SD-3D007-01

SHEET INDEX

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FS 2 RECEIVE CIRCUIT	B2	1	2	3	4	4	4																																													B2
FS 3 LOGIC CIRCUIT	B3	1	2	3	4	4	4																																													B3
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APP FIG. [illegible]	C2			3	3	3	3																																													C2
[illegible] NOTES [illegible] NOTES [illegible] NOTES	D1	1	2	3	4	5	5																																													D1
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SC 2 RESTRAINER OPERATION WHEN SENDING AT [illegible] WPM TO 60 WPM STATION	E2	1	2	2	2	2	2																																													E2
SC 3 CLEARING	E3	1	2	3	4	4	4																																													E3
CKT REQT TABLE	F1	1	1	1	1	1	1																																													F1
CAD 1	G1	1	2	3	4	4	4																																													G1

SUPPORTING INFORMATION

CATEGORY	NO.
EQUIPMENT DRAWINGS	J1D101C-( )

OPTION INDEX

APP OR WRG	LOCATION
X	1B8
V	APP FIG. 2,1C8, 3F5,3G5
T	1D1
S	1E1
R	1C8,2E2,3F5,3G5 3G8
Q	3D0
M	APP FIG.1,2E9
L	APP FIG.1,2E9
K	APP FIG.1,1A4
J	APP FIG.1,1A4
H	APP FIG. 1,1B4, 1B6,1B8,1E9,1C8, 1E2,1E7,1G8,2E1, 2C7,2[illegible]7,2D8,2E1, 3D1,
F	3B6,3C7
E	3B7,3C6
B	3F8

SHEET INDEX NOTES

1. WHEN CHANGES ARE MADE IN THIS DRAWING, ONLY THOSE SHEETS AFFECTED WILL BE REISSUED.
2. THIS SHEET INDEX WILL BE REISSUED AND BROUGHT UP TO DATE EACH TIME ANY SHEET OF THE DRAWING IS REISSUED, OR A NEW SHEET IS ADDED.
3. THE ISSUE NUMBER ASSIGNED TO A CHANGED OR NEW SHEET WILL BE THE SAME ISSUE NUMBER AS THAT OF THE SHEET INDEX.
4. SHEETS THAT ARE NOT CHANGED WILL RETAIN THEIR EXISTING ISSUE NUMBER.
5. THE LAST ISSUE NUMBER OF THE SHEET INDEX IS RECOGNIZED AS THE LATEST ISSUE NUMBER OF THE DRAWING AS A WHOLE.

DWG ISSUE	CD ISSUE	DATE ISSUED	DRAWN	APPD
1	1	4-27-62	E.S. NC	JS GEP [illegible]
2A	2A	10-31-62	REJ M.S.	JS GAP MB
3S	3B	7-1-67	AP KAP	DP HMZ [illegible]
4D	3B APP 1D	5-12-70	LJ OL	JMF HMZ JS
5B	4B	5-12-70	LJ OL	JMF HMZ JS
6D1	4B APP 1D1	9-16-77	SFL	[illegible] HCM [illegible]

6D1

SD-3D007-01 3L02

MFR DISC.

DATA SYSTEMS
STATION
DATA SET 101C CIRCUIT

SD-3D007-01-A1
18 SHEETS

BELL TELEPHONE LABORATORIES INCORPORATED 6S

FS 1
SEND CIRCUIT

MODULATOR
J70148B, L1
J70148B, L4
SD-71024-01

HYBRID
J70148E, L1
SD-71024-01

ATTENDANT CKT
SD-3D009-01
PULSE DIALING OPTION

TTY MACH
"MAKE BUSY" OPTION

TO TEL LINE

PULSE DIALING OPTION

MF DIALING OPTION

TEST L KEY

SEE NOTES 204 & 305

MODE SWITCHING & CLUTCH MAGNET CIRCUITS

TTY SIGNAL GENERATORS

BREAK NL KEY

A. B. DRUM CKT

PAPER LOW SWITCH

TTY MACH

SEND BREAK TIMER
J70148M, L1
SD-71024-01

FI, FILTER 2500

F2, FILTER 2500

SEE NOTE 204

DRAWING ISSUE	
1	E.S. NHC PHB
2A	F.G.B. J.B.S. M.E.
39	J.R.P. C.M. H.C.M.
4D	

4

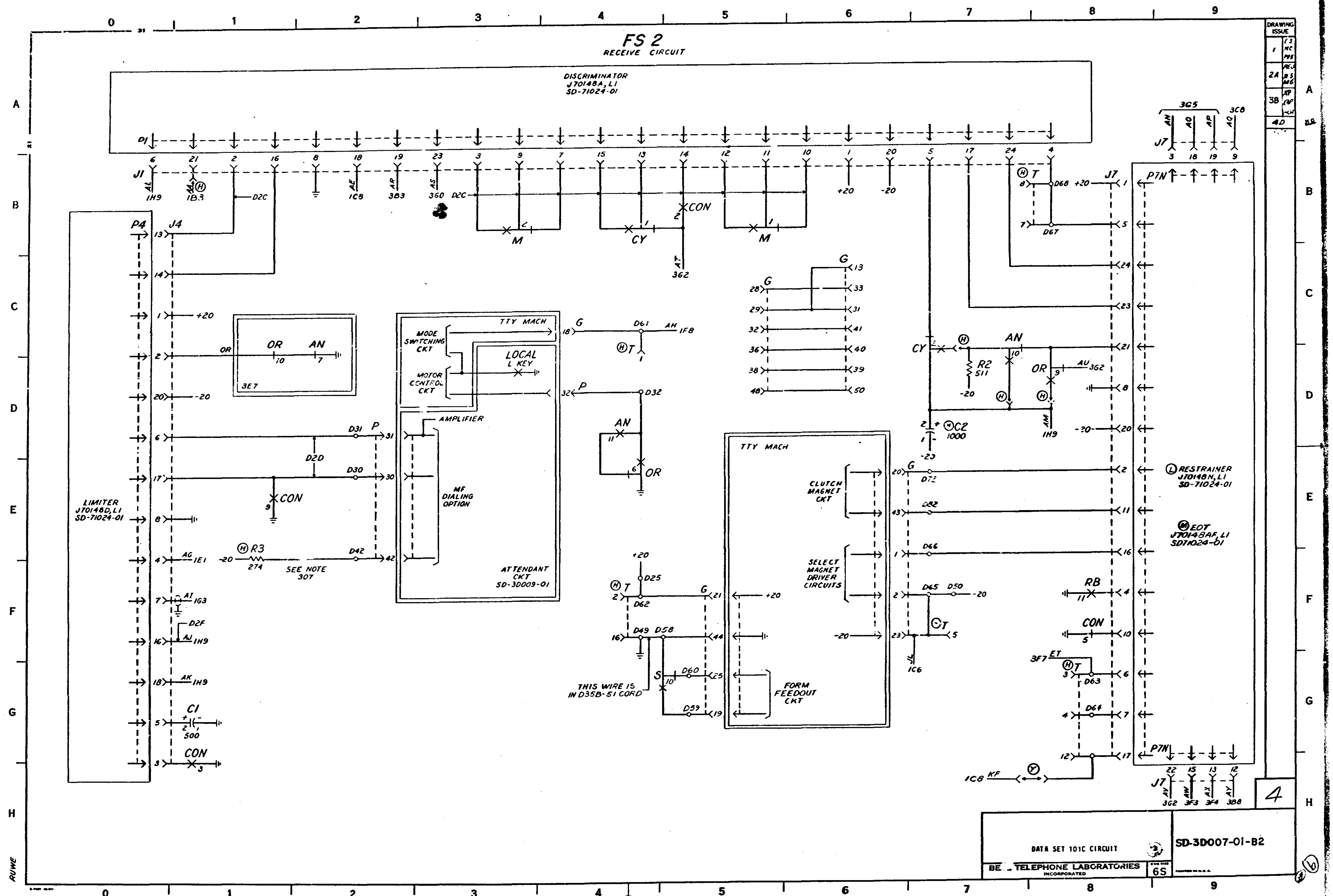
DATA SET 101C CIRCUIT (2)

