V5.6 Console Firmware Release Notes

AlphaStation 600A

Console Firmware V5.5
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1 Scope

The document lists significant changes in this firmware release and describes methods to update console firmware and console-supported i/o options firmware. This document does not describe the console firmware internals or console architecture.

1.1 Audience

The audience for this document is intended for individuals responsible for operating system installations or upgrades and for console firmware and console-support option firmware updates.

1.2 Golden Rules to Updating Firmware

Update console firmware before installing or updating an operating system. Update both consoles (SRM and ARC/AlphaBIOS) to ensure compatibility with the associated operating system. Run the appropriate EISA Configuration Utility when switching between Windows NT and Tru64Unix/OpenVMS.

1.3 Internet Access

Internet access to console firmware and to AlphaBIOS/HAL and NT Drivers.
www.compaq.com/support/ (click on ***Alpha Systems*** under the "***Downloadable Drivers & Utilities***" menu).
http://www.compaq.com/support/files/alphant/index.html (For the latest version of BIOS, HAL and NT Driver

1.4 Related Documentation

AlphaStation 600A Series User	English	EK-AL655-UI

2 Read Me First

2.1 Functional Changes this Release

- AlphaBIOS Console V5.70

2.2 Firmware Revision Matrix

The following matrix shows the minimum operating system version for a given console firmware.

Table 2-1 Operating System and Firmware Revision Matrix

Revision Matrix for AlphaStation 600A	
Firmware CD Release Version	V5.6
Firmware CD Release Date	December1999
Operating System	
OpenVMS	V7.2
Tru64 Unix	V4.0F
Windows NT	V4.0
EISA Configuration Utility	V1.11A
Console Firmware	
SRM Version	V5.6-114
AlphaBIOS Version	V5.70

2.3 Anomalies, Restrictions, Workarounds

2.3.1 SRM Console Information

2.3.1.1 Set Console to Graphics or Serial

Use the INIT command to redirect the console output to the graphics port or to the serial port. The command sequence is as follows:

>>> **set console graphics**or >>> **set console serial**
>>> **INIT**

After the INIT command , console output is directed to the appropriate port

2.3.1.2 Default Value for bus_probe_algorithm

For all systems, the default value is **new** for the SRM console environment variable **bus_probe_algorithm.** The operating systems include Tru64 Unix, Windows NT and (OpenVMS V6.2 and later).

2.3.1.3 Using the TEST Command on Shared SCSI systems

The TEST command is designed for stand-alone systems, therefore, will not work on a shared SCSI system. To run the TEST command, disconnect one of the systems to the shared disks.

2.3.2 I/O Options Specific Restrictions

2.3.2.1 PB2GA-JC/JD VGA Graphics Controller

The SRM console environment variable BOOT_RESET must be set to OFF to use the PB2GA-JC or -JD graphics card. OFF is the default value for BOOT_RESET. >>> **set boot_reset off**

2.3.2.2 I/O Options Restricted to Primary PCI Bus Slot

The AlphaStation 600A has seven PCI bus slots – three in front of a PCI-to-PCI bridge and four behind the bridge. PCI Primary slots are in front of the bridge whereas, PCI secondary slots behind the bridge. The following I/O options are supported only in the primary PCI bus slot:

- PBXGB-AA and -CA graphics cards
- PBXGI-AD PowerStorm graphics card
- PBXDA-AC - 16 Port High Performance Asynchronous Multiplexer Controller.

2.3.3 Operating System Specific Restrictions

2.3.3.1 PBXGB-AA - Blank Screen on Tru64 Unix

The PBXGB-AA switch setting should be set to **6** instead of the default value of 0. A default value of **0** indicates 1280x1024 at 72Mhz which is not supported.

2.3.3.2 DSSI Devices Not Seen Under OpenVMS

The following anomaly is OpenVMS specific and is noted here for informational purposes. A new OpenVMS driver may be needed for AlphaServer Systems with KFESA's [DSSI to EISA Storage Adapters]. The symptom is that data-disks off the KFESA may not be seen nor displayed by the OpenVMS "show device" command. The OpenVMS driver, who fixes this anomaly, is available from TIMA.

2.3.3.3 EISA Configuration Utility Diskette Version 1.10 Under Tru64 Unix

When you run ECU V1.10, the VGA Graphics Controller setting is set to DISABLED. Previous ECU versions, this setting was set to ENABLED. When running ECU V1.10, select STEP 3 to ENABLE the VGA Graphics controller prior to booting Digital UNIX. This will allow your Xserver to start. This not apply to Digital AlphaServer 1000 and 1000A Systems using the Cirrus VGA graphics controller on the motherboard.

