SD-3C105-01

DWG ISSUE	EE OR CD ISSUED	DATE ISSUE	[illegible]	APPD
1	1	12-2-71	C&D MD	DFY JBB VAM
2A	1 APP1A	10-18-72	F&L C&B FAC	JEL JBS VAM
3B	1 APP2B	10-18-72	F&L C&B FAC	JEL JBS VAM

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 APP FIGURES, WIRING & APPARATUS CHANGES							
CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT			
				STD	A&M	MD	
3B	X	Y		X		Y	

104. RESISTOR R101 IS SHOP SELECTED FROM THE VALUES GIVEN IN TABLE A TO COMPENSATE FOR TOLERANCES IN THE CLOCK VARISTOR, VARACTOR AND CRYSTAL. R101 IS SELECTED SUCH THAT THE FREQUENCY OF THE SIGNAL AT T6CL IS 6.176 MHz ±40 Hz.

TABLE A

R101(K)
SHORTING STRAP
1.87
2.43
3.16
4.22
5.36
6.19
6.98
7.87
8.66
9.31
10.00
10.70
11.50
17.80
31.60

CIRCUIT NOTES: (CONTINUED)

106. OPTION Ⓐ NOT USED ON ISSUE 1, 2 OR 3.

EQUIPMENT NOTES:

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

202. PRINTED WIRING BOARD FINGER CONTACTS 10 & 35 ARE RESERVED FOR KEYING ON BOTH P101 AND P102.

203. P101 AND P102 ARE PART OF PRINTED WIRING BOARDS.

204. LEADS DESIGNATED P( ) SHALL NOT BE CONNECTED UNLESS OTHERWISE SPECIFIED.

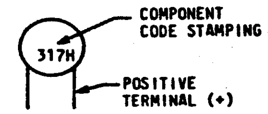
205. THE DISTRIBUTION OF +4 FROM CAPACITOR C203 SHALL BE BY SEPARATE PATHS.

206. LEADS REFERRED TO SHOULD NOT BE PARALLEL AND ADJACENT TO +4, +12 OR -12.

207. USE A 237A RESISTOR IN PLACE OF THE 254A WHENEVER PRINTED WIRING PATHS MUST BE RUN BENEATH THE COMPONENT.

208. AFTER FINAL ADJUSTMENT POTENTIOMETER R203 SHALL BE SEALED WITH GLYPTOL OR EQUIVALENT.

209. VARISTORS RV101 AND RV102 HAVE A POLARITY ASSOCIATED WITH THEM ACCORDING TO ACCOMPANYING FIGURE.



SUPPORTING INFORMATION

CATEGORY	NO.
EQUIPMENT DRAWING	J98718AA

INFORMATION NOTES:

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

3

SD-3C105-01 IN22

COMMON SYSTEMS
24 CHANNEL PCM BANK TYPE D3
TRANSMIT CIRCUIT

AT & TCO STANDARD

②

SD-3C105-01-1
4 SHEETS

BELL TELEPHONE LABORATORIES INCORPORATED

6S

SD-3C105-01-1

FIG. 1
TRANSMIT DIGITAL CIRCUITRY

PCM GENERATOR SKETCH A

ALL 1'S GENERATOR SKETCH A (1)

IC101 TCK1 519C HIC

IC102 TLD1 116H HIC SEE NOTE 204

IC103 TDG1 116M HIC SEE NOTE 204

IC104 TFS1 116L HIC SEE NOTE 204

IC105 TCC3 116A HIC

P102 SEE NOTE 203

TO IU

TO PCU

TO ACU

TO CGU

TO CHAN UNITS

TO IFU

TO FIG. 2

SEE APPL SCHEM SD-3C104-01

DRAWING ISSUE 3B

24 CHANNEL PCM BANK TYPE D3 TRANSMIT CIRCUIT

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SD-3C105-01-2

SD-3C105-01-2

FIG. 2
TRANSMIT ANALOG CIRCUITRY

IC201 TWNL' -530A- HIC 530B
IC202 TWNSI 520C HIC SEE NOTE 204
IC203 TWNCSI 520B HIC
IC204 TPAMBI 520G HIC SEE NOTE 204
IC205 TCTI 116E HIC
IC206 TPAMAI 520A HIC SEE NOTE 204
IC207 TED 116R-116F- H1C SEE NOTE 204
IC208 TRNI 527A HIC

SEE NOTE 208
SEE NOTE 106
SEE NOTE 203
SEE NOTE 205
SEE NOTE 206

TO CHAN UNITS
PCU
TO TMU AND CHAN UNITS
TO TMU
TO ACU
TO TMU
TO TMU & IU
TO TMU
FACE PLATE
FR GRD

TO TLD HIC
TO TFS HIC
TO TDG HIC
TO TDG AND TFS HIC
TO TDG HIC
TO TDG AND TLD HIC
TO TLD HIC
TO TFS HIC
TO FIG. 1

SEE APPL SCHEM SD-3C104-01

DRAWING ISSUE 3B

24 CHANNEL PCM BANK TYPE D3 TRANSMIT CIRCUIT (2)

SD-3C105-01-3

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SD-3C105-01-3

APP FIG. 1

CAPACITOR

DESIG	LOC	CODE
C101	2F0	KS-19107,L1, 0.1 uF
C102	2G0	KS-19107,L1, 0.1 uF
C103	2A8	KS-16390,L16, 35 uF
C104	2G8	KS-16390,L5, 60 uF
C105	2B1	KS-19107,L1, .01 uF
C106	2B1	KS-19107,L1, .01 uF
C107	2B2	KS-19107,L3, 0.56 uF
C105-1	2B4	KS-19107,L1, .01 uF
C106-1	2B4	KS-19107,L1, .01 uF
C107-1	2B4	KS-19107,L3, 0.56 uF
C108	2D0	KS-16958,L33, 162pF

