

PC11
reader/punch control
engineering drawings

DIGITAL EQUIPMENT CORPORATION • MAYNARD, MASSACHUSETTS

PC11 ENGINEERING DRAWINGS

Drawing No.	Title
A-ML-PC11-0	High-Speed Paper Tape Reader & Punch, Master List
A-PL-PC11-0-0	High-Speed Paper Tape Reader & Punch, Parts List
C-DI-PC11-0-1	Drawing Index (PC11)
D-MU-PC11-0-MU	Module Utilization
A-PL-PC11-0-MU	Module Utilization, Parts List
D-CS-M7810-0-1	PC11 Interface
A-SP-PC11-0-5	PC11/PR11 Test Procedure

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MASTER DRAWING LIST

DWG. NO.	REV. LET.	NO. OF SHEETS	TITLE
A-PL-PC11-0-0	D	1	HS PAPER TAPE RDR & PUNCH
C-DI-PC11-0-1	D	1	DRAWING INDEX
D-CS-M7810-0-1	#	4	PC11 INTERFACE
D-MU-PC11-0-MU	B	1	MODULE UTILIZATION
A-PL-PC11-0-MU	B	1	MODULE UTILIZATION
A-SP-PC11-0-5	B	5	PC11/PR11 TEST PROCEDURE
A-AL-PC11-0-6	B	1	ACCESSORY LIST

REVISIONS				DRN.	DATE	digital	EQUIPMENT CORPORATION				
REV.	DATE	CHG. NO.	APP'D.	CHK'D.	DATE		MAYNARD, MASSACHUSETTS	TITLE			
A	11/70	00001	D.C.	MARCOTTE	4/2/70	HS PAPER TAPE RDR & PUNCH (50HZ)		SIZE	CODE	NUMBER	REV.
B	9/71	00002	P.J.	PFYFFER	4/14/70			A	ML	PC11-0	J
C	11/71	00003	P.J.	ENG	5/14/70			SHEET 1 OF 1			
D	2/72	00004	P.J.	PROJ. ENG.	7/14/70			DIST.			
E	7/72	00005	P.J.	PRD.	7/14/70						
F	5/74	00006	P.J.	FIRST USED ON	5/5/70						
H	5/77	00007	P.J.	PDP11							
J	4/78	00008	H.D. (CAP)	SCALE	NONE						

ML

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS
PARTS LIST

MADE BY P. MARCOTTE	CHECKED AL PFYFFER	SECTION
DATE 4/2/70	DATE 4/14/70	1
ENG <i>P.E. Janson</i>	PROD <i>MacPhail</i>	ISSUED SECT.
DATE 5/4/70	DATE 5/5/70	1