ECU V1.11A is available. Part number: **AK-Q2CRM-CA** *for OpenVMS/Tru64 Unix*, and **AK-QF1GF-CA** *for WindowsNT systems.*

2.4 Special Console Commands

2.4.1 Clear Secure Mode

The Halt button now is latched in software. If the halt button is depressed when the console is starting, no nvram scripts are executed and the console returns >>>. If secure mode is set, you can clear the console in the following way:

- Type *login* at the SRM >>> prompt >>> **login**
- Press and Release the HALT Button after you see the enter password prompt
- password is now cleared after you release the HALT Button on the operators control panel

2.4.2 Save_NVRAM & Restore_NVRAM Commands

The save_NVRAM and restore_NVRAM commands are available only under the Loadable Firmware Utility [LFU]. The commands save or restore NVRAM configuration data. This feature is useful if upgrading a system's motherboard and you wish to restore the systems previous NVRAM contents. To get to the LFU-prompt to invoke these commands, boot the Alpha Firmware CD and press the enter-key after the Bootfile: prompt.

2.4.2.1 Save_NVRAM

Save the system NVRAM data from 8KB EEROM and last 50 TOY RAM bytes onto a write-UN-locked FAT formatted floppy to a file. By default, if no script argument is specified, all NVRAM is saved to file ALLNVRAM.SAV. If the file already exists, then a copy of the original file is made to *.BAK. If that file exists, it is overwritten. Note: attempts to write to a write-locked floppy fail silently.

Syntax save_nvram [{**all,arc,srm,toy**}]

all : All of the 8KB EEROM and 50 bytes of TOY RAM are saved in file allnvram.sav. This is the default, if no argument is specified
arc : ARC (AlphaBIOS) data in first 6KB of the 8KB EEROM is saved in file arcnvram.sav.
srm : SRM console data in last 2KB of the 8KB EEROM is savedin file srmnvram.sav.
toy : TOY console data in the 50 bytes of TOY RAM is saved in file toynvram.sav.

Example to copy a script from floppy: (Note this command is unnecessary when running from the LFU)

>>> cat fat:savenvr.txt/dva0 > save_nvram

Example: To save all the system NVRAM to an image on floppy:

>>> save_nvram Save all NVRAM data to file fat:allnvram.sav/dva0.0.0.1000.0. If file already exists, first copy original to a .bak file.

Please insert a write-UN-locked, FAT formatted floppy... and enter "y" to continue.
Y
Checking for a FAT formatted floppy...
...Found it.
Checking for existing fat:allnvram.sav/dva0.0.0.1000.0...
...Found one.
Copying fat:allnvram.sav/dva0.0.0.1000.0 to .bak file...
...Succeeded.
Copying all NVRAM to fat:allnvram.sav/dva0.0.0.1000.0...
...Succeeded.
>>> End of Example

2.4.2.2 Restore_NVRAM

Restore the system NVRAM data to 8KB EEROM and/or last 50 TOY RAM bytes from a floppy containing the NVRAM save file(s). By default, if no script argument is specified, all NVRAM is restored from file ALLNVRAM.SAV.

Syntax restore_nvram [{**all,arc,srm,toy**}]

all : All of the 8KB EEROM and 50 bytes of TOY RAM are saved in file allnvram.sav. This is the default, if no argument is specified
arc : ARC (AlphaBIOS) data in first 6KB of the 8KB EEROM is saved in file arcnvram.sav.
srm : SRM console data in last 2KB of the 8KB EEROM is savedin file srmnvram.sav.
toy : TOY console data in the 50 bytes of TOY RAM is saved in file toynvram.sav.

2.4.3 Redirect Console Output to Floppy Disk

This command was introduced in console v4.8. You can Redirect console output to a FAT-formatted floppy disk and display the contents of the file saved on floppy disk.

Example to Redirect Console Output to Floppy disk:
Format: >>> console-command > fat:filename/dva0

This example stores the systems configuration to a floppy file:
>>> show config > fat:showconfig.fat/dva0

This example displays the contents of console output file stored on floppy disk.
>>> cat fat:showconfig.fat/dva0 | more

This example stores the system power-up sequence:

>>> cat el > x
>>> cat x > fat:cat_el.fat/dva0

This example combines the above two commands into one:

>>> cat el > fat:cat_el.fat/dva0

End of Examples

3 Firmware Update Procedure

This chapter explains how to update firmware. AlphaServer systems contain flash ROM(s) to store SRM and ARC/AlphaBIOS console firmware. SRM console is used for Tru64 Unix and OpenVMS, whereas, ARC/AlphaBIOS console is used for the WindowsNT operating system.

