DEC 7000 AXP System
VAX 7000
Site Preparation Guide

Order Number EK–7000B–SP.002

This guide is intended for use by Digital customer service engineers and customers in preparing a site for a DEC 7000 AXP system or VAX 7000 system.

digital equipment corporation
maynard, massachusetts

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Preface

Intended Audience

This manual is written for Digital customer service engineers and customers preparing a site for a DEC 7000 or VAX 7000 system.

Document Structure

This manual uses a structured documentation design. Topics are organized into small sections for efficient on-line and printed reference. Each topic begins with an abstract. You can quickly gain a comprehensive overview by reading only the abstracts. Next is an illustration or example, which also provides quick reference. Last in the structure are descriptive text and syntax definitions.

This manual has one chapter, as follows:

- **Chapter 1, Site Preparation,** provides pre-installation requirements and guidelines for DEC 7000 and VAX 7000 systems.

Conventions Used in This Document

Terminology. Unless specified otherwise, the use of "system" refers to either a DEC 7000 AXP or VAX 7000 system. The DEC 7000 AXP systems use the Alpha AXP architecture. References in text use DEC 7000 to refer to DEC 7000 AXP systems.

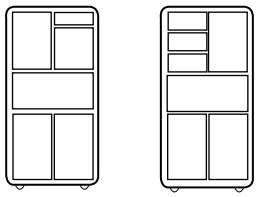
When a discussion applies to only one system, an icon is used to highlight that system. Otherwise, the discussion applies to both systems. Thus, the abstract for a module that applies only to DEC 7000 systems would look like this:

DEC 7000

This section shows a sample boot of OpenVMS Alpha AXP from the RRD42 CD drive for DEC 7000 systems. The first step is issuing the show device command to determine the location of the RRD42.

Book titles. In text, if a book is cited without a product name, that book is part of the hardware documentation. It is listed in Table 1 along with its order number.

Icons. The icons shown below are used in illustrations for designating part placement in the system described. A shaded area in the icon shows the location of the component or part being discussed.



Front Rear

Documentation Titles

Table 1 lists the books in the DEC 7000 and VAX 7000 documentation set. Table 2 lists other documents that you may find useful.

Table 1 DEC 7000/VAX 7000 Documentation

Title	Order Number
Installation Kit	EK–7000B–DK
Site Preparation Guide	EK–7000B–SP
Installation Guide	EK–700EB–IN
Hardware User Information Kit	EK–7001B–DK
Operations Manual	EK–7000B–OP
Basic Troubleshooting	EK–7000B–TS
Service Information Kit—VAX 7000	EK–7002A–DK
Platform Service Manual	EK–7000A–SV
System Service Manual	EK–7002A–SV
Pocket Service Guide	EK–7000A–PG
Advanced Troubleshooting	EK–7001A–TS
Service Information Kit—DEC 7000	EK–7002B–DK
Platform Service Manual	EK–7000A–SV
System Service Manual	EK–7002B–SV
Pocket Service Guide	EK–7700A–PG
Advanced Troubleshooting	EK–7701A–TS

Table 1 DEC 7000/VAX 7000 Documentation (Continued)

Title	Order Number
Reference Manuals	
Console Reference Manual	EK–70C0B–TM
KA7AA CPU Technical Manual	EK–KA7AA–TM
KN7AA CPU Technical Manual	EK–KN7AA–TM
MS7AA Memory Technical Manual	EK–MS7AA–TM
I/O System Technical Manual	EK–70I0A–TM
Platform Technical Manual	EK–7000A–TM
Upgrade Manuals	
KA7AA CPU Installation Guide	EK–KA7AA–IN
KN7AA CPU Installation Guide	EK–KN7AA–IN
MS7AA Memory Installation Guide	EK–MS7AA–IN
KZMSA Adapter Installation Guide	EK–KXMSX–IN
DWLMA XMI PIU Installation Guide	EK–DWLMA–IN
DWMBB VAXBI PIU Installation Guide	EK–DWMBB–IN
H7237 Battery PIU Installation Guide	EK–H7237–IN
H7263 Power Regulator Installation Guide	EK–H7263–IN
BA654 DSSI Disk PIU Installation Guide	EK–BA654–IN
BA655 SCSI Disk and Tape PIU Installation Guide	EK–BA655–IN
Removable Media Installation Guide	EK–TFRRD–IN

