COMPAQ

AlphaServer GS80

Installation Guide

Order Number: EK-GSR80-IN. A01

This manual discusses the installation of *Compaq AlphaServer* GS80 systems.

Compaq Computer Corporation

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FCC Notice

This equipment generates, uses, and may emit radio frequency energy. The equipment has been type tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC rules, which are designed to provide reasonable protection against such radio frequency interference. Operation of this equipment in a residential area may cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference. Any modifications to this device—unless expressly approved by the manufacturer—can void the user's authority to operate this equipment under part 15 of the FCC rules.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are equipment.

Cables

not expressly approved by Compaq Computer Corporation may void the user's authority to operate the Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods in order to maintain compliance with FCC Rules and Regulations.

Taiwanese Notice

警告使用者:

這是甲類的資訊產品，在居住的
環境中使用時，可能會造成射頻
干擾，在這種情況下，使用者會
被要求採取某些適當的對策。

Japanese Notice

に基づくクラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

Canadian Notice

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Avis Canadien

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Union Notice

Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms (in brackets are the equivalent international standards):

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!

Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten, in welchen Fällen der Benutzer für entsprechende Gegenmaßnahmen verantwortlich ist.

Attention!

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 spécifiques appropriées.

Contents

Tables

Preface

Intended Audience

This manual tells how to install and power up *AlphaServer* GS80 systems. It is intended for installation and service professionals.

Document Structure

This manual uses a structured documentation design. Topics are organized into small sections, usually consisting of two facing pages. Most topics begin with an abstract that provides an overview of the section, followed by an illustration or example. The facing page contains descriptions, procedures, and syntax definitions.

This manual has three chapters.

- **Chapter 1, Overview,** provides a conceptual introduction to the system.
- **Chapter 2, Installation,** describes how to install the system cabinet and the expander cabinet.
- **Chapter 3, System Power-Up,** describes how to power up the system and when to boot the operating system.

Documentation Titles

Table 1 AlphaServer GS80 Documentation

Title	Order Number
QA–6GAAA–G8	AlphaServer GS80/160/320 Documentation Kit
EK–GS320–UG	*AlphaServer GS80/160/320 User's Guide*
EK–GS320–RM	*AlphaServer GS80/160/320 Firmware Reference Manual*
EK–GSPAR–RM	*AlphaServer GS80/160/320 Getting Started with Partitions*
EK–GS320–IN	*AlphaServer GS160/320 Installation Guide*
EK–GSR80–IN	*AlphaServer GS80 Installation Guide*
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	*AlphaServer GS80/160/320 Service Manual*
EK–GS320–RM	*AlphaServer GS80/160/320 Firmware Reference Manual*
AG–RKSZ*–BE	AlphaServer GS80/160/320 Service Information CD
EK–GSCON–IN	*AlphaServer GS80/160/320 System Management Console Installation and User's Guide*
EK–GS320–UP	*AlphaServer GS160/320 Upgrade Manual*
EK–GSR80–UP	*AlphaServer GS80 Upgrade Manual*
EK–GS320–SP	*AlphaServer GS80/160/320 Site Preparation*

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 system.

Chapter 1
Overview

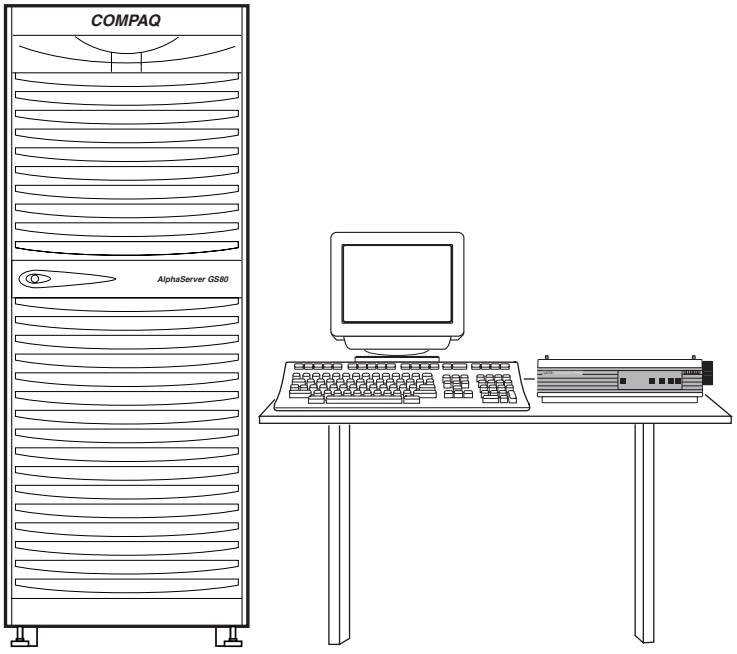
The *AlphaServer* GS80 systems form the low end of the family of high-performance server platforms GS80/160/320 designed for enterprise-level applications. Like the GS160/320 systems, the GS80 systems are distinguished by their versatility and high degree of expandability.

This chapter gives an overview of the GS80 system with a block diagram and a physical diagram. Section 1.4 gives a list of the system and expander cabinets with their power requirements.

1.1 The System

The GS80 systems come in two Alpha configurations: one-drawer or two-drawer. Each drawer is designed into a single quad building block (QBB) consisting of up to four microprocessors. Figure 1–1 shows a GS80 system.

Figure 1–1 A GS80 System



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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 (optional), and the OCP (operator control panel). An expander cabinet can house additional PCI boxes and storage shelves.