3.1 General Assumptions on Firmware Revision

AlphaServer systems recently shipped may have a higher firmware revision than the firmware revision listed in this release. *Do not load firmware that is older than what is presently installed.* A higher firmware revision usually indicates support for the currently shipping operating system. The revision number of console firmware and the Alpha Firmware CD are mutually exclusive.

3.2 Loadable Firmware Utility Commands

The Loadable Firmware Utility is the mechanism to update console and option firmware.

3.2.1 List Command

Use the list command to show a list of memory-loaded images and currently supported flash ROMs. In the following example three devices are installed in a system that can be firmware-updated.

UPD> list

Device	Current Revision	Filename	Update Revision	
ARC	4.49	arc_fw	4.52	
SRM	v4.7-163	srm_fw	4.7-169	
….		fwb0	2.46	
. ...		dfpaa_fw	2.46	
… …		dfxaa_fw	2.46	see note below on dfxaa_fw
…		dfeab_fw	2.46	
…		kzpsa_fw	A11	

Options DEFEA and the DEPAA use the dfxaa_fw firmware file. Option firmware dfxaa_fw is an encapsulation for older and new versions of the DEFEA and DFPAA. Older DEFEA models part number: 54-21497-XX] use different firmware newer DEFEA models [part number: 54-21503-xx].

3.2.2 Update Command

Use the update command to update console and option firmware or to update option-only firmware.
UPD> update [updates console and option firmware]
UPD> update <option-name> e.g. >>> update ccmab02

3.3 Update Firmware via SRM Console

The following procedure shows how to update console and option firmware. To update only option firmware, select the option name after the update command e.g. UPD> update pka0.

Insert Firmware CD into drive	>>> show device	Find the CD-ROM device ID e.g. dka400
Boot the Alpha Firmware CD	>>> Boot dka400	Boot code determines the AlphaServer type
Press the enter- key after Bootfile	Bootfile:	To use default firmware
Type update	UPD> update	Update console and option firmware
Exit the LFU	UPD>exit	Exiting will initialize the system

Example:

>>> show device
dka400.1.0.1.0 DKA400 RRD43 1084

>>> **boot dka400** (Firmware CD is inserted in CD Drive)

block 0 of dka400.1.0.1.0 is a valid boot block reading 989 blocks from dka400.5.0.1000.0
bootstrap code read in base = 156000, image_start = 0, image_bytes = 7ba00
initializing HWRPB at 2000
initializing page table at 148000
initializing machine state
setting affinity to the primary CPU
jumping to bootstrap code

[Release notes are displayed]

Bootfile: [press enter-key]

eb.....ea.e9.e8.e7.e6.

Checking dba500.5.0.1000.0 for the option firmware files…

***** 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,update rev
Update Replaces current firmware with loadable data image.
Verify Compares loadable and hardware images.
? or Help Scrolls this function table.

UPD> **update** …

answer **Yes** to all questions then exit

UPD> **exit**

End of Example

The firmware is now loaded into ROM. Typing exit will reset the AlphaServer system which invokes the new firmware.

3.4 Update Firmware via ARC/AlphaBIOS

The following procedures show how to update console and option firmware. To update only option firmware, select the option name after the update command e.g. UPD> update pka0.

To get to the ARC or AlphaBIOS console menu from Windows NT, shutdown the operating system then reset the system. To get to the ARC console from the SRM console prompt >>> , type "***set os_type NT***" then reset the system or type >>> ***arc*** from the SRM console.

Insert Alpha Firmware CD into CD-ROM drive	
Select "Supplementary Menu"	to get to the “Install New Firmware” menu item
Select "Install New Firmware"	to invoke the LFU from the Alpha Firmware CD. This

	selection wills timeout if the Alpha Firmware CD is not present.
Type "***update***" after the UPD> prompt	to update console and option firmware
Type "***exit***" after the firmware has updated	to reset the system

3.4.1 LFU 600A_to_1000A Script

The AlphaStation 600A and AlphaServer 1000A use the same motherboard. For this reason, it is possible to get the wrong console code installed into the wrong system. This script is used ONLY if the console code on an AlphaServer 1000A system contains AlphaStation 600A console code. Use this command to restore console to an AlphaServer 1000A.

