AM8-EA
analog preamplifier
& multiplexer
engineering drawings

digital equipment corporation · maynard. massachusetts

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MASTER DRAWING LIST

DWG. NO.	REV. LET.	NO. OF SHEETS	TITLE
C-UA-AM8-EA-Ø	A	1	8 CHANNEL MULTIPLEXER (AM8-EA)
A-PL-AM8-EA-Ø	A	1	8 CHANNEL MULTIPLEXER (PL)
E-CS-A232-Ø-1	#	2	ANALOG MULTIPLEXER EXPANDER
A-SP-AM8-EA-1	REF	9	AM8E ENGINEERING SPECIFICATION
A-SP-AD8-EA-2	REF	14	ACCEPTANCE PROCEDURE
A-AL-AM8-EA-2		1	ACCESSORY LIST (AM8-EA)
D-IA-7008533-0-0 *	REF	1	AD/AM ANALOG CABLE

*INCLUDED IN A-ML-LAB8-E

REVISIONS			
REV.	DATE	CHG. NO.	APP'D.
A	11/71	AM8E-1	A.W.
B	1/72	LAB8E-13	G.B.

DRN. D. CRABBE	DATE 4/6/71	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
CHK'D. D. Crabbe	DATE 4-28-71	TITLE 8 CHANNEL MULTIPLEXER (AM8-EA)	
ENG. D. Crabbe	DATE 4-28-71		
PROJ. ENG	DATE		
PROD.	DATE		
FIRST USED ON LAB8-E		SIZE A	CODE M L	NUMBER AM8-EA	REV. B
SCALE			
SHEET 1 OF 1		DIST	

DEC FORM NO. 16-1033
DRA 103

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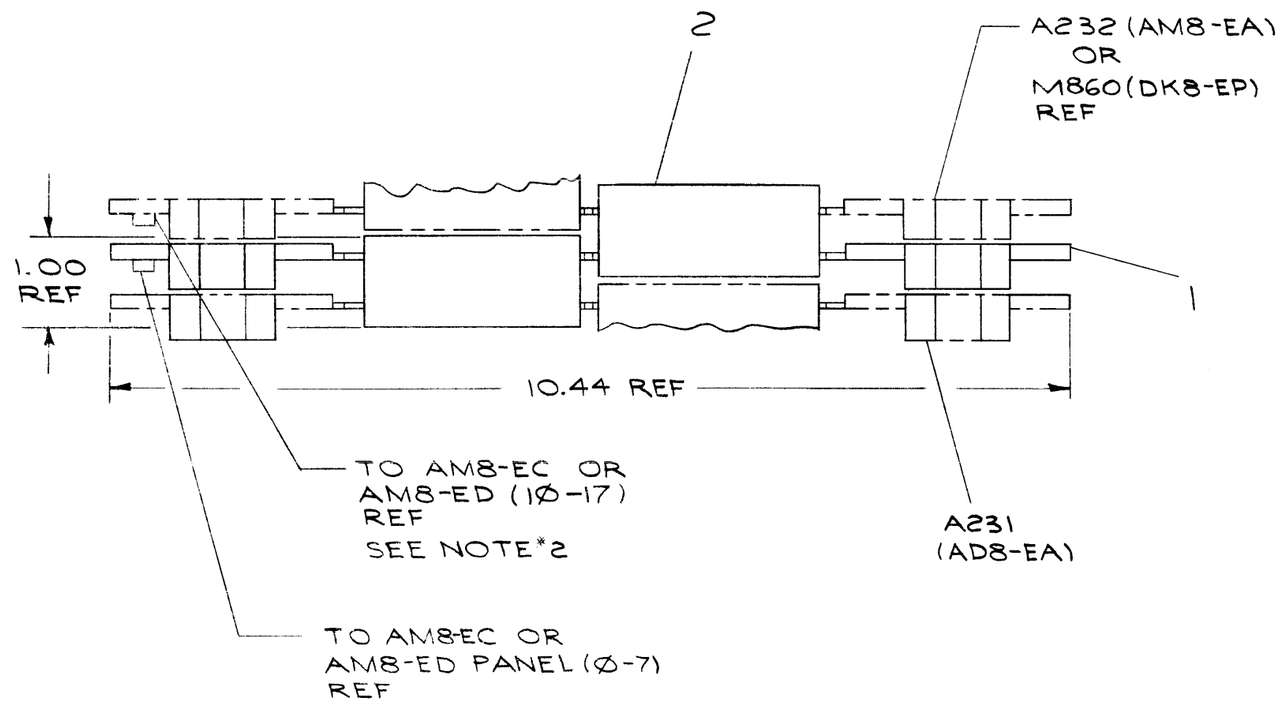
NOTES:
1. ITEM NO.1 MUST ALWAYS BE FACING FRONT OF MACHINE AS SHOWN.
2. USED WHEN A232 MODULE IS USED.



FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
LAB8-E		PARTS LIST		

UNLESS OTHERWISE SPECIFIED

UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY ✓
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL

FINISH

DRN. J. Ferguson	DATE 4-8-71	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
CHK'D.	DATE 4-28-71	
ENG.	DATE 4-28-71	TITLE 8 CHANNEL MULTIPLEXER (AM8-EA)
PROJ. ENG.	DATE	
PROD.	DATE	
NEXT HIGHER ASSY. A-PL-LAB8-E-Ø		
SCALE 1/1		SIZE C CODE UA NUMBER AM8-EA-Ø REV. A
SHEET 1 OF 1		DIST.

REVISIONS		
CHK	CHANGE NO.	REV.
	AM8-EC-0	A

DEC FORM NO. DRC 100

SIZE C CODE UA NUMBER AM8-EA-Ø REV. A

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY D.K. CRABBE	CHECKED D.K. Crabbe	SECTION
DATE 4/6/71	DATE 4-28-71	1
ENG D.K. Crabbe	PROD [illegible]	ISSUED SECT.
DATE 4-28-71	DATE 4-29-71	1

ITEM NO.	DWG NO./PART NO.	DESCRIPTION	QUANTITY/VARIATION
1	A232	ANALOG MULTIPLEX EXPANDER	1
2	B-UA-H851-Ø-Ø	EDGE CONNECTOR H851	1
3	7008533	ANALOG INPUT CABLE ASSY	*
*	SUPPLIED ONLY WHEN NO AM8EC OR AM8ED PANEL IS IN SYSTEM.		
	1 AD8EA & 1 AM8EA =	1 CABLE, 1 AD8EA & 2 AM8EA = 2 CABLES	
	PER SYSTEM.		

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.	ECO NO.
8 CHANNEL MULTIPLEXER (AM8-EA)	C-UA-AM8-EA-Ø	A	PL	AM8-EA-Ø	A	AM8E-00001
	SHEET 1 OF 1	DIST.				

