HP PC Product Browser

HP Mobile PCs

HP Vectra PCs
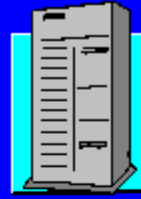
HP NetServers

HP Monitors

Welcome to
HP PC Product Browser.
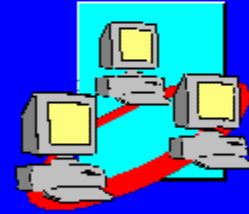Click on any icon
to access information.

HP Handheld
Products

Configuration Guide

Help

HP Network
Connectivity
Products

WELCOME

HP PC Product and Pricing Browser provides electronic access to product information, along with local currency pricing information.

This tool is based on WINHELP, the Help engine supplied by Microsoft with MSWindows.   Its hypertext facility allows the user to move easily from one point of the documentation to another just by clicking on keywords.

This tool forms part of HP PC Electronic Sales Tools.

Prices contained in this tool are local currency list prices, valid for one month.

Support

If you have any comments on or problems with running this program, please contact your normal HP local support

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HP PC Electronic Sales Tools have been developed by EXECUTIVE SYSTEMS

HP PC Electronic Sales Tools

HP PC Electronic Sales Tools for Windows contains three applications:

- Product and Pricing Browser	Contains product information on all HP PC products (PCs, monitors, servers, networking products, handhelds) with links to local currency pricing
- Quotation Builder	Allows building of a quotation on all above products incorporating customer and reseller discounts
- Price Lookup	Price list in local currency (also accessible within the other two applications)

USING HP PC Product Browser

Selecting Product Information

On entering the system, you are presented with a graphical representation of the main product/information areas. Clicking on any icon gives you access to the information relating to that area. For example, clicking on the icon for HP NetServers brings up a menu allowing you to choose between families of NetServers.

Areas available:
HP Vectra PCs	access to Vectra product info and pricing
HP NetServers	access to NetServer product info and pricing
HP Mobile PCs	access to Mobiles product info and pricing
HP Handheld computers	access to Handheld product info and pricing
HP Monitors	access to Monitors product info and pricing
HP Network Connectivity	access to Network Connectivity product info and pricing
Configuration Guide	access to configuration info on all above products
Help	access to this Help file
Central "Welcome" box	access to general info on HPPC Electronic Sales Tools, plus Support and Copyright info

Reading Product Information

Having selected, for example, the HP NetServer LS Series from the HP NetServers section of the Welcome screen, you are presented with the information contained in the HP NetServer LS Series data sheet. You can scroll up and down the information using the scroll bar, or click on the headings "Models", "Features", "Accessories", "Specifications", "Positioning" or "Benefits" to move directly to that section of the data sheet. In addition, clicking on the specific model name in the heading gives you rapid access to the information contained in the HP PC Products Configuration Guide for that product.

Selecting a Help topic (underlined text)

Clicking on underlined text gives access to further information which is contained behind that topic. To select a Help topic using the mouse, point to any underlined text and click the mouse button when the mouse pointer changes to a hand icon. Alternatively, using the keyboard, press TAB to move to the subsequent underlined text and press ENTER.

There are two types of underlined text. Clicking on a solid underline provides a rapid "go to" another section of information.   Clicking on a dotted underline brings up a pop-up box which stays visible until you click the mouse button or press any key.

Accessing Pricing Information

All product numbers have a dotted underline. Clicking on a product number brings up a box with the product description and number along with local currency pricing for the current month.

Moreover, at any time, by pressing the **Price Lookup** button you can access the complete PC products price list and do a search on any text string contained in either the product-number, description or local currency price.

General Points

Contents   -   returns to the Welcome screen
Back   -   returns to the previous topic
History   -   gives a list of previous topics and allows you to move rapidly to any one of them
File Print   -   allows printing of any topic
Edit Copy -   allows copying of any topic or part of any topic for pasting into another document

HP NetServers

HP NetServer LS
HP NetServer LH
HP NetServer LC
HP NetServer Rack Solutions
HP PowerWise 1000 and 2100 VA UPS
HP PowerWise L600 and L900 UPS
HP NetServer Management

HP Vectra PCs

HP Vectra X-Line PCs
[HP Vectra XU PCs](#)
[HP Vectra XM2 and XM PCs](#)

HP Vectra V-Line PCs
[HP Vectra VE, VL and VT PCs](#)

HP Mobile PCs

HP OmniBook 600 PC
HP OmniBook 5000 PC

HP Handheld Computers

HP 200LX Palmtop PC
HP 1000CX Palmtop PC
HP OmniGo 100 PC
HP Scientific Calculators
HP Business Calculators

Configuration Guide for HP PC Products

Information subject to change without notice

Hewlett-Packard PC Products

This Quick Reference and HP PC Products Configuration Guide is designed to help you sell and configure Hewlett-Packard PC products. It contains both product features and configuration information.

HP NetServers
HP NetServer 5/133 LS2
HP NetServer 5/100 LS2
HP NetServer 5/133 LS
HP NetServer 5/100 LS
HP NetServer 5/100 LH2
HP NetServer 5/133 LH
HP NetServer 5/100 LH
HP NetServer 5/75 LH
HP NetServer 5/133 LC
HP NetServer 5/100 LC
HP NetServer 5/75 LC
Rack Cabinet for HP NetServers
HP PowerWise Uninterruptible Power Supplies

HP Vectra X-Line PCs
HP Vectra XU 6/150 PC
HP Vectra XU 5/133 PC
HP Vectra XU 5/120 PC
HP Vectra XM 5/133 PC
HP Vectra XM 5/120 PC
HP Vectra XM 5/100 PC
HP Vectra XM 5/90 PC
HP Vectra XM 5/75 PC
HP Vectra XM2 4/100i PC
HP Vectra XM2 4/66i PCs

HP Vectra V-Line PCs
HP Vectra VT 6/150 PC
HP Vectra VL Series 4 5/133 PC
HP Vectra VL Series 4 5/120 PC
HP Vectra VL Series 4 5/100 PC
HP Vectra VL Series 4 5/90 PC
HP Vectra VE Series 2 5/133 PC
HP Vectra VE Series 2 5/100 PC
HP Vectra VE Series 2 5/75 PC
HP Vectra VE 4/100 PC
HP Vectra VE 4/66 PC

HP Mobile PCs
HP OmniBook 5000CTS 5/120 PC
HP OmniBook 5000CT/CTS 5/90 PC
HP OmniBook 5000C/CT VL 5/90 PC
HP OmniBook 600CT 4/75 PC
HP OmniBook 600C 4/75 PC

HP Handheld Products
HP 200LX Palmtop PC
HP 1000CX Palmtop PC
HP OmniGo 100 Organiser Plus

HP Calculators
HP Business Calculators
HP Scientific and Graphic Calculators
HP Calculator Accessories

HP Monitors
HP Monitors
HP PC Video Compatibility Matrix

HP PC Product-Specific Accessories
HP PC Upgrades
HP PC Product Line Accessories
HP Accessories for Installed Base
HP Network Connectivity Products
HP Storage Products
Ordering Information

Memory Upgrade Path:
Add any of the following in any order to the base memory, or remove base memory and add any of the following, to a maximum of 384 MB (12 slots available), or add memory expansion board (D2971B) and add any of the following to a maximum of 768 MB (24 slots):

4-MB, 36-bit, 70 ns Memory Modules	Product # D2974A (must add in fours)
8-MB, 36-bit, 70 ns Memory Modules	Product # D3577A (must add in fours)
16-MB, 36-bit, 70 ns Memory Modules	Product # D2297A (must add in fours)
32-MB, 36-bit, 70 ns Memory Modules	Product # D3578A (must add in fours)

Memory Upgrade Path:
Add any of the following in any order to the base memory, or remove base memory and add any of the following, to a maximum of 192 MB (6 slots available):

8-MB, 36-bit, ECC 70 ns Memory Modules	Product # <u>D3597A</u> (must add in pairs)
16-MB, 36-bit, ECC 70 ns Memory Modules	Product # <u>D3592A</u> (must add in pairs)
32-MB, 36-bit, ECC 70 ns Memory Modules	Product # <u>D3593A</u> (must add in pairs)
4-MB, 36-bit, 70 ns Memory Modules	Product # <u>D2974A</u> (must add in pairs)
8-MB, 36-bit, 70 ns Memory Modules	Product # <u>D3577A</u> (must add in pairs)
16-MB, 36-bit, 70 ns Memory Modules	Product # <u>D2297A</u> (must add in pairs)
32-MB, 36-bit, 70 ns Memory Modules	Product # <u>D3578A</u> (must add in pairs)

To benefit from ECC memory, only ECC SIMMs must be installed.

Memory Upgrade Path:
Add any of the following in any order to the base memory to a maximum of 192 MB (4 slots available):
   Pair of 4-MB, 36-bit, 70 ns Memory Modules   Product # <u>D2974A</u> (×2)
   Pair of 8-MB, 36-bit, 70 ns Memory Modules   Product # <u>D3577A</u> (×2)
   Pair of 16-MB, 36-bit, 70 ns Memory Modules   Product # <u>D2297A</u> (×2)
   Pair of 32-MB, 36-bit, 70 ns Memory Modules   Product # <u>D3578A</u> (×2)

Memory Upgrade Path:
Add any of the following in any order to the base memory, or remove base memory and add any of the following, to a maximum of 256 MB:

    16-MB, 64-bit, ECC, dual-in-line Memory Module   Product # D3556A
    32-MB, 64-bit, ECC, dual-in-line Memory Module   Product # D3555A
    64-MB, 64-bit, ECC, dual-in-line Memory Module   Product # D3554A

Memory Upgrade Path:
Add any of the following in pairs in any order to the base memory, or remove base memory and add any of the following in pairs, to a maximum of 256 MB:

4-MB, 32-bit, 70 ns Memory Module	Product # D2690A (×2)
8-MB, 32-bit, 70 ns Memory Module	Product # D2691A (×2)
16-MB, 32-bit, 70 ns Memory Module	Product # D2899A (×2)
32-MB, 36-bit, 70 ns Memory Module	Product # D3578A (×2)

Memory Upgrade Path:
Add any of the following in any order to the base memory, or remove base memory and add any of the following, to a maximum of 192 MB. 3rd and 4th SIMMs modules must be of same capacity;
5th and 6th SIMMs modules must be of same capacity.

   4-MB, 32-bit, 70 ns Memory Module   Product # <u>D2690A</u>
   8-MB, 32-bit, 70 ns Memory Module   Product # <u>D2691A</u>
   16-MB, 32-bit, 70 ns Memory Module   Product # <u>D2899A</u>
   32-MB, 36-bit, 70 ns Memory Module   Product # <u>D3578A</u>

SIMMs modules may be added singly or in pairs. However, there is a system performance gain when added in pairs.

Memory Upgrade Path:
Add any of the following in ascending order to the base memory, or remove base memory and add any of the following in ascending order, to a maximum of 96 MB:

4-MB, 32-bit, 70 ns Memory Module	Product # D2690A
8-MB, 32-bit, 70 ns Memory Module	Product # D2691A
16-MB, 32-bit, 70 ns Memory Module	Product # D2899A
32-MB, 36-bit, 70 ns Memory Module	Product # D3578A

Memory Upgrade Path:
Add any of the following in any order to the base memory, or remove base memory and add any of the following, to a maximum of 256 MB:

16-MB, 64-bit, dual-in-line Memory Module	Product # D3553A
32-MB, 64-bit, dual-in-line Memory Module	Product # D3555A
64-MB, 64-bit, dual-in-line Memory Module	Product # D3554A

Memory Upgrade Path:
Add any of the following in any order to the base memory, or remove base memory and add any of the following, to a maximum of 128 MB:

8-MB (4-MB×2), 60 ns EDO Memory Module   Product # D3646B
16-MB (8-MB×2), 60 ns EDO Memory Module   Product # D3647B
32-MB (16-MB×2), 60 ns EDO Memory Module   Product # D3648B

Memory Upgrade Path:
Add any of the following in any order to the base memory, or remove base memory and add any of the following, to a maximum of 64 MB:

4-MB, 32-bit, 70 ns Memory Module	Product #	D2690A
8-MB, 32-bit, 70 ns Memory Module	Product #	D2691A
16-MB, 32-bit, 70 ns Memory Module	Product #	D2899A
32-MB, 36-bit, 70 ns Memory Module	Product #	D3578A

HP NetServer 5/133 LS2

Information subject to change whithout notice

Model Information

Model number	Model 1	Model 1-Array 1
Product number	D3608A	D3609A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB
CD-ROM drive	Yes	Yes
Hard disk capacity	None	None
Hard disk access speed	N/A	N/A
Hard disk controller	IDE, 2x PCI Fast and Wide SCSI-2	IDE, 2 x PCI Fast and Wide SCSI-2
Standard memory	64 MB - ECC 2	64 MB - ECC 2
HP NetServer Navigator	Bootable CD with: NetServer Assistant 2.3; NetServer Configuration Assistant; NetServer Diagnostic Assistant; NetServer Information Assistant	

Processor Type

	Intel Pentium® 133-MHz Dual SMP
Internal clock speed	133 MHz
Processor bus speed	66 MHz
Internal cache	16-KB integrated cache memory (8-KB for data + 8-KB for instructions)

Memory

Maximum	768 MB - ECC
Bus width/speed	64 bit/clock independent
Second-level cache	1-MB write-back secondary cache memory (for each processor)

Video

Memory	512-KB standard - upgradeable to 1 MB
Resolution	Maximum with 512-KB video memory: 1024 x 768 x 16 colours, non-interlaced
	Maximum with 1-MB video memory: 1024 x 768 x 256 colours, non-interlaced

Package Type

Tower (HP Power Cabinet)

Processor Upgrades 3

To upgrade to 3-way 5/133 MHz:	Pentium 133-MHz Processor Board	Product # D3613A
To upgrade to 4-way 5/133 MHz:	Dual Pentium 133-MHz Processor Board	Product # D3614A

Accessory Slots

Bus master slots	Up to 9 (3 PCI, 4 EISA, 2 shared PCI/EISA)

I/O Ports

Standard	2 serial; 1 parallel
Mouse and keyboard support	2 × Mini-DIN
SCSI	Fast and Wide SCSI-2 (on Model 1-Array)
Video	15 pin

Mass Storage

Mass storage shelves	8 front-accessible 5¼", half-height (1 used for CD-ROM, 1 standard half-height, 6 hot-pluggable shelves)
Maximum internal data storage	24 GB

LAN Accessories

	HP 10/100VG Selectable EISA Adapter (bus master)	Product # J2577A
	HP 10/100VG Selectable PCI Adapter (slave)	Product # J2585A

Power Supply

Autoranging 90 to 135 V or180 to 265V
(470 W continuous, 530 W peak)

Memory Upgrade Path

1 Includes a PCI Disk Array Controller with Dual Fast SCSI-2 channels
2 8 x 8-MB SIMMs
3 All LS models have 2 slots for processor cards.
  LS2 models come with 1 SMP card; LS1 models come with 1 single processor card.
  Single and dual cards are supported at the same time.
  Processor frequency for the 2 cards must be identical.

HP NetServer 5/100 LS2

Information subject to change whithout notice

Model Information

Model number	Model 1	Model 1-Array 1
Product number	D3338A	D3339A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB
CD-ROM drive	Yes	Yes
Hard disk capacity	None	None
Hard disk access speed	N/A	N/A
Hard disk controller	IDE, 2 x PCI Fast and Wide SCSI-2	IDE, 2 x PCI Fast and Wide SCSI-2
Standard memory	64 MB - ECC 2	64 MB - ECC 2
HP NetServer Navigator	Bootable CD with: NetServer Assistant 2.3; NetServer Configuration Assistant; NetServer Diagnostic Assistant; NetServer Information Assistant	

Processor Type — Intel Pentium 100-MHz Dual SMP

Internal clock speed	100 MHz
Processor bus speed	66 MHz
Internal cache	16-KB integrated cache memory (8-KB for data + 8-KB for instructions)

Memory

Maximum	768 MB - ECC
Bus width/speed	64 bit/clock independent
Second-level cache	1-MB write-back secondary cache memory (for each processor)

Video

Memory	512-KB standard - upgradeable to 1 MB
Resolution	Maximum with 512-KB video memory: 1024 x 768 x 16 colours, non-interlaced
	Maximum with 1-MB video memory: 1024 x 768 x 256 colours, non-interlaced

Package Type — Tower (HP Power Cabinet)

Processor Upgrades 3

To upgrade to 3-way 5/100 MHz:	Pentium 100-MHz Processor Board	Product # D3574A
To upgrade to 4-way 5/100 MHz:	Dual Pentium 100-MHz Processor Board	Product # D3575A

Accessory Slots

Bus master slots	Up to 9 (3 PCI, 4 EISA, 2 shared PCI/EISA)

I/O Ports

Standard	2 serial; 1 parallel
Mouse and keyboard support	2 × Mini-DIN
SCSI	Fast and Wide SCSI-2 (on Model 1-Array)
Video	15 pin

Mass Storage

Mass storage shelves	8 front-accessible 5¼", half-height (1 used for CD-ROM, 1 standard half-height, 6 hot-pluggable shelves)
Maximum internal data storage	24 GB

LAN Accessories

	HP 10/100VG Selectable EISA Adapter (bus master)	Product # J2577A
	HP 10/100VG Selectable PCI Adapter (slave)	Product # J2585A

Power Supply — Autoranging 90 to 135 V or180 to 265V
(470 W continuous, 530 W peak)

Memory Upgrade Path

1 Includes a PCI Disk Array Controller with Dual Fast SCSI-2 channels
2 8 x 8-MB SIMMs
3 All LS models have 2 slots for processor cards.
   LS2 models come with 1 SMP card; LS1 models come with 1 single processor card.
   Single and dual cards are supported at the same time.
   Processor frequency for the 2 cards must be identical.

HP NetServer 5/133 LS

Information subject to change whithout notice

Model Information

Model number	Model 1	Model 1-Array 1	Model 4200-Array 1	Model 8400-Array 1
Product number	D3605A	D3607A	D3628A	D3629A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB	3½", 1.44 MB	3½", 1.44 MB
CD-ROM drive	Yes	Yes	Yes	Yes
Hard disk capacity	None	None	2 x 2.1 GB - Hot Swap	2 x 4.2 GB - Hot Swap
Hard disk access speed	N/A	N/A	<11 ms	<11 ms
Hard disk controller	IDE, 2 x PCI Fast and Wide SCSI-2	IDE, 2 x PCI Fast and Wide SCSI-2	IDE, 2 x PCI Fast and Wide SCSI-2	IDE, 2 x PCI Fast and Wide SCSI-2
Standard memory	32 MB - ECC 2	32 MB - ECC 2	64 MB - ECC 3	64 MB - ECC 3
HP NetServer Navigator	Bootable CD with: NetServer Assistant 2.3; NetServer Configuration Assistant; NetServier Diagnostic Diagnostic Assistant; NetServer Information Assistant			

Processor Type

	Intel Pentium 133-MHz
Internal clock speed	133 MHz
Processor bus speed	66 MHz
Internal cache	16-KB integrated cache memory (8-KB for data + 8-KB for instructions)

Memory

Maximum	768 MB - ECC
Bus width/speed	64 bit/clock independent
Second-level cache	512-KB write-back secondary cache memory

Video

Memory	512-KB standard - upgradeable to 1 MB
Resolution	Maximum with 512-KB video memory: 1024 x 768 x 16 colours, non-interlaced
	Maximum with 1-MB video memory: 1024 x 768 x 256 colours, non-interlaced

Package Type — Tower (HP Power Cabinet)

Processor Upgrades 4

To upgrade to dual 5/133 MHz:	Pentium 133-MHz Processor Board	Product # D3613A
To upgrade to 3-way 5/133 MHz:	Dual Pentium 133-MHz Processor Board	Product # D3614A
To upgrade to 4-way 5/133 MHz:	2 x Dual Pentium 133-MHz Processor Board	Product # D3614A (x 2)

Accessory Slots

Bus master slots	Up to 9 (3 PCI, 4 EISA, 2 shared PCI/EISA)

I/O Ports

Standard	2 serial; 1 parallel
Mouse and keyboard support	2 × Mini-DIN
SCSI	Fast and Wide SCSI-2 (on Model 1-Array)
Video	15 pin

Mass Storage

Mass storage shelves	8 front-accessible 5¼", half-height (1 used for CD-ROM, 1 standard half-height, 6 hot-pluggable shelves)
Maximum internal data storage	24 GB

LAN Accessories

	HP 10/100VG Selectable EISA Adapter (bus master)	Product # J2577A
	HP 10/100VG Selectable PCI Adapter (slave)	Product # J2585A

Power Supply — Autoranging 90 to 135 V or180 to 265V (470 W continuous, 530 W peak)

Memory Upgrade Path

1 Includes a PCI Disk Array Controller with Dual Fast SCSI-2 channels
2 4 x 8-MB SIMMs
3 8 x 8-MB SIMMs
4 All LS models have 2 slots for processor cards.
  LS2 models come with 1 SMP card; LS1 models come with 1 single processor card.

Single and dual cards are supported at the same time.
Processor frequency for the 2 cards must be identical.

HP NetServer 5/100 LS

Information subject to change whithout notice

Model Information

Model number	Model 1	Model 2100	Model 1-Array 1	Model 4200-Array 1	Model 8400-Array 1
Product number	D3334A	D3336A	D3337A	D3626A	D3627A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB	3½", 1.44 MB	3½", 1.44 MB	3½", 1.44 MB
CD-ROM drive	Yes	Yes	Yes	Yes	Yes
Hard disk capacity	None	2.1 GB - Hot Swap	None	2 x 2.1 GB - Hot Swap	2 x 4.2 GB - Hot Swap
Hard disk access speed	N/A	<11 ms	N/A	<11 ms	<11 ms
Hard disk controller	IDE, 2 x PCI Fast and Wide SCSI-2	IDE, 2 x PCI Fast and Wide SCSI-2	IDE, 2 x PCI Fast and Wide SCSI-2	IDE, 2 x PCI Fast and Wide SCSI-2	IDE, 2 x PCI Fast and Wide SCSI-2
Standard memory	32 MB - ECC 2	32 MB - ECC 2	32 MB - ECC 2	64 MB - ECC 3	64 MB - ECC 3
HP NetServer Navigator	Bootable CD with: NetServer Assistant 2.3; NetServer Configuration Assistant; NetServier Diagnostic Diagnostic Assistant; NetServer Information Assistant				

Processor Type   Intel Pentium 100-MHz
Internal clock speed   100 MHz
Processor bus speed   66 MHz
Internal cache   16-KB integrated cache memory (8-KB for data + 8-KB for instructions)
Memory
Maximum   768 MB - ECC
Bus width/speed   64 bit/clock independent
Second-level cache   512-KB write-back secondary cache memory
Video
Memory   512-KB standard - upgradeable to 1 MB
Resolution   Maximum with 512-KB video memory: 1024 x 768 x 16 colours, non-interlaced
           Maximum with 1-MB video memory: 1024 x 768 x 256 colours, non-interlaced
Package Type   Tower (HP Power Cabinet)
Processor Upgrades 4

To upgrade to dual 5/100 MHz:	Pentium 100-MHz Processor Board	Product # D3613A	Product # D3574A
To upgrade to 3-way 5/100 MHz:	Dual Pentium 100-MHz Processor Board	Product # D3614A	Product # D3575A
To upgrade to 4-way 5/100 MHz:	2 x Dual Pentium 100-MHz Processor Board	Product # D3614A (x 2)	Product # D3575A (x 2)

Accessory Slots
Bus master slots   Up to 9 (3 PCI, 4 EISA, 2 shared PCI/EISA)
I/O Ports
Standard   2 serial; 1 parallel
Mouse and keyboard support   2 × Mini-DIN
SCSI   Fast and Wide SCSI-2 (on Model 1-Array)
Video   15 pin
Mass Storage
Mass storage shelves   8 front-accessible 5¼", half-height (1 used for CD-ROM, 1 standard half-height, 6 hot-pluggable shelves)
Maximum internal data storage   24 GB
LAN Accessories   HP 10/100VG Selectable EISA Adapter (bus master)   Product # J2577A
      HP 10/100VG Selectable PCI Adapter (slave)   Product # J2585A
Power Supply   Autoranging 90 to 135 V or180 to 265V
      (470 W continuous, 530 W peak)

Memory Upgrade Path

1 Includes a PCI Disk Array Controller with Dual Fast SCSI-2 channels
2 4 x 8-MB SIMMs
3 8 x 8-MB SIMMs

4 All LS models have 2 slots for processor cards.
LS2 models come with 1 SMP card; LS1 models come with 1 single processor card.

