SD-3C125-01

SHEET INDEX

CIRCUIT NOTES:

101. TIGHTEN SCREWS OF NBO (NET BUILD OUT) OPTIONS ACCORDING TO CIRCUIT REQUIREMENTS. CAPACITY OF PRECISION NET CABLING TO MDF AND BEYOND MUST BE ACCOUNTED FOR IF CONNECTED.

102.

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	A&M	MD	SPEC
1	Z,Y	Z		Y		Z	
2B	X	NONE	112 205	X NONE			
3AC	V,W	V	113	V		W,X	

103. UNLESS OTHERWISE SPECIFIED ALL RESISTORS ARE ~~254A TYPE~~ KS-20810,L1A.

104. C1A, C1B, AND C1C ARE COMPONENTS OF A 734C CAPACITOR. C3A, C3B, C3C, C3D AND C3E ARE COMPONENTS OF A 726A CAPACITOR. C4A, C4B, C4C, C4D, C4E AND C4F ARE COMPONENTS OF A 734B CAPACITOR.

105. TIGHTEN SCREW [BB] WHEN CHANNEL UNIT IS CONNECTED TO A TRUNK CIRCUIT WHICH REQUIRES TIP GROUND DURING A CARRIER FAILURE.

106. TIGHTEN [600] AND/OR [900] OHM COMP NET OPTIONS ACCOPDING TO CIRCUIT REQUIREMENTS. LOOSEN BOTH SCREWS WHEN USING EXTERNAL PRECISION NETWORK.

107. THE RPAM, RPAMG TPAM & TPAMG LEADS SHALL BE KEPT SHORT AND RUN DIRECT TO THE GATES AND FILTERS.

108. FOR CONNECTING INFORMATION SEE APPLICATION SCHEMATIC FOR THE D3 BANK (SD-3C104-01).

109. THE MA4A, MA35A AND MB21A ARE NOT ADJUSTABLE. REPLACE WHEN THERE IS A MALFUNCTION.

110. SET AT1 [D80] TO BUILD OUT THE LOSS OF THE DROP TO 1.5dB MINIMUM. THE LOSS OF THE ATTENUATOR IS INDICATED BY THE SUM OF THE EXPOSED DIGITS.

CIRCUIT NOTES (CONT):

111. SET AT2 [T&R] BY EXPOSING THE DESIGNATIONS AS SHOWN IN THE FOLLOWING TABLE. THE NEAR AND FAR END ARE NORMALLY CONSIDERED TPO. IF THE TOTAL NEAR END AND FAR END DROP LOSS EXCEEDS THE MAXIMUM TRUNK OR LOOP LOSS OBJECTIVES, BOTH THE NEAR AND FAR END MAY BE TREATED AS TP1 OR TP2 IN ACCORDANCE WITH THE LATEST ENGINEERING PRACTICES. SEE CD SECTION 11, 1.15 TO 1.19

		NEAR AND FAR END TP		
		TPO	TP1	TP2
FAR END BANK	D3	2T	1T	-
	D1D	11,2T	NA	NA
NA-NOT APPLICABLE				

112. OPTION (X) IS A STRAP WHICH MAY BE APPLIED IN THE FIELD TO PREVENT PREMATURE TRIPPING DURING THE RINGING INTERVAL WITH CERTAIN PBX TRUNK CIRCUITS. THE MAXIMUM EXTERNAL RESISTANCE FOR RINGING TRIP IS 1000 OHMS. BEYOND THIS RANGE, TRIPPING WILL OCCUR DURING THE SILENT PERIOD ONLY.

113. OPTION (V) REMOVES THE RESTRICTIONS OF NOTE 112.

EQUIPMENT NOTES:

201. DESIRED OPTION SHALL BE COMPLETED BY TIGHTENING SCREW SUFFICIENTLY TO INSURE CONTACT BETWEEN TERMINALS AND UNDERSIDE OF SCREWHEAD. CAUTION IN TIGHTENING SCREW IS RECOMMENDED TO AVOID SHEARING OF SCREW. TO OPEN A CIRCUIT, SCREW SHALL BE LOOSENED APPROXIMATELY FOUR COMPLETE TURNS. UNIT IS NORMALLY FURNISHED WITH OPTION SCREWS UP.

