HEWLETT PACKARD

HP Kayak PC Workstation Service Handbook

PC Workstations and Accessories

4th Edition
June 2000

HP Kayak XA-s DT Series 02xx PC Workstation

Models and Accessories

Product Number	Cache Memory	Std. RAM	Hard Drive	Video Controller	Multi-media	LAN
HP Kayak XA-s 6/xxx PC Workstation						
HP Kayak XA-s PC Workstation 6/266 (Series 0202) (CPL: 07/98▶)						
D5751N	Pentium II with 512 KB of L2 cache memory	32 MB SDRAM 100 MHz non-ECC	4.3 GB Ultra ATA	Matrox Productiva G100 8 MB video memory fitted. Not Upgradable.	32× Max IDE CD-ROM. Audio chip (AD1816) is integrated on the system board.	None
HP Kayak XA-s PC Workstation 6/300 (Series 0202) (CPL: 07/98▶)						
D5752N	Pentium II with 512 KB of L2 cache memory	32 MB SDRAM 100 MHz non-ECC	4.3 GB Ultra ATA	Matrox Productiva G100 8 MB video memory fitted. Not Upgradable.	32× Max IDE CD-ROM. Audio chip (AD1816) is integrated on the system board.	None
HP Kayak XA-s PC Workstation 6/333 (Series 0202) (CPL: 07/98▶)						
D5753N	Pentium II with 512 KB of L2 cache memory	32 MB SDRAM 100 MHz non-ECC	4.3 GB Ultra ATA	Matrox Productiva G100 8 MB video memory fitted. Not Upgradable.	32× Max IDE CD-ROM. Audio chip (AD1816) is integrated on the system board.	None

HP Kayak XA-s DT Series 02xx PC Workstation

Product Number	Cache Memory	Std. RAM	Hard Drive	Video Controller	Multi-media	LAN
HP Kayak XA-s PC Workstation 6/350 (Series 0202) (CPL: 07/98▶)						
D5755N	Pentium II with 512 KB of L2 cache memory	32 MB SDRAM 100 MHz non-ECC	6.5 GB Ultra ATA	Matrox Productiva G100 8 MB video memory fitted. Not Upgradable.	32✕ Max IDE CD-ROM. Audio chip (AD1816) is integrated on the system board.	None
D5757N		64 MB SDRAM 100 MHz non-ECC	4.5 GB SCSI			10BT/ 100TX
HP Kayak XA-s PC Workstation 6/350 (Series 0203) (CPL: 09/98▶)						
D5765N and D5765T	Pentium II with 512 KB of L2 cache memory	64 MB SDRAM 100 MHz non-ECC	6.5 GB Ultra ATA	Matrox Millennium G200 8 MB SGRAM on board, upgradable to 16 MB SGRAM	32✕ Max IDE CD-ROM. Audio chip (AD1816) is integrated on the system board.	None
D5767N and D5767T			9.1 GB SCSI			10BT/ 100TX
HP Kayak XA-s PC Workstation 6/400 (Series 0202) (CPL: 07/98▶)						
D5758N	Pentium II with 512 KB of L2 cache memory	64 MB SDRAM 100 MHz non-ECC	4.5 GB SCSI	Matrox Productiva G100 8 MB video memory fitted. Not Upgradable.	32✕ Max IDE CD-ROM. Audio chip (AD1816) is integrated on the system board.	10BT/ 100TX
HP Kayak XA-s PC Workstation 6/400 (Series 0203) (CPL: 09/98▶)						
D5768N and D5768T	Pentium II with 512 KB of L2 cache memory	64 MB SDRAM 100 MHz non-ECC	9.1 GB SCSI	Matrox Millennium G200 8 MB SGRAM on board, upgradeable to 16 MB SGRAM	32✕ Max IDE CD-ROM. Audio chip (AD1816) is integrated on the system board.	10BT/ 100TX

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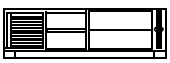
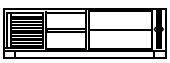


Product Number	Cache Memory	Std. RAM	Hard Drive	Video Controller	Multi-media	LAN
HP Kayak XA-s PC Workstation 6/450 (Series 0203) (CPL: 09/98▶)						
D5763N and D5763T	Pentium II with 512 KB of L2 cache memory	128 MB SDRAM 100 MHz non-ECC	10.1 GB Ultra ATA	Matrox Millennium G200 8 MB SGRAM on board, upgradeable to 16 MB SGRAM	32× Max IDE CD-ROM. Audio chip (AD1816) is integrated on the system board.	10BT/ 100TX
HP Kayak XA-s PC Workstation 6/450 (Series 0290) (CPL: 03/99▶)						
D7980N and D7980T	Pentium II with 512 KB of L2 cache memory	128 MB SDRAM 100 MHz ECC	9.1 GB SCSI	Matrox Productiva G100-Quad 16 MB	32× Max IDE CD-ROM. Audio chip (AD1816) is integrated on the system board.	10BT/ 100TX
HP Kayak XA-s PC Workstation 6/400 (Series 0203) (CPL: 03/99▶)						
D7986N and D7986T	Pentium II with 512 KB of L2 cache memory	64 MB SDRAM 100 MHz ECC	4.3 GB Ultra ATA	Matrox Millennium G200 8 MB SGRAM on board, upgradeable to 16 MB SGRAM	32× Max IDE CD-ROM. Audio chip (AD1816) is integrated on the system board.	None
HP Kayak XA-s 7/xxx PC Workstation						
HP Kayak XA-s PC Workstation 7/450 (Series 0290) (CPL: 04/99▶)						
D7990N and D7990T	Pentium III with 512 KB of L2 cache memory	128 MB SDRAM 100 MHz ECC	9.1 GB SCSI	Matrox Productiva G100-Quad 16 MB	32× Max IDE CD-ROM. Audio chip (AD1816) is integrated on the system board.	10BT/ 100TX