DEC FORM NO.16-1031
DRA 110

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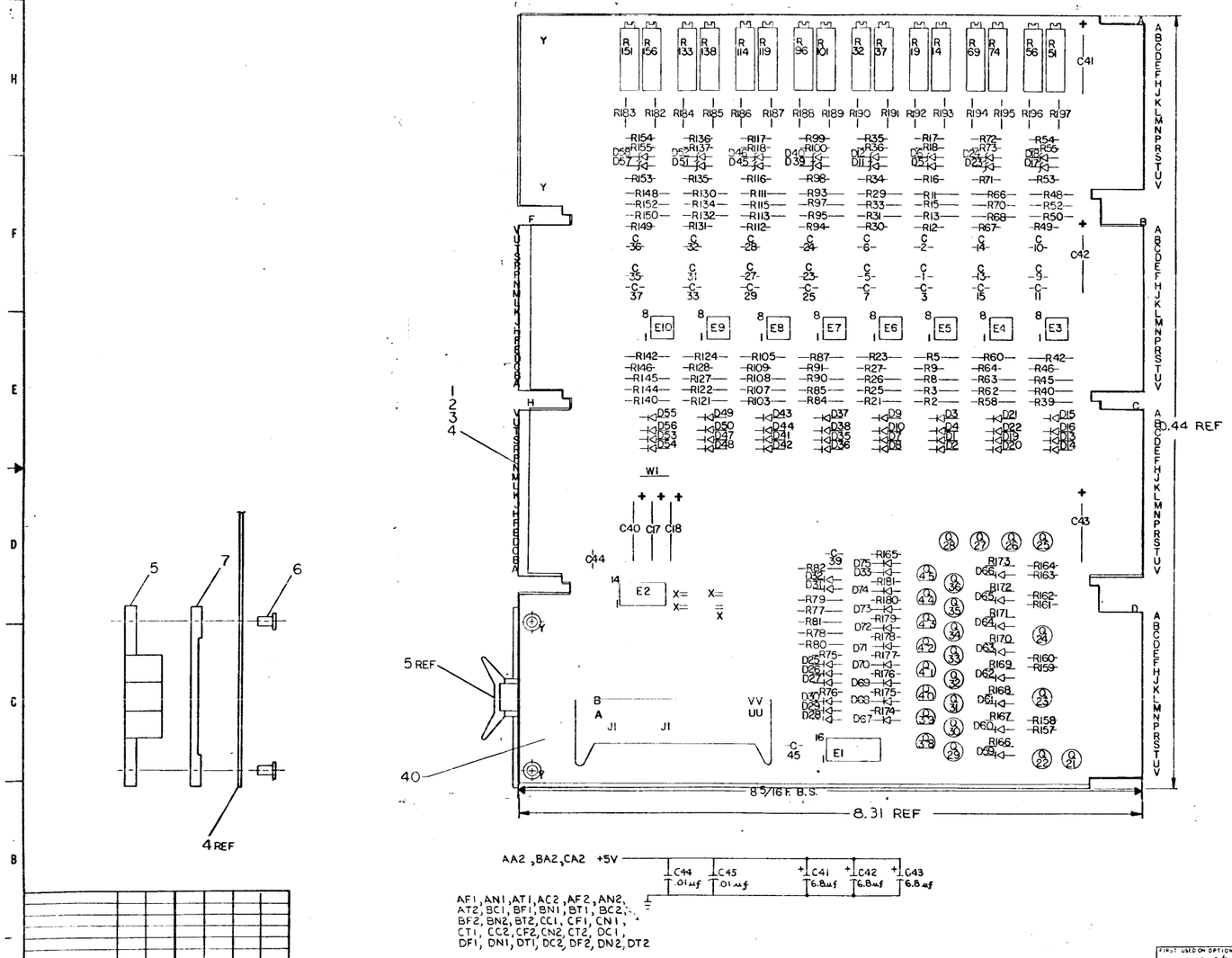
NOTES:

1. ++ INPUTS DESIGNATED AS "A" ARE POSITIVE, "B" INPUTS ARE NEGATIVE.
2. CHANNEL 10-17 DECODING ACCOMPLISHED BY REMOVING (0-7) AND ADDING (10-17) WIRING.
3. *R182-R197 ARE OPTIONAL BIAS RESISTORS. SEE LAB 8-E MAINTENANCE MANUAL.



