	M	99D9									
	6,5	M	99D8	6,5	M	99D7	6,5	M	99D9	9,8,7	BM							
	4,3	M	99D8	4,3	M	99D7	4,3	M	99D9	6,5,4	BM							
	2,1	M	99D8	2,1	M	99D7	2,1	M	99D9	2,1,3	MB	97G1						
BOT	2,1	M	99D7	2,1	M	99D5	2,1	M	99D8	2,1,3	MB	97G2						
	4,3	M	99D7	4,3	M	99D5	4,3	M	99D8	6,5,4	BM							
	6,5	M	99D7	6,5	M	99D5	6,5	M	99D8	9,8,7	BM							
	8,7	M	99D7	8,7	M	99D5	8,7	M	99D8									
	10,9	M	99D7	10,9	M	99D5	10,9	M	99D8									
	12,11	M		12,11	M		12,11	M										
COIL	✕	✕	100C0	✕	✕	100D0	✕	✕	100D0	✕	✕	97G0	✕	✕		✕	✕	

RELAY

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

RELAY

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

NETWORK

DESIG	LOC	CODE
FBS	97D0	[1] 177H OR 181H
FTS	97E0	
FUS	97F0	[1/2] 177N OR 181N
IAS	97F0	[1] 177H OR 181H
(YR,VR) TCS	97G0	
IASI	97A0	[1] 177C OR 181C
(YS,YT) RTR4	100D0	
IBS	97C0	[1] 177H OR 181H
IGS	97C0	
(YK,YL,XC,UK,UL) RTR0	100A0	[1] 177C OR 181C
(YQ,YT) RTR2	100C0	

DRAWING ISSUE

68D FPR 2LP AND

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C59

BELL TELEPHONE LABORATORIES INCORPORATED

DRAWING SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-C59

HIGGINS 4465

E-7422-8-1(8-64)

APP FIG 36

RELAY DESIG	CON1			CON1			G			MG			N			POS		
CODE	U1343			U1407			S531			S531			S531			S531		
OPTION	UQ			UR														
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8	M	102E3	9,8	M	102E3												
	7,6	M		7,6	M													
	5,4	M	95D4	5,4	M	95D4												
	3,2,1	8M	94G5	3,2,1	8M	94G5	3,2,1	8M	10285	3,2,1	8M	10284	3,2,1	8M	10204	3,2,1	8M	10286
BOT	2,1	8		2,1	M													
	4,3	M		4,3	M													
	6,5	M		6,5	M													
	8,7	M		8,7	M													
COIL			101E9			101E9			94C4			9582			94C2			9584

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

CAPACITOR

DESIG	LOC	CODE
GN1	94D2	475B
GN2	94D4	475B
PM1	95C2	475B
PM2	95C4	475B

RESISTOR

DESIG	LOC	CODE
G1	94C5	18ES
GN1	94D2	KS-19150,L3,1 MEG
GN2	94D3	KS-19150,L3,1 MEG
GN3	94D1	144E OR 140B OR KS-20289,L6C,200K
GN4	94D4	144E OR 140B OR KS-20289,L6C,200K
GN5	94D1	KS-19150,L3,510K
GN6	94D4	KS-19150,L3,510K
GN7	94D0	KS-19150,L3,2 MEG
GN8	94D5	KS-19150,L3,2 MEG
MG1	95B1	18ES
N1	94C1	18ES
PM1	95C2	KS-19150,L3,1 MEG
PM2	95C4	KS-19150,L3,1 MEG
PM3	95C1	144E OR 140B OR KS-20289,L6C,200K
PM4	95C4	144E OR 140B OR KS-20289,L6C,200K
PM5	95C0	KS-19150,L3,510K
PM6	95C5	KS-19150,L3,510K
PM7	95A0	KS-19150,L3,2 MEG
POS1	95B5	18ES

TRANSFORMER

DESIG	LOC	CODE
C1	2684	373F

TUBE,ELECTRON

DESIG	LOC	CODE
GN	94D3	396A
PM	95C3	396A

DRAWI ISSUI 68D

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR,REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C60

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-C60

HIGGINS 4465

E-7422-8-1(8-64)

APP FIG 37

RELAY																				
DESIG	ABN2			CH			CH'			CIA			CIA'			CIB				
CODE	U66			U254			U234			U254			U234			U254				
OPTION										YV			YV			YV				
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC		
TOP	4,3	M	10287	5,4	M	101F1	5,4,3	BM	10386	5,4	M	101A1	5,4,3	BM	10381	5,4	M	10181		
	2,1	M		3,2,1	BM	10306	2,1	B	103F6	3,2,1	BM	103D1	2,1	B	103F1	3,2,1	BM	103D2		
BOT	2,1	B		3,2,1	BM	103A7	3,2,1	BM	101E2	3,2,1	BM	103A1	3,2,1	BM	101A2	3,2,1	BM	103A2		
	4,3	M	10287	5,4	M		5,4	M	103E6	5,4	M		5,4	M	103E1	5,4	M			
COIL			94F9			101E0			101E1			101A0			101A1			10180		

RELAY																				
DESIG	CIB'			CIC			CIC'			CON			CST			CST'				
CODE	U234			U254			U234			U144			U254			U234				
OPTION	YV			YW			YW													
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC		
TOP										12,11	M	101D3								
										10,9	M	101F3								
										8,7	M	103G7								
										6,5	M	103G4								
	5,4,3	BM	103B2	5,4	M	101C1	5,4,3	BM	103B3	4,3	M	103G6	5,4	M	101D1	5,4,3	BM	103B4		
	2,1	B	103F2	3,2,1	BM	103D3	2,1	B	103F3	2,1	M	103G8	3,2,1	BM	103D4	2,1	B	103F4		
BOT	3,2,1	BM	101B2	3,2,1	BM	103A3	3,2,1	BM	101C2	2,1	M		3,2,1	BM	103A4	3,2,1	BM	101D2		
	5,4	M	103E2	5,4	M		5,4	M	103E3	4,3	M	101A3	5,4	M		5,4	M	103E4		
										6,5	M	22B1								
										8,7	M	22C1								
										10,9	M									
										12,11	M	35C8								
COIL			101B1			101C0			101C1			101E9			10100			10101		

RELAY																				
DESIG	CT			CT'			CTH			CTH'			CU			CU'				
CODE	U254			U234			U254			U234			U254			U79				
OPTION																				
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC		
TOP																9,8	M	102C2		
																7,6,5	BM	10205		
	5,4	M	101F1	5,4,3	BM	10387	5,4	M	101E1	5,4,3	BM	10385	5,4	M	101G1	4,3	B	10388		
	3,2,1	BM	10307	2,1	B	103F7	3,2,1	BM	10305	2,1	B	103F5	3,2,1	BM	10308	2,1	B	103E8		
BOT	3,2,1	BM	10348	3,2,1	BM	101F2	3,2,1	BM	103A5	3,2,1	BM	101E2	3,2,1	BM	10348	2,1	B	101F2		
	5,4	M		5,4	M	103E7	5,4	M	104A4	5,4	M	103E5	5,4	M		4,3	B	94G1		
																7,6,5	BM	102B7		
																9,8	M	101C7		
COIL			101F0			101F1			101F0			101E1			101G0			10161		

RELAY																				
DESIG	CW			CZ			DOC													
CODE	U6010			U6011			U300													
OPTION							YV													
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC		
TOP							9,8	M	101B1											
							7,6	M	101C1											
	5,4	B		6,5,4	BM	101A2	5,4	M	101A1											
	2,1,3	MB	102A1	3,2,1	BM	10300	3,2,1	BM												
BOT	3,2,1	BM	10380	3,2,1	BM	10280	2,1	B	104A4											
							5,4,3	BM	4307											
							7,6	M												
COIL			10230			102A0			22B0											

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

NETWORK

	DESIG	LOC	CODE
(YV)	CI2	103G2	[1] 177K OR 181K
	CI3	103G4	
	CI4	103G6	[1] 177K OR 181K
	CI5	103G8	
(YV)	CI6	101A3	[1] 177C OR 181C
	CI7	101E3	
	CI8	101F3	[1] 177C OR 181C
	CI9	103C0	
	CI10	103E0	[1] 177C OR 181C
	CI11	101A2	
	CI12	10300	[1] 177C OR 181C
	CI13	103A0	
	CI14	10281	D/2] 177C OR 181C

RESISTOR

	DESIG	LOC	CODE
(YV)	CI2	103H2	KS-19150, L3, 33K
	CI3	103H4	
	CI4	103H6	
	CI5	103H8	
(YV)	CI6	101A3	
	CI7	101E3	
	CI8	101G3	
	CW	10280	590
	CZ	102A0	

DRAWING ISSUE
68D CAL KLP AHD

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C61

BELL TELEPHONE LABORATORIES INCORPORATED

SHEET 65

PRINTED IN U.S.A.

SD-25680-01-C61

HIGGINS 4465

E-7422-8-2(8-64)

APP FIG 38

RELAY

DESIG	CA1			CA2			CA4			CA5			CB1			CB2		
CODE	U1307			U1307			U1307			U1307			U1307			U1307		
OPTION	YV			YV			YV			YV			YV			YV		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8	M	10381	9,8	M	103E1	9,8	M	103C1	9,8	M	103G1	9,8	M	103B2	9,8	M	103E2
	7,6,5	BM	105F0	7,6,5	BM	105G2	7,6,5	BM	105F2	7,6,5	BM	105E2	7,6,5	BM	105F3	7,6,5	BM	105F3
	4,3	M	105F1	4,3	M	105F1	4,3	M	105G1	4,3	M	105G1	4,3	M	105F3	4,3	M	105F3
	2,1	B	105F2	2,1	B	105G1	2,1	B		2,1	B	105G1	2,1	B	105F3	2,1	B	105F3
BOT	2,1	B	105F0	2,1	B	105G0	2,1	B	105F1	2,1	B	105F0	2,1	B	105F3	2,1	B	105F3
	4,3	M		4,3	M		4,3	M		4,3	M		4,3	M		4,3	M	
	7,6,5	BM	105E2	7,6,5	BM	105G2	7,6,5	BM	105G0	7,6,5	BM	105G1	7,6,5	BM	105F3	7,6,5	BM	105F3
	9,8	M	4306	9,8	M	105G0	9,8	M		9,8	M	105F0	9,8	M		9,8	M	105F3
COIL			103A1			103D1			103C1			103F1			103A2			103D2

RELAY

DESIG	CB4			CB5			CC1			CC2			CC4			CC5		
CODE	U1307			U1307			U1307			U1307			U1307			U1307		
OPTION	YV			YV			YW			YW			YW			YW		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8	M	103C2	9,8	M	103G2	9,8	M	103B3	9,8	M	103E3	9,8	M	103C3	9,8	M	103G3
	7,6,5	BM	105F3	7,6,5	BM	105F3	7,6,5	BM	105F3	7,6,5	BM	105F3	7,6,5	BM	105F3	7,6,5	BM	105F3
	4,3	M	105F3	4,3	M	105F3	4,3	M	105F3	4,3	M	105F3	4,3	M	105F3	4,3	M	105F3
	2,1	B		2,1	B	105F3	2,1	B	105F3	2,1	B	105F3	2,1	B		2,1	B	105F3
BOT	2,1	B	105F3	2,1	B	105F3	2,1	B	105F3	2,1	B	105F3	2,1	B	105F3	2,1	B	105F3
	4,3	M		4,3	M		4,3	M		4,3	M		4,3	M		4,3	M	
	7,6,5	BM	105F3	7,6,5	BM	105F3	7,6,5	BM	105F3	7,6,5	BM	105F3	7,6,5	BM	105F3	7,6,5	BM	105F3
	9,8	M		9,8	M	105F3	9,8	M		9,8	M	105F3	9,8	M		9,8	M	105F3
COIL			103C2			103F2			103A3			103D3			103C3			103F3

RELAY

DESIG	CH1			CH2			CH4			CH5			CT1			CT2		
CODE	U1307			U1307			U1307			U1307			U1307			U1307		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8	M	103B7	9,8	M	103E6	9,8	M	103C6	9,8	M	103G6	9,8	M	103B8	9,8	M	103E7
	7,6,5	BM	105F6	7,6,5	BM	105F6	7,6,5	BM	105F6	7,6,5	BM	105F6	7,6,5	BM	105F8	7,6,5	BM	105F8
	4,3	M	105F6	4,3	M	105F6	4,3	M	105F6	4,3	M	105F6	4,3	M	105F8	4,3	M	105F8
	2,1	B	105F6	2,1	B	105F6	2,1	B		2,1	B	105F6	2,1	B	105F8	2,1	B	105F8
BOT	2,1	B	105F6	2,1	B	105F6	2,1	B	105F6	2,1	B	105F6	2,1	B	105F8	2,1	B	105F8
	4,3	M		4,3	M		4,3	M		4,3	M		4,3	M		4,3	M	
	7,6,5	BM	105F6	7,6,5	BM	105F6	7,6,5	BM	105F6	7,6,5	BM	105F6	7,6,5	BM	105F8	7,6,5	BM	105F8
	9,8	M		9,8	M	105F6	9,8	M		9,8	M	105F6	9,8	M		9,8	M	105F8
COIL			10346			10306			103C6			103F6			10347			10307

RELAY

DESIG	CT4			CT5			CTH1			CTH2			CTH4			CTH8		
CODE	U1307			U1307			U1307			U1307			U1307			U1307		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8	M	103C7	9,8	M	103G7	9,8	M	103G5	9,8	M	10386	9,8	M	103E5	9,8	M	103C5
	7,6,5	BM	105F8	7,6,5	BM	105F8	7,6,5	BM	105G5	7,6,5	BM	105F5	7,6,5	BM	105F6	7,6,5	BM	105G5
	4,3	M	105F8	4,3	M	105F8	4,3	M	105G6	4,3	M	105G6	4,3	M	105F6	4,3	M	
	2,1	B		2,1	B	105F8	2,1	B	105G6	2,1	B	105F6	2,1	B		2,1	B	105G6
BOT	2,1	B	105F8	2,1	B	105F8	2,1	B	105G4	2,1	B	105F4	2,1	B	105F4	2,1	B	105G4
	4,3	M		4,3	M		4,3	M		4,3	M		4,3	M		4,3	M	
	7,6,5	BM	105F8	7,6,5	BM	105F8	7,6,5	BM	105G4	7,6,5	BM	105F4	7,6,5	BM	105E4	7,6,5	BM	105G4
	9,8	M		9,8	M	105F3	9,8	M	105G4	9,8	M	105F4	9,8	M	105F4	9,8	M	105G5
COIL			103C7			103F7			103F5			10345			10305			103C5

RELAY

DESIG	CU1			CU2			CU4			CU5			ST4			ST8		
CODE	U1307			U1307			U1307			U1307			U67			U67		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8	M	10389	9,8	M	103E8	9,8	M	103C8	9,8	M	103G8						
	7,6,5	BM	105F9	7,6,5	BM	105F9	7,6,5	BM	105F9	7,6,5	BM	105F9	7,6	M	103B4	7,6	M	103E4
	4,3	M	105F9	4,3	M	105F9	4,3	M	105F9	4,3	M	105F9	5,4	M	106G4	5,4	M	106H3
	2,1	B	105F9	2,1	B	105F9	2,1	B		2,1	B	105F9	3,2,1	BM	106H3	3,2,1	BM	106H4
BOT	2,1	B	105F9	2,1	B	105F9	2,1	B	105F9	2,1	B	105F9	3,2,1	BM	104A2	3,2,1	BM	104A2
	4,3	M		4,3	M		4,3	M		4,3	M		5,4	M	4306	5,4	M	104B4
	7,6,5	BM	105F9	7,6,5	BM	105F9	7,6,5	BM	105F9	7,6,5	BM	105F9						
	9,8	M		9,8	M	105F9	9,8	M		9,8	M	105F9						
COIL			10348			10308			103C8			103F8			103A4			103D4

RELAY

DESIG	STC			STD														
CODE	U67			U67														
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
	7,6	M	103C4	7,6	M	103G4												
	5,4	M	106G4	5,4	M	106H3												
	3,2,1	BM	106H3	3,2,1	BM	106G3												
BOT	3,2,1	BM	104A1	3,2,1	BM	104A1												
	5,4	M	104C4	5,4	M	104C4												
COIL			103C4			103F4												

DRAWING ISSUE
68D PR RLP AHP

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C62

BELL TELEPHONE LABORATORIES
INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-C62

HIGGINS 4465

E-7422-B-2(8-64)

APP FIG 39

RELAY

DESIG	2DGS			3DGS			CHP			CHPE			CTR0			CTR1			CTR2		
CODE	U834			U834			U136			U254			U81			U1 301			U238		
OPTION	YZ			YZ									YV			YW			YX		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP							10,9	M	104D2				12,11	M							
	8,7	M		8,7	M		8,7	M	104D2				10,9	M	105C0						
	6,5	M	101D1	6,5	M	104B1	6,5	M	102D1				8,7	M	105C0	6,5	M	105C3	9,8	M	106E3
	4,3	M	104B1	4,3	M	104C1	4,3	M		5,4	M	95E7	6,5	M	105C0	4,3	M	105C3	7,6	M	106E3
	2,1	M	104D1	2,1	M	104E1	2,1	M		3,2,1	BM	43F9	4,3	M	105C0	2,1	M	105C3	5,4	M	106E3
BOT	2,1	M	104D1	2,1	M	104D1	2,1	M	104B2	3,2,1	BM	43B1	2,1	M	105C2	2,1	M	105C3	3,2,1	BM	106E5
	4,3	M	105C5	4,3	M	105C5	4,3	M	104A2	5,4	M	106F5	4,3	M	105C2	4,3	M	105C3	5,4	M	106E3
	6,5	M	105C5	6,5	M	105C6	6,5	M					6,5	M	105C2	6,5	M		7,6	M	106E3
							8,7	M	43F5				8,7	M	105C2						
													10,9	M	105C2						
													12,11	M							
COIL			101D9			101D9			102C0			43F9			104A0			104B0			104B0

RELAY

DESIG	CTR3			CTR4			CTR5			CTR6			CTR7			CTR8			CTR9		
CODE	U238			U81			U81			U81			U81			U81			U81		
OPTION	YY			YX						YY			YX						YY		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				12,11	M	106D5	12,11	M		12,11	M		12,11	M		12,11	M		12,11	M	106E6
				10,9	M	105C6	10,9	M	105C7	10,9	M	105C8	10,9	M	105C9	10,9	M	106E2	10,9	M	106E4
	9,8	M	106F5	8,7	M	105C6	8,7	M	105C7	8,7	M	105C8	8,7	M	105C9	8,7	M	106E2	8,7	M	106E4
	7,6	M	106E5	6,5	M	105C6	6,5	M	105C7	6,5	M	105C8	6,5	M	105C9	6,5	M	106E2	6,5	M	106E4
	5,4	M	106E5	4,3	M	105C6	4,3	M	105C7	4,3	M	105C8	4,3	M	105C9	4,3	M	106E2	4,3	M	106E4
	3,2,1	BM	106E6	2,1	M	105C6	2,1	M	105C7	2,1	M	105C8	2,1	M	105C9	2,1	M	106E2	2,1	M	106E4
BOT.	3,2,1	BM		2,1	M	105C4	2,1	M	105C6	2,1	M	105C7	2,1	M	105C8	2,1	M	105C8	2,1	M	106E0
	5,4	M	106E5	4,3	M	105C4	4,3	M	105C6	4,3	M	105C7	4,3	M	105C8	4,3	M	105C8	4,3	M	106E0
	7,6	M	106E5	6,5	M	105C4	6,5	M	105C6	6,5	M	105C7	6,5	M	105C8	6,5	M	105C8	6,5	M	106E0
				8,7	M	105C4	8,7	M	105C6	8,7	M	105C7	8,7	M	105C8	8,7	M	105C8	8,7	M	106E0
				10,9	M	105C4	10,9	M	105C6	10,9	M	105C7	10,9	M	105C8	10,9	M	105C8	10,9	M	106E0
				12,11	M		12,11	M		12,11	M		12,11	M		12,11	M	106D6	12,11	M	
COIL			104C0			104C0			104D0			104D0			104C0			104D0			104D0

RELAY

DESIG	OTT																				
CODE	U238																				
OPTION																					
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																					
	9,8	M																			
	7,6	M	105D5																		
	5,4	M	105D5																		
	3,2,1	BM	104D2																		
BOT	3,2,1	BM	104D2																		
	5,4	M																			
	7,6	M																			
COIL			104A0																		

RELAY

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

NETWORK

DESIG	LOC	CODE
CHP	102C0	[1/2] 177C OR 181C

PART OF APP FIG 40

RELAY

DESIG	ABN1			ABT			AMA1			CIST			CL3A			COF		
CODE	U79			U157			U520			U64			U1312			U457		
OPTION							YP,VP			YP,VP			YR,VR			YP,VP		
	CONT 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
										12,11	M							
										10,9	M	40D8	11,10	M	90D6			
TOP	9,8	M	40F1							8,7	M	95B8	9,8,7	BM	93D1			
	7,6,5	BM	91E3							6,5	M	93A2	6,5	B		8,7	M	
	4,3	B	91F3	5,4	M	91D7	4,3	M	93E2	4,3	M	94G6	4,3	B	91C6	6,5,4	BM	43D5
	2,1	B	91G2	3,2,1	BM	43C7	2,1	B		2,1	M	90C4	2,1	B	90C6	3,2,1	BM	90F3
	2,1	B	43B8	3,2,1	BM	91F3	2,1	B		2,1	M	93F8	2,1	B	93D3	2,1	B	
	4,3	B	90D1				4,3	M		4,3	M	91E6	5,4,3	BM	90A1	5,4,3	BM	90D3
BOT	7,6,5	BM	91C1							6,5	M	93F7	8,7,6	BM	90A2	7,6	M	
	9,8	M	43B8							8,7	M	90G3	10,9	M	90D6			
										10,9	M	43C5						
										12,11	M	41B4						
COIL			40F0			93F9			94F9			40B0			92C9			94G9

RELAY

DESIG	DSC			FAS			FND			FTR			HPA			IA		
CODE	U333			U109			209FF			U180			U1354			U1307		
OPTION				YP,VP			ZWY			YR,VR			YP,VP			YR,VR		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	10,9	M	40F4	10,9,8	BM	95C8										9,8	M	
	8,7,6	BM	43E5	7,6,5	BM	90B3										7,6,5	BM	90E1
	5,4,3	BM	43C6	4,3	B								5,4	M		4,3	M	91H1
	2,1	B	91D7	2,1	B	90B5	13,14,15	BM	91B4	3,2,1	BM		3,2,1	BM	19F2	2,1	B	90F4
	2,1	B	84F7	2,1	B	93D2				2,1	M	40C8	3,2,1	BM	90G4	2,1	B	90F5
	5,4,3	BM	93E6	4,3	B	91C6				4,3	M	40E1	5,4	M	90E6	4,3	M	91E2
BOT	8,7,6	BM	43B8	7,6,5	BM	93C6										7,6,5	BM	90D1
	10,9	M	94F7	10,9,8	BM											9,8	M	91F1
COIL			40D0			94G9			92A3			40E0			95E9			91F0

RELAY

DESIG	IA1			IAA			IAT			IO			IO1			IO2		
CODE	U1396			U79			U1310			U58			U333			239FC		
OPTION	YR,VR			YR,VR			YR,VR			YR,VR			YR,VR			YR,VU		
	CONT 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
	11,10	M	91D1							11,10	M	90C1						
TOP	9,8	M	91E3	9,8	M					9,8	M	90A1	10,9	M	90B2			
	7,6	M	93A8	7,6,5	BM	93G3	7,6	M	93H2	7,6	M	90B1	8,7,6	BM				
	5,4	M	92G3	4,3	B	93A7	5,4,3	BM	91C0	5,4	M	92F3	5,4,3	BM	90E3			
	3,2,1	BM	19D2	2,1	B		2,1	B		3,2,1	BM	91E1	2,1	B	90C5	4,7,3	BM	90A2
	3,2,1	BM	91F1	2,1	B		2,1	B	90F4	2,1	B	91C4	2,1	B	41C3			
	6,5,4	BM	91A5	4,3	B	19E3	4,3	B	91G1	5,4,3	BM	41C2	5,4,3	BM	90D3			
BOT	8,7	M	91C2	7,6,5	BM	91E3	6,5	M		8,7,6	BM	43B7	8,7,6	BM	19E2			
	10,9	M	90D1	9,8	M	19E3				10,9	M	90A0	10,9	M	90E7			
COIL			91D0			91H0			93G4			92B9			90C0			90A0

RELAY

DESIG	IO2			IO3			KR1A			KR2A			KR4A			KR7A		
CODE	280A			U592			U624			U624			U624			U624		
OPTION	VV			YR,VR														
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				7,6	M	91F2												
				5,4	M													
	4,7,3	BM	90A2	3,2,1	BM	93B7	2,1	M	90E2	2,1	M	90E1	2,1	M	90D2	2,1	M	90D2
				2,1,3	MB	90C2	2,1	M		2,1	M		2,1	M	90E1	2,1	M	90E2
				6,5,4	BM	19D2												
BOT																		
COIL			90H0			90B0			32E4			32E4			32E4			32E4

RELAY

DESIG	LN			LN			LN1			LNA			MTG1			ONS1		
CODE	R1174			R1453			U426			U1377			L502			U64		
OPTION							YR,VR						YR,VR					
	CONT 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
																12,11	M	84F7
																10,9	M	41F2
TOP										9,8,7	BM	91E2				8,7	M	43C0
							7,6	M	90E7	6,5	B	93A6				6,5	M	89F8
	5,4,3	BM	91G1	5,4,3	BM	91G1	5,4,3	BM		4,3	B	91E2				4,3	M	41D1
	2,1	M	90E8	2,1	M	90E8	2,1	B	41C3	2,1	B	91C1	2,1	M	91C6	2,1	M	19F2
	2,1	M	90A8	2,1	M	90A8	3,2,1	BM	91C3	2,1	B	93G2				2,1	M	40C8
	4,3	M	91B5	4,3	M	91B5	5,4	M	91A1	4,3	B	91F2				4,3	M	
BOT										7,6,5	BM	90G7				6,5	M	91E5
																8,7	M	93H4
																10,9	M	43E8
																12,11	M	40D4
COIL			90E8			90E8			91E0			90A8			90D6			41B9

RELAY

DESIG	REC2			RPST			RS3A			RVP			RVP1			SA1		
CODE	U185			U64			U521			209FF			209FF			239FC		
OPTION				YR,VR			YR,VR			ZWY			ZWY			YP		
	CONT 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
				12,11	M	92B4												
				10,9	M	91C3												
TOP				8,7	M	41B5												
				6,5	M	93B2												
				4,3	M	92G7	5,4	M	91A1									
	3,2,1	BM		2,1	M	40F5	3,2,1	BM	92B1	13,14,15	BM	92F6	13,14,15	BM	92B2	4,7,3	BM	90H3
	2,1	M	93E2	2,1	M	92B7	3,2,1	BM	92B1									
				4,3	M	95G8	5,4	M										
BOT				6,5	M	91F6												
				8,7	M	43C5												
				10,9	M	90F3												
				12,11	M	90C4												
COIL			4489			40B0			91A0			92C3			92E3			93F8

DRAWING ISSUE

68D	TJC ALP AHG
70D	PDT [illegible]

ISSUE 98B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2)

SD-25680-01-C64

BELL TELEPHONE LABORATORIES INCORPORATED

PROJECT 65

PRINTED IN U.S.A.

SD-25680-01-C64

MIGGINS 4465

E-7422-8-2(8-64)

PART OF APP FIG 40

RELAY

DESIG	SAT			SDZA			SLO			SLOT			STRT			SYZ		
CODE	280A			U1262			U611			U611			U735			S5		
OPTION	VP						YR,VR			YR,VR			YR,VR			YR,VR		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				9,8	M	40F4												
				7,6,5	BM	43D5	9,8,7	BM	92D2	9,8,7	BM	91A4						
				4,3	B	91D7	6,5,4	BM	92C2	6,5,4	BM	91A3						
	4,7,3	BM	90H3	2,1	B	93E7	3,2,1	BM	92D4	3,2,1	BM	91A3	3,2,1	BM	90F5	3,2,1	BM	90G7
BOT				2,1	M		3,2,1	BM	92F4	3,2,1	BM	91B3	3,2,1	BM	91E1			
				5,4,3	BM	91F6	6,5,4	BM	92E2	6,5,4	BM	91A1						
				7,6	M	93F6	9,8,7	BM	92F6	9,8,7	BM							
COIL			93F8			41C0			92D9			92D9			92C9			90G8

RELAY

DESIG	SY3			TB3			TC3			TC4			TCT1			TGD		
CODE	S51			U722			B24			U1307			U157			U717		
OPTION	YR,VR															YP,VP		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP										9,8	M	91E8						
				7,6	M	91C8				7,6,5	BM	19C2						
				5,4,3	BM	93C3				4,3	M		5,4	M	40E2	4,3	M	94D8
	3,2,1	BM	90G5	2,1	B	91F8	A,1	M	91E5	2,1	B	41B3	3,2,1	BM	43C7	3,1	M	
BOT				3,2,1	BM	91D7				2,1	B	92G3	3,2,1	BM		2,1	B	
				5,4	M	93G2				4,3	M	40D3				4,3	M	43E6
				7,6	M	13C2				7,6,5	BM	93E7						
										9,8	M	93D3						
COIL			90G8			91B9			90C8			91F9			93B9			9409

RELAY

DESIG	TGT			TGT1			TK2			TMN1			TMX1			TTG		
CODE	U1054			U467			U1324			U216			U594			L20		
OPTION	YP,VP			YP,VP												YR,VR		
	CONT 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	90B4				11,10	M	41C1									
	6,5	M	90G3				9,8,7	BM	40D3				6,5	M	93F2			
	4,3	B	91B6	5,4	M	94G8	6,5,4	BM	93E3	5,4	M	93C3	4,3	M	91C6			
	2,1	B	19C3	3,2,1	BM	90G3	2,1,3	MB	90F3	3,2,1	BM	91F5	2,1	M	90D6	2,1	M	91D6
BOT	2,1	B		2,1	B	41C3	2,1,3	MB	90D4	2,1	M		2,1	B	91C6			
	4,3	M	93E8	4,3	M	19C3	6,5,4	BM	90A1	4,3	M	40D8	4,3	M	91D6			
	6,5	M	93H8				9,8,7	BM	93C2				6,5	M	95C7			
	8,7	M					11,10	M	1983									
COIL			93D9			93H8			4180			93C4			93E4			90C6

RELAY

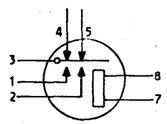
DESIG	TTG1			WAT														
CODE	U67			U520														
OPTION	YR,VR			YP,VP														
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	7,6	M	91D8															
	5,4	M	90C1	4,3	M													
	3,2,1	BM		2,1	B	95B8												
	3,2,1	BM	19C2	2,1	B													
BOT	5,4	M	91E1	4,3	M	46C7												
COIL			91D9			94E9												

RELAY

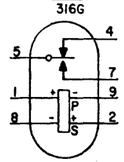
DESIG	SAT			SDZA			SLO			SLOT			STRT			SYZ		
CODE																		
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP																		
BOT																		
COIL																		

RELAY

DESIG	RS3		
CODE	276J		
OPTION	YR,VR		
8	95G9		
7	95G9		
6			
5	91A3		
4	91A3		
3	91A3		
2	91A3		
1	91A3		



RELAY 316G



	(ZWZ) FND	(ZWZ) RVP	(ZWZ) RVPI
	91B4	92F6	92B2
	92A3	92C3	92E3

DRAWING ISSUE 68D TJD RLP AWD

ISSUE 98B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C65

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-C65

HIGGINS 4465

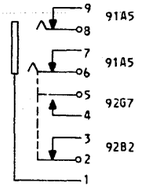
E-7422-5-2(8-64)

PART OF APP FIG 40

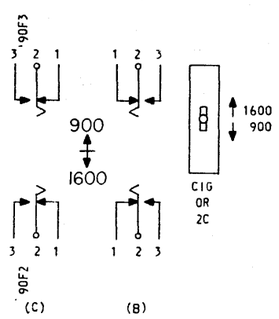
CAPACITOR			
DESIG		LOC	CODE
ABT		93E6	228B
IAT		93G1	228B
IATI		93G4	KS-13369,L3,.01 OR KS-13367,L30,.01
IO(IO.1)		90A0	[3] 437QA
(IO.2)			
(IO.3)			
RV		92D5	437QA
RVA(RVA.1)		92F5	[2] 437QA
(RVA.2)			
RVAS(RVAS.1)	(YR,VR)	92F5	[5] 437QA
(RVAS.2)			
(RVAS.3)			
(RVAS.4)			
(RVAS.5)			
RVS(RVS.1)		92D5	[3] 437QA
(RVS.2)			[1] 439QA
(RVS.3)			
(RVS.4)			
SAI	(YP,VP)	93G8	437QA
TCTI		93B6	228B
TGT	(YP,VP)	93D6	228B
TMN		93B1	228B
TMX		93E1	228B
TMXI		93C0	KS-13366,L3,1000PF OR KS-13367,L30,1000PF

JACK

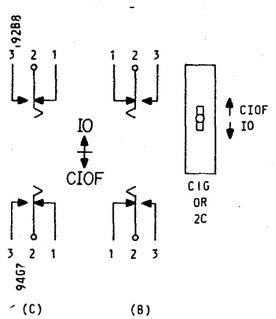
(YR,VR) FND 245A OR 245AM



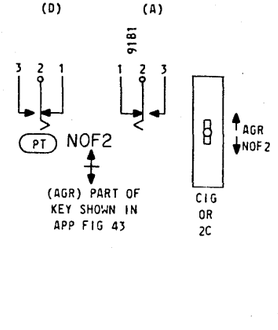
KEY OR KEY UNIT CIG 2C — KEY TOP



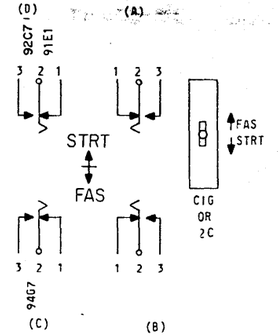
KEY OR KEY UNIT CIG 2C — KEY TOP



KEY OR KEY UNIT CIG 2C — KEY TOP



KEY OR KEY UNIT CIG 2C — KEY TOP



LAMP			
DESIG		LOC	CODE
IA	(YR,VR)	19E5	2Y
TC		19D5	2Y

NETWORK			
DESIG		LOC	CODE
LNI	(YR,VR)	91E0	[1/2] 177C OR 181C
LNA		90A8	[1/2] 177C OR 181C
SY2	(YR,VR)	90G8	[1] 177C OR 181C
SY3		90G8	

POTENTIOMETER			
DESIG		LOC	CODE
TC14		93A6	KS-13650,L1,100K
TGT4	(YP,VP)	93C6	KS-13650,L1,100K
TM5		93B1	KS-13650,L1,500K
TM9		93A1	KS-13650,L1,50K
TM11		93A1	KS-13650,L1,100K

RESISTOR			
DESIG		LOC	CODE
AB1		93E5	KS-19150,L3,100K
AB2		93E6	KS-19151,L3,1K
AB3		93E5	144E OR 140A OR KS-20289,L6C,732K
CII		90A7	18KF
CI2		90A6	18DR
CI3		90A6	18GE
CI4	(YP,VP)	90A6	18KF
CI5		90B5	18DH
CI6		90F4	18KF
CI7		90F3	19RP
CI9		93F6	18BY
CI10		93F7	18BN
CI11		90G4	19RS
IAI	(YR,VR)	93F1	KS-19150,L3,100K
IA2		93F2	KS-19151,L3,1K
IA3	(LO)	93F1	147D,1.2 MEG
IA3	(LN)	93F1	141A,2.21 MEG
IOI		90A1	18CR
IO2	(YR,VR)	90B1	18KE
IO3		90A1	18AG
IO4		90A2	19JG
IO5		90C3	18GH
RPI		90C8	18KF
RP2		90C7	19UA

RESISTOR (CONT)			
DESIG		LOC	CODE
RP3	(YR,VR)	90D7	19MH
RP4		90D7	19MJ
RP5		84F7	18BM
RP6		90F2	18KE
RP7		90E2	19TR
RP8		90D2	18BU
RP9		90F5	19FK
RP10	(YR,VR)	90D7	19CM
RP11		90D7	19MH
RV		92C2	36CK OR 36DF
RVIA	(YR,VR)	92E0	18AP
RV2A		92DI	18HE
RV3A	(ZWY)	92DI	18CP
RV4		92C0	18KE
RV5		92BI	19MG
RV6		92DI	18GF
RV7		92DI	18BU
RV8	(YR,VR)	92G5	18G
RV9		92G4	18BM
RVI0		92A2	18BU
RVII		92A3	18BM
RVI2		92A4	18FD
RVI3		92A4	18FD
RVI4	(ZWY)	92B0	18KF
RVA	(YR,VR)	92E2	36CJ OR 36DE
RV1B		92F0	19HD
RV2B		92D3	18DU
RV3B	(ZWZ)	92D2	18HB
RV4		92B0	18AP
RV5		92C1	18DU
RVI3		92A1	18DS
RVI4B		92B1	18HE

RESISTOR		
DESIG	LOC	CODE
TC11	93A5	KS-19150,L3,100K
TC12	93A6	KS-19151,L3,1K
TC13	93A5	145A,75K
TGT1	93D5	KS-19150,L1,100K
TGT2 (YP,VP)	93D7	KS-19151,L3,1K
TGT3	93C5	145A,36.1K
TGT5	93C5	144E OR 140A OR KS-20289,L6C,732K
TM1A	93D1	KS-19150,L3,100K
TM2A	93D1	KS-19151,L3,1K
TM3A	93D1	147D OR 141A,2.21 MEG
TM4A	93C1	144E OR 140A OR KS-20289,L6C,402K
TM6	93B1	KS-19150,L3,100K
TM7	93B2	KS-19151,L3,1K
TM8	93B1	KS-19152,L1,10K
TM10	93A1	145A,75K

TUBE,ELECTRON			
DESIG		LOC	CODE
ABT		93E5	313CC
IAT	(YR,VR)	93F0	
TCTI		93A5	
TGT	(YP,VP)	93C5	
TMNI		93B0	
TMXI		93D0	

DRAWING ISSUE

68D

83D

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C66

BELL TELEPHONE LABORATORIES

SD-25680-01-C66

HIGGINS 4465 K-E

APP FIG 41

RELAY

DESIG	MKTO			MKTO			MKTI			MKTI								
CODE	EA3			EA27			EA3			EA27								
OPTION	PD			PE			PD			PE								
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	3,2,1	MM	37D4	3,2,1	MM	37D4	3,2,1	MM	37E4	3,2,1	MM	37E4						
BOT	3,2,1	MM		3,2,1	MM		3,2,1	MM		3,2,1	MM							
COIL			37D3			37D3			37D3			37D3						

SWITCH

DESIG	SRS							
CODE	KS-13633,L64							
OPTION	JF							
SECT	1		2		3		4	
	TERM.	LOC	TERM.	LOC	TERM.	LOC	TERM.	LOC
	1-10	16A6	1-10	14F3	1-10	4A2	1-10	4A3
	11		11		11		11	
	12	16A6	12	14F3	12	4A2	12	4A3

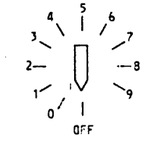
SWITCH

DESIG	SRS											
CODE	KS-13633,L89											
OPTION	JG											
SECT	1		2		3		4		5		6	
	TERM.	LOC	TERM.	LOC	TERM.	LOC	TERM.	LOC	TERM.	LOC	TERM.	LOC
	1-10	16A6	1-10	14F3	1-10	4A2	1-10	4A3	1-7	6F5	1-7	6G5
	11		11		11		11		8-10	6F5	8-10	6G5
	12	16A6	12	14F3	12	4A2	12	4A3	11		11	
									12	6F5	12	6G5

SWITCH

DESIG	SRS											
CODE	KS-14618,L43											
OPTION	IR											
SECT	1		2		3		4		5		6	
	TERM.	LOC	TERM.	LOC	TERM.	LOC	TERM.	LOC	TERM.	LOC	TERM.	LOC
	1-10	16A6	1-10	14F3	1-10	4A3	1-10	4A2	1-7	6F5	1-7	6G5
	11		11		11		11		8-10	6F5	8-10	6G5
	12	16A6	12	14F3	12	4A3	12	4A2	11		11	
									12	6F5	12	6G5

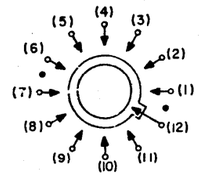
SWITCH TOP



APP FIG 42

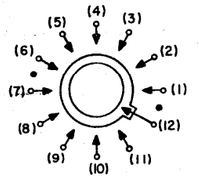
SWITCH JF SRS

SECT 1-4



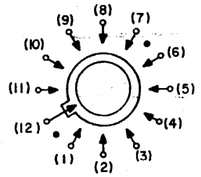
SWITCH JQ SRS

SECT 1-6



SWITCH IR SRS

SECT 1-6



APP FIG 43

RELAY

DESIG	AG			AGR			AGRI			AGT								
CODE	U576			U275			Y223			U540								
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				9,8	M	44C4												
	7,6	M	39B2	7,6,5	BM	42D2												
	5,4,3	BM	44B2	4,3	M	43G2	4,3	M	39C6	6,5,4	BM							
	2,1	B	39B3	2,1	M	39B1	2,1	B		2,1,3	MB	2785						
BOT	2,1	B		2,1	B	44A3	2,1	B	39B3	3,2,1	BM	43G2						
	5,4,3	BM	27C5	4,3	B	43A3	4,3	M		5,4	M							
	7,6	M	39A2	7,6,5	BM	44B2												
				9,8	M	39B3												
COIL			42G8			39H9			39B9			44C6						

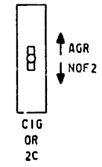
CAPACITOR

DESIG	LOC	CODE
AG1	44B2	439QA
AG2	44B0	KS-13366,L3,1000PF KS-13367,L30,1000PF

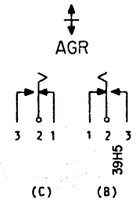
KEY OR KEY UNIT

CIG 2C

KEY TOP



(NOF2) PART OF KEY SHOWN IN APP FIG 40



POTENTIOMETER

DESIG	LOC	CODE
AG	44A2	KS-13790,L1,500K

RESISTOR

DESIG	LOC	CODE
AG1	44B1	KS-19150,L3,100K
AG2	44A3	KS-19151,L3,1K
AG3	44A1	145A,777K
AG4	44A2	145A,657K

TUBE, ELECTRON

DESIG	LOC	CODE
AGT	44B1	313CC

DRAWING ISSUE

68D	FEC KLP AHG
73D	MM MM AWC
83D	

ISSUE 91D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C67

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

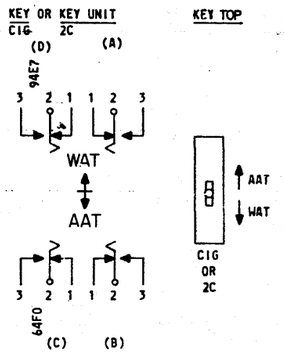
PRINTED IN U.S.A.

SD-25680-01-C67

HIGGINS 4465 KAE

B-7481 10-66

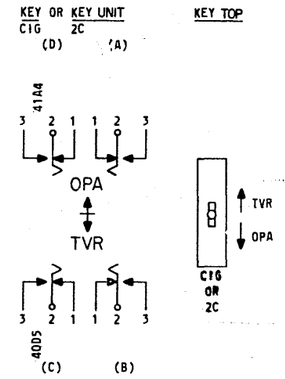
APP FIG 44



APP FIG 45

RELAY

DESIG	C4MM			C4MT														
CODE	U1317			U947														
OPTION	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP				12,11	M	41A5												
				10,9	B	41D3												
	9,8	M	101C7	8,7	B	41A2												
	7,6	M	42G4	6,5	B	39D6												
	5,4	M	102C3	4,3	B	39D8												
	3,2,1	BM	39E4	2,1	B	39G5												
BOT	2,1	B		2,1,3	MB	39D6												
	5,4,3	BM		5,4	B	39D2												
	7,6	M	39E6	8,7,6	BM	39F5												
				11,10,9	BM	39F6												
COIL			48D1			48E1												



PART OF APP FIG 46

RELAY

DESIG	HLV		LLV		MNF		MXF		SPF																DESIG
CODE	AK6				AK4				AJ9																CODE
OPTION	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	OPTION
12	BM	81C1					M	78E1	EBM																12
11	BM	81E0					EBM	80A1	EBM																11
10	BM						EBM	80A1	EBM																10
9	BM	81E2					EMB	80D1	EBM	80G3															9
8	BM	81C2					EMB	80D1	EMB	80F9															8
7																									7
6									EMB																6
5			BM	81D1	EMB	78D1																			5
4			BM	81E0	EMB	80A1			EBM	77D4															4
3			BM		EBM	80A1			EBM	77C8															3
2			BM	81D1	EBM	80C1			EBM	77C4															2
1			BM	81D0	M	80C1			EBM	74D1															1
COIL		81E8		81F8		78D0		78E0		78E0															COIL

RELAY

DESIG																									DESIG
CODE																									CODE
OPTION	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	OPTION
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

DRAWING ISSUE

68D	WM WLP AWO
74D	KEG

SD-25680-01-C68A

HIGGINS 4465

E-7421-B-2(8-64)

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C68A

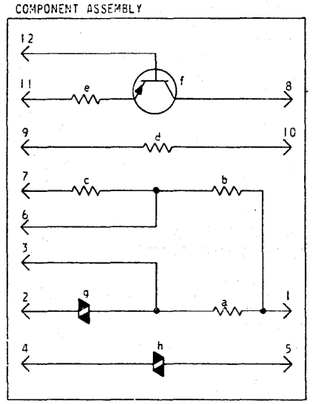
BELL TELEPHONE LABORATORIES INCORPORATED

REVISED 65

PRINTED IN U.S.A.

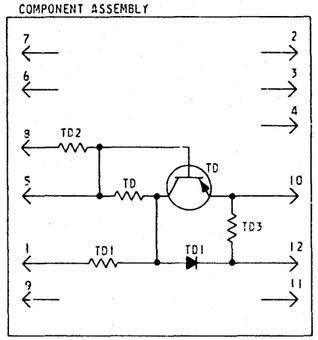
PART OF APP FIG 46

COMPONENT ASSEMBLY



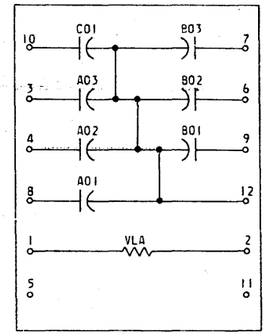
DESIG		CA7		CA8		CA9	
CODE		[3] ED-94859-()-G111					
OPTION		AM		AM		AM	
COMPONENT	CODE	DESIG	LOC	DESIG	LOC	DESIG	LOC
RESISTOR a	144E OR KS-20289, L6C,4020	0A5	80C6	0B5	80E6	0C5	80G6
RESISTOR b	144E OR KS-20289, L6C,2K	0A4	80C7	0B4	80E7	0C4	80G7
RESISTOR c	221A OR KS-20810, L1A,796	0A1	80B7	0B1	80D7	0C1	80G7
RESISTOR d	221A OR KS-20810, L1A,1.8K	0A3	80C8	0B3	80E8	0C3	80G8
RESISTOR e	144E OR KS-20289, L6C,61.9	0A2	80B4	0B2	80D4	0C2	80F4
TRANSISTOR f	12E	TA	80A4	TB	80D4	TC	80F4
VARISTOR g	100A	0A1	80C4	0B1	80E4	0C1	80G4
VARISTOR h	100A	0A2	80C3	0B2	80E3	0C2	80G3

COMPONENT ASSEMBLY



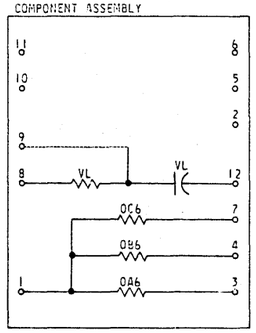
DESIG	CA10		
CODE	ED-94359-()G112		
OPTION	AM		
COMPONENT	CODE	DESIG	LOC
DIODE	426M	TD1	81C3
RESISTOR	144E OR KS-20289, L6C,2740	TD	81C3
RESISTOR	147D,825	TD1	81B3
RESISTOR	221A OR KS-20810, L1A,11K	TD2	81B3
RESISTOR	144E OR KS-20289, L6C,1K	TD3	81A3
TRANSISTOR	12E	TD	81B3

COMPONENT ASSEMBLY



DESIG	CA11		
CODE	ED-94823-()-G525		
OPTION	AN		
COMPONENT	CODE	DESIG	LOC
CAPACITOR	570HE	A01	80B0
CAPACITOR	570FJ	A02	80A0
CAPACITOR	570MH	A03	80A0
CAPACITOR	570PK	B01	80C0
CAPACITOR	570NA	B02	80D0
CAPACITOR	570KJ	B03	80C0
CAPACITOR	570CK	C01	80G3
RESISTOR	221A OR KS-20810, L1A,5110	VLA	81E7

COMPONENT ASSEMBLY



DESIG	CA12		
CODE	ED-94823-()-G526		
OPTION	AP		
COMPONENT	CODE	DESIG	LOC
CAPACITOR	570E	VL	81C3
RESISTOR	146C,1330	0A6	80A2
RESISTOR	146C,1330	0B6	80C2
RESISTOR	146C,1330	0C6	80G2
RESISTOR	221A OR KS-20810, L1A,1K	VL	81C3

74D CMC C3

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2)

SD-25680-01-C68B

BELL TELEPHONE LABORATORIES INCORPORATED

6S

PRINTED IN U.S.A.

SD-25680-01-C68B

KAE

0 1 2 3 4 5 6 7 8 9

A B C D E F G H

PART OF APP FIG 46

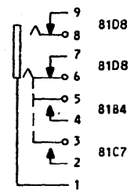
CAPACITOR DESIG	LOC	CODE
(IX) A01	80B0	570HE
(IW) A01	80B0	570CF
(IX) A02	80A0	570FJ
(IW) A02	80A0	570FE
(IX) A03	80A0	570MH
(IW) A03	80A0	570FF
A04	80A3	KS-14056,L5 (SEE NOTE 170)
(IX) B01	80D0	570PK
(IW) B01	80D0	570BY
(IX) B02	80D0	570NA
(IW) B02	80D0	570FG
(IX) B03	80C0	570KJ
(IW) B03	80C0	570FH
B04	80C3	KS-14056,L5 (SEE NOTE 170)

CAPACITOR DESIG	LOC	CODE
(AL) C01	80G3	570CK
0A1	80C7	437C
0A2	80B7	
0B1	80E7	437C
0B2	80E7	
0C1	80G7	437C
0C2	80G7	
PBL	81D4	437QA
TD(TD.1)	81D4	[2] 437QA
(TD.2)	81D4	
TD2	81B3	441A
(AL) VL	81C3	570E

DIODE DESIG	LOC	CODE
(AL) TDT	81C3	426M

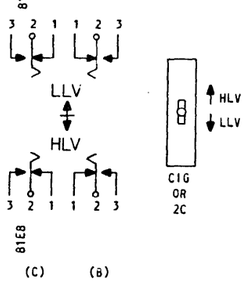
JACK

VL
290C OR 290CM



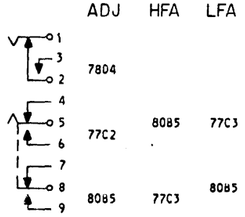
KEY OR KEY UNIT — CIG OR 2C

KEY TOP



KEY 592A

KEY TOP



PAD DESIG	LOC	CODE
(IZ,IY) HL	81A1	IC
LL	81E1	

POTENTIOMETER DESIG	LOC	CODE
PA	80A7	KS-16752,L5,1K
PB	80D7	
PC	80F7	

RESISTOR DESIG	LOC	CODE
0A1	80B7	145A,796
0A2	80B4	146A,61.9
0A3	80C8	145A,1.8K
0A4	80C7	146A,2K
0A5	80C6	146A,4020
0B1	80D7	145A,796
0B2	80D4	146A,61.9
(AL) 0B3	80E8	145A,1.8K
0B4	80E7	146A,2K
0B5	80E6	146A,4020
0C1	80G7	145A,796
0C2	80F4	146A,61.9
0C3	80G8	145A,1.8K
0C4	80G7	146A,2K
0C5	80G6	146A,4020
PBR	81E4	188L

RESISTOR DESIG	LOC	CODE
PBT	81D4	188L
TD	81C3	146B,2740
TD1	81B3	147D,825
(AL) TD2	81B3	145A,11K
TD3	81A3	146B,1K
VL	81C3	145B,1K
VLA	81E7	145C,5110

TRANSFORMER DESIG	LOC	CODE
L	81C2	120E (RC)
LA	80A3	2583A
LB	80C3	2583B
LC	80F3	2583C
0A	80A7	2536G
0B	80C7	
0C	80F7	
PBL	81C4	120C (RC)

TRANSISTOR DESIG	LOC	CODE
TA	80A4	12E
(AL) TB	80D4	
TC	80F4	
TD	81B3	

VARISTOR DESIG	LOC	CODE
0A1	80C4	100A
0A2	80C3	
(AL) 0B1	80E4	
0B2	80E3	
0C1	80G4	
0C2	80G3	

DRAWING ISSUE
68D
74D KEG
83D

83

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C69

BELL TELEPHONE LABORATORIES INCORPORATED 6S

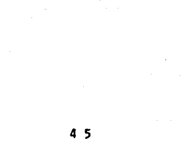
SD-25680-01-C69

HIGGINS 4465

APP FIG 47

RELAY

DESIG	KAA		ORP		PGI		SPB					
CODE	AF43		AF60		AF131		AF88					
OPTION												
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12			M	78E9	P8EM	78D9	M	8188				
11							B	8466				
10			M	81D7			M	71D3				
9							B					
8	M	8189	M	78D4	EMB	8188	BM					
7			B				B					
6	BM		M	80G6	EBM		BM	78D9				
5					BM		B					
4			M	80D6			M					
3					B	71D3	B	83D2				
2			M	80B6	EM		M	78E9				
1					B		B	84C2				
COIL		8168		6280		78E7		7400				



RELAY

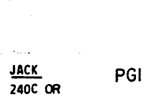
DESIG	PG			
CODE	276N			
OPTION				
8	78C9			
7				
6	78C9			
5				
4				
3	78E8			
2	78E8			
1	78E8			

CAPACITOR

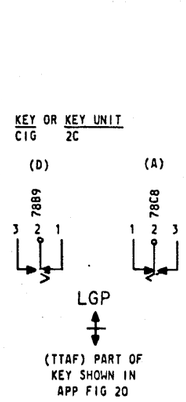
DESIG	LOC	CODE
PG (PG,1) (PG,2)	78C6	[2]437QA

JACK PGI

240C OR 240CM



KEY OR CIG — KEY UNIT 2C



KEY TOP

NETWORK

DESIG	LOC	CODE
PGI	78E7	185A

RESISTOR

DESIG	LOC	CODE
PG0	78D6	18EF
PG1	78C6	19CJ
PG2	78C6	18T
PG3	78C7	19CN
PG4	78C7	19NT
PG5	78C7	18AT
PG6	78C8	18DN
PG7	78B8	19TN
PG8	78B7	19CN
PG9	78B7	19JP
PG10	78B6	19HG
PG11	78B6	18T
PG12	78B7	19CN
PG13	78B7	19NT
PG14	78B7	18AT
PG15	78B8	18DN
PG16	78A8	19TN
PG17	78A7	19CN
PG18	78A7	19JP

APP FIG 48

RELAY

DESIG	HF		LF		HF1		HF2		HF3		HF4		LF0		LF3		LF6		LF9		SF1				DESIG
CODE	AK4				AK6				AK6				AK6				AK6				AF50				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				BM	80A2			BM	80B2			BM	80C2			BM	80D2							12
11	EBM	80C9			BM				BM				BM				BM								11
10	EBM	77C5			BM				BM				BM				BM				M	78B4			10
9	EMB				BM				BM				BM				BM								9
8	EMB				BM				BM				BM				BM				BM	74D2			8
7																									7
6																					BM				6
5			EMB				BM	80A2			BM	80B2			BM	80D2			BM							5
4			EMB				BM				BM				BM				BM		M	77D4			4
3			EMB	77E5			BM				BM				BM				BM						3
2			EMB	80A9			BM				BM				BM				BM						2
1			M				BM				BM				BM				BM						1
COIL		7880		7880		77A9		77A9		77B9		77B9		77F9		77F9		77G9		77G9		78C0			COIL

RESISTOR

	DESIG	LOC	CODE
(A0)	0A6	80A2	146C,1330
	0B6	80C2	
	0C6	80G2	

DRAWING ISSUE

68D	A BM (2) AND KEG
74D	KEG
83D	C
86D	

APP FIG 49

RELAY

DESIG	PBT		PBT1														DESIG
CODE	AJ5		AJ5														CODE
OPTION																	OPTION
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	
12	EBM	78C4	EBM	78D1													12
11	EBM	77D3	EBM														11
10	EBM		EBM														10
9	EBM		EBM	81D8													9
8	EBM	77G6	EBM	81D8													8
7	EBM	77G6	EBM	81E6													7
6	EBM	77F6	EBM	81D6													6
5	EBM	77F6	EBM	81C5													5
4	EBM	77B6	EBM	81A5													4
3	EBM	77A6	EBM	80G5													3
2	EBM	77A6	EBM	80D5													2
1	EBM	7786	EBM	8085													1
COIL		78A0		78A0													COIL

APP FIG 50

RELAY

DESIG	FVD								
CODE	U386								
OPTION									
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	7,6	M	51G2						
	5,4,3	BM	a						
	2,1	B							
BOT	2,1	B	54D1						
	5,4,3	BM	b						
	7,6	M	c						
COIL			51H2						

a	FR	59E5
	FK	54C6
b	FR	59E3
	FQ	54D1
c	JL	56H3
	FR	59D7

APP FIG 51

RELAY

DESIG	AOT		ATT				DAT		DTI		LICK		LIO		LII		RELI		RI		DESIG
CODE	AF8		AF8				AF8		AF8		AF50		AF114		AF114		AF32		AJ27		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																	EMB		EM		12
11																					11
10	M	61D3	M	61D3			M	61D3	M	61D3	M	61G6	M		M		EBM	47B7	M		10
9																			B		9
8	EBM	60D2	EBM	60D2			EBM	60D2	EBM	60F2	BM		BM		BM		EBM	61A6	EBM		8
7	B		B	60D2			B		B										B		7
6	EMB		EMB	60D2			EMB		EMB	60E2	BM	61D6	BM	60F3	BM	60F3	EMB	15B7	EMB		6
5	B		B				B		B										B		5
4	EBM		EBM				EBM		EBM		M	61F6	M	61C3	M	61C3	EBM	15D5	EBM		4
3																					3
2	M	61D4	M	61D4			M	61D4	M	61D4			B		B		EBM	14C3	M	61F6	2
1																					1
COIL		61D3		51D3				61D3		61D3		61D6		61C3		61C3		1588		61G7	COIL

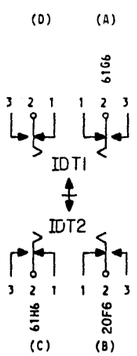
RELAY

DESIG	RII		RPE3		RPS2A		RPS3		TI		TIF2		TIRV		TRIC		TSTA		WATR		DESIG
CODE	AF114		AJ39		AF112		AJ39		AJ12		AF52		AF32		AJ27		AF50		AF8		CODE
OPTION																			ZYK		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	60F2	M		EBM		EBM		M		EMB		EM						12
11			EBM	14C4	M	49C5	EBM		EBM												11
10	M		EBM	15D4	M		EBM	15B7	EBM		BM		EBM	61D7	M	61G6	M		M	61G3	10
9			EBM	20F7	M		EBM		EBM	20F6					B						9
8	BM		EBM		EBM		EBM	61H6	EBM	63E4	BM	83F8	EBM		EBM		BM		EBM	60E2	8
7			EBM				EBM		EBM	60C2					B				B	56D8	7
6	BM	60F3	EBM		EBM		EBM		EBM	63C1	BM	63C0	EMB		EMB		BM		EMB		6
5			EBM				EBM	63B1	EBM						B				B		5
4	M	6183	EBM	61A6	EBM		EBM	64E1	EBM	60E2	BM	8304	EBM	61E7	EBM		M	61F6	EBM		4
3			EBM	4736	M	11E7	EBM	11D7	EBM												3
2	B		EBM	1587	M	47C6	EBM	47C6	EBM	61E6	M	62G8	EBM	61F7	M	61F7			M	61G4	2
1			EBM	63C1	M	11B1	EBM	11B1	EBM		M										1
COIL		6183		6381		6188		6380		6209		6209		62F9		61B9		6206		61G5	COIL

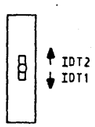
RELAY

DESIG	WDTF		WDTI														DESIG
CODE	AF9		AF8														CODE
OPTION	ZYK		ZYK														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	EM																12
11																	11
10	M	61E4	M	61F3													10
9	B																9
8	EBM	56B7	EBM	60F2													8
7	B		B														7
6	EMB		EMB														6
5	B	60C2	B														5
4	EBM	60C2	EBM														4
3																	3
2	M		M	61F4													2
1																	1
COIL		61E4		61F3													COIL

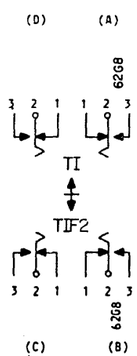
KEY OR CIG — KEY UNIT 2C



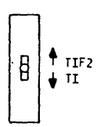
KEY TOP



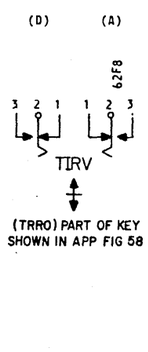
KEY OR CIG — KEY UNIT 2C



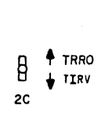
KEY TOP



KEY UNIT 2C



KEY TOP



DRAWING ISSUE

68D	
69A	
72A	
73D	
86D	

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2) SD-25680-01-C71

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

SD-25680-01-C71

HIGGINS 4465

E-7422-A-2(8-64)

APP FIG 52

RELAY

DESIG	XCL		XICL		XLT	
CODE	AF96		AF96		AF96	
OPTION						
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12						
11						
10						
9						
8	M		M		M	
7						
6	M	12A4	M	12A4	M	12A4
5						
4	M	1383	M	13C3	M	1383
3						
2						
1						
COIL		58A9		57F5		59C9

RESISTOR

DESIG	LOC	CODE
XC1	57G6	19RL
XC2	58A7	
XC3	58B8	
XC4	58C8	
XC5	59C7	
XC6	59D7	
XC7	59E8	
XC8	59E8	

APP FIG 53

RELAY

DESIG	DPT		FAC		ORT		MFT												DESIG
CODE	AJ12		AK22				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	
12	EBM				EBM	58D5	EBM												12
11	EBM				EBM	58D4	EBM												11
10	EBM				EBM	58H2	EBM												10
9	EBM				EMB	58C8	EBM												9
8	EBM	58E5			EMB	58B7	EBM	58E5											8
7	EBM	58C3					EBM	58D3											7
6	EBM	58D8					EBM	58D8											6
5	EBM		EMB	58C8			EBM												5
4	EBM	58B7	EMB	58C7			EBM	58C7											4
3	EBM	58B7	EBM	58D5			EBM	58B7											3
2	EBM	58D3	EBM	58D4			EBM	58D3											2
1	EBM	58G2	EBM	58G2			EBM	58F2											1
COIL		58G3		58G3		58H3		58F3											COIL

NETWORK

	DESIG	LOC	CODE
(ZYU)	DPT	58G3	185A
	FAC	58G3	
	MFT	58F3	
	ORT	58H3	

APP FIG 54

RELAY

DESIG	MCQ		MCR		RTCA		MCS												DESIG
CODE	AJ202		AJ202		AJ202		AJ202												CODE
OPTION			DH		DH		DH												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	
24	M	36B/B2	M	31B/G2	M	31B/E0	M	36B/B2											24
23	M	36B/B2	M	31B/G2	M	31B/E0	M	36B/B2											23
22	M	36B/B2	M	31B/G2	M	31B/E0	M	36B/B2											22
21	M	36B/B2	M	31B/G2	M	31B/E0	M	36B/B2											21
20	M	36B/B2	M	31B/G2	M	31B/E0	M	36B/B2											20
19	M	36B/B2	M	31B/G2	M	31B/E0	M	36B/B2											19
18	M	36B/B2	M	31B/G2	M	31B/E0	M	36B/B2											18
17	M	36B/B6	M	31B/H2	M	31B/G2	M	36B/B5											17
16	M	36B/B6	M	31B/H2	M	31B/G2	M	36B/B5											16
15	M	36B/B6	M	31B/H2	M	31B/G2	M	36B/B5											15
14	M	36B/B6	M	31B/H2	M	31B/G2	M	36B/B5											14
13	M	36B/B6	M	31B/H2	M	31B/G2	M	36B/B5											13
12	M	36B/B6	M	31B/H2	M	31B/G2	M	36B/B5											12
11	M	36B/B6	M	31B/H2	M	31B/G2	M	36B/B5											11
10	M	36B/B9	M	31B/H2	M	31B/G2	M	36B/B8											10
9	M	36B/B9	M	31B/H2	M	31B/G2	M	36B/B8											9
8	M	36B/B9	M	31B/H2	M	31B/G2	M	36B/B8											8
7	M	36B/B9	M	31B/H2	M	31B/G2	M	36B/B8											7
6	M	36B/B9	M	31B/H2	M	31B/G2	M	36B/B8											6
5	M	36A/B9	M		M	72A/A7	M	36A/B9											5
4	M	a	M	34F8	M	34F8	M	36A/B7											4
3	M	b	M	34F8	M	34F8	M	36A/B7											3
2	M	b	M	34F8	M	34F8	M	36A/B7											2
1	M	a	M	34F8	M	34F8	M	36A/B7											1
COIL		3F8		3G8		3G8		3GO											COIL

a (ZXC) 58H2 (ZXB) 36A/B8

b (ZXC) 58G2 (ZXB) 36A/B8

c (ZXC) 58F2 (ZXB) 36A/B8

NETWORKS

	DESIG	LOC	CODE
(DH)	MCQ	3F8	185A
	MCR	3G8	
	MCS	3GO	
	RTCA	3G8	

DRAWING ISSUE

70D	SAM ART 2-7
72A	HMJ Add Item
81D	
83D	
86D	

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C72

BELL TELEPHONE LABORATORIES INCORPORATED

SYS SYCE 6S

SD-25680-01-C72

APP FIG 55

RELAY

DESIG	1-P		2W		4W		4WT		CD0		CD1		CD2		CD4		CD7		CD10		DESIG
CODE	AJ15		AJ15		AJ15		AJ12		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	
12	EBM		EBM		EBM		EBM	61C7			BM	35E0			BM	35G0			BM	35H0	12
11	EBM		EBM		EBM		EBM	20C4			BM	318/D4			BM	318/D4			BM	318/D4	11
10	EBM	318/C0	EBM		EBM		EBM	69E3			BM				BM				BM		10
9	EBM	318/B0	EBM		EBM		EBM	1403			BM				BM				BM		9
8	EMB		EMB		EMB		EBM	69F3			BM				BM				BM		8
7	EBM	318/D1	EBM		EBM		EBM	5787													7
6	EMB		EMB		EMB		EBM	6280													6
5	EMB		EMB		EMB		EBM	5684	BM				BM				BM				5
4	EBM	318/B0	EBM		EBM		EBM	56A3	BM				BM				BM				4
3	EBM	724/G7	EBM		EBM		EBM	5686	BM				BM				BM				3
2	EBM	70A/G1	EBM	35C1	EBM	35D0	EBM	84F7	BM	35E0			BM	35F0			BM	35G0			2
1	EBM	318/D0	EBM	62A7	EBM	62A7	EBM	84G8	BM	318/C4			BM	318/C4			BM	318/C4			1
COIL		55E0		62A9		62A9		55G0		318/C4		318/D4		318/C4		318/D4		318/C4		318/D4	COIL

RELAY

DESIG	CDA0		CDA1		CDA2		CDA4		CD47		KCDA7		CDP0		CDP1		CDP2		CDP4		DESIG
CODE	AK6		AK6		AK6		AK6		AK10				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	
12			BM	35F1			BM	35G1			BM	35H1			BM	35E0			BM	35G0	12
11			BM	318/E4			BM	318/E4			M				BM	318/B4			BM	318/B4	11
10			BM				BM				M				BM				BM		10
9			BM				BM				M				BM				BM		9
8			BM				BM				M	36B/E8			BM				BM		8
7																					7
6																					6
5	BM				BM				M	31B/F4			BM				BM				5
4	BM				BM				BM				BM				BM				4
3	BM				BM				BM				BM				BM				3
2	BM	35E1			BM	35G1			BM	35H1			BM	35E0			BM	35F0			2
1	BM	318/E4			BM	318/E4			BM				BM	318/A4			BM	318/A4			1
COIL		318/E4		318/E4		318/E4		318/E4		31B/F4		36B/E7		318/A4		318/B4		318/A4		318/B4	COIL

RELAY

DESIG	CDP7		CDP10		CDP15		CD15		KCD0		KCD1		KCD2		KCD4		KCD7		KCD10		DESIG
CODE	AK6		AK6		AK6		AK6		AK23												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	35H0			BM	35H0			BM	35F0			BM	35G0			BM	35H0	12
11			BM	31B/B4			BM	31B/D4			BM	36B/C5			BM	36B/E5			BM	36B/F5	11
10			BM				BM														10
9			BM				BM														9
8			BM				BM														8
7																					7
6																					6
5	BM				BM																5
4	BM				BM																4
3	BM				BM																3
2	BM	35G0			BM	35H0			BM	35E0			BM	35F0			BM	35G0			2
1	BM	31B/A4			BM	31B/A4			BM	36B/C5			BM	36B/D5			BM	36B/E5			1
COIL		31B/A4		31B/B4		31B/A4		31B/D4		36B/C4		36B/C4		36B/D4		36B/D4		36B/E4		36B/F4	COIL

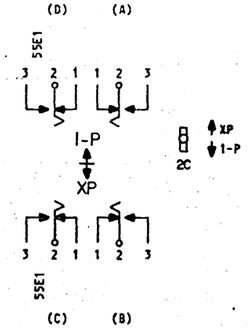
RELAY

DESIG	KCDA0		KCDA1		KCDA2		KCDA4		KCDP0		KCDP1		KCDP2		KCDP4		KCDP7		KCDP10		DESIG
CODE	AK23		AK23		AK23		AK23		AK23				AK23				AK23				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	35F1			BM	35G1			BM	35F0			BM	35G0			BM	35H0	12
11			BM	36B/C8			BM	36B/E8			BM	36B/C1			BM	36B/E1			BM	36B/F1	11
10																					10
9																					9
8																					8
7																					7
6																					6
5																					5
4																					4
3																					3
2	BM	35F1			BM	35G1			BM	35F0			BM	35F0			BM	35G0			2
1	BM	36B/C8			BM	36B/D8			BM	36B/C1			BM	36B/D1			BM	36B/E1			1
COIL		36B/C7		36B/C7		36B/D7		36B/D7		36B/C0		36B/C0		36B/D0		36B/D0		36B/E0		36B/F0	COIL

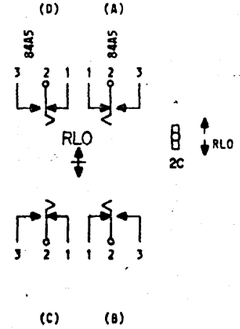
RELAY

DESIG	KCDP15		KCD15		LO		ONRA		XP												DESIG
CODE	AK23		AK23		AJ75		AF24		AJ15												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	35H0	B	84A4	M		EBM												12
11			BM	36B/D5	M	19D1	M		EBM												11
10					EBM		M		EBM												10
9							M		EBM												9
8					EBM		M		EMB												8
7							M		EBM												7
6					EMB	84A3	M	84A2	EMB												6
5							M		EMB												5
4							M	62A8	EBM												4
3					B		M	36B/F9	EBK	31B/C1											3
2	BM	35H0			EBM		M	36B/G5	EBM	31B/B1											2
1	BM	36B/G1			BM		M	36B/G2	EBM	31B/D1											1
COIL		36B/F0		36B/F4		84A2		23A9		55E0											COIL

KEY UNIT 2C — KEY TOP



KEY UNIT 2C — KEY TOP



LAMP

DESIG	LOC	CODE
RLO	19C0	2Y

NETWORK

DESIG	LOC	CODE
KCD0,1,2,4,7,10,15	36B/B4-F4	185A
KCDA0,1,2,4,7	36B/C7-E7	
KCDP0,1,2,4,7,10,15	36B/C0-F0	
ONRA1	36B/F8	[1/2]177H
ONRA2	36B/G5	
ONRA3	36B/G1	

RESISTOR

DESIG	LOC	CODE
LO	84A2	KS-19152,L1,1.5K
ONRA1	36B/F9	KS-19150,L3,33K
ONRA2	36B/G5	
ONRA3	36B/G1	

TUBE,ELECTRON

DESIG	LOC	CODE
RLO	84A4	313CC

DRAWING ISSUE

70D	SAI FAL AMP	
72A	KSM, 1A1 Aud	
80A	RR	

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C73

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25680-01-C73

E-7432-A-3(8-64)

APP FIG 56

RELAY

DESIG	10F		11F		12F		13F		CPTI		MF5A		SSL		SSR						DESIG
CODE	AK6				AK6				AJ12		AF24		AK6								CODE
OPTION	DI		DI		DI		DI		DI		DI										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				BM		EBM		M	72A/A4	BM								12
11			BM	77F2			BM	77G1	EBM		M	72A/A4	BM	77D1							11
10			BM				BM		EBM		M	72A/A4	BM								10
9			BM	77B3			BM	77B3	EBM		M	72A/A4	BM	77A1							9
8			BM				BM		EBM		M	72A/A4	BM								8
7									EBM		M	72A/A4									7
6									EBM	72A/B3	M										6
5	BM				BM				EBM	72A/B3	M				BM						5
4	BM	77F3			BM	77F3			EBM	72A/B3	M				BM	77D1					4
3	BM				BM				EBM	72A/B3	M				BM						3
2	BM	77B3			BM	77B3			EBM	72A/A3	M				BM	77B1					2
1	BM				BM				EBM	72A/A4	M				BM	109F2					1
COIL		72A/A4		72A/A5		72A/A5		72A/A6		72A/A7		72A/A6		72A/A4		72A/A6					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	
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

APP FIG 57

RELAY

DESIG	4WDP		4WMF		CDS		CDAS		CDPS		CLIB		CLIC		SK		SK1				DESIG
CODE	AJ15		AJ15		AJ15		AJ15		AJ15		AJ15		AJ12		AJ15		AJ15				CODE
OPTION	CY		CY								DS		DS								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	92C6	EBM	28A/F6	EBM	28A/F5	EBM		EBM		EBM		EBM		EBM				12
11	EBM		EBM	26D8	EBM	28A/E5	EBM		EBM	28A/E4	EBM		EBM		EBM		EBM				11
10	EBM		EBM	26E8	EBM	28A/C6	EBM	28A/C6	EBM		EBM		EBM		EBM		EBM				10
9	EBM		EBM	35D1	EBM	66B4	EBM	66B3	EBM	66B5	EBM		EBM		EBM	35D0	EBM				9
8	EMB		EMB		EMB		EMB		EMB		EMB		EBM	28B/E1	EMB		EMB				8
7	EBM	35D1	EBM	35D0	EBM	31B/D2	EBM	31B/E2	EBM	31B/C2	EBM		EBM	28B/D2	EBM	28A/E3	EBM	35E1			7
6	EMB		EMB		EMB	28A/A1	EMB	28A/A2	EMB		EMB	28A/F5	EBM	28B/D2	EMB		EMB				6
5	EMB		EMB		EMB	28A/F4	EMB	28A/E4	EMB	28A/F3	EMB	28A/A2	EBM	28B/D3	EMB		EMB				5
4	EBM	35B5	EBM	26E7	EBM	31B/D2	EBM	31B/E2	EBM	31B/B2	EBM		EBM	35E5	EBM		EBM	35D1			4
3	EBM	28A/F5	EBM	26D6	EBM	31B/D2	EBM	31B/E2	EBM	31B/B2	EBM		EBM	35E5	EBM		EBM				3
2	EBM	28A/D4	EBM	48C3	EBM	31B/D2	EBM	31B/E2	EBM	31B/B1	EBM		EBM	35E6	EBM		EBM	28A/D3			2
1	EBM	28A/G2	EBM	48D3	EBM	31B/D2	EBM	31B/E2	EBM	31B/B1	EBM		EBM	35E7	EBM		EBM	28A/E5			1
COIL		65A8		65B8		28A/G4		28A/G5		28A/G3		28A/G5		28A/G2		65C8		65C8			COIL

RELAY

DESIG											DESIG
CODE											CODE
OPTION											OPTION
	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

NETWORK

	DESIG	LOC	CODE
(CY)	4WDP	65A8	
	4WMF	65B8	
	CDS	28A/G4	185A
	CDAS	28A/G5	
	CDPS	28A/G3	
	CLIC	28A/G2	

PAD

DESIG	LOC	CODE
(CY) 4WMF	26D7	1C (SEE NOTE 105)

APP FIG 58

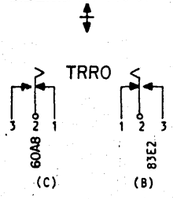
RELAY

DESIG	LR1		OFR							
CODE	AJ12		AF50							
OPTION										
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12	EBM	60D6								
11	EBM	60A6								
10	EBM	60C2	M	83E2						
9	EBM									
8	EBM	83F8	BM							
7	EBM									
6	EBM		BM	60A6						
5	EBM	83E3								
4	EBM	61A3	M	60C1						
3	EBM	46F2								
2	EBM	60G3								
1	EBM	49G1								
COIL		61A3		83E3						

KEY UNIT

2C

(TIRV) PART OF KEY SHOWN IN APP FIG 51



KEY TOP

APP FIG 59

RELAY

DESIG	CL8A		KCR0		KCR1		KCR2		KCR4		MFS1										DESIG
CODE	AF32		AF30		AF30		AF30		AF30		AJ15										CODE
OPTION			CC		CC		CC		CC												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	EMB		EBM		EBM		EBM		EBM		EBM										12
11											EBM										11
10	EBM		EBM		EBM		EBM		EBM		EBM										10
9											EBM	23H1									9
8	EBM		EBM		EBM		EBM		EBM		EMB										8
7											EBM										7
6	EMB		EBM		EBM		EBM		EBM		EMB										6
5											EMB										5
4	EBM	39E2	EBM	31A/C2	EBM	31A/C2	EBM	31A/C3	EBM	31A/C3	EBM	22F6									4
3											EBM	48D5									3
2	EBM	39F3	EBM	31A/G4	EBM	31A/F3	EBM	31A/E4	EBM	31A/D4	EBM	22F1									2
1											EBM	11F8									1
COIL		48D5		32D3		32D4		32D4		32D4		2F2									COIL

DRAWING ISSUE

70D	CMJ Part and
72A	KKG Mfg Inc
74D	KEB
75A	KEB
81D	K
86D	C

ISSUE 92A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2) SD-25680-01-C75

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

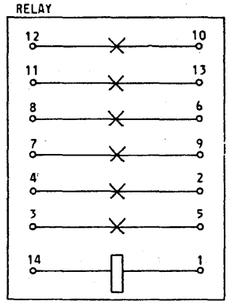
SD-25680-01-C75

E-7412-A-2(8-64)

APP FIG 60

RELAY DESIG	DP2		STRA		TMC		TTK										RELAY DESIG
CODE	AJ15		AJ56		AF32		AJ15										CODE
OPTION	ZVE																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	EBM		EM		EMB		EBM										12
11	EBM		BM				EBM	27F8									11
10	EBM		M		EBM	46B6	EBM	31A/B8									10
9	EBM		PMEB	32B8			EBM	33B1									9
8	EMB		EMB	a	EBM		EMB										8
7	EBM		B				EBM										7
6	EMB	23C6	M	110H1	EMB	46C1	EMB										6
5	EMB		B	46C1			EMB	32B8									5
4	EBM		PMEB		EBM		EBM	29B0									4
3	EBM		M	108A0			EBM										3
2	EBM		FBEM	30F7	EBM		EBM	2305									2
1	EBM	23B6	M	110E5			EBM	110H2									1
COIL		23D6		110E5		46C0		110H2									COIL
			a	30F5													
				29A5													

RELAY



RELAY DESIG	PBC	STRG	Y0	Y3	Y6	Y9	Z1	Z2	Z3	Z4
CODE	295A	295A	295A	295A	295A	295A	295A	295A	295A	295A
OPTION										
12-10	110B3					108G5			108G5	
11-13			110G6			110H6	108G5	110E6	110G6	110F6
8-6			110F6	110F6	110F6	110F6	110G6	110E6	110G6	108C3
7-9			110D6	110D6	110E6	110E6	110C6	110D6	110E6	110F6
4-2		23C6	110C6	110C6	110D6	110E6	110B6	110B6	110C6	110H6
3-5		110E4	110A6	110B6	110C6	110D6	110A6	110A6	110B6	110B6
COIL	23B6	110D2	110B2	110B2	110B2	110B2	110C2	110C2	110C2	110C2

NETWORK DESIG	LOC	CODE
STRA	110E5	185A
TMC	46C0	
TTK	110H2	

APP FIG 61

RELAY DESIG	11A		11B		11C		11D		DOR4		PRC		TBLP								DESIG
CODE	AJ15		AJ15		AJ15		AJ15		AJ15		AJ22		AJ15								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	32E7	EBM	32D7	EBM	32E8	EBM	32D8	EBM	35D0	EBM		EBM								12
11	EBM	32E7	EBM	32D7	EBM	32E8	EBM	32D8	EBM	35E1	EBM		EBM								11
10	EBM	32E7	EBM	32D7	EBM	32E8	EBM	32D8	EBM	108G5	EBM		EBM								10
9	EBM	32E7	EBM	32D7	EBM	32E8	EBM	32D8	EBM	108G4	EBM		EBM								9
8	EMB		EMB	108A7	EMB		EMB		EMB		EMB	108E7	EMB	108C5							8
7	EBM	32E7	EBM	32D7	EBM	32E8	EBM	32D8	EBM	110E8	EBM	108B6	EBM								7
6	EMB		EMB	108D6	EMB		EMB	108C7	EMB		EMB	108A2	EMB								6
5	EMB		EMB	35D1	EMB		EMB	108A3	EMB	35H1	EMB	108F7	EMB								5
4	EBM		EBM	108D5	EBM	32A7	EBM	108G6	EBM	110F6	EBM		EBM	35B8							4
3	EBM	108E7	EBM	27G7	EBM	108F7	EBM	35E1	EBM	35C0	EBM	108A4	EBM								3
2	EBM	27G6	EBM	108A1	EBM	27F6	EBM	27F6	EBM	30A7	EBM	27F6	EBM								2
1	EBM	108A6	EBM	110G7	EBM	108A6	EBM	32A7	EBM	7E8	EBM	23D5	EBM								1
COIL		108D7		108A7		108G7		108C7		7F9		108B3		108C5							COIL

NETWORK DESIG	LOC	CODE
11A	108D7	
11B	108A7	
11C	108G7	
11D	108C7	185A
DOR4	7F9	
PRCA	108B2	
PRCB	108B3	

APP FIG 62

DESIG	SSC							
CODE	AJ15							
OPTION								
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12	EBM							
11	EBM							
10	EBM							
9	EBM							
8	EMB							
7	EBM							
6	EMB							
5	EMB							
4	EBM	109C1						
3	EBM							
2	EBM							
1	EBM	32C5						
COIL		10982						

NETWORK DESIG	LOC	CODE
SSC	10982	185A

APP FIG 63

DESIG	SMTR		TRFM						DESIG
CODE	AK22								CODE
OPTION									OPTION
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	
12	EBM	63C4							12
11	EBM	24G8							11
10	EBM	24E5							10
9	EMB	24G8							9
8	EMB								8
7									7
6									6
5			EMB	1D8					5
4			EMB	64E5					4
3			EBM	110G0					3
2			EBM	6384					2
1			EBM	584					1
COIL		64E5		5D4					COIL

NETWORK DESIG	LOC	CODE
SMTR	64E5	185A
TRFM	5D4	

DRAWING ISSUE
70D
72A
75A
81D
82A

ISSUE 97D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C76

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-C76

APP FIG 64

RELAY

DESIG			3DA		3DB		3DS												DESIG
CODE			AJ83		AJ83		AF79												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	
12			EBM	36A/C1	EBM	36A/C3	EMB	109E2											12
11			EBM	36A/C1	EBM	36A/C3	M	15B8											11
10			EBM	36A/C1	EBM	36A/C3	EBM												10
9			EBM	36A/C1	EBM	36A/C3	-												9
8			EMB	36A/C1	EMB	36A/C3	EBM												8
7			EBM	36A/C1	EBM	36A/C2	-												7
6			EMB	109C2	EMB	36A/C2	EMB												6
5			EMB	36A/C1	EMB	36A/C2	-												5
4			EBM	36A/C1	EBM	36A/C2	EBM												4
3			EBM	36A/C1	EBM	36A/C2	-												3
2			EBM	36A/C1	EBM	36A/C2	EBM												2
1			EBM		EBM		M												1
COIL				109C2		109D2		109E2											COIL

RELAY

DESIG			3D										
CODE			B1139										
OPTION													
		CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP													
		1, A, 2	BM	109C0									
BOT													
COIL				14E2									

NETWORK

DESIG	LOC	CODE
3DA	109C2	186A
3DS	109E2	185A

APP FIG 65

RELAY

DESIG	FAC		ORT																DESIG
CODE	AK22																		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	
12			EBM																12
11			EBM																11
10			EBM	58H3															10
9			EMB	56F5															9
8			EMB	56H3															8
7																			7
6																			6
5	EMB	56H5																	5
4	EMB	56F6																	4
3	EBM																		3
2	EBM																		2
1	EBM	58G3																	1
COIL		58G3		58H3															COIL

DRAWING ISSUE

70D	OMC
72A	
74D	
81D	

APP FIG 66

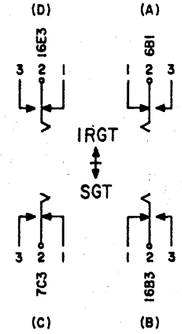
RELAY

DESIG	CRBA					
CODE	AJ15					
OPTION						
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12	EBM	20C4				
11	EBM	64E1				
10	EBM	20E3				
9	EBM	14D4				
8	EMB					
7	EBM					
6	EMB					
5	EMB	61G6				
4	EBM	61F5				
3	EBM	61E7				
2	EBM	61D6				
1	EBM	61E6				
COIL		61C9				

APP FIG 67

KEY UNIT

2C



KEY TOP

APP FIG 68

RELAY

DESIG	MCU	MCUA	
CODE	286M	286M	
OPTION			
54	36A/A2		
53	36A/A2		
52	36A/A2		
51	36A/A2		
50	36A/A2		
44	36A/A2	36A/A4	
43	36A/A2	36A/A4	
42	36A/A2	36A/A4	
41	36A/A2	36A/A4	
40	36A/A2	36A/A4	
34	36A/A1	36A/A4	
33	36A/A1	36A/A4	
32	36A/A1	36A/A4	
31	36A/A1	36A/A4	
30	36A/A1	36A/A4	
24	32F3	36A/A3	
23	32F3	36A/A3	
22	32F3	36A/A3	
21	32F3	36A/A3	
20	32F3	36A/A3	
14		36A/A3	
13		36A/A3	
12		36A/A3	
11		36A/A3	
10		36A/A3	
04			
03			
02			
01			
00	22D2		
COIL	385	385	

NETWORK

DESIG	LOC	CODE
MCU	385	180A

81

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C77

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

E-7422-A-1 (8-64)

SD-25680-01-C77

APP FIG 69

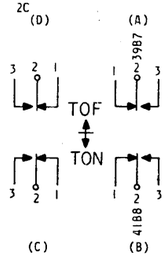
RELAY

DESIG	3A7		CP0		CP0A		ID0		ID01		ID02		ID03		TKR3		TKR4		TKR5		DESIG
CODE	AF4		AF12		AJ12		AJ15		AJ95		AJ104		AJ12		AG59		AF120		AJ504		CODE
OPTION					ZXV																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	12F3	EBM		EBM		M	32A9	EBM		EBM		BM		EM				12
11			M		EBM	28A/F0	EBM		M	33A5			EBM		BM				BM		11
10	M	35C8	M		EBM	31B/D7	EBM		BM		EBM		EBM		BM	41B5	EBM		M	41B5	10
9					EBM	31B/D7	EBM		M	34A3			EBM						BM		9
8	BM		BM	32D6	EBM	31B/D7	EMB		BM	13E2	EBM	35C7	EBM	30B3	BM		EMB	41F8			8
7					EBM	31B/D7	EBM		M	33A7			EBM	32D7			B		BM		7
6	BM	30B3	BM	28A/E0	EBM	31B/D7	EMB		BM		EMB		EBM	12H5	BM		EBM		B		6
5					EBM	31B/B7	EMB	39C5	M	34A5			EBM	40E7			B		BM		5
4	M	32C9	M	62A8	EBM	31B/B7	EBM	28A/B0	BM	43C8	EBM	12F4	EBM	41E8	BM	40E8	PM		M	40D8	4
3			M	37D7	EBM	31B/B7	EBM	23A8	M	34A7			EBM	39G7			B	41C8	BM	41D9	3
2			M	37E8	EBM	31B/B7	EBM	12G5	M	12H5	EBM		EBM	12G5	BM	41F8	EM		M	39B6	2
1			M	12G5	EBM	31B/B7	EBM	2E2	M	12G5			EBM	37E7	BM	39B6			BM	41E8	1
COIL		32C9		37D7		37E7		12H4		12F4		12F4		12G4		41C9		41F9		41E9	COIL

RELAY

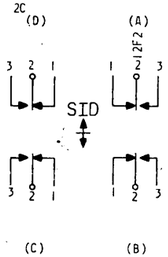
DESIG	TKR6		TKR7																		DESIG
CODE	AF32		AG59																		CODE
OPTION																					OPTION
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	
12	EMB		BM																		12
11			BM																		11
10	EBM		BM																		10
9																					9
8	EBM		BM																		8
7																					7
6	EMB	41E8	BM																		6
5																					5
4	EBM	41C8	BM	41D8																	4
3																					3
2	EBM	41E8	BM	39F2																	2
1			BM	41C8																	1
COIL		41E9		41D9																	COIL

KEY UNIT 2C



KEYTOP

KEY UNIT 2C



KEYTOP

APP FIG 70

RELAY

DESIG	E0D		E0DA		KM0		KM1		KM2		KM4		KM7		M7		M0		M1		DESIG
CODE	AJ15		AJ12		AK23				AK23				AK15				AK6				CODE
OPTION			ZYC		ZXB		ZXB		ZXB		ZXB		ZXB		ZXB		ZXB		ZXB		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				BM	35C9			BM	35C9			B	35D9			BM	35C9	12
11	EBM		EBM				BM	36A/E7			BM	36A/F7			M	35D9			BM	34D8	11
10	EBM		EBM				BM				BM				M	34D8			BM		10
9	EBM	2965	EBM				BM				BM								BM		9
8	EMB	10981	EBM				BM				BM								BM		8
7	EBM		EBM																		7
6	EMB		EBM	72A/E0																	6
5	EMB		EBM	72A/F0	BM				BM								BM				5
4	EBM		EBM	72A/G1	BM				BM				M	36A/G7			BM				4
3	EBM		EBM	72A/G1	BM				BM				BM				BM				3
2	EBM		EBM	72A/H2	BM	35B9			BM	35C9			BM	23H4			BM	35B9			2
1	EBM		EBM	109F2	BM	36A/D7			BM	36A/E7			BM	3509			BM	34D7			1
COIL		10982		109F2		36A/D7		36A/E7		36A/E7		36A/F7		36A/F7		34D8		34D7		34D8	COIL

APP FIG 71

RELAY

DESIG	M2		M4		M5		O5N				SAI				ID		IDA				DESIG
CODE	AK6				AJ15		AJ15				AJ12				AK6						CODE
OPTION	ZXB		ZXB		ZXB		ZYC														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	35D9	EBM	34E6	EBM				EBM	48H2			BM						12
11			BM	34D8	EBM	34E6	EBM				EBM	48H2			BM						11
10			BM		EBM	34E5	EBM				EBM	84E7			BM	110H4					10
9			BM		EBM	34E6	EBM				EBM	84F8			BM	28B/B9					9
8			BM		EMB	28B/A7	EMB				EBM	382			BM	109A1					8
7					EBM	34E6	EBM				EBM	35F5									7
6					EMB		EMB	70B/C8			EBM	3E2									6
5	BM				EMB	28B/F8	EMB	70B/D8			EBM	41B6									5
4	BM				EBM		EBM				EBM	308					BM				4
3	BM				EBM		EBM				EBM	41A7					BM				3
2	BM	35C9			EBM	23G4	EBM	19F9			EBM	22D1					BM				2
1	BM	34D7			EBM	28B/C8	EBM	72A/G0			EBM	3A4					BM	35H4			1
COIL		34D7		34D8		28B/G8		70B/E8				22D9				30A6		110H4			COIL

APP FIG 72

LAMP DESIG	LOC	CODE
ZXF OSN	19D9	2Y

NETWORK DESIG	LOC	CODE
E0D	109A2	
ZYC E0DA	109F2	
KM0	36D7	
KM1	36E7	
KM2	36E7	
KM4	36F7	
KM7	36F7	185A
ZXB M0	34D7	
M1	34D8	
M2	34D7	
M4	34D8	
M7	34D8	
MS	28B/F8	
ZYC OSN	70B/F9	

DRAWING ISSUE
81D
85A
86D
88D

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C78

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-C78

APP FIG. 73

RELAY

DESIG	DPA																		DESIG
CODE	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	
12	EBM	43H5																	12
11	EBM																		11
10	EBM																		10
9	EBM	43H4																	9
8	EBM	43H4																	8
7	EBM	43H5																	7
6	EBM	43F5																	6
5	EBM	35B8																	5
4	EBM	26C8																	4
3	EBM	26B8																	3
2	EBM	24F3																	2
1	EBM	24G2																	1
COIL		46C9																	COIL

RELAY

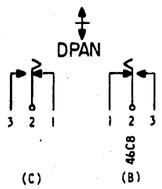
DESIG																			DESIG
CODE																			CODE
OPTION																			OPTION
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	
12																			12
11																			11
10																			10
9																			9
8																			8
7																			7
6																			6
5																			5
4																			4
3																			3
2																			2
1																			1
COIL																			COIL

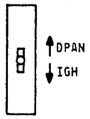
KEY OR KEY UNIT

C1G 2C

KEY TOP

(IGH) PART OF KEY SHOWN IN APP FIG.20





DRAWING ISSUE 89D

89

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-C79

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-C79

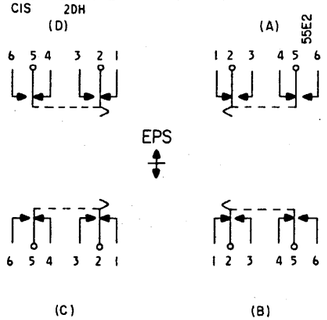
APP FIG. 74

RELAY

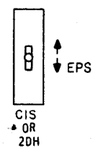
DESIG	EPS																	
CODE	U275																	
OPTION																		
	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC	CONT NO.	CONT ARR	LOC
TOP	9,8	M	35C5															
	7,6,5	BM																
	4,3	M	32E9															
	2,1	M	32E9															
BOT	2,1	B																
	4,3	B																
	7,6,5	BM																
	9,8	M																
COIL			55E2															

KEY OR KEY UNIT

CIS 2DH



KEYTOP



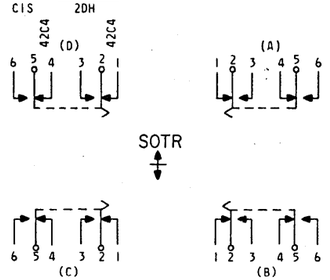
RELAY

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

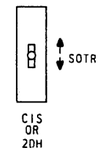
APP FIG. 75

KEY OR KEY UNIT

CIS 2DH



KEY TOP



MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT		DWG SIZE 6S	ISSUE 106B
BELL LABORATORIES	SD-25680-01-		C80

CIRCUIT NOTES:

101.

DESIG	FUSE AMP	POTENTIAL	ONE PER
B1	1-1/3	48V SIG	CKT
B2	1-1/3	48V SIG	CKT
B3	1-1/3	48V SIG	CKT & APP FIG 46
B4	1-1/3	48V SIG	CKT
D1	1-1/3	48V SIG	APP FIG 19,27 & 28
D2	1-1/3	48V SIG	APP FIG 27 & ALL APP FIG 31
D3	1-1/3	48V SIG	APP FIG 26
D4	1-1/3	48V SIG	ALL APP FIG 29 & APP FIG 30 & 41
D5	1-1/3	48V SIG	APP FIG 14,18 & AB
D6	1-1/3	48V SIG	APP FIG 26
D7	1-1/3	48V SIG	APP FIG 26
D8	1-1/3	48V SIG	APP FIG 26
D9	1-1/3	48V SIG	APP FIG 22 & 24 FOR INC REG LINK GR 0-5
D10	1-1/3	48V SIG	APP FIG 21,56 & W OR X,70
D11	1-1/3	48V SIG	APP FIG 21
D12	1-1/3	48V SIG	APP FIG 3,4 OR 5 FOR INC REG LINK GR 0-1
D13	1-1/3	48V SIG	APP FIG 4 OR 5 FOR INC REG LINK GR 2-3
D14	1-1/3	48V SIG	APP FIG 4 OR 5 FOR INC REG LINK GR 4-5
D15	1-1/3	48V SIG	APP FIG 4 OR 5 FOR INC REG LINK GR 6-7
D16	1-1/3	48V SIG	APP FIG 4 OR 5 FOR INC REG LINK GR 8-9
D17	1-1/3	48V SIG	APP FIG 11
D18	1-1/3	48V SIG	APP FIG 11
D19	1-1/3	48V SIG	APP FIG 11
D20	1-1/3	48V SIG	APP FIG 32
D21	1-1/3	48V SIG	APP FIG 20,52 E & Y OR Z
D22	1-1/3	48V SIG	APP FIG 20,APP FIG. 74
D23	1-1/3	48V SIG	APP FIG 22 & 24 FOR INC REG LINK GR 6-14
D24	1-1/3	48V SIG	APP FIG 19
D25	1-1/3	48V SIG	APP FIG 9
D26	1-1/3	48V SIG	APP FIG 9 & APP FIG B OR P
D27	1-1/3	48V SIG	APP FIG 7
D28	1-1/3	48V SIG	APP FIG 17 & 43
D29	1-1/3	48V SIG	APP FIG 4 OR 5 FOR INC REG LINK GR 10-11
D30	1-1/3	48V SIG	APP FIG 4 OR 5 FOR INC REG LINK GR 12-13
D31	1-1/3	48V SIG	APP FIG 4 OR 5 FOR INC REG LINK GR 14
D32	1-1/3	48V SIG	APP FIG 51,58,66
D33	1-1/3	48V SIG	APP FIG 9,20,63
D34	1-1/3	48V SIG	APP FIG 53,54,62
E1	1-1/3	48V SIG	APP FIG 16
E2	1-1/3	48V SIG	APP FIG 16
E3	1-1/3	48V SIG	APP FIG 16
E4	1-1/3	48V SIG	APP FIG 16,73
E5	1-1/3	48V SIG	APP FIG 16
E6	1-1/3	48V SIG	APP FIG 16
E7	1-1/3	48V SIG	APP FIG 16
E8	1-1/3	48V SIG	APP FIG 16
E9	1-1/3	48V SIG	APP FIG 16
E10	1-1/3	48V SIG	APP FIG 16
E11	1-1/3	48V SIG	APP FIG 16
E12	1-1/3	48V SIG	ALL APP FIG 25
E13	1-1/3	48V SIG	APP FIG 6 & 8 & ALL APP FIG 7
E14	1-1/3	48V SIG	APP FIG 6 & 8 & ALL APP FIG 7
E15	1-1/3	48V SIG	APP FIG 2
E16	1-1/3	48V SIG	APP FIG 2
E17	1-1/3	48V SIG	APP FIG 13
E18	1-1/3	48V SIG	APP FIG 13
E19	1-1/3	48V SIG	APP FIG 15,17 & AC OR AD
E20	1-1/3	48V SIG	APP FIG. 12
E21	1-1/3	48V SIG	APP FIG 12
E22	1-1/3	48V SIG	APP FIG 1
E23	1-1/3	48V SIG	APP FIG 10
E24	1-1/3	48V SIG	APP FIG 10
E25	1-1/3	48V SIG	APP FIG 16
E26	1-1/3	48V SIG	APP FIG V
E27	1-1/3	48V SIG	APP FIG 57,64

101.

DESIG	FUSE AMP	POTENTIAL	ONE PER
F1	1-1/3	48V SIG	APP FIG 33
F2	1-1/3	48V SIG	APP FIG 33
F3	1-1/3	48V SIG	APP FIG 33
F4	1-1/3	48V SIG	APP FIG 33
F5	1-1/3	48V SIG	APP FIG 33
F6	1-1/3	48V SIG	APP FIG 34
F7	1-1/3	48V SIG	APP FIG 34
F8	1-1/3	48V SIG	APP FIG 34
F9	1-1/3	48V SIG	APP FIG 35
F10	1-1/3	48V SIG	APP FIG 36
F11	1-1/3	48V SIG	APP FIG 37
F12	1-1/3	48V SIG	APP FIG 38
F13	1-1/3	48V SIG	APP FIG 38
F14	1-1/3	48V SIG	APP FIG 39
F15	1-1/3	48V SIG	APP FIG 40
F16	1-1/3	48V SIG	APP FIG 40
F17	1-1/3	48V SIG	APP FIG 40
F18	1-1/3	48V SIG	APP FIG 40
*G1	1-1/3	48V SIG	APP FIG 55
*G2	1-1/3	48V SIG	APP FIG 59
*G3	1-1/3	48V SIG	APP FIG 60,61
**G4	1-1/3	48V SIG	APP FIG 60
XG5	1-1/3	48V SIG	APP FIG 69,70,72
***M3	1-1/3	48V SIG	APP FIG 71
P1	1-1/3	48V SIG	APP FIG 46,48
P2	1-1/3	48V SIG	APP FIG 47,49
D1	0.5	+130V SIG	APP FIG 14
D2	0.5	+130V SIG	APP FIG 11
D3	0.5	+130V SIG	APP FIG 9 & 32
D4	0.5	+130V SIG	APP FIG 17 & 43
E1	0.5	+130V SIG	APP FIG 2
E2	0.5	+130V SIG	APP FIG 13
E3	0.5	+130V SIG	APP FIG 10
F1	0.5	+130V SIG	APP FIG 33
F2	0.5	+130V SIG	APP FIG 36
F3	0.5	+130V SIG	APP FIG 40
G1	0.5	-130V SIG	APP FIG 13
B1		GRD	CKT
B2		GRD	CKT
B3		GRD	CKT, APP FIG 46
B4		GRD	CKT
D1		GRD	APP FIG 27 & 30
D2		GRD	APP FIG 27 & 28
D3		GRD	APP FIG 14 & 18
D4		GRD	APP FIG 26
D5		GRD	APP FIG 22 & 24 FOR INC REG LINK GR 0-5 (QC OPTION) 0-2 (QD OPTION)
D6		GRD	APP FIG 21,70
D7		GRD	APP FIG 3 & 5 & ALL FIG 4
D8		GRD	APP FIG 11
D9		GRD	APP FIG 11
D10		GRD	APP FIG 32
D11		GRD	APP FIG 20,APP FIG. 74
D12		GRD	APP FIG 20,52

101.

DESIG	FUSE AMP	POTENTIAL	ONE PER
D15		GRD	APP FIG 9,63
D16		GRD	APP FIG 9,63 & APP FIG B OR P
D17		GRD	APP FIG 17 & 43
D18		GRD	APP FIG 17
D19		GRD	APP FIG 22 & 24 FOR INC REG LINK GR 3-5
D20		GRD	APP FIG 22 & 24 FOR INC REG LINK GR 6-8
D21		GRD	APP FIG 22 & 24 FOR INC REG LINK GR 9-11
D22		GRD	APP FIG 22 & 24 FOR INC REG LINK GR 12-14
D32		GRD	APP FIG 51,58
D33		GRD	APP FIG 9, APP FIG 20
D34		GRD	APP FIG 54
E1		GRD	APP FIG 16,73
E2		GRD	APP FIG 16
E3		GRD	APP FIG 2,6 & 8 & ALL APP FIG 7
E4		GRD	APP FIG 13
E5		GRD	APP FIG 13
E6		GRD	APP FIG 13,15 & AC OR AD
E7		GRD	APP FIG 12
E8		GRD	APP FIG 1
E9		GRD	APP FIG 1
E10		GRD	APP FIG 10
E11		GRD	APP FIG 10
E12		GRD	APP FIG V
E13		GRD	APP FIG 57,64
F1		GRD	APP FIG 33
F2		GRD	APP FIG 33
F3		GRD	APP FIG 33
F4		GRD	APP FIG 33
F5		GRD	APP FIG 33
F6		GRD	APP FIG 34
F7		GRD	APP FIG 34
F8		GRD	APP FIG 34
F9		GRD	APP FIG 35
F10		GRD	APP FIG 36
F11		GRD	APP FIG 37
F12		GRD	APP FIG 37
F13		GRD	APP FIG 37
F14		GRD	APP FIG 38
F15		GRD	APP FIG 39
F16		GRD	APP FIG 40
F17		GRD	APP FIG 40
F18		GRD	APP FIG 40
*G1		GRD	APP FIG 55
*G2		GRD	APP FIG 60,61
**G3		GRD	APP FIG 60
*G4		GRD	APP FIG 59
XG5		GRD	APP FIG 69,70
P1		GRD	APP FIG 46,48
P2		GRD	APP FIG 47
LT1	0.5	TONE	APP FIG 20

BATTERY SYMBOL	VOLTAGE RANGE
-48	45-50 48.5-50
+130	125-135 133-135

* FUSED AT MISC REL RACK WHERE THE UNIT IS MOUNTED.

