



AlphaServer GS80/160/320

Site Preparation

Order Number: EK-GS320-SP. C01

This manual is for customers and service personnel who intend to install a *Compaq AlphaServer* GS80/160/320 system.

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EN55022 (CISPR 22) - Electromagnetic Interference

EN50082-1 (IEC801-2, IEC801-3, IEC801-4) - Electromagnetic Immunity

EN60950 (IEC950) - Product Safety

Warning!

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Achtung!

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Ceci est un produit de Classe A. Dans un environnement domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilisateur de prendre les mesures spécifiques appropriées.

Contents

Preface	vii
----------------------	-----

Chapter 1 Overview

1.1	The Systems	1-2
1.1.1	GS80 System	1-2
1.1.2	GS160/320 System	1-2
1.2	System Diagrams	1-3
1.2.1	Block Diagrams	1-3
1.2.2	Physical Diagrams	1-7

Chapter 2 System Specifications

2.1	GS80	2-2
2.1.1	System Dimensions	2-2
2.1.2	Power Specifications	2-3
2.2	GS160/320	2-5
2.2.1	System Dimensions	2-5
2.2.2	Power Specifications	2-7
2.3	System Weights.....	2-13

Index

Figures

1-1	Two-Drawer GS80 Block Diagram.....	1-3
1-2	GS160 Block Diagram.....	1-4
1-3	GS160 Block Diagram.....	1-5
1-4	GS320 Block Diagram.....	1-6
1-5	GS80 Physical Diagram	1-7

1-6	GS160 Physical Diagram	1-8
1-7	GS320 Physical Diagram	1-9
2-1	Bird's-Eye View of a GS80 System.....	2-2
2-2	Bird's-Eye View of a GS320 System.....	2-5

Tables

1	Compaq AlphaServer GS80/160/320 Documentation	vii
2-1	Dimensions of a GS80 System	2-2
2-2	Power Specifications of GS80 Systems	2-3
2-3	Heat Dissipation in GS80 Systems	2-4
2-4	Dimensions of System Enclosures and Expander Cabinets.....	2-6
2-5	Power Specifications of a GS160 with One System Box	2-7
2-6	Power Specifications of a GS160 with Two System Boxes.....	2-8
2-7	Power Specifications of a GS320 with Three System Boxes	2-9
2-8	Power Specifications of a GS320 with Four System Boxes.....	2-10
2-9	Power Specifications of I/O Expander Cabinet	2-11
2-10	GS80/160/320 Environmental Specifications.....	2-12
2-11	Weights of Fully Configured Systems	2-13

Preface

Intended Audience

This manual is for customers who intend to install an *AlphaServer* GS80/160/320 system. It gives system specifications and site requirements in terms of space, power, and environmental conditions.

Document Structure

This manual has two chapters.

- **Chapter 1, Overview**, provides a conceptual introduction to the systems.
- **Chapter 2, System Specifications**, gives system dimensions, power and environmental requirements, as well as the weights of fully configured systems.

Documentation Titles

Table 1 Compaq AlphaServer GS80/160/320 Documentation

Title	Order Number
QA-6GAAA-G8	AlphaServer GS80/160/320 Documentation Kit
EK-GS320-UG	<i>AlphaServer GS80/160/320 User's Guide</i>
EK-GS320-RM	<i>AlphaServer GS80/160/320 Firmware Reference Manual</i>
EK-GSPAR-RM	<i>AlphaServer GS80/160/320 Getting Started with Partitions</i>
EK-GS320-IN	<i>AlphaServer GS160/320 Installation Guide</i>
EK-GSR80-IN	<i>AlphaServer GS80 Installation Guide</i>
AG-RKSWB-BE	AlphaServer GS80/160/320 User Information CD (HTML files)
AG-RLVJA-BE	AlphaServer GS80/160/320 User Information CD (translations)
QA-6GAAB-G8	AlphaServer GS80/160/320 Service Documentation Kit
EK-GS320-SV	<i>AlphaServer GS80/160/320 Service Manual</i>
EK-GS320-RM	<i>AlphaServer GS80/160/320 Firmware Reference Manual</i>
AG-RKSZ*-BE	AlphaServer GS80/160/320 Service Information CD
EK-GSCON-IN	<i>AlphaServer GS80/160/320 System Management Console Installation and User's Guide</i>
EK-GS320-UP	<i>AlphaServer GS160/320 Upgrade Manual</i>
EK-GSR80-UP	<i>AlphaServer GS80 Upgrade Manual</i>
EK-GS320-SP	<i>AlphaServer GS80/160/320 Site Preparation</i>

Information on the Internet

Visit the Compaq Web site at www.compaq.com/alphaserver/site_index.html for service tools and more information about the *AlphaServer* GS80/160/320 systems.

