SHEET INDEX

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CIRCUIT NOTES:

101.

DESIG	FUSE AMP	POTENTIAL	ONE PER

102.

FEATURE OR OPTION	PROVIDE		
	FIG.	APP OR WRG	QUANTITY

103.

RECORD OF FIGURES, WIRING AND APPARATUS CHANGES							
CHANGED ON SS.	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT			
				STD	A&M	P/D	
3B	Y OR Z			Y		Z	
4B	W OR X			W		X	
6AC	V OR T			T		V	

CIRCUIT NOTES: (CONTINUED)

104. CURRENT DRAIN DATA:
-48F 85 mA
FG 85 mA

105. WHENEVER 254A RESISTORS ARE CALLED FOR, A 237A MAY BE SUBSTITUTED WHENEVER A PRINTED PATH RUNS BENEATH THE RESISTOR.

SD-3C112-01

EQUIPMENT NOTES:

201. DESIGNATIONS SHOWN IN BRACKETS [ ] SHALL APPEAR ON EQUIPMENT.

202. ALL CONTACTS SHOWN WITH ARROW —50→ ARE PART OF PRINTED WIRING BOARD FINGER CONTACTS.

203. PRINTED WIRING BOARD FINGER CONTACTS 21 AND 46 ARE RESERVED FOR KEYING ON P1.

204. S1,S2 AND S3 MAY BE OBTAINED FROM GRAYHILL, INC.

205. THE 70A IS A MATCHED PAIR OF TRANSISTORS WHICH ARE PURCHASED AS A PAIR AND MUST BE REPLACED AS A PAIR IF REPLACEMENT IS EVER NECESSARY.

206. ALL WIRES TO BE 26 GA STRANDED EXCEPT AS FOLLOWS:
(a) PAIRS ON J1 AND J4 ARE 24 GA STRANDED.
(b) STRAPS ON J1 AND J4 ARE 24 GA SOLID.
(c) STRAPS ON S1 AND S2 ARE 24 GA SOLID.
(d) ALL OV PATH CONNECTIONS ARE 22 GA STRANDED.

207. THE OV CONNECTION TO R75 (VOLUME CONTROL) IS TO BE MADE WITH ONE 22 GA STRANDED WIRE DIRECTLY FROM E21.

208. TERMINAL A20 AND NEGATIVE END OF C28 ARE TO BE CONNECTED WITH ONE 22 GA STRANDED WIRE.

209. OPTION (X) R75 MAY BE OBTAINED FROM ALLEN BRADLEY AS A TYPE G POTENTIOMETER.

SUPPORTING INFORMATION

CATEGORY	NO.
EQUIPMENT DRAWING	J98718AJ

INFORMATION NOTES:

301. UNLESS OTHERWISE SPECIFIED:
RESISTANCE VALUES ARE IN OHMS.
CAPACITANCE VALUES ARE IN MICROFARADS.

DWG ISSUE	EE OR CD ISSUED	DATE ISSUE	Drawn	Appd
1	1	1-5-72	CJM MD	SJB VBS VAM
2A	1 APP 1A	8-11-72	JD C+D MD	JAY VBS VAM
3B	1 APP 2B	8-11-72	JD MD	JAY VBS VAM
4A	1 APP 3A	7-9-73	RPP C+D	SJB VBS VAM
5B	1 APP 4B	7-9-73	RPP C+D	SJB VBS VAM
6AC	1 APP 5AC	7-9-73	RPP C+D	SJB VBS VAM

ISSUE 6AC

SD-3C112-01 IN22

COMMON SYSTEMS
24 CHANNEL PCM BANK TYPE D3
CHANNEL ACCESS CIRCUIT

AT&TCO STANDARD

(2) SD-3C112-01-1
5 SHEETS

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-3C112-01-1

FS I

J1 243A [EXT OSC]

7 E10 TO OSC 4C4

I1

R1 235.4

R2 235.4

R3 549

R4 200

E13 E14 E15 E28

S2 C2-1

S1 C1

A15 R18 600 OV

A14 R17 600 OV

A9 R16 590 R14 590 A8

R15 12.0 OV

A7 R11 562 A6

R12 37.9 A20 OV

A5 R10 487 R8 487 A3

R9 121 A4 OV

A11 R7 312 R5 312 A10

R6 422 OV

S2 C3-1

S2 C1-2

A16 R28 600 OV

A12 C1 40

R30 3795 -12V +12V

IC2

R31 600 C2 40

R32 909 OV

C25 10.0PF

E16 R29 600

A1 3 J2 238AM [XMT]