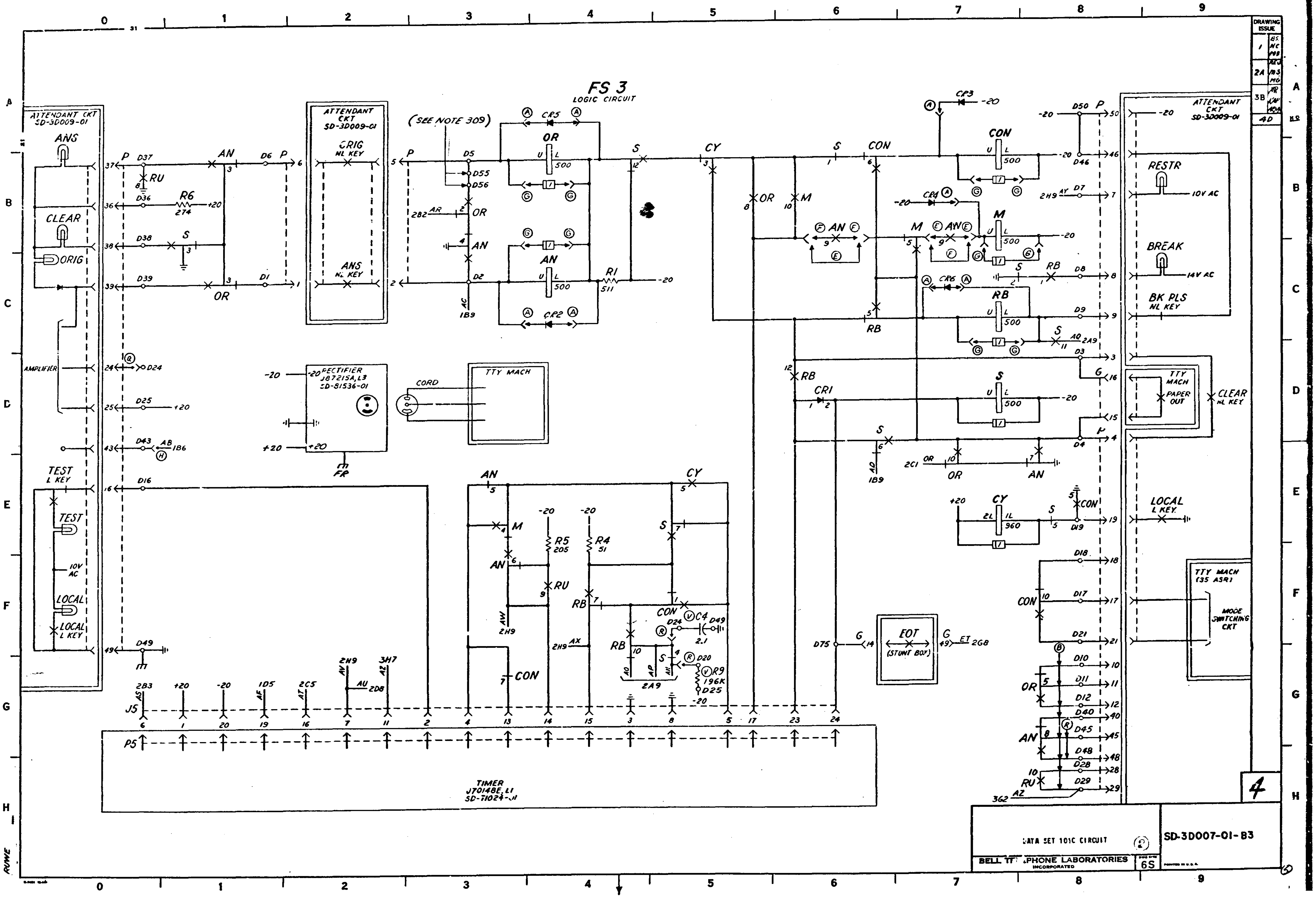
SD-3D007-01-B1

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-3D007-01-B1


FS 2
RECEIVE CIRCUIT
DISCRIMINATOR
J70148A, L1
SD-71024-01
LIMITER
J70148D, L1
SD-71024-01
TTY MACH
MODE SWITCHING CKT
MOTOR CONTROL CKT
LOCAL
L KEY
AMPLIFIER
MF DIALING OPTION
ATTENDANT CKT
SD-3D009-01
SEE NOTE 307
THIS WIRE IS IN D35B-51 CORD
CLUTCH MAGNET CKT
SELECT MAGNET DRIVER CIRCUITS
FORM FEEDOUT CKT
RESTRAINER
J70148N, L1
SD-71024-01
EOT
J70148AF, L1
SD71024-01
DATA SET 101C CIRCUIT
BELL TELEPHONE LABORATORIES INCORPORATED
SD-3D007-01-B2
6S
4


FS 3
LOGIC CIRCUIT
(SEE NOTE 309)
ATTENDANT CKT SD-3D009-01
ANS
CLEAR
ORIG
AMPLIFIER
TEST L KEY
TEST
10V AC
LOCAL
LOCAL L KEY
ATTENDANT CKT SD-3D009-01
ORIG NL KEY
ANS NL KEY
RECTIFIER J87215A, L3 SD-81536-01
CORD
TTY MACH
TIMER J70148E, L1 SD-71024-01
EOT (STUNT BOX)
ATTENDANT CKT SD-3D009-01
RESTR
10V AC
BREAK
14V AC
BK PLS NL KEY
TTY MACH PAPER OUT
CLEAR NL KEY
LOCAL L KEY
TTY MACH (35 ASR)
MODE SWITCHING CKT
DATA SET 101C CIRCUIT
BELL TELEPHONE LABORATORIES INCORPORATED
SD-3D007-01-B3
DRAWING ISSUE
1
2A
3B
4D
4

ASI

TIMING LOGIC

DRAWING ISSUE 4D

MONITOR AMPLIFIER

TO TEST MODE 5A0

THRESHOLD DETECTOR

TIMER OUTPUT AMPLIFIER

FROM DEMODULATOR 6E8

SEE TABLE A J5 16

OUTPUT TO LOGIC CIRCUITRY J5 17

TABLE A

BEFORE CONNECTING	AFTER CONNECTING
MARK -12V	MARK 0V
SPACE 0V	SPACE -20V

DATA-PHONE TIMING	TWX TIMING	CYCLE	TIMING RESISTORS	TIMING CAPACITORS	DURATION (MSEC)
✓	✓	SF GUARD	R7E	C2E	1400
✓	✓	MON MARK (ORIG)	R7E, R10E R36N (L) R36AF (M)	C3E	500
✓	✓	MON MARK (ANS)	R7E, R10E, R35N (L), R36N (L) R35AF (M), R36AF (M)	C3E	250
✓	✓	MON SPACE (BREAK)	R7E, R10E, R32N (L), R32AF (M)	C1E, C4E	140
	✓	MON SPACE (CLEAR)	R7E, R10E, R37N	C8N	(RB) OPR 350 (RB) RLS 250
	✓	SEND MARK (EOT)	R7E, R32N (L) R32AF (M)	C1E, C4E	140
	✓	SEND SPACE (CLEAR)	R7E	C8N	700
	✓	AUTOMATIC DISCONNECT	R20M	C7M	6000
✓		MON SPACE (CLEAR)	R7E, R10E	C8AF, C8N	(RB) OPR 1400 (RB) RLS 1300
✓		SEND SPACE (CLEAR)	R7E	C8AF	2100
✓		AUTOMATIC DISCONNECT	R20M	C7M, C9AF	16000

THE E COMPONENTS ARE LOCATED ON THE TIMER CARD.
THE N COMPONENTS ON THE RESTRAINER CARD.
THE M COMPONENTS ON THE SEND BREAK TIMER CARD, AND THE AF COMPONENTS ON THE EOT CARD.

AUTOMATIC DISCONNECT TIMER

DATA SET 101C CIRCUIT

BELL TELEPHONE LABORATORIES INCORPORATED

SD-3D007-01-B4

4

SD-3D007-01-B4

AS 2
SENDING AND RECEIVING

SEND BUFFER AMPLIFIER

HYBRID

FROM TIMER 4B2

WHILE RECEIVING
MARK -20V
SPACE +4V

TEST L KEY

FREQUENCY SWITCHING CIRCUIT
ON - MARK
OFF - SPACE

TUNED CIRCUIT
MARK - (T2B) IN PARALLEL WITH (T1B) IN PARALLEL WITH (C4B) DETERMINE FREQUENCY
SPACE - (T1B) IN PARALLEL WITH (C4B) DETERMINE FREQUENCY

OSCILLATOR

SEND LEVEL ADJUSTMENT

TOUCH TONE DIAL POWER

HYBRID BALANCING NETWORK

TO LINE CKT 7DO OR 7DS

SEND SIGNALS

TTD OUTPUT VIA SEND BUFFER AMP AND HYBRID

LSPK

SEE NOTE 1

SEE NOTE 2

SEE NOTE 3

SEE NOTE 4

BREAK TIMING CIRCUIT

RECEIVE BUFFER AMPLIFIER, LOUDSPEAKER MUTING, AND RECEIVE GAIN ADJUSTMENT

TO LIMITING STAGES 6FO

RECEIVED SIGNAL

SHEET NOTES:

1. IF SENDING REGENERATOR IS USED IN THE TTY THIS CONTACT IS NOT A METALLIC OPEN OR CLOSURE.
2. X OPTION - HALF DUPLEX.
3. PROVIDE INITIAL STRAP BETWEEN A AND B TERMINALS. RESTRAP AS PER BSP ON INSTALLATION.
4. PROVIDE INITIAL STRAP BETWEEN G AND K TERMINALS. RESTRAP AS PER BSP ON INSTALLATION.
5.

