



AlphaServer GS80/160/320 V7.3 Firmware Release Notes



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1 Read Me First

Please ensure all firmware is updated to the latest revision levels.

1.1 Console Firmware Changes

Kgpsa driver - Console will fail to login into the fibre-channel fabric switch, if the connection is moved from one switch port to another, on certain new Brocade fibre-channel switches.

Solution: When attempting to login to a fibre-channel switch port, use an SDID of zero and the switch will provide the new SDID to the host adapter

Wwidmgr - The console supports a number of environmental variables to facilitate boot and crash dump to fibre-channel storage volumes. Presently there are four (4) WWIDx variables that define the world-wide-ID of a storage volume and eight (8) Nx variables that define the path to the storage volumes. The console uses these variables to define the volumes that may be used for boot or crash dump devices.

Solution: Increase the number of Nx and WWIDx console environmental variables.

I/O Option Firmware - no changes

2 Introduction

The release notes are intended for users of AlphaServer GS80, GS160, and GS320 Systems. It describes how to update firmware using the firmware update utility.

2.1 Revisions and Compatibility

The following table shows the revision of the SRM console and CSB components of this firmware release, together with supported versions of the operating systems.

Table 1 Revision Table

SRM Console FW	CSB Micro FW	OpenVMS	Tru64 UNIX
V7.3-1 *	V6.6	V7.2-2, V7.3-1, V7.3-2	V4.0G, V5.1A, V5.1B
V7.2-1	V6.6	V7.2-2, V7.3-1, V7.3-2	V4.0G, V5.1A, V5.1B

An asterisk * indicates firmware has changed since the previous release.

2.2 Documentation

You can find additional information about installing, configuring and booting your AlphaServer GS80/160/320 in the documentation listed in Table 2.

Table 2 Documentation

Title	Part Number
AlphaServer GS80/160/320 User's Guide	EK-GS320-UG
AlphaServer GS80/160/320 Firmware Reference Manual	EK-GS320-RM
AlphaServer GS160/320 Installation Guide	EK-GS320-IN
AlphaServer GS80 Installation Guide	EK-GSR80-IN



2.3 Firmware Revision Information

The Firmware Update Bootfile (GS320_V7_3.EXE) contains the latest shipping firmware revisions. An asterisk * indicates firmware has changed since the previous release. However, only SRM firmware has changed in the V7.3 firmware release.

Table 3 Firmware Components and Revision List

Component	Location of Flash ROM Where Firmware Resides	Firmware Revision
SRM Console	SRM Flash (on STDIO)	V7.3-1 *
VMS PALcode	SRM Flash (on STDIO)	V1.98-2
UNIX PALcode	SRM Flash (on STDIO)	V1.92-1
ISP10x0 FW	SRM Flash (on STDIO)	V5.57
XSROM	PSM Flash	V6.6 (01.26/00:24)
SCM Micro FW	SCM Flash (on STDIO)	V6.6 (01.22/01:02)
PSM Micro FW	PSM Flash	V6.6 (01.22/01:01)
PBM Micro FW	PBM Flash	V6.6 (01.22/01:02)
HPM Micro FW	HPM Flash	V6.6 (01.22/01:02)

Table 4 PCI I/O Adapter Firmware Revision

Adapter	HW Variant	Firmware Revision
CIPCA	All variants	4.20
DEFPA	All variants	3.20
FCA-2354	All variants	CS3.93A0
FCA-2384	All variants	HS1.91X6
FCA-2684	All Variants	TS1.91X6
KGPSA ¹	-BC	SS3.20X7
KGPSA	-CA	DS3.93A0
KZPCC	All variants	Adapter FW: CQ17 SMOR Utility: 1.12
KZPDC	All variants	3.56
KZPSA ¹	All variants	A12

¹ NOTE: Although the update program contains firmware images for KGPSA-BC and KZPSA, these adapters are not officially supported on GS80/160/320 Systems. CCMAB (Memory Channel) is supported, but firmware update support is not provided nor needed.



2.3.1 SCM Monitor - No Changes

Note - There have been reported cases where the CSB firmware (HPM) has failed to update. After performing the MICRO update make certain the version and date code of the individual sections are all the same. If a subsequent firmware update fails it might be required to do a complete power cycle. (ie. cycling the power circuit breakers.) No changes for this release.

2.3.2 PSM Firmware - No Changes

There are no changes for this release

2.3.3 HPM Firmware - No Changes

There are no changes for this release

2.3.4 PBM Firmware - No Changes

There are no changes for this release

2.3.5 XSROM Firmware - No Changes

There are no changes for this release

2.4 Important Workarounds and Restrictions

This section lists any workarounds or restrictions in system firmware, which may differ from product documentation.

2.4.1 Bootable DVD's are Not Supported

Bootable DVD's are not supported on all Alpha systems because of a limited memory size architectural restriction.

2.4.2 OpenVMS V7.3-1 with GALAXY Partitions and SRM V6.3

2.4.2.1 CPU Halted under OpenVMS

CPU migration functionality **cannot** be utilized on a CPU that is halted in console mode using the OpenVMS command: *{stop/cpu x followed by set cpu x/migrate=y}*, until the OpenVMS Remedial Kit VMS731_SYS-V0100 (or later) has been installed.

2.4.2.2 CPU Active under OpenVMS

CPU migration functionality **can** be utilized on an **active CPU** using the OpenVMS command *{stop/cpu/migrate=y x}*, prior to the Remedial Kit installation.

Full CPU migration functionality is restored after installation of the Remedial Kit.

2.4.3 Memory DIMMs - Samsung

The SRM console command **build -dimm** will **not** work correctly on any DIMMs manufactured by Samsung, because a portion of the EEPROM used to store DIMM fru data is write-protected. The **build -dimm** command will appear to complete successfully and the proper data will be displayed in the **show fru** command. When AC power is cycled, and after system is powered on again, a **show fru** command will show that the fru data is incorrect for the Samsung DIMMs. It is not yet known if this issue will be resolved in the future.

2.4.4 Procedure to Proper Power off or Reset of a Partition

This is the preferred mechanism to power off or reset partitioned and non-partitioned systems.

On hard partitioned systems, to properly power off or reset an individual partition, the user must use the **power off** or **reset** command from the SRM console (or appropriate operating system application) associated with that partition. This method is required so that the SRM console can quiesce the QBBs and their global ports within that partition before it issues the power off command to the SCM through shared RAM.

Do not use power off or reset a partition from the SCM monitor.

Although it is possible to power down and reset partitions from the SCM, that partition may not power up properly and unpredictable behavior of the rest of the system may result. This is similar to the requirement of initiating power on and off of individual CPUs from the SRM console or operating system.

2.4.5 SRM Console Internal Heap Increase

The SRM console internal heap has been increased from 1MB to 2MB in order to accommodate larger configurations. It is recommended to set the SRM console environment variable, "heap_expand", back to zero and then re-initialize the console. On certain extremely large configurations 2MB may still not be adequate. In these cases the SRM console will automatically detect the resource deficiency and automatically further increase the heap by using the "**set heap_expand <value>**" environment variable appropriately and then the **init** command.