** G3 GRD & G4 FUSE SUPPLIED FROM THE SAME FR AS THAT ON WHICH THE "TOUCH-TONE" RECEIVER IS MOUNTED.

*** M3 FUSE SUPPLIED ON OG SDR-AIS FR

SEE NOTE 301

DRAWING ISSUE

64D	AJU
65D	
66AR	
67D	
68D	
69A	
70D	
72A	
77A	CR
81D	
89D	

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-D1

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25680-01-D1

STA814.0

CIRCUIT NOTES: (CONT)

102. LOOP SIMILARLY DESIGNATED LEADS WHEN APPARATUS OMITTED.

PAR.	FEATURE OR OPTION			PROVIDE APP FIG	PROVIDE APP OR WRG	PROVIDE QUANTITY
1	MONITOR CONTROLLER			1		1 PER CKT
2	WHERE ALARM SENDING CKT IS NOT PROVIDED AND THIS CKT IS NOT ARRANGED FOR THE INTERFACE AND CONTROL CKT (SEE NOTE 1280)				YI	
3	MONITORING ALLOTTER			2		1 PER CKT
4	INCOMING REGISTER OR DIAL TRANSFER REGISTER PREFERENCE	FOR FIRST REGISTER		3		1 PER CKT
		FOR INTERMEDIATE REGISTER		4		1 PER INTER INC REG
		FOR LAST REGISTER		5		1 PER CKT
5	MARKER PREFERENCE (CM & DT)	FOR FIRST CM		6		1 PER CKT
		FOR INTERMEDIATE CM		7		1 PER INTER MKR
		FOR LAST CM		8		1 PER CKT
6	TEST CONTROLLER			9		1 PER CKT
7	CONNECTOR CONTROLLER			10		1 PER CKT
8	ORIGINATING REGISTER TEST CONTROLLER			11		1 PER CKT
9	DIAL PULSE AMPLIFIER REPEATER AND BIAS CONTROLLER			13		1 PER CKT
10	DIGIT TIMING TESTER			14	FZ	1 PER CKT
11	DIAL PULSE COUNTER			15		1 PER CKT
12	STEERING REGISTER, AND MATCHING RELAYS FOR	11 DIGITS		16	2XA	1 PER CKT
		12 DIGITS			2XB	
13	OUTPULSE STEERER			18		1 PER CKT
14	DIGIT GROUPER			19		1 PER CKT
15	DIAL PULSE GENERATOR			26		1 PER CKT
16	LINE IDENTIFIER			28		1 PER CKT
17	MARKER UNITS IDENTIFIER			29		1 PER MKR FOR FIRST 10 MKR
19	WHERE THIS CKT FUNCTIONS WITH NO	ORIGINATING REGISTERS EQPD TO SERVE COIN LINES			WJ	
		MF INCOMING REGISTER NOR MF SENDERS			YJ	
		REVERTIVE INC NOR CENT. B SWBD REVERTIVE PULSING REGISTER			YO	
		CENT.B SWBD REVERTIVE PULSING REGISTER	TEST RECEIVER	A		1 PER CKT
		MF INCOMING REGISTERS			XA	
20	WHERE ORIGINATING REGISTERS SERVE COIN LINES AND REGISTER RETURNS COIN ON PERMANENT SIGNAL AND ABANDONED CALLS ONLY				CS,VB, WJ,WZ, XO,XQ	
		ONE OR MORE REGS IN MKR GROUP ARR WITH COIN SERVICE IMPROVEMENT DIAL TONE FIRST FEATURE AND COIN REGS SERVE (COIN TEST IN REG)	LOOP START COIN LINES ONLY		ZZG,ZZH, ZZK,ZVN	
			BOTH LOOP START AND GROUND START COIN LINES IN SAME REGISTER GROUP OR ALL GROUND START COIN LINES		WG, ZZI	
			LOOP START AND GROUND START COIN LINES IN SEPARATE REGISTER GROUPS		WG, ZZJ	

PAR.	FEATURE OR OPTION			PROVIDE APP FIG	PROVIDE APP OR WRG	PROVIDE QUANTITY
20	WHERE ORIGINATING REGISTERS SERVE COIN LINES AND REGISTER RETURNS COIN ON PERMANENT SIGNAL AND ABANDONED CALLS ONLY	NO REGS IN MKR GROUP ARR WITH COIN SERV IMPROVEMENT DIAL TONE FIRST FEATURE	ALL COIN REGS SERVE COIN FIRST GROUND START COIN LINES ONLY (COIN TEST IN LINE CKT)		WG, ZZF, ZZI, ZVM	
		WHERE COIN RETURN POTENTIAL IS	NEGATIVE		G	
			POSITIVE		F	
22	WHERE THIS CKT FUNCTIONS WITH ANY OUTGOING SDR	SDR TEST CONTROLLER		17		1 PER CKT
		SDR GR SELECTOR		25		1 PER CKT
		OUTGOING TRK FR SELECTION		31		1 PER TRK LINK FR
	WHERE THIS CIRCUIT FUNCTIONS WITH ANY OUTGOING SDR; ANY SDR ARRANGED TO OUTPULSE ARBITRARY DIGITS	ONE DIGIT ONLY AND/OR AIS OPER			SV,SY, Z	
		ONE DIGIT AND/OR TWO DIGITS AND/OR THREE DIGITS	MARKER ARRANGED FOR TWO OR THREE DIGIT CODE CONVERSION (MARKER EQPD TO OPERATE AR- AND BR- DIGIT REGISTERS)		SV,SW, SX,SY Z	
		ONE DIGIT AND/OR II OR XX PREFIX	MARKER NOT ARRANGED FOR TWO OR THREE DIGIT CODE CONVERSION (TWO OR THREE DIGITS OBTAINED ON CLASS I BASIS WITH FIRST TWO DIGITS CROSS CONNECTABLE BUT FIXED FOR MARKER GR)		R,SV, SY,Z BH	
	WHERE THIS CKT FUNCTIONS WITH ANY OUTGOING SDR	DIAL PULSE SENDERS	PROVIDE NOT PROVIDED	43	RX	1 PER CKT
		FOR REVERTIVE SENDERS	FOR COMBINED TWO AND THREE DIGIT OFFICE CODES		YT	
			FOR OFFICE CODES OF THREE DIGITS ONLY		YS	

PAR.	FEATURE OR OPTION			PROVIDE APP FIG	PROVIDE APP OR WRG	PROVIDE QUANTITY
22	WHERE THIS CKT FUNCTIONS WITH ANY OUTGOING SDR	FOR REVERTIVE SENDERS	FOR OFFICE CODES OF TWO DIGITS ONLY		YQ	
			MISC		SG,SY, VR,VT, VV,BH, BK	
	WHERE THIS CKT FUNCTIONS WITH ANY OUTGOING SDR (SEE NOTE 1262,1271)	FOR ANY REVERTIVE SENDERS	REVERTIVE AND PCI SDR TEST CONTROLLER	40	BK	1 PER CKT
		MISC		44,45		1 PER CKT
		FOR MF SENDERS	ARRANGED FOR ANI OR ANI-LAMA SEE NOTE 1291		JH,JJ, SV,SY, Z,CC, BD,ZXJ	
			211 CODE WITH DL3 MARK ROUTED TO TSPS AS O OPERATOR (O-) CALL (SEE NOTE 1272) YES	V	ZWS	
			211 CODE WITH DL3 MARK ROUTED TO TSPS AS O OPERATOR (O-) CALL (SEE NOTE 1272) NO		ZWR	
			NOT ARRANGED FOR ANI OR ANI-LAMA	U	CB, JI, BC	1 PER CKT
			ARRANGED TO FUNCTION WITH AIS VIA LLP OR ETS-LLP AND/OR TSPS-IDDD		BH, BK, ZXS	
			AND THIS CKT DOES NOT FUNC WITH: ANY OG SDR ARR FOR OUTPULSING ONE ARB DIGIT AND/OR II OR XX PREFIX DIGIT, AND MKR IS NOT ARR FOR 2 OR 3 DIGIT CODE CONVERSION; REVERTIVE SENDERS (MISC); AND 4-WIRE OG SENDERS(OPTIONS R,YR,VR OR CY NOT EQUIPPED)		ZWK	
			ARRANGED TO FUNCTION WITH AIS VIA LLP OR ETS-LLP YES		BI	
			ARRANGED TO FUNCTION WITH AIS VIA LLP OR ETS-LLP NO		BG	
			NOT ARRANGED FOR ANI OR ANI-LAMA & NOT ARRANGED FOR AIS		BN	
			ARRANGED TO FUNCTION WITH ANI OR ANI-LAMA OR AIS(SEE NOTE 1250)	59	ZZT	1 PER CKT
		FOR DP OR MF SENDERS	ARRANGED FOR LLP OR ETS-LLP (SEE NOTE 1262)		AU,JM, JZ, ZYD	
		SENDER GROUP SEL SW	WHERE THIS CKT FUNCTIONS WITH 12 PULSING SENDER GROUPS	H	ZZB	1 PER CKT

PAR.	FEATURE OR OPTION			PROVIDE APP FIG	PROVIDE APP OR WRG	PROVIDE QUANTITY
22A	WHERE THIS CKT FUNCTIONS WITH ANY OUTGOING SENDER (SEE NOTES 1262,1271,1282)		YES		CU,ZWQ, ZXH, ZXU	
			NO		AT	
23	WHERE THIS CKT FUNCTIONS WITH ANY INCOMING REGISTER OR STATION DIAL TRANSFER REGISTER	INCOMING REGISTER TEST CONTROLLER		20		1 PER CKT
		INCOMING REGISTER GROUP CONTROLLER		22		1 PER LINK GR OF INC OR TR REGISTERS
		INCOMING REGISTER GROUP SWITCH		AG		1 PER CKT
		ARRANGED TO SERVE TRUNKS WITH APPEARANCE ON LINE LINK FR	TANDEM TRK IDENTIFIER	30	ZWA,JA	1 PER CKT
		FOR REVERTIVE REGISTERS			SG,UK	
		FOR CENT. B SWBD REVERTIVE	TEST TELEPHONE	P		1 PER CKT
		PULSE REGISTERS	MISC		SG,UL	
		FOR MF REGISTERS AND/OR DP REGISTERS	WINK TESTER	32		1 PER CKT
		REVERTIVE REGISTER TEST CONTROLLER		33		1 PER CKT
		FOR MF REGISTER OR TRANSFER REGISTER IN OFFICE ARRANGED FOR CENTREX SERVICE	NO		J8	
			YES		JC	
		INCOMING REGISTER GROUP SELECTOR		24		1 PER LINK GR OF INC OR TR REGISTERS
24	WHERE THIS CKT FUNCTIONS WITH ANY INCOMING REGISTER AND/OR OUTGOING SDR			67		1 PER CKT
		TRK LINK FR AND TRK IDENTIFIER		27	QM	1 PER CKT
		WHERE THERE ARE	MORE THAN 20 TRK LINK FRAMES		NU,NZ	
			MORE THAN 20 TRK LINK FRAMES OR WHERE THIS CKT FUNCTIONS WITH 4-W INCOMING REGISTER OR 4-W OUTGOING SENDERS OR WHERE SMALL CROSSBAR SWITCH IS PROVIDED AND TRUNKS ARE TERMINATED ON MORE THAN 8 LEVELS		NX	
		INCOMING REGISTER AND OUTGOING SDR SELECTOR SWITCH		42		1 PER CKT
		FOR MF REGISTERS AND/OR SENDERS	MF AMPLIFIER	12		1 PER CKT
		FOR REVERTIVE SENDERS, REVERTIVE REGISTERS AND/OR CENT. B SWBD REVERTIVE PULSE REGISTERS	REVERTIVE PULSE COUNTER	34		1 PER CKT
			REVERTIVE PULSE REGISTER	35		1 PER CKT

DRAWING ISSUE
86D
88D
89D

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-D3A

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25680-01-D3A

CIRCUIT NOTES: (CONT)
LOOP SIMILARLY DESIGNATED LEADS WHEN APPARATUS IS OMITTED.

102.

PAR.	FEATURE OR OPTION			PROVIDE: APP FIG	APP OR FIG	QUANTITY
25	"TOUCH-TONE" ORIGINATING REGISTER OR "TOUCH-TONE" TRANSFER REGISTER	NOT TESTED			LV	
		TESTED		46,47 48,49	LW	1 PER CKT
26	WHERE THIS CIRCUIT FUNCTIONS WITH MF INCOMING REGISTERS AND/OR TESTS "TOUCH-TONE" ORIGINATING REGISTERS OR TR REGISTERS	MF PULSE GENERATOR		21		1 PER CKT
27	FIVE DIGIT TRANSLATOR			50	FX	1 PER CKT
28	WHERE THIS CKT FUNCTIONS WITH A STATION DIAL TRANSFER REGISTER AND LINE IDENTIFIER IS PROVIDED			51, 58	CL,GC, GH,IE, IG,IH, II,IK, IS,IU	1 PER CKT
29	NO OPERATION WITH STATION DIAL TRANSFER REGISTER				CL,GA GH,ID IF,IJ, IT	
30	THIS CIRCUIT ARRANGED TO TEST THE DIAL PULSE REGISTER AND/OR "TOUCH-TONE" RECEIVER OF A REVERTING CALL TRK	YES			GJ	
		NO			GI	
31	WHERE THIS CKT TESTS BUT DOES NOT MONITOR STATION DIAL TRANSFER REGISTERS				GB	*
32	OFFICE IS ARRANGED FOR	RANGE EXTENSION FOR UNIGAUGE CABLING	YES		CA,EE	
			NO		ED	
		TOLL DIVERSION	YES		EG, ZVR	
			NO		EF, ZVQ	
33	CLASS AND TRANSLATOR CHECK			52		1 PER CKT
34	LOCAL AND FOREIGN AREA TRANSLATORS	AND MKR GR IS ARR FOR "TOUCH-TONE" OPERATION	YES	53	ZWL	1 PER CKT
			NO		ZWM	
35	TRANSLATORS AND DIGIT CONNECTOR			54		1 PER CKT
36	WHERE THIS CKT TESTS 4-W ORIGINATING REGISTER (ALSO SEE NOTE 1214, 1260)	FUNCTIONS WITH 4-W INCOMING REGISTER	YES	55	DJ, DK, DM, GG	DW, CK
			NO			DT
		AND FUNCTIONS WITH 4-W OUTGOING SENDER (SEE NOTE 1262)	YES			CE, CG, CI, CY, DS
			NO			CD, CF, CH, DR
		AND FUNCTIONS WITH 4-W INCOMING REGISTER AND/OR 4-W OUTGOING SENDERS		57	DQ	1 PER CKT
		AND DOES NOT FUNCTION WITH 4-W INCOMING REGISTER NOR WITH 4-W OUTGOING SENDERS			DP	
37	NO OPERATION WITH 4-W CKT				CD,CF, CH, DJ,DL, DP, DR,DT	
38	WHERE THIS CKT MONITORS "TOUCH-TONE" CALLS (SEE NOTE 1231)		YES	60	BX	1 PER CKT
			NO		BW, BY	
39	WHERE THIS CKT MONITORS 4-W ORIGINATING REGISTER			61		1 PER CKT
40	WHERE THIS CKT MONITORS STATION DIAL TRANSFER REGISTER			63	GA	1 PER CKT

PAR.	FEATURE OR OPTION			PROVIDE: APP FIG	APP OR WRG	QUANTITY
41	WHERE THIS CKT TESTS 4-W ORIGINATING REGISTER AND/OR STATION DIAL TRANSFER REGISTER WITH LINE IDENTIFIER PROVIDED			66		1 PER CKT
42	WHERE THIS CKT TESTS 4-WIRE ORIG REG(S) AND/OR 2-WIRE ORIG REG(S) AND/OR TRANSFER REG(S) ARRANGED TO FUNCTION WITH "TOUCH-TONE" SETS EQUIPPED WITH 12 BUTTONS. (ALL 3X4 FREQUENCY COMBINATIONS AVAILABLE) SEE NOTE 1246			56		1 PER CKT
44	WHERE THIS CKT FUNCTIONS WITH ORIG REGISTERS ARRANGED FOR INTERNATIONAL DIRECT DISTANCE DIALING (IDDD) SEE NOTE 1254		YES	72	ZYF, AC	1 PER CKT
			NO		AB	
45	WHERE THIS CKT FUNCTIONS WITH MF SENDERS ARR FOR INTERNATIONAL DIRECT DISTANCE DIALING (IDDD)	LAMA-IDDD SEE NOTE 102 (50)		69		1 PER CKT
		TSPS-IDDD SEE NOTES 1221, 1240, 1261, 1262	YES		ZXL, ZXT	
			NO		ZXK	
46	WHERE THIS CKT FUNCTIONS WITH ORIGINATING REGISTERS ARRANGED FOR SEE NOTES 102 (42) AND 1246	END OF DIALING		70	EI, ZYC, ZXF	
		TWELVE DIGITS			EH, ZYC, ZXF	
		NEITHER			EH	
49	WHEN THERE ARE MORE THAN TEN COMPLETING MARKERS-MARKER IDENTIFIER (SEE NOTE 1255)			41	WI	1 PER CKT
50	WHERE THIS CKT FUNCTIONS WITH MF SENDERS ARRANGED FOR INTERNATIONAL DIRECT DISTANT DIALING (LAMA-IDDD), AND THE MARKER IS NOT EQUIPPED WITH 2 OR 3 DIGIT CODE CONVERSION (CODE CONVERSION PREROUTE RELAYS) SEE NOTE 102 (45)				ZXV	

PAR.	FEATURE OR OPTION			PROVIDE: APP FIG	APP OR WRG	QUANTITY
51	WHERE PRECISE TONE SIGNALS ARE (SEE NOTE 1264)	PROVIDED (SOLID STATE RINGING AND TONE PLANT)			ZXZ	
		NOT PROVIDED (ELECTRO MECHANICAL RINGING AND TONE PLANT)			ZXY	
52	WHERE THIS CKT IS ARRANGED FOR 4-WIRE OPERATION AND/OR HANDLING DIGIT CALLS (SEE NOTE 1260)				DH	
53	WHERE THIS CKT FUNCTIONS WITH (SEE NOTE 1280)					
		ALARM SENDING WITHOUT INTERFACE AND CONTROL CKT			ZWT	
		INTERFACE AND CONTROL CKT			ZWU	
54	WHERE THIS CIRCUIT TESTS THE HOLD FORWARD FEATURE OF DP SENDERS (SEE NOTE 122)		YES		ZVC	
			NO		ZVF	
55	STANDARD TIMING TESTS OF SENDERS (SEE NOTE 1257) AND LLP OR ETS-LLP PROVIDED IN THIS CKT		YES		ZUD	
			NO		ZUE	
56	WHERE THIS CIRCUIT FUNCTIONS WITH SENDERS ARRANGED TO RETURN REORDER UPON RECOGNITION OF AN OPEN LOOP DURING OUTPULSING. SEE NOTE 1290 ALSO.			75		

PAR.	FEATURE OR OPTION	PROVIDE: APP FIG	APP OR WRG	QUANTITY

DRAWING ISSUE
860
88D
89D

ISSUE
106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-D3B

BELL TELEPHONE LABORATORIES INCORPORATED

SWG 6S

PRINTED IN U.S.A.

SD-25680-01-D3B

CIRCUIT NOTES:(CONT)

103. RECORD OF APP FIGURES, WIRING, AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	A&M	MD
6B	YO	NONE		YO		
9D	XF OR XI	XI	113	XF		XI
	WI	NONE	102, 149	WI		
	XB,XC,XG, XH	XG	102	XB,XC, XG,XH		
11D	XL,XO,XP	XL	102	XL,XO, XP		
	XM OR XQ	XM	102	XM,XQ		
	XN OR WJ	XN	102	XN,WJ		
	XR,XS,OR WG	XR	102	XS,WG		XR
	XT OR XU	XT	107	XU		XT
13B	WE OR WF	WE	109	WF		WE
	WA OR WB	WA	110	WB		WA
	WC,WD OR XW	NONE	102	WC,WD, XW		
	WH	NONE	102	WH		
	WU OR WV	WU		WV		WU
	WW OR WX	WW		WX		WW
	WK OR WL	WK		WL		WK
15D	WY,WZ,VA VB	XL OR NONE	102	WZ,VB		XL,WY, VA
	VC	XN,WJ OR NONE	102	VC		XN
	VD OR VE	VD		VE		VD
	VF OR VG	VF		VG		VF
	VH OR VI	VH		VI		VH
	VJ OR VK	VJ	1281	VK		VJ
	VL OR VM	VL		VM		VL
	VN OR VO	VM		VO		VN
	VP	YP OR NONE	102	VP		YP
	VR,VS,VT, VU,VV	YR OR NONE	102	VR,VT, VV		YR,VS, VU
	VW OR VX	VW		VX		VW
	VY OR VZ	VY		VZ		VY
	UA	YA OR NONE	102	UA		YA
	UC	YC OR NONE	102	UC		YC
	UB OR UD	UB		UD		UB
	UE OR UF	UE		UF		UE
	UG OR UH	UG		UH		UG
	UI OR UJ	UI		UJ		UI
	UK	YK OR NONE	102	UK		YK
	UL	YL OR NONE	102	UL		YL
	UM OR UN	UM		UN		UM
	UO OR UP	UO		UP		UO
	UQ OR UR	UQ		UR		UQ
	UU OR UV	UU		UV		UU
17B	UW,UX,UY, UZ,TA,TB, TC,TD,TE	NONE	102	UW,UX, UY,UZ, TA,TB, TC,TD, TE		
18AR	XX OR VQ	ZA,VQ OR NONE	102, 114	XX		ZA,VQ
19B	TF OR TG	TF		TG		TF
	TJ OR TK	TJ		TK		TJ
	TL OR TM	TL	102	TL,TM		
	TN OR TO	TN	1253	TO		TN
	SB OR SC	SB		SC		SB
	SD OR SE	SD		SE		SD
20AR	SL OR SM	SL	115	SM		SL
	SJ OR SK	SJ		SK		SJ
21D	SF	NONE		SF		
	SG	NONE	102	SG		
	TP OR TQ	TP	102, 149	TQ,TP		
	WR	NONE	102	WR		
	TR,TS,TT, TU,TZ,SA	NONE	102, 149	TR,TS, TT,TU, TZ,SA		
22B	SN,SO	SN		SO		SN
	SP,SQ	SP		SQ		SP
	SR,SS	SR		SS		SR
	RB	RA	117	RB		RA
24D	RE	XZ & RC OR TM & RD OR NONE	102	RE		RC,RD

103. RECORD OF APP FIGURES, WIRING, AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	A&M	MD
24D	RF	NONE	118	RF		
	RH	RG	116	RH		RG
25D	SZ	NONE	102	SZ		
	RJ	RI	120	RJ		RI
	ST,SU	ST	119	SU		ST
	SV,SW,SX, SY	NONE	102, 149	SV,SW, SX,SY		
	RM	NONE	121	RM		
	RN OR RO	RN		RO		RN
	RP OR RQ	RP		RQ		RP
	APP FIG E OR F	XC & APP FIG E OR F	102	APP FIG E,F		
	RT OR RU	RT	102	RT,RU		
	RELAYS			U1323		U539
26D	APP FIG G OR H	APP FIG G	221	APP FIG H	APP FIG G	
	APP FIG J OR K	APP FIG J	221	APP FIG K	APP FIG J	
	QC OR QD	QC	101	QD		QC
			102	APP FIG 42		APP FIG 23
	RX,RZ	RX,OR YC & RY WITH RX OR UC & RY WITH RX	102, 123	RX,RZ		RY
	QB	QA	122	QB		QA
	QE,QF	NONE	102	QE,QF		
			102	APP FIG 43		
27B	PH,PI	PH	125	PI		PH
	PJ,PK	PJ	126	PK		PJ
	APP FIG L,M OR N	APP FIG L	105, 124, 141	APP FIG N	APP FIG M	APP FIG L
28D	QG,QH	QG		QH		QG
	QI,QJ	QI		QJ		QI
	QK,QL	QK		QL		QK
	QM	K	102	QM		K
	QN,QO	QN		QO		QN
	QP,QQ	QP		QQ		QP
	QR	ZC	102	QR		ZC
	QS,QT	QS		QT		QS
	QU,QV	QU		QV		QU
	QW	ZB	102	QW		ZB
	QX,QY	QX		QY		QX
	QZ,PA	QZ		PA		QZ
	PB,PC	PB		PC		PB
	PD,PE	PD		PE		PD
	PF,PG	PF		PG		PF
			127	APP FIG D		APP FIG C
30D	PO	PN,YK,PL OR PN,UK, PL OR PN, YL,PM OR PN,UL,PM, OR PN	129, 130	PO		PL,PM, PN
	PP,PQ	PP		PQ		PP
	PR	NONE	131	PR		
	PS,PT,PU	PS	138	PU		PS,PT
	PX,OH	WG WITH PX AND OH OR NONE	132, 137	PX, OH		
	PV,PW	PV	134, 137	PW		PV
	PY,PZ	PY	137	PZ		PY
	OA,OB	OA	137	OB		OA
	OC	YA OR UA WITH OC OR NONE	133, 136, 137	OC		
	OD,OE	OD	136, 137	OE		OD
	OF,OG	OF	132, 137	OG		JF
	OJ,OK	WG WITH OJ OR NONE	132, 137	OK		OJ
	OL,OM	OL	133, 137	OM		OL
	ON,OP,OQ	YA OR UA WITH ON OR NONE	102, 133, 135, 137	OQ		ON,OP

103. RECORD OF APP FIGURES, WIRING, AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	A&M	MD
30D	OR,OS	YA OR UA WITH OR OR NONE	102, 135, 137	OS		OR
	OT,OU (RCR)RES KS-5643 L426	OT		OU 90.9Ω		OT 90Ω
31D	NF,NG	NF	140	NG		NF
	OV,OW,OX, OY,OZ,NA	OV,OW	139	OY,OZ NA		OV,OW, OX
	NB,NC	NB	139	NC		NB
			105, 124, 141	APP FIG M		APP FIG N
	ND,NE	ND	102	ND,NE		
	NH,NI	R WITH NH OR NONE	142, 224	NI		NH
	NJ	NONE	143	NJ		
	MF,MG	MF	150	MG		MF
	NO	NONE		NO		
32B	NP,NQ	PI AND/OR PK WITH NP OR NONE	145, 146 225	NQ		NP
	NR,NS	NR	147	NS		NR
	NL,NN	NK,NM	144	NL,NN		NK,NM
	NT,NU	NONE	102	NU		NT
	NV,NW	NV	143	NW		NV
	NX	NONE	102	NX		
	NY,NZ	NONE	102	NZ		NY
	RELAYS			S522		S516
	APP FIG P	APP FIG A OR B	102	APP FIG P		APP FIG B
33D			149, 1214	A,M,N, P,Q,S, T,U,V, W,X,Y, OO,OS, QE,QF, QR,QW, RE,RZ, SA,SZ, TM,TZ, UA,UC, WC,WD, WH,WR		
			149, 1214	XB,XC, XD,XE, XH,XV, XW,XX, XY,XZ, YB,YD, YE,YH, YU,ZE, ZG,ZH, ZI,ZJ, ZK,ZM, ZO,ZQ, ZY,ZZ		
			149	APP FIG E		TA,TB, TC,TD, TE,TL, UW,UX, UY,UZ, XG,YX, YZ,ZD, ZL,ZN, ZP,Z1, ZV,APP FIG F
34B	MH,MI MJ,MK	MH AND OM AND OS WITH MJ	151	OL, MH		MI, MJ, MK, OM
	APP FIG Q,R	APP FIG Q		APP FIG R		APP FIG Q
	APP FIG S,T	VP OR YP WITH APP FIG S OR NONE	152	APP FIG T		APP FIG S
	MN,MO	MN	153	MO		MN
35D	MA,MB	MA	154, 158	MB		MA

103. RECORD OF APP FIGURES, WIRING, AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	A&M	MD
35D	MC	NONE	154	MC		
	MD,ME	ZJ WITH MD	154, 155, 156	ME		MD
	ML,MM	ML,ZJ	157, 158	MM		NL,ZJ
			158, 159	TQ		TP
			158, 159	TR,TS TT,TU		
	MP	NONE		MP		
	MV,MW	MV	158	MW		MV
36B	MT,MU	OY WITH MT	160	MU		MT
39D	RELAYS			R1174		R1453
40D	MQ,MR	MQ	102, 161	MR,APP FIG 45		MQ
	MS	YP,VP WITH MS OR NONE	161, 164	MS		
	APP FIG 44	YP,VP WITH 44 OR NONE	102, 161, 164	APP FIG 44		
	RESISTORS			144E		1404 1408 140C
				147D		141A
				147E		141C
	LC,LD	LC		LD		LC
	CAPACITOR			4758R		1758R
	LG	PH OR PI	163		LG	
	LH,LT	LH	162	LT		LH
	LJ,LK	LJ	161	LK		LJ
	LL	NONE	161	LL		
41D	LM,LP, APP FIG U,V	LM AND APP FIG U	102, 165	LP,APP FIG U V		LM
42B	LN,LO	YR,VR WITH LN	166	LO		LN
44A	LT	NONE	161	LT		
	LU	NONE	165		LU	
	LS	PI,PK OR NONE	163		LS	
45D	APP FIG W OR X	APP FIG W WITH 21	167 168	APP FIG X		APP FIG W
	LV,LW	LV	102	LV,LW		
	LX,LY	LX	167	LY		LX
			102	APP FIG 46,47, 48,49		
	LZ,KA	L7		KA		LZ
46B	KB,KC	KB	1208	KC		KB
49D	KH OR KI	XE WITH KH OR XY WITH KH	173, 174	KI		KH
	KD	QX OR QY		KD		QY
	KE	QZ OR PA		KE		PA
	KF	PB OR PC		KF		PC
	KG	PF OR PG		KG		PG
	KJ,KK	KJ	177	KK		KJ
50D	KL,KM	YF QA ZH	177, 179, 179	KL, KM	YF	ZF
	KN,KO, KP,KQ, KR,KS, KV	KV	102	KN,KO, KP,KQ, KR,KS, KV		
	KT,KU	KT	177, 180	KU		KT

DRAWING ISSUE

64D AJL 6-m AMC

68D JSS MB AHL

81D

ISSUE 102B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-D5

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-D5

STABILO

CIRCUIT NOTES: (CONT)

103. (CONT) RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	A&M	MD
50D	APP FIG Y OR APP FIG Z	NONE OR APP FIG 20 WITH [SA AND/ OR YH (NOW APP FIG Y) OR NONE]	177, 181	APP FIG Z		APP FIG Y,SA,YH
	APP FIG AA OR APP FIG AB	APP FIG AA	177, 182	APP FIG AB		APP FIG AA
	APP FIG AC OR APP FIG AD	APP FIG AC	177, 183	APP FIG AD		APP FIG AC
	KW,KX KY,KZ	ZQ WITH KW AND ZW WITH KY	185, 186	KX,KZ		KW,KY
	JA	NONE	102,187	JA		
	JD,JE	JD	188	JD		JE
	JB,JC	JB	102	JB,JC		
	JF,JG	JF	189	JG		JF
	JH,JW,JX	JW,JX	102, 192	JH,JX		JW
	JI,JJ	JI	102	JI,JJ		
53D	JM	NONE	102	JM		
	JR,JS	JR	190	JS		JR
	JP,JQ	KM WITH JP	190, 191	JQ		JP
	JT,JU	KK WITH JT	190, 191	JU		JT
	JV	NONE	102	JV		
57D	JZ	NONE	102	JZ		
	APP FIG 50,JK, JL,JY	APP FIG 20 WITH JY AND WITH [ZH (APP FIG 50) OR NONE] AND/OR KP,KQ WITH JK	102, 177, 193	APP FIG 50,JL		JK,JY JH
	IL,IM	IL		IM		IL
	APP FIG AE APP FIG AF	NONE OR APP FIG 48 WITH APP FIG AE	102, 194, 196	APP FIG AF	APP FIG AE	
	IN,IO	KJ OR KK WITH IN	102, 194, 195, 196	IO	IN	
	IP,IQ	APP FIG G OR APP FIG H WITH IP	102, 194, 196	IQ	IP	
	IR, ZYZ	APP FIG 23 OR JF OR JG		IR	JG, ZYZ	
	APP FIG AG	APP FIG J OR APP FIG K		APP FIG AG	APP FIG K	

103. RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	A&M	MD	SPECIAL
58B	IW,IX	NONE OR APP FIG 46 WITH IW		IX		IW	
	IY,IZ	NONE OR APP FIG 46 WITH IY		IZ		IY	
59D	IF,IG,IV IH,II,GH	APP FIG 20 WITH IF AND GH OR NONE	198, 102, 1203	IF,IG IH,II GH	IV		
	ID,IE	NONE OR LY WITH ID	198, 102, 1203	IE, ID			
	IJ,IK	(YA,UA) WITH IJ OR NONE	102, 198, 199, 1203	IK, IJ			
	IT,IU	IT	102, 198	IT, IU			
	GA,GB	GA	102, 198	GA, GB			
			199	JJ		JI	
	CL	CL	102	CL			
	APP FIG 58	NONE	102, 198	APP FIG 58			
	GE,GF	NONE, OR KM WITH JP, OR JQ WITH GE	197, 1201	GF		GE	
	GG	NONE	197	GG			
	APP FIG 51,IS	NONE	102	APP FIG 51,IS			
	GC	XM WITH GC	1203, 102	GC			
	GD	NONE	1202	GD			
			1204	RU	RT		
			1204	KP, JV	KQ,KR, KS	KV	
	EB,EC	EB	1206	EC		EB	
62D			149	ZS,ZU ZW,ZX, D,8,YG		ZR	
	GK	NONE	1205	GK			
	GI,GJ	GI	102	GJ.GI			
65D	AQ,EH,EI, EJ,EK,EL, EM,EN,EO, APP FIG 56	APP FIG 18 WITH EH,EJ, EL, EN	1209, 1210, 1211, 1212	EH, EJ, EL, EN			APP FIG 56,AQ, EI, EK, EM,EO
	HEAD TELEPHONE SET			52S		52A	
67D	CA, ED,EE	ED	102	CA, ED,EE			
	EF,EG	EF	102	EF,EG			
	BA,CZ	CZ	1219	CA		CZ	

103. RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	A&M	MD
68D	CX	NONE OR IH WITH CX	1215, 1235		CX	
	GO,GP	JQ WITH GO	190, 1214, 1215	GP	GO	
	GT,GW GU,GV GX,GZ FI,FA	APP FIG Z WITH GT;KM AND KP WITH GU, OR KM,KQ, AND (KS OR KR WITH GV); JV WITH GX;KJ, OR KK WITH GZ; APP FIG AA OR APP FIG AB WITH FI;FA	1215, 1213, 1214, 177, 1204, 197	GW, GX, FA	GT, KM,KN KO,KL GU,GV JQ, GF,GG GZ, FI	
	FB,FC FD,FE FF,FG FJ	MA OR MB;NONE, OR APP FIG 20 WITH TR, TS,TT, TU;(XE AND/OR XY AND/OR XZ) WITH FJ	1215, 1214, 158, 149, 154	FB,FC, FD,FE, FF,FG	MB,TR, TS,TT, TU,FJ, TQ,NL, NN,MC	
	FK,FR, FL,FM, FQ,FX, FS,FT, FU,FW, FV	APP FIG 20 WITH FK;XG OR (XB AND/OR XC AND/ OR XH) WITH FL; MM WITH FM;APP FIG 50 WITH JL AND FJ; APP FIG S WITH S;FT; JB OR JC WITH FU;YN, OR (YM AND/OR XB AND/ OR XC) WITH FV AND FH	1215, 1214, 149, 158, 102, 1213, 1235	FU, FR, FX, FV	FK,FL, FM,FQ, JL,FS, YM,YN, FH,WR, QE,QF	FT, FW
	FO	ZJ WITH MD OR ME	1214	FO		ME
	APP FIGURES 52,53, 54,ZWL, ZWM	NONE	102, 1214	APP FIGURES 52,53, 54,ZWL, ZWM		
	FY,FZ, EA	APP FIG 14 WITH FY	102, 1213, 1215, 1223	FZ	EA, FY	

103. RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	A&M	MD	SPECIAL
68D	EY	NONE, OR II WITH EY	1215, 1235		EY		
	EZ	NONE, OR (YA,UA) WITH EZ	149, 1215		EZ		
	DA	NONE, OR APP FIG 22 WITH DA	1215, 1235		DA		
	DB	NONE, OR A WITH DB	149, 1215		DB		
	DC	NONE, OR ZE	149, 1214	DC		ZE	
	DD	NONE OR ZG	149, 1214	DD		ZG	
700			102, 236	APP FIG 60,61, 63			
	BW,BX, BY	BY OR BY AND KK (WITH BW)	102, 1215	BW,BX, BY			
			1209(b)				APP FIG 62
	AA, APP FIG 64	NONE, OR KK WITH AA, OR KK AND (AA OR APP FIG 64)	1210	AA			APP FIG 64
	AD,AE	NONE, OR KP WITH AD	1215, 1230, 1204	AE		AD	
	CB,CC, BB	CB AND JI OR (JJ WITH BB)	1240, 102,	CC,CB, JI	BB		
	BC,BD	Z WITH BC	199,	BC,BD			
	BN	NONE, OR APP FIG 17 WITH BN	1221, 1215	BN			
			237, 102	APP FIG 59			
	AB,AC	KJ,OR KK WITH AB	1215, 1220	AB			AC
	AF, AG	KJ OR KK WITH JT OR KK AND JU WITH AF	1215, 1220, 190	AF			AG
	AH,AI, AJ	AH AND (KJ,OR KK,OR KK AND ES WITH AI)	1220, 177	AH		AI	AJ
	BK,BL	NONE, OR APP FIG 40 WITH BL	102, 1222, 1215	BK		BL	
	BO,BP AK	APP FIG 18 WITH EN, OR APP FIG 18 WITH (EO AND BO)	1215, 102, 1225, 1226			BO	BP,AK
	BQ,BR, BS	BQ AND (XM WITH BR OR NONE)		BQ,BR			BS
	BT	NONE OR (XN OR VC) WITH BT		BT			
	EX	NONE	1220				APP FIG 65,EX

DRAWING ISSUE

700	JNR NF AHD	
72A	RAT Mac Ave	
75A	ROT	
78D	CB	
84AC		
88D	CB	

ISSUE 92A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-D6A

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-D6A

CIRCUIT NOTES: (CONT)

103. (CONT) RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	A&M	MD	SPECIAL
700	BE,BF, BG,BH, BI	BE,OR BE AND R WITH BF AND BG,OR BE AND YR WITH BF AND BG,OR BF AND VR WITH BF AND BG	102, 1222, 1215	BE,BG, BH,BI		BF	
	BU,BV	NONE,OR J,OR XP, OR H WITH BU	1215, 102, 1225, 1226	BU			BV
	EP,EQ, ER,ES, ET	EP;KJ WITH ER, OR KK WITH ES AND ET	1217, 177, 1215	EQ,ET	EP, ES,IO, APP FIG AA, AB	ER	
	EU	JV WITH EU	190, 1215		EU		
	EV,EW	KR WITH EV	1204, 1215, 1224		EV,EW		
	DH,DI	NONE,OR APP FIG 56		APP FIG 56,DH, DI			
	DJ,DK	DJ		DJ,DK		•	
	DL,DM	SU WITH DL		DL,DM			
	DN,DO	FR WITH DN		DN,DO			
	DP,DQ	DP		DP,DQ			
	DR,DS	R WITH DR		DR,DS			
	DT,DU	YB WITH DT	102, 1215	DT,DU			
	CD,CE	MR WITH CD		CD,CE			
	CF,CG	APP FIG 17 WITH CF		CF,CG			
	CH,CI	APP FIG 12 WITH CH		CH,CI			
	CJ,CK	J,OR H WITH CJ		CJ,CK			
	CY	NONE		CY			
			102, 234	APP FIG 55,57			
	ZYO,ZYP	ZYC	1231	ZYP		ZYO	
	ZYL	NONE	102	ZYL			
	CM,CN	CM	1218 1221	CN		CM	
						APP FIG 41,WI	
	CU	NONE	102	CU			
	DE,DF, DG	DG,OR DE AND (ZI WITH DF)	1215, 1217	DG		DE DF	
	DV,DW	DV	1218	DW		DV	
	CV,CW	NONE,OR APP FIG 21 WITH CV	1215 1233	CW		CV	
	APP FIG 66	NONE OR APP FIG 51 WITH APP FIG 66	102(41) 1215	APP FIG 66			
	AY,AZ	AY	1240	AZ		AY	
	BZ	NONE	1241	BZ			
	ZWK	R,YR,VR, OR NONE	102	ZWK			
	CO	CO		CO			
730	CP,CQ	NONE OR (XN OR VC) WITH CP	102, 1215, 1232	CP			CQ

103. RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	A&M	MD	SPECIAL
73D	CR	NONE, OR DGM WITH CR)	102, 1215, 1232	CR			
	CS,CT	NONE, OR (XL OR WZ) WITH CS		CS			CT
	DX,DY	IF OR IG WITH DX	1215 1234	DY	DX		
74D	AR	RT OR RU	1236	AR		RU	
	AS	NONE, OR JM WITH AS	1215, 1237			AS	
	AT, AU	AT	102, 1242, 1250	AT, AU			
	AL, AM	NONE OR APP FIG 46 WITH AL	1215, 1238	AM		AL	
	AN	NONE OR APP FIG 46 WITH (IW OR IX)		AH		IX	
	AO, AP	NONE OR APP FIG 48 WITH AO		AP		AO	
	AV, AW	NONE OR IM WITH AV	1215, 1239	AW		AV	
	ZZA, ZZB, APP FIG 67	APP FIG J, OR APP FIG K, OR APP FIG AG WITH ZZA	102, 1215	ZZB, APP FIG 67			ZZA
76B	ZZC	NONE	1243	ZZC			
	ZZD, ZZE	ZZD	1244	ZZE		ZZD	
78D	ZZF, ZZG	NONE, OR (XL OR WZ) WITH ZZE	102, 1215, 1245	ZZF, ZZG			
	ZZH	NONE, OR (XM WITH ZZH)		ZZH			
	ZZI, ZZJ, ZZK	XR, OR (XS WITH ZZI)		ZZI, ZZJ, ZZK			
			1245		H, J, CJ, BR, BT, BU, CP, CR, VC, XM, XP		
			1209, 1212, 1246	EM		EL	
	ZZL, ZZM	ZZL	1212	ZZL			ZZM
79D	ZZN, ZZO	ZZN	102	ZZN, ZZO			
			102 1212	EO			
	ZZP, ZZQ, ZZR	NN, OR RO, OR ZZQ	1247	ZZP, ZZR	RO, ZZQ		
	ZZY, ZZZ	ZZY	1251	ZZZ		ZZY	

103. RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	A&M	MD	SPECIAL
81D	ZZS, ZZT	NONE, OR APP FIG 59 WITH (ZZS AND ZZT)	102 (22), 1215, 1248	ZZT		ZZS	
	ZZU, ZZV	ZZU	1249	ZZV		ZZU	
	ZZW	NONE	1250		ZZW, APP FIG 68		
	ZYA, ZYB, ZYC, ZYF	ZYA	102 (44), 102 (46), 1252	ZYB, ZYC, ZYF		ZYA	
	ZXV	NONE	102 (45), 102 (46), 102 (44), 102 (50)	APP FIG 69, 70, 72, ZXV			
			102 (44), 1220	AB, AC			
	ZYD	NONE OR (JM WITH ZYD)	102 (22), 1250	ZYD			
			1250		APP FIG 71		
	ZYE	NONE	1256	ZYE			
	DIODES			426M, 426S		426AL, 426AJ	
			102 (46) 1209	EI, EH			
	ZXU, ZWN, ZWO	AT, OR AU WITH ZXU AND ZWO	102 (22), 1215, 1250	ZXU, ZWO	ZWN		
	ZZX	NONE	1235		ZZX		
	ZYM, ZYN	NONE, OR WI WITH ZYM	102 (49), 1215, 1255	APP FIG 41 WI, ZYN		ZYM	
	ZYQ	NONE	1257	ZYQ			
	CAPACITOR			KS-13367, L30		KS-13366, L3 KS-13368, L3 KS-13369 L3	
83D	ZYR	NONE OR FR WITH ZYR	1214, 1215, 1254	ZYR			
	ZYS, ZYT	NONE OR APP FIG 53 WITH ZYS	1214, 1215, 1259	ZYT		ZYS	
	ZYU	NONE	1214, 1259	ZYU			
	JACKS			223AM 239AM 240AM 242AM 240CM 242CM 245AM 289AM 290CM		223A 239A 240A 242A 240C 242C 245A 28 A 290C	
	ZXW ZXX	ZXW	1263	ZXX		ZXW	
84AC			1258	ZYL			

103. RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	A & M	MD	SPECIAL
86D	ZXA, ZXB	ZXA	102 (12)	ZXA ZXB			
	ZXC, ZXD	NONE, OR FIG.54 WITH ZXC	1215 1260	ZXD		ZXC	
	ZXE, ZXF	NONE, OR ZYC WITH ZXE	102 (46), 1215, 1269	ZXF		ZXE	
	ZXG	NONE OR (SX, AND/OR AU AND/OR CY AND/OR ZZW) WITH ZXG	1215 1250, 1262, 1271	ZXG			
	ZXH	AT, OR AU WITH ZXH	102 (22), 1215, 1250, 1262	ZXH			
	ZXI, ZXJ	JI, OR JJ WITH ZXI	102 (22) 1215 1261	ZXJ		ZXI	
	ZXK, ZXL	JI, OR JJ WITH ZXK	102 (45) 1215	ZXK ZXL			
	ZXM, ZXN	NONE OR ZS WITH ZXM	1215 1261	ZXN		ZXM	
	ZXO ZXP	NONE OR ZU WITH ZXO	1215 1261	ZXP		ZXO	
	ZXQ, ZXR	ZXQ	1261	ZXR		ZXQ	
	ZXS	NONE OR BI WITH ZXS	102 (22)	ZXS			
	ZXT	NONE	102 (45)	ZXT			
	ZYG ZYH	NONE, OR FR WITH ZYG	102 (47) 1215	ZYG ZYH			
	ZYI, ZYJ	NONE, OR CX WITH ZYI	1215 1235	ZYI ZYJ			
	ZYK	NONE	102 (47)	ZYK			
	ZYV ZYW	NONE, OR FIG.20 WITH ZYV	102 (47) 1215	ZYV ZYW			
	ZYX ZYY	NONE, OR FIG. 58 WITH ZYX	102 (47) 1215	ZYX ZYY			
88D	ZWA	NONE	102 (23), 1265	ZWA			
	ZWB, ZWC	RG OR RH WITH ZWB	1215, 1266	ZWC		ZWB	
	ZWD, ZWE	ZWD	116, 1266	ZWE		ZWD	
	ZXY, ZXZ	APP FIG 13 WITH ZXY	102 (51), 1215	ZXY, ZXZ			
	ZWH	NONE	1268		ZWH		

DRAWING ISSUE

70D	JAR, KF, AM,
72A	
73D	
74D	EDT
75A	ROT
76B	CR
77A	CR
78D	CR
79D	TPG
81D	
82A	
83D	
84AC	
85A	
86D	
88D	

ISSUE 94A

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-D6B

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-D6B

CIRCUIT NOTES (CONT)

103.

RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES							
CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT			
				STD	A&M	MD	SPECIAL
			1267		APP FIG.73		
89D	ZWF, ZWG	NONE OR APP FIG.17 WITH ZWF	1215, 1267	ZWF	ZWG		
91D	DIODES			(6RS5 GH5 PAB1)		(6RS5 K12)	
	RELAYS			AJ524		AJ521	
	ZWI, ZWJ	FIG.17 WITH ZWI	122, 1215, 1270, 1290	ZWJ		ZWI	
95D	ZWT, ZWU	ZWT	102	ZWT, ZWU			
96AC	ZWP, ZWQ	ZWP	1272	ZWQ		ZWP	
	ZWR, ZWS	JI OR JJ WITH ZWR		ZWR, ZWS			
	ZVA, ZVB	NONE OR AW WITH ZVA	1239, 127	ZVB		ZVA	
97D	ZVC, ZVF	ZVF	102, 122	ZVC, ZVF			
	ZVD, ZVE	NONE OR APP FIG. 60 WITH ZVD	1215, 1274	ZVE		ZVD	
98B	ZWV, ZWX	APP FIG. 26 WITH ZWV	1275	ZWX		ZWV	
	ZWY, ZWZ	APP FIG. 40 WITH YR, ZWY OR APP FIG. 40 WITH VR, ZWY OR NONE	1277	ZWZ		ZWY	
100B	ZVG, ZVH	ZVG	1277	ZVH		ZVG	
	ZVP	NONE OR (EG WITH ZVP)		ZVP			
	ZVQ, ZVR		102, 1277	ZVQ, ZVR			
	ZVK, ZVL	APP FIG. 11 WITH ZVK	1279	ZVL		ZVK	
	ZVM, ZVN	(OJ OR BX)WITH ZVM	102, 1279	ZVM, ZVN			
	ZVO	NONE,CT, OR ZZG WITH ZVO				ZVO	
101A, (AC)	ZVI OR ZVJ	NONE OR APP FIG. 71 WITH ZVI	1250, 1278	ZVJ		ZVI	
102B	DIODES			(63-0030)		(6RS5GH 5PAB1)	
	RESISTORS			36DF, 36DE		36CK, 36CJ	

103.

RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES							
CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT			
				STD	A&M	MD	SPECIAL
102B	ZVS, ZVT	(VJ OR VK) WITH ZVS	1281	ZVT		VK,ZVS	
103A	ZVW	SY WITH ZVW OR NONE	1282	ZVW			
104B	ZVX, ZVY	ZVX	1285	ZVY		ZVX	
	74	NONE	1286	74			
	ZVZ, ZUA	NONE OR KM WITH ZUA	1287		ZVZ, ZUA		
	RESISTORS			KS-20289, L6C; KS-20810, L1A		144E, 221A	
105A	ZUB OR ZUC	NONE OR APP FIG. 20 WITH ZUC	1288	ZUC	ZUB		
	ZUD OR ZUE	ZYQ WITH ZUE OR NONE	102 (55)	ZUD, ZUE			
106B			1289	DN,EN, ZYG,ZYV, ZYX,ZZN		R, 36,37, 38,39, DO,ED, ND,NE, UR, VP,YV, YW,YY, ZYH, ZYJ, ZYK, ZYW, ZYY, ZZM, ZZO	
	75	NONE	102 (56)	75			
	ZUF	NONE	1292	ZUF			

104.

NETWORK VALUES		
NETWORK NO.	RESISTANCE IN OHMS	CAPACITANCE IN uf
1	160	0.5
2	100	0.5
3	500	0.5
4	470	0.11
5	100	1
6	700	0.25
7	470	0.5
8	120	0.3
9	160	1
10	1kΩ	0.5
11	150	0.5
12	160	0.3

DRAWING ISSUE
88D
89D

ISSUE
106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-D6C

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25680-01-D6C

CIRCUIT NOTES: (CONT)

105. (A) WHEN THE MULTIFREQUENCY SUPPLY AND DISTRIBUTION CKT HAS 470 OHM RESISTORS ("S" OPTION, SD-95391-01) IN THE MULTIFREQUENCY SUPPLY LEADS TO THE MONITOR.

(1) AND ANY SIGNAL RECEIVING CKT ASSOCIATED WITH AN INCOMING REGISTER IS EQUIPPED WITH AN (IN) PAD, 89 TYPE RESISTORS SHALL BE PLUGGED INTO THE (C) PAD OF APP FIG 21 AND THE (MF) PAD OF APP FIG 12 IN ACCORDANCE WITH THE FOLLOWING TABLE.

RES USED FOR (IN) PAD OF MF RCVR ASSOC WITH INC REGISTERS		TEST CKT RESISTORS FOR PAD (C)		FOR PAD (MF)	
CODE	db	CODE	db	CODE	db
89A	0	89BL	15	89BL	15
89N	3	89BE	12	89BE	12
89AA	5	89BA	10	89BA	10
89BA	10	89AA	5	89AA	5
89BL	15	89A	0	89A	0

THIS CONDITION ASSOCIATED WITH APP FIG L.

(2) AND NO SIGNAL RECEIVING CKT ASSOCIATED WITH AN INCOMING REGISTER IS EQUIPPED WITH AN (IN) PAD, THE (C) AND (MF) PADS SHALL EACH BE AN 89BE, 12db PAD. THIS CONDITION ASSOCIATED WITH APP FIG L.

(B) WHEN THE MULTIFREQUENCY SUPPLY AND DISTRIBUTION CKT HAS 619 OHM RESISTORS (SD-95391-01) IN THE MULTIFREQUENCY SUPPLY LEADS TO THE MONITOR.

(1) THE (C) PAD OF APP FIG 21 SHALL BE AN 89BE,12db PAD AND ALSO,

(2) WHEN ANY SIGNAL RECEIVING CKT ASSOCIATED WITH AN INCOMING REGISTER IS EQUIPPED WITH AN (IN) PAD, SD-95087-01, THE (IN) PAD SHALL BE AN 89N,3db. THESE CONDITIONS ASSOCIATED WITH APP FIG M.

(3) WHEN THE MULTIFREQUENCY SUPPLY AND DISTRIBUTION CKT HAS 619 OHM RESISTORS SUPPLYING THE SENDER OR FOR A SENDER HAVING AN INDIVIDUAL SUPPLY WITH 412 OHM RESISTORS FUNCTIONING WITH THE MONITOR, THE MULTIFREQUENCY PAD SHOULD BE AN 89BW, 19db.

WHEN THE MULTIFREQUENCY SUPPLY AND DISTRIBUTION CKT HAS 1130 OHM RESISTORS SUPPLYING THE SENDER OR FOR A SENDER HAVING AN INDIVIDUAL SUPPLY WITH 845 OHM RESISTORS FUNCTIONING WITH THE MONITOR, THE MF PAD SHOULD BE AN 89BK, 14.5db.

WHEN THE MULTIFREQUENCY SUPPLY AND DISTRIBUTION CKT HAS 856 OHM RESISTORS SUPPLYING THE SENDER OR FOR A SENDER HAVING AN INDIVIDUAL SUPPLY WITH 634 OHM RESISTORS FUNCTIONING WITH THE MONITOR, THE MF PAD SHOULD BE AN 89BP, 16.5 db.

106. ADJUSTMENT OF TWIST NETWORK, APP FIG 21: BLOCK RELAY (TWT) OPERATE AND CONNECT A 600 OHM MEASURING SET SUCH AS THE 13A TRANSMISSION MEASURING SET OR ITS EQUIVALENT TO JACK (VI). APPLY FREQUENCIES 0 AND 7 BY OPERATING KEY (V0-7) TO ITS (V0) AND (V7) POSITIONS ALTERNATELY AND STRAP OUT RESISTORS (TW2), (TW3), (TW4), AND (TW5) AS REQUIRED TO OBTAIN A VOLUME READING OF 6.0 TO 6.5db LOWER AT FREQUENCY 7 THAN AT FREQUENCY 0. THIS ADJUSTMENT SHOULD BE MADE DURING LIGHT LOAD PERIODS SO AS TO PREVENT AN OVERLOAD CONDITION ON THE MULTIFREQUENCY SUPPLY.

107. WHEN THE CKT IS ARRANGED TO TEST ORIGINATING REGISTERS WHICH SERVE GROUND START COIN LINES WHICH RETURN COINS ON PERMANENT SIGNAL AND ABANDONED CALLS, "XU" OPTION MUST BE FURNISHED.

108. RELAYS DESIGNATED 16 OHMS WERE 14 OHMS PRIOR TO THE FIRST QUARTER OF 1949.

109. WHEN THE CKT IS ARRANGED TO TEST DIAL PULSE INCOMING REGISTERS ARRANGED FOR CONTINUITY CHECK OF THE BL LEAD, "WF" OPTION MUST BE FURNISHED.

110. WHEN THE CKT IS ARRANGED TO TEST ANY TYPE OF SENDER ARRANGED FOR A REDUCED TIMING INTERVAL WHILE AWAITING TRANSVERTER RELEASE, "WB" OPTION MUST BE FURNISHED.

111. NOTE CANCELLED

112. NOTE CANCELLED

113. PROVIDE "XF" OPTION WHEN DETECTION BY THE MONITOR OF A FAILURE OF THE STEERING CIRCUIT OF DIAL PULSE OR MULTIFREQUENCY SENDERS TO ADVANCE IS REQUIRED.

114. WHEN THE MONITOR FUNCTIONS WITH REVERTIVE PULSE SENDERS EQUIPPED FOR AMA "XX" OPTION MUST BE FURNISHED.

115. WHERE THE MONITOR FUNCTIONS IN AN OFFICE WITH INCOMING REGISTERS WHICH SERVE BOTH INTERTOLL OR TANDEM TRUNKS, "SM" OPTION SHOULD BE FURNISHED.

116. FOR MAINTENANCE IN OFFICES WHERE ASSOCIATED MULTIFREQUENCY SIGNALING RECEIVING CKT IS SD-95087-01, "RG" AND "ZWD" OPTIONS MUST BE PROVIDED.

117. WHEN THE MONITOR FUNCTIONS WITH MULTIFREQUENCY REGISTERS SERVING TRUNKS WHICH REQUIRE CONVERSION FROM MULTIFREQUENCY TO REVERTIVE PULSES, "RB" OPTION MUST BE PROVIDED.

118. WHEN THE MONITOR FUNCTIONS WITH AN MULTIFREQUENCY REGISTER WHICH IS ASSOCIATED WITH AN MULTIFREQUENCY RECEIVING CKT PER SD-95536-01, "RF" OPTION MUST BE PROVIDED.

119. WHEN PROVISION FOR ARBITRARY DIGITS IS ADDED TO AN EXISTING CKT, "SU" OPTION MUST BE PROVIDED.

120. WHERE THE MONITOR AND THE TEST SET CKT FOR REGISTER AND CAMA SENDER CIRCUITS FUNCTION IN THE SAME MARKER GROUP, "RJ" OPTION MUST BE PROVIDED.

121. WHEN THE MONITOR FUNCTIONS IN AN OFFICE EQUIPPED WITH A SENDER TEST CKT, "RM" OPTION MUST BE PROVIDED.

122. WHERE THIS CKT IS ARRANGED TO TEST DIAL PULSE OUTSENDERS WHICH COMPLETE SUBSCRIBER DIALED CALLS THRU CX INTERTOLL AND/OR CX TWO WAY TRUNKS, OR WHERE THIS CKT IS ARRANGED FOR TESTING THE HOLD FORWARD FEATURE OF DIAL PULSE OUTGOING SENDERS, "QB" AND "ZWJ" OPTIONS MUST BE FURNISHED.

123. PRIOR TO ISSUE 26D, "RY" OPTION WAS FORMERLY PART OF "YC" AND "UC" OPTIONS.

124. WHEN AN EXISTING OFFICE IS MODIFIED TO CHANGE THE MULTIFREQUENCY TONE LEVEL FROM 0dbm TO -3dbm BY CHANGING THE RESISTORS IN THE MULTIFREQUENCY SUPPLY AND DISTRIBUTION CIRCUIT FROM 470 OHMS ("S" OPTION, SD-95391-01) TO 619 OHMS ("R" OPTION, SD-95391-01), OPTIONS SHALL BE FURNISHED AS FOLLOWS:

(A) APP FIG. M SHALL REPLACE APP FIG. L AND THE (C) AND (MF) PADS SHALL BE FURNISHED IN ACCORDANCE WITH NOTE 105(B), PARTS 1 AND 3.

(B) IF ANY SIGNALING RECEIVING CKT ASSOCIATED WITH AN INCOMING REGISTER IS EQUIPPED WITH AN (IN) PAD, SD-95087-01, THE (IN) PAD SHALL BE FURNISHED IN ACCORDANCE WITH NOTE 105(B), PART 2.

125. WHEN ALL REVERTIVE PULSE INCOMING REGISTERS ARE EQUIPPED WITH BALANCED REVERTIVE PULSE RELAYS, "PI" OPTION MUST BE PROVIDED.

126. WHEN ALL CENTRAL "B" REVERTIVE REGISTERS ARE EQUIPPED WITH BALANCED REVERTIVE PULSE RELAYS, "PK" OPTION MUST BE PROVIDED.

127. PRIOR TO ISSUE 28D, APP FIG. C WAS PROVIDED FOR FUNCTIONING WITH SENDERS COMPLETING CALLS ON INTERTOLL, COMBINED OUTGOING AND TOLL SWITCHING OR TOLL SWITCHING TRUNKS WHERE SWITCHING PAD CONTROL WAS REQUIRED. SWITCHING PADS REFERRED TO ARE THOSE SHOWN ON SWITCHING TRANSMISSION PAD CIRCUITS SUCH AS SD-62632-02 AND SD-64565-01.

128. PRIOR TO ISSUE 28D, THE PART OF NOTE 102 DESCRIBING THE USE OF "WR" OPTION READ AS FOLLOWS:

"WHERE THERE ARE DIAL PULSE INCOMING REGISTERS AND
(A) DIAL PULSE AND/OR MULTIFREQUENCY INCOMING REGISTERS ARE ARRANGED FOR TANDEM SCREENING
OR (B) DIAL PULSE INCOMING REGISTERS SERVE TANDEM TRUNKS THAT TRANSMIT 2 OF THE 3 DIGITS OF THE HOME AREA OFFICE CODE
OR (C) DIAL PULSE INCOMING REGISTERS SERVE NON-TANDEM TRUNKS THAT TRANSMIT THE FULL HOME AREA OFFICE CODE AND/OR 2 OF THE 3 DIGITS OF THE HOME AREA OFFICE CODE."

129. WHERE THE MONITOR FUNCTIONS WITH ANY TYPE OF WIRE SPRING INCOMING REGISTERS, "PO" OPTION MUST BE PROVIDED.

130. PRIOR TO ISSUE 30D, "PL" OPTION WAS SHOWN AS PART OF "UK" OR "YK" OPTIONS; AND "PM" OPTION WAS SHOWN AS PART OF "UL" OR "YL" OPTIONS.

131. WHERE MONITOR FUNCTIONS WITH WIRE SPRING ORIGINATING REGISTERS, "PR" OPTION MUST BE PROVIDED.

132. PRIOR TO ISSUE 30D, "PX", "OH", "OF" AND "OJ" OPTIONS WERE SHOWN AS PART OF "WG" OPTION.

133. PRIOR TO ISSUE 30D, "OC", "OL", "ON" AND "OR" OPTIONS WERE SHOWN AS PART OF "YA" AND "UA" OPTIONS.

134. "PW" OPTION SHOULD BE PROVIDED FOR TESTING U AND/OR WIRE SPRING TYPE DIAL PULSE ORIGINATING REGISTERS WORKING WITH EXTENDED LOOP RANGES.

135. "OP" OPTION SHOULD BE PROVIDED FOR TESTING U TYPE DIAL PULSE INCOMING REGISTERS WORKING WITH EXTENDED LOOP RANGES.

136. WHERE ALL ORIGINATING REGISTERS ARE WIRE SPRING TYPE AND ANY INCOMING DIAL PULSE REGISTER IS U TYPE, "OD" OPTION SHOULD BE PROVIDED AND "OC" AND "OE" OPTIONS OMITTED.

WHERE ALL INCOMING DIAL PULSE REGISTERS ARE WIRE SPRING TYPE AND ANY ORIGINATING REGISTER IS U TYPE, "OC" OPTION SHOULD BE PROVIDED AND "OE" OPTION OMITTED.

137. OPTIONS IN APP FIG 26 REQUIRED FOR TESTING U TYPE AND/OR WIRE SPRING TYPE DIAL PULSE ORIGINATING AND INCOMING REGISTERS.

OPTIONS REQUIRED FOR	SEE NOTES	REGISTERS IN MARKER GROUP ARE: ALL U TYPE	BOTH U TYPE AND WS TYPE	ALL WIRE SPRING TYPE
ORIGINATING REGISTERS		OA	OB	OB
	136	OD	OD	OC,OE
	134	PV, OR PW WITH PX	PV, OR PW WITH PX	PW WITH PX
		PY	PZ	PZ
ADDITIONAL OPTIONS FOR ORIGINATING REGISTERS WITH GROUND START COIN		WG,PX,OH	WG,PX,OH	WG,PX,OH
		OJ	OK	OK
		OF	OG	OG
INCOMING DIAL PULSE REGISTERS		UA OR YA	UA OR YA	UA OR YA
	136	OC	OC	OC,OE
	135	ON,OR OP WITH PX	OP WITH PX	OQ WITH PX
		OR	OS	OS
	151	MI,MK,OL	MI,MK,OL	MH,OL

138. WHERE A WIRE SPRING TYPE REVERTIVE PULSE OUTGOING SENDER IS ADDED TO AN EXISTING GROUP OF U TYPE REVERTIVE PULSE OUTGOING SENDERS WHICH FUNCTION WITH THE MONITOR "PT" OPTION MUST BE PROVIDED.

139. TO PROVIDE AN IMPROVED TEST FOR REVERTIVE PULSE AND/OR CENTRAL "B" INCOMING REGISTERS EQUIPPED FOR BALANCED REVERTIVE PULSING, THE FOLLOWING OPTIONS SHOULD BE PROVIDED. THESE TEST OPTIONS FOR UNBALANCED REGISTERS CAN BE USED WITH BALANCED REGISTERS SHOULD NOT BE USED WITH UNBALANCED REGISTERS.

POSSIBLE COMBINATIONS OF RPIR AND CBIR: WHERE ALL RPIR ARE	WHERE ALL CBIR ARE	USE OPTIONS
UNBALANCED *	UNBALANCED	OV,OW,NB
UNBALANCED *	BALANCED	OW,OX,OY,NA,NB
BALANCED	UNBALANCED	OW,OX,OY,OZ,NB
BALANCED	BALANCED	OY,OZ,NA,NC

SEE, ALSO NOTE 160
* WHERE WS TYPE RPIR (ONLY BALANCED TYPE AVAILABLE) ARE ADDED TO AN OFFICE EQUIPPED WITH ALL UNBALANCED U TYPE RPIR, SEE ALSO NOTE 163

140. IN MARKER GROUPS HAVING BOTH THE MONITOR AND THE INCOMING REGISTER TEST CIRCUITS, "NG" OPTION SHOULD BE PROVIDED TO PREVENT A MINOR ALARM WHEN MAKING REGISTER BUSY TESTS WITH THE INCOMING REGISTER TEST CKT.

141. PRIOR TO DRAWING ISSUE 31D AND SUBSEQUENT TO DRAWING ISSUE 27B, NOTE 105(B) READ AS FOLLOWS:
"WHEN THE MULTIFREQUENCY SUPPLY AND DISTRIBUTION CKT HAS 619 OHM RESISTORS ("R" OPTION, SD-95391-01) IN THE MULTIFREQUENCY SUPPLY LEADS TO THE MONITOR."

(1) AND ANY SIGNAL RECEIVING CKT ASSOCIATED WITH AN INCOMING REGISTER IS EQUIPPED WITH AN (IN) PAD, SD-95087-01, 89 TYPE RESISTORS SHALL BE PLUGGED INTO THE (C) PAD OF APP FIG 21 AND THE (MF) PAD OF APP FIG 12 IN ACCORDANCE WITH THE FOLLOWING TABLE:

RES USED FOR (IN) PAD OF MF RECEIVERS ASSOC WITH INC REGS		TEST CKT RESISTORS FOR PAD (C)		FOR PAD (MF)	
CODE	db	CODE	db	CODE	db
89N	3	89BE	12	89BW	19
89AA	5	89BA	10	89BR	17
89BA	10	89AA	5	89BE	12
89BL	15	89A	0	89AJ	7

THIS CONDITION ASSOCIATED WITH APP FIG M.

(2) AND NO SIGNAL RECEIVING CKT ASSOCIATED WITH AN INCOMING REGISTER IS EQUIPPED WITH AN (IN) PAD, SD-95087-01 NOT USED, THE (C) PAD SHALL BE AN 89BM,15.5db PAD AND THE MF PAD SHALL BE 89BW, 19db PAD. THIS CONDITION ASSOCIATED WITH APP FIG. N.

NOTE 124 READ AS FOLLOWS:

WHEN AN EXISTING OFFICE IS MODIFIED TO CHANGE THE MUTIFREQUENCY TONE LEVEL FROM 0dbm TO -3dbm BY CHANGING THE RESISTORS IN THE MULTIFREQUENCY SUPPLY AND DISTRIBUITION CKT FROM 470 OHM ("S" OPTION, SD-95391-01) TO 619 OHM ("R" OPTION, SD-95391-01), OPTIONS SHALL BE FURNISHED AS FOLLOWS:

(A) IF ANY SIGNAL RECEIVING CKT ASSOCIATED WITH AN INCOMING REGISTER IS EQUIPPED WITH AN (IN) PAD (SD-95087-01) APP FIG M SHALL REPLACE APP FIG L AND THE (C) AND (MF) PADS SHALL BE FURNISHED IN ACCORDANCE WITH NOTE 105(B)(1). [NOW SHOWN IN NOTE 141(1)].

(B) IF NO SIGNAL RECEIVING CKT ASSOCIATED WITH AN INCOMING REGISTER IS EQUIPPED WITH AN (IN) PAD (SD-95087-01 NOT USED) APP FIG N SHALL REPLACE APP FIG L AND THE (C) AND (MF) PADS SHALL BE FURNISHED IN ACCORDANCE WITH NOTE 105(B)(2). [NOW SHOWN IN NOTE 141(2)].

DRAWING ISSUE

64D	AJL Com AHD	CB
66AR	JNF Com AHD	CB
67D	CTH AJL AHD	A
68D	DNB MAB AHD	CB
86D		CB
88D		

ISSUE 97D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-D7

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-D7

STARLINE

CIRCUIT NOTES: (CONT)

142. PRIOR TO ISSUE 31D, "NH" OPTION WAS PART OF "R" OPTION AND THE EXPLANATION FOR "R" IN NOTE 102 READ "WHERE ANY SENDER IS ARRANGED TO OUTPULSE PREFIX 'ONE-ONE'".

143. WHERE WIRE SPRING MULTIFREQUENCY OR DIAL PULSE SENDERS ARE TESTED IN CONNECTION WITH TANDEM CLASS OR CX INCOMING CLASS CALLS, "NJ" OPTION MUST BE PROVIDED.

144. WHERE A CIRCUIT IS MODIFIED TO FUNCTION WITH INCOMING REGISTERS ARRANGED TO REGISTER 11X SERVICE CODES OVER TRUNKS WHICH ALSO TRANSMIT 8X (2DT TRANSLATOR) CODES AND/OR TRUNKS WHICH ALSO TRANSMIT 48X OR AB (FVD TRANSLATOR) CODES AND MODIFICATION DOES NOT INCLUDE AN ARRANGEMENT FOR 4-WIRE OPERATION AND/OR THE NEW NUMBERING PLAN ARRANGEMENT OF TRANSLATOR AND CLASS LEADS WITH INTERCHANGEABLE LOCAL AREA AND NPA CODES, OPTIONS "NL" AND/OR "NN" MUST BE PROVIDED.

145. PRIOR TO ISSUE 32B, "NP" OPTION WAS SHOWN AS A PART OF "PI" AND/OR "PK" OPTIONS.

146. FOR REDUCTION OF POSSIBLE NUMBER MISMATCHES ON MONITORED REVERTIVE PULSE INCOMING REGISTER CALLS WHERE CERTAIN CRITICAL LOOP CONDITIONS IN THE MEDIUM LENGTH BAND ARE INVOLVED, "NQ" OPTION SHOULD BE PROVIDED.

147. TO PROVIDE AN IMPROVED SURGE TEST FOR ORIGINATING REGISTERS, "NS" OPTION SHOULD BE PROVIDED.

148. WHERE THERE ARE MORE THAN 20 TRUNK LINK FRAMES, "NW" OPTION MUST BE PROVIDED.

149. PRIOR TO ISSUE 33D THE FOLLOWING ITEMS WERE SHOWN IN THE STANDARD FEATURE AND OPTION NOTE 102. THE PRESENT RATINGS OF THESE OPTIONS IS AS SHOWN IN NOTE 103. THESE ITEMS ARE SHOWN HERE FOR USE IN (A&M ONLY) ADDING FEATURES TO JOBS MANUFACTURED PER ISSUE PRIOR TO 33D. FEATURES AND OPTIONS SHALL BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING TABLE ONLY FOR OUTGOING SENDERS AND/OR REGISTERS THAT ARE TO FUNCTION WITH THE AUTOMATIC MONITOR REGISTER AND SENDER TEST CIRCUIT.

PAR	FEATURE OR OPTION			PROVIDE: APP FIG.	PROVIDE: APP OR WIRING	PROVIDE: QUANTITY
1	WHERE LINE FRAMES HAVE MORE THAN TEN VERTICAL GROUPS				QW	
2	WHERE MORE THAN TEN LINE LINK FRAMES ARE REQUIRED				QR	
3	WHEN THERE ARE MORE THAN TEN MARKERS-MARKER TENS IDENTIFIER			41	WI	1 PER CKT
4	WHERE ANY REGISTER OR OUTGOING SENDER IS ARRANGED TO RECORD DIGIT:		E		ZK	
			F		ZM	
			G		ZO	
			H		ZQ	
			J		ZS	
			K		ZU	
			L		ZW	
5	WIRING OPTION WHERE LAST EQUIPPED DIGIT IN APP FIG 16 IS:		D		ZD	
			E		ZL	
			F		ZN	
			G		ZP	
			H		ZR	
			J		ZT	
			K		ZV	
			L		ZX	
6	WHERE THERE ARE ANY OUTGOING SENDERS	FOR DIAL PULSE OUTGOING SENDERS WHERE SUBSCRIBER DIALED CALLS MADE THRU CX INTERTOLL AND/OR CX TWO WAY TRUNKS (CL6 CLASS)	PROV	43	RZ	1 PER CKT
		WHERE AMA IS PROVIDED			XX	
		FOR DIAL PULSE SENDERS			UC	
		FOR MULTIFREQUENCY SENDERS			YD	
		MISCELLANEOUS			YE	
7	WHERE ANY MULTIFREQUENCY, DIAL OR PANEL CALL INDICATOR SENDER IS ARRANGED NOT TO OUTPULSE ON ANY OR ALL CALLS, DIGITS:	A			Y	
		A,B			X	
		A,B,C			W	
		A,B,C,D			V	
		A,B,C,D,E			U	
		A,B,C,D,E,F			T	

149.

PAR	FEATURE OR OPTION			PROVIDE: APP FIG	PROVIDE: APP OR WIRING	PROVIDE: QUANTITY
9	WHEN ANY SENDER IS ARRANGED TO OUTPULSE ONE ARBITRARY DIGIT				Z,SV,SY	
9	WHEN ANY SENDER IS ARRANGED TO OUTPULSE TWO ARBITRARY DIGITS				Z,SV,SY, SW	
10	WHEN ANY SENDER IS ARRANGED TO OUTPULSE THREE ARBITRARY DIGITS				Z,SV,SY, SW,SX	
11	WHERE ANY SENDER IS ARRANGED TO OUTPULSE PREFIX "XX"				R	
12	FOR ANY SENDER OF TYPE ARRANGED FOR REDUCED TIMING INTERVAL WHILE AWAITING TRANSVERTER RELEASE		DIAL PULSE OR MULTIFREQUENCY		WC	
			REVERTIVE PULSE		WD	
			PANEL CALL INDICATOR		XW	
13	WHEN ANY OUTGOING SENDER IS REQUIRED TO COMPLETE CALLS ON INTERTOLL, COMBINED OUTGOING AND TOLL SWITCHING OR TOLL SWITCHING TRUNKS				XE,TM,RE, FJ,	
14	WHERE ANY OUTGOING SENDER IS REQUIRED TO COMPLETE TANDEM CLASS OR JUNCTOR CLASS CALLS				XY,TM,RE, FJ	
15	WHEN ANY OUTGOING SENDER OR INCOMING REGISTER IS REQUIRED TO COMPLETE PULSE CONVERSION CALLS OF ANY TYPE				XZ,TM,RE, FJ	
16	WHEN ANY OUTGOING SENDER IS REQUIRED TO COMPLETE CALLS ON ANY TRUNKS WHICH HAVE CX (E&M) TYPE SUPERVISION OUTWARD				XV	
17	WHERE NO OUTGOING SENDERS ARE REQUIRED TO COMPLETE CALLS ON INTERTOLL, TOLL SWITCHING, TANDEM, PULSE CONVERSION, COIN JUNCTOR OR AMA JUNCTOR TRUNKS				TL	
18	WHEN REVERTIVE OUTGOING SENDERS	OUTPULSE HIGH INCOMING GROUP SELECTION			YU	
19	WHEN PANEL CALL INDICATOR OUTGOING SENDERS	OUTPULSE 2 DIGIT OFFICE CODES			YV	
		OUTPULSE 3 DIGIT OFFICE CODES			YW,YV	
		COMPLETE CALLS TO 2 DIGIT OFFICES ONLY			YX	
		COMPLETE CALLS TO 3 DIGIT OFFICES ONLY			YY	
		COMPLETE CALLS TO 2 DIGIT AND 3 DIGIT OFFICES (SEPARATE SENDER GROUPS)			YZ,YX,YY	
20	WHEN EITHER THE DIAL PULSE OR MULTIFREQUENCY OUTGOING SENDERS ARE ARRANGED FOR OPERATION WITH 2 WAY OR INTERTOLL TRUNKS (CLASS CL2)				XD	
21	WHEN THE MONITOR AND THE INCOMING REGISTER TEST CKT FUNCTION IN THE SAME MARKER GROUP				SZ	
22	TO PREVENT REGISTRATION IN MONITOR OF MORE DIGITS THAN MULTIFREQUENCY REGISTER IS EQUIPPED TO RECORD	WHEN LAST DIGIT THAT MULTIFREQUENCY REGISTER IS EQUIPPED TO RECORD IS:	AND MONITOR IS EQUIPPED TO RECORD THE DIGIT:			
		D	E		UX,UW	
		E	F		UY,UW	
		F	G		UZ,UW	
		G	H		TA,UW	
		H	J		TB,UW	
		J	K		TC,UW	
		K	L		TD,UW	
		WHEN THE LAST EQUIPPED DIGIT REGISTER IS THE SAME IN THE MULTIFREQUENCY REGISTER AND THE AUTOMATIC MONITOR			TE,UW	

149.

PAR	FEATURE OR OPTION			PROVIDE: APP FIG	PROVIDE: APP OR WIRING	PROVIDE: QUANTITY
23	WHEN NO INCOMING REGISTER IS ARRANGED FOR SCREENING OF TANDEM CALLS				TP	
24	11X SERVICE CODES OF "11" PREFIX DIRECTING CODE IN ANY ORGINATING OR INCOMING REGISTER				ZI	
25	WHERE ANY INCOMING REGISTER IS ARRANGED TO SERVE	4-DIGIT TRUNKS WHICH COMPLETE TO A SINGLE OFFICE MARKER GROUP OR TO THE FIRST OFFICE OF A MULTI-OFFICE MARKER GROUP			A, DB	
		4-DIGIT TRUNKS WHICH COMPLETE TO THE 2ND OFFICE OF A MULTI-OFFICE MARKER GROUP			DC	
		TANDEM TRUNKS AND/OR NON-TANDEM TRUNKS WHICH TRANSMIT FULL HOME AREA OFFICE CODES (LT TRANSLATOR LEAD)			DD,YH	
		TANDEM TRUNKS WHICH TRANSMIT ONLY ONE DIGIT OF THE 2 OR 3 DIGIT HOME AREA OFFICE CODES (FVD TRANSLATOR LEAD)		50	DD,FQ, JL	
		5-DIGIT TRUNKS WHICH COMPLETE ONLY TO A SINGLE MARKER GROUP		50	FQ,JL	
		INTERTOLL TRUNKS (NO. 5 OFFICE USED AS A TOLL CENTER)			S,ZJ	
		TANDEM TRUNKS AND/OR NON-TANDEM TRUNKS WHICH TRANSMIT BX CODES (2DT TRANSLATOR LEAD)			SA	
		NON-TANDEM TRUNKS WHERE FULL HOME AREA OFFICE CODES ARE TRANSMITTED (LT TRANSLATOR LEAD)			QE	
		NON-TANDEM TRUNKS WHERE BX CODES ARE TRANSMITTED (2DT TRANSLATOR LEAD)			QF	
26	WHERE MF INCOMING REGISTERS SERVE MF PULSE TO DIAL PULSE, PULSE CONVERSION TRUNKS	REQUIRED FOR ONE DIAL PULSE SENDER GROUP			FH,FL, FV,XB	
		REQUIRED FOR TWO DIAL PULSE SENDER GROUPS			FH,FL,FV, XB,XH	
27	WHERE NO MULTIFREQUENCY INCOMING REGISTERS SERVE PULSE CONVERSION TRUNKS				XG	
28	WHERE THERE ARE DIAL PULSE INCOMING REGISTERS				EZ,OQ, OS,UA	
29	WHEN ANY DP INCOMING REGISTER IS ARRANGED FOR A CONTINUITY CHECK OF THE BL LEAD ON BY-LINK CALLS				WH	
30	DIGIT TIMING TESTER (REQUIRED WHERE ORIGINATING OR INCOMING DIAL PULSE REGISTER TIMES AWAITING AN ADDITIONAL DIGIT)			14		1 PER CKT
31	WHERE ANY INCOMING DIAL PULSE REGISTERS ARE ARRANGED FOR BY-LINK OPERATION				ZY	
32	WHERE THERE ARE MULTIFREQUENCY INCOMING REGISTERS MISCELLANEOUS				YB	
33	WHERE ANY INCOMING DIAL PULSE REGISTERS ARE ARRANGED FOR DIRECT PULSING OR THERE ARE MULTIFREQUENCY INCOMING REGISTERS	WINK TESTER		32		1 PER KCT
		MISCELLANEOUS			ZZ	
34	WHERE THERE ARE MULTIFREQUENCY OR DIAL PULSE INCOMING REGISTERS (SEE NOTE 128)				WR	

149.

PAR	FEATURE OR OPTION		PROVIDE: APP FIG	PROVIDE: APP OR WIRING	PROVIDE: QUANTITY
35	WHEN THE DIAL PULSE INCOMING REGISTER AND/OR THE MULTIFREQUENCY INCOMING REGISTER IS ARRANGED FOR SCREENING OF TANDEM CLASS CALLS	MISCELLANEOUS		TQ	
		FOR GROUP OF TANDEM TRUNKS USING "TAN1" CLASS		TR	
		FOR GROUP OF TANDEM TRUNKS USING "TAN2" CLASS		TS	
		FOR GROUP OF TANDEM TRUNKS USING "TAN3" CLASS		TT	
		FOR GROUP OF TANDEM TRUNKS USING "TAN4" CLASS		TU	
36	WHEN THE DIAL PULSE INCOMING REGISTER AND/OR THE MULTIFREQUENCY INCOMING REGISTER IS ARRANGED FOR SCREENING OF TANDEM CLASS CALLS OR ANY INCOMING REGISTER IS ARRANGED TO SERVE TANDEM AND/OR NON-TANDEM TRUNKS WHICH TRANSMIT ONLY TWO DIGITS OF THREE DIGIT LOCAL OFFICE CODES			TZ	
37	WHERE MULTIFREQUENCY INCOMING REGISTERS AND/OR REVERTIVE PULSE OUTGOING SENDERS SERVE MULTIFREQUENCY TO REVERTIVE PULSE, PULSE CONVERSION TRUNKS	REQUIRED	E	FV, FH,FL, FS, XC	1 PER CKT
		NOT REQUIRED	F		1 PER CKT
39	WHEN THE REVERTIVE INCOMING OR CENTRAL "B" SWITCHBOARD REVERTIVE PULSE REGISTERS COMPLETE CALLS TO THE NUMBERS IN OFFICE A AND OFFICE B OF A MULTI-OFFICE MARKER GROUP WITH IDENTIFICATION BETWEEN OFFICES BY LOW AND HIGH INCOMING GROUP SELECTION			A,DB, DC,YN	

150. PROVIDE "MG" OPTION WHERE IT IS REQUIRED TO PREVENT A TROUBLE RECORD ON MONITORED ORIGINATING REGISTER CALLS WHICH GO TO PERMANENT SIGNAL.

151. WHERE ANY ORIGINATING OR INCOMING DIAL PULSING REGISTER IS EQUIPPED WITH A 239 OR 280 TYPE PULSING RELAY (U TYPE REGISTER), "MI","MK",AND "OL" OPTIONS SHOULD REPLACE "MH","MJ",AND "OM" OPTIONS, RESPECTIVELY, IF PROVIDED. PRIOR TO ISSUE 34B, "MJ" OPTION WAS SHOWN AS PART OF "OS" OPTION.

152. PRIOR TO ISSUE 34B APP FIG S WAS SHOWN AS PART OF "YP" OR "VP" OPTIONS.

153. WHERE IT IS REQUIRED TO OBTAIN A RECORD OF THE INCOMING REGISTER CLASS INFORMATION UNDER CONTROL OF THE QUICK TROUBLE RECORD KEY (QTR) WHEN THERE IS NO FAILURE TO CHECK, "MO" OPTION SHOULD BE PROVIDED.

154. WHERE A CIRCUIT IS MODIFIED TO FUNCTION WITH A MARKER ARRANGED FOR CAMA "S","YH","TM","RE","XZ" AND "ME" OPTIONS AND APP FIG.E MUST BE PROVIDED, ALSO WHERE THE MODIFICATION DOES NOT INCLUDE AN ARRANGEMENT FOR 4-WIRE OPERATION AND/OR THE NEW NO. PLAN ARRANGEMENT OF TRANSLATOR AND CLASS LEADS WITH INTERCHANGEABLE LOCAL AREA AND NPA CODES, OPTIONS "MB","MC","FJ","FS","QE", AND "WR" MUST BE PROVIDED.

155. NOTE CANCELED.

156. PRIOR TO ISSUE 35D "MO" OPTION WAS SHOWN AS A PART OF "ZJ" OPTION.

157. NOTE CANCELED.

DRAWING ISSUE

64D	AJL MM AHD
68D	G.E MM A-HO
69A	RDT MM AHD
70D	JEG NLF AHD
72A	RVB MM AHD
88D	

ISSUE 106B

SD-25680-01-D8

STABILO

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-D8

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

CIRCUIT NOTES: (CONT)

158. WHERE A CIRCUIT IS MODIFIED TO FUNCTION WITH A MARKER ARRANGED TO SERVE MORE THAN ONE TOL-CLASS, MM AND MW OPTIONS MUST BE PROVIDED. WHERE MARKER USES A 2DT OR FVD TRANSLATOR IN CONJUNCTION WITH A TOL-CLASS, ME,MM, AND MW OPTIONS MUST BE PROVIDED. THESE OPTIONS PLACE CLASS AND TRANSLATION MARKS UNDER INDEPENDENT CONTROLS. WHERE MARKER IS NOT ARRANGED FOR TRUNK CLASS EXPANSION, MA OPTION SHOULD BE PROVIDED AND MB OMITTED. ALSO WHERE THE MODIFICATION DOES NOT INCLUDE AN ARRANGEMENT FOR 4-WIRE OPERATION AND/OR THE NEW NUMBERING PLAN ARRANGEMENT OF TRANSLATOR AND CLASS LEADS WITH INTERCHANGEABLE LOCAL AREA AND NPA CODES, OPTIONS FM,TQ,TR,TS,TT,TU, AND MB MUST BE PROVIDED WHERE REQUIRED.

159. (A&M ONLY) PRIOR TO ISSUE 35D THE FOLLOWING ITEMS WERE SHOWN IN THE STANDARD FEATURE AND OPTION NOTE 102. THE PRESENT RATING OF THESE OPTIONS IS AS SHOWN IN NOTE 103.

FEATURE OR OPTION			PROVIDE		
			APP FIG	APP OR WRG	QUANTITY
WHERE THIS CKT FUNCTIONS WITH ANY INCOMING REGISTER	FOR TANDEM OPERATION	NO SCREENING (NO TAN CLASS OR ONE TAN CLASS IN MKR)		TP	
		SCREENING [TWO TO FIVE (TAN0-4) TAN CLASSES IN MKR]		TQ,TR, TS,TT, TU	

160. TO PROVIDE AN IMPROVED TEST FOR REVERTIVE PULSE AND/OR CENTRAL "8" INCOMING REGISTERS, MU OPTION SHOULD REPLACE MT OPTION. PRIOR TO ISSUE 36B, MT OPTION WAS SHOWN AS A PART OF OY OPTION. (ALSO, SEE NOTE 139.)

161. WHERE THIS CIRCUIT FUNCTIONS WITH MULTIFREQUENCY SENDERS ARRANGED TO OPERATE WITH DIAL COIN ZONE OUTGOING TRUNKS OR JUNCTORS, APP FIGURES 44 & 45 AND OPTIONS MR,MS,LK,LL,LT, AND XD MUST BE PROVIDED. PRIOR TO ISSUE 40D, APP FIG 44 AND OPTION MS WERE SHOWN AS PART OF OPTIONS YP,VP. APP FIG 44 WAS SHOWN AS PART OF APP FIG 40.

162. FOR INSURING THE PROPER FUNCTIONING OF TIME OUT TESTS OF MULTIFREQUENCY AND DIAL PULSE SENDERS WHERE THE ASSOCIATED TRUNK IS LOCATED ON A WIRE SPRING TRUNK LINK FRAME AND THE MARKER IS OF THE U TYPE, OPTION LI SHOULD BE PROVIDED.

163. (A&M ONLY) WHERE WIRE SPRING TYPE REVERTIVE PULSE INCOMING REGISTERS ARE ADDED TO AN EXISTING OFFICE EQUIPPED WITH UNBALANCED U TYPE REVERTIVE PULSE INCOMING REGISTERS WHICH FUNCTION WITH THE MONITOR, OPTION PH MUST BE REMOVED AND OPTIONS LG,NQ, AND LS ADDED. (ALSO, SEE NOTE 139.)

164. WHERE THIS CIRCUIT FUNCTIONS WITH PANEL CALL INDICATOR SENDERS, APP FIG 44 AND OPTION MS MUST BE PROVIDED.

165. WHERE THE ANI FEATURE IS ADDED TO AN EXISTING OFFICE, OPTIONS XD,XX,LU,LP AND SU, IF NOT ALREADY FURNISHED, MUST BE ADDED.

166. WHERE DIFFICULTIES ARE EXPERIENCED WHEN MAKING AN ABANDONED CALL TEST OF WIRE SPRING REVERTIVE SENDERS, LO OPTION MUST REPLACE LN OPTION. PRIOR TO ISSUE 42B LN OPTION WAS PART OF YN AND YR OPTIONS.

167. WHERE ANY ORIGINATING REGISTER OR STATION DIAL TRANSFER REGISTER IS ARRANGED TO FUNCTION WITH "TOUCH-TONE" TELEPHONE SETS APP FIG X AND OPTION LY MUST BE PROVIDED. IN ADDITION OPTION YB, IF NOT ALREADY FURNISHED, MUST BE PROVIDED.

168. PRIOR TO ISSUE 45D, APP FIG W WAS SHOWN AS PART OF APP FIG 21.

169. NOTE CANCELLED.

170. FREQUENCY ADJUSTMENT OF "TOUCH-TONE" SIGNAL OSCILLATORS.
A. CONNECT A BERKLEY EPUT METER WITH A TEN SECOND GATE OR EQUIVALENT TO THE OSCILLATOR OUTPUT JACK (VL).
B. OPERATE KEYS AND SWITCHES (OR BLOCK RELAYS), ADJUST OSCILLATOR TRANSFORMERS, AND ADD TRIMMER CAPACITOR (51, 100,150,200,240,300,360,430 OR 510 UUF IF AND AS REQUIRED) TO OBTAIN OUTPUT FREQUENCIES AS SHOWN IN FOLLOWING TABLE. (NOTE: INCREASING SIZE OF TRIMMER CAPACITOR TENDS TO BRING MAXIMUM AND MINIMUM FREQUENCY GENERATED BY THE TRANSFORMER CLOSER TOGETHER)

ADJUST TRANS-FORMER	ADD TRIMMER CAP.	OPERATE KEYS	SW SETTING (FCB)	SW SETTING (FCA)	OPTION 1W OUTPUT FREQUENCY (CPS) MUST BE BETWEEN	OPTION 1X OR AN OUTPUT FREQUENCY (CPS) MUST BE BETWEEN
(LB)	(B04)	(ADJ) (LFA)	(MNF)	(1)	683.8-685.2	685.8-687.2
				(2)	755.3-756.9	757.7-759.2
				(3)	835.8-837.5	838.4-840.1
				(4)	923.1-925.0	925.9-927.8
			(MXF)	(1)	708.8-710.2	706.8-708.2
				(2)	783.1-784.7	780.8-782.3
				(3)	866.5-868.2	863.9-865.6
				(4)	957.0-958.9	954.2-956.1
(LA)	(A04)	(ADJ) (HFA)	(MNF)	(1)	1186.0-1188.4	1189.7-1192.1
				(2)	1310.6-1313.3	1314.6-1317.3
				(3)	1448.9-1451.9	1453.4-1456.4
				(4)	1602.0-1605.2	1606.8-1610.2
			(MXF)	(1)	1229.6-1232.0	1225.9-1228.3
				(2)	1358.7-1361.4	1354.7-1357.4
				(3)	1502.1-1505.1	1497.6-1500.6
				(4)	1660.8-1664.0	1655.8-1659.2
(LC)		(ADJ)	(3FS)	(OFF)	1900.0-2100.0	1900.0-2100.0

171. VOLUME LEVEL ADJUSTMENT OF "TOUCH-TONE" SIGNAL OSCILLATORS.
A. CONNECT A VACCUUM TUBE VOLTMETER TO OSCILLATOR OUTPUT JACK (VL).
B. OPERATE KEYS AND SWITCHES AND ADJUST POTENTIOMETERS TO OBTAIN OUTPUT VOLTAGES AS FOLLOWS:

KEYS OPERATED	SWITCH SETTING (FCA)	SWITCH SETTING (FCB)	ADJUST POTENTI-OMETER	ADJUST FOR OUTPUT VOLTS AC
(ADJ),(HFA), (HLV)	(2)	(OFF)	(PA)	1.34
(ADJ),(LFA), (HLV)	(2)	(OFF)	(PB)	1.34
(ADJ),(HLV)	(OFF)	(3FS)	(PC)	1.5

172. NOTE CANCELED.

173. PRIOR TO ISSUE 48D KH OPTION WAS PART OF XE AND XY OPTIONS.

174. WHERE ANY TRUNK USED FOR TEST OF ANY SENDER RETURNS TONE ONLY ON OVERFLOW OR REORDER,KI OPTION MUST BE PROVIDED AND KH OPTION MUST BE REMOVED.

175. NOTE CANCELED.

176. NOTE CANCELED.

177. WHERE A CIRCUIT IS MODIFIED TO FUNCTION IN AN OFFICE ARRANGED FOR CENTREX SERVICE AND/OR PERSON PAID COLLECT SPECIAL AND/OR DIGIT 1 ACCESS CODES, OPTIONS KK,KU, AND APP FIG Z AND AD MUST BE FURNISHED. WHERE EXISTING CIRCUIT IS MODIFIED TO ADD INCOMING REGISTER TESTING, APP FIG Z AND APP FIG 50 MUST BE FURNISHED. ALSO, WHERE THE MODIFICATION DOES NOT INCLUDE AN ARRANGEMENT FOR 4-WIRE OPERATION AND/OR THE NEW NUMBERING PLAN ARRANGEMENT OF TRANSLATOR AND CLASS LEADS WITH INTERCHANGEABLE LOCAL AREA, AND NPA CODES, OPTIONS KL,KM, AND GZ MUST BE PROVIDED, AND WHERE INCOMING REGISTERS ARE TESTED OPTION JL MUST BE PROVIDED. IN ADDITION, WHERE ANY PREFIX DIGITS ARE OUTPULSED AND THE DIGITS ARE NOT UNDER CONTROL OF THE SWITCHES IN THE MASTER TEST CONTROL CIRCUIT, OPTIONS EP, ES, AND IO, AND APP FIG A8 MUST BE PROVIDED. ALSO, IF THIS CIRCUIT IS NOT ARRANGED FOR SPECIAL OVERSEAS DIALING, OPTION AI MUST BE PROVIDED. (SEE NOTE 1287)

178. (A&M ONLY) PROVIDE OPTION YF WHERE NEITHER PPCS NOR DIGIT 1 ACCESS IS FURNISHED AND WHERE X11 SERVICE CODES ARE USED AND ORIGINATING REGISTERS USE THE X11 TRANSLATOR LEAD ON CODE X11 CALLS. THIS APPLIES TO MARKER GROUPS WITHOUT PRETRANSLATORS HAVING ORIGINATING REGISTERS PER SD-25551-01 OR ORIGINATING REGISTERS PER SD-26040-01 MANUFACTURED PER AN ISSUE PRIOR TO ISSUE 14D. ON ISSUE 14D SD-26040-01 WAS CHANGED TO RATE THE USE OF THE X11 LEAD FOR X11 SERVICE CODES A&M ONLY.

179. ON ISSUE 50D KL OPTION WAS ADDED TO A PART OF YF OPTION.

180. PRIOR TO ISSUE 50D, KT OPTION WAS SHOWN AS PART OF ZI OPTION.

181. PRIOR TO ISSUE 50D, APP FIG Y WAS SHOWN AS PART OF APP FIG 20.

182. PRIOR TO ISSUE 50D, APP FIG AA WAS SHOWN AS PART OF APP FIG 18.

183. PRIOR TO ISSUE 50D, APP FIG AC WAS SHOWN AS PART OF APP FIG 15.

184. NOTE CANCELED.

185. PRIOR TO ISSUE 50D, KW OPTION WAS SHOWN AS PART OF ZQ OPTION AND KY OPTION WAS SHOWN AS PART OF ZW OPTION.

186. WHERE PERSON PAID COLLECT SPECIAL AND STATION PAID COIN TRAFFIC IS ROUTED TO TANDEM OVER A COMMON TRUNK GROUP, OPTIONS KX AND KZ MUST BE PROVIDED.

187. WHERE THE MARKER GROUP IS ARRANGED FOR 2000 TRUNK NUMBERS, JA OPTION MUST BE FURNISHED.

188. JE OPTION AND APP FIG P MUST BE PROVIDED WHERE THIS CIRCUIT FUNCTIONS WITH PERSON TO PERSON COLLECT SPECIAL SENDERS.

189. (A&M ONLY) WHERE THE OFFICE IS ARRANGED FOR PHASE I OR PHASE II CENTREX SERVICE AND ANY DIAL PULSE AND/OR REVERTIVE PULSE INCOMING TRUNKS ARRANGED FOR MANUAL TRANSFER ARE PROVIDED, JG OR IR OPTION MUST BE PROVIDED. IN ADDITION WHERE AN EXISTING OFFICE IS EQUIPPED WITH OPTION IR THEN OPTION ZYZ MUST ALSO BE PROVIDED.

190. WHERE A CIRCUIT IS MODIFIED TO FUNCTION IN AN OFFICE ARRANGED FOR CENTREX SERVICE AND PRIVATE LINE NETWORK (DIGIT 8), OPTIONS JS AND JU MUST BE PROVIDED. ALSO WHERE THE MODIFICATION DOES NOT INCLUDE AN ARRANGEMENT FOR 4-WIRE OPERATION AND/OR THE NEW NUMBERING PLAN ARRANGEMENT OF TRANSLATOR AND CLASS LEADS WITH INTERCHANGEABLE LOCAL AREA AND NPA CODES, OPTIONS JO AND "GO" MUST BE PROVIDED. IN ADDITION, WHERE ANY PREFIX DIGITS ARE OUTPULSED AND THE DIGITS ARE NOT UNDER CONTROL OF THE SWITCHES AT THE MASTER TEST CONTROL CIRCUIT, OPTION EU MUST BE PROVIDED. ALSO, IF THE CIRCUIT IS NOT ARRANGED FOR SPECIAL OVERSEAS DIALING, OPTION AF MUST BE PROVIDED.

191. PRIOR TO ISSUE 53D, OPTION JT WAS SHOWN AS PART OF OPTION KK. OPTION JP WAS SHOWN AS PART OF OPTION KM.

192. IN AN OFFICE ARRANGED TO ROUTE ZERO OPERATOR TRAFFIC TO A TRAFFIC SERVICE POSITION, OPTION JX MUST BE PROVIDED. ALSO WHERE AN EXISTING ANI OFFICE IS MODIFIED TO ROUTE ZERO OPERATOR TRAFFIC TO A TRAFFIC SERVICE POSITION, OPTION JH MUST BE PROVIDED.

193. PRIOR TO ISSUE 57D, APP FIG 50 WAS SHOWN IN APP FIG 20 AS OPTION ZH.

194. PRIOR TO ISSUE 57D, APP FIG AE WAS PART OF APP FIG 48, OPTION "IN" WAS PART OF OPTION KK, AND OPTION IP WAS PART OF APP FIG H.

195. NOTE CANCELED.

196. (A&M ONLY) WHERE AN EXISTING OFFICE EQUIPPED WITH A J23252A OR J23252U FRAME IS MODIFIED TO:
(A) TEST CENTREX AND/OR PERSON PAID COLLECT SPECIAL AND/OR DIGIT 1 ACCESS, PROVIDE OPTION "IN" INSTEAD OF OPTION IO.
(B) TEST 2W "TOUCH-TONE" ORIGINATING REGISTERS, PROVIDE APP FIG AE INSTEAD OF APP FIG AF.
(C) TEST INCOMING REGISTERS AND/OR OUTGOING SENDERS, PROVIDE OPTION JG INSTEAD OF OPTION IR.
(D) TEST OUTGOING SENDERS, PROVIDE OPTION IP INSTEAD OF OPTION IQ.
(E) TEST INCOMING REGISTERS, PROVIDE APP FIG K INSTEAD OF APP FIG AG.

197. WHERE A CIRCUIT IS MODIFIED TO TEST ORIGINATING REGISTERS ARRANGED FOR PRIVATE LINE NETWORK AND REQUIRED TO RECOGNIZE THAT AN ACCESS DIGIT 8 HAS BEEN DIALED TO REACH THE NO. 5 OFFICE, AND THE MODIFICATION DOES NOT INCLUDE AN ARRANGEMENT FOR 4-WIRE OPERATION AND/OR THE NEW NUMBERING PLAN ARRANGEMENT OF TRANSLATOR AND CLASS LEADS WITH INTERCHANGEABLE LOCAL AREA AND NPA CODES, OPTIONS GG AND GF MUST BE PROVIDED.

198. (A&M ONLY) WHERE AN EXISTING OFFICE IS MODIFIED FOR OPERATION WITH A STATION DIAL TRANSFER REGISTER WITH NO LINE IDENTIFIER, OPTIONS IV,IH,II,IG,IK,IT, AND TE, AND APP FIG. 58 MUST BE PROVIDED.

199. (A) OPTIONS CC,BD, AND JJ AND APP FIG 59 PROVIDES FOR THIS CIRCUIT TO FUNCTION WITH MULTIFREQUENCY SENDERS ARRANGED TO TRANSMIT AS A START (ST) SIGNAL ANY OF THE FOUR NON-DIGITAL FREQUENCY COMBINATIONS 10-0, 10-1, 10-2, OR 10-4 UPON RECEIPT OF CR7-0,CR7-1, CR7-2, OR CR7-4, RESPECTIVELY, AND CL9 FROM THE MARKER. START PULSE 10-7 WILL BE TRANSMITTED WITH THE RECEIPT OF CL9 AND NO CR- DIGIT OR WITHOUT RECEIPT OF CL9.

(B) (A&M ONLY) WHERE AN EXISTING ANI OFFICE IS MODIFIED TO ROUTE PERSON PAID COLLECT SPECIAL AND STATION PAID COIN TRAFFIC TO TANDEM OVER A COMMON TRUNK GROUP WHERE THE MULTIFREQUENCY SENDER TRANSMIT A 10-1 START (ST) SIGNAL, OPTIONS JJ,BB,BC, AND BN MUST BE PROVIDED. ALSO, WHERE AN EXISTING ANI OFFICE IS ALREADY ARRANGED FOR AUTOMATIC INTERCEPT SERVICE (AIS), OPTION BN MUST NOT BE PROVIDED. SUBSEQUENT TO ISSUE 59D AND PRIOR TO ISSUE 70D, OPTION JJ WAS SHOWN AS AN AFTER DATE STANDARD REQUIRED WHEN AN EXISTING ANI OFFICE WAS MODIFIED TO ROUTE PERSON PAID COLLECT SPECIAL AND STATION PAID COIN TRAFFIC TO TANDEM OVER A COMMON TRUNK GROUP. THE STANDARD USE OF OPTION JJ IS NOW COVERED BY NOTE 102.

SEE NOTE 1201 FOR CONTINUATION OF CKT NOTES

DRAWING ISSUE

70D	RPS NFT AHJ
73D	FVT MM AM
74D	RDT
78D	CR
82A	
84AC	

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR,REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-D9

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

SD-25680-01-D9

CIRCUIT NOTES: (CONT)

1201. PRIOR TO ISSUE 59D, OPTION GE WAS PART OF OPTION JQ.

1202. WHERE A STATION DIAL TRANSFER REGISTER FUNCTIONS WITH LINE IDENTIFIER, OR WHERE THIS CIRCUIT FUNCTIONS WITH ORIG REGISTER ARRANGED FOR WIDEBAND SERVICE "PICTUREPHONE", OPTION GD MUST BE PROVIDED.

1203. PRIOR TO ISSUE 59D, OPTION ID WAS PART OF OPTION LY, OPTION IJ WAS PART OF OPTIONS YA AND YU, OPTION GC WAS PART OF OPTION XM, AND OPTIONS "IF" AND GH WERE PART OF APP FIG 20.

1204. (A&M ONLY) PRIOR TO ISSUE 59D, THE FOLLOWING ITEMS WERE SHOWN IN THE STANDARD FEATURE AND OPTION NOTE 102. THE PRESENT RATING OF THESE OPTIONS IS AS SHOWN IN NOTE 103.

FEATURE OR OPTION				PROVIDE: APP FIG	PROVIDE: APP OR WRG	PROVIDE: QUANTITY
WHERE THIS CIRCUIT FUNCTIONS IN AN OFFICE ARRANGED FOR CENTREX SERVICE	CENTREX CUST & REG TELCO CUST ARE SERVED IN THE SAME REG GR (1XX PBX TIE LINE & SPECIAL CODES)	PBX CLASS OF CUST SERVED BY PRIVATE LINE NETWORK (PREFIX DIGIT 8)	YES		KP, JV, GU, GX, AE	
			NO		AE, KP, GU	
	CENTREX CUSTOMERS SERVED IN A REG GR SEPARATE FROM TELCO CUSTOMERS (11X PBX TIE LINE AND SPECIAL CODES) AND TELCO SERVICE CODES ARE:		11X		KQ,KR, GZ,GV, EV	
			X11		KQ, KS	
WHERE THIS CIRCUIT FUNCTIONS IN AN OFFICE NOT ARRANGED FOR CENTREX SERVICE					KV	
WHERE ORIG REGISTERS ARE ARRANGED TO FUNCTION WITH TWO PARTY LINES HAVING A TIP PARTY STATION RINGER RES TO GRD NOT GREATER THAN 1000 ± 10% OHMS ON ANY LINE					RT	
WHERE ORIG REGISTERS ARE NOT ARRANGED TO FUNCTION WITH TWO PARTY LINES OR WHERE ORIG REGISTERS ARE ARRANGED TO FUNCTION WITH TWO PARTY LINES HAVING A TIP PARTY STATION RINGER RES TO GRD GREATER THAN 1100 OHMS (2640 OR 3640 OHMS) ALSO (SEE NOTE 1236)					RU	

1205. WHERE THE TEST CIRCUIT FOR REGISTERS AND CAMA SENDERS IS REQUIRED FOR TESTING 4-WIRE ORIGINATING REGISTERS ARRANGED FOR CALL PRIVILEGE CONTROL WITH TWO CONTROL DIGITS (ALL 4 X 4 FREQUENCY COMBINATIONS ARE AVAILABLE) OPTION GK MUST BE PROVIDED.

1206. WHERE THIS CIRCUIT FUNCTIONS IN AN OFFICE EQUIPPED WITH STATION DIAL TRANSFER REGISTERS, OPTION EC MUST BE PROVIDED.

1207. NOTE CANCELED.

1208. WHERE MULTIFREQUENCY INCOMING REGISTERS, ARRANGED TO WAIT FOR A START PULSE BEFORE CALLING IN A MARKER, ARE MONITORED, OPTION KC MUST BE PROVIDED AND OPTIONS UW AND UX OR UY OR UZ OR TA OR TB OR TC OR TD OR TE MUST BE REMOVED.

1209. (a) (SPL) WHERE CENTREX OFFICE HAS A "TOUCH-TONE" ORIG REGISTER ARRANGED TO RECOGNIZE THE SPECIAL SIGNAL GENERATED BY THE "TOUCH-TONE" BUTTON TO THE RIGHT OF THE ZERO BUTTON AS AN END OF DIALING SIGNAL ON 1XX CENTREX TIE LINE CODE CALLS, APP FIG 56 AND OPTIONS EI AND EM MUST BE PROVIDED AND OPTIONS EH AND EL MUST BE REMOVED.

1209. (b) (SPL) WHERE THIS CIRCUIT MONITORS "TOUCH-TONE" CALLS AND WHERE ORIG REGISTERS ARE ARRANGED TO ACCEPT THE SIGNAL GENERATED BY THE "TOUCH-TONE" BUTTON TO THE RIGHT OF THE ZERO BUTTON AS AN END OF DIALING SIGNAL ON 1XX CENTREX TIE LINE CODE CALLS, APP FIG 62 MUST BE PROVIDED. FOR OPERATION WITH THE STANDARD ARRANGEMENT OF END-OF-DIALING, SEE NOTE 102 (46).

1210. WHERE A CENTREX OFFICE HAS ORIG REGISTERS ARRANGED FOR USE IN A THREE DIGIT INTERCOMMUNICATIONS SYSTEM, OPTION EK MUST BE PROVIDED AND EJ MUST BE REMOVED. IN ADDITION, WHERE THESE CALLS ARE ALSO MONITORED, OPTIONS JU,JV AND APP FIG 64 MUST BE PROVIDED AND OPTION AA MUST BE REMOVED.

1211. PRIOR TO ISSUE 65D, OPTIONS EH,EJ,EL AND EM WERE SHOWN AS PART OF APP FIG 18.

1212. (SPL) WHERE A CIRCUIT IS MODIFIED TO TEST ORIG REGISTERS ARRANGED TO RECOGNIZE THE SPECIAL SIGNAL, GENERATED BY THE "TOUCH-TONE" BUTTON TO THE RIGHT OF THE ZERO BUTTON, AS A PREFIX SIGNAL TO INDICATE A "PICTUREPHONE" CALL OPTIONS EM,EO, AND APP FIG 56 MUST BE PROVIDED AND OPTIONS EL AND EN REMOVED. ALSO, EITHER OPTIONS AQ AND ZZL MUST BE PROVIDED WHERE REGISTER USES LO,LI LEADS FOR NO "PICTUREPHONE"-"PICTUREPHONE" SIGNALS (APP FIG 11 EQUIPPED IN REGISTER) OR OPTION ZZM MUST BE PROVIDED AND OPTIONS AQ,BO, AND ZZL REMOVED IF ALREADY PROVIDED, WHERE THE REGISTER USES SCK,CR LEADS FOR NO "PICTUREPHONE"-"PICTUREPHONE" SIGNALS (APP FIG 11 NOT EQUIPPED IN REGISTER).

1213. (A&M ONLY) PRIOR TO ISSUE 68D THE FOLLOWING ITEMS WERE SHOWN IN THE STANDARD FEATURE AND OPTION NOTE 102. THE PRESENT RATING OF THESE OPTIONS IS SHOWN IN NOTE 103.

FEATURE OR OPTION			PROVIDE: APP FIG	PROVIDE: APP OR WRG	PROVIDE: QUANTITY
WHERE ORIG REGISTERS	ARRANGED FOR DIGIT 1 ACCESS CODES			KN	
	NOT ARRANGED FOR DIGIT 1 ACCESS CODES			KO	
WHERE THIS CIRCUIT FUNCTIONS WITH ANY INCOMING OR STATION DIAL TRANSFER REGISTER	FOR REV OR CENT. B SWBD	COMPLETING CALLS TO BOTH THE PHYSICAL AND THEORETICAL NUMBERS OF A SINGLE MARKER GR OVER A COMMON TRK GR WITH DISCRIMINATION BETWEEN PHYSICAL AND THEORETICAL NUMBERS BY LOW AND HIGH INCOMING GR SELECTION		YM, FV, FH	
	REV PULSE REGISTER	COMPLETING CALLS TO NUMBERS IN OFFICE "A" AND OFFICE "B" OF A MULTIOFFICE MARKER GR WITH IDENTIFICATION BETWEEN OFFICES BY LOW AND HIGH INCOMING GR SELECTION		YN	
DIGIT TIMING TESTER	WHERE ANY ORIG REGISTER OR INCOMING REGISTER DIGIT TIMERS ARE (1) ALL TUBE TYPE OR (2) MIXED, TUBE AND TRANSISTOR		14	FY	1 PER CKT

1214. WHERE THE CIRCUIT IS MODIFIED TO FUNCTION IN AN OFFICE ARRANGED FOR 4-WIRE OPERATION AND/OR EXPANDED FLEXIBILITY OF INCOMING TRUNK CLASS ASSIGNMENTS AND/OR WITH THE NEW NUMBERING PLAN ARRANGEMENT OF TRANSLATOR AND CLASS LEADS WITH INTERCHANGEABLE LOCAL AREA AND NPA CODES OPTIONS GP, GW,GX,FA,FR,FU,FX,ZYR,ZYT, AND ZYU AND APP FIGURES 52,53, AND 54 MUST BE PROVIDED. IN ADDITION, MG AND KU OPTIONS AND APP FIGURES Z AND 50, IF NOT ALREADY FURNISHED, MUST BE PROVIDED. WHERE AN EXISTING CIRCUIT IS MODIFIED TO ADD INCOMING AND/OR STATION DIAL TRANSFER REGISTERS, OPTIONS DC,DD,FB,FC,FD,FE,FF,FG,FO, AND FV MUST BE PROVIDED. IN ADDITION, OPTIONS "A",MM,TZ,XB, AND ZZ, IF NOT ALREADY FURNISHED, MUST BE PROVIDED. (SEE NOTE 1125 IN SD-25800-01).

1215.