System expansion is achieved in three ways:

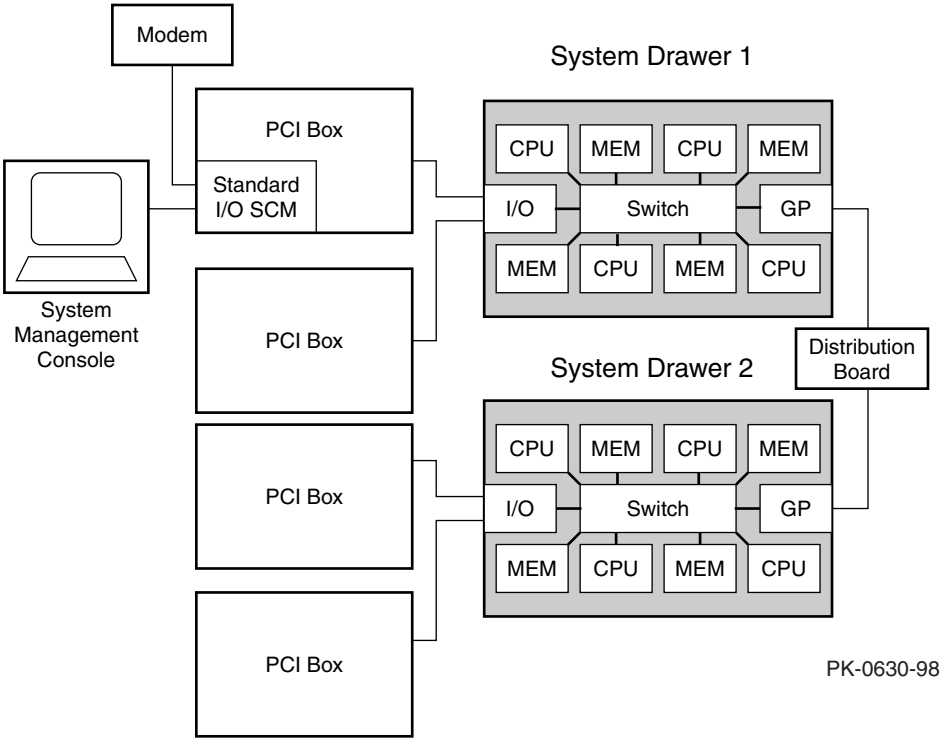
- Adding a storage device to the single-drawer system
- Adding a second drawer to a single drawer system
- Adding an expander cabinet to accommodate any additional I/O devices

Chapter 2 of this manual discusses the addition of an expander cabinet to the GS80 system cabinet. The addition of a second drawer is discussed in the *AlphaServer GS80 Upgrade Manual* (EK-GSR80-UP).

1.2 GS80 Block Diagram

Figure 1–2 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.

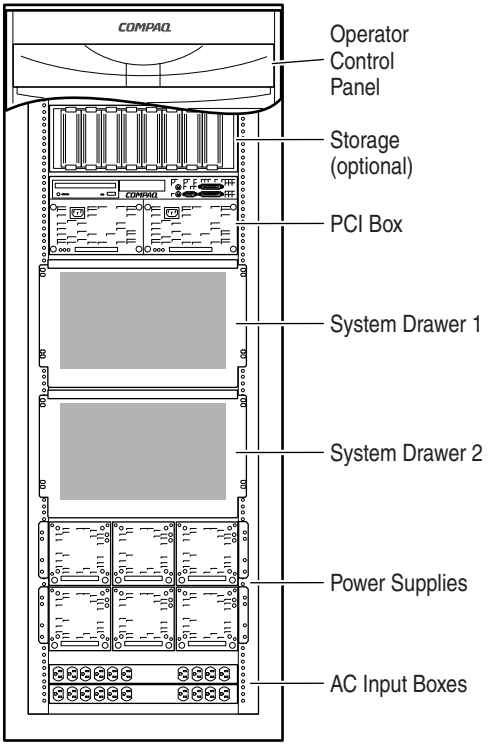
Figure 1–2 GS80 Block Diagram (Two-Drawer System)



1.3 GS80 Physical Diagram

Figure 1–3 shows the physical diagram of a two-drawer GS80 system with a PCI box and an optional storage unit.

Figure 1–3 GS80 Physical Diagram (Two-Drawer System)



1.4 Cabinets

Table 1–1 shows the model number of cabinets and power requirements for GS80 systems operating in various electrical environments.

Table 1–1 Cabinet Models and Power Requirements

Cabinet Model	Power Requirement
System Cabinet H9A20-CA (U.S./Canada)	115-127V
System Cabinet H9A20-CB (Europe)	200-240V
System Cabinet H9A20-CC (U.S./Canada/Japan)	200-240V
Expander Cabinet H9A20-AA (U.S./Canada)	115-127V
Expander Cabinet H9A20-AB (Europe)	200-240V
Expander Cabinet H9A20-AC (U.S./Canada/Japan)	200-240V

Chapter 2
Installation

The base system is enclosed in a single cabinet. It contains one or two drawers, the operator control panel, AC input boxes, power supplies, a 14-slot PCI box assembly (BA54A), and a PCI box mounting and accessory kit (CK-BA54A). It may also contain an optional storage unit.

The expander cabinet is used for additional PCI boxes and storage shelves.