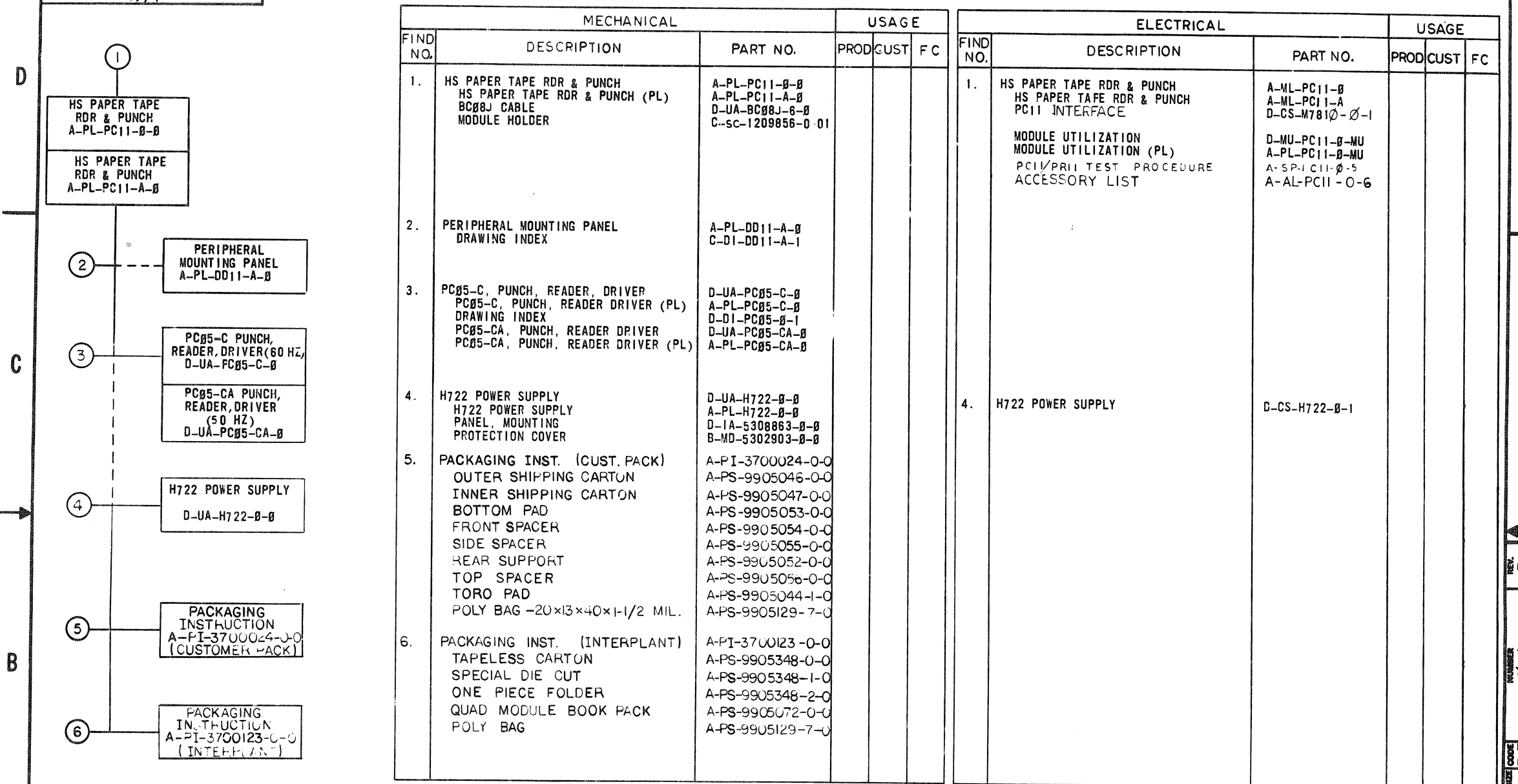
QUANTITY / VARIATION

ITEM NO.	DWG NO. / PART NO.	DESCRIPTION	QUANTITY / VARIATION																	
			PC11-0-0 (60HZ)	PC11-A-0 (50HZ)																
	A-PL-DD11-A-0	PERIPHERAL MOUNTING PANEL	1	1	(IF REQUIRED)															
	A-PL-PC11-0-MU	MODULE UTILIZATION	1	1																
	C-SC-1209856-0-01	MODULE HOLDER	A/R	A/R																
	D-UA-BC08J-6-0	BC08J CABLE 6FT.	*	*																
	D-UA-PC05-C-0	PC05-C, PUNCH, READER, DRIVER	1																	
	D-UA-PC05-CA-0	PC05-CA, PUNCH, READER, DRIVER		1																
	D-AR-PC11-0-4	OPTION ARRANGEMENT	1																	
	D-UA-BC08J-10-0	BC08J CABLE 10 FT.	*	*																
	A-PI-3700024-0-0	PACKAGING INSTRUCTIONS CUST. PACK	1	1																
	A-PI-3700123-0-0	PACKAGING INSTRUCTIONS INTERPLANT	1	1																
	23-760A9	BOOTSTRAP ROM, PC11 **	1	1																
	9906228	BOX ROM SHIPPING **	1	1																
	*NOTE: 2 EA. BC08F-X CABLES ARE REQUIRED. THE LENGTH IS DETERMINED BY THE SYSTEM CONFIGURATION.																			
	** NOTE: TO BE SHIPPED WITH PC11 AND USED WHEN HOST SYSTEM CONTAINS AN M9312 BOOT MODULE.																			

TITLE	ASSY NO.	SIZE CODE	NUMBER	REV.	ECO NO.
HS PAPER TAPE RDR & PUNCH		A PL	PC11-0-0	D	PC11-00008
SHEET 1 OF 1		DIST. G			

ML

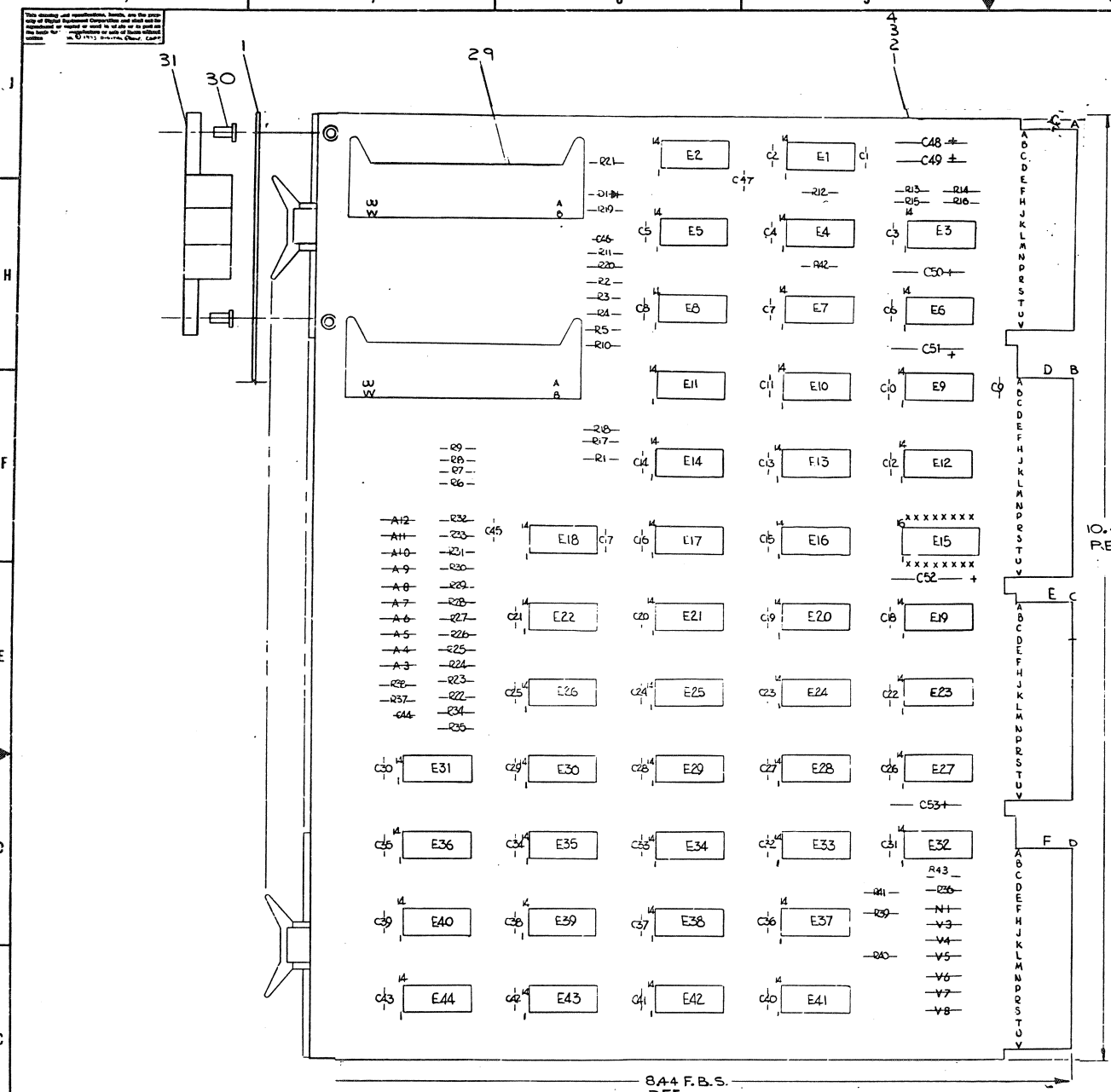
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MECHANICAL			USAGE		ELECTRICAL			USAGE			
FIND NO.	DESCRIPTION	PART NO.	PROD	CUST	FC	FIND NO.	DESCRIPTION	PART NO.	PROD	CUST	FC
1.	HS PAPER TAPE RDR & PUNCH HS PAPER TAPE RDR & PUNCH (PL) BC88J CABLE MODULE HOLDER	A-PL-PC11-0-0 A-PL-PC11-A-0 D-UA-BC88J-0-0 C-SC-1209856-0-01				1.	HS PAPER TAPE RDR & PUNCH HS PAPER TAPE RDR & PUNCH PC11 INTERFACE	A-ML-PC11-0 A-ML-PC11-A D-CS-M7810-0-1			
2.	PERIPHERAL MOUNTING PANEL DRAWING INDEX	A-PL-DD11-A-0 C-D1-DD11-A-1									
3.	PC85-C, PUNCH, READER, DRIVER PC85-C, PUNCH, READER DRIVER (PL) DRAWING INDEX PC85-CA, PUNCH, READER DRIVER PC85-CA, PUNCH, READER DRIVER (PL)	D-UA-PC85-C-0 A-PL-PC85-C-0 D-D1-PC85-0-1 D-UA-PC85-CA-0 A-PL-PC85-CA-0									
4.	H722 POWER SUPPLY H722 POWER SUPPLY PANEL, MOUNTING PROTECTION COVER	D-UA-H722-0-0 A-PL-H722-0-0 D-1A-5308863-0-0 B-MD-5302903-0-0				4.	H722 POWER SUPPLY	D-CS-H722-0-1			
5.	PACKAGING INST. (CUST. PACK) OUTER SHIPPING CARTON INNER SHIPPING CARTON BOTTOM PAD FRONT SPACER SIDE SPACER REAR SUPPORT TOP SPACER TORO PAD POLY BAG -20x13x40x1-1/2 MIL.	A-PI-3700024-0-0 A-PS-9905046-0-0 A-PS-9905047-0-0 A-PS-9905053-0-0 A-PS-9905054-0-0 A-PS-9905055-0-0 A-PS-9905052-0-0 A-PS-9905056-0-0 A-PS-9905044-1-0 A-PS-9905129-7-0									
6.	PACKAGING INST. (INTERPLANT) TAPELESS CARTON SPECIAL DIE CUT ONE PIECE FOLDER QUAD MODULE BOOK PACK POLY BAG	A-PI-3700123-0-0 A-PS-9905348-0-0 A-PS-9905348-1-0 A-PS-9905348-2-0 A-PS-9905072-0-0 A-PS-9905129-7-0									