COMPONENT DESIGNATION LETTER	CARD ON WHICH COMPONENT IS LOCATED
B	MODULATOR
C	HYBRID
D	LIMITER
M	SEND BREAK TIMER

DRAWING ISSUE

2A	
3B	

3

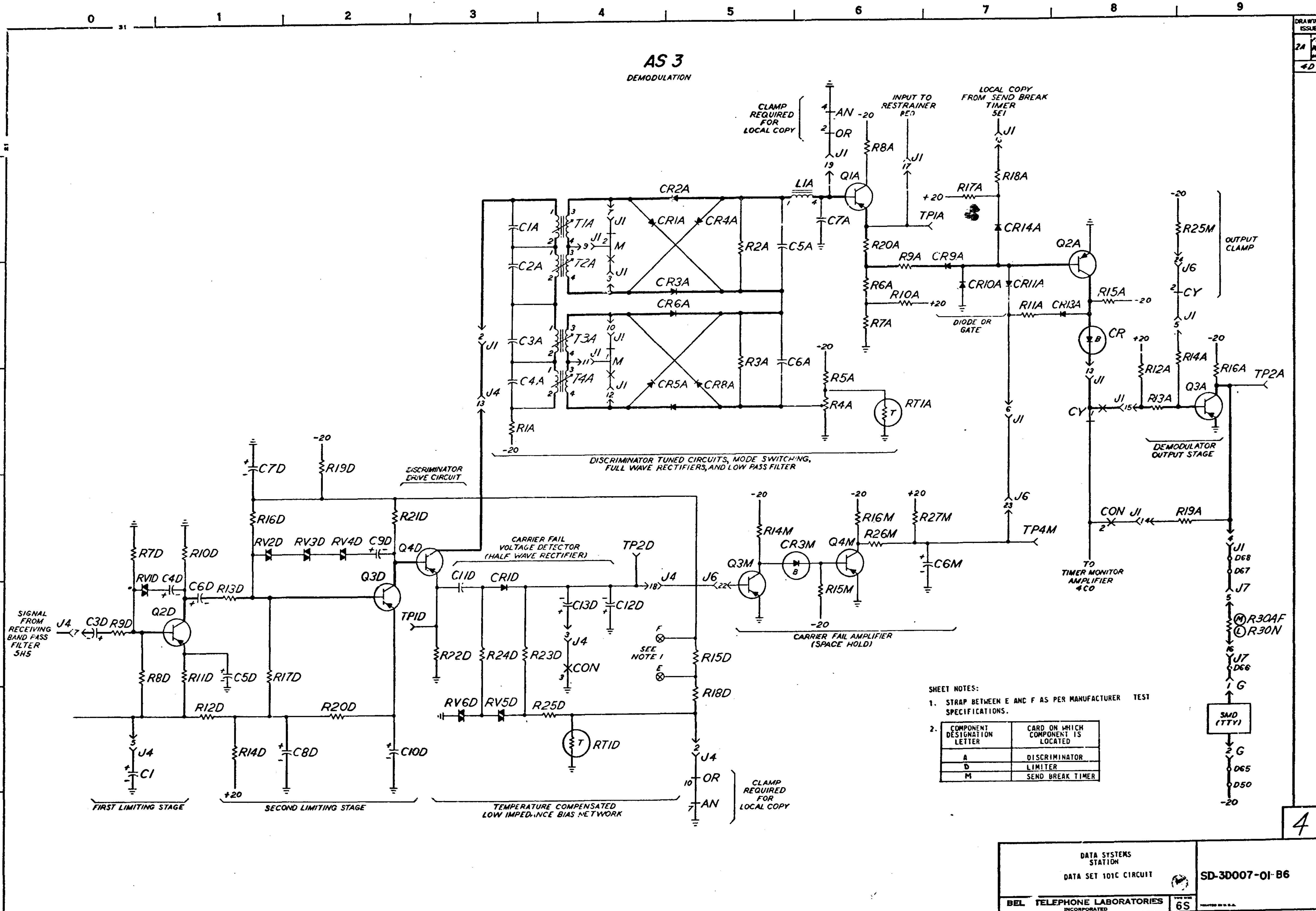
DATA SET 101C CIRCUIT

SD-3D007-01-B5

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-3D007-01-B5


AS 3
DEMODULATION
CLAMP REQUIRED FOR LOCAL COPY
INPUT TO RESTRAINER
LOCAL COPY FROM SEND BREAK TIMER 5E1
OUTPUT CLAMP
DIODE OR GATE
DISCRIMINATOR TUNED CIRCUITS, MODE SWITCHING, FULL WAVE RECTIFIERS, AND LOW PASS FILTER
DEMODULATOR OUTPUT STAGE
DISCRIMINATOR DRIVE CIRCUIT
CARRIER FAIL VOLTAGE DETECTOR (HALF WAVE RECTIFIER)
SIGNAL FROM RECEIVING BAND PASS FILTER 5H5
SEE NOTE 1
CARRIER FAIL AMPLIFIER (SPACE HOLD)
TO TIMER MONITOR AMPLIFIER 4C0
FIRST LIMITING STAGE
SECOND LIMITING STAGE
TEMPERATURE COMPENSATED LOW IMPEDANCE BIAS NETWORK
CLAMP REQUIRED FOR LOCAL COPY
SMD (TTY)
TP1A
TP2A
TP1D
TP2D
TP4M
Q1A
Q2A
Q3A
Q2D
Q3D
Q4D
Q3M
Q4M
L1A
T1A
T2A
T3A
T4A
RT1A
RT1D
R30AF
R30N
DRAWING ISSUE
2A
4D
4

SHEET NOTES:

1. STRAP BETWEEN E AND F AS PER MANUFACTURER TEST SPECIFICATIONS.

2.

COMPONENT DESIGNATION LETTER	CARD ON WHICH COMPONENT IS LOCATED
A	DISCRIMINATOR
D	LIMITER
M	SEND BREAK TIMER

DATA SYSTEMS STATION

DATA SET 101C CIRCUIT

SD-3D007-01-B6

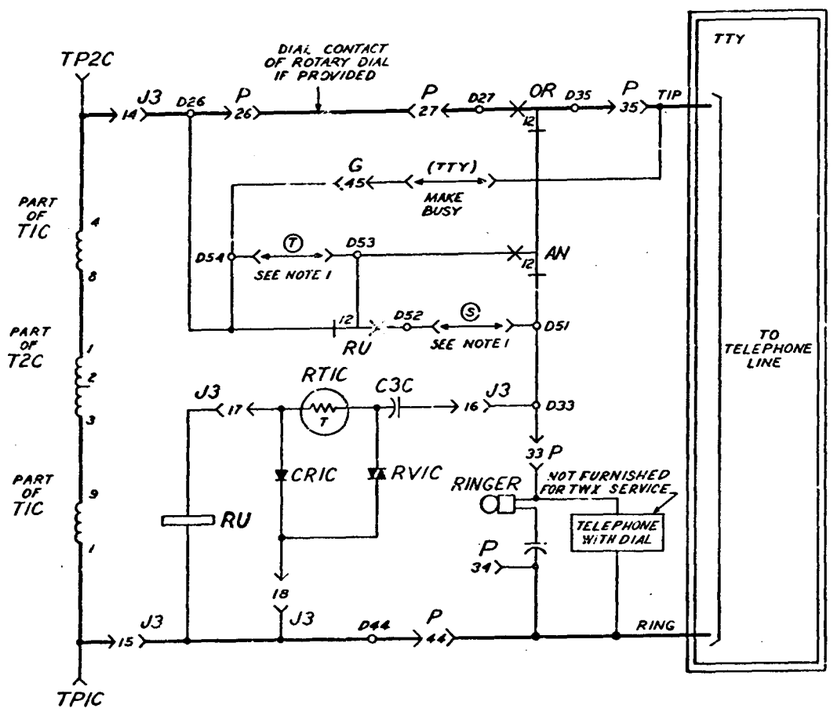
BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-3D007-01-B6

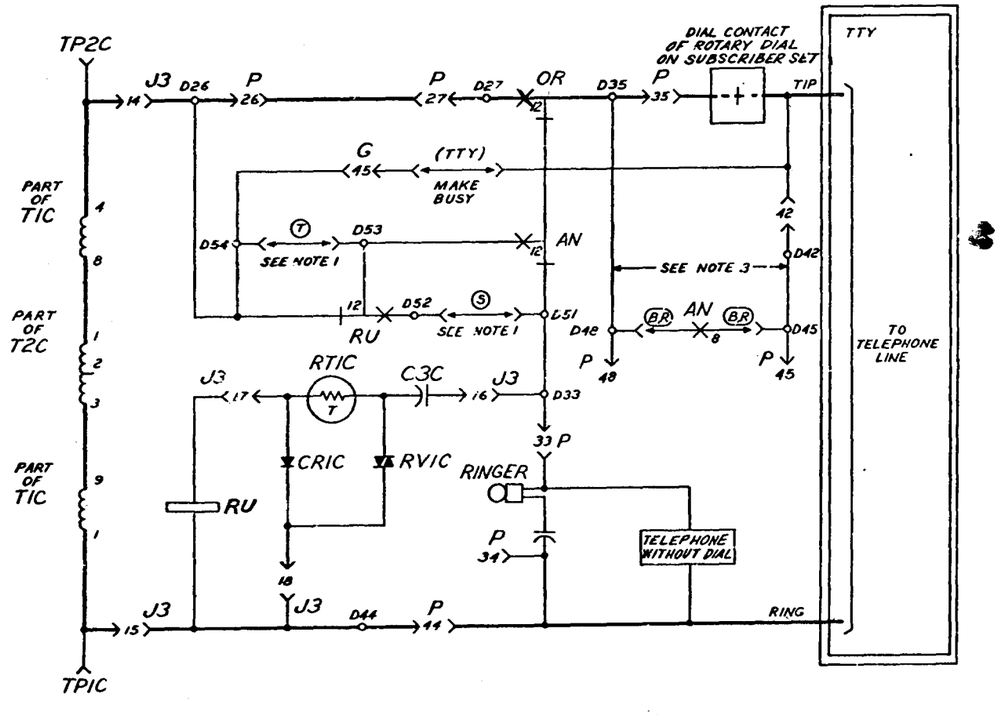
AS 4A

LINE CIRCUIT FOR DATA-PHONE SERVICE WHEN A TELEPHONE WITH A DIAL IS REQUIRED, OR FOR TWX SERVICE



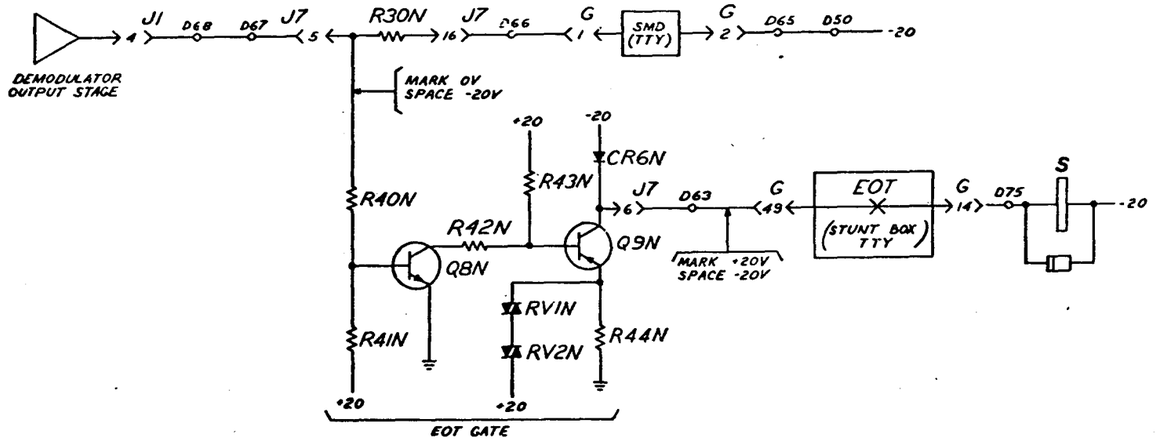
AS 4B

LINE CIRCUIT FOR DATA-PHONE SERVICE WHEN A TELEPHONE WITHOUT A DIAL IS REQUIRED



AS 5

EOT GATE CIRCUIT



SHEET NOTES:

1.