PRIOR TO ISSUE	OPTION	WAS PART OF OPTION
68D	GT	APP FIG 7
	GU	KP
	GV	KR
	GX	JV
	GY	GP
	GZ	KK
	GO	JQ
	FI	APP FIG AB
	FJ	XE AND/OR XY AND/OR XZ
	FK	APP FIG 20
	FL	XB AND/OR XC AND/OR XH
	FM	MM
	FQ	APP FIG 50
	FS	APP FIG E
	FH,FV	YM AND/OR XB AND/OR XC
	FW	JC
	FY	APP FIG 14
	EY	II
	EZ	(YA,UA)
	DA	APP FIG 22
	DB	A
	CX	IH
70D	APP FIG 66	APP FIG 51
	ER	KJ
	ES	KK
	ET	KK
	EU	JV
	EV	KR
	DF	ZI
	DL	SU
	DN	FR
	DR	R
	DT	YB
	BO	EO
	CD	MR
	CF	APP FIG 17
	CH	APP FIG 12
	CJ	H
	CV	APP FIG 21
	BB	JJ
	BC	Z
	BF	R,YR,VR
	BG	R,YR,VR
	BL	APP FIG 40
	BN	APP FIG 17
	BW	KK

PRIOR TO ISSUE	OPTION	WAS PART OF OPTION
70D	AA	KK
	AB	KK
	AD	KP
	AF	JU
	AI	ES
73D	DX	IG
	CP	XN OR VC
	CR	XM
	CS	XL OR WZ
74D	AS	JM
	AL	APP FIG 46
	AQ	APP FIG 48
	AV	IH
	ZZA	APP FIG AG
78D	ZZF	XL OR WZ
	ZZH	XM
	ZZI	XS
81D	ZZS	APP FIG 59
	ZZT	APP FIG 59
	ZYD	JM
	ZXU,ZWO	AU
83D	ZYM	JI
	ZYR	FR
	ZYS	APP FIG 53
86D	ZXC	APP FIG 54
	ZXE	ZYC
	ZXG	SX AND/OR AU AND/OR CY AND/OR ZZW
	ZXH	AU
	ZXI,ZXK	JJ
	ZXM	ZS
	ZXO	ZU
	ZXS	BI
	ZYG	FR
	ZYI	CX
	ZYV	FIG. 20
	ZYX	FIG. 58
88D	ZWB	RH
	ZXY	APP FIG 13
89D	ZWF	APP FIG. 17
91D	ZWI	APP FIG. 17
96AC	ZVA	AW
97D	ZVD	APP FIG. 60

1217. WHERE THIS CIRCUIT OUTPULSES ANY PREFIX OR CONTROL DIGITS AND THESE DIGITS ARE CONTROLLED BY THE SWITCHES IN THE MASTER TEST CONTROL CIRCUIT, OPTIONS DG,ET,EQ, AND EC MUST BE PROVIDED. IN ADDITION, THESE OPTIONS ARE REQUIRED WHERE THIS CIRCUIT IS MODIFIED FOR 4-WIRE OPERATION. ALSO, OPTION YB IF NOT ALREADY FURNISHED, MUST BE PROVIDED. (SEE NOTE 1188 IN SD-25800-01).

1218. WHERE THIS CIRCUIT IS MODIFIED FOR 4-WIRE OPERATION, OPTIONS CN AND DW MUST BE PROVIDED. IN ADDITION OPTIONS GK,MG,MW, OC,OE,OL,OQ,OS,PX,SU,UA,YB,ZK,ZM,ZO, AND ZQ, IF NOT ALREADY FURNISHED, MUST BE PROVIDED.

1219. TO REDUCE THE NUMBER OF RBM INDICATIONS FROM REGISTERS ON A MONITORED CALL TO THE TRAFFIC USAGE RECORDER, 8A OPTION SHOULD BE PROVIDED.

1220. (SPL) WHERE THIS CIRCUIT IS ARRANGED TO MONITOR ORIGINATING REGISTERS WHICH ACCEPT THE PREFIX DIGITS 01 AND 011 FOR SPECIAL OVERSEAS DIALING, OPTION AC MUST BE PROVIDED AND OPTION AB MUST BE REMOVED.

WHERE THIS CIRCUIT IS ARRANGED TO TEST THESE SAME REGISTERS, AND WHERE THIS CIRCUIT IS NOT ARRANGED:

	PROVIDE	REMOVE
TO OUTPULSE THE PREFIX DIGITS UNDER CONTROL OF THE SWITCHES IN THE MASTER TEST CONTROL CIRCUIT	AG,AJ	AF,AH,AI
FOR INTERCHANGEABLE LOCAL AREA AND NPA CODES	APP FIG 54,65	
FOR PLN (PREFIX DIGIT 8)	EX	
FOR 4 AND 5 DIGIT TRANSLATION IN THE ORIGINATING REGISTER	APP FIG 50, JL	

1221. WHERE THIS CIRCUIT IS MODIFIED TO FUNCTION WITH MF SENDERS ARRANGED FOR VARIABLE START PULSING TO IDENTIFY COMBINED TRAFFIC OVER A COMMON TRUNK GROUP, OPTIONS CN,SU,ZK,ZM, AND ZO MUST BE PROVIDED. ALSO OPTION CM MUST BE REMOVED.

1222. WHERE MF SENDERS ARE ARRANGED TO FUNCTION WITH AUTOMATIC INTERCEPT SERVICE, OPTION "BE" BE PROVIDED.

1223. OPTION FZ SHOULD BE PROVIDED WHEN ALL ORIG AND INCOMING REGISTERS ARE EQUIPPED WITH TRANSISTOR DIGIT TIMERS (PRECISION TIMER). ALSO WHERE OPTION FZ IS PROVIDED AND WHERE STATION DIAL TRANSFER REGISTERS, WITH NO LINE IDENTIFIER, ARE PROVIDED OPTION EA MUST BE PROVIDED.

1224. (A&M ONLY) OPTION EW AND APP FIG. AA ARE TO BE APPLIED ONLY WHERE THE OUTPULSING OF PREFIX DIGITS IS UNDER CONTROL OF THE SWITCHES IN THE MASTER TEST CONTROL CIRCUIT AND OFFICE IS ARRANGED FOR CENTREX AND TELCO SERVICE CODES ARE 11X AND OPTION EV MUST BE REMOVED. SEE NOTE 1204.

1225. WHERE THE ORIG REGISTER, ARRANGED FOR DIAL TONE FIRST-LOOP START COIN OPERATION, MAKES A COIN TEST ON ZERO OPERATOR CALLS WHERE THE MARKER IS SUMMONED WITH A COIN OR NO-COIN DEPOSITED INDICATION AND WHERE THE COIN IS NOT RETURNED ON ZERO OPERATOR CALLS, OPTIONS AK,BP, AND BS MUST BE PROVIDED AND OPTIONS BO,BQ,BR, AND BT MUST BE REMOVED. ALSO, OPTION YF, IF PROVIDED MUST BE REMOVED AND REPLACED BY OPTION ZF OR KM. ALSO WHERE (a) THE REGISTER DOES NOT MAKE A COIN TEST ON INFORMATION AND OTHER FREE CALLS, WITH COIN RETURN, OPTION BV MUST BE PROVIDED AND OPTION BU MUST BE REMOVED. THE (SER) KEY MUST BE OPERATED FOR THIS TEST. (b) THE REG MAKES A COIN TEST ON INFORMATION AND OTHER FREE CALLS WITH NO COIN RETURN, OPTION BV MUST NOT BE PROVIDED. THE (SER) KEY MUST NOT BE OPERATED FOR THIS TEST. IN ADDITION OPTION AQ IF NOT ALREADY FURNISHED, MUST BE PROVIDED.

1226. WHERE THIS CIRCUIT IS MODIFIED TO TEST ORIG REGISTERS ARRANGED TO RECOGNIZE THE SPECIAL SIGNAL, GENERATED BY THE "TOUCH-TONE" BUTTON TO THE RIGHT OF THE ZERO BUTTON, AS A PREFIX SIGNAL TO INDICATE A "PICTUREPHONE®" CALL, OPTION BP MUST BE PROVIDED AND OPTION BO MUST BE REMOVED, WHERE NO ELEVEN DIGIT NUMBERS ARE HANDLED BY THE REGISTER (APP FIG 11 EQUIPPED IN REGISTER).

1230. WHERE THE CIRCUIT MONITORS "TOUCH-TONE" CALLS FROM CENTREX CUSTOMERS AND CALLS TO TIE LINES ARE OF THE 1XX TYPE, OPTION AE MUST BE PROVIDED AND OPTION AD MUST BE REMOVED.

DRAWING ISSUE

70D	ADM, ALF, JNC
72A	AEM, AHM, AIM
73D	AEM, AHM, ALF
74D	RBT
75A	RBT
77A	CR
78D	CR
79D	HYG
80A	HYG
81D	
83D	
85A	CB
86D	CB
88D	
89D	

ISSUE 97D

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-D10A

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25680-01-D10A

CIRCUIT NOTES: (CONT)

1231. WHERE THIS CIRCUIT IS MODIFIED TO MONITOR "TOUCH-TONE" CALLS, THE ST LEAD MUST BE GROUNDED FROM THE DIAL TONE OR COMBINED MARKER ON ALL REGISTER GROUPS REQUIRING MONITORING. ALSO OPTION ZYP MUST BE PROVIDED AND OPTION ZYO REMOVED.

1232. WHERE THE ORIGINATING REGISTER IS ARRANGED FOR SPECIAL DIAL TONE FIRST-LOOP START COIN OPERATION WHICH:

1. PROVIDES FOR A COIN TEST AFTER DIALING ON ALL COIN LINE CALLS,
2. TRANSFERS THE RESULTS OF THE TEST TO THE MARKER IMMEDIATELY,
3. GROUNDS THE SCK LEAD TO THE MARKER AS A COIN PRESENT INDICATION, AND THE SCN LEAD TO THE MARKER AS A COIN NOT PRESENT INDICATION, AND
4. PROVIDES COIN RETURN ONLY ON PERMANENT SIGNAL AND ABANDONED CALLS.

OPTIONS XQ,CQ, AND CT MUST BE PROVIDED AND OPTIONS BR,CO, CP,GC,CR AND CS MUST BE REMOVED.

1233. (a) WHERE THIS CIRCUIT FUNCTIONS IN AN OFFICE WHERE ALL THE MULTIFREQUENCY INCOMING REGISTERS, 2-WIRE OR 4-WIRE, ARE THE WIRE SPRING TYPE, OPTION CW MUST BE PROVIDED.

(b) WHERE THIS CIRCUIT FUNCTIONS IN AN OFFICE WHERE SOME OF (A&M ONLY) THE MULTIFREQUENCY INCOMING REGISTERS ARE THE U-TYPE, OPTION CV MUST BE PROVIDED.

1234. OPTION DY MUST BE PROVIDED IN OFFICES ARRANGED FOR PHASE III STATION DIAL TRANSFER AND OPTION DX IN PHASE I OR II OFFICES, WHERE THE STATION DIAL TRANSFER REGISTER IS ARRANGED TO PROVIDE THE TRUNK LINK FRAME NUMBER OF THE INCOMING TRUNK USED ON A LINK RELEASE, LR, TIME OUT.

1235. (A&M ONLY) WHERE THIS CIRCUIT IS NOT MODIFIED TO FUNCTION IN AN OFFICE ARRANGED FOR 4-WIRE OPERATION AND/OR EXPANDED FLEXIBILITY OF INCOMING TRUNK CLASS ASSIGNMENTS AND/OR WITH THE NEW NUMBERING PLAN ARRANGEMENT OF TRANSLATOR AND CLASS LEADS WITH INTERCHANGEABLE LOCAL AREA AND NPA CODES AND

1. IS MODIFIED TO FUNCTION WITH INCOMING REGISTERS OPTIONS DA AND FK MUST BE PROVIDED, AND

2(a). IS MODIFIED TO FUNCTION WITH STATION DIAL TRANSFER REGISTER. OPTIONS CX AND EY MUST BE PROVIDED. IN ADDITION OPTIONS DA AND FK MUST BE PROVIDED IF NOT ALREADY FURNISHED.

2(b). IN ADDITION WHERE THE TRANSFER REGISTER IS ARRANGED TO FUNCTION WITH CENTRALIZED ATTENDANT FACILITIES, SEVEN DIGIT TRANSFER, PHASE III CENTREX, OPTION ZZX MUST BE PROVIDED.

2(c). IN ADDITION, WHERE THE TRANSFER REGISTER IS ARRANGED FOR WIDEBAND SERVICE ("PICTUREPHONE"), PHASE III CENTREX OPTIONS ZYG,ZYJ, AND ZYK MUST BE PROVIDED AND OPTION ZYI MUST BE REMOVED.

1236. WHERE THE (TP) RELAY IN ANY ORIGINATING REGISTER EQUIPPED WITH APP FIG. 13 IS CHANGED FOR IMPROVED MAINTENANCE OF THE MERCURY CONTACT, FROM A 280AU TYPE TO A 316L TYPE, OPTION AR MUST BE PROVIDED, AND OPTION RU REMOVED. (ALSO SEE NOTE 1204.)

1237. (MFR DISC) PRIOR TO ISSUE 74D OPTION "AS" WAS PROVIDED FOR TESTING SENDERS ON LINE LINK PULSING CALLS.

1238. OPTIONS AM, AN, AND AP ARE PROVIDED TO ALLOW COMPONENT ASSEMBLY BOARDS TO BE USED WHERE THIS CIRCUIT IS ARRANGED TO TEST "TOUCH-TONE".

1239. TO PROVIDE FOR A POSITIVE CHECK THAT THE STATION DIAL TRANSFER REGISTER GROUNDS THE T & R LEADS TOWARDS THE TRUNK, BEFORE RELEASING ON A LINK RELEASE OR DOUBLE CONNECTION TEST, OPTIONS AW AND ZYB SHOULD BE PROVIDED AND OPTION AV AND ZYA REMOVED.

1240. WHERE THIS CIRCUIT IS MODIFIED TO FUNCTION WITH MF SENDERS ARRANGED TO TRANSMIT VARIABLE START PULSES (ST) WHEN CALL CLASS MARKS ARE REQUIRED TO IDENTIFY COMBINED TRAFFIC OVER A COMMON TRUNK GROUP (TSPS NO. 1) OPTION CC PROVIDED. OPTION AZ MUST BE PROVIDED AND OPTION AY REMOVED.

1241. WHERE THIS CIRCUIT IS MODIFIED TO MONITOR "TOUCH-TONE" CALLS, OPTION BZ MUST BE PROVIDED.

1242. OPTION AU PROVIDES FOR THIS CIRCUIT TO MONITOR, IN ADDITION TO TESTING, LINE LINK PULSING SENDERS AND REGULAR DIAL PULSING OR MULTIFREQUENCY SENDERS USED ON LINE LINK PULSING CALLS.

1243. TO PROVIDE A TEST OF THE RECYCLE FEATURE OF THE (TM) TIMER IN THE ORIGINATING REGISTER, OPTION ZZC SHOULD BE PROVIDED.

1244. TO PROVIDE AN IMPROVED CHECK FOR FALSE GROUNDS ON THE RLT LEAD TO THE MARKER, OPTION ZZE MUST BE FURNISHED AND OPTION ZZD MUST BE REMOVED.

1245. (A&M ONLY) PRIOR TO ISSUE 78D THE FOLLOWING ITEMS WERE SHOWN IN THE STANDARD FEATURE AND OPTION NOTE 102. THE PRESENT RATING OF THESE OPTIONS IS AS SHOWN IN NOTE 103.

FEATURE OR OPTION				PROVIDE: APP FIG	APP OR WRG	QUANTITY
WHERE ORIGINATING REGISTERS SERVE COIN LINES	REGISTER RETURNS COIN ON PERMANENT SIGNAL, ABANDON CALLS, CALLS TO OPERATOR TRUNKS AND OTHER FREE TRUNKS ON TRUNK LINK FR	COIN FIRST-LOOP START (COIN TEST IN REGISTER, REGISTER AWAITS COIN DEPOSIT)			BR,BT, CP,CR, CS,GC, J,VB, VC,WZ, XM, ZZF, ZZH	
		DIAL TONE FIRST-LOOP START (COIN TEST IN REGISTER, REGISTER AWAITS COIN DEPOSIT)			BR,BT, BU,CP, CR,CS, GC,H, VB,VC, WZ,XM, ZZF, ZZH	
		DIAL TONE FIRST-LOOP START AND COIN FIRST-GROUND START (COIN TEST IN REGISTER, REGISTER AWAITS COIN DEPOSIT)			BR,BT, BU,CP, CR,CS, GC,H, VB,VC, WG,WZ, XM, ZZF, ZZH, ZZI	
		COIN FIRST-GROUND START			BR,CR, CS,GC, VB,WG, WJ,WZ, XM,XO, XP, ZZF, ZZH, ZZI	
WHERE THIS CKT TESTS 4-W ORIGINATING REGISTERS AND		FUNCTIONS WITH 4-W INC. REG.	YES		CK	
			NO		CJ	
NO OPERATION WITH 4-W CKT					CJ	

1246. WHERE THIS CIRCUIT IS MODIFIED TO TEST 2-WIRE ORIGINATING REGISTERS THAT ARE ARRANGED TO FUNCTION WITH "TOUCH-TONE" SETS EQUIPPED WITH TWELVE BUTTONS (ALL 3X4 FREQUENCY COMBINATIONS AVAILABLE) OPTION EM MUST BE PROVIDED AND OPTION EL MUST BE REMOVED.

1247. (A&M ONLY) FOR MAINTENANCE REPLACEMENT OF THE 33L TYPE VARISTOR OPTION RO,OR ZZQ SHOULD BE USED.

1248. TO PROVIDE AN IMPROVED TRUNK TIMING TEST FOR MF SENDERS ARRANGED FOR AIS VIA LLP, OPTION ZZS SHOULD BE REMOVED AND REPLACED BY OPTION ZZT.

1249. WHERE IT IS REQUIRED TO OBTAIN A RECORD OF SENDER DIGIT AND CLASS INFORMATION UNDER CONTROL OF THE QUICK TROUBLE RECORD KEY (QTR) WHEN THERE IS NO FAILURE TO CHECK (FOR EXAMPLE AIS MF SENDERS) OPTION ZZV MUST BE PROVIDED AND OPTION ZZU MUST BE REMOVED.

1250. (A&M ONLY) WHERE THIS CIRCUIT IS MODIFIED TO TEST MF SENDERS ARRANGED FOR AIS WITHOUT USING LLP (AIS MF SENDER) APP FIG 68 AND 71, AND OPTION ZZW OR ZXG MUST BE PROVIDED. ALSO FOR AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUITS NOT EQUIPPED WITH THE (MCT) RELAY (AS PROVIDED UNDER OPTION AU OR ZXH) OPTIONS ZXU AND ZWN MUST BE PROVIDED AND OPTION ZWO REMOVED. WHERE THE (MCT) RELAY IS EQUIPPED BY OPTION AU OR ZXH, OPTIONS ZXU AND ZWO MUST BE PROVIDED. IN ADDITION, OPTIONS TM, TO, XV, AND V, IF NOT ALREADY FURNISHED, MUST BE PROVIDED. ALSO, APP FIG 59 AND OPTIONS CU, JZ, ZYD, AND ZZT MUST BE FURNISHED (SEE NOTES 102 (22), 1222, AND 1278).

1251. WHERE THIS CIRCUIT FUNCTIONS WITH ORIGINATING REGISTERS ARRANGED FOR WIDEBAND SERVICE "PICTUREPHONE" ON A STANDARD BASIS OPTION ZZZ MUST BE PROVIDED AND OPTION ZZY MUST BE REMOVED.

1252. WHERE THIS CIRCUIT FUNCTIONS WITH ORIGINATING REGISTERS ARRANGED FOR END OF DIALING AND/OR 12 DIGITS, OPTION ZYB MUST BE PROVIDED, AND OPTION ZYA MUST BE REMOVED. ALSO, OPTION ZZC, IF NOT ALREADY PROVIDED, MUST BE FURNISHED.

1253. TO PREVENT A FALSE SEIZURE FROM BEING TRANSMITTED TO THE DISTANT OFFICE, WHEN TESTING SENDERS USING REGULAR OUTGOING TRUNKS, AND WHERE THE TEST CIRCUIT IS MODIFIED TO FUNCTION WITH OUTGOING TRUNKS OR LINE CIRCUITS HAVING CX SUPERVISION OPTION "TO" MUST BE PROVIDED AND OPTION TN MUST BE REMOVED.

1254. THE AUTOMATIC MONITOR REGISTER AND SENDER TEST CIRCUIT MUST BE ARRANGED FOR:

1. THE NEW NUMBERING PLAN ARRANGEMENT OF TRANSLATOR AND CLASS LEADS WITH INTERCHANGEABLE LOCAL AREA AND NPA CODES, AND
2. THE CONTROL OF OUTPULSING ANY PREFIX DIGITS BY THE SWITCHES IN THE MASTER TEST CONTROL CIRCUIT WHEN MODIFIED FOR IDDD. (SEE NOTES 1214 AND 1217)

1255. WHERE MORE THAN TEN COMPLETING MARKERS ARE PROVIDED IN AN EXISTING OFFICE, OPTION ZYN MUST BE PROVIDED.

1256. OPTION ZYE PREVENTS THE FLUTTERING OF THE (TTK) RELAY WHEN MONITORING STATION DIAL TRANSFER REGISTERS ARRANGED FOR "TOUCH-TONE".

1257. TO PROVIDE FOR STANDARD TIMING TESTS OF SENDERS THAT ARE ASSOCIATED WITH TRUNKS HAVING CX SUPERVISION E AND M LEAD SIGNALING OPTION ZYQ SHOULD BE PROVIDED.

1258. WHERE THIS CIRCUIT FUNCTIONS IN AN OFFICE EQUIPPED WITH THE SMALL CROSSBAR SWITCH AND WHERE TRUNKS ARE TERMINATED ON MORE THAN EIGHT (8) LEVELS, OPTION ZYL MUST BE PROVIDED. IN ADDITION, WHERE THIS CIRCUIT FUNCTIONS WITH 4-WIRE INCOMING REGISTER AND/OR 4 WIRE OUTGOING SENDERS OPTION ZYL MUST BE PROVIDED.

1259. TO PROVIDE THE TROUBLE RECORD INDICATIONS "TOUCH-TONE" (MF), AND DIAL PULSE (D) WHEN MONITORING ORIGINATING REGISTERS ARRANGED FOR "TOUCH-TONE", OPTIONS ZYT AND ZYU MUST BE PROVIDED, AND ZYS REMOVED. IN ADDITION, WHERE THE TEST CIRCUIT IS NOT ARRANGED FOR THE NEW NUMBERING PLAN ARRANGEMENT (NPA) OF TRANSLATOR OR CLASS LEADS APP FIG 53 AND 54 AND OPTION ZYR MUST BE PROVIDED.

1260. WHERE THIS CIRCUIT IS MODIFIED TO FUNCTION WITH ORIGINATING REGISTERS WHICH HANDLE 12 DIGIT CALLS, EXCLUDING PREFIX DIGITS, OPTIONS ZYN AND ZXD MUST BE PROVIDED AND OPTION ZXC MUST BE REMOVED. IN ADDITION, WHERE THIS CIRCUIT IS MODIFIED FOR 4-WIRE AND/OR THE NEW NUMBERING PLAN ARRANGEMENT OF TRANSLATOR AND CLASS LEADS, OPTIONS ZYN AND ZXD MUST BE PROVIDED.

DRAWING ISSUE: 72A (Part 1 and 2), 73D (Part 1), 74D ROT, 75A ROT, 76B CR, 78D CR, 79D ENG, 81D, 82A, 83D, 84AC, 85A, 86D, 88D, 89D

ISSUE 105A

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-D10B

BELL TELEPHONE LABORATORIES INCORPORATED — SIZE 6S

SD-25680-01-D10B

CIRCUIT NOTES: (CONT)

1261. WHERE THIS CIRCUIT IS MODIFIED TO FUNCTION WITH MF SENDERS ARRANGED FOR TSPS-IDDD, OPERATION OPTIONS ZXN, ZXP, AND ZXR MUST BE FURNISHED AND OPTIONS ZXM, ZXO, AND ZXQ MUST BE REMOVED. ALSO WHERE THIS CIRCUIT IS ALREADY MODIFIED FOR ANI OR ANI-LAMA OPTION ZXJ MUST REPLACE ZXI.

1262. WHERE AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUITS MANUFACTURED PRIOR TO DRAWING ISSUE 86D ARE BEING MODIFIED TO FUNCTION WITH DP OR MF SENDERS ARRANGED FOR 4-WIRE, LLP, OR TSPS-IDDD OPERATION, OPTIONS CU, ZXG, ZXH, AND ZXU MUST BE PROVIDED IF NOT ALREADY EQUIPPED.

1263. WHERE THIS CIRCUIT IS MODIFIED TO FUNCTION IN AN OFFICE ARRANGED FOR EXPANDED MARKER OPERATION OPTION ZXX MUST BE PROVIDED AND OPTION ZXW MUST BE REMOVED.

1264. TONE SIGNAL OUTPUT LEVELS.
(a) HT3, NON-PRECISE TONE, 6-9 VOLTS AC, 540 HERTZ.
(b) HT1, PRECISE TONE, .95 VOLTS AC ±1db, 480 HERTZ.

1265. WHERE THE MARKER GROUP IS ARRANGED FOR 4000 TRUNK NUMBERS, OPTION ZWA MUST BE PROVIDED. IN ADDITION, OPTION ZYN, IF NOT ALREADY FURNISHED, MUST BE PROVIDED.

1266. FOR MAINTENANCE IN OFFICE WHERE THE ASSOCIATED MULTIFREQUENCY SIGNALING RECEIVING CKT IS SD-95536-01, OPTION ZWB AND ZWD MUST BE PROVIDED.

1267. (A&M ONLY) WHERE THE IA PULSING ANALYZER TEST SET IS ASSOCIATED WITH THIS CIRCUIT FOR THE PURPOSE OF ANALYZING PULSES OF THE FLAT SPRING MULTIFREQUENCY AND DIAL PULSE SENDERS, APP FIG. 73 AND OPTION ZWG MUST BE PROVIDED AND OPTION ZWF MUST BE REMOVED.

1268. (A&M ONLY) WHERE IT IS DESIRED TO OBTAIN A RECORD OF THE ARBITRARY DIGITS OUTPULSED BY THE MULTIFREQUENCY SENDER, ARRANGED FOR AIS, WITHOUT USING LINE LINK PULSING, WHEN THERE IS NO FAILURE TO MATCH, OPTION ZWH MUST BE PROVIDED, (ALSO SEE NOTE 1249).

1269. WHERE IT IS DESIRED TO HAVE AN INDICATION (OSN) LAMP THAT A 12TH DIGIT, EXCLUDING PREFIX DIGITS, HAS BEEN DIALED INTO AN ORIGINATING REGISTER ON A TEST CALL, PRIOR TO ISSUE 86D, OPTION ZXF MUST BE PROVIDED AND OPTION ZXE REMOVED.

1270. OPTION ZWJ MUST REPLACE OPTION ZWI TO PROVIDE FOR TESTING DIAL PULSE SENDERS THAT FUNCTION WITH STEP-BY-STEP OFFICES NOT ARRANGED FOR STOP DIAL OPERATION WHERE THESE SENDERS ARE EQUIPPED TO RETURN REORDER IMMEDIATELY ON RECOGNITION OF AN OFF-HOOK SIGNAL AFTER OUTPULSING TO THE STEP OFFICE HAS BEGUN.

1271. OPTION ZXG MUST BE PROVIDED, IF NOT ALREADY EQUIPPED, WHERE THIS CIRCUIT IS ARRANGED TO FUNCTION WITH ANY OUTGOING SENDER.

1272. WHERE THIS CIRCUIT FUNCTIONS WITH MF SENDERS PRIMED BY THE MARKER WITH A DL3 MARK FOR ROUTING 211 LONG DISTANCE OPERATOR CALLS TO TSPS ON A ZERO OPERATOR (0-) BASIS, OPTION ZWP MUST BE REPLACED BY ZWQ.

1273. WHERE AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUITS PREVIOUSLY EQUIPPED WITH APP FIG. 20 (FOR OPERATION WITH INC REGISTERS) ARE BEING MODIFIED FOR OPERATION WITH TRANSFER REGISTERS, OPTION ZVA, IF EQUIPPED, MUST BE REMOVED, AND OPTION ZVB PROVIDED.

1274. OPTION ZVE MUST REPLACE OPTION ZVD WHERE THIS CIRCUIT FUNCTIONS WITH ORIGINATING REGISTERS THAT ARE ARRANGED FOR PREVENTING DIGIT MUTILATIONS CAUSED BY DIAL PULSES AND TOUCH-TONE® SIGNALS RECEIVED ON THE SAME CALL.

1275. WHERE IT IS DESIRED TO IMPROVE THE MAINTENANCE OF THE DIAL PULSE GENERATOR APP FIG. 26 BY REPLACING THE 209FF RELAYS WITH MERCURY SEALED CONTACT TYPE OPTION ZWV MUST BE REMOVED AND ZWX ADDED.

1276. WHERE IT IS DESIRED TO IMPROVE THE MAINTENANCE OF THE REVERTIVE PULSE GENERATOR IN APP FIG. 40 BY REPLACING THE 209FF RELAYS WITH MERCURY SEALED CONTACT TYPE OPTION ZWY MUST BE REMOVED AND ZWZ ADDED.

1277. PRIOR TO ISSUE 100B, OPTION ZVP WAS PART OF OPTION EG. OPTION ZVP MUST BE PROVIDED IN OFFICES ARRANGED FOR TOLL DIVERSION. WITH OPTIONS ZVH, ZVP AND YA OR UA PROVIDED, ORIGINATING REGISTERS CAN BE TESTED FOR TIP AND RING POLARITY REVERSAL (WS LAMP INDICATION) WHEN THE REGISTER RV RELAY OPERATES AS ON REGISTER SEIZURES BY CENTREX ATTENDANTS, OR FOR A SIMILAR REVERSAL WHEN THE REGISTER RVI RELAY OPERATES ON TOLL DIVERSION CALLS (OPTIONS EG AND ZVR EQUIPPED).

1278. WHERE THE OFFICE IS REQUIRED TO TEST RV OR PCI SENDERS APP FIG. 40 PROVIDED AND THE OFFICE IS EQUIPPED WITH THE MCT RELAY OPTION (ZXG AND ZXH) AND/OR MCU & MCUA RELAYS APP FIG. 68 WIRING OPTION ZVJ MUST BE ADDED AND ZVI REMOVED. (SEE NOTES 102-22, 1250, 1268, 1271).

1279. WHERE IT IS DESIRED TO PROVIDE, IN AMRST CIRCUITS MANUFACTURED PRIOR TO DRAWING ISSUE 100B, A POSITIVE CHECK OF THE SCK AND SCN INDICATIONS ON "COIN PRESENT" AND "COIN NOT PRESENT" TESTS OF ORIG REGS EQP'D WITH THE COIN SERVICE IMPROV-DIAL TONE FIRST FEATURE, PROVIDE OPTIONS ZVL AND ZVN, AND REMOVE OPTIONS ZVK, ZVM, AND ZVO. ALSO, PRIOR TO ISS 100B, OPTION ZVO WAS PART OF OPTION ZZG.

1280. OPTION YI, IF EQUIPPED, MUST BE REMOVED WHEN OPTION ZWU IS PROVIDED.

1231. OPTION ZVT SHOULD REPLACE OPTIONS ZVS AND VK TO REMOVE THE 130 VOLT SHOCK HAZARD FROM THE CASING OF THE (CDP) RELAY.

1282. WHERE THIS CIRCUIT IS MANUFACTURED PRIOR TO ISSUE 86D AND FUNCTIONS WITH ANY OUTGOING SENDERS IN AN OFFICE ARRANGED FOR NO. 5 ELECTRONIC TRANSLATION SYSTEM, OPTION ZVW, IF NOT ALREADY EQUIPPED, MUST BE PROVIDED. ALSO, NOTE 102 (22A) MUST BE APPLIED.

1283. *NOTE CANCELLED ON ISSUE 104B*

1284. *NOTE CANCELLED ON ISSUE 105A*

1285. OPTION ZVX SHOULD BE REPLACED BY OPTION ZVY TO ELIMINATE COMPLETING MARKER BLOCKAGES WHICH OCCUR WHEN THE (OS) RELAY OF THIS CIRCUIT IS BROUGHT UP FALSELY.

1286. WHERE THIS CIRCUIT IS ARRANGED FOR PREFIX DIGIT 8 (PRIVATE LINE NETWORK) AND IS TO BE ARRANGED FOR TESTING OR'S WITH THE ENHANCED PRIVATE SWITCHED COMMUNICATION SYSTEM FEATURE, APP FIG. 74 MUST BE PROVIDED.

1287. (A&M ONLY) WHERE OPTION KM IS PROVIDED IN THIS CIRCUIT (PER NOTE 177) PROVIDE OPTION ZVZ IF XII SERVICE CODES USING THE XII TRANSLATOR LEAD ARE ALSO PROVIDED IN THE OFFICE. IF OPTION KM IS PROVIDED AND XII SERVICE CODES USING THE XII TRANSLATOR LEAD ARE NOT PROVIDED, THEN OPTION ZUA MUST BE FURNISHED. PRIOR TO ISSUE 104B OPTION ZUA WAS PART OF OPTION KM.

1288. (A&M ONLY) WHERE THIS CIRCUIT FUNCTIONS WITH IR'S BUT IS NOT ARRANGED WITH OPTION FR, THEN APPLY EITHER OPTION ZUB OR OPTION ZUC ACCORDING TO THE TABLE BELOW:

FEATURE OR OPTION				PROVIDE		
				APP FIG.	APP OR WRG	QUANTITY
WHERE ANY IR'S ARE ARRANGED FOR BUT NOT OPERATING WITH INTERCHANGEABLE LOCAL AREA AND NPA CODES	NO				ZUC	
	YES	AND WHERE ANY COMPLETING MARKER IS ARRANGED FOR BUT NOT OPERATING INTERCHANGEABLE LOCAL AND NPA CODES	NO		ZUC	
			YES		ZUB	
		ETS IS PROVIDED	NO		ZUC	
			YES		ZUB	

IF OPTION FR IS PROVIDED THEN OPTION ZUC SHOULD BE PROVIDED. PRIOR TO ISSUE 105A OPTION ZUC WAS PART OF APP FIG. 20.

1289. PRIOR TO ISSUE 106B THE FOLLOWING ITEMS WERE SHOWN IN THE STANDARD FEATURE AND OPTION NOTE 102. THE PRESENT RATING OF THESE OPTIONS IS AS SHOWN IN NOTE 103. ALSO APP FIG 40 AND OPTION BK WERE SHOWN AS 102 STANDARD FOR OPERATION WITH PCI SENDERS.

FEATURE OR OPTION			PROVIDE		
			APP FIG	APP OR WRG	QUANTITY
FOR PANEL CALL INDICATOR SENDERS	PCI PULSE AMPLIFIER		36		1 PER CKT
	PCI STEERING		37		1 PER CKT
	PCI REGISTER		38		1 PER CKT
	PCI TRANSFER		39	YY	1 PER CKT
	MISC			SG, SY, VP, YV, YW	
	FINAL HEAVY POSITIVE PULSE	TRANSMITTED		ND	
		NOT TRANSMITTED		NE	
WHERE THIS CKT FUNCTIONS WITH ORIG REG AND/OR TRANSFER REG ARRANGED FOR WIDEBAND SERVICE "PICTURE PHONE" ALSO SEE NOTES 102(42) AND 1246		YES		ZZO, EO	
		NO		ZZN, EN	
TRANSFER REG ARRANGED FOR WIDEBAND SERVICE SEE NOTE 102(42), 102(43), 1235 AND 1251		YES		ZYH, ZYK, ZYW, ZYY	
		NO		ZYG, ZYV, ZYX	
MARKER EQUIPPED FOR MULTILEVEL PRE-EMPTION (4 WIRE)		YES		DU	
		NO		DN	

1290. WHERE THIS CIRCUIT IS MODIFIED TO OPERATE WITH SENDERS ARRANGED TO RETURN REORDER UPON RECOGNITION OF AN OPEN LOOP CONDITION DURING OUTPULSING OPTION ZWJ IF NOT ALREADY PROVIDED SHOULD BE SUPPLIED AND OPTION ZWI SHOULD BE REMOVED.

1291. WHERE THIS CIRCUIT WAS MODIFIED PRIOR TO ISSUE 59D TO FUNCTION WITH MF SENDERS ARRANGED FOR ANI AND THESE SENDERS ARE BEING MODIFIED TO HANDLE "EPSCS" CALLS THAT REQUIRE PULSING FORWARD ONLY THE CALLING INFORMATION, THEN OPTION JH MUST BE PROVIDED.

1292. TO PREVENT COMPLETING MARKER BLOCKAGES WHICH OCCUR WHEN THE SON RELAY OF THIS CIRCUIT FAILS TO OPERATE WHILE MONITORING SENDERS, PROVIDE OPTION ZUF.

SD-25680-10-111

ISSUE 106B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-011

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

EQUIPMENT NOTES:

201. THIS CKT MUST BE LOCATED ON THE SAME FLOOR WITH THE DIAL PULSE REGISTERS.

202. (A&M ONLY) CROSS CONNECT TERMINALS "CO-C10" OF EACH APP FIG 22 TO THE "OAR", "OBR", "TAN", ETC. TERMINALS OF APP FIG 20 WHICH CORRESPOND TO THE TRUNK CLASSES ASSIGNED TO THE "CO-C10" LEADS OF THE ASSOCIATED INCOMING REGISTER OR TRANSFER REGISTER LINK GROUP. FOR CENTRAL B AND RP INCOMING REGISTERS, THE DESIGNATIONS OF THE CLASS RELAYS IN THE REGISTER CORRESPOND TO THE DESIGNATIONS OF THE TERMINALS OF APP FIG 20 IN THE MONITOR. FOR DP AND MF INCOMING REGISTERS, THE DESIGNATIONS OF THE CLASS RELAYS IN THE REGISTER CORRESPOND TO THE DESIGNATIONS OF THE TERMINALS OF APP FIG 20 IN THE MONITOR, WITH THE FOLLOWING LIMITATIONS APPLYING TO THE TAN AND TOLL CLASSES:

ASSOCIATE		TYPE OF REG.	CONDITIONS: WHERE				
			IR OUT. TO IRMC IS			DIAL TONE IS PROV.	IN MKR AND MON CIRCUITS
IR CKT CLASS REL DESIGNATED	WITH MON APP FIG 20 TERMINALS DESIGNATED		* CLASS GROUP	CLASS	TRNSL		
TAN	TAN	MF		TAN	LT	NO	MKR PROVIDES FOR NOT MORE THAN ONE TDM CLASS (NO TDM SCREENING) OR MON WRG IS PER ANISS PRIOR TO 35D
TAN1	FVD			TAN	FVD		
TOL	TOL			TOL	TT		
TOL	TOL	DP		TOL	TT	NO	
TAN	TAN			TAN	LT	NO	
TAN1 TO TAN4	TAN1			TAN	LT	YES	
	FVD			TAN	FVD	NO	
	FVD1			TAN	FVD	YES	
	2DT			TAN	2DT	NO	
TAN	TAN	MF	TCA	TAN	LT	NO	MKR PROVIDES FOR MORE THAN ONE TDM CLASS (TDM SCREENING) OR MON WRG IS PER ISS 35D OR LATER
TAN1	TAN1		TCA	TAN/TAN1	FVD		
TOL	TOL		TCA	TAN1	LT		
TOL	TOL	DP	TCA	TOL	TT		
TAN	TAN		TCA	TAN	LT	YES OR NO	
TAN1	TAN1		TCA	TAN OR TAN1 TO TAN4	LT OR FVD OR 2DT		
TAN2	TAN2		TCA				
TAN3	TAN3		TCA				
TAN4	TAN4		TCA				
TOL	TOL	MF OR DP	TCA OR TCB	TOL OR TAN1 TO TAN4	TT OR FVD OR 2DT	NO	MKR PROVIDES FOR MORE THAN ONE TOL CLASS OR MON WRG IS PER ISS 35D OR LATER
TOL1	TOL1						
TOL2	TOL2						
TOL3	TOL3						
TOL4	TOL4						
CAMA0	CAM0	MF OR DP	TCB	INC	LT	NO	MKR PROVIDES FOR CAMA CLASSES OR MON WRG IS PER ISS 35D OR LATER
CAMA1	CAM1		TCB	PCR	TT		

*CLASS GROUP LEADS "TCA" AND "TCB" ARE PROVIDED PER MONITOR ISSUE 35D.

203. FACILITIES SHALL BE PROVIDED FOR STRAPPING OUT RESISTORS (DP30)-(DP43) IN APP FIG. 26 AS REQUIRED TO OBTAIN THE DIAL PULSE SPEED AND PERCENT BREAK SPECIFIED IN THE CKT REQT TABLE.

204. WIRE LEADS "A","B","C" AND "D" INITIALLY TO POINTS ON THE (MF=) RESISTORS AS SHOWN IN APP FIG 21. FACILITIES SHALL BE PROVIDED FOR CHANGING THESE LEADS AS REQUIRED TO OBTAIN THE MF PULSE SPEED AND PERCENT BREAK SPECIFIED IN THE CKT REQT TABLE.

205. EACH 8A RING IN APP FIG 26 SHALL BE EQPD WITH TWO 750Ω±10% OR 700Ω±5% COILS.

206. THE EXTENSION CORD SHOWN IN APP FIG 13 SHALL BE CONNECTED FROM BASE PLUG (MON) TO A 45V.,50 OR 60CY OUTLET FUSED SEPARATELY FROM THE LIGHTING OR CONVENIENCE OUTLET CIRCUITS.

207. IN APP FIG 9 RUN WIRES FROM THE CONNECTION BLOCK TO VARISTOR (REC) AND RUN ONE WIRE FROM THE VARISTOR TO CAPACITOR (RC) AND ONE FROM THE VARISTOR TO APP FIG 26.

208. APPORTION MONITORING BETWEEN ORIGINATING REGISTERS, OUTGOING SENDERS, AND INCOMING REGISTERS BY CROSS CONN TERMINALS "APB TO APJ" TO TERMINALS "OR","OS" AND "IR" OF APP FIG 2. CONNECT FIRST GROUP OF TERMINALS ("APB TO AP-") TO "OR". CONNECT SECOND GROUP OF TERMINALS (MINIMUM ONE) TO "OS". CONNECT THIRD GROUP TO "IR". (SEE TABLE A) SH DI3.

209. (MFR DISC) INCOMING REGISTER GROUP NUMBERS CORRESPOND WITH THE NUMBERS OF THE INCOMING REGISTER LINK FRAMES ON WHICH THE REGISTERS APPEAR. EACH LINK FRAME SERVES ONLY ONE TYPE OF REGISTER. CONNECT TOGETHER THE TERMINALS ASSOCIATED WITH (IRP-0) RELAYS OF ALL DIAL PULSE INCOMING REGISTER GROUPS (INC REG LK FRAMES) CONNECT THESE TERMINALS TO TERMINAL 9 [(DIR) LEAD]. DO THE SAME FOR THE (IRP-0) RELAYS ASSOCIATED WITH MULTI-FREQUENCY REGISTERS AND TERMINAL 8[(MIR) LEAD], THE (IRP-0) RELAYS ASSOCIATED WITH REVERTIVE REGISTERS AND TERMINAL 15D [(RIR) LEAD] AND THE (IRP-0) RELAYS ASSOCIATED WITH CENTRAL B REGISTERS AND TERMINAL 15I [(CBR) LEAD].

210. (A&M ONLY) INCOMING REGISTERS ARE CABLED FROM REGISTER FRAMES WITH LEADS FROM 5 REGISTERS IN EACH CABLE. THESE 5 REGISTERS MAY OR MAY NOT APPEAR ON THE SAME INCOMING REGISTER LINK FRAME. SORT OUT AND GROUP TOGETHER THE LEADS FROM REGISTERS ASSOCIATED WITH EACH INCOMING REGISTER LINK FRAME. CONNECT REGISTERS IN GROUPS TO PROGRESS GROUP (IRP) RELAYS AS INDICATED.

211. THE "BLG" LEADS CONNECT ONLY TO DIAL PULSE INCOMING REGISTERS.

212. (MFR DISC) MULTIPLE TOGETHER TERMINALS FOR (SG) KEYS ASSOCIATED WITH OUTGOING DIAL PULSE SENDERS DO THE SAME FOR (SG) KEYS ASSOCIATED WITH M.F., REVERTIVE, AND P.C.I. SENDERS, (IG) KEYS ASSOCIATED WITH INCOMING DIAL PULSE REGISTERS, (IG) KEYS ASSOCIATED WITH INCOMING M.F. REGISTER, (IG) KEYS ASSOCIATED WITH INC REVERTIVE REGISTERS AND (IG) KEYS ASSOCIATED WITH CENTRAL B REGISTERS.

213. (MFR DISC) CONNECT TERMINALS ASSOCIATED WITH OUTGOING DIAL PULSE SENDERS TO THE TERMINAL CONNECTING TO (DOS1) REL CONNECT TERMINALS ASSOCIATED WITH M.F. SENDERS TO THE TERMINAL CONNECTING TO (MIS1) REL CONNECT TERMINALS ASSOCIATED WITH REVERTIVE SENDERS TO THE TERMINAL CONNECTING TO (ROS1) REL CONNECT TERMINALS ASSOCIATED WITH P.C.I. SENDERS TO TERMINAL CONNECTING TO (COS1) REL CONNECT TERMINALS ASSOCIATED WITH INCOMING DIAL PULSE REGISTERS TO THE TERMINAL CONNECTING TO (DIR1) REL CONNECT TERMINALS ASSOCIATED WITH M.F. REGISTERS TO THE TERMINAL CONNECTING TO (MIR1) REL CONNECT TERMINALS ASSOCIATED WITH REVERTIVE REGISTERS TO THE TERMINAL CONNECTING TO (RIR1) REL CONNECT TERMINALS ASSOCIATED WITH CENTRAL B REGISTERS TO TERMINALS CONNECTING TO (CBR1) REL.

214. OUTGOING SDR CONNECTORS ARE CABLED FROM SDR FRAMES WITH LEADS FROM 5 SENDERS WHICH MAY OR MAY NOT ALL BE IN THE SAME GROUP OR SUB-GROUP, IN A SINGLE CABLE AT THE AUTO. MON BAY THESE CABLES MUST BE SORTED OUT AND ALL SENDERS IN ONE GROUP CONNECTED TO THE SAME (SG) REL.

215. (MFR DISC) THE EQUIPMENT INFORMATION FOR THIS CIRCUIT IS; FRAME EQUIPMENT ED-26611-01, ED-26613-01, ED-26614-01 AND ED-26615-01 AND IN ADDITION FOR EACH APP FIG (REPLACED BY SUPPORTING INFORMATION TABLE SEE SHEET A1.

APP FIG	EQUIPMENT DWG
1	ED-26159-01
2	ED-26160-01
3,4,5 22,24	ED-26182-01
6,7,8	ED-26161-01
9	ED-26184-01 ED-26210-01
10	ED-26191-01
11	ED-26185-01 ED-26186-01

APP FIG	EQUIPMENT DWG
12	ED-26158-01
13	ED-26156-01
14	ED-26215-01
15	ED-26157-01
16	ED-26163-01 ED-26164-01 ED-26165-01 ED-26182-01 ED-26209-01 ED-26259-01 ED-26260-01

215. (CONT)

APP FIG	EQUIPMENT DWG
17	ED-26189-01 ED-26190-01
18	ED-26196-01
19	ED-26218-01
20	ED-26187-01 ED-26212-01
21	ED-26213-01 ED-26214-01
23	ED-26000-01
25	ED-26162-01
26	ED-26197-01 ED-26198-01 ED-26199-01 ED-26200-01 ED-26201-01 ED-26841-01
27,31	ED-26192-01
28	ED-26194-01
29,41	ED-26195-01
30	ED-26193-01
32	ED-26188-01

APP FIG	EQUIPMENT DWG
33	ED-26387-01 ED-26388-01 ED-26389-01 ED-26390-01 ED-26403-01
34	ED-26401-01 ED-26402-01
35	ED-26399-01
36	ED-26400-01
37	ED-26398-01
38	ED-26397-01
39	ED-26396-01
40	ED-26391-01 ED-26392-01 ED-26393-01 ED-26394-01 ED-26395-01
42	ED-26611-01 ED-26948-01
43	ED-26942-01

216. RESISTORS (CB1) TO (CB6) OF APP FIG 33 SHALL BE STRAPPED SO THAT THE SUM OF THE RESISTANCE IN THE (FT) AND (FR) LEADS AND THAT OF THE TRUNK BETWEEN THE CENTRAL B SWBD REGISTER AND THE CENTRAL B (SWBD PART) SENDER IS 2600Ω±50Ω.

217. FACILITIES SHALL BE PROVIDED FOR STRAPPING OUT RESISTORS (RV) AND (RVA) IN APP FIG 40 AS REQUIRED TO OBTAIN THE REVERTIVE PULSE INTERRUPTER SPEED AND PERCENT BREAK SPECIFIED IN THE CKT REQT TABLE.

218. THE 200CL INDUCTOR IS FURNISHED AS PART OF THE 268A RELAY CODE.

219. LEADS DESIGNATED "HV" ARE HIGH VOLTAGE LEADS.

220. (MFR DISC) THE LEADS IN CAD 77 DIRECTED TO THE LIT CONTROL CKT ARE TERMINATED ON THE REG & SDR TST BAY TO FACILITATE CABLING BETWEEN THE MTF CONN FR AND THE LINE INSULATION TEST FR.

221. SIX APP FIGURES "G" AND SIX APP FIGURES "J" PER CIRCUIT MAY BE EQUIPPED. HOWEVER, IF MORE THAN SIX LINK GROUPS OF INCOMING REGISTERS OR MORE THAN SIX GROUPS OF OUTSENDERS ARE FURNISHED, APP FIG 23 MUST BE REPLACED WITH APP FIG 42 AND ALL APP FIGURES "G" AND "J" MUST BE REMOVED AND APP FIG H OR APP FIG K OR BOTH MUST BE EQUIPPED.

222. WIRE SPRING INC REGISTERS ARE CABLED FROM REG FRAMES WITH LEADS FROM 3 REGISTERS IN EACH CABLE. THESE 3 REGISTERS MAY OR MAY NOT APPEAR ON THE SAME INC REG LK FR. SORT OUT AND GROUP TOGETHER THE LEADS FROM REGISTERS ASSOC WITH EACH INC REG LK FR. CONNECT REGISTERS IN GROUPS TO PROGRESS GROUP (IRP) RELAYS AS REQUIRED.

223. IN OFFICES HAVING WIRE SPRING INC REG LINKS THE INC REG GROUP NUMBERS (0 TO 14) DO NOT CORRESPOND TO THE INC REG LK FR NUMBERS IR LK, FRAMES, NOW FROM ZERO UP FOR EACH TYPE OF LK. (DP,RP,MF,& CENT.B) EACH LK FR SERVES ONLY ON ONE TYPE OF REG EXCEPT IN OFFICES ARRANGED FOR "CENTREX" SERVICE WHERE EACH INCOMING REG LK FR MAY SERVE TWO TYPES OF INCOMING REGISTERS.

224. WHERE DP OR MF OR BOTH OUTGOING SENDERS ARE ARRANGED TO SEND A FIXED "XX" PREFIX FOR AN "XXX" TYPE CODE ON A CL1 CLASS CALL, "NI" OPTION MUST BE PROVIDED AND CROSS CONNECTIONS BETWEEN TERMINALS SO1,S11,SO2,S12, AND TERMINALS ARO,AR1, AR2,AR4,AR7, BRO,BR1,BR2,BR4, AND BR7 MUST BE MADE ACCORDING TO THE FOLLOWING TABLE:

PREFIX DIGIT	FOR FIRST "X" CROSS CONN TERMINALS		FOR SECOND "X" CROSS CONN TERMINALS	
	"S01" TO	"S11" TO	"S02" TO	"S12" TO
0	AR4	AR7	BR4	BR7
1	ARO	AR1	BRO	BR1
2	ARO	AR2	BRO	BR2
3	AR1	AR2	BR1	BR2
4	ARO	AR4	BRO	BR4
5	AR1	AR4	BR1	BR4
6	AR2	AR4	BR2	BR4
7	ARO	AR7	BRO	BR7
8	AR1	AR7	BR1	BR7
9	AR2	AR7	BR2	BR7

225. WIRE FROM 4(RPLA) RELAY TO 1(RPL2) INDUCTOR SHOULD BE KEPT SHORT.

226. CUT STRAPS BETWEEN PUNCHINGS 11 TO 14 AND 21 TO 24 RESPECTIVELY, WHEN "YN" OPTION IS REQUIRED.
CUT STRAPS BETWEEN PUNCHINGS 21 TO 24 AND 31 TO 34 RESPECTIVELY, WHEN "YM" OPTION IS REQUIRED. (SEE CAD 90)

227. CUT STRAPS BETWEEN PUNCHINGS 16 AND 17, 18 AND 28, 25 AND 35, 26 AND 36, 27 AND 37 WHEN "TP" OPTION IS REQUIRED. CUT STRAPS BETWEEN PUNCHINGS 15 AND 25, 16 AND 26 WHEN "TQ" OPTION IS REQUIRED. (SEE CAD 90)

228. THE TO,RO,T1/M AND R1/E LEADS TO THE TRK LK FR AND AIS LINE CKT TERMINATE AT THE MTF CONT BAY (SEE TRK TST CKT SD-25918-01)

229. FACILITIES SHALL BE PROVIDED FOR STRAPPING OUT RESISTORS (PG2-9) AND (PG11-18) IN APP FIG 47 AS REQUIRED TO OBTAIN THE PULSING SPEED AND PERCENT BREAK SPECIFIED IN THE CIRCUIT REQUIREMENTS TABLE.

230. A (A&M ONLY) THE MIR,RIR,DIR OR CBR LEADS OF APP FIG 3 AND 4 ASSOCIATED WITH THE (IRPO-6) RELAYS OF A REGISTER GROUP SHALL BE STRAPPED TOGETHER AT CONTACT 7T OF THE (IRP-) RELAYS. THE MIR,RIR,DIR OR CBR LEADS OF APP FIG 4 AND 5 ASSOCIATED WITH THE (IRP7-9) RELAYS OF A REGISTER GROUP SHALL BE STRAPPED TOGETHER AT CONTACT 7T OF THE (IRP-) RELAYS. THE MIR,RIR,DIR OR CBR LEADS SHALL BE STRAPPED IN THIS MANNER IN ALL MONITOR CIRCUITS WIRED PER ISSUE 50D AND LATER OR WHERE THE OFFICE IS ARRANGED FOR "CENTREX" SERVICE AND ANY INC REG LINK SERVES TWO TYPES OF REGISTERS. PRIOR TO ISSUE 50D THE MIR,RIR,DIR OR CBR LEADS OF APP FIG 3,4 AND 5 ASSOCIATED WITH A REGISTER GROUP WERE STRAPPED TOGETHER AT CONTACT 7T OF THE (IRPO-9) RELAYS.

230 B. BEGINNING WITH ISSUE 64D, AND IF THIS CIRCUIT DOES NOT MONITOR STATION DIAL TRANSFER REGISTERS, THE MIR,RIR,DIR, OR CBR LEADS OF APP FIG 3,4 AND 5 ASSOCIATED WITH A REGISTER GROUP SHALL BE STRAPPED TOGETHER AT CONTACT 7T OF THE (IRPO-9) RELAYS. STATION DIAL TRANSFER REGISTERS SHALL CONNECT TO THE DIR LEADS OF APP FIG 4 OR 5. THESE TRANSFER REGISTERS MUST BE ASSIGNED TO THE HIGHEST NUMBERED REGISTER GROUP(S).

230 C. BEGINNING WITH ISSUE 70D, AND WHERE THIS CIRCUIT MONITORS STATION DIAL TRANSFER REGISTERS, THE MIR,RIR,DIR,CBR, OR TRFR LEADS OF APP FIG 3,4, AND 5 ASSOCIATED WITH A REGISTER GROUP SHALL BE STRAPPED TOGETHER AT CONTACT 7T OF THE (IRPO-9) RELAYS. STATION DIAL TRANSFER REGISTERS SHALL CONNECT TO THE TRFR LEADS OF APP FIG 3,4 AND 5.

DRAWING ISSUE
50D
53D
59D
63AR
64D
67D
68D
70D
72A
81D

81

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-D12A

BELL TELEPHONE LABORATORIES INCORPORATED — SHEET 6S

SD-25680-01-D12A

EQUIPMENT NOTES: (CONT)

231. PRIOR TO ISSUE 500 CABLING INFORMATION SHOWN IN CAD 102-145 WAS SHOWN IN CAD 51-101.

232. NOTE CANCELED.

233. WHERE ANY ORIGINATING REGISTERS AND/OR INCOMING REGISTERS ARE ARRANGED FOR THE NEW NUMBERING PLAN ARRANGEMENT OF TRANSLATOR AND CLASS LEADS WITH INTERCHANGEABLE AREA AND NPA CODES AND TOLL INFORMATION CODES, THE FOLLOWING CROSS CONNECTIONS MUST BE MADE:

CONNECT		CONDITION
TERM.	TO TERM.	
		LT AND TT TRANSLATOR LEADS ARE NOT COMBINED IN THE MARKER
TT2	TT3	
		LT AND TT TRANSLATOR LEADS ARE COMBINED IN THE MARKER
TT2	LT4	
TR	TR1	INCOMING REGISTER AND NO STATION DIAL TRANSFER REGISTER
TT1	LT2	NO INCOMING REGISTER OR STATION DIAL TRANSFER REGISTER
F1	F2	
F3	F4	
LT	LTI	LT TRANSLATOR LEAD CHECK

234.

CONNECT			CONDITION
TERM.	TO TERM.		
SBL4	SBC	YES	WHERE THE "TOUCH-TONE" BUTTON TO THE LEFT OF THE ZERO BUTTON IS USED FOR A CONTROL DIGIT
	TBL	NO	
SBR4	SBC	YES	WHERE THE "TOUCH-TONE" BUTTON TO THE RIGHT OF THE ZERO BUTTON IS USED FOR A CONTROL DIGIT
	TBL	NO	

235.

CONNECT		CONDITION
TERM.	TO TERM.	
SC1	LO	WHERE THE DIAL TONE FIRST-LOOP START COIN FEATURE IS REQUIRED AND WHERE THE REGISTER MAKES A COIN TEST ON ZERO OPERATOR CALLS
SC3	L2	
SR	SC	
SR	SR1	WHERE THE SPECIAL SIGNAL TO THE RIGHT OF THE ZERO BUTTON IS USED AS A PREFIX SIGNAL TO INDICATE A "PICTUREPHONE" CALL, NO ELEVEN DIGIT NUMBERS HANDLED BY THE REGISTER
SR2	LO	
SR3	L1	
SC3	L2	WHERE THE SPECIAL SIGNAL TO THE RIGHT OF THE ZERO BUTTON IS USED AS A PREFIX SIGNAL TO INDICATE A "PICTUREPHONE" CALL, NO ELEVEN DIGIT NUMBERS HANDLED BY THE REGISTER AND THE DIAL TONE FIRST-LOOP START COIN FEATURE IS REQUIRED AND WHERE THE REGISTER MAKES A COIN TEST ON ZERO OPERATOR CALLS
SR	SC	
SR1	SC1	
SR2	LO	
SR3	L1	

ALSO SEE NOTE 1225

236. THE RESISTANCE OF THE LEADS FROM THE -48V FUSE PANEL AND FROM THE GRD BUS BAR TO THE "TOUCH-TONE" STATION TEST RECEIVER SHALL NOT EXCEED 0.62 OHMS EACH.

237. WHERE MF SENDERS ARE ARRANGED FOR ANI OR COMBINED ANI-LAMA, OR FOR AUTOMATIC INTERCEPT SERVICE AND THE TIMED INTERVAL BEFORE TRUNK TEST IS TO BE ELIMINATED, TRUNK PROVIDES ITS OWN COVER-UP.

(a)

CONNECT		CONDITION
TERM.	TO TERM.	
CL8A	CL8	WHERE VARIABLE START PULSE IS TRANSMITTED ON ANI TYPE CALLS (EXAMPLE CALLS TO TSPS NO. 1).
	CL13	WHERE ONLY E & M SUPERVISORY TYPE TRUNKS ARE USED ON CALLS TO AUTOMATIC INTERCEPT SERVICE (VIA LLP).

(b) (A&M ONLY)

CONNECT		CONDITION
TERM.	TO TERM.	
CL8A	CL13	WHERE REVERSE BATTERY OR E&M SUPERVISORY TYPE LINE CIRCUITS ARE USED ON CALLS TO AIS (LLP NOT REQUIRED)

238. WHERE MF OUTGOING SENDERS ARE ARRANGED FOR INTERNATIONAL DIRECT DISTANCE DIALING (LAMA IDDD) AND SENDER REQUIRED TO OUTPULSE THREE INFORMATION DIGITS.

INFORMATION DIGIT	FOR FIRST "X" CROSS CONNECTION TERMINAL		FOR SECOND "X" CROSS CONNECTION TERMINAL	
	"S01" TO	"S11" TO	"S02" TO	"S12" TO
0	A4	A7	B4	B7
1	A0	A1	B0	B1
2	A0	A2	B0	B2
3	A1	A2	B1	B2
4	A0	A4	B0	B4
5	A1	A4	B1	B4
6	A2	A4	B2	B4
7	A0	A7	B0	B7
8	A1	A7	B1	B7
9	A2	A7	B2	B7

239. WHERE ORIGINATING REGISTERS ARE ARRANGED FOR INTERNATIONAL DIRECT DISTANCE DIALING (IDDD) AND ALL CALLS ARE LIMITED TO "TOUCH-TONE" SIGNALING.

CONNECT		CONDITION
TERM.	TO TERM.	
ID	IDA	"TOUCH-TONE" CALLS ONLY

DRAWING ISSUE	
700	REV ALT Also
72A	REV Add Also
78D	CR
81D	
88D	

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-D128

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-D128

TABLE A					
AMOUNT (%) OF AUTO. MONITORING TIME REQD ON			ON AP TS J23253E CONN TERMINALS		
ORIGINATING REGISTERS	OG SENDERS	INC REGISTERS	(OR) TO	(OS) TO	(IR) TO
10	10	80	-	B	C,D,E,F,G,H,J
20	10	70	B	C	D,E,F,G,H,J
30	10	60	B,C	D	E,F,G,H,J
40	10	50	B,C,D	E	F,G,H,J
50	10	40	B,C,D,E	F	G,H,J
60	10	30	B,C,D,E,F	G	H,J
70	10	20	B,C,D,E,F,G	H	J
80	10	10	B,C,D,E,F,G,H	J	-
10	20	70	-	B,C	D,E,F,G,H,J
20	20	60	B	C,D	E,F,G,H,J
30	20	50	B,C	D,E	F,G,H,J
40	20	40	B,C,D	E,F	G,H,J
50	20	30	B,C,D,E	F,G	H,J
60	20	20	B,C,D,E,F	G,H	J
70	20	10	B,C,D,E,F,G	H,J	-
10	30	60	-	B,C,D	E,F,G,H,J
20	30	50	B	C,D,E	F,G,H,J
30	30	40	B,C	D,E,F	G,H,J
40	30	30	B,C,D	E,F,G	H,J
50	30	20	B,C,D,E	F,G,H	J
60	30	10	B,C,D,E,F	G,H,J	-
10	40	50	-	B,C,D,E	F,G,H,J
20	40	40	B	C,D,E,F	G,H,J
30	40	30	B,C	D,E,F,G	H,J
40	40	20	B,C,D	E,F,G,H	J
50	40	10	B,C,D,E	F,G,H,J	-
10	50	40	-	B,C,D,E,F	G,H,J
20	50	30	B	C,D,E,F,G	H,J
30	50	20	B,C	D,E,F,G,H	J
40	50	10	B,C,D	E,F,G,H,J	-
10	60	30	-	B,C,D,E,F,G	H,J
20	60	20	B	C,D,E,F,G,H	J
30	60	10	B,C	D,E,F,G,H,J	-
10	70	20	-	B,C,D,E,F,G,H	J
20	70	10	B	C,D,E,F,G,H,J	-
10	80	10	-	B,C,D,E,F,G,H,J	-

*A MINIMUM OF 10% OF THE MONITORING MUST BE ALLOTTED TO EACH OF THE THREE TYPES OF CIRCUITS. IF THE OFFICE IS NOT EQUIPPED WITH SENDERS THE AUTOMATIC MONITOR WILL TIME OUT AND MOVE ON EACH TIME THE ALLOTTER STEPS TO THE POSITION WHERE IT ORDINARILY MONITORS ON SENDERS.

DRAWING ISSUE	
500	RAS CLR AMD
530	PDT LW AMD
680	BBW MAS AMD

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

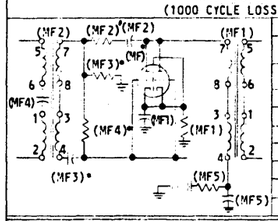
SD-25680-01-D13

PRINTED IN U.S.A.

STABILO

SD-25680-01-D13

* TRANSMISSION TEST REQUIREMENTS
(1000 CYCLE LOSS BETWEEN 600ᵐ LINES)



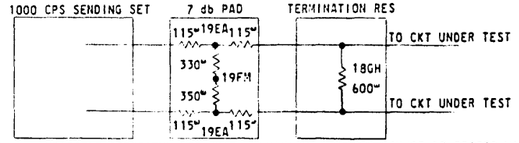
MAX ALLOWABLE CIRCUIT LOSS(db)	
"WU" OPTION 4.5±1.0	INCLUDING PAD AND RESISTOR SEE NOTE 1
"WV" OPTION 5.8±1.0	

MAX ALLOWABLE CIRCUIT LOSS(db)

ALLOWABLE INDIVIDUAL APPARATUS LOSSES(db)

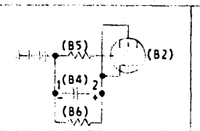
APPARATUS	DESIG	CODE	MAX LOSS	MIN LOSS	REMARKS
CAPACITOR	MF1	50 MF	-	7.9	USE 73A TEST SET TAP 3-T
CAPACITOR	MF2	0.1 MF	4.5	3.2	
CAPACITOR	MF4	1 MF	8.9	6.3	
CAPACITOR	MF5	8 MF	25.6	23.5	
OUTPUT TRANSFORMER	MF1	186C	9.2	8.0	
REP COIL	MF2	94H	0.5	0.3	
RESISTOR	MF1	300ᵐ	6.3	5.7 ▲	TESTED IN SHUNT
RESISTOR	MF5	1800ᵐ	8.3	7.6	TESTED IN SERIES

NOTES:
1. CONNECT TO INPUT A 7 db PAD TERMINATED IN 600ᵐ (18GH RESISTOR SEE BELOW). IF A 7 db PAD IS NOT AVAILABLE, MAKE ONE UP AS FOLLOWS:



2. * INDICATES APPARATUS FOR WHICH INDIVIDUAL LOSSES CANNOT BE TESTED WITH THE TRANSMISSION MEASURING TEST SET. RESISTORS SHOULD BE CHECKED WITH AN OHMMETER OR WHEATSTONE BRIDGE WHEN REQUIRED AND CAPACITORS SHOULD BE REPLACED IF TROUBLE CANNOT BE TRACED TO OTHER CIRCUIT ELEMENTS.

ELECTROLYTIC CAPACITOR TEST REQUIREMENTS
(1000 CYCLE TEST, USING 73A TEST SET, BETWEEN 600ᵐ LINES)



INDIVIDUAL APPARATUS LOSSES

APPARATUS	DESIG	CODE	TEST CONN TEST SET TERMS.	TEST CONN CONN TO	* MIN LOSS IN(db)	REMARKS
CAPACITOR	B4	50 MF	3-7	1(B4) 2(CAP.)	7.8	

INFORMATION NOTES:

301. ALL CURRENT FLOW AND TIMING TESTS ARE DESIGNED TO MEET VOLTAGE VARIATIONS OF 48.5 -50V AND 133-135V. ALL LOCAL CIRCUIT APPARATUS WILL OPERATE ON 45-50V AND 125-135V.

302. FOR THE SETTING OF POTENTIOMETERS AND THE STRAPPING OF THE RESISTORS SEE THE BSP FOR THIS CIRCUIT.

303. "PG" OPTION HAS 60 CONTACTS BUT ONLY THOSE REQUIRED ARE SHOWN.

304. TERMINALS WITH DUAL DESIGNATIONS, AS A1/A36, THE NUMBERS TO THE LEFT OF THE DIAGONAL MARK INDICATE TERMINAL DESIGNATIONS FOR UNITS EQUIPPED WITH 224 & 227 TYPE TERMINAL STRIPS, AND THE DESIGNATIONS TO THE RIGHT FOR TERMINAL NUMBERS FOR UNITS EQUIPPED WITH SOLDERLESS "D" TYPE TERMINAL STRIPS.

305. TEST POINTS DESIGNATED A,B & C IN APP FIG R ARE FOR USE IN MAKING AMPLIFIER BIAS ADJUSTMENT PER BSP.

306. 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
64D AJL
68D AJL AHC

68

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-D14

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-D14

STABILO

PART OF SC1

PROGRESSIVE MONITORING
(ORIG REGISTERS, OUTGOING SENDERS
INCOMING REGISTERS)

MOR/MPOR,
MOS/MPOS
KEYS

MAC KEY
AC
NVA LAMP
NVA
NVA LAMP
STM KEY
STM
STMI
STM3
MBN
MB- ALL
APA ← IST ALLOTTER RELAY FOR ORIG REGISTERS
TAP2
OR
STM2
MBN
MB- ALL EXCEPT THOSE ASSOC WITH MARKERS HANDLING DIAL TONE CONNECTIONS
HMSI (DTM)
AWAITING DIAL TONE MKR SEIZURE
F(OR)
MP-
M(OR)
DOR
ORN
MB(OR)
ONMI
OR LAMP
MSR
APB LAST ALLOTTER RELAY FOR ORIG REGISTERS
MRSI
MBN
MB- ALL
SEE SC 2
MP-
RN
DOR
M(OR)
MB(OR)
ORN
ONMI
OR LAMP
MSR
APA
MSRI
MBN
MB- ALL EXCEPT THOSE ASSOC WITH MARKERS HANDLING DIAL TONE CONNECTIONS
HMSI (DTM)
AWAITING DIAL TONE MKR SEIZURE
MP-
M, IX3

M(OR)
ORIG REG MONITORED PER (APA) ALLOTTER RELAY
M(OR)

TAP2
61-98s
2AE6
MSR
61-98s
IAC2

M(OR)
ORIG REG MONITORED (PER LAST ALLOTTER RELAY ASSIGNED TO ORIG REGISTERS
M(OR)

MP-, IF38
F(OR)
M(OR)
DOR
ORN
MB(OR)
ONMI
OR LAMP
MSR
AP- IST ALLOTTER RELAY FOR OG SENDERS
MSRI
OS
MBN
MB- ALL
SEE SC 2
RN
DOR
M(OR)
MB(OR)
ORN
ONMI
OR LAMP
APB
MSR
OR
MSRI
MBN
OSG-(M) AWAITING MKR SEIZURE ON SDR OG CALL
MB- ALL EXCEPT THOSE ASSOC WITH MARKERS HANDLING OUTGOING SDR CALLS
MP-
MON(M)
SON
ONMI
MSR
AP- LAST ALLOTTER RELAY FOR OG SENDERS
MSRI
MBN
MB- ALL
RN
SON
DOS
ONMI
SONI
MSR
AP- NEXT TO LAST ALLOTTER RELAY FOR OG SENDERS
MSRI
MBN
MB- ALL EXCEPT THOSE ASSOC WITH MARKERS HANDLING OG SDR CALLS
TO MP-, 2F4

IL39
2AE6
MSR
MSR
61-98s
2AE6
MSR
61-98 SEC
2L2

M(OS)
OG SDR MONITORED (PER IST ALLOTTER RELAY ASSIGNED TO OG SENDERS
M(OS)

M(OS)
DOS
SONI
OS LAMP

SD-25680-01-EI

DRAWING ISSUE
91D

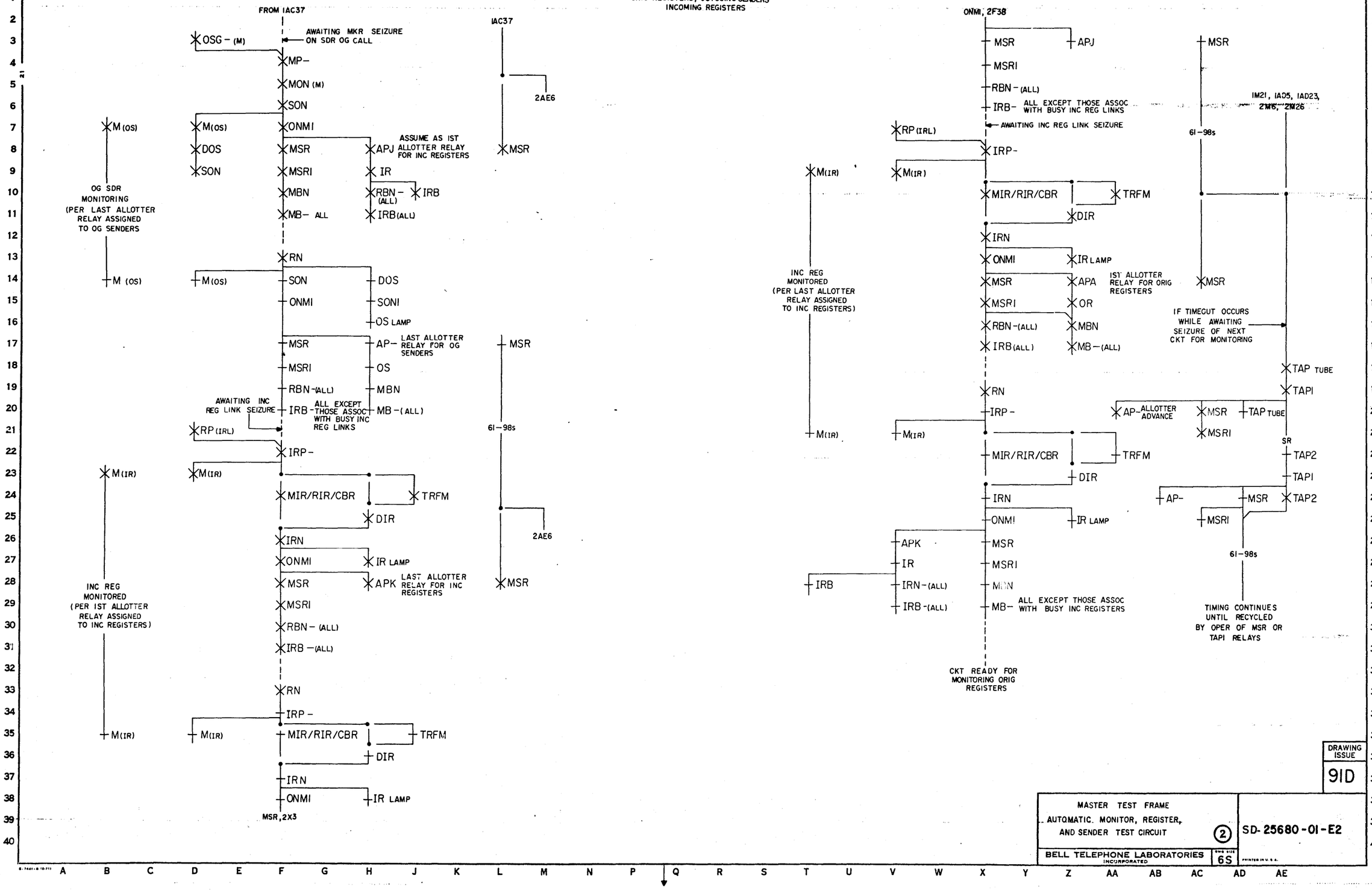
MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER,
AND SENDER TEST CIRCUIT
(2)

SD-25680-01-EI

BELL TELEPHONE LABORATORIES
INCORPORATED
6S

PART OF SC 1

PROGRESSIVE MONITORING
ORIG REGISTERS, OUTGOING SENDERS
INCOMING REGISTERS



DRAWING ISSUE
91D

MASTER TEST FRAME
AUTOMATIC, MONITOR, REGISTER, AND SENDER TEST CIRCUIT (2)

SD-25680-01-E2

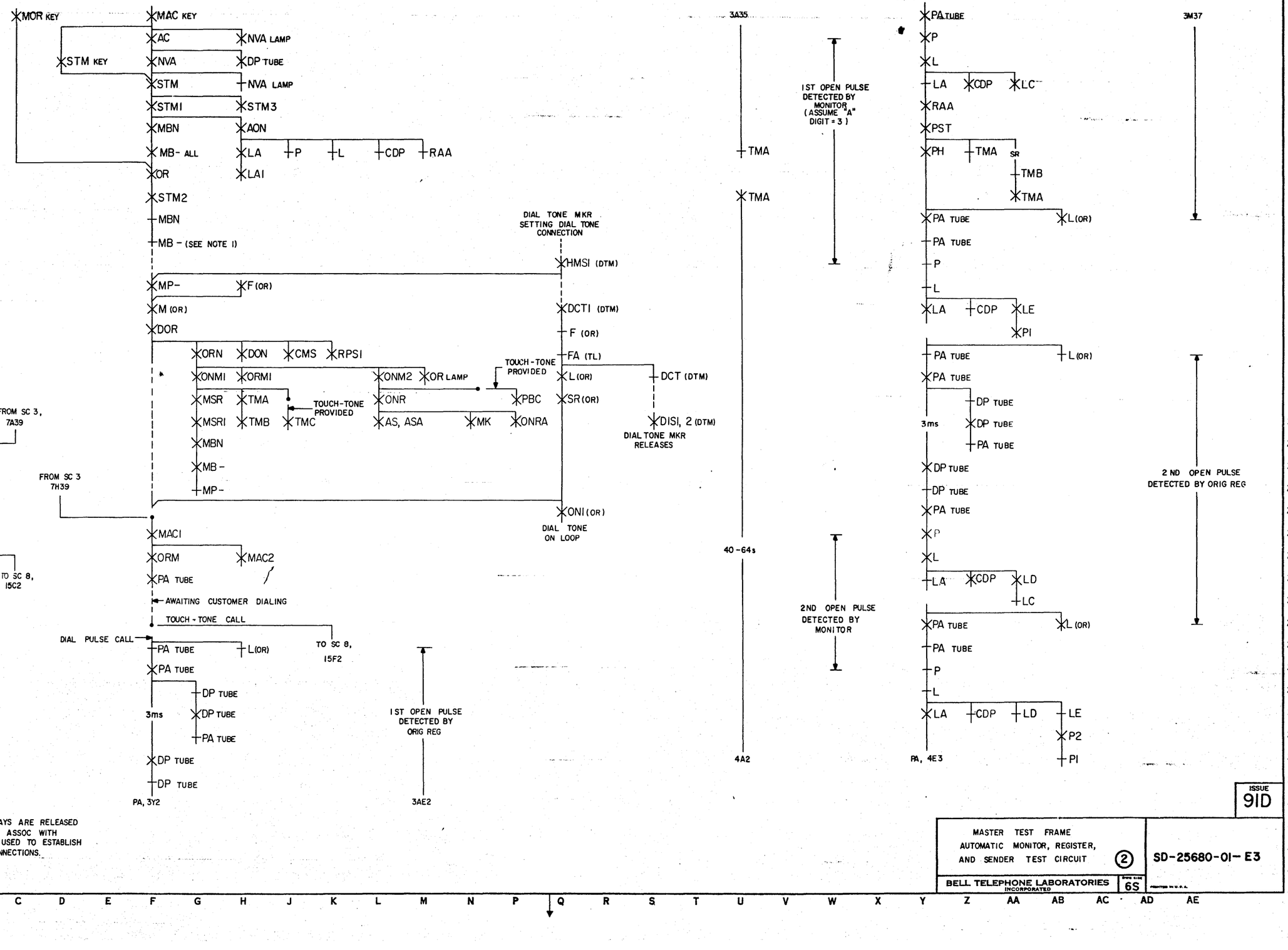
BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-E2

PART OF SC 2

MONITORING ORIGINATING REGISTERS
(SHOWN FOR 10 DIGIT DIAL PULSE CALL)



NOTES:
1. ALL MB- RELAYS ARE RELEASED EXCEPT THOSE ASSOC WITH MARKERS BEING USED TO ESTABLISH DIAL TONE CONNECTIONS.

ISSUE 9ID

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER, AND SENDER TEST CIRCUIT (2)

SD-25680-01-E3

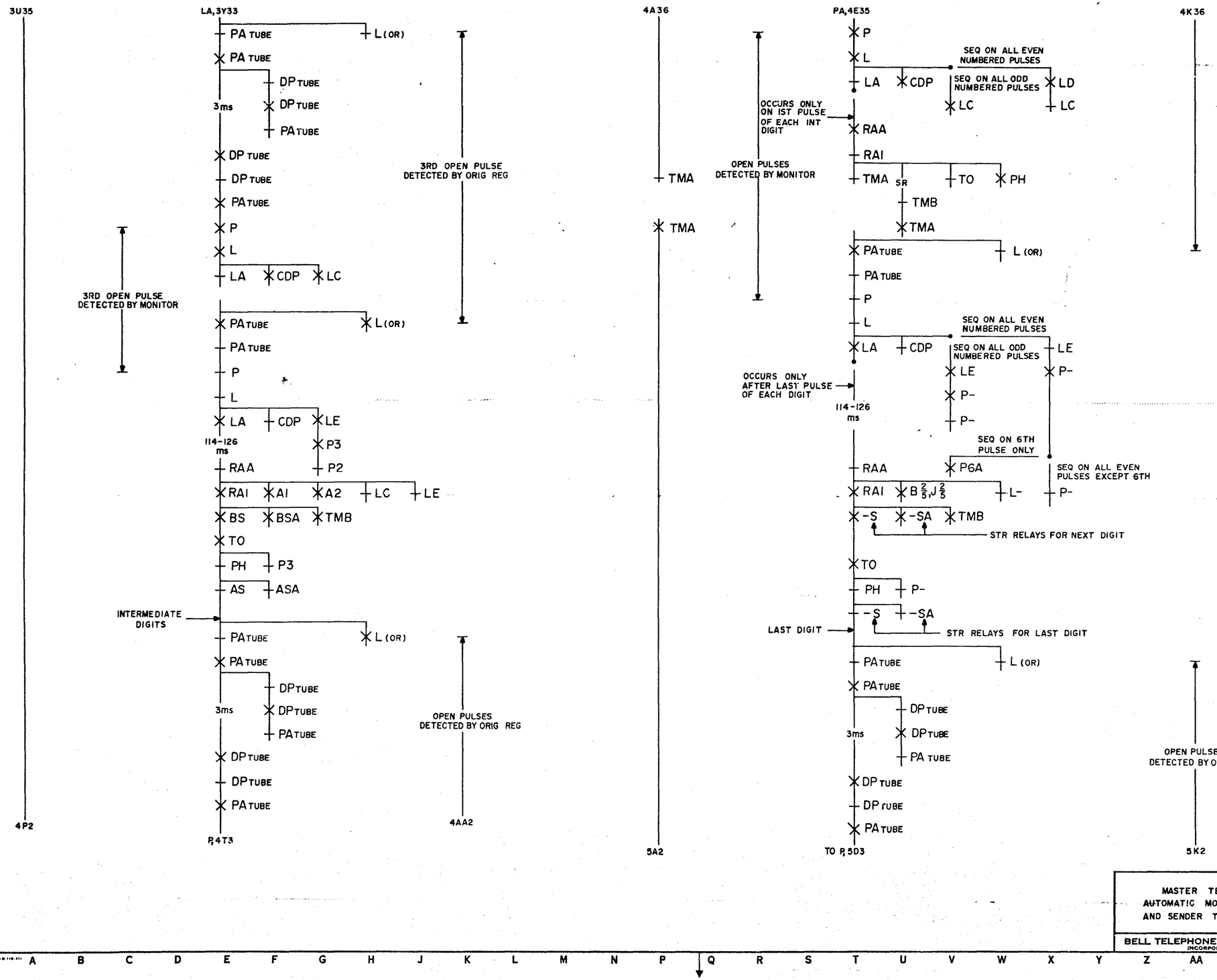
BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-E3

PART OF SC2

MONITORING ORIGINATING REGISTER
(SHOWN FOR 10 DIGIT DIAL PULSE CALL)



ISSUE 91D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER, AND SENDER TEST CIRCUIT (2)

SD-25680-01-E4

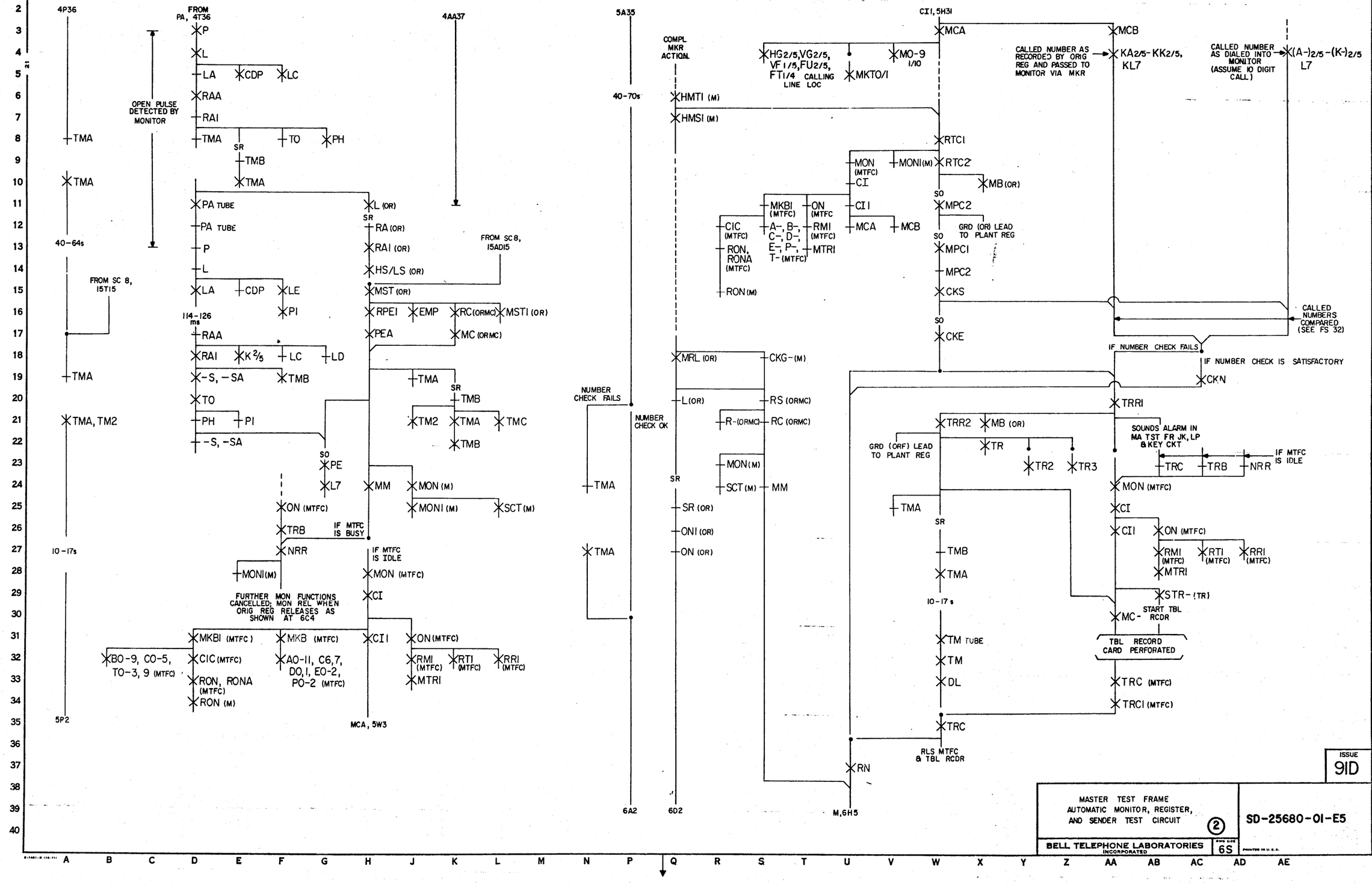
BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-E4

PART OF SC 2

MONITORING ORIGINATING REGISTERS
(SHOWN FOR 10 DIGIT DIAL PULSE CALL)



SD-25680-01-E5

ISSUE 9ID

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER, AND SENDER TEST CIRCUIT (2)

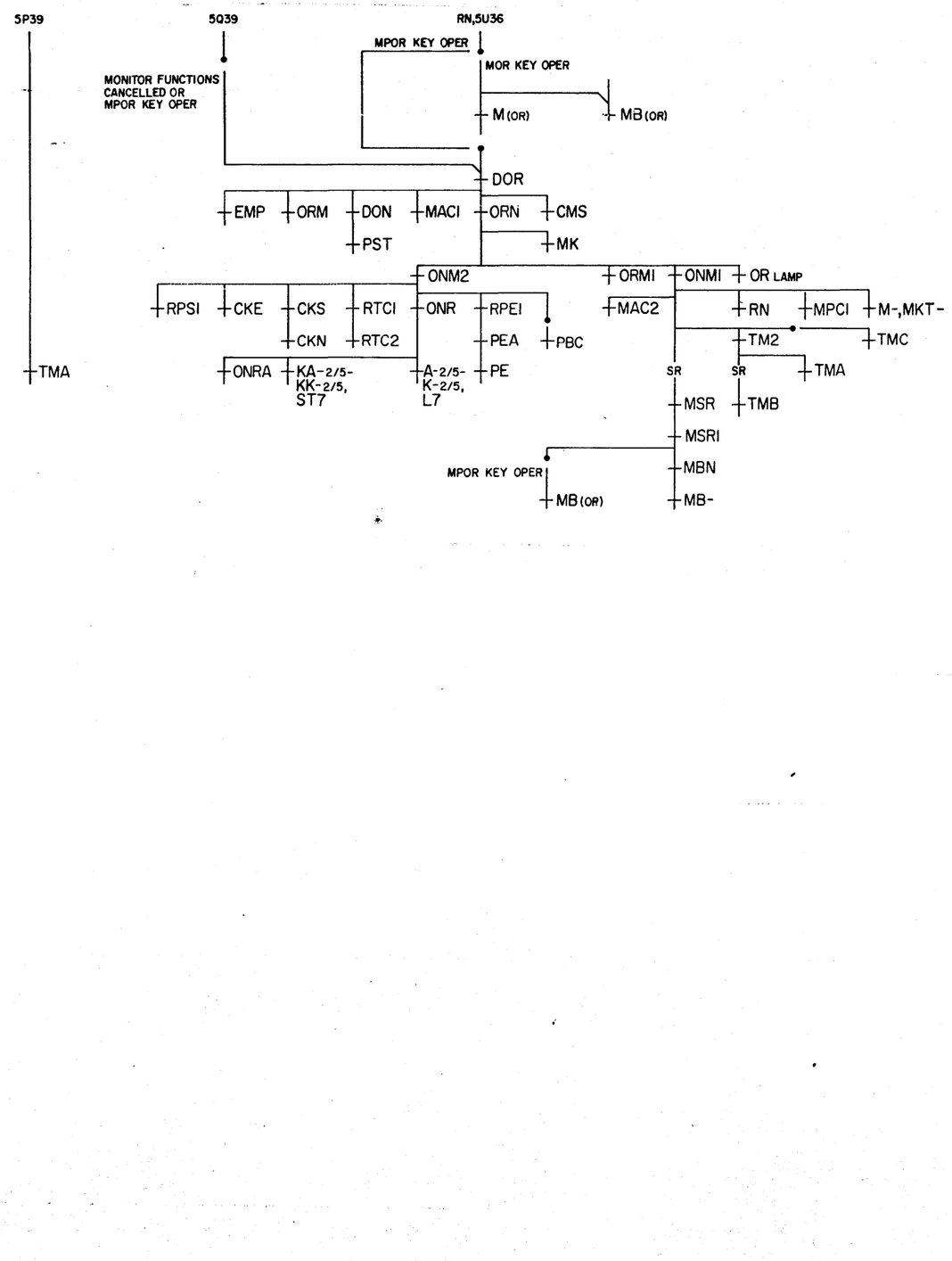
SD-25680-01-E5

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

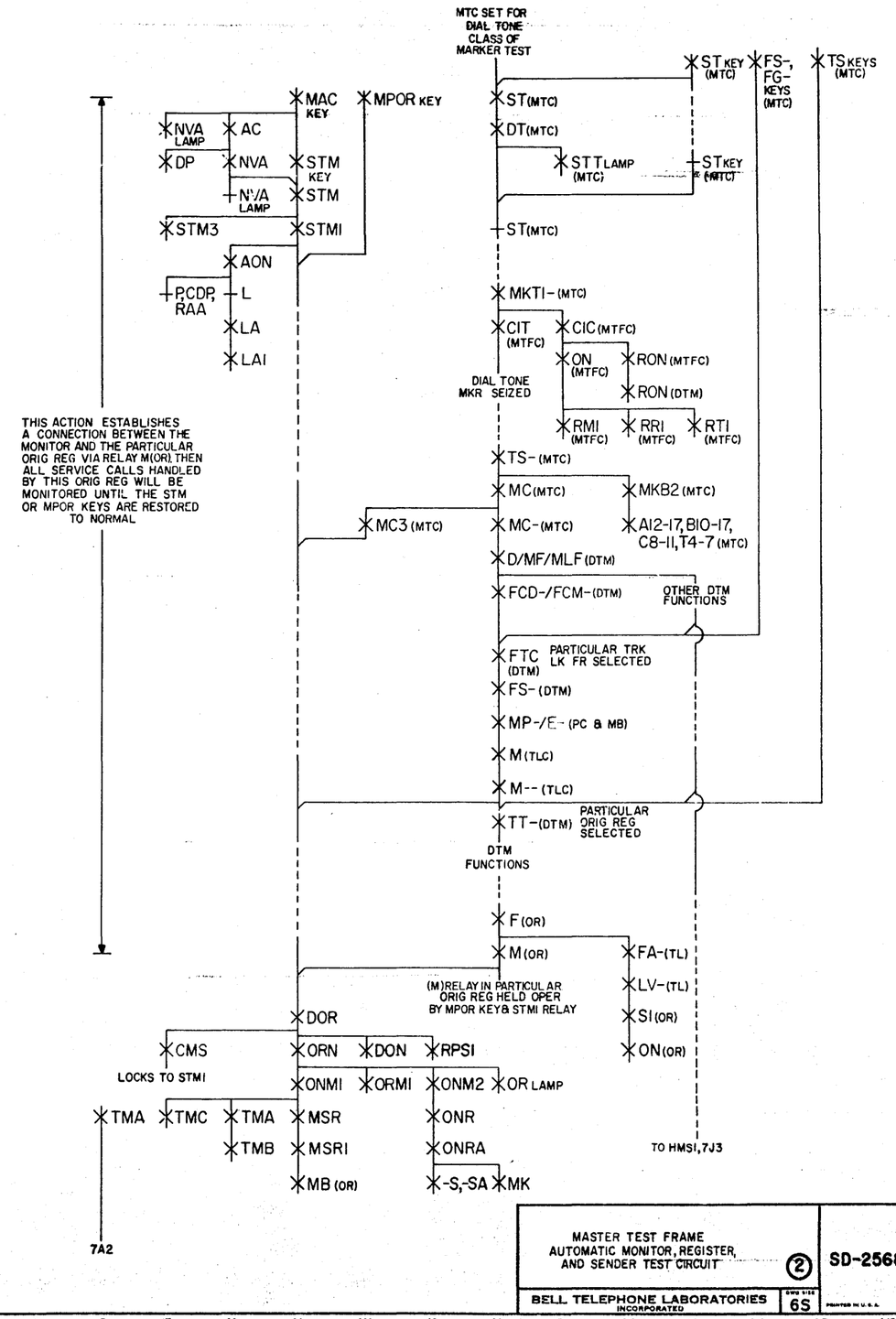
PART OF SC 2

MONITORING ORIGINATING REGISTERS
(SHOWN FOR 10 DIGIT DIAL PULSE CALL)



PART OF SC 3

MONITORING PARTICULAR ORIGINATING REGISTER



ISSUE 9 CB

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER, AND SENDER TEST CIRCUIT

SD-25680-01-E6

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-E6

PART OF SC 3

MONITORING PARTICULAR ORIGINATING REGISTER

6539

40-70 SEC

TMA

TMC

TMA

SR

TMB

MSR

MSRI

MB (OR)

ORN

DON

RPSI

ONMI

ORMI

ONM 2

ONR

ONRA

-S, -SA

MK

DOR

FROM 6AB36

HMSI (DTM)

DCTI, 2 (DTM)

F (OR)

SR

SI (OR)

ON (OR)

ALL RELAYS IN ORIG REG RELEASES EXCEPT "M"

DISI, 2 (DTM)

TLC (DTM)

TRK LK CONN RELEASES

MS (MTC)

MFC (MTC)

MFCI (MTC)

DTM RELEASES

MRL (MTC)

MRL LAMP (MTC)

MA TST FR CONN CKT RELEASE

RL KEY OPER TO RLS MTC CKT

RL KEY (MTC)

KR, KRI (MTC)

MTC RELAYS RELEASE

WHEN THE PACTICULAR ORIG REG IS SEIZED ON A SERVICE CALL

HMSI (DTM)

F (OR)

FA- (TL)

LV- (TL)

SI (OR) DTM FUNCTIONS

ON (OR)

DOR

RPSI

DON

ORN

OR LAMP

ONM 2

ORMI

ONMI

ONR

ONRA

PBC

MK

-S, -SA

TMA

TMC

TMA

TMB

MSR

MSRI

MB (OR)

MONITORING OF ORIG REG BEGINS AS SHOWN IN SC 2

DCTI (DTM)

F (OR)

FA- (TL)

FA- (OR)

SR

SI (OR)

DISI, 2 (DTM)

L (OR)

SR (OR)

ONI (OR)

TO SC 2, 3C20

TO SC 2 3D23

PART OF SC 4

MONITORING DIAL PULSE OUTGOING SENDERS

MOS KEY

MAC KEY

AC

NVA LAMP

NVA

DP TUBE

NVA LAMP

STM KEY

STM

STM3

STMI

MBN

AON

MB- ALL

LA

P

RAA

CDP

OS

LAI

STM2

8E5

MBN

MB-

ALL EXCEPT THOSE ASSOC WITH MARKERS HANDLING SDR OG CALLS

MP-

MON (M)

MONI (M)

SON

MTP

CMS

SDS

MM

MON (MTFC)

MP- (MTFC)

CI

ONM 2

ONR

ONRA

ONMI

MSR

MSRI

MBN

MB-

MP-

TMA

TMB

M8B7

CII

MKB (MTFC)

AO-I, C6, 7, DO, I, EO-2, PO-2 (MTFC)

TRA (TL)

TTA/M (TL)

MKBI (MTFC)

BO-9, CO-5, TO-3, 9 (MTFC)

CIC (MTFC)

RON, RONA (MTFC)

RON (CM)

MO-9 I/IO

ON (MTFC)

RMI (MTFC)

MTRI

RTI (MTFC)

RRI (MTFC)

MCC

MCO

FSO-19, FAK, FBK, LV2-9 LCO-9, THTO, I

MCK

KR 2/5

KBR 2/5

KRIA, 2A, 4A, 7A

KCRO, 1, 2, 4

MCV

MCT

KA 2/5 - KL 2/5, KM7

MCL

MCS

KAR 2/5

KM (0, 1, 2, 4), KST 7, KCDP 2/5 KCD 2/5, KCDA 2/5

MCD

MKTO/I

MCA

HG 2/5, FU 2/5, FT-VG 2/6, VF, - FG-, TF 2/5, LTI-3

TLG

MCI

TLGI

MOS (MTFC)

SCT (CM)

MCJ

CL 2-6, DLI-6

LCG

LVG

FSGI-3

RTCI

RTC 2

MONI (CM)

MON (MTFC)

CI

CII

MCA, C, D, I, J, V

-S (IST STEER RELAY)

SO

MK

MCL

MCS, T)

MCK

ON (MTFC)

RMI (MTFC)

MTRI

RRI (MTFC)

RTI (MTFC)

MKB

A-C-D-, E-, P- (MTFC)

ISSUE 9ID

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER, AND SENDER TEST CIRCUIT

2

SD-25680-01-E7

BELL TELEPHONE LABORATORIES INCORPORATED

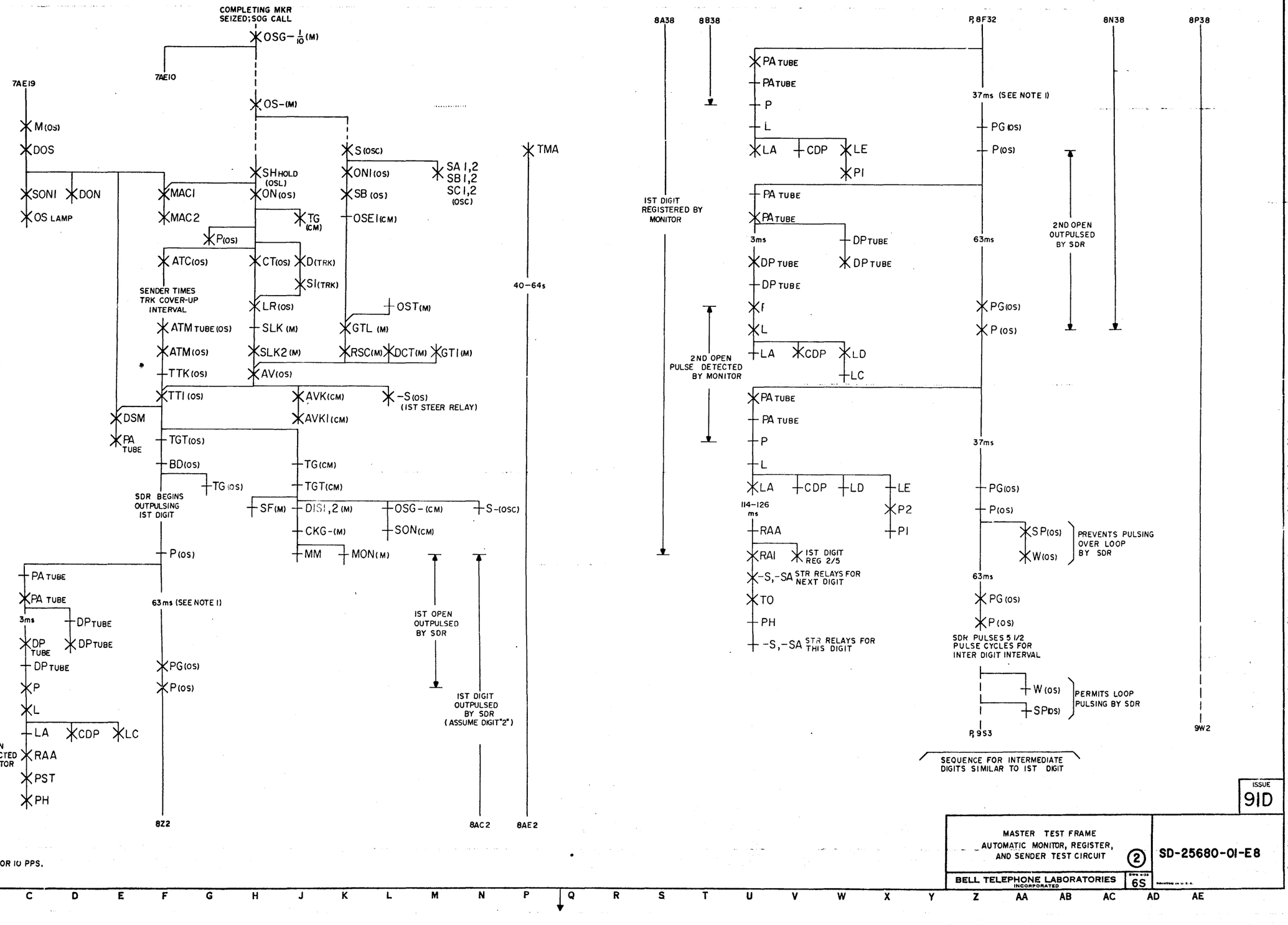
DWG SIZE 6S

PRINTED IN U.S.A.

