

PDP-11/35 BUSINESS PLAN

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Jack MacKeen
PDP-11/OEM Marketing
March, 1973

PDP-11/35 BUSINESS PLAN - SYNOPSIS

1. Product

PDP-11/40 CPU in 10½ Inch Box

2. Basic price includes:

1. CPU
2. Box with slides
3. Console
4. Power Supply
5. 8K memory (MF/ME/MM11S)

3. Cost (on basis of 1,000 units)

\$2,482

4. Price Recommended

\$9,995

5. Discount/Terms

Type I OEM - Return to Factory Warranty

6. Gross Margin at Average OEM Discount (29%)

\$4,614-65%

7. Related/Affected Product

PDP-11/05, PDP-11/15, PDP-11/40

8. Announcement/Delivery Plans

Announced to selected customers starting in April. General announcements in June. Initial deliveries end of May/June to selected customers (current 11/15 or 11/40 customers) based on availability of memory.

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TABLE OF CONTENTS

	<u>Page</u>
I. Product Description	1
II. Cost Data	4
III. Margin Analysis/Recommended Price	5
IV. Product Unit Forecast	6
V. Related/Affected Products	7
VI. Product Schedules	9
VII. Competition	13

APPENDIX A

Cost/Margin Work Sheets

APPENDIX B

Product Photographs/Sketches

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I. PRODUCT DESCRIPTION

The PDP-11/35 packages the 11/40 processor in a 10½ inch high chassis. It consists of a rack-mountable box 10½ inches high, 17 inches wide, and 23¼ inches deep. This box has the capability of mounting five PDP-11 System units. Two of these are used for the central processor and its options. The three remaining spaces are for memory and/or peripherals. Power is provided by the H750 supply. System units mount front-to-back on the left side of the BALL-DA Box (as viewed from the front). Power Supply mounts on the right side. Air is drawn in from the sides at the front and exhausted at the rear (see sketch App. B).

The PDP-11/35 will be available only as a rack-mountable box with three possible memory variations. (No plans have been made for a table-top version with super cover as practically no table-top machines are sold to OEM's.) All memories will be 8K minimum bundled into the basic system which will consist of the following:

Central Processor - KD11A (same as PDP-11/40).

Mounting Box - BALL-DA/DB (includes slides).

Power Supply - H750.

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I. PRODUCT DESCRIPTION (Cont.)

Console

Memory - Minimum 8K in one of three versions,
(see table next page)

All other components or options are to be purchased as line items. No bundled systems will be offered.

Although the PDP-11/35 is intended to eventually replace the PDP-11/15, the recommended packaging/pricing policy is not to unbundle to the level which the PDP-11/15 did. Analysis of the PDP-11/15 orders shows a 100 percent order rate for Programmer's Consoles, and nearly 100 percent for Power Fail/Restart and Multi-Level Priority Interrupt Options. With the sophisticated systems possible with the PDP-11/35, these features should be standard. Therefore, the PDP-11/35 basic price will include the individual items listed in the product description above plus the standard features of Power Fail/Restart, Multi-Level Priority Interrupt, Prewired/Pretested CPU Option Slots, and capability for serial or parallel console terminals.

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I. PRODUCT DESCRIPTION (Cont.)

The table below presents the PDP-11/35 nomenclature including variations in memory and available spaces for mounting peripherals.

TABLE 1

<u>Type #</u>	<u>Memory Variation</u>	<u>Voltage</u>	<u>System Unit Space Available</u>
PDP-11/35 JA	MF11	115V	1
PDP-11/35 JB	MF11	230V	
PDP-11/35 JC	MM11S	115V	2
PDP-11/35 JD	MM11S	230V	
PDP-11/35 JE	ME11LA	115V	3
PDP-11/35 JF	ME11LB	230V	

The PDP-11/35 will be sold initially as an OEM machine only under a Type 1 discount. Terms and conditions will be those of the OEM discount agreement i.e., documentation with the first system only, circuit schematics with each system, 30 day Return-to-Factory Warranty, and reproducible diagnostics with the first system only. All other services such as system software, training, additional documentation, installation, and extended warranty will be available at established prices.

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II. COST DATA

Presented below is the product cost for the basic packaging as described in Section I. These costs were obtained from the Cost Accounting Group (Larry Rasile). These costs include system integration, but not manuals or inventory obsolescence charges.