The installation of the GS80 system involves the following tasks:

- Preparing for System Installation
- Installing the System
- Joining Expander Cabinet

2.1 Preparing for System Installation

The site must be properly prepared for the system to be installed. Make sure that you have the tools needed for the installation. Wait for any condensation on the metal surfaces to evaporate before powering up the system. Table 2–1 gives the joining kit required for the installation of an expander cabinet.

Table 2–1 Expander Cabinet Joining Kit Required for Installation

Joining Kit	Part Number
Expander cabinet to system cabinet	70-40120-02

Before you start any installation procedure:

1. Ensure that the site is properly prepared to install the system. Refer to the *AlphaServer GS80/160/320 Site Preparation* for system specifications and requirements.
2. Ensure that you have the joining kit given in Table 2–1 for the installation.
3. Roll system cabinets off pallets.
4. Remove all protective packaging.

You are now ready to assemble the system.

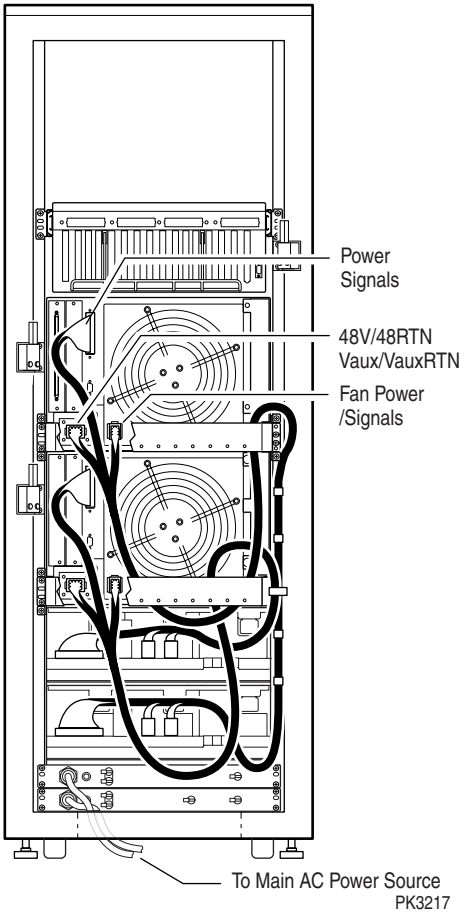
After you have finished installing the system, hand the shipping brackets to the customer to keep for later use. Shipping brackets are required for moving the system.

WARNING: Before you power up the system, inspect the modules for any visible sign of water condensation on the heatsinks, DC-to-DC converters, and the CPUs. Due to the large mass of the system, condensation may occur during transfer from a cold to a warm environment. Allow time for the condensation to evaporate completely. DO NOT power the system up if you notice any indication of condensation.

2.2 Installing the System

Install the system in the predetermined location. If an expander cabinet is to be added, join the system cabinet and the expander cabinet before connecting the system to the main AC power source.

Figure 2–1 GS80 System Installation and Cable Connections



Unpack the system cabinet and remove the orange shipping brackets.

Position the system cabinet at the predetermined location. Release the tie wraps on the CSB cable and hose cables that are coiled and attached to the side of the cabinet for later routing.

All cable connections between components of the system are made at the factory. These connections include (see Figure 2–1):

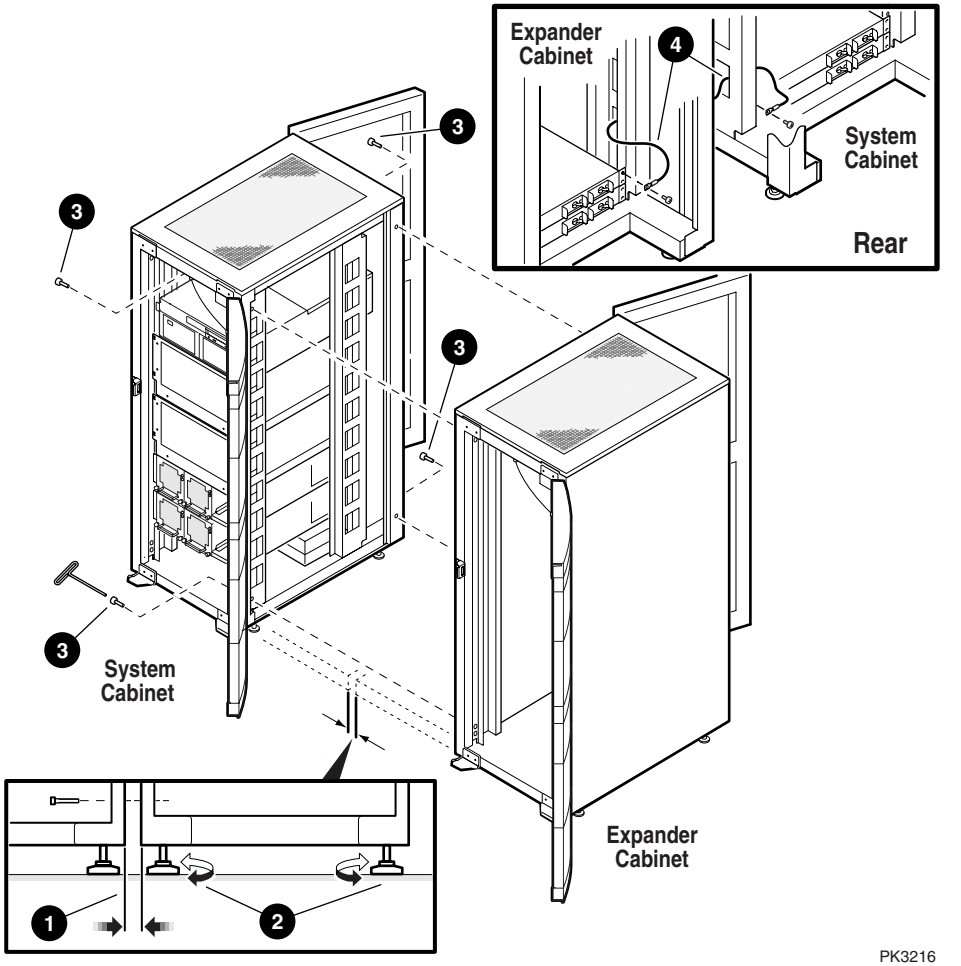
- Power signals
- 48V/48RTN; Vaux/VauxRTN
- Fan Power/Signals
- CSB cable
- The hose cable from the local I/O riser ports to the remote risers in the PCI box