SD-2580-01-E7

PART OF SC 4

MONITORING DIAL PULSE OUTGOING SENDERS



ISSUE 9ID

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER, AND SENDER TEST CIRCUIT (2)

SD-25680-01-E8

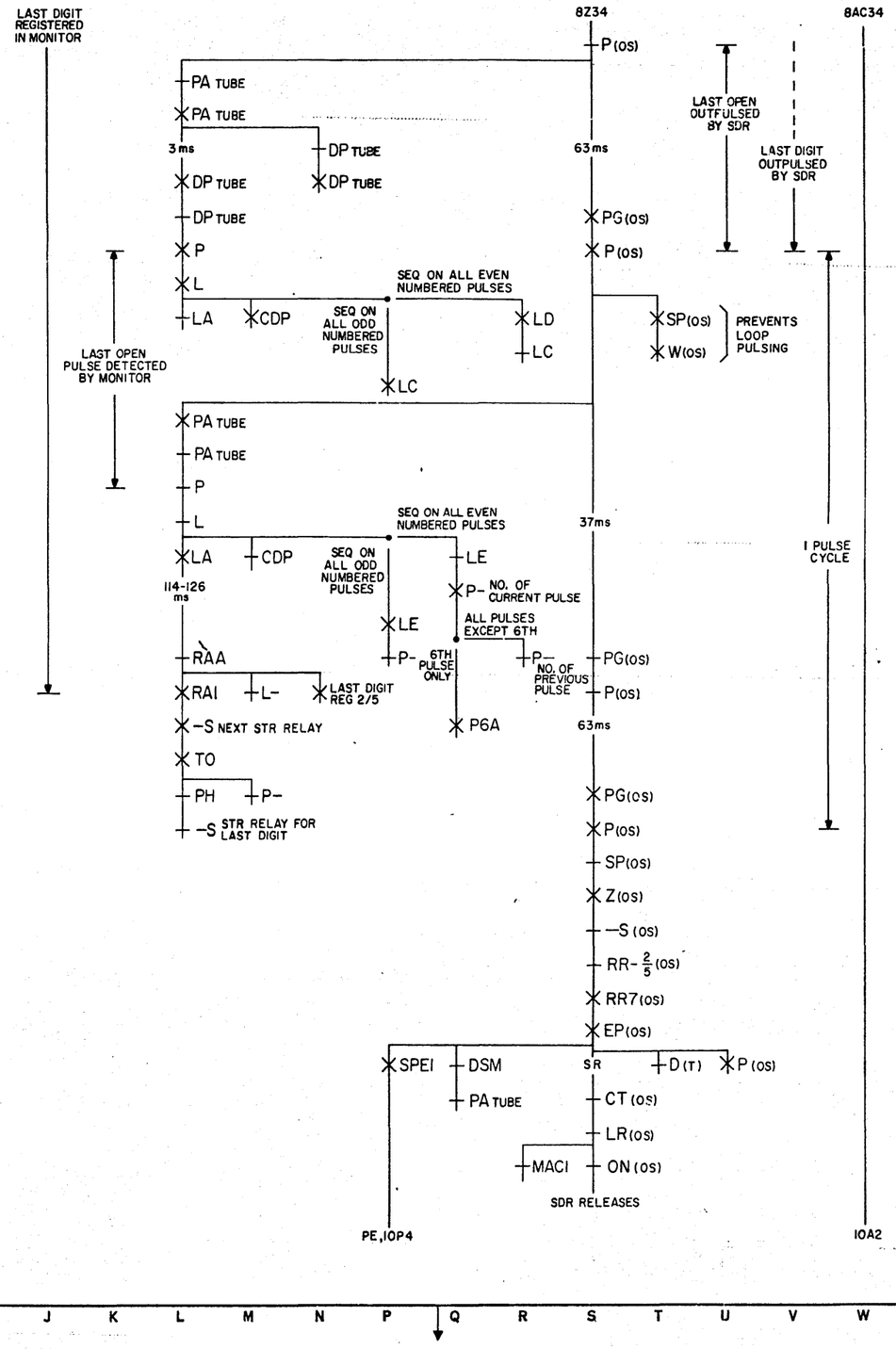
BELL TELEPHONE LABORATORIES INCORPORATED

Drawing 6S

SD-25680-01-E8

PART OF SC 4

MONITORING DIAL PULSE OUTGOING SENDERS



ISSUE 91D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER, AND SENDER TEST CIRCUIT

SD-25680-01-E9

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-E9

PART OF SC 4

MONITORING DIAL PULSE OUTGOING SENDERS

FROM SPEI, 9P34

SO

PE

SO

MPC2

GRD (GS) LEAD TO PLANT REG

SO

MPCI

MPC2

SO

CKS

SO

CKN

CKE

KAR, KBR, ARBITRARY DIGITS RECEIVED FROM MKR
KR 2 of 5

AR, BR, ARBITRARY DIGITS OUTPULSED BY SDR
CR 2 of 5

RCK

KA KK KL7 2 of 5 CODE, CALLED NUMBER RECEIVED FROM MKR

A K L7 2 of 5 CODE, CALLED NUMBER OUTPULSED BY SDR

IF ARBITRARY OR CALLED NUMBER CHECK FAILS

TRRI

IF NUMBER CHECK IS SATISFACTORY

ALARM IN MA TST FR JK, LP, & KEY CKT

MON (MTFC)

CI

CII

TRR2

MCB

TMA SR

TMB

TM2

GRD (OSF) LEAD TO PLANT REG

ON (MTFC)

RT (MTFC)

RRI (MTFC)

RMI (MTFC)

MTRI

STR-(TR)

MCA,C,D,I,J

MCE,R,Q

INFO FOR TBL REC CARD

STARTS TBL REC

MCV

TBL REC CARD PERFORATED

TRC (MTFC)

TRCI (MTFC)

TRC

10-17 SEC TIMING FOR TBL REC CKT ACTION

TM

DL

9W39

IF TBL REC IS BEING MADE

NO TBL REC REQD

TMA

TMA

10-17 s

TMA

TRC

TRRI

TRR2

TR,TR2

ONR

CKE

ONRA

ALL DIGIT REGISTERS

ONM2

TLG,I

LVG,FSGI,2,3

RTCI,2

SPEI

PE

CMS

RN

SON

M(OS)

DOS

MK

DON

SONI

SDS

PST

DCR

OS LAMP

ONMI

MSR

TMA,TM2

SR

TMB

RN

MKTO/I

MAC2

MPCI

CKS

CKN

MSRI

MBN

MB-

MON (MTFC)

CI

CII

MC-ALL

TRC (MTFC)

TRC (TR)

TRCI (MTFC)

ON (MTFC)

MA TST FR CONN RELEASES

ISSUE 9ID

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER, AND SENDER TEST CIRCUIT (2)

SD-25680-01-EI0

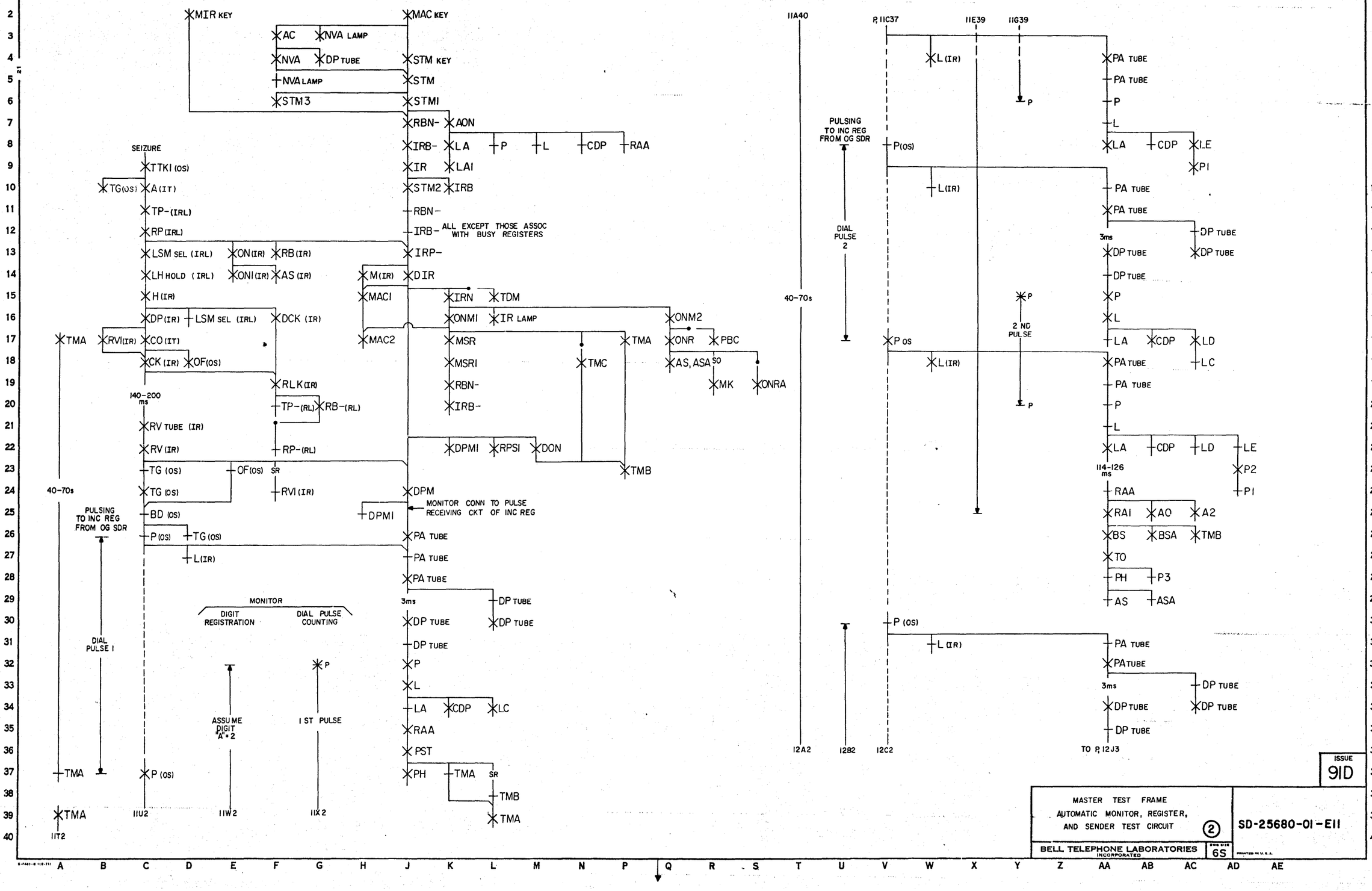
BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25680-01-EI0

PART OF SC 5

MONITORING DIAL PULSE INCOMING REGISTERS
(SHOWN WITH PULSES RECEIVED FROM A NO. 5 OUTGOING SENDER)



SD-25680-01-EII

ISSUE 91D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER, AND SENDER TEST CIRCUIT (2)

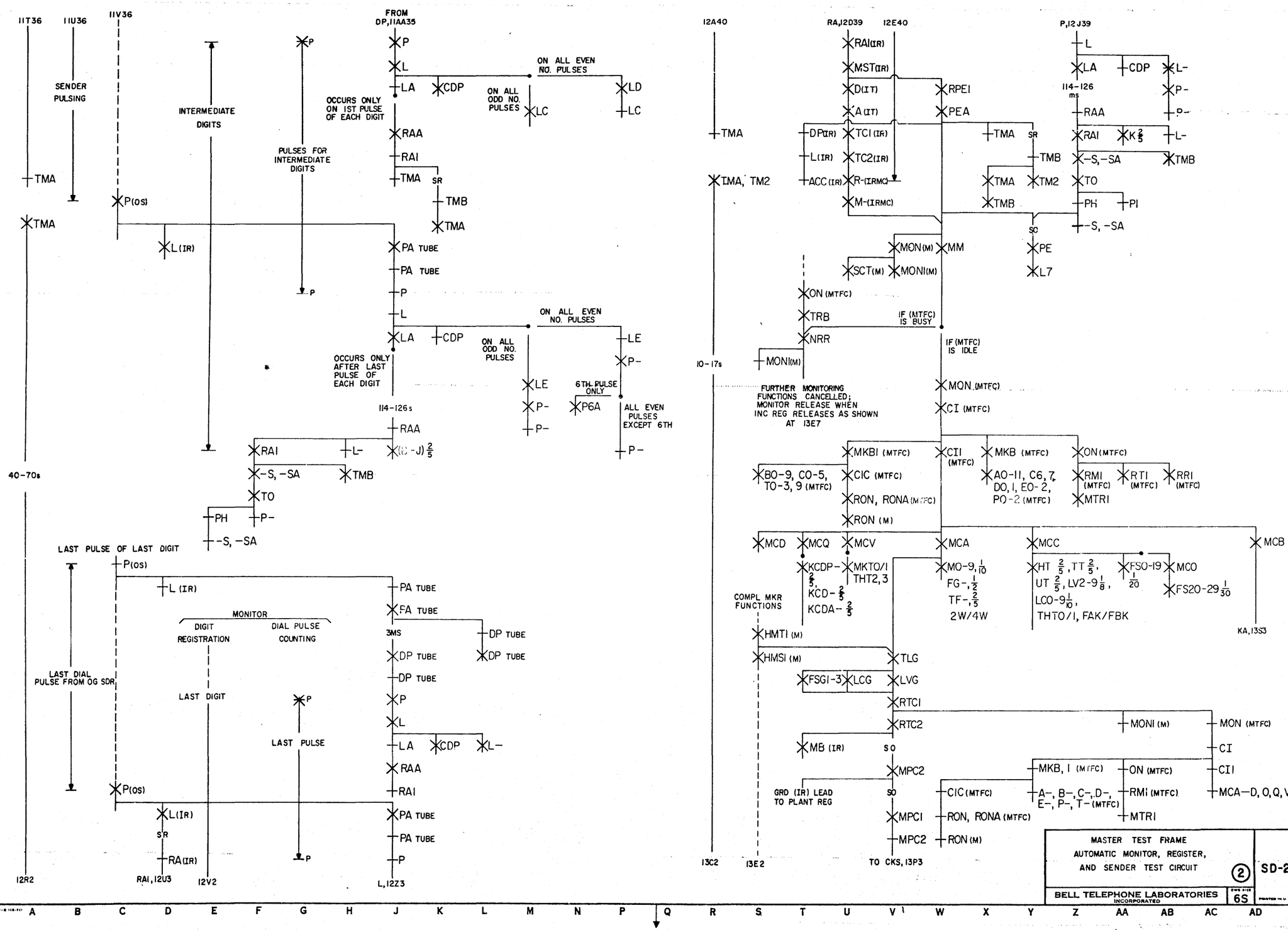
SD-25680-01-EII

BELL TELEPHONE LABORATORIES INCORPORATED

6S

PART OF SC 5

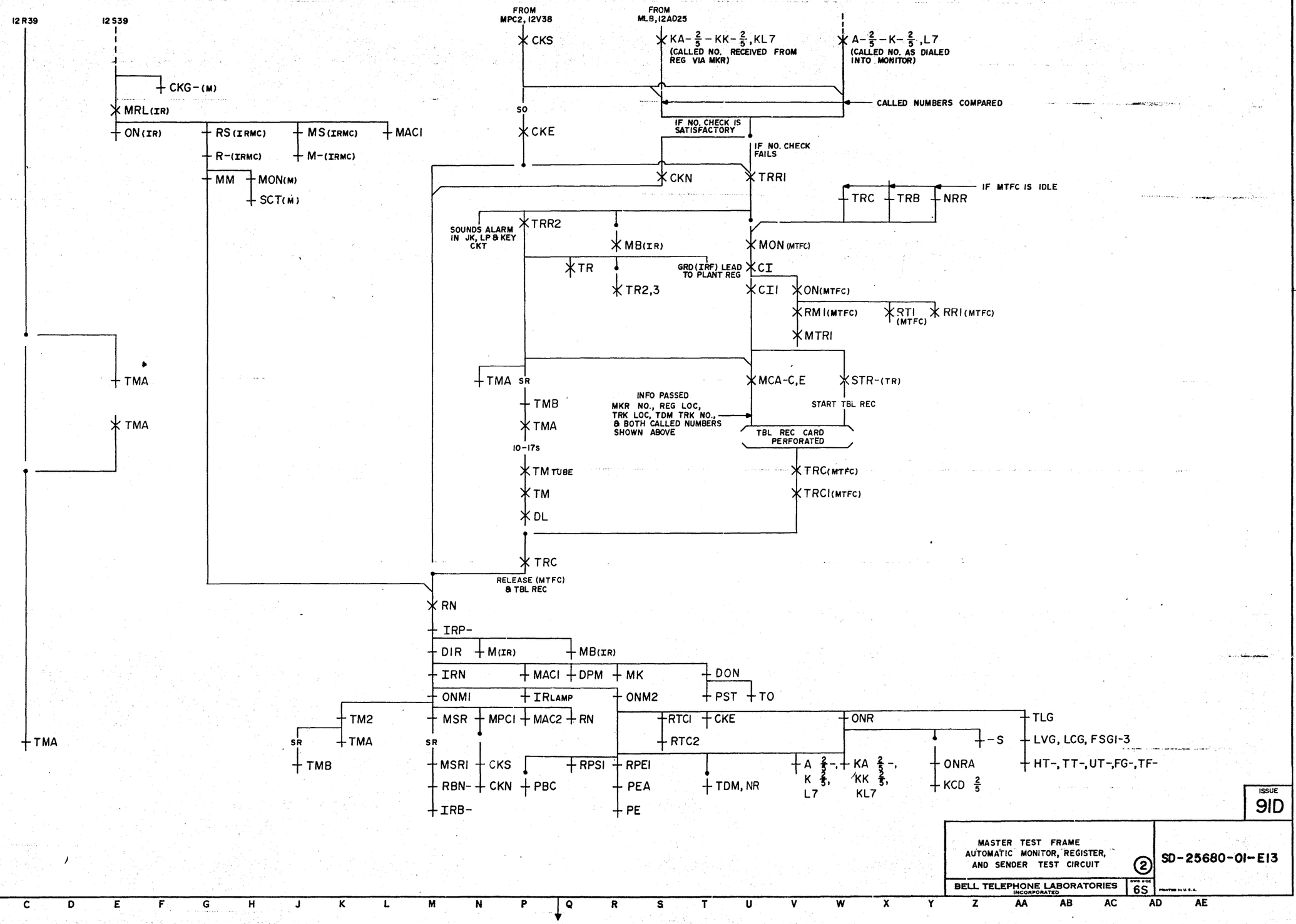
MONITORING DIAL PULSE INCOMING REGISTERS
(SHOWN WITH PULSES REMOVED FROM A NO.5 OUTGOING SENDER)



SD-25680-01-E12

PART OF SC 5

MONITORING DIAL PULSE INCOMING REGISTERS
(SHOWN WITH PULSES RECEIVED FROM A NO. 5 OUTGOING SENDER)



SD-25680-01-E13

ISSUE 91D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER, AND SENDER TEST CIRCUIT
(2)

SD-25680-01-E13

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

PRINTED IN U.S.A.

SC 6

MONITORING A PARTICULAR INCOMING REGISTER

SRS SW/KEY (PART. IR SELECTION)

IRG SW/KEY (IR GROUP SELECTION)

MPIR KEY

MAC KEY

STM KEY

AC

NVA LAMP

NVA

DP TUBE

NVA LAMP

STM

STM3

STMI

AON

LA

P

L

CDP

RAA

LAI

SPR- ALL

PC- ASSOC WITH SELECTED GP

PCA-

RBN- ALL

IRB- ALL

IR

STM2

RBN- ALL

IRB- ALL NOT ASSOC WITH BUSY REGISTERS

INC TRK REQUEST FOR CONN TO INC REG

TP (IRL)

RP (IRL)

ON (IR)

WHEN THE PARTICULAR INC REG IS SEIZED

AWAITING SEIZURE OF THE PARTICULAR INC REG ON A CALL

IRP- ASSOC WITH THE PARTICULAR INC REG

DIR/MIR/RIR/CBR/TRFR

SEE SC5

SC 7

MONITORING A PARTICULAR OUTGOING SENDER

SRS SW/KEY (PART. OS SELECTION)

SG SW/KEY (OS GROUP SELECTION)

MPOS KEY

MAC KEY

NVA LAMP

AC

STM KEY

NVA

DP TUBE

STM

NVA LAMP

STMI

STM3

AON

SG-

LA

P

RAA

CDP

LAI

MKR FUNCTIONS

OSG-(M)

OSC(M)

MA- (OSC)

SA- (OSC)

MON(M)

MM

SON

MONI (M)

M(OS)

DOS

MONITORING FUNCTIONS SIMILAR TO SC 4

RELEASING ACTION

RN

SAME AS SC4

WITH MPOS KEY OPER, (M) WILL REMAIN OPER, ALL CALLS SERVED BY THIS SENDER WILL BE MONITORED

M(OS)

ISSUE 9 ID

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER, AND SENDER TEST CIRCUIT (2)

SD-25680-01-E14

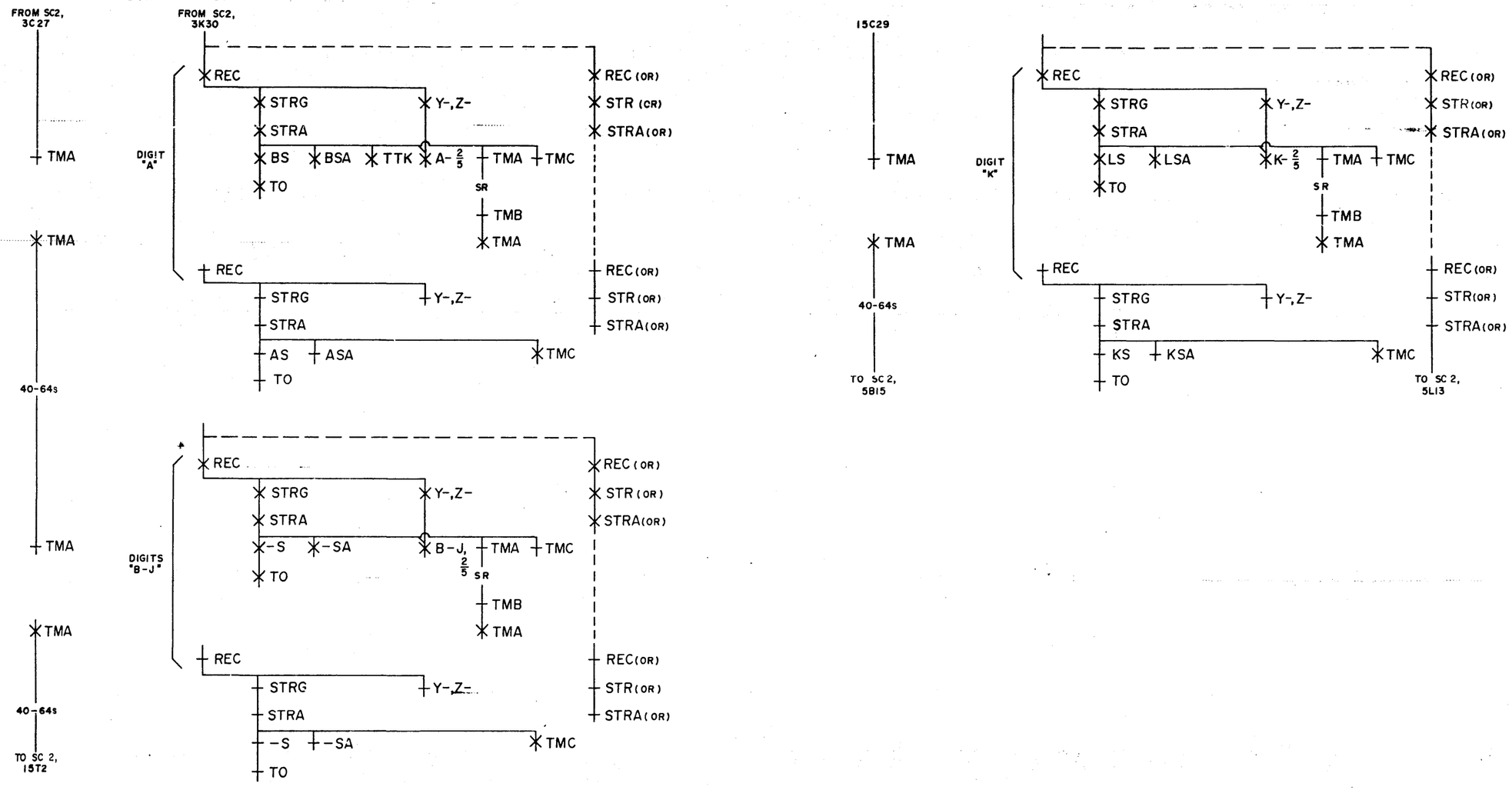
BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

SD-25680-01-E14

SC 8

MONITORING "TOUCH-TONE" CALL



SD-25680-01-E15

ISSUE 9ID

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER, AND SENDER TEST CIRCUIT (2)

SD-25680-01-E15

BELL TELEPHONE LABORATORIES INCORPORATED

6S

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	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
RELAYS																	
0	208G		26	1			(R1)O	2B(R1)		BAT.			0		16	15	CONN DIRECT GRD TO 2(0')
							(R1)O	2B(R1)		BAT.			NO		13	14	
							(R1)O	2B(R1)		BAT.			R		6.7	7.1	
0'	208B		26	1			(R1)O	2B(R1)		BAT.			0		16	15	CONN DIRECT GRD TO 1(0)
							(R1)O	2B(R1)		BAT.			NO		13	14	
0F-9F	U6089		W	111/101	H	29			T(REL TST)	GRD			0		27	25.5	
0F-9F	I/2AK6		X	2					1L OR 1U (REL TST)	GRD	1		0		29	27.5	
10F-13F		DT	56	2					1L OR 1U (REL TST)	GRD			0		29	27.5	(10F) MTD WITH (11F), (12F) MTD WITH (13F)
0T-9T	U1301		33	123/123	H	29			T(REL TST)	GRD			0		14.1	13.4	
1	208G		26	1			(R1)O	4T(R1)		BAT.			0		16	15	CONN DIRECT GRD TO 2(1')
							(R1)O	4T(R1)		BAT.			NO		13	14	
							(R1)O	4T(R1)		BAT.			R		6.7	7.1	
1'	208C		26	1									0		12.5	12	WDG ALONE
													NO		10.5	11	
							(R1)O	4T(R1)		BAT.	2		0		25	24	PAR.COMB. OF (1') & (8D)
							(R1)O	4T(R1)		BAT.	2		NO		21	22	
1XX	U879	AD	16	160/108	H	47			T(1XX)	GRD			0		33.5	31.5	
									T(1XX)	GRD			NO		17	18	
									T(1XX)	GRD			R		9.9	10.5	
1XX	AJ60	AE	16	203					U(1XX)	GRD			0		21	20	
1-P	AJ15		55	249					U(1-P)	GRD			0		43	40.5	
2	208G		26	1			(R1)O	2T(R1)		BAT.			0		16	13	CONN DIRECT GRD TO 2(2')
							(R1)O	2T(R1)		BAT.			NO		13	14	
							(R1)O	2T(R1)		BAT.			R		6.7	7.1	
2'	208B		26	1			(R1)O	2T(R1)		BAT.			0		16	15	CONN DIRECT GRD TO 1(2)
							(R1)O	2T(R1)		BAT.			NO		13	14	
2DGS	U834	YZ	39	109/123	H	29			T(2DGS)	GRD			0		21	20	
2DT	U419	SA	Y	132/111	H	47			T(2DT)	GRD			0		16	14.8	
2DT	U351		Z	118/145	H	50			T(2DT)	GRD			0		20.5	19.5	
2P	U351		11	118/145	H	50			T(2P)	GRD			0		20.5	19.5	
2W	AJ15		55	249					U(2W)	GRD			0		43	40.5	
3	208G		26	1			(R1)O	2B(R1)		BAT.			0		16	15	CONN DIRECT GRD TO 2(3')
							(R1)O	2B(R1)		BAT.			NO		13	14	
							(R1)O	2B(R1)		BAT.			R		6.7	7.1	
3'	208B		26	1			(R1)O	2B(R1)		BAT.			0		16	15	CONN DIRECT GRD TO 1(3)
							(R1)O	2B(R1)		BAT.			NO		13	14	
3D	B1139		64	14		30			2M(3D)	GRD			0		4.5	4.2	
									2M(3D)	GRD			R		1.8	1.9	
3DA	AJ83		64	249					U(3DA)	GRD			0		13.3	12.6	WDG ALONE
													0		29.5	28	PAR. COMB. OF(3DA)&(3DB)
3DB	AJ83		64	249					U(3DB)	GRD			0		13.3	12.6	WDG ALONE
													0		29.5	28	PAR. COMB. OF (3DB)&(3DA)
3DGS	U834	YZ	39	109/123	H	29			T(3DGS)	GRD			0		21	20	
3DS	AF79		64	205					U(3DS)	GRD			0		9.7	9.2	
3KPF	U834		21	109/123	H	29			T(3KPF)	GRD			0		21	20	
4	208G		26	1			(R1)O	4T(R1)		BAT.			0		16	15	CONN DIRECT GRD TO 2(4')
							(R1)O	4T(R1)		BAT.			NO		13	14	
							(R1)O	4T(R1)		BAT.			R		6.7	7.1	
4'	208B		26	1			(R1)O	4T(R1)		BAT.			0		16	15	CONN DIRECT GRD TO 1(4)
							(R1)O	4T(R1)		BAT.			NO		13	14	
4W	AJ15		55	249					U(4W)	GRD			0		43	40.5	
4WDP	AJ15	CY	57	249					U(4WDP)	GRD			0		43	40.5	
4WMF	AJ15	CY	57	249					U(4WMF)	GRD			0		43	40.5	
4WT	AJ12		55	220					U(4WT)	GRD			0		43	40.5	

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	DIRECT CURRENT FLOW REQT TEST FOR	DIRECT CURRENT FLOW REQT AFTER SOAK MA	DIRECT CURRENT FLOW REQT TEST MA	DIRECT CURRENT FLOW REQT READJ MA	REMARKS
5	208G		26	1			(R1)O	2T(R1)		BAT.			0		16	15	CONN DIRECT GRD TO 2(5')
							(R1)O	2T(R1)		BAT.			NO		13	14	
							(R1)O	2T(R1)		BAT.			R		6.7	7.1	
5'	208B		26	1			(R1)O	2T(R1)		BAT.			0		16	15	CONN DIRECT GRD TO 1(5)
							(R1)O	2T(R1)		BAT.			NO		13	14	
6	208G		26	1			(R1)O	2B(R1)		BAT.			0		16	15	CONN DIRECT GRD TO 2(6')
							(R1)O	2B(R1)		BAT.			NO		13	14	
							(R1)O	2B(R1)		BAT.			R		6.7	7.1	
6'	208B		26	1			(R1)O	2B(R1)		BAT.			0		16	15	CONN DIRECT GRD TO 1(6)
							(R1)O	2B(R1)		BAT.			NO		13	14	
7	208G		26	1			(R1)O	4T(R1)		BAT.			0		16	15	CONN DIRECT GRD TO 2(7')
							(R1)O	4T(R1)		BAT.			NO		13	14	
							(R1)O	4T(R1)		BAT.			R		6.7	7.1	
7'	208B		26	1			(R1)O	4T(R1)		BAT.			0		16	15	CONN DIRECT GRD TO 1(7)
							(R1)O	4T(R1)		BAT.			NO		13	14	
8	208G		26	1			(R1)O	2T(R1)		BAT.			0		16	15	CONN DIRECT GRD TO 2(8')
							(R1)O	2T(R1)		BAT.			NO		13	14	
							(R1)O	2T(R1)		BAT.			R		6.7	7.1	
8'	208B		26	1			(R1)O	2T(R1)		BAT.			0		16	15	CONN DIRECT GRD TO 1(8)
							(R1)O	2T(R1)		BAT.			NO		13	14	
9	208G		26	1			(R1)O	2B(R1)		BAT.			0		16	15	CONN DIRECT GRD TO 2(9')
							(R1)O	2B(R1)		BAT.			NO		13	14	
							(R1)O	2B(R1)		BAT.			R		6.7	7.1	
9'	208B		26	1			(R1)O	2B(R1)		BAT.			0		16	15	CONN DIRECT GRD TO 1(9)
							(R1)O	2B(R1)		BAT.			NO		13	14	
10	U1364		12	120/111	H	35			T(10)	GRD			0		31.5	30	
11	U1364	KT	16	120/111	H	35			T(11)	GRD			0		31.5	30	
11	U1354	KU	16	103/108	H	47			T(11)	GRD			0		31	29.5	
11'	U1360	KT	16	137/108	H	47			T(11')	GRD			0		33.5	31.5	
11'	U6133	KU	16	151/145	H	47			T(11')	GRD			0		30	28.5	
11A	AJ15		61	249					U(11A)	GRD			0		43	40.5	
11B	AJ15		61	249					U(11B)	GRD			0		43	40.5	
11C	AJ15		61	249					U(11C)	GRD			0		43	40.5	
11D	AJ15		61	249					U(11D)	GRD			0		43	40.5	
11R	U219	KT	16	108/108	H	47			T(11R)	GRD			0		18.5	17.5	
11R	U58	KU	16	127/150	H	50			T(11R)	GRD			0		11.3	10.7	
12	U1364	ZI	16	120/111	H	35			T(12)	GRD			0		31.5	30	
12'	U1360	ZI	16	137/108	H	47			T(12')	GRD			0		33.5	31.5	
A0,1	U1364	JR	16	120/111	H	35			T(REL TST)	GRD			0		31.5	30	
A2,4,7	U1364	KJ	16	120/111	H	35			T(REL TST)	GRD			0		31.5	30	

TEST NOTES:

1. (0F) MTD WITH (1F), (2F) MTD WITH (3F), (4F) MTD WITH (5F), (6F) MTD WITH (7F) & (8F) MTD WITH (9F).
2. CONN DIRECT GRD TO 1T(1).

DRAWING ISSUE 70D SAV

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-FI

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

SD-25680-01-FI

CIRCUIT REQUIREMENTS

DRAWING ISSUE

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.		MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	DIRECT CURRENT FLOW REQT TEST FOR	DIRECT CURRENT FLOW REQT AFTER SOAK MA	DIRECT CURRENT FLOW REQT TEST MA	DIRECT CURRENT FLOW REQT READJ MA	REMARKS
AQ, A1	U1355	JS	16		117/148	H	47			T REL TST GRD	GRD			0		38.5	36.5	
A2, A4, A7	U1355	KK	16		117/148	H	47			T REL TST GRD	GRD			0		38.5	36.5	
AA7	AF4		69		18					U(AA7)	GRD			0		36.5	34.5	
AAB	U1363		13		112/134	H	35	8T(AAB)		T(AAB)	GRD	1		0		21	20	WDG ALONE
														0		57.5	54.5	
ABN	U503	ZAXX	17		139/118	H	59			T(ABN)	GRD			0		27.5	26	
ABN1	U79		40		149/149	H	47			T(ABN1)	GRD			0		22	20.5	
ABN2	U66		37		111/110	H	35			T(ABN2)	GRD			0		6.3	6	
ABT	U157		40		108/132	H	47		T(ABT)		BAT.			0		8.5	8.1	SEE TMG REQT
AC	KS-5483, L24		13					2T(NVA)		RW(AC)	GRD	2		0		35	33	
ACO	U1244		9		110/101	H	35			T(ACO)	GRD			0		6.7	6.3	
AC8	U254	GG	18		108/108	H	47			T(AC8)	GRD			0		17.5	16.5	
AD, AD1	U1342		18		126/126	H	59	1B(AD1), 1B(OSA)		T REL TST GRD	GRD			0		30.5	29	
AD3	U1342	EQ	18		126/126	H	59	1B(AD4)		T(AD3)	GRD			0		30.5	29	
AD4	U1342	EQ	18		126/126	H	59	1B(OSA)		T(AD4)	GRD			0		30.5	29	
AF	U580		33		132/132	H	47			T(AF)	GRD			0		17.5	16.5	
AG	U576		43		148/148	H	47			T(AG)	GRD			0		21	20	
AGR	U275		43		180/149	H	47	1T & 2T(AG)		T(AGR)	GRD			0		10.8	9.5	
AGR1	Y223		43		188/188	H	35			T(AGR1)	GRD			0	FS	28.5	27	
										T(AGR1)	GRD			H	FS	3.2	3	
										T(AGR1	GRD			R	FS	1.7	2	
AGT	U540		43		102/108	H	53			T(AGT)	BAT.			0		10.6	10.1	SEE TMG REQT
AMA	U90	ZAXX	17		145/123	H	47			TF(AMA)	GRD		P	0		18	17	
										TR(AMA)	GRD		S	0		14.5		
AMA1	U520	YP,VP	40		110/110	H	35			T(AMA1)	GRD			0		13.6	12.9	
AON	U115		13		113/113	H	29			T(AON)	GRD			0		10.4	9.9	
AOT	AF8		51		200					1U(AOT)	GRD		P	0		19.5	18.5	
										2U(AOT)	GRD		S	0		11.7		
APA, APB, APC, APD, APE, APF, APG, APH, APJ	U1342		2		126/126	H	59			T REL TST GRD	GRD	3		0		30.5	29	
APK	U1328		2		163/163	H	59	3T(APA)		T(APK)	GRD			0		23	21.5	
ARO, AR1, AR2, AR4, AR7	U520	SX	16		110/110	H	35			1 REL TST GRD	GRD			0		13.6	12.9	
ARP0, ARP1, ARP2, ARP3, ARP4, ARP5	U6078		34		151/151	H	41			T REL TST GRD	GRD			0		20.5	19.5	
														NO		9.3	9.8	

TEST NOTES:

1. PAR. COMB. OF (AAB4) RES AND (AAB) RELAY.
2. REMOVE FUSE AC.
3. INSULATE 3T OF SUCCEEDING RELAY.

BELL TELEPHONE LABORATORIES INCORPORATED

PRINTED IN U.S.A.

SD-25680-01-F2

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 62D, 68D, 69A, 70D, 80A, 81D

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.		MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	DIRECT CURRENT FLOW REQT TEST FOR	DIRECT CURRENT FLOW REQT AFTER SOAK MA	DIRECT CURRENT FLOW REQT TEST MA	DIRECT CURRENT FLOW REQT READJ MA	REMARKS
ARP6, ARP7, ARP8, ARP9	U6078		34		151/151	H	41			T REL TST	GRD			0		20.5	19.5	
														NO		9.3	9.8	
ARS	UA107	S4, DQ	16		126/126	H	59	1B(AS)		T(ARS)	GRD	1,2		0		42	40	WDG ALONE
														0		95	90	
ARSA	U226	SX	16		139/139	H	59	1B(AS)		T(ARSA)	GRD	2		0		49.5	47	WDG ALONE
														0		110	105	
AS	UA107		16		126/126	H	59	1B(BS), (MK)O		T(AS)	GRD	1		0		42	40	WDG ALONE
														0		95	90	PAR. COMB. OF (AS) & (ASA)
ASA	U226		16		139/139	H	59	1B(BS)		T(ASA)	GRD			0		49.5	47	WDG ALONE
														0		110	105	PAR. COMB. OF (ASA) & (AS)
ATT	AF8		51		200					1U(ATT)	GRD		P	0		19.5	18.5	
										2U(ATT)	GRD		S	0		11.7		
BO, B1, B2, B4, B7	U520		16		110/110	H	35			T REL TST	GRD			0		13.6	12.9	
														0				
BO'	208C		33		1									0		12.5	12	WDG ALONE
														NO		10.5	11	
										1(SO)	GRD			0		25	24	PAR. COMB. OF (BO') & (FO')
										1(SO)	GRD			NO		21	22	
BD	208C		26		1									0		12.5	12	WDG ALONE
														NO		10.5	11	
								(R1)O	4T(R1)		BAT.	3		0		25	24	PAR. COMB.
								(R1)O	4T(R1)		BAT.	3		NO		21	22	OF (BO) & (1')
BD1	239FC OR 280A	VD VE	26		A				9T(DP)	5B(DP)	B/G	4	P	0	-65	3	1.5	SEE TMG REQT
									9T(DP)	5B(DP)	B/G	4	P	NO	-65	O.C.	1.1	
									5B(DP)	2T(DP)	B/G	4	S	0		0.5		
BD2	S66		26		5			(DP)O, (SYI)O		2RT(BD2)	GRD		P	0		6	5.7	
										2RT(BD2)	GRD		P	NO		4.8	5 1	
													S	0		13.6		WDG ALONE
										1B1(BD2)	GRD	7	S	0		29		
BFR1, BFR2, BFR3	UA93	YK,YL, YP,YR, JK,JL, MP,V2	1		110/110	H	35		T REL TST	B REL TST	NGB	5/6		0		32.5	30.5	WDG ALONE
BFR4, BFR5, BFR6	U624	SF SF SG	1		101/101	H	29	2T REL TST	T REL TST		BAT.			0		6.7	6.3	
BGO	U53	YC,JC	17		118/145	H	50			T(BGO)	GRD			0		10.2	9.7	
BG1	239GK OR 280CJ	YC UC	17		B				R(TK)JK	1(BG1)	B/G		S	0	-65		1.5	
									R(TK)JK	1(BG1)	B/G		S	NO	-65		1.1	
									R(TK)JK	1(BG1)	B/G		S	0	-65	5	4.7	INSERT PLUG IN (TK) JK
									R(TK)JK	1(BG1)	B/G		S	H	65	2.8	2.6	
									R(TK)JK	1(BG1)	B/G		S	R	65	0.9	1	
								6T(BGO)		5(BG1)	18(CL5)	B/G		P	0		0.3	

TEST NOTES:

1. SPRINGS 1T AND 1B SHALL HAVE MIN 40 GRAMS TENSION.
2. PAR. COMB. (ARS) AND (ARSA).
3. CONNECT DIRECT GRD TO 1(1).
4. REMOVE (INT1) RELAY FROM JK WHEN USING CONTACT CLOSURE TEST SET.
5. REMOVE (FA) LAMP OF ASSOCIATED MISC CKT.
6. PAR. COMB. OF RELAY WDG AND (FA1) RES.
7. PAR. COMB. OF (BD2) & (R2)

81

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-F2

PRINTED IN U.S.A.

CIRCUIT REQUIREMENTS

DRAWING ISSUE

APPARATUS DESIG	CODE	OPT.	FIG.	MECH REQT BSP FIG.	CONT PRES	ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
BK	U1391	YK,JK	33	123/123	H	29			T(BK)	GRD			0		14.3	13.6	
BL	U188	ZY	20	161/161	H	53			T(BL)	GRD			0		18.5	17.5	
BL1	Y126	ZY	20	175/164	H	47			T(BL1)	GRD			0	FS	21	20	
									T(BL1)	GRD			H	FS	1.8	1.7	
									T(BL1)	GRD			R	FS	0.9	1.2	
BLM	U1367		13	111/111	H	29			T(BLM)	GRD			0		29	27.5	
BLR	U143	WH	20	108/110	H	47			T(BLR)	GRD			0		8.8	8.3	
BLT	U421	ZY	20	110/110	H	35		B(BLT)		BAT.	1		0		13	12.3	
BLT1	U576	ZY	20	148/148	H	47			T(BLT1)	GRD			0		21	20	
BP	U1342	YB	18	126/126	H	59	1B(OSA)		T(BP)	GRD			0		30.5	29	
BRO, BR1, BR2, BR4, BR7	U520	SW	16	110/110	H	35			T REL TST	GRD			0		13.6	12.9	
BRP	U199	QY	33	121/121	H	50			7T(BRP)	GRD			0		11	10.4	
BRS	UA107	SW, DQ	16	126/126	H	59	1B(AS)		T(BRS)	GRD	2 2,3		0 0		42 95	40 90	WDG ALONE
BRSA	U226	SW	16	139/139	H	59	1B(AS)		T(BRSA)	GRD	3		0 0		49.5 110	47 105	WDG ALONE
BS	UA107		16	126/126	H	59	1B(CS)		T(BS)	GRD	2 2,4		0 0		42 95	40 90	WDG ALONE
BSA	U226		16	139/139	H	59	1B(CS)		T(BSA)	GRD	4		0 0		49.5 110	47 105	WDG ALONE
BT	U103		11	108/108	H	47			7F(BT)	GRD		P	0		20	19	
									7R(BT)	GRD		S	0		16.5		
BT1	U467		9	108/110	H	47			T(BT1)	GRD			0		22.5	21	
									T(BT1)	GRD			NO		12.9	13.6	
BT2	U218	EB	9	120/110	H	35			T(BT2)	GRD			0		6.8	6.4	
	U308	EC	9	134/120	H	35			T(BT2)	GRD			0		7.4	7	
C	U1113		20	114/114	H	50			T(C)	GRD			0		22.5	21	
CO, C1, C2, C4, C7	U520		16	110/110	H	35			T REL TST	GRD			0		13.6	12.9	
C4MM	U1317		45	117/148	H	47			T(C4MM)	GRD			0		19	18	
C4MT	U947		45	124/167	H	65			T(C4MT)	GRD			0		24	22.5	
CA	U67	YK,YL UK,UL	20	145/108	H	47			T(CA)	GRD			0		18	17	
CA1, CA2, CA4, CA5	U1307	YV	38	215/215	H	47	3T(CIA)		T REL TST	GRD			0		22	20.5	
CAC	U520	YP,YP	19	110/110	H	35			T(CAC)	GRD			0		13.6	12.9	

TEST NOTES:

1. CONNECT GRD TO T(BLT).
2. SPRINGS 1T AND 1B SHALL HAVE MIN 40 GRAMS TENSION.
3. PAR. COMB. OF (BRS) AND (BRSA).
4. PAR. COMB. OF (BS) AND (BSA).

BELL TELEPHONE LABORATORIES INCORPORATED

PRINTED IN U.S.A.

SD-25680-01-F3

E-7423 (8-62)

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 62D, 63AR, 68D, 70D, 80A

APPARATUS DESIG	CODE	OPT.	FIG.	MECH REQT BSP FIG.	CONT PRES	ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
CB1, CB2, CB4, CB5	U1307	YV	38	215/215	H	47			T REL TST	GRD			0		22	20.5	
CB3A	U1113	YL,JL	20	114/114	H	50							0		22.5	21	WDG ALONE
									T(CB3A)	GRD	1		0		50	46.5	
CB3B	U1113	YL,JL	33	114/114	H	50							0		22.5	21	WDG ALONE
									T(CB3A)	GRD	1		0		50	46.5	
CBA	G89	YL,JL	33	13		50		1B(CBRO)	1T(CBRO)	M			P/S	0	FS	3.2	3	
								1B(CBRO)	1T(CBRO)	M			P/S	R	FS	1.7	1.8	
CBA1	U431	YL,JL	33	108/111	H	47			T(CBA1)	GRD			0		22	21	
									T(CBA1)	GRD			NO		13.5	14.3	
CBA2	U576	YL,JL	33	148/148	H	47			T(CBA2)	GRD			0		21	20	
CBR	U65	YL,JL	1	113/113	H	29			T(CBR)	GRD			0		20.5	19.5	
CBRO	U192	YL,JL	33	121/108	H	50			T(CBRO)	GRD			0		21	20	
CBR1	U81	YL,JL	9	113/113	H	29			T(CBR1)	GRD			0		22	20.5	
CBR2	U81	YL,JL	9	113/113	H	29	5B(CBR2)		T(CBR2)	GRD			0		22	20.5	
CBR3	U1073	YL,JL	20	161/163	H	59			T(CBR3)	GRD			G		31.5	30	
CBT	U333	YL,JL	33	150/150	H	50			T(CBT)	GRD			G		16	14.4	
CBTT	U679	YL,JL	20	108/108	H	47			T(CBTT)	GRD			G		18.5	17.5	
CC1, CC2, CC4, CC5	U1307	YW	38	215/215	H	47			T REL TST	GRD			G		22	20.5	
CCK	U113		20	132/101	H	47			T(CCK)	GRD			G		7.4	7	
CDQ1, 2,4,7, 10,15	1/2 AK6		55	2					1L OR 1U (REL TST)	GRD			0		29	27.5	(CDQ) MTD WITH (CD1) (CD2) MTD WITH (CD4) (CD7) MTD WITH (CD10) (CD15) MTD WITH (CDP15)
CDAQ 1,2,4	1/2 AK6		55	2					1L OR 1U (REL TST)	GRD			G		29	27.5	(CDAQ) MTD WITH (CDA1) (CDA2) MTD WITH CDA4)
CDA7	1/2 AK10		55	7					1L(CDA7)	GRD			G		16.5	15.5	(CDA7) MTD WITH (KCDA7)
CDAS	AJ15		57	249			12(CL1B)		U(CDAS)	GRD			G		43	40.5	
CDP	316R	ZVT	13	2									P	G	13.3		SEE BSP
														R	3.3		
													S	G	5.4		
CDP	239GE OR 280BS	VJ VK	13	A				8T(AON) 8T(AON) 1B(AON)	2(CDP) 2(CDP) 3T(AON)	B/G B/G B/G	2 2 2	P1 P1 P2	0 NO 0	-135 -135	5.5 O.C. 5.5	3.2 2.3	
CDPO, 1,2,4, 7,10,15	1/2 AK6		55	2					1L OR 1U (REL TST)	GRD			0		29	27.5	(CDPO) MTD WITH (CDP1) (CDP2) MTD WITH (CDP4) (CDP7) MTD WITH (CDP10) (CDP15) MTD WITH (CD15)
CDPS	AJ15		57	249			6(CDS)		U(CDPS)	GRD			0		43	40.5	
CDS	AJ15		57	249			6(CDAS)		U(CDS)	GRD			0		43	40.5	
CG	UA10	JU	16	120/110	H	35			T(CG)	GRD			0		20.5	19.5	
									T(CG)	GRD			NO		9.3	9.3	
CGC	U934	KK	16	150/139	H	59	5T(DD9A)		T(CGC)	GRD			0		26.5	25	
CH	U254		37	108/108	H	47			T(CH)	GRD			0		17.5	16.5	
CH'	U234		37	160/108	H	47			T(CH')	GRD			0		19	18	
CH1, CH2, CH4, CH5	U1307		38	215/215	H	47			T REL TST	GRD			0		22	20.5	
CHP	U136		39	112/109	H	29			T(CHP)	GRD			0		17.5	16.5	
CHPE	U254		39	108/108	H	47			T(CHPE)	GRD			0		17.5	16.5	
CI	U588		10	119/119	H	35	(CI1) NO		T(CI)	GRD			0		13.7	13	
CI1	U64		10	113/113	H	29			T(CI1)	GRD	3		0		20.5	19.5	
CIA	U254	YV	37	108/108	H	47			T(C1A)	GRD			0		17.5	16.5	
CIA'	U234	YV	37	160/108	H	47			T(C1A')	GRD			0		19	18	

TEST NOTES:

1. PAR. COMB. OF (CB3A) AND CB3B).
2. REMOVE A-C POWER BY RELEASING (MAC) KEY BEFORE MAKING CONNECTION TO RELAY TERMINALS.
3. MAKE TROUBLE RECORDER BUSY.

ISSUE 102B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-F3

PRINTED IN U.S.A.

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.		MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
CIB	U254	YV	37		108/108	H	47			T(CIB)	GRD			0		17.5	16.5	
CIB'	U234	YV	37		160/108	H	47			T(CIB')	GRD			0		19	18	
CIC	U254	YW	37		108/108	H	47			T(CIC)	GRD			0		17.5	16.5	
CIC'	U234	YW	37		160/108	H	47			T(CIC')	GRD			0		19	18	
CIST	U64	YP,YP	40		113/113	H	29			T(CIST)	GRD			0		20.5	19.5	
CKE	U569		10		108/108	H	47			T(CKE)	GRD			0		26.5	25	
										T(CKE)	GRD			NO		13.6	14.4	
CKN	U735		10		132/132	H	47		B(CKN)		BAT.			0		17.5	16.5	
CKN1	U426		V		148/108	H	47	2B(R5)		T(CKN1)	GRD			0		19	18	
CKN2	U426		V		148/108	H	47		B(CKN2)	T(CKN2)	B/G			0		19	18	
CKL	U1073	AQ	11		161/163	H	59			T(CKL)	GRD			0		31.5	30	
CKS	U569		10		108/108	H	47			T(CKS)	GRD			0		26.5	25	
										T(CKS)	GRD			NO		13.6	14.4	
CL1	U103	BF	16		108/108	H	47			TF(CL1)	GRD			P 0		20	19	
														S 0		16.5		WDG ALONE
								1B(CLS)		TR(CL1)	GRD	1,2		S 0		105		
CL1	U712	8H, CY	16		118/145	H	50			TF(CL1)	GRD			P 0		23.5	22	
														S 0		19		WDG ALONE
								1B(CLS)		TR(CL1)	GRD	1,2		S 0		120		
CL1A	U226	R	16		139/139	H	59							0		49.5	47	WDG ALONE
								1B(CLS)		T(CL1A)	GRD	1		0		65	61	
CL1B	AJ15	DS	57		249			1B(CLS)		U(CL1B)	GRD			0		43	40.5	
CL1C	AJ12	DS	57		220					U(CL1C)	GRD			0		43	40.5	
CL2	U300	YP,YP	17		117/148	H	47			TF(CL2)	GRD			P 0		21	20	
		XD, VP,VR												S 0		17		WDG ALONE
										TR(CL2)	GRD	3		S 0		31.5		
CL2A	U1310	YP,YR	17		148/137	H	47							0		10.2	9.7	WDG ALONE
		XD, VP,VR								T(CL2A)	GRD	3		0		28.5	27	
CL3	U892	YC,YP	17		117/148	H	47			TF(CL3)	GRD			0		24.5	23	
		YR,UC								TR(CL3)	GRD			0		19		
		VP,VR																
		LU																
CL3A	U1312	YR,VR	40		103/150	H	50			T(CL3A)	GRD			0		11.9	11.3	
CL4	U103	YC,YR	17		108/108	H	47			TF(CL4)	GRD			P 0		20	19	
		UC, VR,LT								TR(CL4)	GRD			S 0		16.5		
CL5	U103	YC,UC			108/108	H	47			TF(CL5)	GRD			P 0		20	19	
		LU								TR(CL5)	GRD			S 0		16.5		
CL5A	U1414		V		202/161	H	71			T(CL5A)	GRD			0		39	37	
CL6	U103	YC,UC	17		108/108	H	47			TF(CL6)	GRD			P 0		20	19	
										TR(CL6)	GRD			S 0		16.5		
CL6	U712	RZ	17		118/145	H	50			TF(CL6)	GRD			P 0		23	22	
										TR(CL6)	GRD			S 0		19		
CL7	U102	JH	16		118/108	H	50			TF(CL7)	GRD			P 0		23	22	
										TR(CL7)	GRD			S 0		19	18	
CL8	U102	ZXI	16		118/108	H	50			TF(CL8)	GRD			P 0		23	22	
										TR(CL8)	GRD			S 0		19	18	
CL8	AJ521 OR AJ524	ZXJ	16		268					IU(CL8)	GRD			P 0		49.5	47	
										2U(CL8)	GRD			S 0		52	49.5	
CL8	AF33		59		208					U(CL8W)	GRD			0		32.3	30.2	
CL8	U43	BE	17		50/150	H	33			T(CL8)	GRD			0		25	23.2	
CL18	AJ15	ZXT	16		249					U(CL18)	GRD			0		43	40.5	
CLS	U432	R	16		126/126	H	59					4		0		42	40	WDG ALONE
										T(CLS)	GRD	4,5		0		95	90	
CLSA	U226	R	16		139/139	H	59							0		49.5	47	WDG ALONE
										T(CLSA)	GRD	5		0		110	105	

TEST NOTES:

1. PAR. COMB. OF (CL1) & (CL1A).
2. WHEN (CL1A) IS NOT FURNISHED USE WDG ALONE VALUE.
3. PAR. COMB. OF (CL2) & (CL2A).
4. SPRINGS 1T AND 1B SHALL HAVE MIN 40 GRAMS TENSION.
5. PAR. COMB. OF (CLS) & (CLSA).

DRAWING ISSUE

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25680-01-F4

22

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.		MECH REQT BSP FIG	MECH REQT CONT PRES	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
CMS	U234		2		160/108	H	47			T(CMS)	GRD			0		19	18	
CN	U1113	XL,WY, WZ	11		114/114	H	50							0		22.5	21	WDG ALONE
										T(CN)	GRD	1,2		0		50	47	
CNA	U611	WG	26		139/139	H	59							0		30	28.5	WDG ALONE
										T(CNA)	GRD	1		0		67	63.5	
CNB	U351	ZZK	11		118/145	H	50			T(CNB)	GRD			0		20.5	19.5	
CNC	U1113	ZZK	11		114/114	H	50			T(CNC)	GRD			0		22.5	21	
CNK	U1324	XL,WY, WZ	11		163/163	H	59	11T(CNK)		T(CNK)	GRD			0		23	21.5	
CNX1	F127	J	11		173/164	H	47			T(CNK1)	GRD			0	FS	10	10	
										T(CNK1)	GRD			H	FS	1.7	1.6	
										T(CNK1)	GRD			R	FS	0.8	1	
CNR	U1113	XL,WY, WZ	11		114/114	H	50	1B(CNTT)		T(CNR)	GRD			0		22.5	21	
CNTT	U218	H	11		120/110	H	35			T(CNTT)	GRD			0		6.8	6.4	
COF	U457	YP,YP	40		118/148	H	50			T(COF)	GRD			0		14.2	13.5	
CON	U144		37		113/113	H	29			T(CON)	GRD			0		22	20.5	
CON1	U1343	UQ	36		117/134	H	47			T(CON1)	GRD			0		19	18	
CON1	U1407	UR	36		117/109	H	47			T(CON1)	GRD			0		18	17	
COS	U65	YP,YP	1		113/113	H	29			T(COS)	GRD			0		20	19.5	
COS1	U81	YR,YR	9		113/113	H	29			T(COS1)	GRD			0		22	20.5	
COS2	U81	YR,YR	9		113/113	H	29			T(COS2)	GRD			0		22	20.5	
CPO	AF12		69		20					1U(CPO)	GRD		P	0		19.5	18.5	
										2U(CPO)	GRD		S	0		11.7		
CPOA	AJ12	ZXY	69		220					U(CPOA)	GRD			0		43.5	30	
CPTI	AJ12	DI	56		220					U(CPTI)	GRD			0		43	40.5	
CR	U1248	CR,DR ZZM	11		111/101	H	29			T(CR)	GRD			0		8.1	7.7	
CR0, CR1, CR2, CR4, CR7	U520	Z	16		110/110	H	35			T RFL TST	GRD			0		13.6	12.9	
CRA	U580	GC	11		132/132	H	47			T(CRA)	GRD			0		17.5	16.5	
CRB	U1317	GC	11		117/148	H	47			T(CRB)	GRD			0		19	18	
CRBA	AJ15		66		249					U(CRBA)	GRD			0		43	40.5	
CRX	239GG OR 280AN	XL,YA VB	11		A			1B(CRK3) (CRK3)O	5T(DOR3) 5T(DOR3) 10B(RPS)	1B(CPK3) 1B(CRK3) 9T(CNR)	B/G B/G B/G		P NO S	0 -65 0	-65	2.7 0.C. 0.7	1.5 1.1	
CRX1	U485	XL,WY, WZ	11		177/156	H	59	3T(CRX1)		T(CRX1)	GRD			0		29.5	28	
CRX2	U485	XL,WY, WZ	11		177/156	H	59	1T(CRK2)		T(CRX2)	GRD			0		29.5	28	
CRX3	U592	XL,WY, WZ	11		145/102	H	53			T(CRX3)	GRD			0		11.1	12.4	
CRS	U4107	Z	16		126/126	H	59						3	0		42	40	WDG ALONE
								1B(AS)		T(CRS)	GRD	3,4		0		95	90	
CRSA	U226	Z	16		139/139	H	59							0		49.5	47	WDG ALONE
								1B(AS)		T(CRSA)	GRD	4		0		110	105	

TEST NOTES:

1. PAR. COMB. OF (CN) & (CNA).
2. USE WDG ALONE VALUE IF (CNA), "WG" OPTION IS NOT FURNISHED.
3. SPRINGS 1T AND 1B SHALL HAVE MIN 40 GRAMS TENSION.
4. PAR. COMB. OF (CRS) & (CRSA).

DRAWING ISSUE

ISSUE 104B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25680-01-F4

CIRCUIT REQUIREMENTS

DRAWING ISSUE

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
CRT1	U542	XmY mZ	11	108/132	H	47	5T(CRT1)	T(CRT1)		BAT.	1,2		0		8.6	8.1	SEE TMG REQT
CRT2	U542	Xm Y mZ	11	108/132	H	47	5T(CRT2)	T(CRT2)		BAT.	2,3		0		8.6	8.1	SEE TMG REQT
	U199	mZ	11	121/121	H	50	5T(CRT2)	T(CRT2)		BAT.	2,3		0		11	10.4	SEE TMG REQT
CRT3	U1244	X mY mZ	11	110/101	H	35	4T(CRT3)	T(CRT3)		BAT.	2,4		0		6.7	6.3	SEE TMG TEQT
CS	U4107		16	126/126	H	59					5		0		42	40	WDG ALONE
							1B(DS)		T(CS)	GRD	5,6		0		95	90	
CSA	U226		16	139/139	H	59							0		49.5	47	WDG ALONE
							1B(DS)		T(CSA)	GRD	6		0		110	105	
CSP	U740		Q	145/145	H	47			T(CSP)	GRD			0		20.5	19.5	
	U1051		R	117/148	H	47			T(CSP)	GRD			0		32.5	30.5	
CST	U254		37	108/108	H	47			T(CST)	GRD			0		17.5	16.5	
CST'	U234		37	160/108	H	47			T(CST')	GRD			0		19	18	
CT	U254		37	108/108	H	47			T(CT)	GRD			0		17.5	16.5	
CT'	U234		37	160/108	H	47			T(CT')	GRD			0		19	18	
CT1, CT2, CT4, CT5	U1307		38	215/215	H	47			T REL TST	GRD			0		22	20.5	
CTA0, 1,2,4,7	EA27	GD	28	4/4	H	SPL			2T REL TST	GRD			NO		13.3	14	
CTAB	U639	XU,VC	11	161/195	H	53			T(CTAB)	GRD			0		34	32	
CTC	209FF	ZWV	26							B/G	7,8		0		13.5	12.8	SEE TMG REQT
										B/G			NO		6	6.4	
CTC	316G	Z,X	26	3								P	0		4.5		SEE BSP
													R		-4.5		
												S	0		.8		
													R		-.8		
CTH	U254		37	108/108	H	47			T(CTH)	GRD			0		17.5	16.5	
CTH'	U234		37	160/108	H	47			T(CTH')	GRD			0		19	18	
CTH1, 2,4,8	U1307		38	215/215	H	47			T REL TST	GRD			0		22	20.5	
CTR0	U81	YV	39	113/113	H	29			T(CTR0)	GRD	9		0		22	20.5	WDG ALONE
									T(CTR0)	GRD	10,11		0		48.5	45.5	
CTR1	U1301	YW	39	123/123	H	29			T(CTR1)	GRD	9		0		14.1	13.4	WDG ALONE
									T(CTR1)	GRD	10,11		0		31.5	30	
CTR2, CTR3	U238	YX YY	39	117/145	H	47			T REL TST	GRD			0		19.5	18.5	
CTR4	U81	YX	39	113/113	H	29							0		22	20.5	WDG ALONE
									T(CTR4)	GRD	12		0		48.5	45.5	
CTR5	U81		39	113/113	H	29							0		22	20.5	WDG ALONE
									T(CTR5)	GRD	13		0		48.5	45.5	
CTR6	U81	YY	39	113/113	H	29							0		22	20.5	WDG ALONE
									T(CTR6)	GRD	14		0		48.5	45.5	
CTR7	U81	YX	39	113/113	H	29							0		22	20.5	WDG ALONE
									T(CTR7)	GRD	12		0		48.5	45.5	
CTR8	U81		39	113/113	H	29							0		22	20.5	WDG ALONE
									T(CTR8)	GRD	13		0		48.5	45.5	

TEST NOTES:

1. REMOVE (CRT1) TUBE.
2. OPERATE (CNR) RELAY.
3. REMOVE (CRT2) TUBE.
4. REMOVE (CRT3) TUBE.
5. SPRINGS 1T AND 1B SHALL HAVE MIN 40 GRAMS TENSION.
6. PAR. COMB. OF (CS) AND (CSA).
7. CONTACT SEPARATION MIN 3 MAX 4.
8. USE THE 209 TYPE RELAY TEST CKT WHEN MAKING ADJUSTMENTS ON THIS RELAY
9. FOR USE WHEN (3DGS) IS PROVIDED.
10. FOR USE WHEN (3DGS) IS NOT PROVIDED AND (CTR1) IS PROVIDED.
11. PAR. COMB. OF (CTR0) AND (CTH1).
12. PAR. COMB. OF (CTR4) AND (CTR7).
13. PAR. COMB. OF (CTR5) AND (CTR8).
14. PAR. COMB. OF (CTR6) AND (CTR9).

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

SD-25680-01-F5

22

CIRCUIT REQUIREMENTS

DRAWING ISSUE 620 680 692

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.	MECH REQT BSP FIG	MECH REQT CONT PRES	MECH REQT ARM TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
CTR9	U81	YY	39	113/113	H	29			T(CTR9)	GRD	1		0		48.5	45.5	
													0		22	20.5	WDG ALONE
CTT	U520		9	110/110	H	35			T(CTT)	GRD			0		13.6	12.9	
CU	U254		37	108/108	H	47			T(CU)	GRD			0		17.5	16.5	
CU'	U79		37	149/149	H	47			T(CU')	GRD			0		22	20.5	
CU1, CU2, CU4, CU5	U1307		38	215/215	H	47			T REL TST	GRD			0		22	20.5	
CUA0, 1,2,4,7	EA27	GD	28	4/4	H	SPL			2T REL TST	GRD			NO		13.3	14	
CW	U6010		37	142/132	H	53							0		90	85	WDG ALONE
							1T(CW), 2B(CZ)		T(CW)	GRD	2		0		140	130	
CXI	U1113	XE	9	114/114	H	50			T(CXI)	GRD	3		0		22.5	21	WDG ALONE
									T(CXI)	GRD	4		0		50	47	
CXO	U68	XV	17	139/121	H	59			T(CXO)	GRD			0		27.5	26	
CZ	U6011		37	121/132	H	50									47	44.5	WDG ALONE
							1T(CW), 2B(CZ)		T(CZ)	GRD	2		0		155	145	
D	U67		20	145/108	H	47			T(D)	GRD			0		18	17	
D0, D1, D2, D4, D7	U520		16	110/110	H	35			T REL TST	GRD			0		13.6	12.9	
DA	U497		26	132/106	H	47							0		24	22.5	WDG ALONE
							3T(DA1), (DA1)NO		T(DA)	GRD	5		0		47	44.5	
DA1	U219		26	108/108	H	47							0		18.3	17.5	WDG ALONE
							(DA)O		T(DA1)	GRD	5		0		44.5	42	
DAR	U102	SX	16	118/108	H	50			TF(DAR)	GRD		P	0		23.5	22	
												S					NO ADJ REQT
DAT	AF8		51	200					1U(DAT)	GRD		P	0		19.5	18.5	
									2U(DAT)	GRD		S	0		11.7		
DB	U67		33	45/108	H	47			T(DB)	GRD			0		18	17	
DBR	U102	SW	16	118/108	H	50			TF(DBR)	GRD		P	0		23.5	22	
												S					NO ADJ REQT
DCK	U460		20	108/108	H	47			T(DCK)	GRD			0		11.2	10.6	
DCR	U102	Z	16	118/108	H	50			TF(DCR)	GRD		P			23.5	22	
												S					NO ADJ REQT
DD8	U1205	JV	16	120/120	H	35			T(DD8)	GRD			0		24.5	23	
DD8A	U506	JV	16	148/148	H	47			T(DD8A)	GRD			0		34.5	32.5	

TEST NOTES:

1. PAR. COMB. OF (CTR6) AND (CTR9).
2. PAR. COMB. OF (CW) AND (CZ).
3. FOR USE WHERE (PCTA) IS NOT PROVIDED.
4. PAR. COMB. OF (CXI) AND SECONDARY (PCTA), "NJ" OPTION.
5. PAR. COMB. OF (DA) AND (DA1).

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-F5

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

CIRCUIT REQUIREMENTS

DRAWING ISSUE

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
DD9	U1205	KK	16	120/120	H	35			T(DD9)	GRD			0		24.5	23	
DD9A	U1205	KK	16	120/120	H	35			T(DD9A)	GRD			0		24.5	23	
DIR	U65	YAUA	1	113/113	H	29			T(DIR)	GRD			0		20.5	19.5	
DIR1	U81	YAUA	9	113/113	H	29			T(DIR1)	GRD			0		22	20.5	
DIR2	U81	YAUA	9	113/113	H	29	5B(DIR2)		T(DIR2)	GRD			0		22	20.5	
DISC	U520		17	110/110	H	35			T(DISC)	GRD			0		13.6	12.9	
DL	U220		10	120/108	H	47	5B(DL)		T(DL)	GRD			0		19	18	
DL1, DL2, DL3, DL4, DL5, DL6, DL7	U102	Y, X, W, V, U, T, AS	16	118/108	H	50			TF REL, TR TST	GRD		P, S	0		23.5, 19	22	PRI WDG ONLY
DLP	U934	YAUA	20	150/139	H	59			T(DLP)	GRD			0		29.5	28	
DLP1	U1222	YAUA	20	110/144	H	35			T(DLP1)	GRD			0		7.4	7	
DOC	U300	YV	37	117/148	H	47			TF(DOC)	GRD		P	0		21	20	
									TR(DOC)	GRD		S	0		7		
DON	U57		15	112/112	H	29			T(DON)	GRD			0		20	19	
DOR	U891		1	113/127	H	47			TF(DOR)	GRD		P	0		25.5	24	
									TR(DOR)	GRD		S	0		20.5		
DOR1, DOR2	U81		9	113/113	H	29	5B(DOR2)		T REL, TST	GRD			0		22	20.5	
DOR3	U236		11	112/112	H	29			T(DOR3)	GRD			0		9.1	8.6	
DOR4	AJ15		61	249			1M(DOR4)		U(DOR4)	GRD			0		43	40.5	
DOS	U65	YC,UC	1	113/113	H	29			T(DOS)	GRD			0		20.5	19.5	
DOS1	U81	YC,UC	9	113/113	H	29			T(DOS1)	GRD			0		22	20.5	
DOS2	U81	YC,UC	9	113/113	H	29			T(DOS2)	GRD			0		22	20.5	
DP, DP1	U115		26	113/113	H	29	2T(SY1)		T REL, TST	GRD	1		0		10.4, 23.5	9.9, 22	WDG ALONE
DP2	AJ15	ZVE	60	249					U(DP2)	GRD			0		43	40.5	
DPA	AJ12		73	220					U(DPA)	GRD			0		43.0	40.5	
DPM	U735	SR	13	132/132	H	47			T(DPM)	GRD			0		17.5	16.5	
DPM	U1375	SC	13	108/108	H	47			T(DPM)	GRD			0		17.5	16.5	
DPM1	Y303	SC	13	224/188	H	41			TF(DPM1)	GRD	2	P	0	FS	80	74	
									TF(DPM1)	GRD	2	P	H	FS	8.9	8.4	
									TF(DPM1)	GRD	2	P	R	FS	6.4	6.8	
DPST	U834	YC,UC	17	109/123	H	29			T(DPST)	GRD			0		21	20	
DPT	AJ12		53	220					U(DPT)	GRD			0		43.0	40.5	
DR	U236	YAUA	20	112/112	H	29			T(DR)	GRD			0		9.1	8.6	
DS	UA107		16	126/126	H	59	1T(DS)		T(DS)	GRD	3		0		42	46	WDG ALONE
											3,4		0		95	90	
DSA	U226		16	139/139	H	59	1T(DS)		T(DSA)	GRD	4		0		49.5	47	WDG ALONE
													0		110	105	

TEST NOTES:

1. PAR. COMB. OF (DP) & (DP1).
2. SHORT CKT SECONDARY WDG.
3. SPRINGS 1T AND 1B SHALL HAVE MIN 40 GRAMS TENSION.
4. PAR. COMB. OF (DS) & (DSA).

BELL TELEPHONE LABORATORIES INCORPORATED

PRINTED IN U.S.A.

SD-25680-01-F6

CIRCUIT REQUIREMENTS

DRAWING ISSUE 62D, 68D, 69A, 70D, 72A, 74D, 81D, 89D

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
DSC	U333		40	150/150	H	50			T(DSC)	GRD			0		15.5	14.4	
DSM	U293		13	132/110	H	47			T(DSM)	GRD			0		17.5	16.5	
DSP	239GR OR 280A	YR,VS YT	34	A				(DSP)JK-T	(DSP)JK-R	B/G		P	0	-65	3	1.5	SEE TMG REQT
								(DSP)JK-T	(DSP)JK-R	B/G		P	NO	-65	0.C.	1.1	
								(DSP)JK-R	(DSP)JK-S	B/G		S	0		0.4		
DSS	U158		26	132/111	H	47			T(DSS)	GRD			0		7.9	7.5	
DT	U722		14	148/145	H	47			T(DT)	GRD			0		22.5	21	
DT1, DT2	U542		14	108/132	H	47		T REL, TST		BAT.			0		8.6	8.1	SEE TMG REQT
DT3	U141		14	132/132	H	47			T(TD3)	GRD			0		18.5	17.5	
DT4	U254	EA	14	108/108	H	47			T(DT4)	GRD			0		17.5	16.5	
DTF	AF9	IH	20	213					U(DTF)	GRD			0		8.6	8.2	
DTI	AF8		51	200					1U(DTI)	GRD		P	0		19.5	18.5	
									2U(DTI)	GRD		S	0		11.7		
DTT	U115	EZ	20	113/113	H	29			T(DTT)	GRD			0		10.4	9.9	
E0, E1, E2, E4, E7	U520	ZK	16	110/110	H	35			T REL, TST	GRD			0		13.6	12.9	
EMP	L23		1	3					2RT(EMP)	GRD			0		34.5	32.5	
									2RT(EMP)	GRD			NO		27.5	29	
EOD	AJ15		70	249			8(EOD)		1U(EOD)	GRD			0		43	40.5	
EODA	AJ12	ZYC	70	220					U(EODA)	GRD			0		43	40.5	
EPS	U275		74	180/149	H	47			T(ESP)	GRD			0		10	9.5	
ES	UA107	ZK	16	126/126	H	59					1		0		42	40	WDG ALONE
							1T(ES)		T(ES)	GRD	1,2		0		95	90	
ESA	U226	ZK	16	139/139	H	59							0		49.5	47	WDG ALONE
							1T(ES)		T(ESA)	GRD	2		0		110	105	
F0, F1, F2, F4, F7	U520	ZM	16	110/110	H	35			T REL, TST	GRD			0		13.6	12.9	
FAC	1/2AK225	3,65		216					1L(FAC)	GRD			0		27.5	26	MOUNTED WITH(ORT)
FAK	EA3, EA27	QK, QL	27	4/4	H	SPL			2T(FAK)	GRD	3		0		21	20	
									2T(FAK)	GRD	3		NO		13.3	14	
FAS	U109	YP,VP	40	107/107	H	50			T(FAS)	GRD			0		16	14.9	
FB0, FB1, FB2, FB3, FB4	U1301		35	123/123	H	29			T REL, TST	GRD			0		14.1	13.4	
FBK	EA3, EA27	QK, QL	27	4/4	H	SPL			2T(FBK)	GRD	3		0		21	20	
									2T(FBK)	GRD	3		NO		13.3	14	
FBS	UA107		35	126/126	H	59					1		0		42	40	WDG ALONE
							1B(FTS)		T(FBS)	GRD	1,4		0		95	90	
FBS1	U226		35	139/139	H	59							0		49.5	47	WDG ALONE
							1B(FTS)		T(FBS1)	GRD	4		0		110	105	

TEST NOTES:

1. SPRINGS 1T AND 1B SHALL HAVE MIN 40 GRAMS TENSION.
2. PAR. COMB. OF (ES) & (ESA).
3. CONT SEPARATION MIN 10, MIN TENSION 3T AND 3B, 6 GRAMS READJ, 5 GRAMS TEST, EA3 ARM. TRVL 35. FOR EA27 NO ARM. TRVL REQ.
4. PAR. COMB. OF (FBS) & FBS1).

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST FRAME (2)

BELL TELEPHONE LABORATORIES INCORPORATED

TIME SIZE 6S

SD-25680-01-F6

PRINTED IN U.S.A.

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	DIRECT CURRENT FLOW REQT TEST FOR	DIRECT CURRENT FLOW REQT AFTER SOAK MA	DIRECT CURRENT FLOW REQT TEST MA	DIRECT CURRENT FLOW REQT READJ MA	REMARKS
FD	U422		26	132/101	H	47			T(FD)	GRD			0		14.4	13.7	
FD1	U1149	LX	26	109/148	H	47			T(FD1)	GRD			0		17	16	
FD1	U341	LY	26	172/149	H	47			T(FD1)	GRD			0		21	20	
FD2	U351		11	118/145	H	50			T(FD2)	GRD			0		20.5	19.5	
FD3	U559		21	147/130	H	44	1B(FD3)		T(FD3)	GRD			0		20.5	19.5	
FD4	U844		21	118/118	H	50			T(FD4)	GRD			0		26.5	25	
FD5	U422		21	132/101	H	47			T(FD5)	GRD			0		14.4	13.7	
FD6	U421		21	110/110	H	35			T(FD6)	GRD			0		13	12.3	
FDA	U177		18	139/139	H	59			T(FDA)	GRD	1/2		0		19 42	18 40	WDG ALONE
FDB	U177	P	18	139/139	H	59			T(FDB)	GRD	2		0 0		19 42	18 40	WDG ALONE
FGO, FG1	EA3, EA27	K QM	27	4/4	H	SPL			2T REL 2T TST	GRD GRD	3 3		0 NO		21 13.3	20 14	
FG2	EA3, EA27	NY NZ	27	4/4	H	SPL			2T REL 2T TST	GRD GRD	3 3		0 NO		21 13.3	20 14	
FKP	U141	TG	21	132/132	H	47			T(FKP)	GRD			0		18.5	17.5	
FLB	U1342		33	126/126	H	59	1B(FLT)		T(FLB)	GRD			0		30.5	29	
FLBA	U98		33	118/118	H	50			T(FLBA)	GRD			0		23.5	22	
FLT	U1342		33	126/126	H	59	1B(FLU)		T(FLT)	GRD			0		30.5	29	
FLTO, FLT1, FLT2, FLT3, FLT4	U1301		35	123/123	H	29			T REL TST	GRD			0		14.1	13.4	
FLT5	U420		35	108/132	H	47			T(FLT5)	GRD			0		17	16	
FLTA	U98		33	118/118	H	50			T(FLTA)	GRD			0		23.5	22	
FLU	U1342		33	126/126	H	59	1B(RVB)		T(FLU)	GRD			0		30.5	29	
FLUO, FLU1, FLU2, FLU3, FLU4	U1301		35	123/123	H	29			T REL TST	GRD			0		14.1	13.4	
FLU5	U420		35	108/132	H	47			T(FLU5)	GRD			0		17	16	
FLUA	U98		33	118/118	H	50			T(FLUA)	GRD			0		23.5	22	
FMF	U539 U1323		21	118/108	H	50			T(FMF)	GRD			0		13	12.3	
FNO	209FF	ZWY	40								4/5		0		13.5	12.8	
											4/5		NO		6	6.4	
FNO	316G	ZWZ	40	3								P	0		4.5		SEE BSP
													R		-4.5		
												S	0		0.8		
													R		-0.8		
FO'	208C		33	1									0		12.5	12	WDG ALONE
													N.		10.5	11	
									1(SO)	GRD	6		0		25	24	
													NO		21	22	

TEST NOTES:

1. USE WINDING ALONE CURRENT FLOW VALUE IF (FD8) IS NOT FURNISHED.
2. PAR. COMB. OF (FDA) & (FDB).
3. CONT SEPARATION MIN TENSION 3T AND 3B, 6 GRAMS READJ, 5 GRAMS TEST. EA3 ARM. TRVL 35. FOR EA27 NO ARM. TRVL REQD.
4. USE THE 209 TYPE RELAY TEST CKT WHEN MAKING ADJUSTMENTS ON THIS RELAY.
5. CONTACT SEPARATION MIN 3, MAX 4. SEE TMG REQT.
6. PAR. COMB. OF (BO') & (FO').

DRAWING ISSUE

BELL TELEPHONE LABORATORIES INCORPORATED

PRINTED IN U.S.A.

SD-25680-01-F7

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	DIRECT CURRENT FLOW REQT TEST FOR	DIRECT CURRENT FLOW REQT AFTER SOAK MA	DIRECT CURRENT FLOW REQT TEST MA	DIRECT CURRENT FLOW REQT READJ MA	REMARKS
F01	U1363		33	112/134	H	35			T(F01)	GRD			0		21	20	
F02	U380		33	306/300	H	71	4T(F02)		T(F02)	GRD			0		63	60	
FOT	U113		33	132/101	H	47		T(FOT)		BAT.			0		7.4	7	SEE TMG REQT
FPT	U1149		11	109/148	H	47			T(FPT)	GRD			0		17	16	
FRP	U309	NB	33	111/187	H	29			T(FRP)	GRD			0		6.7	6.3	
FS	UA107	ZM	16	126/126	H	59					1		0		42	40	WDG ALONE
							1T(FS)		T(FS)	GRD	1,2		0		95	90	
FSO- 19	EA3, EA27	QN QO	31	4/4	H	SPL			2T REL 2T TST	GRD GRD	3 3		0 NO		21 13.3	20 14	
FS20- 29	EA3, EA27	NT NU	31	4/4	H	SPL			2T REL 2T TST	GRD GRD	3 3		0 NO		21 13.3	20 14	
FSA	U226	ZM	16	139/139	H	59					1		0		49.5	47	WDG ALONE
							1T(FS)		T(FSA)	GRD	2		0		110	105	
FSG1	U65		27	113/113	H	29							0		20.5	19.5	WDG ALONE
									T(FSG1)	GRD	4,5,6		0		45.5	43	
									T(FSG1)	GRD	7		0		75	70	
FSG2	U65	K,QM	27	113/113	H	29							0		20.5	19.5	WDG ALONE
									T(FSG2)	GRD	5,6		0		45.5	43	
									T(FSG2)	GRD	7		0		75	70	
FSG3	U65	NX	27	113/113	H	29							0		20.5	19.5	WDG ALONE
									T(FSG3)		7		0		75	70	
FTO, FT1	EA3, EA27	QP QQ	28	4/4	H	SPL			2T REL 2T TST	GRD GRD	3 3		0 NO		21 13.3	20 14	
FT2, FT3	EA3, EA27	ZC QR	28	4/4	H	SPL			2T REL 2T TST	GRD GRD	3 3		0 NO		21 13.3	20 14	
FTP	S516,		33	2				RB1(FTP)		BAT.			0		6.2	5.9	CONN GRD TO
FTP	S522	NB		2				RB1(FTP)		BAT.			R		3.5	3.7	2 RT(FTP)
FTR	U180	YR,VR	40	132/111	H	47			T(FTR)	GRD			0		16.5	15.5	
FTS	UA107		35	126/126	H	59					1		0		42	40	WDG ALONE
							1B(FUS)		T(FTS)	GRD	1,8		0		95	90	
FTS1	U226		35	139/139	H	59							0		49.5	47	WDG ALONE
							1B(FUS)		T(FTS1)	GRD	8		0		110	105	
FUO, FU1, FU2, FU4, FU7	EA3, EA27	QP QQ	28	4/4	H	SPL			2T REL 2T TST	GRD GRD	3 3		0 NO		21 13.3	20 14	
FUS	UA107		35	126/126	H	59					1		0		42	40	WDG ALONE
							1B(IAS)		T(FUS)	GRD	1/9		0		95	90	
FUS1	U226		35	139/139	H	59							0		49.5	47	WDG ALONE
							1B(IAS)		T(FUS1)	GRD	9				110	105	
FVD	U386		50	148/148	H	47			T(FVD)	GRD			0		10.1	9.6	

TEST NOTES:

1. SPRINGS 1T AND 1B SHALL HAVE MIN 40 GRAMS TENSION.
2. PAR. COMB. OF (FS) & (FSA).
3. CONT SEPARATION MIN 10, MIN TENSION 3T & 3B, 6 GRAMS READJ, 5 GRAMS TEST. EA3 ARM. TRVL 35. FOR EA27 NO ARM. TRVL REQD.
4. USE VALUES FOR WDG ALONE WHEN (FSG2) IS NOT FURNISHED.
5. PAR. COMB. OF (FSG1) & (FSG2).
6. FOR USE WHERE (FSG2) IS PROVIDED AND (FSG3) IS NOT PROVIDED.
7. PAR. COMB. OF (FSG1),(FSG2) & (FSG3). FOR USE WHERE (FSG3) IS PROVIDED.
8. PAR. COMB. OF (FTS) & (FTS1).
9. PAR. COMB. OF (FUS) & FUS1).

DRAWING ISSUE

52D 1/8 REL DWG AND CM 45A AND

68D

ISSUE 98B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-F7

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

PRINTED IN U.S.A.

CIRCUIT REQUIREMENTS

DRAWING ISSUE

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	DIRECT CURRENT FLOW REQT TEST FOR	DIRECT CURRENT FLOW REQT AFTER SOAK MA	DIRECT CURRENT FLOW REQT TEST MA	DIRECT CURRENT FLOW REQT READJ MA	REMARKS
G	S531		36	2		10			RB1(G)	GRD	1		0		3.4	3.2	SEE TMG REQT
									RB1(G)	GRD			NO		2.6	2.8	
									RB1(G)	GRD	2,3		0		6.3	6	SEE TMG REQT
									RB1(G)	GRD			NO		4.7	5	
G0, G1, G2, G4, G7	U520	ZQ	16	110/110	H	35			T REL TST	GRD			0		13.6	*2.9	
GA	U460		21	108/108	H	47	5T(GA)		T(GA)	GRD			0		11.2	10.6	
GR	263D	PF	19										0		68	64.5	EACH COIL
									T TOP COIL	GRD			0		68	64.5	TWO COILS IN SERIES
GR	287A	PG	19										0		80	75	EACH COIL
	287E	KG							T TOP COIL	GRD			0		175	165	TWO COILS IN PARALLEL
GS	UA107	ZQ	16	126/126	H	59					4		0		42	40	WDG ALONE
							1T(GS)		T(GS)	GRD	4,5		0		95	90	
GSA	U226	ZQ	16	139/139	H	59							0		49.5	47	WDG ALONE
							1T(GS)		T(GSA)	GRD	5		0		110	105	
GT	239GG	XN	11	A			1B(SGN)	7T(DOR3)	1B(SCN)	B/G	6	P	0	-65	2.7	1.5	
	OR							7T(DOR3)	1B(SCN)	B/G	6	P	NO	-65	O.C.	1.1	
	280AN	VC					3T(CNR)	3T(CNK)	4B(GTO)	B/G	6	S	0		0.7		
GTA	S509	H	11	3		10		5B(GTNO)		BAT.			0		25.5	24	
								5B(GTNO)		BAT.			NO		20	21.5	
GTNO	U219	XN,VC	11	108/108	H	47			T(GTNO)	GRD			0		18.5	17.5	
GTO	U351	XN,VC	11	118/145	H	50			T(GTO)	GRD			0		20.5	19.5	
GTT	U143	XN,VC	11	108/110	H	47	(CN)O	T(GTT)		BAT.	7		0		8.8	8.3	SEE TMG REQT
H0, H1, H2, H4, H7	U520	ZQ	16	110/110	H	35			T REL TST	GRD			0		13.6	12.9	
HF	1/2 AK4		48	202					1U(HF)	GRD			0		11.9	11.3	MTD WITH (LF)
HF	1/2 AK6		48	2					1LOR REL	GRD	8		0		29	27.5	
(1-4)									1U TST								
HFO	AF9	ZVC	16	213					U(HFO)	GRD			0		8.7	8.2	
HG0	EA3,	QP	28	4/4	H	SPL			2T REL	GRD	9		0		21	20	
HG1,	EA27	QQ							2T TST	GRD	9		NO		13.3	14	
HG2, HG4, HG7																	
HLV	1/2 AK6		46	2					1U(HLV)	GRD			0		29	27.5	MTD WITH (LLV)
HPA	U1354	YP,VP	40	108/108	H	47			T(HPA)	GRD			0		31	29.5	
HS	UA107	ZQ	16	126/126	H	59					4		0		42	40	WDG ALONE
							1T(HS)		T(HS)	GRD	4,10		0		95	90	
HSA	U226	ZQ	16	139/139	H	59				GRD			0		49.5	47	WDG ALONE
							1T(HS)		T(HSA)	GRD	10		0		110	105	

TEST NOTES:

1. CKT ARRANGED FOR UNBALANCE PCI PULSING, FIG. O.
2. CKT ARRANGED FOR BALANCE PCI PULSING, FIG. R.
3. CONNECT 1000 OHM±1% SHUNT ACROSS WDG FOR TEST.
4. SPRINGS 1T AND 1B SHALL HAVE MIN 40 GRAMS TENSION.
5. PAR COMB. OF (GS) & (GSA).
6. WHEN USING CONTACT CLOSURE TEST SET INSULATE 2T(GTT).
7. REMOVE (GTT) TUBE.
8. (HF1) MTD WITH (HF2); (HF3) MTD WITH (HF4).
9. CONT SEPARATION MIN 10, MIN TENSION 3T & 3B, 6 GRAMS READJ, 5 GRAMS TEST, EA3 ARM. TRVL 35. FOR EA27 NO ARM TRVL REQD.
10. PAR. COMB. OF (HS) & (HSA).

BELL TELEPHONE LABORATORIES INCORPORATED

PRINTED IN U.S.A.

E-7443 (8-63)

SD-25680-01-F8

22

CIRCUIT REQUIREMENTS

DRAWING ISSUE 620 68D 81D

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	DIRECT CURRENT FLOW REQT TEST FOR	DIRECT CURRENT FLOW REQT AFTER SOAK MA	DIRECT CURRENT FLOW REQT TEST MA	DIRECT CURRENT FLOW REQT READJ MA	REMARKS
HT0, HT1, HT2, HT4, HT7	EA3,	QS	30	4/4	H	SPL			2T REL	GRD	1		0		21	20	
	EA27	QT							2T TST	GRD	1		NO		13.3	14	
IA	U1307	YR,VR	40	215/215	H	47			T(IA)	GRD			0		22	20.5	
IA1	U1396	YR,VR	40	127/114	H	50			T(IA1)	GRD			0		43.5	41	
IAA	U79	YR,VR	40	149/149	H	47			T(IAA)	GRD			0		22	20.5	
IAS	UA107		35	126/126	H	59	1B(TCS)		T(IAS)	GRD	2		0		42	40	
IAS1	U220		35	120/108	H	47			T(IAS1)	GRD			0		19	18	
IAT	U1310	YR,VR	40	148/137	H	47	6T(IAT) (ONS1)O	T(IAT)		BAT.			0		10.2	9.7	SEE TMG REQT
IB	U1342		33	126/126	H	59	1B(IG) 5B(IB)		T(IB)	GRD			0		30.5	29	
IB0, IB1, IB2, IB3, IB4	U1301		35	123/123	H	29			T REL TST	GRD			0		14.1	13.4	
IBA	U98		33	118/118	H	50			T(IBA)	GRD			0		23.5	22	
IBS	UA107		35	126/126	H	59					2		0		42	40	WDG ALONE
							1B(IGS), 5T(IB4)		T(IBS)	GRD	2,3		0		95	90	
IBS1	U226		35	139/139	H	59							0		49.5	47	WDG ALONE
							1B(IGS), 5T(IB4)		T(IBS1)	GRD	3		0		110	105	
ID	1/2AK6		72	2					1U(ID)	GRD			0		30.5	27.5	MTD WITH (IDA)
IDA	1/2AK6		72	2					1L(IDA)	GRD			0		30.5	27.5	MTD WITH (ID)
IDD	AJ15		69	249					U(IDD)	GRD			0		43	40.5	
IDD1	AJ95		69	63					U(IDD1)	GRD			0		13.9	13.2	
IDD2	AJ104		69	234					U(IDD2)	GRD			0		12.6	12	
IDD3	AJ12		69	220					U(IDD3)	GRD			0		43	40.5	
IFT	U199	YK,LK	33	121/121	H	50		T(IFT)		BAT.			0		11	10.4	SEE TMG REQT
IG	U1342		33	126/126	H	59	1B(FLB)		T(IG)	GRD			0		30.5	29	
IG0, IG1, IG2, IG3	U1301		35	123/123	H	29			T REL TST	GRD			0		14.1	13.4	
IGS	UA107	YU	35	108/132	H	47			T(IGS)	GRD			0		17	16	
IGA	U98		33	118/118	H	50			T(IGA)	GRD			0		23.5	22	
IGH	U500	YK,YL, UK,UL	20	118/121	H	50			T(IGH)	GRD			0		22.5	21	
IGS	UA107		35	126/126	H	59					2		0		42	40	WDG ALONE
							1B(FBS)		T(IGS)	GRD	2,4		0		95	90	
IGS1	U226		35	139/139	H	59					2		0		49.5	47	WDG ALONE
							1B(FBS)		T(IGS1)	GRD	2,4		0		110	105	
IO	U58	YR,VR	40	127/150	H	50			T(IO)	GRD			0		11.3	10.7	
IO1	U333	YR,VR	40	150/150	H	50			T(IO1)	GRD			0		15.5	14.4	
IO2	239FC	YR,VU	40	A				9B(IO)	2(IO2)	B/G		P	0	-65	3	1.5	SEE TMG REQT
	OR						4B(CL3A)	9B(IO)	2(IO2)	B/G		P	NO	-65	O.C.	1.1	
	280A	VV						4B(TK2)	9B(IO)	B/G		S	0		0.5		

TEST NOTES:

1. CONT SEPARATION MIN 10, MIN TENSION 3T & 3B, 6 GRAMS READJ, 5 GRAMS TEST. EA3 ARM. TRVL 35. FOR EA27 NO ARM. TRVL REQD.
2. SPRINGS 1T AND 1B SHALL HAVE MIN 40 GRAMS TENSION.
3. PAR COMB. OF (IBS) & (IBS1).
4. PAR COMB. OF (IGS) & (IGS1).

ISSUE 97D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-25680-01-F8

PRINTED IN U.S.A.

CIRCUIT REQUIREMENTS

DRAWING ISSUE

APPARATUS DESIG	CODE	OPT.	FIG.	MECH REQT BSP FIG.	CONT PRES	ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
IO3	U592	MVR	40	145/102	H	53			T(IO3)	GRD			0		13.1	12.4	
INC	U157	MA	20	108/132	H	47			T(INC)	GRD			0		8.6	8.1	
	U530	MBC	20	145/145	H	47			T(INC)	GRD			0		9.2	8.7	
INT, INT1	209FF	ZWV	26							B/G	1/2		0		13.5	12.8	
										B/G	2		NO		6	6.4	
INT, INT1	316G	ZWX	26	3								P	0		4.5		SEE BSP
													R		-4.5		
												S	0		0.8		
													R		-0.8		
IR	U179		2	117/145	H	47	3B(OS)		T(IR)	GRD			0		19.5	18.5	
IRAB	U51		20	107/155	H	50			T(IRAB)	GRD			0		17	16	
IRB	U234		13	160/108	H	47			T(IRB)	GRD			0		19	18	
IRBO	U261		3	132/111	H	47			TF(IRBO)	GRD		P	0		18	17	
							1T(IRBO)		TR(IRBO)	GRD		S	0		14.5		
IRS-	U261		4	132/111	H	47			TF REL	GRD		P	0		18	17	
									TR TST		3	S	0		14.5		
IRA-	U261		5	132/111	H	47			TF REL	GRD		P	0		18	17	
									TR TST	GRD	3	S	0		14.5		
IRD	U115	YAU	26	113/113	H	29	9T(IRD)		T(IRD)	GRD			0		10.4	9.9	
IRN	UB1		1	113/113	H	29			T(IRN)	GRD			0		22	20.5	
IRPO	UA107		3	126/126	H	59	2T(XM)	6(IRPO)		BAT.	4/5		0		42	40	
IRP-	UA107		4	126/126	H	59	2T(XM)	8 (IRP-) TST		BAT.	4/5		0		42	40	
IRP-	UA107		5	126/126	H	59	2T(XM)	6 (IRP-) TST		BAT.	4/5		0		42	40	
IRPS	U333		20	150/150	H	50			T(IRPS)	GRD			0		15.5	14.4	
IRST	U115		20	113/113	H	29			T(IRST)	GRD			0		10.4	9.9	
JO, 1,2,4,7	U520	ZS	16	110/110	H	35			T REL TST	GRD			0		13.6	12.9	
JS	UA107	ZS	16	126/126	H	59					6		0		42	40	WDG ALONE
							1T(JS)		T(JS)	GRD	6/7		0		95	90	
JSA	U226	ZS	16	139/13	H	59							0		49.5	47	WDG ALONE
							1T(JS)		T(JSA)	GRD	7		0		110	105	
KO, 1,2,4,7	U520	ZU	16	110/110	H	35			T REL TST	GRD			0		13.6	12.9	
KA	U543	LX	21	111/111	H	29			T(KA)	GRD			0		5.7	5.4	
KA	U1391	LY	21	123/123	H	29	(KAA)NO		T(KA)	GRD			0		14.3	13.6	
KAO, 1,2,4,7	U113		16	132/101	H	47			T REL TST	GRD			0		7.4	7	

TEST NOTES:

1. CONT SEPARATION MIN 3, MAX 4.
2. USE THE 209 TYPE RELAY TEST GKT WHEN MAKING ADJUSTMENTS ON THIS RELAY.
3. INSULATE 1T(IRB-) UNDER TST.
4. CONN DIRECT GRD TO T(IRP-) UNDER TST.
5. INSULATE 1T AND 3T OF (IRP-) FOR FIG. 5.
6. SPRINGS 1T AND 1B SHALL HAVE MIN 40 GRAMS TENSION.
7. PAR. COMB. OF (JS) AND (JSA).

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25680-01-F9

CIRCUIT REQUIREMENTS

DRAWING ISSUE

APPARATUS DESIG	CODE	OPT.	FIG.	MECH REQT BSP FIG	CONT PRES	ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
KAA	AF43		47	17					U(KAA)	GRD			0		49	46.5	
KARO, 1,2,4,7	U272	SX	16	120/111	H	35			TF REL	GRD		P	0		14.2	13.5	
							1B REL TST		TR TST	GRD		S	0		11.5		
KBO, 1,2,4	U113		16	132/101	H	47			T REL TST	GRD			0		7.4	7	
KB7	U113	AY	16	132/101	H	47			T(KB7)	GRD			0		7.4	7	
	U157	AZ	16	108/132	H	47			T(KB7)	GRD			0		8.6	8.1	
KBRO, 1,2,4,7	U272	SW	16	120/111	H	35			TF REL	GRD		P	0		14.2	13.5	
							1B REL TST		TR TST	GRD		S	0		11.5		
KCO, 1,2,4,7	U113		16	132/101	H	47			T REL TST	GRD			0		7.4	7	
KCDO, 1,2,4, 7,10,15	1/2AK23		55	3					1L REL OR 1U TST	GRD			0		7.6	7.4	(KCD0) MTD WITH (KCD11),(KCD2) MTD WITH (KCD4),(KCD7) MTD WITH (KCD10), (KCD15) MTD WITH (KCD15)
KCDA0, 1,2,4	1/2AK23		55	3					1L REL OR 1U TST	GRD			0		7.8	7.6	(KCDA0) MTD WITH (KCDA1),(KCDA2) MTD WITH (KCDA4);
KCDA7	1/2AK10		55	7					1U(KCDA7)	GRD			0		7.8	7.6	(KCDA7) K/D WITH (KCDA7)
KCDP0, 1,2,4, 7,10,15	1/2AK23		55	3					1L AFL OR 1U TST				0		7.8	7.6	(KCDP0) MTD WITH (KCDP1),(KCDP2) MTD WITH (KCDP4) (KCDP7) MTD WITH (KCDP10),(KCDP15) MTD WITH (KCD15)
KCRO	AF30	CC	59	217									0		8.7	8.2	WDG ALONE
							1B(KRO)		U(KCRO)	GRD	1		0		24.5	23	
KCR1	AF30	CC	59	217									0		8.7	8.2	WDG ALONE
							1B(KR1)		U(KCR1)	GRD	1		0		24.5	23	
							1B(KR1)		U(KCR1)	GRD	2		0		36.5	32.5	
KCR2	AF30	CC	59	217									0		8.7	8.2	WDG ALONE
							1B(KR2)		U(KCR2)	GRD	1		0		24.5	23	
							1B(KR2)		U(KCR2)	GRD	2		0		36.5	32.5	
KCR4	AF30	CC	59	217									0		8.7	8.2	WDG ALONE
							1B(KR4)		U(KCR4)	GRD	1		0		24.5	23	
							1B(KR4)		U(KCR4)	GRD	2		0		36.5	32.5	
KDO, 1,2,4	U113		16	132/101	H	47			T REL TST	GRD			0		7.4	7	
KD7	U113	ZWP	16	132/101	H	47			T(KD7)	GRD			0		7.4	7	
KD7	U157	ZWQ	16	108/132	H	47			T(KD7)	GRD			0		8.6	8.1	
KEO, 1,2,4,7	U113	ZK	16	132/101	H	47			T REL TST	GRD			0		7.4	7	
KFO, 1,2,4,7	U113	ZM	16	132/101	H	47			T REL TST	GRD			0		7.4	7	
KGO, 1,2,4,7	U113	ZO	16	132/101	H	47			T REL TST	GRD			0		7.4	7	
KHO, 1,2,4,7	U113	ZO	16	132/101	H	47			T REL TST	GRD			0		7.4	7	
KH7	U113	KW	16	132/101	H	47			T(KH7)	GRD			0		7.4	7	
KH7	U157	KX	16	108/132	H	47			T(KH7)	GRD			0		8.6	8.1	
KJO, 1,2,4	U113	ZS	16	132/101	H	47			T REL TST	GRD			0		7.4	7	
KJ7	U113	ZXM	16	132/101	H	47			T(KJ7)	GRD			0		7.4	7	
KJ7	U157	ZXN	16	108/132	H	47			T(KJ7)	GRD			0		8.6	8.1	

TEST NOTES:

1. PARALLEL COMBINATION OF (KCR-) AND (KR-).
2. PARALLEL COMBINATION OF (KCR-),(KR-), AND (KR-A).

ISSUE 104B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-F9

BELL TELEPHONE LABORATORIES INCORPORATED

CIRCUIT REQUIREMENTS

DRAWING ISSUE

APPARATUS DESIG	CODE	OPT.	FIG.	MECH REQT BSP FIG.	CONT PRES	ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
KK0, KK1, KK2, KK4									T REL TST	GRD			0		7.4	7	
KK7	U113	ZXQ	16	132/101	H	47			T(KK7)	GRD			0		7.4	7	
KK7	U157	ZXP	16	108/132	H	47			T(KK7)	GRD			0		8.6	8.1	
KL0, KL1, KL2, KL4	U113	ZW	16	132/101	H	47			T REL TST	GRD			0		7.4	7	
KL7	U113	KY	16	132/101	H	47			T(KL7)	GRD			0		7.4	7	
KL7	U157	KZ	16	108/132	H	47			T(KL7)	GRD			0		8.6	8.1	
KMO, 1,2,4	1/2 AK23	ZXB	70	3				1U OR IL	REL TST	GRD			0		7.8	7.4	(KMO) MTD WITH (KM1), (KM2) MTD WITH(KM4)
KM7	1/2 AK15	ZXB	70	9					IL(KM7)	GRD			0		12.5	11.9	MTD WITH (M7)
KP, KPI	U1342	YB	18	126/126	H	59	1B(KPI) 1B(BP)		T REL TST	GRD			0		30.5	29	
KPF	U6089		21	111/101	H	29			T(KPF)	GRD			0		27	25.5	
KPS	U1283		21	114/118	H	50			T(KPS)	GRD			0		25	23.5	
KPS1	Y88		21	175/164	H	47			T(KPS1)	GRD			0	FS	10.1	9.6	
									T(KPS1)	GRD			H	FS	1	0.9	
									T(KPS1)	GRD			R	FS	0.5	0.6	
KR0	U272	Z	16	120/111	H	35			TF(KR0)	GRD	1	P	0		14.2	13.5	
							1B(KR0)		TR(KR0)	GRD		S	0		11.5		
									TR(KR0)	GRD	9	S	0		21.5		
KR1	U272	YP,YR	16	120/111	H	35			TF(KR1)	GRD		P	0		14.2	13.5	
		YR,					1B(KR1)		TR(KR1)	GRD	1	S	0		11.5		
		VP,Z							TR(KR1)	GRD	2	S	0		21.5		
									TR(KR1)	GRD	10	S	0		31.5		
KR2	U272	YP,YR	16	120/111	H	35			TF(KR2)	GRD		P	0		14.2	13.5	
		YR,							TR(KR2)	GRD	1	S	0		11.5		
		VP,Z					1B(KR2)		TR(KR2)	GRD	2	S	0		21.5		
									TR(KR2)	GRD	10	S	0		31.5		
KR4	U272	YP,YR	16	120/111	H	35			TF(KR4)	GRD		P	0		14.2	13.5	
		YR,							TR(KR4)	GRD	1	S	0		11.5		
		VP,Z					1B(KR4)		TR(KR4)	GRD	2	S	0		21.5		
									TR(KR4)	GRD	10	S	0		31.5		
KR7	U272	YP,YR	16	120/111	H	35			TF(KR7)	GRD		P	0		14.2	13.5	
		YR,							TR(KR7)	GRD	1	S	0		11.5		
		VP,Z					1B(KR7)		TR(KR7)	GRD	2	S	0		21.5		
KR1A	U624		40	101/101	H	29							0		6.7	6.3	WDG ALONE
							1B(KR1)		T(KR1A)	GRD	3		0		18.5	17.5	
									T(KR1A)	GRD	10		0		26.5	25	
KR2A	U624		40	101/101	H	29							0		6.7	6.3	WDG ALONE
							1B(KR2)		T(KR2A)	GRD	4		0		18.5	17.5	
									T(KR2A)	GRD	10		0		26.5	25	
KR4A	U624		40	101/101	H	29							0		6.7	6.3	WDG ALONE
							1B(KR4)		T(KR4A)	GRD	5		0		18.5	17.5	
									T(KR4A)	GRD	10		0		26.5	25	
KR7A	U624		40	101/101	H	29							0		6.7	6.3	WDG ALONE
							1B(KR7)		T(KR7A)	GRD	6		0		18.5	17.5	
KS	UA107	ZU	16	126/126	H	59					7		0		42	40	WDG ALONE
							1T(KS)		T(KS)	GRD	7,8		0		95	90	
KSA	U226	ZU	16	139/139	H	59							0		49.5	47	WDG ALONE
							1T(KS)		T(KSA)	GRD	8		0		110	105	
KST7	U113	ZXQ	16	132/101	H	47			T(KST7)	GRD			0		7.4	7	
KST7	U157	ZXR	16	108/132	H	47			T(KST7)	GRD			0		8.6	8.1	

TEST NOTES:

1. WDG ALONE FOR USE WHERE NEITHER (KR-A) NOR (KCR) IS FURNISHED.
2. PAR. COMB. (KR-A) RELAY AND (KR-), OR PAR. COMB. OF (KCR-A) AND (KR-).
3. PAR. COMB. OF (KR1) AND (KR1A).
4. PAR. COMB. OF (KR2) AND (KR2A).
5. PAR. COMB. OF (KR4) AND (KR4A).
6. PAR. COMB. OF (KR7) AND (KR7A).
7. SPRINGS 1T AND 1B SHALL HAVE MIN 40 GRAMS TENSION.
8. PAR. COMB. OF (KS) AND (KSA).
9. PAR. COMB. OF (KRO) AND (KCRO)
10. PAR. COMB. OF (KR-), (KCR-), AND (KR-A).

BELL TELEPHONE LABORATORIES INCORPORATED

PRINTED IN U.S.A.

E-74289 (8-63)

SD-25680-01-F10

22

CIRCUIT REQUIREMENTS

DRAWING ISSUE

APPARATUS DESIG	CODE	OPT.	FIG.	MECH REQT BSP FIG.	CONT PRES	ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
L	239HE OR 280W	U0	15	A				(L)-JK-T 8(L)	(L)-JK-R 2(L)	B/G B/G		P S	0 0	-33 -23	1.6 1.2	0.8	SEE TMG REQT
		UP						11T(AON)	1(L)	B/G		T	0	-90	4.4		
L0, L1, L2, L4, L7	U520	ZW	16	110/110	H	35		T REL TST		GRD			0		13.6	12.9	
LA	L503		15	3				2RT(LA)		GRD	1		0		50	47.5	
								2RT(LA)		GRD	1		NO		40	42.5	
LA1	U219		15	108/108	H	47		5T(LA1)		GRD			0		18.5	17.5	
LC	U6022		15	192/192	H	SPL	(LD)O		T(LC)	GRD	2,3		0	FS	43	40.5	
							(LD)O		T(LC)	GRD	2,3		R	FS	3	3.6	
LC 0-9	EA3, EA27	QK QL	27	4/4	H	SPL		2T REL 2T TST		GRD	4		0		21	20	
										GRD	4		NO		13.3	14	
LCG	U65		27	113/113	H	29		T(LCG)		GRD			0		20.5	19.5	
LD	U6020		15	144/101	H	SPL		TF(LD)		GRD	5	P	0	FS	29.5	28	
								TF(LD)		GRD	5	P	NO	FS	18	19	
								TF(LD)		GRD	5	P	R	FS	1.8	2.4	
								TR(LD)		GRD	5	S	0	FS	30		
LE	U6021		15	191/191	H	SPL	(LD)O		TF(LE)	GRD	3,6	P	0	FS	45.5	43	
							(LD)O		TF(LE)	GRD	3,6	P	NO	FS	22.5	24	
							(LD)O		TF(LE)	GRD	3,6	P	R	FS	4.6	5.2	
							3T(LE)		TR(LE)	GRD	3,6	S	0	FS	58		
LF	1/2 AK4		48	202					1L(LF)	GRD			0		11.9	11.3	MTD WITH (HF)
LF0, 3, 6, 9	1/2 AK6		48	2				1L OR 1U	REL TST	GRD	7		0		29	27.5	
LICK	AF50		51	18					U(LICK)	GRD			0		23.5	22	
LIO	AF114		51	54					U(LIO)	GRD			0		24.5	23	
LI1	AF114		51	54					U(LI1)	GRD			0		24.5	23	
LK	U1182		20	197/161	H	59		B(LK)		BAT			0		31.5	30	
LKT	U425		20	128/110	H	41			T(LKT)	GRD			0		17	16	
LL	U189		21	148/148	H	47			T(LL)	GRD			0		10.1	9.6	
LLS	U844	JM	17	118/118	H	50			T(LLS)	GRD			0		26.5	25	
LLS1	U1324	AS	17	163/163	H	59	11B(LLS1)		T(LLS1)	GRD			0		24	21.5	
LLV	1/2 AK6		46	2					1L(LLV)	GRD			0		29	27.5	MTD WITH (HLV)
LN	R1174, R1453		40	8/11	L	20			RT(L) RT(L)	GRD GRD			0 NO		11.3 6.7	10.7 7.1	
LN1	U426	YR,YR	40	148/108	H	47			T(LN1)	GRD			0		19	18	
LNA	U1377		40	155/166	H	50			T(LNA)	GRD			0		48	45.5	
LO	AJ75		55	291					U(LO)	GRD			0		6.9	6.5	
LO-	U81		22	113/113	H	29			T(LO)	GRD			0		22	20.5	
LOLP	U91	EE	13	110/110	H	35			5TF(LOLP)	GRD		P	0		20.5		
								6BR(LOLP)	6TR(LOLP)	NGB		S	0		7.2	6.8	
LOLPT	U234	EE	26	160/108	H	47			6B(LOLPT)	GRD			0		19	18	
LR	U456		20	109/120	H	35	4T(LR)		T(LR)	GRD			0		7.4	7	
LR1	AJ12		58	220					U(LR1)	GRD			0		43	40.5	
LS	UA107	ZW	16	126/126	H	59					8				42	40	WDG ALONE
							1T(LS)		T(LS)	GRD	8,9		0		95	90	
LSA	U226	ZW	16	139/139	H	59							0		49.5	47	WDG ALONE
							1T(LS)		T(LSA)	GRD	9		0		110	105	

TEST NOTES:

1. CONN BAT. TO RB1(LA).
2. ARM. TRVL 26. TENSION 1T AND 1B MIN 50 GRAMS.
3. ARM. BACK TENSION MIN 40 GRAMS.
4. CONT SEPARATION MIN 10, MIN TENSION 3T AND 3B, 6 GRAMS. READJ, 5 GRAMS TEST. EA3 ARM. TRVL 35. FOR EA27 NO ARM. TRVL REQD.
5. ARM. TRVL 32 TENSION 1B MIN 50 GRAMS.
6. ARM. TRVL 32 TENSION 3T AND 3B MIN 50 GRAMS
7. (LF0) MTD WITH (LF3), (LF6) MTD WITH (LF9).
8. SPRINGS 1T AND 1B SHALL HAVE MIN 40 GRAMS TENSION.
9. PAR. COMB. OF (LS) AND (LSA).

DRAWING ISSUE

62D
66AR
67D
68D
69A
70D
71A
74D QMC
86D

86

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-F10

BELL TELEPHONE LABORATORIES INCORPORATED

DRG SIZE 6S

PRINTED IN U.S.A.

CIRCUIT REQUIREMENTS

DRAWING ISSUE

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
LSI	U141		33	132/132	H	47			T(LSI)	GRD			0		18.5	17.5	
LT	U1310	YH	Y	148/137	H	47			T(LT)	GRD			0		10.2	9.7	
LT	U1261		Z	150/117	H	50			T(LT)	GRD			0		13.3	12.6	
LT1	U386		Z	148/148	H	47			T(LT1)	GRD			0		10.1	9.6	
LT2	U386		Z	148/148	H	47			T(LT2)	GRD			0		10.1	9.6	
LT3	U386	JV	Z	148/148	H	47			T(LT3)	GRD			0		10.1	9.6	
LV0,1	EA27	ZYL	27	4/4	H	SPL		2T REL		GRD	1		0		21	20	
									TST				NO		13.3	14	
LV2,	EA3,	QK	27	4/4	H	SPL		2T REL		GRD	1		0		21	20	
LV3,	EA27	QL						2T TST		GRD	1		NO		13.3	14	
LV4,																	
LV5,																	
LV6,																	
LV7,																	
LV8,																	
LV9																	
LVG	U65		27	113/113	H	29			T(LVG)	GRD			0		20.5	19.5	
MO,1, 2,4	I/2 AK23	ZXB	70	2				IU OR IL REL TST		GRD			0		29	27.5	(MO) MTD WITH M1); (M2) MTD WITH (M4)
M7	I/2 AKI5	ZXB	70	9				IU(M7)		GRD			0		14.2	13.5	MTD WITH (KM7)
MO-9	EA3,	QU	29	4/4	H	SPL		2T REL		GRD	1		0		21	20	
	EA27	QV						2T TST		GRD	1		NO		13.3	14	
MAC1	U499		1	108/110	H	47			T(MAC1)	GRD			0		20.5	19.5	
MAC2	U834		1	109/123	H	29			T(MAC2)	GRD			0		21	20	
MAN	U275		11	180/149	H	47			T(MAN)	GRD			0		10	9.5	
MBO	U261		6	132/111	H	47	1T(MBO)		TF(MBO)	GRD		P	0		18	17	
							1T(MBO)		TR(MBO)	GRD		S	0		14.5		
MB-	U261		7	132/111	H	47		TF REL		GRD	2	P	0		18	17	
								TR TST		GRD	2	S	0		14.5		
MB-	U261		8	132/111	H	47		TF REL		GRD	2	P	0		18	17	
								TR TST		GRD	2	S	0		14.5		
MBN	U495		2	113/113	H	29	(APA)NO		T(MBN)	GRD			0		12.5	16.5	
MCA	263A	QX	28								3		0		74	70	EACH WDG ALONE
									T(MCA)	GRD	3		0		170	160	BOTH WINDINGS PAR.
MCA	287A	QY	28								3		0		80	75	EACH WDG ALONE
	287E	KD							T(MCA)	GRD	3		0		175	165	BOTH WINDINGS PAR.
MCB	263A	QZ	16								3		0		74	70	EACH WDG ALONE
									T(MCB)	GRD	3		0		170	160	BOTH WINDINGS PAR.
MCB	287A	PA	16								3		0		80	75	EACH WDG ALONE
	287E	KE							T(MCB)	GRD	3		0		175	165	BOTH WINDINGS PAR.
MCC	263A	PB	27								3		0		74	70	EACH WDG ALONE
									T(MCC)	GRD	3		0		170	160	BOTH WINDINGS PAR.
MCC	287A	PC	27								3		0		80	75	EACH WDG ALONE
	287E	KF							T(MCC)	GRD	3		0		175	165	BOTH WINDINGS PAR.
MCD	U115		11	113/113	H	29			T(MCD)	GRD	3		0		10.4	9.9	
MCE	263E	QZ	16								3		0		74	70	EACH WDG ALONE
									T(MCE)	GRD	3		0		170	160	BOTH WINDINGS PAR.

TEST NOTES:

1. CONT SEPARATION MIN 10, MIN TENSION 3T AND 3B, 6 GRAMS READJ, 5 GRAMS TEST. EA3 ARM. TRVL 35. FOR EA27 NO ARM. TRVL REQD.
2. INSULATE 1T(M6-) UNDER TST.
3. MAKE TROUBLE RECORDER BUSY.