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

203. ALL CONTACTS SHOWN WITH ARROW 51 ARE PART OF PRINTED WIRING BOARD FINGER CONTACTS.

204. DESIGNATIONS SHOWN THUS < > APPEAR ON COMPONENT APPARATUS.

205. OPTION (X) IS A STRAP ACROSS THE TERMINALS OF C5. C5 CAN BE IDENTIFIED AS A CYLINDRICAL CAN WITH A RED DOT ON THE OUTER END MARKED KS-19524,L15, 200 uF, 15V.

206. THE POLARITIES OF C5 AND C8 WERE CHANGED ON ISSUE 3AC.

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.

302. OFFICE WIRING LIST RECORDS NEED NOT BE MAINTAINED FOR SCREW TYPE OPTIONS.

303. FIGS. 101 THRU 106 ARE FOR INFORMATION ONLY. SEE CONTROLLING SCHEMATIC FOR COMPLETE CIRCUIT DETAILS.

RELAY

DESIG	RNG		RG		TG	
CODE	MA35A		MA4A		MB21A	
OPTION	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC
6					EMB	2C5
5					EMB	2F2
4	EMB		EMB		EBM	2F8
3	EBM	2B0	EBM		EBM	2C0
2	EBM	2C1	EBM		EBM	2C1
1	EBM		EBM	2F2	EMB	2B0
COIL		2C9		2C0		2C7

HIGHEST COMPONENT USED ON THIS DWG				
C9	CR6	Q13	R40	RV7
NOT USED				
				RV4

CIRCUIT REQUIREMENTS																			
APPARATUS						MECH RQD			CIRCUIT PREPARATION			TEST SEE PREP	SEE TEST NOTE PREP	DIRECT CURRENT FLOW REQ					REMARKS
DESIG	CODE	OPT	CKT FIG.	RATING		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	READ J MA	
RELAYS																			
RNG	MA35A		1			101				1U	1L	B/G			0		13		SEE NOTE
RG	MA4A		1			101				1U	1L	B/G			0		16.8		
TG	MB21A		1			206				1U	1L	B/G			0		14		
															RLS		1.3		

SUPPORTING INFORMATION

CATEGORY	NO.
EQUIPMENT DRAWING TRANSMIT GATE	J98718BD-( ) ED-3C414-30

DWG ISSUE	EE OR CE ISSUED	DATE ISSUE	DRAWN	APPD
1	1	5 15 74	DRL AJO	
2B	1 RPP1B	5 15 74	DRL AJO	
3AC	1 RPP2AC	5 15 74	DRL AJO	
4AR	1 RPP3AR	8 14 74		

ISSUE 4AR

SD-3C125-01 1N22

COMMON SYSTEMS
24 CHANNEL PCM BANK TYPE D3
FOREIGN EXCHANGE
CHANNEL UNIT CIRCUIT
STATION END

(FX-STA) (2)