To complete the installation of the system, all you need to do is to connect the power cables from the AC input boxes to the main AC power source. If an expander cabinet is to be added, join the expander cabinet to the system cabinet as explained in Section 2.3 before making the AC power connection.

2.3 Joining Expander Cabinet

Join the expander cabinet to the system cabinet as shown in Figure 2–2.

Figure 2–2 Joining Expander Cabinet



To add an expander cabinet, proceed as follows:

1. Roll the expander cabinet flush along the side of the system cabinet leaving a minimum gap between cabinets ❶.
2. Align cabinet heights by adjusting the leveling feet ❷.
3. Once the expander cabinet is aligned with the system cabinet, use the four screws and the Allen wrench supplied with the expander cabinet to secure the cabinets together at all corners ❸.
4. Connect the system ground wire from the expander cabinet to the system cabinet ❹. For each additional expander cabinet, daisy chain a system ground wire.
5. Make host connections (PCI box, storage) and the CSB connection. These connections are configuration dependent.

This completes the installation of an expander cabinet. You can now make power connections from the AC input boxes to the main AC power source. Next, you must power up the system as explained in Chapter 3.

Chapter 3
System Power-Up

This chapter tells how to power up the system and what happens upon power-up. Sections include:

- Control Panel Keyswitch
- Installing the System Management Console
- Powering Up the System
- Q-VET Installation Verification

3.1 Control Panel Keyswitch

The operator control panel (OCP) keyswitch has three positions: Off, On, and Secure. Figure 3–1 shows the OCP keyswitch.

Figure 3–1 Operator Control Panel

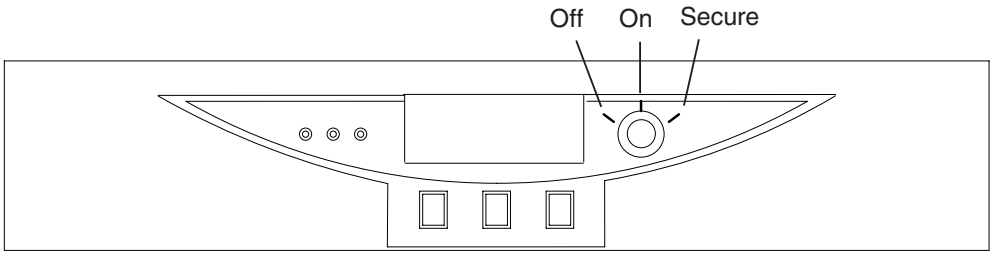


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Table 3–1 explains the functions selected by the keyswitch.

Table 3–1 Keyswitch Functions on the Control Panel

Keyswitch Position	Function
Off	System is powered off and cannot be powered on remotely.
On	System is powered on and can be remotely powered on or powered off.
Secure	System is powered on and cannot be remotely powered on or off.

Refer to the *AlphaServer GS80/160/320 User's Guide* or the *AlphaServer GS80/160/320 Service Manual* for functional descriptions of all control panel components.

3.2 Installing the System Management Console

Before you power up the system, you must install the system management console (SMC). Steps to be followed in installing the SMC are listed below. The procedures to install the SMC are fully detailed in the *AlphaServer GS80/160/320 System Management Console Installation and User's Guide.*

Steps to Install the SMC

1. Set up the SMC PC.
2. Install the SMC terminal server in the GS160/320 system.
3. Connect the terminal server to the power source.
4. Turn circuit breakers on but keep the keyswitch on Off.
5. Cable the PC to the terminal server and set up parameters.
6. Verify communication from the console to the system control manager.

You are now ready to power up the system.

WARNING: Before you power up the system, inspect the modules for any visible sign of water condensation on the heatsinks, DC-to-DC converters, and the CPUs. Due to the large mass of the system, condensation may occur during transfer from a cold to a warm environment. Allow time for the condensation to evaporate completely. DO NOT power the system up if you notice any indication of condensation.

3.3 Powering Up the System

To power up the system, first turn the circuit breakers in all cabinets on, then set the keyswitch on the OCP to the On position. Example 3–1 shows a sample console display on power-up. See the *AlphaServer GS80/160/320 Service Manual* or the *AlphaServer GS80/160/320 User's Guide* for explanations of the power-up display.