REV.	CHANGE NO.	CHK	DATE	BY
A		EV	11/11/70	P. JANSON
B			11/11/70	P. JANSON
C			11/11/70	P. JANSON
D			11/11/70	P. JANSON

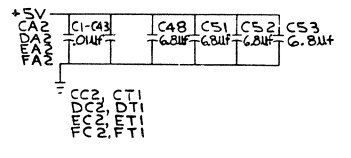
FIRST USED ON OPTION/MODEL PDP11	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES	CHK'D	DATE	TITLE	
TOLERANCES	ENG	DATE	DRAWING INDEX (PCII)	
DECIMALS ± .005	PROJ. ENG.	DATE	SIZE CODE	
FRACTIONS ± 1/64	PROD	DATE	NUMBER	
ANGLES ± 0°30'	FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	DATE	REV.	
MATERIAL	NEXT HIGHER ASSY	DATE	D	
FINISH	A-ML-PCII-0	DATE	C DI PCII-0-1	
	SCALE NONE		DIST. 6	
	SHEET 1 OF 1			



PIN NOMENCLATURE
MODULE SYSTEM UNIT

NOTES:
1.) PIN NOTATION THROUGHOUT IS ORDERED UPON MODULE PLACEMENT IN THE SYSTEM UNIT. MODULE REFERENCE ALONE IS OBTAINED BY CONVERTING THE FIRST LETTER ACCORDING TO THE PIN NOMENCLATURE CHART AT THE LEFT.
2.) JUMPERS TO BE USED AT CONNECTIONS A3-A12, N1, AND V3-V8.
3.) DEC 8640'S WERE PHASED IN AS 380 REPLACEMENTS. ANY 380 FAILURES SHOULD BE REPLACED BY 8640.

DEC 8640	1	3
C TYPE	G.D	+5V
GND AND 5V ARE USUALLY 7/8 AND 16 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE.	ITEM NO.	AWG FROM PT TO PT
PIN LOCATIONS		
JUMPER LIST		