CONNECTING CIRCUIT ARRANGED TO TRIP RINGING	ONLY DURING THE SILENT INTERVAL	PROVIDE S OPTION
	DURING BOTH THE SILENT AND RINGING INTERVAL	PROVIDE T OPTION

2. COMPONENTS DESIGNATED C, FOR EXAMPLE (RVIC), ARE LOCATED ON HYBRID CARD. COMPONENTS DESIGNATED N ARE LOCATED ON RESTRAINER CARD.

3. THESE WIRES ARE NOT PART OF DATA SET 101C. THEY ARE INSTALLED ON THE CABLE SIDE OF THE D TERMINAL STRIP AS SHOWN ON SD-3D009-01.

DRAWING ISSUE 3B

3

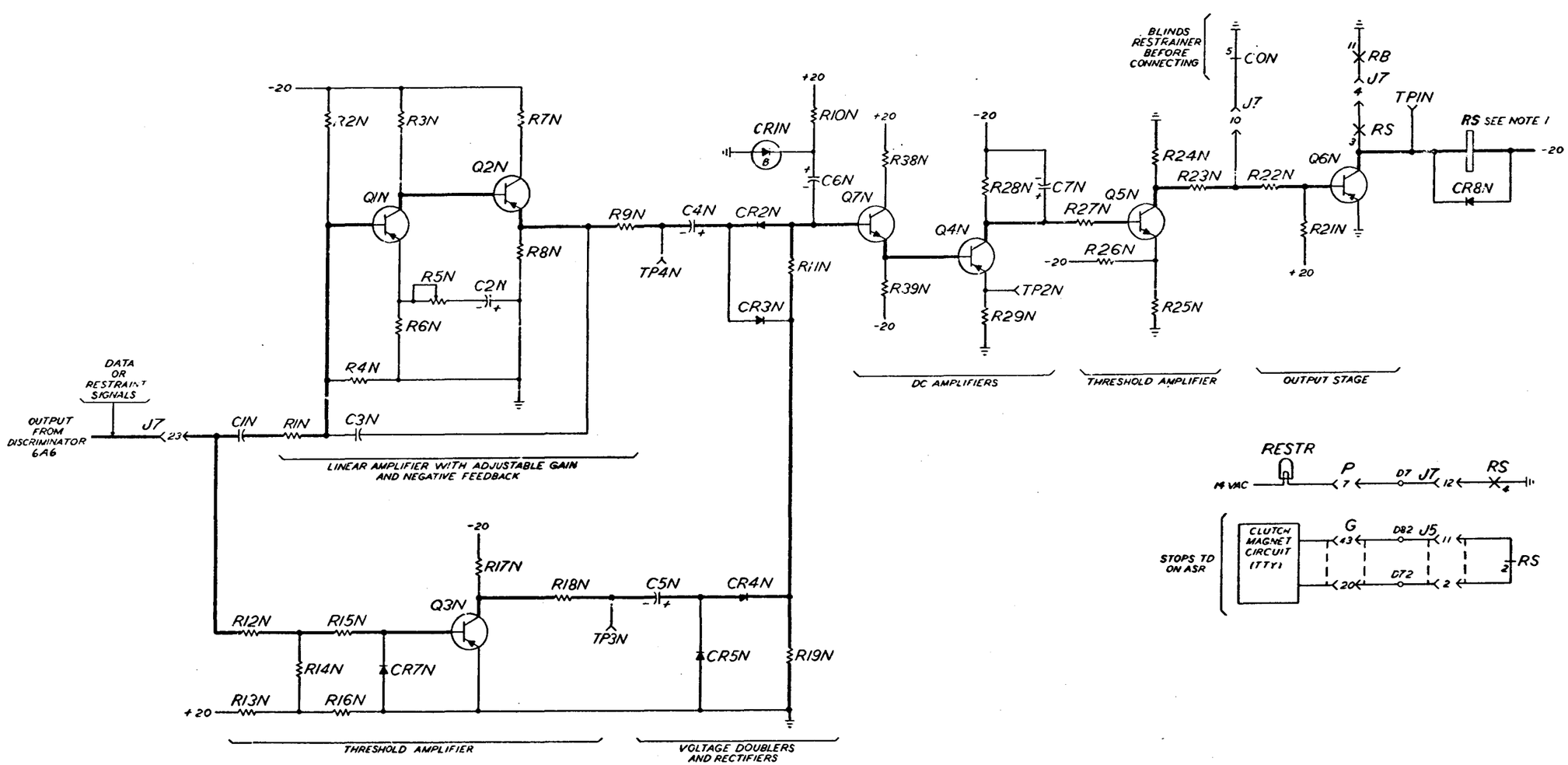
DATA SET 101C CIRCUIT

SD-3D007-01-87

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-3D007-01-87

©AS 6
RESTRAINT CIRCUIT



SHEET NOTES:

1.

SIGNAL RECEIVED	RS RELAY
RESTRAINT	OPERATES
DATA	DOES NOT OPERATE
BREAK-RESTRAINT	OPERATES AND LOCKS

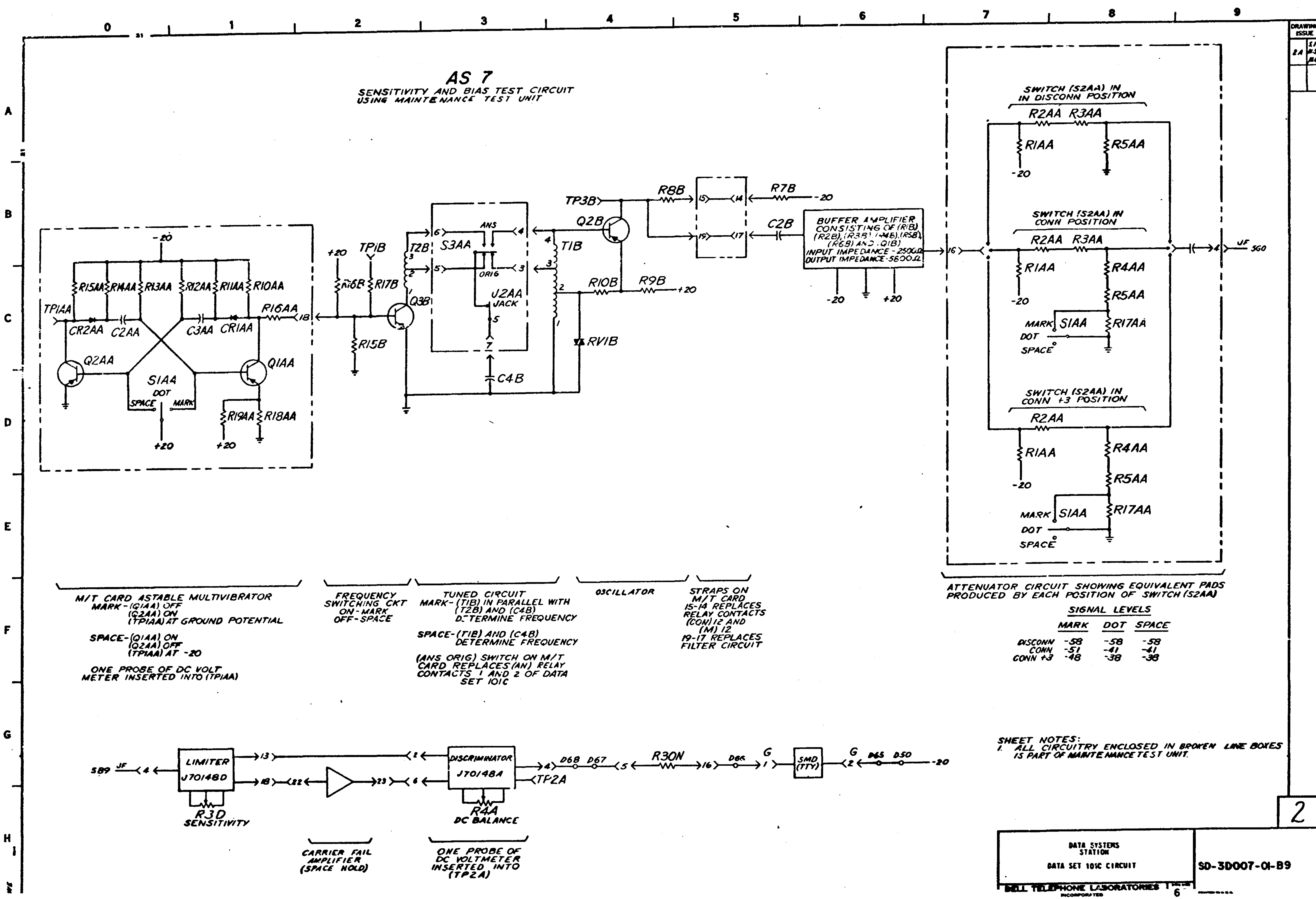
2. COMPONENTS DESIGNATED N ARE LOCATED ON THE RESTRAINER CARD.