Example 3–1 Power-Up Display

```
SCM_E0> power on
Powering on PCI Box 0
Powering on PCI Box 1
QBB-0 Powering ON

~I~ Testing OCP Switch- passed
Power ON Phase INIT
QBB-1 Powering ON
QBB-2 Powering ON
QBB-3 Powering ON

~I~ SCM powered via PBM
SCM_E0>
QBB0 now Testing Step-0
QBB1 now Testing Step-0
QBB2 now Testing Step-0
QBB3 now Testing Step-0
~I~ SCMe1 non-csb member while it tests & initializes its
Shared RAM
SCM_E0> .
~I~ QBB0/PSM30 SysEvent: QBB_INIT_CD1                Reg0:7AB3
Reg1:3FFF (test-0)  (fmask/fts:8f)
.
~I~ QBB1/PSM31 SysEvent: QBB_INIT_CD1                Reg0:7AB3
Reg1:3FFF (test-0)  (fmask/fts:8f)

~I~ QBB2/PSM32 SysEvent: QBB_INIT_CD1                Reg0:768F
Reg1:0FFF (test-0)  (fmask/fts:8f)

~I~ QBB3/PSM33 SysEvent: QBB_INIT_CD1                Reg0:768F
Reg1:0FFF (test-0)  (fmask/fts:8f)
```

```
Testing SIO Shared RAM(please wait)

Initializing shared ram
Shared RAM Initialized

Powering ON H-Switch
SCM_E0>
~I~ HSW4/HPM40 SysEvent: HS_INIT_CD1                Reg0:000F
Reg1:D581

Phase 0
~I~ Enable HS Links: 0f

~I~ QbbConf(gp/io/c/m)=0000bbff Assign=0f SQbb0=00 PQbb=00
SoftQbbId=0000ba98
~I~ SysConfig: 00 00  00 00  00 00  00 00  07 1f  07 9f  37 3f
37 9f
SCM_E0>
~I~ HSW4/HPM40 SysEvent: LINK0_ON                   Reg0:000F
Reg1:D581

~I~ HSW4/HPM40 SysEvent: LINK1_ON                   Reg0:010F
Reg1:D581
SCM_E0>
~I~ HSW4/HPM40 SysEvent: LINK2_ON                   Reg0:030F
Reg1:D581
SCM_E0>
~I~ HSW4/HPM40 SysEvent: LINK3_ON                   Reg0:070F
Reg1:D581
SCM_E0> ............
QBB0 now Testing Step-1
QBB1 now Testing Step-1
QBB2 now Testing Step-1
QBB3 now Testing Step-1
QBB0 now Testing Step-3
QBB1 now Testing Step-3
QBB2 now Testing Step-3
QBB3 now Testing Step-3..
QBB0 now Testing Step-5
QBB1 now Testing Step-5
QBB2 now Testing Step-4
QBB3 now Testing Step-4
QBB2 Step(s)-4 5  Tested
QBB3 Step(s)-4 5  Tested
Phase 1
```

```
QBB0 IO_MAP0: 0000A0C001333333
QBB1 IO_MAP1: 0000A1C101333333
QBB2 IO_MAP2: 0000000000000003
QBB3 IO_MAP3: 0000000000000003

~I~ QbbConf(gp/io/c/m)=0000bbff Assign=0f SQbb0=00 PQbb=00
SoftQbbId=0000ba98
~I~ SysConfig: 00 00  00 00  00 00  00 00  07 1f  07 9f  37 3f
37 9f
SCM_E0> .
QBB0 now Testing Step-7
QBB1 Step(s)-5 6  Tested
QBB2 Step(s)-5 6  Tested
QBB3 Step(s)-5 6  Tested
QBB0 now Testing Step-9..
QBB0 now Testing Step-A.
QBB0 now Testing Step-7
QBB0 now Testing Step-9..
QBB0 now Testing Step-A.
QBB0 now Testing Step-8
QBB0 now Testing Step-9..
QBB0 now Testing Step-A.
QBB0 now Testing Step-B.
Phase 2
QBB0 IO_MAP0: 0000A0C001333333
QBB1 IO_MAP1: 0000A1C101333333
QBB2 IO_MAP2: 0000000000000003
QBB3 IO_MAP3: 0000000000000003

~I~ QbbConf(gp/io/c/m)=0000bbff Assign=0f SQbb0=00 PQbb=00
SoftQbbId=0000ba98
~I~ SysConfig: 00 00  00 00  00 00  00 00  07 1f  07 9f  37 3f
37 9f
SCM_E0>
QBB0 now Testing Step-C
QBB1 now Testing Step-C
QBB2 now Testing Step-C
QBB3 now Testing Step-C..
```

```
Phase 3
~I~ QbbConf(gp/io/c/m)=0000bbff Assign=0f SQbb0=00 PQbb=00
SoftQbbId=0000ba98
~I~ SysConfig: 00 00  00 00  00 00  00 00  07 1f  07 9f  37 3f
37 9f
SCM_E0> .
QBB0 now Testing Step-D
QBB1 now Testing Step-D
QBB2 now Testing Step-D
QBB3 now Testing Step-D....
QBB0 IO_MAP0: 0000A0C001333333
QBB1 IO_MAP1: 0000A1C101333333
QBB2 IO_MAP2: 0000000000000003
QBB3 IO_MAP3: 0000000000000003

Phase 4
~I~ QbbConf(gp/io/c/m)=0000bbff Assign=0f SQbb0=00 PQbb=00
SoftQbbId=0000ba98

QBB0 unloading console across port0 from PCI Box-0
Console COM1 from master PCI Box-0
~I~ SysConfig: 00 00  00 00  00 00  00 00  07 1f  07 9f  37 3f
37 9f
Retrieving FRU information for Shared RAM...(please wait)
SCM_E0> .
QBB3 now Testing Step-E
QBB0 now Testing Step-E
QBB1 now Testing Step-E
QBB2 now Testing Step-E..
Power On Complete

Returning to system COM1 port


System Primary QBB0 : 0
System Primary CPU  : 0 on QBB0


Par hrd/csb CPU  Mem   IOR3 IOR2 IOR1 IOR0  GP  QBB  Dir PS
Temp
     QBB#   3210 3210     (pci_box.rio)     Mod BP   Mod 321
(:C)

(-)  0/30   PPPP P--P  --.- --.- P0.1 P0.0   P   P    P  P-P
28.0
```

```
(-)  1/31   PPPP --PP  --.- --.- P1.1 P1.0   P   P    P  P-P
32.0
(-)  2/32   PPPP P--P  --.- --.- --.- --.-   P   P    P  -PP
29.0
(-)  3/33   PPPP ---P  --.- --.- --.- --.-   P   P    P  -PP
30.0