QTY.	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
4	A, B, C, D	SPLIT LUGS	9006735	41
1	J1	CONNECTOR 40 PIN	1209541	40
1	E2	I.C. DEC 7404	1909686	39
1	E1	I.C. DEC 8251	1909594	38
8	E3-E10	I.C. 301 DIP	1910282	37
8	Q21-Q28	TRANSISTOR, 2N5163	1509233	36
~~20~~	~~Q1-Q20~~	~~TRANSISTOR, 2N4250~~	~~1509142~~	~~35~~
8	Q38-Q45	TRANSISTOR, DEC 6534-B	1503409-01	34
8	Q29-Q36	TRANSISTOR, DEC 3009B	1503100	33
8	R9, R27, R64, R91, R109, R128, R146	RES. 4.7 MEG, 1/4W, 5% CC	1309341	32
8	R19, R37, R54, R74 R101, R119, R138, R156	RES. POT 5K, 3/4W, 10% 76PR	1309143-09	31
8	R14, R32, R51, R69 R96, R114, R133, R151	RES. POT 100, 3/4W, 10% 76PR	1309143-04	30
8	R11, R29, R48, R66 R93, R111, R130, R148	RES. 38.3, 1/8W, 1% 100MFP	1305121	29
8	R13, R31 R50, R68 R95, R113, R132, R150	RES. 1.96K, 1/8W, 1% 100MFP	1304833	28
~~8~~	~~R1-R20, R30, R37 R83, R102, R120, R139~~	~~RES. POT 20K ABZV 2032~~	~~1309342~~	~~27~~
32	R2, R3, R5, R8, R21 R23, R25, R26, R39 R40, R42, R45, R58 R60, R62, R63, R84 R85, R87, R90, R103 R105, R107, R108, R121 R122, R124, R127, R140 R142, R144, R145	RES. 34.8K, 1/8W, 1% 100MFP	1303156	26
8	R15, R33, R52, R70 R97, R115, R134, R152	RES. 422, 1/8W, 1% 100MFP	1303067	25
2	R77, R78	RES. 121, 1/8W, 1% MF	1302957	24
2	R79, R81	RES. 511, 1/8W, 1% MF	1302411	23
~~4~~	~~R7, R13, R20, R126~~	~~RES. 82K, 1/4W, 5% CC~~	~~1301000~~	~~22~~
1	R165	RES. 15K, 1/4W, 5% CC	1300496	21
24	R17, R18, R35, R36 R54, R55, R72, R73 R99, R100, R117, R118 R136, R137, R154, R155 R157 - R164	RES. 10K, 1/4W, 5% CC	1300479	20
8	R166 - R173	RES. 3.3K, 1/4 W, 5% CC	1300439	19
10	R75, R76, R174 - R181	RES. 1.5K, 1/4W, 5% CC	1300391	18
8	R16, R34 R53 R71 R98, R116, R135, R153	RES. 1K, 1/4W, 5% CC	1300365	17
2	R80, R82	RES. 470, 1/2W, 5% CC	1300315	16
8	R12, R30 R49, R67 R94, R112, R131, R149	RES. 47, 1/4W, 5% CC	1300202	15
2	D31, D32	DIODE, IN823	1105508	14
16	D5, D6, D11, D12, D17 D18, D23, D24, D39 D40, D45, D46, D51 D52, D57, D58	DIODE, IN753	1102451	13
56	D1-D4, D7-D10, D13-D16, D19-D22, D25-D30, D33, D35-D38, D41-D44, D47-D50, D53-D56, D59-D75	DIODE, D664	1100114	12
~~8~~	~~C4, C8, C12, C16, C26 C30, C34, C38~~	~~CAP. 27PF, 100V, 5% MICA~~	~~1001739~~	~~11~~
19	C1, C2, C5, C6, C9, C10 C13, C14, C23, C24, C27 C28, C31, C32, C35 C36, C39, C44, C45	CAP. .01MFD, 100V, 20% DISC	1001610	10
6	C17, C18, C40, C41 C42, C43	CAP. 6.8 MFD, 35V, 20% TANT	1000067	9
8	C3, C7, C11, C15, C25 C29, C33, C37	CAP. 10PF 100V, 5% MICA	1000006	8
2		SPACER, CABLE CLAMP	1202704	7
4		EYELET, 054-11, STIMPSON	9006750	6
2		HANDLE, FLIP CHIP (AMBER)	9008337-0	5
1		ETCHED CIRCUIT BOARD	5009644	4
REF		MODULE HISTORY LIST	B MH-A232-0-6	3
REF		ASSY DRILLING HOLE LAYOUT	D AH-A232-0-5	2
REF		X Y COORDINATE HOLE LOC	K CO-A232-0-4	1

PARTS LIST

ETCH BOARD REV D

IC TYPE	GND	+5V
7404	7	14
DEC 8251	8	16

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

ITEM NO	AWG	FROM PT	TO PT

JUMPER LIST

FIRST USED ON OPTION/MODEL LAB 8/E	
IN753	-/-
IN823	-/-
2N5163	-/-
D664	IN3006
DEC 3009B	2N3009
2N4250	-/-
DEC 6534-B	MPS 6534
DEC NO.	EIA NO.