Chapter 1

Overview

The *AlphaServer* GS80, GS160, and GS320 systems are high-performance server platforms designed for enterprise-level applications. They are distinguished by their versatility and high degree of scalability and expandability.

These powerful, switch-based systems use four Alpha microprocessors per quad building block (QBB). Two QBBs paired back-to-back and rotated 180° with reference to each other form a system box. Each QBB backplane contains a switch that acts as an interconnect between the CPU modules, memory modules, I/O riser modules, and the global port module.

1.1 The Systems

The GS80 is a rack system whereas the GS160 and GS320 are box-based systems.

1.1.1 GS80 System

The GS80 system is contained in a single cabinet. It is a drawer-based system consisting of one or two drawers. Each drawer contains one QBB with up to four CPU modules and up to four memory modules. In a two-drawer system a distribution board connects the two QBBs through their global ports.

The system cabinet of the GS80 also contains the power supplies and accommodates one PCI box, a storage shelf, and the OCP (operator control panel). An expander cabinet can house additional PCI boxes and storage shelves.

1.1.2 GS160/320 System

The GS160/320 system consists of a power cabinet and one system cabinet (GS160) or two system cabinets (GS320), depending on the configuration. The power cabinet contains the power supplies, the I/O components—the PCI boxes and storage units—and the OCP. The system cabinets house the system boxes that carry interconnect modules as well as CPU and memory modules.

The system cabinet can be configured with one or two system boxes. The first system box is located in the lower cavity of the cabinet and the second system box is inserted in the upper cavity. A fully configured system consists of a power cabinet and two system cabinets—system cabinet 1 and system cabinet 2—each system cabinet containing two system boxes.

In a single system box system a distribution board interfaces the two QBBs directly through their global ports. In configurations with more than one system box a hierarchical switch replaces the distribution board and adds a second level switch to route information between the system boxes.

Additional PCI boxes and storage shelves can be accommodated in expander cabinets that can be attached to either side of the system.

1.2 System Diagrams

1.2.1 Block Diagrams

Figure 1–1 shows a block diagram of a two-drawer GS80 system. A distribution board makes the interconnect between the two drawers (QBBs) through their global ports.

Figure 1–1 Two-Drawer GS80 Block Diagram

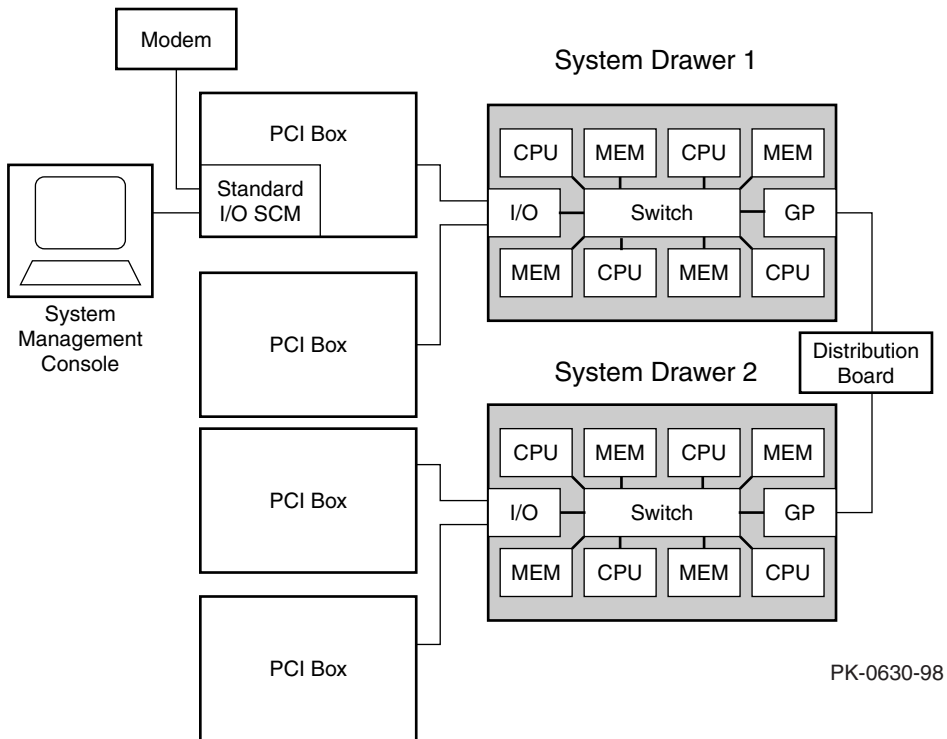


Figure 1–2 shows the block diagram of a GS160 system with a single system box installed. A distribution board makes the interconnect between the QBBs through their global ports.