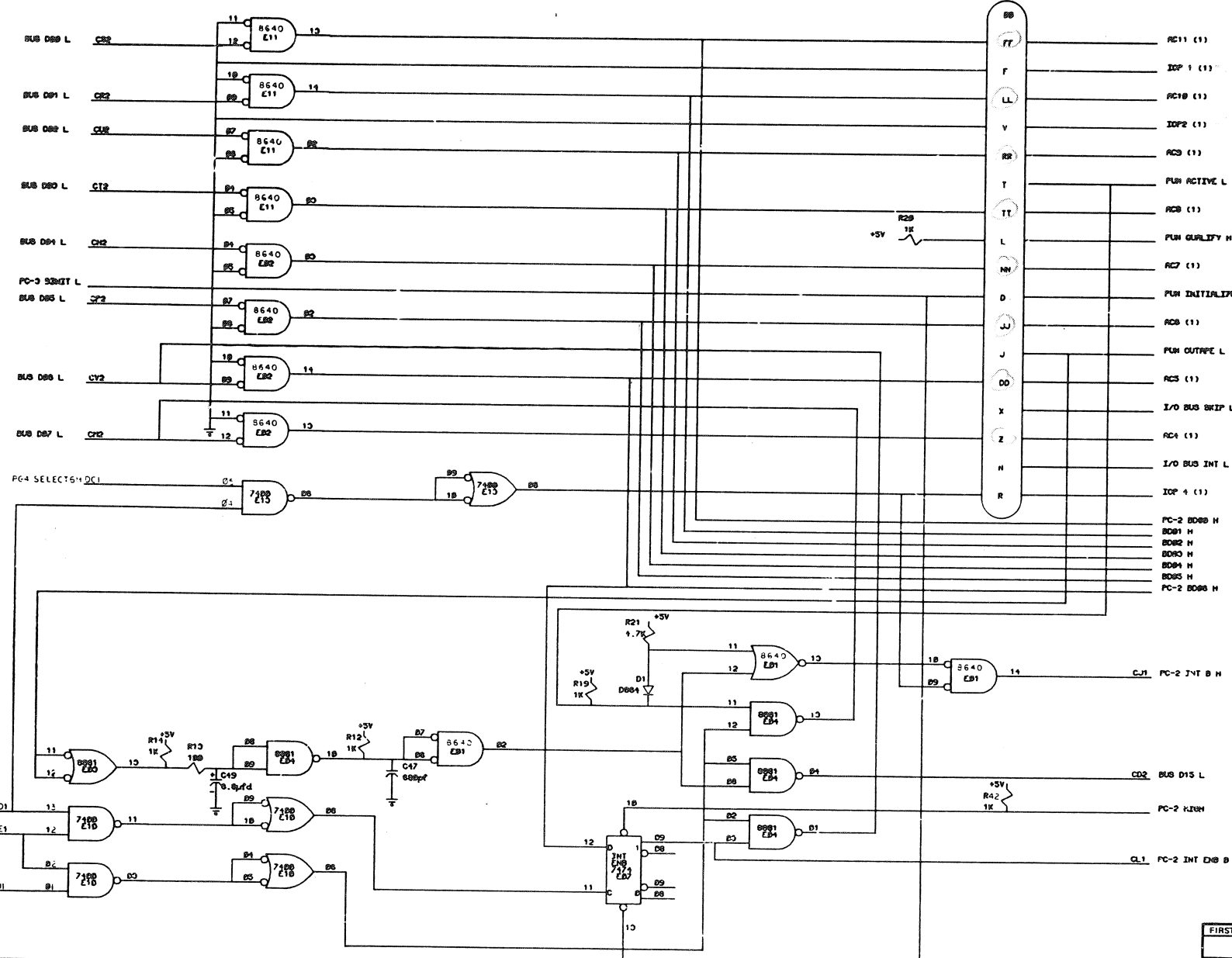


QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
17	W1-W17	JUMPER WIRE	9107560-01	34
25	R41-R42, R44-R45, R47-R48, R49, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100, R101, R102, R103, R104, R105, R106, R107, R108, R109, R110, R111, R112, R113, R114, R115, R116, R117, R118, R119, R120, R121, R122, R123, R124, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134, R135, R136, R137, R138, R139, R140, R141, R142, R143, R144, R145, R146, R147, R148, R149, R150, R151, R152, R153, R154, R155, R156, R157, R158, R159, R160, R161, R162, R163, R164, R165, R166, R167, R168, R169, R170, R171, R172, R173, R174, R175, R176, R177, R178, R179, R180, R181, R182, R183, R184, R185, R186, R187, R188, R189, R190, R191, R192, R193, R194, R195, R196, R197, R198, R199, R200, R201, R202, R203, R204, R205, R206, R207, R208, R209, R210, R211, R212, R213, R214, R215, R216, R217, R218, R219, R220, R221, R222, R223, R224, R225, R226, R227, R228, R229, R230, R231, R232, R233, R234, R235, R236, R237, R238, R239, R240, R241, R242, R243, R244, R245, R246, R247, R248, R249, R250, R251, R252, R253, R254, R255, R256, R257, R258, R259, R260, R261, R262, R263, R264, R265, R266, R267, R268, R269, R270, R271, R272, R273, R274, R275, R276, R277, R278, R279, R280, R281, R282, R283, R284, R285, R286, R287, R288, R289, R290, R291, R292, R293, R294, R295, R296, R297, R298, R299, R300, R301, R302, R303, R304, R305, R306, R307, R308, R309, R310, R311, R312, R313, R314, R315, R316, R317, R318, R319, R320, R321, R322, R323, R324, R325, R326, R327, R328, R329, R330, R331, R332, R333, R334, R335, R336, R337, R338, R339, R340, R341, R342, R343, R344, R345, R346, R347, R348, R349, R350, R351, R352, R353, R354, R355, R356, R357, R358, R359, R360, R361, R362, R363, R364, R365, R366, R367, R368, R369, R370, R371, R372, R373, R374, R375, R376, R377, R378, R379, R380, R381, R382, R383, R384, R385, 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R552, R553, R554, R555, R556, R557, R558, R559, R560, R561, R562, R563, R564, R565, R566, R567, R568, R569, R570, R571, R572, R573, R574, R575, R576, R577, R578, R579, R580, R581, R582, R583, R584, R585, R586, R587, R588, R589, R590, R591, R592, R593, R594, R595, R596, R597, R598, R599, R600, R601, R602, R603, R604, R605, R606, R607, R608, R609, R610, R611, R612, R613, R614, R615, R616, R617, R618, R619, R620, R621, R622, R623, R624, R625, R626, R627, R628, R629, R630, R631, R632, R633, R634, R635, R636, R637, R638, R639, R640, R641, R642, R643, R644, R645, R646, R647, R648, R649, R650, R651, R652, R653, R654, R655, R656, R657, R658, R659, R660, R661, R662, R663, R664, R665, R666, R667, R668, R669, R670, R671, R672, R673, R674, R675, R676, R677, R678, R679, R680, R681, R682, R683, R684, R685, R686, R687, R688, R689, R690, R691, R692, R693, R694, R695, R696, R697, R698, R699, R700, R701, R702, R703, R704, R705, R706, R707, R708, R709, R710, R711, R712, R713, R714, R715, R716, R717, R718, R719, R720, R721, R722, R723, R724, R725, R726, R727, R728, R729, R730, R731, R732, R733, R734, R735, R736, R737, R738, R739, R740, R741, R742, R743, R744, R745, R746, R747, R748, R749, R750, R751, R752, R753, R754, R755, R756, R757, R758, R759, R760, R761, R762, R763, R764, R765, R766, R767, R768, R769, R770, R771, R772, R773, R774, R775, R776, R777, R778, R779, R780, R781, R782, R783, R784, R785, R786, R787, R788, R789, R790, R791, R792, R793, R794, R795, R796, R797, R798, R799, R800, R801, R802, R803, R804, R805, R806, R807, R808, R809, R810, R811, R812, R813, R814, R815, R816, R817, R818, R819, R820, R821, R822, R823, R824, R825, R826, R827, R828, R829, R830, R831, R832, R833, R834, R835, R836, R837, R838, R839, R840, R841, R842, R843, R844, R845, R846, R847, R848, R849, R850, R851, R852, R853, R854, R855, R856, R857, R858, R859, R860, R861, R862, R863, R864, R865, R866, R867, R868, R869, R870, R871, R872, R873, R874, R875, R876, R877, R878, R879, R880, R881, R882, R883, R884, R885, R886, R887, R888, R889, R890, R891, R892, R893, R894, R895, R896, R897, R898, R899, R900, R901, R902, R903, R904, R905, R906, R907, R908, R909, R910, R911, R912, R913, R914, R915, R916, R917, R918, R919, R920, R921, R922, R923, R924, R925, R926, R927, R928, R929, R930, R931, R932, R933, R934, R935, R936, R937, R938, R939, R940, R941, R942, R943, R944, R945, R946, R947, R948, R949, R950, R951, R952, R953, R954, R955, R956, R957, R958, R959, R960, R961, R962, R963, R964, R965, R966, R967, R968, R969, R970, R971, R972, R973, R974, R975, R976, R977, R978, R979, R980, R981, R982, R983, R984, R985, R986, R987, R988, R989, R990, R991, R992, R993, R994, R995, R996, R997, R998, R999, R1000			