2.4.6 Bootstrap Address Collision Message

After updating the SRM console, if the console performs re-sizing of the heap, you may see the following message, “*Bootstrap address collision, image loading aborted*”, when booting Tru64Unix operating system. The message generally indicates that it is necessary to boot the generic Tru64UNIX kernel and re-generate a new custom kernel in order to adjust to the new console mapping.

2.4.7 SRM Init Heap Expand

Blitz TD2921, “GS80/160/320 SRM INIT Heap Expand Loop Explanation”, describes how configurations with many KGPSA adapters and many disks can require more heap while using WWIDMGR commands.

Note that the “**heap_expand**” environmental variable can be reset to its former setting for normal operation when WWIDMGR commands are not required.

2.4.8 KVM Console Switch Limitations

2.4.8.1 Run Bios Command in Graphics Mode Not Supported

Use of the SRM **run bios** command from the graphics console when connected through the KVM is not supported, and will result in unexpected keyboard behavior. As a workaround, use the SRM **run bios** command from the serial console via a serial port connection.

2.4.9 Set System Serial Number Procedure

In order to write the system serial number, the system must be powered off, de-partitioned and powered back on. Then at the console prompt, the **set sys_serial_num** command can be issued. The console will then instruct the SCM (via shared RAM) to propagate the serial number to every FRU in the system that contains an I²C EEPROM. Progress messages indicating which nodes are being programmed will be displayed to the console. See the notes that follow the example:

```
P00>>> set sys_serial_num ni12345678
~I~ Updating Sys_serial_num for FRUs present on CSB node:40 ...
~I~ Updating Sys_serial_num for FRUs present on CSB node:30 ...
~I~ Updating Sys_serial_num for FRUs present on CSB node:10 ...
~I~ Updating Sys_serial_num for FRUs present on CSB node:10 ...
~I~ Updating Sys_serial_num for FRUs present on CSB node:31 ...
~I~ Updating Sys_serial_num for FRUs present on CSB node:32 ...
~I~ Updating Sys_serial_num for FRUs present on CSB node:33 ...
~I~ Updating Sys_serial_num for FRUs present on CSB node:11 ...
~I~ Updating Sys_serial_num for FRUs present on CSB node:11 ...
P00>>>
P00>>> show sys_serial_num
sys_serial_num      ni12345678
P00>>>
```

Note 1: the system serial can only be set and displayed from the SRM console. If a new FRU is later installed an error will be displayed in the *show fru* output until the *set sys_serial_num* is issued again.

Note 2: the *set sys_serial_num* command can take up to 1 minute to complete. After issuing the command, wait for 1 minute before proceeding.

2.4.10 Programming Non-Compaq Memory DIMMs

The SRM console **build -dimmm** command is used to write part number and serial number into DIMMs not manufactured by Compaq. Using the **show fru** command, the manufacturer’s part and serial numbers are displayed in the appropriate columns, but the new part and serial numbers are also displayed under the Model/Other and Alias/Misc columns respectively.



For the current implementation of the *build -dimm* command there are a couple of restrictions that must be kept in mind.

The **set sys_serial_num** command must be executed before the DIMMs can be programmed.

The SCM's non-volatile variable *dimm_read_dis* must be set to a 0. This must be done prior to poweron.

The DIMM FRU data can only be programmed once. Once the data is written the Compaq JEDEC ID is programmed into the DIMM and will cause the writing of the data to be bypassed on subsequent attempts.

There is no progress information displayed by the SRM Console as the procedure is executing. Currently the user **must** wait three minutes per QBB (or 5.6 seconds per DIMM) for the procedure to complete.

The following is an example of a *build -dimm* executed on a 16P system:

```
P00>>>build -dimm
```

This operation can take as long as 3 minutes per QBB.

Do not disturb this system during this time.

Since this operation is done in the background on the CSB,
no completion notification will take place.

...

```
P00>>>
```

2.4.11 Running SMOR Utility on KZPCC PCI RAID Adapter via Serial Line

The KZPCC PCI RAID Adapter has an embedded BIOS ROM Utility called "SMOR", which can be used to configure the adapter and update the on-board firmware components.

The following example shows how to invoke SMOR from the SRM Console (in serial mode), on a KZPCC named pza0 :

User types "run bios" command from SRM Console prompt>>

```
P00>>> run bios pza0
```

Screen blanks here, wait a few seconds, then new screen appears>>

Running the graphics console emulation on a serial port.

Press <SPACE> to hold this screen (until you press another key).

The <ESC> key is used to emulate the functionality of the <ALT> key.

For example, to deliver the <ALT - H> key combination,
press the <ESC> key and then the <H> key.

The <ESC> key is also used to ensure the delivery of <F1>,,<F9> keys
in case the VT keyboard function keys are programmed.

For example, to deliver the <F3> key,
press the <ESC> key and then the <3> key.

To deliver the <ESC> key itself,
press the <ESC> key and then the <SPACE> key.

Press <ESC> and <SPACE> to quit the graphics console emulation and exit,
Press any other key to continue.

.....
<<User types <space> <space> or waits ~15 seconds>>

<<Screen blanks here, wait ~15 seconds, then new screen appears>>

I2O SCSI BIOS v001.2H (1999/10/15)



Distributed Processing Technology
Copyright 1996-99 All Rights Reserved
Hit <CTRL+D> for DPT Setup, Waiting for devices

<<User types <CTRL+D> >>
<<Screen blanks here, wait ~15 seconds, then new screen appears>>

```
File RAID Action Help
+-----+
|               <+-----+               |
|               *|                       |
|               *|                       |
|               +-----+               |
|               |                       | |
|               |Adaptec RAID Setup Utility V1.12/33I 8/8/2000|   |
|               |Copyright 1986-2000 Distributed Processing Technology, Corp. |   |
|               |All Rights Reserved|   |
|               |                       |   |
|               |Scanning for devices on HBA 0|   |
|               |                       |   |
|               |0 ID 15|   |
|               |Channel 0 :|   |
|               |Channel 1 :|   |
|               |Channel 2 :|   |
|               |Channel 3 :XXXXXXXXXXXXXXXXX|   |
|               +-----+               |
|               *|                       |
|               *|                       |
|               *|                       |
|               >|                       |
|+<*****>+-----+|
```

<<User runs SMOR utility, as described in SMOR documentation >>

Note that if you wish to Update firmware on the KZPCC using the **Action -> Flash HBA** commands, the files are located on the Alpha Firmware V6.1 CD Directory \AASMOR\ (in SMOR, drill down from Disk n to CDFS:, to \AASMOR\), and the files are named as follows : 3754CQ16.IMA (adapter firmware), DECV1_7.NVR (default NVR settings), I2OBIOS.12H (I2O BIOS code), and SMOR0033.112 (SMOR code).