4

DATA SET 101C CIRCUIT — SD-30007-01-88

BELL TELEPHONE LABORATORIES INCORPORATED — GS

SD-30007-01-88


AS 7
SENSITIVITY AND BIAS TEST CIRCUIT
USING MAINTENANCE TEST UNIT
M/T CARD ASTABLE MULTIVIBRATOR
MARK-(Q1AA) OFF
(Q2AA) ON
(TP1AA) AT GROUND POTENTIAL
SPACE-(Q1AA) ON
(Q2AA) OFF
(TP1AA) AT -20
ONE PROBE OF DC VOLT METER INSERTED INTO (TP1AA)
FREQUENCY SWITCHING CKT
ON-MARK
OFF-SPACE
TUNED CIRCUIT
MARK-(T1B) IN PARALLEL WITH (T2B) AND (C4B) DETERMINE FREQUENCY
SPACE-(T1B) AND (C4B) DETERMINE FREQUENCY
(ANS ORIG) SWITCH ON M/T CARD REPLACES (AN) RELAY CONTACTS 1 AND 2 OF DATA SET 101C
OSCILLATOR
STRAPS ON M/T CARD
15-14 REPLACES RELAY CONTACTS (CON) 12 AND (M) 12
19-17 REPLACES FILTER CIRCUIT
BUFFER AMPLIFIER CONSISTING OF (R1B), (R2B), (R3B), (R4B), (R5B), (R6B) AND (Q1B)
INPUT IMPEDANCE - 2500Ω
OUTPUT IMPEDANCE - 5600Ω
SWITCH (S2AA) IN IN DISCONN POSITION
SWITCH (S2AA) IN CONN POSITION
SWITCH (S2AA) IN CONN +3 POSITION
ATTENUATOR CIRCUIT SHOWING EQUIVALENT PADS PRODUCED BY EACH POSITION OF SWITCH (S2AA)
SIGNAL LEVELS
MARK DOT SPACE
DISCONN -58 -58 -58
CONN -51 -41 -41
CONN +3 -48 -38 -38
LIMITER J70148D
R3D SENSITIVITY
CARRIER FAIL AMPLIFIER (SPACE HOLD)
DISCRIMINATOR J70148A
R4A DC BALANCE
ONE PROBE OF DC VOLTMETER INSERTED INTO (TP2A)
SMD (TTY)
SHEET NOTES:
1. ALL CIRCUITRY ENCLOSED IN BROKEN LINE BOXES IS PART OF MAINTENANCE TEST UNIT.
DATA SYSTEMS STATION
DATA SET 101C CIRCUIT
BELL TELEPHONE LABORATORIES INCORPORATED
SD-3D007-01-B9
2

APP FIG. 1

DESIG	AN				CON		CY		RU			
CODE	AJ43				AJ43		AK10					
OPTION												
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
12	EBM	1E1			EBM	1B3			BM	1D1	-	
11	EBM	2D4			EBM	1D8			M	1F8		
10	EBM	2C7			EBM	3F8			M	3H8		
9	EBM	a			EBM	2E1			M	3F4		
8	EMB	3G8			EMB	1G4			M	3B0		
7	EBM	3E8			EBM	3G3						
6	EMB	3F3			EMB	3B6						
5	EMB	3E3			EMB	a	M	3E5				
4	EBM	3B3			EBM	1C8	BM	1F8				
3	EBM	3G1			EBM	2G1	BM	3B5				
2	EBM	1B1			EBM	2B5	BM	2C7				
1	EBM	1B2			EBM	3F5	BM	2B4				
COIL		1C4				3A7		3E7		1F1		

M		OR				PB		S				DESIG
AJ43		AJ43				AJ43		AJ43				CODE
												OPTION
CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	
EBM	1B3	EBM	1E2			EBM	3D6	EBM	3B4			12
EBM	1D8	EBM	1H1			EBM	2F8	EBM	3C8			11
EBM	3B6	EBM	3E7			EBM	3F4	EBM	2G5			10
EBM		EBM	1DG			EBM		EBM	1B4			9
EMB		EMB	3G5			EMB	1B5	EMB	1B4			8
EBM	a	EBM	1G6			EBM	3F4	EBM	3E5			7
EMB		EMB	2E4			EMB		EMB	3D6			6
EMB	3B7	EMB	3G8			EMB	3C6	EMB	3E8			5
EBM	3E3	EBM	1G3			EBM	1B7	EBM	2G5			4
EBM	1C8	EBM	3C1			EBM		EBM	3B1			3
EBM	2B3	EBM	3B3			EBM	1C6	EBM	3C8			2
EBM	2D5	EBM	1G6			EBM	3C8	EBM	3B6			1
	3B7		3B4				3C7		3D7			COIL

AN: a (E) 3B7, (F) 3B6

CON: a 2F8, 3E8

M: a 1D1, 1G8

CAPACITOR

DESIG	LOC	CODE
C1	2G1	KS-14136
(H) C2	2D7	KS-14336

CONNECTOR

1 13 / 2 14 / 3 15 / 4 16 / 5 17 / 6 18 / 7 19 / 8 20

DESIG	J3	J4
CODE	KS-16425,L6 RECEPTACLE	KS-16425,L6 RECEPTACLE
OPTION		
20	1D1	2D0
19		
18	1F1	2G0
17	1F1	2E0
16	1E1	2F0
15	1F1	
14	1D1	2C0
13	1G1	2B0
8	1D1	2E0
7	1D1	2F0
6	1B0	2D0
5	1B0	2G0
4	1E1	2F0
3	1G1	2H0
2	1H1	2D0
1	1C1	2C0

CONNECTOR

1 13 / 2 14 / 3 15 / 4 16 / 5 17 / 6 18 / 7 19 / 8 20 / 9 21 / 10 22 / 11 23 / 12 24

DESIG	J1	J2	J5	J6	J7
CODE	KS-16425,L3 RECEPTACLE	KS-16425,L3 RECEPTACLE	KS-16425,L3 RECEPTACLE	KS-16425,L3 RECEPTACLE	KS-16425,L3 RECEPTACLE
OPTION					
24	2B7	1A7	3G6	1H9	2C8
23	2B3	1A8	[illegible]	1H9	2C8
22				1H9	2H9
21	2B1	1A6		1H9	2D8
20	2B6	1A7	3G1	1G8	2D8
19	2B2	1A6	3G1	1G8	2B9
18	2B2	1A5		1C8	2B9
17	2B7	1A0	3G5	1B9	2H8
16	2B1	1A0	3G2	1F8	2F8
15	2B4	1A3	3G4	1B8	2H9
14	2B5	1A3	3G4	1C8	
13	2B4	1A9	3G3	1B9	2H9
12	2B5			1D8	2H9
11	2B5	1A6	3G2	1B9	2E8
10	2B6	1A2		1E8	2F8
9	2B3	1A3		1D8	2B9
8	2B2	1A7	3G5	1B8	2D8
7	2B4	1A1	3G2	1E8	2G8
6	2B0	1A2	3G0	1F8	2G8
5	2B7	1A2	3G5	1B9	2B8
4	2B8	1A1	3G3	1G8	2F8
3	2B3	1A1	3G4	1F8	2G9
2	2B1	1A9	3G3	1D8	2E8
1	2B6	1A7	3G1	1F8	2B8

CORD

D35 B-51

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

DESIG	G
CODE	KS-16690,L3 RECEPTACLE
OPTION	
50	2D6
49	3F7
48	2D5
47	
46	
45	1D2
44	2F5
43	2E6
42	
41	2C6
40	2C6
39	2D6
38	2D5
37	
36	2C5
35	
34	
33	2C6
32	2C5
31	2C6
30	
29	2C5
28	2C5
27	
26	
25	2G5
24	1B7
23	2F6
22	1B7
21	2F5
20	2E6
19	2G5
18	2C4
17	1F7
16	3D8
15	3D8
14	3F6
13	2C6
12	
11	
10	1D7
9	1E7
8	1C6
7	1C6
6	
5	1D6
4	1D7
3	
2	2F6
1	2F6

CORD

D50 F-51

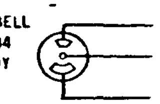
1 26 / 2 27 / 3 28 / 4 29 / 5 30 / 6 31 / 7 32 / 8 33 / 9 34 / 10 35 / 11 36 / 12 37 / 13 38 / 14 39 / 15 40 / 16 41 / 17 42 / 18 43 / 19 44 / 20 45 / 21 46 / 22 47 / 23 48 / 24 49 / 25 50

DESIG	P
CODE	KS-16639,L1 PLUG
OPTION	
50	3A5
49	3F0
48	3H8
47	1F4
46	3B8
45	3G8
44	1F3
43	3C0
42	2E2
41	1B3
40	3G8
39	3C0
38	3B0
37	3B0
36	3B0
35	1D3
34	1D3
33	1E3
32	2D4
31	2D2
30	2E2
29	3H8
28	3H8
27	1E3
26	1C3
25	3D0
24	3D0
23	
22	1B4
21	3F8
20	
19	3E8
18	3F8
17	3F8
16	3E0
15	1F5
14	
13	1D5
12	3G8
11	3G8
10	3G8
9	3C8
8	3C8
7	3B8
6	3B2
5	3B2
4	3D8
3	3D8
2	3C2
1	3C2

CORD

DESIG	LOC	CODE
-	3D3	M3AY

HUBBELL 7484 BODY



CONNECTOR

1 9 / 2 10 / 3 11 / 4 12 / 5 13 / 6 14 / 7 15 / 8 16

DESIG	T
CODE	KS-16427,L2 RECEPTACLE
OPTION	H
16	2F8
15	
14	1E2
13	1D2
12	2G8
11	1E7
10	1B6
9	1B7
8	2B7
7	2B7
6	
5	2F7
4	2G8
3	2G8
2	2F4
1	2D4