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

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 62D, 68D, 70D, 72A, 74D, 79D, 80A, 81D, 82A, 83D, 86D

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
MCE	287A	PA	16								1		0		80	75	EACH WDG ALONE
	287E	KE							T(MCE)	GRD	1		0		175	165	BOTH WINDINGS PAR.
MCF	U65	TZ	20	113/113	H	29			T(MCF)	GRD			0		20.5	19.5	
MCG	U115		20	113/113	H	29					1		0		10.4	9.9	WDG ALONE
									T(MCG)	GRD	1,2,3		0		23	22	
MCI,	U236	S,YR YC,YM	20	112/112	H	29					1		0		9.1	8.6	WDG ALONE
									T(MCH)	GRD	1,2		0		20	19	
MCI, MCJ	U65		16	113/113	H	29					1		0		20.5	19.5	WDG ALONE
									T(REL TST)	GRD	1,4		0		46	43	
MCK	U57	SY	16	112/112	H	29							0		20	19	WDG ALONE
									T(MCK)	GRD	1,5,6		0		44.5	42	
MCL	U57	AU, CY, SX, ZZW	16	112/112	H	29					1		0		20	19	WDG ALONE
									T(MCL)	GRD	1,5		0		44.5	42	
MCM	U57	SV	16	112/112	H	29					1		0		20	19	WDG ALONE
									T(MCM)	GRD	1,7,8		0		44.5	42	
MCN	U57	SX	16	112/112	H	29					1		0		20	19	WDG ALONE
									T(MCN)	GRD	1,7		0		44.5	42	
MCO	U65	NX	27	113/113	H	29							0		13T(MCO)	19.5	
MCP	U65	GD	28	113/113	H	29							0		13T(MCP)	19.5	
MCQ	AJ202		54	500									0		U(MCQ)	40.5	
MCR	AJ202	DH	54	500									0		U(MCR)	40.5	
MCS	AJ202	DH	54	500									0		U(MCS)	40.5	
MCT	287E	AU	16										0		80	75	EACH WDG ALONE
									T(MCT)	GRD	1		0		175	165	BOTH WINDINGS PAR.
MCU	286M		68										0		85	80	WDG ALONE
MCUA	286M		68										0		85	80	WDG ALONE
									T(MCUA)	GRD	1		0		185	175	PAR COMB (MCU) & (MCUA)
MCV	287E	ZYN	28										0		80	75	EACH WDG ALONE
									T(MCV)	GRD	1		0		175	165	BOTH WINDINGS PAR.
MF	U333	YB	18	150/150	H	50							0		15.5	14.4	WDG ALONE
									T(MF)	GRD	9		0		26.5	25	
MF	239GG OR 280AN	UG UH	21	A			(SP) 0, 2B(FMF), 2T(PR), 5B(KPS)	IT(SP) IT(SP) 6(MFI)	2T(PR) 2T(PR) IT(SP)	B/G B/G B/G	P P S	0 0 0	-65 -65	2.7 0.C. 0.7	1.5 1.1		
MF2, MF3, MF4	239GF OR 280AR	UI UJ	21	A			2T(PR) 2B(PR)	IT(PR) IT(PR)	1B(PR) 1B(PR)	B/G B/G		0 NO	-46 -46	1.9 0.C.	1.1 0.8	SEE TMG REQT
MF5	U115		21	113/113	H	29			T(MF5)	GRD			0		10.4	9.9	
MF5A	AF24	DI	56	8					U(MF5A)	GRD			0		30.5	29	
MFN	U144		12	113/113	H	29			T(MFN)	GRD			0		22	20.5	
MFP	U542	YB	20	108/132	H	47			T(MFP)	GRD			0		8.6	8.1	
MFR	U98		12	118/118	H	50			T(MFR)	GRD			0		23.5	22	
MFS	U98		12	118/118	H	50							0		23.5	22	WDG ALONE
									T(MFS)	GRD			0		61.5	53.5	PAR.COMB.(MFS)&(MFSI)
MFSI	AJ15		59	249									0		43	40.5	WDG ALONE
									U(MFSI)	GRD			0		35	80	PAR.COMB.(MFS)&(MFSI)
MFST	U1407	YD	17	117/109	H	47			T(MFST)	GRD			0		19	17	
MFT	AJ12		53	220					U(MFT)	GRD			0		43	40.5	
MG	S531		36	2		10			RBI(MG)	GRD	10		0		3.4	3.2	SEE TMG REQT
									RBI(MG)	GRD	10		NO		2.6	2.9	
									RBI(MG)	GRD	11/12		0		6.3	6	
									RBI(MG)	GRD	11/12		NO		4.7	5	
MIR	U65	YB	1	113/113	H	29			T(MIR)	GRD			0		20.5	19.5	
MIR1	U81	YB	9	113/113	H	29			T(MIR1)	GRD			0		22	20.5	
MIR2	U81	YB	9	113/113	H	29	5B(MIR2)		T(MIR2)	GRD			0		22	20.5	

TEST NOTES:

1. MAKE TROUBLE RECORDER BUSY.
2. PAR. COMB. OF (MCG) AND (MCH).
3. USE WDG ALONE VALUES WHEN (MCH) RELAY IS NOT FURNISHED.
4. PAR. COMB. OF (MCI) AND (MCJ).
5. PAR. COMB. OF (MCK) AND (MCL).
6. USE WDG ALONE VALUES WHEN (MCL) RELAY IS NOT FURNISHED.
7. PAR. COMB. OF (MCM) AND (MCN).
8. USE WDG ALONE VALUES WHEN (MCN) RELAY IS NOT FURNISHED.
9. PAR. COMB. OF (MR) & (MF)
10. CKT ARRANGED FOR UNBALANCE (PCI) PULSING, FIG. Q.
11. CKT ARRANGED FOR BALANCE (PCI) PULSING, FIG. R.
12. CONN 1000 OHM±1%SHUNT ACROSS WDG FOR TST.

86

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED — 6S

SD-25680-01-FII

PRINTED IN U.S.A.

CIRCUIT REQUIREMENTS

DRAWING ISSUE

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.		MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	DIRECT CURRENT FLOW REQT TEST FOR	DIRECT CURRENT FLOW REQT AFTER SOAK MA	DIRECT CURRENT FLOW REQT TEST MA	DIRECT CURRENT FLOW REQT READJ MA	REMARKS
MK	U603	LM	16		132/144	H	47	3T(AS)		T(MK)	GRD			0		26.5	25	
								3T(AS)		T(MK)	GRD			NO		13.5	14.2	
MK	U467	LP	16		108/110	H	47	3T(AS)		T(MK)	GRD			0		22.5	21	
								3T(AS)		T(MK)	GRD			NO		12.9	13.6	
MKR	U937		9		179/139	H	59			T(MKR)	GRD			0		28.5	27	
MKTO, MKT1	EA3, EA27	PD PE	41		4/4	H	SPL			2T REL	GRD	1		0		21	20	
										2T TST	GRD	1		NO		13.3	14	
MM	U533		1		108/110	H	47		B(MM)		BAT.			0		41	39	
MNF	1/2 AK4		46		202					1L(MNF)	GRD			0		11.9	11.3	MTD WITH (MXF)
MOS	U65	YE	1		113/113	H	29			T(MOS)	GRD			0		20.5	19.5	
MOS1, MOS2	U81	YD	9		113/113	H	29			T REL TST	GRD			0		22	20.5	
MPO	U1298		6		121/106	H	50	3T(MBO)		T(MPO)	GRD			0		43.5	41	
MP-	U1298		7		121/106	H	50	3T(ASSOC MB-)		T REL TST	GRD	2		0		43.5	41	
MP-	U1298		8		121/106	H	50	3T(ASSOC MB-)		T REL TST	GRD	2		0		43.5	41	
MPC1	U569		1		108/108	H	47			T(MCP1)	GRD			0		26.5	25	
MPC2	U569		1		108/108	H	47	3T(MPC1)		T(MCP2)	GRD			0		26.5	25	
MR	U236	YB	20		112/112	H	29							0		9.1	8.6	WDG ALONE
										T(MR)	GRD	3		0		28	26.5	
MS	AJ15	ZXB	70		249					↓U(MS)	GRD			0		43	40.5	
MSR	Y63		2		115/115	H	29			T(MSR)	GRD			0	FS	19.5	18.5	
										T(MSR)	GRD			H	FS	1.9	1.7	
										T(MSR)	GRD			R	FS	0.9	1.2	
MSR1	U189		2		148/148	H	47			T(MSR1)	GRD			0		10.1	9.6	
MST	U1113		11		114/114	H	50			T(MST)	GRD			0		22.5	21	
MST1	U90		11		145/123	H	47			TF(MST1)	GRD		P	0		18	17	
										TR(MST1)	GRD		S	0		14.5		
MSTB	U1362		20		112/134	H	35			T(MSTB)	GRD			0		21	20	
MT	U533		9		108/110	H	47		B(MT)		BAT.			0		41	35	
MTG1	L502	YR,YR	40		2					10T(CL3A)	GRD			0		2	1.9	
										10T(CL3A)	GRD			NO		1.6	1.7	
MTR	U576		10		148/148	H	47			T(MTR)	GRD			0		21	20	
MTR1	U521		10		108/108	H	47			T(MTR1)	GRD			0		22	20.5	
MXF	1/2 AK4		46		202					1U(MXF)	GRD			0		11.9	11.3	MTD WITH (MNF)
N	S531		36		2		10			RB1(N)	GRD	4		0		3.4	3.2	SEE TMG REQT
										RB1(N)	GRD	4		NO		2.6	2.8	
										RB1(N)	GRD	5,6		0		6.3	6	
										RB1(N)	GRD	5,6		NO		4.7	5	
NAI	U1227		V		110/110	H	35			T(NAI)	GRD			0		6.5	6.1	

TEST NOTES:

1. ARM. TRVL 35. CONT SEPARATION MIN 10, MIN TENSHON 3T AND 3B 6 GRAMS READJ, 5 GRAMS TST. EA3 ARM. TRVL 35. FOR EA27 NO ARM. TRVL REQD.
2. CONN BAT. TO B(MP-) UNDER TST.
3. PAR. COMB. OF (MR) AND (MF)
4. CKT ARRANGED FOR UNBALANCE (PCI) PULSING, FIG. Q.
5. CKT ARRANGED FOR BALANCE (PCI) PULSING, FIG. R.
6. CONN 1000 OHM ±1%SHUNT ACROSS WDG FOR TST.

BELL TELEPHONE LABORATORIES INCORPORATED

PRINTED IN U.S.A.

SD-25680-01-FI2

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 62D, 63AR, 66AR, 68D, 69A, 70D, 72A, 86D

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.		MECH REQT BSP FIG	MECH REQT CONT PRES	MECH REQT ARM TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	DIRECT CURRENT FLOW REQT TEST FOR	DIRECT CURRENT FLOW REQT AFTER SOAK MA	DIRECT CURRENT FLOW REQT TEST MA	DIRECT CURRENT FLOW REQT READJ MA	REMARKS
NBL	U543		20		111/111	H	29			T(NBL)	GRD			0		5.7	5.4	
NDK	U113		20		122/101	H	47			T(NDK)	GRD			0		7.4	7	
NDT	U115	EZ	20		113/113	H	29			T(NDT)	GRD	1		0		10.4	9.9	WDG ALONE
										T(NDT)	GRD	2		0		23.5	22	
										T(NDT)	GRD	3		0		36	34	
NDT1	U115	WR	20		113/113	H	29			T(NDT1)	GRD			0		10.4	9.9	WDG ALONE
										T(NDT1)	GRD	2		0		23.5	22	
										T(NDT1)	GRD	3		0		36	34	
NDT2	AF83	EY	20		8					T(NDT2)	GRD			0		8.2	7.8	WDG ALONE
										T(NDT2)	GRD	3		0		29	27	
NRR	U984		10		145/137	H	47			TR(NRR)	GRD		P	0		22	20.5	
										TR(NRR)	GRD		S	0		18		
NVA	U1222		13		110/144	H	35		(NVA)JK-T	(NVA)JK-R	B/G	4		0		7.4	7	
									(NVA)JK-T	(NVA)JK-R	B/G	4		NO		4.4	4.7	
OA	U79	A	20		149/149	H	47			T(OA)	GRD			0		22	20.5	
OB	U722	DC			148/145	H								0		22.5	21	
	U1310	ZE	20		148/137	H	47			T(OB)	GRD			0		10.2	9.7	
OF1	U67	YK,JK	33		145/108	H	47	2T(RVT2)		T(OF1)	GRD			0		18	17	
OF2	U576	YK,JK	33		148/148	H	47			T(OF2)	GRD			0		21	20	
OFR	AF50			58	18					U(OFR)	GRD			0		23.5	22	
														NO		12.5	13.2	
OFT	U199	YK,JK	33		121/121	H	50	T(OFT)			BAT.			0		11	10.4	SEE TMG REQT
OH	U1024		20		163/139	H	59			T(OH)	GRD			0		31	29.5	
OK	U1262		9		149/183	H	47			T(OK)	GRD			0		12.9	12.2	
ONM1, ONM2	U144		1		113/113	H	29							0		22	20.5	WDG ALONE
										T REL TST	GRD	5		0		48.5	45.5	
ONR	U144		16		113/113	H	29			T(ONR)	GRD			0		22	20.5	
ONRA	AF24		55		8					U(ONRA)	GRD			0		30.5	29	
ONS	U81		17		113/113	H	29			T(ONS)	GRD			0		22	20.5	
ONS1	U64		40		113/113	H	29			T(ONS1)	GRD			0		20.5	19.5	
ONT1, ONT2	U81		9		113/113	H	29							0		22	20.5	WDG ALONE
										T REL TST	GRD	6		0		48.5	45.5	
OP	U1205	KK	16		120/120	H	35	(P1)O		T(OP)	GRD			0		24.5	23	
OP1	U506	KK	16		148/148	H	47			T(OP1)	GRD			0		34	32.5	
OR	U179		2		117/145	H	47	3T(IR)		T(OR)	GRD			0		19.5	18.5	
ORAB	U1307		11		215/215	H	47			T(ORAB)	GRD			0		22	20.5	
ORD	U115	YA,JA	26		113/113	H	29			T(ORD)	GRD			0		10.4	9.9	
ORH	U679		9		108/108	H	47			T(ORH)	GRD			0		18.5	17.5	

TEST NOTES:

1. USE WDG ALONE VALUES WHEN (NDT1) IS NOT FURNISHED.
2. PAR. COMB. OF (NDT) AND (NDT1).
3. PAR. COMB. OF (NDT), (NDT1), AND (NDT2).
4. REMOVE AC POWER BY RELEASING (MAC) KEY BEFORE PLUGGING INTO (NVA) JK.
5. PAR. COMB. OF (ONM1) AND (ONM2).
6. PAR. COMB. OF (ONT1) AND (ONT2)

86

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

SD-25680-01-FI2

PRINTED IN U.S.A.

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.		MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
ORN	U735	ZYO	13		132/132	H	47			T(ORN)	GRD			0		17.5	16.5	
	U1375	ZYP	13		108/108	H	47			T(ORN1)	GRD			0		17.5	16.5	
ORN1	U520	KJ	16		110/110	H	35			T(ORN1)	GRD			0		13.6	12.9	
	U1307	KK	16		215/215	H	47			T(ORN1)	GRD			0		22	20.5	
ORN	U144		1		113/113	H	29			T(ORN)	GRD			0		22	20.5	
ORON	U236		11		112/112	H	29			T(ORON)	GRD			0		9.1	9.6	
ORP	AF60		47		12					U(ORP)	GRD			0		6.6	6.2	
ORP-	U106		22		113/135	H	44			T REL TST	GRD			0		22.5	21	
ORST	U236		11		112/112	H	29			T(ORST)	GRD			0		9.1	8.6	
ORT	1/2AK22		6365		215					R(ORT)	GRD			U		27.5	26	MOUNTED WITH (FAC)
OS	U179		2		117/145	H	47	(OS)		T(OS)	GRD			0		19.5	18.5	
OSA	U1342		10		126/126	H	59							0		30.5	29	WDG ALONE
								2T(SY1) 1B(OSB)		T(OSA)	GRD	1		0		67.5	64	
OSA1	U580		18		132/132	H	47							0		17.5	16.5	WDG ALONE
								2T(SY1) 1D(OSB)		T(CSA1)	GRD	1		0		38.5	36.5	
OSB	U1342		18		126/126	H	59	1B(OSC)		T(OSB)	GRD			0		30.5	29	
OSB1	U1334		18		111/111	H	29			T(OSB1)	GRD			0		14.3	13.6	
OSC	U1342		18		126/126	H	59	1B(OSD)		T(OSC)	GRD			0		30.5	29	
OSD	U1342		18		126/126	H	59	1B(OSE)		T(OSD)	GRD			0		30.5	29	
OSE	U1342		18		126/126	H	59	1T(OSE)		T(OSE)	GRD			0		30.5	29	
OSF	U1342	Q	18		126/126	H	59	1T(OSF)		T(OSF)	GRD			0		30.5	29	
OSG	U1342	P	18		126/126	H	59	1T(OSG)		T(OSG)	GRD			0		30.5	29	
OSH	U1342	N	18		126/126	H	59	1T(OSH)		T(OSH)	GRD			0		30.5	29	
OSJ	U1342	M	18		126/126	H	59	1T(OSJ)		T(OSJ)	GRD			0		30.5	29	
OSK	U1342	D	18		126/126	H	59	1T(OSK)		T(OSK)	GRD			0		30.5	29	
OSL	U1342	B	18		126/126	H	59	1T(OSL)		T(OSL)	GRD			0		30.5	29	
OSM	U1342	YG	18		126/126	H	59	1T(OSM)		T(OSM)	GRD			0		30.5	29	
OSN	AJ15		70	ZYC	249			5(OSN)		U(OSN)	GRD			0		43	40.5	
OST	U57	XE, XY,XZ CY	9		112/112	H	29			T(OST)	GRD			0		20	19	
OTH	U219		33		108/108	H	47			T(OTH)	GRD			0		18.5	17.5	
OTT	U238		39		117/145	H	47			T(OTT)	GRD			0		19.5	18.5	
OVF	239FU OR 280G	YK YK	33		C			ST(RVB)	6T(RVB)	3B(STPO)	B/G		P	0	-35		0.7	
									6T(RVB)	3B(STPO)	B/G		P	NO	-35		0.5	
									6T(RVB)	3B(STPO)	B/G		P	0	-35	2.4	2.2	
									6T(RVB)	3B(STPO)	B/G		P	R	-35	0.1	0.2	
													S					NO ADJ REQT

TEST NOTES:

1. PAR.COMB. OF (OSA) AND (OSA1)

DRAWING ISSUE

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25680-01-F13

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.		MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
P	239GR OR 280A	VL VM	13		A				3B(P2N) 3B(P2N) 6(P)	11B(P2N) 11B(P2N) 1(P)	B/G B/G B/G	1	P P S	0 NO 0	-65 -65	3 0.C 0.4	1.5 1.1	SEE TMG REQT SEE TMG REQT
P1	U6015		15		134/120	H	35			TF(P1)	GRD		P	0	FS	15.5	14.7	
										TF(P1)	GRD		P	NO	FS	9.5	10	
										TF(P1)	GRD		P	R	FS	3.2	3.4	
								1T(P2)		TR(P1)	GRD		S	0		12.6		
P2	U6017		15		130/108	H	47	1B(P3)		T(P2)	GRD	2		0	FS	19.5	18.5	
								1B(P3)		T(P2)	GRD			NO	FS	9.8	10.4	
								1B(P3)		T(P2)	GRD			R	FS	2.4	2.6	
P3	U6016		15		120/130	H	44	1T(P4)		T(P3)	GRD	3		0	FS	18.5	17.5	
								1T(P4)		T(P3)	GRD			NO	FS	9.4	9.9	
								1T(P4)		T(P3)	GRD			R	FS	2.4	2.6	
P4	U6017		15		130/108	H	47	1B(P5)		T(P4)	GRD	2		0	FS	19.5	18.5	
								1B(P5)		T(P4)	GRD			NO	FS	9.8	10.4	
								1B(P5)		T(P4)	GRD			R	FS	2.4	2.6	
P5	U6016		15		120/130	H	44	1B(P1)		T(P5)	GRD	3		0	FS	18.5	17.5	
								1B(P1)		T(P5)	GRD			NO	FS	9.4	9.9	
								1B(P1)		T(P5)	GRD			R	FS	2.4	2.6	
P6	U6018		15		123/120	H	35			TF(P6)	GRD		P	0	FS	14.4	13.7	
										TF(P6)	GRD		P	NO	FS	8.8	9.3	
										TF(P6)	GRD		P	R	FS	2.8	3	
								1T(P6)		TR(P6)	GRD		S	0	FS	11.7		
P6A	U199		15		121/121	H	50							0		11	10.4	WDG ALONE
P11	U520	DF	16		110/110	H	35			T(P11)	GRD			0		13.6	12.9	
PAC	U617	JE	16		128/106	H	44	1B(PAC)		1B(PAC)	GRD			0		20.5	19.5	
PB	U259	LY	18		160/108	H	47			T(PB)	GRD			0		9.6	9	
PBC	295A		60							14(PBC)				0		33		
														R		5.6		
PBP	U1258	LY	21		118/148	H	50			T(PBP)	GRD			0		14.2	13.5	
PBT	AJ5		49		220					U(PBT)	GRD			0		13.3	12.6	
PBT1	AJ5		49		220					U(PBT1)	GRD			0		13.3	12.6	
PBX	U1323	GZ	18		118/108	H	50			T(PBX)	GRD			0		13	12.3	
PC-	U115		24		113/113	H	29			T REL TST	GRD			0		10.4	9.9	
PCA-	U115		24		113/113	H	29			T REL TST	GRD			0		10.4	9.9	
PCD	U426	XB	20		148/108	H	47			T(PCD)	GRD			0		19	18	
PCD1	U426	XH	20		148/108	H	47			T(PCD1)	GRD			0		19	18	
PCR	U934		F		150/139	H	59			T(PCR)	GRD			0		29.5	28	
PCT	U1113	XY,XZ	9		114/114	H	50			T(PCT)	GRD	4		0		22.5	21	WDG ALONE
										T(PCT)	GRD	5		0		50	47	
PCTA	U1175	NJ	17		120/120	H	35			TF(PCTA)	GRD	6	P	0		18	17	WDG ALONE
										TR(PCTA)	GRD	7	S	0		18.5		
										TF(PCTA)	GRD	8	P	0		40	38	
										TR(PCTA)	GRD	9	S	0		41		

TEST NOTES:

1. REMOVE AC POWER BY RELEASING (MAC) KEY BEFORE MAKING CONNECTION TO RELAY TERMINALS.
2. WITH A 26 MILLIMETER GAUGE BETWEEN STOP PINS AND CORE, CONTACTS 1T-2T SHALL NOT CLOSE WHEN THE RELAY IS ENERGIZED.
3. WITH A 26 MILLIMETER GAUGE BETWEEN STOP PINS AND CORE, CONTACTS 1B-2B SHALL NOT CLOSE WHEN THE RELAY IS ENERGIZED.
4. FOR USE WHERE (PCT-) IS NOT PROVIDED.
5. PAR. COMB. OF (PCT-) AND PRIMARY (PCTA), "NJ" OPTION.
6. FOR USE WHERE (PCT) IS NOT PROVIDED.
7. FOR USE WHERE (CXI) IS NOT PROVIDED.
8. PAR. COMB. OF (PCT) AND (PCTA)
9. PAR. COMB. OF (PCTA) AND (CXI).

DRAWING ISSUE

620D
68E
700D
72A
78D TM
81D
82A

82

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-F13

CIRCUIT REQUIREMENTS

DRAWING ISSUE

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
PD	U1248		11	111/101	H	29			T(PD)	GRD			0		8.1	7.7	
PD0	U457	KK	18	118/148	H	50			T(PD0)	GRD			0		14.2	13.5	
PD1	U937		AB	179/139	H	59			T(PD1)	GRD			0		28.5	27	
PD8	U333	JV	18	150/150	H	50			T(PD8)	GRD			0		15.5	14.4	
PD9	U333	KK	18	150/150	H	50			T(PD9)	GRD			0		15.5	14.4	
PD11	U937		AB	179/139	H	59			T(PD11)	GRD			0		28.5	27	
PE	U569		10	108/108	H	47			T(PE)	GRD			0		26.5	25	
									T(PE)	GRD			NO		13.6	14.4	
PEA	U459		1	151/120	H	41			T(PEA)	GRD			0		10.8	10.2	
PG	276N		47	4								P	0		6		
												P	R		-6		SEE TMG REQT
												S	0		2.4		
												S	R		-2.4		
PG1	AF131		47	407					U(PG1)	GRD			0		85	80	
PH	U1364		15	120/111	H	35			T(PH)	GRD			0		31.5	30	
PHC	U1018	YM	20	137/137	H	41			T(PHC)	GRD			0		20.5	19.5	
	U79	FV	20	149/149	H	47			T(PHC)	GRD			0		22	20.5	
PK	U1248	ZZY	11	111/101	H	29			T(PK)	GRD			0		8.1	7.7	
	U717	ZZZ	11	111/110	H	35			T(PK)	GRD			0		16	15	
PKI	U254	ZZO	11	108/108	H	47			T(PKI)	GRD			0		17.5	16.5	
PL	U601		17	117/148	H	47			T(PL)	GRD			0		19	18	
PLN	UA40	JV	16	132/132	H	SPL			T(PLN)	GRD			0		70	66.5	ARM. TRVL .056
									T(PLN)	GRD			NO		35	37	
PLN1	U934	JV	16	150/139	H	59			T(PLN1)	GRD			0		26.5	25	
PLS	209FF	ZWV	26							B/G	1/2		0		13.5	12.8	
										B/G	2		NO		6	6.4	
PLS	316G	ZWX	26	3								P	0		4.5		SEE BSP
													R		-4.5		
												S	0		0.8		
													R		-0.8		
PM1	26FW OR 280AD	YL	33	B				5B(CBA2)	5T(CBA2)	B/G	3		0	-90		3	
								5B(CBA2)	5T(CBA2)	B/G	3		NO	-90		1.9	
								5B(CBA2)	5T(CBA2)	B/G			0	-3.5	1.2	11	
								5B(CBA2)	5T(CBA2)	B/G			R	3.5	0.2	0.3	
PM2	U679	YL,JL	33	108/108	H	47			T(PM2)	GRD			0		18.5	17.5	
POR1	U98	LY	11	118/118	H	50	(DOR1)NO, (POR2)NO		T(POR1)	GRD			0		23.5	22	
POR2	U1025	LY	11	163/150	H	59			T(POR2)	GRD			0		31	29.5	
POS	S531		36	2	10				RB1(POS)	GRD	4		0		3.1	3.2	SEE TMG REQT
									RB1(POS)	GRD	4		NO		2.6	2.8	SEE TMG REQT
									RB1(POS)	GRD	5		0		6.3	6	SEE TMG REQT
									RB1(POS)	GRD	6		NO		4.7	5	
PR	U460		21	108/108	H	47			T(PR)	GRD			0		11.2	10.6	
PRC	AJ122		61	249				6B(AS)	1U(PRC)	GRD		P	0		31	29.5	
									2U(PRC)	GRD		S	0		33	31	
PS	U1248		11	111/101	H	29			T(PS)	GRD			0		8.1	7.7	
PST	U607		15	148/130	H	47			T(PST)	GRD			0		20.5	19.5	
PTO	239FC OR 280A	VN	12	A				5B(MFN)	1B(MFN)	B/G		P	0	-65	3	1.5	SEE
		VO						5B(MFN)	1B(MFN)	B/G		P	NO	-65	0.C.	1.1	TMG
								11T(MFN)	5B(MFN)	B/G		S	0		0.5		REQT

TEST NOTES:

1. CONTACT SEPARATION MIN 3, MAX 4.
2. USE THE 209 TYPE RELAY TST CKT WHEN MAKING ADJUSTMENTS ON THIS RELAY.
3. THIS ADJUSTMENT TO BE APPLIED WITH A 500 OHM SHUNT ON THE RELAY WINDING.
4. CKT ARRANGED FOR UNBALANCE (PCI) PULSING, FIG. Q.
5. CKT ARRANGED FOR BALANCE (PCI) PULSING, FIG. R.
6. CONNECT 1000 OHM ±1% SHUNT ACROSS WDG FOR TST.

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

SD-25680-01-F14

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 62D WRA DGP AWA; 68D CM A2A Ave; 69A TJO ASL AHP; 70D DMC JAS AWA; 79D RAE

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
R	239FC OR 280A	VH VI	26	A				7T(DP) 7T(DP) 3B(DP)	3B(DP) 3B(DP) 1(R)	B/G B/G B/G		P P S	0 NO 0	-65 -65	3 0.C. 0.5	1.5 1.1	SEE TMG REQT
R1	U79		26	149/149	H	47	(DP)O. (SY1)O		T(R1) T(R1)	GRD GRD			0 NO		21.5 9.8	20.5 10.4	
R2	S66		26	5					2RT(R2) 2RT(R2)	GRD GRD	1 1	P P	0 NO		6 4.8	5.7 5.1	
												S	0		13.6		WDG ALONE
									LB1(R2)	GRD	2	S	0		29		
R4	U382		V	124/124	H	59			T(R4)	GRD			0		31	29.5	
R5	U1057		V	161/195	H	53	4B(R4)		T(R5)	GRD			0		13.7	13	
RA1	U897		AC	130/111	H	44			T(RA1)	GRD			0		19	18	
RA1	U607		AD	148/130	H	47			T(RA1)	GRD			0		20.5	19.5	
RAA	239GR OR 280A	VW VX	15	A				(RA)JK-T (RA)JK-T (RA)JK-R	(RA)JK-R (RA)JK-R (RA)JK-S	B/G B/G B/G		P P S	0 NO 0	-65 -65	3 0.C. 0.5	1.5 1.1	SEE TMG REQT
RB1	UA86		20	132/132	H	47		BF(RB1)	TR(RB1)	BAT. GRD		P S	0 0		48 15	45.5	
RB2	U542		20	108/132	H	47			T(RB2)	GRD			0		8.6	8.1	
RB3	U1371		20	111/110	H	.5			T(RB3)	GRD			0		79	75	
RBN-	U115		24	113/113	H	29	(IR)NO		T REL TST	GRD	3		0		10.4	9.9	WDG ALONE PAR. COMB.
RBT	U217		9	108/132	H	47			T(RBT)	GRD			0		11	10.5	
RC	U113		18	132/101	H	47			T(RC)	GRD			0		7.4	7	
RCK	U1412	SV	16	137/130	H	44			T(RCK)	GRD			0		20.5	19.5	
RCR	U1401		34	127/112	H	47			T(RCR)	GRD			0		145	135	
REC1	U185	LJ	17	132/101	H	47			T(REC1)	GRD	4/5		0		7.3 16.5	6.9 15.5	WDG ALONE
REC1	U199	LK	17	121/121	H	50			T(REC1)	GRD	4/5		0		11 24.5	10.4 23	WDG ALONE
REC2	U185		40	132/101	H	47			T(REC2)	GRD	4		0		7.3 16.5	6.9 15.5	WDG ALONE
REL1	AF32		51	208					U(REL1)	GRD			0		32.5	30.5	
RG	U467	YK,UK	33	108/110	H	47			T(RG)	GRD			0		22.5	21	
RGD	U722		S	148/145	H	47			T(RGD)	GRD			0		22.5	21	
	U1244		T	110/101	H	35			T(RGD)	GRD			0		6.7	6.3	
RGD1	U601		S	117/148	H	47			T(RGD1)	GRD			0		19	18	
	U1396		T	127/114	H	50			T(RGD1)	GRD			0		43.5	41	
RI	AJ27		51	213					U(RI)	GRD			0		15	14.2	
RI1	AF114		51	54					U(RI1)	GRD			0		24.5	23	
RIF	U1307	YK,UK	33	215/215	H	47			T(RIF)	GRD			0		22	20.5	

TEST NOTES:

1. CONNECT GRD TO -5(R), CONNECT BAT. +2(R).
2. PAR. COMB. OF (R2) AND (BD2).
3. MULTIPLY CURRENT FLOW VALUE BY NUMBER OF RELAYS IN PAR.
4. PAR. COMB. OF (REC1) AND (REC2).
5. WHEN (REC2) IS NOT PROVIDED USE WDG ALONE VALUES.

ISSUE 98B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED — SIZE 6S — SD-25680-01-F14 — PRINTED IN U.S.A.

CIRCUIT REQUIREMENTS

DRAWING ISSUE

APPARATUS DESIG	CODE	OPT.	FIG.	MECH REQT BSP FIG.	CONT PRES	ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
RIF1	U679	YK,UK	33	108/108	H	47			T(RIF1)	GRD			0		18.5	17.5	
RIR	U65	YK,UK	1	113/113	H	29			T(RIR)	GRD			0		20.5	19.5	
RIR1	U81	YK,UK	9	113/113	H	29			T(RIR1)	GRD			0		22	20.5	
RIR2	U81	YK,UK	9	113/113	H	29	5B(RIR2)		T(RIR2)	GRD			0		22	20.5	
RIR3	U1073	YK,UK	20	161/163	H	59			T(RIR3)	GRD			0		31.5	30	
RLT	U1323		33	118/108	H	50			T(RLT)	GRD			0		13	12.3	
RN	U51		1	107/155	H	50			T(RN)	GRD			0		17	16	
RO	U340		20	111/111	H	29			T(RO)	GRD			0		8	7.6	
RON	U81		34	113/113	H	29			T(RON)	GRD			0		22	20.5	
ROS	U65	YR,VR	1	113/113	H	29			T(ROS)	GRD			0		20.5	19.5	
ROS1	U81	YR,VR	9	113/113	H	29			T(ROS1)	GRD			0		22	20.5	
ROS2	U81	YR,VR	9	113/113	H	29			T(ROS2)	GRD			0		22	20.5	
RP	U168		11	108/106	H	47			T(RP)	GRD			0		19.5	18.5	
RP0	208G		34	1						GRD	1		0		16	15	
RP1, RP2, RP3, RP4, RP5, RP6, RP7, RP8, RP9										GRD	1		NO		13	14	
RP0', RP1', RP2', RP3', RP4', RP5', RP6', RP7', RP8', RP9'	208B		34	1						GRD	2		0		16	15	
										GRD	2		NO		13	14	
RPD	U1329		11	145/120	H	47			T(RPD)	GRD			0		9.1	8.6	
RPE1	U533		1	108/110	H	47			T(RPE1)	GRD			0		35	33	
									T(RPE1)	GRD			NO		23	24.5	
RPE2	U1181		9	161/172	H	53	1T(TRB)		T(RPE2)	GRD			0		24	22.5	
RPE3	AJ39		51	220			1T(TRB)		U(RPE3)	GRD			0		18.5	17.5	
RPL	267B		34	2				1(RPL)	4(RPL)	B/G			0		11.1	10.5	
								1(RPL)	4(RPL)	B/G			NO		9.3	9.8	
								1(RPL)	4(RPL)	B/G			R		7.1	7.5	
RPLA	280K	PI, PK, LS	34	A				7(RPLA)	3(RPLA)	B/G	3	P1/P2	0	-40	1.8	1	
								7(RPLA)	3(RPLA)	B/G	3	P1/P2	NO	-40	0.C.	0.7	
								7B(RON)	11B(RON)	B/G		S	0		1.9		

TEST NOTES:

1. CONNECT GRD TST CLIP TO 2 ASSOCIATED PRIME RELAY.
2. CONNECT GRD TST CLIP TO 1 ASSOCIATED NUMBERED RELAY.
3. CONNECT 6(RPLA) TO 2(RPLA).

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

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 62D (RR ICC MOT AND); 68D (WM ASU AND); 69A (TJD ASU AND); 72A (BUT AND AND); 75A (MC); 76B (TM)

APPARATUS DESIG	CODE	OPT.	FIG.	MECH REQT BSP FIG.	CONT PRES	ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
RPLT	U502	LG	1	121/102	H	53			7T(RPLT)	GRD			0		41	38.5	
RPS	U639		11	161/195	H	53			T(RPS)	GRD			0		34	32	WDG ALONE
											3,4		0		75	71.5	
RPS1	U1375		1	108/108	H	47			T(RPS1)	GRD					17.5	16.5	
RPS2	U119	DV	9	145/123	H	47			T(RPS2)	GRD			0		16	14.9	
	U82	DW	9	120/120	H	35			T(RPS2)	GRD			0		13.4	12.7	
RPS2A	AF112		51	263					U(RPS2A)	GRD			0		35.5	33.5	
RPS3	AJ39		51	220					U(RPS3)	GRD			0		18.5	17.5	
RPSA	U1375	ZZE	11	108/108	H	47			T(RPSA)	GRD	3		0		39	37	
													0		17.5	16.5	WDG ALONE
RPST	U64	YR,VR	40	113/113	H	29			T(RPST)	GRD			0		20.5	19.5	
RR3	U113	YK,YL UK,UL	20	114/114	H	50			T(RR3)	GRD	1		0		22.5	21	WDG ALONE
													0		80	72.5	
RR3A	U639	YK,YL UK,UL	20	161/195	H	53			T(TT3A)	GRD	1		0		34	32	WDG ALONE
													0		120	110	
RR3B	U115		33	113/113	H	29			T(RR3B)	GRD			0		10.4	9.9	
RR3C	U500	YK,YL UK,UL	20	118/121	H	50			T(RR3C)	GRD	1		0		22.5	21	WDG ALONE
													0		65.5	62	
RRA1	Y269		33	203/131	H	47	(DB)O		T(RRA1)	GRD			0	FS	21	20	
							(DB)O		T(RRA1)	GRD			H	FS	2.9	2.3	
							(DB)O		T(RRA1)	GRD			R	FS	1	1.3	
RRA2	Y107		33	188/175	H	47			T(RRA2)	GRD			0	FS	14.3	13.6	
									T(RRA2)	GRD			H	FS	1.7	1.6	
									T(RRA2)	GRD			R	FS	0.7	0.9	
RRAB	U1073		33	161/163	H	59			T(RRAB)	GRD			0		31.5	30	
RRL	U112	YK,YR UK,VR	9	123/111	H	29	2T(RRT)		T(RRL)	GRD			0		12.2	11.6	
RRL'	U500	YK,YR UK,VR	9	118/121	H	50	2T(RRT)		T(RRL')	GRD			0		22.5	21	
RRS	U119		34	145/123	H	47	6T(RRS)		T(RRS)	GRD			0		16	14.9	
RRST	U940		33	127/127	H	47			T(RRST)	GRD			0		21	20	
RRT	U1222	YK,YR UK,VR	9	110/144	H	35		T(RRT)		BAT.			0		7.4	7	SEE TMG REQT
RRT0, RRT1	U162		33	108/132	H	47			T REL TST	GRD			0		18	17	
RS1, RS2	276J		34	1									0	9	4.7		SEE BSP
													R	9	1.7		
RS3	276J	YR,VR	40	1									0	9	4.7		SEE BSP
													R	9	1.7		
RS3A	U521	YR,VR	40	108/108	H	47			T(RS3A)	GRD			0		22	20.5	
RSS	U157		33	108/132	H	47			T(RSS)	GRD			0		8.6	8.1	
RSS1, RSS2	U580		33	132/132	H	47			T REL TST	GRD			0		17.5	16.5	
RTC	263A	QZ	16								2		0		74	70	EACH WDG ALONE
									T(RTC)	GRD	2		0		170	160	BOTH WINDINGS PAR.

TEST NOTES:

1. PAR. COMB. OF (RR3),(RR3A),AND (RR3C).
2. MAKE TROUBLE RECORDER BUSY.
3. PAR. COMB. OF (RPS) AND (RPSA).
4. WHEN (RPSA) IS NOT FURNISHED USE WDG ALONE.

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED
DRAWING SIZE 6S
SD-25680-01-F15
PRINTED IN U.S.A.

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK mA	TEST mA	READJ mA	REMARKS
RTC	287A	PA	16								1		0		80	75	EACH WDG ALONE
	287E	KE							T(RTC)	GRD	1		G		175	165	BOTH WINDINGS PAR.
		QZ															
RTC1	U532		10	108/108	H	47			TF(RTC1)	GRD		P	0		20	19	
									TR(RTC1)	GRD		S	0		16.5		
RTC2	U1396		10	127/114	H	50			T(RTC2)	GRD			0		43.5	41	
RTCA	AJ202	CH	54	500					U(RTCA)	GRD	1		0		43.5	40.5	
RTRO	U81	YK,YL	35	113/113	H	29							0		22	20.5	WDG ALONE
		XC,							T(RTRO)	GRD	2		0		49	45.5	
		UK,UL															
RTR1	U81	YK,YL	35	113/113	H	29							0		22	20.5	WDG ALONE
		XC,							T(RTR1)	GRD	2		0		49	45.5	
		UK,UL															
RTR2, RTR3	U81	YQ, YT	35	113/113	H	29			T REL TST	GRD	3		0		22	20.5	WDG ALONE
															49	45.5	
RTR4, RTR5	U81	YS, YT	35	113/113	H	29			T REL TST	GRD	4		0		22	20.5	WDG ALONE
															49	45.5	
RTT	U1113		33	114/114	H	50	(DB)O		T(RRT)	GRD			0		22.5	21	
RTTI	Y254		33	151/201	H	41	(DB)O		T(RTTI)	GRD			0	FS	28.5	27	
							(DB)O		T(RTTI)	GRD			H	FS	4.9	4.6	
							(DB)O		T(RTTI)	GRD			R	FS	1.2	1.6	
RTV	U1334	WC,WD	17	111/111	H	29			T(RTV)	GRD			0		14.3	13.6	
RV	U1312		17	103/150	H	50		T(RV)		BAT.	5		0		11.9	11.3	
RVB	U1342		33	126/126	H	59	1T(RVB)		T(RVB)	GRD			0		30.5	29	
RVBA	U98		33	118/118	H	50			T(RVBA)	GRD			0		23.5	22	
RVP	209FF	YR,VR	40							B/G	5/6/7		0		13.5	12.8	
										B/G	5/6/7		NO		6	6.4	
RVP1	209FF	ZWY	40							B/G	5/6/7		0		13.5	12.8	
										B/G	5/6/7		NO		6	6.4	
RVP, RVP1	316G	ZWZ	40	3								P	0		4.5		SEE BSP
													R		-4.5		
												S	0		0.8		
													R		-0.8		
RVS	U721	BB	16	121/121	H	50			T(RVS)	GRD			0		22	20.5	
RVS	U611	CC	16	139/139	H	59			T(RVS)	GRD			0		30	28.5	
RVT	U199	YK,UK	33	121/121	H	50			T(RVT)	GRD			0		11	10.4	
RVT1	U162	YK,UK	33	108/132	H	47			T(RVT1)	GRD			0		18	17	
RVT2	Y95	YK,UK	33	175/115	H	47			T(RVT2)	GRD			0		21	20	
									T(RVT2)	GRD			H		2.4	2.2	
									T(RVT2)	GRD			R		0.9	1.2	
RVTK	U227	GJ	18	119/103	H	50			T(RVTK)	GRD			0		11.1	10.5	
S	239FC OR 280A	VF VG	26	A				11T(DP) 6(S)	7B(DP) 11B(DP)	B/G B/G		P S	0 0	-65	3 0.5	1.5	SEE TMG REQ'T
								11T(DP)	7B(DP)	B/G		P	NO	-65	0.C	1.1	
SQ	208G		33	1					5T(SRC)	GRD			0		16	15	
									5T(SRC)	GRD			NO		13	14	
									5T(SRC)	GRD			R		6.7	7.1	
S1	208G		33	1					3T(SRC)	GRD			0		16	15	
									3T(SRC)	GRD			NO		13	14	
									3T(SRC)	GRD			R		6.7	7.1	
S2-5	208G		33	1						GRD	8		0		16	15	
										GRD	8		NO		13	14	
										GRD	8		R		6.7	7.1	
S6	208G		33	1					1T(AF)	GRD			0		16	15	
									1T(AF)	GRD			NO		13	14	
									1T(AF)	GRD			R		6.7	7.1	
S1', S2', S3', S4'	208B		33	1						GRD	9		0		16	15	
										GRD	9		NO		13	14	
S5'	208B		33	1					5T(FQ1)	GRD			0		16	15	
									5T(FQ1)	GRD			NO		13	14	
S6'	208B		33	1					1(S6)	GRD			0		16	15	

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK mA	TEST mA	READJ mA	REMARKS
SO1, SO2, S11, S12	U272	R	16	120/111	H	35			TF REL TST	GRD		P	0		14.2	13.5	
												S					NO ADJ REQT
SA1	239FC	YP	40	A				1B(CIST)	6B(CIST)	B/G	10	P	0	-65	3	1.5	
	OR 280A	VP						1B(CIST)	6B(CIST)	B/G	10	P	NO	-65	0.C	1.1	SEE TMG REQT
SAI	AJ12		7i	220					U(SAI)	GRD			0		43	40.5	
									I(SAI)	B/G	10/11	S	0		0.5		
SC1	U200	KR	16	117/118	H	47			T(SC1)	GRD			0		10.4	9.9	
SCK	U1248	ZVK	11	111/101	H	29			T(SCK)	GRD			0		8.1	7.7	
SCK	U721	ZVL	11	121/121	H	50			T(SCK)	GRD			0		22	20.5	
SCN	U168	ZZH	11	108/106	H	47			T(SCN)	GRD			0		19.5	18.5	
SD2A	U1262		46	149/183	H	47			T(SD2A)	GRD			0		12.9	12.2	
SDS	AJ15	CU	16	249					U(SDS)	GRD			0		43	40.5	
SDT2	U520	ZA,XX	17	110/110	H	35			T(SDT2)	GRD			0		13.6	12.9	
SDT3	U58	ZA,XX	17	127/150	H	50			T(SDT3)	GRD			0		11.3	10.7	
SF	U6089		21	111/101	H	29			T(SF)	GRD			0		27	25.5	
SFI	AF50		48	18					U(SFI)	GRD			0		23.5	22	
SFT	U79	YL, YK,UK UL,ZZ	20	149/149	H	47			T(SFT)	GRD			0		22	20.5	
SG-	U236		25	112/112	H	29			T REL TST	GRD			0		9.1	8.6	
SK	AJ15		57	249					U(SK)	GRD			0		43	40.5	
SKI	AJ15		57	249					U(SKI)	GRD			0		43	40.5	
SLO, SLI	U611	YR,VR	40	139/139	H	59							0		30	28.5	WDG ALONE
									T REL TST	GRD	12		0		66.5	63	
SMTR	1/2 AK22		63	216					IU(SMTR)	GRD			0		27.5	26	(SMTR) MTD WITH (TRFM)
SON	U1144	YE	1	113/113	H	29	1T(TR8)		TF(SON)	GRD		P	0		24	22.5	
									TR(SON)	GRD		S	0		19		
SON1	U1307	YE	10	215/215	H	47			T(SON1)	GRD			0		22	20.5	
SP	U259, U1261	LX LY	21	160/108 150/117	H H	47 50			T(SP) T(SP)	GRD GRD			0 0		9.5 13.5	9 12.6	
SP1	Y98		21	115/115	H	SPL	1B(SP1)		T(SP1)	GRD			0	FS	22.5	21	ARM TRVL 53
							1B(SP1)		T(SP1)	GRD			NO	FS	14.7	15.5	
							1B(SP1)		T(SP1)	GRD			H	FS	1.9	1.7	
							1B(SP1)		T(SP1)	GRD			R	FS	0.9	1.2	

TEST NOTES:

1. MAKE TROUBLE RECORDER BUSY.
2. PAR.COMB. OF (RTRO) AND (RTR1).
3. PAR.COMB. OF (RTR2) AND (RTR3).
4. PAR.COMB. OF (RTR4) AND (RTR5).
5. SEE TIMING REQUIREMENT FOR (FND) RELAY.
6. CONTACT SPERATION MIN 3, MAX 4.
7. USE 209 TYPE RELAY TST CKT WHEN MAKING ADJUSTMENTS ON THIS RELAY.
8. CONNECT GRD TST CLIP TO 2 OF THE PRIME RELAY ASSOCIATED WITH THE RELAY UNDER TST.
9. CONNECT GRD TST CLIP TO 1 OF THE NUMBERED RELAY ASSOCIATED WITH THE RELAY UNDER TST.
10. INSULATE 1B(RGD1) FIG. S; OR 5B(RGD1), FIG. T.
11. CONNECT BAT. TO 1B(RGD1) FIG. S; OR 5B(RGD1), FIG. T.
12. PAR COMB. OF (SLO) AND (SLO1).

ISSUE 100B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER, AND SENDER TEST CIRCUIT

SD- 25680-01-F16

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

PRINTED IN U. S. A.

CBL-230(2-74)

CIRCUIT REQUIREMENTS

DRAWING ISSUE

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.		MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
SP2	Y126	LX	21		175/164	H	47			T(SP2)	GRD			0	FS	21	20	
										T(SP2)	GRD			H	FS	1.8	1.7	
										T(SP2)	GRD			R	FS	0.9	1.2	
SP2	Y203	LY	21		185/115	SPL	29			T(SP2)	GRD	1		0	FS	19.5	18.5	
														H	FS	1.7	1.8	
														R	FS	0.9	1.2	
SP5	Y209	LY	21		175/175	H	47			T(SP5)	GRD			0	FS	24.5	23	
														H	FS	2.9	2.7	
														R	FS	1.4	1.7	
SPB	AF88		47		42					U(SPB)				0		33.5	31.5	
SPE	U234		17		106/108	H	47			T(SPE)	GRD			0		19	18	
SPE1	U271	YE	10		120/108	H	47			TF(SPE1)	GRD		P	0		20.5	19.5	
										TR(SPE1)	GRD		S	0		17		
SPF	AJ9		46		234					U(SPF)	GRD			0		40	38	
SPL	U934		20		150/139	H	59	10T(SPL)		T(SPL)	GRD			0		29.5	28	
SPL1	U192	FH	20		121/108	H	50			T(SPL1)	GRD			0		21	20	
SPR-	U826		24		124/124	H	59			T | REL TST	GRD	2		0		20	19	WDG ALONE PAR COMB.
SPT	U520		11		110/110	H	35			T(SPT)	GRD			0		13.6	12.9	
SRC	U311		33		160/132	H	47			T(SRC)	GRD			0		24.5	23	
SRG	206L OR 280J	YA UA	26		B													NO ADJ REQT
SS	U425	ZAXX	17		128/110	H	41			T(SS)	GRD			0		17	16	
SSC	AJ15		62		249			4M(SSC)		U(SSC)	GRD			0		43	40.5	
SSL	I/2 AK6		56		2					IU(SSL)	GRD			0		29	27.5	MTD WITH (SSR)
SSP	U460		21		108/108	H	47			T(SSP)	GRD			0		11.2	10.6	
SSR	I/2 AK6		56		2					IL(SSR)	GRD			0		29	27.5	MTD WITH (SSL)
ST7	U520		16		110/110	H	35			T(ST7)	GRD			0		13.6	12.9	
STA-D	U67		38		145/108	H	47			T | REL TST	GRD			0		18	17	
STK	U1301		20		123/123	H	29			T(STK)	GRD			0		14.1	13.4	
STM	U495		1		113/113	H	29			T(STM)	GRD			0		17.5	16.5	
STM1	U115		2		113/113	H	29							0		10.4	9.9	WDG ALONE
										T(STM1)	GRD	3,4		0		23.5	22	
STM2	U199		2		121/121	H	50			T(STM2)	GRD			0		11	10.4	
STM3	U115	YK,YL YP,YR UK,UL VP,VR CY	1		113/113	H	29							0		10.4	9.9	WDG ALONE
										T(STM3)	GRD	3		0		23	22	
STP	U543		21		111/111	H	29			T(STP)	GRD			0		5.7	5.4	
STPO	U722	NB	33		148/145	H	47	6T(FLUA)		T(STPO)	GRD			0		22.5	21	
STPR	268A		33						9T(RTT)	10T(RTT)	B/G	5		0	35	11	10.5	
									9T(RTT)	10T(RTT)	B/G	5		NO	35	9	9.5	
									9T(RTT)	10T(RTT)	B/G			R	35	6.5	6.9	

TEST NOTES:

1. CONTACT MAKE 6 READJUST, 4 TST. MIN SPRING TENSION (1T) 10 GRAMS READJUST, 8 GRAMS, TST.
2. MULTIPLY CURRENT FLOW VALUE BY NUMBER OF RELAYS IN PAR.
3. PAR. COMB. OF (STM1) AND (STM3).
4. IF (STM3) IS NOT PROVIDED USE VALUE FOR WDG ALONE.
5. THE OPERATE AND NON-OPERATE REQT TO BE APPLIED WITH THE TST SET RELEASE KEY OPEN.

BELL TELEPHONE LABORATORIES INCORPORATED

PRINTED IN U.S.A.

SD-25680-01-F17

CIRCUIT REQUIREMENTS

DRAWING ISSUE 62D 65D 68D 69A 70D 72A

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.		MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
STR	U67		33		145/108	H	47			T(STR)	GRD			0		18	17	
STRA	AJ56		60		413					U(STRA)	GRD			0		57.5	54.5	
STRG	295A		60							14(STRG)	GRD	4		0		33		CONN DIRECT BAT. TO 1(STRG)
											GRD	4		R		3.6		
STRT	U735	YRVR	40		132/132	H	47			T(STRT)	GRD			0		17.5	16.5	
STS	UA107		16		126/126	H	59	1T(STS)		T(STS)	GRD	1		0		42	40	
STT	U495		9		113/113	H	29			T(STT)	GRD			0		17.5	16.5	
STVT	U1261	WC,WD XW	17		150/117	H	50			T(STVT)	GRD			0		13.3	12.6	
SV	S520	XE,XY	9		14		10		RB(SV)		BAT.	2	P1	0		16	15	
									RB(SV)		BAT.	2	P1	NO		12.8	13.5	
									LT(SV)		BAT.	3	P2	0		16.5		
SY	U333		26		150/150	H	50			T(SY)	GRD			0		15.5	14.4	
SY1	U158		26		132/111	H	47	1B(SY1)		T(SY1)	GRD			0		7.9	7.5	
SY2	S5	YR,VR	40		2					2RT(SY2)	GRD			0		14.7	14	
										2RT(SY2)	GRD			NO		11.8	12.5	
SY3	S51	YR,VR	40		2					2RT(SY3)	GRD			0		9.5	9	
										2RT(SY3)	GRD			NO		7.6	8	
T	U467	YK,JK	33		108/110	H	47		B(T)		BAT.			0		22.5	21	
									B(T)		BAT.			NO		12.9	13.6	
T1	U1329	YK,JK	33		145/120	H	47			T(T1)	GRD			0		9.1	8.6	
TA	U75		10		132/132	H	47			T(TA)	GRD			0		11.1	10.5	
TAC	206GM OR 280CH	VY VZ	9		B				5T(TAC1)	1T(DOR2)	B/G			0	-180		4.3	
									5T(TAC1)	1T(DOR2)	B/G			NO	-180		3.1	
									5T(TAC1)	1T(DOR2)	B/G			0	-180	27.5	26	
									5T(TAC1)	1T(DOR2)	B/G			R	180	1.9	2	
TAC1	U119		9		145/123	H	47	1T(TAC1)		T(TAC1)	GRD			0		16	14.9	
TAC2	U1149		9		109/148	H	47			T(TAC2)	GRD			0		17	16	
TAN	U259	ZG	20		160/108	H	47			T(TAN)	GRD			0		9.5	9	
	U234	DD												0		19	18	
TAN1	U234	TR,FG	20		160/108	H	47			T(TAN1)	GRD			0		19	18	
TAN2	U234	TS,FD	20		160/108	H	47			T(TAN2)	GRD			0		19	18	
TAN3	U234	TT,FE	20		160/108	H	47			T(TAN3)	GRD			0		19	18	
TAN4	U234	TU,FF	20		160/108	H	47			T(TAN4)	GRD			0		19	18	
TAP1	U216		2		108/111	H	47		T(TAP1)		BAT.			0		7.6	7.2	SEE TMG REQT
TAP2	Y62		2		188/115	H	35			T(TAP2)	GRD			0	FS	20.5	19.5	
										T(TAP2)	GRD			H	FS	2.4	2.2	
										T(TAP2)	GRD			R	FS	1	1.3	
TB1	U90		17		145/123	H	47			TF(TB1)	GRD		P	0		18	17	
										TR(TB1)	GRD		S	0		14.5		
TB2	U1320		17		117/151	H	47	1T(TMY)		T(TB2)	GRD			0		21	20	
TB3	U722		40		148/145	H	47			T(TB3)	GRD			0		22.5	21	

TEST NOTES:

1. SPRING 1T AND 1B SHALL HAVE MIN. 40 GRAMS TENSION.
2. CONNECT DIRECT GRD TO 2RT(SV).
3. CONNECT DIRECT GRD TO LB1(SV).
4. REMOVE PLUG ASSOCIATED WITH (STRG) RELAY FROM "TOUCH-TONE" STATION TEST RECEIVER.

72

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SHEET NOS 6S

SD-25680-01-F17

PRINTED IN U.S.A.

DRAWING ISSUE: 81D, 88D

CIRCUIT REQUIREMENTS

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.		MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
TBL	U1307		9		215/215	H	47			T(TBL)	GRD			0		22	20.5	
														NO		9.8	10.4	
TBLP	AJ15		61		249			6B(AS)		U(TBLP)	GRD			0		43	40.5	
TC1	Y139		20		131/115	H	35			T(TC1)	GRD			0		21	20	
														H	FS	2	1.8	
														R		0.9	1.2	
TC2	U499		20		108/110	H	47			T(TC2)	GRD			0		20.5	19.5	
TC3	B24		40		5		30			2T(CL3A)	GRD			0		0.9	0.8	
														R		0.2	0.3	
TC4	U1307		40		215/215	H	47			T(TC4)	GRD			0		22	20.5	
TCA	U50	MB	20		127/112	H	47			T(TCA)	GRD			0		10.3	9.8	
	U1329	FB			145/120											9.1	8.6	
TCB	U50	MB	20		127/112	H	47			T(TCB)	GRD			0		10.3	9.8	
	U1329	FB			145/120											9.1	8.6	
TCL-	U81		22		113/113	H	29			T (REL TST)	GRD			0		22	20.5	
TCS	UA107	YR,VR	35		126/126	H	59			T(TCS)	GRD	1		0		42	40	
TCT	U566		17		119/110	H	35		T(TCT)		BAT.	4		0		6.6	6.2	
TCT1	U157		40		108/132	H	47	(ONS1)O	T(TCT1)		BAT.	4		0		8.6	8.1	
TD	U426	EG	9		148/108	H	47			6B(TD)	GRD			0		19	18	
TD1	U220	YR,R VR,CY	16		120/108	H	47			T(TD1)	GRD			0		19	18	
TDA	U194	EG	9		103/114	H	50			11B(TDA)	GRD			0		18	17	
TDM	U127	ZI	16		148/108	H	47			TF(TDM)	GRD		P	0		22	20.5	
										TR(TDM)			S			18		
TF0.1, 2,4,7	EA3, EA27	QK, QL	27		4/4	H	SPL			2T (REL TST)	GRD	2		0		21	20	
														NO		13.3	14	
TG	2668		32		2	H	15		RT(TG)	LT(TG)	B/G			0		10.5	10	FOR 1,2T AND
									LT(TG)	RT(TG)				NO		4.7	5	1,2B SPRINGS
														0		10.5	10	FOR 3,4T AND
														NO		4.7	5	3,4B SPRINGS
TG1	U1113		17		114/114	H	50			T(TG1)	GRD			0		22.5	21	
TG2	Y223		17		188/188	H	35			T(TG2)	GRD			0		28.5	27	
														H	FS	3.2	3	
														R		1.7	2	
TG3	U1307		17		215/215	H	47			T(TG3)	GRD			0		22	20.5	
TG3'	U1375		17		108/108	H	47			T(TG3')	GRD			0		17.5	16.5	
TG4	AF54	IH	20		25					U(TG4)	GRD			0		30.5	29	
TGD	U717	YP, VP	40		111/110	H	35			T(TGD)	GRD			0		16	15	
TGT	U1054	YP, VP	40		151/134	H	41	(ONS1)O 4B(TGT)	T(TGT)		BAT.	4		0		8.7	8.2	
TGT1	U467	YP, VP	40		108/110	H	47			T(TGT1)	GRD			0		22.5	21	
THC	U1018	YM	20		137/137	H	41			T(THC)	GRD			0		20.5	19.5	
	U29	FV			149/149		47									22	20.5	
THT0.1	EA27	JA	30		4/4	H	SPL			2T(REL TST)	GRD	2		0		21	20	
														NO		13.3	14	
THT2,3	EA27	ZWA	30		4/4	H	SPL			2T(REL TST)	GRD	2		0		21	20	
														NO		13.3	14	
TI	AJ12		51		220					U(TI)	GRD			0		43	40.5	
TIF2	AF52		51		19			2(TIF2)		U(TIF2)	GRD			0		31	28	
TIR	AF83	IH	20		8					U(TIR)	GRD			0		8.2	7.8	
TIR1	AJ15	IH	9		249					U(TIR1)	GRD			0		43	40.5	
TIRV	AF32		51		208					U(TIRV)	GRD			0		32.5	30.5	
TK	239JB OR 280BF	UE OH UF	17		B				7(TK)	(TK)JK-T	B/G	3	S1	0			1.9	
														NO	-80		1.3	
														0		7.6	7.2	
														R	80	1.7	1.8	
									(TK)JK-R	T(TK)			S2	0		7.6		
TK1	U1307		17		215/215	H	47			T(TK1)	GRD			0		22	20.5	
TK2	U1324		40		163/163	H	59			T(TK2)	GRD			0		23	21.5	

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT	APPARATUS FIG.		MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
TKR	U1321		17		180/153	H	53			TF(TKR)	GRD		P	0		26.5	25	
													S					NO ADJ REQD
TKR1	U521	XD	17		108/108	H	47	1T(TMX)		T(TKR1)	GRD			0		22	20.5	
TKR2	U94	XD	17		120/110	H	35			T(TKR2)	GRD			G		21	20	
														NO		14.2	14	
TKR3	AG59		69		708					IU(TKR3)	GRD			0		29.5	28	
													P	H	FS	6.1	5.8	
														R		4.3	4.7	
TKR4	AF120		69		406					U(TKR4)	GRD			0		20.5	19.5	
TKR5	AJ504		69		57			2(TKR6)		U(TKR5)	GRD			0		11.8	11.2	
TKR6	AF32		69		208					U(TKR6)	GRD			0		32	30.2	
TKR7	AG59		69		708					IU(TKR7)	GRD			0		29.5	28	
													P	H	FS	6.1	5.8	
														R		4.3	4.7	
										2U(TKR7)			S	0		29.5		
TLG	U90		10		145/123	H	97	(RTC1)NO		TF (TLG)	GRD		P	0		18	17	
										TR			S			14.5		
TLG1	U90		10	YZ, TM	145/123	H	47	(RTC1)NO		TF (TLG1)	GRD		P	0		13	17	
										TR			S			14.5		
TM	U108		10		121/108	H	50		T(TH)		BAT.	4		0		10.1	9.6	
TM1	U67		10		145/108	H	47	1T(TMB)		T(TM1)	GRD			0		18	17	
TM2	U679		10		108/108	H	47			T(TM2)	GRD			0		18.5	17.5	
TM3,4	U457	MS	10		118/148	H	50			T (REL TST)	GRD			0		14.2	13.5	
TMA	U346		10		132/111	H	47	(TM)NO		TF (TMA)	GRD		P	0		18.5	17.5	
								2B(TMA)		TR			S			11		
TMB	U1273		10		110/110	H	35			T(TMB)	GRD			0		20.5	19.5	
														NO		11.7	12.6	
TMC	AF32		60		208			(STRA)O		U(TMC)	CRD			0		32.5	30.5	
TMN	U148		17		120/108	H	47		T(TMN)		BAT.	4		0		9	8.5	
TMN1	U216		40		108/111	H	47	(ONS1)O ST(TMN1)	T(TMN1)		BAT.	4		0		7.6	7.2	
TMT	U58		17		127/150	H	50			T(TMT)	GRD			0		11.3	10.7	WDG ALONE
														C		25.1	23.7	PAR COMB. (TMT)&(TMT4)
TMX	U259		17		160/108	H	47		T(TMX)		BAT.	4		0		9.3	9	
TMX1	U594		40		123/120	H	35	(ONS1)O 6T(TMX1)	T(TMX1)		BAT.	4		0		6.9	6.5	
TO	239JR OR 280AP	UB OR UD	16		B				11T(ONR)	2(TO)	B/G		P	0			1.5	
														NO			1.1	
														0	-65	5.1	5.8	
														R	65	0.2	0.3	
									28(AS)	4T(DON)			S	0		1.3		

TEST NOTES:

1. SPRINGS 1T & 1B HAVE MIN 40 GRAM TENSION.
2. CONT SEPARATION MIN 10, MIN TENSION 3T & 3B, 6 GRAMS READJ, 5 GRAMS TST. EA3 ARM. TRVL 35. FOR EA27 NO ARM. TRVL REQD.
3. NO ADJUSTMENT REQD FOR PRIMARY WINDING.
4. SEE TIMING REQUIREMENTS.

ISSUE 105A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-F18

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

SD-25680-01-F18

E-7423 (4-66) CBL

CIRCUIT REQUIREMENTS

DRAWING ISSUE

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
TOL	U270	ZJ	20	137/110	H	41			T(TOL)	GRD			0		8.3	7.9	
	U1329	MM	20	145/120	H	47			T(TOL)	GRD			0		9.1	8.6	
TP	U419		11	132/111	H	47			T(TP)	GRD			0		16	14.8	
TPK	239GG	UM	11	A			1B(RP)	9T(DOR3)	1B(RP)	B/G		P	0	-65	2.7	1.5	
	OR						1B(RP)	9T(DOR3)	1B(RP)	B/G		P	NO	-65	O.C.	1.1	
	280AN	UN					1B(RP)	6(TPK)	1(TPK)	B/G		S	0		0.7		
TPK1	U520		11	110/110	H	35	1B(TPK1)		T(TPK1)	GRD			0		13.6	12.9	
							1B(FPT)										
TPT	Y95		11	175/115	H	47	1B(TPK1)		T(TPT)	GRD			0	FS	21	20	
									T(TPT)	GRD			H	FS	2.4	2.2	
									T(TPT)	GRD			R	FS	0.9	1.2	
TPT1	Y95		11	175/115	H	47			T(TPT1)	GRD			0	FS	21	20	
									T(TPT1)	GRD			H	FS	2.4	2.2	
									T(TPT1)	GRD			R	FS	0.9	1.2	
TR	U65		16	113/113	H	29							0		20.5	19.5	WDG ALONE
									T(TR)	GRD	1		0		28	26.5	
TR2	U699		17	109/109	H	29							0		8.2	7.8	WDG ALONE
									T(TR2)	GRD	1		0		44	42	
TR3	AF24	II	20	8					U(TR3)	GRD			0		30.5	29	
TRB	U220		10	120/108	H	47	2B(MTR1)		T(TRB)	GRD			0		19	18	
TRC	U72		10	120/110	H	35			T(TRC)	GRD			0		13.7	13	
TRF	U333	JC	20	150/150	H	50			T(TRF)	GRD			0		15.5	14.4	
TRFM	1/2AK22		63	216					IL(TRFM)	GRD			0		27.5	26	(TRFM) MTD WITH(SMTR)
TRIC	AJ27		51	213					U(TRIC)	GRD			0		15	14.2	
TRR1	U588		10	119/119	H	35	(DL)NO. (TRB)O		T(TRR1)	GRD			0		13.7	13	
TRR2	U333		10	150/150	H	50	1T(TRB)		T(TRR2)	GRD			0		15.4	14.4	
TRS	U559	XF	16	147/130	H	44	1T(TRS)		T(TRS)	GRD			0		20.5	19.5	
TRT	U185	ZZD	9	132/101	H	47		T(TRT)		BAT.			0		7.3	6.9	SEE TMG REQT
	U542	ZZE	9	108/132	H	47		T(TRT)		BAT.			0		8.6	8.1	
TRT1	U1375		9	108/108	H	47			T(TRT1)	GRD			0		17.5	16.5	
TSR	Y80		9	131/131	H	35			T(TSR)	GRD			0	FS	22.5	21	
									T(TSR)	GRD			H	FS	2.0	1.8	
									T(TSR)	GRD			R	FS	0.9	1.2	
TST	U1238		20	110/101	H	35			T(TST)	GRD			0		14	13.3	
TST1	U53		20	118/145	H	50	8T(TST1)		T(TST1)	GRD			0		10.2	9.7	
TSTA	AF50		51	18				L(TSTA)		BAT.			0		23.5	22	
TSTK	U1312		17	103/150	H	50		T(TSTK)		BAT.			0		11.9	11.3	SEE TMG REQT
TT	U270	MO	20	137/110	H	41			T(TT)	GRD			0		8.3	7.9	
	U407	ME	20	123/111	H	29			T(TT)	GRD			0		6.1	5.8	
	U254	FO	20	108/108	H	47			T(TT)	GRD			0		17.5	16.5	
TTO,	EA3	QS	30	4/4	H	SPL			2T REL	GRD	2		0		21	20	
TT1,	EA27	QT							2T TST	GRD	2		NO		13.3	14	
TT2,																	
TT4,																	
TT7																	

TEST NOTES:

1. PAR. COMB. OF (TR) AND (TR2)
2. CONT SEPARATION MIN 10, MIN TENSION 3T AND 3B 6 GRAMS READJ, 5 GRAMS TST. EA3 ARM TRVL 35. FOR EA27 NO ARM TRVL REQD.

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

SD-25680-01-F19

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 52D, 68D, 69A, 70D, 72A, 76B, 86D

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	REMARKS
TTA	AF139	IV	20	256				B(TTA)		BAT.			0		8.3	7.9	
TTAF	AF9	IV	20	213					U(TTAF)	GRD			0		8.6	8.2	
TTE	U426	YR,VR	34	148/108	H	47			T(TTE)	GRD			0		19	18	
TTG	L20	YR,VR	40	2					2T(CL3A)	GRD			0		1.6	1.5	
									2T(CL3A)	GRD			NO		1.2	1.3	
TTG1	U67	YR,VR	40	145/108	H	47			T(TTG1)	GRD			0		18	17	
TTIR1	AJ15	IH	9	249					U(TTIR1)	GRD			0		43	40.5	
TTIR2	AJ15	IH	9	249			5B(TTIR2)		U(TTIR2)	GRD			0		43	40.5	
TTK	AJ15		60	249					U(TTK)	GRD			0		43	40.5	
TTS	U419	YR,VR	34	132/111	H	47			T(TTS)	GRD			0		16	14.8	
TTST	AJ15	IH	20	249					U(TTST)	GRD			0		43	40.5	
TVTK	U234		17	160/108	H	47			T(TVTK)	GRD			0		19	18	
TWT	U189		21	148/148	H	47			T(TWT)	GRD			0		10.1	9.6	
UTO,1, 2,4,7	EA3, EA27	QS QT	30	4/4	H	SPL			2T REL	GRD	1		0		21	20	
									2T TST	GRD	1		NO		13.3	14	
VF0, VF1, VF2, VF3, VF4	EA3, EA27	QP QQ	28	4/4	H	SPL			2T REL	GRD	1		0		21	20	
									2T TST	GRD	1		NO		13.3	14	
VG0, VG1, VG2, VG4 VG7	EA3, EA27	QP QQ	28	4/4	H	SPL			2T REL	GRD	1		0		21	20	
									2T TST	GRD	1		NO		13.3	14	
VGIO	EA3, EA27	ZB QW		4/4	H	SPL			2T(VGIO)	GRD	1		0		21	20	
									2T(VGIO)	GRD	1		NO		13.3	14	
W	U1317		32	117/143	H	47			T(W)	GRD			0		19	18	
WAT	U520	YP,VP	40	110/110	H	35			T (WAT)	GRD			0		13.6	12.9	
WATR	AF8	ZYK	51	200					1U (WATR)	GRD		P	0		19.5	18.5	
									2U (WATR)	GRD		S	0		11.7		
WDTF	AF9	ZYK	51	213					U (WDTF)	GRD			0		8.6	8.2	
WDTI	AF8	ZYK	51	200					1U (WDTI)	GRD		P	0		19.5	18.5	
									2U (WDTI)	GRD		S	0		11.7		
WL	U1244		32	110/101	H	35		T (WL)		BAT.			0		6.7	6.3	SEE TMG REQT
WOK	U844		32	118/118	H	50			T (WOK)	GRD			0		26.5	25	
WS	U218		32	120/110	H	35		T (WS)		BAT.			0		6.8	6.4	SEE TMG REQT
WS1	U499		32	108/110	H	47			T(WS1)	GRD			0		20.5	19.5	
X	U520		16	110/110	H	35			T(X)	GRD			0		13.6	12.9	
X11	U139	FR	11	117/134	H	47			T(X11)	GRD			0		19	18	
	U419	XL,YF	11	132/111	H	47			T(X11)	GRD			0		16	14.8	
XCL	AF96		52	46					1U(XCL)	GRD		P	0		100	95	
									1U(XCL)	GRD		P	NO		90	85	
XICL	AF96		52	46					1U(XICL)	GRD		P	0		100	95	
									1U(XICL)	GRD		P	NO		80	85	
XIR	U1410		9	111/101	SPL	SPL			TF(XIR)	GRD	2	P	0		195	185	ARM. TRVL 23
									TF(XIR)	GRD		P	NO		150	160	
							1T(XIR)		TR(XIR)	GRD		S	0		28		
XLT	AF96		52	46					1U(XLT)	GRD		P	0		100	95	
									1U(XLT)	GRD		P	NO		80	85	

TEST NOTES:

1. CONT SEPARATION MIN 10, MIN TENSION 3T AND 3B 6 GRAMS READJ, 5 GRAMS TST. EA3 ARM. TRVL 35. FOR EA27 NO ARM. TRVL REQD.
2. 1-2T, 3-4T AND 1-2B MAKE MIN 6 MILLIINCHES.

ISSUE 102B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-F19

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

CIRCUIT REQUIREMENTS

DRAWING ISSUE

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	DIRECT CURRENT FLOW REQT TEST FOR	DIRECT CURRENT FLOW REQT AFTER SOAK MA	DIRECT CURRENT FLOW REQT TEST MA	DIRECT CURRENT FLOW REQT READJ MA	REMARKS
XM	U386		9	148/148	H	47	1T(ACO)		T(XM)	GRD			0		10.1	9.6	
XMR1, XMR2	U261		9	132/111	H	47	1T(ACO)		TF REL TR TST	GRD GRD		P S	0 0		18 14.5	17	
XOR	U1409		9	111/101	SPL	SPL			TF(XOR)	GRD	1	P	0		115	105	ARM. TRVL 23
									TF(XOR)	GRD		P	NO		80	90	
							1T(XOR)		TR(XOR)	GRD		S	0		25		
XOS	U1409	YE	9	111/101	SPL	SPL			TF(XOS)	GRD	1	P	0		115	105	ARM. TRVL 23
									TF(XOS)	GRD		P	NO		80	90	
							1T(XOS)		TR(XOS)	GRD		S	0		25		
XP	AJ15		55	249					U(XP)	GRD			0		43	40.5	
Y0, Y3, Y6, Y9	295A		60						14 REL TST	GRD GRD	2 2		0 R		33 3.6		CONNECT DIRECT BATTERY TO I(RELAY UNDER TEST)
Z1, Z2, Z3, Z4	295A		60						14 REL TST	GRD GRD	2 2		0 R		33 3.6		CONNECT DIRECT BATTERY TO I (RELAY UNDER TEST)
ELECTRON TUBES																	
ABT	313CC		40														SEE BSP
B1, B2	396A		13														SEE BSP
CRT1, CRT2, CRT3	313CC	XL, WY, WZ	11														SEE BSP
DP	396A		13														SEE BSP
DT1, DT2	313CC		14														SEE BSP
FOT	313CC		33														SEE BSP
GN	396A		36														SEE BSP
GTT, GTT1	313CC	XN, YC	11														SEE BSP
IAT	313CC	YR,VR	40														SEE BSP
IFT	313CC	YK,UK	33														SEE BSP
LOLP	396A	EE	13														SEE BSP
MF	396A		12														SEE BSP
OFT	313CC	YK,UK	33														SEE BSP

TEST NOTES:

1. 1-2T, 3-4T AND 1-2B MAKE MIN 6 MILLIINCHES.
2. REMOVE PLUG ASSOCIATED WITH(Y-)AND(Z-)RELAYS FROM "TOUCH-TONE" STATION TEST RECEIVER.

BELL TELEPHONE LABORATORIES INCORPORATED

PRINTED IN U.S.A.

E-74659 (5-65)

SD-25680-01-F20

22

CIRCUIT REQUIREMENTS

DRAWING ISSUE

62D VRL AND

67D CRP AJL AH

68D RD RSL AND

70D MLM VR6 /1-2

71A SAV PAT AM

APPARATUS DESIG	APPARATUS CODE	APPARATUS OPT.	APPARATUS FIG.	MECH REQT BSP FIG.	MECH REQT CONT PRES	MECH REQT ARM. TRVL	CIRCUIT PREPARATION BLOCK OR INSULATE	CIRCUIT PREPARATION TEST CLIP DATA CONN BAT.	CIRCUIT PREPARATION TEST CLIP DATA CONN GRD	TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT TEST WDG	DIRECT CURRENT FLOW REQT TEST FOR	DIRECT CURRENT FLOW REQT AFTER SOAK MA	DIRECT CURRENT FLOW REQT TEST MA	DIRECT CURRENT FLOW REQT READJ MA	REMARKS
P	0A2		13														SEE BSP
PA	396A		13														SEE BSP
PM	396A		36														SEE BSP
R	412A		13														SEE BSP
RLO	313CC		55														SEE BSP
RRT	313CC	YK,YR, UK,YR	9														SEE BSP
RV	313CC		17														SEE BSP
TAP	313CC		2														SEE BSP
TCT	313CC		17														SEE BSP
TCT1	313CC		40														SEE BSP
TGT	313CC	YP,VP	40														SEE BSP
TM	313CC		10														SEE BSP
TMN	313CC		17														SEE BSP
TMN1	313CC		40														SEE BSP
TMX	313CC		17														SEE BSP
TMX1	313CC		40														SEE BSP
TRT	313CC		9														SEE BSP
TSTK	313CC		17														SEE BSP
VR1	396A		13														SEE BSP
VR2	0B2		13														SEE BSP
VR3	0A2		13														SEE BSP
VR4, VR5	0B2		13														SEE BSP
VR6	0C2	CA	13														SEE BSP
WL, WS	313CC		32														SEE BSP

ISSUE 102B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-F20

BELL TELEPHONE LABORATORIES INCORPORATED

SMB 8-65 6S

PRINTED IN U.S.A.

TIMING REQUIREMENTS

DRAWING ISSUE

APPARATUS DESIG	APPARATUS FEATURE OR OPTION	FIG.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BK	TEST CLIP DATA CONN R	TEST CLIP DATA CONN W	TEST SET PREP SEND KEY	TEST SET PREP REC SW START	TEST SET PREP REC SW STOP	SEE TEST NOTE	TIME REQT MIL-SEC MIN	TIME REQT MIL-SEC MAX	REMARKS
RELAYS													
ABT		40		GRD	T(DSC)	4T(DSC)	MK	-48	O.C.		1000	1540	
AGT													SEE SHEET F22 FOR TMG REQT
CRT1													SEE SHEET F22 FOR TMG REQT
CRT2													SEE SHEET F22 FOR TMG REQT
CRT3													SEE SHEET F22 FOR TMG REQT
DP		13					MK	O.C.	-48	1	5	10	OPERATE KEYS (AAB) & (MAC)
DSP		34	(RON)O	GRD	1(DSP)	7(DSP)	BK	O.C.	-48		12	20	
DT1													SEE SHEET F22 FOR TMG REQT
DT2	EA, FY FZ	14		GRD	T(DT)	4T(DT2)	MK	-48	GRD		4750	7590	SEE SHEET F22 FOR TMG REQT
FOT													SEE SHEET F22 FOR TMG REQT
G		36	(CON1)O, KEY(MAC)O		1B(CSP)	6T(CSP)	MK	O.C.	-48	2-5	10	30	FOR UNBALANCED PCI PULSING, FIG.Q
				2 PIN (PM) TUBE	3B(CSP)	6T(CSP)	MK	O.C.	-48	3,5	30	50	FOR BALANCED PCI PULSING FIG. R
GTT	XN, VC	11	(DOR3)O, (CN)O, (GTO)O	-48	3T(CNK)	2B(GTT)	MK	GRD	O.C.		780	1125	CONN. GRD TO 1B(GTT). RELEASE (CN) TO RECYCLE
	CQ												SEE SHEET F22 FOR TMG REQT
GTT1	XN,VC CQ	11	(DOR3)O, (CN)O	-48	3T(CNK)	2B(GTT)	MK	O.C.	GRD		780	1140	CONN GRD TO 1B(GTT) SEE SHEET F22 FOR TMG REQT
IAT	LN LO	40	2B(LNA), (ONSI)O, 2T(IA), 6T(IAT)	GRD	T(IAA)	2T(IA)	MK	GRD	O.C.		3000 1640	4560 2610	
IFT		33	(BK)NO	GRD	T(RIF1)	T(BK)	MK	GRD	-48		4820	7350	
IQ2		40	(IQ)O	GRD	T(TK2)	7B(CL3A)	BK	GRD	O.C.	6	66	80	(CL3A) NORMAL
			(IO)O	GRD	T(TK2)	7B(CL3A)	BK	GRD	O.C.	6	34	42	(CL3A) OPERATED
L		15	(AON)O, (LC)NO	GRD		3T(LC)	MK	GRD	-48	6,7	12	20	
MG		36	(CON1)O, KEY(MAC)O	-48	1T(CSP)	1(MG)	MK	-48	O.C.	5,8	10	30	FOR UNBALANCED PCI PULSING. FIG. Q
				-48	1T(CSP)	1(MG)	MK	-48	O.C.	5	30	50	FOR BALANCED PCI PULSING. FIG. R
N		36	(CON1)O, KEY(MAC)O	-48		6T(CU')	BK	-48	O.C.	5,9-11	10	30	FOR UNBALANCED PCI PULSING, FIG. Q
						6T(CU')	MK	O.C.	-48	2,5 9-11	10	30	
				2 PIN (PM)TUBE	6B(CSP)	6T(CU')	MK	O.C.	-48	5,11	30	50	FOR BALANCED PCI PULSING FIG. R

TEST NOTES:

1. CONNECT T,R,S OF (TTS) JACK TO T,R,S OF (TST2) JACK,OF TEST SET.
2. CONNECT "BK" LEAD OF TEST SET TO NON-GROUNDED SIDE OF (PM10) RESISTOR.
3. CONNECT GRD TO 4T(CSP).
4. CONNECT GRD THROUGH APPROXIMATELY 1000 OHMS TO 1B(CSP).
5. THE (MAC) KEY MUST BE OPERATED APPROXIMATELY 1 MINUTE BEFORE MAKING THIS TEST.
6. DO NOT MAKE STAGGER TIME CORRECTION ON TIMING TEST SET.
7. CONNECT "R" LEAD OF TEST SET THROUGH A 2MF CAPACITOR TO 4T(AAB). DISCHARGE THE CAPACITOR BETWEEN MEASUREMENTS.
8. CONNECT GRD THROUGH APPROXIMATELY 1000 OHMS TO 1T(CSP).
9. CONNECT "R" LEAD OF TEST SET TO NO. 46 TERMINAL OF (MON) TS ON AUXILIARY R & S TEST BAY.
10. CONNECT GRD THROUGH APPROXIMATELY 1000 OHMS TO NO. 46 TERMINAL OF (MON) TS ON AUXILIARY TEST BAY. BLOCK (CSP) 0.
11. CONNECT -48 TO 1B(CSP) IN FIG. Q OR TO 3B(CSP) IN FIG. R.

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

TIMING REQUIREMENTS

DRAWING ISSUE: 62D, 68D, 73D, 86D

APPARATUS DESIG	APPARATUS FEATURE OR OPTION	FIG.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BK	TEST CLIP DATA CONN R	TEST CLIP DATA CONN W	TEST SET PREP SEND KEY	TEST SET PREP REC SW START	TEST SET PREP REC SW STOP	SEE TEST NOTE	TIME REQT MIL-SEC MIN	TIME REQT MIL-SEC MAX	REMARKS
OFT													SEE SHEET F22 FOR TMG REQT
P		13				3T(AAB)	MK	-48	GRD	1	10	15	(AAB)&(MAC) KEYS OPERATED INSULATE "BK" & "R" LEADS
POS		36	(CON1)O, KEY(MAC)O	GRD	4T(CSP)	5T(CU')	MK	O.C.	-48	2	10	30	FOR UNBALANCED PCI PULSING, FIG. Q
				2 PIN (PR)TUBE	4T(CSP)	5T(CU')	MK	O.C.	-48	2	30	50	FOR BALANCED PCI PULSING, FIG. R
PTO		12	9T(MFN), (MFN)O	GRD	12T(MFN)	10T(MFN)	BK	O.C.	GRD	3	20	28	
R		26	2T(SY1), (DP)O	GRD	LB1(R2)	2T(SY1)	MK	O.C.	GRD		100	120	
RAA	UU	15	(AON)O	GRD	4B(LA1)	2T(LC)	BK	GRD	O.C.		90	110	
	UV	15	(AON)O	GRD	4B(LA1)	2T(LC)	BK	GRD	O.C.		114	126	
RRT	YK,YR. UK,VR	9	(RRL)NO	GRD	T(RRL')	3T(RRL)	MK	GRD	O.C.		2900	4500	
RV													SEE SHEET F22 FOR TMG REQT
S		26	(DP)O	GRD	LB1(BD2)	7(S)	MK	O.C.	GRD		46	54	CONN 3(BD2) TO 4(S). CONN GRD TO 3(S)
SA1		40	(RGD)O, (CIST)O, 3T(CIST)	GRD	T(RGD1)	2T(TGT1)	MK	O.C.	GRD		15	25	DO NOT MAKE STAGGER TIME CORRECTION ON TIMING TEST SET
TAP1		2								4			
TCT													SEE SHEET F22 FOR TMG REQT
TCT1													SEE SHEET F22 FOR TMG REQT
TGT													SEE SHEET F22 FOR TMG REQT
TM		10								5			
			(TM2)O							6			
TMN													SEE SHEET F22 FOR TMG REQT
TMN1													SEE SHEET F22 FOR TMG REQT
TMX													SEE SHEET F22 FOR TMG REQT
TMX1													SEE SHEET F22 FOR TMG REQT
TRT		9		GRD	T(TRT1)	4B(MT)	MK	O.C.	GRD		165	245	(ORH) NORMAL
				GRD	T(TRT1)	4B(MT)	MK	O.C.	GRD		665	1060	(ORH) O
TSTK		17		GRD	T(TVTK)	5T(TSTK)	MK	GRD	O.C.		1330	2160	CONN GRD TO 6T(TSTK)
WL		32		GRD	T(W)	1T(WL)	MK	-48	O.C.		375	685	
WS													SEE SHEET F22 FOR TMG REQT

TEST NOTES:

1. THE (B1) POTENTIOMETER SHOULD BE CORRECTLY ADJUSTED. CONNECT T,R & S OF (TTS) JACK OF THE MONITOR TO T,R, & S OF THE (TST2) JACK OF THE TIMING TEST SET.
2. THE (MAC) KEY MUST BE OPERATED APPROXIMATELY 1 MINUTE BEFORE MAKING THIS TEST.
3. WHERE MONITOR IS ASSOCIATED WITH MF RECEIVER, SD-95087-01, OPERATE (CK2) OF ASSOCIATED MF RECEIVER BY CONNECTING GRD TO THE REGISTER (T3) JK-T AND APPROXIMATELY 1000 OHMS RESISTOR BAT. TO THE REGISTER (T3) JK-R. WHERE MONITOR IS ASSOCIATED WITH MF RECEIVER, SD-95536-01, REMOVE THE (CK2) RELAY IN THE RECEIVER AND CONNECT DIRECT GRD TO 7T(MFN).
4. OPERATE (TAP2). (TAP1) SHOULD OPERATE IN 61 SEC MIN., 98 SEC. MAX.
5. OPERATE (TMA). (TM) SHOULD OPERATE IN 40 SEC. MIN., 64 SEC. MAX.
6. OPERATE (TMA). (TM) SHOULD OPERATE IN 10 SEC. MIN., 16 SEC. MAX.

86

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-F21

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

TIMING REQUIREMENTS

DRAWING ISSUE

APPARATUS DESIG	APPARATUS FEATURE OR OPTION	FIG.	CIRCUIT PREPARATION BLOCK OR INSULATE	TEST CLIP DATA CONN BK	CONN R	CONN W	TEST SET PREP SEND KEY	REC SW START	REC SW STOP	SEE TEST NOTE	TIME REQT MIL-SEC MIN	TIME REQT MIL-SEC MAX	ADJUST POT.	FOR MIL-SEC MIN	FOR MIL-SEC MAX	
RELAYS																
AGT		43	(RV)O	GRD	T(AG)	4B(AGT)	MK	48	O.C.				AG	1600	1750	
			(AGR)O	GRD	T(AG)	4B(AGT)	MK	-48	O.C.							
CRT1		11	(DOR3)O	-48	4T(CN)	1B(CRT1)	MK	-48	GRD	1			CR2	385	425	RELEASE (CNR) TO RECYCLE
CRT2		11	(DOR3)O	-48	4T(CN)	1B(CRT2)	BK	-48	GRD	2			CR7	385	425	
CRT3	XM	11	(DOR3)O	-48	4T(CN)	2T(CRT3)	MK	GRD	-48	9			CR12	385	425	RELEASE (CNR) TO RECYCLE
	XQ	11	(DOR3)O	-48	4T(CN)	2T(CRT3)	MK	GRD	-48	9		60				
DT1	FY	14		GRD	T(DT)	1B(DT1)	MK	-48	GRD				DT8	2600	2900	(STD)KEY NORMAL
	FZ													3140	3200	(STD)KEY NORMAL
DT2	FZ	14		GRD	T(DT)	4T(DT2)	MK	-48	GRD				DT10	3700	4730	(STD)KEY NORMAL
FOT		33	(RRST)O	GRD	T(FO2)	3T(FOT)	BK	GRD	O.C.	3			FOT4	70	80	(LSI)NORMAL
			(RRST)O	GRD	T(FO2)	3T(FOT)	BK	GRD	O.C.	3	450	700				(LSI)O
GTT	CQ	11	(DOR3)O, (CN)O, (GTO)O	-48	3T(CNK)	2B(GTT)	MK	GRD	O.C.				GTT1	580	640	CONN GRD TO 1B(GTT) RELEASE (CN) TO RECYCLE
GTT1	CQ	11	(DOR3)O, (CN)O	-48	3T(CNK)	2B(GTT)	MK	O.C.	GRD				GTT6	610	690	CONN GRD TO 1B(GTT)
OFT		33	(BK)NO,	GRD	T(OF1)	T(BK)	MK	GRD	-48	4			OFT3	70	80	(RVT) NORMAL
			(OF2)NO,	GRD	T(OF1)	T(OF2)	MK	GRD	-48	4			OFT5	270	300	(RVT)O
				GRD	T(OF1)	T(BK)	MK	GRD	-48	5			OFT7	800	900	(RIF)O
RV		17		GRD	T(TG3)	2B(RV)	MK	GRD	O.C.		1360	2150				(DPST)O
				GRD	T(TG3)	2B(RV)	MK	GRD	O.C.	6			RVW	80	90	(MFST)O
TCT		17		GRD	T(SPE)	3T(SPE)	MK	-48	O.C.				TC4	80	90	(PCTA)NORMAL
														15	55	(PCTA)O
TCT1		40	(ONS1)O, 7B(IO)	GRD	T(LNA)	2T(TCT1)	MK	-48	O.C.	10			TC14	240	270	
TGT		40	(ONS1)O,	GRD	T(RGD)	T(TGT1)	MK	-48	GRD		1000	1500				(FAS)NORMAL
			4B(TGT)	GRD	T(RGD)	2B(TGT1)	MK	-48	O.C.				TGT4	190	210	(FAS)O
TMN		17	(TB2)NO	GRD	T(TK1)	3T(TMN)	MK	O.C.	GRD	7			DPN	510	570	(DPST)O
				GRD	T(TK1)	3T(TMN)	MK	O.C.	GRD	7			MFN	435	480	(MFST)O
				GRD	T(TK1)	3T(TMN)	MK	O.C.	GRD	7			CL2	235	265	(CL2)O
TMN1		40	(ONS1)O, 5T(TMN1), (TMX1)NO, (TB3)NO, 1T(TB3)	GRD	T(TK2)	2T(TMN1)	MK	-48	O.C.				TM11	240	270	(CIS1)O
				GRD	T(TK2)	2T(TMN1)	MK	-48	O.C.				TM9	100	110	(HPST)O
TMX		17		GRD	T(TK1)	4B(TMX)	MK	O.C.	GRD				DPX	1000	1100	CONN GRD TO 5B(TMX)
	RZ		(CL6)O	GRD	T(TK1)	4B(TMX)	MK	O.C.	GRD		1750	2260				
TMX1		40	(ONS1)O, (TB3)NO, 6T(TMX1), 2B(TB3)	GRD	T(TK2)	1B(TMX1)	MK	-48	O.C.				TM5	1000	1100	(CL3&)NORMAL
				GRD	T(TK2)	1B(TMX1)	MK	-48	O.C.		3000	4580				(CL3&)O
WS		32		GRD	T(W)	1T(WS)	MK	GRD	-48	8			WS	125	140	

TEST NOTES:

1. BLOCK (CKR3)O,(CNR)O.
2. BLOCK (CKR1)O,(CRT1)O,(CRK3)O,(CNR)O
3. CONNECT 2T(FOT) TO 6T(FO2). CONNECT DIRECT GRD TO 5T(FO2).
4. (RIF) NORMAL.
5. CONN GRD TO 2T(RIF).
6. THE SAME TIME SHOULD BE OBTAINED WITH (MFST) NORMAL, (DPST)O, AND (CL3)O.
7. CONNECT GRD TO 4T(TMN).
8. CONNECT GRD TO 2T(WS).
9. BLOCK (CNR)O,(CRK1)O,(CRK2)O,(CRK3)O,(CRT1)O,(CRT2)O.
10. CONNECT T(IA1) "YR","VR" OPTION OR T(RGD1) "YP","VP" OPTION TO T(LNA).

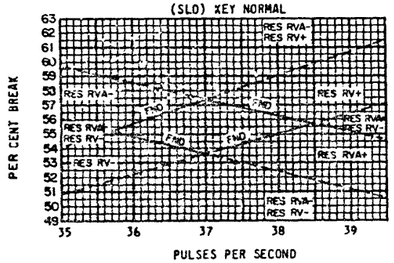
BELL TELEPHONE LABORATORIES INCORPORATED — DWG SIZE 6S — PRINTED IN U.S.A.

SD-25680-01-F22

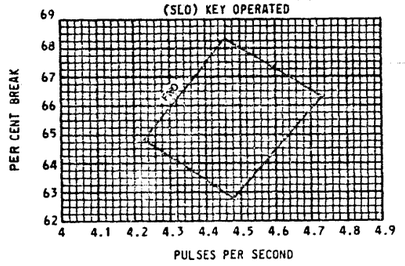
22

PULSE OUTPUT OF (FND) RELAY

(SLO) KEY NORMAL



(SLO) KEY OPERATED

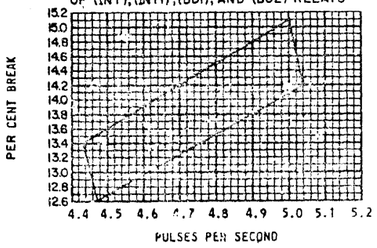


TEST NOTES:

1. TO TEST (FND)RELAY CONNECT TIP TO (FND) JACK T, AND RING TO (FND) JACK R.
2. INSERT PLUG INTO (FND) JACK AND SET CURRENT FLOW. THEN INSULATE 2B(TC4) TO START PULSING. THE COMMON RELAY COVER SHALL BE IN PLACE WHEN MAKING PULSING TESTS.
3. IF THE POINT OF INTERSECTION OF THE "PER CENT BREAK" AND "PULSES PER SECOND" LINES FALLS WITHIN THE TOTAL AREA BOUNDED BY THE SOLID LINES DESIGNATED BY THE RELAY UNDER TEST, THE INTERRUPTER IS SATISFACTORY, IF THE POINT FALLS WITHIN AN AREA BOUNDED BY THE DASHED LINES, INCREASE OR DECREASE THE ADJUSTABLE RESISTANCES AS INDICATED BY THE + OR - SIGNS FOLLOWING THE LETTERS INDICATE THE DESIGNATION OF THE RESISTANCES TO CHANGED

PULSE OUTPUT OF (PLS) AND (CTG) RELAYS

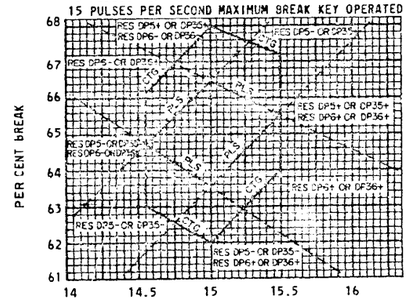
PULSE OUTPUT OF (PLS) RELAY UNDER CONTROL OF (INT),(INT1),(BD1), AND (BD2) RELAYS



TEST NOTES:

1. FOR THE CHECK OF THE BETWEEN DIGITS INTERVAL. FIRST SEE THAT THE (PLS) AND (CTG) RELAYS ARE WITHIN THE LIMITS SPECIFIED ON F23 WITH THE 24 PULSES PER SECOND MAXIMUM BREAK KEY OPERATED. WITH (DP), (DP1), (DA), AND (AD) RELAYS BLOCKED OPERATED, INSERT PLUG INTO (PLS) JACK AND SET CURRENT FLOW READING. THEN BLOCK (SY) RELAY OPERATED TO START PULSING TEST. THE COMMON RELAY COVER SHALL BE IN PLACE WHEN MAKING PULSING TESTS. IN ADDITION, WHERE THE OUTPULSING OF PREFIX DIGITS IS UNDER CONTROL OF THE SWITCHES AT THE MASTER TEST CONTROL CKT THE (APU) SW MUST BE SET TO POSITION 1.
2. IF THE POINT OF INTERSECTION OF THE "PER CENT BREAK" AND "PULSES PER SECOND" LINES FALLS WITHIN THE AREA BOUNDED BY THE SOLID LINES, THE RELAYS ARE SATISFACTORY.

15 PULSES PER SECOND MINIMUM BREAK OR
15 PULSES PER SECOND MAXIMUM BREAK KEY OPERATED



TEST NOTES:

1. TO TEST (PLS) RELAY CONNECT TIP TO (PLS) JACK T, AND RING TO (PLS) JACK R.
2. TO TEST (CTG) RELAY CONNECT TIP TO (CTG) JACK T, AND RING TO (CTG) JACK R.
3. INSULATE 2T(SY1).
4. WITH (DP) RELAY BLOCKED OPERATED, INSERT PLUG INTO (PLS) OR (CTG) JACK AND SET CURRENT FLOW READING. THEN BLOCK (SY) RELAY OPERATED TO START PULSING TEST. THE COMMON RELAY COVER SHALL BE IN PLACE WHEN MAKING PULSING TESTS.
5. IF THE POINT OF THE INTERSECTION OF THE "PER CENT BREAK" AND "PULSES PER SECOND" LINES FALLS WITHIN THE TOTAL AREA BOUNDED BY THE SOLID LINES DESIGNATED BY THE RELAY UNDER TEST, THE INTERRUPTER IS SATISFACTORY. IF THE POINT FALLS WITHIN AN AREA BOUNDED BY THE DASHED LINES, INCREASE OR DECREASE THE ADJUSTABLE RESISTANCES AS INDICATED BY THE + OR - SIGNS WITHIN THAT AREA.

DRAWING ISSUE: 62D KEG/FEL AHD CML MSL AND; 68D RWT Add Jan2; 73D; 83D; 86D

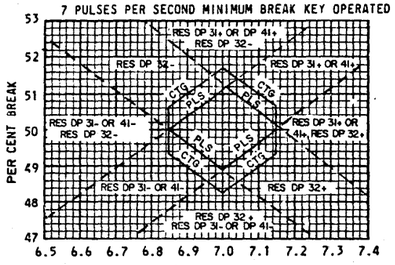
86

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-F22

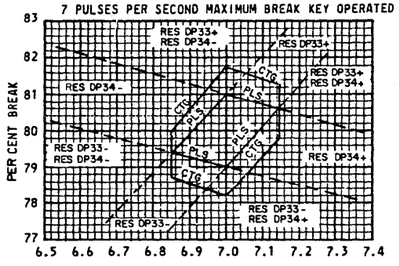
BELL TELEPHONE LABORATORIES INCORPORATED — DWG SIZE 6S — PRINTED IN U.S.A.

PULSE OUTPUT OF
(PLS) AND (CTG) RELAYS

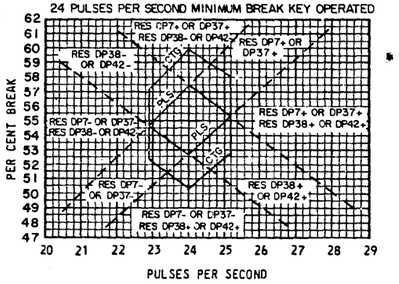
7 PULSES PER SECOND MINIMUM BREAK KEY OPERATED



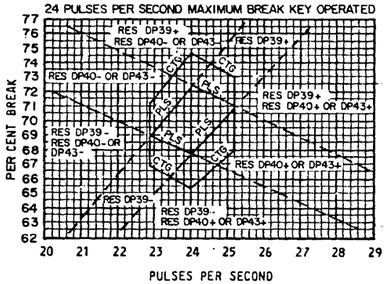
7 PULSES PER SECOND MAXIMUM BREAK KEY OPERATED



24 PULSES PER SECOND MINIMUM BREAK KEY OPERATED



24 PULSES PER SECOND MAXIMUM BREAK KEY OPERATED



TEST NOTES:

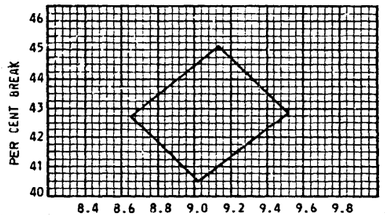
1. TO TEST (PLS) RELAY CONNECT TIP TO (PLS) JACK T, AND RING TO (PLS) JACK R.
2. TO TEST (CTG) RELAY CONNECT TIP TO (CTG) JACK T, AND RING TO (CTG) JACK R.
3. INSULATE 2T(SY1).
4. WITH (DP) RELAY BLOCKED OPERATED, INSERT PLUG INTO (PLS) OR (CTG) JACK AND SET CURRENT FLOW READING. THEN BLOCK (SY) RELAY OPERATED TO START PULSING TEST. THE COMMON RELAY COVER SHALL BE IN PLACE WHEN MAKING PULSING TESTS.
5. IF THE BREAK POINT OF INTERSECTION OF THE "PER CENT BREAK" AND "PULSES PER SECOND" LINES FALLS WITHIN THE TOTAL AREA BOUNDED BY THE SOLID LINES DESIGNATED BY THE RELAY UNDER TEST, THE INTERRUPTER IS SATISFACTORY. IF THE POINT FALLS WITHIN AN AREA BOUNDED BY THE DASHED LINES, INCREASE OR DECREASE THE ADJUSTABLE RESISTANCES AS INDICATED BY THE + OR - SIGNS WITHIN THAT AREA.

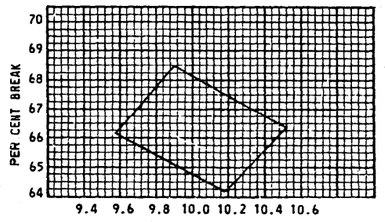
DRAWING ISSUE

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

SD-25680-01-F23

PULSE OUTPUT OF
(MF2), (MF3), AND (MF4) RELAYS



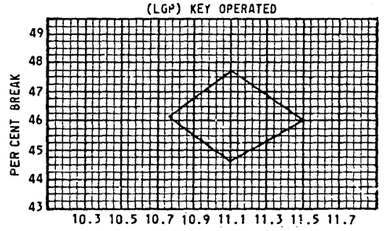


TEST NOTES:

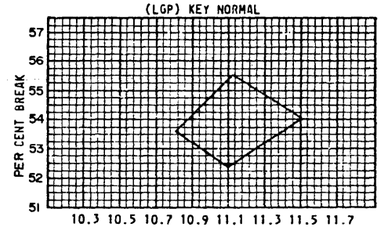
1. TO TEST (MF2),(MF3),OR (MF4) RELAY CONNECT TO TIP AND RING OF CORRESPONDING JACK.
2. OPERATE (KPS) AND (PR) RELAYS.
3. INSERT PLUG INTO ASSOCIATED JACK AND INSULATE 2S(FMF) AND 2T (SP) AND SET CURRENT FLOW READING REMOVE INSULATION FROM 2T (SP) TO START PULSING.
4. IF THE POINT OF INTERSECTION OF THE "PER CENT BREAK" AND "PULSES PER SECOND" LINES FALLS WITHIN THE AREA BOUNDED BY THE SOLID LINES, THE INTERRUPTER IS SATISFACTORY.
5. TO CHANGE SPEED CHANGE RESISTANCE IN SERIES WITH "B" LEAD.
6. TO CHANGE PER CENT BREAK, CHANGE RESISTANCE IN SERIES WITH "A" LEAD.
7. OPERATE (PR) TO SET CURRENT FLOW RELEASE (PR) FOR PULSING TEST.
8. TO CHANGE SPEED, CHANGE RESISTANCE IN SERIES WITH "D" LEAD.
9. TO CHANGE PER CENT BREAK, CHANGE RESISTANCE IN SERIES WITH "C" LEAD.

PULSE OUTPUT OF (PG1) RELAY

(LGP) KEY OPERATED



(LGP) KEY NORMAL



TEST NOTES:

1. TO TEST (PG1) CONNECT TO TIP AND RING OF (PG1) JACK.
2. INSERT PLUG INTO (PG1) JACK AND SET CURRENT FLOW READING. BLOCK (SPB) RELAY OPERATED TO START PULSING.
3. IF THE POINT OF INTERSECTION OF THE "PER CENT BREAK" AND "PULSES PER SECOND" LINES FALLS WITHIN THE AREA BOUNDED BY THE SOLID LINES, THE INTERRUPTER IS SATISFACTORY.
4. TO CHANGE SPEED, ADD OR REMOVE STRAPS FROM RESISTORS (PG2-6).
5. TO CHANGE PER CENT BREAK, ADD OR REMOVE STRAPS FROM RESISTORS (PG7-9).
6. TO CHANGE SPEED, ADD OR REMOVE STRAPS FROM RESISTORS (PG11-15).
7. TO CHANGE PER CENT BREAK, ADD OR REMOVE STRAPS FROM RESISTORS (PG16-18).

DRAWING ISSUE
620 WR REL AND CB
680 CM AS AND CB

ISSUE 93D CB

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT
(2)

BELL TELEPHONE LABORATORIES
INCORPORATED
SIZE 6S

SD-25680-01-F23

PRINTED IN U.S.A.