SEMICONDUCTOR CONVERSION CHART

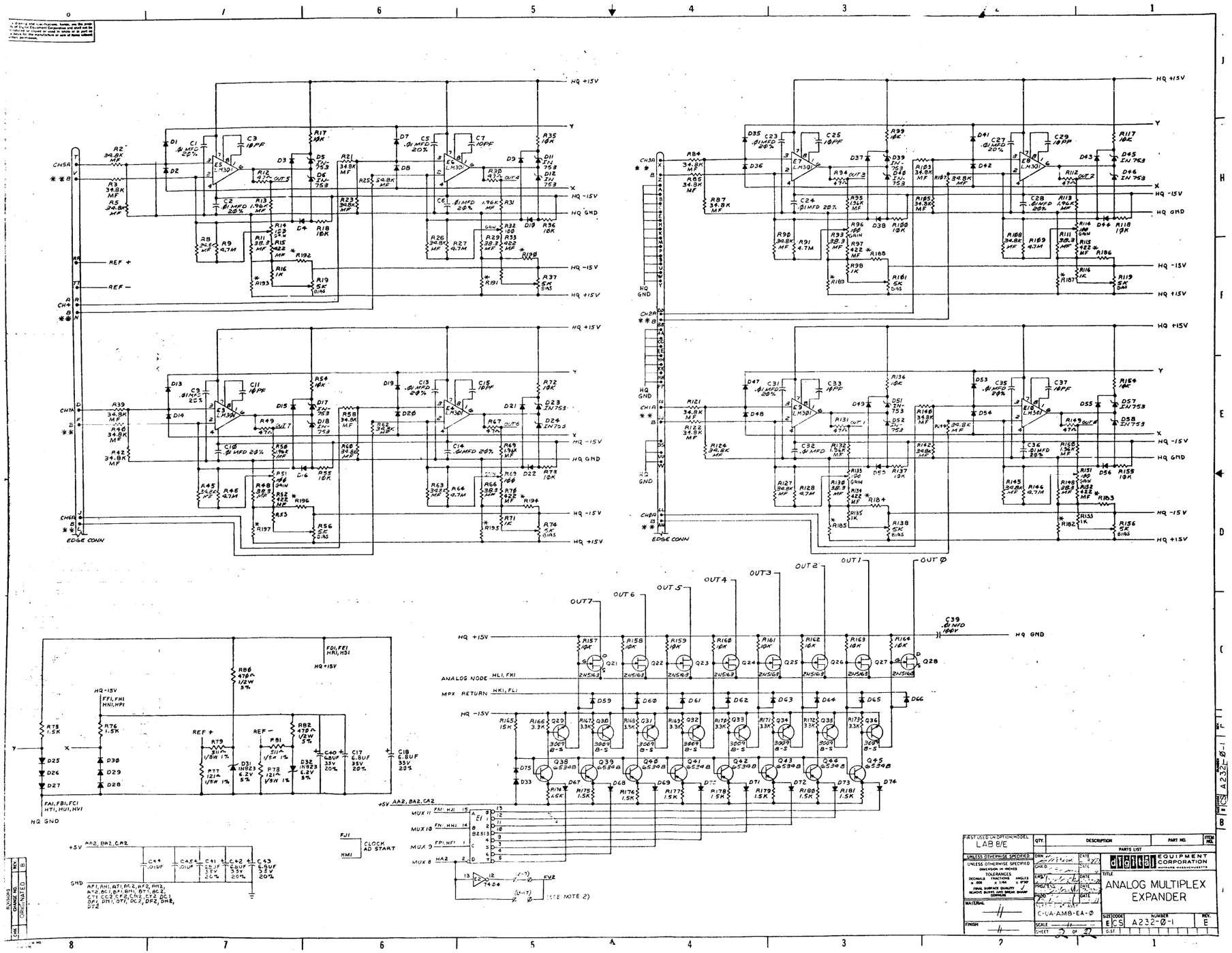
REV	DATE	CHANGE NO.	INITIATED
E	2-22-73	A232-00003	G. BUDANSKY
D	2-22-73	A232-00002	G. BUDANSKY
C	11/1/72		
B	11/1/72		
A	11/1/72		