HP Kayak XA-s DT Series 02xx PC Workstation

Product Number	Cache Memory	Std. RAM	Hard Drive	Video Controller	Multi-media	LAN
HP Kayak XA-s PC Workstation 7/450 (Series 0203) (CPL:04/99▶)						
D7991N and D7991T	Pentium III with 512 KB of L2 cache memory	128 MB SDRAM 100 MHz ECC	10.1 GB Ultra ATA	Millennium G200 8 MB SGRAM on board, upgradeable to 16 MB SGRAM	32× Max IDE CD-ROM. Audio chip (AD1816) is integrated on the system board.	None
HP Kayak XA-s PC Workstation 7/500 (Series 0203) (CPL: 06/99▶)						
D7982N and D7982T	Pentium III with 512 KB of L2 cache memory	128 MB SDRAM 100 MHz ECC	10.1 GB Ultra ATA	Millennium G200 8 MB SGRAM on board, upgradeable to 16 MB SGRAM	32× Max IDE CD-ROM. Audio chip (AD1816) is integrated on the system board.	None
HP Kayak XA-s PC Workstation 7/550 (Series 0203) (CPL: 07/99▶)						
D7987N and D7987T	Pentium III with 512 KB of L2 cache memory	128 MB SDRAM 100 MHz ECC	10.1 GB Ultra ATA	Millennium G200 8 MB SGRAM on board, upgradeable to 16 MB SGRAM	32× Max IDE CD-ROM. Audio chip (AD1816) is integrated on the system board.	None
D6240AV	Base Model. All models are ordered with optional components (such as, processor, SDRAM memory modules, hard disk drives, graphic controller, etc.).					



Supported Accessories

SDRAM 32MB 64bit 100MHz main memory (non-ECC)	D6501A
SDRAM 64MB 64bit 100MHz main memory (non-ECC)	D6502A
SDRAM 128MB 72bit 100MHz main memory (non-ECC)	D6503A
SDRAM 64MB 72bit 100MHz main memory (unbuffered ECC)	D6522A
SDRAM 128MB 72bit 100MHz main memory (unbuffered ECC)	D6523A
SDRAM 256MB 72bit 100MHz main memory (unbuffered ECC)	D6743A
Documentation	
User's Guide Manual	D5750A
Input Devices	
HP keyboard for Windows® 95	C4725A
HP Smart Card keyboard	C4737A
HP mouse	C3751B
HP mouse with scrolling wheel	C4736A
Video Displays	
All current HP PC Displays (refer to the Displays section of the Vectra Accessory *Service Handbook*)	
Mass Storage[1]	
4.3-GB 5400rpm Ultra ATA hard disk	D2677A
6.5-GB 7200rpm Ultra ATA hard disk	D6693A
10.1-GB 7200 rpm Ultra ATA/33 hard disk	D6627A
4.5-GB 7200rpm Ultra SCSI hard disk	D5368B
9.1 GB UW-SCSI hard disk 7.2k rpm (Low Profile)	D6938A
32× Max IDE CD-ROM drive	D4384A
Atapi 100 MB Zip Drive	D6650A
Processor Upgrades[2]	
Intel Pentium II 266 MHz containing 512 KB internal L2 cache	D5483A
Intel Pentium II 300 MHz containing 512 KB internal L2 cache	D5484A
Intel Pentium II 333 MHz containing 512 KB internal L2 cache	D6526A
Intel Pentium II 350 MHz containing 512 KB internal L2 cache	D6527A
Intel Pentium II 400 MHz containing 512 KB internal L2 cache	D6528A
Intel Pentium II 450 MHz containing 512 KB internal L2 cache	D6529A
Intel Pentium III[3] 450 MHz containing 512 KB internal L2 cache	D7510A
Intel Pentium III 500 MHz containing 512 KB internal L2 cache	D7511A
Intel Pentium III 550 MHz containing 512 KB internal L2 cache	D7512A

1. 10k tpm hard disk drives are not supported on desktop models.
2. Dual Processor Kits include: processor, voltage regulator module and heatsink.
3. In a dual-processor system, do not mix a Pentium III 450 MHz processor with a Pentium II 450 MHz processor.