SD-25680-01-F23

CAD 51 (MFR DISC)
(FOR APP FIG 1)

	BLG	06	12B	(STM) REL
	LK	07	6B	(MIR) REL
TO CAD 53	DIR	08	8T	(STM) REL
	MIR	09	6T	
	MST1	10	10T	(DOR) REL
	MST-OR	11	4T	
	H-OR	12	2T	
TO CAD 59	LK-OR	13 (1)		
	MON-OR	14	6T	
	MST-IR	15	4T	
TO CAD 70	H-IR	16	2T	(MIR) REL
	MON-IR	17	6T	
	PL	18 (3)	10T	(DOS) REL
	SPE	19 (6)	4T	(MOS) REL
	DOS	20 (7)	4T	
TO CAD 59	SG	21 (8)	2B	(STM) REL
	MOS	22 (9)	2T	
	H-OS	23 (A)	2T	(MOS) REL
	LK-OS	24 (2, B)		
TO CAD 70	OK	25	11B	(ONM1) REL
TO CAD 59	MONL	26 C		
TO CAD 70	TMA	27	8T	(PEA) REL
	YMB	28	9T	(OMN1) REL
	ONG3	29	1T	
	ONG4	30	3T	(ONM2) REL
	ONG5	31	3B	
TO CAD 59	TRST	33	3B	(RPE1) REL
	SON1	34	1B	(MOS) REL
	OSM	35	9T	
	MCI	36	11T	(SON) REL
	MON	37	5T	(PEA) REL
TO CAD 127	RTC	38	10B	(ORN) REL
	BS	40 D		
	ON	41	10T	(STM) REL
TO CAD 59	TAN-IR	43	8T	(MIR) REL
	SP	44	10T	(DIR) REL
	MB	45 4		
	S	116 E		
	CN	117 F		
	FR	118 G		
	HMS1	119	7B	(IRN) REL
TO CAD 127	MOR	120	7B	(ORN) REL
	RPS1	121	4B	(RPS1) REL
	MIR	122	5T	(IRN) REL
	ONG2	123	3B	
	ONG1	124	3T	(ONM1) REL
	SB	126 (5, H)		
TO CAD 59	NRRG	127	7T	(ONM2) REL
	ST	146	7B	(MOS) REL
TO MISC CKT MASTER TEST FR	FA1 158	158	5T	
	FA 159	159	5B	(BFR2) REL

TS(MON) ON REG & SDR TST BAY — TS(REG TST) ON AUTO. MON BAY

TO OUTGOING SENDERS	SB	60	H	
	LK	61	B	(SM) NET.
	H	62	A	
	SPE	63	6	
	PL	64	3	
	SG	65	8	
	DOS	66	7	
	MOS	67	9	
	BS	68	D	
	S	69	E	
	CN	70	F	
	FR	71	G	
	SON	113		8B (STM) REL
TO MARKERS	MONL	115	C	9B
	IRF	120		5B (IRN) REL
	IR	121		9T
	ORF	122		3B (ORN) REL
TO PLANT REG	OR	123		9T
	OSF	124		9B (SON) REL
	OS	125		7B

TS(SDR & MKR) ON AUTO.MON BAY

TO CAD 67	SPE	43		3T (MOS) REL
TO CAD 112	TRG	41		5T (ONM2) REL
		80	80	13T (STM) REL
(STM) KEY		81	81	12T (ONM1) REL
		82	82	1B (RN) REL
(HLD) KEY		83	83	12B (ONM1) REL
		84	84	7T (SON) REL
	LK-OR	85 (1)		8T (DOR) REL
	LK-OS	86 (2)		8T
TO CAD 112	SB	87 (5)		6T (MOS) REL
	MB	88 (4)		7B (DOR) REL
	MON	89		5B (STM) REL
TO CAD. 73	(OR)LP	77	77	7T (ORN) REL
	(IR)LP	79	79	3T (IRN) REL
TO CAD 108	HLDR	42		(HLD) KEY

TS(AUTO. MON B) ON CONT BAY — TS(MTFB) ON AUTO. MON BAY

TO CAD 59 — LK (2) — (STM) KEY

TS(AUTO. MON D) ON CONT BAY

PART OF CAD 59 (MFR DISC)
(FOR APP FIG 9)
SEE NOTES 212 & 213

	MST1	10 (1)	10T	
	MST-OR	11 (2)	4T	
	H-OR	12 (3)	2T	(DOR2) REL
	LK-OR	13 (4)	8T	
	MON-OR	14 (5)	6T	
	MST-IR	15 (6)	4T	
	MON-IR	17 (7)	6T	(DIR2) REL
	PL	18	4T	
	SPE	19	6T	(DOS2) REL
	DOS	20	8B	
	SG	21	3B	(STT) REL
	MOS	22	8B	(MOS2) REL
	H-OS	23	2T	
TO CAD 51	LK-OS	24	8T	(DOS2) REL
	MONL	26	7T	(STT) REL
	TMB	28	1T	(ONT1) REL
	ONG3	29	1T	
	ONG4	30	1B	(ONT2) REL
	ONG5	31	3B	
	TRST	33	2B	(TAC2) REL
	SON1	34	7B	(DOS2) REL
	OSM	35	7B	
	MCI	36	3B	(DOS1) REL
	MON	37	6T	(RPE2) REL
	BS	40	5TF	(XOS) REL
	ON	41 8		
TO CAD 109	NDK	42	9B	(ONT2) REL
	TAN-IR	43 9		
TO CAD 51	SP	44 0		
	MB	45 A	11B	(DOR2) REL
	XMR2	46	3B	(MKR) REL
	LG	49	7T	(ONT2) REL
	RTC	50	5B	(DOR2) REL
	MFS	51	3B	(MOS2) REL
	DON	52	3B	(DOS2) REL
	ORH	53	4T	(ORH) REL
	TRT1	54	5T	(MT) REL
TO CAD 109	XMR1	55	4TF	(XMR1) REL
	MC	56	5B	(DOS1) REL
	TBL1	57	6T	(ONT1) REL
	TR	58	3T	(CTT) REL
	LG1	59	10B	(RPE2) REL
	TA	60	11T	(DOR2) REL
	CKS	61	7T	(TBL) REL
	AON	62	9B	(DOS1) REL
TO CAD 63	STM	63	5T	(XM) REL
	DSM	64	3T	
	T	65 B		
TO CAD 109	R	66 C		(DOS2) REL
	SB	126	9B	
TO CAD 51	NRRG	127	11T	
		145	1B	(RPS2) REL
TO CAD 66	11R			
TO CAD 51	ST	146	11B	(DOS1) REL

TS(MON) ON REG & SDR TST BAY

TO DIAL ORIGINATING REGISTERS	LK	80	4	
	MB	81	A	
	ON	82	8	
	H	83	3	
	MST	84	2	
	MON	85	5	
	MST1	86	1	
	BS	87		5TF (XOR) REL
	MST	103	6	
	MON	104	7	
TO INC REG	H	105		H-IR TO CAD 70
	TAN	106	9	
	SP	107	0	
TO INC DP REG	DPG	108		10T (DIR2) REL
TO INC REG	BS	109		5TF (XIR) REL
	N	110		8T (MIR2) REL
TO INC MF REG	T	111	B	
	R	112	C	

TS (REG B) ON REG & SDR TST BAY

SHOWN ON MISC CKT (0, 20)

PCO(DP)	21	9T	(DOR1) REL
PC1(MF)	22	9T	(MIR1) REL
TO TRAFFIC REG PC1(DP)	23	9T	(DIR1) REL
PC5(MF)	24	9T	(MOS1) REL
PC5(DP)	25	9T	(DOS1) REL
RTST	30	5T	(DOR1) REL
TO MKR RBT	31	7T	(MKR) REL
DIS	32	2B	
RLT	33	2T	(TRT1) REL

TS (MISCA) ON REG & SDR TST BAY

CAD 53 (MFR DISC)
(FOR APP FIG 3,4,5&9)
SEE NOTE 209

	0	7T	(IRP-0) REL GR 0
	1	7T	(IRP-0) REL GR 1
	2	7T	(IRP-0) REL GR 2
	3	7T	(IRP-0) REL GR 3
	4	7T	(IRP-0) REL GR 4
	5	7T	(IRP-0) REL GR 5
	LK	6	5B (LK) NET.
TO CAD 51 (MFR DISC.) OR TO CAD 109	BLG	7	8B (IRP-9) REL GR 5
	MIR	MIR 8	8T (DIR2) REL
	DIR	DIR 9	FOR OTHER CONN SEE CAD 59 (MFR DISC) OR CAD 87
	RIR	RIR 150	
	CBR	CBR 151	
TO CAD 109	BS	47	2B (IRP-0) REL GR 5
	RB	48	3B (IRB-0) REL GR 0

TS(MON) ON REG & SDR TST BAY

DRAWING ISSUE		
50D	BL J ECM RHD	
68D	BJD ASJ AND	
700	SA/ DAS AND	

70

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

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

SD-25680-01-GI

SD-25680-01-GI

PART OF CAD 59 (MFR DISC)

(FOR APP FIG 9)
SEE NOTE 212 & 213

APP FIG 25
(SG-0) KEY 0 — 0 13T (MOS1) REL
(SG-1) KEY 1 — 1 13T (DOS1) REL
(SG-2) KEY 2
(SG-3) KEY 3
(SG-4) KEY 4
(SG-5) KEY 5
(ACO) KEY 6 — 6 5T (ACO) REL

APP FIG 24
(IG-0) KEY 10 — 10 13T (DIR1) REL
(IG-1) KEY 11 — 11 13T (MIR1) REL
(IG-2) KEY 12
(IG-3) KEY 13
(IG-4) KEY 14
(IG-5) KEY 15

(IG-0) KEY (APP FIG 24) 19 — 19 3T (STT) REL
(SRS) KEY (APP FIG 23) 20 — 20 3T (BT2) REL
TO CAD 51 LK — 21 3T (ACO) REL
(STT) KEY 22 — 22 13T (STT) REL
(TBL) LP 23 — 23 5B (TBL) REL
(OK) LP 24 — 24 5T (OK) REL
(CCK) LP 25 — 25 10B (DIR2) REL
TO CAD 63 MN 9 — 9 *2T (ACO) REL
CONN BLK 30 — 30 (REC) VAR
31 — 31
32 — 32 (RC) CAP.
(MOTL) KEY P 34 P — 34 P 5B (PC7) REL
35 — 35 2B
36 — 36 6T (ORN) REL
(ORH) KEY 37 — 37 3B (DOR1) REL
TO CAD 114 TAG 38 — 11B (STT) REL
(X) LP 39 — 39 XU 3B (XMR1) REL
MSTA 40 — 8B 10T (RPE2) REL
TO CAD 114 MST 41 — XT 3T (DOR2) REL
(MST) LP 42 — 42 6B (XMR) REL

TS(AUTO MON D) ON CONTROL BAY — TS(MTFD) ON REG & SDR TEST BAY

TO CAD 66 ONR 100 — 11T (ONT2) REL
TS(MISC B) ON REG & SDR TEST BAY

OK 12 — 2T (TBL) REL
AC 13 — 6B (TAC2) REL
LS 32 — 10B (STT) REL
STG 40 — 4T (DOR1) REL
DOR P 41 P — 2T
T 42 — 6T (STT) REL
R 43 — 10T
AL 44 — 4B (TBL) REL
MC 45 — 6B (DOS1) REL
N 46 — 2B (TSR) REL
REP 47 — 6B (OK) REL

TO MASTER TEST CONTROL CKT

TS (MTFA) ON REG & SDR TEST BAY

TO CAD 108 STT — 33 (STT) KEY
TS(AUTO MON B) ON CONTROL BAY

FOR OTHER CONN SEE CAD 53
8 — 2B (MIR1) REL
9 — 2B (DIR1) REL
TS (MON) ON REG & SDR TEST BAY

LY
(PB) KEY 106 — 106 13T (DOR1) REL
105 — 105 1T (STT) REL
TS(AUTO MON F) ON CONTROL BAY — TS(MTF-F) ON REG & SDR TEST BAY

TO CAD 59 (MFR DISC) OR TO CAD 127
AON 62 — 2 13T (AON) REL
STM 63 — 3T (STM1) REL
3 4T (NVA) REL
DSM 64 — 4 4T (DSM) REL
9T (DOS) REL
TS (REG TEST) ON AUTO. MON BAY — TS (A) ON DP AMPL UNIT

TO CAD 155
R 1 4T (ORM) REL
T
TS (C) ON DP AMPL UNIT

TO DP SENDERS
T 130 — 17 4B
R 140 — 18 2T (DSM) REL
150 — 19 SC

TO INC DP REG
T 131 — 13 2B
R 141 — 14 5T (DPM) REL
2T
151 — 15 SB

TO ORIG DP REG
T 132 — 9 10
R 142 — 10 2B (B5) CAP. TS(C) ON DP AMPL UNIT
(ORM) REL
152 — 11 4T (BLM) REL
TS (SDR & MKR) ON AUTO. MON BAY — TS (A) ON DP AMPL UNIT

SHOWN ON MISC CKT FOR ALL FRAMES (CAD 142)
MN 13 — MN TO CAD 59 (MFR DISC) OR TO 114 (MAC) KEY
TO ALARM CKT
TS (MISC A) ON CONT BAY

(MAC) KEY 50 — 50 30 2B
51 — 51 31 RW (NVA) REL
(NVA) LAMP 52 — 52 32 2T
TS (AUTO. MON B) ON CONTROL BAY — TS (A) ON DP AMPL UNIT

TO SIGNAL CKT TONE SUPPLY HT3 19 — 19 (B3) CAP
TS (MFTB) ON AUTO. MON BAY — TS (B) ON DP AMPL UNIT

9 — 2B (DPA) REL
1T (BLM) REL
10 — (PA2) CAP.
1B (DPA) REL
11 — 3B (DSM) REL
1 (DPA) REL

TO CAD 154 P 15 — 7 (P) REL

TO CAD 82
1 26 — 1
2 29 — 3 (AC) TRNSF

TO MF RECEIVER UNIT
G 30
32 (A) REL

TS (B) ON DP AMPL UNIT

CAD 63 (MFR DISC)

(FOR APP FIG 13 & 73)

TO 115V 60 CY SUPPLY
± 1 (AC) FUSE
G

TO MF RECEIVER UNIT
± 2 L2B (AC) REL
G 3
1 1 (AC) TRNSF
TO CAD 82 2 4 3
JONES TS (C) ON DP AMPL UNIT

RTC 50 — T (RTC) REL
TO CAD 127 A4 68 — 08
A7 69 — 09 (MCE) REL
DLG 70 — 4T (DLG) REL
TR 71 — 13T (TR) REL
CL2 73 — 10B
CL3 74 — 8B
TO CAD 67 CL4 75 — 6B (MCJ) REL
CL5 76 — 4B
CL6 77 — 2B
AMA 78 — 6T (MCI) REL
SDT3 79 — 8B (CL1A) REL
B7 80 — 14
C7 81 — 19 (MCE) REL
D7 82 — 24
48 (STS) REL
E7 83 — 29
ZD
F7 84 — ZL 34
ZL
G7 85 — ZN 39
ZN
H7 86 — ZP 44 (MCE) REL
ZR
TO CAD 127 J7 87 — ZP 49
ZR
K7 88 — ZT 54
ZT
L7 89 — ZV 59
M7 90 — ZV
LP
B 91 — 7B (ASA) REL
C 92 — 7B (BSA) REL
D 93 — 7B (CSA) REL
E 94 — 7B (DSA) REL
F 95 — 7B (ESA) REL

TS (REG TEST) ON AUTO. MON BAY

PART OF CAD 66 (MFR DISC)

(FOR APP FIG 15 & 16)

TO CAD 78 LTI — 156 — LTI (LTI) REL
G 96 — 7B (FSA) REL
H 97 — 7B (GSA) REL
TO CAD 127 J 98 — 7B (HSA) REL
K 99 — 7B (JSA) REL
L 129 — 7B (KSA) REL
0 130 — 130 — 5B (P1) REL
1 131 — 131 — 8T — 1B (P6A) REL
TO MF RECEIVING CKT 2 132 — 132 — 5T — 3T (P3) REL
4 133 — 133 — 2T — 4T (P4) REL
7 134 — 134 — 2B — 1T (P6A) REL
TO CAD 59 11R — 145 — 5B — 6T (11R) REL
(CL1A) REL
TS (MON) ON REG & SDR TEST BAY — TS (REG TEST) ON AUTO. MON BAY

APP FIG. 15

TO CAD 60 MIL — 50 — MIL (PAC) REL
TS (A) ON AUTO. MON BAY

CAD 62 (MFR DISC)

(FOR APP FIG 12)

TO MF RECEIVER CKT BAT 3 138 — 138 — 9B (MFN) REL
TS(MON) REG & SDR TEST BAY — TS(REG TEST) AUTO. MON BAY

CAD 60 (MFR DISC)

(FOR APP FIG 10)

TO CAD 68 MIL — 90 — MIL TO CAD 66
MIL (MIL) REL
TS (AUTO MON E) ON CONT BAY

CAD 78 (MFR DISC)

TO CAD 66 LTI — 156 — 0 (MCA) REL
TS (MON) ON RST BAY

TO MTC LTI — 00 — LTI-O (MCA) REL
TS(MCA) ON RST BAY

CAD 82 (MFR DISC)

TO FIG 63
1 — 2
2 — 6 (CT) TRNSF

ISSUE
50D RM EDM AND
54A INR V&O AND
68D T.J.D A.S.L AND
70D SAV PDF AND

ISSUE 104B

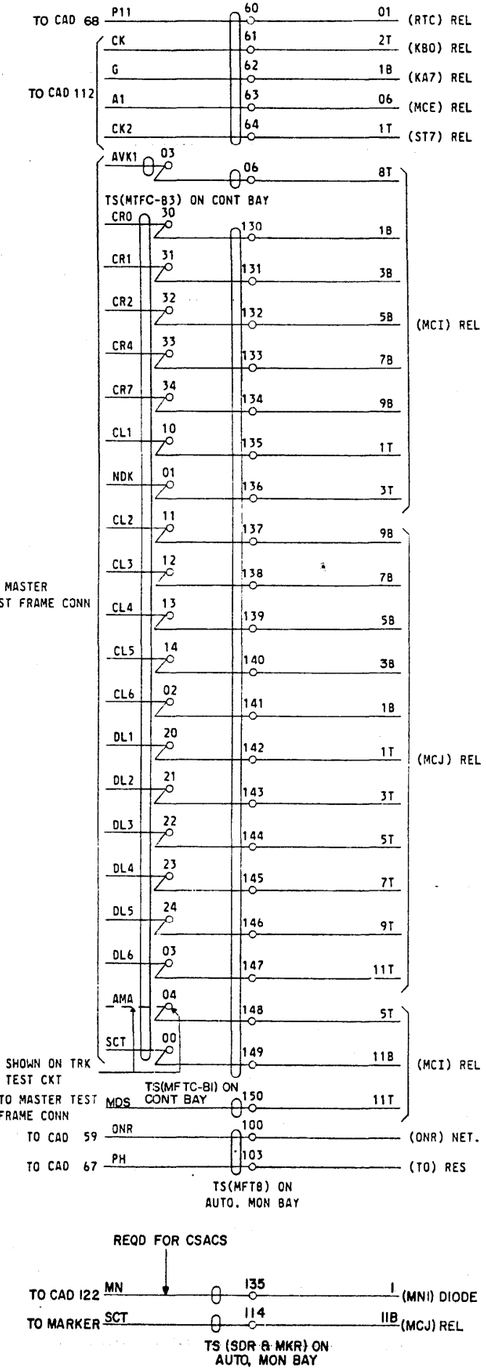
MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)
SD-25680-01-G2
BELL TELEPHONE LABORATORIES INCORPORATED
DWG SIZE 6S

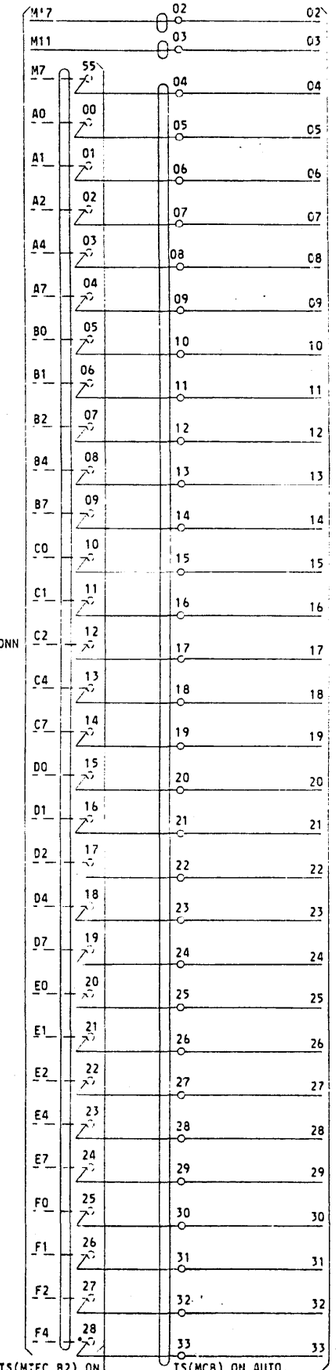
SD-25680-10-02

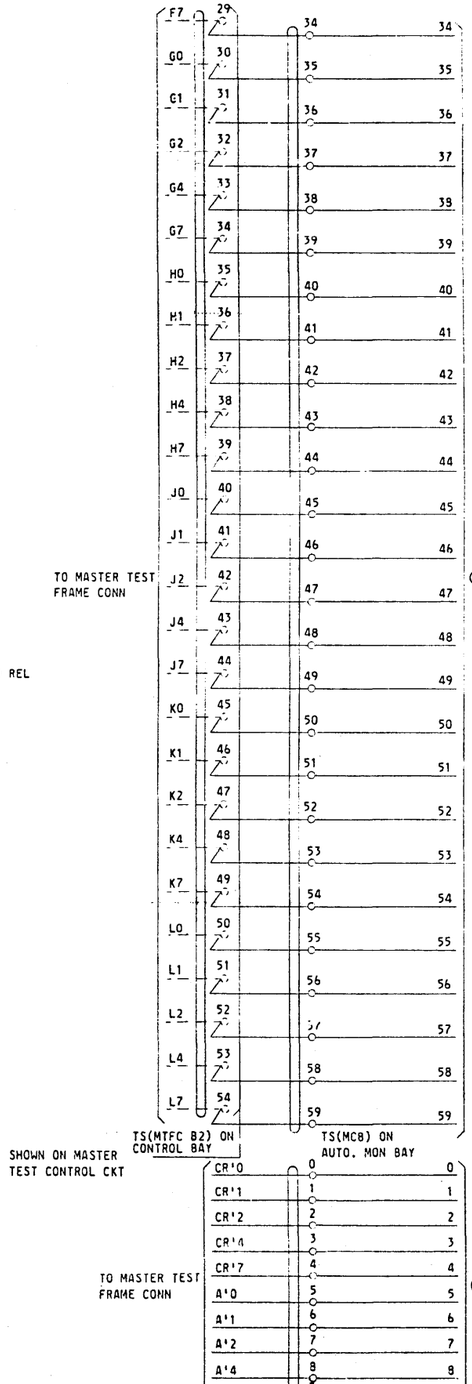
STABILO

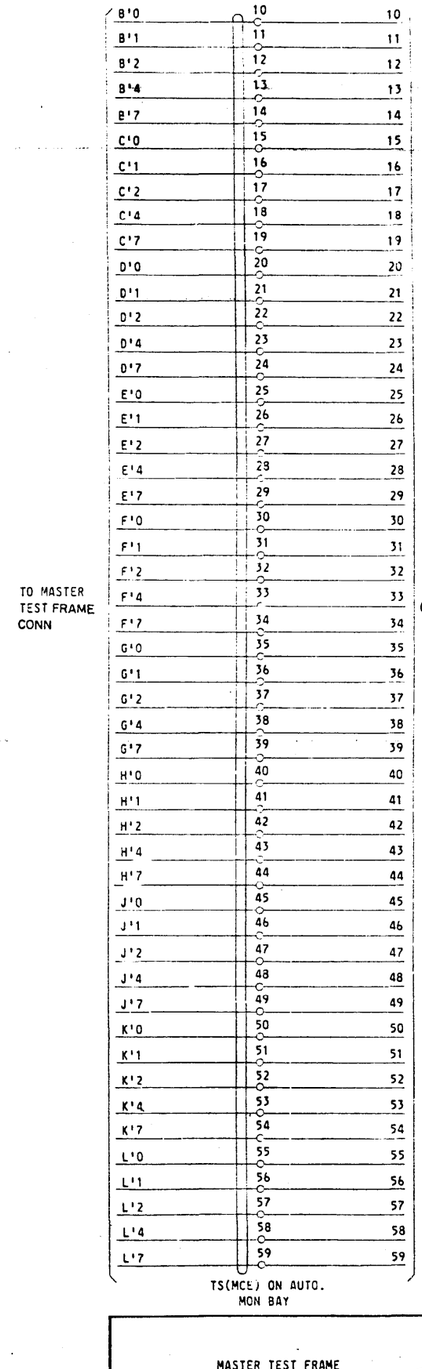
PART OF CAD 66 (MFR DISC)

(FOR APP FIG 15 & 16)









DRAWING ISSUE

500	NAB CLR AHO
680	TJD ASL AHO
700	SAI PDT AHO

ISSUE 102B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-G3

BELL TELEPHONE LABORATORIES INCORPORATED

DIST SITE 6S

PRINTED IN U.S.A.

SD-25680-01-G3

E.F.&I.O. NEE

8-77A00 10-613

PART OF CAD 66 (MFR DISC)
(FOR APP FIG 15 & 16)

	00	0	
	01	1	
A0	05	5	
A1	06	6	
A2	07	7	
A4	08	8	
A7	09	9	
B0	10	10	
B1	11	11	
B2	12	12	
B4	13	13	
B7	14	14	
C0	15	15	
C1	16	16	
C2	17	17	
C4	18	18	
C7	19	19	
D0	20	20	
D1	21	21	
D2	22	22	
D4	23	23	
D7	24	24	
E0	25	25	
E1	26	26	
E2	27	27	
E4	28	28	
E7	29	29	
F0	30	30	(RTC) REL
F1	31	31	
F2	32	32	
F4	33	33	
F7	34	34	
G0	35	35	
G1	36	36	
G2	37	37	
G4	38	38	
G7	39	39	
H0	40	40	
H1	41	41	
H2	42	42	
H4	43	43	
H7	44	44	
J0	45	45	
J1	46	46	
J2	47	47	
J4	48	48	
J7	49	49	
K0	50	50	
K1	51	51	
K2	52	52	
K4	53	53	
K7	54	54	
L0	55	55	
L1	56	56	
L2	57	57	
L4	58	58	
L7	59	59	

TO MASTER TEST CONTROL BAY

TS (RTC) MULTI-CONTACT ON AUTO. MON BAY

CAD 67 (MFR DISC)
(FOR APP FIG 17)

TO CAD 66	DLG	70	7B	(CL2) REL
	TR	71	9T	(TR2) REL
TO CAD 109	STD	72	6T	(DPST) REL
	CL2	73	4T	(CL2) REL
	CL3	74		(CL3) NET.
	CL4	75	6TF	(CL4) REL
TO CAD 66	CL5	76		(CL5) NET.
	CL6	77	6TF	(CL6) REL
	AMA	78		(AMA) NET.
	SDT3	79	9T	(SDT3) REL
TO CAD 109	TMT	128	10T	(ONS) REL

TS (MON) ON REG & SDR TEST BAY

	00	00	2T	(TMT) REL
(OTR)KEY	01	01	4T	(TKR1)REL
	02	02	2B	(DPST) REL
(TMT)KEY	03	03	12T	(TMT) REL
(TMT)LP	04	04	8T	
	06	06	7B	(ONS) REL
(DISC) KEY	07	07	7T	(TMT) REL
(C2OH)KEY	08	08	5T	(TKR2) REL
(PL)LP	10	10	1T	(PL) REL
(TK1)LP	11	11	3B	(TG1) REL
(TK)LP	12	12	1B	
(TMT)KEY	13	13	9T	(ONS) REL
	14	14	3B	
(STVT)KEY	15	15	3T	(STVT) REL
(SPD)KEY	16	16	1B	(CL3) REL
(OTR)KEY	18	18	2T	(CL2) REL
	20	20	1T	(TG3')REL
(DTR)KEY	21	21	3B	(TKR) REL
(SPD)KEY	22	22	8B	(TG1) REL
(ABN)KEY	23	23	2T	(AMA) REL
(C2OH)KEY	25	25	5T	(TMN) REL
(BGO)KEY	26	26	2T	(DPST)REL
(C2OH)KEY	27	27	7T	(CL2) REL
(BGO)KEY	28	28	9T	(BGO)REL
(C2OH)KEY	29	29	6T	(TKR2)REL
	30	30	10T	(CXO)REL
(CX)KEY	31	31	7B	(TB2) REL

TS (AUTO. MON E) ON CONT BAY

TS (MTFE) ON REG & SDR TEST BAY

	SDT2	34	6B	(ONS) REL
	TSTK	35	9B	(TSTK) REL
	SDT3	37	5B	(TSTK) REL
TO MASTER TST CONT CKT	RCY	38	4T	(AMA) REL
	SDR1	39	5T	
	REC	11		
	TVTK	36	6T	(SDT3) REL
			1T	(RTV) REL

(WA) (WB)

TS(MTFA) ON REG & SDR TEST BAY

TO CAD 108 REC 05 4T (REC1) REL

TS (MISC A) ON REG & SDR TEST BAY

TO MISC CKT RR FR — TO, RO

TO TRK LK & CONN CKT — TO, RO, T1, R1

REQD FOR 2W

SHOWN ON TRK TST CKT

25	72	9T	(TK1)REL
35	73	6B	(CXO)REL
M	76	7T	(CXO)REL
E	77	8B	(TG3)REL

TS (MISC B) ON CONT BAY — TS (MISC A) ON REG & SDR TEST BAY

TO CAD 66 PH 103 5T (SDT3) REL

TS (MISC B) ON REG & SDR TEST BAY

TO CAD 51 SPE 43 (OTR) KEY

TS (MISC B) ON CONTROL BAY

TO CAD 70 OK 44 (DTR) KEY

TS (AUTO. MON) ON CONTROL BAY

CAD 68 (MFR DISC)
(FOR APP FIG 18)

TO CAD 70 (MFR DISC) ON TO CAD 90

B	106		
F	107		(P11) KEY
A	108		

TS (AUTO. MON C) ON CONTROL BAY

	60	60	4T	(BP) REL
(P11)KEY	61	61	2T	
	62	62	3T	(AD) REL
	63	63	1B	
	64	64	1B	
(P1)KEY	65	65	3T	(AD1)REL
	66	66	1B	
	67	67	3T	(OSA)REL

TS(AUTO. MON E)ON CONTROL BAY

TS (MTFE) ON REG & SDR TEST BAY

(P11)KEY 60 P11 TO CAD 66 (MFR DISC) OR TO CAD 88

TS (AUTO. MON B) ON CONTROL BAY

MIL	MIL		TO CAD 60
PSI	PSI	(PSI) LP	
SSI	SSI	(SSI) LP	
PCL	PCL	(PCL) LP	
SCL	SCL	(SCL) LP	
PPD	PPD	(PPD) LP	
SPD	SPD	(SPD) LP	
RT	RT	(RT) LP	
RS	RS	(RS) LP	
RAR	RAR	(RAR) LP	
RB	RB	(RBK) LP	
TLL	TLR	(TLR) LP	

TO PERSON-TO-PERSON SENDER

DRAWING ISSUE		
500	RM EDM	AND
680	TJD ASL	AND
700	SAV	AND
74D	KEG	

74

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

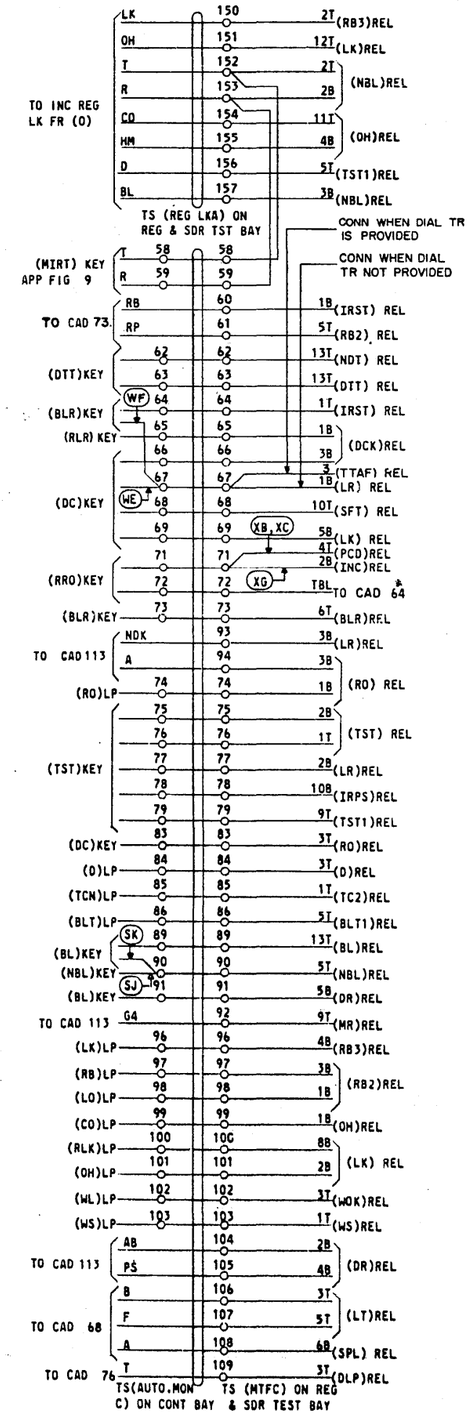
SD-25680-01-G4

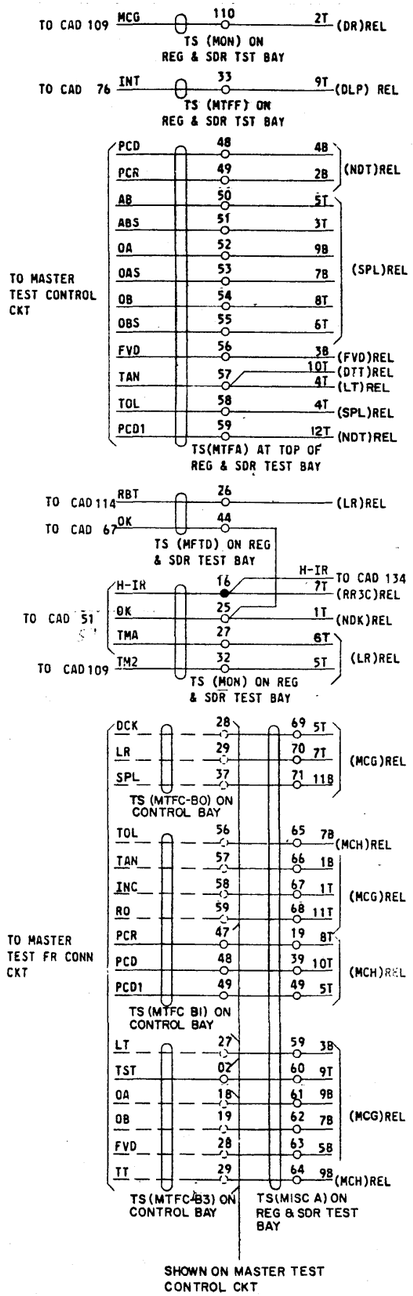
SD-25680-01-G4

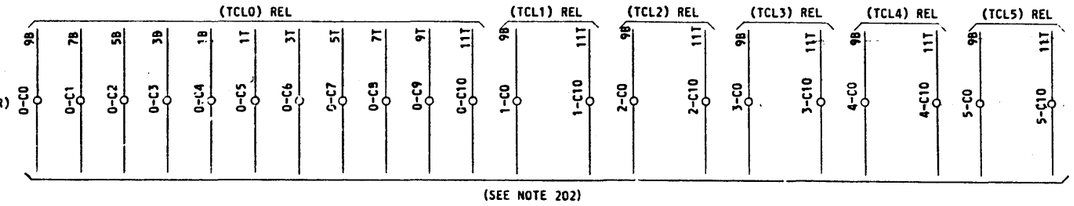
STABILO

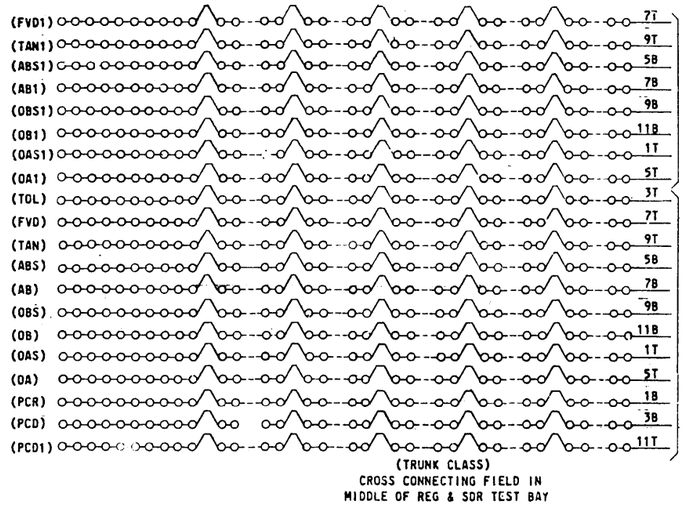
CAD 70 (MFR DISC)

(FOR APP FIG 20,22,32)

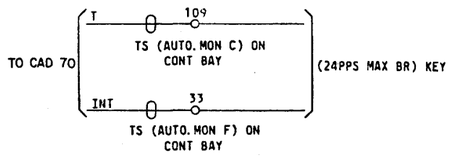








CAD 76 (MFR DISC)



DRAWING ISSUE

50D	RM ELL AND
59D	PC REL AND
68D	TJO REL AND
70D	SAV DET AND

70

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25680-01-G5

SD-25680-01-G5

CAD 73 (MFR DISC)
(FOR APP FIG 23)(MFR DISC)

0	00	
1	01	
2	02	
3	03	
4	04	
5	05	
6	06	
7	07	
8	08	
9	09	
RB0	10	
RB1	11	
RB2	12	
RB3	13	
RB4	14	
RB5	15	
RB6	16	
RB7	17	
RB8	18	
RB9	19	
TO CAD 129 0	20	(SRS) KEY
1	21	
2	22	
3	23	
4	24	
5	25	
6	26	
7	27	
8	28	
9	29	
10	30	
11	31	
12	32	
13	33	
14	34	
15	35	
16	36	
17	37	
18	38	
19	39	
TO CAD 70 (MFR DISC) OR TO CAD 129 RB	60	
RP	61	

TS (AUTO MON C) ON CONT BAY

TO CAD 51 (MFR DISC) OR TO CAD 108 MON 9

TS (AUTO MON B) ON CONT BAY

CAD 84 (MFR DISC)
FOR APP FIG 39

TO CAD 86 2DGS 38 — 9T (2DGS) REL

3DGS 39 — 9T (3DGS) REL

TS (MON) ON AUX REG & SDR TST BAY

CAD 85 (MFR DISC)
TO CAD 130 TAC 18 (FOR APP FIG 40) (AAT) KEY

TS (AUTO. MON D) ON CONTROL BAY

CAD 86 (MFR DISC)
(FOR APP FIG I)

TO CAD 84 2DGS 38

3DGS 39

TS (AUX. RST) ON AUTO. MON BAY

TO 1ST OUT. PCI SENDERS 2DGS 155

3DGS 156

TS (SDR MKR) ON AUTO. MON BAY

CAD 87 (MFR DISC)
(FOR APP FIG 9,A,B,J, PART OF G & H)
SEE NOTES 212 & 213

TO TRAFFIC REG

PCO(DP)	21	9T	(DOR1) REL
PCI(MF)	22	9T	(MIR1) REL
PCI(DP)	23	9T	(DIR1) REL
PCS(MF)	24	9T	(MOS1) REL
PCS(DP)	25	9T	(DOS1) REL
PCS(RP)	26	9T	(ROS1) REL
PCS(DCI)	27	9T	(COS1) REL
PCI(CB)	28	9T	(CBR1) REL
PCI(RP)	29	9T	(RIR1) REL

TS (MISC A) OR TS (A) ON REG & SDR TST BAY

CAD 88 (MFR DISC)
(FOR APP FIG 15 & 16)

TO CAD 68 PII 60 — 0I (RTC) REL

TS (MTFB) ON AUTO. MON BAY

TO CAD 89 60 CTMX1 2T (PAC, REL

61 CTMX 1T (PAC) REL

TS (A) ON AUTO. MON BAY

CAD 89 (MFR DISC)
TO CAD 88 10 CTMX1 6T(TMX) REL

11 CTMX 4T(TKI) REL

TS(A) ON RST BAY

TO MASTER TST CONT CKT PCD	48	4B	(NDT) REL
		PCD	TO CAD 87
PCR	49	2B	(NDT) REL
		1B	(PCR) REL
TAN	57	10T	(DTT) REL
		4T	(LT) REL
TOL	58	2T	(SPL) REL
PCD1	59	12T	(NDT) REL
		2T	(PCD) REL

TS(MFTA) AT TOP OF REG & SDR TST BAY

TO MIC VIA MTF CONT BAY 2DT	97	10T	(MCF) REL "TZ" OPT
LT	59	3B	(MCG) REL
TO SIG CKT TONE SUP LT1	89		(LT1) FUSE
TO FP ON PWR RING & TONE DIST FR LTI			(TT) CAP.

TS (MISC A) (MFR DISC) OR TS (A) ON REG & SDR TST BAY

CAD 90 (MFR DISC)
(FOR APP FIG E,F,20,22,32)
SEE NOTES 202,226 & 227

	28	4T	(TAN) REL
	18	2B	(RO) REL
	37	3T	
TO CAD 128 2	27		(TAN)REL
	36	1T	
	26	1B	
	16	5B	(SPL) REL
	17	2T	(TAN4)REL
TO CAD 128 8	35		
	25	4T	(LT) REL
(SEE NOTE 227)	15	10T	(NDT) REL

TS (A) ON UNIT

(NTAN) 1B

(NTS)

(TAN2) 3T

(TAN3) 5T

(TAN4) 7T

(2DT) 9T

(NDT1) REL

(FVD1) 7T

(TAN1) 9T

(ABS1) 5B

(AB1) 7B

(DTT) REL

(OBS1) 9B

(OB1) 11B

(OAS1) 1T

(OA1) 5T

(TOL) 3T

(FVD) 7T

(TAN) 9T

(ABS) 5B

(AB) 7B

(OBS) 9B

(NDT) REL

(OB) 11B

(OAS) 1T

(OA) 5T

(PCR) 1B

(PCD) 3B

(PCD1) 11T

(TRUNK CLASS) CROSS CONNECTING FIELD IN MIDDLE OF REG & SDR TST BAY

TO CAD 68 B 106 3T (LT) REL

F 107 5T

A 108 6B (SPL) REL

TS(MTFC) ON REG & SDR TST BAY

CAD 91 (MFR DISC)
(FOR APP FIG 1,2,12,13,73)
REPLACED BY CAD 140

TO CAD 154 P

9	2B	(DPA) REL
	1T	(BLM) REL
10		(PA2) CAP.
	1B	(DPA) REL
11	3B	(DSM) REL
	1	(DPA) REL
15	7	(P) REL

TS (B) ON DP AMPL UNIT

1 (SC)	9T	(DPM) REL
	9T	(DIR) REL
5	5T	(BLM) REL
	1B	(STM) REL
6	4T	(ORM) REL
	3B	(MAC1) REL
8	2T	(DPM) REL
	9B	(DIR) REL
12	1T	(AON) REL
		(RAA) RES
16	7T	(AON) REL
		(LE) NET
20	11T	(AON) REL
	6	(L) REL
21	9T	(AON) REL
	9T	(L) REL
24	3T	(BLM) REL
	3B	(PST) REL
25	+2	(COP) REL
	4	(L) REL

TS (A) ON DP AMPL UNIT

1 BAT. E18	9B	(AAB) REL FUSE PNL
4 GRD E4	8B	(AAB) REL FUSE PNL
5 BAT. E17		(AAB1) RES FUSE PNL
8 GRD E5	6B	(AAB) REL FUSE PNL
12 GRD E6	12T	(AON) REL FUSE PNL
		(PS1) NET.
16	2	(LOLP) ET
	11	(CAI) CPNTA
17	10	(AC) TRNSF
	1	(MF) ET
18	11	(AC) TRNSF
	9	(MF) ET
20	R2B	(AC) REL
	MF	(MF5A) RES
22	3T	(NVA) REL
	1T	(BFRI) REL
23	4T	(AAB) REL
	2B	(RPEI) REL
24	5B	(AAB) REL
	6T	(IRB) REL
28	8	(LOLP) ET
	6TB	(LOLP) REL
31	R1B	(AC) REL
	E2	130V BAT. FUSE PNL
32	5	(VR6) ET
	6B	(OR) REL

TS (B) ON DP AMPL UNIT (A&M ONLY)

DRAWING ISSUE

500	WHP ED.M AHD	
52A	MRS L.W AHD	
68D	ASL AHD	
70D	CR PDT AHD	
71A	SAI PST AHD	

ISSUE 104B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-G6

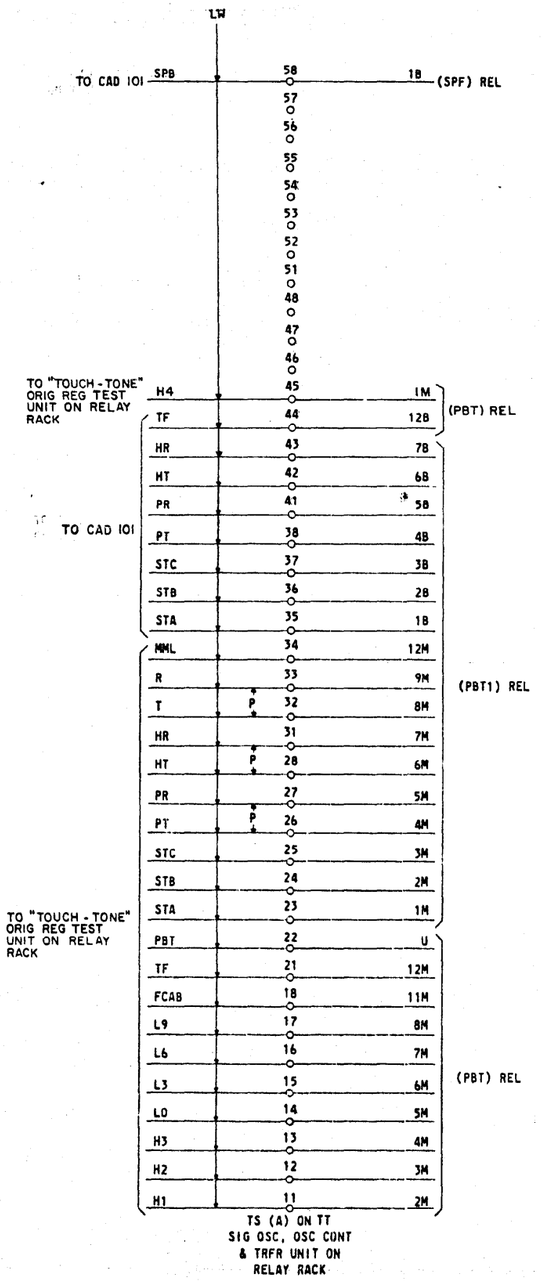
BELL TELEPHONE LABORATORIES INCORPORATED FORM 6S

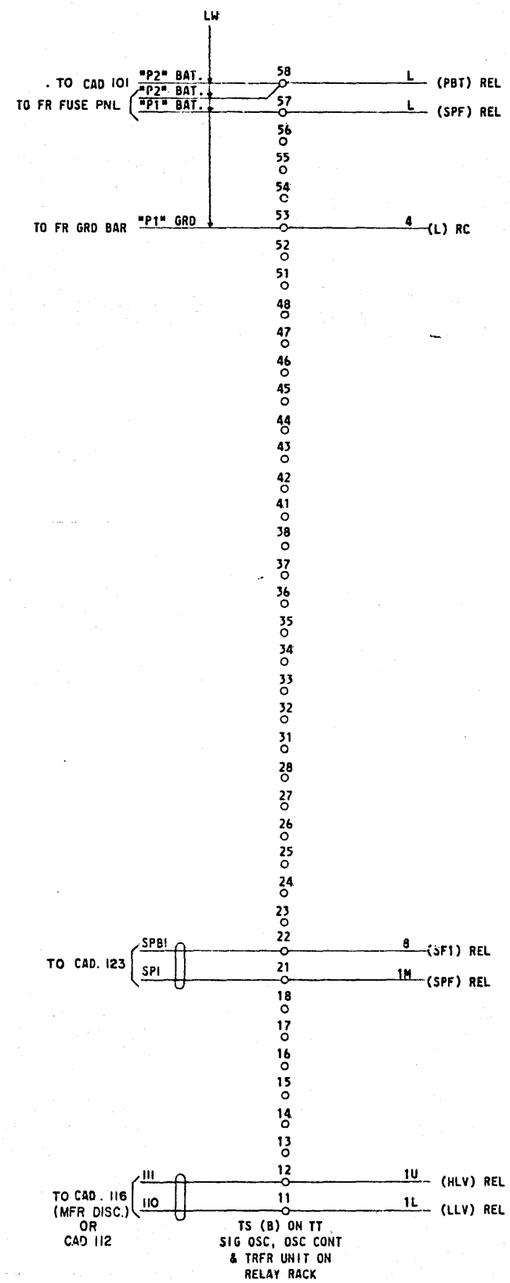
SD-25680-01-G6

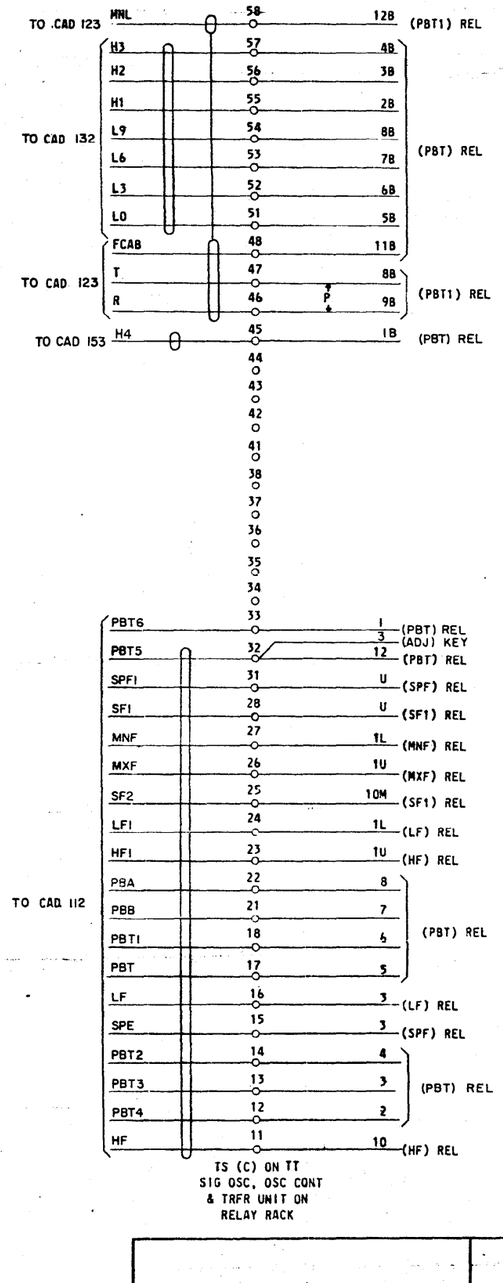
STABILO

PART. OF CAD 100

(FOR APP FIG 46, 48 & 49)







DRAWING ISSUE

47A	PVS EDH AHD
49AR	KEL AHD
50D	CLK AHD
52A	GEL LW AHD
62D	PCL DTC AHD
64AR	AHD
68D	AHD ADL AHD
70D	FDC HDT AHD

ISSUE 98B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT

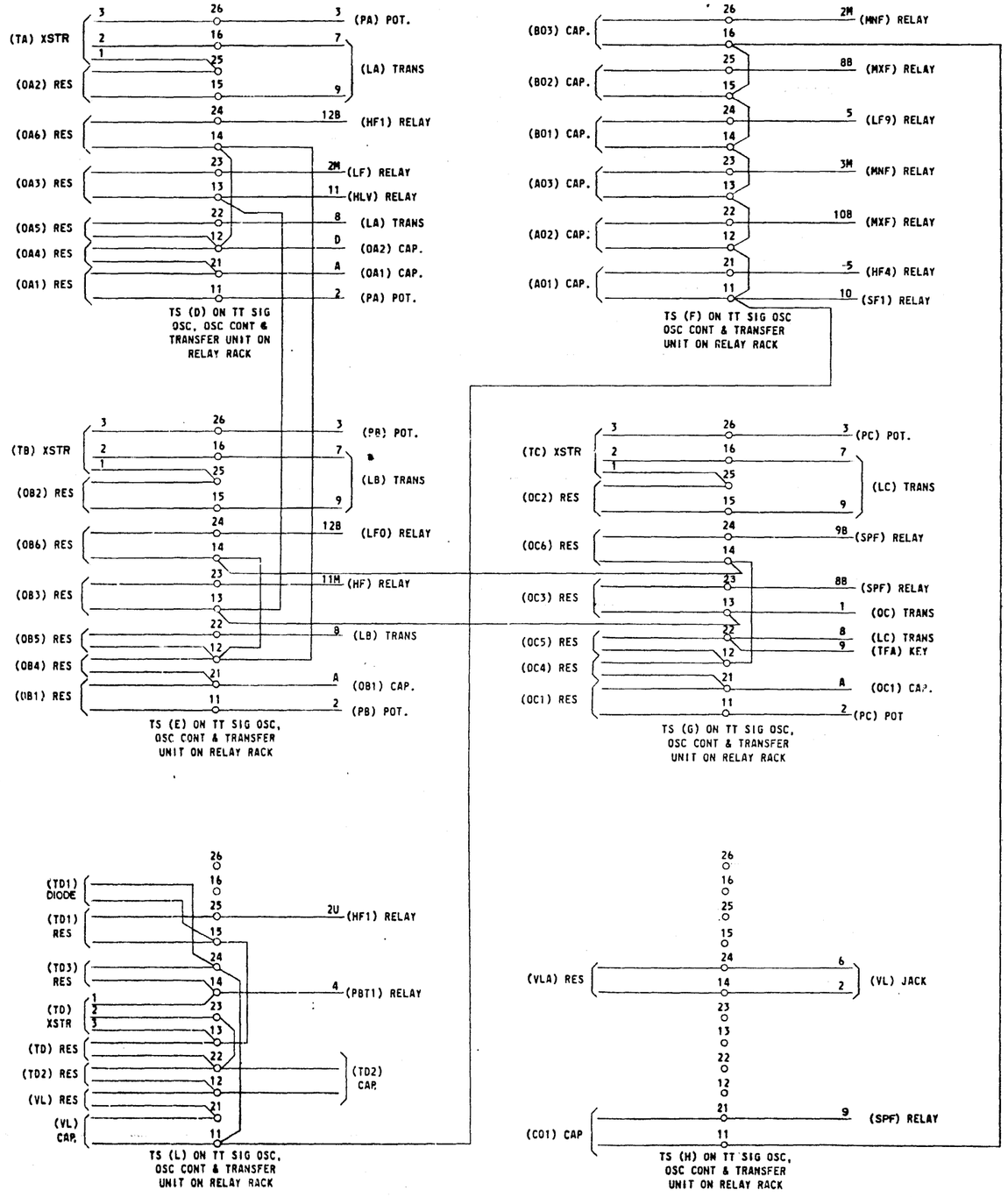
BELL TELEPHONE LABORATORIES INCORPORATED

SD-25680-01-G7

SD-25680-01-G7

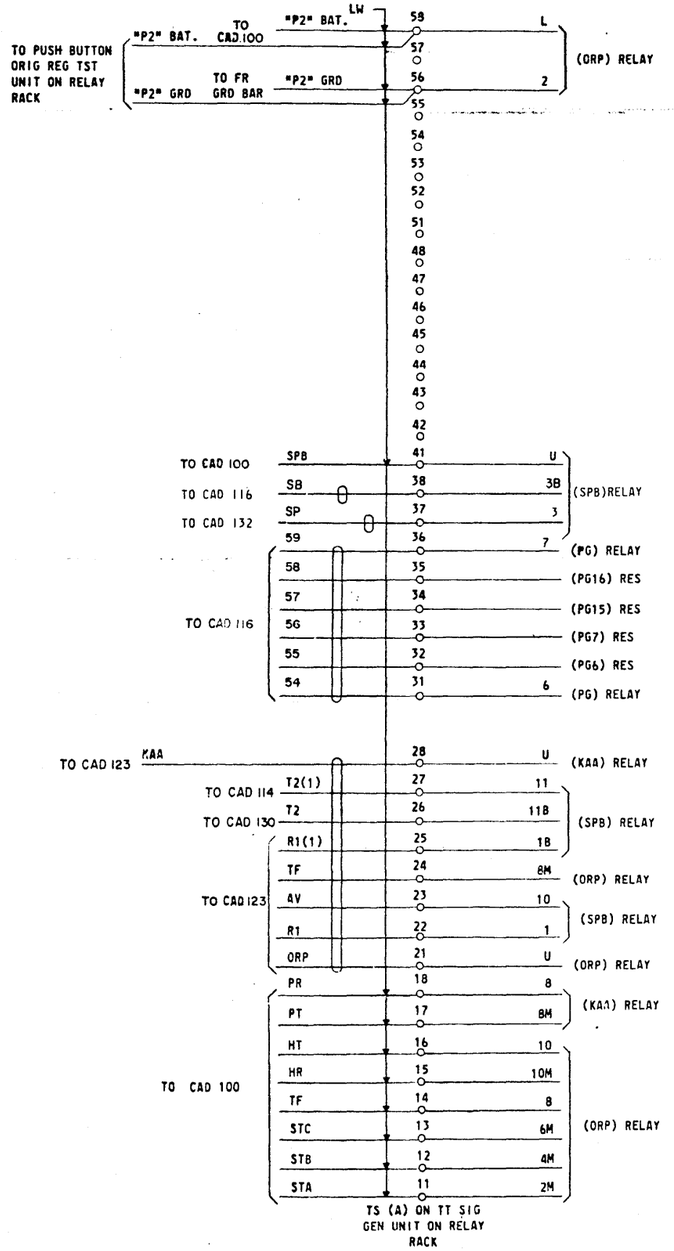
PART OF CAD 100 (MFR DISC)

(FOR APP FIG 46,48 & 49)



CAD 101

(FOR APP FIG 47)



DRAWING ISSUE

47A	NAV KDM AND
49AR	REL AND RAS CLK AMP
50D	RAS PG, RING
51AR	AGEN CLK AND
68D	G.E
74D	
86D	

86

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-G8

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6G

PRINTED IN U.S.A.

SD-25680-01-G8

CAD 102

(FOR APP FIG 1,13,16 & 25)

TO OUT. SDR CONN FOR SDR GR (6-10)

SGRP B	MON 4	39	10T		
	MON 3	38	8T		
	MON 2	37	6T		
	MON 1	36	4T		
	MON 0	35	2T		(SG9) REL
SGRP A	MON 4	34	2B		
	MON 3	33	4B		
	MON 2	32	6B		
	MON 1	31	8B		
	MON 0	30	10B		
SGRP B	MON 4	29	10T		
	MON 3	28	8T		
	MON 2	27	6T		
	MON 1	26	4T		
	MON 0	25	2T		(SG8) REL
SGRP A	MON 4	24	2B		
	MON 3	23	4B		
	MON 2	22	6B		
	MON 1	21	8B		
	MON 0	20	10B		
SGRP B	MON 4	19	10T		
	MON 3	18	8T		
	MON 2	17	6T		
	MON 1	16	4T		
	MON 0	15	2T		(SG7) REL
SGRP A	MON 4	14	2B		
	MON 3	13	4B		
	MON 2	12	6B		
	MON 1	11	8B		
	MON 0	10	10B		
SGRP B	MON 4	09	10T		
	MON 3	08	8T		
	MON 2	07	6T		
	MON 1	06	4T		
	MON 0	05	2T		(SG6) REL
SGRP A	MON 4	04	2B		
	MON 3	03	4B		
	MON 2	02	6B		
	MON 1	01	8B		
	MON 0	00	10B		

TS (MISC A) MFR DISC. OR TS (A) ON AUTO. MON BAY

	RVA	79	3B	(CL7) REL
TO CAD 121	RV	78	2B	
	IXX	77	4	(IXX) REL
	DD8	76	4B	
TO CAD 152	MCS	75	2T	(MCL) REL
TO CAD 131	IIR	74	5B	(IIR) REL
		73 (SR3)	SI	PROVIDED FOR PICTUREPHONE ONLY; TO CAD 108
CROSS CONN AS SPEC IN NOTE 233		72 (SC3)	SC3	(BS); TO CAD 112
		71 (LO)	4B	(BP); (LO) REL
		70 (SC)	SC	TO CAD 112 (A & M ONLY)
TO CAD 130	IR			
	CKS	69	6B	
	CKS1	68	8T	(11R) REL
	CKS2	67	1B	
TO CAD 128 (A&M ONLY) OR TO CAD 121	SCT1	66	10T	(SC1) REL
	P11	65	5T	(P11) REL
	CKS3	64	9T	(11R) REL
	DLG	63	5B	(CL8) REL
	CL7	62		(CL7) REL
	CL8	61		SEE CAD 88
		60		
	3	59	11T	(COS) REL
	1	58	9T	(MOS) REL
TO CAD 121	2	57	10T	
	4	56	9B	(COS) REL
	TM3	55	TM3	TO CAD 103
		54		(CL8) REL
TO CAD 123	CLI3B	53	9T	(SONI) REL
	CLI3A	52	9T	(CLI3) REL
TO CAD 158 TO PWR, RNG, & TONE DIST'G FR	SA			REQD FOR RANGE EXT
	130V GI	51		(RC) RES
		50		SEE CAD 66

TO OUT SDR CONN FOR SDR GR (6-10)	SGRP B	MON 4	49	10T	
		MON 3	48	8T	
		MON 2	47	6T	
		MON 1	46	4T	
		MON 0	45	2T	
	SGRP A	MON 4	44	2B	(SG10) REL
		MON 3	43	4B	
		MON 2	42	6B	
		MON 1	41	8B	
		MON 0	40	10B	

TS (MISC A) MFR DISC OR TS (A) ON AUTO. MON BAY

CROSS CONN AS REQD SEE NOTES 224 AND 238

CROSS CONN AS REQD SEE NOTES 224 AND 238

	S12	7TF	(S12) REL; S12
	S02	7TF	(S02) REL; S02
	S11	7TF	(S11) REL; S11
	S01	7TF	(S01) REL; S01
TO CAD 161			
CROSS CONN PER NOTE 239	IDA		TO CAD 164
	ID		TO CAD 155
	BR09		TO CAD 162
	BR08		REMOVE WHEN IDDD IS PROVIDED
	BR07	BR7	4B (CLSA) REL B7
	BR06		
	BR05		
	BR04	BR4	1B (CLSA) REL B4
	BR03		
	BR02	BR2	1T (CLSA) REL B2
	BR01	BR1	4T (CLSA) REL B1
	BR00	BR0	7T (CLSA) REL B0
	AR09		
	AR08		
TO CAD 160	AR07	AR7	4B (CLIA) REL A7
	AR06		
	AR05		
	AR04	AR4	1B (CLIA) REL A4
	AR03		
	AR02	AR2	1T (CLIA) REL A2
	AR01	AR1	4T (CLIA) REL A1
	AR00	AR0	7T (CLIA) REL A0
	(AK) 87	(AK)	7T (STMI) REL
TO CAD 123	CKL2		
	CKLI	88	4T (K7) REL
	CKLO	87	REMOVE WHEN AK OPTION IS PROVIDED; 2T (KLO) REL
TO CAD 153	4WM	86	(BP) (BS) 3 (RTC) REL
TO CAD 152	OST		
		85 (SCI)	SCI TO CAD 112
		84 (SR)	SS TO CAD 131
CROSS CONN AS SPEC IN NOTE 233		83 (LI)	4B (LI) REL
		82 (L2)	4B (L2) REL
		81 (SR2)	SO TO CAD 108
		80 (SRI)	SS TO CAD 115; PROVIDE FOR PICTUREPHONE ONLY

TS (MISC A) MFR DISC. OR TS (A) ON AUTO. MON BAY

DRAWING ISSUE
50D
52A
66AF
67D
68D
70D
7IA
72A
73D
81D
86D

ISSUE 106B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-G9

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

SD-25680-01-G9

STABILO

CAD 103

(FOR APP FIG 1,9,10,13,15,16,26 & 57)

TO CAD 121 — TO CAD 127 RCK 29 — 2B (RCK) REL; 12T (CII) REL
CHPE 28 — 7B (COS) REL
TM3 27 — 5T (TM4) REL; TM3 TO CAD 102
TO CAD 138 CHP 26 — 9B (TRR1) REL
CONG1 25 — 10B
CACL 24 — 3T (CAC) REL
TO CAD 109 TA 23 — TA TO CAD 109
RPL2 22 — 11B
RPL1 21 — 11T (ROS) REL
RTR 20 — 9B
SPE 19 — 3T (COS) REL; SPE TO CAD 108
CSP 18 — 9T
CON1 17 — 5B (COS) REL
SPE1 16 — 4T
CON 15 — 3B
TM8 14 — 10B (DON) REL (MFR DISC)
TO CAD 138 IBS 13 — 7B RIR REL
RPL2A 12 — 11B (A&M ONLY); 4T RPLT REL
RPL1A 11 — 11T RIR REL; 1T RPLT REL
TO CAD 127 ONT 10 — 7B (ONR) REL
RS 09 — 9T
RST 08 — 8B
TT 07 — 7B (ROS) REL
DSP 06 — 5B
SPE 05 — 4T
TO CAD 138 RON 04 — 3B
RTRR 03 — 11B (IRN) REL
O2 02 — (BFR6) RES
O1 01 — 5B (BFR3) REL
OO 00 — 5T
TS (AUX RST) AUTO. MON BAY
TO CAD 121

TO CAD 149 KCRO 59 — 2B (KRO) REL
TO CAD 130 IIRA
MCPI 58 — 11T (GII) REL
CLI3 57 — 5B (CLI3) REL
TO CAD 123 CKSI 56 — 8B (IIR) REL
CKS 55 — 7B
A&M ONLY
TO IST W SPG RP INC REG RPLT 54 — 7T
4 53 — 2B
TO CAD 123 CBRI 52 — 5B (RPLT) REL
RPLT 51 — 4B
TO CAD 122 I 50 — 1B (MFR DISC)
R 49 — 6
T 48 — 5 TO CAD 111
P 47 — 4
TO CAD 138 R1 46 — 3
REC 45 — REC TO CAD 108
CK1 44 — CK1
(A & M ONLY) CKS2 43 — 2B (A & M ONLY)
3 42 — 10B
TO CAD 123 2 41 — 4B (11R) REL
1 40 — 3B
TO CAD 150 IIR 98
ONG3 39 — 9T (ONM2) REL
TO CAD 123 RPS 38 — 4T (RTCI) REL
TO MTF CONT FR (MFR DISC) OR AUX CONT BAY II
E7 37 — E7 TO CAD 109
KR7 36 — 2B (KR7) REL
KR4 35 — 2B (KR4) REL
KR2 34 — 2B (KR2) REL
TO CAD 138 KR1 33 — 2B (KR1) REL
DL3 32 — 5T (DL3) REL
DL2 31 — 5T (DL2) REL
CKIA 30 — 5B (DL6) REL
(MFR DISC)
TS (AUX RST) AUTO. MON BAY
TO CAD 149 KCR4 KCR2 KCRI
TO CAD 164 DL6

PROVIDE WHEN OFFICE IS ARRANGED FOR RANGE EXTENSION
TO CAD 129 T1 89 — 2T
R1 88 — 3B
A4 87 — 2B (LOLPT) REL
TO CAD 148 A3 86 — 1T
LLA 85 — 9 (CA1) CPNTA
A1 84 — 6B (LOLPT) REL
TD4
TDA7
TO CAD 112 TD3 83 — 11B (TDA) REL
TD5 82 — 6B
TD4 81 — 5B
TD3 80 — 4B
TD2 79 — 1T (TD) REL
TD1 78 — 6T
TDO 77 — 7T
TDA6 76 — 10B
TO CAD 148 TDA5 75 — 6B
TDA4 74 — 5B
TDA3 73 — 4B (TDA) REL
TDA2 72 — 9B
TDA1 71 — 2T
WW 70 — 6T
XX 69 — 5T
PG1 68 — 2T (LC) REL
PG 67 — 3T (RAA) REL
AVK1 66 — 8TF (TLG1) REL
CKSG 65 — 2T (ONM1) REL
TO CAD 123 CKS3 64 — 4B (MPC1) REL
TVT 63 — 1T (CAC) REL
TVTK 62 — 2T
CAC1 61 — 11T (COS) REL
CAC 60 — 7 TO CAD 111
(MFR DISC)
TS (AUX RST) AUTO. MON BAY

TO CAD 123 CLI3A 119 — 8T (CLI3) REL
TO 4W MF INC REG SKI 118 — U (SKI) REL
SK 117 — U (SK) REL
TO CAD 148 A 116 — 7 (4WMF) REL
ONRA 115 — 9B (ONR) REL
48 I 114 — 5T (DAR) REL
TO CAD 153 49 SK2 113 — 7
SKI 112 — 4M (SKI) REL
SK 111 — 9M (SK) REL
110
TO 4W DP SDR 4WDP
MCQ 109 — (SDS) REL OR (CII) REL
4WDI 108 — 4T (STM3) REL
TO CAD 148 4WD 107 — U (4WDP) REL
4WMI 106 — 6T (STM3) REL
4WM 105 — U (4WMF) REL
TO 4W MF SDR 4WMF
CA7 104 — 7M
CA4 103 — 4M
CA2 102 — 3M (CDAS) REL
CA1 101 — 2M
CAO 100 — 1M
CD7 99 — 7M
CD4 98 — 4M
TO CAD 153 CD2 97 — 3M (CDS) REL
CD1 96 — 2M
CDO 95 — 1M
P7 94 — 7M
P4 93 — 4M
P2 92 — 3M (CDPS) REL
P1 91 — 2M
PO 90 — 1M
TS (AUX RST) AUTO MON BAY

DRAWING ISSUE	
50D	GEL CLK AND
52A	MRS LW AND
59D	IB REL AA
61A	PCJ AHB AHD
67D	CRR AJL AHD
68D	ABW RSL AHD
70D	SAI PDT AHD
71A	SAI PO AHD
72A	JEK MA2 AHD
74D	KEG
78D	TM
88D	
89D	
90A	

ISSUE 106B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-G10

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

SD-25680-01-G10

STABILO HE

CAD 104
(FOR APP FIG 16,57,64 & V)

TO MTF CONT BAY

KR7	R7	39	6T	(KR7) REL
KR4	R4	38	6T	(KR4) REL
KR2	R2	37	6T	(KR2) REL
KR1	R1	36	6T	(KR1) REL
KR0	R0	35	6T	(KR0) REL
0G7	G7	34	4T	(KG7) REL
0G4	G4	33	4T	(KG4) REL
0G2	G2	32	4T	(KG2) REL
0G1	G1	31	4T	(KG1) REL
0G0	G0	30	4T	(KG0) REL
0F7	F7	29	4T	(KF7) REL
0F4	F4	28	4T	(KF4) REL
0F2	F2	27	4T	(KF2) REL
0F1	F1	26	4T	(KF1) REL
0F0	F0	25	4T	(KF0) REL
0E7	E7	24	4T	(KE7) REL
0E4	E4	23	4T	(KE4) REL
0E2	E2	22	4T	(KE2) REL
0E1	E1	21	4T	(KE1) REL
0E0	E0	20	4T	(KE0) REL
0D7	D7	19	4T	(KD7) REL
0D4	D4	18	4T	(KD4) REL
0D2	D2	17	4T	(KD2) REL
0D1	D1	16	4T	(KD1) REL
0D0	D0	15	4T	(KD0) REL
0C7	C7	14	4T	(KC7) REL
0C4	C4	13	4T	(KC4) REL
0C2	C2	12	4T	(KC2) REL
0C1	C1	11	4T	(KC1) REL
0C0	C0	10	4T	(KC0) REL
0B7	B7	09	4T	(KB7) REL
0B4	B4	08	4T	(KB4) REL
0B2	B2	07	4T	(KB2) REL
0B1	B1	06	4T	(KB1) REL
0B0	B0	05	4T	(KB0) REL
0A7	A7	04	4T	(KA7) REL
0A4	A4	03	4T	(KA4) REL
0A2	A2	02	4T	(KA2) REL
0A1	A1	01	4T	(KA1) REL
0A0	A0	00	4T	(KA0) REL

TO CAD 159

TS (B) ON AUTO. MON BAY

		IM		(3D) REL
				REMOVE WHEN 3DC IS PROVIDED
	CGC	79	2T	(RPE1) REL
	CGC1	78	11T	(CGC) REL
	CLI3C	77	6T	(CLI3) REL
	8	76	8T	(A0) REL
	6	75	5T	(A4) REL
TO CAD 123	5	74	5T	(A7) REL
	3	73	4T	(A4) REL
	2	72	4T	(A7) REL
	1	71	5T	(A1) REL
	11	70	6B	(A7) REL
TO CAD 155	IO	69	2B	(MFR DISC)
	IO		2B	(OP1) REL
	13	68	2B	(OP) REL
			OP	(TDM) REL
TO CAD 123	12	67	4B	TO CAD 154 (A7) REL
				REMOVE WHEN "TOUCH-TONE" MONITORING IS PROVIDED
	DD8	66	5T	(X) REL
	DD8A	65	2B	(A1) REL
TO CAD 153	IIB	64	2T	(DD9A) REL
	DD9A			
TO CAD 123	MI	63	I	(4WMF) REL
	DD	62	IB	(DD9A) REL
TO CAD 153	IIA			
	DDI	61	6B	(DD9) REL
TO CAD 123	DD2	60	3T	(ORM1) REL
	DDR4			
TO CAD 153	DD3	59	2B	(11') REL
	DD4	58	3B	
TO CAD 123	DD5	57	2B	(DD9A) REL
	CLI3D	56	12	(4WWF) REL
TO CAD 127	OK	55	3T	(CKN2) REL
			2	(4WWF) REL
	ONR	54	9T	
	TKR	53	2B	(R4) REL
TO CAD 123	B	52	1T	
	A	51	2T	
IDDD NOT PROVIDED	AMA	50	9B	
TO CAD 127	CL3	49	8B	
	CL5A	48	13T	(CL5A) REL
TO CAD 123	SDT2	47	5T	
	DT2G	46	4T	
	ONSG	45	5T	(MK) REL
	X2	44	8B	
	X1	43	6B	(R4) REL
TO MTF CONT BAY	KCN	42	2B	(NAI) REL
	NAI	41	7T	(R5) REL
	KH7	40	6T OR 4T	(KH7) REL

TS (B) ON AUTO. MON BAY

REMOVE WHEN 4W ORIGINATING REGISTERS ARE MONITORED

NOT REQUIRED WHEN THIS CKT FUNCTIONS WITH 4W ORIGINATING REGISTERS AND 4W INCOMING REGISTERS AND/OR 4W OUTGOING SENDERS

CAD 105
(FOR APP FIG 16)

TO MTC VIA MTF CONT BAY

G7	39	39	
G4	38	38	
G2	37	37	
G1	36	36	
G0	35	35	
F7	34	34	
F4	33	33	
F2	32	32	
F1	31	31	
F0	30	30	
E7	29	29	
E4	28	28	
E2	27	27	
E1	26	26	
E0	25	25	
D7	24	24	
D4	23	23	
D2	22	22	
D1	21	21	
D0	20	20	
C7	19	19	(MCB) REL
C4	18	18	
C2	17	17	
C1	16	16	
C0	15	15	
B7	14	14	
B4	13	13	
B2	12	12	
B1	11	11	
B0	10	10	
A7	09	09	
A4	08	08	
A2	07	07	
A1	06	06	
A0	05	05	
M7	04	04	
M11	03	03	
M'7	02	02	
CL6	01	01	
CL7	00	00	

TO MTC

TO CAD 118

TS (MCB) ON AUTO. MON BAY

M'7			
CL6			(A & M ONLY)
CL7			

TO CAD 156

L7	59	59	
L4	58	58	
L2	57	57	
L1	56	56	
L0	55	55	
K7	54	54	
K4	53	53	
K2	52	52	
K1	51	51	
K0	50	50	
J7	49	49	(MCB) REL
J4	48	48	
J2	47	47	
J1	46	46	
J0	45	45	
H7	44	44	
H4	43	43	
H2	42	42	
H1	41	41	
H0	40	40	

TO MTC VIA MTF CONT BAY

TS (MCB) ON AUTO. MON BAY

DRAWING ISSUE	
50D	CSW CA AND
52A	MRS LW AND
53D	PDT LW AND
54A	PWR W.G AND
68D	G.E A.SL AND
70D	CR PDT AND
71A	CR PDT AND
74D	G.E
79D	JER
81D	
83D	

83

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-GII

BELL TELEPHONE LABORATORIES INCORPORATED

6S

PRINTED IN U.S.A.

SD-25680-01-GII

STABILO

CAD 106
(FOR APP FIG 16)

TO CAD 156

G'7	39	G'7	39
G'4	38	G'4	38
G'2	37	G'2	37
G'1	36	G'1	36
G'0	35	G'0	35
F'7	34	F'7	34
F'4	33	F'4	33
F'2	32	F'2	32
F'1	31	F'1	31
F'0	30	F'0	30
E'7	29	E'7	29
E'4	28	E'4	28
E'2	27	E'2	27
E'1	26	E'1	26
E'0	25	E'0	25
D'7	24	D'7	24
D'4	23	D'4	23
D'2	22	D'2	22
D'1	21	D'1	21
D'0	20	D'0	20
C'7	19	C'7	19
C'4	18	C'4	18
C'2	17	C'2	17
C'1	16	C'1	16
C'0	15	C'0	15
B'7	14	B'7	14
B'4	13	B'4	13
B'2	12	B'2	12
B'1	11	B'1	11
B'0	10	B'0	10
A'7	09	A'7	9
A'4	08	A'4	8
A'2	07	A'2	7
A'1	06	A'1	6
A'0	05	A'0	5
CR'7	04		4
CR'4	03		3
CR'2	02		2
CR'1	01		1
CR'0	00		0

MTF CONT

ARMATURES OF THE (MCE) REL

MFR DISC.

TS(MCE) ON AUTO.MON BAY

TO CAD 156

L'7	59	L'7	59
L'4	58	L'4	58
L'2	57	L'2	57
L'1	56	L'1	56
L'0	55	L'0	55
K'7	54	K'7	54
K'4	53	K'4	53
K'2	52	K'2	52
K'1	51	K'1	51
K'0	50	K'0	50
J'7	49	J'7	49
J'4	48	J'4	48
J'2	47	J'2	47
J'1	46	J'1	46
J'0	45	J'0	45
H'7	44	H'7	44
H'4	43	H'4	43
H'2	42	H'2	42
H'1	41	H'1	41
H'0	40	H'0	40

MTF CONT

ARMATURES OF THE (MCE) REL

TS(MCE) ON AUTO.MON BAY

CAD 107 (MFR DISC)
(FOR APP FIG 16)

G'7	39	39
G'4	38	38
G'2	37	37
G'1	36	36
G'0	35	35
F'7	34	34
F'4	33	33
F'2	32	32
F'1	31	31
F'0	30	30
E'7	29	29
E'4	28	28
E'2	27	27
E'1	26	26
E'0	25	25
D'7	24	24
D'4	23	23
D'2	22	22
D'1	21	21
D'0	20	20
C'7	19	19
C'4	18	18
C'2	17	17
C'1	16	16
C'0	15	15
B'7	14	14
B'4	13	13
B'2	12	12
B'1	11	11
B'0	10	10
A'7	09	9
A'4	08	8
A'2	07	7
A'1	06	6
A'0	05	5
	04	
	03	
	02	
	01	
	00	

TO CAD 138

CONTACTS OF THE (MCE) REL

TS(MCF) ON AUTO.MON BAY

	59	
	58	
	57	
	56	
	55	
	54	
	53	
	52	
	51	
	50	
J'7	49	49
	48	
	47	
	46	
	45	
H'7	44	44
H'4	43	43
H'2	42	42
H'1	41	41
H'0	40	40

TO CAD 138

CONTACTS OF THE (MCE) REL

TS(MCF) ON AUTO.MON BAY

DRAWING ISSUE	
50D	TH. CK AMD
68D	G.E. ASL AMD
71A	SA/ PDC ADD
74D	G.E.

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-GI2

BELL TELEPHONE LABORATORIES INCORPORATED — 6S

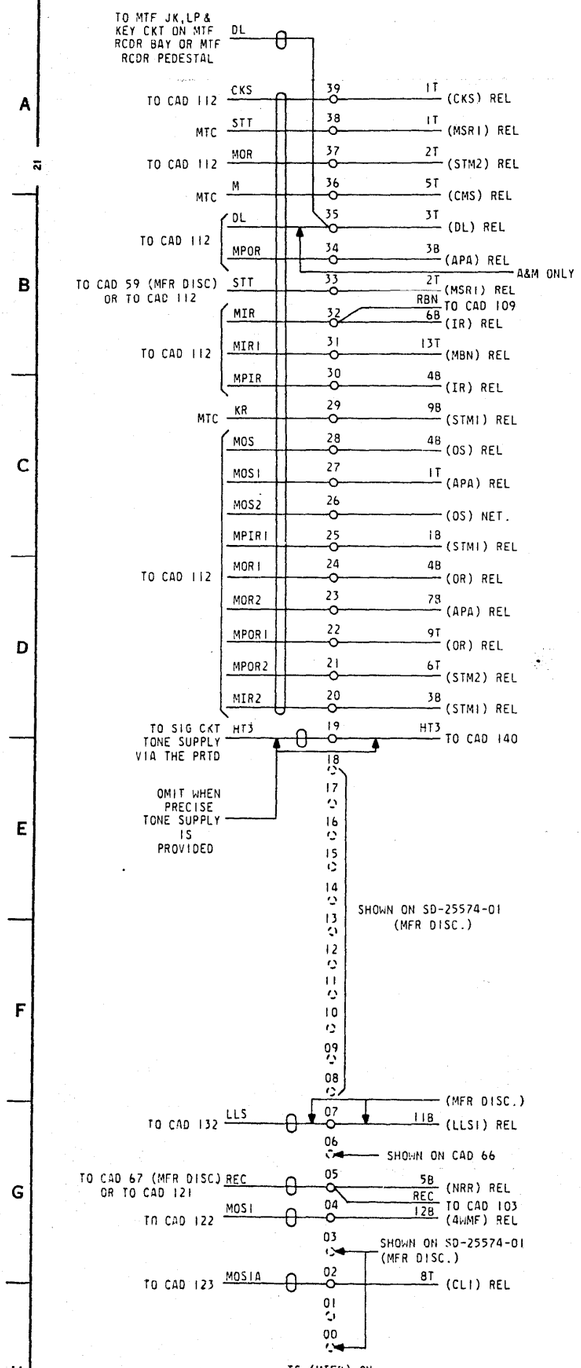
PRINTED IN U.S.A.

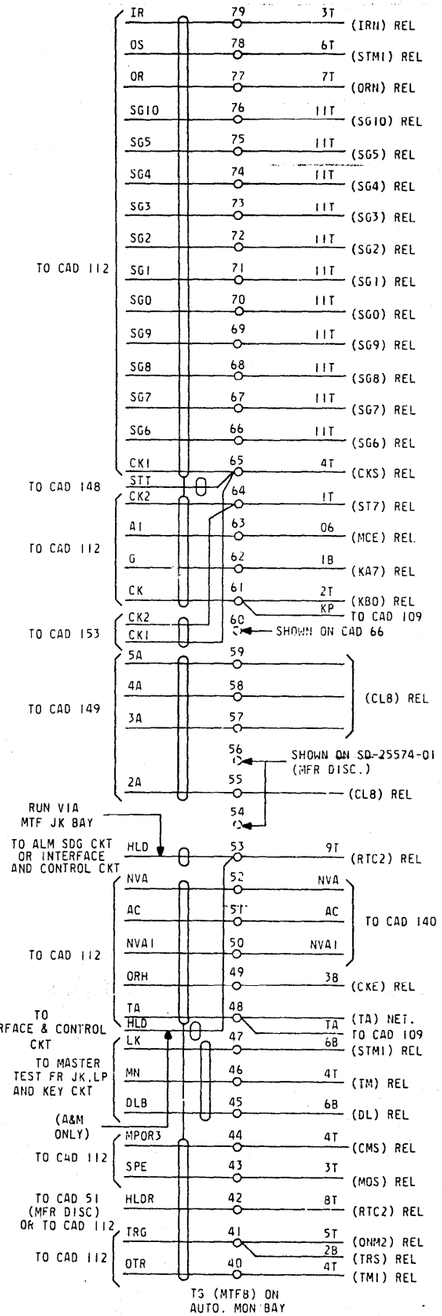
SD-25680-01-GI2

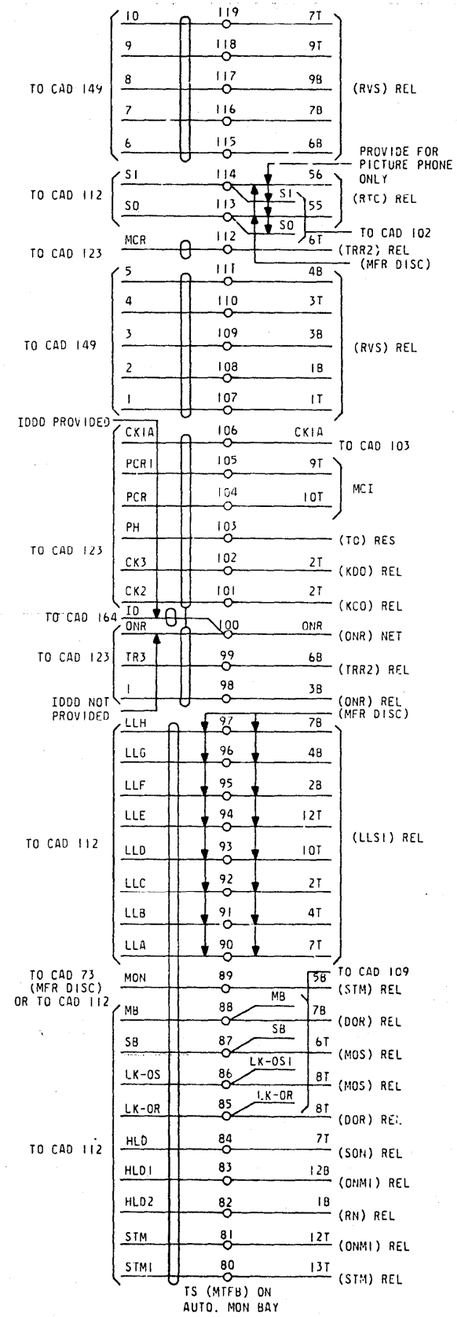
STABILO

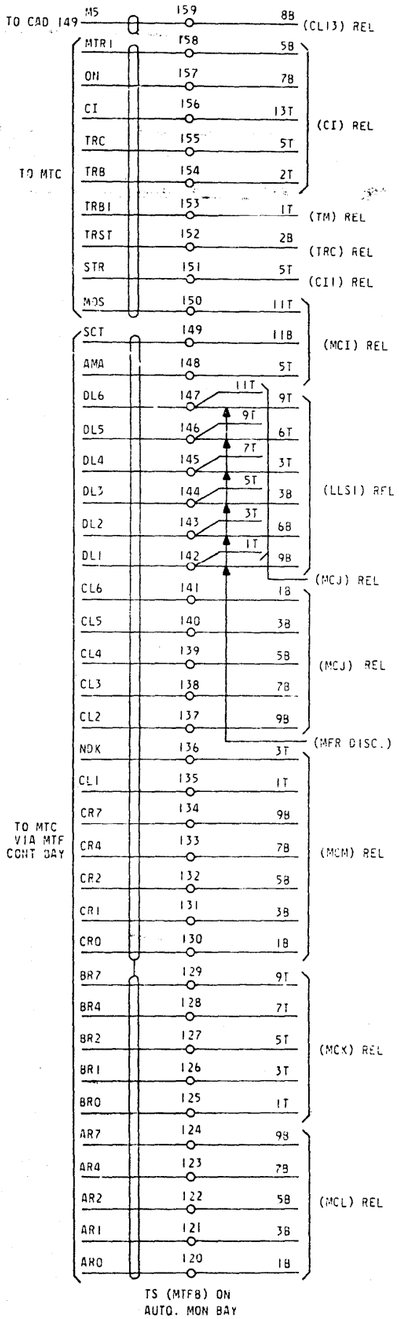
CAD 108

(FOR APP FIG. 1,2,10,16,17 & 25)









ISSUE 105A

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER, AND SENDER TEST CIRCUIT

SD-25680-01-G13

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

PRINTED IN U.S.A.

CAD 109

(FOR APP FIG 1,2,10,12,15,16,25,36 & 57)

TO CAD 70 (MFR DISC) OR TO CAD 127 — TM2
KB 39 KP — TO CAD 108
RTC 38 10B — (ORN) REL
MON 37 5T — (PEA) REL
TO CAD 127 — MCI 36 11T; OSM 35 9T — (SON) REL
SON1 34 1B — (DOS) REL; 1B — (COS) REL
TRST 33 3B — (RPE1) REL
TO CAD 164 — ONM 32 2B — (TMB) REL
TO CAD 155 — PEA
ONG5 31 3B; ONG4 30 3T; ONG3 29 1T — (ONM2) REL
TMB 28 1B — (TM2) REL
TMA 27 8T — (PEA) REL
MONL 26 MONL — TO CAD 111
OK 25 11B — (OMN1) REL
LK-OS 24 LK-OS1 — TO CAD 109
H-OS 23 2T — (MOS) REL
TO CAD 127 — MOS 22 2T; SG 21 2B; DOS 20 4T — (STM) REL
SPE 19 4T — (MOS) REL
PL 18 10T — (DOS) REL
TO CAD 111
MON-IR 17 6T; H-IR 16 2T; MST-IR 15 4T — (RIR) REL
MON-OR 14 6T — (MIR) REL (DOR) REL
LK-OR 13 LK-OR — TO CAD 108
H-OR 12 2T; MST-OR 11 4T; MST1 10 10T — (DOR) REL
TO CAD 53 (MFR DISC) OR TO CAD 127 — MIR 09 6T; DIR 08 8T; LK 07 6B (MIR) REL; 6B (RIR) REL
BLG 06 12B — (STM) REL
TO CAD 123 — RS1 05 10T; RPL2-IR 04 12B; RPL1-IR 03 12T — (RIR) REL
RTRS 02 10B — (ROS) REL
TO CAD 53 (MFR DISC) OR TO CAD 127 — CBR 01 12B; RIR 00 10B — (STM3) REL

TS(REG TST) ON AUTO. MON BAY

PROVIDE WHEN TESTING 4W OR AND NOT 4W INC REG NOR 4W OG SDR

TO CAD 155 — A
SDT3 79 8B — (CL1A) REL
4MA 78 9 — (CDPS) REL
6T — (MCI) REL
PROVIDE WHEN TESTING 4W OR AND 4W INC REG AND/OR 4W OG SDR
CL6 77 2B; CL5 76 4B; CL4 75 6B; CL3 74 8B; CL2 73 10B — (MCJ) REL
TO CAD 127
TO CAD 67 (MFR DISC) OR TO CAD 127 — STD 72 4B — (RA1) REL
TR 71 13T — (TR) REL
NOT ARR FOR ANI OR ANI LAMA
DLG 70 4T; 5T — (DL6) REL (R4) REL
TO CAD 127 — A7 69 9T; A4 68 8T — (MCE) REL
ARR FOR ANI OR ANI LAMA
MCD 67 1T — (CI1) REL
TO CAD 59 (MFR DISC) OR TO CAD 127 — R 66 4T; T 65 1T — (MFR) REL
DSM 64 DSM; STM 63 STM; AON 62 AON — TO CAD 140
TO CAD 127
CKS 61 4B — (PE) REL
TA 60 — TO CAD 108; TA — TO CAD 103
LG1 59 3T — (CKS) REL
TR 58 5T — (RTC2) REL
TBL1 57 2B — (OMN1) REL
TBL2 56 6T — (TM1) REL
MC 56 5T — MFR DISC. 1B — (MTR) REL
XMR1 55 — (CI) REL
TO CAD 59 (MFR DISC) OR TO CAD 127 — TRT1 54 3T
ORH 53 2B — (CKE) REL
DON 52 11T — (DON) REL
MFS 51 9T — (MFS) REL
RTC 50 T — (RTC) REL
LG 49 2T — (CKS) REL
RB 48 6B — (STM2) REL
BS 47 2B — MFR DISC (IR) REL
5T — (IR) REL
XMR2 46 2B — (MTR) REL
MB 45 MB — TO CAD 108
TO CAD 127 — SP 44 10T — (DIR) REL
TAN-IR 43 8T — (MIR) REL
TO CAD 59 (MFR DISC) OR TO CAD 127 — NDK 42 4B — (MTR) REL
TO CAD 127 — ON 41 10T — (STM) REL
TO CAD 149 — MFS; BS 40 BS — TO CAD 111

TS(REG TST) ON AUTO. MON BAY

HMS1 119 7B — (IRN) REL
FR 118 FR; CN 117 CN; S 116 S — TO CAD 111
TO CAD 127 — MCC 115 7T — (CI1) REL
LVG 114 3B; LCG 113 1T; FSG 112 4T — (TLG) REL
RBN 111 RBN — TO CAD 108
TO CAD 70 (MFR DISC) OR TO CAD 127 — MCG 110 3B — (CI1) REL
MON9 109 9T; MON8 108 7T; MON7 107 5T; MON6 106 3T; MON5 105 1T
TO CAD 127 — MON4 104 1B; MON3 103 3B; MON2 102 5B; MON1 101 7B; MON0 100 9B — (SGC) REL
K 99 7B — (JSA) REL
J 98 7B — (HSA) REL
H 97 7B — (GSA) REL
G 96 7B — (FSA) REL
F 95 7B — (ESA) REL
E 94 7B — (DSA) REL
D 93 7B — (CSA) REL
C 92 7B — (BSA) REL
B 91 7B — (ASA) REL
TO CAD 134 (MFR DISC.) — FD — 48M ONLY
M7 90 64; L7 89 59; K7 88 54; J7 87 49; H7 86 44 — (MCE) REL
TO CAD 163 (MFR DISC.) OR CAD 167 — L7, K7, J7
IDDD PROVIDED
G7 85 39; (EH); F7 84 34; E7 83 29 — 4B (STS) REL
TO CAD 127
D7 82 24; C7 81 19 — LOOP MFR DISC (MCE) REL
B7 80 14
TO CAD 112 — F7 — (EI) — E7 — TO CAD 103
IDDD NOT PROVIDED

TS(REG TST) ON AUTO MON BAY

(MFR DISC)
TO CAD 127 — FA 159 5B; FA1 158 5T; FA2 157 — (BFR2) REL; (BFR5) RES
IR1 156 2B — (IR) REL
RPL2-OS 155 12B; RPLI-OS 154 12T; RS 153 10T; CPS 152 10T; COS 151 12T; ROS 150 10T — (ROS) REL
RPL2; RPL1; RS; CSP; COS; ROS
TO CAD 123 — (COS) REL; (STM3) REL
TO MF RECEIVER ON MF PULSING RECEIVER FR OR MISC REL RACK — DISC 149 1B — TO CAD 111 (TLG1) REL
HMS1 148 9B — (SON1) REL
DIS 147 2B — (TLG1) REL
ST 146 7B — (MOS) REL
11R 145 12T — (11R) REL
R 144 1B; T 143 4B; H 142 8T; J 141 6T; L 140 2T — (MFR) REL; (MFN) REL
BAT-1 139 7B — TO CAD 127
138 — SEE CAD 62
BAT-2 137 11B
M 136 12T
10 135 — REQUIRED WHEN OFFICE IS ARRANGED FOR ANI OR ANI-LAMA (10) NET.
7 134 2B — (RVS) REL; 1T — (P6A) REL
4 133 5B — (RVS) REL; 4T — (P4) REL
2 132 8B — (RVS) REL; 3T — (P3) REL
1 131 2T — (RVS) REL; 1B — (P6A) REL
0 130 8T — (RVS) REL; 5B — (P1) REL; 3T — (CLIA) REL; 7B — (KSA) REL
L 129 — REQUIRED WHEN OFFICE IS NOT ARRANGED FOR ANI OR ANI-LAMA
TO CAD 67 (MFR DISC) OR TO CAD 127 — TMT 128 5B — (SONI) REL
NRRG 127 7T — (ONM2) REL
SB 126 5B — TO CAD 108; 5B — TO CAD 111
MCA 125 5B — (CI1) REL
TO CAD 127 — ONG1 124 3T; ONG2 123 3B — (ONM1) REL
MIR 122 5T — (IRM) REL
RPS1 121 4B — (RPS1) REL
MOR 120 7B — (ORN) REL

TS(REG TST) ON AUTO. MON BAY

DRAWING ISSUE

50D	EIU CLK AND
52A	MRS LW AND
65D	RF GEN AND
67D	PRS MAL ANG
	G.E. MAL AND
68D	
70D	FAC PST AND
72A	TEK MAL AND
81D	
83D	
86D	
88D	

ISSUE 106B

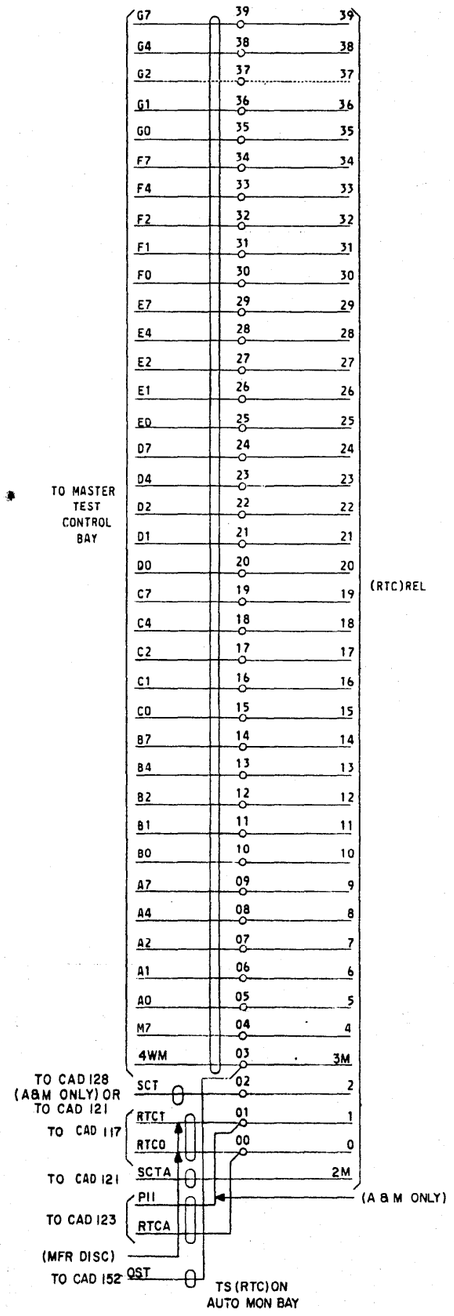
MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-GI4

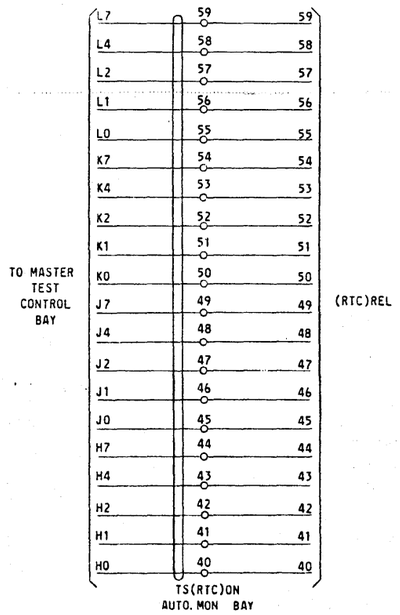
BELL TELEPHONE LABORATORIES INCORPORATED — DWN SIZE 6S — PRINTED IN U.S.A.

SD-25680-01-GI4

STABILO

CAD 110
(FOR APP FIG 16)





DRAWING ISSUE	
50D	SGE EDM AND
52A	PDT LW AND
68D	G.E. ASL AND
70D	CR PDT AND
71A	CR PDT AND
72A	JBK AND

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-GI5

BELL TELEPHONE LABORATORIES INCORPORATED

DRAWING SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-GI5

STABILO

CAD III

TO OSC CKT FOR SDR GR (0-3)

SUB GR B: MON4 39 10T; MON3 38 8T; MON2 37 6T; MON1 36 4T; MONO 35 2T (SG3) REL
SUB GR A: MON4 34 2B; MON3 33 4B; MON2 32 6B; MON1 31 8B; MONO 30 10B
SUB GR B: MON4 29 10T; MON3 28 8T; MON2 27 6T; MON1 26 4T; MONO 25 2T (SG2) REL
SUB GR A: MON4 24 2B; MON3 23 4B; MON2 22 6B; MON1 21 8B; MONO 20 10B
SUB GR B: MON4 19 10T; MON3 18 8T; MON2 17 6T; MON1 16 4T; MONO 15 2T (SG1) REL
SUB GR A: MON4 14 2B; MON3 13 4B; MON2 12 6B; MON1 11 8B; MONO 10 10B
SUB GR B: MON4 09 10T; MON3 08 8T; MON2 07 6T; MON1 06 4T; MONO 05 2T (SG0) REL
SUB GR A: MON4 04 2B; MON3 03 4B; MON2 02 6B; MON1 01 8B; MONO 00 10B

TS (SDR & MKR) ON AUTO.MON BAY

(MFR DISC)

TO 1ST OUT. SDR REV: RPL2 79 RPL2; RPL1 78 RPL1
TO OUT. SENDERS: RS 77 RS
TO 1ST OUT. CSP SDR PCI: CSP 76 CSP
TO OUT. SENDERS: COS 75 COS; ROS 74 ROS
TO CAD 109

TO 4W MF OUT. SDR CKT: R 73; T 72 (DPA) REL (A&M ONLY) OR (MFS) REL
TO MF OUT. SDR CKT: P

FR 71 FR
CN 70 CN
S 69 S
OS
BS 68 BS
TO 4W MF OUT. SDR CKT: MOS
MOS 67 MOS
TO CAD 109
DOS 66 DOS
TO 4W DP OUT. SDR CKT: DOS
SG 65 SG
PL 64 PL
SPE 63 SPE
H 62 2T (COS) REL
TO AIS MF SDR CKT ON OG SDR FR
LK 61 LK TO CAD 109 (SM) NET.
SB 60 SB TO CAD 109 (COS) REL
TO OUT. SENDERS CKT

SUB GR B: MON4 59 10T; MON3 58 8T; MON2 57 6T; MON1 56 4T; MONO 55 2T (SG5) REL
SUB GR A: MON4 54 2B; MON3 53 4B; MON2 52 6B; MON1 51 8B; MONO 50 10B
TO OSC CKT FOR SDR GR (4,5)
SUB GR B: MON4 49 10T; MON3 48 8T; MON2 47 6T; MON1 46 4T; MONO 45 2T (SG4) REL
SUB GR A: MON4 44 2B; MON3 43 4B; MON2 42 6B; MON1 41 8B; MONO 40 10B

TS (SDR & MKR) ON AUTO.MON BAY

(FOR APP FIG 1,2,6,7,8,10,12,16 & 25)

TO MARKERS CKT: RA 119 6T (SON1) REL; OSS 118 8T OR 7B (OS) REL (MFR DISC) OR (STMI) REL
TO FIRST DIAL TONE MARKER CKT: ORS 117 4T (OR) REL
MFR DISC. 7B (MTR) REL
MTR 116 5T (SON1) REL
MONL 115 MONL TO CAD 109; 9B (STM) REL
TO MARKERS CKT: SCT 114 11B (MCJ) REL; SON 113 8B (STM) REL; MKB 112 7T (C1) REL; OSM 111 2B (SON1) REL; MON1 110 3T (RTC1) REL

TO MARKERS CKT (MFR DISC.) OR TO COMPL MARKERS CKT:
(9) ST 109 2T (MB9) REL
(8) ST 108 2T (MB8) REL
(7) ST 107 2T (MB7) REL
(6) ST 106 2T TO CAD 168 MB6) REL
(5) ST 105 C5 2T (MB5) REL
(4) ST 104 C4 2T (MB4) REL
(3) ST 103 C3 2T (MB3) REL
(2) ST 102 C2 2T (MB2) REL
(1) ST 101 C1 2T (MB1) REL
(0) ST 100 C0 2T (MB0) REL

TO COMB. MKR CKT (MFR DISC.) OR TO COMPL MKR CKT:
(9) MON 99 1T (MP9) REL
(8) MON 98 1T (MP8) REL
(7) MON 97 1T (MP7) REL
(6) MON 96 1T (MP6) REL
(5) MON 95 1T (MP5) REL
(4) MON 94 1T (MP4) REL
(3) MON 93 1T (MP3) REL
(2) MON 92 1T (MP2) REL
(1) MON 91 1T (MP1) REL
(0) MON 90 1T (MP0) REL

TO COMB. MKR CKT:
(9) M 89 4T (MP9) REL
(8) M 88 4T (MP8) REL
(7) M 87 4T (MP7) REL
(6) M 86 4T (MP6) REL
(5) M 85 4T (MP5) REL
(4) M 84 4T (MP4) REL
TO COMB. MKR CKT (MFR DISC.) OR TO DIAL TONE MARKERS CKT:
(3) M 83 4T (MP3) REL
(2) M 82 4T (MP2) REL
(1) M 81 4T (MP1) REL
(0) M 80 4T (MP0) REL

TS (SDR & MKR) ON AUTO.MON BAY

TO COMB. MKR CKT (MFR DISC.) OR COMPL MKR CKT:
(11) ST 159 2T (MB11) REL
(10) ST 158 2T (MB10) REL
TO INTERFACE AND CONT CKT: AM 157 2 (MN1) DIODE
156 (MFR DISC)
TO SIG. CKT TONE SUPPLY VIA PRTD: HT 155 (CA2) CPNTA
DSP 154 6B (ROS) REL
TO OUT. SENDERS CKT: CAC 153 12T (COS) REL TO CAD 140
152
ZWN 151
MFR DISC. 150
TO COMB. OR COMPL MKR CKT:
(11) MON 149 1T (MP11) REL
(10) MON 148 1T (MP10) REL
MCB 147 9B (TRR2) REL
TO CAD 158: SDSO 146 2M (ZWO) (SDS) REL
SDSI 145 2B
TO TR REG CKT: R
TO CAD 148: RI 144 SMTR
TO CAD 155 TO 4W OR: R 143 13
TO ORIG DP REGISTERS CKT: R 142 R2
TO INC DP REGISTERS CKT: R 141 R1 TO CAD 140
TO DP SENDERS CKT TO 4W OUT. DP SDR CKT: R 140 R; R 139 6
TO IST OUT. SDR PCI CKT: T 138 5; P 137 4 TO CAD 103; R1 136 3
(MFR DISC) 135
TO CAD 122: MN I (MNI) DIODE
TO CAD 148: ORM
TO CAD 155: R 134 ORM TO CAD 140
TO TR REG CKT: T 133
TO CAD 155 TO 4W OR: T
TO ORIG DP REGISTERS CKT: T 132 T2
TO INC DP REGISTERS CKT: T 131 T1 TO CAD 140
TO DP SENDERS CKT TO 4W DP OUT. SDR CKT: T 130 T
TO COMB. MKR CKT:
(11) M 129 4T (MP11) REL
(10) M 128 4T (MP10) REL
TO TR REG CKT: MTRR 127 2B (STM2) REL
TO 4W OR CKT: ON 126 10T (STMI) REL

TO PLANT REGISTER CKT:
OS 125 7B
OSF 124 9B (SON) REL
OR 123 9T
ORF 122 3B (ORN) REL
IR 121 9T
IRF 120 5B (IRN) REL

TS (SDR & MKR) ON AUTO.MON BAY

DRAWING ISSUE

50D	REV DSW AMD
68D	SSL ASL AMP
70D	CR DDT AMP
79D	JER
81D	
82A	
83D	
88D	
89D	

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-G16

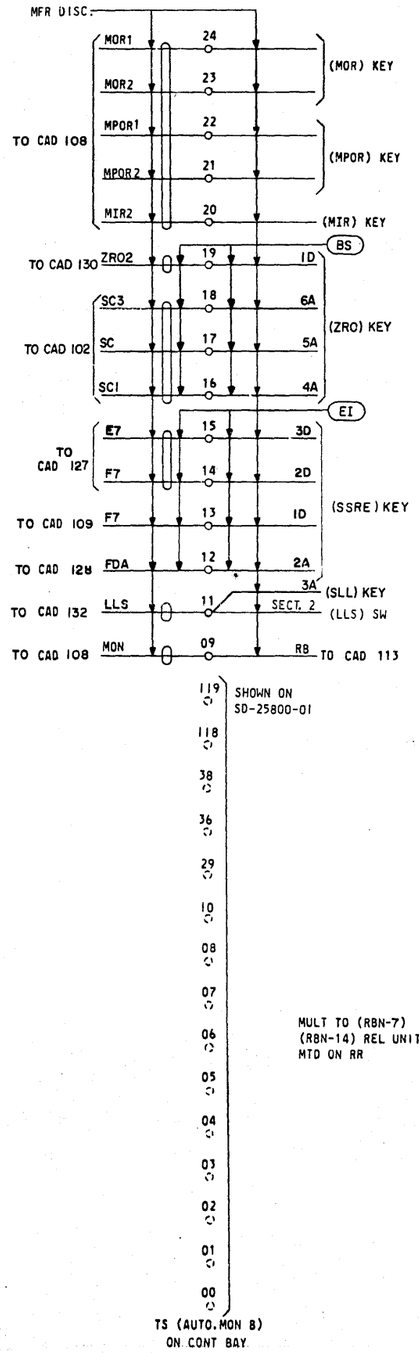
BELL TELEPHONE LABORATORIES INCORPORATED — DWG SIZE 6S — PRINTED IN U.S.A.

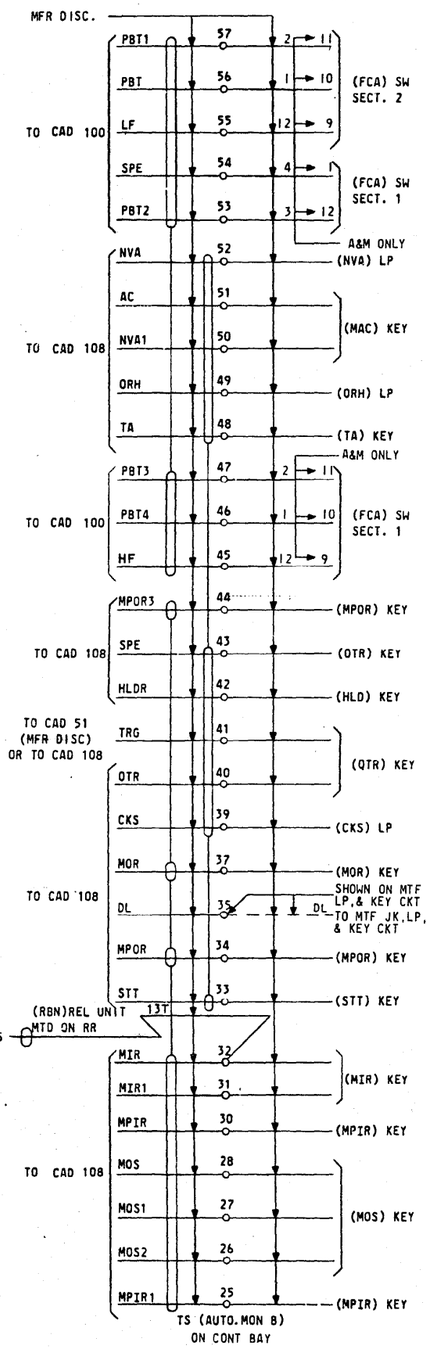
SD-25680-01-G16

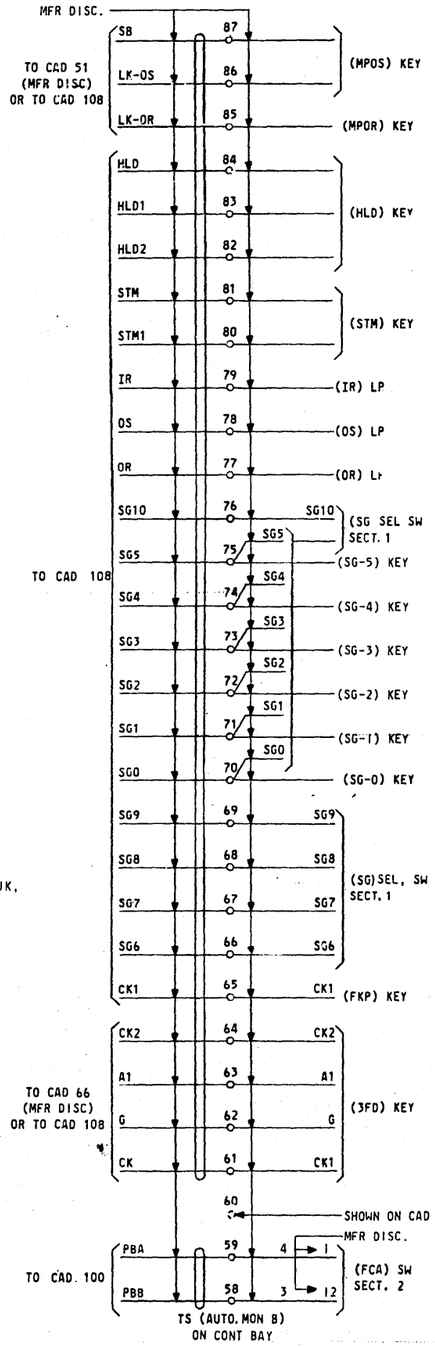
STABILO

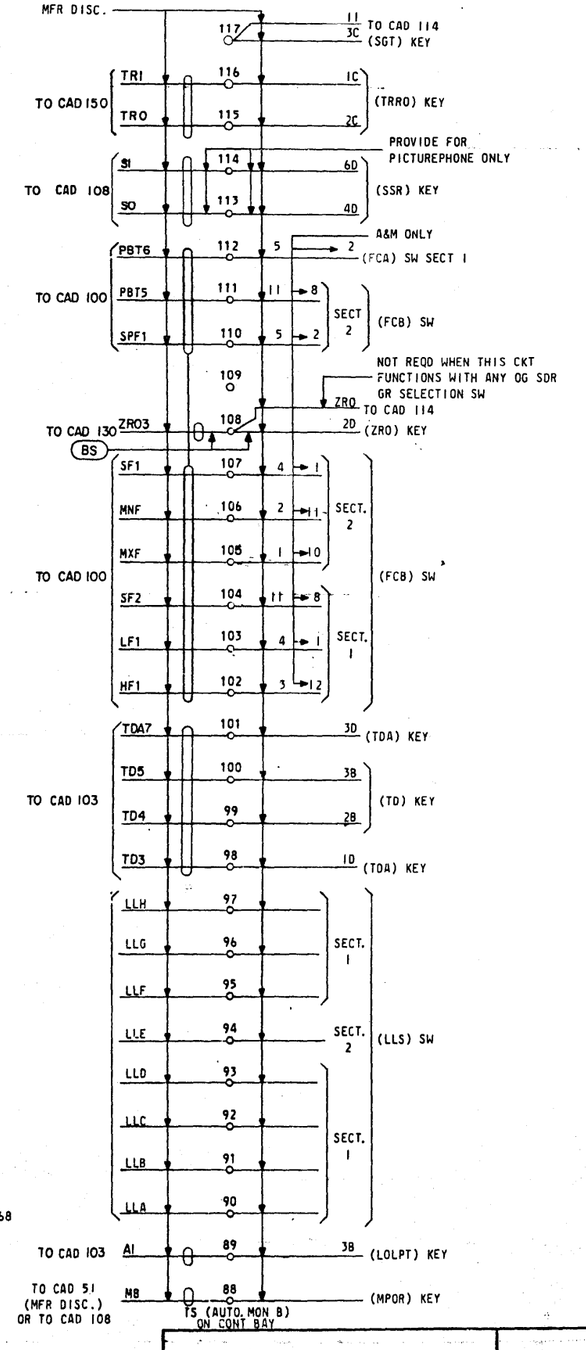
PART OF CAD 112

(FOR APP FIG 1,2,9,10,13,17,18,20,21,26,48,52 & H)









DRAWING ISSUE	
30D	SGB CLK AND
53D	MRS LW AND
57D	RH GEN AND
60AR	MCF REL AND
62D	NLF MTR AND
65D	RP GEN AND
67D	CRR ADJ AND
68D	SSL ADJ AND
70D	SW POT AND
71A	SW POT AND
72A	KEY PULL UNO
74D	G.E
86D	
87A	
89D	

89

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

SD-25680-01-G17A

PRINTED IN U.S.A.