DIODES

DESIG	LOC	CODE
CR1	3D6	400A
(A) CR2	3C4	400A
(A) CR3	3A7	400A
(A) CR4	3B7	400A
(A) CR5	3A4	400A
(A) CR6	3C7	400A

FILTER

DESIG	LOC	CODE
F1	1G4	226AW
F2	1G4	226AY

EQUIPMENT PACKAGES

DESIG	LOC	CODE
DISCRIMINATOR	2A4	J70148A L1
HYBRID	1E0	J70148C L1
LIMITER	2E0	J70148D L1
(K) MODULATOR	1A4	J70148B, L1
(J) MODULATOR	1A4	J70148B L4
RECTIFIER	3D2	J87215A L1
(L) RESTRAINER	2E9	J71048N L1
SEND BREAK TIMER	1D9	J71048M L1
TIMER	3H3	J70148E, L1
(M) EOT	2E9	J70148AF, L1

NETWORK

DESIG	LOC	CODE
(G) AN	3C4	185A
(G) CON	3A7	185A
CY	3E7	185A
(G) M	3B7	185A
(G) OR	3B4	185A
(G) RB	3C7	185A
S	3D7	185A

RESISTOR

DESIG	LOC	CODE
R1	3C4	KS-8512,L1A,511
R2	2D7	KS-8512,L1A,511
(H) R3	2F2	KS-8512,L2A,274
R4	3E4	KS-8512,L2A,51.1
R5	3E4	KS-8512,L1A,205
R6	3B1	KS-8512,L1A,274
R7	1B2	145A,43.2
R8	1B2	145A,82.5

DRAWING ISSUE: 1, 2A, 3B, 4D

4

DATA SET 101C CIRCUIT

SD-3D007-01-C1

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-3D007-01-C1

APP FIG. 2

CAPACITOR

DESIG	LOC	CODE
Ⓥ C3	1C8	RS-16390,L12
Ⓥ C4	3F5	535J

RESISTOR

DESIG	LOC	CODE
Ⓥ R9	3G5	221A,196K

DRAWING ISSUE

3B

3

DATA SET 101C CIRCUIT

SD-30007-01-C2

BELL TELEPHONE LABORATORIES INCORPORATED

SIZE 6S

SD-30007-01-C2

CIRCUIT NOTES:

101.

DESIG	FUSE AMP	POTENTIAL	ONE PER

BATTERY SYMBOL	VOLTAGE RANGE
+20	+18 TO +22V
-20	-18 TO -22V

102.

FEATURE OR OPTION		PROVIDE APP FIG.	PROVIDE APP OR WRG	PROVIDE QUANTITY
101C DATA SET		1		1 PER CKT
HALF DUPLEX			X	
FULL DUPLEX				SEE NOTE 303
CONNECTING CKT ARRANGED TO TRIP RINGING	BOTH DURING THE SILENT AND RINGING INTERVAL		T	
	ONLY DURING THE SILENT INTERVAL		S	
DATA-PHONE SERVICE TIMING			M	
TWX SERVICE TIMING			L	

103.

NETWORK NO.	RESISTANCE IN OHMS	CAPACITANCE IN UF
1	470	0.11-0.15

CIRCUIT NOTES: (CONT)

104. RECORD OF FIGURES, WIRING AND APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	USE IN CIRCUIT A&M	USE IN CIRCUIT MD	
SEE NOTE 105			302	J		K	
			304			H	
3B	E OR F	F		E		F	
	B	NONE		B			
	R OR Q	Q		R		Q	
4D			306, 307, 308			R,V	
	Y	NONE		Y			
	A OR G	G		A		G	
	L OR M	L		M,L			
5B			205				

105. THESE OPTIONS PART OF ISSUE 1.

EQUIPMENT NOTES:

201. NO D2A,D2B,D2C OR D2F WIRE SHALL BE RUN IN THE SAME FORM OR PARALLEL TO ANY OTHER WIRE; EXCEPT THAT WIRES OF THE SAME GROUP (e.g. D2A) MAY BE IN THE SAME FORM OR RUN PARALLEL.

202. (a) PROVIDE + VOLTS AND - VOLTS DIRECTLY FROM THE APPROPRIATE DC OUT TERMINALS OF RECTIFIER J87215A-L1 TO TERMINALS 1 AND 20, RESPECTIVELY, OF RECEPTACLE J4. THIS SET OF LEADS SHALL SERVE NO OTHER EQUIPMENT.

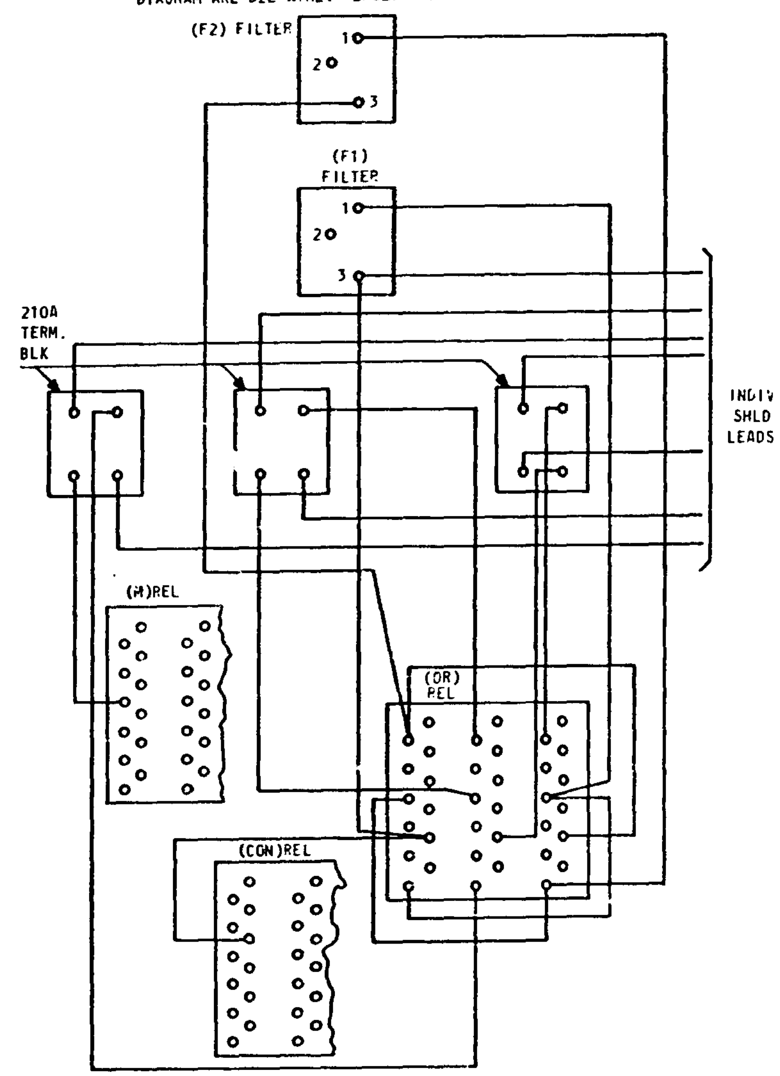
(b) PROVIDE CIRCUIT GROUND DIRECTLY FROM RECTIFIER J87215A-L1 AND MULTIPLED TO TERMINAL 8 OF RECEPTACLE J4 AND CAPACITOR C1(1). THIS SET OF LEADS SHALL SERVE NO OTHER EQUIPMENT.

(c) PROVIDE + VOLTS, CIRCUIT GROUND, AND - VOLTS DIRECTLY FROM THE APPROPRIATE DC OUT TERMINALS OF RECTIFIER J87215A-L1 AND MULTIPLED TO TERMINALS 1,8, AND 20, RESPECTIVELY, OF RECEPTACLES J1,J2,J3,J5,J6, AND J7. THIS SET OF LEADS SHALL SERVE NO OTHER EQUIPMENT.

(d) PROVIDE + VOLTS, CIRCUIT GROUND, AND - VOLTS DIRECTLY FROM THE APPROPRIATE DC OUT TERMINALS OF RECTIFIER J87215A-L1 AND MULTIPLED TO POWER POINTS ON D TERMINAL STRIP AND RELAYS. THIS SET OF LEADS SHALL SERVE NO OTHER EQUIPMENT.

203. D2D WIRE SHALL RUN IN THE LOCAL CABLE TO BOTTOM OF TS(D) AND THEN ACROSS BOTTOM OF TS(D) TO CONNECTOR (J4).

204. CONNECTIONS BETWEEN FILTER TERMINALS, (OR) RELAY, (M) RELAY, (CON) RELAY, AND 210A TERM BLK SHALL BE MADE WITH D2E WIRE. AS SHOWN IN THE DIAGRAM BELOW ALL LEADS IN THIS DIAGRAM ARE D2E WIRE. EXCEPT THE INDIVIDUALLY SHIELDED LEADS.



205. PROVIDE A GROUND STRAP BETWEEN TERMINAL 2 OF 226A(F2) FILTER AND CHASSIS GROUND.

INFORMATION NOTES:

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

302. MODULATOR J70148B,L1 (K OPTION) MAY BE FOUND ON EARLIER MODELS AND MAY BE USED AS A REPLACEMENT CARD.

303. FULL DUPLEX OPERATION IS OBTAINED BY NOT FURNISHING X OPTION.

304. H OPTION WIRING AND EQUIPMENT SHALL NOT BE PROVIDED ON MANUFACTURED 101C DATA SETS. H OPTION WIRING AND EQUIPMENT IS FURNISHED ON 101C DATA SET ONLY IF DERIVED FROM 101B DATA SET.