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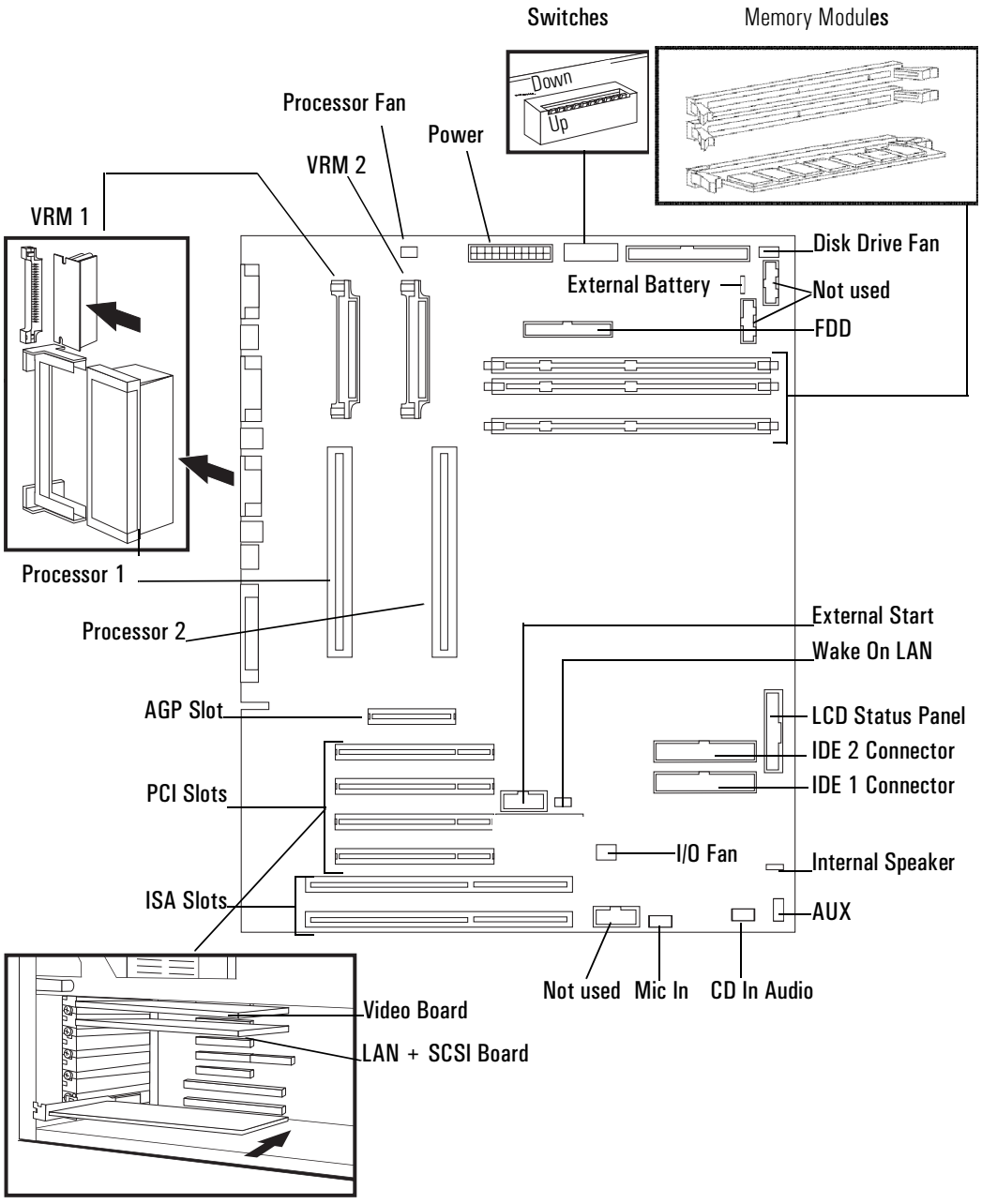
System Board, BIOS, and Memory



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System Board Switches

Switch		Function	Default
1	**Up**[1]	Reserved	**Up**
2-5	**-**	Processor frequency, see the following table	**-**
6	**Up**	Retains Configuration	**Up**
	Down	Clears CMOS (to reload the *Setup* program defaults)	
7	**Up**	Enables passwords	**Up**
	Down	Clears passwords	
8	**Up**	Disables keyboard power-on	**Down**
	Down	Enables keyboard power-on (normal operation)	
9	**Up**	Minitower	**Down**
	Down	Desktop	
10	**Up**	Enables normal mode	**Up**
	Down	Enables recovery mode	

1. Up=Off, Down=On.

Processor Frequency	Local Bus Frequency (FSB)[1]	Switch	Switch		
		2	**3**	**4**	**5**
266 MHz	66 MHz	Up	Down	Up	Up
300 MHz	66 MHz	Up	Down	Up	Down
333 MHz	66 MHz	Up	Down	Down	Up
350 MHz	100 MHz	Up	Up	Down	Down
400 MHz	100 MHz	Up	Down	Up	Up
450 MHz	100 MHz	Up	Down	Up	Down
500 MHz	100 MHz	Up	Down	Down	Up[2]
550 MHz	100 MHz	Up	Down	Down	Up[2]
600 MHz	100 MHz	Up	Down	Down	Up[2]

1. FSB = Front Side Bus
2. For processors that are 500 MHz and higher, the frequency is imposed.

BIOS History

For the latest BIOS, the flasher utility program, and the BIOS history refer to the HP World Wide Web site. The BIOS is in the form HK11yyzz

yy= BIOS version number
zz = is the selected language to be downloaded

http://www.hp.com/go/kayaksupport

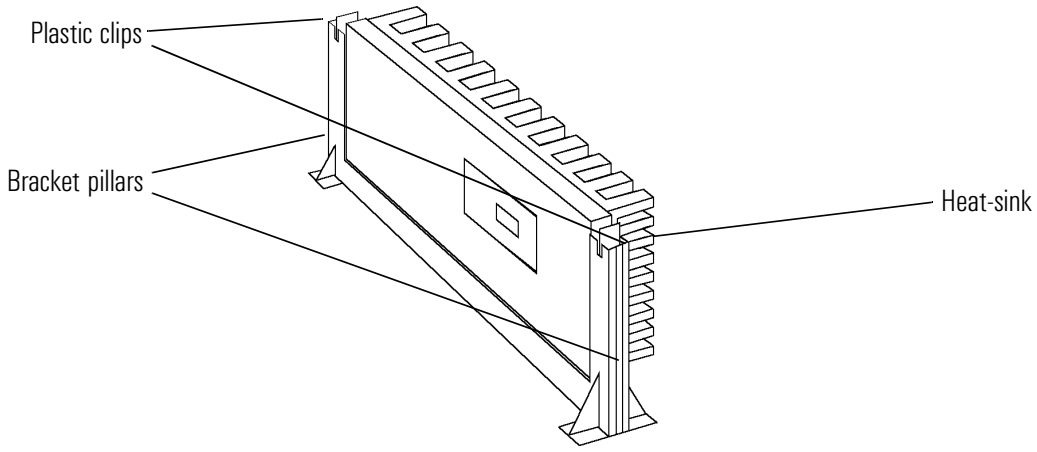
Installing a Dual Processor / Replacing a Processor

HP Kayak XA-s PC Workstations are supplied with dual processor slots and either one or two processors installed. Single processor models can be upgraded to dual processor systems by installing the second processor accessory in the vacant slot.