2.4.12 Procedure to Service a Non-Master PCI Drawer in an OpenVMS Galaxy Partition

The following procedure can be used to replace a bad module in a non-master PCI drawer or even add new options to a PCI drawer. This procedure assumes that a GS80/160/320 System is configured as an OpenVMS Galaxy system with multiple soft partitions. In this environment it is possible to service a non-master PCI drawer in a partition by only quiescing that partition. Other partitions can continue to run.

Initially, all partitions in the system are assumed to be running OpenVMS. Then the following steps may be taken to shutdown the OpenVMS instance on a soft partition and power down a non-master PCI drawer for service.

1. Determine which soft partition the PCI drawer belongs to and shut down the operating system on that partition.

\$ shutdown

...

P00>>>



2. Determine which local IO risers are attached to the PCI drawer and then which IOR numbers are assigned to them by the SRM console. Using the PCI drawer ID (from the thumbwheel switch), look for that PCI box number in the “show config” output and then for the corresponding local IO riser numbers. Using “grep” simplifies this task.
P00>>> show config | grep Side
P00>>> show config | grep IOR
3. Power off the logical local IO risers (one per cable) from the SRM console.
P00>>> power off -ior 8
P00>>> power off -ior 9
4. Re-initialize the SRM console so it can map out the IO that was just removed.
P00>>> **init**
5. Determine the CSB address of the PCI drawer to be powered off. Note, the CSB address of a PCI drawer is simply 10h plus the PCI drawer ID, 0-Fh, hence a value 10h-1Fh.
P00>>> scm show system
6. From the Master SCM power off the PCI drawer. Important: Currently this needs to be done at the Master SCM.
SCM_E0> power off -csb 12
7. Service the PCI drawer.
At this point the PCI drawer may be serviced.
8. From the Master SCM power on the PCI drawer.
SCM_E0> power on -csb 12
9. From the soft partition’s SRM console, power on the local IO risers for the PCI drawer.
P00>>> power on -ior 8
P00>>> power on -ior 9
10. Re-initialize the SRM console so that it can rediscover the PCI options in the PCI drawer.
P00>>>**init**
11. Boot the operating system.
P00>>> **boot**
...
\$

Note - identifying the correct local IOR numbers and PCI box CSB ID are crucial to safely powering down the PCI drawer without affecting the other soft partitions. Care should be taken to correctly determine these parameters.

2.4.13 Suggested UART Communications Settings

The following are the default settings for all UART-related SCM variables. The variables are set to these values when either the SCM EEPROM checksum test fails, or when a user has installed the RMC_DEFAULTS jumper. The SCM **build eeprom** command will not modify the baud rate and the flow control settings for any of the three UARTs. It will, however, set the COM1 mode back to “through” if it has been modified.

Table 5 Default UART Variable Settings

UART	Baud rate	Flow control	Mode
local	9600	soft	n/a
COM1	9600	hard	through
modem	9600	hard	n/a

Suggestions and preferred settings:

The recommended setting for is 9600 baud for all three UARTs. This is because, at higher settings, we have experienced serial character loss and corruption due to terminal emulator programs improperly rendering the data which is sent to them from the SCM. With the use of serial analyzers it has been proven that the data which is displayed on the operator console is not always consistent with the data which it was sent by the SCM. We have also noticed that the only way to reliably alleviate this problem is to reduce the baud rate. We have found no other combination of terminal window settings which guarantee data integrity.

Another thing to keep in mind is that although the firmware default for the COM1 flow control setting is “hard”, the default setting for Unix is “soft”. If a user wants Unix to use soft flow control then the /etc/gettydefs file must be edited to keep Unix from changing the setting. This is also true if a user wishes to run the Unix OPA0 console at any speed other than 9600. Unix must first be brought up at 9600, the file modified, the baud rates changed at the console and finally Unix can be restarted and it will use the operator console at the new baud rate.

Using the SMC and graphics programs:

The SMC PC allows the user to connect to each SCM in the system by providing a terminal window to each standard I/O local port via a DS90M terminal server. Typically the SMC is connected such that each port is attached to one hard partition in the system (i.e. port 1 connects to the local port for the first partition, port 2 connects to the second partition, etc). Therefore, in an 8 way hard-partitioned system each terminal server port is connected to one of the hard partition local ports.

When the SMC software installs itself from the CD it will configure the terminal server ports to use software flow control. Some serially-based utilities which attempt to draw graphics-like pictures on the terminal window will turn off flow control from the operating system. One such utility is Unix’s sysman. If such a program is going to be run a couple of configuration changes should be made if any data corruption is seen in the terminal window.

First: In order to insure that graphics characters are not misinterpreted as an XON or an XOFF character the terminal server port’s flow setting must be changed from XON/XOFF to none or disabled. In order to do this the Access Server Manager program must be started. From the Browser window select the terminal server for the system being accessed and click on “open”. This will start an Access Server window. From here you can select the “utilities” tab and after choosing “connect to the telnet console” click on “do it now”. This opens a session to the console port of the terminal server. From this window you can issue the following commands to turn off a particular port’s flow control. From the “local” prompt issue the following commands:

```
Local> set port x input flow disabled
Local> set port x output flow disabled
```



Local> **set port x flow control disabled**

This should guarantee that the terminal server will neither interpret nor generate an XON or an XOFF for port x. Use the **show port x** command to verify that the desired settings have been selected. To re-enable flow control issue the following commands:

Local> **set port x input flow enabled**

Local> **set port x output flow enabled**

Local> **set port x flow control xon**

Second: some odd behavior has been seen with using the first port of the DS90M terminal server. On occasion, even though flow control has been turned off, it is possible that certain characters are interpreted by the DS90 instead of simply being passed through. In cases where less than eight local ports are necessary we recommend that using the first port be avoided. With flow control and baud rates properly set for the given application being run, character corruption has been seen very rarely and only when connected through the first port of the terminal server.

2.4.14 SCM Monitor Workarounds and Restrictions

Before updating CSB Micro Firmware to the latest revisions, all micros and XSROM should be at the same firmware revision (all V5.6 or all V5.7 or all V5.8, etc.) for correct operation.

In hard partitioned systems to properly power off or reset an individual partition, **do not** use the SCM monitor. Instead, use the SRM console (or appropriate operating system application) associated with that partition to execute the power off or reset.

If the message “~E~ EEPROM VERSION MISMATCH is encountered, perform the following procedure to update the EEPROM. From the SCM monitor do a ‘show nvram’ and ‘show status’ and make note of any custom settings (for example, hard partitioning environment variables, Baud rates, etc.). Then do a ‘build eeprom’. When this completes, then restore your custom settings.

In partitioned systems, not all functions of the CSB master SCM are available on slave SCMs. Consult the system documentation for a list of the supported commands of SCM slaves.

The SCM parser supports “enable test <number>” and “disable test <number>” commands for SROM and XSROM user mode tests. To return to the system defaults, use the **build eeprom** command or “**set srom full**” and “**set xsrom full**” commands.

In the event of a CPU failure on power-up (such as an XSROM-detected CPU hardware error), the failing CPU is mapped out of the active configuration, but is left in the power-up state. Because the CPU is mapped out of the active configuration, it cannot be powered off by the operating system for replacement. If the operator wishes to power off the module, they can do so via the SCM command "**p off -cpu <CSB_cpu#>**", where <CSB_cpu#> is the CPU number as reported by the SCM “**show csb**” command (for example, “C0” or “D4”).