Single and dual cards are supported at the same time.

Processor frequency for the 2 cards must be identical.

HP NetServer 5/100 LH2

Information subject to change whithout notice

Model Information

Model number	Model 1	Model 1-Array 1
Product number	D3570A	D3571A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB
CD-ROM drive	Yes	Yes
Hard disk capacity	None	None
Hard disk access speed	N/A	N/A
Hard disk controller	IDE, 2 x PCI Fast SCSI-2	IDE, 2 x PCI Fast and Wide SCSI-2
Standard memory	32 MB - Manageable ECC SIMMs	32 MB - Manageable ECC SIMMs
HP NetServer Navigator	Bootable CD with: NetServer Assistant 2.3; NetServer Configuration Assistant; NetServer Diagnostic Assistant; NetServer Information Assistant	

Processor Type	Intel Pentium 100-MHz Dual SMP
Internal clock speed	100 MHz
Processor bus speed	66 MHz
Internal cache	16-KB integrated cache memory (8-KB for data + 8-KB for instructions)
Memory	
Maximum	192 - ECC
Bus width/speed	64 bit/33 MHz
Second-level cache	512-KB write-back secondary cache memory (shared)
Video	
Memory	512 KB
Resolution	Maximum: 1024 x 768 x 16 colours, non-interlaced
Package Type	Tower (HP Power Cabinet)
Processor Upgrades	Not applicable
Accessory Slots	
Bus master slots	9 (4 PCI 2, 4 EISA, 1 shared PCI/EISA)
I/O Ports	
Standard	2 serial; 1 parallel
Mouse and keyboard support	2 × Mini-DIN
SCSI	Fast and Wide SCSI-2 (on Model 1-Array)
Video	15 pin
Mass Storage	
Mass storage shelves	8 front-accessible 5¼", half-height (1 used for CD-ROM, 1 standard half-height, 6 hot-pluggable shelves)
Maximum internal data storage	24 GB

LAN Accessories	HP PC LAN Adapter/16TP Plus	Product # 27247B
	HP PC LAN Adapter/16TL Plus	Product # 27252A
	HP 10/100VG Selectable EISA Adapter (bus master)	Product # J2577A
	HP 10/100VG Selectable PCI Adapter (slave)	Product # J2585A
Power Supply	Autoranging 90 to 132 V or180 to 264V (350 W continuous, 386 W peak)	

Memory Upgrade Path

1 Includes a PCI Disk Array Controller with Dual Fast and Wide SCSI-2 channels.
2 Pre-installed PCI Disk Array Controller on Model 1-Array takes one slot.

HP NetServer 5/133 LH

Information subject to change whithout notice

Model Information

Model number	Model 1	Model 1-Array 1
Product number	D3620A	D3621A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB
CD-ROM drive	Yes	Yes
Hard disk capacity	None	None
Hard disk access speed	N/A	N/A
Hard disk controller	IDE, 2 x PCI Fast SCSI-2	IDE, 2 x PCI Fast and Wide SCSI-2
Standard memory	32 MB - Manageable ECC SIMMs	32 MB - Manageable ECC SIMMs
HP NetServer Navigator	Bootable CD with: NetServer Assistant 2.3; NetServer Configuration Assistant; NetServer Diagnostic Assistant; NetServer Information Assistant	

Processor Type — Intel Pentium 133-MHz
Internal clock speed — 133 MHz
Processor bus speed — 66 MHz
Internal cache — 16-KB integrated cache memory (8-KB for data + 8-KB for instructions)

Memory
Maximum — 192 - ECC
Bus width/speed — 64 bit/66 MHz
Second-level cache — 512-KB write-back secondary cache memory

Video
Memory — 512 KB
Resolution — Maximum: 1024 x 768 x 16 colours, non-interlaced

Package Type — Tower (HP Power Cabinet)

Processor Upgrades

To upgrade to Dual Pentium 100-MHz:	Dual-ready Pentium 100-MHz Processor Board	Product # D3596A
	and Pentium 100-MHz Processor Kit	Product # D3590A

Accessory Slots
Bus master slots — 9 (4 PCI 2, 4 EISA, 1 shared PCI/EISA)

I/O Ports
Standard — 2 serial; 1 parallel
Mouse and keyboard support — 2 × Mini-DIN
SCSI — Fast and Wide SCSI-2 (on Model 1-Array)
Video — 15 pin

Mass Storage
Mass storage shelves — 8 front-accessible 5¼", half-height (1 used for CD-ROM, 1 standard half-height, 6 hot-pluggable shelves)
Maximum internal data storage — 24 GB

LAN Accessories

	HP PC LAN Adapter/16TP Plus	Product # 27247B
	HP PC LAN Adapter/16TL Plus	Product # 27252A
	HP 10/100VG Selectable EISA Adapter (bus master)	Product # J2577A
	HP 10/100VG Selectable PCI Adapter (slave)	Product # J2585A

Power Supply — Autoranging 90 to 132 V or180 to 264V (350 W continuous, 386 W peak)

Memory Upgrade Path

1 Includes a PCI Disk Array Controller with Dual Fast and Wide SCSI-2 channels.
2 Pre-installed PCI Disk Array Controller on Model 1-Array takes one slot.

HP NetServer 5/100 LH

Information subject to change whithout notice

Model Information

Model number	Model 1	Model 1050	Model 1-Array 1
Product number	D3356A	D3357A	D3358A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB	3½", 1.44 MB
CD-ROM drive	Yes	Yes	Yes
Hard disk capacity	None	1 GB - Hot Swap	None
Hard disk access speed	N/A	<11 ms	N/A
Hard disk controller	IDE, 2 x PCI Fast SCSI-2	IDE, 2 x PCI Fast SCSI-2	IDE, 2 x PCI Fast and Wide SCSI-2
Standard memory	32 MB - Manageable ECC SIMMs	32 MB - Manageable ECC SIMMs	32 MB - Manageable ECC SIMMs
HP NetServer Navigator	Bootable CD with: NetServer Assistant 2.3; NetServer Configuration Assistant; NetServer Diagnostic Assistant; NetServer Information Assistant		

Processor Type

	Intel Pentium 100-MHz
Internal clock speed	100 MHz
Processor bus speed	66 MHz
Internal cache	16-KB integrated cache memory (8-KB for data + 8-KB for instructions)

Memory

Maximum	192 - ECC
Bus width/speed	64 bit/33 MHz
Second-level cache	512-KB write-back secondary cache memory

Video

Memory	512 KB
Resolution	Maximum: 1024 x 768 x 16 colours, non-interlaced

Package Type

	Tower (HP Power Cabinet)

Processor Upgrades

To upgrade to Dual Pentium 100-MHz:	Dual-ready Pentium 100-MHz Processor Board	Product # D3596A

Accessory Slots

Bus master slots	9 (4 PCI 2, 4 EISA, 1 shared PCI/EISA)

I/O Ports

Standard	2 serial; 1 parallel
Mouse and keyboard support	2 × Mini-DIN
SCSI	Fast and Wide SCSI-2 (on Model 1-Array)
Video	15 pin

Mass Storage

Mass storage shelves	8 front-accessible 5¼", half-height (1 used for CD-ROM, 1 standard half-height, 6 hot-pluggable shelves)
Maximum internal data storage	24 GB

LAN Accessories

	HP PC LAN Adapter/16TP Plus	Product # 27247B
	HP PC LAN Adapter/16TL Plus	Product # 27252A
	HP 10/100VG Selectable EISA Adapter (bus master)	Product # J2577A
	HP 10/100VG Selectable PCI Adapter (slave)	Product # J2585A

Power Supply

	Autoranging 90 to 132 V or180 to 264V (350 W continuous, 386 W peak)

Memory Upgrade Path

1 Includes a PCI Disk Array Controller with Dual Fast and Wide SCSI-2 channels.
2 Pre-installed PCI Disk Array Controller on Model 1-Array takes one slot.

HP NetServer 5/75 LH

Information subject to change whithout notice

Model Information

Model number	Model 1	Model 1050	Model 1-Array 1
Product number	D3353A	D3354A	D3355A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB	3½", 1.44 MB
CD-ROM drive	Yes	Yes	Yes
Hard disk capacity	None	1 GB - Hot Swap	None
Hard disk access speed	N/A	<11 ms	N/A
Hard disk controller	IDE, 2 x PCI Fast SCSI-2	IDE, 2 x PCI Fast SCSI-2	IDE, 2 x PCI Fast and Wide SCSI-2
Standard memory	16 MB - Manageable ECC SIMMs	16 MB - Manageable ECC SIMMs	16 MB - Manageable ECC SIMMs
HP NetServer Navigator	Bootable CD with: NetServer Assistant 2.3; NetServer Configuration Assistant; NetServer Diagnostic Assistant; NetServer Information Assistant		

Processor Type	Intel Pentium 75-MHz
Internal clock speed	75 MHz
Processor bus speed	50 MHz
Internal cache	
Memory	
Maximum	192 - ECC
Bus width/speed	64 bit/33 MHz
Second-level cache	256-KB write-back secondary cache memory
Video	
Memory	512 KB
Resolution	Maximum: 1024 x 768 x 16 colours, non-interlaced
Package Type	Tower (HP Power Cabinet)
Processor Upgrades	
To upgrade to Dual Pentium 100-MHz:	Dual-ready Pentium 100-MHz Processor Board	Product # D3596A
	Pentium 100-MHz Processor Kit	Product # D3590A
Accessory Slots	
Bus master slots	9 (4 PCI 2, 4 EISA, 1 shared PCI/EISA)
I/O Ports	
Standard	2 serial; 1 parallel
Mouse and keyboard support	2 × Mini-DIN
SCSI	Fast and Wide SCSI-2 (on Model 1-Array)
Video	15 pin
Mass Storage	
Mass storage shelves	8 front-accessible 5¼", half-height (1 used for CD-ROM, 1 standard half-height, 6 hot-pluggable shelves)
Maximum internal data storage	24 GB
LAN Accessories	HP PC LAN Adapter/16TP Plus	Product # 27247B
	HP PC LAN Adapter/16TL Plus	Product # 27252A
	HP 10/100VG Selectable EISA Adapter (bus master)	Product # J2577A
	HP 10/100VG Selectable PCI Adapter (slave)	Product # J2585A
Power Supply	Autoranging 90 to 132 V or180 to 264V (350 W continuous, 386 W peak)
Memory Upgrade Path	

1 Includes a PCI Disk Array Controller with Dual Fast and Wide SCSI-2 channels.
2 Pre-installed PCI Disk Array Controller on Model 1-Array takes one slot.

HP NetServer 5/133 LC

Information subject to change whithout notice

Model Information

Model number	Model 1	Model 1050
Product number	D3617A	D3618A

Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB
Hard disk capacity	None	1050 MB
Hard disk access speed	N/A	<11 ms
Hard disk controller	IDE, SCSI-2	IDE, SCSI-2
Standard memory	32 MB	32 MB

Processor Type Intel Pentium 133-MHz
Internal clock speed 133 MHz
System clock speed 66 MHz
Internal cache 16-KB integrated cache memory
Memory
Maximum 192 MB
Bus width/speed 64 bit/66 MHz
Second-level cache 256-KB write-back secondary cache memory
Video
Memory 512 KB
Resolution Maximum: 1024 x 768 x 16 colours, non-interlaced
Processor Upgrades Not applicable
Package Type Mini tower
Accessory Slots
8/16/32-bit slots (EISA) 4
PCI slots 2 (1 combo EISA/PCI)
I/O Ports
Standard 2 serial; 1 parallel
Mouse and keyboard support 2 × Mini-DIN
EISA Fast SCSI-2 SCSI-2
Video 15 pin
Mass Storage
Mass storage shelves 4 front-accessible 5¼", half-height
1 3½" floppy drive shelf
Maximum internal data storage 16.8 GB

LAN Accessories	HP PC LAN Adapter/16TP Plus	Product # 27247B
	HP PC LAN Adapter/16TL Plus	Product # 27252A
	HP 10/100VG Selectable EISA Adapter (bus master)	Product # J2577A
	HP 10/100VG Selectable PCI Adapter (slave)	Product # J2585A

Power Supply 350 W (continuous); 386 W (peak)
Memory Upgrade Path

HP NetServer 5/100 LC

Information subject to change whithout notice

Model Information

Model number	Model 1	Model 1050
Product number	D3594A	D3595A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB
Hard disk capacity	None	1050 MB
Hard disk access speed	N/A	<11 ms
Hard disk controller	IDE, SCSI-2	IDE, SCSI-2
Standard memory	32 MB	32 MB

Processor Type Intel Pentium 100-MHz
Internal clock speed 100 MHz
System clock speed 66 MHz
Internal cache 16-KB integrated cache memory
Memory
Maximum 192 MB
Bus width/speed 64 bit/66 MHz
Second-level cache 256-KB write-back secondary cache memory
Video
Memory 512 KB
Resolution Maximum: 1024 x 768 x 16 colours, non-interlaced

Package Type	Mini tower
Processor Upgrades	
To upgrade to Pentium 133 MHz:	Pentium 133-MHz Processor Board	Product No # D3601A

Accessory Slots	
8/16/32-bit slots (EISA)	4
PCI slots	2 (1 combo EISA/PCI)

I/O Ports	
Standard	2 serial; 1 parallel
Mouse and keyboard support	2 × Mini-DIN
EISA Fast SCSI-2	SCSI-2
Video	15 pin

Mass Storage	
Mass storage shelves	4 front-accessible 5¼", half-height 1 3½" floppy drive shelf
Maximum internal data storage	16.8 GB

LAN Accessories	HP PC LAN Adapter/16TP Plus	Product # 27247B
	HP PC LAN Adapter/16TL Plus	Product # 27252A
	HP 10/100VG Selectable EISA Adapter (bus master)	Product # J2577A
	HP 10/100VG Selectable PCI Adapter (slave)	Product # J2585A
Power Supply	350 W (continuous); 386 W (peak)	

Memory Upgrade Path

HP NetServer 5/75 LC

Information subject to change whithout notice

Model Information

Model number	Model 1	Model 1050
Product number	D3615A	D3616A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB
Hard disk capacity	None	1050 MB
Hard disk access speed	N/A	<11 ms
Hard disk controller	IDE, SCSI-2	IDE, SCSI-2
Standard memory	16 MB	16 MB
Processor Type	Intel Pentium 75-MHz	
Internal clock speed	75 MHz	
System clock speed	50 MHz	
Internal cache	16-KB integrated cache memory	
Memory		
Maximum	192 MB	
Bus width/speed	64 bit/50 MHz	
Second-level cache	256-KB write-back secondary cache memory	
Video		
Memory	512 KB	
Resolution	Maximum: 1024 x 768 x 16 colours, non-interlaced	
Package Type	Mini tower	
Processor Upgrades		
To upgrade to Pentium 133 MHz:	Pentium 133-MHz Processor Board	Product No # D3601A

Accessory Slots	
8/16/32-bit slots (EISA)	4
PCI slots	2 (1 combo EISA/PCI)

I/O Ports	
Standard	2 serial; 1 parallel
Mouse and keyboard support	2 × Mini-DIN
EISA Fast SCSI-2	SCSI-2
Video	15 pin

Mass Storage	
Mass storage shelves	4 front-accessible 5¼", half-height 1 3½" floppy drive shelf
Maximum internal data storage	16.8 GB

LAN Accessories	HP PC LAN Adapter/16TP Plus	Product # 27247B

HP PC LAN Adapter/16TL Plus		Product # 27252A
HP 10/100VG Selectable EISA Adapter (bus master)		Product # J2577A
HP 10/100VG Selectable PCI Adapter (slave)		Product # J2585A

Power Supply   350 W (continuous); 386 W (peak)
Memory Upgrade Path

RACK CABINETS FOR HP NETSERVERS

Information subject to change whithout notice

Rack	EIA 1	Product #
2-metre rack with side panels/rear door	41	J1450A
2-metre rack without side panels/rear door	41	J1450A opt AXH
8-port console switch box	2	J1460A
4-port console switch box	2	J1461A
2-metre switch-to-server cable kit (one cable kit required per server)	N/A	J1462A
3.5-metre switch-to-server cable kit (one cable kit required per server)	N/A	J1463A
HP NetServer Rack Mount Kits		
Mount Kit for HP NetServer LS, LM, LH, LF (includes cable management)	11	J1451B
Mount Kit for HP NetServer LC (includes cable management)	11	J1452B
Mount Kit for HP NetServer Storage System/6	11	J1454A
Mount Kit for D2802A, D2804A/B 14" monitor	8	E4473A
Mount Kit for D2805A 14" monitor	8	E4474A
Mount Kit for D2806A/B 15" monitor	8	E4475A
Mount Kit for D2807A 17" monitor	9	E4078A
Fixed Mount Kit for keyboard/mouse	1	E3900A
Retractable Mount Kit for keyboard/mouse	2	E4079A
Retractable Mount Kit for keyboard tray	2	12131A
Mount Kit for C4277B and C4278B UPS and batteries	6	C4631A
Mount Kit for C4777B UPS	5	C5232A
Mount Kit for C4778B and C5226BUPS	6	C5233A
Standard Fixed Shelf	1	E3666A
HP Vectra PC Rack Mount Kits		
Mount Kit for HP Vectra XU PC	4	E3904A
Mount Kit for HP Vectra N2, N2i PC	3	E3906A
Mount Kit for HP Vectra VL2, M2, M2i, XM2, XM2i, VE, VL3, VL4, XM3 PC	3	E3909A
Rack Accessories		
200240V PDU (International)	N/A	E4457A 2
IEC-320 1.5-metre Power Cable (male/female)	N/A	8120-1860 2
IEC-320 .75-metre Power Cable (male/female)	N/A	8120-1575
IEC-320 Male Power Cable Adapter	N/A	5181-8707
Extractor Fan 200240V	N/A	E4471A
PDU Installation Kit	N/A	E4472A 2
Plexiglas Front Door with lock	N/A	E4463A 3
Ballast Weight Kit	N/A	C2790A
Filler Panels		
1 EIA unit Filler Panel	1	40101A
2 EIA unit Filler Panel	2	40102A
3 EIA unit Filler Panel	3	40103A
4 EIA unit Filler Panel	4	40104A
5 EIA unit Filler Panel	5	40105A
6 EIA unit Filler Panel	6	40106A
7 EIA unit Filler Panel	7	40107A
Optional AXH Accessories		
One Side Panel (for either side)	N/A	E4459A
Solid Rear Door	N/A	E4478A
2-metre Rack Tie-together Kit	N/A	E4469A

1   Accessories with N/A for EIA requirement do not use vertical cabinet space.

2   Maximum of 2 Power Distribution Units (PDUs) per rack.   One PDU Installation Kit (E4472A) required per rack with PDUs.   8120-1860 Power Cable required for each server plugged

into E4457A PDU.

3 Front door requires E4471A Fan for proper cooling.   A PDU is required to connect the fan's IEC-320 power plug.

HP POWERWISE UNINTERRUPTIBLE POWER

*Information subject to change whithout notice**SUPPLIES*

UPS 1	Product #
PowerWise 1000, On-line UPS, 1000 VA 230V, 50 Hz (recommended for HP NetServer LS, LH)	C4277B
PowerWise 2100, On-line UPS, 2100 VA, 230 V, 50 Hz (recommended for HP NetServer LS, LH)	C4278B
PowerWise L600, Line-interactive UPS, 600 VA, 230 V (recommended for HP NetServer LC)	C4777B
PowerWise L900, Line-interactive UPS, 900 VA, 230 V (recommended for HP NetServer LH)	C4778B
PowerWise L1250, Line-interactive UPS, 1250 VA, 230 V (recommended for HP NetServer LS, LH)	C5226B
Extended Run	
Additional External Battery Pack for C4277B	C4621A
Additional External Battery Pack for C4278B	C4622A
SNMP Interface	
PowerWise SNMP Interface Card for 10Base-T	C4620A
PowerWise SNMP Interface Card for 10Base-T and ThinLAN	C4692A
Shutdown Software on CD (includes a cable kit)	
PowerWise Assistant for OS/2	C4624B
PowerWise Assistant for SCO UNIX and UnixWare	C4626B
PowerWise Assistant for HP-UX, AIX/RS6000, Sun Solaris	C4627B
Interface Cables	
PowerWise Cable Kit for Windows NT	C4628B
PowerWise Cable Kit for AS/400	C4629B
PowerWise Cable Kit for Banyan VINES	C4630B
Rack Shelves	
UPS Rack Shelf for one or two of C4277B or C4278B	C4631A
UPS Rack Shelf for one, two or three of C4777B	C5232A
UPS Rack Shelf for one or two of C4778B or C5226B	C5233A
Support Pack	
HP Support Pack - three-year on-site service upgrade	H5469A

1 All UPS come bundled with PowerWise Assistant shutdown software for NetWare and Windows NT, a cable kit, HP UPS OpenView application, and SNMP agents for Line-interactive UPS.