Table 2 Related Documents

Title	Order Number
General Site Preparation	
Site Environmental Preparation Guide	EK–CSEPG–MA
System I/O Options	
BA350 DECstor/me Modular Storage Shelf Subsystem Configuration Guide	EK–BA350–CG
BA350 DECstor/me Modular Storage Shelf Subsystem User's Guide	EK–BA350–UG
BA350-LA DECstor/me Modular Storage Shelf User's Guide	EK–350LA–UG
CIXCD Interface User Guide	EK–CIXCD–UG
DEC FDDIcontroller 400 Installation/Problem Solving	EK–DEMFA–IP
DEC LANcontroller 400 Installation Guide	EK–DEMNA–IN
DEC LANcontroller 400 Technical Manual	EK–DEMNA–TM
DSSI VAXcluster Installation and Troubleshooting Manual	EK–410AA–MG
InfoServer 150 Installation and Owner's Guide	EK–INFSV–OM
KDM70 Controller User Guide	EK–KDM70–UG
KFMSA Module Installation and User Manual	EK–KFMSA–IM
KFMSA Module Service Guide	EK–KFMSA–SV
RRD42 Disc Drive Owner's Manual	EK–RRD42–OM
RF Series Integrated Storage Element User Guide	EK–RF72D–UG
TF85 Cartridge Tape Subsystem Owner's Manual	EK–OTF85–OM
TLZ06 Cassette Tape Drive Owner's Manual	EK–TLZ06–OM

Table 2 Related Documents (Continued)

Title	Order Number
Operating System Manuals	
Alpha Architecture Reference Manual	EY–L520E–DP
DEC OSF/1 Guide to System Administration	AA–PJU7A–TE
DECnet for OpenVMS Network Management Utilities	AA–PQYAA–TK
Guide to Installing DEC OSF/1	AA–PS2DA–TE
OpenVMS Alpha Version 1.0 Upgrade and Installation Manual	AA–PQYSA–TE
VMS Upgrade and Installation Supplement: VAX 7000–600 and VAX 10000–600 Series	AA–PRAHA–TE
VMS Network Control Program Manual	AA–LA50A–TE
VMSclusters and Networking	
HSC Installation Manual	EK–HSCMN–IN
SC008 Star Coupler User's Guide	EK–SC008–UG
VAX Volume Shadowing Manual	AA–PBTVA–TE
Peripherals	
Installing and Using the VT420 Video Terminal	EK–VT420–UG
LA75 Companion Printer Installation and User Guide	EK–LA75X–UG

Chapter 1

Site Preparation

This chapter provides site planning guidelines, cabinet sizes, space and environmental requirements, and system power requirements.

Sections include:

- Pre-Installation Checklist
- Cabinet Sizes
- Floor Space and Environmental Requirements
- Power Requirements
- AC Power Cable and Connectors

1.1 Pre-Installation Checklist

Site planning guidelines and tasks are listed below. The tasks can be checked off when completed before system delivery. To facilitate the installation process, it is recommended that the customer plan ahead and coordinate the site planning and scheduling details with Digital.

Planning the Site:

- ☐ Plan the physical layout of the system cabinet, expander cabinets, console terminal, and other system units.
- ☐ Plan to place all equipment away from heavy traffic centers leaving enough room for airflow and maintenance.
- ☐ Obtain cabinet weights and dimensions to check against floor loading restrictions.
- ☐ Determine the sizes of circuit breakers and the number of branch circuits required.
- ☐ Determine number, type, and location of required AC power outlets.
- ☐ Check the compatibility of different power sources. This must be checked when multiple types of power distribution transformers, or power conditioning equipment is used.
- ☐ Determine system power consumption to calculate the input line power requirement.
- ☐ Establish a system grounding scheme for the installation.
- ☐ Determine environmental cooling requirements.
- ☐ Check the location and requirements of cabling for communication devices such as Ethernet.