2.4.14.1 Enabling Redundant PCI Drawer Power Supplies

When a power supply is added to a PCI drawer to enable power redundancy the operation may not have the expected results. If the drawer is currently powered on the expected behavior is that the newly introduced supply also be enabled. It has been found that this functionality does not work in any PBM micro image dated between Jan 12, 2000 and Mar 29, 2001. This includes firmware releases V5.6 through the V5.9B.

If a PBM image dated in this range is being used then when the supply is introduced and plugged in it's VAUX LED will be turned on but it will not be enabled. It's power OK LED will not be turned on. There are several ways in which this new supply can be enabled:

The system can be powered off and back on via either the CLI or the keyswitch. This will take down the entire system.

The drawer can be powered down from the SCM CLI using the *power off -csb 10* command. Where 10 is the CSB address of the PCI drawer as displayed by the SCM command *show csb*. The drawer can then be powered back on and both supplies will be enabled. This may fault the hard partition of which this drawer is a member or even the entire system. To avoid the fault the hard partition containing the drawer could be powered down first.

The following commands can be executed from the SCM CLI. First, find the CSB address of the PCI drawer by using the *show csb* command from the SCM. Then execute the two commands below:

```
SCM_EF> show csb
```

CSB Type	Firmware Revision	FSL Revision	Power State
----------	-------------------	--------------	-------------

1F PBM	V05.9(03.14/11:03)	V5.6(05.31)	ON
--------	--------------------	-------------	----

EF SCM MASTER	V05.9(03.14/11:04)	V5.6(05.31)	ON
---------------	--------------------	-------------	----

```
SCM_EF> exam &m1f -ipr d04
```

```
CSB_1F/00000D04: 8338
```

```
SCM_EF> deposit &m1f -ipr d04 c338
```

```
SCM_EF> exam &m1f -ipr d04
```

```
CSB_1F/00000D04: C33C
```

```
SCM_EF>
```

The two most significant bits of the 16 bit IPR represents the power enable signals for the two power supplies. By setting the two bits ("C" in C338) both supplies are turned on. In order to calculate the value to be written you must "OR in" the upper two bits to the value read. The other 14 bits should be left unchanged (i.e. written back with the values which were read). This sequence of commands will not take down the hard partition of which this drawer is a member.

2.4.15 Restriction on Hot-Swap/Hot-Add

It is NOT a valid configuration to hot-swap in a "slow" CPU (B4125) into a "fast" QBB (a QBB running at 9X or higher speeds).

2.4.16 SRROM/XSRROM Workarounds and Restrictions

Before updating CSB Micro Firmware to the latest revisions, all micros and XSRROM should be at the same firmware revision (all V5.6 or all V5.7 or all V5.8, etc.) for correct operation.



2.4.17 Fibre Channel Behavior

2.4.17.1 Console Messages When Fibre Channel Driver Starts

When the console fibre channel driver starts, you may see the message **“pga0.0.0.2.4 – Nvram read failed”**. This message indicates the KGPSA’s NVRAM is either unformatted or is not working properly. The more likely reason is an unformatted NVRAM.

Beginning with V5.6 console firmware:

The console contains a portion of the NVRAM to indicate if the adapter should be initialized to a Fabric (Switch) topology or initialized to a Loop topology. By default, the console initializes the KGPSA to a Fabric topology.

The NVRAM is automatically formatted when the topology is set.

Reference : WWIDMGR USERS MANUAL

http://ftp.digital.com/pub/DEC/Alpha/firmware/v*.*/doc/wwidmgr.pdf

```
P00>>>wwidmgr -show ada
```

item	adapter	WWN	Cur. Topo	Next Topo
------	---------	-----	-----------	-----------

pga0.0.0.8.1 - Nvram read failed.

[0]	pga0.0.0.8.1	1000-0000-c920-05ab	FABRIC	UNAVAIL
------	--------------	---------------------	--------	---------

pgb0.0.0.10.1 - Nvram read failed.

[1]	pgb0.0.0.10.1	1000-0000-c921-0ce0	FABRIC	UNAVAIL
------	---------------	---------------------	--------	---------

[9999] All of the above.

```
LP00>>>wwidmgr -set adapter -item 9999 -topo fabric
```

pga0.0.0.8.1 - Nvram read failed.

Reformatting nvram

pgb0.0.0.10.1 - Nvram read failed.

Reformatting nvram

```
LP00>>>wwidmgr -show ada
```

item	adapter	WWN	Cur. Topo	Next Topo
------	---------	-----	-----------	-----------

[0]	pga0.0.0.8.1	1000-0000-c920-05ab	FABRIC	FABRIC
------	--------------	---------------------	--------	--------

[1]	pgb0.0.0.10.1	1000-0000-c921-0ce0	FABRIC	FABRIC
------	---------------	---------------------	--------	--------

[9999] All of the above.

```
LP00>>>init
```



2.4.17.2 Messages – MBX Not Ready

KNOWN PROBLEM:

You may see a "*** MBX not ready ***" error when formatting the Nvram with the "wwidmgr -set ada" command. Reissuing this command should succeed:

```
P00>>>wwidmgr -set ada -item 9999 -topo fab
pga0.0.0.6.1 - Nvram read failed.
Reformatting nvram
*** MBX not ready ***
pgb0.0.0.1.2 - Nvram read failed.
Reformatting nvram
P00>>>wwidmgr -show ada
item adapter WWN Cur. Topo Next Topo
*** MBX not ready ***
pga0.0.0.6.1 - Nvram format incorrect.
[ 0] pga0.0.0.6.1 1000-0000-c920-a763 FABRIC UNAVAIL
[ 1] pgb0.0.0.1.2 1000-0000-c920-c9fe FABRIC FABRIC
[9999] All of the above.
P00>>>wwidmgr -set ada -item 9999 -topo fab
P00>>>wwidmgr -show ada
item adapter WWN Cur. Topo Next Topo
[ 0] pga0.0.0.6.1 1000-0000-c920-a763 FABRIC FABRIC
[ 1] pgb0.0.0.1.2 1000-0000-c920-c9fe FABRIC FABRIC
[9999] All of the above.
```

2.4.17.3

2.4.17.4 Command wwidmgr -quickset -item <n>

KNOWN PROBLEM:

Command "wwidmgr -quickset -item <n>" MUST also have the "-unit" qualifier on the line.
This functionality is not working properly, and a -unit MUST be specified.
Reference : WWIDMGR USERS MANUAL
"If no unit number is specified, console will generate one that is a hashed value of the WWID."



3 Firmware Update Procedures

This chapter explains how to upgrade the AlphaServer GS80/160/320 firmware using the Loadable Firmware Update Utility (LFU) on the Alpha Systems Firmware Update CD. **In the examples which follow, the firmware revisions of the updates are not necessarily the latest revisions currently available. They are provided as examples only.**

3.1 Updating SRM Console Firmware Using the CD

NOTE: It is recommended that you run the LFU from the serial line with the “console” environment variable set to “serial” mode. In “graphics” mode, after updating CSB Micros, the graphics monitor will go blank, and you will have to do an SCM “p on” command from the serial line, to restart the system.