305. THE CONNECTION OF CONTACT 7B OF (M) RELAY TO J3(7) WAS SHOWN ERRONEOUSLY AS H OPTION (MD) ON ISSUES 1 AND 2A. THE INDICATION (H) OF THIS CONNECTION HAS BEEN REMOVED AS OF ISSUE 3B OF THIS DRAWING TO INDICATE THAT THE CONNECTION SHOULD ALWAYS BE PRESENT.

306. COMPONENTS FOR V OPTION ARE FURNISHED AS 101C LIST 6, AND IS NOW MFR DISC.

307. STATIONS HAVING LOOP CURRENTS IN EXCESS OF 60MA AND BEING EQUIPPED WITH 40A OR 41A CARD DIALERS SHOULD HAVE A 400 OHMS ±20% RESISTOR ADDED AT THE 42A CONNECTING BLOCK IN SERIES WITH THE LINE. THE RESISTOR MUST HAVE A POWER RATING OF 2 WATTS MINIMUM.

308. THE EOT CARD HAS BEEN DEVELOPED TO PROVIDE DATA-PHONE TIMING AND EOT DETECTION. IT IS USED IN PLACE OF THE RESTRAINT CARD AND DOES NOT PROVIDE RESTRAINT DETECTION. R AND V OPTIONS TOGETHER PROVIDED DATA-PHONE TIMING AND ARE NOW, THEREFORE, RATED MD.

DRAWING ISSUE
1
2A
3B
4D
5B

5

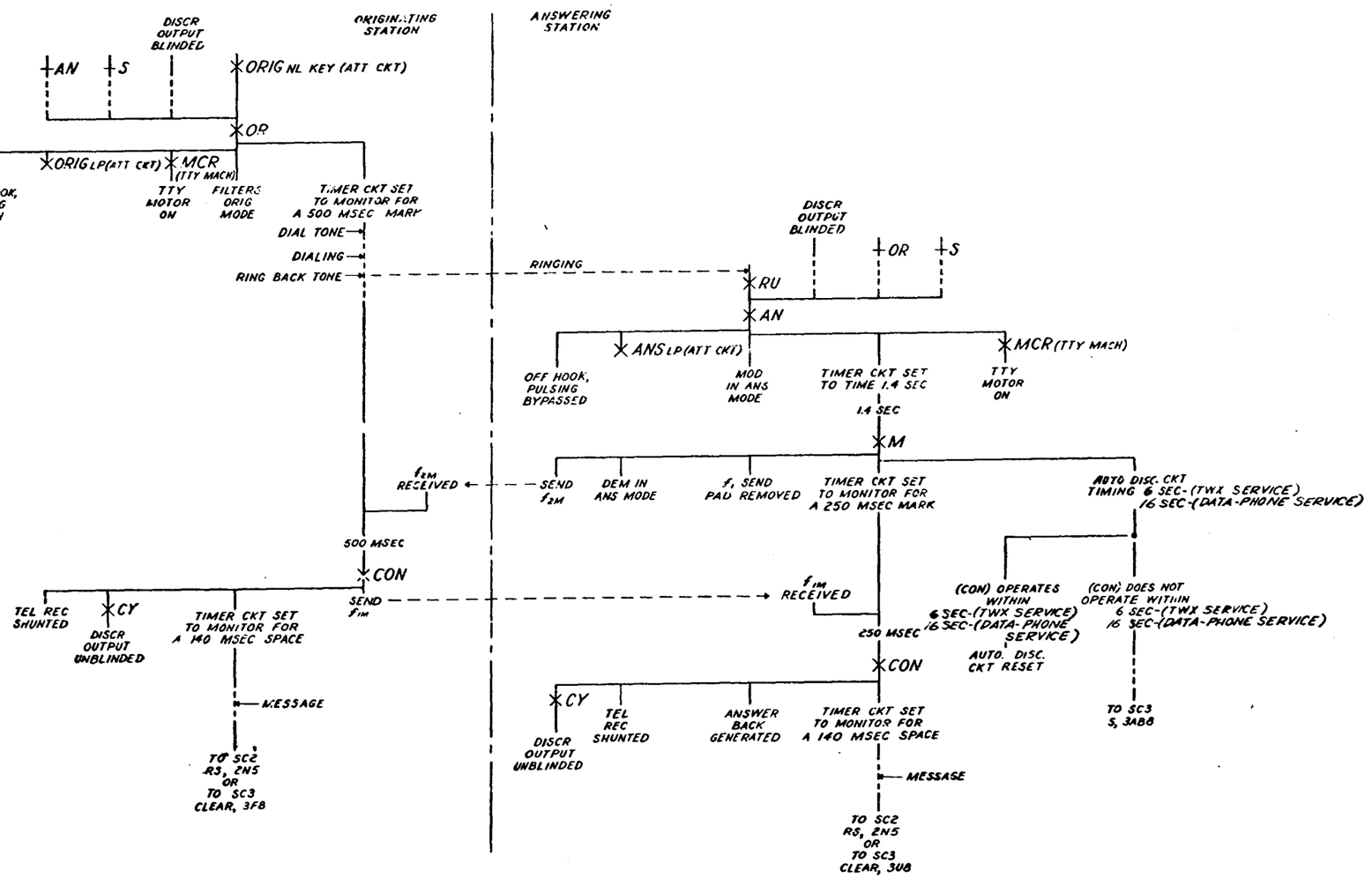
DATA SET 101C CIRCUIT

SD-3D007-01-D1

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SC 1
ORIGINATING AND ANSWERING



DRAWING ISSUE	
1	
2A	
3B	
4D	

4

DATA SET 101C CIRCUIT (2) SD-3D007-01-E1

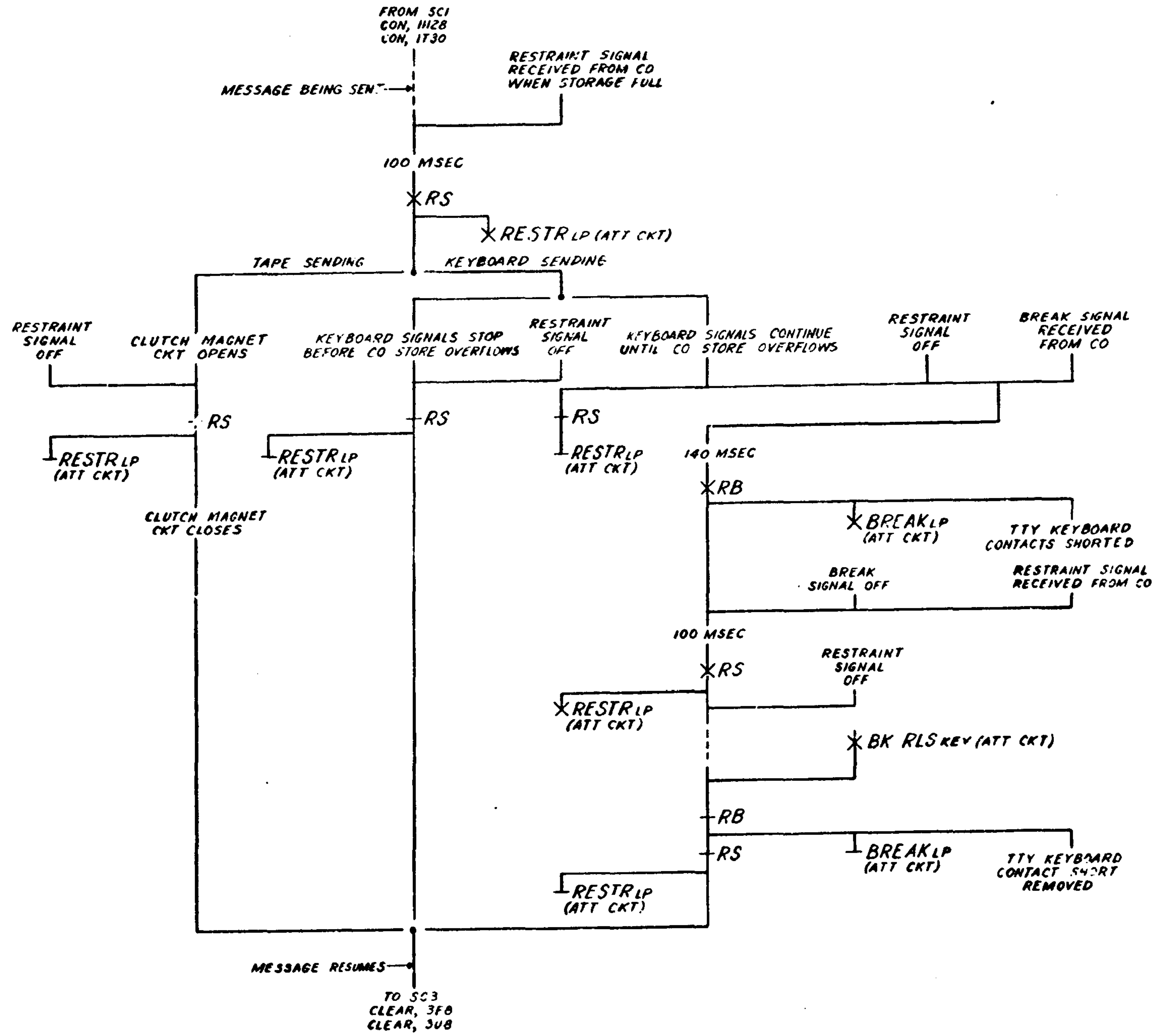
BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-3[illegible]-01-E1

(5)