SD-25680-01-G17A

STABILO

PART OF CAD 112

(FOR APP FIG. 1,2,9,10,13,17,18,20,21,26,48,52 & H)

DRAWING ISSUE 89D

(RBN) REL UNIT MTD ON REL RACK 13T

MULT TO (RBN-7) & (RBN-14) REL UNITS MTD ON REL RACK

MIR 32 — (MIR) KEY
MIR1 31
MPIR 30 — (MPIR) KEY
29
MOS 28
MOS1 27 — (MOS) KEY
MOS2 26
TO CAD 108 MPIR1 25 — (MPIR) KEY
MOR1 24
MOR2 23 — (MOR) KEY
MPOR1 22
MPOR2 21 — (MPOR) KEY
MIR2 20 — (MIR) KEY

TO CAD 130 ZRO2 19 (BS) 1D
TO CAD 102 SC3 18 6A
SC 17 5A
SC1 16 4A — (ZRO) KEY

TO CAD 127 E7 15 (EI) 3D
F7 14 2D
TO CAD 109 F7 13 1D
TO CAD 128 FDA 12 2A — (SSRE) KEY

TO CAD 132 LLS 11 3A — (SLL) KEY
TO CAD 130 OTR 10 OTR — TO CAD 114
TO CAD 108 MDN 09 RB — TO CAD 113
TO MTF CONT CKT (CONT BAY) EK 08 1B — (SSLE) KEY
07
06
05
04
03
02
01
00

TS (AUTO. MON B) ON AUX CONT BAY

TO CAD 129 ORD2 2C
ORD1 1C
SRG 3C — (TD) KEY
SRG1 6C — (SURGE) KEY

A&M ONLY

TO CAD 108 CK2 64 CK2
AI 63 AI
G 62 G — (3FD) KEY
CK 61 CK1
60
59
58
57
5D 56 5D
4D 55 4D
TO CAD 131 2D 54 2D — (SOTR) KEY
ID 53 ID
NVA 52 — (NVA) LP
AC 51
TO CAD 108 NVA1 50 — (MAC) KEY
ORH 49 — (ORH) LP
TA 48 — (TA) KEY
47
46
45
MPOR3 44 — (MPOR) KEY
SPE 43 — (OTR) KEY
HLDR 42 — (HLD) KEY
TRG 41
TO CAD 108 QTR 40 — (QTR) KEY
CKS 39 — (CKS) LP
38 2C — (TMT) KEY
MOR 37 — (MOR) KEY
TVTK 36 3C — (TVR) KEY
TO MTF CONT CKT BK 35 1B — (SSLB) KEY
MPOR 34 — (MPOR) KEY
TO CAD 108 STT 33 — (STT) KEY
TO CAD 131 LLS — (AUTO. MON B) ON AUX CONT BAY

96
95
94
93
92
TO CAD 154 C2OH7 91 6D — (C2OH) KEY
PST7 90 4D — (OTR) KEY
TO CAD 103 AI 89 3B — (LOLPT) KEY
MB 88 — (NPOR) KEY
SB 87
LK-OS 86 — (MPOS) KEY
LK-OR 85 — (MPOR) KEY
HLD 84
HLD1 83 — (HLD) KEY
HLD2 82
STM 81
STM1 80 — (STM) KEY
IR 79 — (IR) LP
OS 78 — (OS) LP
TO CAD 108 OR 77 — (OR) LP
SG10 76 SG10
SG5 75 SG5
SG4 74 SG4
SG3 73 SG3 — (SG) SEL SW SECT. 1
SG2 72 SG2
SG1 71 SG1
SG0
SG0 70 — (SG-0) KEY
SG9 69 SG9
SG8 68 SG8
SG7 67 SG7 — (SG) SEL SW SECT. 1
SG6 66 SG6
CK1 65 CK1 — (FKP) KEY

TS (AUTO. MON B) ON AUX CONT BAY

119 — PROVIDE FOR PICTUREPHONE ONLY
118
11 — TO CAD 114 (SGT) KEY
117 3C
TO CAD 150 TR1 116 1C
TRO 115 2C — (TRRO) KEY
TO CAD 108 S1 114 6D
SO 113 4D — (SSR) KEY
112
111
110 — NOT REQD WHEN THIS CKT FUNCTIONS WITH ANY OUTGOING SDR GR SELECTION SW
TO CAD 147 IDT1 109 — (IDT1) KEY
ZRO — TO CAD 114
TO CAD 130 ZRO3 108 2D — (ZRO) KEY
107
(BS)
106
SRG1 105 6C — (SURGE) KEY
SRG 104 5C — (24 MIN) KEY
TO CAD 129 ORD2 103 2C
ORD1 102 1C — (TD) KEY
TDA7 101 3D — (TDA) KEY
TD5 100 3B
TO CAD 103 TD4 99 2B — (TD) KEY
TD3 98 1D — (TDA) KEY
97

TS (AUTO. MON B) ON AUX CONT BAY

ISSUE 106B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-G17B

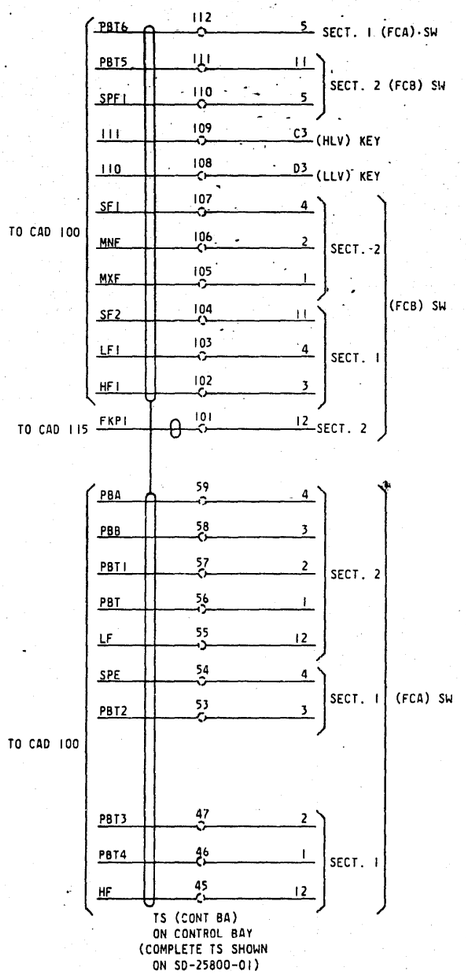
BELL TELEPHONE LABORATORIES INCORPORATED — DIVISION 6S

PRINTED IN U.S.A.

SD-25680-01-G17B

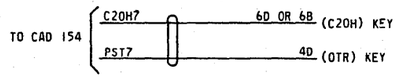
PART OF CAD 112

(FOR APP FIG. 1,2,9,10,13,17,18,20,21,26,48,52,& H)



CAD 112A (A&M ONLY)

(FOR APP FIG. 17)



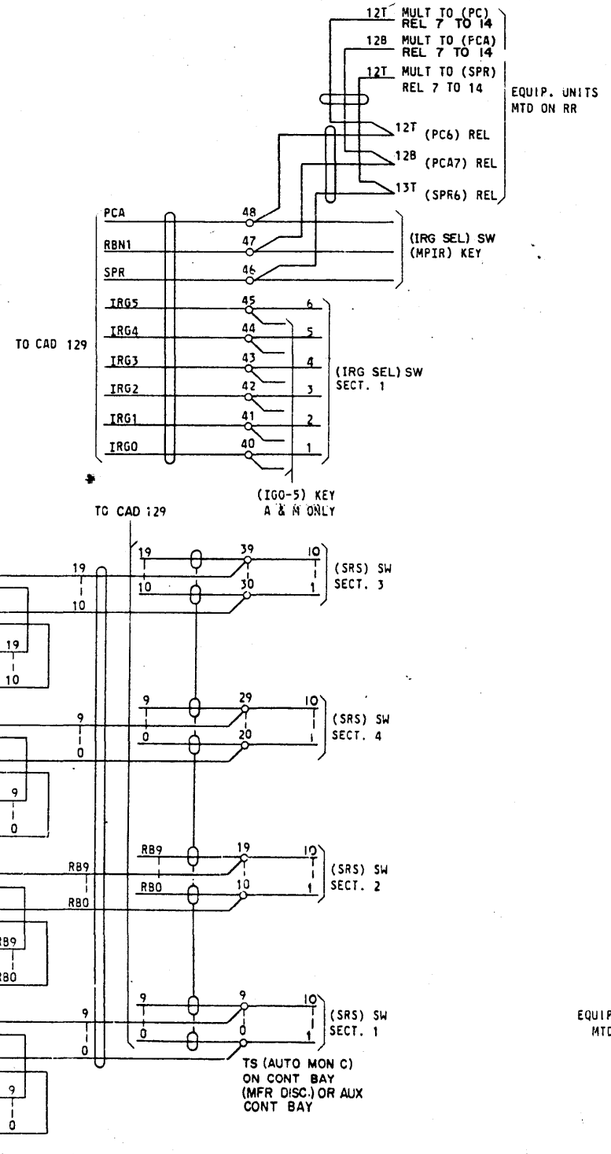
ISSUE 98B

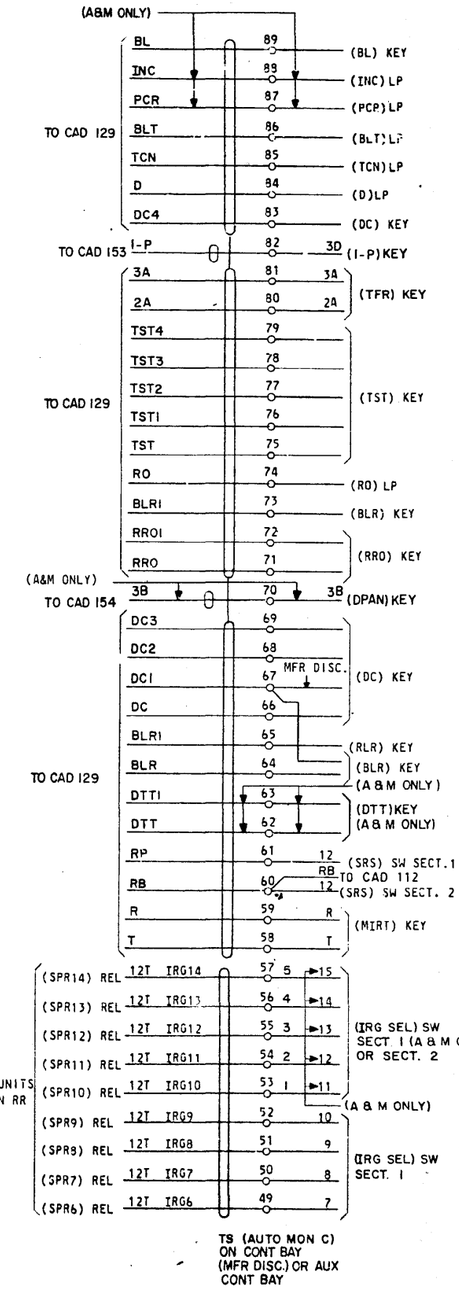
MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT	SD-25680-01-G17C
BELL TELEPHONE LABORATORIES INCORPORATED — UNIT SIZE 6S — PRINTED IN U.S.A.	

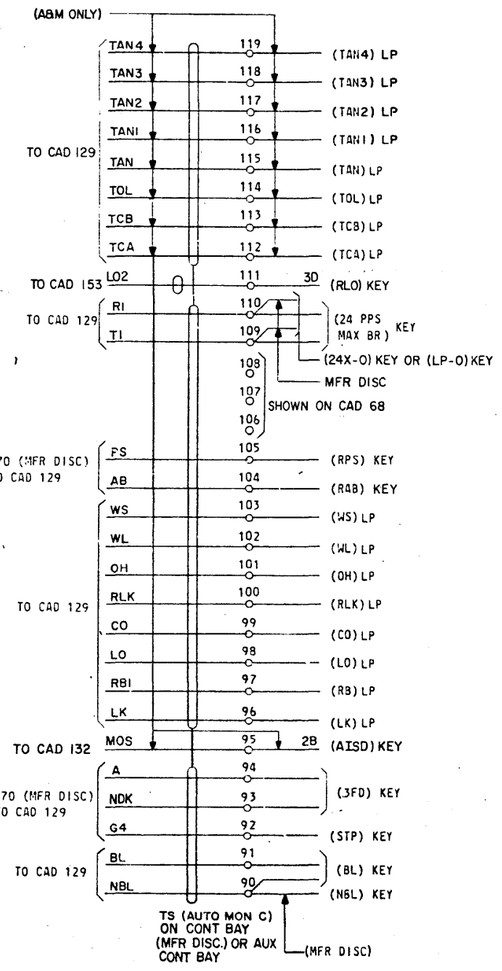
SD-25680-01-G17C

CAD 113

(FOR APP FIG 2,4,9,11,18,20,21,24,26,32,42,55, E&K)







DRAWING ISSUE

50D	GSW WEC AMP
57D	RH 4-W AMP
62D	NLR 1/11 AMP
68D	SSI A-4A AMP
70D	SAI PDT AMP
72A	JEK 2-W AMP
87A	
89D	

ISSUE 91D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-G18

BELL TELEPHONE LABORATORIES INCORPORATED

OWN USE 6S

PRINTED IN U.S.A.

STABILO

SD-25680-01-G18

CAD 114

(FOR APP FIG 1,9,10,11,14,17,20,24,25,42,44,52,B,H,&K)

A & M ONLY

CONN TO TERMINALS ASSOC WITH THE MF AND DP INC REG SPLIT

SP2 119 12 (SRS) SW SECT. 6

SP1 118 12 (SRS) SW SECT. 5

CONN TO TERMINALS ASSOC WITH THE MF AND REV INC REG SPLIT

RDRI 29 1
MIRI 59 8 (SRS) SW SECT. 5

MIRH 48 8 (SRS) SW SECT. 6

DIRI 08 1 (SRS) SW SECT. 6 (MFR DISC) OR (PB) KEY

DIR, MIR, RIR, CBR, SPI, SP2

58 5 ▸15
57 4 ▸14
56 3 ▸13
55 2 ▸12
54 1 ▸11 (IRG SEL) SW SECT. 2 (MFR DISC.) OR (IRG SEL) SW SECT. 4

53 10 (IRG SEL) SW SECT. 3 OR (IRG SEL) SW SECT 2 (MFR DISC.)

52 9
51 8
50 7

15 6 A & M ONLY (IG-5) KEY
14 5 (IG-4) KEY
13 4 (IG-3) KEY
12 3 (IG-2) KEY
11 2 (IG-1) KEY
10 1 (IG-0) KEY

TO CAD 112

DOS, MOS, ROS, OR COS (SG SEL) SW SECT. 2

43 10
49 9
48 8
47 7
46 6
05 5 (SG-5) KEY
04 4 (SG-4) KEY
03 3 (SG-3) KEY
02 2 (SG-2) KEY
01 1 (SG-1) KEY
00 0 (SG-0) KEY

TS (AUTO IRON D) ON CONTROL BAY (MFR DISC.) OR AUX CONT BAY

CONN TO CAD 130

TO CAD 130 (A&M ONLY) OR TO CAD 112 — Q1R — 5A (QTR) KEY; LC OR SWBD CA

TO CAD 153 — 2A, 4A

NOT REQD WHEN 4W TESTING OR MONITORING IS REQD

OKI 44 4B (DTR) KEY

TO CAD 130

RST1 42 (RST) LP

TO CAD 59 (MFR DISC) OR TO CAD 130

RST 41
RSTA 40 (CR4) KEY

TO CAD 59 (MFR DISC) OR TO CAD 130

X 39 (X) LP

TAG 38 (TA) KEY

QRH2 37
QRH1 36 (QRH) KEY

TO CAD 130

FOR 2W "TOUCH-TONE" ORIGINATING REGISTERS TESTED

TO CAD 101 T2(1)

R P 35
T 34 (MOTL) KEY

FOR 2W "TOUCH-TONE" ORIGINATING REGISTERS NOT TESTED

MOTL2 33
MOTL1 32

PROVIDE FOR CENTRAL "B" SWBD RP REGISTERS - TEST TEL

TA1 31 T (TA) JK

TO CAD 130

TB1 30 CONN BLOCK (TB) JK R

OF 28 (OF) LP

PROVIDE FOR CENTRAL "B" SWBD RP REGISTERS - TEST RCVR

CN 27 (CN) KEY

TO CAD 70 (MFR DISC) OR TO CAD 130

RBT 26 (RBT) KEY

CCK 25 (CCK) LP

OK 24 (OK) LP

TO CAD 130

TBL 23 (TBL) LP

STT 22 LC OR SWBD CA (STT) KEY

SHOWN ON TST CKT FOR REG & CAMA SDR CKT

KR 21 KR TO TST CKT FOR REG & CAMA SDR CKT (STM) KEY

LF

SRS 20 IRP (SRS) KEY (MFR DISC) OR (SRS) SW

18 (IRG SEL) SW SECT 2 (A & M ONLY) OR (IRGT) KEY

TG 19 (IG-0) KEY

TO CAD 130

A & M ONLY

TAC 18 (AAT) KEY

PROVIDE FOR CENTRAL "B" SWBD RP REGISTERS - TEST TEL

TB 17 (TB) JK

TA 16 (TA) JK

TO CAD 63 (MFR DISC) OR TO CAD 130

MN 09 MN ON AUX CONT BAY ONLY; TO CAD 120 (MAC) KEY

CCT 07 (QTR) KEY

TO CAD 130

ACO 06 (ACO) KEY

TS (AUTO IRON D) ON CONTROL BAY (MFR DISC.) OR AUX CONT BAY

NOT REQD WHEN THIS CKT FUNCTIONS WITH ANY OUT. SDR OR SELECTION SW

ZRO TO CAD 112

CTAB2 88
CTAB1 87 (CTAB) KEY

RPS 86 (RPS) KEY

CNTT2 85
CNTT1 84 (CNTT) KEY

CR4A 83 (CR4) KEY

RPD 82 (RPD) KEY

MAN 81 (MAN) KEY

RAB 80 (RAB) KEY

SER7 79 (SER) KEY

ZRO1 78 BS 3A (ZRO) KEY (A&M ONLY)

SER6 77
SER5 76
SER4 75
SER3 74
SER2 73
SER1 72 (SER) KEY

TO CAD 130

ZP2 71
ZP1 70 (2P) KEY

CN3 69
CN2 68
CN1 67 (CN) KEY

SPT 66 (SPT) LP

FPT 65 (FPT) LP

CR4 64 (CR4) LP

FD 63 (FD) LP

MST1 62 (MST1) LP

ORQH 61 (ORQH) LP

ZRO 60 (ZRO) KEY

TS (AUTO IRON D) ON CONTROL BAY (MFR DISC.) OR AUX CONT BAY

RRPB 117 (RRP) KEY

RSC6 116
RSC5 115
RSC4 114
RSC3 113
CR
RSC2 112
RSC1 111 (RSC) KEY

RBT2 110
RBT1 109 (RBT) KEY

RPS 108 (RPS) KEY

RRPA 107 (RRP) KEY

RTP 106 (RTP) KEY

TPF 105 (TPF) KEY

RTP3 104
RTP2 103
RTP1 102 (RTP) KEY

RRP 101 (RRP) KEY

TPK3 100 (RTP) KEY

MAN 99 (MAN) KEY

TTA 98 (TTAF) KEY

TRF2 97 (TFR) KEY

TTIRM 96 (PB) KEY

DT 95 (SDC) KEY

GTNO 94 (GTNO) LP

GTO 93 (GTO) LP

CR3 92 (CR3) LP

CR2 91 (CR2) LP

CR1 90 (CR1) LP

CTAB3 89 (CTAB) KEY

TS (AUTO IRON D) ON CONTROL BAY (MFR DISC.) OR AUX CONT BAY

DRAWING ISSUE

500	SGA MC AM
57D	RH AM
59D	IE MD
61A	PK AC
62D	AC AM
68D	SC AM AM
70D	SW AM
71A	SW AM MD
72A	JER AM
73D	JER AM
74D	SE
78D	TM
79D	JER
82A	
89D	

ISSUE 98B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-019

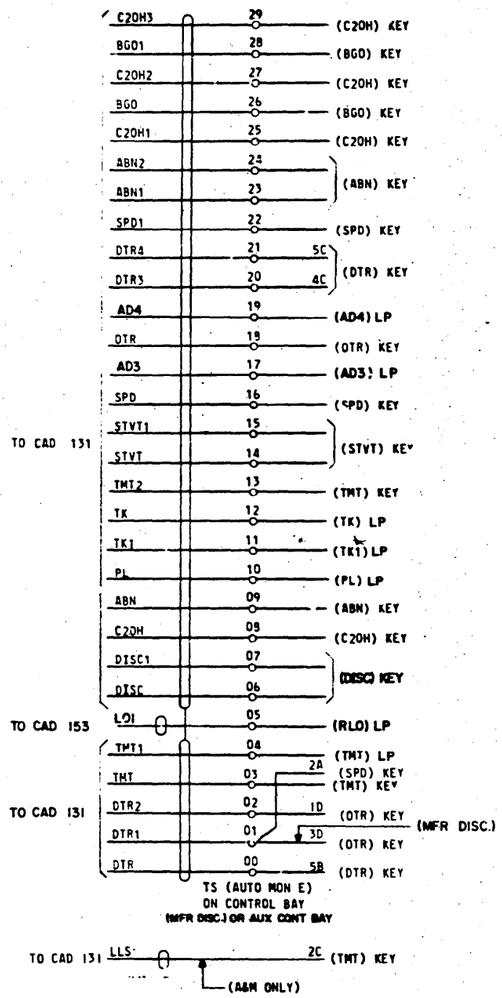
BELL TELEPHONE LABORATORIES INCORPORATED 6S

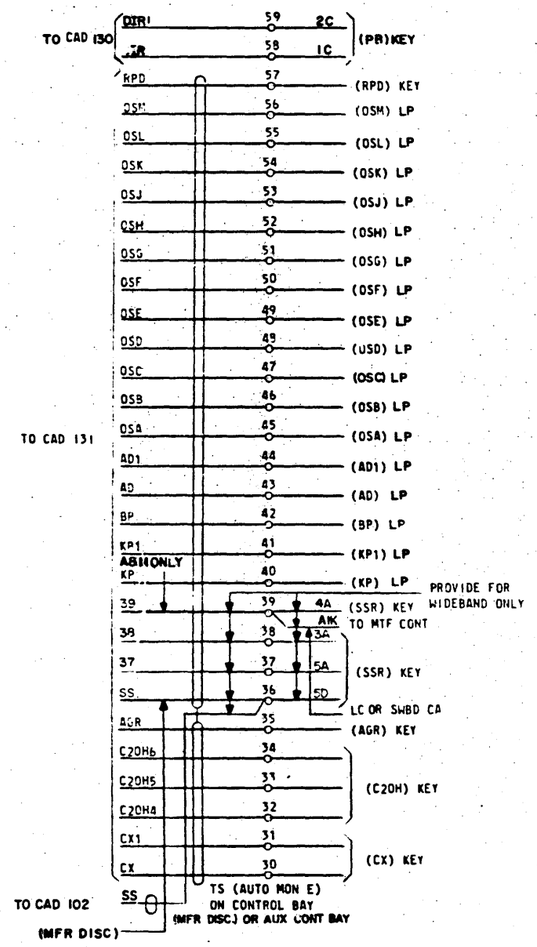
STANDARD

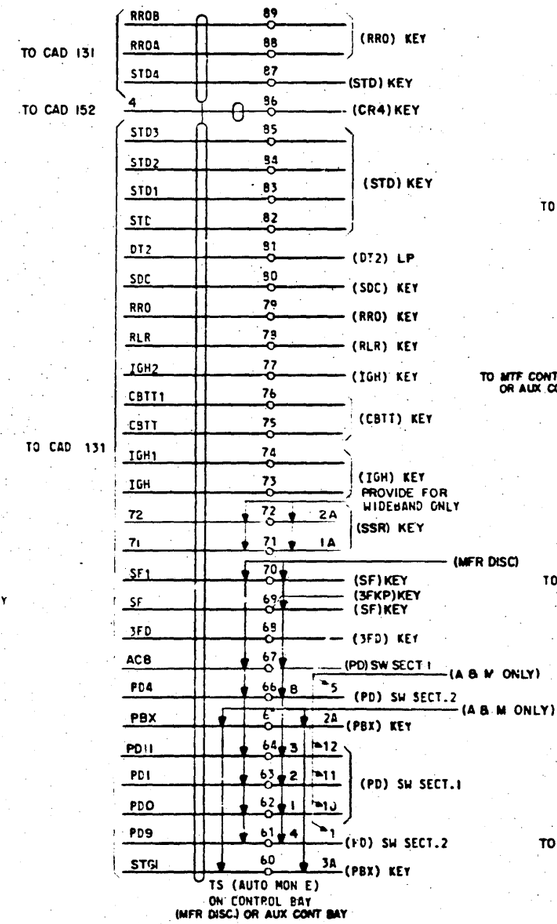
SD-25680-01-019

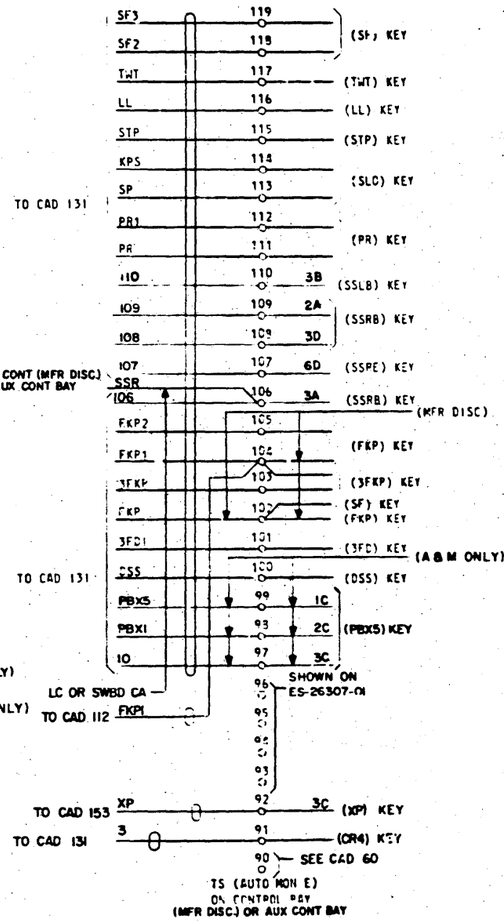
CAD 115

(FOR APP FIG 9,11,14,17,18,20,21 & 55)









DRAWING ISSUE

50D	DSN
53D	PDI
57D	RH
59D	NR
62D	ALF
65AR	
65D	
68D	SDL
70D	CR PDT
72A	
74D	GE
81D	
85D	
89D	

ISSUE 105A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-G20

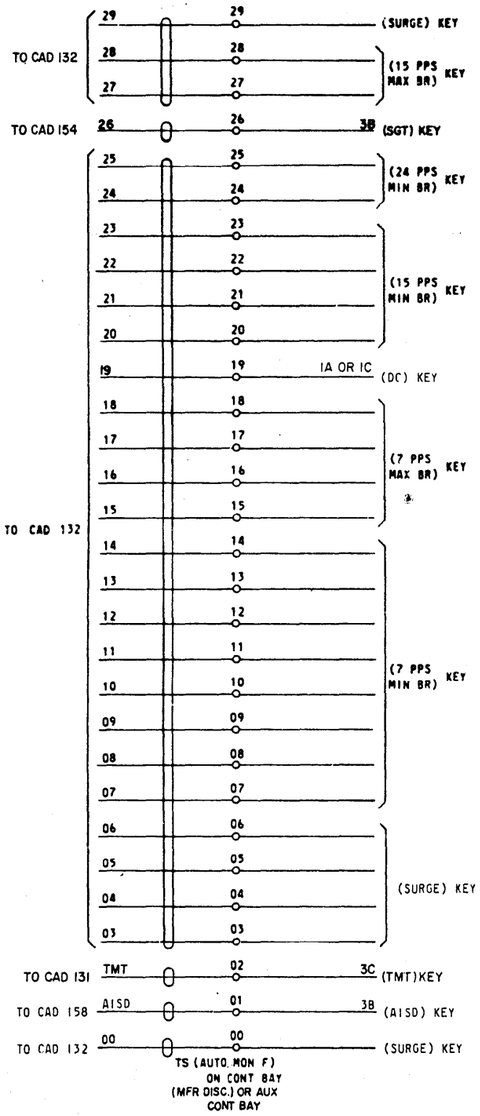
BELL TELEPHONE LABORATORIES INCORPORATED 6S

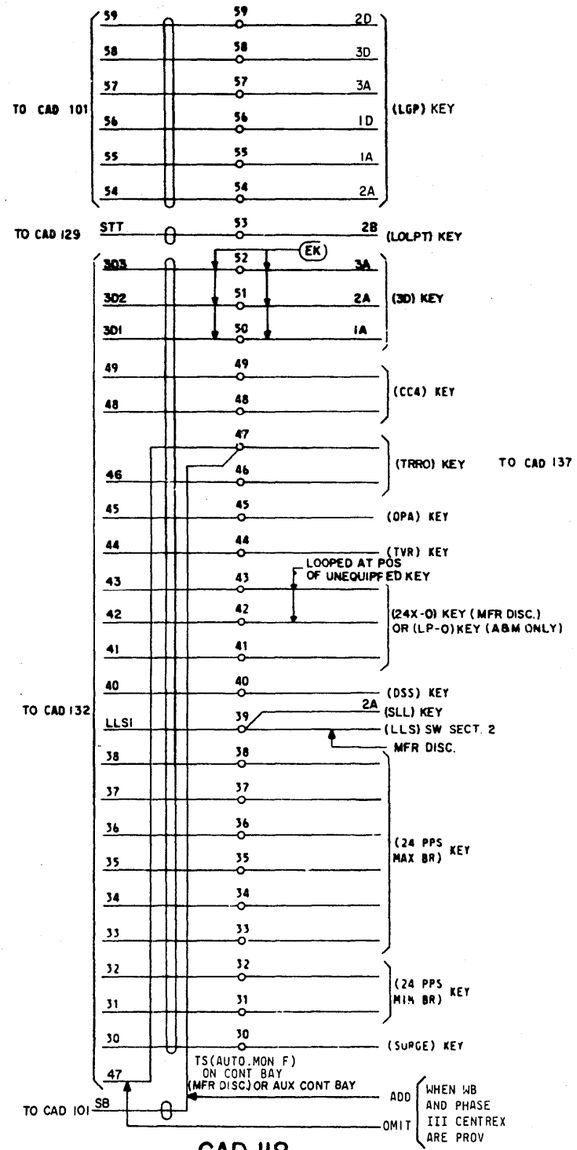
SD-25680-01-G20

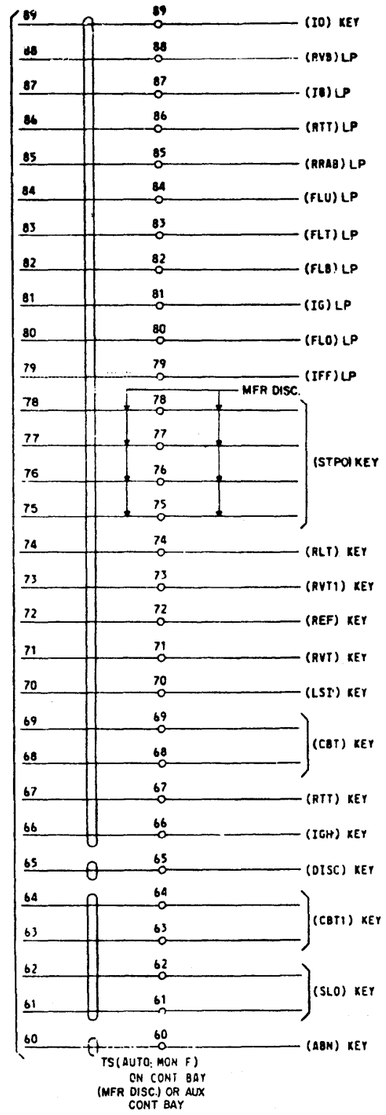
STABILO

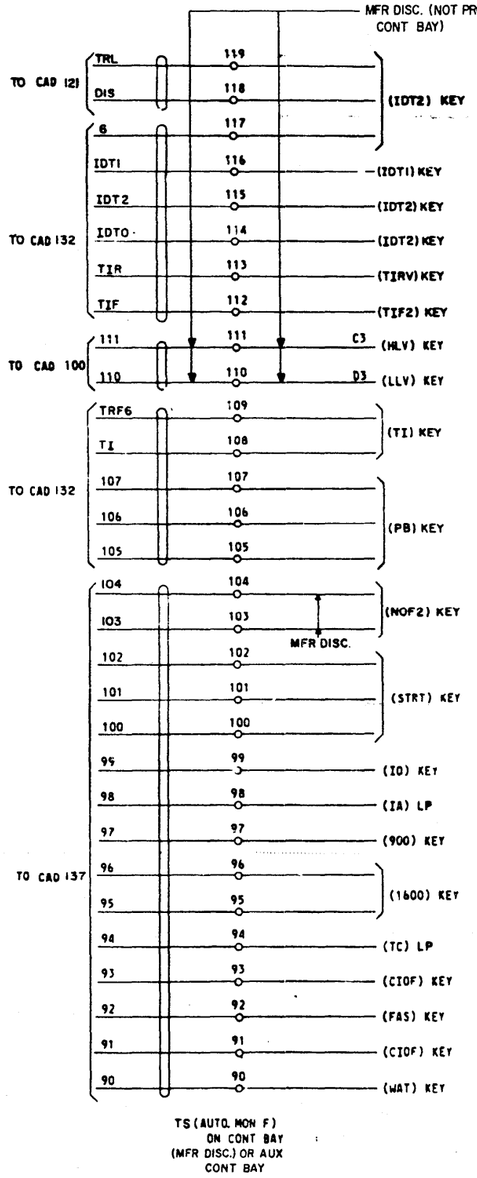
CAD 116

(FOR APP FIG 9,17,18,20,26, 33,40,44,45,46, & 54)

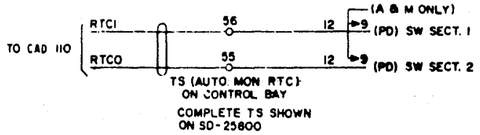




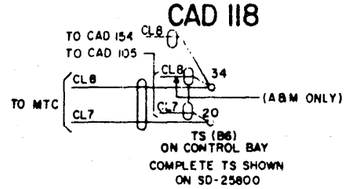




CAD 117 (MFR DISC)



CAD 118



DRAWING ISSUE

500 CLR AMD
530 LW WKS AMD
570 RH CLR AMD
590 NB CRL AMD
610 NB CRL AMD
620 NB APK AMD
630 NB CRR AMD
670 CRR AMD
680 G.E KSL AMD
694 CBW KSL AMD
700 CR PDT AMD
724 WKS AMD
740 G.E
780 TM
790 JER
810
830
850 LCB
890

ISSUE 98B

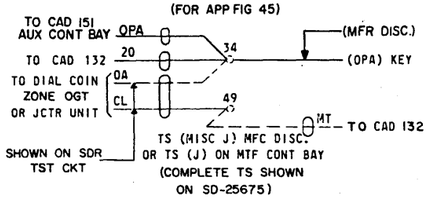
MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-G21

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-G21

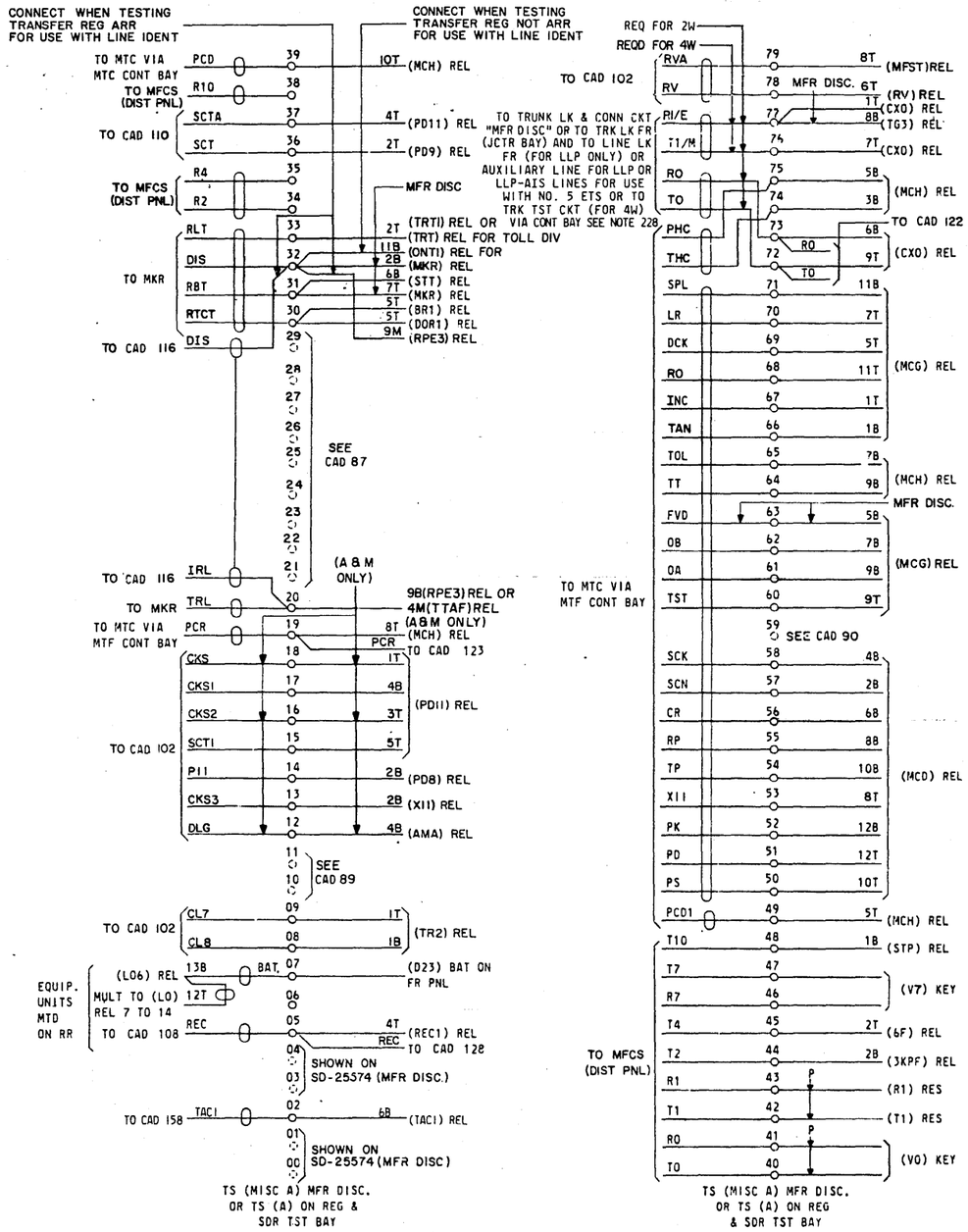
STABILO

CAD 119
(FOR APP FIG 45)



CAD 120
FOR APP FIG 13

CAD 121
(FOR APP FIG. 9,11,16,17,18,20, 21,22,26,27,45,51,58,& M)



DRAWING ISSUE
50D JGS CLM AND
52A PBD LW AH
53D MPS LW AH
54A PKP WGP AND
56AR EN MW AHP
57D RH LW AND
59D TB PEL AHD FES
60AR REL AHD
63AR LPW LW AND
66AR RP LW AND
67D SRR AJL AHD G.E
68D AJL AND
69A TJD AJL AND
70D RAC PDT AND
74D G.E
80D
89D

ISSUE 106B

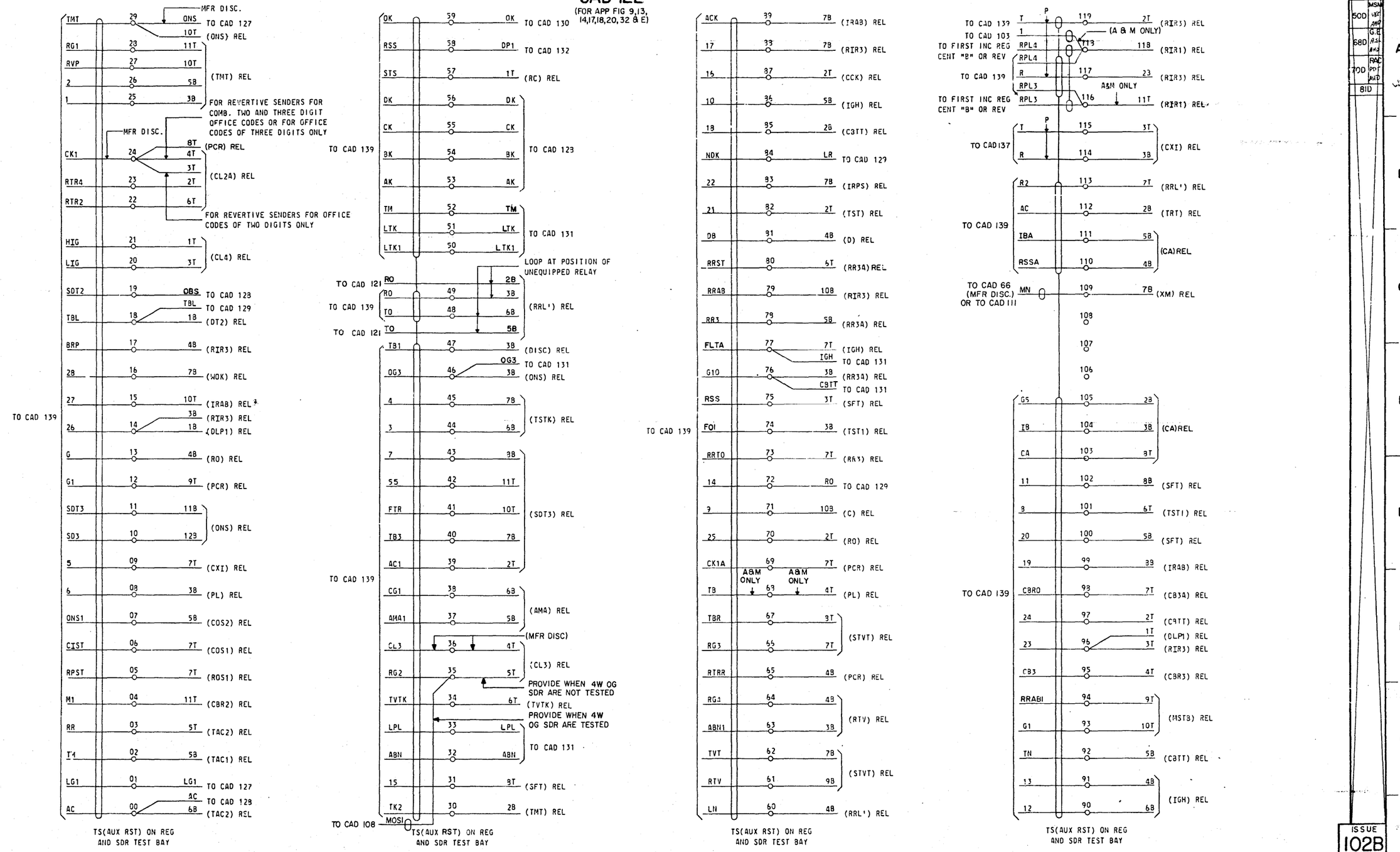
MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)
BELL TELEPHONE LABORATORIES INCORPORATED
DWG SIZE 6S
SD-25680-01-G22
PRINTED IN U.S.A.

SD-25680-01-G22

STABILO

CAD 122

(FOR APP FIG 9,13, 14,17,18,20,32 & E)



DRAWING ISSUE

50D	MSM VEI AMA
68D	G.E. ASL AMA
70D	RAC PPT AUTO
BID	

ISSUE 102B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

SD-25680-01-G23

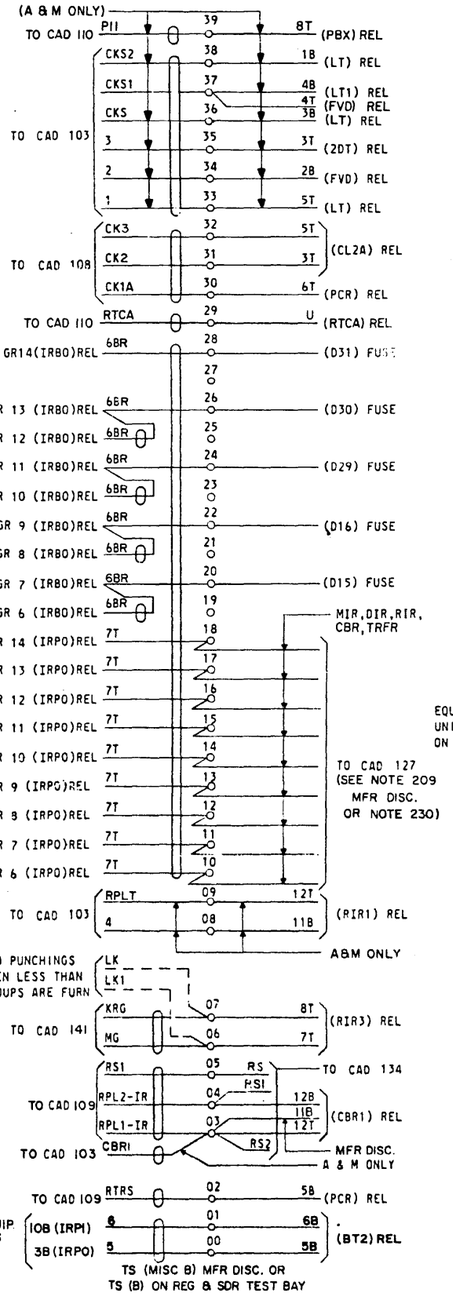
PRINTED IN U.S.A.

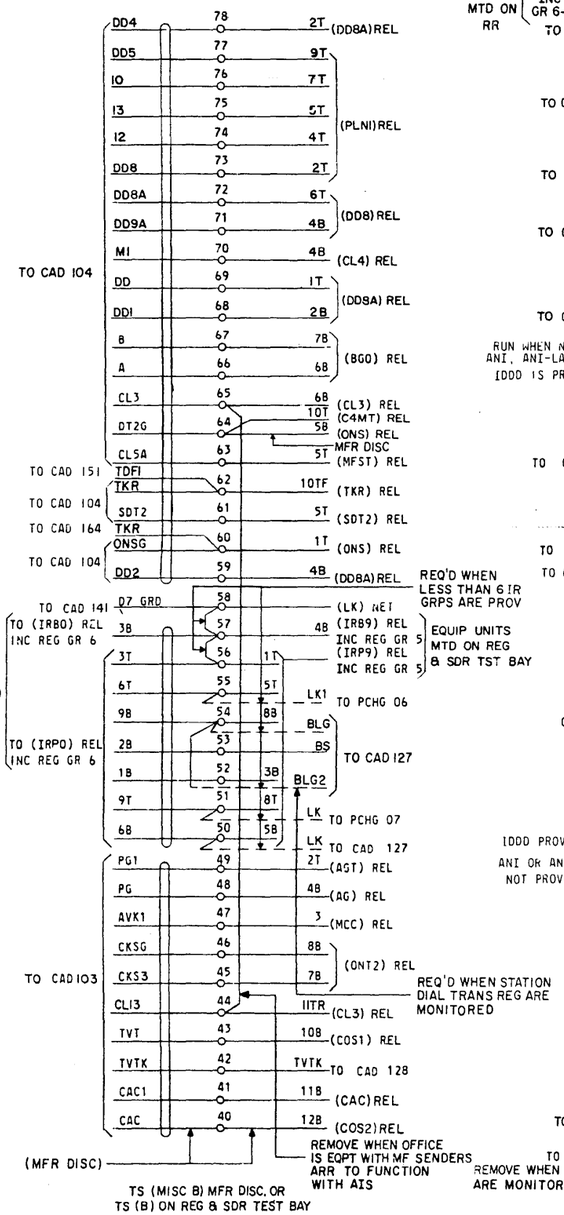
SD-25680-01-G23

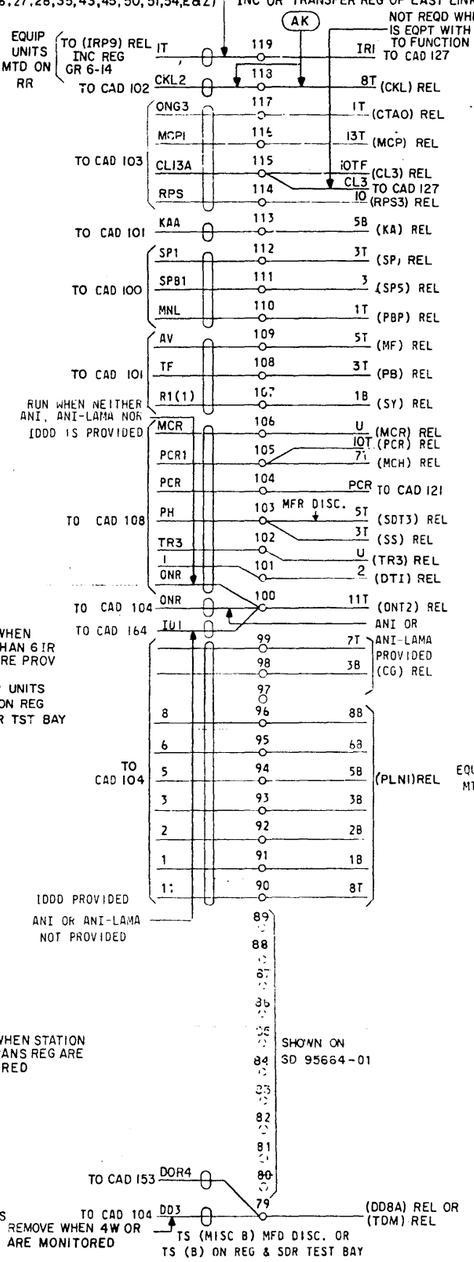
STABILO

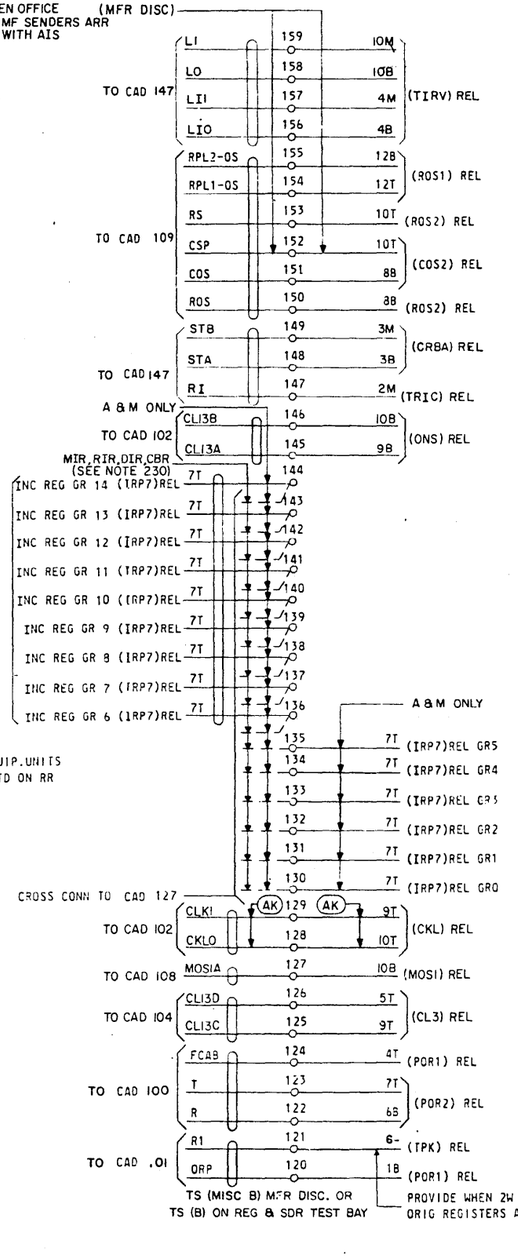
CAD 123

(FOR APP FIG 3,4,5,9,11,17,18,20,21,26,27,28,35,43,45,50,51,54,E&Z)









DRAWING ISSUE	
500D	MSM CLK AND
530D	POT LW AND
54A	PMR W&O AND
59D	NP REL AND
61A	PGJ PGJ AND
63AR	LPW Gen AND
64D	LPW Gen AND
67D	CP AJI AND
68D	G E Asst AND
69A	TJD Asst AND
70D	RAC POT AND
72A	JEK Asst Asst
79D	JER
81D	
88D	

ISSUE 106B

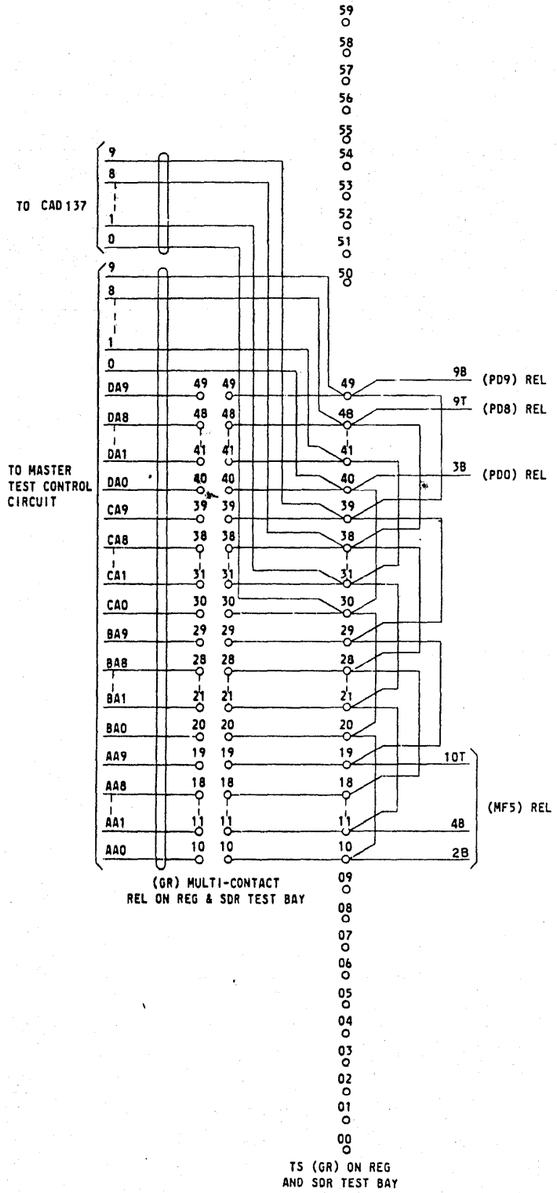
MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-G24

BELL TELEPHONE LABORATORIES INCORPORATED 65

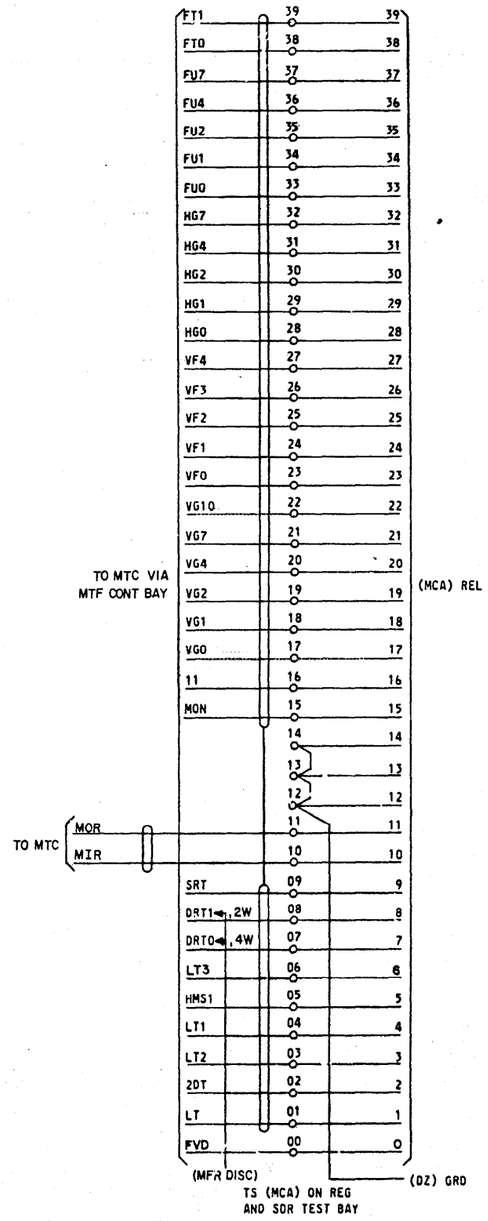
SD-25680-01-G24

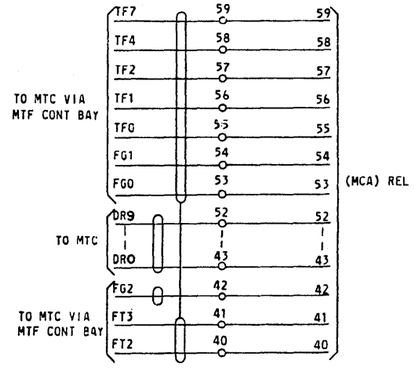
STABILO

CAD 124
(FOR APP FIG 21)



CAD 125
(FOR APP FIG 28)





DRAWING ISSUE

50D	NEW LOM AMD
53D	PDU LW AMD
57D	RH Lm AMP
68D	G.E ASL AMD
70D	RAC PDT AMD
71A	RAC PDT AMD

71

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT
(2)
SD-25680-01-G25

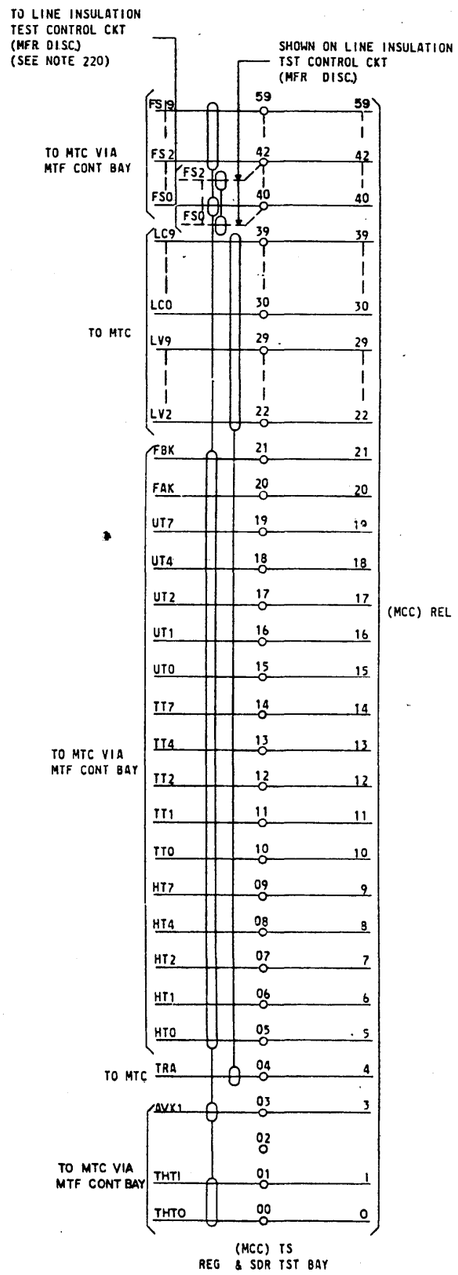
BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-25680-01-G25

STABILO

CAD 126

(FOR APP FIG 27)



DRAWING ISSUE

50D	D.B. ECN AMP
68D	SSL A.S.L. AND
71A	CR TDT AND

71

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-G26

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-G26

STABILO

CAD 127

(FOR APP FIG 3,9,11,17,18,20,22,24,27,28 & 51)

CONNECT WHEN TESTING TRANSFER REG ARR FOR USE WITH LINE IDENT

CONNECT WHEN TESTING TRANSFER REG NOT ARR FOR USE WITH LINE IDENT

TO CAD 153 / TO CAD 109 — KB 9 — 39 — 5B (MAN) REL

TO CAD 51 (MFR DISC) OR TO CAD 109 — RTC — 38 — 12T (LVG) REL

MON — 37 — 6T (RPE2) REL

MCI — 36 — 3B (COS1) REL

OSM — 35 — 7B (DOS1) REL

SON1 — 34 — 7B (COS2) REL

TRST — 33 — 2B (DOS2) REL (A & M ONLY)

TM2 — 32 — 7B (TAC2) REL

TO CAD 109 — ONG5 — 31 — 5T (TTAF) REL

ONG4 — 30 — 3M (LR) REL

ONG3 — 29 — 3B (RPS2A) REL

TMB — 28 — 1B (ONT2) REL

TMA — 27 — 1T (ONT1) REL

MONL — 26 — 6T (LR) REL

TO CAD 104 — OK — 25 — 7T (STT) REL

OK — OK2 TO CAD 130 — 1T (NOK) REL

LK-OS — 24 — 8T

H-OS — 23 — 9T, 2T — 2T (COS2) REL

(DOS2) REL

MOS — 22 — 8B (MOS2) REL

SG — 21 — 3B (STT) REL

TO CAD 109 — DOS — 20 — 8B

SPE — 19 — 6T

PL — 18 — 4T (DOS2) REL

MON-IR — 17 — 6T (DIR2) REL

H-IR — 16 — MON, H-IR — 7T (RR3C) REL

MST-IR — 15 — LL — 4T (DIR2) REL

MON-OR — 14 — LN — 6T

LK-OR — 13 — LO — 8T

H-OR — 12 — LM — 2T

MST-OR — 11 — LS — 4T

MST1 — 10 — LC — 10T (DOR2) REL

09 — TO CAD 134

CONN TO PUNCHINGS 0-5 ON TS(MON) OR TO CAD 123

TO CAD 109 — DIR — 09 — 2B (DIR1) REL

MIR — 08 — 2B (MIR1) REL

TO CAD 141 — BLG — 07 — 9T (DIR2) REL-FIG.9

TO CAD 109 — LK — 06 — BLG — (LK) NET. INC REG GR 0 TO CAD 123

MIR,OIR,RIR,CBR, TRFR — 05 — LK — 7T (IRPO) REL GR 5

04 — 7T (IRPO) REL GR 4

CONN TO PUNCHINGS 8,9,153, & 151 ON TS(MON) — 03 — 7T (IRPO) REL GR 3

02 — 7T (IRPO) REL GR 2

01 — 7T (IRPO) REL GR 1

00 — 7T (IRPO) REL GR 0

TS (MON) ON REG & SDR TST BAY

CONN TO TERMINALS ASSOC WITH DP INC REGISTERS

CONN TO TERMINALS ASSOC WITH MF INC REGISTERS

(MFR DISC)

NOT REQD WHEN OFFICE IS EQUIPPED WITH MF SENDERS ARR TO FUNCTION WITH AIS

TO CAD 104 — AMA

PROVIDE FOR MF SENDERS NOT ARRANGED FOR LOCAL ANI

SDT3 — 79 — 9T (SDT3) REL

AMA — 78 — (AMA) NET.

CL6 — 77 — 6TF (CL6) REL

CL5 — 76 — (CL5) NET.

CL4 — 75 — 6TF (CL4) REL

TO CAD 109 — CL3 — 74 — CL3 TO CAD 123 — (CL3) NET. — 8T (CL3) REL

CL2 — 73 — 4T (CL2) REL

STD — 72 — 6T (DPST) REL

TR — 71 — 9T (TR2) REL

DLG — 70 — 7B (CL2) REL

TO CAD 66 (MFR DISC) OR TO CAD 109 — A7 — 69 — 3T

A4 — 68 — 8T (MAN) REL

MCD — 67 — 10B (DOR3) REL

TO CAD 109 — R — 66 — R

T — 65 — T — TO CAD 134

DSM — 64 — 3T (DOS2) REL

TO CAD 63 (MFR DISC) OR TO CAD 109 — STM — 63 — 5T (XM) REL

AON — 62 — 9B (DOS1) REL

CK3 — 61 — 7T (TBL) REL

TA — 60 — 11T (DOR2) REL

LG1 — 59 — 10B (RPE2) REL

MFR DISC. — TR — 58 — LG1 TO CAD 122 — 3T (CTT) OR (ONT2) REL

TBL2 — 57 — 6T (ONT1) REL

TBL1 — 56 — 5B (COS1) REL

TO CAD 109 — MC — 5B (DOS1) REL

XMR1 — 55 — 4TF (XMR1) REL

TRT1 — 54 — 5T (MT) REL

ORH — 53 — 4T (ORH) REL

DON — 52 — 3B (DOS2) REL

MFS — 51 — 3B (MOS2) REL

TO CAD 66 (MFR DISC) OR TO CAD 109 — RTC — 50 — 5B (DOR2) REL

LG — 49 — 7T (ONT2) REL

RE — 48 — 3B (IRBO) REL GR 0

BS — 47 — BS TO CAD 123 — 2B (IRPO) REL GR 5

XMR2 — 46 — MFR DISC. — 11B (CRBA) OR (MKR)REL

TO CAD 109 — MB — 45 — MB — (DOR2) REL

SP — 44 — SP — TO CAD 134

TAN-IR — 43 — TAN

NOK — 42 — 9B (ONT2) REL

ON — 41 — ON TO CAD 134

BS — 40 — 5TF (XOS) REL

TS (MON) ON REG & SDR TST BAY

TO CAD 51 (MFR DISC) OR TO CAD 109 — HMS1 — 119 — 5 — CF — 14 — SC — 13 — NS — 12 — (MCA) REL — TO CAD 134

FR — 118

CN — 117

S — 116

MCC — 115 — 1 (MCC) REL

LVG — 114 — 13T (LVG) REL

LCG — 113 — 13T (LCG) REL

FSG — 112 — 13T (FSG2) REL

RBN — 111 — 13T (RBN-5) REL

MCG — 110 — 2T (DR) REL

TO CAD 109 — MON9 — 109 — RB9 — 9T

MON8 — 108 — RB8 — 7T

MON7 — 107 — RB7 — 5T

MON6 — 106 — RB6 — 3T

MON5 — 105 — RB5 — 1T

MON4 — 104 — RB4 — 1B

MON3 — 103 — RB3 — 3B

MON2 — 102 — RB2 — 5B

MON1 — 101 — RB1 — 7B

MONO — 100 — RB0 — 9B — TO CAD 129

TO CAD 163 (MFR DISC.) OR CAD 167 — K — 99 — K

J — 98 — J

H — 97 — H

G — 96 — G

F — 95 — F — TO CAD 128

E — 94 — E

D — 93 — D

C — 92 — C

TO CAD 66 (MFR DISC) OR TO CAD 109 — B — 91 — B

M7 — 90 — 7T

L7 — 89 — 4T

K7 — 88 — 1T

J7 — 87 — 7B (FDB) REL

H7 — 86 — 4B

G7 (EH) — 85 (EH,EI) — 1B

F7 — 84 — 7T

E7 — 83 — 4T (FDA) REL

D7 — 82 — 1T

C7 — 81 — 7B

B7 — 80 — 4B

EOD-12 DIGIT NOT PROVIDED

TO CAD 112 — F7 — E7 — EI

EOD-12 DIGIT PROVIDED

TS (MON) ON REG & SDR TST BAY

CONN TO TERMINALS ASSOC WITH TRANSFER REGISTERS

CONN TO (IRP9) REL ASSOC WITH LAST INC OR TRANSFER REG OF LAST LINK GROUP

TO CAD 141 — BLG1

TO CAD 153 — CDP01

TO CAD 109 — FA — 159 — FA

FA1 — 158 — FA1 — TO MISC CKT ON REG & SDR TST BAY

FA2 — 157 — +130V

IRI — 156 — IT — IRI (IRP9) REL GR 0,1,2,3,4 OR 5

TO CAD 123 — BLG2 — 155 — 4 TO CAD 123 (TRFM) REL

ANY SDR ARRANGED TO OUT PULSE ARB DIGITS — ONT — 154 — 7T (ORST) REL

TO CAD 103 — RCK — 153 — 1B (RPE2) REL

CONN TO PCHG 0-5 ON TS(MON) OR TO CAD 123 — TRFR — 152 — 4T (TRF) REL

CONN TO TERMINALS ASSOC WITH CENTRAL B INC REGISTERS

CBR — 151 — 2B (CBR1) REL

TO CAD 109 — RIR — 150 — 2B (RIR1) REL

CONN TO TERMINALS ASSOC WITH REVERTIVE PULSE INC REGISTERS

DISC — 149 — 10B (TMT) REL

HMS1 — 148 — DISC TO CAD 115 — 8B (TMT) REL

DIS — 147 — 7B (ONS) REL

A & M ONLY — DIS TO CAD 131

ST — 146 A&M ONLY 11B (DOS1) REL

11R — 145 — 5T (RPS2) REL

R — 144 — R

T — 143 — T

H — 142 — H

TO CAD 109 — J — 141 — J

L — 140 — L

BAT-1 — 139 — BAT-1

SEE CAD 62 — 138

BAT-2 — 137 — BAT-2 — TO MF RCVG CKT

M — 136 — M

10 — 135 — 10

7 — 134 — 7

4 — 133 — 4

2 — 132 — 2

1 — 131 — 1

0 — 130 — 0

TO CAD 66 (MFR DISC) OR TO CAD 109 — L — 129 — MFR DISC. — L — ONS — TO CAD 128

TMT — 128 — 10T — TO CAD 122

NRRG — 127 — 9T (ONS) REL (TMT) REL

SB — 126 — 11T — 9B (DOS2) REL

TO CAD 109 — MCA — 125 — 1 (COS2) REL

ONG1 — 124 — 3T (MCA) REL

ONG2 — 123 — 3T (VF4) REL

MIR — 122 — 10

RPS1 — 121 — 16 (HG7) REL

MOR — 120 — 11 (MCA) REL

TO CAD 51 (MFR DISC) OR TO CAD 109

TMT — TO CAD 163

ONS

TS (MON) ON REG & SDR TST BAY

DRAWING ISSUE
50D
59D
61A
65D
67D
68D
69A
70D
72A
75A
81D
83D
85A
86D
88D

ISSUE 105A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED — CHG SIZE 6S

SD-25680-01-G27

SD-25680-01-G27

STANDARD

CAD 128

(FOR APP FIG 9,11,17,18,20,28,51,74 & AB)

TO CAD 112 FDA

EI LW OR SWBD CA

24 EK EI EL,EM EA EM 18 (SSLE) KEY

21 BK 18 (SSLB) KEY

TO CAD 158 LLSI

LPS 33 7B (LLS) REL

LS 32 10B (STT) REL

AV 31 4T (RC) REL

TS (AUTO MONA) ON MTF CONT (SHOWN ON SD-25800-01)

LK 30 6T

KK 29 3T

JK 28 9B

HK 27 6B (FDB) REL

TO MA TST FR CONT BAY

GK 26 3B

FK 25 9T

24 6T

DK 23 3T (FDA) REL

CK 22 9B

21 6B

BK 20 7T (OSA) REL EL

AK TO CAD 122

TCB 19 1T

TCA 18 3T (MCH) REL

T P 17 6T

TO TRK TST CKT ON MTF CONT BAY

R 16 8T

RVTK 15 13T (RVTK) REL

(MFR DISC)

MOR 14 8B (STT) REL

6T (FD2) REL

AC 13 AC TO CAD 122

OK 12 2T (T8L) REL

REC 11 REC TO CAD 121

L 10 4B (OSL) REL

K 09 4B (OSK) REL

J 08 4B (OSJ) REL

TO MA TST FR CONT BAY

H 07 4B (OSH) REL

G 06 4B (OSG) REL

F 05 4B (OSF) REL

E 04 4B (OSE) REL

D 03 4B (OSD) REL

C 02 4B (OSC) REL

B 01 4B (OSB) REL

A 00 4B (OSA) REL

TS (MTFA) ON REG AND SDR TST BAY

TO CAD 127

MFR DISC

A&M ONLY

SCT1 67 5T

PII 66 9T (PDII) REL

TO CAD 102

CKS3 65 2B (XII) REL

DLG 64 4B (AMA) REL

CTMX1 63 6T (TMX) REL

TO CAD 88

CTMX 62 4T (TR2) REL

(TKI) REL

12T (NDT) REL

CL7 61 1T 2T (SPL) REL

TO CAD 102

CL8 60 1B 10T (DTT) REL

PCDI 59 4B

TOL 58 2T

CXI (OST) REL

TAN 57 4T

PCT

(A&M ONLY)

FVD 56 3B (FVD) REL

TO CAD 146

8T 7

OBS 55 6T

10B 6

OB 54 8T

12B 5 (SPL) REL

OAS 53 7B

2T 4

OA 52 9B

6T (NCT) REL

ABS 51 6B

AB 50 8B (DTT) REL

2B (NDT) REL

PCR 49 6B

PCD 48 2B (OST) REL

4B (NDT) REL

TO MA TST FR CONT BAY

REP 47 6B (OK) REL

N 46 2B (TSR) REL

MC 45 6B (DOS1) REL

6B (COS1) REL

AL 44 4B (T8L) REL

R 43 10T

T 42 6T (STT) REL

P 41 P

DOR 2T

STG 40 4T (DOR1) REL

SDR1 39 5T

RCY 38 4T (AMA) REL

SDT3 37 5B (TSTK) REL

A & M ONLY TVTK TO CAD 123

TVTK 36 6T (SDT3) REL

1T (RTV) REL

TSTK 35 9B (TSTK) REL

ONS TO CAD 122

SDT2 34 6B (ONS) REL

TS (MTFA) ON REG AND SDR TST BAY

MFR DISC

(A&M ONLY)

TOL2 101 8B

TOL1 100 12T (NDT1) REL

T4 99 12M

T5 98 11M

RT4,MAN 97 10M

TO MA TST FR CONT BAY

RT5,TI 96 9M (NDT2) REL

CSL,DAT2 95 8M

NCSL,NATT 94 7M

ATT1 93 6M

TRIC 92 U (TRIC) REL

KCS 91 8B (REL1) REL

RVTK 90 10T (RVTK) REL

CU7 89 9T

CU4 88 7T

CU2 87 3T

CU1 86 5T

CU0 85 1T (MCP) REL

CTA7 84 9B

CTA4 83 7B

CTA2 82 5B

TO MA TST FR CONT BAY

CTA1 81 3B

CTA0 80 1B

DAT1 79 12B

ATT 78 10B

AOT 77 8B (MCF) REL

DTI 76 6B

LR1 75 4B

RIK 74 6T

LI1 73 4T (MCD) REL

LTO 72 2T

(A&M ONLY)

TO CAD 110 SCT 71 2T (PD9) REL

CKS 70 1T

TO CAD 102 CKS1 69 4B (PD11) REL

CKS2 68 3B

TS (MTFA) ON REG AND SDR TST BAY

(A&M ONLY)

CAM1 119 5B

CAM0 118 3B (NDT1) REL

MFR DISC. 8

LT 117 4T TO CAD 146 (LT) REL

2DT 116 10T

TAN4 115 8T

TAN3 114 6T

TO MA TST FR CONT BAY

TAN2 113 4T (NDT1) REL

TAN1 112 2T

NTAN 111 2B

T7 110 5M (NDT2) REL

109

SPL1 108 8B (SPL) REL

SPL2 107 7T

TO MA TST FR CONT BAY PKI 106 12T (MCP) REL

TO CAD 151 EPS 105 10T (EPS) REL

(A&M ONLY)

7T 104 3B (TT) REL

TOL4 103 12B

TO MA TST FR CONT BAY

TOL3 102 10B (NDT1) REL

TS (MTFA) ON REG AND SDR TST BAY

DRAWING ISSUE

50D VEC AMD

52A MRS LM AMD

59D NSC KEL AMD

62D PCU M/A AMD

65D R# GA AMD

68D SSL A&L AMD

69A TJD A&L AMD

70D CR PDT AMD

72A JEK AMD

73D EK AMD

79D ER

81D

83D

89D

ISSUE 104B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-G28

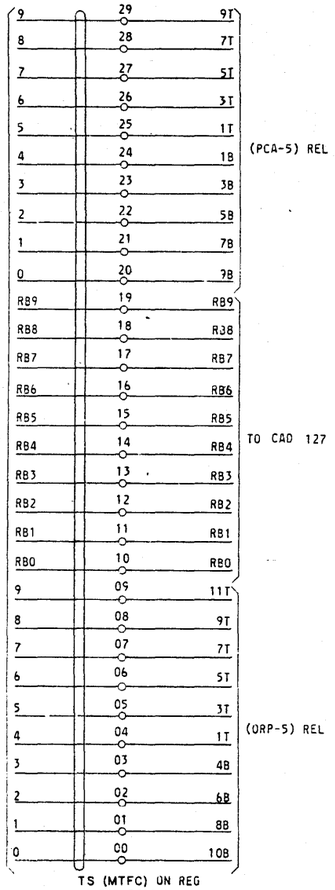
BELL TELEPHONE LABORATORIES INCORPORATED DWG SIZE 6S PRINTED IN U.S.A.

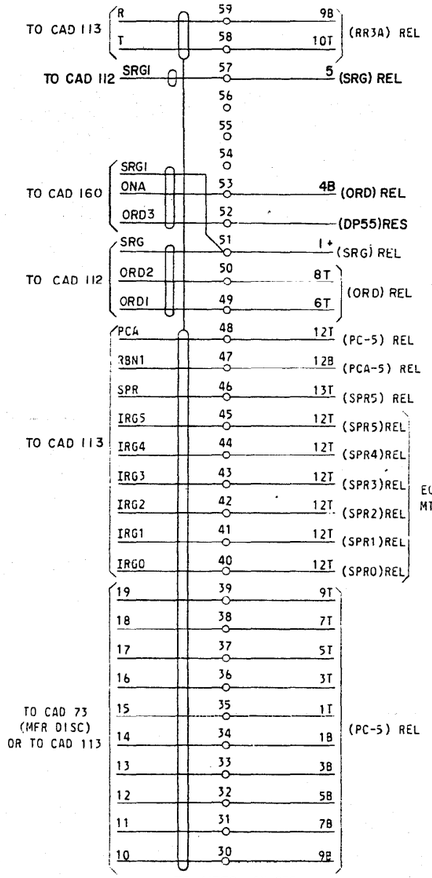
SD-25680-01-G28

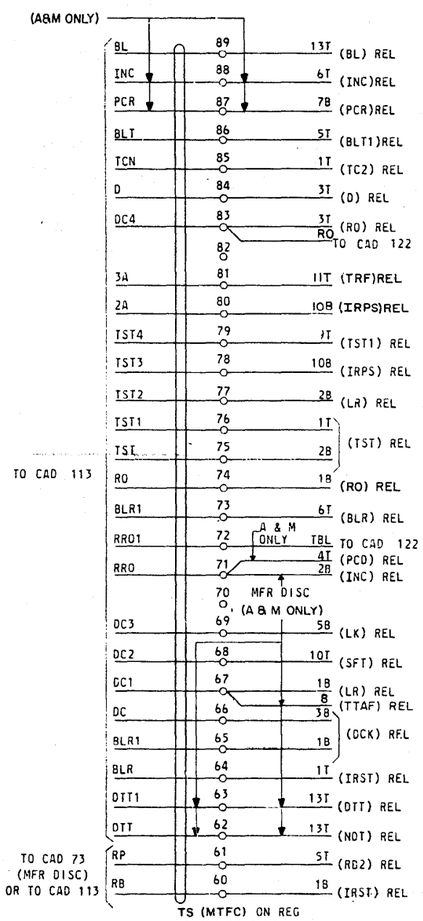
STABILO

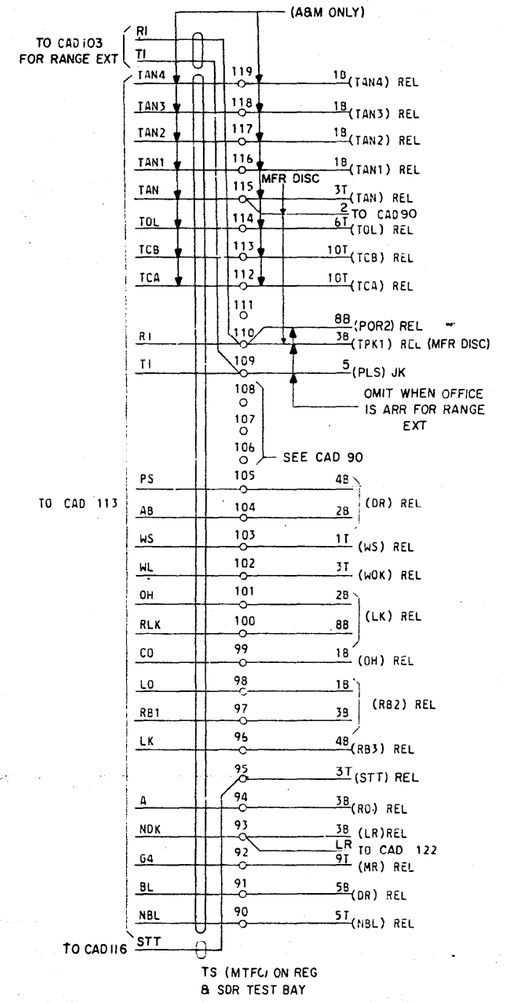
CAD 129

(FOR APP FIG 11,20,22,24,26,32&E)









DRAWING ISSUE

	SSW	
50D	MFC	AM
52A	JMA	LT AND
59D	HQ	REL AND
61A	PCI	MFR AND
67D	CFR	ABL AND
68D	SSL	ALL AND
70D	CR	PDT AND
72A	JEK	ALL AND

ISSUE 102B

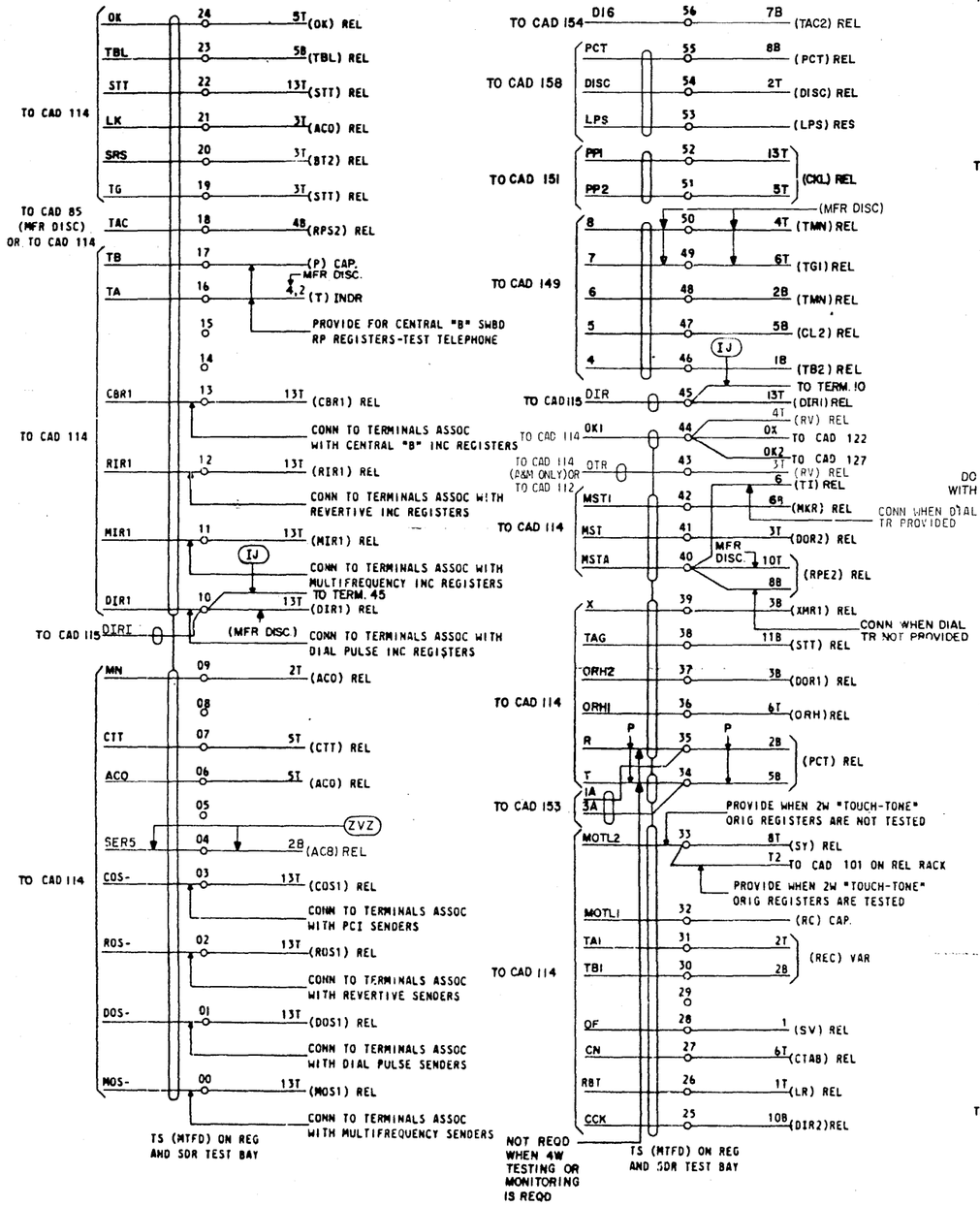
SD-25680-01-G29

STABILO

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT	(2)	SD-25680-01-G29
BELL TELEPHONE LABORATORIES INCORPORATED	SIZE 6S	

CAD 130

(FOR APP FIG 9,11,17,18,20,26, & 51)



SD-25680-01-G30

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-G30

BELL TELEPHONE LABORATORIES INCORPORATED 6S

CAD 131

(FOR APP FIG 9,11,14,17,18,20,21 & AB)

C20H5 33 10B (RV) REL
C20H4 32 6B (CL6) REL
CX1 31 7B (TB2) REL
CX 30 10T (CXO) REL
C20H3 29 6T (TKR2) REL
BGO1 28 9T (BGO) REL
C20H2 27 7T (CL2) REL
BGO 26 2T (DPST) REL
C20H1 25 5T (TMN) REL
ABN2 24 ABN TO CAD 122
ABN1 23 2T (AMA) REL
SPD1 22 8B (TG1) REL
DTR4 21 3B (TKR) REL
DTR3 20 1T (TG3') REL
AD4 19 7B (AD4) REL
OTR 18 2T (CL2) REL
TO CAD 115 AD3 17 7B (AD3) REL
SPD 16 1B (CL3) REL
STVT1 15 11T (STVT) REL
STVT 14 OG3 TO CAD 122
TMT2 13 9T (ONS) REL
TM
TK 12 1B
LTK
TK1 11 3B (TG1) REL
LTK1
PL 10 1T (PL) REL
LPL TO CAD 122
ABN 09 DIS TO CAD 127
C20H 08 5T (TKR2) REL
DISC1 07 7T (TMT) REL
MFR DISC.
DISC 06 7B (ONS) REL
DISC TO CAD 127
TO CAD 112 OR TO CAD 115 LLS 05 5B (LLS) REL
TMT1 04 8T
TMT 03 12T (TMT) REL
TO CAD 115 DTR2 02 2B (OPST) REL
DTR1 01 1B (TKR) REL
DTR 00 2T (TMT) REL
TS (MTFE) ON REG & SDR TST BAY

(A&M ONLY)
TO CAD 153 5C
AC8 67 6T (AC8) REL
PD4 66 11T (PD8) REL
PBX 65 9T (PBX) REL
TO CAD 115 PDII 64 11T (PD11) REL
PDI 63 11T (PD1) REL
PDO 62 9T (PDO) REL
PD9 61 11T (PD9) REL
STGI 60 5B (DOR3) REL
MFR DISC
TO CAD 169 (A&M ONLY) OR CAD 112 ID 59 5B (TG3) REL
3 58 12B (MIRI) REL
RPD 57 1B (OSB1) REL
OSM 56 7B (OSM) REL
OSL 55 7B (OSL) REL
OSK 54 7B (OSK) REL
OSJ 53 7B (OSJ) REL
OSH 52 7B (OSH) REL
TO CAD 115 OSG 51 7B (OFG) REL
OSF 50 7B (OSF) REL
OSE 49 7B (OSE) REL
OSD 48 7B (OSD) REL
OSC 47 7B (OSC) REL
OSB 46 1T (OSB1) REL
OSA 45 1T (OSA1) REL
AD1 44 7B (AD1) REL
AD 43 7B (AD) REL
BP 42 7B (BP) REL
KP1 41 7B (KP1) REL
KP 40 7B (KP) REL PROVIDE FOR WIDEBAND ONLY
TO MTF CONT BAY ADK 39 7T (AD) REL WIDEBAND NOT PROVIDED
38 3T
37 7T (AD1) REL
AIK
TO CAD 115 SS 36 4B (MST) REL
AGR 35 (CL6) REL BP
C20H6 34 9B (RV) REL
MFR DISC
TO CAD 102 SS
TS (MTFE) ON REG SDR TST BAY

(A&M ONLY)
3FD1 101 (SF) RES
OSS 100 6T (SSP) REL
TO CAD 115 FBX5 99 1B (XII) REL
FBX1 98 3T OR 6B (PDI) OR (PDII) REL
IO 97 8 OR 7B (ORT) OR (FVD) REL
TO CAD 102 IIR 96 SHOWN ON ES-26307-01
95
94
93
5T
7B (TG3) REL
TO CAD 116 TMT 92 1T (TKR) REL
TRI TO CAD150
TO CAD 169 (A&M ONLY) OR CAD 112 5D 91 5 (TIRI) REL
4D 90 MFR DISC.
RR0B 89 2B (RR3) REL
2T (TCB) REL
TO CAD 115 RR0A 88 8T (CB3A) REL
(A&M ONLY)
STD4 87 3B (DT2) REL
TO CAD 169 (A&M ONLY) OR CAD 112 2D 86 7T (TG3) REL
STD3 85 1B
STD2 84 3B (DT1) REL
STD1 83 3T
STD 82 3B (DT) REL
DT2 81 4T (DT2) REL
SDC 80 (DT) NET.
(A&M ONLY)
TO CAD 115 RRO 79 3T (CB5A) REL
TR TO CAD 150
RLR 78 1B (RR3) REL
5B (TIRI) REL
IGH2 77 IGH
TO CAD 122
CBTT1 76 CBTT
CBTT 75 6T (CBTT) REL
IGH1 74 9T
IGH 73 8T (IGH) REL
PROVIDE FOR PICTUREPHONE ONLY
72 72 4T (BP) REL
71 71 8B (PDII) REL
MFR DISC.
SF1 70 7T (KP1) REL
SF 69 7T (KP) REL
3FD 68 7B (OSA) REL
TS (MTFE) ON REG SDR TST BAY

SF3 119 3B (FD3) REL
SF2 118 1B (OSA1) REL
TWT 117 8T (TWT) REL
LL 116 8T (LL) REL
STP 115 5T (STP) REL
KPS 114 10T (KPS) REL
SP 113 5B (SP) REL
PR1 112 2B (FD5) REL
PR 111 4T (PR) REL EI
TO CAD 115 110 110 1U (SSL) REL EM
109 109 6B (FOA) REL
108 108 4B (OSB) REL
107 107 4B (OSE) REL
106 106 1L (SSR) REL
FKP2 105 4T (FKP) REL
FKP1 104 7T
3FKP 103 9T (3KPF) REL
FKP 102 5T (KPF) REL
MFR DISC
TS (MTFE) ON REG SDR TST BAY

DRAWING ISSUE
50D
53D
57D
59D
65D
68D
70D
71A
72A
74D
81D
83D

ISSUE 106B

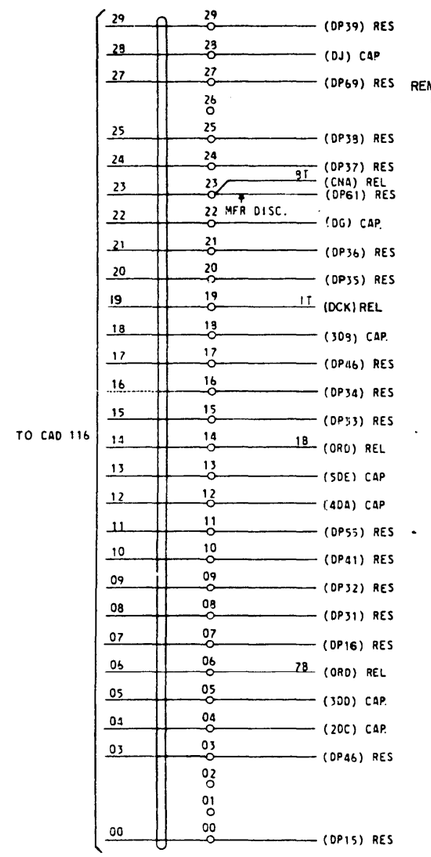
MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)
BELL TELEPHONE LABORATORIES INCORPORATED
DRAWING SIZE 6S
SD-25680-01-G31
PRINTED IN U.S.A.

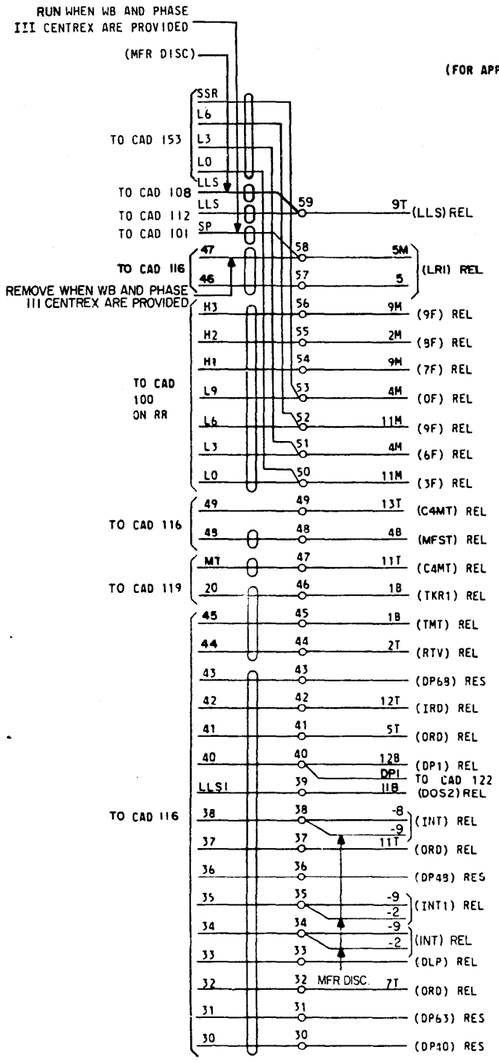
SD-25680-01-G31

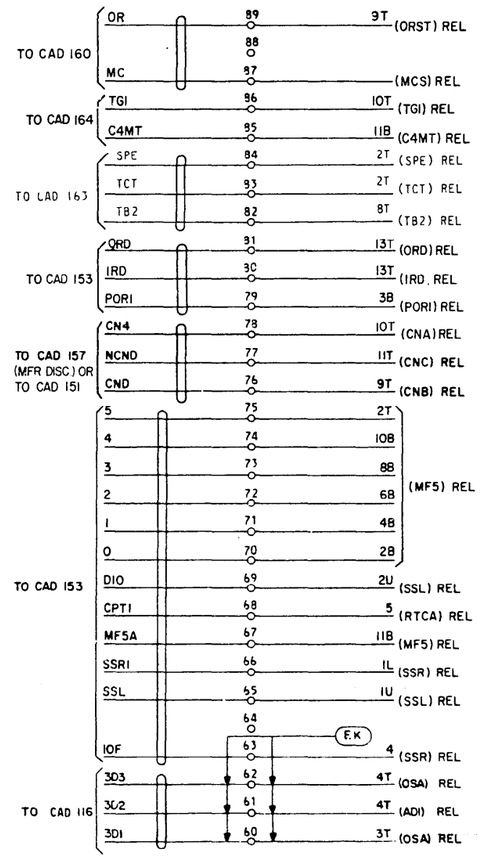
STABILO

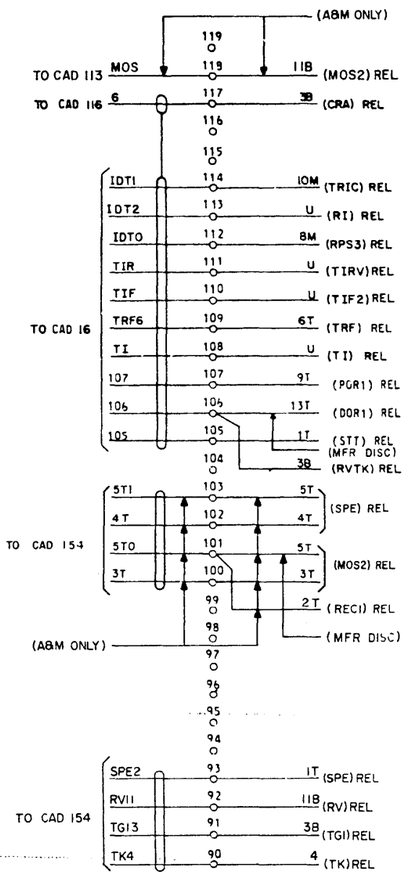
CAD 132

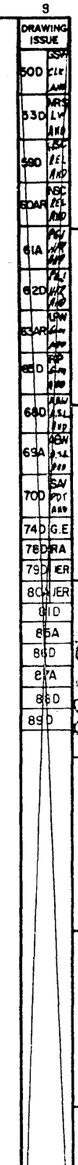
(FOR APP FIG 9,11,17,20,25,26.45,51 & W)











ISSUE 100B

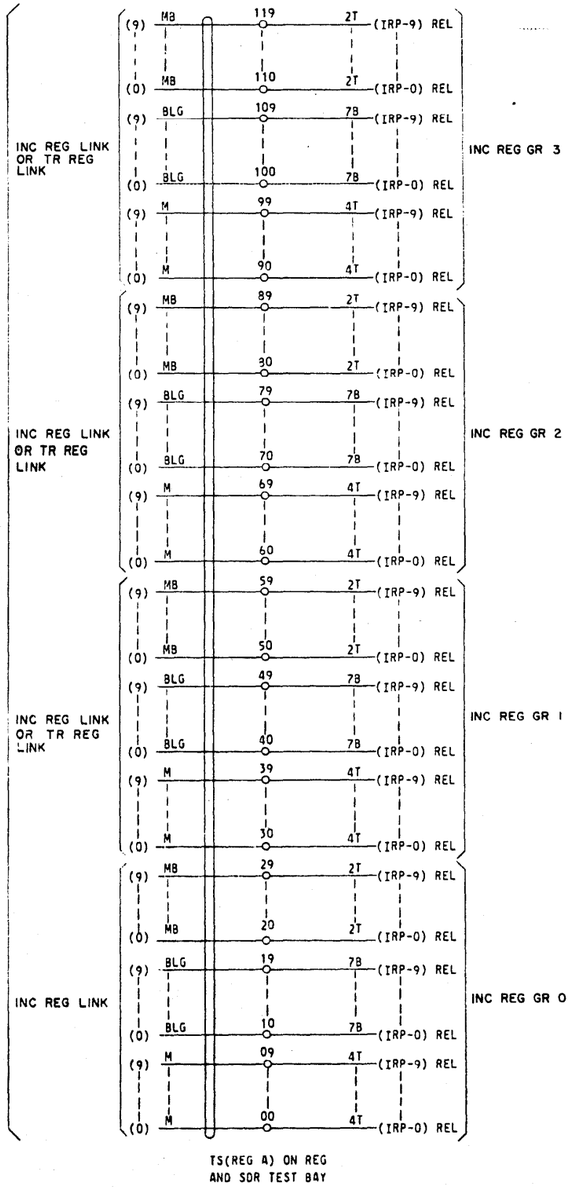
MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)	SD-25680-01-G32
BELL TELEPHONE LABORATORIES INCORPORATED	SHEET 6S

SD-25680-01-G32

STABILO

CAD 133

(FOR APP FIG 4 & 5)



TS(REG A) ON REG AND SDR TEST BAY

159 158 157 156 155 154 153 152 151 150 149 148 147 146 145 144 143 142 141 140 139 138 137 136 135 134 133 132 131 130 129 128 127 126 125 124 123 122 121 120

TS(REG A) ON REG AND SDR TEST BAY

DRAWING ISSUE	
500	MSM ECM AMD
590	NSC ECL AMD
63AR	LPW ECL AMD
680	RBL ECL AMD

68

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SD-25680-01-G33

6S

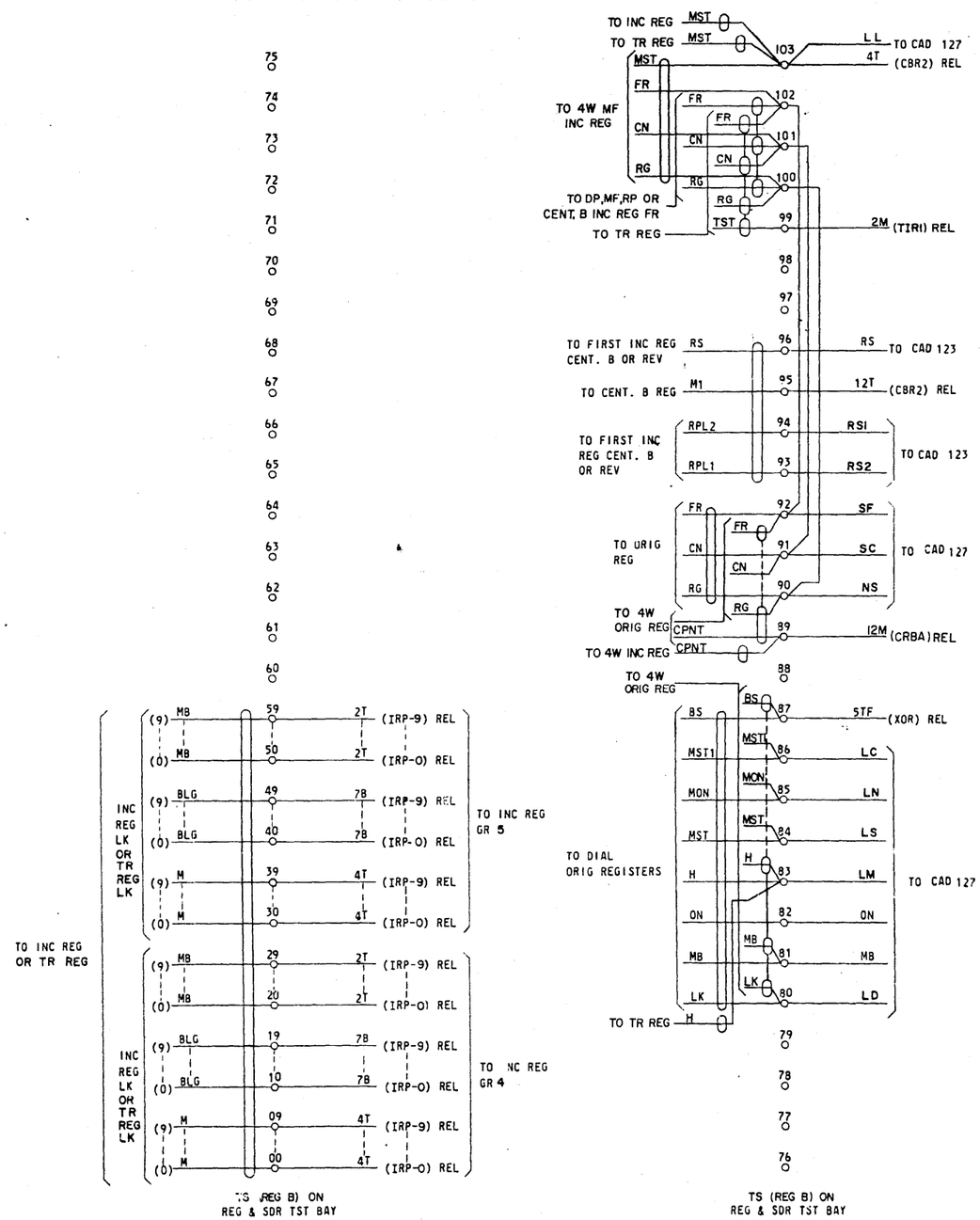
PRINTED IN U.S.A.