It is necessary to Power Off, “De-Partition”, and Power On the system, before running the LFU. The LFU program is booted from the SRM Console prompt. SRM Console Firmware Update Example Using LFU:

1. Insert Load the firmware CD into the CD-ROM Drive and then initialize the system.

```
P00>>> init
```

```
...
```

2. Enter **show device** to find name of CD-ROM Drive (dqa0 in this example) :

```
P00>>> show device
```

dka0.0.0.1.0	DKA0	COMPAQ BB00921B91 3B05
dkb0.0.0.1.28	DKB0	COMPAQ BB00921B91 3B05
dkc0.0.0.5.29	DKC0	COMPAQ BB00911CA0 3B05
dkc100.1.0.5.29	DKC100	COMPAQ BB00911CA0 3B05
dkc200.2.0.5.29	DKC200	COMPAQ BB00911CA0 3B05
dkc300.3.0.5.29	DKC300	COMPAQ BB00911CA0 3B05
dkc400.4.0.5.29	DKC400	COMPAQ BB00911CA0 3B05
dkc500.5.0.5.29	DKC500	COMPAQ BB00911CA0 3B05
dqa0.0.0.15.0	DQA0	COMPAQ CDR-8435 0013
dqb0.0.0.15.28	DQB0	COMPAQ CDR-8435 0013
dva0.0.0.1000.0	DVA0	
dvb0.0.0.1000.28		
ewa0.0.0.4.29	EWA0	08-00-2B-C4-7F-EE
pga0.0.0.1.2	PGA0	WWN 2000-0000-c921-0c22
pka0.7.0.1.0	PKA0	SCSI Bus ID 7 5.57
pkb0.7.0.1.28	PKB0	SCSI Bus ID 7 5.57
pkc0.7.0.5.29	PKC0	SCSI Bus ID 7 5.57

```
P00>>>
```

3. Boot the firmware CD.

```
P00>>> boot dqa0
```

```
(boot dqa0.0.0.15.0)
```

```
block 0 of dqa0.0.0.15.0 is a valid boot block
```

```
reading 1082 blocks from dqa0.0.0.15.0
```

```
bootstrap code read in
```

```
base = 5f4000, image_start = 0, image_bytes = 87400
```

```
initializing HWRPB at 2000
```

```
initializing page table at 7ffe8000
```



initializing machine state
setting affinity to the primary CPU
jumping to bootstrap code

4. The system will respond by displaying “READ ME FIRST” information on the screen (which you should read and scroll through by pressing the ENTER key), followed by display of the default firmware update utility bootfile name, and the prompt “Bootfile:” At this point, you may press the ENTER key to load the latest (current) update, or you may type a specific bootfile name to load a previous (older) version.

The default bootfile for this platform is

[GS320]GS320_V59B.EXE

Hit <RETURN> at the prompt to use the default bootfile.

Bootfile: < Press the **ENTER KEY**>

...

Copying KG7303A1 from dqa0.0.0.15.0. . .

***** Loadable Firmware Update Utility *****

Function	Description
Display	Displays the system's configuration table.
Exit	Done exit LFU (reset).
List	Lists the device, revision, firmware name, and update revision.
Update	Replaces current firmware with loadable data image.
Verify	Compares loadable and hardware images.
? or Help	Scrolls this function table.

UPD>

5. List the firmware:

UPD> list

Device	Current Revision	Filename	Update Revision
SRM24	V6.9-2	srm_fw	V7.2-1
SRM40	V6.9-2	srm_fw	V7.2-1
SRM	V6.9-2	srm_fw	V7.2-1
pga0	DS3.92A2	kgpsa_8k_fw	DS3.92A2
pgb0	DS3.92A2	kgpsa_8k_fw	DS3.92A2
pgc0	DS3.82A1	kgpsa_8k_fw	DS3.82A1
micro	V6.6(01.22/01:02)	micro_fw	V6.6(01.22/01:02)

UPD>

6. Update firmware. The update may take several minutes - DO NOT ABORT THE PROGRAM.

UPD> update srm*

Confirm update on:

SRM28

SRM

[Y/(N)]Y <USER HITS “Y” KEY>



WARNING: updates may take several minutes to complete for each device.

DO NOT ABORT!

```
SRM28      Updating to v5.9-331... Verifying v5.9-331... PASSED.  
SRM        Updating to v5.9-331... Verifying v5.9-331... PASSED.  
UPD>
```

7. Exit the LFU

```
UPD> exit
```

Initializing....

...

<SEVERAL PAGES OF PRINTOUT WILL OCCUR HERE>

...

initializing pka pkb pkc ewa dqa dqb pga

AlphaServer Console V5.9-331, built on Mar 14 2001 at 11:25:22

P00>>>

3.2 Checking Firmware Versions

3.2.1 Show Firmware Command

The show firmware command display the firmware components and their revision.

```
P00>>>show firmware
```

3.3 Show CSB Command

The show csb command display the current firmware revisions for the various Micros on the CSB Bus. The following example is for a 16-Processor System, having 3 SCMs, 4 PSMs, 3 PBM, and 1 HPM Micro.

```
SCM_E0> sho csb
```

3.4 Updating CSB Micro Firmware Using the CD

3.4.1 Read Me First

3.4.1.1 Update from a Serial Console

It is recommended that you run the LFU from the serial line with the “console” environment variable set to “serial” mode. In “graphics” mode, after updating CSB Micros, the graphics monitor will go blank, and you will have to do an SCM “p on” command from the serial line, to restart the system.

3.4.1.2 Check for Customized Setting

Sometimes new revisions of firmware may require the EEPROM (which contains CSB NVR settings) to be re-initialized and customized settings to be lost. It is recommended that before the LFU is run, the User should check for customized settings using SCM “**show nvr**” command, and write them down for later restoration using the SCM “set” command. After the LFU is run the user should do “show nvr” and if the message is printed “~E~ EEPROM VERSION MISMATCH. Execute Build EEPROM Cmd”, the user should do a “build eeprom” command, followed by “set” commands to restore any customized settings.



3.4.1.3 De-Partition System before Updating Firmware

On partition system, de-partition the system before updating micro's firmware from the LFU. It is recommended that the user first do the following:

SCM_E0> **show nvr**

Write down the value of the NVR variable "hp_count". Save the hp_count value.

SCM_E0> **set hp_count 0**

SCM_E0> **p off**

SCM_E0> **p on**

Run the LFU

Update firmware

SCM_E0> **set hp_count 0** -

Restore hp_count value.