The second processor must be a processor of the same type, speed and level-2 cache memory capacity as the first. It is installed by gently sliding the processor into the vacant processor connector slot until the two plastic clips at the sides engage to lock the processor into place.

Every processor that is installed, or replaced, must be accompanied by the voltage regulator module (VRM) that was supplied with it. Each VRM is specific to the processor with which it was supplied, and should only be used with that processor.

NOTE: After installation of a second processor, the operating system must be reinstalled.



The following tables explain how to perform supported processor upgrades. If you need to install or upgrade to a Pentium III processor, refer to Table II on the following page.

Table I - Pentium II Processor Upgrades

	Dual Processor Upgrade					
→	**2** x **266 MHz**	**2** x **300 MHz**	**2** x **333 MHz**	**2** x **350 MHz**	**2** x **400 MHz**	**2** x **450 MHz**
1x **266 MHz** D5483A	Add 2nd D5483A[1]	Remove 266 MHz[2] Add **2** x D5484A[1]	Remove 266 MHz[2] Add **2** x D6526A[1]	Remove 266 MHz[2] Add **2** x D6527A[1]	Remove 266 MHz[2] Add **2** x D6528A[1]	Remove 266 MHz[2] Add **2** x D6529A[1]
1x **300 MHz** D5484A		Add (2nd) D5484A[1]	Remove 300 MHz[2] Add **2** x D6526A[1]	Remove 300 MHz[2] Add **2** x D6527A[1]	Remove 300 MHz[2] Add **2** x D6528A[1]	Remove 300 MHz [2] Add **2** x D6529A[1]
1x **333 MHz** D6526A			Add 2nd D6526A[1]	Remove 333 MHz [2] Add **2** x D6527A[1]	Remove 333 MHz[2] Add **2** x D6528A[1]	Remove 333 MHz[2] Add **2** x D6529A[1]
1x **350 MHz** D6527A				Add (2nd) D6527A[1]	Remove 350 MHz[2] Add **2** x D6528A[1]	Remove 350 MHz[2] Add **2** x D6529Ar[1]
1x **400 MHz** D6528A					Add (2nd) D6528A[1]	Remove 400 MHz[2] Add **2** x D6529A[1]
1x **450 MHz** D6529A						Add 2nd D6529A [1]

1. Switch settings must be changed. Ensure that the latest BIOS version is installed.
2. Supplied processor must be removed.

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Table II - Pentium II to Pentium III Processor Upgrades

	Dual Processor Upgrade			
→	**Pentium II 2x450 MHz** (D6529A)	**Pentium III 2x450 MHz**[1] (D7510A)	**Pentium III 2x500 MHz** (D7511A)	**Pentium III 2x550 MHz** (D7512A)
Pentium II 1x266 MHz (D5483A), **1x300 MHz** (D5484A), **1x333 MHz** (D6526A), **1x350 MHz** (D6527A), **1x400 MHz** (D6528A)	refer to Table I - Pentium II Processor Upgrades on the previous page	Remove processor[3]. Add **2** x D7510[2]	Remove processor[3] Add **2** x D7511A[2]	Remove processor[3] Add **2** x D7512AA[2]
Pentium II 1x450 MHz (D6529A)	Add 2nd D6529A[2]	Remove D6529A[3] Add **2** x D7510A[2]	Remove 450 MHz[3] Add **2** x D7511A[2]	Remove 450 MHz[3] Add **2** x D7512A[2]
Pentium III 1x450 MHz (D7510A)		Add 2nd D7510[2]	Remove 450 MHz[3] Add **2** x D7511A[2]	Remove 450 MHz[3] Add **2** x D7512A[2]
Pentium III 1x500 MHz (D7511A)			Add 2nd D7511A[2]	Remove 500 MHz[3] Add **2** x D7512A[2]
Pentium III 1x500 MHz (D7512A)				Add 2nd D7512A[2]

1. DO NOT MIX a Pentium II 450 MHz processor (D6529A) with a Pentium III 450 MHz processor (D7510A).
2. Switch settings must be changed. Ensure that the latest BIOS version has been installed.
3. Supplied processor must be removed.

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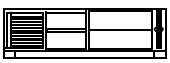
Cache Memory

512 KB of level-two cache memory is integrated in the Pentium II and Pentium III processor package.



Main Memory

The PC Workstation has three DIMM slots on the system board for installing main memory. Models are supplied with 64 MB or 128 MB of main memory. Memory upgrades are available in single 32 MB 64 MB, 128 MB and 256 MB ECC unbuffered or non-ECC SDRAM modules.

Memory can be upgraded to a maximum of 768 MB using multiples of (3 x 256 MB) of unbuffered or non-ECC SDRAM memory modules.

A serial EEPROM on each DIMM contains data on the memory speed. This information is read at each power on, and access time settings are set accordingly.

Video Memory

The graphics controller installed on the PC Workstation could be either a Matrox Productiva G100, a Matrox Millennium G200 or a Matrox Productiva G100-Quad.

The Matrox Productiva G100 has a total of 8 MB of video memory already supplied on the graphics controller board which cannot be upgraded.