E12 2 1

C28 OV 500uF E9

A13 C3 40

R34 3795 -12V +12V

IC3

R35 600 C4 40

R36 3790 OV

C26 10.0 PF

A2 3 J3 238AM [RCV]

E11 2 1

R109 22K

E19 R33 600

S2 C3-2

A17 R27 600 OV

Z1

894A NETWORK 1020HZ REJ FLT

S3 C1 S3 C2 S2 C2-2 S2 C1-1

GRD OV

A19 R25 311.6 R24 311.6 A18

R26 421.7 OV

J4 243A [EXT DETR]

7 E3 TO DETR 3F1

T2

R19 2840 R23 200

IC1

R21 600 R22 600 E17 E18 E20

R20 845 C24 10.0PF

REJ FLT IN OUT S3 (SEE NOTE 204)

SEND LEVEL dB -30 -20 -40 -10 OFF 0 S1 (SEE NOTE 204)

TEST CHAN LINE CAL CHAN DROP S2 (SEE NOTE 204)

+12V +8.65V 0V -8.65V -12V VOLTAGE REGULATOR FS 4 FG -48F

DRAWING ISSUE

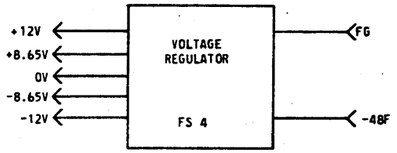
ISSUE 6AC

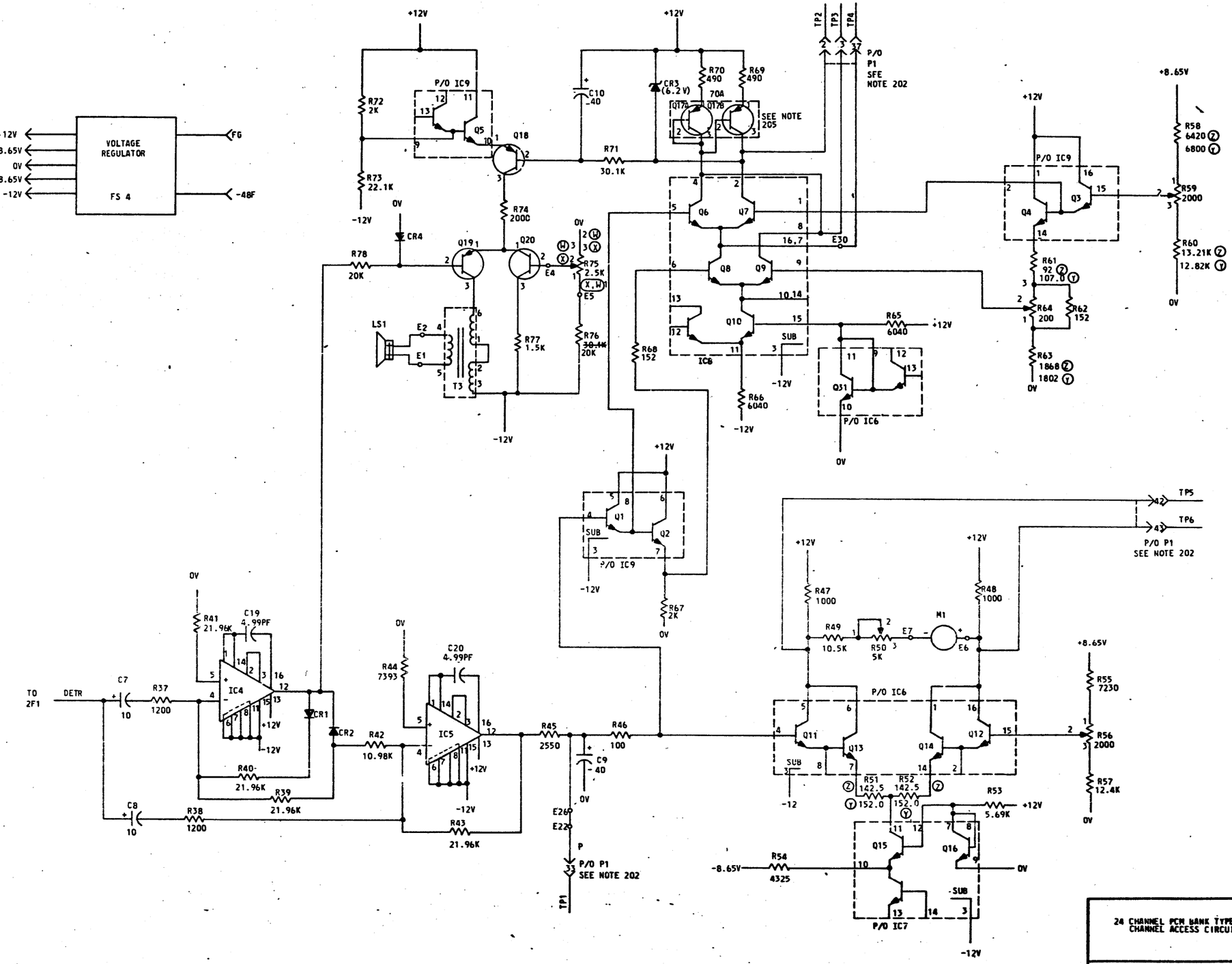
24 CHANNEL PCM BANK TYPE D3 CHANNEL ACESS CIRCUIT (2) SD-3C112-01-2