J. J. Rasile
4/3/73

KD11-A Processor	\$ 655
KY11 Console	147
MM11S Memory	700
BA11-DA Box and Cables	136
H750 Power Supply	244
System Integration	
Misc. Parts	100
F.A. & T.	<u>500</u>
	\$2,482

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III. MARGIN ANALYSIS/RECOMMENDED PRICING

The detail chart below presents the margins to be realized at the various discount levels on the Type I schedule based on the cost listed in Section II.

The recommended price for the product was arrived at by first examining the distribution of discount levels under our existing OEM discount agreements. The average discount level was then used to arrive at a net price for the processors as this is the only price the OEM cares about. This net price was then factored back up to arrive at a list price. Recommended list price is \$9,995 U.S. for the basic system as defined in Section I. (MM11S and MF11L only - ME11L version is \$10,495 to reflect \$500 price difference between ME11L and MF11L).

<u>List Price</u>	<u>Discount Level</u>	<u>Net Price</u>	<u>Gross Margin</u>	
			<u>\$</u>	<u>%</u>
\$9,995	1 - 15%	\$8,496	\$6,014	70.8%
	2 - 20%	\$7,996	\$5,514	69.0%
	3 - 29%	\$7,096	\$4,614	65.0%
	4 - 34%	\$6,597	\$4,115	62.4%
	5 - 36%	\$6,397	\$3,915	61.2%
	6 - 38%	\$6,197	\$3,715	60.0%

Recommended Pricing Summary (Refer to Table I, Section I.)

<u>Type #</u>	<u>Price</u>
PDP-11/35 JA/JB	\$9,995
PDP-11/35 JC/JD	\$9,995
PDP-11/35 JE/JF	\$10,495

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IV. PRODUCT UNIT/\$ FORECAST

The PDP-11/35 is estimated to have a product life in the OEM Marketplace of three to four years. Based on the projected announcement date and start of deliveries, this active product life will include Fiscal Years 1973 through 1977. The table below projects the expected unit shipments over these fiscal years from the OEM Group alone.

<u>Fiscal Year</u>	<u>Q1</u>	<u>Q2</u>	<u>Q3</u>	<u>Q4</u>	<u>Total</u>
FY, '73	-		5	30	35
FY, '74	140	170	195	210	715
FY, '75	240	250	260	270	1,020
FY, '76	250	290	280	280	1,100
FY, '77	250	220	150	50	670
					<u>3,540</u>

The table below represents the estimated gross revenues to the corporation (for both basic processor/memories (column 3) and as systems.

<u>Fiscal Year</u>	<u>CPU's #</u>	<u>Basic CPU/Memory\$*</u>	<u>Systems \$*</u>
FY, '73	35	.35	.91
FY, '74	715	7.15	21.45
FY, '75	1,020	10.2	32.64
FY, '76	1,100	11.0	37.40
FY, '77	670	6.7	23.45

*\$ in millions

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V. RELATED/AFFECTED PRODUCTS

Primary intent of the PDP-11/35 will be to replace the PDP-11/15 thus completing a "second generation" PDP-11 Family for both limited (OEM) and full service (end-user) models.

Availability of PDP-11/35 will impact all of the OEM PDP-11/40's to some degree. This will be due to three factors:

1. Type 1 Discounts
2. Unbundling.
3. Convenience of the smaller package - 10½" box versus full 72" cabinet.

However, since more and more large PDP-11 systems will be sold and the PDP-11/35 announcement will occur during the manufacturing build up of PDP-11/40's to a full product rate, the actual effect of the PDP-11/35 will be to cause a leveling in the OEM PDP-11/40 order rate rather than an actual decrease in PDP-11/40 orders. It is expected that for large systems the PDP-11/40 will still be selected versus the PDP-11/35 due to the flexibility in power and packaging inherent in a single large chassis.

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V. RELATED/AFFECTED PRODUCTS (Cont.)

There is potential impact as well on the PDP-11/05, primarily due to packaging (e.g., the availability of PDP-11/35 power in a 10½" box will be attractive to those PDP-11/05 users who want more performance, but have balked at the fully bundled PDP-11/40 price.) However, the packaging consideration will be minimized because the 10½" chassis PDP-11/05 will actually offer greater packaging advantages for peripherals than the PDP-11/35.