DRAWN G. BUDANSKY 11/1/72
CHKD G. BUDANSKY 11/1/72
ENGR G. BUDANSKY 11/1/72
MGR G. BUDANSKY 11/1/72
MGR G. BUDANSKY 11/1/72
MGR G. BUDANSKY 11/1/72
MGR G. BUDANSKY 11/1/72
NEXT HIGHER ASSY C-UA-AMB-EA-0
SCALE 2/1
SHEET 1 OF 2

DIGITAL EQUIPMENT CORPORATION. MAYNARD, MASSACHUSETTS

TITLE ANALOG MULTIPLEX EXPANDER

SIZE E CODE CS NUMBER A232-0-1 REV. E


HQ +15V
HQ -15V
HQ GND
REF +
REF -
EDGE CONN
OUT 7
OUT 6
OUT 5
OUT 4
OUT 3
OUT 2
OUT 1
OUT Ø
ANALOG NODE
MPX RETURN
CLOCK AD START
MUX 11
MUX 10
MUX 9
MUX 8
+5V
GND
(SEE NOTE 2)
FIRST USED ON OPTION/MODEL
LAB 8/E
QTY.
DESCRIPTION
PART NO.
ITEM NO.
PARTS LIST
UNLESS OTHERWISE SPECIFIED
DIMENSIONS IN INCHES
TOLERANCES
DECIMALS ± .005
FRACTIONS ± 1/64
ANGLES ± 0°30'
FINISH SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS
MATERIAL
FINISH
DRN
CHK'D
ENG'G
PROJ'D
DATE
digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS
TITLE
ANALOG MULTIPLEX EXPANDER
C-UA-AMB-EA-Ø
SIZE CODE
ECS
NUMBER
A232-Ø-1
REV.
E
SCALE
SHEET 2 OF 27
D.S.T.
REVISIONS
REV.
CHANGE NO.
ORIG. NATED
CHK.

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ACCESSORY LIST

MADE BY K.Symes DATE 12-17-71	CHECKED M. Laurence DATE 12/21/71	SECTION
ENG G Burlinsky DATE 12-17-71	PROD Paul Thane DATE 1/4/72	ISSUED SECT.

LEGEND

D DOCUMENT
DN DOCUMENT CHANGE NOTICE
PA PAPER TAPE ASCII
PB PAPER TAPE BINARY
PM PAPER TAPE READ-IN-MODE

ITEM NO.	DWG NO./PART NO.	DESCRIPTION	AM8EA Alone	AM8EA with AM8EC or AM8ED						KIT CHECK BY ____ DATE ____	INSTALLATION CHECK BY ____ DATE ____
1	A232	Analog Multiplexer And Expander	1	1							
2	H851	Edge Connector	1	1							
3	7008533	Analog Cable	1	-							
4	AM8EA-0	AM8EA Print Set	1	1							
5	D-IA-7008533-0-0	Analog Cable Assembly Drawing	1	-							

TITLE	ASSY. NO.	SIZE	CODE	NUMBER	REV.	ECO NO
AM8-EA Accessory List	SHEET 1 OF 1	A	AL	AM8-EA-2		

DIST.

DEC FORM NO.
DRA 121