Figure 1-2 GS160 Block Diagram

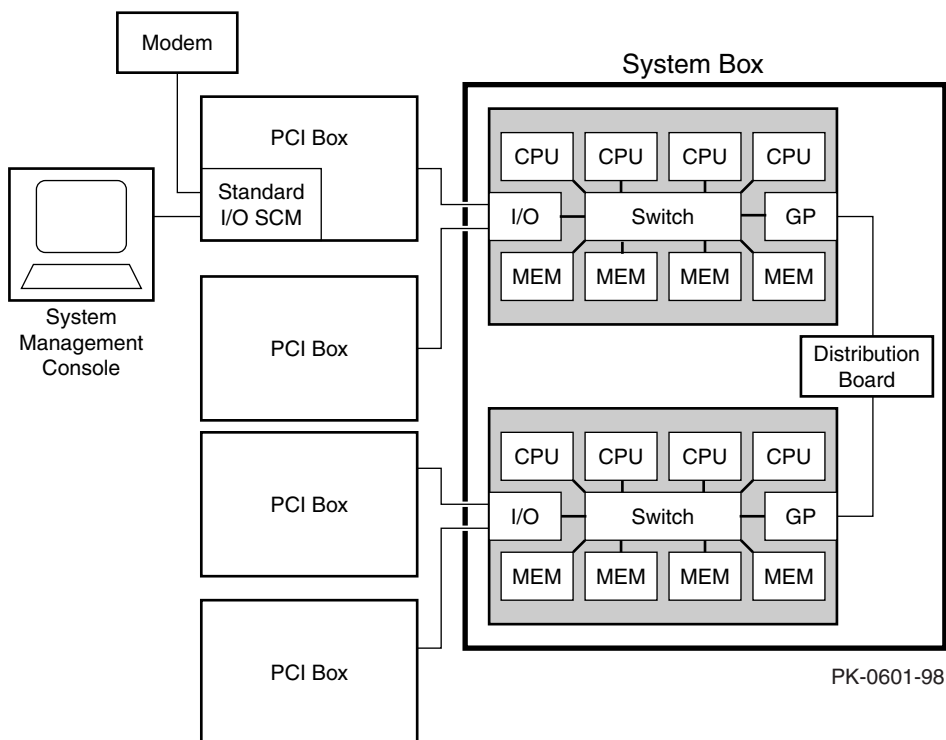


Figure 1–3 shows a block diagram of a GS160 with two system boxes. A hierarchical switch makes the interconnect between the QBBs in the two system boxes through their global ports.