The PDP-11/35 price has been recommended so as to maintain a substantial margin over the projected 10½" chassis PDP-11/05. This should therefore leave the highly flexible PDP-11/05 as the low price entry from the PDP-11 Family. Since the PDP-11/05 business has accelerated rapidly with no decrease in the PDP-11/15 business there is little actual impact expected on the PDP-11/05.

The charts in Appendix A show comparisons of the PDP-11/35 versus the PDP-11/40, PDP-11/15, and PDP-11/05 at gross and net dollars for approximately equivalent system configurations.

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VI. PRODUCT SCHEDULES

1. Manufacturing Forecast

Forecasts have been entered through Q4 of FY '74. The intent is to establish some inventory of basic products to have on the shelf at time of general announcement. Initial delivery availability will be specified at time of announcement in a manner which will allow relief of PDP-11/15 backlog if required, and to forestall losses of orders to competition because of delivery. The OEM Product Group has received allocations for Q4 of FY '73.

2. Customer Commitments

Commitments have been made to only two customers - Kodak and Time Data. Kodak is a major customer and the early delivery (March) of PDP-11/35's will provide a valuable test bed prior to volume deliveries. Two systems have already been delivered to Kodak and two more will be shipped by the end of the month. We are currently on schedule with PDP-11/35 deliveries to Kodak.

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VI. PRODUCT SCHEDULES (Cont.)

2. Customer Commitments (Cont.)

All delivery commitments for this product are being made only by the OEM Group at this time.

3. Due to the current backlog situation and long lead times quoted for both PDP-11/40 and PDP-11/15 (300 PDP-11/40 - ten months ARO and 200 PDP-11/15 six months ARO), it is proposed that the PDP-11/35 be preannounced to selected PDP-11/15 - PDP-11/40 customers. By converting these customers to PDP-11/35's, the backlog/lead time situation which is currently causing DEC to lose business can be improved to levels which present and potential customers can accept.

This conversion will begin in Q4 of FY '73 and continue through Q1 of FY '74. Since the average OEM requires 60-90 days to turn a system around after computer delivery, the PDP-11/35 will not show up in public until after that time. This will allow us to delay announcement for this period of time while receiving revenues and working on the backlog problem.

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VI. PRODUCT SCHEDULES (Cont.)

3. (Cont.)

This conversion can be implemented immediately upon approval of this plan, subject only to manufacturing's ability to build product in Q4, FY '73. Assuming implementation, the PDP-11/35 should be announced in June at the National Computer Show in New York.

4. Phase Over Program

Major users of the PDP-11/35 will come from the present major users of the PDP-11/15's. Currently, 80% of the PDP-11/15 business comes from ten customers. In order to facilitate the rapid transition of PDP-11/15 users to PDP-11/35's and therefore minimize duplicating our manufacturing efforts, presentations on the PDP-11/35 will be made to the following key PDP-11/15 OEM's prior to announcement. These OEM's are:

Time Data
Eastman Kodak
Applied Color
Frederick Electronics
Computer Machinery Corporation
Hendrix Electronics
Foxboro Company
Periphonics
Tektronix

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VI. PRODUCT SCHEDULES (Cont.)

5. Advertisement/Support Materials

An ad to support product announcement has been drafted. Cost versus need is being reviewed and the ad may be dropped.

A brochure is underway with a target date for availability in the field offices by May 1, or at announcement date if that is later. Particular emphasis is being placed on making this brochure a working document from which the customer can understand packaging variations and thereby reduce ordering confusion.

The processor is included in the new PDP-11 Family Processor Handbook scheduled for completion at the end of March.

Release of all promotional material will be coordinated with the actual product announcement.

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VII. COMPETITION

The PDP-11/35 will compete primarily with the following equipment:

Data General - Nova 800
Hewlett-Packard - 2100
Interdata - Model 70/74
General Automation - SPC 16 Series

NOTE:

The competitive chart in Appendix B shows a feature/price comparison for a number of machines in addition to the above. Note that a price of \$9,995 for the PDP-11/35 compares favorably with:

General Automation SPC 16/40	\$ 9,150
Hewlett-Packard 2100A	\$11,000
Interdata 74	\$ 9,900

The new DG 840 is also an interesting price comparison. Base price includes 16K core and memory management.