UPD> 600A_to_1000A

3.4.2 LFU 1000A_to_600A script

The AlphaStation 600A and AlphaServer 1000A use the same motherboard. For this reason, it is possible to get the wrong console code installed into the wrong system. This script is used ONLY if the console code on an AlphaStation 600A system contains AlphaStation 1000A console code. Use this command to restore console to an AlphaStation 600A.

UPD> 1000A_to_600A

4 DE500 Ethernet Card Notes

4.1 DE500-FA

The DE500-FA supports the following modes. Use the console command shown below to select the appropriate mode.

- 100BaseFx *half* and *full duplex* - >>> set ew*0_mode *fast* or set ew*0_mode *fastfd* ;where * is the controller letter

The DE500-FA does not support auto-negotiation mode. V5.1 is the minimum supporting console version.

4.2 DE500-BA and DE500-AA

The DE500-BA and DE500-AA support the following modes: Use the console command shown below to select the appropriate mode.

- 10BaseT half-duplex, full duplex- >>> set ew*0_mode *twisted or full*
- 100BaseTx half-duplex or full duplex - >>> set ew*0_mode *fast* or *fastfd*
- auto-negotiation - >>> set ew*0_mode *auto-negotiation*

V4.7 and V4.9 is the minimum supporting console versions for DE500-AA and –BA respectively.

4.2.1.1 What is Auto-Negotiation

Auto-negotiation is a mechanism to advertise, to detect, and to negotiate line speed abilities to an auto-negotiate-supported device on an Ethernet wire. In auto-negotiation mode, the user does not need to know the line speed of the auto-negotiation-supported device on the other end of an Ethernet wire. In this mode, the DE500-AA or -BA advertises its abilities sending a link code word on the Ethernet wire. The DE500 will default to 100BaseTX full-duplex mode if it does not receive a proper link code word from another auto-negotiation-supported

5 Using Console Environment Variables FFAUTO and FFNEXT

This section describes how to use console environment variables FFAUTO and FFNEXT to force devices (e.g. disks) from a "not connected" state to a "connected" state to make them bootable. The console does not allow booting devices that are in the "not connected" state.

FFAUTO and FFNEXT are used for situations and configurations where an operator needs to force the console to boot a "not connected" device. These console environment variables were introduced in console firmware V5.5 (August 1999).

5.1 Background

5.1.1 Behavior of "Not Connected" Devices

HSZ8x disk array controllers or HSG8x array controllers may have their disks in a "connected" or "not connected" state. In MULTIBUS mode, a disk state of "not connected" is normal and correct. Because the console does not allow booting devices in the "not connected" state, attempted to boot a "not connected" disk produces the console error message below:

```
P00>>>b dga40.1003
resetting all I/O buses
VGA Bios failed, status = 1
(boot dga40.1003.0.6.0 -flags 0)
dga40.1003.0.6.0 is not connected
failed to open dga40.1003.0.6.0
```

Therefore, to successfully boot a disk, select either a "connected" disk or use the FFAUTO or FFNEXT command.

5.1.2 Determining a "Not Connected" Device from an HSZ80 or HSG80

The HSZ8x or HSG8x console can help the operator determine where a disk device is connected. In this HSG80 console example below, the state of disk device d40 is 'ONLINE to this controller' therefore connected.

```
HSG80> show d40
    LUN                                             Uses             Used by
------------------------------------------------------------------------------

  D40                                               DISK50000
        LUN ID:      6000-1FE1-0000-04A0-FFFF-FFFE-0005-0000
        IDENTIFIER = 40
        Switches:
          RUN                     NOWRITE_PROTECT        READ_CACHE
          READAHEAD_CACHE
          MAXIMUM_CACHED_TRANSFER_SIZE = 32
        Access:
          ALL
        State:
          ONLINE to this controller
          Not reserved
          NOPREFERRED_PATH
        Size: 4110480 blocks
        Geometry (C/H/S): ( 3045 / 16 / 85 )
```

5.1.3 Determining a "Not Connected Device" from an AlphaServer Console

There are a couple of ways:

- The console error message at boot time, as previously shown, is one way to determine a not connected device. This console error message is also displayed when a console disk exerciser attempts to exercise a not connected device.
- Using the WWIDMGR command, the console can also display the status of fibre channel devices controlled by an HSG8x.

```
P00>>>wwidmgr -show wwid -udid 40 –full

[0] UDID:40 WWID:01000010:6000-1fe1-0000-04a0-ffff-fffe-0005-0000 (ev:wwid0)
 - current_unit:40 current_col: 1 default_unit: 5901
        via adapter      via fc_nport          Con    DID    Lun
 -       pga0.0.0.6.0  5000-1fe1-0000-04a2  Yes  210313    40
 -       pga0.0.0.6.0  5000-1fe1-0000-04a1  Yes  210513    40
 -       pga0.0.0.6.0  5000-1fe1-0000-04a4  No   210713    40
```

5.2 Forcing the Console to Use a Not Connected Device

5.2.1 Using FFAUTO

FFAUTO determines console behavior when the system is trying to autoboot. An autoboot is any boot other than a manual **>>>boot** command issued at the SRM console by a user. FFAUTO can be set to ON or OFF. The default state is OFF where console behavior is not affected. FFAUTO is stored in non-volatile memory therefore its state persists across system resets and power cycles.

>>> set FFAUTO ON

In the ON state, console behavior is affected during an autoboot. When the console is trying to autoboot, the console attempts to boot from each "connected" device listed in bootdef_dev. If the console reaches the end of the bootdef_dev list without successfully booting, the console goes to the beginning of the bootdef_dev list and attempts booting again. Disks that are found in the "not connected" state are changed to the "connected state", thereby enabling the console to access that device.

5.2.1.1 EXAMPLE: FFAUTO

```
P00>>>set FFAUTO ON
P00>>>set bootdef_dev dga40.1003
P00>>>b
(boot dga40.1003.0.6.0 -flags 0)
dga40.1003.0.6.0 is not connected
failed to open dga40.1003.0.6.0
P00>>>init

VMS PALcode V5.56-7, OSF PALcode V1.45-12
starting console on CPU 0
CPU 0 booting

(boot dga40.1003.0.6.0 -flags 0)
dga40.1003.0.6.0 is not connected
failed to open dga40.1003.0.6.0

Retrying, type ^C to abort...

(boot dga40.1003.0.6.0 -flags 0)
block 0 of dga40.1003.0.6.0 is a valid boot block
reading 896 blocks from dga40.1003.0.6.0
bootstrap code read in
base = 200000, image_start = 0, image_bytes = 70000
initializing HWRPB at 2000
initializing page table at 1ff0000
initializing machine state
setting affinity to the primary CPU
jumping to bootstrap code
```

5.2.2 Using FFNEXT

FFNEXT determines the console behavior of the next command issued to a "not connected" device. FFNEXT can be set to either OFF or ON. The default-state is OFF where console behavior is not affected. FFNEXT is a volatile environment variable and its value is temporary therefore does not propagate across a system reset or reboot.

```
>>> set FFNEXT ON
```

In the ON-state, the console will change the next "not connected" device to a "connected" state for booting. The FFNEXT state is automatically reset to OFF after the console changes device state from "not connected" to "connected".

Resetting FFNEXT to OFF protects the user from accidentally changing the state of disks. Stated in another way, FFNEXT is a one shot. It stays in effect until a not connected device is accessed.

5.2.2.1 EXAMPLE: FFNEXT

```
P00>>>b dga40.1001
(boot dga40.1001.0.6.0 -flags 0)
dga40.1001.0.6.0 is not connected
failed to open dga40.1001.0.6.0
P00>>>set ffnext on
P00>>>b dga40.1001
(boot dga40.1001.0.6.0 -flags 0)
```

```
block 0 of dga40.1001.0.6.0 is a valid boot block
reading 896 blocks from dga40.1001.0.6.0
bootstrap code read in
base = 200000, image_start = 0, image_bytes = 70000
initializing HWRPB at 2000
initializing page table at 1ff0000
initializing machine state
setting affinity to the primary CPU
jumping to bootstrap code


    OpenVMS (TM) Alpha Operating System, Version X6PC-SSB


halted CPU 0

halt code = 5
HALT instruction executed
PC = ffffffff8b4e2ba4
P00>>>show ffnext
ffnext                OFF
```

End of Examples

6

7 Changes from Previous Console Firmware Releases

7.1 V5.5

- Console recognition of ATM adapters: DAPBA-FA, DAPBA-UA, DAPCA-FA
- Console recognition of Ethernet cards: DE600-AA, DE602-AA/FA/TA.
  The DE602-FA and the DE602–TA are “daughter cards” which plug into the DE602-AA. There is no boot support for these cards.
- New PCI Device ID’s for the PBXDP-AA
- AlphaBIOS Console V5.69
- Bug fix to the Ethernet driver for DE500-BA in Fast Full Duplex Mode (100BaseTX FD)
- New console environment variables FFAUTO and FFNEXT