The Matrox Millennium G200 has a 8 MB of SGRAM memory already supplied on the graphics controller board. Memory may be upgraded to a maximum of 16 MB by installing a 8 MB SGRAM memory module of onto the board.

The Matrox Productiva G100-Quad graphics card can support a multi-monitor environment allowing for a custom-configured display solution of up to four monitors at a time with a total of 16 MB of video memory (4 MB per monitor). There are three possible configurations: horizontally, vertically, or in a square.

For the above mentioned graphics controllers, no switch or jumper settings need to be changed (all jumpers should be left in the positions in which they were set by the manufacturer).

Identifying the LAN/SCSI Combination Board

On HP Kayak XA-s models with the LAN/SCSI combination board, one of two types of the HP 10/100 SCSI/LAN combination board are installed.

Both LAN/SCSI combination boards have the same functionalities, but there are some minor differences. Due to this reason, when replacing one board by another (refer to the note on page 15), caution should be taken to ensure you have the correct board.

Most HP Kayak XA-s models introduced around 07/98 (CPL) were preinstalled with the LAN/SCSI combination board (part number 5064-3616) that included one internal wide SCSI connector. This board does not include a Wake On Lan (WOL) connector. For the Remote Power On (RPO) feature to work, the ExtStart cable is used to connect between the External Start connector on the SCSI/LAN combination board and the HP External Start connector on the system board.

While, on the most recently introduced Kayak XA-s models, the SCSI/LAN combination board (part number 5064-6016), includes two SCSI connectors, one wide and one narrow. However, the internal narrow SCSI connector is not used on XA-s models (wide SCSI cable used). The SCSI/LAN combination board also includes a Wake On Lan (WOL) connector. The RPO feature is now made available through the WOL connector, and no longer through the HP External Start connector. The HP External Start connector is still used to report LAN activity and SCSI hard disk drive accesses to the front panel LEDs.

How to Identify Which LAN/SCSI Board is Installed

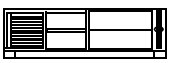
As mentioned earlier, there is no difference between the rear panels of the two SCSI/LAN boards. To identify which board is installed, you have to check the board for the above mentioned differences. To do that:

1. Shut down the PC Workstation, turn off the computer and disconnect the power cable. Remove the cover.
2. Check the part number:

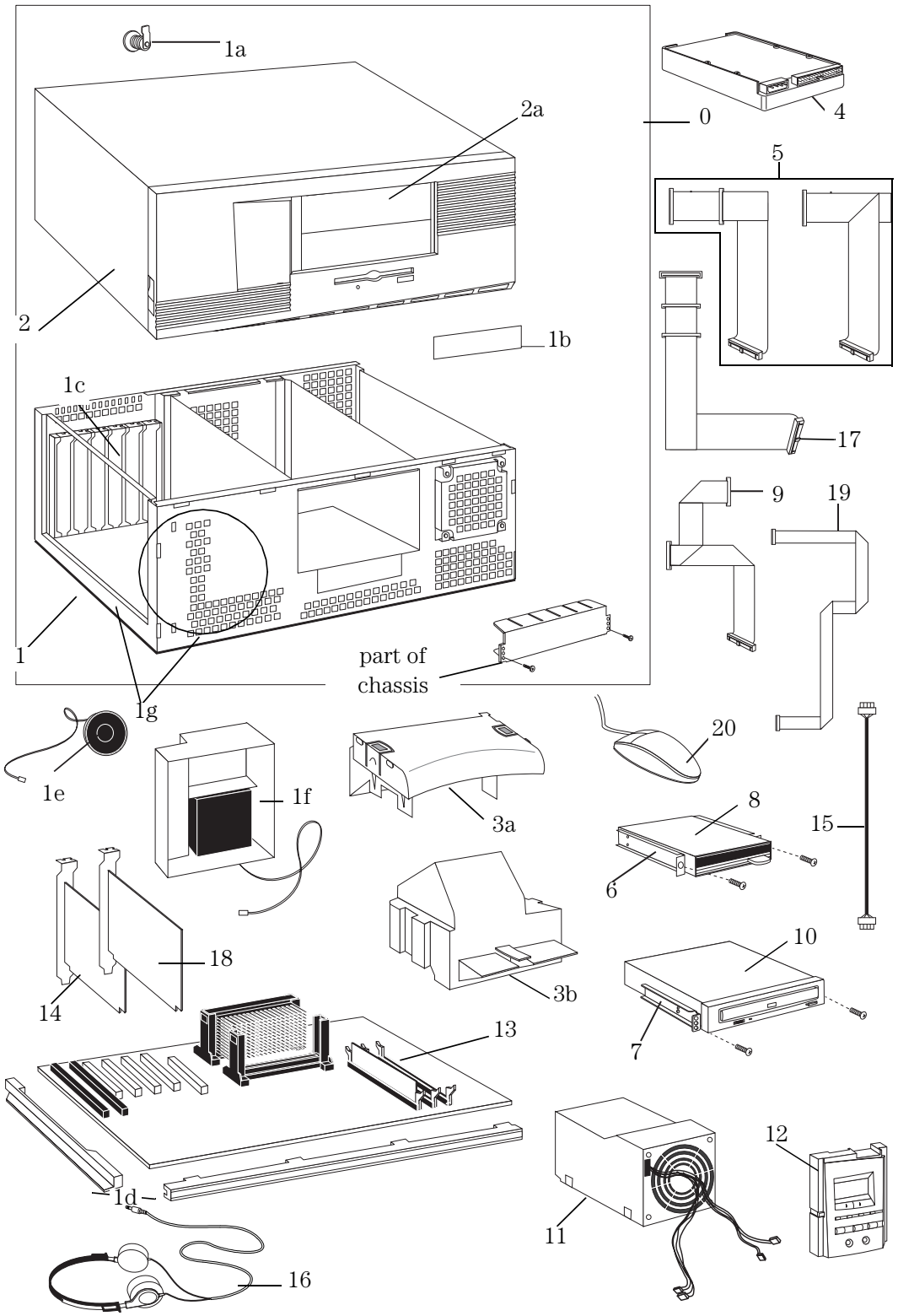
   5064-6016 — Includes two internal SCSI connectors (wide and narrow) and a WOL connector.