HP Vectra XU 6/150 PC

Information subject to change whithout notice

Model Information

Model number	Model 1000	Model 2000
Product number	D3529N	D3530N
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB
Hard disk capacity	1 GB, Fast SCSI	2 GB, Fast SCSI
Hard disk controller	Ultra SCSI, Master Enhanced IDE	Ultra SCSI, Master Enhanced IDE
Standard memory	16 MB	16 MB
Video adapter	Millennium (PCI bus)	Millennium (PCI bus)
Standard video memory	2 MB	2 MB
LAN interface	10/100VG Selectable PCI Adapter	10/100VG Selectable PCI Adapter
Multiprotocol boot-ROM	Yes	Yes
Quad-speed SCSI-2 CD-ROM drive	Yes	Yes
Mouse	Yes	Yes
Software on CD	Windows NT v. 3.5	Windows NT v. 3.5
Processor Type	Intel Pentium Pro 150-MHz	
Internal clock speed	150 MHz	
System clock speed	60 MHz	

Internal cache	256-KB integrated cache memory	
Memory		
Maximum	256 MB	
Bus width/speed	128 bit/60 MHz	
Package Type	Mini-tower	
Upgrades		
Dual processor upgrade	Intel Pentium Pro 150-MHz companion processor (second ZIF)	Product # D3559A
WRAM video upgrade	2-MB WRAM Upgrade Kit	Product # D3557A
Coprocessor	Integrated	
Accessory Slots		
32-bit PCI slots	4 (1 combo ISA/PCI) (2 available)	
8/16-bit ISA slots	2	
I/O Architecture	PCI/ISA	
I/O Ports		
Standard	2 serial; 1 parallel (ECP/EPP bi-directional Centronics)	
Maximum	4 serial; 2 parallel	
SCSI-2	1 external port	
LAN	UTP and connector	
Mouse and keyboard support	2 × Mini-DIN	
Mass Storage and CD-ROM		
Mass storage shelves	3 front-accessible 5¼", half-height	
	2 front-accessible 3½", third-height	
	2 internal 3½", half-height	
Maximum internal data storage	10 GB	
Power Supply	200 W (continuous); 280 W (peak)	
Memory Upgrade Path		

HP Vectra XU 5/133 PC

Information subject to change whithout notice

Model Information

	Model 1000	Model 2000
Model number	Model 1000	Model 2000
Product number	D3516B	D3517B
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB
Hard disk capacity	1 GB, SCSI-2	2 GB, SCSI-2
Hard disk controller	SCSI-2, Fast IDE (local bus)	SCSI-2, Fast IDE (local bus)
Standard memory	16 MB	16 MB
Video adapter	Millennium (PCI bus)	Millennium (PCI bus)
Standard video memory	2 MB	2 MB
Integrated Ethernet interface (32-bit)	Yes (PCI bus)	Yes (PCI bus)
Multiprotocol boot-ROM	Yes	Yes
Quad-speed SCSI-2 CD-ROM drive	Yes	Yes
Mouse	Yes	Yes
Pre-installed software:		
MS-DOS 6.22	Yes	Yes
Microsoft Windows for Workgroups 3.11	Yes	Yes
Dashboard 2.01	Yes	Yes
Processor Type	Intel Pentium 133-MHz	
Internal clock speed	133 MHz	
System clock speed	66 MHz	
Internal cache	16-KB integrated cache memory	
Memory		
Maximum	256 MB	
Bus width/speed	64 bit/66 MHz	
Second-level cache	512-KB burst synchronous write-back cache	

Package Type	Desktop/deskside	
Upgrades		
Dual processor upgrade	Intel Pentium 133-MHz companion processor (second ZIF)	Product # D3509A
WRAM video upgrade	2-MB WRAM Upgrade Kit	Product # D3557A
Coprocessor	Integrated	
Accessory Slots		
32-bit PCI slots	2 (1 combo ISA/PCI) (1 available)	
8/16-bit ISA slots	3	
I/O Architecture	PCI/ISA	
I/O Ports		
Standard	1 serial; 1 parallel (ECP bi-directional Centronics)	
Maximum	4 serial; 2 parallel	
SCSI-2	1 external port	
LAN	UTP and coax connectors	
Mouse and keyboard support	2 × Mini-DIN	
Mass Storage and CD-ROM		
Mass storage shelves	2 front-accessible 5¼", half-height	
	1 front-accessible 3½", third-height	
	1 internal 3½", half-height	
Maximum internal data storage	4 GB	
Power Supply	130 W (continuous); 160 W (peak)	
Memory Upgrade Path		

HP Vectra XU 5/120 PC

Information subject to change whithout notice

Model Information

Model number	Model 1000	Model 2000
Product number	D3511B	D3512B
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB
Hard disk capacity	1 GB, SCSI-2	2 GB, SCSI-2
Hard disk controller	SCSI-2, Fast IDE (local bus)	SCSI-2, Fast IDE (local bus)
Standard memory	16 MB	16 MB
Video adapter	Millennium (PCI bus)	Millennium (PCI bus)
Standard video memory	2 MB	2 MB
Integrated Ethernet interface (32-bit)	Yes (PCI bus)	Yes (PCI bus)
Multiprotocol boot-ROM	Yes	Yes
Quad-speed SCSI-2 CD-ROM drive	Yes	Yes
Mouse	Yes	Yes
Pre-installed software:		
MS-DOS 6.22	Yes	Yes
Microsoft Windows for Workgroups 3.11	Yes	Yes
Dashboard 2.01	Yes	Yes
Processor Type	Intel Pentium 120-MHz	
Internal clock speed	120 MHz	
System clock speed	60 MHz	
Internal cache	16-KB integrated cache memory	
Memory		
Maximum	256 MB	
Bus width/speed	64 bit/60 MHz	
Second-level cache	512-KB burst synchronous write-back cache	
Package Type	Desktop/deskside	
Upgrades		
Dual processor upgrade	Intel Pentium 133-MHz companion processor (second ZIF)	Product # D3509A

WRAM video upgrade	2-MB WRAM Upgrade Kit	Product # D3557A
Coprocessor	Integrated	
Accessory Slots		
32-bit PCI slots	2 (1 combo ISA/PCI) (1 available)	
8/16-bit ISA slots	3	
I/O Architecture	PCI/ISA	
I/O Ports		
Standard	1 serial; 1 parallel (ECP bi-directional Centronics)	
Maximum	4 serial; 2 parallel	
SCSI-2	1 external port	
LAN	UTP and coax connectors	
Mouse and keyboard support	2 × Mini-DIN	
Mass Storage and CD-ROM		
Mass storage shelves	2 front-accessible 5¼", half-height	
	1 front-accessible 3½", third-height	
	1 internal 3½", half-height	
Maximum internal data storage	4 GB	
Power Supply	130 W (continuous); 160 W (peak)	
Memory Upgrade Path		

HP Vectra XM 5/133 PC

Information subject to change whithout notice

Model Information

Model number	Model 840	
Product number	D3950A	
Flexible disk size/capacity	3½", 1.44 MB	
Hard disk capacity	840 MB	
Hard disk controller	Enhanced IDE on PCI	
Standard memory	16 MB	
256-KB second-level cache	Yes	
Video RAM	1 MB	
Video adapter	Ultra VGA (PCI bus)	
Integrated 10Base-T interface (32-bit PCI)	Yes	
Multiprotocol boot-ROM	Yes	
Mouse	Yes	
Pre-installed software:		
MS-DOS 6.22	Yes or Windows 95 (one-time selection)	
Microsoft Windows for Workgroups 3.11	Yes or Windows 95 (one-time selection)	
Dashboard 2.01	Yes	
Processor Type	Intel Pentium 133-MHz	
Internal clock speed	133 MHz	
System clock speed	66 MHz	
Internal cache	16-KB integrated cache memory	
Memory		
Maximum	192 MB	
Bus width/speed	64 bit/66 MHz	
Package Type	Mid-size desktop	
Upgrades		
DRAM video upgrade	1-MB Upgrade Kit	Product # D3404A
Coprocessor	Integrated	
Accessory Slots		
8/16-bit ISA slots	2	
Shared 8/16-bit and 32-bit PCI slots	1	
32-bit PCI slot	1	
I/O Architecture	PCI/ISA	

I/O Ports

Standard (maximum)	2 serial; 1 parallel (4 serial; 2 parallel)
Mouse and keyboard support	2 × Mini-DIN

Mass Storage

Mass storage shelves	1 front-accessible 5¼", half-height
	1 front-accessible 3½", third-height
	1 front-accessible (5¼" or 3½") or internal, third-height
	1 internal 3½", half-height
Maximum internal data storage	1.8 GB

LAN Accessories

	HP Coax Module	Product # D2746A
	HP 10/100VG Selectable ISA Adapter	Product # J2573A
	HP 10/100VG Selectable PCI Adapter	Product # J2585A

Power Supply   30 W (typical); 150 W (maximum)

Memory Upgrade Path

HP Vectra XM 5/120 PC

Information subject to change whithout notice

Model Information

Model number	Model 840	Model 840	Model 840
Product number	D3562A	D3948A	D3565A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB	3½", 1.44 MB
Hard disk capacity	840 MB	840 MB	840 MB
Hard disk controller	Enhanced IDE on PCI	Enhanced IDE on PCI	Enhanced IDE on PCI
Standard memory	8 MB	16 MB	16 MB
256-KB second-level cache	Yes	Yes	Yes
Video RAM	1 MB	1 MB	1 MB
Video adapter	Ultra VGA (PCI bus)	Ultra VGA (PCI bus)	Ultra VGA (PCI bus)
Integrated 10Base-T interface (32-bit PCI)	Yes	Yes	Yes
Multiprotocol boot-ROM	Yes	Yes	Yes
Multimedia 1	No	No	Yes (including 15-inch monitor) 1
Mouse	Yes	Yes	Yes
Pre-installed software:			
MS-DOS 6.22	Yes	Yes or Windows 95 (one-time selection)	Yes or Windows 95 (one-time selection)
Microsoft Windows for Workgroups 3.11	Yes	Yes or Windows 95 (one-time selection)	Yes or Windows 95 (one-time selection)
Dashboard 2.01	Yes	Yes	Yes

Processor Type	Intel Pentium 120-MHz
Internal clock speed	120 MHz
System clock speed	60 MHz
Internal cache	16-KB integrated cache memory
Memory	
Maximum	192 MB
Bus width/speed	64 bit/60 MHz
Package Type	Mid-size desktop
Upgrades	
DRAM video upgrade	1-MB Upgrade Kit Product # D3404A
Coprocessor	Integrated
Accessory Slots	
8/16-bit ISA slots	2
Shared 8/16-bit and 32-bit PCI slots	1
32-bit PCI slot	1
I/O Architecture	PCI/ISA
I/O Ports	
Standard (maximum)	2 serial; 1 parallel (4 serial; 2 parallel)
Mouse and keyboard support	2 × Mini-DIN

Mass Storage

Mass storage shelves	1 front-accessible 5¼", half-height
	1 front-accessible 3½", third-height
	1 front-accessible (5¼" or 3½") or internal, third-height
	1 internal 3½", half-height
Maximum internal data storage	1.8 GB

LAN Accessories

HP Coax Module	Product # <u>D2746A</u>
HP 10/100VG Selectable ISA Adapter	Product # <u>J2573A</u>
HP 10/100VG Selectable PCI Adapter	Product # <u>J2585A</u>

Power Supply 30 W (typical); 150 W (maximum)

<u>Memory Upgrade Path</u>

1 Includes HP 1024 Low Emissions 15-inch monitor, 16-bit Sound Blaster™ sound card, 4x
IDE CD-ROM,   ergonomic control panel and speaker

HP Vectra XM 5/100 PC

Information subject to change whithout notice

Model Information

Model number	Model 840	Model 840	
Product number	D3488A	D3947A	
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB	
Hard disk capacity	840 MB	840 MB	
Hard disk controller	Enhanced IDE on PCI	Enhanced IDE on PCI	
Standard memory	8 MB	16 MB	
256-KB second-level cache	Yes	Yes	
Video RAM	1 MB	1 MB	
Video adapter	Ultra VGA (PCI bus)	Ultra VGA (PCI bus)	
Integrated 10Base-T interface (32-bit PCI)	Yes	Yes	
Multiprotocol boot-ROM	Yes	Yes	
Mouse	Yes	Yes	
Pre-installed software:			
MS-DOS 6.22	Yes	Yes or Windows 95 (one-time selection)	
Microsoft Windows for Workgroups 3.11	Yes	Yes or Windows 95 (one-time selection)	
Dashboard 2.01	Yes	Yes	
Processor Type	Intel Pentium 100-MHz		
Internal clock speed	100 MHz		
System clock speed	66 MHz		
Internal cache	16-KB integrated cache memory		
Memory			
Maximum	192 MB		
Bus width/speed	64 bit/66 MHz		
Package Type	Mid-size desktop		
Upgrades			
DRAM video upgrade	1-MB Upgrade Kit		Product # D3404A
Coprocessor	Integrated		
Accessory Slots			
8/16-bit ISA slots	2		
Shared 8/16-bit and 32-bit PCI slots	1		
32-bit PCI slot	1		
I/O Architecture	PCI/ISA		
I/O Ports			
Standard (maximum)	2 serial; 1 parallel (4 serial: 2 parallel)		
Mouse and keyboard support	2 × Mini-DIN		
Mass Storage			
Mass storage shelves	1 front-accessible 5¼", half-height		
	1 front-accessible 3½", third-height		
	1 front-accessible (5¼" or 3½") or internal, third-height		
	1 internal 3½", half-height		
Maximum internal data storage	1.8 GB		
LAN Accessories	HP Coax Module		Product # D2746A
	HP 10/100VG Selectable ISA Adapter		Product # J2573A
	HP 10/100VG Selectable PCI Adapter		Product # J2585A
Power Supply	30 W (typical); 150 W (maximum)		
Memory Upgrade Path			

HP Vectra XM 5/90 PC

Information subject to change whithout notice

Model Information

Model number	Model 420	Model 840	Model 840	Model 840

Product number	D3484A	D3485A	D3946A	D3487A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB	3½", 1.44 MB	3½", 1.44 MB
Hard disk capacity	420 MB	840 MB	840 MB	840 MB
Hard disk controller	Enhanced IDE on PCI	Enhanced IDE on PCI	Enhanced IDE on PCI	Enhanced IDE on PCI
Standard memory	8 MB	8 MB	16 MB	8 MB
256-KB second-level cache	Yes	Yes	Yes	Yes
Video RAM	1 MB	1 MB	1 MB	1 MB
Video adapter	Ultra VGA (PCI bus)	Ultra VGA (PCI bus)	Ultra VGA (PCI bus)	Ultra VGA (PCI bus)
Integrated 10Base-T interface (32-bit PCI)	Yes	Yes	Yes	Yes
Multiprotocol boot-ROM	Yes	Yes	Yes	Yes
Multimedia 1	No	No	No	Yes 1
Mouse	Yes	Yes	Yes	Yes
Pre-installed software:				
MS-DOS 6.22	Yes	Yes	Yes or Windows 95 (one-time selection)	Yes
Microsoft Windows for Workgroups 3.11	Yes	Yes	Yes or Windows 95 (one-time selection)	Yes
Dashboard 2.01	Yes	Yes	Yes	Yes

Processor Type	Intel Pentium 90-MHz
Internal clock speed	90 MHz
System clock speed	60 MHz
Internal cache	16-KB integrated cache memory
Memory	
Maximum	192 MB
Bus width/speed	64 bit/60 MHz
Package Type	Mid-size desktop
Upgrades	
DRAM video upgrade	1-MB Upgrade Kit Product # D3404A
Coprocessor	Integrated
Accessory Slots	
8/16-bit ISA slots	2
Shared 8/16-bit and 32-bit PCI slots	1
32-bit PCI slot	1
I/O Architecture	PCI/ISA
I/O Ports	
Standard (maximum)	2 serial; 1 parallel (4 serial; 2 parallel)
Mouse and keyboard support	2 × Mini-DIN
Mass Storage	
Mass storage shelves	1 front-accessible 5¼", half-height
	1 front-accessible 3½", third-height
	1 front-accessible (5¼" or 3½") or internal, third-height
	1 internal 3½", half-height
Maximum internal data storage	1.8 GB
LAN Accessories	HP Coax Module Product # D2746A
	HP 10/100VG Selectable ISA Adapter Product # J2573A
	HP 10/100VG Selectable PCI Adapter Product # J2585A
Power Supply	30 W (typical); 150 W (maximum)
Memory Upgrade Path	

1 Includes 16-bit Sound Blaster sound card, 4x IDE CD-ROM, ergonomic control panel and speaker.

HP Vectra XM 5/75 PC
Information subject to change whithout notice
Model Information

Model number	Model 420	Model 840	Model 840
Product number	D3481A	D3482A	D3945A

Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB	3½", 1.44 MB
Hard disk capacity	420 MB	840 MB	840 MB
Hard disk controller	Enhanced IDE on PCI	Enhanced IDE on PCI	Enhanced IDE on PCI
Standard memory	8 MB	8 MB	16 MB
256-KB second-level cache	Yes	Yes	Yes
Video RAM	1 MB	1 MB	1 MB
Video adapter	Ultra VGA (PCI bus)	Ultra VGA (PCI bus)	Ultra VGA (PCI bus)
Integrated 10Base-T interface (32-bit PCI)	Yes	Yes	Yes
Multiprotocol boot-ROM	Yes	Yes	Yes
Mouse	Yes	Yes	Yes
Pre-installed software:			
MS-DOS 6.22	Yes	Yes	Yes <u>or</u> Windows 95 (one-time selection)
Microsoft Windows for Workgroups 3.11	Yes	Yes	Yes <u>or</u> Windows 95 (one-time selection)
Dashboard 2.01	Yes	Yes	Yes
Processor Type	Intel Pentium 75-MHz		
Internal clock speed	75 MHz		
System clock speed	50 MHz		
Internal cache	16-KB integrated cache memory		
Memory			
Maximum	192 MB		
Bus width/speed	64 bit/50 MHz		
Package Type	Mid-size desktop		
Upgrades			
DRAM video upgrade	1-MB Upgrade Kit	Product # <u>D3404A</u>	
Coprocessor	Integrated		
Accessory Slots			
8/16-bit ISA slots	2		
Shared 8/16-bit and 32-bit PCI slots	1		
32-bit PCI slot	1		
I/O Architecture	PCI/ISA		
I/O Ports			
Standard (maximum)	2 serial; 1 parallel (4 serial; 2 parallel)		
Mouse and keyboard support	2 × Mini-DIN		
Mass Storage			
Mass storage shelves	1 front-accessible 5¼", half-height		
	1 front-accessible 3½", third-height		
	1 front-accessible (5¼" or 3½") or internal, third-height		
	1 internal 3½", half-height		
Maximum internal data storage	1.8 GB		
LAN Accessories	HP Coax Module	Product # <u>D2746A</u>	
	HP 10/100VG Selectable ISA Adapter	Product # <u>J2573A</u>	
	HP 10/100VG Selectable PCI Adapter	Product # <u>J2585A</u>	
Power Supply	30 W (typical); 150 W (maximum)		
Memory Upgrade Path			

HP Vectra XM2 4/100i PCs

Information subject to change whithout notice

Model Information

Model number	Model 720
Product number	D3233B
Flexible disk size/capacity	3½", 1.44 MB
Hard disk capacity	720 MB
Hard disk controller	Fast IDE (local bus)
Standard memory	8 MB
Video RAM	1 MB

Video adapter	Ultra VGA 2 (PCI bus)
Integrated 10Base-T interface (32-bit)	Yes (PCI bus)
Multiprotocol boot-ROM	Yes
Mouse	Yes
Pre-installed software:	
MS-DOS 6.22	Yes
Microsoft Windows for Workgroups 3.11	Yes
Dashboard 2.01	Yes

Processor Type	IntelDX4 100-MHz	
Internal clock speed	100 MHz	
System clock speed	33 MHz	
Internal cache	16-KB integrated cache memory	
Memory		
Maximum	96 MB	
Bus width/speed	32 bit/33 MHz	
Second-level cache	256-KB write-back cache	
Package Type	Mid-size desktop	
Upgrades		
DRAM video upgrade	1-MB Upgrade Kit	Product # D3241A
Coprocessor	Integrated	
Accessory Slots		
32-bit PCI slots	2 (1 combo ISA/PCI)	
8/16-bit ISA slots	2	
I/O Architecture	PCI/ISA	
I/O Ports		
Standard (maximum)	2 serial; 1 parallel (4 serial; 2 parallel) (ECP/EPP bi-directional Centronics); 1 infra-red	
Mouse and keyboard support	2 × Mini-DIN	
Mass Storage		
Mass storage shelves	1 front-accessible 5¼", half-height	
	1 front-accessible 3½", third-height	
	2 internal 3½" 1 half-height, 1 third-height	
Maximum internal data storage	1.5 GB	
LAN Accessories	HP Coax Module (integrated models only)	Product # D2746A
	HP 10/100VG Selectable ISA Adapter	Product # J2573A
	HP 10/100VG Selectable PCI Adapter	Product # J2585A
Power Supply	100 W (continuous)	
Memory Upgrade Path		

HP Vectra XM2 4/66i PCs

Information subject to change whithout notice

Model Information

Model number	Model 720
Product number	D3224B
Flexible disk size/capacity	3½", 1.44 MB
Hard disk capacity	720 MB
Hard disk controller	Fast IDE (local bus)
Standard memory	8 MB
Video RAM	1 MB
Video adapter	Ultra VGA 2 (PCI bus)
Integrated 10Base-T interface (32-bit)	Yes (PCI bus)
Multiprotocol boot-ROM	Yes
Mouse	Yes
Pre-installed software:	
MS-DOS 6.22	Yes
Microsoft Windows for Workgroups 3.11	Yes
Dashboard 2.01	Yes
Processor Type	IntelDX2 66-MHz

Internal clock speed	66 MHz	
System clock speed	33 MHz	
Internal cache	8-KB integrated cache memory	
Memory		
Maximum	96 MB	
Bus width/speed	32 bit/33 MHz	
Second-level cache	256-KB write-back cache	
Package Type	Mid-size desktop	
Upgrades		
DRAM video upgrade	1-MB Upgrade Kit	Product # D3241A
Coprocessor	Integrated	
Accessory Slots		
32-bit PCI slots	2 (1 combo ISA/PCI)	
8/16-bit ISA slots	2	
I/O Architecture	PCI/ISA	
I/O Ports		
Standard (maximum)	2 serial; 1 parallel (4 serial; 2 parallel) (ECP/EPP bi-directional Centronics); 1 infra-red	
Mouse and keyboard support	2 × Mini-DIN	
Mass Storage		
Mass storage shelves	1 front-accessible 5¼", half-height	
	1 front-accessible 3½", third-height	
	2 internal 3½" 1 half-height, 1 third-height	
Maximum internal data storage	1.5 GB	
LAN Accessories	HP Coax Module (integrated models only)	Product # D2746A
	HP 10/100VG Selectable ISA Adapter	Product # J2573A
	HP 10/100VG Selectable PCI Adapter	Product # J2585A
Power Supply	100 W (continuous)	
Memory Upgrade Path		

HP Vectra VT 6/150 PC

Information subject to change whithout notice

Model Information

Model number	Model 1000	
Product number	D3521N	
Flexible disk size/capacity	3½", 1.44 MB	
Hard disk capacity	1 GB	
Hard disk controller	Master Enhanced IDE	
Standard memory	16 MB	
Video adapter	Millennium (PCI bus)	
Standard video memory	2 MB	
Quad-speed IDE CD-ROM drive	Yes	
Mouse	Yes	
Software on CD	Windows NT v. 3.5	
Processor Type	Intel Pentium Pro 150-MHz	
Internal clock speed	150 MHz	
System clock speed	60 MHz	
Internal cache	256-KB integrated cache memory	
Memory		
Maximum	256 MB	
Bus width/speed	128 bit/60 MHz	
Package Type	Mini-tower	
Upgrades		
WRAM video upgrade	2-MB WRAM Upgrade Kit	Product # D3557A
Coprocessor	Integrated	
Accessory Slots		
32-bit PCI slots	4 (1 combo ISA/PCI) (2 available)	
8/16-bit ISA slots	2	

