



## DIGITAL™ Server 3220/3220R Series

### Upgrade Addendum

ER-B4BWW-AA.A01

Thank you for purchasing a DIGITAL Server 3220/3220R Series Server upgrade kit. This addendum is intended to assist you in identifying major component difference between model 3200/3200R servers and model 3220/3220R series servers. This addendum also provides general guidelines to consider before upgrading your server.

#### Comparison Chart

Feature	DIGITAL Server 3200/3200R	DIGITAL Server 3220/3220R
Processor	Pentium II - 266 MHz and 300 MHz (512 KB L2 cache)	Pentium II - 350MHz and 400 MHz (512 KB L2 cache)
Memory	ECC/EDO DIMMs 512MB maximum	Registered PC100 SDRAM DIMMs 1GB maximum
Graphics	On-board PCI S3 Trio SVGA	Integrated PCI S3 Trio 64 V2/ GX SVGA (dedicated PCI slot)
Networking	DIGITAL 21143 Controller	DIGITAL 21143-TD Controller
SCSI Interface	PCI Ultra-wide Adaptec 7880 controller, single channel	PCI Ultra-wide Symbios 896 controller, dual channel. Support for Ultra2 devices on external channel.
RAID controller	Mylex DAC960	Mylex DAC960
CD-ROM drive	SCSI	IDE 32X ATAPI CD-ROM
Tape drive (optional)	SCSI	SCSI Adapter card
Slots	2 PCI, 1 PCI/EISA, 4 EISA	5 PCI, 1 PCI/ISA, 1 ISA
USB ports	No	Yes (2)
DIGITAL RSM Support (EISA card)	Yes	Not available



## Certified Operating Systems

	DIGITAL Server 3200/3200R	DIGITAL Server 3220/3220R
Windows NT Server	V4.x	V4.x/5.x
Novell NetWare	V3.x/4.x	V4.x only
IBM OS/2 Warp	V3.x	V4.0
SCO UNIX Open Server	V3.2.x	V5.0.4, 5.0.4c, 5.0.5
Banyan VINES	-	V7.0
SCO UNIXWARE	V3.x	V2.1.2, 7.0

## Upgrade Procedure

The following section describes the procedure that should be followed to install the upgrade.

1. Before the scheduled upgrade, ensure that the customer has backed up the system and recorded all configuration information.
2. **CAUTION:** Make sure the voltage selection switch on the back of the new server is set to match your power source before plugging in the power cord, or you may damage the server.
3. Install any additional processor. (Refer to Chapter 5 in the *DIGITAL Server 3220/3220R Series System Reference* manual, ER-B4BWW-UA.)
4. Install memory. The DIGITAL Server 3220/3220R requires at least 64 MB and can accommodate up to 1 GB of SDRAM memory. (Refer to Chapter 6 in the *System Reference* manual.) NOTE: You cannot use ECC/EDO DIMMs installed in a DIGITAL Server 3200/3200R.
5. Install any expansion boards. The DIGITAL Server 3220/3220R has PCI and ISA slots only; EISA cards are not supported. (Refer to Chapter 10 and 11 in the *System Reference* manual for instructions.)
6. Move or install disk drives. (Refer to Chapters 7, 8, and 9 in the *System Reference* manual.) The DIGITAL Server 3220/3220R has an integrated Symbios SCSI controller. **CAUTION:** For NT operating systems, refer to the instructions that follow. Also check for other software hints in the README files on the Quick Launch CD-ROM.

- A. For *SCO UNIX Open Server, Banyan VINES, and SCO UNIXWARE*: Ensure that there is a good backup of your original system. Perform a fresh O/S install on the new system and restore data from the backup tape.
  - B. For *Windows NT*: Before moving disk drives to the new system, load the Symbios SCSI driver on the hard drive. Move the drives and boot the new system. Once operational, disable the Adaptec driver.
  - C. For *Novell NetWare 4.11*: Move the drives and boot the new system to DOS. Run Install and load the Symbios SCSI driver. Remove the Adaptec driver and restart the system.
  - D. For *IBM OS/2 Warp*: Operating System versions are not supported across these platforms, so a tape backup of the old system is required.. Install the new O/S on the new system and restore from tape the needed data.
7. Install model 3220R into a rack.
  8. Power on the system and run AMI diagnostics to verify the hardware upgrade. **Note: *The hardware upgrade is complete.***
  9. Note to customer: After hardware installation is completed, you may install the software on the new system. Refer to the operating system manuals, the *Installation Guide* (ER-B4BWW-IM), or the web page (<http://www.windows.digital.com>) for driver and operating system installation.
  10. Call your software service provider to update your license with the new system serial number. If desired, you can continue to use your old system; in which case, you will need to buy a new software license for the new system.