   5064-3616 — Includes one internal SCSI connector. The WOL connector is not available on this board.

If replacing one LAN/SCSI combination board model by the other model, refer to the note on page 15, for instructions.

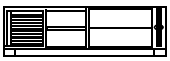


Parts and Part Numbers



Parts List

Item	Description	Repl. Part Number	Exchange Part Number
0	Box assembly (also includes items 3 &12)	5065-1250	—
1	Chassis assembly:	5064-3392	—
	a Cover lock assembly	5062-5590	—
	b Serial number label	5182-0030	—
	c I/O blank panel	45935-00004	—
	d System board guide	5042-1859	—
	e Speaker	5063-4559	—
	f I/O Guide Assembly with fan	5064-6055	—
	g I/O Card Guide and fan assembly	5064-6721	—
	Not shown		
	Hard Disk Drive Fan	5064-3349	—
	Front bezel assembly	5064-6058	—
	Bumper Foot	5042-2479	—
2	Cover Assembly	5064-3394	—
	a Filler Panel	5042-1178	—
3	a Upper processor airflow guide	5042-3001	—
	b Lower processor airflow guide + fan	5064-6059	—
4	Standard hard disk drive[1]		
	4.3 GB IDE 5400rpm	D2677-63001	D2677-69001
	6.5 GB IDE 7200rpm	D6452-63001	D6452-69001
	10.1-GB IDE 7200 rpm	D6627-63101	D6627-69001
	4.5 GB SCSI (3.5-inch) 7200 rpm	D5095-63001	D5095-69001
	9.1 GB UW-SCSI 7.2k rpm (Low Profile)	D6455-63001	D6455-69001
	4.5 GB IDE 7200rpm	D9796-63001	D9796-69001
	10.1 GB IDE 7200rpm	D9795-63001	D9795-69001
5	Ultra ATA hard disk cable		
	IDE CD-ROM cable	5064-6068	—
6	3.5-inch Rail kit	5063-7922	—
7	5.25-inch Rail kit	5002-4717	—
8	Flexible disk drive (bezel-less)	D2035-60172	—
9	Flexible disk drive cable	5183-2706	—
10	32× IDE CD-ROM drive	D4384-63001	D4384-69001
11	Power supply unit	0950-2892	—
12	Status panel with LED display	5064-6727	—
13	System board	See PC's system board parts list	



Parts List

Item	Description	Repl. Part Number	Exchange Part Number
14	Graphics board:		
	a Matrox Productiva G100 (8 MB)	5756-63501	D5756-69501
	b Not shown on previous page:		
	a Matrox Millennium G200 (8 MB)	5064-7478	D5685-69501
	b Matrox Productiva G100-Quad	5064-7427	D7980-69501
	Dual monitor cable (2)	5064-7426	—
	G100-Quad cable kit (2 Y-cables)	5183-9475	—
	c Gloria Synergy AGP	—	D6478-69501
15	CD-ROM to audio connector cable	5182-1857	—
16	Headset (supported only on models shipped before December, 1998)	5064-2673	—
17	SCSI cable (16-bit data) for SCSI models only	5183-2702	—
18	a HP 10/100 BT SCSI/PCI LAN Board[2]HP 10/100 BT SCSI/PCI LAN Board	5064-3616 5064-6016	D5755-69001 D6331-69301
19	a Internal LAN-to-CPU cable b WOL cable c Internal LAN-to-CPU cable	5183-2786 5183-2769 5183-6090	— — —
20	2-button Mouse with scrolling wheel	C4736-60101	—
Not Shown	a XA-s PC Workstation logo b HP Logo	5042-3022 5042-3030	— —
	Enhanced Keyboard	C4734-603xx[3]	
	Japanese Keyboard	C4729-60224	—
	Screw 6-32 for rails	2680-0311	—
	Screw 6-32 for card cage and chassis	2360-0565	—

1. For optional disk drive information, see the Accessories section of this *Service Handbook*.
2. If replacing the HP 10/100 BT SCSI/PCI LAN board 5064-3616 by the 5064-6016, the WOL cable is required and the Internal LAN-to-CPU cable 5183-2786 is replaced by the 5183-6090.
3. Where "xx" is the code for your national keyboard (refer to the Accessories section of this *Service Handbook*).