BELL TELEPHONE LABORATORIES INCORPORATED 6S

SD-3C112-01-2

FS 2





24 CHANNEL PCM BANK TYPE D3 CHANNEL ACCESS CIRCUIT	SD-3C112-01-3
BELL TELEPHONE LABORATORIES INCORPORATED	6S

ISSUE 6AC

SD-3C112-01-3

FS 3
OSCILLATOR

FS 4
VOLTAGE REGULATOR

DRAWING ISSUE

ISSUE 6AC

24 CHANNEL PCM BANK TYPE D3 CHANNEL ACCESS CIRCUIT (2)

SD-3C112-01-4

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-3C112-01-4

APP FIG. 1

(FOR FS 1)

CAPACITOR

DESIG	LOC	CODE
C1	2A6	608B, 40 UF
C2	2B7	608B, 40 UF
C3	2D6	608B, 40 UF
C4	2E7	608B, 40 UF
C24	2G2	KS-16958,L22 10.0 PF
C25	2B6	KS-16958,L22,10.0 PF
C26	2E6	KS-16958,L22,10.0 PF
C28	2C8	KS-19658,L35, 500uF

INTEGRATED CIRCUIT

DESIG	LOC	CODE
IC1	2G2	502S
IC2	2B6	502S
IC3	2E6	502S

JACKS

DESIG	LOC	CODE
J1	2C1	243A
J2	2A8	238AM
J3	2D8	238AM
J4	2G1	243A

POTENTIOMETER

DESIG	LOC	CODE
R4	2C2	KS-19055,L3, 200
R23	2F2	KS-19055,L3, 200

RESISTOR

DESIG	LOC	CODE
R1	2C2	KS-16311,L5F, 235.4
R2	2C2	KS-16311,L5F, 235.4
R3	2C2	KS-16311,L5A, 549
R5	2A4	254A, 312
R6	2A4	254A, 422
R7	2A4	254A, 312
R8	2B4	254A, 487
R9	2B4	254A, 121
R10	2B4	254A, 487
R11	2C4	254A, 562
R12	2C4	KS-16311,L3A, 37.9
R13	2C4	254A, 562
R14	2C4	254A, 590
R15	2D4	KS-16311,L1A, 12.0
R16	2C4	254A, 590
R17	2D4	KS-16311,L5F, 600.0
R18	2D4	254A, 600
R19	2F2	KS-16311,L5A, 2840
R20	2G2	254A, 845
R21	2G2	KS-16311,L5F, 600.0
R22	2G3	KS-16311,L5F, 600.0
R24	2F2	KS-16311,L5F, 311.6
R25	2F4	KS-16311,L5F, 311.6
R26	2G4	KS-16311,L5F, 421.7
R27	2H5	254A, 600
R28	2D5	254A, 600
R29	2B6	KS-16311,L5F, 600.0
R30	2A6	KS-16311,L5F, 3795
R31	2B7	KS-16311,L5F, 600.0
R32	2B7	254A, 909.0
R33	2E6	KS-16311,L5F, 600.0
R34	2D6	KS-16311,L5F, 3795
R35	2E7	KS-16311,L5F, 600.0
R36	2E7	254A, 3790
R109	2E8	KS-13490,L1, 22K