AT&TCO STANDARD

SD-3C125-01-1
3 SHEETS

BELL TELEPHONE LABORATORIES INCORPORATED 6S

OUTSIDE DISTRIBUTION

SD-3C125-01-1

FIG. I
FOREIGN EXCHANGE STATION END
CHANNEL UNIT

ATT 1 50A [DBO]
ATT 2 50B [T&R]
0.1dB
0.2dB
0.4dB
0.8dB
1.0dB
2.0dB
(SEE FIG 103)
(SEE FIG. 104)
600Ω UNBAL -7.5dB TLP
600Ω UNBAL +2.5dB TLP
P/O J1 601A
FL1 TRANSMIT ACTIVE FILTER 1066A
FL 2 RECEIVER ACTIVE FILTER 1067A
Z3 TRANSMIT GATE CIRCUIT (SEE FIG.101) SD-3C133-01 ED-3C414-30
P&D (SEE NOTE 107)
TPAM 47
XMT
TPAMG 46
TO TRANSMIT UNIT CKT
RPAM 25
RCV
RPAMG 49
TO RECEIVE UNIT CKT
J2 KS-20667,L9 [T]
J3 KS-20667,L13 [R]
J4 KS-20667, L15 [N1]
J5 KS-20667,L14 [N2]
TO TRUNK CKT OR STATION
2W
SEE FIG. A 26D
Z1 185A
Z2 185A
T1 2663C
T2 2663C
MA4A
915C
HP FILTER
[NBO] (SEE NOTE 101)
TO PRECISION NET
SEE NOTE 106
[60C] [900]
R6 600
R5 898
R7 392
C4A 2.15
C4B 2.15
C4C 2.15
C3A .004
C3B .008
C3C .016
C3D .032
C3E .064
[4] [8] [16] [32] [64]
RV1 106A
RV2 106A
RV3 100A
XMT
RCV
600Ω
R12 KS-14603,L1C 200
R13 KS-14603,L1C 200
R14 200 KS-14603, L3B
R15 22.6K
R16 22.6K
-48F
20~
RV5 106A
C6 542AD 0.1
LOOP CLOSURE DETECTOR
Q3 66L
Q4 66L
Q5 66L
R17 10K RT 2G1
R18 14.9K
R19 24.9K
R20 511
R21 20K
RV6 106A
RV7 106A
R23 1K
R24 1.96K
+4
2E8 Q6 66G
R22 1.50K
TO TRANSMIT UNIT CKT
TMA
TO XMSN MON UNIT CKT
TNSA
TNSB
RG
R25 5.11K
CHANNEL UNIT LOGIC
IC1 129E (SEE FIG.102)
TNWD
TQ(A)
TQ(B)
RQ(A)
RQ(B)
RNWD
RNSA
RNFA
RNSB
RNFB
TO RECEIVE UNIT CKT
TC
TO XMSN MON UNIT CKT
C1B 1000 PF
TNB
TNA
TNEN
TO TRANSMIT UNIT CKT
C1C 4990pF
R1 499
R2 40.2K
Q1 66J
C2 100PF KS-16958,L31
R4 49.9K
R3 2.49K
-12
+12
RDA NC
RNDB
RDB NC
RNDA
Q7 66G
R26 1.50K
R27 10.0K
Q8 51A
R28 1.24K
R29 51.1K
R30 36.5K
R31 1.50K
Q9 66G
R32 10.0K
Q10 51A
R36 1.24K
-48SP
R38 254J 150
Q11 51B
C9 40 KS-16390,L20
CR2 458A
CR3 458A
BG
TG MB21A
1L 1U 2100Ω
[BB]
CR4 458A
-48SP
TO T[illegible] CKT
SIGNALING RECEIVER TIP GROUND
RECEIVE GATE DRIVER
Q12 51B
R37 254J 150
RNG MA35A
CR5 458A
210Ω~
-48.P
R33 1.24K
R34 10K
R35 1K
Q13 51A
C7 10 6018
CR6 458C
SIGNALING RECEIVER RINGING
CR7 458C
RC
TO TPU CKT 41
TG
NC
[XMT]
[RCV]
P/O J1 601A

FIG. A
RINGING TRIP DETECTOR

2B0 A KS-14603,L3B 200
R11
R9 1K
5110
R10 10.0
SEE NOTE 206
C8 604C 10
R8 3160
51.1K
2F0 RT
Q2 51C
C5 200 KS-19524, L15 SEE NOTE 206
CR1 446E
KS-20810, L1A
R40 200
CR8 449A
R39 100K
-48F
20~

TO TPU CKT
TO FUSE ALM & FLT CKT
TO FRAME GRD
CHANNEL UNIT FACE PLATE
TO PWR CONV UNIT CKT
TO 20~ RINGING PANEL

DRAWING ISSUE 12
ISSUE 4AR

24 CHANNEL PCM BANK TYPE D3
FOREIGN EXCHANGE
CHANNEL UNIT CIRCUIT
STATION END
(2)
SD-3C125-01-2
BELL TELEPHONE LABORATORIES INCORPORATED
6S