HSwitch  Type    Cables 7 6 5 4 3 2 1 0    Temp(:C)

HPM40    4-port         - - - - P P P P     32.0



PCI Rise1-1  Rise1-0  Rise0-1  Rise0-0   RIO  PS  Temp
Cab 7 6 5 4   3 2 1   7 6 5 4   3 2 1    1 0  21  (:C)

10  - - L -   - - -   - - - -   L - S    * *  PP  35.0
11  - - - -   - - -   - - - -   - - S    * *  PP  34.5


OpenVMS PALcode V1.80-1, Tru64 UNIX PALcode V1.74-1

system = QBB 0 1 2 3         + HS
 QBB 0 = CPU 0 1 2 3 + Mem 0     3 + Dir + IOP + PCA 0 1     +
GP  (Hard QBB 0)
 QBB 1 = CPU 0 1 2 3 + Mem 0 1     + Dir + IOP + PCA 0 1     +
GP  (Hard QBB 1)
 QBB 2 = CPU 0 1 2 3 + Mem 0     3 + Dir + IOP + PCA         +
GP  (Hard QBB 2)
 QBB 3 = CPU 0 1 2 3 + Mem 0       + Dir + IOP + PCA         +
GP  (Hard QBB 3)
micro firmware version is T5.5
shared RAM version is 1.4
hose 0 has a standard I/O module
starting console on CPU 0
initialized idle PCB
initializing semaphores
initializing heap
initial heap 300c0
memory low limit = 1fc000
heap = 300c0, 1ffc0
initializing driver structures
initializing idle process PID
initializing file system
initializing timer data structures
```

```
lowering IPL
CPU 0 speed is 731 MHz
create dead_eater
create poll
create timer
create powerup
access NVRAM
QBB 0 memory, 3 GB
QBB 1 memory, 3 GB
QBB 2 memory, 3 GB
QBB 3 memory, 1 GB
total memory, 10 GB
copying PALcode to 10bffe0000
copying PALcode to 20bffe0000
copying PALcode to 303ffe0000
probe I/O subsystem
probing hose 0, PCI
probing PCI-to-ISA bridge, bus 1
bus 1, slot 0 -- dva -- Floppy
bus 0, slot 1 -- pka -- QLogic ISP10x0
bus 0, slot 3 -- ewa -- DE500-BA Network Controller
bus 0, slot 15 -- dqa -- Acer Labs M1543C IDE
probing hose 1, PCI
probing hose 2, PCI
probing hose 3, PCI
bus 0, slot 5 -- pkb -- QLogic ISP10x0
probing hose 8, PCI
probing PCI-to-ISA bridge, bus 1
bus 1, slot 0 -- dvb -- Floppy
bus 0, slot 1 -- pkc -- QLogic ISP10x0
bus 0, slot 15 -- dqb -- Acer Labs M1543C IDE
probing hose 9, PCI
probing hose 10, PCI
probing hose 11, PCI
starting drivers
entering idle loop
starting console on CPU 1
initialized idle PCB
initializing idle process PID
lowering IPL
CPU 1 speed is 731 MHz
create powerup
starting console on CPU 2
initialized idle PCB
initializing idle process PID
lowering IPL
```

```
CPU 2 speed is 731 MHz
create powerup
starting console on CPU 3
initialized idle PCB
initializing idle process PID
lowering IPL
CPU 3 speed is 731 MHz
create powerup
starting console on CPU 4
initialized idle PCB
initializing idle process PID
lowering IPL
CPU 4 speed is 731 MHz
create powerup
starting console on CPU 5
initialized idle PCB
initializing idle process PID
lowering IPL
CPU 5 speed is 731 MHz
create powerup
entering idle loop
starting console on CPU 6
initialized idle PCB
initializing idle process PID
lowering IPL
CPU 6 speed is 731 MHz
create powerup
starting console on CPU 7
initialized idle PCB
initializing idle process PID
lowering IPL
CPU 7 speed is 731 MHz
create powerup
starting console on CPU 8
initialized idle PCB
initializing idle process PID
lowering IPL
CPU 8 speed is 731 MHz
create powerup
starting console on CPU 9
initialized idle PCB
initializing idle process PID
lowering IPL
CPU 9 speed is 731 MHz
create powerup
starting console on CPU 10
```

```
initialized idle PCB
initializing idle process PID
lowering IPL
CPU 10 speed is 731 MHz
create powerup
starting console on CPU 11
initialized idle PCB
initializing idle process PID
lowering IPL
CPU 11 speed is 731 MHz
create powerup
starting console on CPU 12
initialized idle PCB
initializing idle process PID
lowering IPL
CPU 12 speed is 731 MHz
create powerup
starting console on CPU 13
initialized idle PCB
initializing idle process PID
lowering IPL
CPU 13 speed is 731 MHz
create powerup
starting console on CPU 14
initialized idle PCB
initializing idle process PID
lowering IPL
CPU 14 speed is 731 MHz
create powerup
entering idle loop
starting console on CPU 15
initialized idle PCB
initializing idle process PID
lowering IPL
CPU 15 speed is 731 MHz
create powerup
initializing GCT/FRU at 1fc000
initializing pka pkb pkc ewa dqa dqb
environment variable mopv3_boot created
version X5.8-4667 May  4 2000 02:24:27
AlphaServer Console X5.8-4667, built on May 4 2000 at 02:24:27
P00>>>
```