I/O Architecture	PCI/ISA		
I/O Ports			
Standard	2 serial; 1 parallel (ECP/EPP bi-directional Centronics)		
Maximum	4 serial; 2 parallel		
SCSI-2	1 external port		
Mouse and keyboard support	2 × Mini-DIN		
Mass Storage and CD-ROM			
Mass storage shelves	3 front-accessible 5¼", half-height		
	2 front-accessible 3½", third-height		
	2 internal 3½", half-height		
Maximum internal data storage	6 GB		
Power Supply	200 W (continuous); 280 W (peak)		
Memory Upgrade Path			

HP Vectra VL Series 4 5/133 PC

Information subject to change whithout notice

Model Information

Model number	Model 1000	Model 1000	Model 1000 MT
Product number	D3692A	D3693A	D3808A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB	3½", 1.44 MB
Hard disk capacity	1 GB	1 GB	1 GB
Hard disk controller	Enhanced IDE on PCI	Enhanced IDE on PCI	Enhanced IDE on PCI
Standard memory - EDO RAM	16 MB	16 MB	16 MB
256-KB second-level cache	Synchronous	Synchronous	Synchronous
Video RAM	1 MB	2 MB	2 MB
Video adapter	Ultra VGA (PCI bus)	Millennium (PCI bus)	Millennium (PCI bus)
Multimedia	No	Yes 1	Yes 1
Mouse	Yes	Yes	Yes
Pre-installed software:			
MS-DOS 6.22	Yes <u>or</u> Windows 95 (one-time selection)	Yes <u>or</u> Windows 95 (one-time selection)	Yes <u>or</u> Windows 95 (one-time selection)
Microsoft Windows for Workgroups 3.11	Yes <u>or</u> Windows 95 (one-time selection)	Yes <u>or</u> Windows 95 (one-time selection)	Yes <u>or</u> Windows 95 (one-time selection)
Dashboard 2.01	Yes	Yes	Yes
Processor Type	Intel Pentium 133-MHz		
Internal clock speed	133 MHz		
System clock speed	66 MHz		
Internal cache	16-KB integrated cache memory		
Memory			
Maximum	128 MB		
Bus width/speed	64 bit/66 MHz		
Package Type	Desktop	Desktop	Mini tower
Upgrades			
DRAM video upgrade	1-MB Upgrade Kit (for models D3692A)		Product # D3500A
WRAM video upgrade	2-MB Upgrade Kit (for model D3693A and D3808A)		Product # D3557A
Coprocessor	Integrated		
Accessory Slots	Desktop:		Mini tower:
8/16-bit ISA slots	2		3
Shared 8/16-bit and 32-bit PCI slots	1		1
32-bit PCI slot	1		2
I/O Ports			
Standard	2 serial; 1 parallel		
Maximum	4 serial; 2 parallel		
Mouse and keyboard support	2 × Mini-DIN		
Mass Storage	Desktop:		Mini tower:
Mass storage shelves	2 front-accessible 5¼", half-height		3 front-accessible 5¼",

		half-height
	1 front-accessible 3½", third-height	1 front-accessible 3½", third-height
	1 internal 3½" 1 half-, 1 third-height	2 internal 3½" 1 half-, 1 third-height
Maximum internal data storage	2 GB	4 GB

Power Supply   30 W (typical); 150 W (maximum) on desktop models; 220 W (maximum) on mini-tower models

Memory Upgrade Path

1 Includes 16-bit Sound Blaster sound card, 4x IDE CD-ROM, ergonomic control panel and speaker.

HP Vectra VL Series 4 5/120 PC

Information subject to change whithout notice

Model Information

	Model 540	Model 1000	Model 1000 MT
Model number	Model 540	Model 1000	Model 1000 MT
Product number	D3681A	D3682A	D3806A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB	3½", 1.44 MB
Hard disk capacity	540 MB	1 GB	1 GB
Hard disk controller	Enhanced IDE on PCI	Enhanced IDE on PCI	Enhanced IDE on PCI
Standard memory - EDO RAM	8 MB	16 MB	16 MB
256-KB second-level cache	Synchronous	Synchronous	Synchronous
Video RAM	1 MB	1 MB	2 MB
Video adapter	Ultra VGA (PCI bus)	Ultra VGA (PCI bus)	Matrox Millenium (PCI)
Multimedia	No	No	Yes 1
Mouse	Yes	Yes	Yes
Pre-installed software:			
MS-DOS 6.22	Yes	Yes or Windows 95 (one-time selection)	Yes or Windows 95 (one-time selection)
Microsoft Windows for Workgroups 3.11	Yes	Yes or Windows 95 (one-time selection)	Yes or Windows 95 (one-time selection)
Dashboard 2.01	Yes	Yes	Yes
Processor Type	Intel Pentium 120-MHz		
Internal clock speed	120 MHz		
System clock speed	60 MHz		
Internal cache	16-KB integrated cache memory		
Memory			
Maximum	128 MB		
Bus width/speed	64 bit/60 MHz		
Package Type	Desktop	Desktop	Mini tower
Upgrades			
DRAM video upgrade	1-MB Upgrade Kit (for models D3681A and D3682A)		Product # D3500A
WRAM video upgrade	2-MB Upgrade Kit (for model D3806A)		Product # D3557A
Coprocessor	Integrated		
Accessory Slots	Desktop:		Mini tower:
8/16-bit ISA slots	2		3
Shared 8/16-bit and 32-bit PCI slots	1		1
32-bit PCI slot	1		2
I/O Ports			
Standard	2 serial; 1 parallel		
Maximum	4 serial; 2 parallel		
Mouse and keyboard support	2 × Mini-DIN		
Mass Storage	Desktop:		Mini tower:
Mass storage shelves	2 front-accessible 5¼", half-height		3 front-accessible 5¼", half-height
	1 front-accessible 3½", third-height		1 front-accessible 3½",

			third-height
	1 internal 3½" 1 half-, 1 third-height		2 internal 3½" 1 half-, 1 third-height
Maximum internal data storage	2 GB		4 GB
Power Supply	30 W (typical); 150 W (maximum) on desktop models; 220 W (maximum) on mini-tower models		
Memory Upgrade Path			

1 Includes 16-bit Sound Blaster sound card, 4x IDE CD-ROM, ergonomic control panel and speaker.

HP Vectra VL Series 4 5/100 PC

Information subject to change whithout notice

Model Information

Model number	Model 540	Model 1000	Model 1000 MT
Product number	D3671A	D3672A	D3804A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB	3½", 1.44 MB
Hard disk capacity	540 MB	1 GB	1 GB
Hard disk controller	Enhanced IDE on PCI	Enhanced IDE on PCI	Enhanced IDE on PCI
Standard memory - EDO RAM	8 MB	16 MB	16 MB
256-KB second-level cache	Synchronous	Synchronous	Synchronous
Video RAM	1 MB	1 MB	1 MB
Video adapter	Ultra VGA (PCI bus)	Ultra VGA (PCI bus)	Ultra VGA (PCI bus)
Multimedia	No	No	No
Mouse	Yes	Yes	Yes
Pre-installed software:			
MS-DOS 6.22	Yes	Yes or Windows 95 (one-time selection)	Yes or Windows 95 (one-time selection)
Microsoft Windows for Workgroups 3.11	Yes	Yes or Windows 95 (one-time selection)	Yes or Windows 95 (one-time selection)
Dashboard 2.01	Yes	Yes	Yes
Processor Type	Intel Pentium 100-MHz		
Internal clock speed	100 MHz		
System clock speed	66 MHz		
Internal cache	16-KB integrated cache memory		
Memory			
Maximum	128 MB		
Bus width/speed	64 bit/66 MHz		
Package Type	Desktop	Desktop	Mini tower
Upgrades			
DRAM video upgrade	1-MB Upgrade Kit		Product # D3500A
Coprocessor	Integrated		
Accessory Slots	Desktop:		Mini tower:
8/16-bit ISA slots	2		3
Shared 8/16-bit and 32-bit PCI slots	1		1
32-bit PCI slot	1		2
I/O Ports			
Standard	2 serial; 1 parallel		
Maximum	4 serial; 2 parallel		
Mouse and keyboard support	2 × Mini-DIN		
Mass Storage	Desktop:		Mini tower:
Mass storage shelves	2 front-accessible 5¼", half-height		3 front-accessible 5¼", half-height
	1 front-accessible 3½", third-height		1 front-accessible 3½", third-height
	1 internal 3½" 1 half-, 1 third-height		2 internal 3½" 1 half-, 1 third-height

Maximum internal data storage	2 GB		4 GB	
Power Supply	30 W (typical); 150 W (maximum) on desktop models; 220 W (maximum) on mini-tower models			

Memory Upgrade Path

HP Vectra VL Series 4 5/90 PC

Information subject to change whithout notice

Model Information

Model number	Model 540	Model 1000	Model 1000	Model 1000 MT
Product number	D3661A	D3662A	D3663A	D3802A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB	3½", 1.44 MB	3½", 1.44 MB
Hard disk capacity	540 MB	1 GB	1 GB	1 GB
Hard disk controller	Enhanced IDE on PCI	Enhanced IDE on PCI	Enhanced IDE on PCI	Enhanced IDE on PCI
Standard memory - EDO RAM	8 MB	16 MB	16 MB	8 MB
256-KB second-level cache	Synchronous	Synchronous	Synchronous	Synchronous
Video RAM	1 MB	1 MB	1 MB	1 MB
Video adapter	Ultra VGA (PCI bus)	Ultra VGA (PCI bus)	Ultra VGA (PCI bus)	Ultra VGA (PCI bus)
Multimedia	No	No	Yes 1	No
Mouse		Yes	Yes	Yes
Pre-installed software:				
MS-DOS 6.22	Yes	Yes <u>or</u> Windows 95 (one-time selection)	Yes <u>or</u> Windows 95 (one-time selection)	Yes
Microsoft Windows for Workgroups 3.11	Yes	Yes <u>or</u> Windows 95 (one-time selection)	Yes <u>or</u> Windows 95 (one-time selection)	Yes
Dashboard 2.01	Yes	Yes	Yes	Yes
Processor Type	Intel Pentium 90-MHz			
Internal clock speed	90 MHz			
System clock speed	60 MHz			
Internal cache	16-KB integrated cache memory			
Memory				
Maximum	128 MB			
Bus width/speed	64 bit/60 MHz			
Package Type	Desktop	Desktop	Desktop	Mini tower
Upgrades				
DRAM video upgrade	1-MB Upgrade Kit		Product # D3500A	
Coprocessor	Integrated			
Accessory Slots	Desktop:			Mini tower:
8/16-bit ISA slots	2			3
Shared 8/16-bit and 32-bit PCI slots	1			1
32-bit PCI slot	1			2
I/O Ports				
Standard	2 serial; 1 parallel			
Maximum	4 serial; 2 parallel			
Mouse and keyboard support	2 × Mini-DIN			
Mass Storage	Desktop:			Mini tower:
Mass storage shelves	2 front-accessible 5¼", half-height			3 front-accessible 5¼", half-height
	1 front-accessible 3½", third-height			1 front-accessible 3½", third-height
	1 internal 3½" 1 half-, 1 third-height			2 internal 3½" 1 half-, 1 third-height
Maximum internal data	2 GB			4 GB

storage

Power Supply	30 W (typical); 150 W (maximum) on desktop models; 220 W (maximum) on mini-tower models
Memory Upgrade Path	

1 Includes 16-bit Sound Blaster sound card, 4x IDE CD-ROM, ergonomic control panel and speaker.

HP Vectra VE Series 2 5/133 PC 1

Information subject to change whithout notice

Model Information

Model number	Model 1280	Model 1280
Product number	D4042A	D4045A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB
Hard disk capacity	1.2 GB	1.2 GB
Hard disk controller	Enhanced IDE on PCI	Enhanced IDE on PCI
Standard memory - EDO RAM	8 MB	16 MB
Video RAM	1 MB	1 MB
Video adapter	Ultra VGA (PCI bus)	Ultra VGA (PCI bus)
Multimedia	No	No
Mouse	Yes	Yes
Pre-installed software:		
MS-DOS 6.22	Yes	Yes <u>or</u> Windows 95 (one-time selection)
Microsoft Windows for Workgroups 3.11	Yes	Yes <u>or</u> Windows 95 (one-time selection)
Dashboard 2.01	Yes	Yes
Processor Type	Intel Pentium 133-MHz	
Internal clock speed	133 MHz	
System clock speed	66 MHz	
Internal cache	16-KB integrated cache memory	
Memory		
Maximum	128 MB	
Bus width/speed	64 bit/66 MHz	
Package Type	Desktop	

Upgrades

Second-level cache upgrade	256-KB asynchronous cache	Product # D4049A
	256-KB synchronous pipeline burst cache	Product # D3659A
DRAM video upgrade	1-MB Upgrade Kit	Product # D3500A
Coprocessor	Integrated	

Accessory Slots

8/16-bit ISA slots	2
Shared 8/16-bit and 32-bit PCI slots	1
32-bit PCI slot	1

I/O Ports

Standard	2 serial; 1 parallel
Maximum	4 serial; 2 parallel
Mouse and keyboard support	2 × Mini-DIN

Mass Storage

Mass storage shelves	2 front-accessible 5¼", half-height
	1 front-accessible 3½", third-height
	1 internal 3½" 1 half-, 1 third-height
Maximum internal data storage	2 GB
Power Supply	30 W (typical); 150 W (maximum)
Memory Upgrade Path	

1 Not available before February 1996 - check with your local HP sales office.

HP Vectra VE Series 2 5/100 PC 1

Information subject to change whithout notice

Model Information

Model number	Model 640	Model 640	
Product number	D4022A	D4025A	
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB	
Hard disk capacity	640 MB	640 MB	
Hard disk controller	Enhanced IDE on PCI	Enhanced IDE on PCI	
Standard memory - EDO RAM	8 MB	16 MB	
Video RAM	1 MB	1 MB	
Video adapter	Ultra VGA (PCI bus)	Ultra VGA (PCI bus)	
Multimedia	No	No	
Mouse	Yes	Yes	
Pre-installed software:			
MS-DOS 6.22	Yes	Yes <u>or</u> Windows 95 (one-time selection)	
Microsoft Windows for Workgroups 3.11	Yes	Yes <u>or</u> Windows 95 (one-time selection)	
Dashboard 2.01	Yes	Yes	
Processor Type	Intel Pentium 100-MHz		
Internal clock speed	100 MHz		
System clock speed	66 MHz		
Internal cache	16-KB integrated cache memory		
Memory			
Maximum	128 MB		
Bus width/speed	64 bit/66 MHz		
Package Type	Desktop		
Upgrades			
Second-level cache upgrade	256-KB asynchronous cache		Product # D4049A
	256-KB synchronous pipeline burst cache		Product # D3659A
DRAM video upgrade	1-MB Upgrade Kit		Product # D3500A
Coprocessor	Integrated		
Accessory Slots			
8/16-bit ISA slots	2		
Shared 8/16-bit and 32-bit PCI slots	1		
32-bit PCI slot	1		
I/O Ports			
Standard	2 serial; 1 parallel		
Maximum	4 serial; 2 parallel		
Mouse and keyboard support	2 × Mini-DIN		
Mass Storage			
Mass storage shelves	2 front-accessible 5¼", half-height		
	1 front-accessible 3½", third-height		
	1 internal 3½" 1 half-, 1 third-height		
Maximum internal data storage	2 GB		
Power Supply	30 W (typical); 150 W (maximum)		
Memory Upgrade Path			

1 Not available before February 1996 - check with your local HP sales office.

HP Vectra VE Series 2 5/75 PC 1

Information subject to change whithout notice

Model Information

Model number	Model 640	Model 640

Product number	D4002A	D4005A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB
Hard disk capacity	640 MB	640 MB
Hard disk controller	Enhanced IDE on PCI	Enhanced IDE on PCI
Standard memory - EDO RAM	8 MB	16 MB
Video RAM	1 MB	1 MB
Video adapter	Ultra VGA (PCI bus)	Ultra VGA (PCI bus)
Multimedia	No	No
Mouse	Yes	Yes
Pre-installed software:		
MS-DOS 6.22	Yes	Yes _or_ Windows 95 (one-time selection)
Microsoft Windows for Workgroups 3.11	Yes	Yes _or_ Windows 95 (one-time selection)
Dashboard 2.01	Yes	Yes

Processor Type Intel Pentium 75-MHz
Internal clock speed 75 MHz
System clock speed 50 MHz
Internal cache 16-KB integrated cache memory
Memory
Maximum 128 MB
Bus width/speed 64 bit/66 MHz
Package Type Desktop
Upgrades

Second-level cache upgrade	256-KB asynchronous cache	Product # D4049A
	256-KB synchronous pipeline burst cache	Product # D3659A
DRAM video upgrade	1-MB Upgrade Kit	Product # D3500A

Coprocessor Integrated
Accessory Slots
8/16-bit ISA slots 2
Shared 8/16-bit and 32-bit PCI slots 1
32-bit PCI slot 1
I/O Ports
Standard 2 serial; 1 parallel
Maximum 4 serial; 2 parallel
Mouse and keyboard support 2 × Mini-DIN
Mass Storage
Mass storage shelves 2 front-accessible 5¼", half-height
  1 front-accessible 3½", third-height
  1 internal 3½" 1 half-, 1 third-height
Maximum internal data storage 2 GB
Power Supply 30 W (typical); 150 W (maximum)
Memory Upgrade Path

1 Not available before February 1996 - check with your local HP sales office.

HP Vectra VE 4/100 PC
Information subject to change whithout notice
Model Information

Model number	Model 420	Model 840
Product number	D3502A	D3503A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB
Hard disk capacity	420 MB	840 MB
Hard disk controller	Enhanced IDE on PCI	Enhanced IDE on PCI
Standard memory	8 MB	8 MB
Video RAM	1 MB	1 MB

Video adapter	Accelerated SVGA on PCI	Accelerated SVGA on PCI
Mouse	Yes	Yes
Pre-installed software:		
MS-DOS 6.22	Yes	Yes
Microsoft Windows for Workgroups 3.11	Yes	Yes
Dashboard 2.01	Yes	Yes
Processor Type	DX4 100-MHz	
Internal clock speed	100 MHz	
System clock speed	33 MHz	
Internal cache	16-KB integrated cache memory	
Memory		
Maximum	64 MB	
Bus width/speed	32 bit/33 MHz	
Package Type	Mid-size desktop	
Upgrades		
Processor upgrade	N/A	
Second-level cache upgrade	256-KB Cache Upgrade	Product # D2465A
DRAM video upgrade	1-MB Upgrade Kit	Product # D3500A
Coprocessor	Integrated	
Accessory Slots		
8/16-bit ISA slots	2	
Shared 8/16-bit and 32-bit PCI slots	1	
32-bit PCI slot	1	
I/O Ports		
Standard	2 serial; 1 parallel	
Maximum	4 serial; 3 parallel	
Mouse and keyboard support	2 × Mini-DIN	
Mass Storage		
Mass storage shelves	1 front-accessible 5¼", half-height	
	1 front-accessible 3½", third-height	
	2 internal 3½" 1 half-height, 1 third-height	
Maximum internal data storage	1.5 GB	
Power Supply	30 W (typical); 100 W (maximum)	
Memory Upgrade Path		

HP Vectra VE 4/66 PC

Information subject to change whithout notice

Model Information

Model number	Model 420	Model 840	Model 840
Product number	D3496A	D3497A	D3499A
Flexible disk size/capacity	3½", 1.44 MB	3½", 1.44 MB	3½", 1.44 MB
Hard disk capacity	420 MB	840 MB	840 MB
Hard disk controller	Enhanced IDE on PCI	Enhanced IDE on PCI	Enhanced IDE on PCI
Standard memory	8 MB	8 MB	16 MB
Video RAM	1 MB	1 MB	1 MB
Video adapter	Accelerated SVGA on PCI	Accelerated SVGA on PCI	Accelerated SVG on PCI
Mouse	Yes	Yes	Yes
Pre-installed software:			
MS-DOS 6.22	Yes	Yes	Yes or Windows 95 (one-time selection)
Microsoft Windows for Workgroups 3.11	Yes	Yes	Yes or Windows 95 (one-time selection)
Dashboard 2.01	Yes	Yes	Yes
Processor Type	DX2 66-MHz		
Internal clock speed	66 MHz		
System clock speed	33 MHz		

Internal cache	8-KB integrated cache memory
Memory	
Maximum	64 MB
Bus width/speed	32 bit/33 MHz
Package Type	Mid-size desktop
Upgrades	
Processor upgrade	N/A
Second-level cache upgrade	256-KB Cache Upgrade Product # <u>D2465A</u>
DRAM video upgrade	1-MB Upgrade Kit Product # <u>D3500A</u>
Coprocessor	Integrated
Accessory Slots	
8/16-bit ISA slots	2
Shared 8/16-bit and 32-bit PCI slots	1
32-bit PCI slot	1
I/O Ports	
Standard	2 serial; 1 parallel
Maximum	4 serial; 3 parallel
Mouse and keyboard support	2 × Mini-DIN
Mass Storage	
Mass storage shelves	1 front-accessible 5¼", half-height
	1 front-accessible 3½", third-height
	2 internal 3½" 1 half-height, 1 third-height
Maximum internal data storage	1.5 GB
Power Supply	30 W (typical); 100 W (maximum)
Memory Upgrade Path	

HP OmniBook 5000CTS 5/120 PC

Information subject to change whithout notice

Model Information

Model number	Model 1200 (CTS)
Product number	<u>F1198A</u>
Hard disk capacity	1.2 GB
Standard memory	16 MB
Pointing device	Trackball (25 mm)
Processor Type	Intel Pentium 120-MHz with 256-KB external cache
Memory	
Maximum	Upgradeable to 64 MB 1
Bus width/speed/architecture	32 bit/33 MHz/PCI
Package	
Dimensions	29.5 × 22.5 × 4.9 cm (11.6 × 8.8 × 1.93 in)
Weight	3.08 kilogrammes (6.8 lbs)
Display	
Integrated	800 × 600 colour (256 colours)
	10.4" diagonal STFT
	1.5 MB VRAM
External	Up to 1024 × 768 × 256 colours in noninterlaced mode

Resolution	Maximum Colours
640 × 480	16, 256, 32 K, or 64 K
800 × 600	16 or 256
1024 × 768	16 or 256

I/O	1 serial port; 1 parallel port; SCSI-2 interface
Infra-red	115 Kbaud bi-directional
PCMCIA	One Type III PCMCIA slot (or use as two Type II slots)
Video	SVGA-out port (up to 1024 × 768 × 256 colours) and NSTC/PAL output
Other	Docking station
	Headphone/stereo-out port, microphone port and stereo-in port
	Mini-DIN mouse or keyboard port; Y adapter to connect both keyboard and