Figure 1–3 GS160 Block Diagram

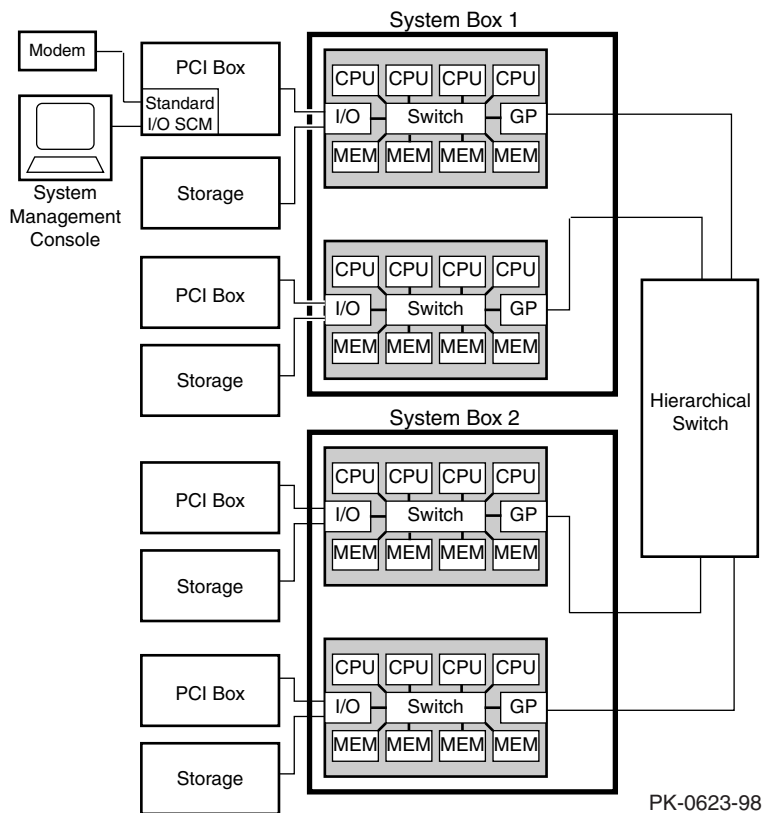
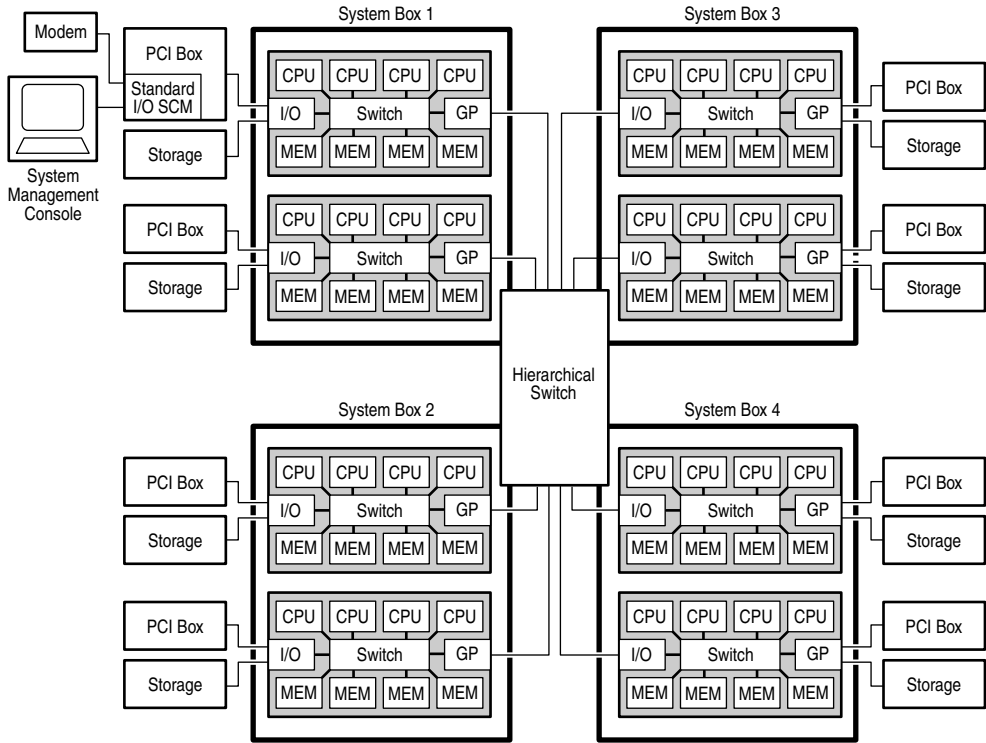


Figure 1–4 shows a block diagram of a GS320 with four system boxes. A hierarchical switch makes the interconnect between the QBBs in the four system boxes through their global ports.

Figure 1–4 GS320 Block Diagram

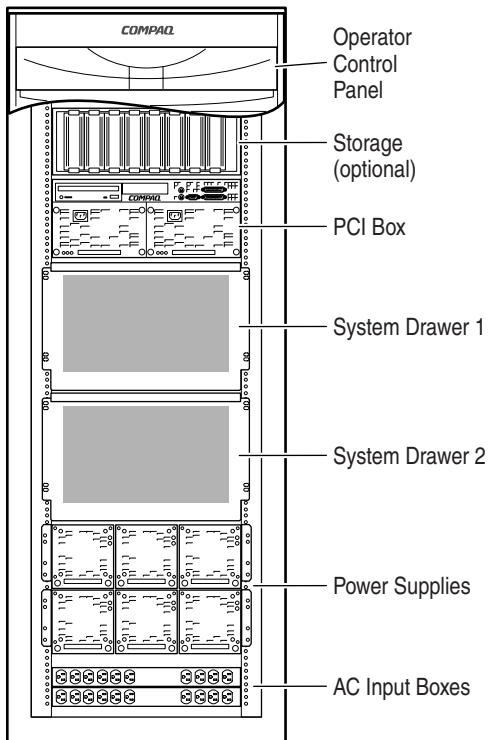


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1.2.2 Physical Diagrams

Figure 1-5 shows a physical diagram of the GS80 system.