CSB Micro Firmware Update Example Using LFU :

1. Load the "Alpha Systems Firmware Update CD Vx.x" into the CD-ROM Drive. Then, from the SRM Console prompt, Initialize the System :

P00>>> **init**

2. Enter <show dev> to find name of CD-ROM Drive (dqa0 in this example) :

P00>>>sho dev

3. Boot the firmware CD.

P00>>>boot dqa0

4. Select default firmware image. The system displays "READ ME FIRST" information on the screen (which you should read and scroll through by pressing the ENTER key), followed by display of the default firmware update utility bootfile name, and the prompt "Bootfile:". At this point, you may press the ENTER key to load the latest (current) update, or you may type a specific bootfile name to load a previous (older) version.

The default bootfile for this platform is

[GS320]GS320_V59B.EXE

Hit <RETURN> at the prompt to use the default bootfile.

Bootfile: <Press ENTER KEY>

.
.

<ONE OR TWO PAGES OF PRINTOUT WILL OCCUR HERE>

.
.

Checking dqa0.0.0.15.0 for the option firmware files. . .

Copying DFXAA320 from dqa0.0.0.15.0. . .

Copying KZPSAA12 from dqa0.0.0.15.0. . .

Copying CIPCA420 from dqa0.0.0.15.0. . .



Copying KG8381A4 from dqa0.0.0.15.0. . .

Copying KG7303A1 from dqa0.0.0.15.0. . .

***** Loadable Firmware Update Utility *****

Function Description

Display Displays the system's configuration table.

Exit Done exit LFU (reset).

List Lists the device, revision, firmware name, and update revision.

Update Replaces current firmware with loadable data image.

Verify Compares loadable and hardware images.

? or Help Scrolls this function table.

UPD>

5. List firmware.

UPD> list

Device	Current Revision	Filename	Update Revision
SRM28	v5.9-331	srm_fw	v5.9-331
SRM	v5.9-331	srm_fw	v5.9-331
pga0	DS3.03A1	kgpsa_8k_fw	DS3.81A4
micro	V5.8(11.08/01:01)	micro_fw	V5.9(03.14/11:04)
		cipca_fw	A420
		dfxaa_fw	3.20
		kgpsa_7k_fw	SS3.03A1
		kzpsa_fw	A12

UPD>

6. Update micros firmware. The update may take several minutes - DO NOT ABORT THE PROGRAM :

UPD> update micro

Confirm update on:

micro

[Y/(N)]Y <USER HITS "Y" KEY>

WARNING: updates may take several minutes to complete for each device.



DO NOT ABORT!

micro Updating to V5.9(03.14/11:04)...

Updating SCM nodes E0,E1
Update Cmd processed
Transferring hex file.....Flash ON.....Flash ON.....Flash ON.....Flash ON.....

<SEVERAL PAGES OF PRINTOUT WILL OCCUR HERE>

~I~ SCM powered via PBM
SCM_E0>
Firmware Update is now complete. If you require a partitioned system,
please set your HP_COUNT and 'POWER ON -ALL'. For non-partitioned systems
enter 'POWER ON'

SCM_E0>
~I~ CSB Node 40 connection added
SCM_E0>

7. Enter <p on> command as shown :

SCM_E0> **p 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

<SEVERAL PAGES OF PRINTOUT WILL OCCUR HERE>

AlphaServer Console V5.9-331, built on Mar 14 2001 at 11:25:22
P00>>>



3.5 Updating PCI I/O Adapter Firmware Using the CD

NOTE: It is recommended that you run the LFU from the serial line with the “console” environment variable set to “serial” mode. In “graphics” mode, after updating CSB Micros, the graphics monitor will go blank, and you will have to do an SCM “p on” command from the serial line, to restart the system.

PCI I/O Adapter Firmware Update Example Using LFU :

1. Load firmware CD into the CD-ROM Drive and initialize the console

```
P00>>> init
```

2. Enter <show dev> to find name of CD-ROM Drive (dqa0 in this example) :

```
P00>>>sho dev
dka0.0.0.1.0      DKA0      COMPAQ BB00921B91 3B05
dkb0.0.0.1.28     DKB0      COMPAQ BB00921B91 3B05
dkc0.0.0.5.29     DKC0      COMPAQ BB00911CA0 3B05
dkc100.1.0.5.29   DKC100    COMPAQ BB00911CA0 3B05
dkc200.2.0.5.29   DKC200    COMPAQ BB00911CA0 3B05
dkc300.3.0.5.29   DKC300    COMPAQ BB00911CA0 3B05
dkc400.4.0.5.29   DKC400    COMPAQ BB00911CA0 3B05
dkc500.5.0.5.29   DKC500    COMPAQ BB00911CA0 3B05
dqa0.0.0.15.0     DQA0     COMPAQ CDR-8435 0013
dqb0.0.0.15.28    DQB0      COMPAQ CDR-8435 0013
dva0.0.0.1000.0   DVA0
dvb0.0.0.1000.28
ewa0.0.0.4.29     EWA0      08-00-2B-C4-7F-EE
pga0.0.0.1.2      PGA0      WWN 2000-0000-c921-0c22
pka0.7.0.1.0      PKA0      SCSI Bus ID 7 5.57
pkb0.7.0.1.28     PKB0      SCSI Bus ID 7 5.57
pkc0.7.0.5.29     PKC0      SCSI Bus ID 7 5.57
P00>>>
```

3. Boot the firmware CD.

```
P00>>>boot dqa0
(boot dqa0.0.0.15.0)
block 0 of dqa0.0.0.15.0 is a valid boot block
reading 1082 blocks from dqa0.0.0.15.0
bootstrap code read in
base = 5f4000, image_start = 0, image_bytes = 87400
initializing HWRPB at 2000
initializing page table at 7ffe8000
initializing machine state
setting affinity to the primary CPU
jumping to bootstrap code
```

4. The system will respond by displaying “READ ME FIRST” information on the screen (which you should read and scroll through by pressing the ENTER key), followed by display of the default firmware update utility bootfile name, and the prompt “Bootfile:” At this point, you may press the ENTER key to load the latest (current) update, or you may type a specific bootfile name to load a previous (older) version.

The default bootfile for this platform is



[GS320]GS320_V59B.EXE

Hit <RETURN> at the prompt to use the default bootfile.

Bootfile: <USER HITS ENTER KEY>

.

<ONE OR TWO PAGES OF PRINTOUT WILL OCCUR HERE>

.

Checking dqa0.0.0.15.0 for the option firmware files. . .

Copying DFXAA320 from dqa0.0.0.15.0. . .

Copying KZPSAA12 from dqa0.0.0.15.0. . .

Copying CIPCA420 from dqa0.0.0.15.0. . .

Copying KG8381A4 from dqa0.0.0.15.0. . .

Copying KG7303A1 from dqa0.0.0.15.0. . .