Audio	mouse; joystick adapter	
	16-bit SoundBlaster compatible	
	Stereo sound via two built-in speakers	
Keyboard	85-key, touch-type keyboard	
	Embedded numeric keypad	
	Industry-standard, full-sized key spacing with full-size keys	
	12 PC function keys in compact layout	
Pre-installed software on hard disk	MS-DOS 6.22	
	Microsoft Windows 3.11 <u>or</u> Windows 95 (one-time selection)	
	Organiser Tools - Phone Book - LapLink Remote	
	IRDA Printer Driver for HP LaserJet 5P	
	Security Software	
Power	14.4 V DC rechargeable battery pack with lithium ion cells	
	Battery pack rechargeable in approx 4 hours using AC adapter	
	Battery life up to 3.5 hours - can be doubled with second battery - Instant-on function	
	AC adapter 100 to 240 V AC (50 to 60 Hz): 12 V DC, 1.35 A output	
Accessories		
RAM	8-MB RAM expansion	Product # <u>F1134A</u>
	16-MB RAM expansion	Product # <u>F1135A</u>
	32-MB RAM expansion	Product # <u>F1136A</u>
Mass Storage	170-MB PCMCIA hard disk drive	Product # <u>F1068A</u>
	260-MB PCMCIA hard disk drive	Product # <u>F1069A</u>
	340-MB PCMCIA hard disk drive	Product # <u>F1070A</u>
	540-MB hard disk drive	Product # <u>F1156A</u>
	810-MB hard disk drive	Product # <u>F1138A</u>
	1.2-GB hard disk drive	Product # <u>F1139A</u>
	5-MB/5V PCMCIA flash disk card	Product # <u>F1012B</u>
	10-MB/5V PCMCIA flash disk card	Product # <u>F1013B</u>
	20-MB/5V PCMCIA flash disk card	Product # <u>F1014B</u>
Floppy drive	3½" flexible disk drive module	Product # <u>F1079A</u>
Power	AC Adapter	Product # <u>F1044B</u>
	Lithium Ion Battery Pack	Product # <u>F1137A</u>
	External Battery Charger	Product # <u>F1074A</u>
	Automobile Adapter	Product # <u>F1064A</u>
Docking	Docking Station	Product # <u>F1189A</u>
Cable	Y Adapter and Joystick Adapter	Product # <u>F1181A</u>
Warranty	Three-year warranty	

1 To reach 64 MB maximum RAM, 32 MB memory board must be installed.

HP OmniBook 5000CT/CTS 5/90 PC

Information subject to change whithout notice

Model Information

Model number	Model 810 (CT)	Model 1200 (CT)	Model 1200 (CTS)
Product number	F1341A	F1130A	F1131A
Hard disk capacity	810 MB	1.2 GB	1.2 GB
Standard memory	8 MB	8 MB	16 MB
Pointing device	Trackball (25 mm)	Trackball (25 mm)	Trackball (25 mm)
Processor Type	Intel Pentium 90-MHz with 256-KB external cache		
Memory			
Maximum	Upgradeable to 64 MB 1		
Bus width/speed/architecture	32 bit/33 MHz/PCI		
Package			
Dimensions	29.5 × 22.5 × 4.9 cm (11.6 × 8.8 × 1.93 in)		
Weight	3.08 kilogrammes (6.8 lbs)		

Display

Integrated	640 × 480 colour (up to 64,000 colours)	640 × 480 colour (up to 64,000 colours)	800 × 600 colour (256 colours)
	10.4" diagonal TFT	10.4" diagonal TFT	10.4" diagonal STFT
	1.5 MB VRAM	1.5 MB VRAM	1.5 MB VRAM

External   Up to 1024 × 768 × 256 colours in noninterlaced mode

Resolution	Maximum Colours
640 × 480	16, 256, 32 K, or 64 K
800 × 600	16 or 256
1024 × 768	16 or 256

I/O	1 serial port; 1 parallel port; SCSI-2 interface
Infra-red	115 Kbaud bi-directional
PCMCIA	One Type III PCMCIA slot (or use as two Type II slots)
Video	SVGA-out port (up to 1024 × 768 × 256 colours) and NSTC/PAL output
Other	Docking station
	Headphone/stereo-out port, microphone port and stereo-in port
	Mini-DIN mouse or keyboard port; Y adapter to connect both keyboard and mouse; joystick adapter
Audio	16-bit SoundBlaster compatible
	Stereo sound via two built-in speakers
Keyboard	85-key, touch-type keyboard
	Embedded numeric keypad
	Industry-standard, full-sized key spacing with full-size keys
	12 PC function keys in compact layout
Pre-installed software on hard disk	MS-DOS 6.22
	Microsoft Windows 3.11 or Windows 95 (one-time selection)
	Organiser Tools - Phone Book - LapLink Remote
	IRDA Printer Driver for HP LaserJet 5P
	Security Software
Power	14.4 V DC rechargeable battery pack with lithium ion cells
	Battery pack rechargeable in approx 4 hours using AC adapter
	Battery life up to 3.5 hours - can be doubled with second battery - Instant-on function
	AC adapter 100 to 240 V AC (50 to 60 Hz): 12 V DC, 1.35 A output

Accessories

RAM	8-MB RAM expansion	Product # F1134A
	16-MB RAM expansion	Product # F1135A
	32-MB RAM expansion	Product # F1136A
Mass Storage	170-MB PCMCIA hard disk drive	Product # F1068A
	260-MB PCMCIA hard disk drive	Product # F1069A
	340-MB PCMCIA hard disk drive	Product # F1070A
	540-MB hard disk drive	Product # F1156A
	810-MB hard disk drive	Product # F1138A
	1.2-GB hard disk drive	Product # F1139A
	5-MB/5V PCMCIA flash disk card	Product # F1012B
	10-MB/5V PCMCIA flash disk card	Product # F1013B
	20-MB/5V PCMCIA flash disk card	Product # F1014B
Floppy drive	3½" flexible disk drive module	Product # F1079A
Power	AC Adapter	Product # F1044B
	Lithium Ion Battery Pack	Product # F1137A
	External Battery Charger	Product # F1074A
	Automobile Adapter	Product # F1064A
Docking	Docking Station	Product # F1189A
Cable	Y Adapter and Joystick Adapter	Product # F1181A
Warranty	Three-year warranty	

1 To reach 64 MB maximum RAM, 32 MB memory board must be installed.

HP OmniBook 5000C/CT VL 5/90 PC

Information subject to change whithout notice

Model Information

	Model 810 (C)	Model 1200 (CT)
Model number		
Product number	F1127A	F1129A
Hard disk capacity	810 MB	1.2 GB
Standard memory	8 MB	8 MB
Pointing device	Trackball (25 mm)	Trackball (25 mm)
Processor Type	Intel Pentium 90-MHz	
Memory		
Maximum	Upgradeable to 64 MB 1	
Bus width/speed/architecture	32 bit/33 MHz/PCI	
Package		
Dimensions	29.5 × 22.5 × 4.9 cm (11.6 × 8.8 × 1.93 in)	29.5 × 22.5 × 4.9 cm (11.6 × 8.8 × 1.93 in)
Weight	3.17 kilogrammes (7.0 lbs)	3.08 kilogrammes (6.8 lbs)
Display		
Integrated	640 × 480 colour (up to 256 colours) 10.4" VGA DSTN 1.5 MB VRAM	640 × 480 colour (up to 64,000 colours) 10.4" VGA TFT 1.5 MB VRAM
External	Up to 1024 × 768 × 256 colours in noninterlaced mode	

Resolution	Maximum Colours
640 × 480	16, 256, 32 K, or 64 K
800 × 600	16 or 256
1024 × 768	16 or 256

I/O	1 serial port; 1 parallel port
Infra-red	115 Kbaud bi-directional
PCMCIA	One Type III PCMCIA slot (or use as two Type II slots)
Video	SVGA-out port (up to 1024 × 768 × 256 colours) and NSTC/PAL output
Other	Docking station
	Headphone/stereo-out port, microphone port and stereo-in port
	Mini-DIN mouse or keyboard port; Y adapter to connect both keyboard and mouse; joystick adapter
Audio	16-bit SoundBlaster compatible
	Stereo sound via two built-in speakers
Keyboard	85-key, touch-type keyboard
	Embedded numeric keypad
	Industry-standard, full-sized key spacing with full-size keys
	12 PC function keys in compact layout
Pre-installed software on hard disk	MS-DOS 6.22
	Microsoft Windows 3.11 or Windows 95 (one-time selection)
	Organiser Tools - Phone Book - LapLink Remote
	IRDA Printer Driver for HP LaserJet 5P
	Security Software
Power	14.4 V DC rechargeable NiMH battery pack
	Battery pack rechargeable in approx 2.5 hours using AC adapter
	Battery life up to 2.5 hours (TFT), 3 hours (DSTN) - can be doubled with second battery - Instant-on function
	AC adapter 100 to 240 V AC (50 to 60 Hz): 12 V DC, 1.35 A output

Accessories

RAM	8-MB RAM expansion	Product # F1134A
	16-MB RAM expansion	Product # F1135A
	32-MB RAM expansion	Product # F1136A
Mass Storage	170-MB PCMCIA hard disk drive	Product # F1068A
	260-MB PCMCIA hard disk drive	Product # F1069A
	340-MB PCMCIA hard disk drive	Product # F1070A

	540-MB hard disk drive	Product # <u>F1156A</u>
	810-MB hard disk drive	Product # <u>F1138A</u>
	1.2-GB hard disk drive	Product # <u>F1139A</u>
	5-MB/5V PCMCIA flash disk card	Product # <u>F1012B</u>
	10-MB/5V PCMCIA flash disk card	Product # <u>F1013B</u>
	20-MB/5V PCMCIA flash disk card	Product # <u>F1014B</u>
Floppy drive	3½" flexible disk drive module	Product # <u>F1079A</u>
Power	AC Adapter	Product # <u>F1044B</u>
	Lithium Ion Battery Pack	Product # <u>F1137A</u>
	External Battery Charger	Product # <u>F1074A</u>
	Automobile Adapter	Product # <u>F1064A</u>
Docking	Docking Station	Product # <u>F1189A</u>
Cable	Y Adapter and Joystick Adapter	Product # <u>F1181A</u>
Warranty	One-year warranty	

1 To reach 64 MB maximum RAM, 32 MB
   memory board must be installed.

HP OmniBook 5000C VL 5/75 PC
Information subject to change whithout notice
Model Information

Model number	Model 540 (C)	Model 810 (C)
Product number	<u>F1126A</u>	<u>F1340A</u>
Hard disk capacity	540 MB	810 MB
Standard memory	8 MB	8 MB
Pointing device	Trackball (25 mm)	Trackball (25 mm)

Processor Type Intel Pentium 75-MHz

Memory

Maximum	Upgradeable to 64 MB 1
Bus width/speed/architecture	32 bit/33 MHz/PCI

Package

Dimensions	29.5 × 22.5 × 4.9 cm (11.6 × 8.8 × 1.93 in)
Weight	3.17 kilogrammes (7.0 lbs)

Display

Integrated	640 × 480 colour (up to 256 colours)
	10.4" VGA DSTN
	1.5 MB VRAM
External	Up to 1024 × 768 × 256 colours in noninterlaced mode

Resolution	Maximum Colours
640 × 480	16, 256, 32 K, or 64 K
800 × 600	16 or 256
1024 × 768	16 or 256

I/O	1 serial port; 1 parallel port
Infra-red	115 Kbaud bi-directional
PCMCIA	One Type III PCMCIA slot (or use as two Type II slots)
Video	SVGA-out port (up to 1024 × 768 × 256 colours) and NSTC/PAL output
Other	Docking station
	Headphone/stereo-out port, microphone port and stereo-in port
	Mini-DIN mouse or keyboard port; Y adapter to connect both keyboard and mouse; joystick adapter
Audio	16-bit SoundBlaster compatible
	Stereo sound via two built-in speakers
Keyboard	85-key, touch-type keyboard
	Embedded numeric keypad
	Industry-standard, full-sized key spacing with full-size keys
	12 PC function keys in compact layout
Pre-installed software on hard disk	MS-DOS 6.22
	Microsoft Windows 3.11 <u>or</u> Windows 95 (one-time selection)

	Organiser Tools - Phone Book - LapLink Remote	
	IRDA Printer Driver for HP LaserJet 5P	
	Security Software	
Power	14.4 V DC rechargeable NiMH battery pack	
	Battery pack rechargeable in approx 2.5 hours using AC adapter	
	Battery life up to 3 hours - can be doubled with second battery - Instant-on function	
	AC adapter 100 to 240 V AC (50 to 60 Hz): 12 V DC, 1.35 A output	
Accessories		
RAM	8-MB RAM expansion	Product # F1134A
	16-MB RAM expansion	Product # F1135A
	32-MB RAM expansion	Product # F1136A
Mass Storage	170-MB PCMCIA hard disk drive	Product # F1068A
	260-MB PCMCIA hard disk drive	Product # F1069A
	340-MB PCMCIA hard disk drive	Product # F1070A
	540-MB hard disk drive	Product # F1156A
	810-MB hard disk drive	Product # F1138A
	1.2-GB hard disk drive	Product # F1139A
	5-MB/5V PCMCIA flash disk card	Product # F1012B
	10-MB/5V PCMCIA flash disk card	Product # F1013B
	20-MB/5V PCMCIA flash disk card	Product # F1014B
Floppy drive	3½" flexible disk drive module	Product # F1079A
Power	AC Adapter	Product # F1044B
	Lithium Ion Battery Pack	Product # F1137A
	External Battery Charger	Product # F1074A
	Automobile Adapter	Product # F1064A
Docking	Docking Station	Product # F1189A
Cable	Y Adapter and Joystick Adapter	Product # F1181A
Warranty	One-year warranty	

1 To reach 64 MB maximum RAM, 32 MB memory board must be installed.

HP OmniBook 600CT 4/75 PC

Information subject to change whithout notice

Model Information

Model number	Model 340
Product number	F1115A
Hard disk capacity	340 MB
Standard memory	8 MB
Pointing device	Pop-up mouse
Processor Type	IntelDX4 75-MHz
Memory	
Maximum	Upgradeable to 32 MB
Package	
Dimensions	18.4 × 28.2 × 3.9 cm (7.28 × 11.1 × 1.5 in)
Weight	1.72 kilogrammes (3.8 lbs)
Display	
Integrated	640 × 480 backlit colour VGA (256 colours)
	9.4" diagonal TFT
External	VGA-out supports VGA and SVGA monitors (up to 1024 × 768 × 256 colours)
	Accelerated local bus video with 1-MB VRAM
Audio	2 x 16-bit built-in speakers
	Windows Sound pre-installed
I/O	1 serial port; 1 parallel port
Infra-red	115 Kbaud bi-directional
PCMCIA	One Type III PCMCIA slot (or use as two Type II slots)
Video	SVGA-out port (up to 1024 × 768 × 256 colours)
Audio	Speaker output and microphone

Other	Enhanced port replicator	
	Floppy drive port	
Keyboard	85-key, touch-type keyboard	
	Embedded numeric keypad	
	Industry-standard, full-sized key spacing with full-size keys	
	12 PC function keys in compact layout	
Pre-installed software on hard disk	MS-DOS 6.2	
	Microsoft Windows for Workgroups 3.11	
	Traveling Software LapLink Remote Access	
	Organiser Tools Phone Book	
	IRDA Printer Driver for HP LaserJet 5P	
	HP Financial Calculator	
Power	9.6 V DC rechargeable battery pack with lithium ion cells	
	Battery pack rechargeable in approx 2 hours using AC adapter	
	Battery life up to 3.5 hours Instant-on function	
	AC adapter 100 to 240 V AC (50 to 60 Hz): 12 V DC, 2.5 A output	
Accessories		
RAM	4-MB, 70 ns DRAM memory RAM expansion	Product # F1054A
	8-MB, 70 ns DRAM memory RAM expansion	Product # F1055B
	16-MB, 70 ns DRAM memory RAM expansion	Product # F1123A
	24-MB, 70 ns DRAM memory RAM expansion	Product # F1124A
Mass Storage	5-MB/5V PCMCIA flash disk card	Product # F1012B
	10-MB/5V PCMCIA flash disk card	Product # F1013B
	20-MB/5V PCMCIA flash disk card	Product # F1014B
	170-MB PCMCIA hard disk drive	Product # F1068A
	260-MB PCMCIA hard disk drive	Product # F1069A
	340-MB PCMCIA hard disk drive	Product # F1070A
Floppy drive	External 3½" floppy drive	Product # F1059B
Replacement	Pop-up mouse	Product # F1049A
	Lithium Ion Battery Pack	Product # F1121A
	AC Adapter	Product # F1044B
Power	Powerclip External Auto Adapter	Product # F1063B
	Automobile Adapter	Product # F1064A
Docking	Enhanced Port Replicator	Product # F1071A
	100VG LAN Adapter (requires F1071A)	Product # J2573A
	16-bpt 10Base-T LAN (requires F1071A)	Product # 27247B
Warranty	Three-year warranty	

HP OmniBook 600C 4/75 PC

Information subject to change whithout notice

Model Information

Model number	Model 340
Product number	F1113A
Hard disk capacity	340 MB
Standard memory	8 MB
Pointing device	Pop-up mouse
Processor Type	IntelDX4 75-MHz

Memory

Maximum	Upgradeable to 16 MB

Package

Dimensions	18.4 × 28.2 × 3.9 cm (7.28 × 11.1 × 1.5 in)
Weight	1.72 kilogrammes (3.8 lbs)

Display

Integrated	640 × 480 backlit colour VGA (256 colours)
	8.5" diagonal DSTN
External	VGA-out supports VGA and SVGA monitors (up to 1024 × 768 × 256 colours)
	Accelerated local bus video with 1-MB VRAM

I/O — 1 serial port; 1 parallel port

Infra-red	115 Kbaud bi-directional
PCMCIA	One Type III PCMCIA slot (or use as two Type II slots)
Video	SVGA-out port (up to 1024 × 768 × 256 colours)
Other	Enhanced port replicator
	Floppy drive port

Keyboard

85-key, touch-type keyboard
Embedded numeric keypad
Industry-standard, full-sized key spacing with full-size keys
12 PC function keys in compact layout

Pre-installed software on hard disk — MS-DOS 6.2

Microsoft Windows for Workgroups 3.11
Traveling Software LapLink Remote Access
Organiser Tools   Phone Book
HP Financial Calculator

Power

9.6 V DC rechargeable battery pack with nickel metal hydride cells
Battery pack rechargeable in approx 2 hours using AC adapter
Battery life up to 3.5 hours   Instant-on function
AC adapter   100 to 240 V AC (50 to 60 Hz): 12 V DC, 2.5 A output

Accessories

RAM	4-MB, 70 ns DRAM memory RAM expansion	Product # F1054A
	8-MB, 70 ns DRAM memory RAM expansion	Product # F1055B
Mass Storage	5-MB/5V PCMCIA flash disk card	Product # F1012B
	10-MB/5V PCMCIA flash disk card	Product # F1013B
	20-MB/5V PCMCIA flash disk card	Product # F1014B
	170-MB PCMCIA hard disk drive	Product # F1068A
	260-MB PCMCIA hard disk drive	Product # F1069A
	340-MB PCMCIA hard disk drive	Product # F1070A
Floppy drive	External 3½" floppy drive	Product # F1059B
Replacement	Pop-up mouse	Product # F1049A
	NIMH battery pack	Product # F1058A
	Lithium ion battery pack	Product # F1121A
	AC Adapter	Product # F1044B
Power	Powerclip External Auto Adapter	Product # F1063B
	Automobile Adapter	Product # F1064A
Docking	Enhanced Port Replicator	Product # F1071A
	100VG LAN Adapter (requires F1071A)	Product # J2573A
	16-bpt 10Base-T LAN (requires F1071A)	Product # 27247B

Warranty   Three-year warranty

HP 200LX Palmtop PC

Information subject to change whithout notice

Model Information

Model number	HP 200LX 1-MB	HP 200LX 2-MB
Product number	F1060A	F1061A
Internal RAM	1 MB	2 MB

Package

Dimensions	16 × 8.64 × 2.54 cm (6.3 × 3.4 × 1.0 in)
Weight	312 grammes (11 oz)
Processor Type	Intel 80C186 7.91 MHz
Display	80 char × 25 lines
	640 × 200 graphics
	CGA compatible

I/O

PCMCIA	Version 2.0 Type II
Serial interface	Full implementation
Infra-red	115 Kbaud
Built-in Applications	MS-DOS 5.0
	Pocket Quicken®
	Lotus ® 1-2-3® v2.4
	cc:Mail® Mobile
	LapLink Remote Access from Traveling Software Inc.
	Appointment book
	Phone book
	HP financial calculator
	Data communications
	Text editor (outliner)
	Database
	Note taker
	World time and stopwatch
	Filer
	Setup
Power	2 AA (LR6) batteries or rechargeable batteries plus 1 CR2032 backup battery
Accessories	1.8-MB/5V Flash Disk Card	Product # F1024A
	5-MB/5V Flash Disk Card	Product # F1012B
	10-MB/5V Flash Disk Card	Product # F1013B
	20-MB/5V Flash Disk Card	Product # F1014B
	40-MB/5V Flash Disk Card	Product # F1211A
	Connectivity Pack - MS-DOS based	Product # F1021B English
	Connectivity Pack - MS-DOS based	Product # F1021C Multilingual
	PC-compatible Cable	Product # F1015A
	MAC-compatible Cable	Product # F1016A
	Connector/Adaptor Kit	Product # F1023A
	Dictionary/Thesaurus Card	Product # F1005A
	AC/DC Adapter	Product # F1011A
Warranty	One-year warranty

HP 1000CX Palmtop PC

Information subject to change whithout notice

Model Information

Model number	HP 1000CX
Product number	F1203A
Internal RAM	1 MB

Package

Dimensions   16 × 8.64 × 2.54 cm (6.3 × 3.4 × 1.0 in)

Weight   312 grammes (11 oz)

Processor Type   Intel 80C186   7.91 MHz

Display   80 char × 25 lines

                         640 × 200 graphics

                         CGA compatible

I/O

PCMCIA   Version 2.0 Type II

Serial interface   Full implementation

Infra-red   115 Kbaud

Built-in Applications   MS-DOS 5.0

                         Phoenix BIOS

                         Setup Utilities (DOS version)

                         LapLink Remote Access from Traveling Software Inc. (DOS version)

Power   2 AA (LR6) batteries or rechargeable batteries plus 1 CR2032 backup battery

Accessories		
1.8-MB/5V Flash Disk Card	Product # F1024A	
5-MB/5V Flash Disk Card	Product # F1012B	
10-MB/5V Flash Disk Card	Product # F1013B	
20-MB/5V Flash Disk Card	Product # F1014B	
40-MB/5V Flash Disk Card	Product # F1211A	
Connectivity Pack - MS-DOS based	Product # F1021B	English 1
Connectivity Pack - MS-DOS based	Product # F1021C	Multilingual 1
PC-compatible Cable	Product # F1015A	
MAC-compatible Cable	Product # F1016A	
Connector/Adaptor Kit	Product # F1023A	
AC/DC Adapter	Product # F1011A	

Warranty   One-year warranty

1 Only for Laplink Remote application

HP OmniGo 100 - Organiser Plus

Information subject to change whithout notice

Model Information

Model number   HP OmniGo 100

Product number   F1310A

Internal RAM   1 MB SRDRAM

Package

Dimensions   15.3 × 9.5 × 2.54 cm (5.99 × 3.74 × 1.0 in)

Weight   310 grammes (10.9 oz)