DG 840	DEC PDP-11/35
\$16,530	CPU/8K 9,995
	MM11L 4,400
	KT11-D 2,480
	<u>2,875</u>

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APPENDIX A

PDP-11/35 Business Plan
(Continued)

-A1-

March, 1973

MANUFACTURING COST ESTIMATES

L. Rasile

L. Rasile
4/3/73

	<u>Present Estimate</u> <u>PDP-11/35</u>	<u>PDP-11/40</u> <u>Estimate</u>
<u>KD11A Processor</u>		
M7231	\$110 std.	\$110 std.
M7232	\$103 std.	\$103 std.
M7233	\$ 96 std.	\$ 96 std.
M7234	\$ 85 std.	\$ 85 std.
M7235	\$ 78 std.	\$ 78 std.
M981	\$ 18 std.	\$ 18 std.
Logic (70-9009)	\$165 std.	\$165 std.
Assy & C/O (from KAll processor)	(Included in F.A.&T.)	(Included in F.A.&T.)
KY11-D Console	\$147	\$145
MM11S	\$700	\$700
BA11-DA Box, Bezel, and Cable	\$136	\$249
H750 Power Supply	\$244	\$390
DL11-A	\$ 84	\$ 84
LT33-DC	\$931	\$931
Basic System Integration Material (Misc. & parts not accounted for.)	\$100	\$100
F.A.&T	<u>\$500</u>	<u>\$500</u>
	\$3,497	\$3,754
Inventory Obsolescence	<u>\$353</u>	<u>\$376</u>
	\$3,850	\$4,130
11/35 is Less DL11A/LT33DC/ Inv. Obsolescence	<u>-\$1,368</u>	
11/35 Cost	\$2,482	

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APPENDIX A

PDP-11/35 Business Plan
(Continued)

March 1973

-A2-

11/15 MARGIN ANALYSIS

	<u>List</u>	<u>Total Net</u>		<u>Cost</u>	=	<u>G.M.</u>	<u>% G.M.</u>
2-9	\$9,200	8,020	-	2,778	=	5,242	65%
10-19	\$9,200	7,560	-	2,778	=	4,782	63%
20-49	\$9,200	6,972	-	2,778	=	4,194	60%
50-99	\$9,200	6,632	-	2,778	=	3,854	58%
100-199	\$9,200	6,448	-	2,778	=	3,670	57%
200	\$9,200	6,264	-	2,778	=	3,486	56%

PDP-11/15 List Price \$4,000 + \$5,200 (ME11L) = \$9,200. CPU is Type II Discountable and Memory is Type I Discountable.

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APPENDIX A

PDP-11/35 Business Plan
(Cont.)

-A3-

March, 1973

PDP-11/35 VERSUS PDP-11/15 MARGIN ANALYSIS

<u>PDP-11/35 List</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
\$9,995	2-9	8,496	+476	6,014	+772
	10-19	7,996	+436	5,514	+732
	20-49	7,096	+124	4,614	+420
	50-99	6,597	-35	4,115	+261
	100-199	6,397	-51	3,915	+245
	200	6,197	-67	3,715	+229

EXPLANATION OF COLUMNS

1. Discount Quantity Level
2. PDP-11/35 Net
3. Unit increase in net due to PDP-11/35 (PDP-11/35 Net - PDP-11/15 Net)
4. PDP-11/35 Gross Margin
5. Unit increase in Gross Margin due to PDP-11/35 (PDP-11/35 G.M. - PDP-11/15 G.M.)

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APPENDIX A

PDP-11/35 Business Plan
(Continued)

March 1973

-A4-

PDP-11/35 - PDP-11/05 - PDP-11/40 PRICE COMPARISON

AN EQUIVALENT SYSTEM BASIS

	Present PDP-11/40	PDP-11/35 List	PDP-11/35 Net	10 1/2" Chassis PDP-11/05 List	PDP-11/05 Net
Teletype	std.	1,620	1,620	1,620	1,620
TTY Control	std.	400	328	std.	std.
Cabinet	std.	650	533	650	533
Inst. & 30-Day Warranty	260	250	250	250	250
CPU W/8K	12,995	9,995	7,096	*7,295	5,180
* Exp. Box	<u>N/A</u>	<u>1,500</u>	<u>1,065</u>	<u>1,500</u>	<u>1,065</u>
List	13,255	14,415		11,315	
Total Net	(PDP-11/40) \$10,915		10,892		8,648