***** Loadable Firmware Update Utility *****

Function	Description
----------	-------------

Display	Displays the system's configuration table.
---------	--

Exit	Done exit LFU (reset).
------	------------------------

List	Lists the device, revision, firmware name, and update revision.
------	---

Update	Replaces current firmware with loadable data image.
--------	---

Verify	Compares loadable and hardware images.
--------	--

? or Help	Scrolls this function table.
-----------	------------------------------

UPD>

5. Enter <list> command as shown, to display the various firmware updates available :

UPD> list

Device	Current Revision	Filename	Update Revision
SRM28	v5.9-331	srm_fw	v5.9-331
SRM	v5.9-331	srm_fw	v5.9-331
pga0	DS3.03A1	kgpsa_8k_fw	DS3.81A4
micro	V5.9(03.14/11:04)	micro_fw	V5.9(03.14/11:04)
		cipca_fw	A420
		dfxaa_fw	3.20



```
kgpsa_7k_fw    SS3.03A1
```

```
kzpsa_fw      A12
```

```
UPD>
```

6. In this example, we will update the KGPSA Adapter (pga0). Enter <update pga*> command as shown, and answer yes to the question (note - if the user enters <update *>, all possible firmware pieces are updated - SRM, Micros, and I/O adapters. Actually, <update *> is the PREFERRED method, so that all firmware is updated at the same time to compatible revisions). The update may take several minutes - DO NOT ABORT THE PROGRAM :

```
UPD> update pga*
```

Confirm update on:

```
pga0
```

```
[Y/(N)]Y <USER HITS "Y" KEY>
```

WARNING: updates may take several minutes to complete for each device.

DO NOT ABORT!

```
pga0      Updating to DS3.81A4... Verifying DS3.81A4... PASSED.
```

```
UPD> exit
```

7. Enter <exit> command as shown, to leave the LFU and restart the SRM console :

```
UPD> exit
```

Initializing....

```
.
```

```
<SEVERAL PAGES OF PRINTOUT WILL OCCUR HERE>
```

```
.
```

```
initializing pka pkb pkc ewa dqa dqb pga
```

AlphaServer Console V5.9-331, built on Mar 14 2001 at 11:25:22

```
P00>>>
```

3.6 Procedure for Recovering from a Failed LFU Update

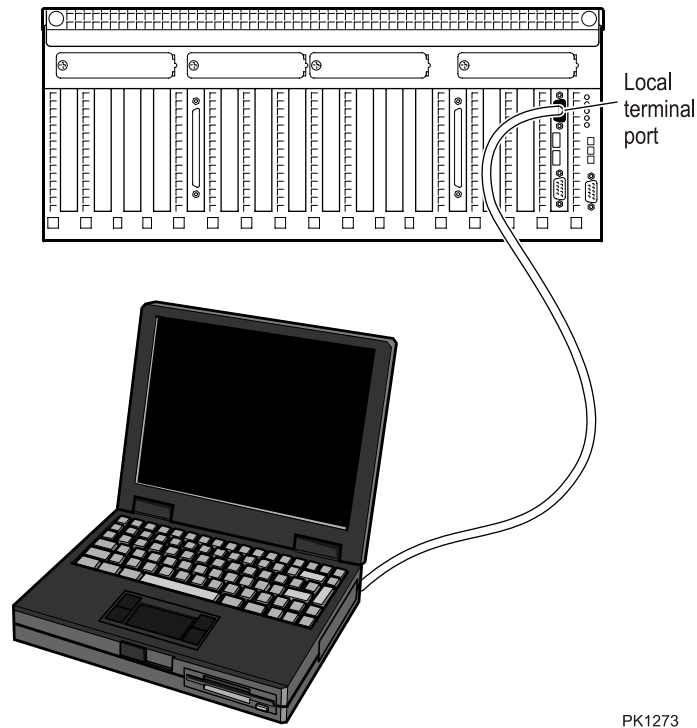
In the case of an LFU update failing the following information will describe the steps necessary to recover a CSB node to the point at which the LFU may be tried a second time.

When a CSB node fails to update it will most likely result in that node being in its Failsafe Loader (FSL). Once in this state the node can no longer be updated via the LFU utility and must be updated serially, following the steps below.

3.6.1 Hardware Connections

Use of the SCM update command requires a physical connection to the master SCM (unless the failed node is a slave SCM, in which case connect to that slave's local terminal port). If the system management console is used, you need not connect a laptop but can execute update procedures from there.

Figure: Connecting a Laptop to the Local Terminal Port



PK1273

The above figure shows the connection made between a laptop and the local terminal port on the standard I/O module in the master PCI box. On this module resides the CSB master SCM. Use two nine pin to MMJ connectors (H8571-J), one for the COM1 port and the other for the laptop, and connect the two using a DEC connect office cable.

NOTE : If you are using the system management console (SMC) to do firmware updates, you need not connect your laptop since the SMC is already connected to the master PCI box.

3.6.2 PC/Laptop Operating System Preparation

When the SCM update command is used, firmware update files are downloaded from a PC or laptop into the master SCM module. Certain COM1 port settings are required.

Example: COM1 Port Settings for Windows NT 4.0

1. From Start go to Settings and select Control Panel.



2. From Control Panel select Ports.
3. From Ports select COM1 and Settings.
4. At Settings for COM1, set:
Baud rate: 9600
Data Bits: 8
Parity: None
Stop Bits: 1
Flow Control: Xon/Xoff
then select Advanced
5. At Advanced Setting for COM1, disable (uncheck) FIFO Enable and leave all other settings at the default.
6. Click OK back through the dialog boxes, shutdown, reboot and verify that these settings stuck.
- 7.
- 8.



Example: COM1 Port Settings for Windows 2000

1. From Start go to Settings and select Control Panel.
2. From Control Panel select System.
3. From System select the Hardware tab.
4. From the Hardware tab select Device Manager.
5. Expand Ports and select Communications Port (COM1).
6. At the Communications Port (COM1) Properties, set:
Bits per second: 57600
Data Bits: 8
Parity: None
Stop Bits: 1
Flow Control: Xon/Xoff
then select Advanced.
7. At the Advanced Settings for COM1, deselect Use FIFO buffers.
8. Click OK back through the dialog boxes. There is no need to reboot.
- 9.

Example: COM1 Port Settings for Windows 95

1. From Start go to Settings and select Control Panel.
2. From Control Panel select System.
3. From System Properties select the Hardware Manager tab.
4. Expand Ports and select Communications Port (COM1).
5. At the Communications Port (COM1) Properties, select the Port Settings tab and set:
Bits per second: 57600
Data Bits: 8
Parity: None
Stop Bits: 1
Flow Control: Xon/Xoff
then select Advanced.
6. At the Advanced Port Settings, deselect Use FIFO buffers.
7. Click OK back through the dialog boxes. There is no need to reboot.

3.6.3 Terminal Emulator Settings

When the SCM update command is used, firmware update files are downloaded from a host PC COM1 port to the master SCM local port on the standard I/O module. Certain terminal emulator settings are required.



Example: KEAterm V5.1 Session for PC or Laptop COM1 Port

1. From Start go to Programs and select KEA!VT and then KEA!
2. At the Session Template select Serial – click Next>.
3. At Connection Type select Serial – click Next>.
4. At Connection select the General tab and set
Port name: COM1
Speed: 9600
– click Next>.
5. Then select the Options tab and in the Flow Control section set:
Data to host: Xon/Xoff
Data from host: Xon/Xoff
6. Then select the Rate Limiting tab and deselect (uncheck) both
Limit data rate during Paste and ASCII send and
Limit data rate during keyboard input and reporting
– click Next>.
7. At Terminal Type select VT400-8bit – click Next>.
8. At File Transfer Protocol select ASCII – click Next>.
9. Click Finish to open a KEA terminal session.
10. From the Options menu select History.
Select the VT Advanced tab
Select (check) Auto wrap lines
Click OK.
11. From the File menu select Save Session as
Set Name as something like WF_SCM
Click Save.
- 12.