Processor Type   Intel 80186   16 MHz

Display   240 × 240 FSTN LCD

I/O

PCMCIA   Version 2.0 Type II

Serial interface   Full implementation

Built-in Applications   Geoworks operating system

                         Appointment book

                         Phone book

                         Note pad

                         Database

                         World time

                         HP business calculator (TVM, cash flows, business %, HP solver, statistics, conversions, date calcs, etc)

	HP 12C Emulator	
	Spreadsheet	
	Pen input, including:	
	- Graffiti® handwriting character recognition	
	- "Digital ink" across applications	
	- Jotter ("capture first, organise later")	
	- Geos Pen operating system	
Power	2 AA (LR6) batteries plus 1 CR2032 backup battery	
Accessories	1.8-MB/5V Flash Disk Card	Product # F1024A
	5-MB/5V Flash Disk Card	Product # F1012B
	10-MB/5V Flash Disk Card	Product # F1013B
	20-MB/5V Flash Disk Card	Product # F1014B
	40-MB/5V Flash Disk Card	Product # F1211A
	PC Connectivity Pack for OmniGo 100 and 200 LX - Windows based	Product # F1311A
	PC-compatible Cable	Product # F1015A
	Connector/Adaptor Kit	Product # F1023A
	5 Strategy Games (software on diskette + PC cable)	Product # F1313A
	Clip & Go - copy/cut/paste from OmniGo 100 to Windows	
	applications (software on diskette + PC cable)	Product # F1312A
Warranty	One-year warranty	

HP SCIENTIFIC AND GRAPHIC CALCULATORS

Information subject to change whithout notice

Product Name	20S	32SII	38G	48G/48GX
Model Number	**20S**	**32SII**	**F1200A**	**48G/48GX**
Physical Features				
Display	1 line × 12 char. LCD	1 line × 12 char. LCD	8 line × 22 char. LCD	8 line × 22 char. LCD
Entry system logic	Algebraic	RPN	Algebraic	RPN
Menus, prompts, alpha messages, softkeys	No	Yes	Yes	Yes
RAM/no of variables or registers	99 steps, 10 reg	384 bytes, 26 var.	32 KB, Mem	32 KB, Mem (G) 128 KB, Mem (GX)
Built-in functions	Over 150	Over 180	Over 600	Over 2300
Redefineable keyboard and menu keys	No	No	Yes	Yes
Math and Statistical Features				
+, , X, /, sq. root, 1/x, ±, 1nx, ex, n!, yx, logx, 10x, x2, %, pi	Yes	Yes	Yes	Yes
Fractions	No	Yes	Yes	No
Trig., Hyperbolics, HP Solve (root finder)	Trig., Hyper only	Yes	Yes	Yes
Numeric integration/ Complex number functions	No	Yes	Yes	Yes
Statistical analysis	Cumulative	Cumulative	Multivariate/stat	Multivariate/stat
SUM x, SUM x2, SUM y, SUM y2, SUM xy	Yes	Yes	Yes	Yes
Sample standard deviation/mean/ weighted mean	Yes	Yes	Yes + Population standard deviation	Yes
Linear regression, combinations, permutations	Yes	Yes	Yes	Yes
Curve fit (LIN, LOG, EXP, POW)	No	No	Yes	Yes
Normal, X, t, F distribution	No	No	No	Yes
Scientific Features				
Decimal hrs/hrs.min.sec. conversions	Yes	Yes	No	Yes
Polar/rectangular and angle	Yes	Yes	Yes	Yes

conversions

Base conversions and arithmetic	Yes	Yes	No	Yes
Unit conversions	Yes	Yes	No	Yes
Bit, Boolean operations	No	No	No	Yes
Vector and Matrix Operations				
Matrix operations, rectangular and polar	No	No	Yes	Yes
Cylindrical, spherical	No	No	No	Yes
HP matrix writer, row and column operations	No	No	Yes	Yes
APLETS (built-in or added applications including Note and Sketch menus)	No	No	Yes	No
Notepad	No	No	Yes (built-in)	Yes (through variables)
Graphic Functions with interactive graphics	No	No	2D	3D
Customising Features				
Method	Keystroke	HP Solve/Keystroke	HP Solve/RPL 1	HP Solve/RPL 1
No. of steps/formulas or programs/formulas	99/16	384/27	MEM/MEM 2	MEM/MEM 2
Peripherals				
Optional Infra-red Printer, HP 82240B	No	No	Yes	Yes
Computer Link	No	No	Yes	Yes
Two-way Infra-red I/O	No	No	Yes	Yes
Batteries	3 x LR44	3 x LR44	3 x AAA	3 x AAA
Warranty	One-year warranty	One-year warranty	One-year warranty	One-year warranty

In Addition

The 48G and the 48GX offer the additional features of: 2D/3D plotting and graphics; algebra, quadratic and polynomial. Calculus, symbolic, numeric, integration and differentiation; business features; constants and equations.
The 48GX has expansion capabilities of 2 slots for multiple applications and up to 1.256 MB of memory.

1 RPL = high-level programming language
2 MEM = unlimited within available memory

HP BUSINESS CALCULATORS
Information subject to change whithout notice

Product Name/Model Number	**10B**	**12C**	**17BII**	**19BII**
Physical Features				
Display	1 line × 12 char. LCD	1 line × 10 char. LCD	2 line × 22 char. LCD	4 line × 23 char. LCD
Entry system logic	Algebraic	RPN	Algebraic/RPN	Algebraic/RPN
Memory/additional user RAM 1	Yes/none	Yes/none	Yes/6500 bytes	Yes/6500 bytes
Built-in functions	Over 100	Over 120	Over 250	Over 450
Keyboard	Numbers	Numbers	Numbers and letters2	Numbers and letters
Business/Financial Features				
TVM (loans, savings and leasing)	Yes	Yes	Yes	Yes
Amortization	Yes	Yes	Yes	Yes
Cash flow analysis	Register-based	Register-based	List-based	List-based

Cash flow functions/No. of functions	IRR NPV / 15	IRR NPV / 20	IRR NPV NFV NUS/ 600+	IRR NPV NFV NUS/ 600+
Print table with HP 82240B	No	No	Yes	Yes
Bond price and yield	No	Yes	Yes	Yes
Depreciation methods	No	SL DB SOYD	SL DB SOYD ACRS	SL DB SOYD ACRS
Interest rate conversions	Yes	No	Yes	Yes
Currency conversions and unit conversions	No	No	No	Yes
Statistics/Mathematics				
Statistical analysis	Cumulative	Cumulative	List-based	List-based
Std dev, mean, weighted mean	Yes	Yes	Yes	Yes
Forecasting, correlation coefficient	Yes	Yes	Yes	Yes
+, , ×, /, %, 1/x, ±, 1n, x, ex, yx, n!, SUM x, SUM x2, SUM y, SUM y2, SUM xy	Yes	Yes	Yes	Yes
LOG, 10x, PI, x	x only	No	Yes	Yes
Time and Data Management				
Clock, calendar, appointments and alarms	No	No	Yes	Yes
Date arithmetic	No	Yes	Yes	Yes
Number lists, edit, sort, store	No	No	Yes	Yes
Customising Features				
Method	None	Keystroke programming	HP Solve	HP Solve
Memory capacity		99 steps	Mem	Mem
Custom menus	No	No	Yes	Yes
Solve for any variable without programming	No	No	Yes	Yes
Peripherals				
Optional infra-red printer, HP 82240B	No	No	Yes	Yes
Batteries	3 x LR44	3 x LR44	3 x LR44	3 x N Type
Warranty	One-year warranty	One-year warranty	One-year warranty	One-year warranty

In Addition

The 19BII offers the additional features of: Business graphics, scatter diagrams and histograms; trigonometry, probability, hyperbolics; text applications, edit search, sort and store

1 Additional user RAM for storage of user defined equations, variables, name and number lists

.2 Letters accessible through softkeys.

HP CALCULATOR ACCESSORIES
Information subject to change whithout notice

Memory	128-KB Battery-Backed RAM Card for HP 48SX/48GX	Product # 82215A
	1-MB Battery-Backed RAM Card for HP 48GX	Product # 82216A
Manual	HP 48G/GX Reference Manual (English only)	Product # 00048-90136
Printer	Infra-red Battery-Powered Printer (auto power-off) - uses 4 AA alkaline batteries	Product # 82240B
AC Adapter	AC/DC Adapter for Printer HP82240A/B	Product # F1011A
Connectors	Serial Interface Kit - HP 48 to DOS PCs (cable and disk) - multilingual	Product # F1201A
	Serial Interface Kit - HP 48 to Apple MacIntosh computers (cable and disk) - multilingual	Product # F1202A
	Serial Interface Kit - HP 48 & HP 38G to DOS PCs (cable and disks) - multilingual	Product # F1207B
	Serial Interface Kit - HP 48 & HP 38G to Apple MacIntosh computers	Product # F1208A

(cable and disk) - multilingual				
PC-compatible Cable				Product # F1015A
MAC-compatible Cable				Product # F1016A
Connector Adapter for HP 48 to printer/modem				Product # F1023A
Thermal Paper	Thermal Printing Paper for HP 82240A/B - 6 rolls black			Product # 82175A

HP PC VIDEO COMPATIBILITY MATRIX

Information subject to change whithout notice

How to use this matrix: Resolution Compatibility Matrix

Your systems video solution must match the refresh rate and the resolution of your monitor.

Modes	Resolution	Colours	Refresh Rate Hz	Horizontal Scan Rate KHz	HP NetServers L S	HP NetServers L H	HP NetServers L C	6/150 X U	Pent X U	HP Vectra PCs X M	HP Vectra PCs X M 2	HP Vectra PCs V T	HP Vectra PCs V L 4	HP Vectra PCs V L 3	Pent V E 2	486 V E
Standard VGA	640 × 480	16	60	31.5	X	X	X			X			X	X	X	X
Standard VGA	640 × 480	256	60	31.5				X	X	X	X	X	X	X	X	X
Standard VGA	640 × 480	64000	60	31.5				X	X	X	X	X	X	X	X	X
Standard VGA	640 × 480	16 million	60	31.5				X	X	X	1	X	2	X	X	2
Ergonomic VGA	640 × 480	16	72	37.9						X			X	X	X	X
Ergonomic VGA	640 × 480	256	72	37.9				X	X	X	X	X	X	X	X	X
Ergonomic VGA	640 × 480	64000	72	37.9				X	X	X	X	X	X	X	X	X
Ergonomic VGA	640 × 480	16 million	72	37.9				X	X	3	1	X	2	3	2	2
Ergonomic VGA	640 × 480	16/256/64000	75	37.5				X		X			X	X	X	X
Ergonomic VGA	640 × 480	16 million	75	37.5				X		3		X	2	3	2	2
Super VGA	800 × 600	16	60	37.9	X	X	X			X			X	X	X	X
Super VGA	800 × 600	256	60	37.9				X	X	X	X	X	X	X	X	X
Super VGA	800 × 600	64000	60	37.9				X	X	X	X	X	X	X	X	X
Super VGA	800 × 600	16 million	60	37.9				X	X	3	1	X	2	3	2	2
Ergonomic Super VGA	800 × 600	16	72	48.1						X			X	X	X	X
Ergonomic Super VGA	800 × 600	256	72	48.1				X	X	X	X	X	X	X	X	X
Ergonomic Super VGA	800 × 600	64000	72	48.1				X	X	3	X	X	X	3	2	2
Ergonomic Super VGA	800 × 600	16 million	72	48.1				X	X		1	X	2		2	2
Ergonomic Super VGA	800 × 600	16	75	46.9						X			X	X	X	X
Ergonomic Super VGA	800 × 600	256	75	46.9				X	X	X	X	X	X	X	X	X
Ergonomic Super VGA	800 × 600	64000	75	46.9				X	X	3	X	X	X	3	2	
Ultra VGA Interlaced	1024 × 768i	16	87	35.5						X			X	X	X	X
Ultra VGA Interlaced	1024 × 768i	256	87	35.5					X	X	X		X	X	X	X
Ultra VGA Interlaced	1024 × 768i	64000	87	35.5					X	X	1		X	X	2	X
Ultra VGA Interlaced	1024 × 768i	16 million	87	35.5									X		2	
Ultra VGA	1024 × 768	16/256	60	48.4				X		X		X	X	X	X	X
Ultra VGA	1024 × 768	64000	60	48.4				X		3		X	2	3	2	2
Ergonomic Ultra VGA	1024 × 768	16	70	56.5						X			X	X	X	X
Ergonomic Ultra VGA	1024 × 768	256	70	56.5				X	X	X			X	X	X	X
Ergonomic Ultra VGA	1024 × 768	64000	70	56.5				X	X	3		X	2	3	2	2
Ergonomic Ultra VGA	1024 × 768	16 million	70	56.5				5				5	2		2	2
Ergonomic Ultra VGA	1024 × 768	16	75	59.4						X			X	X	X	X
Ergonomic Ultra VGA	1024 × 768	256	75	59.4				X	X	X	X	X	X	X	X	X
Ergonomic Ultra VGA	1024 × 768	64000	75	59.4				X	X	3	1	X	2	3	2	2
Ergonomic Ultra VGA	1024 × 768	16 million	75	59.4				5	4			5				
Ultra VGA 2 Interlaced	1280 × 1024i	16	87	48.0						X			X	X	X	X
Ultra VGA 2 Interlaced	1280 × 1024i	256	87	48.0						3			2	3	2	2
Ultra VGA 2	1280 × 1024	16	60	63.3									2			2
Ultra VGA 2	1280 × 1024	256	60	63.3				X	X	3	1	X	2	3	2	2
Ultra VGA 2	1280 × 1024	64000	60	63.3				5	4			5				
Ergonomic Ultra VGA 2	1280 × 1024	16	75	80.0									2			2
Ergonomic Ultra VGA 2	1280 × 1024	256	75	80.0				X	X	3	1	X	2	3	2	2
Ergonomic Ultra VGA 2	1280 × 1024	64000	75	80.0				5	4			5				
Ultra VGA 1600	1600 × 1200	256	60	75.7				X	X			X				
Ultra VGA 1600	1600 × 1200	64000	60	75.7				5	4			5				

1 Requires 1-MB DRAM Upgrade Kit (D3241A)   4 Requires 2-MB VRAM Upgrade Kit (D3095B)
2 Requires 1-MB VRAM Upgrade Kit (D3500A)   5 Requires 2-MB WRAM Upgrade Kit (D3557A)
3 Requires 1-MB DRAM Upgrade Kit (D3404A)

HP PC PRODUCT-SPECIFIC ACCESSORIES

Information subject to change whithout notice

	HP NetServers L S	HP NetServers L M	HP NetServers L H	HP NetServers L F	HP NetServers L C	6/150 X U	Pent X U	HP Vectra PCs X M	HP Vectra PCs X M	HP Vectra PCs V T	HP Vectra PCs V L	HP Vectra PCs V L	Pent V E	486 V E
Product #														

Memory

Item	Part No.							2		4		3	2		
4-MB 70 ns, 32-bit Memory Module	D2690A [1]						X	X	X			X			X
8-MB 70 ns, 32-bit Memory Module	D2691A [1]						X	X	X			X			X
8-MB (4-MB×2), 60 ns, EDO Memory Module	D3646B										X			X	
16-MB (8-MB×2), 60 ns, EDO Memory Module	D3647B										X			X	
4-MB 70 ns, 36-bit Memory Module	D2974A	X	X	X	X	X									
8-MB 70 ns, 36-bit Memory Module	D3577A	X	X	X	X	X									
16-MB 70 ns, 32-bit Memory Module	D2899A [1]						X	X	X			X			X
32-MB (16-MB×2), 60 ns, EDO Memory Module	D3648B										X			X	
16-MB 70 ns, 36-bit, Memory Module	D2297A	X	X	X	X	X									
32-MB 70 ns, 36-bit, Memory Module	D3578A	X	X	X	X	X	X	X	X			X			X
16-MB 60 ns, Memory Module	D3553A						X				X				
16-MB 60 ns, ECC, Memory Module	D3556A						X				X				
32-MB 60 ns, ECC, Memory Module	D3555A						X				X				
64-MB 60 ns, ECC, Memory Module	D3554A						X				X				
8-MB Manageable ECC Memory Module	D3597A			X											
16-MB Manageable ECC Memory Module	D3592A			X											
32-MB Manageable ECC Memory Module	D3593A			X											
256-MB Memory Expansion Board	D2954A		X												
ECC Memory Board	D2971B	X	X												

Cache

Item	Part No.														
256-KB Second-Level Write-Back Cache	D3322A					X 2									
256-KB Second-Level Cache	D2465A														X
256-KB Synchronous Pipeline Burst Cache	D3659A													X	
256-KB Asynchronous Cache	D4049A													X	

Floppy Disk Drives

Item	Part No.														
3½", 1.44-MB Flexible Disk Drive	D2035A/B						X	X	X	X	X	X	X	X	X
5¼", 1.2-MB Flexible Disk Drive	D2036A		X	X	X	X		X							
5¼", 1.2-MB Flexible Disk Drive	D2881A/B						X		X	X	X	X	X	X	X

Hard Disk Drives

Item	Part No.														
540-MB IDE Disk Drive	D2918A									X					
840-MB IDE Disk Drive	D2925A							X				X			X
1-GB IDE Disk Drive	D2919A							X		X	X	X			
1-GB Fast SCSI-2 Disk Drive	D2076B		X		X	X	X		X 3	X 3	X 3	X 3	X 3	X 3	X 3
1-GB Fast SCSI-2 Disk Drive	D2920A						X								
2.1-GB Fast SCSI-2 Disk Drive	D2077A		X		X	X	X								
2.1-GB Fast SCSI-2 Disk Drive	D2926A						X								
2-GB SCSI Hard Disk (7200 rpm)	D3340A		X		X	X									
4-GB Fast SCSI-2 Disk Drive	D3341A		X		X	X									
1-GB Hot Swap Fast and Wide SCSI-2 Disk Drive	D3581A	X		X											
2-GB Hot Swap Fast and Wide SCSI-2 Disk Drive	D3582A	X		X											
4-GB Hot Swap Fast and Wide SCSI-2 Disk Drive	D3583A	X		X											

Drive Accessories

Item	Part No.														
Accessory Tray for 3rd party disk drive	D3349A	X		X											
PCI Disk Array Controller	C3610A	X		X	X	X									
Hot Swap Chassis	D2999A		X		X										
2740 EISA SCSI-2 Host Bus Adapter (twin-channel)	D2078B		X		X	X									
3½" Mounting Rails (3-pack)	D2198A		X		X	X	X								
3½" Mounting Rails (5-pack)	D3566A						X		X		X	X		X	
3½" Mounting Trays (5-pack)	D2037A						X		X		X		X		X
5¼" Mounting Rails (5-pack)	D2880A						X		X	X	X	X	X	X	X
5¼" Mounting Trays for Tape/DAT/CD-ROM (3-pack)	D2199A	X	X	X	X	X	X								
Dual-Channel EISA Disk Array Controller	C3609A		X		X	X									

Information Storage

Item	Part No.														
CD-ROM drive, internal SCSI-2, tray load, quad speed	D2992B	X	X	X	X	X									
Quad-speed IDE CD-ROM drive	D2896B							X	X		X	X	X	X	
HP SureStore Tape 6000i, 8-GB Internal DAT Drive	C1528F	X	X	X	X	X	X								
HP SureStore Tape 5000i, 4-GB Internal DAT Drive	C1526G	X	X	X	X	X	X								

HP SureStore Tape 2000i, 2-GB Internal DAT Drive	C1525G	X	X	X	X	X			X		
Networking Accessories											
HP Coax Module	D2746A								X	X	
Video Accessories											
1-MB Upgrade for S3 Vision-864 Video	D3241A									X	
1-MB DRAM Upgrade	D3404A							X			X
1-MB VRAM Upgrade	D3500A								X 4	X	X
2-MB WRAM Upgrade	D3557A				X	X			X	X 5	
Business Communications											
Audio/CD Multimedia Kit (including 16-bit Sound Blaster sound card, quad-speed IDE CD-ROM, multimedia software and headphones)	D3567B						X	X	X	X	X X
Management Accessories											
HP Remote Assistant without modem	D2967B	X	X	X	X	X					
HP NetServer Assistant 2.2 Software	D2333D	X	X	X	X	X					
HP NetServer Assistant 2.2 Extensions	D3347B	X	X	X	X	X					

1 36-bit memory also supported.
2 LC 4/66, 4/100 and 5/66 models only.
3 Requires an HP-recommended SCSI host bus adapter.
4 Except for Matrox models.
5 Matrox models only.