### **Troubleshooting Guidelines**

If the server does not boot properly after installing the upgrade, use the procedures in this section to identify and correct the problem to get the server on-line.

- Check all the configuration information that you recorded.
- Verify that all cables are seated properly.
- Verify that all cards, boards, and modules are seated properly.
- Check the processor speed settings.

### **Power-On Self Test**

The DIGITAL Server 3220/3220R Series server's Power-On Self Test (POST) can detect memory and other configuration errors when it boots. Power up the server and allow the POST to complete. If the POST detects any problems, use the error messages provided to correct the problem. POST messages are displayed on the monitor or front panel LEDs. Typical POST messages might be:

- DIMM memory module in location xx - illegal memory configuration
- Processor over temperature
- Processor failures
- Shutdown, fan fault

### **AMI Diagnostic Software**

AMI Diagnostic software is shipped with the server on the Quick Launch CD-ROM. This software contains an advanced set of diagnostic utilities for identifying and correcting problems when upgrading the server. If the BIOS POST routines report memory errors, run the appropriate diagnostic from the AMIDiag program. For additional information on running the AMI Diagnostics, refer to the on-line manual, which is located under "Additional Documentation" on the Quick Launch CD-ROM.

### **Create Diagnostic Diskettes**

Create diagnostic diskettes by using the Quick Launch CD-ROM. Creating diskettes allows you to run the diagnostics at any time for troubleshooting purposes or for testing existing system memory and cache memory.

1. Insert the Quick Launch CD-ROM into the server.
2. From the main menu, select **Installations & Utilities**. Select **Utilities**. From **Utilities**, select the product family of the server.
3. Insert a blank MS-DOS formatted diskette into drive A and select **Diagnostics, 1 of 3**. Repeat for diskettes 2 and 3. When completed, label the diskettes.

### **Running the Diagnostics**

Run Diagnostics if the BIOS POST routines reported memory errors.

1. Select **Diagnostics**.
2. From the AMI Diagnostic **Main Menu**, select **Memory**.

Run the memory tests to pin-point the failing area. If a test fails, an error code is generated. These codes are listed at the end of the Memory section of the AMIDiag User's Guide.

### **Additional Information**

For additional information on the DIGITAL Server 3220/3220R, refer to the manuals that shipped with the upgrade and the additional documentation on the Quick Launch CD-ROMs:

*DIGITAL Server 3220/3220R Series Installation Guide*

*DIGITAL Server 3220/3220R Series System Reference*

**Supported Options List**

Part Number	Description
	<b>Memory</b>
FR-SDSMA-AA	64MB (1X16MB) SDRAM DIMM
FR-SDSMA-AB	128MB (1X16MB) SDRAM DIMM
FR-SDSMA-AC	256MB (1X16MB) SDRAM DIMM
	<b>7200 RPM SCSI Disk Drives for Model 3220</b>
FR-CGCBA-CA	18 GB Ultra Wide Drive Carrier (white SBB)
FR-DECBA-CA	4GB Ultra-2 Drive Carrier (white SBB)
FR-DFCBA-CA	9GB Ultra-2 Drive Carrier (white SBB)
	<b>10,000 RPM SCSI Disk Drives for Model 3220</b>
FR-CECCA-CA	4 GB Ultra Drive Carrier (white SBB)
FR-DFCCA-CA	9 GB Ultra-2 SCSI HDD (white SBB)
	<b>7200 RPM SCSI Disk Drives for Model 3220R (rack)</b>
FR-CGCBA-DA	18 GB Ultra Wide Drive Carrier (SCA-2, IBM)
FR-DECBA-DA	4GB Ultra-2 Drive Carrier (Phoenix, SCA-2, LVD)
FR-DFCBA-DA	9GB Ultra-2 Drive Carrier (Phoenix, SCA-2, LVD)
	<b>10,000 RPM SCSI Disk Drives for Model 3220R (rack)</b>
FR-CECCA-DA	4 GB Ultra Drive Carrier (Seagate, SCA-2)
FR-DFCCA-DA	9 GB Ultra-2 SCSI HDD (SCA-2)