System Board Parts List

Description	Repl. Part Number	Exchange Part Number
System board:		
XA-s 6/xxx system board	D7981-60001	D5756-69001
Processor Terminator	5064-2680	
Processors:		
Intel Pentium II 266 MHz, 512 KB cache	5064-2652	—
Intel Pentium II 300 MHz, 512 KB cache	5064-3330	—
Intel Pentium II 333 MHz, 512 KB cache	5064-3697	—
Intel Pentium II 350 MHz, 512 KB cache	D6527-63001	D6527-69001
Intel Pentium II 400 MHz, 512 KB cache	D6528-63001	D6528-69001
Intel Pentium II 450 MHz, 512 KB cache	D6529-63001	D6529-69001
Intel Pentium III 450 MHz, 512 KB cache	D7510-63001	—
Intel Pentium III 500 MHz, 512 KB cache	D7511-63001	—
Intel Pentium III 550 MHz, 512 KB cache	D7512-63001	—
Voltage Regulator module (VRM)	0950-2837	—
Main memory modules:		
SDRAM 32MB 100MHz non-ECC	D6501-63001	—
SDRAM 64MB 100MHz non-ECC	D6502-63001	—
SDRAM 64MB 100 MHz ECC	1818-7140	D5365-69001
SDRAM 128MB 100 MHz non-ECC	D6503-63001	D6503-69001

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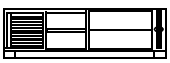
Manuals and Documentation

Description	Part Number	
User's Guide	D5750-90001	Paper document
Familiarization Guide	D5750-90901	Electronic file (PDF)
Technical Reference Manual	no number	Electronic file (PDF)
ConfigTailor CD-ROM	5011-6634	—



Beep, POST, and Error Codes

Beep Codes

If an error occurs during the POST, which prevents the PC Workstation from starting, and before the display device has been initialized, a series of beep codes are issued. Beep codes indicate that a fatal error has occurred and can be reported one after another if there is more than one detected error. In this case, the first detected error is the most important.

These codes are useful for identifying the error when the system is unable to display the error message.

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Beep Codes for the HP Kayak XU800

Number of Beeps	Description	Action to Take...
1	The memory refresh circuitry is faulty.	Check that: • Memory is installed correctly. • Correct memory modules are being used. If the error still occurs, replace the memory.
2	Parity error in the base memory (the first 64 KB block) of memory.	
3	Memory error.	
4	Clock error.	• Check that the system board is correctly cabled (power cables, processor and terminator). If the error still occurs, replace the system board.
5	Processor test error.	Check that: • Processor is correctly installed. • Termination card installed in processor slot 2 in a single processor system. If the error still occurs, replace: 1 Processor. 2 system board.
6	Input/Output (I/O) error.	• Keyboard is connected. • PCI card is installed correctly. • Termination card installed in processor slot 2 in a single processor system.
7	The processor on the system board generated an error.	• There is an installed processor(s). • Processor(s) is correctly installed in the processor slot(s). • Two installed processors have the same cache size (256 k). • Termination card is installed in processor slot 2 in a single processor system. • VRM is installed in the VRM socket in a dual processor system. If the error still occurs, replace the system board.
8	The system video card is either missing or faulty.	This is not a fatal error. Check that the video card is correctly installed and cabled. If missing, install the video card. If the error still occurs, replace it with a known working video card.

Number of Beeps	Description	Action to Take...
9	The BIOS Checksum value does not match the value encoded in the BIOS.	Perform the following actions in this order: 1 Press **F2** to enter the *Setup* program, then **F9** to load the default BIOS settings. 2 Clear the CMOS. 3 Flash the BIOS. If the error still occurs, replace the system board.
10	The CMOS RAM has failed.	Perform the following actions in this order: 1 Press **F2** to enter the *Setup* program, then **F9** to load the default BIOS settings. 2 Clear the CMOS. 3 Flash the BIOS. If the error still occurs, replace the system board.
11	The cache memory test failed.	Replace the processor(s).

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Beep Codes for the HP Kayak XM600

Beep Pattern	Beep Code	Numeric Code	Description	Recommended Action
— -- -- ---	1-2-2-3	16h	BIOS ROM check-sum failure	Inform HP support/HP reseller that system board is defective.
— --- — —	1-3-1-1	20h	DRAM refresh test failure1	Check the memory is correctly installed. If the error still occurs, replace the module.
— --- — ---	1-3-1-3	22h	8042 Keyboard controller test failure	Inform HP support/HP reseller that system board is defective.
— --- ---—	1-3-3-1	28h	Initialization of RDRAM has failed.	Verify that memory or continuity modules are installed.
— --- ---- —	1-3-4-1	2Ch	RAM failure on address line[1]....	Check the memory is correctly installed. If the error still occurs, replace the module.
— --- ---- ---	1-3-4-3	2Eh	RAM failure on data bits ....of low byte of memory bus1	Check the memory is correctly installed. If the error still occurs, replace the module.
—----— —	1-4-1-1	30h	RAM failure on data bits ....of high byte of memory bus1	Check the memory is correctly installed. If the error still occurs, replace the module.
-- — -- ---	2-1-2-3	46h	ROM copyright notice check failure	Inform HP support/HP reseller that system board is defective.
-- -- --- —	2-2-3-1	58h	Unexpected interrupts test failure	Inform HP support/HP reseller that system board is defective.
— --	1-2	98h	Video configuration failure or option ROMs check-sum failure	This can be caused by problems with the ROM on integrated video, an add-on video board or the ROM on a SCSI card. Inform reseller for the affected component.

1. Non-HP memory modules are not supported. Only HP memory modules should be used.

Beep Codes for Previous Models

The following beep codes are for all models before the HP Kayak XU800 and XM600 PC Workstations.