The SRM console prompt (`P00>>>`) is displayed at the end of power-up.

This completes the power-up initialization/testing sequence. The operating system can be booted and installed from the SRM console prompt.

Follow instructions given in the *AlphaServer GS80/160/320 User's Guide* to:

- Set boot options
- Boot and install *Tru64 UNIX*
- Boot and install *OpenVMS*

You can now run Q-VET to verify the system installation (Section 3.4).

3.4 Q-VET Installation Verification

Run the latest Q-VET released version to verify the system installation.

Compaq recommends running the latest Q-VET released version to verify that hardware on *Tru64 UNIX* and *OpenVMS* systems is installed correctly and is operational. Q-VET is the Qualification Verifier Exerciser Tool that is used by Compaq Product Engineers to exercise systems under development. Q-VET does not verify the operating system configuration.

If the system has been partitioned, Q-VET must be installed and run separately on each partition to verify the complete installation. Compaq Analyze must be installed on the operating system prior to running Q-VET.

You must always obtain the latest revision of Q-VET from the Q-VET Web site—the latest Q-VET release, information, Release Notes and documentation are located at http://chump2.mro.cpqcorp.net/qvet/. Q-VET is not FISed on new systems or included on the quarterly firmware CD. (It is distributed on the Tools Unplugged CD at http://phxmcs.phx.dec.com/mcstools_request.htm, but that version may not be the latest.)

***CAUTION**:*

*Do **not** install the Digital System Verification Software (DECVET) on GS80, GS160, or GS320 systems.*

Non-IVP Q-VET scripts verify disk operation for some drives with "write enabled" techniques. These are intended for Engineering and Manufacturing Test. Run ONLY IVP scripts on systems that contain customer data or any other items that must not be written over. See the Q-VET Disk Testing Policy Notice on the Q-VET Web site for details. All Q-VET IVP scripts use Read Only and/or File I/O to test hard drives. Floppy and tape drives are always write tested and should have scratch media installed.

Q-VET should be used to verify a new system installation prior to configuring the system into a cluster or connecting any shared storage devices containing customer data.

Q-VET is to be used by Q-VET knowledgeable Compaq Service Personnel only.

*Q-VET **must** be de-installed upon completion of system installation verification. Do not leave this software at a customer site; misuse **may result in loss of customer data**.*

Swap or Pagefile Space

The system must have adequate swap space (on Tru64 UNIX) or PageFile space (on *OpenVMS*) for proper Q-VET operation. You can set this up either before or after Q-VET installation.

During initialization, Q-VET will display a message indicating the minimum amount of swap/pagefile needed, if it determines that the system doesn't have enough. You can then reconfigure the system.

If you wish to address the swap/pagefile size before running Q-VET, see the Swap/Pagefile Estimates on the Q-VET Web site.

3.4.1 Installing Q-VET

The procedures for installation of Q-VET differ between operating systems. You must install Compaq Analyze and Q-VET on each partition in the system.

TCP/IP (on Tru64 UNIX) or DecNet_Phase IV (on OpenVMS) should be configured before installing Q-VET.

Compaq Analyze must *be installed on each partition. Q-VET will not start if Compaq Analyze is not installed.*

Install and run Q-VET from the **SYSTEM** account on VMS and the **root** account on UNIX. Follow the instructions listed under your operating system to install Q-VET. Remember to install Q-VET in each partition.

Tru64 UNIX

1. Copy the kit tar file (*QVET_Vxxx.tar*) to your system.
2. If this is not a new install check for old Q-VET kits (or DECVET kits) via the following command.
   setld -i | grep VET

   Note the names of any listed kits such as OTKBASExxx etc.
   Remove the kits with the command
   setld -d kit1_name kit2_name kit3_name
3. Be sure that there is no directory named output. If so move to another directory or remove the output directory.
   rm -r output
4. Untar the kit with the command
   tax xvf QVET_Vxxx.tar
5. Install the kit with the command
   setld -l output
6. During the install, if you intend to use the GUI you must select the optional GUI subset (QVETXOSFxxx).
7. The Q-VET installation will size your system for devices and memory. It also runs qvet_tune. You should answer '**y**' to the questions that are asked about setting parameters. If you do not, you may have trouble running Q-

VET. After the installation completes, you should delete the output directory with **`rm -r output.`** You can also delete the kit tar file.