DIODE

DESIG	LOC	CODE
CR101	2E0	446P
CR102	2B1	458C
CR103	2B1	458C
CR104	2B2	458C
CR102-1	2B4	458C
CR103-1	2B4	458C
CR104-1	2B4	458C

INDUCTOR

DESIG	LOC	CODE
L101	2B3	KS-13726,L33, 24 UH
L101-1		KS-13726,L33, 24 UH

INTEGRATED CIRCUIT

DESIG	LOC	CODE
IC101	2E1	519C
IC102	2F2	116H
IC103	2E4	116M
IC104	2F6	116L
IC105	2C6	116A

TRANSISTOR

DESIG	LOC	CODE
Q101	2A2	66J
Q102	2B2	66J
Q101-1	2B4	66J
Q102-1	2B4	66J

RESISTOR

DESIG	LOC	CODE
R101	2F1	254A SELECTED, SEE NOTE 104
R102	2B1	254A, 1.96K
R103	2B3	254A, 100
R102-1	2B4	254A, 1.96K
R103-1	2B4	254A, 100
R104	2C4	254A, 1.96K

VARISTOR

DESIG	LOC	CODE
RV101	2E0	117H
RV102	2E0	117H

TRANSFORMER

DESIG	LOC	CODE
T101	2B3	2661B
T101-1		2661B

CRYSTAL

DESIG	LOC	CODE
X101	2D0	KS-20890,L1, 6.176MHz

CONNECTOR

DESIG	LOC	CODE
J1	2G1	KS-16672,L13

APP FIG. 2

CAPACITOR

DESIG	LOC	CODE
C201	3B8	KS-16390,L16, 35 uF
C202	3C8	KS-16390,L16, 35 uF
C203	3C8	KS-16390,L5, 60 uF
C204	3H0	KS-19107,L1, .01 uF
C205	3F0	KS-19107,L1, 0.1 uF
C206	3C0	KS-19107,L1, 0.1 uF
C207	3B1	KS-19107,L1, .01 uF
C208	3B5	KS-19107,L3, 0.56 uF
C209	3B5	KS-19107,L3, 0.56 uF
C210	3C5	KS-19107,L3, 0.56 uF
C211	3A5	604B, 50 uF
C212	3A3	KS-20736,L8, 2.2uF
C213	3A2	KS-19109,L1, 0.1 uF
C214	3A5	KS-19107,L3, 0.56 uF
C215	3B4	KS-19107,L3, 0.56 uF
C216	3D5	KS-19107,L1, 0.1 uF
C218	3A5	KS-19107,L3, 0.56 uF
C219	3E2	KS-20736,L8, 2.2uF
C220	3G0	KS-19107,L3, 0.56 uF
C221	3B7	KS-16958,L22, 221pF

DIODE

DESIG	LOC	CODE
CR201	3C7	459B
CR202	3A1	459B
CR204	3D7	KS-16986,L2M1
CR205	3A7	458C
CR206	3H1	459J

INTEGRATED CIRCUIT

DESIG	LOC	CODE
IC201	3B1	~~530A~~ 530B
IC202	3D1	520C
IC203	3G1	520B
IC204	3B4	520G
IC205	3E2	116E
IC206	3B6	520A
IC207	3E6	~~116F~~ 116R
IC208	3C2	527A

TRANSISTOR

DESIG	LOC	CODE
Q201	3D6	51A
Q202	3C5	66J
Q203	3B7	83A
Q204	3B8	83A

RESISTOR

DESIG	LOC	CODE
R201	3C7	KS-20810,L1A, 470
R202	3E0	254A, 100
R204	3A0	254A, 1780
R205	3A3	254A, 100K
R206	3B3	254A, 100K
R207	3A5	254A, 100K
R208	3A3	254A, 1.78K
R209	3D5	254A, 2.74K
R210	3B2	KS-16645,L1 (OPTION A)
R211	3B2	KS-16645,L1, 820K
R212	3D4	254A, 50.5K
R213	3D4	KS-16645,L1, 390K
R214	3H1	KS-16645,L1, 1.2K
R215	3A7	257A, 562
R216	3A7	KS-20200,L1, 2K
R217	3D7	KS-16645,L1, 1K

PLUG

DESIG	LOC	CODE
P1	3G4	KS-16671,L10

POTENTIOMETER

DESIG	LOC	CODE
R203	3A0	KS-19055,L3, 150Ω (Y)
R203	3A0	KS-19055,L4, 150Ω (X)

VARISTOR

DESIG	LOC	CODE
RV201	3A1	100G

INDUCTOR

DESIG	LOC	CODE
L201	3B7	KS-20927,L11, 62.0uH

DRAWING ISSUE 3B

24 CHANNEL PCM BANK TYPE D3 TRANSMIT CIRCUIT (2)

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