7.2 V5.4

- SRM Console Changes – **1**) Console support for Intel 82558 Ethernet cards **2**) Console support for ELSA Gloria Synergy graphic cards **3**) Fibre Channel [KGPSA] on AlphaServer 800 Systems. See restrictions. **4**) Console recognition of ATM Adapters. **5**) Console "Date command" removed
- AlphaBIOS Console V5.68 & ARC Console V4.58

7.3 V5.3

- AlphaBIOS Console V5.66 - V5.66 identifies the System Type of a Digital Server 3300 as an AlphaServer Family. This is fixed in next AlphaBIOS release (V5.68 or greater).

- ARC Console V4.57 – 1) Microsoft required that firmware understand years up to 2035 for Y2K certification. We have changed maximum year to 2050. 2) the number of parameters that can be passed to an arcapp was increased from 8 to 16, and parameter checking was added to ensure that this limit is not exceeded

- ISP1020/1040 firmware V5.57 – 1)Fix bug checking user flags set by the SXP firmware when an Interrupt is pending from the SXP to the RISC. The user flags register was latched when the interrupt was set and any new user flag bits are in the second rank of register. Testing the bit tests the value in the latch but not the flags set in the second rank. 2) Fix bug in the routine Process_WDTR_Msg where the target would never went to Message Out phase and subsequently never went to the Message Out Handler where it would send the number of message bytes. If the CDB has not been sent to the target, we need to command the SXP to set attention so that the target goes to Message Out phase.

- KZPCM-DA **PCI Bus slot restriction removed** for AlphaServer 800/Digital Server 3300 platforms

- SRM Console Changes – **1**) Device recognition of the PBXDP-AB and PBXDP-AC multi-port sync. Controller and for the DEGPA-SA Gigabit Ethernet Adapter **2**) Sparce Space expanded to 496Mb - EV5 platforms only **3**)SRM Console Environment Variable *pka0_soft_term* is no longer supports "diff" mode

7.4 V5.2

- ISP1020/1040 Firmware V5.54 -This version of ISP1020 fixes a problem with a tape drive used only *by Computer Special Systems*. V5.54 addresses the problem of improper speed negotiation with a very slow SCSI device.

- Console support for the PCI-to-Cardbus Adapter
- Console recognition of the PBXDA-AA/AB/AC and the SN-PBXNP-AA/AC adapters

7.5 V5.1

- ISP1020 firmware - V5.53

- AlphaBIOS V5.64, ARC console V4.56

- SRM Console Changes – Support for DE500-FA - 100Mb/s MultiFiber Fast EtherWorks Adapter **2**) Fix TGA8 problem that causes ARC machines to boot with colors) **3**) Support for PBXDA-AC - 16 port high performance asynchronous multiplexer controller (see restrictions) **4**) Support for PBXGI-AD - PowerStorm Advanced 3D Graphics Accelerator (see restrictions) **5**) Support for CCMAB-AA - Memory Channel 2 Adapter

7.6 V5.0

- New revision of ISP1020 firmware – V5.57 – which supports UltraSCSI devices

7.7 V4.9

- SRM Changes – 1) PCI slot restriction for the KZPBA-DB on AlphaServer 1000A **2**) FRU Table support for AlphaServer 800 systems **3**) Support for DE500-BA Adapter **4**) Latent console support for OpenVMS and DIGITAL UNIX to change console password **5**) Support to "silently update" console firmware **6**) Change ISP1020 and NCR810 display strings **7**) Update EV5 revision table **8**) Fix TGA8 problem that causes ARC machines to boot with colors

- New ARC console V4.54

7.8 V4.8

- Console support for AlphaServer 800 Systems
- New options firmware for the DEFPA (EISA-to_FDDI) I/O adapter
- ARC Console V4.52
- SRM Console Changes – 1) New LFU commands to save or restore NVRAM data to a FAT-formatted floppy diskette, and the ability to redirect console output to a FAT-formatted. 2) V4 PALcode updates to support Environment Mgmt Monitoring. 3) Enhancements to KFESA and KFESB drivers 4) Boot_reset fix to V4.7 console 5) SMM/LURT register updated for AlphaServer 1000A 4/233 systems 6) Updated ISP driver to support the ISP1040B SCSI Processor