SWITCHES

DESIG	LOC	CODE
S1	2B3	~~9A30-01-2-6S~~ 9YY23221-2-6S (V) 9YY23605-2-6S (T)
S2	2C5	~~9A30-02-3-2N~~ 9YY23222-3-3N (V) 9YY23606-3-3N (T)
S3	2F3	~~9A30-01-2-2N~~ 9YY23221-2-2N (V) 9YY23605-2-2N (T)

TRANSFORMER

DESIG	LOC	CODE
T1	2C1	257BL
T2	2G1	257BL

NETWORK

DESIG	LOC	CODE
Z1	2G4	894A

APP FIG. 2

(FOR FS 2)

CAPACITOR

DESIG	LOC	CODE
C7	3F1	~~KS-19107,L9~~ 604A, 10uF
C8	3G1	~~KS-19107,L9~~ 604A, 10uF
C9	3G4	608B, 40 UF
C10	3A4	608B, 40 UF
C19		KS-16958,L22, 4.99 PF
C20		KS-16958,L22, 4.99 PF

DIODES

DESIG	LOC	CODE
CR1	3G2	458C
CR2	3G2	458C
CR3	3A4	459B
CR4	3C3	458C

INTEGRATED CIRCUIT

DESIG	LOC	CODE
IC4	3F1	502S
IC5	3G3	502S
IC6	3G6,3D6	502P
P/O IC7	3H6	~~41D~~ 502BJ
IC8	3C5	502R
IC9	3B3,3B7,3E4	502P

LOUDSPEAKER

DESIG	LOC	CODE
LS1	3D3	KS-16908,L1

POTENTIOMETER

DESIG	LOC	CODE
R50	3F6	KS-19055,L3, 5000
R56	3G7	KS-19055,L3, 2000
R59	3A6	KS-19055,L3, 2000
R64	3C7	KS-19055,L3, 200
R75	3C4	BA99382-20 (X) (SEE NOTE 209) U-2500-OHM
		KS-14786,L13, 2500 (W)

RESISTOR

DESIG	LOC	CODE
R37	3F1	KS-16311,L5F,1200
R38	3G1	KS-16311,L5F, 1200
R39	3G2	KS-16311,L5F, 21.96K
R40	3G2	KS-16311,L5F, 21.96K
R41	3F1	KS-16311,L5F, 21.96K
R42	3G2	KS-16311,L5F, 10.98K
R43	3G3	KS-16311,L5F, 21.96K
R44	3F3	KS-16311,L5F, 7393
R45	3G4	KS-16311,L5A, 2550
R46	3F4	KS-16311,L5A, 100
R47	3E5	KS-16311,L5F, 1000
R48	3F6	KS-16311,L5F, 1000
R49	3F5	KS-16311,L5F, 10.50K
R51	3G6	KS-16311,L5F, 142.5 (Z) ,152.0 (Y)
R52	3G6	KS-16311,L5F, 142.5 (Z) ,152.0 (Y)
R53	3G7	KS-16311,L5A, 5.96K
R54	3H5	KS-16311,L5F, 4325
R55	3F7	KS-16311,L5F, 7230
R57	3G7	KS-16311,L5F, 12.40K
R58	3A6	KS-16311,L5F, 6420 (Z) ,6800 (Y)
R60	3B6	KS-16311,L5F, 13.21K (Z) ,12.82K (Y)
R61	3C7	KS-16311,L5E, 92.0 (Z) ,107 (Y)
R62	3C7	KS-16311,L5F,152.0
R63	3D7	KS-16311,L5F, 1868 (Z) ,1802 (Y)
R65	3C6	KS-16311,L5A, 6040
R66	3D5	KS-16311,L5A, 6040
~~R67~~	3F4	KS-16311,L5F, 2000
R68	3D4	KS-16311,L5F, 152.0
R69	3A5	KS-16311,L5F, 490.0
R70	3A5	KS-16311,L5F, 490.0
R71	3B4	254A, 30:1K
R72	3B2	254A, 2000
R73	3B2	254A, 22.1K
R74	3B3	254A, 2000
R76	3C4	254A, ~~30.1K~~ 20K
R77	3C3	254A, 1500
R78	3C2	254A, 20K