Checking the Delivery Route:

- ☐ Check the height, width, and location of doors and passageways for adequate clearance.
- ☐ Check floor loading requirements along passageways.
- ☐ Check passageway restrictions such as corners, ramps, or obstructions.
- ☐ Check the size, capacity, and availability of elevators.

Table 1-1 lists the shipping dimensions for the system and expander cabinets. These dimensions include the width of the shipping pallet, the height of the shipping boxes, and the weight of the packing materials.

Table 1-1 Shipping Dimensions and Weights

Cabinet	Height cm (in)	Width cm (in)	Depth cm (in)	Weight kg (lbs)[1]
System	195 (76.8)	109.5 (43.1)	121 (47.5)	448 (1000)
System (Battery PIU with four batteries)[2]	195 (76.8)	109.5 (43.1)	121 (47.5)	585 (1300)
Expander	195 (76.8)	109.5 (43.1)	121 (47.5)	495 (1100)
Expander (with four batteries)[2]	195 (76.8)	109.5 (43.1)	121 (47.5)	632 (1393)

1 Weights are based on a fully configured cabinet.

2 For systems with 8 batteries add 62 kg (137 lbs) and for systems with 12 batteries add 124 kg (274 lbs).

For more information:

Site Environmental Preparation Guide

1.2 Cabinet Sizes

Include all cabinets and peripherals when laying out the installation site. A sample system could include a main cabinet, a maximum of two expander cabinets, and console devices.

Figure 1-1 Sample System

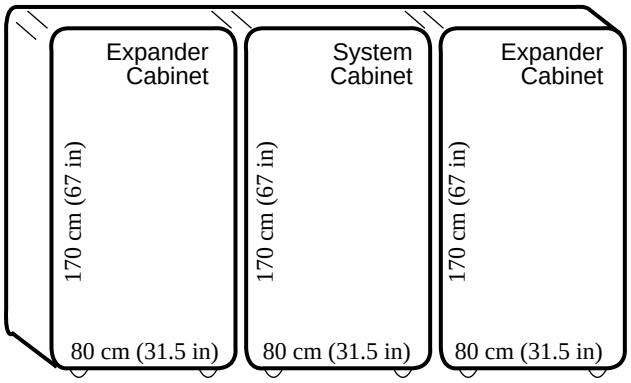


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Table 1-2 Cabinet Dimensions and Weights

Cabinet	Height cm (in)	Width cm (in)	Depth cm (in)	Weight kg (lbs)[1]
System	170 (67)	80 (31.5)	87.5 (34.5)	408 (900)
System (Battery PIU with four batteries)[2]	170 (67)	80 (31.5)	87.5 (34.5)	545 (1200)
Expander	170 (67)	80 (31.5)	87.5 (34.5)	448 (1000)
Expander (with four batteries)[2]	170 (67)	80 (31.5)	87.5 (34.5)	585 (1300)

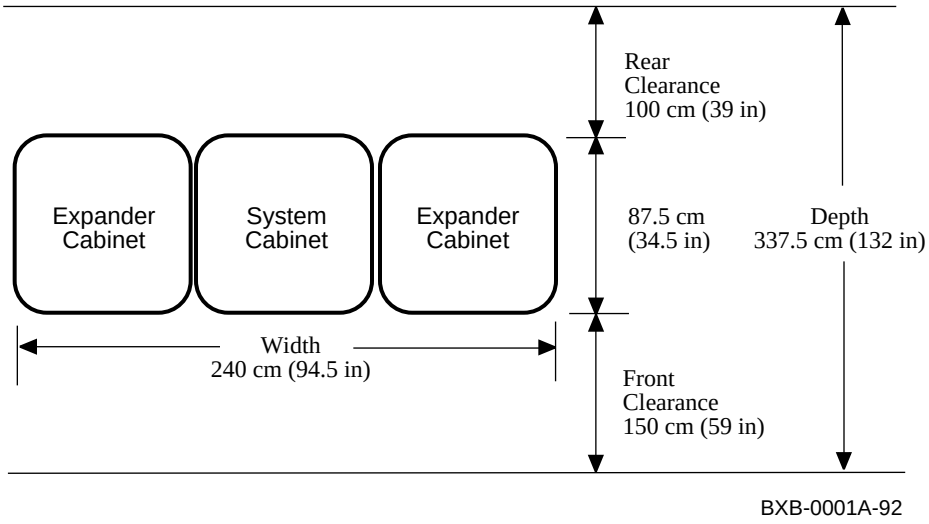
1 Weights are based on a fully configured cabinet.