Figure 1-5 GS80 Physical Diagram



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Figure 1-6 shows a fully configured GS160 system.

Figure 1-6 GS160 Physical Diagram

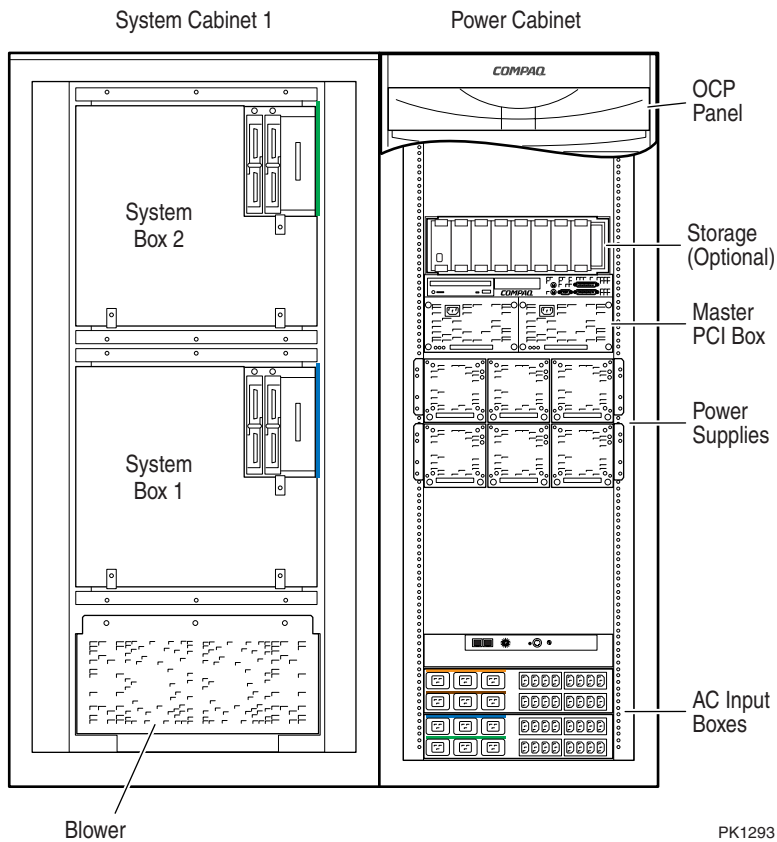
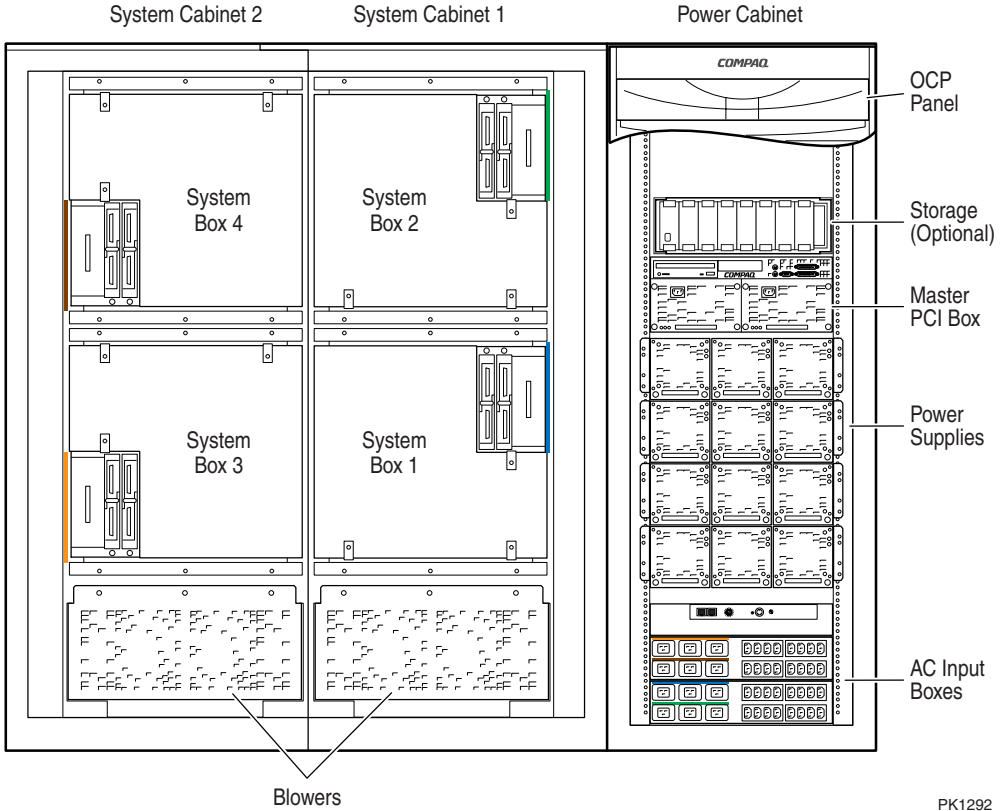