DEC NO.	EIA NO.	DEC NO.	EIA NO.	SCALE	SHEET	REV
054	IN 300			1/4	1	1
SEMICONDUCTOR CONVERSION CHART						

PCII INTERFACE
PC-1

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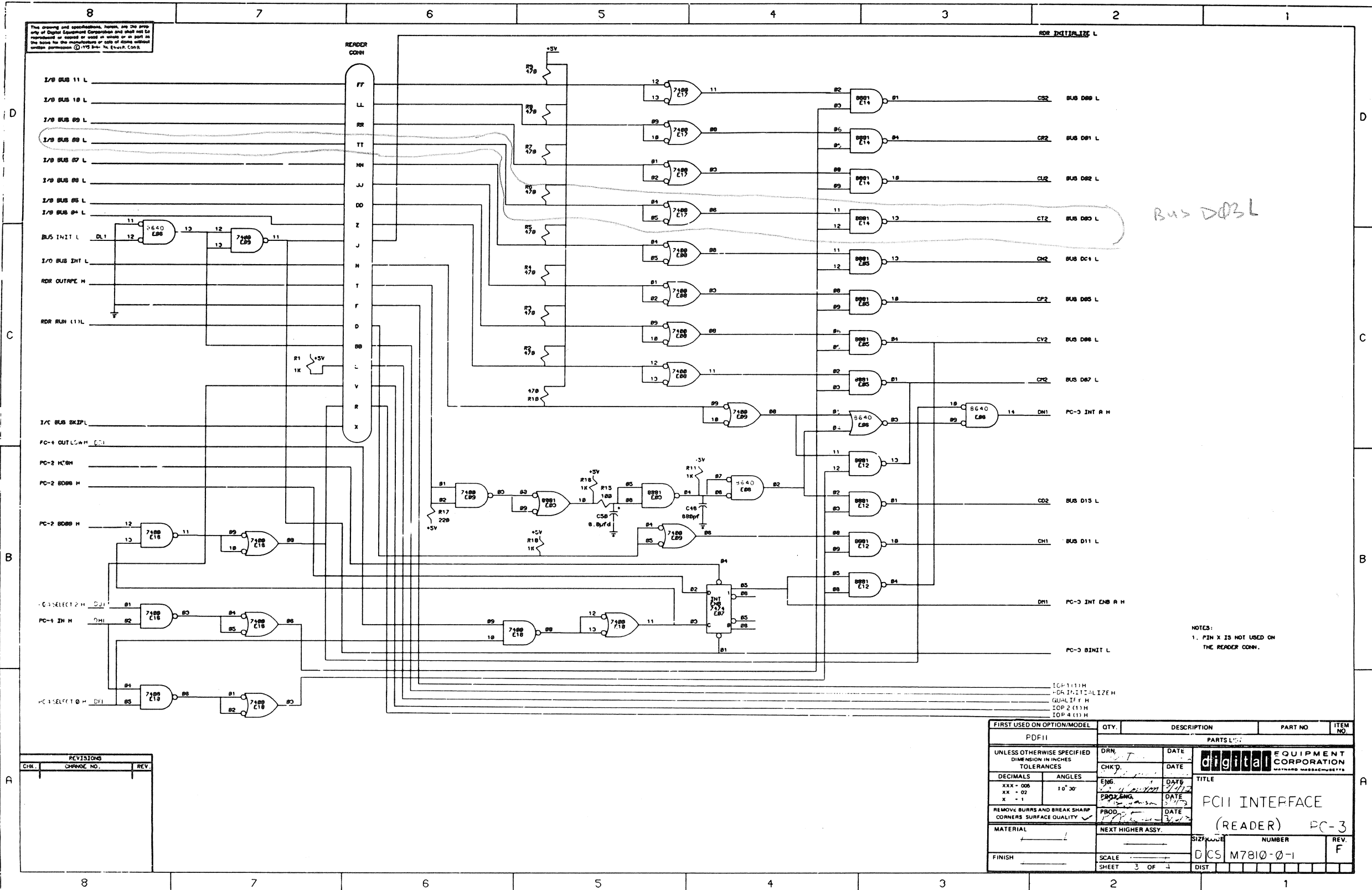
NOTES:
 1. THE FOLLOWING PINS ARE BROUGHT ON BOTH THE PUNCH AND THE READER CONN:
 S.A.C.E.H.F.R.P.S.U.H.V.A.R.C.C.EE.
 M.H.E.P.P.S.S.U.V.V.
 2. THE FOLLOWING PINS ARE NOT USED BY THE PUNCH CONN: X.H.SS

PC-2 IN H	PC-2 OUT H	PC-4 IN H	BUS IN H	BUS OUT H	BUS IN L	BUS OUT L	PC-4 IN L	PC-4 OUT L	PC-2 IN H	PC-2 OUT H	PC-4 IN L	PC-4 OUT L
1	2	3	4	5	6	7	8	9	10	11	12	13
D02	D03	D04	D05	D06	D07	D08	D09	D10	D11	D12	D13	D14
BUS B07 L	BUS B08 L	BUS B09 L	BUS B10 L	BUS B11 L	BUS B12 L	BUS B13 L	BUS B14 L	BUS B15 L	BUS B16 L	BUS B17 L	BUS B18 L	BUS B19 L
BUS B20 L	BUS B21 L	BUS B22 L	BUS B23 L	BUS B24 L	BUS B25 L	BUS B26 L	BUS B27 L	BUS B28 L	BUS B29 L	BUS B30 L	BUS B31 L	BUS B32 L
BUS B33 L	BUS B34 L	BUS B35 L	BUS B36 L	BUS B37 L	BUS B38 L	BUS B39 L	BUS B40 L	BUS B41 L	BUS B42 L	BUS B43 L	BUS B44 L	BUS B45 L
BUS B46 L	BUS B47 L	BUS B48 L	BUS B49 L	BUS B50 L	BUS B51 L	BUS B52 L	BUS B53 L	BUS B54 L	BUS B55 L	BUS B56 L	BUS B57 L	BUS B58 L
BUS B59 L	BUS B60 L	BUS B61 L	BUS B62 L	BUS B63 L	BUS B64 L	BUS B65 L	BUS B66 L	BUS B67 L	BUS B68 L	BUS B69 L	BUS B70 L	BUS B71 L
BUS B72 L	BUS B73 L	BUS B74 L	BUS B75 L	BUS B76 L	BUS B77 L	BUS B78 L	BUS B79 L	BUS B80 L	BUS B81 L	BUS B82 L	BUS B83 L	BUS B84 L
BUS B85 L	BUS B86 L	BUS B87 L	BUS B88 L	BUS B89 L	BUS B90 L	BUS B91 L	BUS B92 L	BUS B93 L	BUS B94 L	BUS B95 L	BUS B96 L	BUS B97 L
BUS B98 L	BUS B99 L	BUS B100 L	BUS B101 L	BUS B102 L	BUS B103 L	BUS B104 L	BUS B105 L	BUS B106 L	BUS B107 L	BUS B108 L	BUS B109 L	BUS B110 L

REVISIONS		
CHK.	CHANGE NO.	REV.

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDF11				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	PARTS LIST		
.XXX - .005	10° 30'	DRN	DATE	digital EQUIPMENT CORPORATION TITLE PC11 INTERFACE (PUNCH) PC-2 SIZE CODE NUMBER REV DCS M7810-0-1 F SCALE SHEET 2 OF 4 DIST.
.XX - .02		CHK'D	DATE	
X - .1		ENG.	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROJ. ENG.	DATE	
		PROD.	DATE	
MATERIAL	NEXT HIGHER ASSY.			