Discounts Assumed

Type I - 29%

Type II - 18%

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* Price is estimated

COMPARISON TABLE: 8K WORD SYSTEMS

JANUARY 1973

	DEC (5½) PDP-11/05	CA Alpha 16	DG (10½) Nova 1220	DG (5½) Nova 1210	GA (15½) SPC-16-40	GRI 909-30	GRI 99-10	HP 2100A	Interdata 70	Interdata 74	Modcomp I	Microdata 1600/21	Texas TI 960A	Texas TI 980A	Varian 620/L	
CPU (16b)	6,495	4,750	6,300	5,400	5,550	5,650		3,750	6,800	3,600	3,600	3,545	4,350	4,975	7,700	
CONSOLE	✓	✓	✓	✓	✓	760	2,040	✓	✓	✓	✓	750	✓	✓	✓	
TTY CTRL.	✓	150	4010	350	4010	350	N/A	348	NO	✓	350	✓	450	450	550	
POWER F/R	✓	350	8106	400	8106	400	✓	310	300	✓	200	250	300	✓	✓	
CLOCK	✓	350	4008	400	4008	400	✓	260	350	OSC	1,250	OSC	400	OSC	400	
4 LVL. INT	✓	500	✓	✓	✓	500	✓	1,000	✓	✓	✓	✓	550	150	✓	
DMA	✓	400	✓	✓	✓	500	✓	300	1,000	1,000	1,000	1,000	850	200	✓	
8K	✓	✓	✓	✓	✓	+4K 2,600	+4K 2,950	2,400	5,000	+4K 2,700	4,000	4,200	3,600	✓	✓	
XPN SLOTS	4	1	8	1	8	2	14	1½	3	2	6	NGP	NGP			
XPN AMPS	5	2	20	4	?	4	?	9	4	?	?	NGP	NGP			
	6,495	6,500	7,450	6,550	9,150	9,930	7,710	MPR	FP	M/D	9,100	10,045	MPR	EAE		
								EAE	11,100	9,900			PTY	MPR	EAE	
								PTY					5,350	PTY	AE	
									11,000					BOOTS	8,225	
XPN SLOTS	24	400	5	900	10	19	16	350	16	350	8	500	N/A	20	25	
BOX AMPS	22	600	12	600	24	?	12	600	12	600	24	600	27.5	750	20	75
	1,000	1,500			1,850	1,200		950		950	1,100	750		1,200	1,400	1,000
OEM QTY.	1-0%	1-5%		1-10%	1-10%		1-10%	1-15%		1-15%						
DISCOUNT	20-29%	20-18%		20-31%	20-30%		20-25%	20-29%		20-30%						
	119-36%	49-40%		200-40%	199-40%		99-33%	34-32%		61-40%						
										100-45%						
SOURCE	DEC	CA	DG	DG	GA	GRI	GRI	H.P.	AUERBACH	ID	AUERBACH	MD	TI	TI	AUERBACH	
DATE	NOV 72	NOV 72	APR 72	APR 72	NOV 72	APR 71	NOV 72	NOV 72	MAY 72	NOV 72	SEPT 72	SEPT 72	JULY 72	JULY 72	JULY 72	