Beep Pattern	Beep Code	Numeric Code	Description
— -- -- ---	1-2-2-3	16h	BIOS ROM check-sum failure
— --- — —	1-3-1-1	20h	DRAM refresh test failure
— --- — ---	1-3-1-3	22h	8742 Keyboard controller test failure
	1-3-3-1	28h	Autosize DRAM
	1-4-4-1	30h	RAM failure on data bits of high byte of memory bus
— --- ---- —	1-3-4-1	2Ch	RAM failure on address line *xxxx*[1]
— --- ---- ---	1-3-4-3	2Eh	RAM failure on data bits *xxxx*[1] of low byte of memory bus
-- — -- ---	2-1-2-3	46h	ROM copyright notice check failure
-- -- --- —	2-2-3-1	58h	Unexpected interrupts test failure
— --	1-2	98h	Video configuration failure or option ROMs check-sum failure
-	1	B4h / F4h	This does not indicate an error. There is one short beep before system startup.
---- -- ----- -- --	4-2-4-4		Crisis recovery flash error[2]

1. If the BIOS detects error 2C or 2E (base 512K RAM error), it displays an additional word-bitmap (*xxxx*) indicating the address line or bits that failed. For example, "2C 0002" means address line 1 (bit one set) has failed. "2E 1020" means data bits 12 and 5 (bits 12 and 5 set) have failed in the lower 16 bits.
2. For more information, refer to Appendix B.

POST and Error Codes

A list of all POST (Power-On Self-Test) and error codes are available through electronic files from the Support Center.

If you wish to view the POST details, press the Esc key when the Kayak logo is being displayed at power on, and the checkpoint code of the test currently in progress will appear in the upper right corner of the screen. When POST is completed, the HP Summary Screen will appear.

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POST and Error Codes

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Recovery Boot Active Procedures

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HP Kayak XU800 PC Workstation BIOS Recovery

NOTE: The following BIOS recovery (Crisis Mode) is for the HP Kayak XU800 PC Workstation models only.

If for some reason the BIOS is corrupted and the standard flash cannot be used, use the BIOS Recovery Mode (exceptional BIOS recovery operation) to restore the BIOS.

The following recovery operation is also documented in the flash.txt file which is supplied with the downloaded BIOS files.

To restore the BIOS:

1 Copy the BIOS files on to the floppy disk.

2 Rename the file AI11xx.rom to amiboot.rom.

3 Shut down the PC Workstation.

4 Power off the PC Workstation and remove the power cord and cables.

5 Remove the cover.

6 Set switch 1 to the DOWN position.

7 Insert the floppy disk into the floppy disk drive.

8 Reconnect the power cord and switch on the PC Workstation.

9 The PC Workstation boots from the floppy disk, then flashes the BIOS. However, it should be noted that during the flash process, the screen remains blank. MaxiLife will display a message on the LCD panel “RECOVERY MODE”.

10 The recovery process is finished when there are four beeps.

11 Power off the PC Workstation. Remove the floppy disk from the drive. Remove the power cord.

12 Set switch 1 back to the UP position.

13 Replace the cover, reconnect the power cord, then reboot the PC Workstation.

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HP Kayak XM600 PC Workstation Desktop and Minitower BIOS Recovery

NOTE: The following BIOS recovery (Crisis Mode) is for the HP Kayak XM600 Desktop and Minitower PC Workstations only.

If for some reason the BIOS is corrupted and the standard flash cannot be used, use the BIOS Recovery Mode (exceptional BIOS recovery operation) to restore the BIOS. To do this:

1 Obtain a bootable DOS floppy disk.

2 Copy the BIOS files on to the floppy disk.
The latest system BIOS (standard flash operation) can be downloaded from HP's Support Web site at: http://www.hp.com/go/kayaksupport. Then select HP Kayak XM600 PC Workstation.
Instructions on updating the BIOS are supplied with the downloaded BIOS files and a BIOS flash utility (flash.txt).

3 Create (or edit) the file, AUTOEXEC.BAT This should contain a single line of text: "phlash /c /mode=3 IC1105US.FUL"
(rename the BIOS filename with the one on the floppy disk).

4 Shut down the PC Workstation.

5 Power off the PC Workstation and remove the power cord.

6 Remove the cover.

7 Set switch 7 to the ON position.

8 Insert the floppy disk into the floppy disk drive.

9 Reconnect the power cord and switch on the PC Workstation.

10 The PC Workstation boots from the floppy disk, then flashes the BIOS. However, it should be noted, that during the flash process, the screen remains blank.

11 The recovery process is finished when there is one very long beep.

12 Power off the PC Workstation. Remove the floppy disk from the drive. Remove the power cord.

13 Set switch 7 back to the OFF position.

14 Replace the cover, reconnect the power cord, then reboot the PC Workstation.

Force BIOS flash, Switch 9 (XA models) or 10 (XW and XA-s models) Down Position

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WARNING: WARNING: For Kayak XU Series 03xx, XA-s Series 02xx and XA Series 05xx, a specific 'Mini-Dos' bootable disk has to be used. An image of this 'Mini-Dos' bootable floppy can be obtained from the Alps/Info server (not available from the external web site). If you do not have access to the Alps/Info server, contact your escalation team.

If, for example, during a BIOS flash, the procedure is interrupted by a power failure, and the system does not restart, then you can force a BIOS flash. However, it should be noted that during the procedure, there is no image on the screen, nor access to the keyboard or mouse (only "vital" devices that are required to boot on the floppy device are initialized).

To force a BIOS flash, do the following steps:

1 Ensure that you have created a DOS-bootable diskette. This floppy diskette contains all the recovery and system BIOS programming software (phlash.exe, platform.bin and hb1xxxyy.Ful). Include the flash command in the autoexec.bat, for example: phlash /mode=3 hb1xxxyy.Ful

2 Turn off the computer.

3 Set Switch 9 (XA models) or,
Set Switch 10 (XW, XU and XA-s models) to the DOWN position (=on).

4 Insert the DOS-bootable diskette (refer to the above warning).

5 Power on the computer.

6 During the recovery process, short beeps are emitted. The recovery process is finished when there is a much longer beep (approximately around 1 to 2 minutes).

7 Power off the computer. Press the power ON/OFF button (for about 5 seconds), until the ON/OFF light switches off. Set the switch 10 to the UP position (=off).

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