2 For systems with 8 batteries add 62 kg (137 lbs) and for systems with 12 batteries add 124 kg (274 lbs).

1.3 Floor Space and Environmental Requirements

Table 1-3 lists system environmental requirements. Front and rear clearance specifications are the minimum space required for airflow and maintenance.

Figure 1-2 Sample Configuration



NOTE: Do not place anything on the top of the cabinets, as this restricts airflow. The console terminal and printer can be placed on a table near the system.

Table 1-3 Environmental Specifications

Environmental	Operating	Storage
Temperature[1]	15°–28° C (59°–82° F)	-40°–66° C (-40°–151° F)
Relative humidity[1]	20–80%	10–95%
Altitude	0–2.4 km (0–8000 ft)	0–9.1 km (0–30,000 ft)

[1]Recommended operating temperature is 18°–24° C (65°–75° F) and 40–60% relative humidity.

The minimum amount of clearance space for the system front is 150 cm (59 in) and rear is 100 cm (39 in), as shown in Figure 1-2. These clearances are needed for airflow and maintenance.

Airflow

Air is taken in through the top and bottom of the cabinet by a dual wheel blower. The air is then circulated through the card cages and power regulators. It is vented at the middle of the cabinet front and rear.

NOTE: Inadequate airflow can result in the system shutting down,

For more information:

Site Environmental Preparation Guide

1.4 Power Requirements

The power system includes an AC input box, DC distribution box, power regulators, cabinet control logic (CCL) module, optional 48V batteries, power distribution cables, and signal interconnect cables.

Figure 1-3 Power System Components

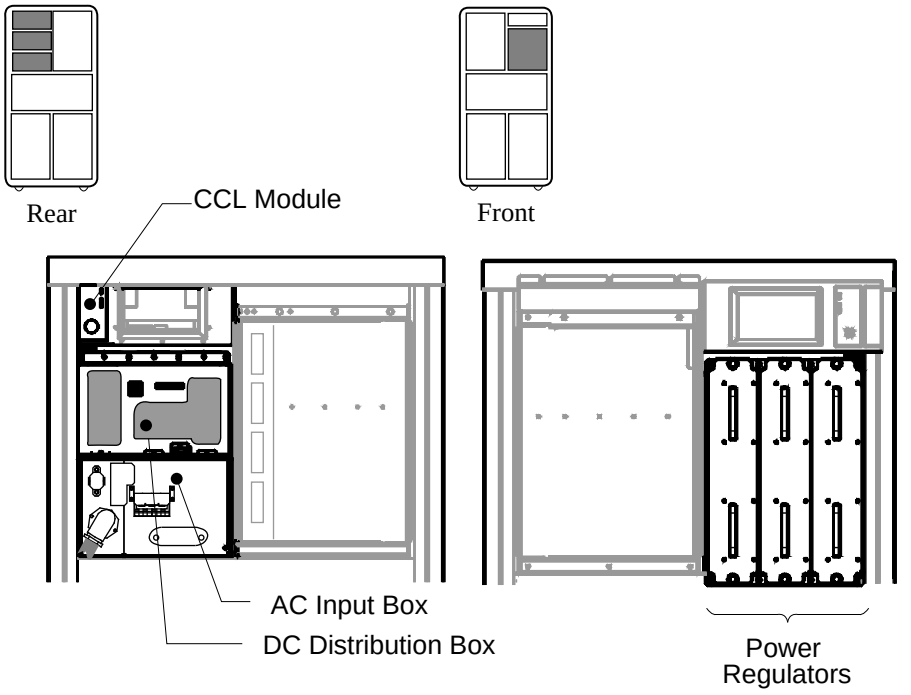


Table 1-4 AC Input Voltages

Country	Input Voltage	Circuit Breaker Rating (amps)[1]	Frequency Range (Hz)
Japan	202 Delta	30	50–60
North America	120/208 Wye	30	50–60
Europe/GIA	380–415 Wye	16	50–60