N/A - Not Available
MPR - Memory Protect

OSC - Oscillator
PTY - Parity

EAE - Extended Arithmetic Element
FP - Floating Point
M/D - Multiply/Divide

Boots - Bootstrap

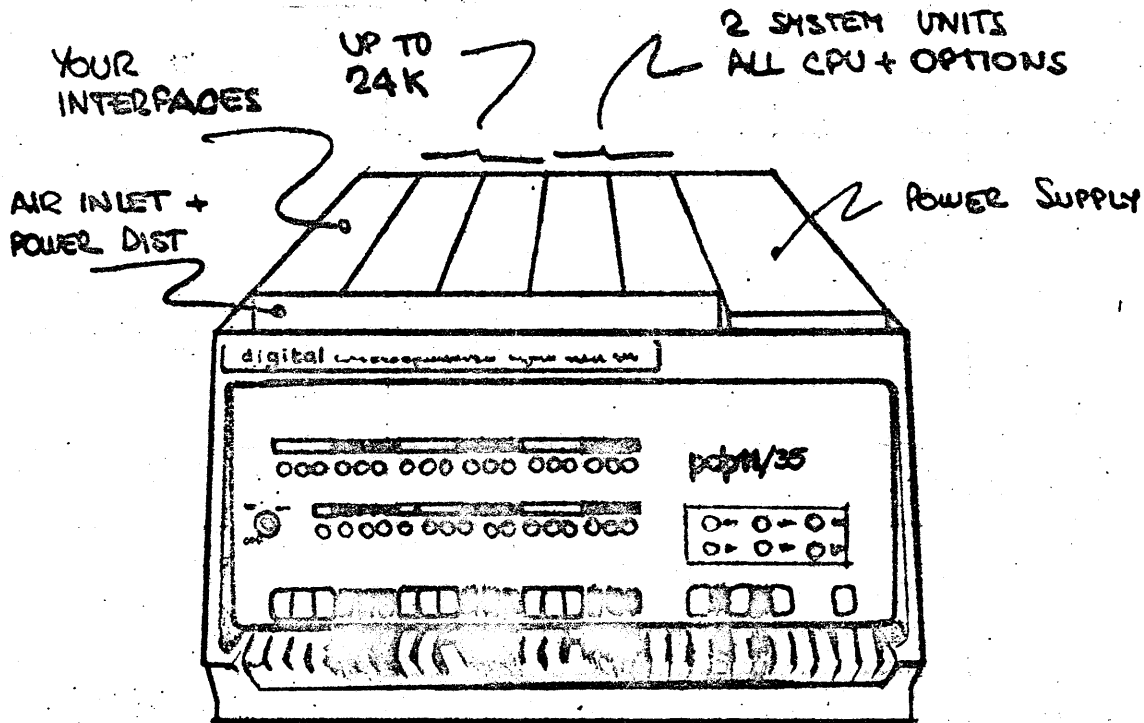
NGP - Not General Purpose

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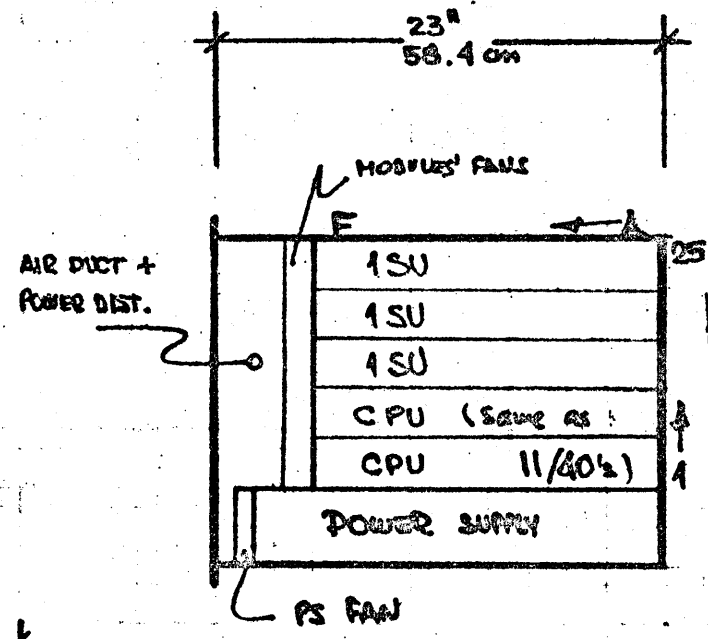
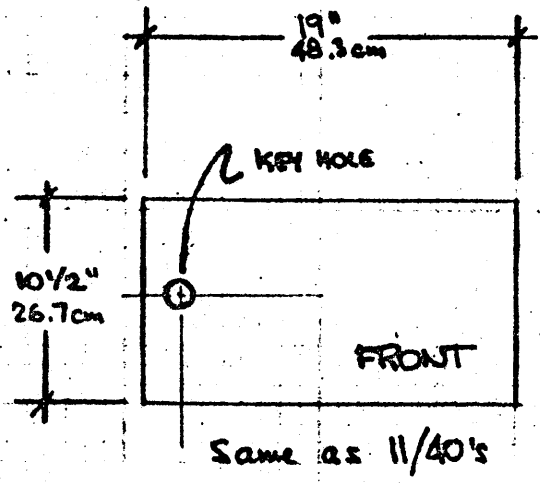
The PDP-11/35 offers in its unique package five system units; of these only two are required to house the CP and all the mentioned options plus Line Clock (KW11L) and terminal interface.



The next two system units can be filled with up to 24K and there is still one system unit for whatever use you can imagine. The room available will prove sufficient for most applications, but if more space is needed, any expansion box can be used.

Concerning power, a typical system with 8K will have 11 Amps at +5V, 2 Amps at -15V and 1 Amp at +15V available for expansion.

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Up to 24K

Slots reserved for options.