Example: PowerTerm 525 Settings

1. From Start go to Programs and select PowerTerm.
2. At Connect set:
Session type COM
Terminal type VT420-8
Baud Rate 9600
Stop Bits 1
Port Number 1
Parity 8/none
Flow Control Xon/Xoff
– click Connect



3. From the Communications menu, select File Transfer Setup and set:
Host Data Type 8-Bit (DOS – Ascii)
PC Data Type 8-Bit (DOS – Ascii)
click OK

3.6.3.1 Opening Previously Created Sessions

If the COM1 port KEA session was previously created, open it and from the Open Session popup, select the name you selected in step 11 of the KEA setup.

If the a PowerTerm 525 session was previously created, open it selecting the session connecting to the standard I/O module on the GS80/160/320 system.

3.6.3.2 Changing Baud Rates

Once a connection is established between the laptop/PC and the SCM you may wish to improve performance by increasing the baud rate of both the standard I/O terminal port and the COM1 port on the laptop/PC.

First at the SCM prompt:

```
SCM_E0> set baud 57600
```

Then make the appropriate KEAterm or PowerTerm changes to set the connection speed to 57600 also.

Be sure to return the baud rate to 9600 after you've completed your session.

3.6.4 Using the SCM Update Command

The SCM update command may be used from the master SCM to update specific firmware in the system. The firmware file must be downloaded to the master SCM local terminal port. If a microprocessor is in FSL mode because its firmware is corrupt, this command must be used.

The example shows a sample master SCM update of a PSM module in QBB0 :

The target device to be updated must be powered off. In this example the PSM is assumed to be in partition 0. It is also assumed that partition 0 has been appropriately powered off using the SRM power off command prior to the SCM power off –par 0 command.

The **show csb** command shows the target off and the PSM switch in the Service position.

Example : Using the Update Command

```
SCM_E0> power off –par 0 1
SCM_E0> sho csb 2
CSB Type      Firmware Revision  FSL Revision  Power State
10 PBM        T04.6 (11.03/01:09) T4.2 (09.08) ON
11 PBM        T04.6 (11.03/01:09) T4.2 (09.08) ON
12 PBM        T04.6 (11.03/01:09) T4.2 (09.08) ON
30 PSM        T04.5 (11.03/01:07) T4.2 (09.08) OFF  SrvSw: SERVICE
```



```
30 XSROM T04.6 (11.03/02:19) 3
c0 CPU0/SROM T4.2-7 OFF
c1 CPU1/SROM T4.2-7 OFF
c2 CPU2/SROM T4.2-7 OFF
c3 CPU3/SROM T4.2-7 OFF
c0 IOR0 OFF
c1 IOR1 OFF
c2 IOR2 OFF
c3 IOR3 OFF
31 PSM T04.6 (11.03/01:07) T4.2 (09.08) ON SrvSw: NORMAL
31 XSROM T04.6 (11.03/02:19)
c4 CPU0/SROM T4.2-7 On
c5 CPU1/SROM T4.2-7 On
c6 CPU2/SROM T4.2-7 On
c7 CPU3/SROM T4.2-7 On
c4 IOR0 On
c5 IOR1 On
40 HPM T04.6 (11.03/01:11) T4.2 (09.08) ON
e0 SCM MASTER T04.6 (11.03/01:13) T4.2 (09.08) ON
e1 SCM SLAVE T04.6 (11.03/01:13) T4.2 (09.08) ON Ineligible
e2 SCM SLAVE T04.6 (11.03/01:13) T4.2 (09.08) ON Ineligible
e6 SCM SLAVE T04.6 (11.03/01:13) T4.2 (09.08) ON Ineligible
SCM_E0> update -csb 30 4
Initiate HEX file transfer from host (press ESC-ESC to abort):
```

Initiate transfer of the file PSMROM.HEX to the COM1 port 2

For KEAterm

From the Tools menu goto File Transfer and select Send to Host

Change the Files of type: to All Files (*.*)

Browse for and select the file PSMROM.HEX.

Click on OK.

For PowerTerm 525

From the Communication menu select Send File...

At Send File select the Ascii tab

Browse for and select the file PSMROM.HEX by clicking on the browse button next to the File Name input box.

Click OK.

```
:02000002C0003C
```

```
Transferring hex file . . . . .
```

```
~I~ Flashing node 30 (please wait)
```

```
CSB download of .HEX file complete
```

Flash Update complete. 3

CSB Node 30 connection lost

CSB Node 30 connection added

```
SCM_E0>
```

See Note on next page.



3.6.4.1 SCM Update Notes

The SCM update command is issued. Note that it is possible to update several PSMs at a time with the command: `update -csb 30,31,32...`

Be sure that the terminal emulator is configured properly for the file transfer. (See previous subsection). The PSMROM.HEX file is transferred to the COM1 port.

The flash update completes.

3.6.4.2 Conditions to Note on Using the SCM Update Method

3.6.4.3 Master and Slave SCM

A master and slave SCM may be updated using this method but a master SCM cannot update a slave. To update either a master or slave the device downloading the SCMROM.HEX file must be connected physically to the target standard I/O local port.

3.6.4.4 XSROM

When updating the XSROM code, the entire system may be up and running the operating systems.

A consequence of updates to any of the microprocessors (with the exception of the XSROM on the PSM) is that they immediately reset once the new firmware downloads. Therefore, you want to minimize the effect of the reset on the rest of the system by isolating the QBB-partition.

3.6.4.5 PBM

When updating a PSM, the partition in which the PSM resides should be powered off.

When updating a PBM, the PCI I/O subsystem in which the PBM resides must be removed from the resources available to an operating system.

3.6.4.6 HPM

When updating an HPM, the system should be powered off.

Example : Using the Update Command (Continued)



A. Appendix - Firmware Revision History

4 V7.2

4.1.1 SRM Console Enhancements and New Features from V7.1-2 to V7.2-1

SRM Console Changes

WWIDMGR code change: do not attempt to get a UDID on a Fibre Channel SAN for SCSI sequential access or SCSI media changer type devices (i.e. tape drives, robot arm)

New module naming for the following I/O devices:

DE602-FA is displayed from the console as DE602-F*

DEGXA-SB/TB is displayed from the console as DEGXA-S*/T*

I/O Option Firmware changes

DS-KGPSA-CA (LP8000) - Firmware Revision 3.93A0

DS-KGPSA-DA (LP9002) - Firmware Revision 3.93A0

DS-KGPSA-EA (LP9802) - Firmware Revision 1.91X6

DS-A5132-AA (LP10000) - Firmware Revision 1.91X6