[1]Each system and expander cabinet requires its own AC power connector.

Table 1-5 Power Requirements

Cabinet	Power (watts)	Heat Dissipation (BTU/hr)
System	1,000 minimum[1] 5,200 maximum[2]	3,400 minimum[1] 17,700 maximum[2]
System and 2 expanders	13,800 maximum[2]	47,000 maximum[2]

[1]A minimum configuration consists of one CPU module, one memory module, one IOP module, one XMI PIU, one Ethernet I/O bus adapter module, and one disk I/O bus adapter module.

[2]These requirements are based on a fully loaded system.

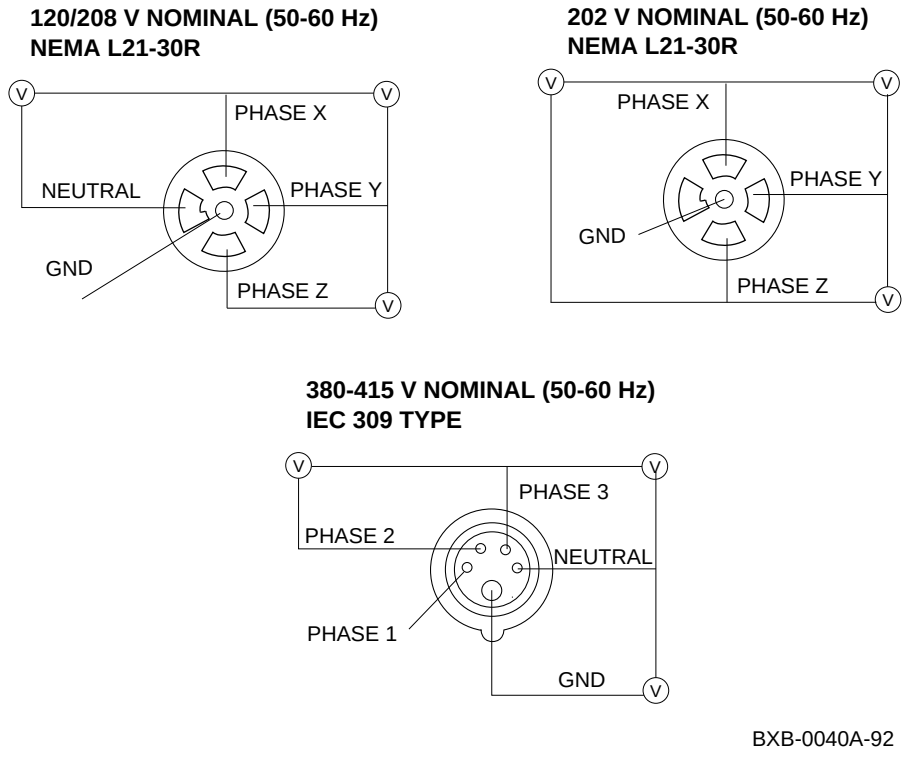
NOTE: AC power receptacles are also required for console terminals and printers.

1.5 AC Power Cable and Receptacles

The AC power cable is 2.8 m (9 ft) in length. It consists of three-phase leads (X, Y, and Z) plus neutral (N) and ground (G). AC power connectors are shown in Figure 1-4.

NOTE: Neutral and ground lines must both be connected from the bulk three-phase power to complete the Wye configuration. Otherwise, power components may be damaged. Do not power up the system until power checks are completed.

Figure 1-4 AC Power Receptacles



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