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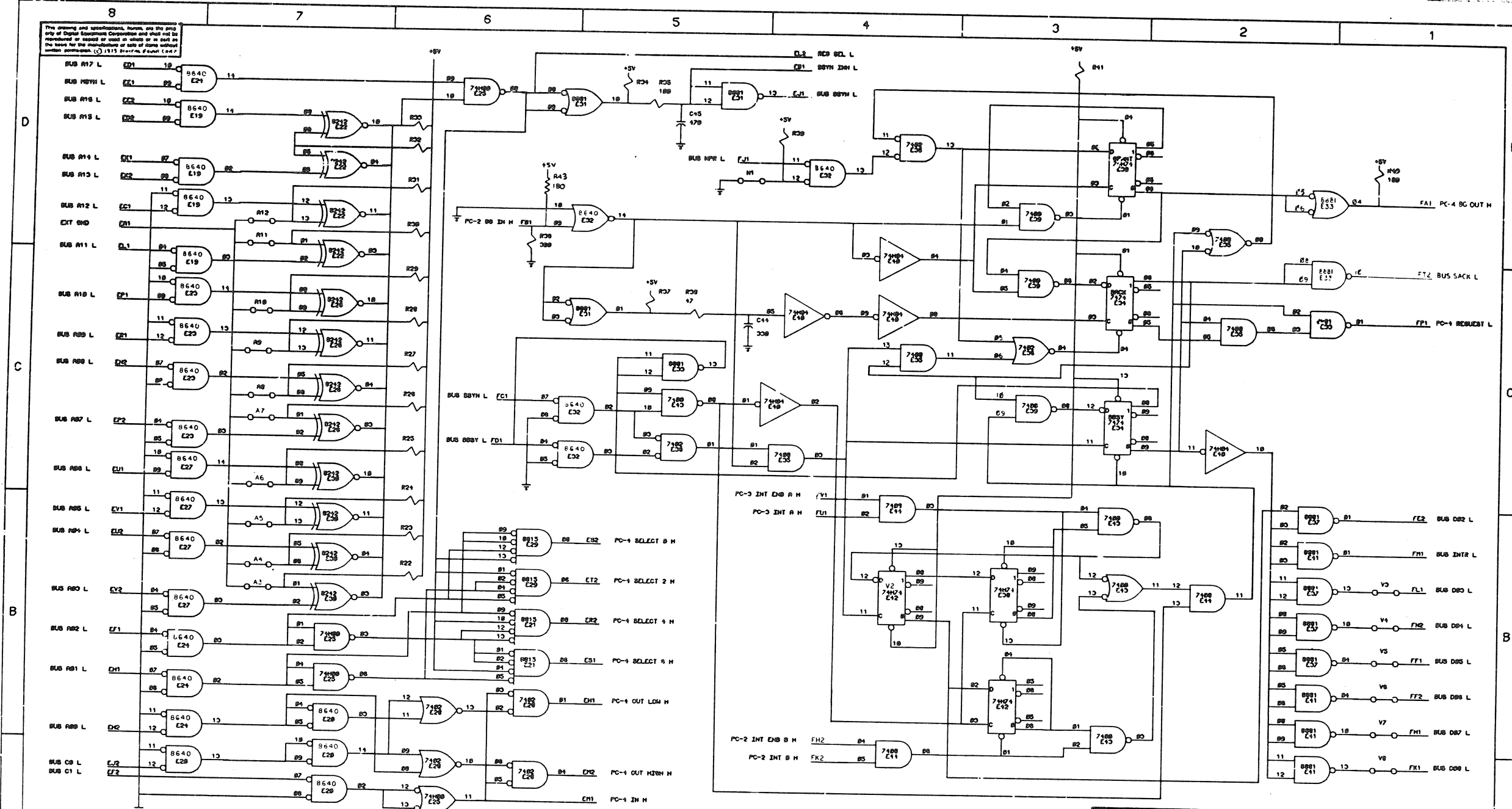
BUS D03L

NOTES:
1. PIN X IS NOT USED ON THE READER CONN.

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDF11				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	PARTS LIST		
xxx - .005	10° 30'	DRN	DATE	 DIGITAL EQUIPMENT CORPORATION <small>MAYNARD, MASSACHUSETTS</small>
xx - .02	x - 1	CHK'D	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		ENG.	DATE	
		PROD.	DATE	
MATERIAL	NEXT HIGHER ASSY.	TITLE		
FINISH	SCALE	PCII INTERFACE (READER) PC-3		
	SHEET 3 OF 4	SIZE	NUMBER	REV.
		DIST	DCS M7810-0-1	F

REVISIONS		
CHR.	CHANGE NO.	REV.

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REVISIONS		
CHG.	CHANGE NO.	REV.

- NOTES:
- UNLESS OTHERWISE INDICATED, RESISTORS ARE 1/4W, 5% CAPACITOR VALUES ARE IN PICOFARADS.
 - THE ADDRESS LINES ARE TO BE JUMPED FOR A 8 AND THE VECTOR LINES ARE JUMPED FOR A 1.FINAL JUMPER CONFIGURATION TO BE DETERMINED AT SYSTEM CHECKOUT.

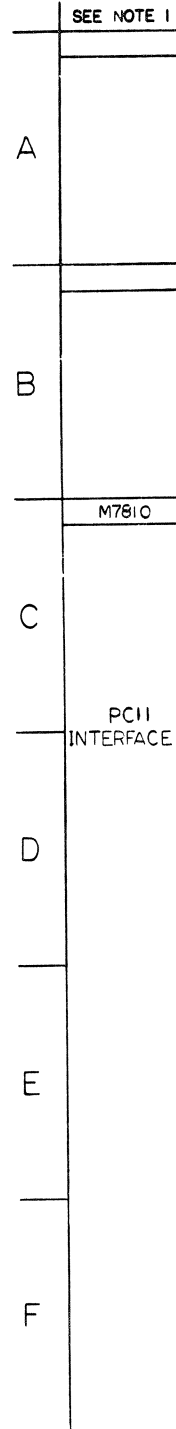
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FDPI1				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES			
XXX - .008	XX - .03	10° 30'		
X - .1				
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL	NEXT HIGHER ASSY.			
FINISH	SCALE			
	SHEET	4 OF 4		

PARTS LIST			
DRM	DATE	Digital EQUIPMENT CORPORATION	
CHK'D	DATE	TITLE	
ENG.	DATE	PCI INTERFACE	
APP'D	DATE	(ADDRESS SELECTION & INTERRUPT CONT.) PC-4	
PROD.	DATE	SIZE/CODE	NUMBER
		D CS	M7810-0-1
		DIST.	

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NOTES:
 SLOT 13 OR 14 IN THE KALI PROCESSOR OR,
 SLOT 1,2,3 OR 4, IN THE DDII-A.

SEE NOTE 1



REV.	CHANGE NO.	DATE	BY	APP.
A	00003	12-10-71	PJANSON	
B	00004	12-12-71	PJANSON	
C	00004	12-12-71	PJANSON	
D	00004	12-12-71	PJANSON	
E	00004	12-12-71	PJANSON	
F	00004	12-12-71	PJANSON	

FIRST USED ON OPTION / MODEL
 PCP II

DO NOT SCALE DRAWING
 UNLESS OTHERWISE SPECIFIED
 DIMENSION IN INCHES
 TOLERANCES
 DECIMALS FRACTIONS ANGLES
 ±.005 ± 1/64 ± 0°30'
 FINAL SURFACE QUALITY
 REMOVE BURRS AND BREAK SHARP
 CORNERS

CHK'D	DATE
DRN	2/17/70
CHK'D	1/28/70
ENG	1/28/70
PROJ. ENG.	1/28/70
PROD.	5/17/70

QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST			
	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		
	TITLE MODULE UTILIZATION		
	NEXT HIGHER ASSY A-ML-PCII-Ø		
	SCALE NONE		
	SHEET OF 1		
		SHEET CODE DMU PCII-Ø-MU	REV B