TRANSISTOR

DESIG	LOC	CODE
Q17A,Q17B	3B	70A
Q18	3C3	51A
Q19	3C3	51A
Q20	3C3	51A

TRANSFORMER

DESIG	LOC	CODE
T3	3D3	2564R

METER

DESIG	LOC	CODE
M1	3F6	KS-20316,L2

APP FIG. 3

(FOR FS 3)

CAPACITOR

DESIG	LOC	CODE
C11	4C0	~~KS-19107,L9~~ 604A, 10uF
C12	4C2	~~KS-19107,L9~~ 604A, 10uF
C13	4D3	~~KS-19107,L9~~ 604A, 10uF
C14	4F3	~~608B, 40 UF~~ 612A, 80uF
C21	4B3	KS-16958,L24, 24.9 PF
C22	4F3	KS-16958,L24, 24.9 PF
C23	4E3	KS-16958,L22,4.99 PF

DIODES

DESIG	LOC	CODE
CR5	4F3	458C
CR6	4F3	458C
CR7	4E1	459F

INTEGRATED CIRCUIT

DESIG	LOC	CODE
IC10	4E1,4D0,4D2	502P
IC11	4C3	502S
IC12	4F3	502S
IC13	4E2	502S

POTENTIOMETER

DESIG	LOC	CODE
R94	4G2	KS-19055,L3, 1000

RESISTOR

DESIG	LOC	CODE
R79	4E0	~~KS-16311,L5A, 6260~~ 254A, 38.3K
R80	4C0	254A, 1000
R81	4C2	KS-16311,L5F, 10K
R82	4B3	KS-16311,L5F, 10K
R83	4C4	KS-16311,L5F, 600.0
R84	4D2	254A, 10K
R85	4F4	KS-16311,L5F, 1000
R86	4F4	KS-16311,L5F, 7500
R87	4F3	KS-16311,L5F, 5110
R88	4E3	KS-16311,L5F, 10K
R89	4E3	KS-16311,L5F, 597.0
R90	4E2	KS-16311,L5F, 100.0
R91	4F1	KS-16311,L5F, 20K
R92	4G1	KS-16311,L5F, 1000
R93	4G1	KS-16311,L5F, 1130
R95	4G3	KS-16311,L5F, 6499

NETWORK

DESIG	LOC	CODE
Z2	4C1	896A

APP FIG. 4

(FOR FS 4)

CAPACITOR

DESIG	LOC	CODE
C16	4C7	KS-16390,L6 100uF
C17	4E6	~~KS-19107,L9~~ 604A, 10uF
C18	4D9	KS-16958,L24, 24.9 PF
C27	4C6	KS-16390,L6 100uF

DIODES

DESIG	LOC	CODE
CR8	4F5	446B
CR9	4E6	426P
CR10	4C6	426P
CR11	4E7	426AB
CR12	4D8	426AB

INTEGRATED CIRCUIT

DESIG	LOC	CODE
P/O IC7	4E7	~~41D~~ 502BJ
IC14	4C8	502S

TRANSISTOR

DESIG	LOC	CODE
Q27	4F6	20J
Q28A,Q28B	4C8	70A

RESISTOR

DESIG	LOC	CODE
R96	4D5	KS-13491,L1, 3900
R97	4F6	KS-14603,L3C, 60.4
R98	4E6	KS-14603,L3A, 46.4
R99	4E6	KS-20810,L1A, 723
R100	4E8	KS-16312,L5A, 866
R101	3C7	237A, 1450
R102	4C7	KS-16311,L5A, 150
R103	4D7	KS-16312,L5A, 1180
R104	4C8	KS-16311,L5A, 127
R105	4C8	KS-16311,L5F, 10K
R106	4C8	KS-16311,L5F, 10K
R107	4D8	KS-16311,L5F, 5K
R108	4C5	KS-13490,L1, 20

DRAWING ISSUE

ISSUE 6AC

24 CHANNEL PCM BANK TYPE D3
CHANNEL ACCESS CIRCUIT

(2)

SD-3C112-01-5

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-3C112-01-6