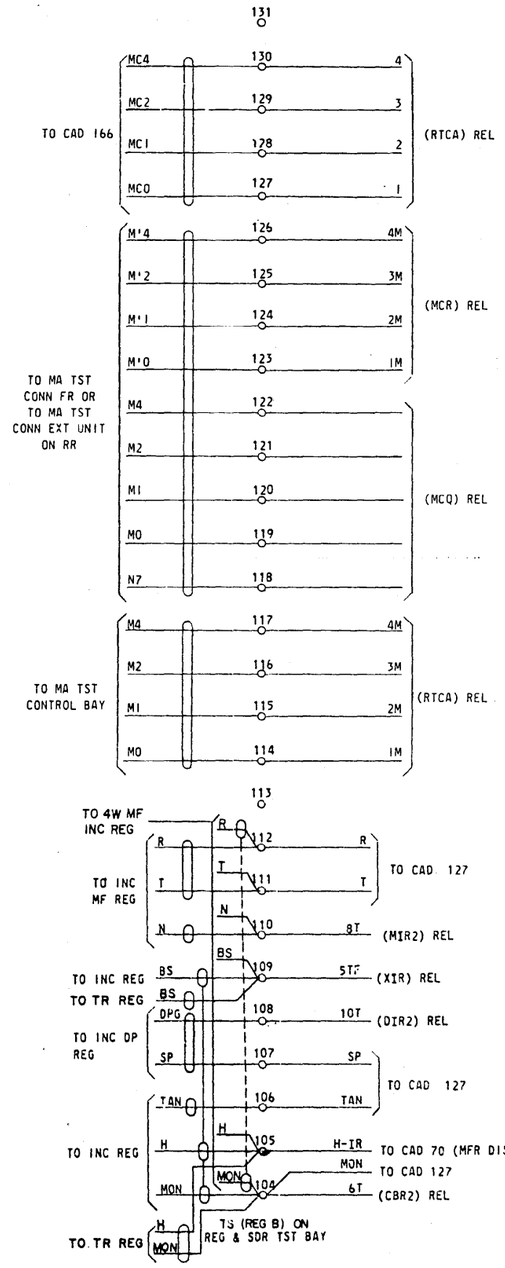
SD-25680-01-G33

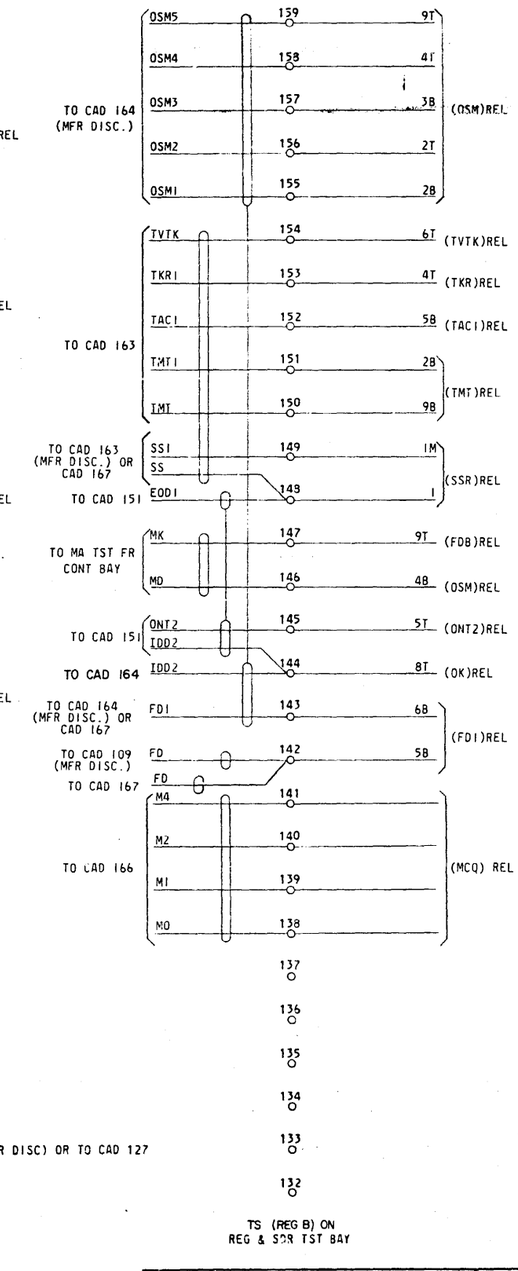
STABLO

CAD 134

(FOR APP FIG 4,5,9 AND 57)







DRAWING ISSUE
50D
59D
61A
68D
70D
72A
81D
86D
88D

ISSUE 91D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-G34

BELL TELEPHONE LABORATORIES INCORPORATED

DWG SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-G34

STABILO

CAD 135

(FOR APP FIG 20,22 & 24)

ON3	33,83,133	4B	(SPR-0,1,2) REL
ON2	32,82,132	6B	
ON1	31,81,131	8B	
ON0	30,80,130	10B	
B	41,91,141	13T	
C10	40,90,140	12T	
C9	29,79,129	10T	
C8	28,78,128	8T	
C7	27,77,127	6T	
C6	26,76,126	4T	(TCL-0,1,2) REL
C5	25,75,125	2T	
C4	24,74,124	2B	
C3	23,73,123	4B	
C2	22,72,122	6B	
C1	21,71,121	8B	
C0	20,70,120	10B	
RP9	19,69,119	12T	
RP8	18,68,118	10T	
RP7	17,67,117	8T	
RP6	16,66,116	6T	
RP5	15,65,115	4T	(ORP-0,1,2) REL
RP4	14,64,114	2T	
RP3	13,63,113	5B	
RP2	12,62,112	7B	
RP1	11,61,111	9B	
RP0	10,60,110	11B	
RB9	9,59,109	10T	
RB8	8,58,108	8T	
RB7	7,57,107	6T	
RB6	6,56,106	4T	
RB5	5,55,105	2T	(LO-0,1,2) REL
RB4	4,54,104	2B	
RB3	3,53,103	4B	
RB2	2,52,102	6B	
RB1	1,51,101	8B	
RB0	0,50,100	10B	

TO INC REG LK FR OR TR REG LK

(REG LK A) TS ON REG & SDR TEST BAY

TO TR REG LK BL	159		
	158		
BL	157	3B	(NBL) REL
D	156	5T	(TST1) REL
HM	155	4B	(OH) REL
CO	154	11T	
R	153	2B	(NBL) REL
T	152	2T	
OH	151	12T	(LK) REL
LK	150	2T	(RB3) REL
	149		
	148		
	147		
	146		
	145		
	144		
	99		
	98		
	97		
	96		
	95		
	94		
	49		
	48		
	47		
	46		
	45		
	44		
ST	43,93,143	11B	(PC-0,1,2) REL
G	42,92,142	3B	(ORP-0,1,2) REL
ON9	39,89,139	10T	
ON8	38,88,138	8T	
ON7	37,87,137	6T	(SPR-0,1,2) REL
ON6	36,86,136	4T	
ON5	35,85,135	2T	
ON4	34,84,134	2B	

TO INC REG LK FR OR TR REG LK

(REG LK A) TS ON REG & SDR TEST BAY

S-0 DP
S-1 DP
S-2 MF
S-3 DP IRL 3
S-4 DP - IRL 3
S-5 MF

CAD 136

(FOR APP FIG 22 & 24)

ON3	33,83,133	4B	(SPR-3,4,5) REL
ON2	32,82,132	6B	
ON1	31,81,131	8B	
ON0	30,80,130	10B	
B	41,91,141	13T	
C10	40,90,140	12T	
C9	29,79,129	10T	
C8	28,78,128	8T	
C7	27,77,127	6T	
C6	26,76,126	4T	
C5	25,75,125	2T	(TCL-3,4,5) REL
C4	24,74,124	2B	
C3	23,73,123	4B	
C2	22,72,122	6B	
C1	21,71,121	8B	
C0	20,70,120	10B	
RP9	19,69,119	12T	
RP8	18,68,118	10T	
RP7	17,67,117	8T	
RP6	16,66,116	6T	
RP5	15,65,115	4T	(ORP-3,4,5) REL
RP4	14,64,114	2T	
RP3	13,63,113	5B	
RP2	12,62,112	7B	
RP1	11,61,111	9B	
RP0	10,60,110	11B	
RB9	9,59,109	10T	
RB8	8,58,108	8T	
RB7	7,57,107	6T	
RB6	6,56,106	4T	
RB5	5,55,105	2T	(LO-3,4,5) REL
RB4	4,54,104	2B	
RB3	3,53,103	4B	
RB2	2,52,102	6B	
RB1	1,51,101	8B	
RB0	0,50,100	10B	

TO INC REG LK FR OR TR REG LK

(REG LK B) TS ON REG & SDR TEST BAY

	159		
	158		
	157		
	156		
	155		
	154		
	153		
	152		
	151		
	150		
	149		
	148		
	147		
	146		
	145		
	144		
	99		
	98		
	97		
	96		
	95		
	94		
	49		
	48		
	47		
	46		
	45		
	44		
ST	43,93,143	11B	(PC-3,4,5) REL
G	42,92,142	3B	(ORP-3,4,5) REL
ON9	39,89,139	10T	
ON8	38,88,138	8T	
ON7	37,87,137	6T	
ON6	36,86,136	4T	(SPR-3,4,5) REL
ON5	35,85,135	2T	
ON4	34,84,134	2B	

TO INC REG LK FR OR TR REG LK

(REG LK B) TS ON REG & SDR TEST BAY

DRAWING ISSUE	
50D	CSW, CDN, AID
59D	MSC, REL, NID
61A	PCJ, TYP, ANP
68D	ADD, A.S.L., AND
81D	

81

SD-25680-01-G35

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

STABILO

CAD 137
(FOR APP FIG 33,34,& 40)

DRAWING ISSUE	
500	CLK AMP
680	G.E. ASL AED
700	PDT AUG

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

TO CAD 122 — R, T, P — 6T, 12T — (ONS1) REL

R 07 7T (CBT) REL
T 06 4T
FR1 05 4B
FT1 04 7B
CT 03 3T
CR 02 6T
CFT 01 (CB6) RES
CFR 00 (CB3) RES

TO CENTRAL "B" REGISTER

TS (A) ON AUX REG AND SDR TEST BAY

59 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40

TO CAD 124 — 9 8 7 6 5 4 3 2 1 0 — 39 38 37 36 35 34 33 32 31 30 — 10T 8T 6T 4T 2T 10B 8B 6B 4B 2B — (RR3B) REL

TS (A) ON AUX REG AND SDR TEST BAY

89 88 87 86 85 84 83 82 81 80 79 78 77 76 75 74 73 72 71 70 69 68 67 66 65 64 63 62 61 60

89 12T (IO) REL
89 6B (CB3B) REL
87 3T (RTT) REL
C6 4B (RTT1) REL
85 4T (RRAB) REL
84 7T (FLU) REL
83 7T (FLT) REL
82 7T (FLB) REL
81 7T (IG) REL
80 6T (IFT) REL
79 3B (OFT) REL — MFR DISC.
78 5B (IBA) REL
77 2T (STPO) REL
76 7T (FLBA) REL
75 7T (STPO) REL
74 9T (RLT) REL
73 6T (RVT1) REL
72 10T (RIF) REL
71 7T (RVT) REL
70 4T (LSI) REL
69 11T (CBT) REL
68 CBT TO CAD 139
67 2T (DB) REL
66 4B (IGA) REL
65 4B (TC4) REL
64 4T (RRST) REL
63 RVBA TO CAD 138
62 IA1 TO CAD 139
61 10T (SLO) REL
60 11T (DSC) REL

TO CAD 116

TS (A) ON AUX REG AND SDR TEST BAY

119 118 117 116 115 114 113 112 111 110 109 108 107 106 105 104 103 102 101 100 99 98 97 96 95 94 93 92 91 90

104 MFR DISC. 5B (ABN1) REL
103 3T (IAT) REL
102 2B
101 1B (STRT) REL
100 4T
99 RPST TO CAD 139
11T (RPST) REL
98 8B (IAA) REL
97
96 (RP6) RES
95 9B (RPST) REL
94 1T (IA1) REL
93 5T (TGT1) REL
92 11T (FAS) REL
91 CG1 TO CAD 139
90 5T (WAT) REL

TO CAD 116

TS (A) ON AUX REG AND SDR TEST BAY

70

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

BELL TELEPHONE LABORATORIES INCORPORATED — SIZE 6S

SD-25680-01-636

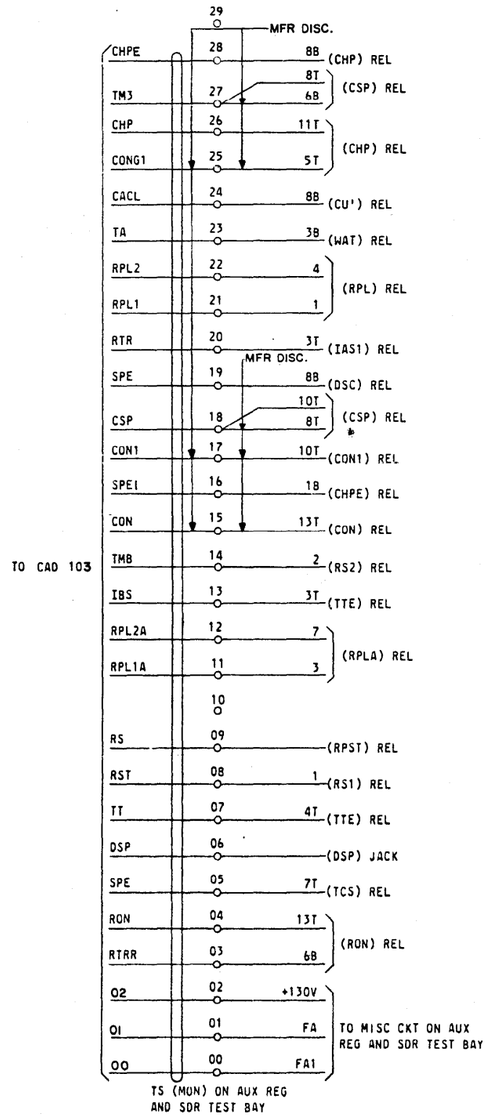
SD-25680-01-636

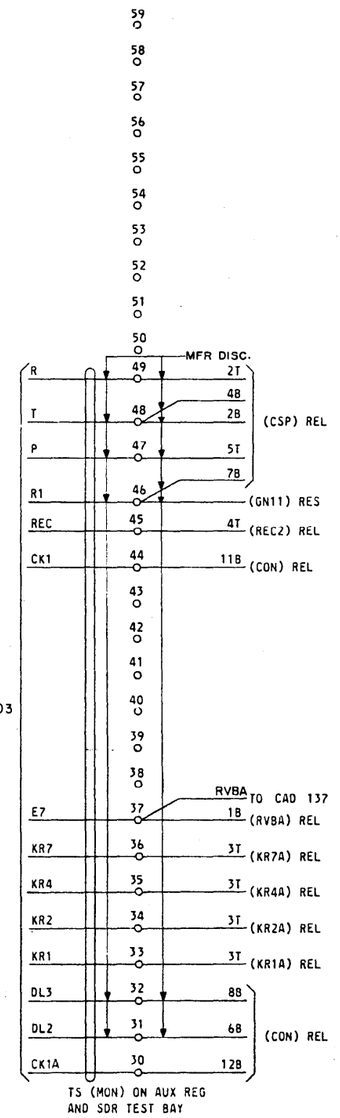
STABILO HE

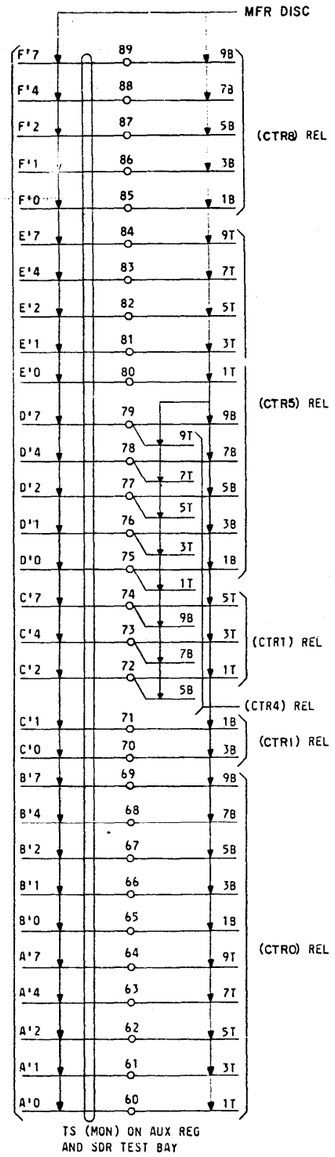
CAD 138

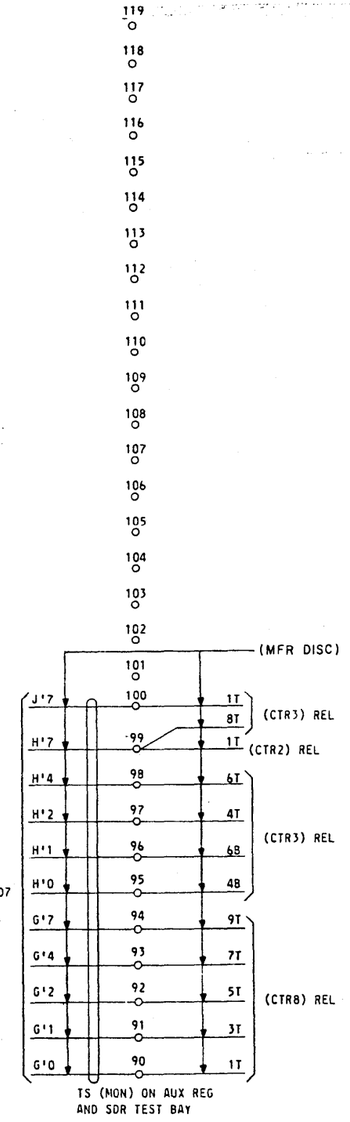
(FOR APP FIG 33,34,35.36,37,39,40, Q, AND R)

DRAWING ISSUE	
50D	MSM ELM #10
68D	G.E. #5L #4b
70D	SAV PBX #9P









ISSUE 106B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT	(2)	SD-25680-01-G37
BELL TELEPHONE LABORATORIES INCORPORATED	6S	PRINTED IN U.S.A.

SD-25680-01-G37

STABILO

CAD 139

(FOR APP FIG 9,33,34,35 & 40)

DRAWING ISSUE	
50D	JQS, NSC, AWP
68D	G.E. A.S.L. AWP
70D	RAC PDT AWP

TK2 30 12B (CIST) REL
TMT 29 10T (ONS1) REL
RG1 28 5T (IA1) REL
IA1 TO CAD 137
RVP 27 4T (IA1) REL
2 26 8B (RPST) REL
1 MFR DISC. 25 4T (DSC) REL
CK1A
CK1 24 4B (TTE) REL
RTR4 23 13T (RTR4) REL
RTR2 22 13T (RTR2) REL
3B (TTE) REL
HIG 21 1T
IG 20 3T (IG5) REL
SDT2 19 4T (ONS1) REL
TBL 18 3B (BK) REL
BRP 17 7T (BRP) REL
28 16 2T
TO CAD 122 27 15 1T (CBA2) REL
26 14 9B (CBT) REL
G 13 6T (RTT) REL
A&M ONLY A&M ONLY
GI 12 1T (RON) REL
SDT3 11 1B
SD3 10 2B (ONS1) REL
5 09 (RP5) RES
6 08 10T (CIST) REL
ONS1 07 13T (ONS1) REL
CIST 06 13T (CIST) REL
RPST 05 13T (RPST) REL
M1 04 CBT TO CAD 137
RR 03 7T (RTT1) REL
TM 02 8T (RPST) REL
LG1 01 2T
AC 00 8T (ONS1) REL

TS (REG TST) ON
AUX REG & SDR
TST BAY

LN 60 (RP9) RES
OK 59 1B (RRA2) REL
RSS 58 12B (RR3B) REL
STS 57 5T (RRS) REL
DK 56 1B (FLUA) REL
CK 55 1B (FLTA) REL
BK 54 1B (IG4) REL
AK 53 1B (IBA) REL
TM 52 9T (ONS1) REL
LTK 51 3T (TC4) REL
LTK1 50 10B (TK2) REL
RO 49 6B
TO 48 6T (IA) REL
TB1 47 3T (ABT) REL
TO CAD 122 OG3 46 9B (ONS1) REL
4 45 5B (SD2A) REL
3 44 5B (RPST) REL
7 43 3B (FAS) REL
55 42 4T (TCT1) REL
FTR 41 4T (FTR) REL
TB3 40 8T (TB3) REL
ACT 39 7T (ONS1) REL
CG1 38 3T (CIST) REL
CG1 TO CAD 137
AMA1 37 5T (AMA1) REL
(MFR DISC)
CL3 36 12T (CL3A) REL
1B
RG2 35 11T (RPST) REL
RPST TO CAD 137
TVTK 34 3B (TMN1) REL
LPL 33 3B (TGT1) REL
ABN 32 7T (TK2) REL
3B (TC4) REL
15 31 4T (CB3B) REL

TS (REG TST) ON
AUX REG & SDR
TST BAY

12 90 L (BO) REL
ACK 89 1B (RRT1) REL
17 88 8B (RRAB) REL
16 87 3B (RTT) REL
10 86 1T (IGA) REL
18 85 10B (CBT) REL
NDK 84 4B
22 83 6B (RTT) REL
21 82 5T (CBRO) REL
DB 81 8T (DB) REL
RRST 80 5T (IBA) REL
RRAB 79 13T (RRAB) REL
RR3 78 13T (9, 3B) REL
FLTA 77 4B (FLTA) REL
TO CAD 122 G10 76 7T (RRAB) REL
RSS 75 3B (RSS) REL
FOI 74 9T (FO1) REL
RRTO 73 6T (RRTO) REL
14 72 5B (DB) REL
9 71 10T (RRAB) REL
25 70 4T (RTT) REL
A&M ONLY A&M ONLY
69
TB 68 7T (IAS) REL
TBR 67 4T (IAT) REL
RG3 66 10T (IA1) REL
RTRR 65 13T (RTRO) REL
RG4 64 1T (RPST) REL
ABN1 63 10T (ABN1) REL
TVT 62 9B (CIST) REL
RTV 61 1T (RP9) REL

TS (REG TST) ON
AUX REG & SDR
TST BAY

P
T 119 10B (CB3B) REL
RPL4 118 2 (RPLA) REL
R 117 8B (CB3B) REL
RPL3 116 (RPLA) REL
115
114
R2 113 1B (RLT) REL
AC 112 2T (RRA2) REL
IBA 111 6B (IBA) REL
RSSA 110 2B (RSS) REL
109
108
107
106
TO CAD 122 G5 105 5B
IB 104 10T (IB) REL
CA 103 7T
11 102 8T (IBA) REL
8 101 9T (RRAB) REL
20 100 2B
19 99 3B (RRT1) REL
CBRO 98 5B (STR) REL
24 97 10T
23 96 9T (CBT) REL
CB3 95 11T (CB3B) REL
RRAB1 94 1T (RRAB) REL
G1 93 9T (OVF) REL
TN 92 7T (FO1) REL
13 91 L (S6) REL

TS (REG TST) ON
AUX REG & SDR
TST BAY

70

MASTER TEST FRAME-
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)
SD-25680-01-G38

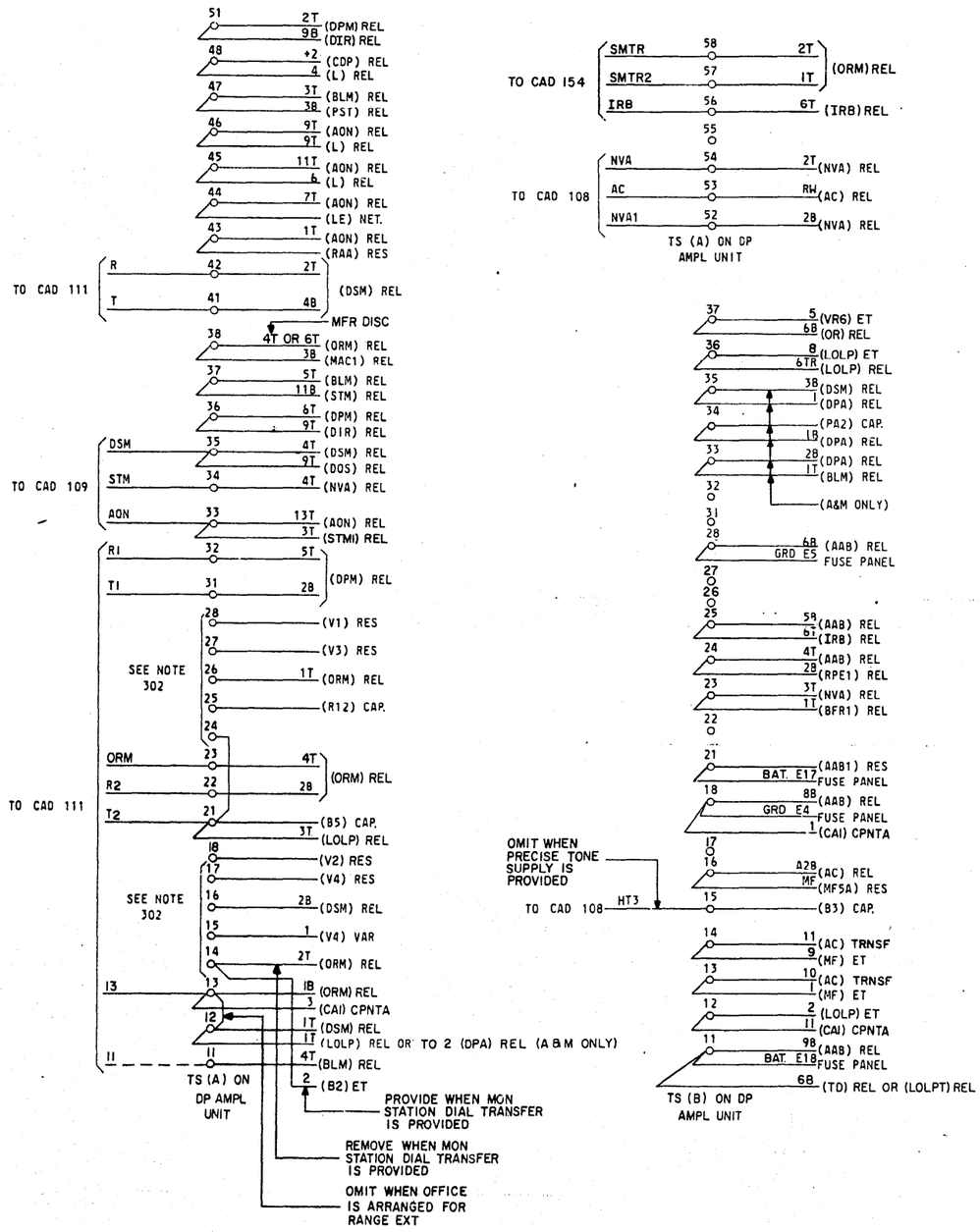
BELL TELEPHONE LABORATORIES
INCORPORATED
6S

SD-25680-01-G38

STABILO

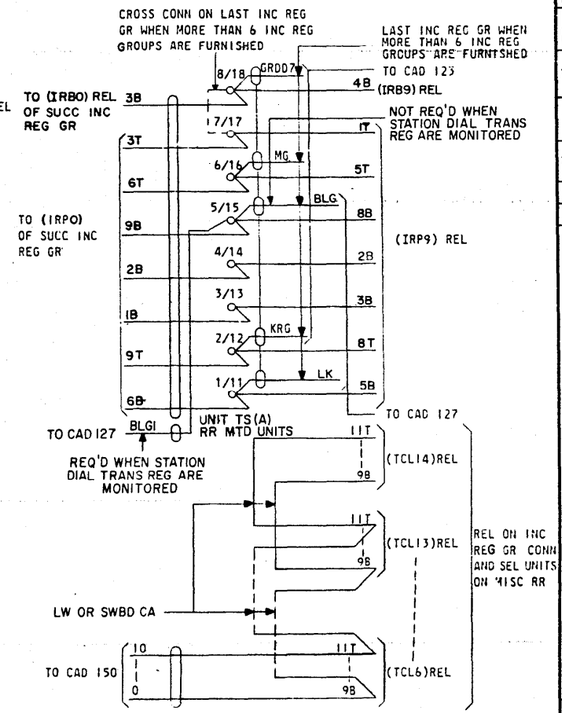
CAD 140

(FOR APP FIG 1,2,12,13,15,8 73)



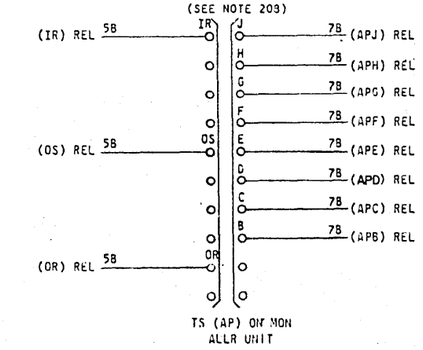
CAD 141

(FOR APP FIG 3,4 & 5)



CAD 142

FOR APP FIG 2
(SEE NOTE 203)



DRAWING ISSUE	
50D	SSW EDH AMD
67D	CRR RJL AMD G.E. AS AMD
68D	JPK ES AMD
69A	REC PTF AMD
70D	SW PTF AMD
71A	JEK WL AMD
72A	82
86D	

ISSUE 106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-639

BELL TELEPHONE LABORATORIES INCORPORATED 6S

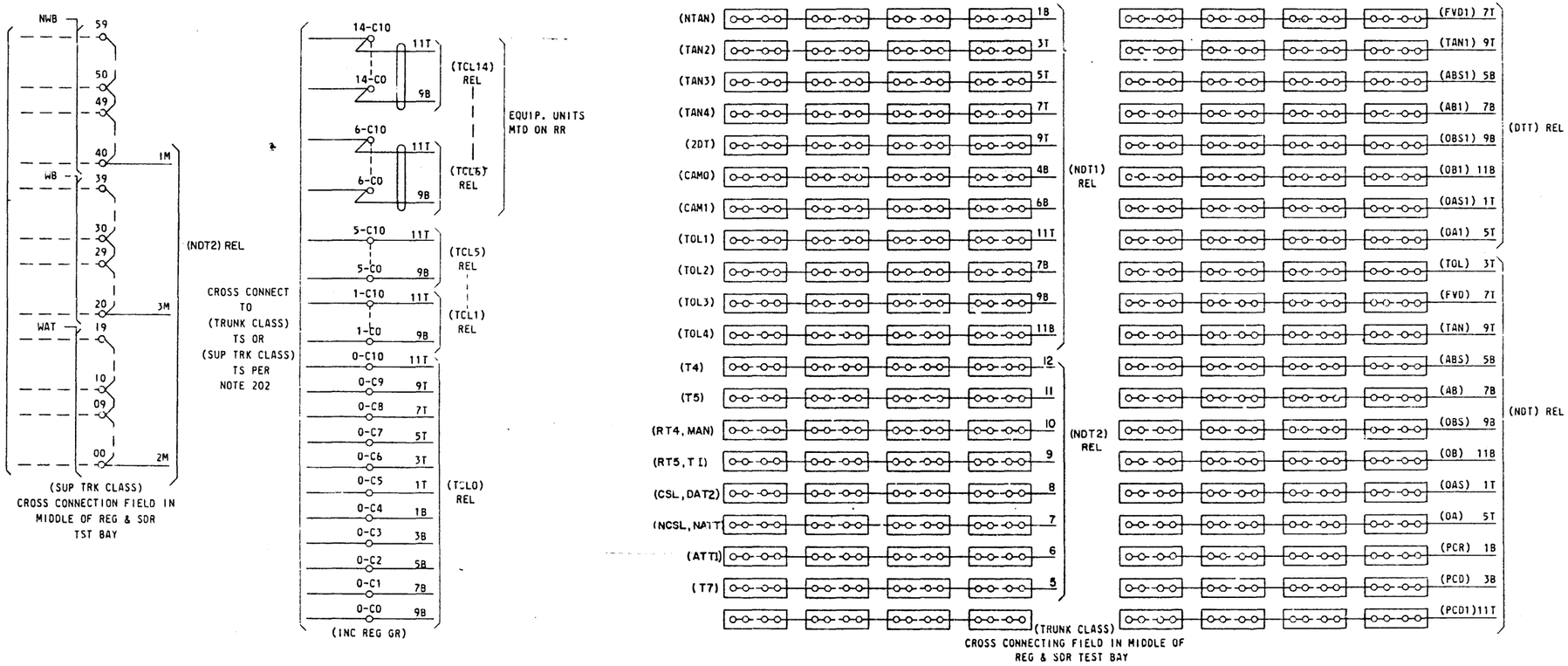
PRINTED IN U.S.A.

SD-25680-01-639

STABILO

CAD 143 (A&M ONLY)

(FOR APP FIG 20 & 22)
SEE NOTE 202



DRAWING ISSUE

50D	ESW EPM AMP
59D	NBC KFL AMD
68D	G.E. ASL AMD
72A	JEX [illegible] AMD
83D	
86D	

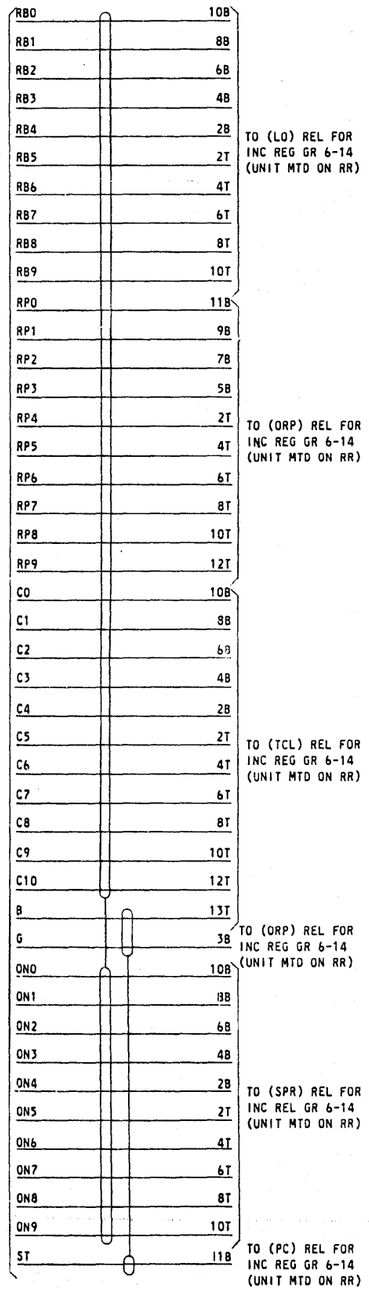
86

SD-25680-01-G40

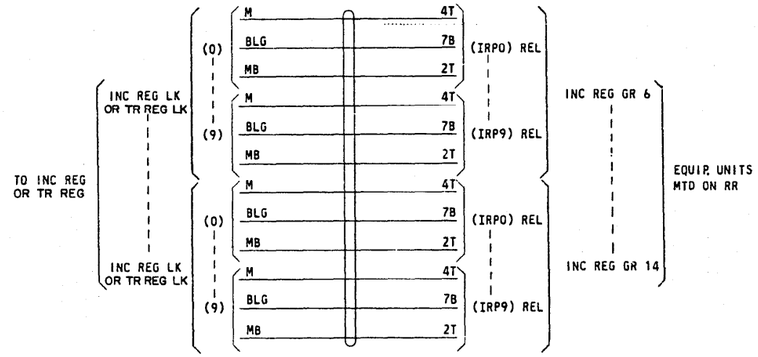
STABILO

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT	(2)	SD-25680-01-G40
BELL TELEPHONE LABORATORIES INCORPORATED	6S	PRINTED IN U.S.A.

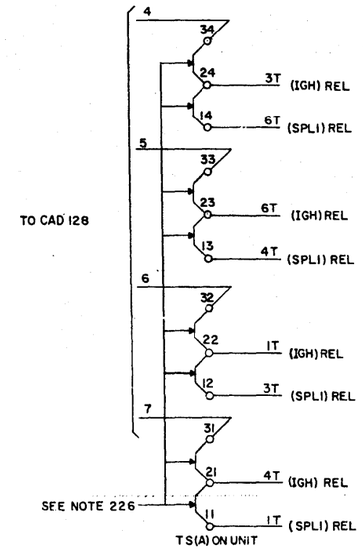
CAD 144
(FOR APP FIG 16,22,24 & 47)



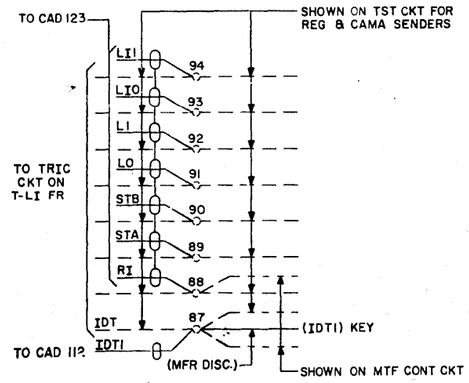
CAD 145
(FOR APP FIG 4 & 5)
SEE NOTES 210, 211 & 222



CAD 146 (A & M ONLY)
(FOR APP FIG 20)



CAD 147
(FOR APP FIG 51)



DRAWING ISSUE
50D RLJ COM AMD
59D NP REL AMD
67D CRR AJL AMD
68D G.E. ASL AMD
69A ABW ASL AMD
72A JEK Mod Amd
89D

89

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)
BELL TELEPHONE LABORATORIES INCORPORATED
SIZE 6S
SD-25680-01-G41

SD-25680-01-G41

STABILO

CAD 148

(FOR APP FIG 9,13,26,62 & 63)

TO CAD 154 — 7B — 29 — 18 — (SSC) REL
7A — 28 — 1
TO CAD 155 — 7 — 27 — 1M
TO CAD 111 — R1 — 26 — 11 — (SMTR) REL
SMTR — 25 — 11M
SMTR2 — 24 — 10M
SMTR1 — 23 — 10
SMTR — 22 — 10B
PROVIDE WHEN OFFICE IS ARRANGED FOR RANGE EXT
TO CAD 154 — IRB — 21 — 5B — (TRFM) REL
IR — 20 — 5
CBR — 19 — 2B
DIR1 — 18 — 2
STM — 17 — 1B
DIR — 16 — 1
A4 — 15 — 3B — (POR2) REL
A3 — 14 — 5 — (PLS) JK
LLA — 13 — 3
TDA6 — 12 — 8B — (MKP) REL
TDA5 — 11 — 8T — (TBL) REL
TDA4 — 10 — 3T — (TAC2) REL
TDA3 — 09 — 2T
TO CAD 103 — TDA2 — 08 — 3B — (TAC1) REL
TDA1 — 07 — 2T — (TRT) REL
TDA4 — 06 — 4T — (RPE2) REL
TD3 — 05 — 6T — (TRT1) REL
TD2 — 04 — 1T — (TRT) REL
TD1 — 03 — 6T — (ORH) REL
TDO — 02 — 3B — (DOR1) REL
WW — 01 — 7B — (DOR2) REL
XX — 00 — 2B — (ORAB) REL

TS (C) ON REG AND SDR TEST BAY

TO CAD 167 — OSM — 56 — 9B (OSM)REL
TO CAD 111 — ORM — 51 — 9M (SMTR) REL
TO CAD 154 TRF — 50 — 5M (TRFM) REL
TO CAD 103 — 49 — 7B — (DOR3)REL
48 — 8B
TO CAD 154 — STT — 47 — 8B — (STT)REL
TO CAD 108 — STT — 46 — 7B
TO COMP MKR — MRL — 45 — 10M (CRBA)REL
3DA — 44 — 2B — (CG) REL
TO CAD 154 — CS — 43 — 1B
SSC2 — 42 — U — (SSC) REL
SSC1 — 41 — 4
MFR DISC
TO CAD 103 — MCQ — 40 — U
MF — 39 — 4M — 4M
D — 38 — 3M — 3M — (MCQ) REL
TO MTC VIA MTF CONT — FAC — 37 — 2M — 2M
OR — 36 — 5M — 1M
TCC — 35 — 1B — (MCV)REL — (MCH) REL
4WD1 — 34 — 4T
4WD — 33 — 3T — (DPST) REL
TO CAD 103 — 4WM1 — 32 — 7T
4WM — 31 — 6T — (MFST) REL

TS (C) ON REG AND SDR TEST BAY

CAD 149

(FOR APP FIG 59)

TO CAD 154 — S1 — 38 — 9M
MF — 28 — 9 — (MFS1) REL
TO CAD 108 — M5 — 18 — 4M — (MFS1) REL
TO CAD 109 — MFS — 57 — U — (MFR DISC.)
8 — 47 — 4M
7 — 37 — 4
TO CAD 130 — 6 — 27 — 2B — (CL8A) REL
5 — 17 — 2
4 — 56 — 2M
TO CAD 154 — 6A — 46 — 3
5A — 36 — 2B
4A — 26 — 2
TO CAD 108 — 3A — 16 — 1 — (MFS1) REL
2A — 55 — 1B
3 — 45 — 4B
6 — 35 — 2B — (KCR4) REL
5 — 25 — 2
TO CAD 103 — KCR4 — 15 — U
TO CAD 108 — 8 — 54 — 2B
7 — 44 — 2 — (KCR2) REL
TO CAD 103 — KCR2 — 34 — U
4 — 24 — 2B
TO CAD 108 — 1 — 14 — 2 — (KCR1) REL
TO CAD 103 — KCR1 — 53 — U
2 — 43 — 4
TO CAD 108 — 10 — 33 — 2 — (KCRO) REL
9 — 23 — 2B
TO CAD 103 — KCRO — 13 — U
TO FR GRD BAR — GRD G4 — 51 — 4
41
31
21
TO FR FUSE PANEL — 48V G2 — 11 — L — (MFS1) REL

TS (A) ON REG & SDR TEST UNIT A

DRAWING ISSUE	
67D	CRF ADJ AWG
68D	G.E ALL AWG
69A	BT ALL AWG
70D	SAV POT AWG
72A	REK ALL AWG
78D	GE
79A	GE
79D	PA
81D	
82A	
86D	
88D	

ISSUE 92A

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-G42

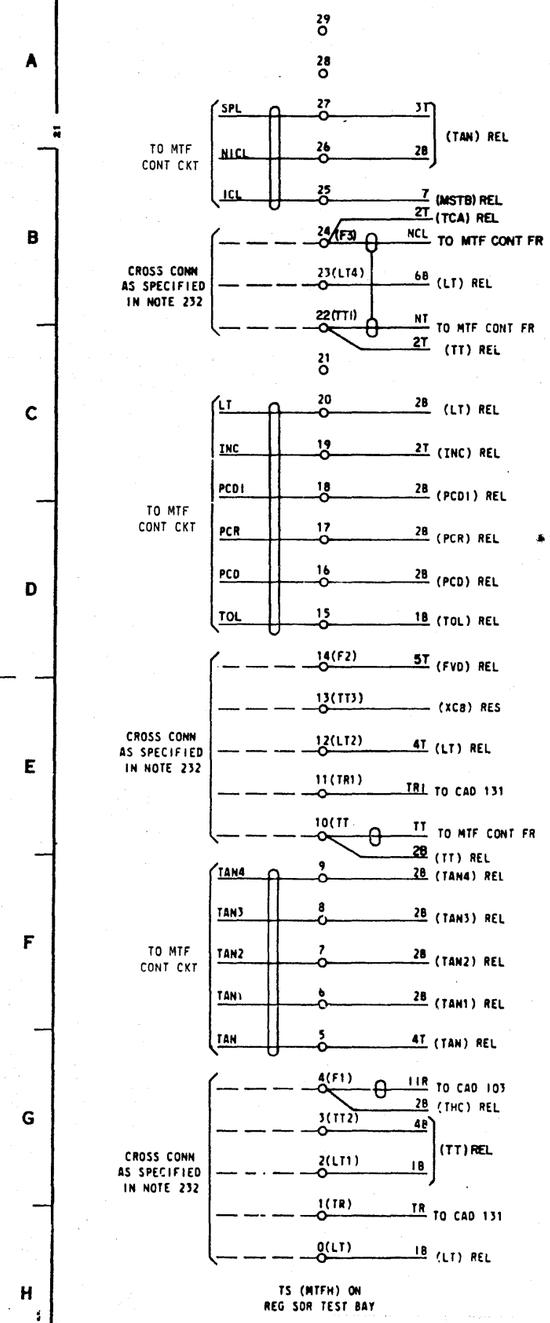
BELL TELEPHONE LABORATORIES INCORPORATED 6S

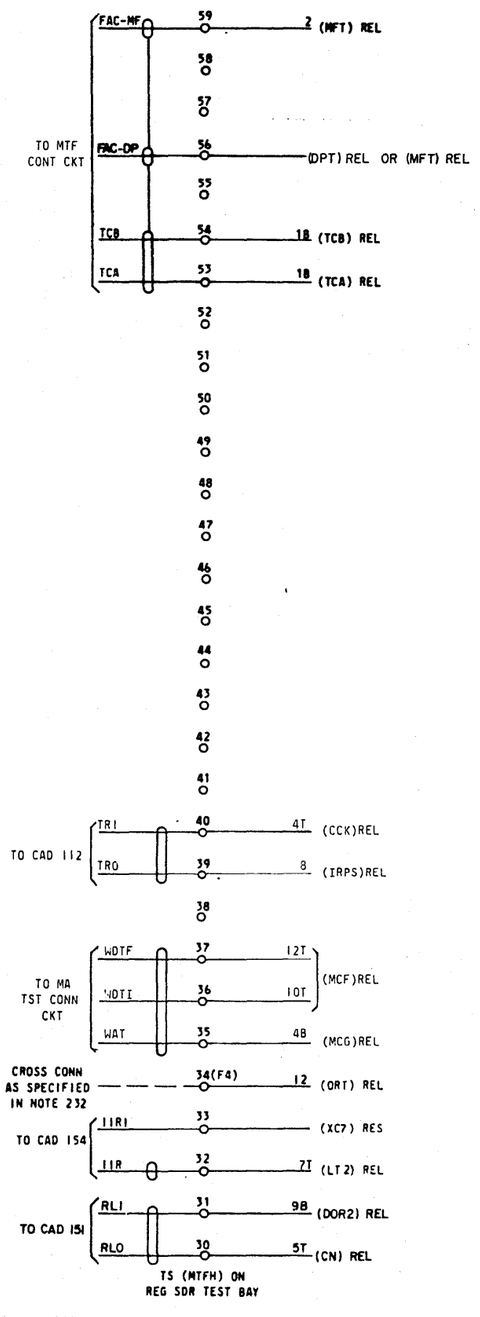
SD-25680-01-G42

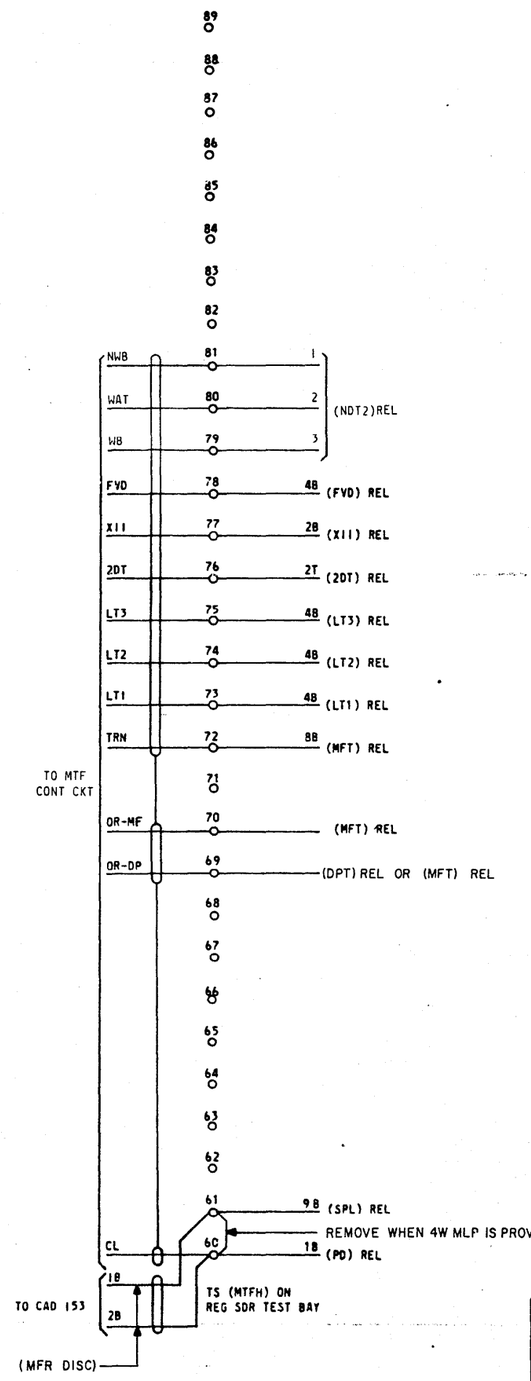
HIGGINS 4465 3M

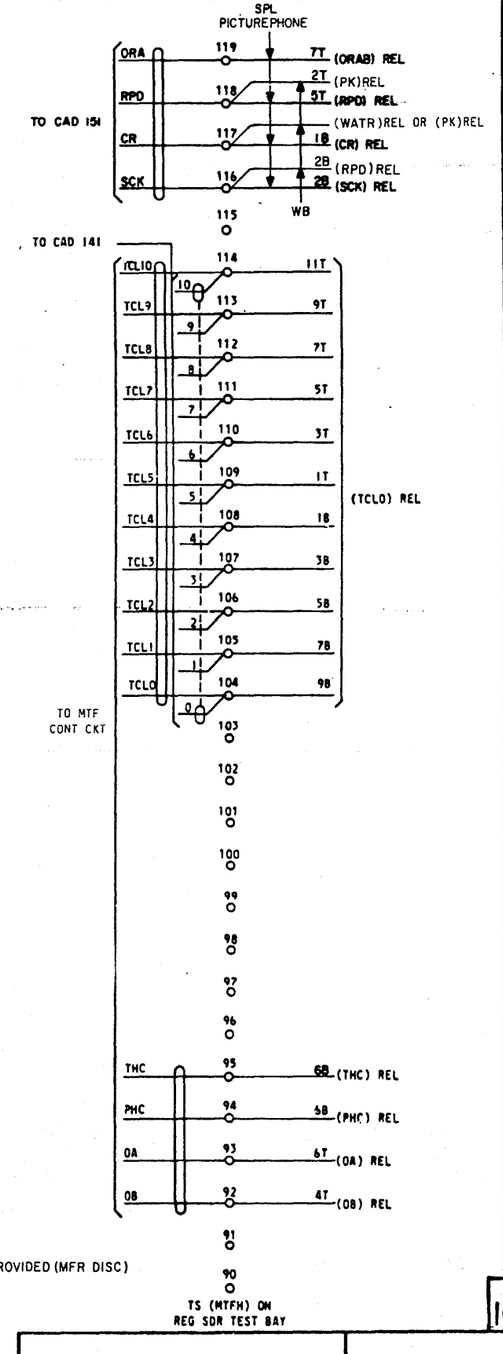
CAD 150

(FOR APP FIG E,Y,Z,11,20,50 & 53)









DRAWING ISSUE	
68D	KPP ASL AMI
70D	RAC PPT AMO
71A	SAI KAT MAT
72A	REC 2BL ASL
75A	G.E
78D	RA
79D	JER
86D	
89D	

ISSUE 106B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-G43

BELL TELEPHONE LABORATORIES INCORPORATED

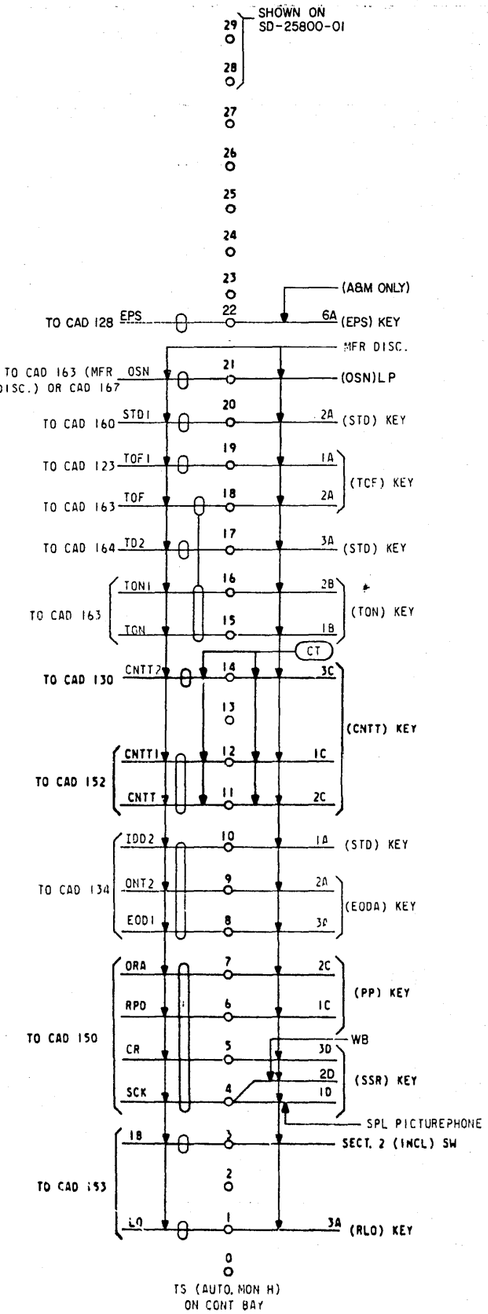
6S

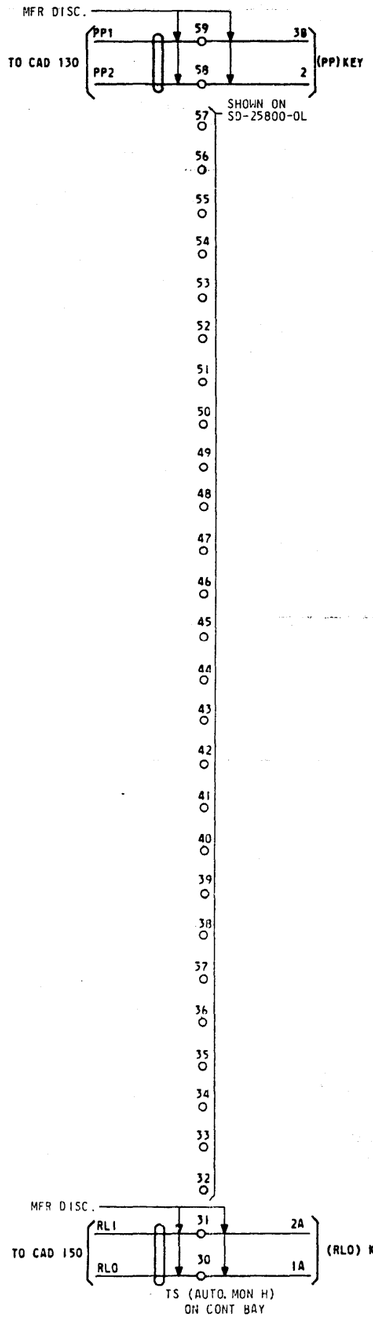
HIGGINS 4465

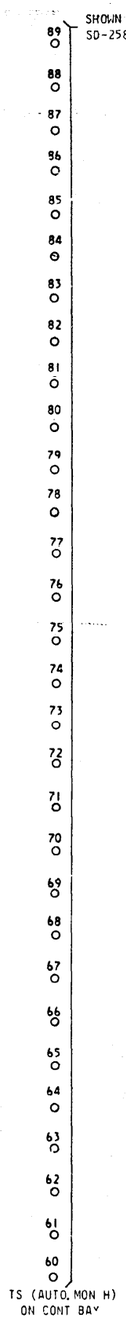
SD-25680-01-G43

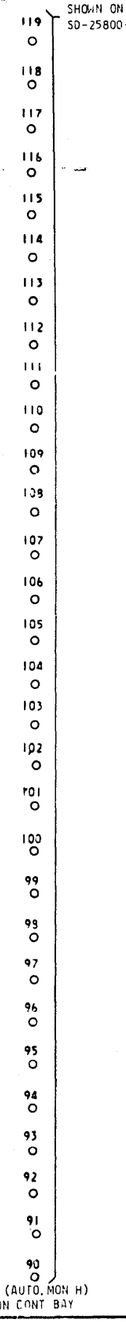
PART OF CAD 151

(FOR APP FIG. 11,18,52,55 & 74)









DRAWING ISSUE	
72A	BK
73D	BK
78D	CR
79D	JER
81D	CR
83D	
88D	CR
89D	

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-G44A

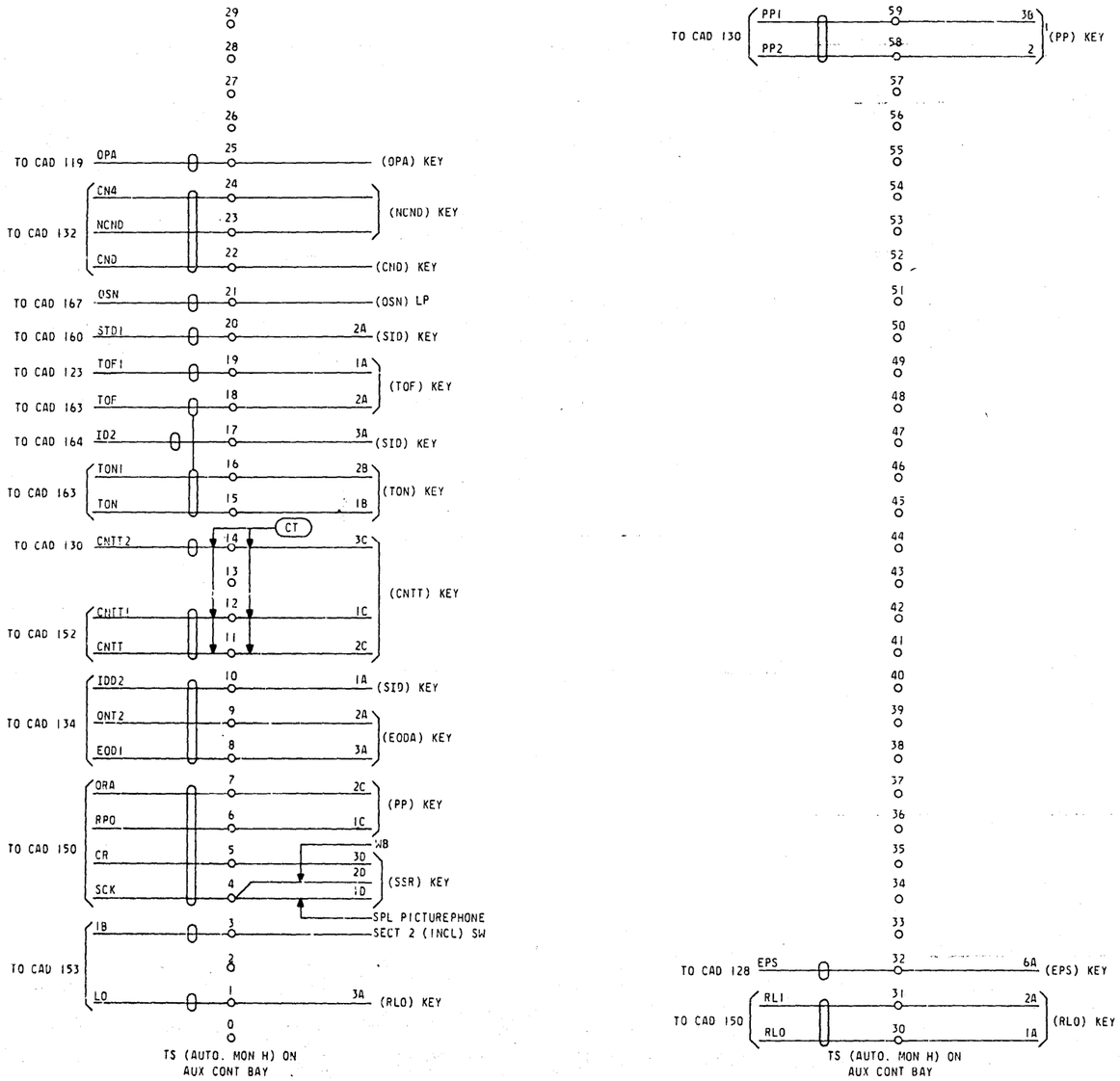
BELL TELEPHONE LABORATORIES INCORPORATED

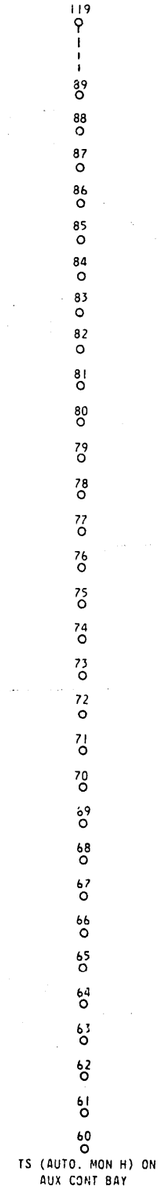
6S

SD-25680-01-G44A

PART OF CAD 151

(FOR APP FIG. 11,18,52,55 & 74)





DRAWING ISSUE 89D

ISSUE 104B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-644B

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-644B

CAD 152

(FOR APP FIG 18, 27, 54, & 70)

AVDI	39	4T	(AD1) REL
A3K	38	7T	(AD3) REL
AVD3	37	4T	
AD4	36	3T	(AD4) REL
AD3	35	3T	(AD3) REL
AVD	34	4T	(AD) REL
	33		
	32		
AD1	31	3T	(AD1) REL
AD	30	3T	(AD) REL
AV8	29	4T	(BP) REL
	28		
	27		
	26		
CPT1	25	5M	(RTCA) REL
	24		
	23		
	22		
	21		
	20		
	19		
CDP0	18	24M	
CDP1	17	23M	
CDP2	16	22M	
CDP4	15	21M	
CDP7	14	20M	
CDP10	13	19M	
CDP15	12	18M	
CD0	11	17M	
CD1	10	16M	
CD2	09	15M	
CD4	08	14M	
CD7	07	13M	
CD10	06	12M	
CD15	05	11M	
CDA0	04	10M	
CDA1	03	9M	
CDA2	02	8M	
CDA4	01	7M	
CDA7	00	6M	

TO MASTER TEST FRAME CONTROL BAY

TS (D) ON REGISTER & SENDER TEST BAY

TO MASTER TEST CONNECTOR EXTENSION UNIT ON RELAY RACK

CDP'0	79	24M	
CDP'1	78	23M	
CDP'2	77	22M	
CDP'4	76	21M	
CDP'7	75	20M	
CDP'10	74	19M	
CDP'15	73	18M	

TO MASTER TEST CONNECTOR FRAME

CD'0	72	17M	
CD'1	71	16M	
CD'2	70	15M	
CD'4	69	14M	(MCR) REL
CD'7	68	13M	
CD'10	67	12M	
CD'15	66	11M	

TO MASTER TEST CONNECTOR EXTENSION UNIT ON RELAY RACK

CDA'0	65	10M	
CDA'1	64	9M	
CDA'2	63	8M	
CDA'4	62	7M	
CDA'7	61	6M	

TO MASTER TEST CONNECTOR FRAME VIA MASTER TEST FRAME CONTROL BAY

CDP0	60	24M	
CDP1	59	23M	
CDP2	58	22M	
CDP4	57	21M	
CDP7	56	20M	
CDP10	55	19M	
CDP15	54	18M	
CD0	53	17M	
CD1	52	16M	
CD2	51	15M	(MCQ) REL
CD4	50	14M	
CD7	49	13M	
CD10	48	12M	
CD15	47	11M	
CDA0	46	10M	
CDA1	45	9M	
CDA2	44	8M	
CDA4	43	7M	
CDA7	42	6M	

OSA	41		(RVTK) REL
A4K	40	7T	(AD4) REL

TS (D) ON REGISTER & SENDER TEST BAY

TO CAD 155

CDP0'	119	24	
CDP1'	118	23	
CDP2'	117	22	
CDP4'	116	21	
CDP7'	115	20	
CDP10'	114	19	
CDP15'	113	18	
CD0'	112	17	
CD1'	111	16	
CD2'	110	15	(MCR) REL
CD4'	109	14	
CD7'	108	13	
CD10'	107	12	
CD15'	106	11	
CDA0'	105	10	
CDA1'	104	9	
CDA2'	103	8	
CUA4'	102	7	
CDA7'	101	6	

TO CAD 153

KCDP0	100	24	
KCDP1	99	23	
KCDP2	98	22	
KCDP4	97	21	
KCDP7	96	20	
KCDP10	95	19	
KCDP15	94	18	
KCD0	93	17	
KCD1	92	16	
KCD2	91	15	(MCQ) REL
KCD4	90	14	
KCD7	89	13	
KCD10	88	12	
KCD15	87	11	
KCDA0	86	10	
KCDA1	85	9	
KCDA2	84	8	
KCDA4	83	7	
KCDA7	82	6	

LV1	81	11B	
LV0	80	11T	(MCO) REL

TO MASTER TEST CONNECTOR FRAME

TS (D) ON REGISTER & SENDER TEST BAY

REMOVE WHEN 4-W IS PROVIDED

TO CAD 164 EOD	159		
TO CAD 160 DON	158	9M	
TO CAD 154 EO	157	8	(EOD) REL
IXX	156	U	
C	155	2T	(RPS2) REL
TO CAD 153 B	154	U	(CRBA) REL
A	153	3B	(CRB) REL
TO CAD 110 OST	152	9T	
TO CAD 102 OST	151	10T	(OST) REL
TO CAD 153 CRBA	150	12	(CRBA) REL
IO	149	9	
TO CAD 102 MCS	148 (CT)	U	(MCS) REL
TO CAD 151 CNTTI	147	6T	(CNTT) REL
CDP0	146	24	
CDP1	145	23	
TO CAD 153 CDP4	144	21	(RTCA) REL
CDP7	143	20	
4W1	142	11T	(MIR1) REL
11	141	10T	(MIR2) REL
	140		
	139		
TO CAD 151 CNTT	138		
TO CAD 115 4	137	11B	(MIR1) REL
11C	136	2B	(GTNO) REL
10C	135	6T	(GTO) REL
9C	134	7B	(CRB) REL
8C	133	6B	
7C	132	2B	(SCK) REL
6C	131	6B	(CNR) REL
TO CAD 153 4C	130	7T	(ORAB) REL
2C	129	1B	(SCK) REL
1C	128	5T	(RPO) REL
4W	127	7	(4CA1) REL
2W	126	8	
3	125	11W	(GR) REL
1	124	7T	(BP) REL
4	123	8B	(MF) REL
CDP10	122	19	(RTCA) REL
6	121	3T	(BP) REL
CDP0B	120	12T	(DOR1) REL

TO MASTER TEST FRAME CONTROL BAY: BPX, AVA, BP

OMIT WHEN 4-W IS PROVIDED

TS (D) ON REGISTER & SENDER TEST BAY

DRAWING ISSUE		
70D	RAC	
71A	SAI	
72A	JER	CB
73D	JER	CB
75A	G.E	CB
77A	CR	CB
79D	JER	CB
81D		
85A		CB
86D		CB
87A		CB

ISSUE 91D

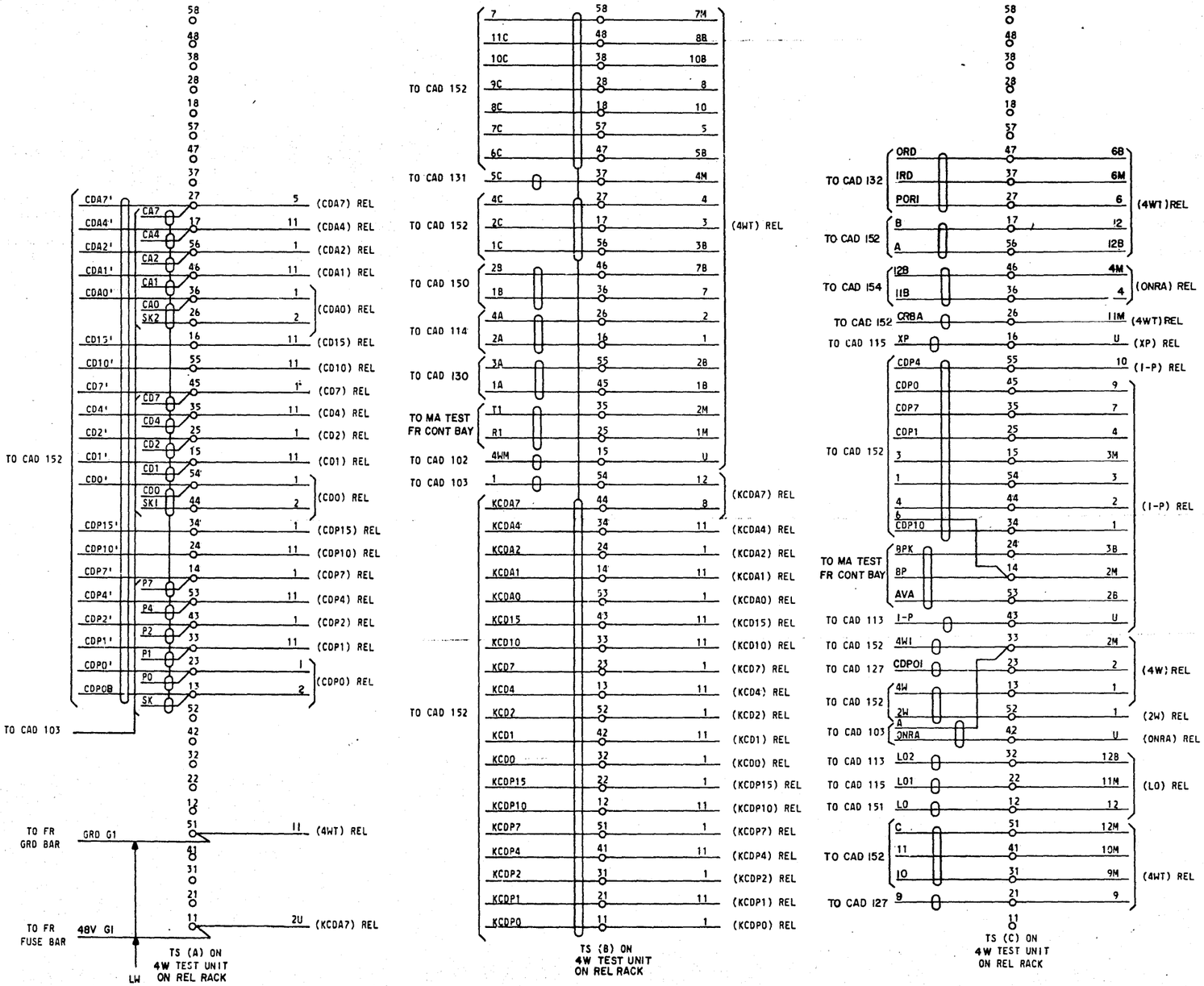
MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-645

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-25680-01-645

PART OF CAD 153

(FOR APP FIG 55,61)



DRAWING ISSUE	
70D	CR PPT MP
71A	SAV PPT MAP
72A	EX PPT MAP
75A	KEG
79D	JER
80A	JER

80

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2)

SD-25680-01-G46

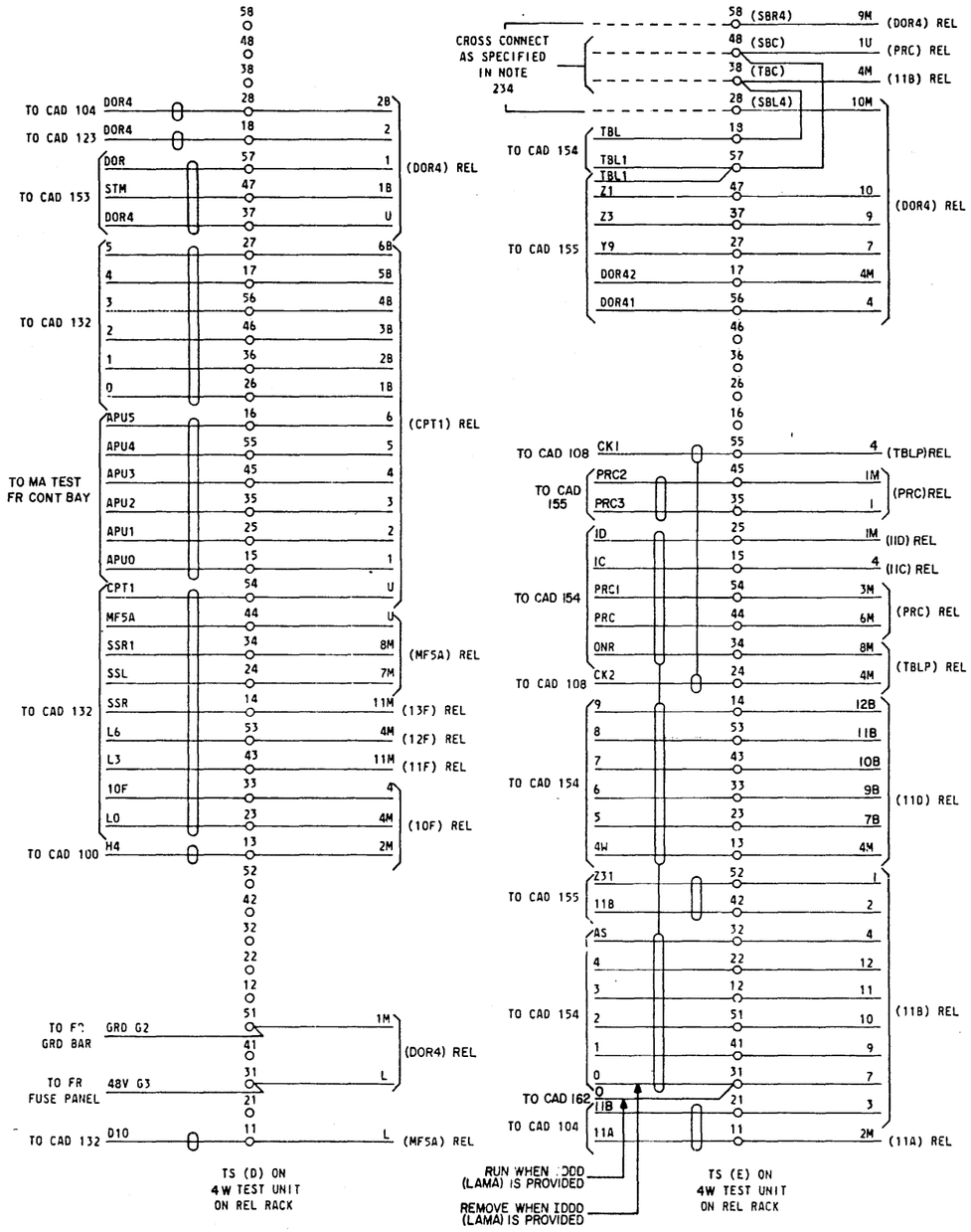
BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25680-01-G46

PART OF CAD 153

(FOR APP FIG 55 & 61)



DRAWING ISSUE

70S	CR
71A	SA
72A	
75A	G.E
85A	R

ISSUE 99A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-G47

BELL TELEPHONE LABORATORIES INCORPORATED

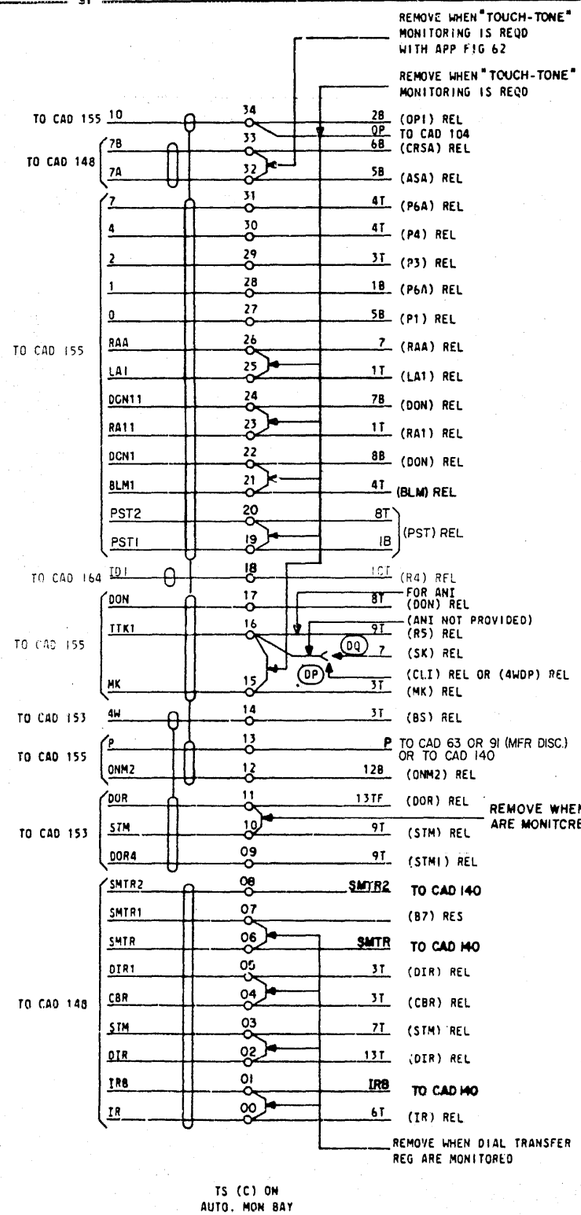
DWG SIZE 6S

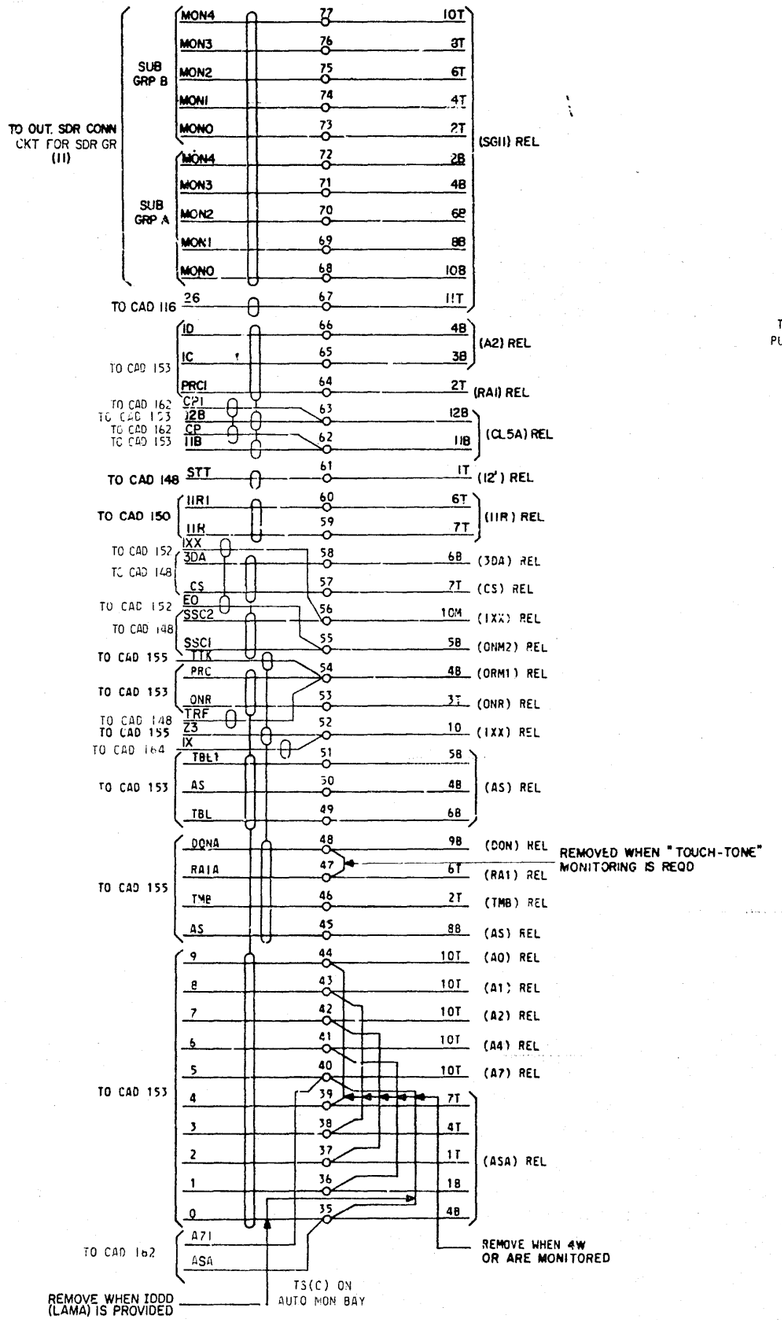
PRINTED IN U.S.A.

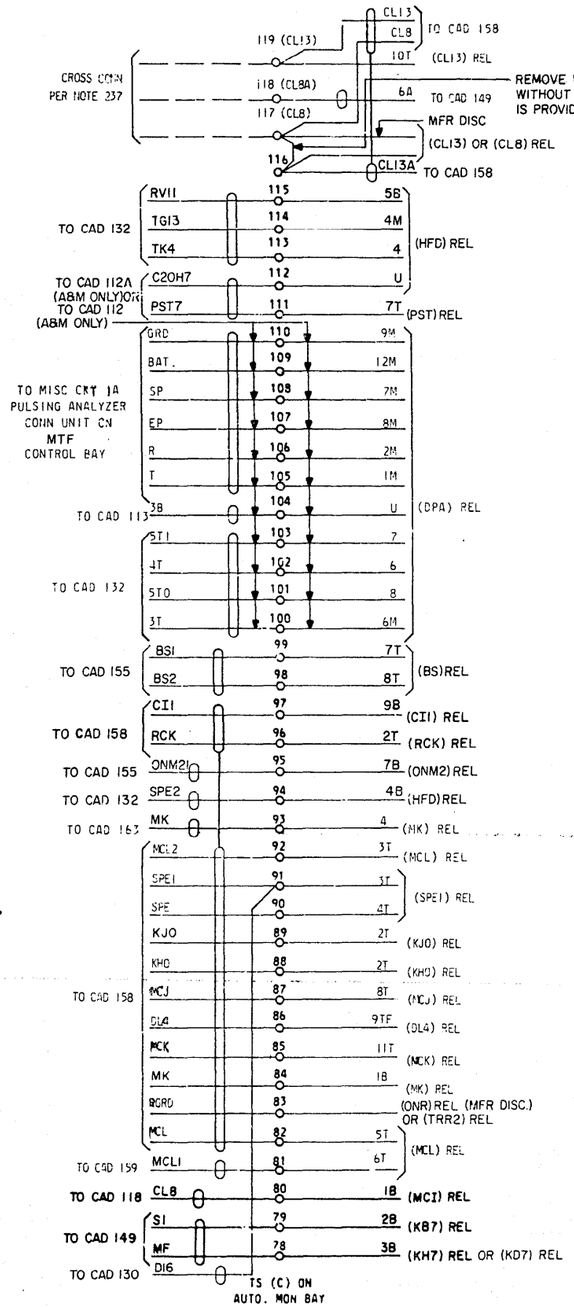
SD-25680-01-G47

CAD 154

(FOR APP FIG. 1, 2, 13, 15, 16, 25, 73 & V)







DRAWING ISSUE	
70D	FAC AT AND
72A	RE 2A (Am)
74D	G.E
75A	G.E
78D	TM
79D	J.S.P
81D	
82A	
83D	
85A	
86D	
88D	
89D	

ISSUE 104B

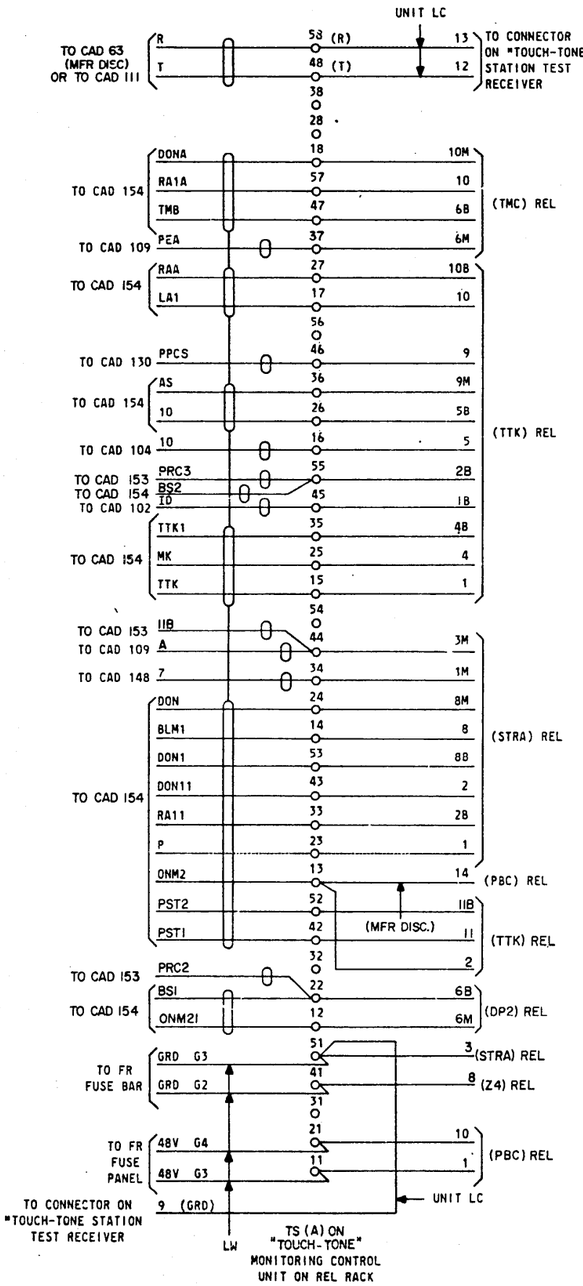
MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2) SD-25680-01-G48

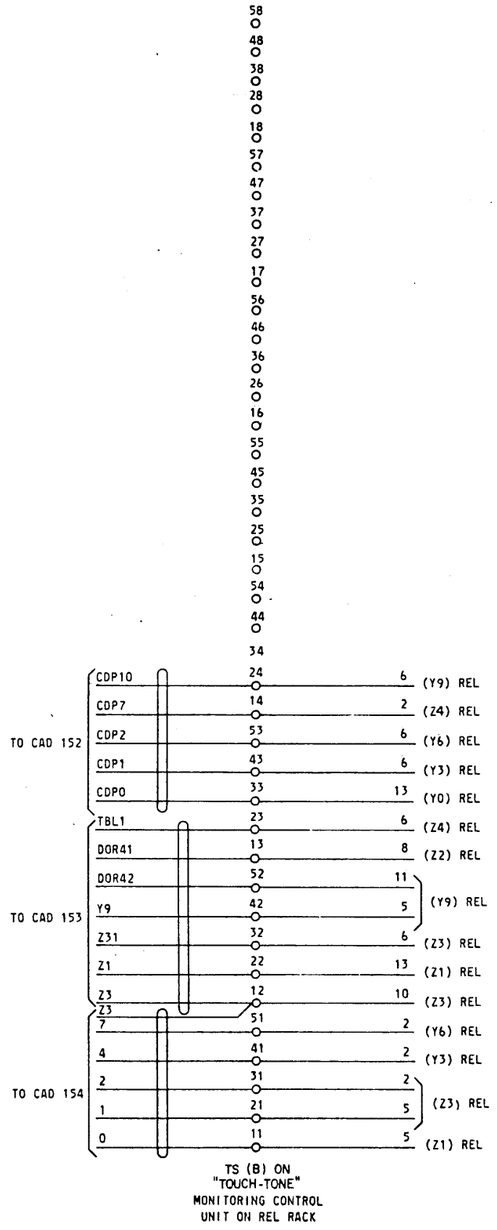
BELL TELEPHONE LABORATORIES INCORPORATED DRAWING 6S

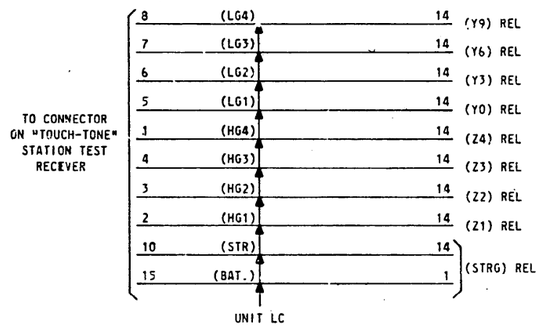
SD-25680-01-G48

CAD 155

(FOR APP FIG 60)







DRAWING ISSUE	
70D	C.R. PAT. ANP
74D	G.E.
75A	G.E.
81D	
82A	

ISSUE 97D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT

(2)

SD-25680-01-G49

BELL TELEPHONE LABORATORIES
INCORPORATED

BTL SYS. STOCK 6S

PRINTED IN U.S.A.

CAD 156
(FOR APP FIG 16)

TO CAD 106 — (MCT) REL

E'7	29	29
E'4	28	28
E'2	27	27
E'1	26	26
E'0	25	25
D'7	24	24
D'4	23	23
D'2	22	22
D'1	21	21
D'0	20	20
C'7	19	19
C'4	18	18
C'2	17	17
C'1	16	16
C'0	15	15
B'7	14	14
B'4	13	13
B'2	12	12
B'1	11	11
B'0	10	10
A'7	09	09
A'4	08	08
A'2	07	07
A'1	06	06
A'0	05	05
H'7	04	04
	03	
	02	
CL8	01	01
CL7	00	00

TO CAD 105

TS (MCT) ON MTF
AUTO. MON BAY

TO CAD 106 — (MCT) REL

L'7	59	59
L'4	58	58
L'2	57	57
L'1	56	56
L'0	55	55
K'7	54	54
K'4	53	53
K'2	52	52
K'1	51	51
K'0	50	50
J'7	49	49
J'4	48	48
J'2	47	47
J'1	46	46
J'1	45	45
H'7	44	44
H'4	43	43
H'2	42	42
H'1	41	41
H'0	40	40
G'7	39	39
G'4	38	38
G'2	37	37
G'1	36	36
G'0	35	35
F'7	34	34
F'4	33	33
F'2	32	32
F'1	31	31
F'0	30	30

TS (MCT) ON MTF
AUTO. MON BAY

CAD 157 (MFR DISC)
(FOR APP FIG 11)

TO CAD 132

CN4	(NCND) KEY
MCN0	
CN0	(CN0) KEY

ON MTF
CONTROL BAY

CAD 158 (A&M ONLY)
(FOR APP FIG 71)

TO CAD 154	CL13	58	12M	
TO CAD 102	SA	48	12	
TO CAD 154	CL8	38	11B	
	CL13A	28	11	
TO CAD 130	DISC	18	10M	
	LPS	57	10	
TO CAD 128	LLSI	47	9M	
TO CAD 130	PCT	37	9	
	KJO	27	7M	
TO CAD 154	KHO	17	7	
	SPEI	56	5B	(SAI) REL
TO CAD 121	TACI	46	5	
	MCK	36	4B	
	MK	26	4	
	SPE	16	3	
TO CAD 154	MCJ	55	2B	
	DL4	45	2	
	MCL	35	1M	
	RGRO	25	1	
TO CAD 116	AISD	15	U	
TO AIS MF SDR	TKI	54	3M	LC
	MCL2	44	1B	
TO CAD 154	RCK	34	6M	
	CII	24	6	
	MCB	14	8M	
TO CAD 111	SDSO	53	8	
	SDSI	43	8B	

33 23 13 52 42 32 22 12 51 41 31 21

11 — L — (SAI) REL

TO FR FUSE PANEL — 48V M3

TS (B) ON
MTF AIS UNIT
(OG SDR AIS FR)

ISSUE	
74D	CP
78D	CM
79D	JE
81D	
88D	
89D	

ISSUE 94A

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-G50

BELL TELEPHONE LABORATORIES INCORPORATED — 6S

SD-25680-01-G50

CAD 159 (A8M ONLY)

(FOR APP FIG 68)

DRAWING ISSUE 8ID

LC

TO AIS MF SDR

KC7	54
KC4	53
KC2	52
KC1	51
KC0	50
KB7	44
KB4	43
KB2	42
KB1	41
KB0	40
KA7	34
KA4	33
KA2	32
KA1	31
KA0	30
KR7	24
KR4	23
KR2	22
KR1	21
KR0	20
	14
	13
	12
	11
	10
	04
	03
	02
	01
	00

(MCU) REL ON OG SDR AIS FR

LC

TO AIS MF SDR

	54
	53
	52
	51
	50
KG7	44
KG4	43
KG2	42
KG1	41
KG0	40
KF7	34
KF4	33
KF2	32
KF1	31
KF0	30
KE7	24
KE4	23
KE2	22
KE1	21
KE0	20
KD7	14
KD4	13
KD2	12
KD1	11
KD0	10
	04
	03
	02
	01
	00

(MCUA) REL ON OG SDR AIS FR

TO CAD 104

C7	54M
C4	53M
C2	52M
C1	51M
C0	50M
B7	44M
B4	43M
B2	42M
B1	41M
B0	40M
A7	34M
A4	33M
A2	32M
A1	31M
A0	30M
R7	24M
R4	23M
R2	22M
R1	21M
R0	20M
	14M
	13M
	12M
	11M
	10M
	04M
	03M
	02M
	01M
	00M

TO CAD 154 MCL1 0 T

(MCU) REL ON OG SDR AIS FR

TO CAD 104

	54M
	53M
	52M
	51M
	50M
G7	44M
G4	43M
G2	42M
G1	41M
G0	40M
F7	34M
F4	33M
F2	32M
F1	31M
F0	30M
E7	24M
E4	23M
E2	22M
E1	21M
E0	20M
D7	14M
D4	13M
D2	12M
D1	11M
D0	10M
	04M
	03M
	02M
	01M
	00M

(MCUA) REL ON OG SDR AIS FR

81

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-651

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

PRINTED IN U.S.A.

SD-25680-01-651

CAD 160

(FOR APP FIG. 10,12,16,40 & V)

TO CAD 162 — TR 25 11B (TR)REL; CLI3 24 2T (MCI)REL; CLI 23 (TDI) REL OR (CLI3) REL OR (CLI8) REL OR (CLI) REL; ONR1 22 3T (ONR)REL

TO CAD 163 — R5 20 5T (R5)REL

TO CAD 164 — BS 17 8B (BS)REL; CLS 16 4 (TDI) REL

TO CAD 162 — CL 15 (TDI) REL OR (CLI8) REL

TO CAD 164 — IDD6 14 7T (MFS)REL; IDD5 13 5T, IDD4 12 4T (A2)REL; IDD7 11 4 (CKS)REL; IDD2 10 (CKNI)REL OR (PE)REL; IDD1 09 (R4)REL OR (MFN)REL; IDD 08 7B (11')REL

TO CAD 164 — ONR6 07 11B, ONR5 06 5B, ONR4 05 3B, ONR3 04 1B, ONR2 03 9T, ONR 02 1T (ONR)REL

01, 00

TS (D) ON AUTO. MON BAY

TO CAD 162 — B7 51 B7; B4 50 B4; B2 49 B2; B1 48 B1; B0 47 B0; A7 46 A7; A4 45 A4; A2 44 A2; A1 43 A1; A0 42 A0 — TO CAD 102

TO CAD 164 — KCO 41 2 (KCO)REL; KBO 40 2 (KBO)REL

39, 38

TO CAD 164 — CKNI 37 (CKNI)REL OR (SPE1)REL; R4 36 (R4)REL OR (SONI)REL

35, 34

REM WHEN 12 DIGIT-EOD IS REQD — TO CAD 152 — DON 33 8T (DON)REL

TO CAD 164 — STS 32 5T (STS)REL; LS 31 6T (LS)REL OR (KS)REL

TO CAD 162 — DLG1 30 3T (SONI)REL; MCI 29 4B (MCI)REL

TO CAD 166 — LSA 28 — REM WHEN IDDD OR 12 DIGIT-EOD IS REQD

TO CAD 151 — STD1 27 (CL5A)REL OR (ONMI)REL

TO MTF CONN VIA MTF CONT BAY — CPO 26 3B (MCI)REL

TS (D) ON AUTO. MON BAY

TO CAD 166 — MS6 81 4M (RTC) REL; 2 (MCB)REL; MS 80 3B (LS)REL; KM7 79 5T (ONR)REL; KML 78 4T (L7)REL; KSM 77 2T (KST7)REL

TO CAD 129 — CNA 76 3B; ORD3 75 2B; SRG1 74 1B (TD) REL

73, 72, 71, 70, 69, 68

TO CAD 130 — N'7 — TO MA TST CONN FR OR TO MA TST CONN EXT UNIT ON RR — N'7 67 (MCB)REL

66, 65, 64, 63, 62, 61, 60, 59, 58, 57, 56, 55, 54, 53, 52

TS (D) ON AUTO. MON BAY

119, 118, 117, 116, 115, 114, 113, 112, 111, 110, 109, 108, 107, 106, 105

TO CAD 132 — OR 104 11T (ONM2) REL; MC 103 (KST7) REL

MS8 102 5B (STS) REL; MS7 101 4T, LS 100 6B (LS) REL; STS 99 8T (STS)REL; KL7 98 3B (KL7)REL; KST7 97 3B (KST7)REL; M7 96 04 (MCB)REL

95, 94, 93, 92, 91

TO CAD 166 — MS3 90 3T; MS2 89 2B; MS1 88 1B (STS)REL

TO CAD 167 — EODA 87 4B

TO CAD 166 — LS5 86 9T; LS4 85 6T; LS3 84 3T; LS2 83 3B; LS1 82 6B (LSA)REL

TS (D) ON AUTO. MON BAY

CAD 161

(FOR APP FIG. 69)

38, 37, 36, 35, 34, 33, 32, 31

S12 28 S12; S02 27 S02 — TO CAD 102

26

FOR CROSS CONN INFO SEE NOTE 238 — B7 25 10M; B4 24 9M; B2 23 8M (CPOA)REL; B1 22 7M; B0 21 6M

S11 18 S11; S01 17 S01 — TO CAD 102

16

FOR CROSS CONN INFO SEE NOTE 238 — A7 15 5M; A4 14 4M; A2 13 3M (CPOA)REL; A1 12 2M; A0 11 1M

TS (A) ON IODD TEST UNIT (REL RACK MTD)

DRAWING ISSUE: 86D, 88D, 90A

ISSUE 100B

MASTER TEST FRAME AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

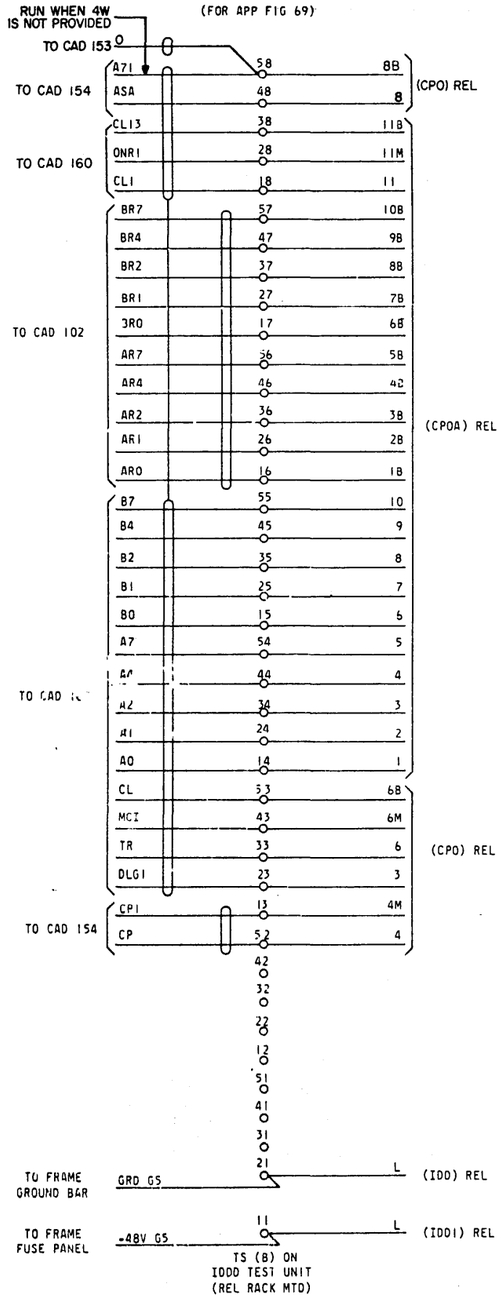
SD-25680-01-G52

BELL TELEPHONE LABORATORIES INCORPORATED — SIZE 6S

SD-25680-01-G52

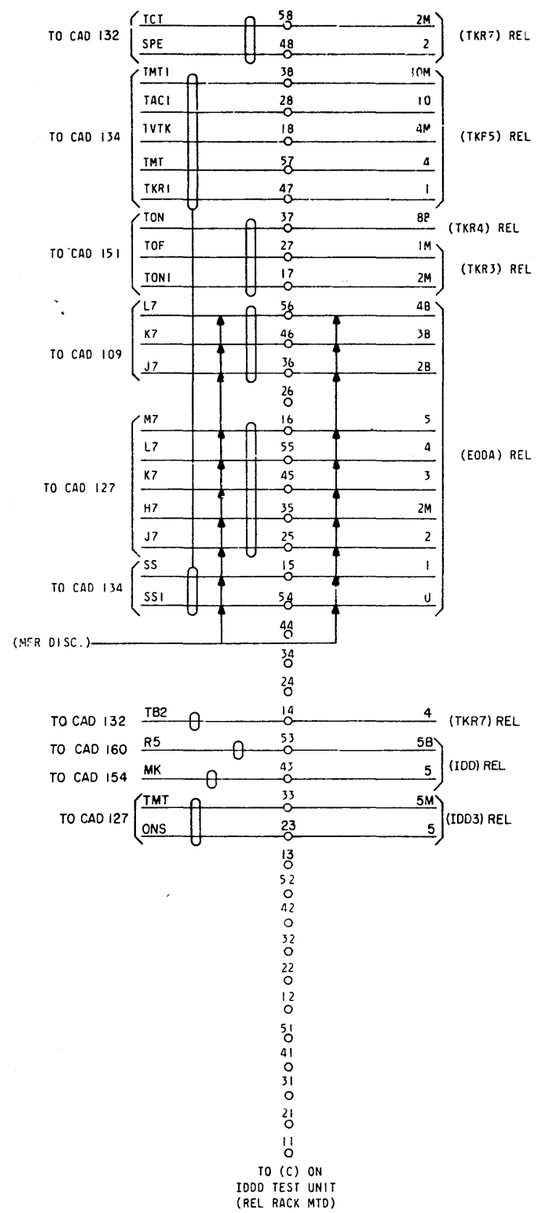
CAD 162

(FOR APP FIG 69)



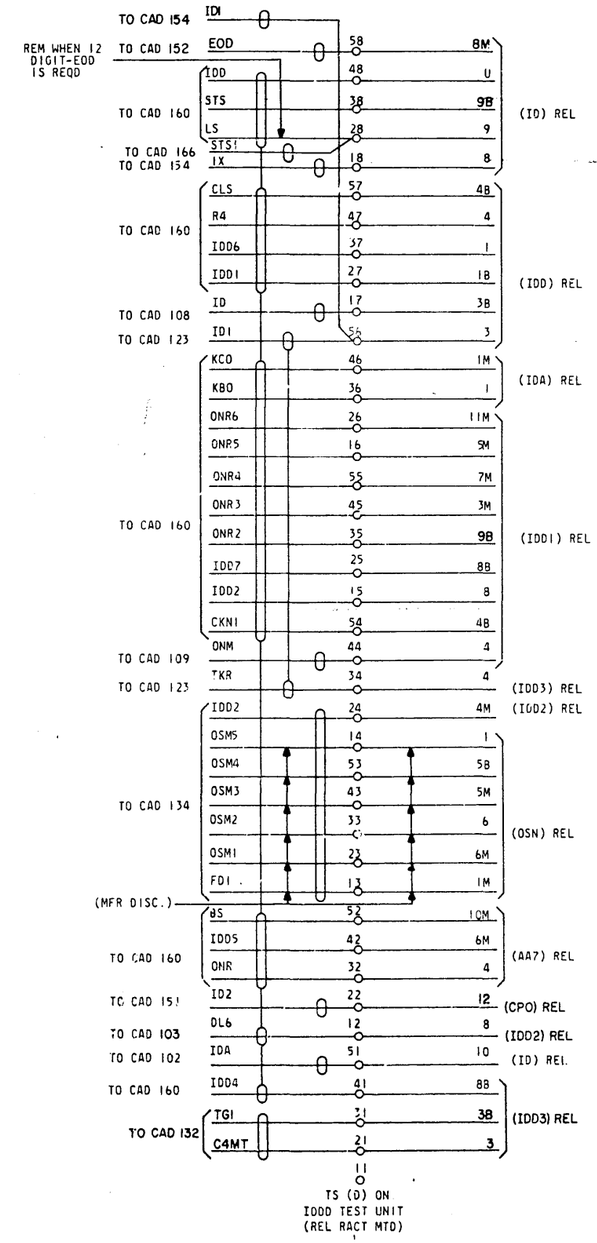
CAD 163

(FOR APP FIG 69 & 70)



CAD 164

(FOR APP FIG 69, 70, & 72)



DRAWING ISSUE
81D
85A
86D
88D
90A

ISSUE 91D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT (2)

SD-25680-01-G53

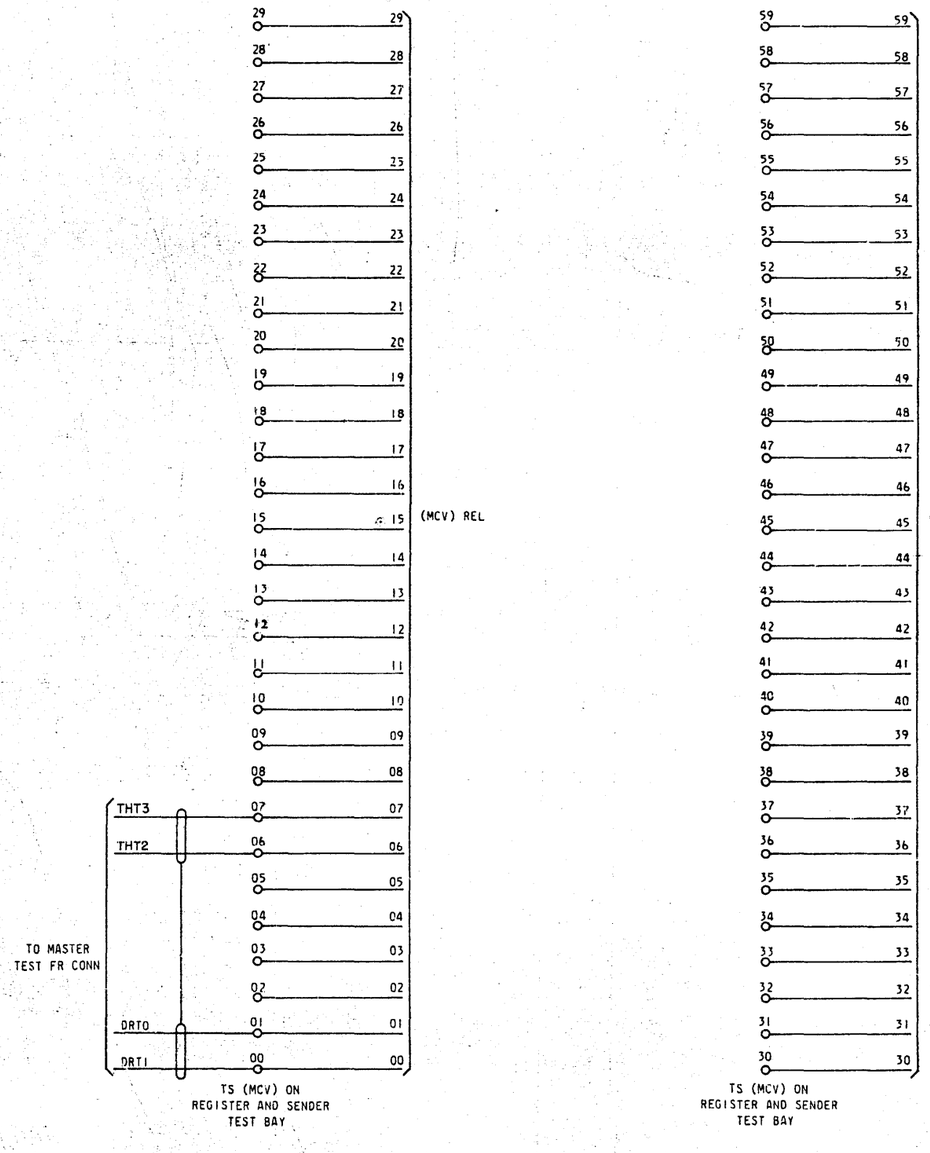
BELL TELEPHONE LABORATORIES INCORPORATED

SHEET 65

SD-25680-01-G53

CAD 165

FOR APP FIG 28



DRAWING ISSUE
830
880

ISSUE
97D

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-654

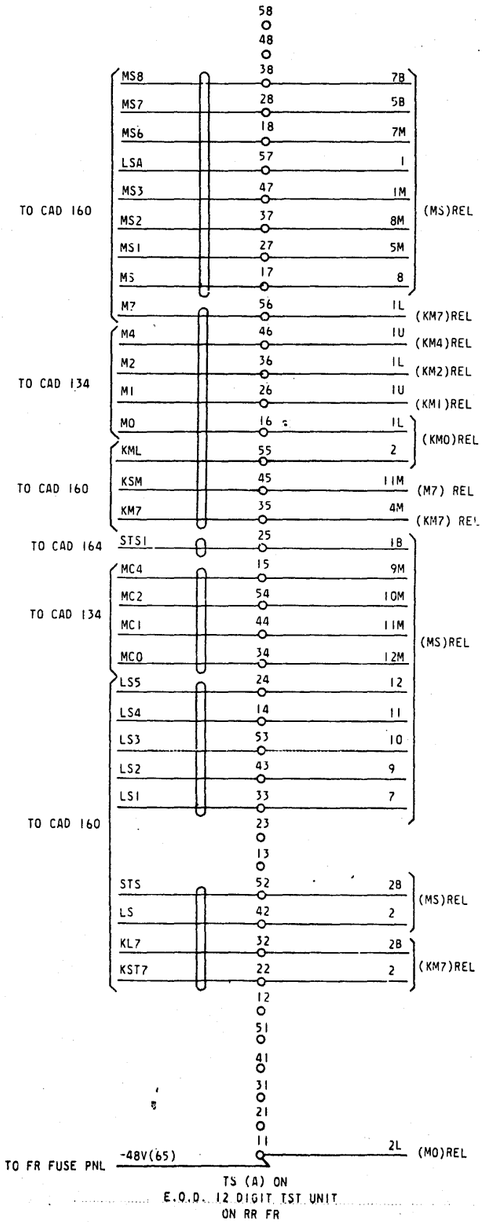
BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-25680-01-654

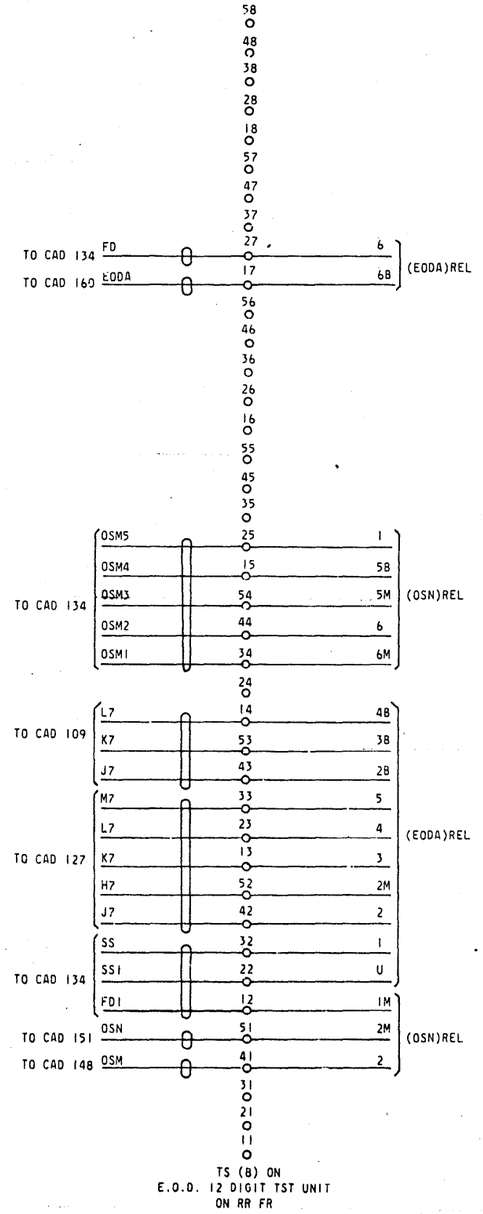
DRAWING ISSUE
86D
88D

CAD 166
(FOR APP FIG 70,72)



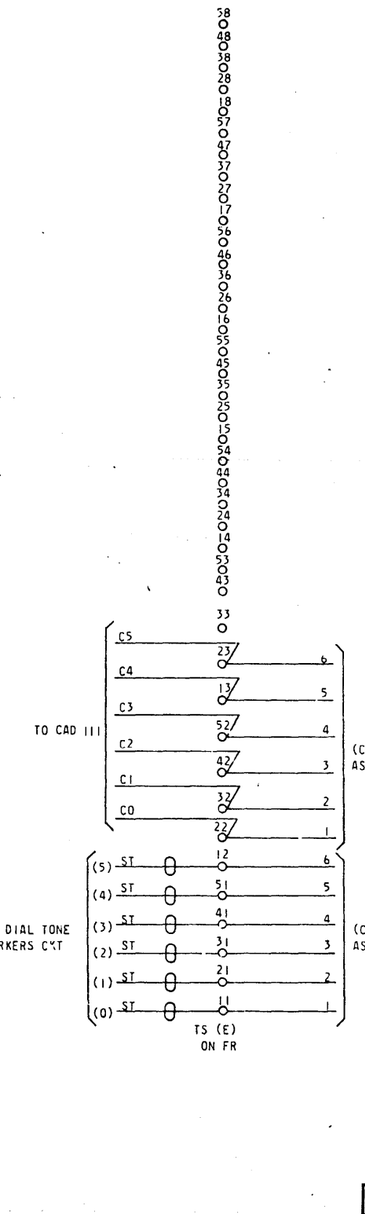
TS (A) ON
E.O.D. 12 DIGIT TST UNIT
ON RR FR

CAD 167
(FOR APP FIG 70,72)



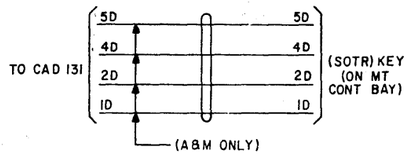
TS (B) ON
E.O.D. 12 DIGIT TST UNIT
ON RR FR

CAD 168
(FOR APP FIG 6)



TS (E)
ON FR

CAD 169
(FOR APP FIG 75)



ISSUE
106B

MASTER TEST FRAME
AUTOMATIC MONITOR, REGISTER
AND SENDER TEST CIRCUIT (2)

SD-25680-01-G55

BELL TELEPHONE LABORATORIES INCORPORATED

Dwg size 6S

PRINTED IN U.S.A.

SD-25680-01-G55