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

QUANTITY / VARIATION

MADE BY P. MARCOTTE	CHECKED AL PFYFFER	SECTION
DATE 3/16/70	DATE 4/14/70	1
ENG <i>W. Johnson</i>	PROD <i>Howard Donald</i>	ISSUED SECT.
DATE 5/4/70	DATE 5/5/70	1

ITEM NO.	DWG NO. / PART NO.	DESCRIPTION	QUANTITY / VARIATION												
	M7810	PCII INTERFACE	1												
	5408776	PRIORITY JUMPER LEVEL#4	1												

TITLE MODULE UTILIZATION	ASSY NO. D-MU-PC11- 1 -MU	SIZE CODE A PL	NUMBER PC11- 1 -MU	REV. B	ECO NO. PCII - 00004
SHEET 1 OF 1		DIST			

DEC FORM NO.
DRA 110

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DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS						
ENGINEERING SPECIFICATION					DATE 9/1/70	
TITLE PC11/PR11 TEST PROCEDURE						
REVISIONS						
REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE
A	/ / /	PC11-00003	P. JANSON	12-71	<i>P. E. Janson</i>	12-8-71
B		PC11-00004	P. JANSON	2-72	<i>P. E. Janson</i>	2-22-72

ENG <i>P. E. Janson</i>	APPD <i>P. E. Janson</i>	SIZE A	CODE SP	NUMBER PC11-0-5	REV B
				SHEET 1 OF 5	

CONTINUATION SHEET																																										
TITLE PC11/PR11 TEST PROCEDURE																																										
<p>2.6.4 If for some reason one of the other slots in the DD11 must be used, each preceding (unused) D slot must contain a G727.</p> <p>FOR EXAMPLE: If the option modules are installed in C, D, E & F four, slots D01, D02 & D03 must contain G727 grant continuity modules.</p> <p>2.7 Connect I/O cables as follows:</p> <p>2.7.1 Reader cable (BC08J) from the reader plug on the M781 to slot B9 in the PCO logic.</p> <p>2.7.2 Punch cable (BC08J) from the punch plug on the M781 to slot B10 in the PCO logic.</p> <p>2.8 Turn on power to the PCO with the switch located on the rear of the PCO.</p> <p>3.0 PC11/PR11 TESTING</p> <p>3.1 If not previously loaded, load the diagnostic (Maindec 11-D2BA) into memory via the tape loader.</p> <p>3.1.1 Put halt switch down, set the switch register to all 0's. Depress the LOAD ADDR switch and then hit the START switch (to initialize).</p> <p>3.1.2 Place tape in reader.</p> <p>3.1.3 Depress feed switch on reader.</p> <p>3.1.4 Depress SW1 switch on loader control panel.</p> <p>3.1.5 After tape is read, if END light comes on, the tape is loaded correctly. If ERROR light comes on go back to step 3.1.1 and reload tape.</p> <p>3.2 The diagnostic (D2BA) consists of 12 different tests. All of these tests have a loading address of 200, but have varying switch register settings for starting.</p> <p>3.3 Below is a table which lists the tests, run times (as indicated) for one successful pass of the test, and use of the test as it applies to the PC11 or PR11.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Test</th> <th>Run Time (Min.)</th> <th>Use</th> </tr> </thead> <tbody> <tr><td>PRG0</td><td>3.0</td><td>PC11, PR11</td></tr> <tr><td>PRG1</td><td>3.5</td><td>PC11, PR11</td></tr> <tr><td>PRG2</td><td>1.5</td><td>PC11</td></tr> <tr><td>PRG3</td><td>8.0</td><td>PC11</td></tr> <tr><td>PRG4</td><td>See 3.5.3</td><td>PC11</td></tr> <tr><td>PRG5</td><td>See 3.5.4</td><td>PC11</td></tr> <tr><td>PRG6</td><td>See 3.5.5</td><td>PC11</td></tr> <tr><td>PRG7</td><td>See 3.5.5</td><td>PC11, PR11</td></tr> <tr><td>PRG10</td><td>See 3.5.5</td><td>PC11, PR11</td></tr> <tr><td>PRG11</td><td>See 3.5.5</td><td>PC11</td></tr> <tr><td>PRG12</td><td>See 3.5.6</td><td>PC11, PR11</td></tr> <tr><td>PRG13</td><td>See 3.5.6</td><td>PC11</td></tr> </tbody> </table> <p>3.4 To run any test, set the switch register to 200 and hit load addr key. Set the switch register equal to the number of the test to be run and hit the start key. Operating instructions will be typed out along with normal switch register settings. Follow the instructions and set the switch register as desired, then hit continue.</p>				Test	Run Time (Min.)	Use	PRG0	3.0	PC11, PR11	PRG1	3.5	PC11, PR11	PRG2	1.5	PC11	PRG3	8.0	PC11	PRG4	See 3.5.3	PC11	PRG5	See 3.5.4	PC11	PRG6	See 3.5.5	PC11	PRG7	See 3.5.5	PC11, PR11	PRG10	See 3.5.5	PC11, PR11	PRG11	See 3.5.5	PC11	PRG12	See 3.5.6	PC11, PR11	PRG13	See 3.5.6	PC11
Test	Run Time (Min.)	Use																																								
PRG0	3.0	PC11, PR11																																								
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PRG6	See 3.5.5	PC11																																								
PRG7	See 3.5.5	PC11, PR11																																								
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PRG11	See 3.5.5	PC11																																								
PRG12	See 3.5.6	PC11, PR11																																								
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SIZE A	CODE SP	NUMBER PC11-0-5	REV B																																							
			SHEET 3 OF 5																																							

CONTINUATION SHEET											
TITLE PC11/PR11 TEST PROCEDURE											
<p>1.0 TEST EQUIPMENT</p> <p>1.1 A known good PC11 module</p> <p>1.2 A 453 scope and voltage probes.</p> <p>1.3 Extender modules</p> <p>1.3.1 2 double width</p> <p>1.4 Small option test station equipped with:</p> <p>1.4.1 KAl1 processor</p> <p>1.4.2 4K of memory</p> <p>1.4.3 DD11 option panel with 3 G727 grant continuity boards</p> <p>1.4.4 Tape loader</p> <p>1.4.5 Test stand</p> <p>1.4.6 Teletype</p> <p>1.4.7 H722 step down transformer</p> <p>2.0 TEST SET UP</p> <p>2.1 Remove PC05 or PC05R from its carton</p> <p>2.2 Remove chassis track slides from PC or PR to permit installation into test station cabinet</p> <p>2.3 Remove metal cover over the modules to permit installation of I/O cables</p> <p>2.4 Install PCO to be tested in the chassis tracks provided in the test station cabinet</p> <p>2.5 Connect AC power to the PCO:</p> <p>2.5.1 115 VAC @ 60HZ to PC11 or PR11</p> <p>2.5.2 115 VAC @ 50HZ to PC11A or PR11A by using the output of the H722 step down transformer</p> <p>2.6 Install PC11/PR11 modules in the DD11 located in the test stand as follows:</p> <p>2.6.1 M781 in slots C,D,E,F, with a level #4 priority plug installed.</p> <p>2.6.2 Address assignment: cut all "A" jumpers except A4 and A7 this gives address 777550</p> <p>2.6.3 Vector assignment: cut all "V" jumpers except V5, V4 and V3. Cut N1. This gives Vector address 70</p>											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>SIZE A</td> <td>CODE SP</td> <td>NUMBER PC11-0-5</td> <td>REV B</td> </tr> <tr> <td colspan="3"></td> <td style="text-align: center;">SHEET 2 OF 5</td> </tr> </table>				SIZE A	CODE SP	NUMBER PC11-0-5	REV B				SHEET 2 OF 5
SIZE A	CODE SP	NUMBER PC11-0-5	REV B								
			SHEET 2 OF 5								