Figure 1-7 shows a fully configured GS320 system.

Figure 1-7 GS320 Physical Diagram



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Chapter 2

System Specifications

The basic unit of the GS80 system consists of a single cabinet that contains one or two drawers (QBBs), power supplies, a PCI box, and a storage shelf. Additional I/O and storage facilities are accommodated in an expander cabinet attached to the system unit.

In the GS160/320 line, the basic system is the GS160. It consists of a power cabinet and system cabinet 1. The power cabinet contains the power supplies, the I/O components—the PCI boxes and storage shelves—and the OCP (operator control panel). System cabinets house one or two system boxes. Each system box has two QBBs that are paired back-to-back and rotated 180° with reference to each other.

The basic system can be upgraded to contain two system boxes. An upgrade to three or four system boxes requires the addition of system cabinet 2 (GS320).

2.1 GS80

2.1.1 System Dimensions

Figure 2–1 shows the dimensions in a bird’s-eye view of a system that includes an expander cabinet alongside the basic system unit.

Figure 2–1 Bird's-Eye View of a GS80 System

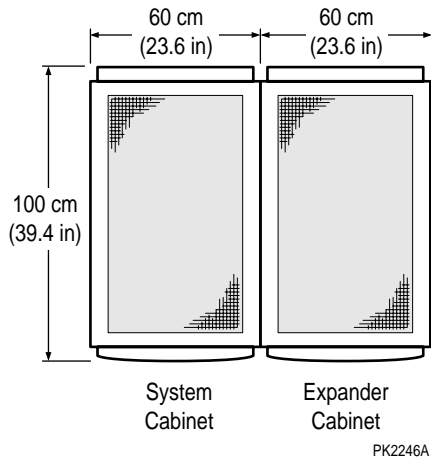


Table 2–1 gives the dimensions of a GS80 system.

Table 2–1 GS80 Dimensions

Cabinet (System or Expander)	Dimensions
Width	600 mm (23.6 in.)
Depth	1,000 mm (39.4 in.)
Height	1,700 mm (66.9 in.)

Index

A

- AlphaServer GS160 system
 - two system boxes, 1-8
- AlphaServer GS320 system
 - four system boxes, 1-9
- AlphaServer GS80 system, 1-7

B

- Block diagrams, 1-3

C

- Cabinet dimensions, 2-5

D

- Dual-AC switch, 2-5

E

- Environmental specifications, 2-12

G

- GS160 block diagram
 - one system box, 1-4
 - two system boxes, 1-5
- GS160 physical diagram, 1-8
- GS160/320 dimensions, 2-5
- GS160/320 power specifications, 2-7, 2-8, 2-9, 2-10
- GS160/320 system, 1-2
- GS160/320 weights, 2-13
- GS320 block diagram
 - four system boxes, 1-6
- GS320 physical diagram, 1-9
- GS320, bird's-eye view, 2-5

- GS80 block diagram, 1-3
- GS80 dimensions, 2-2
- GS80 physical diagram, 1-7
- GS80 power specifications, 2-3
- GS80 system, 1-2
- GS80, bird's-eye view, 2-2
- GS80/160/320 environmental specifications, 2-12

H

- Heat dissipation, 2-4, 2-7, 2-8, 2-9, 2-10

O

- Overview, 1-1

P

- Physical diagrams, 1-7
- Power specifications
 - expander cabinet, 2-11
 - GS160/320, 2-7, 2-8, 2-9, 2-10
 - GS80, 2-3

Q

- QBB, 1-1

S

- System diagrams, 1-3
- System dimensions, 2-2, 2-5
- System weights, 2-13

W

- Weights of systems, 2-13