HP PC UPGRADES

Information subject to change whithout notice

Product #	HP NetServers					6/150	Pent	HP Vectra PCs					Pent	486
	LS	LM	LH	LF	LC	XU	XU	XM	XM2	VT	VL4	VL3	VE2	VE
Processor Upgrades														
Pentium 133-MHz Companion Processor							X							
Pentium Pro 150-MHz Companion Processor						X								
Pentium 100-MHz Processor Kit (D3590A)			X											
Pentium 133-MHz Processor Kit (D3613A)	X													
Processor Board Upgrades														
Pentium 60-MHz (D2956A)		X												
Pentium 66-MHz (D2957A)		X												
Pentium 66-MHz (D2998A)			X	X										
Pentium 90-MHz (D3318A)		X												
Pentium 100-MHz (D3574A)	X													
Pentium 100-MHz (D3327A)		X												
Pentium 133-MHz (D3601A)					X									
Dual Pentium 66-MHz (D2959A)		X												
Dual Pentium 100-MHz SMP (D3575A)	X													
Dual-ready Pentium 100-MHz (D3596A)			X											
Dual Pentium 133-MHz (D3614A)	X													

Product # codes (left column):
- Pentium 133-MHz Companion Processor — D3509A
- Pentium Pro 150-MHz Companion Processor — D3569A
- Pentium 100-MHz Processor Kit — D3590A
- Pentium 133-MHz Processor Kit — D3613A
- Pentium 60-MHz — D2956A
- Pentium 66-MHz — D2957A
- Pentium 66-MHz — D2998A
- Pentium 90-MHz — D3318A
- Pentium 100-MHz — D3574A
- Pentium 100-MHz — D3327A
- Pentium 133-MHz — D3601A
- Dual Pentium 66-MHz — D2959A
- Dual Pentium 100-MHz SMP — D3575A
- Dual-ready Pentium 100-MHz — D3596A
- Dual Pentium 133-MHz — D3614A

HP PC PRODUCT LINE ACCESSORIES

Information subject to change whithout notice

System Software

HP NewWave 4.2	D1704D
HP Dashboard 2.01	D1735A
MS-DOS 6.22 - Pre-installed on all HP Vectra PCs, standalone product for HP NetServers (English/German/Spanish/French)	D3346A 1

Cables

25-pin male/25-pin male serial printer/plotter cable, 5 m	13242G
25-pin male/25-pin male serial cable for U.S. modem or direct connection to HP 3000 ADCC port, 5 m	13242N
25-pin male/36-pin Centronics parallel printer cable, 2 m	24542D
9-pin female/25-pin male Centronics parallel printer cable, 3 m	24542G

9-pin female/25-pin female cable for HP 7550A plotter, 3 m		24542H
9-pin female/25-pin male U.S./European modem cable, 3 m		24542M
Mouse		
HP Mouse with mini-DIN interface		C3751B
Keyboard 1		
HP Keyboard with mini-DIN interface for HP NetServers		C1405B
HP Keyboard with mini-DIN interface for HP Desktop PCs - old colour		C3756A
HP Keyboard with mini-DIN interface for HP Desktop PCs - new colour - Windows 95 keys		C4725A

1   Refer to **Ordering Information** for language options to be stated when ordering.

Accessories for Installed Base
Information subject to change whithout notice

	Product #	XP	M2/ N2	Pent VL2	486 VL2	Pent VE
4-MB 70 ns Memory Module	D2974A	1		1		
8-MB 70 ns Memory Module	D3577A	1		1		
4-MB 70 ns, 32-bit Memory Module	D2690A		X		X	X
8-MB 70 ns, 32-bit Memory Module	D2691A		X		X	X
16-MB 70 ns Memory Module	D2297A	1		1		X
32-MB 70 ns Memory Module	D3578A	1		1		X
256-KB Second-Level Write-Back Cache	D2465A					X
1-MB DRAM Upgrade	D3179A			X		

1   Must be added in pairs

HP NETWORK CONNECTIVITY PRODUCTS
Information subject to change whithout notice

Product #

LAN Adapter Cards

D2746A	HP Coax Module
27247B	HP PC Adapter Card/16 TP Plus
27269B	HP PC Adapter Card/16 TP 6-pack
J2427B	HP PC Adapter Card/16 TP 24-pack
27252	HP PC Adapter Card/16 TL Plus
J2405A	HP LAN Adapter NC/16 TP
J2406A	HP LAN Adapter NC/16 TP 6-pack
J2407A	HP LAN Adapter NC/16 TP 24-pack
J2585A	HP 10/100VG Selectable PCI Adapter
J3009A	HP 10/100VG Selectable PCI Adapter 6-pack
J3010A	HP 10/100VG Selectable PCI Adapter 24-pack
J2577A	HP 10/100VG Selectable EISA Adapter
J3007A	HP 10/100VG Selectable EISA Adapter 6-pack
J3008A	HP 10/100VG Selectable EISA Adapter 24-pack
J2573A	HP 10/100VG Selectable ISA Adapter
J3005A	HP 10/100VG Selectable ISA Adapter 6-pack
J3006A	HP 10/100VG Selectable ISA Adapter 24-pack
27260A	Boot-ROM Novell

Hubs and Accessories

AdvanceStack:

J2610A	HP AdvanceStack Hub-8U
J2611A	HP AdvanceStack Hub-16U
J2612B	HP AdvanceStack DMM
J2600A	HP AdvanceStack 12 Hub

J2601B	HP AdvanceStack 24 Hub RPS Ready
J2602B	HP AdvanceStack 48 Hub RPS Ready
J2603B	HP AdvanceStack 10Base-T SNMP Module
J2630A	HP AdvanceStack 12 Hub with SNMP
J2631B	HP AdvanceStack 24 Hub with SNMP - RPS Ready
J2632B	HP AdvanceStack 48 Hub with SNMP - RPS Ready
J2962A	HP Redundant Power Supply (RPS)
J2634A	HP AdvanceStack Dial-A-LAN 4A/SNMP Bundle
J2410A	HP AdvanceStack 15 Ports VG Hub
J2414A	HP AdvanceStack 100VG-SNMP Bridge Module
J2606A	Fiber Optic Slide-in Transceiver
J2607A	Twisted-Pair Slide-in Transceiver
J2608A	ThinLAN Slide-in Transceiver
J2609A	AUI Slide-in Extender

EtherTwist:

28688B	HP EtherTwist Hub Plus
28682A	HP Fiber Optic Hub Plus
28692A	HP ThinLAN Hub Plus

Routers

J2629A	HP AdvanceStack Router 210 Mgmt. Bundle
J2540B	HP AdvanceStack Router 230
27289B	HP AdvanceStack Router 240
J2543A	HP AdvanceStack Router 245
27288A	HP AdvanceStack Router 430
27285A	HP AdvanceStack Router 440
27286A	HP AdvanceStack Router 445
J2430A	HP AdvanceStack Router 650
J2435A	4-Port Ethernet/802.3 Interface for HP Router 650
J2436A	HP FDDI Interface for HP Router 650
J2437A	4-Port Token Ring Interface for HP Router 650
J2434A	4-Port Synchronous Interface for HP Router 650
J2446A	Redundant Power Supply for HP Router 650
J2443A	8-Mbyte Memory Upgrade for HP Router 650
J2438A	100VG Router Card for Router 650

Bridges and Switches

28681A	HP AdvanceStack Bridge LB
28673A	HP AdvanceStack Bridge MB
28674B	HP AdvanceStack Bridge RB
J2980A	HP AdvanceStack 10/100 LAN Switch-16
J2981A	VG Switch Module

Network Management

27256G	HP Interconnect Manager/OpenView Windows Bundle
27256G#0CZ 1	HP ICM Mgr/OV WIN for WM Users
J2567G	HP ICM Mgr for Windows
27361	HP OpenView Interconnect and Router Manager/UX
J2347B	HP OpenView History Analyzer/UX
J2348B	HP OpenView Traffic Expert/UX
J2561A	HP OpenView Traffic Monitor/Windows
J2562A	HP OpenView Traffic Monitor/UNIX
J2564A	HP Router Manager for OpenView Windows
J2535A	HP Traffic Probe

1 # 0CZ deletes HP OpenView 7.2 Workgroup Node Manager for customers who already have the platform.

HP STORAGE PRODUCTS

Information subject to change whithout notice

Product #

HP Disk System

D3604A	6-Bay Pluggable Cabinet (with no disk modules)
D3635A	2.5 m SCSI cable for D3604A, 50-pin high-density to 68-pin high-density, m/m

D3636A	2.5 m SCSI cable for D3604A, 68-pin high-density to 68-pin high-density, m/m
D3637A	2.5 m SCSI cable for D3604A, 68-pin ultra high-density to 68-pin ultra high-density, m/m
D3638A	NetServer LH SCSI ribbon cable for D3604A, internal port to external port
D3638A	NetServer LS SCSI ribbon cable for D3604A, internal port to external port
C2960A	1.0 m SCSI cable for D3604A, 50-pin high-density to 68-pin high-density, m/m
D3611A	5-Bay Pluggable Cabinet (with no disk modules)
C3305A	1-GB Disk Module
C3306A	2-GB Disk Module

HP Disk Array

| C3609A | Dual Channel EISA Disk Array Controller |
| C3610A | Dual Channel PCI Disk Array Controller |

Accessories

| C3726A | 1-metre interface cable for 2nd external disk array PCI |
| C2960A | 1-metre interface cable for 2nd external disk array EISA |

HP Optical Drive

| C2550A | HP Optical 1.3-GB Standalone Multifunction Disk Drive |

HP SureStore Tape Products

C1561A	HP SureStore Tape 12000e, External 6-cartridge DAT Autoloader
C1565A	HP SureStore Tape 12000e Labs for NetWare, External 6-cartridge DAT Autoloader with Palindrome Backup Director for Workgroups
C1529F	HP SureStore Tape 6000e, 8-GB External DAT Drive
C1552A	HP SureStore Tape 6000eU, 8-GB External DAT Drive Multi-platform
C1569A	HP SureStore Tape 6000e for NetWare with Windows, 8-GB External DAT Drive with Cheyenne ARCServe 5.1 backup software
C1521G	HP SureStore Tape 5000e, 4-GB External DAT Drive
C1551B	HP SureStore Tape 5000eU, 4-GB External DAT Drive Multi-platform
C1586B	HP SureStore Tape 5000e for NetWare with Windows, 4-GB External DAT Drive with Cheyenne ARCServe 5.1 backup software
C1520G	HP SureStore Tape 2000e, 2-GB External DAT Drive
C1567B	HP SureStore Tape 2000e for NetWare with Windows, 2-GB External DAT Drive with Cheyenne Firstserve 5.1 backup software

HP Colorado Tape Products

C4328Dx	HP Colorado Jumbo 350 QIC-80 Internal Tape Drive
C4329Dx	HP Colorado T1000 Internal Tape Drive
C4330Dx	HP Colorado Jumbo 1400 QIC-3020 Internal Tape Drive
3T-350	HP Preformatted Tape Cartridge QIC-80, 3-pack
5T-350	HP Preformatted Tape Cartridge QIC-80, 5-pack
C4420C	HP Preformatted Tape Cartridge QIC-3010, 3-pack
C4420D	HP Preformatted Tape Cartridge QIC-3010, 5-pack
3T-1400	HP Preformatted Tape Cartridge QIC-3020, 3-pack
5T-1400	HP Preformatted Tape Cartridge QIC-3020, 5-pack

Ordering Information

Information subject to change whithout notice

Localisation

When ordering any of the PC systems, video monitors, and software packages listed in this guide, a language option number has to be specified together with the product number. The option number specifies the language of the manuals, the power cord, and the keyboard as applicable.

Country	Language	HP Vectra PCs	HP NetServers	UPS 1	Monitors
Arabic Countries	Arabic/English	ABV	ABV		
Arabic Countries	Arabic/French	AB6	AB6		
Belgium	Flemish	ABW	ACO		
CIS	Cyrillic	ACB	ACB		
Czech Republic	Czech	AKB	AKB		
Denmark	Danish	ABY	ACE	ACE	ABY
Eastern Europe	English/Cyrillic	AKG			
Europe	English	ABB	ABB	ABB	ABB

Finland	Finnish	ABX	ABX		
France	French	ABF	ABF		
Germany	German	ABD	ABD		
Greece	Greek	AB7	AB7		
Hungary	Hungarian	AKC	AKC		
Intercon	English	ABK	ABK		
Italy	Italian	ABZ	ABZ		
Netherlands	Dutch	ABH	ABH		
Norway	Norwegian	ABN	ACK		
Poland	Polish	AKD	AKD		
Portugal	Portuguese	AB9	AB9		
South Africa	English	ABR	ACQ	ACQ	ABR
Spain	Spanish	ABE	ABE		
Sweden	Swedish	ABS	ACY		
Switzerland	Swiss German	ABP	ABP	ABP	ABQ
Switzerland	Swiss French	ABQ	ABQ		ABQ
Turkey	Turkish	AB8	AB8		
United Kingdom	English	ABU	ABU	ABU	ABU
US	English	ABA	ABA		ABA

1 PowerWise 1000 and 2100 products only

Ordering Separate Components

The product numbers mentioned in this guide are for bundled systems, i.e. they include:
1. CPU box
2. Keyboard
3. Setting-Up Kit (software and documentation)
4. Power cable

In some cases, it may be necessary to order these components separately. In that case, the CPU box should be ordered by specifying the bundle product number with option 1BZ. The product number for the Setting-Up Kit can be found in the following table. The keyboard is C1405B option Axx for NetServers, and C3756A option Axx for Desktop Pcs.

Product	Setting-Up Kit
VE 486	D3490A
VE Series 2	D4000A
VL Series 3	D3402A
VL Series 4 Desktop	D3645A
VL Series 4 Mini tower	D3800A
VT	D3539A
XM2	D3240A
XM	D3489B
XU Pentium	D3080C
XU 6/150	D3538A
LC 1	D3323A
LH 1	D3600A
LS 1	D3587A

1 Only available in 5 languages: English, French, German, Spanish, Italian.

HP Vectra V-Line PCs for the Office

Information subject to change without notice

HP Vectra VE Pcs
HP Vectra VL PCs
HP Vectra VT PCs

PCs that deliver:

Full range of Intel processor performance

Video and hard disk on PCI local bus for improved performance

Expandability

Plug and Play capabilities

Advanced power management

Pre-loaded Microsoft® Windows® 95 configurations

HP quality and reliability

Three-year warranty

Hewlett-Packard Vectra Desktop PCs

No matter what your professional computing requirements are, Hewlett-Packard has built the PC to satisfy them.

If performance and top quality computing at a highly attractive price is critical to you, then look no further than the models in our V-Line range.   And the advanced networking capabilities and security and management features of our X-Line PCs have been specially designed to keep the cost of running your network down.

Our unmatched reputation for quality and support - backed up by a three-year warranty - ensures your HP Vectra PC will always be ready to work when you are.

HP Vectra VE, VL and VT PCs

HP Vectra VE, VL and VT PCs are the perfect solution for customers looking for a high-performance PC at an attractive price for use in any environment.   The wide variety of models covers the full range of price/performance needs of the user requiring that little bit more from their PC.

These PCs bring high performance with a full range of Intel processors from DX2 66-MHz to Pentium® Pro 150-MHz combined with accelerated PCI local bus video.   In addition, all models include a hard disk controller integrated on the PCI local bus which considerably enhances both the hard disk and overall system performance.

But HP Vectra VE, VL and VT PCs not only meet your needs today. The expandable packages accommodate drive formats including CD-ROM, with space for four to seven cards depending on package, giving you flexibility for future needs.

For enhanced performance, all VE models support second-level cache memory, and VL and VT models come with 256 KB of second-level cache memory as standard.

HP Vectra VE Pentium and VL PCs come with the latest PC technology available including Extended Data Out (EDO) memory and Bus Master Enhanced IDE controller with PIO mode 4, providing users with leading-edge Pentium system performance.

Initial PC setup has been made easy with either Microsoft® Windows® for Workgroups 3.11 or Windows 95 (depending on the model chosen) pre-installed on the hard disk of VE and VL models. VT models come with Windows NT™ on CD.

Finally, with the environment in mind and to minimise cost of ownership, all HP Vectra VE and VL PCs come with HP's power management system. This significantly reduces power consumption and makes them compliant with the U.S. Environmental Protection Agency's Energy Star guidelines for energy efficiency

Configurations and Models

	Model	Processor	Hard Disk	Hard Disk Controller	Memory	Product Number 1
HP Vectra VE PCs						
4/66	420	DX2 66-MHz	420 MB	Enhanced IDE (PCI bus)	8 MB	D3496A
	840	DX2 66-MHz	840 MB	Enhanced IDE (PCI bus)	8 MB	D3497A
	840	DX2 66-MHz	840 MB	Enhanced IDE (PCI bus)	16 MB	D3499A
4/100	420	DX4 100-MHz	420 MB	Enhanced IDE (PCI bus)	8 MB	D3502A
	840	DX4 100-MHz	840 MB	Enhanced IDE (PCI bus)	8 MB	D3503A
5/75	640	Intel Pentium 75-MHz	640 MB	Enhanced IDE (PCI bus)	8 MB	D4002A
	640	Intel Pentium 75-MHz	640 MB	Enhanced IDE (PCI bus)	16MB	D4005A
5/100	640	Intel Pentium 100-MHz	640 MB	Enhanced IDE (PCI bus)	8 MB	D4022A
	640	Intel Pentium 100-MHz	640 MB	Enhanced IDE (PCI bus)	16 MB	D4025A
	1280	Intel Pentium 100-MHz	1.2 GB	Enhanced IDE (PCI bus)	16 MB	D4027A
5/133	1280	Intel Pentium 133-MHz	1.2 GB	Enhanced IDE (PCI bus)	8 MB	D4042A
	1280	Intel Pentium 133-MHz	1.2 GB	Enhanced IDE (PCI bus)	16 MB	D4045A
HP Vectra VL PCs						
5/90	540	Intel Pentium 90-MHz	540 MB	Enhanced IDE (PCI bus)	8 MB	D3661A
	1000	Intel Pentium 90-MHz	1 GB	Enhanced IDE (PCI bus)	16 MB	D3662A
	1000 MT 2	Intel Pentium 90-MHz	1 GB	Enhanced IDE (PCI bus)	8 MB	D3802A
5/100	540	Intel Pentium 100-MHz	540 MB	Enhanced IDE (PCI bus)	8 MB	D3671A
	1000	Intel Pentium 100-MHz	1 GB	Enhanced IDE (PCI bus)	16 MB	D3672A
	1000 MT 2	Intel Pentium 100-MHz	1 GB	Enhanced IDE (PCI bus)	16 MB	D3804A
5/120	540	Intel Pentium 120-MHz	540 MB	Enhanced IDE (PCI bus)	16 MB	D3681A
	1000	Intel Pentium 120-MHz	1 GB	Enhanced IDE (PCI bus)	16 MB	D3682A
5/133	1000	Intel Pentium 133-MHz	1 GB	Enhanced IDE (PCI bus)	16 MB	D3692A
Multimedia models:						
5/90	1000	Intel Pentium 90-MHz	1 GB	Enhanced IDE (PCI bus)	16 MB	D3663A
5/120	1000 MT 2	Intel Pentium 120-MHz	1 GB	Enhanced IDE (PCI bus)	16 MB	D3806A
5/133	1000	Intel Pentium 133-MHz	1 GB	Enhanced IDE (PCI bus)	16 MB	D3693A
	1000 MT 2	Intel Pentium 133-MHz	1 GB	Enhanced IDE (PCI bus)	16 MB	D3808A
HP Vectra VT PCs						
Multimedia model:						
6/150	1000 MT 2	Intel Pentium Pro 150-MHz	1 GB	Enhanced IDE (PCI bus)	16 MB	D3521N

1 Language option must be specified; for example, Option ABB for British English.

2 Mini-tower package.

Note: All VE and VL models come with pre-installed MS-DOS 6.22, Windows for Workgroups 3.11 and Dashboard 2.01.   In addition, all VE and VL models with 16-MB memory offer a one-time selection of Windows for Workgroups 3.11 or Windows 95 as the operating system (this selection may not subsequently be changed unless a separate license is purchased). All HP Systems with Windows 95 pre-installed display the 'Designed for Microsoft Windows 95' logo. VT models come with Windows NT™ on CD.

Standard Features

Package:

Mid-size desktop or mini tower
Includes HP industry-standard keyboard and mouse
1 PCI slot, 2 ISA slots and 1 ISA/PCI slot on desktop models
2 PCI slots, 3 ISA slots and 1 ISA/PCI slot on mini-tower models
4 mass storage shelves (2 front-accessible) on desktop models, apart from VE Pentium models (3 front-accessible)
6 mass storage shelves (4 front-accessible) on VL mini-tower models
7 mass storage shelves (5 front-accessible) on VT mini-tower models

I/O:

1 parallel port (25-pin); 2 serial ports (9-pin)
Mini-DIN keyboard and mouse ports
15-pin VGA connector
VESA connector for VGA passthrough

Memory and Cache:

Maximum memory configuration: 64 MB on VE 486 models, 128 MB on VE Pentium and VL models, 256 MB on VT models
256-KB second-level cache memory standard on VL and VT models

Mass Storage:

Enhanced IDE on VE 486
Enhanced Master IDE on VE Pentium, VL and VT models
PCI hard disk controller

Video subsystem:

VE and VL models (except 5/133 and 5/166 multimedia models):

PCI local bus video with hardware accelerator for optimal performance
1-MB DRAM video memory, upgradeable to 2 MB
Maximum resolution with 1 MB: 1024 x 768 x 256 colours
Maximum resolution with 2 MB: 1280 x 1024 at 256 colours
Support of 64000 colours in 640 x 480 with 1-MB video memory
Support of non-interlaced resolutions with ergonomic refresh rates of up to 75 Hz
Pre-loaded video drivers

VL 5/133 and 5/166 multimedia models and VT models:

Matrox Millennium PCI graphics card with 2-MB WRAM video memory, upgradeable to 4 MB (D3557A) (8-MB upgrade available from Matrox)
Maximum rolution with 2 MB: 1024 x 768 x 64000 colours
Maximum resolution with 4 MB: 1600 x 1200 x 64000 colours
Support of 16 million colours in up to 1024 x 768 with 4-MB video memory
Maximum refresh rate: 100 Hz
Video drivers for Windows and CAD applications supplied on CD

Multimedia models:

16-bit Sound Blaster™ sound card
Integrated quad-speed IDE CD-ROM
Ergonomic control panel and speaker
Headset with volume control

Upgrades/Serviceability:

Processor upgradeable via ZIF socket
Second-level cache upgrade
BIOS in flash ROM
Easy-to-access/service design: snap on/off cover with no screws; easy access to internal components
Pre-installed Plug and Play utility (ICU) to ease installation of add-on ISA cards
PCI local bus architecture auto-configures add-on PCI cards
HP User Tool for easy customisation of system
Pre-loaded DMI allows PC configuration and setting to be changed from a remote console

Ergonomics/Environment:

Low-noise fan
Small footprint design
Power management functionality ensures EPA Energy Star compliance on VE and VL models
Vectra Ergonomic Power Solution on VL and VT models
HP BIOS for ease of setup
CFC-free manufacturing process
Single plastic for easy recycling

Security:
Chassis lock and security bracket
Two-level password

Warranty
Three-year warranty (first year on-site)

Optional Accessories

		VE 486	VE Series 2	VL Series 4	VT
Memory upgrades	4-MB 70ns Memory Module	D2690A	--	--	--
	8-MB 70ns Memory Module	D2691A	--	--	--
	16-MB 70ns Memory Module	D2899A	--	--	--
	32-MB 70ns Memory Module	D3578A	--	--	--
	8-MB (4-MB x 2) 60ns EDO Memory Module	--	D3646B	D3646B	--
	16-MB (8-MB x 2) 60ns EDO Memory Module	--	D3647B	D3647B	--
	32-MB (16-MB x 2) 60ns EDO Memory Module	--	D3648B	D3648B	--
	16-MB 60ns Memory Module	--	--	--	D3553A
	32-MB 60ns Memory Module	--	--	--	D3555A
	64-MB 60ns Memory Module	--	--	--	D3554A
Cache	256-KB second-level cache memory	D2465A	--	--	--
	256-KB asynchronous cache	--	D4049A	--	--
	256-KB synchronous pipeline burst cache	--	D3659A	--	--
Flexible discs	3.5-inch, 1.44-MB, third-height	D2035B	D2035B	D2035B	D2035B
	5.25-inch, 1.2-MB, half-height	D2881B	D2881B	D2881B	D2881B
	3.5-inch mounting trays (3-pack)	D2037A	--	--	--
	5.25-inch mounting rails (5-pack)	D2880A	D2880A	D2880A	D2880A
	3.5-inch side mounting rails (5-pack)	--	D3566A	D3566A	D3566A
Hard disks	540-MB	--	--	D2918A	--
	630-MB	--	D2929A	--	--
	840-MB	D2925A	--	--	--
	1-GB	--	--	D2919A	D2919A
	1-GB Fast SCSI-2 1	D2076B	D2076B	D2076B	D2076B
	1.2-GB	--	D2930A	--	--
	2.1-GB Fast SCSI-2 1	D2077A	D2077A	D2077A	D2077A
CD-ROM and Multimedia	Quad-speed IDE CD-ROM drive	D2896B	D2896B	D2896B	--
	Audio/CD Multimedia Upgrade 2	D3567B	D3567B	D3567B	--
Internal tape drives	HP Colorado Jumbo 350	C4328Dx	C4328Dx	C4328Dx	C4328Dx
	HP Colorado Jumbo 1400	C4330Dx	C4330Dx	C4330Dx	C4330Dx
	HP Colorado T1000	C4329Dx	--	--	--
LAN interfaces	HP PC LAN Adapter NC/16 TP	J2405A	J2405A	J2405A	J2405A
	HP PC LAN Adapter NC/16 TP (6-pack)	J2406A	J2406A	J2406A	J2406A
	HP PC LAN Adapter/16 TP Plus	27247	27247	27247	27247
	HP PC LAN Adapter/16 TP Plus (6-pack)	27269	27269	27269	27269
	HP PC LAN Adapter/16 TL Plus	27252	27252	27252	27252
	HP 10/100VG Selectable ISA Adapter	J2573A	J2573A	J2573A	J2573A
	HP 10/100VG Selectable PCI Adapter	J2585A	J2585A	J2585A	J2585A
Video	1-MB DRAM Upgrade Kit	D3500A	D3500A	D3500A	--
	2-MB WRAM Upgrade Kit	--	--	D3557A3	D3557A
	Compatible with all HP video monitors	Yes	Yes	Yes	Yes
Others	HP Vectra PC User Manual	D3490A	D4000A	D3645A4 D3800A4	D3539A
	HP Windows 95 Keyboard	C4725A	C4725A	C4725A	C4725A
	HP Mouse	C3751B	C3751B	C3751B	C3751B

1 Requires an HP-recommended SCSI host bus adapter

2 Incudes 16-bit Sound Blaster soundboard, quad-speed IDE CD-ROM dirve, multimedia software,

headphones
3   For 5/120 and 5/133 multimedia models
4   D3645A for desktop models; D3800A for mini-tower models

Specifications

	VE, VL desktop models	VL mini-tower models	VT models
Dimensions (excluding keyboard)	12.5 cm x 42.0 cm x 39.0 cm	43.8 cm x 19.2 cm x 44.0 cm	41.5 cm x 21.0 cm x 40.5 cm
(height x width x depth)	(4.9 in x 16.5 in x 15.3 in)	(17.2 in x 7.6 in x 17.3 in)	(16.3 in x 8.3 in x 15.9 in)
Weight (excluding keyboard)	9.0 kg (20.0 lbs)	13.0 kg (28.7 lbs)	15.0 kg (33.0 lbs)
Input voltage	Wide range power supply	Wide range power supply	Switch-selectable 110/240 W power supply
Power consumption	Less than 30 W (typical); 150 W (absolute maximum)	Less than 30 W (typical); 220 W (absolute maximum)	60 W (typical); 280 W (absolute maximum)

HP Vectra X-Line PCs for the Workgroup

Information subject to change without notice

HP Vectra XM2 PC Series
HP Vectra XM PC Series

PCs that deliver:

Full networking compatibility

Remote management capabilities

Comprehensive security features

Local-bus technology for video, networking and hard disk subsystem

Advanced power management

Three-year warranty

Hewlett-Packard Vectra Desktop PCs

No matter what your professional computing requirements are, Hewlett-Packard has built the PC to satisfy them.