SC 2

RESTRAINER OPERATION WHEN SENDING AT 100 WPM TO 60 WPM STATION



DRAWING ISSUE	
1	
2A	

2

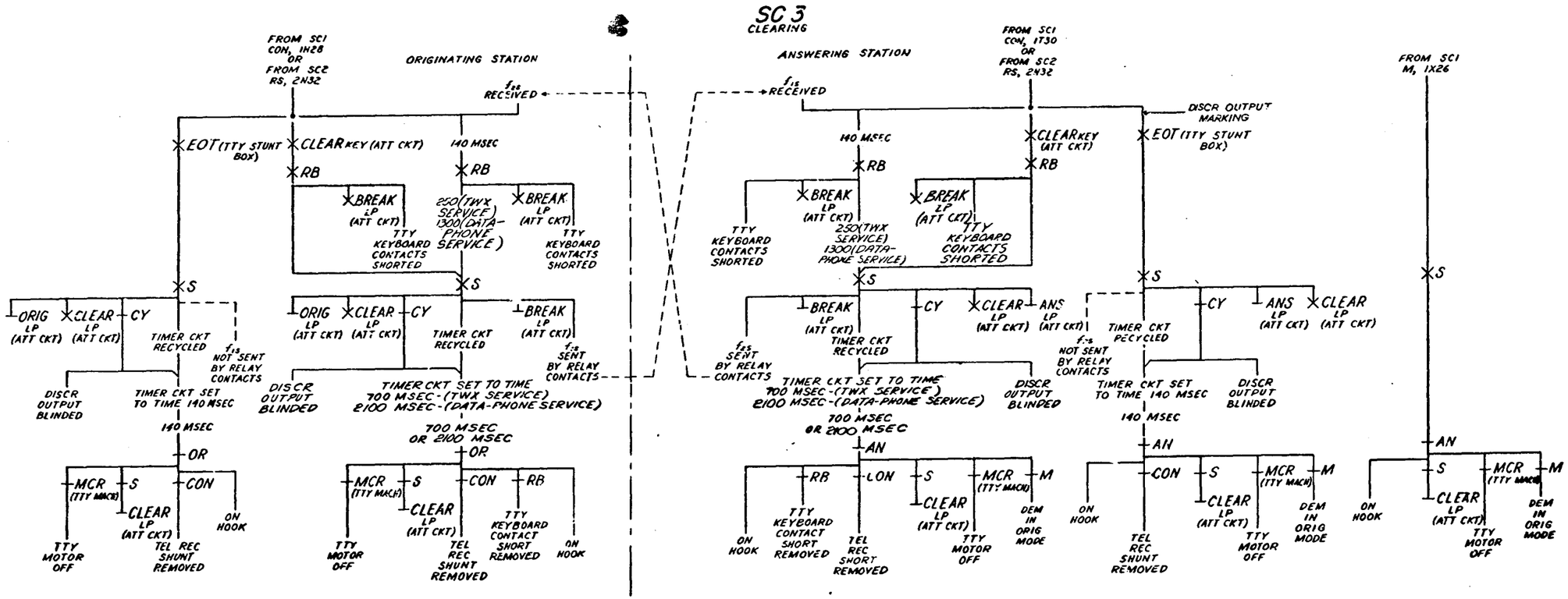
DATA SYSTEMS STATION
DATA SET 101C CIRCUIT

SD-3D007-01-E2

BELL TELEPHONE LABORATORIES INCORPORATED

6S

3D007-01-E2



DRAWING ISSUE		
1	K.S. M.C. FEB	
2A	K.S. M.C.	
3B	K.S.	
4D		

4

DATA SET 1C1C CIRCUIT

SD-3D007-01-E3

BELL TELEPHONE LABORATORIES INCORPORATED

6S

CIRCUIT REQUIREMENTS

DATA SET 101C CIRCUIT

DRAWING ISSUE: 1 ES NC HAB

APPARATUS					MECH REQT			CIRCUIT PREPARATION			TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT					REMARKS
DESIG	CODE	OPT	FIG		BSP FIG	CONT PRESS	ARM TRVL	BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD			TEST WDG	TEST FOR	AFTER SOAK MA.	TEST MA.	READJ MA.	
RELAYS																		
AN	AJ43		1		249			4M(AN)		U(AN)	GRD			0		25.3	23	
CON	AJ43		1		249					U(CON)	GRD			0		24.2	23	
CY	1/2AK10		1		7					1L(CY)	GRD			0		16.3	15.5	MOUNTED WITH (RU)
														H			2.6	
M	AJ43		1		249					U(M)	GRD			0		24.2	23	
OR	AJ43		1		249			(AN)O		U(OR)	GRD			0		24.2	23	
RB	AJ43		1		249				L(RB)	U(RB)	48V G			0		24.2	23	
RU	1/2AK10		1		7				2U(RU)	1U(RU)	48V G	1		0		7.8	7.4	MOUNTED WITH (CY)
														H			1.5	
S	AJ43		1		249					U(S)	GRD			0		24.2	23	

TEST NOTES:

1. PULL OUT HYBRID CARD J70148C.L1(1EO)

GENERAL DIRECTIONS

A. BEFORE PERFORMING TESTS, RELEASE ALL KEYS ON SUBSCRIBER SET AND ALL RELAYS.

PAGE

DATA SET 101C CIRCUIT

SD-3D007-01-F1

BELL TELEPHONE LABORATORIES INCORPORATED

22

CIRCUIT REQUIREMENTS

DRAWING ISSUE: 1 ES NC HAB

APPARATUS					MECH REQT			CIRCUIT PREPARATION			TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQT					REMARKS
DESIG	CODE	OPT	FIG		BSP FIG.	CONT PRESS	ARM TRVL	BLOCK OR INSULATE	TEST CLIP DATA CONN BAT.	TEST CLIP DATA CONN GRD			TEST WDG	TEST FOR	AFTER SOAK MA.	TEST MA.	READJ MA.	

PAGE

1

DATA SYSTEMS STATIONS

DATA SET 101C CIRCUIT

SD-3D007-01-F1

BELL TELEPHONE LABORATORIES INCORPORATED

6S

CAD 1

D50F-51 CORD

25 — 25 — +20 RECT
24 — Q — 24 — R — V — 19 (J7) CONN
23 — Q — 23 — 18 (J6) CONN (C4) CAP.
22 — 22 — 8 (C3) CAP. (RB) REL
21 — 21 — 10M (CON) REL
20 — Q — 20 — R — V — 3 (J7) CONN (R9) RES
19 — 19 — 5M
18 — 18 — 10B (CON) REL
17 — 17 — 10
16 — 16 — 2 (J5) CONN
15 — 15 — 16 (J6) CONN
14 — 14 — TO (P) CONN
13 — 13 — 19 (J5) CONN
12 — 12 — B — 5M
11 — 11 — 5
10 — 10 — 5B (OR) REL
9 — 9 — 11M (S) REL
8 — 8 — 1M (RB) REL
7 — 7 — 12 (J7) CONN
6 — 6 — 3B (AN) REL
5 — 5 — 2U (OR) REL
4 — 4 — 6M (S) REL — TO (G) CONN
16 — 3 — 12 (RB) REL
3
2 — 2 — 4M (AN) REL — TO (P) CONN
1 — 1 — 3B (OR) REL

TS (D) ON DATA SET CAB.
PART OF D35B-51 CORD

INSTALLED AS PER SD-30009-01

50 — 50 — -20 RECT
49 — 49 — GRD
48 — B — 48 — P — 9M (AN) REL
47 — 47 — 8B (CON) REL
46 — 46
45 — D — 45 — F — 8 (AN) REL
44 — 44 — 15 (J3) CONN
43 — 43 — 21 (J2) CONN
42 — 42 — H — (R3) RES
41 — 41 — SEE NOTE 307 — 12B (CON) REL
40 — 40 — E — EB (AN) REL — TO (P) CONN
39 — 39 — 3M (OR) REL
38 — 38 — 3M (S) REL
37 — 37 — 6M (RU) REL
36 — 36 — (R6) RES
35 — 35 — 12 (OR) REL
34 — 34
33 — 33 — 16 (J3) CONN
32 — 32 — 6M (OR) REL
31 — 31 — 6
30 — 30 — 17 (J4) CONN
29 — 29 — 10M (RU) REL
28 — 28 — B — 11 (J5) CONN — 10 (RU) REL
27 — 27 — 12M (OR) REL
26 — 26 — 14 (J3) CONN

TS (D) ON DATA SET CAB.

PART OF D35B-51 CORD

14 — 75 — U (S) REL
74 — 18 (J1) CONN
X — 73 — H — 23 (J2) CONN — 15 (J6) CONN
20 — 72 — 2 (J7) CONN
9 — 71 — 7 (J6) CONN
7 — 70 — H — 11 (J2) CONN
4 — 69 — 24 — 12 (J6) CONN — 4 (J1) CONN
68
67 — 5
1 — 66 — 16
2 — 65 — 23
64 — 7
49 — 63 — 6 (J7) CONN
21 — 62
18 — 61 — 4M (CY) REL
25 — 60 — 10B
19 — 59 — 10M (S) REL
56 — 10
44
17 — 57 — 4 (CY) REL
56 — 2M (OR) REL
55
45 — 54 — 12B
T — 53 — 12 (RU) REL
52 — 12M
S — 51

TS (D) ON DATA SET CAB.

PART OF D35B-51 CORD

3 — 85
24 — 84 — 4 (RB) REL
22 — 83 — 48
43 — 82 — 11 (J7) CONN
10 — 81 — 11B (M) REL
TO (G) CONN
8 — 80 — 2M (RB) REL
5 — 79
6 — 78
11 — 77
12 — 76

TS (D) ON DATA SET CAB.

DRAWING ISSUE

1	ES	
	NC	
	PRB	
2A	FES	
	NS	
	NG	
3B	JP	
	CW	
	MCH	
4D		

4

DATA SET TOIC CIRCUIT — SD-3D007-01-GI

BELL TELEPHONE LABORATORIES INCORPORATED — 6S

SD-7-10-61

RUWE