SD-3C125-01-2

BELL SYSTEM PROPRIETARY
NOT FOR PUBLICATION OR OUTSIDE DISTRIBUTION

FIG. 101
TRANSMIT GATE CIRCUIT

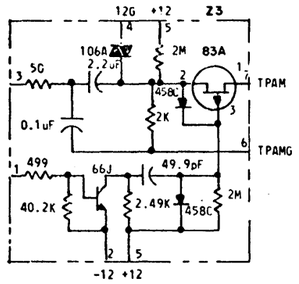


FIG. 102
CHANNEL UNIT LOGIC

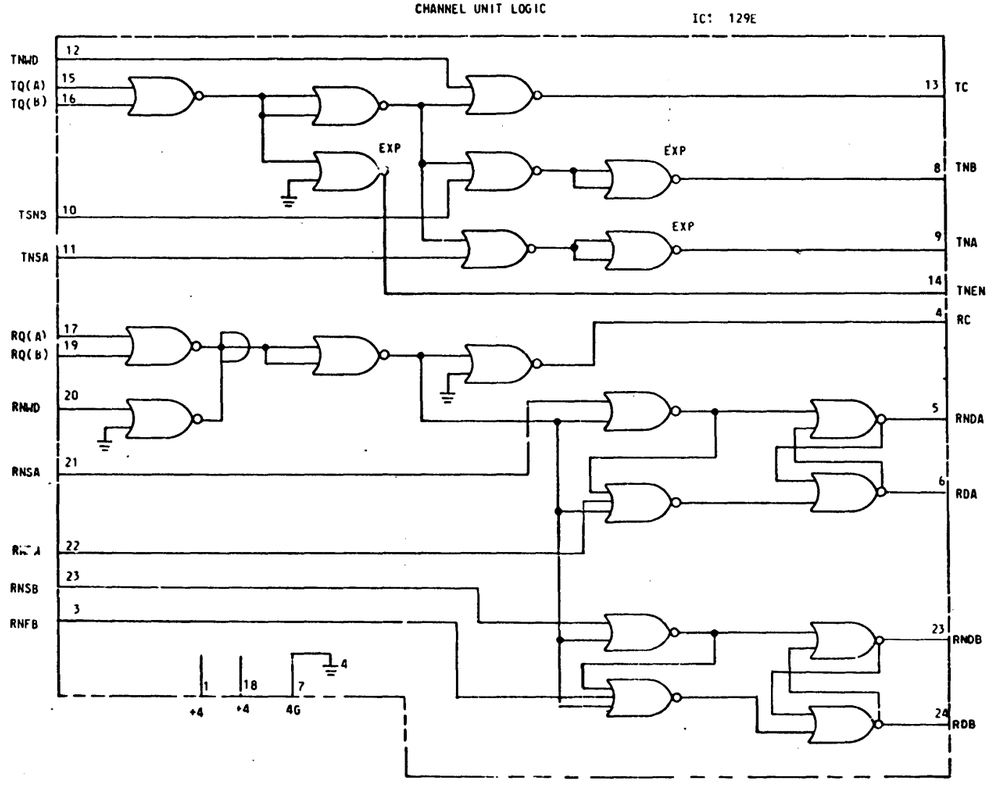


FIG. 103
DBO ATTENUATOR

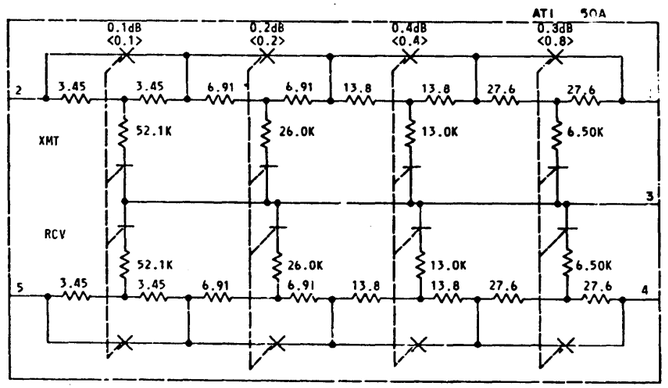
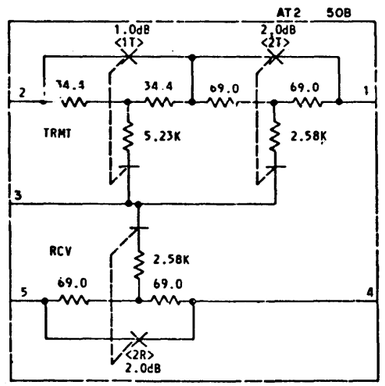


FIG. 104
T&R ATTENUATOR



DRAWING ISSUE 12

ISSUE 4AR

24 CHANNEL PCM BANK TYPE 03 FOREIGN EXCHANGE CHANNEL UNIT CIRCUIT STATION END (FX-STA) ②	SD-3C125-01-3
BELL TELEPHONE LABORATORIES INCORPORATED	SIZE 6S

SD-3C125-01-3