CONTINUATION SHEET											
TITLE PC11/PR11 TEST PROCEDURE											
<p>For more specific switch settings refer to sections 4.1 to 4.12 of the diagnostic abstract.</p> <p>3.5 Diagnostic Testing Sequence:</p> <p>3.5.1 Run one pass (for time given in table 3.3) each of PRG0, PRG1 and PRG2.</p> <p>3.5.2 Run one pass of PRG3 for the time indicated in table 3.3. Pick a section of the data portion of the tape just punched and test it by inserting it into a tape registration guide (Friden # T8118). If the tape punched doesn't fit the guide, run PRG13 to determine if the punch speed is correct. Adjust to correct speed and rerun PRG3 with guide test (3.5.2)</p> <p>3.5.3 If no failures occurred in the testing done in 3.5.2, run test PRG4 using the tape just punched.</p> <p>3.5.4 Run PRG5 as follows:</p> <ol style="list-style-type: none"> After operating instructions have been typed out take the special binary count tape (D2G4) and load it into the reader. Set switches to all 0's hit the start key. At the end of the data portion of the tape being read, the computer will stop. Using the tape just punched instead of D2G4, repeat steps 1-3 two more times. <p>3.5.5 Tests PRG6-PRG11 are not to be run during normal testing except as trouble shooting aids.</p> <p>3.5.6 Run one pass each of PRG12 and PRG13 using the 30 second testing period for PRG12.</p> <p>3.6 If any of the tests run in 3.5.1 to 3.5.6 cause failures, refer to section 4.0.</p> <p>3.7 Vibrate the PC11/PR11 module. (M7810) while running PRG5. Use a standard vibrating wand, as described in DEC standard 7665057-0-0.</p> <p>4.0 FAILURES</p> <p>4.1 Adjustment failures may occur during testing. All adjustments are preset, but should a minor adjustment be necessary, use the following procedure: PCO reader setup Dated March 18, 1970 Written by C. A. Youse (of Special Products, Peripheral Equipment Engineering, located at 4-5)</p> <p>4.2 When a defective module is detected, it should be tagged and returned to the stockroom for replacement.</p> <p>4.2.1 After a module replacement, start retest at step 3.4.</p> <p>4.3 Note: Any failure of the PCO other than noted in 4.1 constitutes a problem sufficient to remove the PCO from the station and send it back to off-line testing for examination.</p> <p>5.0 HEAT TEST</p> <p>5.1 Heat test should be run only after successful completion of all previously indicated tests.</p>											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>SIZE A</td> <td>CODE SP</td> <td>NUMBER PC11-0-5</td> <td>REV B</td> </tr> <tr> <td colspan="3"></td> <td style="text-align: center;">SHEET 4 OF 5</td> </tr> </table>				SIZE A	CODE SP	NUMBER PC11-0-5	REV B				SHEET 4 OF 5
SIZE A	CODE SP	NUMBER PC11-0-5	REV B								
			SHEET 4 OF 5								

TITLE PC11/PR11 TEST PROCEDURE

- 5.2 For PR11 heat testing run PRG1. For PC11 heat testing run PRG5 as indicated in 3.5.4.
- 5.3 Start diagnostic. Close the bottom door of the heat chamber, turn on the heater (heater control is preset to 50°C).
- 5.3.1 Start the computer running the test indicated in 5.2.
- 5.3.2 Close the bottom door of the heat chamber and turn on the heater (heater control is preset to 50°C).
- 5.3.3 When 50°C is reached, the top light on the heater control box will go out. Continue running, the diagnostic for 10 minutes more with the door closed.
- 5.3.4 If no errors occur, turn off the heater, open the bottom door and allow it to cool.
- 5.3.5 NOTE: Do not stop the program until the temperature has returned to normal (ambient).
- 5.4 If unit fails in heat, refer to the typeout and the program write up, then go to 4.0 of this procedure.

6.0 TEST COMPLETION

- 6.1 Disconnect I/O cables and AC power.
- 6.2 For PC11, remove tape from unit and empty the chad box.
- 6.3 Remove PCO from test station.
- 6.4 Replace cover over modules and chassis tracks on PCO.
- 6.5 Put tested unit back into shipping container and send to the stockroom.

DEC FORM NO	SIZE	CODE	NUMBER	REV
29A 1094	A	SP	PC11-0-5	B

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS ACCESSORY LIST

MADE BY K. HAMEL	CHECKED <i>6/16/72</i>	SECTION
DATE 6/16/72	DATE <i>6/16/72</i>	
ENG <i>Paul E. Johnson</i>	PROD	ISSUED SECT.
DATE 6-22-72	DATE	

LEGEND

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

ITEM NO.	DWG NO. / PART NO.	DESCRIPTION	QUANTITY / VARIATION			KIT CHECK	INSTALLATION CHECK
			PC11 (60 HZ)	PC11A (50 HZ)	PR11 (50/60 HZ)	BY _____ DATE _____	BY _____ DATE _____
1	DEC-11-HPCB-D	PC11 Control Engineering Drawings	1	1			
2	DEC-11-HPCC-D	Maintenance Manual	1	1			
3	LIBKIT-11-PC11	Software Kit	1	1			
4	DEC-00-PC0A-D(1)	PC04/PC05 Maintenance Manual (Vol. 1)	1	1			
5	DEC-00-PC04/5 Dwg.	PC04/PC05 Engineering Drawings (Vol. 2)	1	1			
6	Punch	Punch Manual	1	1			
7	36-5356	Punch Paper	4	4			
8	74-5300	Chad Box	1	1			
		NOTE: ITEMS 9 AND 10 MUST BE ADDED FOR FIELD ADD-ONS ONLY:					
9	90-8851	Mounting Hardware Bag	1	1			
10	91-9673-06	AC Line Cord 6'	1	1			
11	9906228	BOX *	1	1			
12	23760A9	BOOTSTRAP ROM, PC11 *	1	1			
		* ITEMS 11 & 12 SUPPLIED BY VOLUME MANUFACTURER.					

TITLE HIGH SPEED READER AND PUNCH (PDP-11)	ASSY. NO.	SIZE CODE A	SHEET 1 OF 1	NUMBER PC11-0-6	REV. B	ECO NO PC11-00008
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ML