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Part Number	Description
	<b>Diskette Drive</b>
FR-PCXRJ-AD	3.5" 1.44MB Diskette Drive
	<b>Tape Drives</b>
FR-PCXAT-AJ	Sony 7000 4/8 GB DAT (SCSI)
FR-PCXAT-EA	AIT Sony 25/50 GB 5.25"
FR-PCXAT-AK	DAT Sony 12/24 GB 5.25"
	<b>IDE CD-ROM</b>
FR-PCXRN-AQ	32X Atapi Toshiba
	<b>SCSI Host Adapters</b>
FR-PCTAZ-DF	1 Channel 2940UW
FR-PCTAZ-FB	1 Channel 2944 Differential SCSI controller
FR-PCTAZ-EC	2-Channel 3940 Adaptec
	<b>RAID Controllers</b>
FR-PCTAR-UB	Battery Backup – Mylex
FR-PCTAR-GA	1 Channel Raid – Mylex PD
FR-PCTAR-GB	2 Channel Raid – Mylex PD
FR-PCTAR-GC	3 Channel Raid – Mylex PD

Part Number	Description
<b>Video Cards</b>	
FR-PCXAG-BG	Matrox Millennium II (4 Mb)
FR-PCCAM-CC	Matrox Millennium II (4 Mb upgrade)
<b>Storage Expansion</b>	
FR-BA356-PA	Storage Expansion Cabinet with Ultra support (pedestal)
FR-BA356-PD	Storage Expansion Cabinet with Ultra support (rack)
FR-BN37A-02	2 Meter VHDCI external cable for RAID
FR-BN38C-02	2 Meter 68HD to VHDCI cable from SCSI to BA356
FR-BN37A-05	5 Meter VHDCI external cable for RAID
FR-BN38C-05	5 Meter 68HD to VHDCI cable from SCSI to BA356
FR-BA35X-HK	BA356 UW 190 Watt 2nd power supply (rack)
<b>Cabling</b>	
FR-PCXAR-WG	Internal SCSI cable, 580mm, SCSI-3, 68-pin HD IDC to 68-pin HD panel mount (Suggested use - to extended storage backplane channels externally)
FR-PCXAR-WJ	External SCSI 68-pin fault bus supported terminator (Suggested use - with RAID using SSB's)
<b>Modems</b>	
FR-PCXFA-AA	56KB US/Can Modem, Internal
FR-PCXFA-AB	56KBS Modem, External

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Part Number	Description
<b>Network Adapters</b>	
FR-DE500-BA	Digital PCI Fast Ethernet 10/100
FR-PCXTN-AD	IBM PCI Token Ring NIC
FR-PCXDN-BC	SMC Epic 10/100 PCI Fast Ethernet NIC
FR-DE450-CA	DIGITAL PCI 10mb Ethernet
<b>FDDI</b>	
FR-DEFPA-AB	FDDI PCI- MM SAS
FR-DEFPA-DB	FDDI PCI- MM DAS
FR-DEFPA-UB	FDDI PCI- UTP SAS
<b>NT Cluster / External Storage for Model 3220</b>	
FR-CK310-RF	RAID 310 Windows NT Cluster Kit
FR-CK356-UP	BA356 UW Windows NT Cluster Kit, Pedestal
FR-CK450-RP	RA450 Windows NT Cluster Kit, Pedestal
FR-CK300-UP	RA3000 Cluster Kit, Pedestal
FR-CK700-UP	RA7000 Windows NT 4.0 Cluster Kit, Pedestal
<b>NT Cluster Rackmount Storage for Model 3220R</b>	
FR-CK310-RF	RAID 310 Windows NT Cluster Kit
FR-CK356-UR	BA356 UW Windows NT Cluster Kit, Rackmount
FR-CK450-RR	RA450 Windows NT Cluster Kit, Rackmount
FR-CK700-UR	RA7000 Windows NT 4.0 Cluster Kit, Rackmount

Part Number	Description
<b>External Storage</b>	
FR-SWXRA-Z1	RAID Array 310 Subsystem (legacy white box, blue drives supported)
DS-SWXRA-W0	RAID Array 450 Subsystem, office enclosure for pedestal model (blue box, blue drives)
DS-SWXRA-W4	RAID Array 450 Subsystem, rackmount enclosure (blue box, blue drives)
DS-SWXRA-GA	RAID Array 3000 Subsystem, one HSZ22 controller, pedestal, 120V
DS-SWXRA-GC	RAID Array 3000 Subsystem, one HSZ22 controller, pedestal, 230V
DS-SWXRA-HA	RAID Array 7000 with dual HSZ70 controllers (blue box, blue drives)
DS-SWXRA-HC	RAID Array 7000 with single HSZ70 controller (blue box, blue drives)
<b>Other</b>	
FR-PCXLN-BB	Mouse 2 button
FR-PCXLA-KA	Windows 95 Keyboard (Frost White) (pedestal)
FR-PVSRA-EM	Rackmount Keyboard (Cherry)

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