8. You ***must*** reboot the system before starting Q-VET.
9. On reboot you can start Q-Vet GUI via **`vet&`** or you can run non GUI (Command Line) via **`vet -nw`**

OpenVMS

1. Delete any *QVETAXPxxx.A* or *QVETAXPxxx.EXE* file from the current directory.
2. Copy the self-extracting kit image file (*QVETAXPxxx.EXE*) to the current directory.
3. It is highly recommended, but not required, that you purge the system disk before installing Q-VET. This will free up space that may be needed for PageFile expansion during the AUTOGEN phase. **$purge sys$sysdevice:[*...]*.***
4. Extract the kit saveset with the command **`$run QVETAXPxxx.EXE`** and verify that the kit saveset was extracted by checking for the "Successful decompression" message.
5. Use **`@sys$update:vmsinstal`** for the Q-VET installation. The installation will size your system for devices and memory. You should choose all the default answers during the Q-VET installation. This will run the IVP, tune the system and reboot. During the install, if you ***do not*** intend to use the GUI, you can answer **`no`** to the question "Do you want to install Q-VET with the DECwindows Motif interface?"
6. After the installation completes you should delete the *QVETAXP0xx.A* file and the *QVETAXPxxx.EXE* file.
7. On reboot you can start Q-VET GUI via **`$vet`** or the command interface via **`$vet/int=char`**

3.4.2 Running Q-VET

You must run Q-VET on each partition in the system to verify the complete installation.

Compaq recommends that you review the Testing Notes section of the Release Notes before running Q-VET.

Follow the instructions listed under your operating system to run Q-VET in each partition. Choose the Long IVP script rather than the Short one.

Tru64 UNIX

Graphical Interface

1. From the Main Menu, select **IVP**, **Load Script** and select **Long IVP** (the IVP tests will then load into the Q-VET process window).
2. Click the **Start All** button to begin IVP testing.

Command-Line Interface

```
> vet -nw
Q-Vet_setup> execute .Ivp.scp
Q-Vet_setup> start
```

Note that there is a "**.**" in front of the script name, and that commands are case sensitive.

OpenVMS

Graphical Interface

1. From the Main Menu, select **IVP**, **Load Script** and select **Long IVP** (the IVP tests will then load into the Q-VET process window).
2. Click the **Start All** button to begin IVP testing.

Command-Line Interface

```
$ vet /int=char
Q-Vet_setup> execute ivp.vms
Q-Vet_setup> start
```

Note that commands are case sensitive.

Note: A quick IVP script is provided for a simple verification of device setup. It is selectable from the GUI IVP menu, and the script is called **.Ivp_short.scp** (**ivp_short.vms**). This script will run for 15 minutes and then terminate with a Summary log. The short script may be run prior to the Long IVP script if desired, but not in place of the Long IVP script, which is the full IVP test.

The Long IVP will run until the slowest device has completed one pass (typically 4 to 10 hours). This is called a Cycle of Testing.

3.4.3 Reviewing Results of the Q-VET Run

After running Q-VET, check the results of the run by reviewing the Summary Log.

If you run Q-VET as instructed, Q-VET will terminate testing after the slowest test has completed one pass and produce a Summary file. The termination message will tell you the name and location of this file. All exerciser processes are terminated automatically when the RunTime expires or manually via the Terminate command. After all exercisers report "Idle", the Summary Log is produced containing Q-VET-specific results and statuses as well as system log entries derived from Compaq Analyze.

1. A message will be displayed showing the number of system events appended to the Summary Log:

   ```
   "xx entries have been appended to the summary file"
   ```

2. If there are more than 0 appendages, the following additional message is displayed.

   ```
   "You MUST review these for Errors."
   ```

   If the number is greater than 0, they must be reviewed for errors.

3. If there are no Q-VET errors, no system event appendages, and testing ran to the specified completion time, the following message will be displayed.

   ```
   "Q-VET Tests Complete: Passed"
   ```

4. For automatic test run completions, there are two more possible outcomes:

   - If there were no exerciser errors, but there were other errors or significant events in the Summary Log that must be reviewed, the following message appears:

     ```
     "Q-VET Tests Complete: Warning"
     ```

   - If one or more exercisers had errors, this message appears:

     ```
     "Q-VET Tests Complete: Fail"
     ```

3.4.4 De-Installing Q-VET

The procedures for de-installation of Q-VET differ between operating systems. You must de-install Q-VET from each partition in the system.

You must de-install Q-VET from each partition. Failure to do so may result in the loss of customer data at a later date if Q-VET is misused.

Follow the instructions listed under your operating system to de-install Q-VET from a partition. The **qvet_uninstall** programs will remove the Q-VET supplied tools and restore the original system tuning/configuration settings.

Tru64 UNIX

1. **Stop, Terminate,** and **Exit** from Q-VET testing.
2. Delete (**rm**) any Q-VET kit file (QVET_Vxxx.tar).
3. Note: log files are retained in `/usr/field/tool_logs`
4. Execute the program **`qvet_uninstall`**
5. Reboot the system. You MUST reboot in any case, even if Q-VET is to be reinstalled.

OpenVMS

1. **Stop**, **Terminate,** and **Exit** from any Q-VET testing.
2. Delete QVETAXP0xx.A and QVETAXPxxx.EXE if they are still on the system.
3. Execute the program **@sys$manager:qvet_uninstall.com**
4. Note: log files are retained in **sys$specific:[sysmgr.tool_logs**]
5. Reboot the system. You MUST reboot in any case, even if Q-VET is to be reinstalled.

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