If performance and top quality computing at a highly attractive price is critical to you, then look no further than the models in our V-Line range. And the advanced networking capabilities and security and management features of our X-Line PCs have been specially designed to keep the cost of running your network down.

Our unmatched reputation for quality and support - backed up by a three-year warranty - ensures your HP Vectra PC will always be ready to work when you are.

HP Vectra XM2 and XM PC Series

HP Vectra XM2 and XM PCs benefit from HP's expertise in workgroup networking.   All models come with an integrated Ethernet chip and multi-protocol boot-ROM for easy network connection and high network performance. To ensure outstanding compatibility with third-party hardware and software, these products have been thoroughly tested with a wide range of networking products, and have been tested and certified by our strategic networking partners, including Novell®.

This range offers a wide choice of PCs with processors ranging from IntelDX2 66-MHz up to Intel Pentium® 133-MHz.   All models come with a fast or enhanced IDE connector on the local bus and accelerated 1280 x 1024 PCI local bus video.

The video performance can be further improved by upgrading the standard 1-Mbyte video memory to 2 Mbytes.

Hewlett-Packard was one of the co-founders of the Desktop Management Task Force (DMTF) which has focused on developing a standard interface for desktop management.   So of course the HP Vectra XM2 and XM PCs offer DMI-compatible (Desktop Management Interface) remote management capabilities.

And HP's power management system ensures all models are compliant with the US Environmental Protection Agency's Energy Star guidelines for energy efficiency.

To get you up and running in a matter of minutes, all these products come with MS-DOS® 6.22, Microsoft® Windows® for Workgroups 3.11, Dashboard 2.01, DMI software, and LAN and video drivers pre-loaded on the hard disk.   In addition, all models with 16-MB memory offer a one-time selection of either Windows for Workgroups 3.11 or Windows 95 as the operating system.

HP Vectra XM2 and XM PCs provide a complete range of high-performance, network-ready products for both standard and advanced users, backed up by a three-year warranty.

HP Vectra XM PCs provide ideal mainstream Pentium systems for the workgroup, combining many benefits at a very attractive price:

Performance - These PC systems offer a wide range of Pentium processors, 256-KB secondary cache and PCI architecture including built-in PCI 64-bit video, enhanced IDE, and LAN interface.   So you can be sure they've been designed to handle anything your network throws their way.

Networkability - With their built-in PCI 10Base-T interface, multi-protocol boot-ROM, preconfiguration as Microsoft and Novell clients, and extensive set of pre-loaded LAN drivers, these PCs start saving you time and money the minute you plug them in.   And the new HP Message Sender tool enables exchange of basic text or complex graphics within your workgroup with only a couple of mouse clicks.   In addition, they've been tested and certified for multi-vendor compatibility: Novell NetWare®, Windows for Workgroups, Windows NT™, OS/2® 2.x, OS/2 3.x (Warp), Banyan VINES®, DEC PathWorks, SCO™ UNIX®, and are "designed for Windows 95".

Manageability - The HP Vectra XM PCs are fully DMI-compliant, so you can manage all their basic subsystems - more than 300 attributes including LAN, boot-ROM and security - locally or remotely for faster, lower-cost tracking, updating and servicing of your PC network.

Advanced multi-level security features - such as configuration settings and passwords stored in non-erasable, serial EEPROM, and two levels of password protection - prevent unauthorised use and modification without disrupting day-to-day operations.

Multimedia - The pre-configured multimedia models give you an integrated, ergonomic and standards-based access to multimedia applications.

Expandability - Finally, the package of the HP Vectra XM PCs has been re-designed with three front-accessible shelves to give you additional expandability.

Configurations and Models

	Model	Processor	Hard Disk	Hard Disk Controller	Memory	LAN Interface*	External Cache	Product Number**
HP Vectra XM2 PCs:								
4/66i	720	IntelDX2 66-MHz	720 MB	Fast IDE (local bus)	8 MB	32-bit PCI 10Base-T	256 KB	D3224B
4/100i	720	IntelDX4 100-MHz	720	Fast IDE (local bus)	8 MB	32-bit PCI 10Base-T	256 KB	D3233B

MB

HP Vectra XM Series 3 PCs:

5/75	420	Intel Pentium 75-MHz	420 MB	Enhanced IDE (PCI bus)	8 MB	32-bit PCI	10Base-T	256 KB	D3481A
	840	Intel Pentium 75-MHz	840 MB	Enhanced IDE (PCI bus)	8 MB	32-bit PCI	10Base-T	256 KB	D3482A
	840	Intel Pentium 75-MHz	840 MB	Enhanced IDE (PCI bus)	16 MB	32-bit PCI	10Base-T	256 KB	D3945A
5/90	420	Intel Pentium 90-MHz	420 MB	Enhanced IDE (PCI bus)	8 MB	32-bit PCI	10Base-T	256 KB	D3484A
	840	Intel Pentium 90-MHz	840 MB	Enhanced IDE (PCI bus)	8 MB	32-bit PCI	10Base-T	256 KB	D3485A
	840	Intel Pentium 90-MHz	840 MB	Enhanced IDE (PCI bus)	16 MB	32-bit PCI	10Base-T	256 KB	D3946A
5/100	840	Intel Pentium 100-MHz	840 MB	Enhanced IDE (PCI bus)	8 MB	32-bit PCI	10Base-T	256 KB	D3488A
	840	Intel Pentium 100-MHz	840 MB	Enhanced IDE (PCI bus)	16 MB	32-bit PCI	10Base-T	256 KB	D3947A
5/120	840	Intel Pentium 120-MHz	840 MB	Enhanced IDE (PCI bus)	8 MB	32-bit PCI	10Base-T	256 KB	D3562A
	840	Intel Pentium 120-MHz	840 MB	Enhanced IDE (PCI bus)	16 MB	32-bit PCI	10Base-T	256 KB	D3948A
5/133	840	Intel Pentium 133-MHz	840 MB	Enhanced IDE (PCI bus)	16 MB	32-bit PCI	10Base-T	256 KB	D3950A
Multimedia models:									
5/90	840	Intel Pentium 90-MHz	840 MB	Enhanced IDE (PCI bus)	8 MB	32-bit PCI	10Base-T	256 KB	D3487A
5/120	840***	Intel Pentium 120-MHz	840 MB	Enhanced IDE (PCI bus)	16 MB	32-bit PCI	10Base-T	256 KB	D3565A

* Optional HP coax module can be installed.

** Language option must be specified; for example, Option ABB for British English.

*** Comes with an HP 1024 Low-Emissions 15-inch monitor (D2808A).

Note: All models come with pre-installed MS-DOS 6.22, Windows for Workgroups 3.11, Dashboard 2.01 and DMI software, plus a mouse. In addition, all models with 16-MB memory offer a one-time selection of Windows for Workgroups 3.11 or Windows 95 as the operating system (this selection may not subsequently be changed unless a separate license is purchased). All HP systems with Windows 95 pre-installed display the Designed for Windows 95 logo.

Standard Features

Package:

Includes HP industry-standard keyboard and mouse

XM2 models:

Mid-size desktop

4 slots: 1 half-length PCI, 1 full-length PCI or ISA, 1 full-length ISA and 1 half-length ISA

4 mass storage shelves: 1 front-accessible with 3.5" floppy, 1 5.25" half-height front-accessible for floppy, tape or CD-ROM, 2 internal for 3.5" hard disk drives

XM models:

Mid-size desktop

4 slots: 1 full-length PCI, 1 full-length PCI or ISA, 1 full-length ISA and 1 half-length ISA

4 mass storage shelves: 1 front-accessible with 3.5" floppy, 1 5.25" half-height front-accessible for floppy, tape or CD-ROM, 1 3.5" or 5.25" third-height front-accessible for floppy, tape, PCMCIA drive or internal second hard disk drive, 1 internal for 3.5" hard disk drive

I/O:

2 serial ports (9-pin)

1 parallel port (25-pin, ECP/EPP bi-directional Centronics)

1 infra-red port for XM2 models

Mini-DIN keyboard and mouse ports

15-pin VGA connector

10Base-T connector (RJ-45 UTP)

VESA connector for VGA passthrough

Multimedia models:

16-bit Sound Blaster™ sound card
Quad-speed IDE CD-ROM
Ergonomic control panel and speaker
Headset with volume control
HP 1024 Low-Emissions 15-inch monitor (D2808A) on model D3565A

Memory and Cache:

Maximum memory configuration: 96 MB on XM2 models, 192 MB on XM models
256-KB second-level cache memory

Mass Storage:

Fast hard disk drives
Local bus hard disk controller (Fast IDE) on XM2 models, PCI hard disk controller (Enhanced IDE) on XM models

Video Subsystem:

Local bus PCI video with hardware accelerator for top performance
Up to 1280 x 1024 resolution at 256 colours in n-interlaced modes
Non-interlaced resolutions with high vertical refresh rates up to 75 Hz
Pre-loaded video drivers
1 MB video memory standard, expandable to 2 MB for higher performance and more colours

Networking:

Pre-loaded DMI allows PC configuration and setting to be changed from a remote console
On-board Ethernet 10Base-T 32-bit bus-master PCI interface
Pre-configured Novell and Microsoft clients for MS-DOS and Windows on XM models
Integrated software-selectable boot protocols for Novell NetWare and Microsoft LAN Manager
MAC address visible and Ethernet interface configurable from set-up
On-line Network Administrator Guide

Upgrades/Serviceability:

Processor upgradeable via ZIF socket
Optional second-level cache when not already installed
Video RAM upgradeable to 2 MB
BIOS in flash ROM
Easy-to-access/service design: snap on/off cover with no screws; easy access to memory modules, add-on cards, data storage devices, system board and other components
PCI Plug and Play on XM2 models; PCI and ISA Plug and Play on XM models

Ergonomics/Environment:

Ergonomically-designed control panel, keyboard lock button and low-noise fan
Small footprint design
HP BIOS for ease of setup
Power management functionality ensures EPA Energy Star compliance
CFC-free manufacturing process
Single plastic for easy recycling

Security/Asset Management:

Chassis lock and security bracket
Keyboard lock button (timer-programmable)
Power-on password
Network administrator password for configuration protection
Reset and power off disabled when keyboard is locked
Boot control and enabling/disabling of I/O ports and drives

Ultimate setup and password protection in EEPROM (PC Recover)

Asset tracking with factory hard-coded serial number and customisable PC identification field

Warranty:

Three-year warranty (first year on-site)

Optional Accessories

Memory upgrades:
  4-MB 70ns Memory Module (D2690A); 20-pack (D2897A)
  8-MB 70ns Memory Module (D2691A); 20-pack (D2898A)
  16-MB 70ns Memory Module (D2899A)
  32-MB 70ns Memory Module (D3578A)

Flexible disks:
  3.5-inch, 1.44-MB, third-height (D2035A for XM2 models, D2035B for XM models)
  5.25-inch, 1.2-MB, half-height (D2881A for XM2 models, D2881B for XM models) (includes mounting trays)
  5-pack 3.5-inch mounting trays (D2037A)
  5-pack 5.25-inch mounting rails (D2880A)
  5-pack 3.5-inch mounting rails (D3566A) for XM models

Business communication modules:
  HP quad-speed IDE CD-ROM drive (D2896B)
  HP Audio/CD Multimedia Upgrade (D3567B) (includes 16-bit Sound Blaster soundboard, quad-speed IDE CD-ROM, multimedia software, headphones)

Hard disks:
  540-MB (D2918A)
  840-MB (D2925A) for XM models
  1-GB (D2919A) for XM models
  1-GB Fast SCSI-2 (D2076B) (requires an HP-recommended SCSI host bus adapter)
  2.1-GB Fast SCSI-2 (D2077A) for XM models (requires an HP-recommended SCSI host bus adapter)

Tape drives and media:
  HP Colorado 340-MB Internal Tape Drive QIC-80 (C4328Dx)
  HP Colorado 800-MB Internal Tape Drive QIC-80 Travan™ (C4329Dx)
  HP Colorado 1.36-GB Internal Tape Drive QIC-3020 (C4330Dx)
  HP Preformatted Tape Cartridge QIC-80, 3-pack (3T-350), 5-pack (5T-350)
  HP Preformatted Tape Cartridge QIC-80 Travan, 3-pack (C4420C), 5-pack (C4420D)
  HP Preformatted Tape Cartridge QIC-3020, 3ack (3T-1400), 5-pack (5T-1400)

LAN interfaces:
  Coax module (D2746A)
  HP 10/100VG Selectable ISA Adapter (J2573A)
  HP 10/100VG Selectable PCI Adapter (J2585A)

Video:
  1-MB Video Upgrade Kit (D3241A) for XM2 models
  1-MB Video Upgrade Kit (D3404A) for XM models
  Compatible with complete range of HP video monitors

Other accessories:
  HP Vectra XM2 PC User Manual (D3240A)
  HP Vectra XM Series 3 PC User Manual (D3489B)
  HP Keyboard (C3756A) for XM2 models
  HP Windows 95 Keyboard (C4725A) for XM models
  HP Mouse (C3751B)

Specifications

System dimensions:
  12.5 cm high x 42.0 cm wide x 39.0 cm deep (4.9 in x 16.5 in x 15.3 in) (not including keyboard)
  Weight: 10 kg (22 lbs) (not including keyboard)

Input voltage:

Wide range power supply

Power consumption:

XM2 models: less than 40 W (typical); 150 W (absolute maximum)
XM models: less than 30 W (typical); 150 W (absolute maximum)

HP Vectra X-Line PCs for the Expert

Information subject to change without notice

HP Vectra XU PCs

PCs that deliver:

Intel Pentium® and Pentium Pro processor performance

Multiprocessing power with dual processor support

PCI high-speed bus architecture

High-speed networking

Built-in multimedia functions

Three-year warranty

Hewlett-Packard Vectra Desktop PCs

No matter what your professional computing requirements are, Hewlett-Packard has built the PC to satisfy them.

If performance and top quality computing at a highly attractive price is critical to you, then look no further than the models in our V-Line range.   And the advanced networking capabilities and security and management features of our X-Line PCs have been specially designed to keep the cost of running your network down.

Our unmatched reputation for quality and support - backed up by a three-year warranty - ensures your HP Vectra PC will always be ready to work when you are.

HP Vectra XU PCs

The HP Vectra XU PC family is the best answer for power-hungry expert users working in the field of computer-aided design or computer-aided engineering (CAD/CAE), software development or desktop publishing. What these users need is maximum computing power as well as professional graphics quality, multimedia and business communication capabilities.

As well as supporting Intel Pentium® processors, the HP Vectra XU family now includes Intel's latest-generation Pentium Pro processor designed for use with 32-bit operating systems and applications.   With an advanced memory architecture and a complete set of subsystems all linked to the PCI bus, HP Vectra XU PCs bring the best system performance in complex multi-tasking environments.

The HP Vectra XU PC family fully supports the dual processor capability provided by Intel's MultiProcessor Specification (MPS) technology.

In just a few seconds, you can boost the performance of operating systems supporting multi-processing by simply inserting a second processor in the available zero-insertion force upgrade socket.   This socket will also accept future Intel OverDrive® processors when they become available, so you can be sure your HP Vectra XU PC will give maximum performance levels for years to come.

Users have a choice of either the Matrox Impression Plus or the Matrox Millennium graphics adapter. This provides an unbeatable combination of top processing power and the fastest graphics engine on the market including 3D acceleration for your complex CAD/CAE or photo/desktop publishing tasks.

In addition, for environments where graphics and sound are a key part of the development system, most models have an integrated quad-speed CD-ROM drive, and Pentium Pro models come with built-in Sound Blaster™-compatible

audio capabilities.   Everything you need for the most complex applications!

Because you work in complex environments and use a wide variety of high-performance peripherals, HP Vectra XU PCs come standard with a SCSI-2 host bus adapter on PCI bus on Pentium models and a Fast SCSI interface on Pentium Pro models.   An external SCSI-2 port is available on all models for your other expansion needs.   All systems also include an enhanced IDE interface hooked to the PCI bus to allow you to use any widely available hard disk drive.

And because you're connected to a network and need easy integration and fast transfer performance, all HP Vectra XU Pentium models come standard with a PCI local-bus Ethernet adapter with 10Base-T and coax connections as well as security and client management features for unrivalled network integration.   On the high-performance Pentium Pro models, the latest 100VG Selectable PCI adapter is included for the fastest available data transfer.

Finally, with the environment in mind, all Pentium models come with HP's power management system, allowing them to power-down for reduced electricity consumption.

Configurations and Models

HP Vectra XU PCs

	Model	Processor	Hard Disk	Hard Disk Controller	Memory	LAN Interface	External Cache	Video Subsystem	Product Number*
5/120	1000	Intel Pentium 120-MHz	1 GB	SCSI-2	16 MB	32-bit Ethernet	512 KB	Matrox Millennium	D3511B
	2000	Intel Pentium 120-MHz	2 GB	SCSI-2	16 MB	32-bit Ethernet	512 KB	Matrox Millennium	D3512B
5/133	1000	Intel Pentium 133-MHz	1 GB	SCSI-2	16 MB	32-bit Ethernet	512 KB	Matrox Millennium	D3516B
	2000	Intel Pentium 133-MHz	2 GB	SCSI-2	16 MB	32-bit Ethernet	512 KB	Matrox Millennium	D3517B
6/150	1000	Intel Pentium Pro 150-MHz	1 GB	Fast SCSI	16 MB	100VG AnyLAN	256 KB Internal	Matrox Millennium	D3529N
	2000	Intel Pentium Pro 150-MHz	2 GB	Fast SCSI	16 MB	100VG AnyLAN	256 KB Internal	Matrox Millennium	D3530N

* Language option must be specified; for example, Option ABB for British English.

Note: All Pentium models come with pre-installed MS-DOS® 6.22, Microsoft® Windows for Workgroups 3.11 and Dashboard 2.01.   All Pentium Pro models come with Windows NT™ on CD.

Standard Features - Pentium models

Package:
   Desktop/deskside
   Includes HP industry-standard keyboard and mouse
   5 slots: 1 PCI, 1 PCI/ISA, 3 ISA
   4 mass storage shelves (3 front-accessible)

I/O:
   1 parallel port (25-pin) (ECP bi-directional Centronics); 1 serial port (9-pin)
   1 SCSI-2 port
   10Base-T connector (RJ-45 UTP)
   Coaxial Ethernet connector
   Mini-DIN keyboard and mouse ports
   15-pin VGA connector
   VESA connector for VGA passthrough

Memory and Cache:
   256 MB maximum memory
   512-KB burst synchronous, external cache

Mass Storage:

Fast SCSI-2 hard disk drives
Integrated PCI Fast SCSI-2 host bus adapter for internal SCSI devices, external SCSI-2 connector for external peripherals
Integrated PCI Fast IDE interface for up to two internal devices
Integrated quad-speed SCSI-2 CD-ROM drive

Video Subsystem:

Matrox Millennium PCI graphics card with 2-MB WRAM video memory, upgradeable to 4 MB (D3557A) (8-MB upgrade available from Matrox)
Maximum resolution with 2 MB: 1024 x 768 x 64000 colours
Maximum resolution with 4 MB: 1600 x 1200 x 64000 colours
Support of 16 million colours in up to 1024 x 768 with 2-MB WRAM upgrade
Maximum refresh rate: 100 Hz
Video drivers for Windows and CAD applications supplied on CD

Networking:

Pre-loaded DMI allows PC configuration from a remote console
32-bit PCI Ethernet interface
Integrated boot protocols for Novell® NetWare® and Microsoft LAN Manager
MAC address visible and configurable Ethernet interface
Pre-loaded LAN drivers

Upgrades/Serviceability:

2 ZIF sockets; available socket accepts a second processor or future OverDrive processor
Memory upgrades on SIMMs
BIOS in flash ROM
Easy-to-access/service design
Windows® 95 Plug and Play capability
PCI local bus architecture auto-configures add-on PCI cards

Ergonomics/Environment:

Variable-speed fan reduces noise
Advanced power management
CFC-free manufacturing process
Single plastic for easy recycling
No "battery" system

Security:

Chassis lock and security bracket
Keyboard lock button
Power-on password
Network administrator password
Reset and power off disabled when keyboard is locked
Boot control and enabling/disabling of I/O ports and drives
Ultimate setup and password protection in EEPROM
Asset tracking with serial number and PC identification field

Warranty:

Three-year warranty (first year on-site)

Standard Features - Pentium Pro models

Package:

Mini-tower
Includes HP industry-standard keyboard and mouse
6 slots: 3 PCI, 1 PCI/ISA, 2 ISA
7 mass storage shelves (5 front-accessible)

I/O:

1 parallel port (25-pin) (ECP/ EPP); 2 serial ports (9-pin)
1 SCSI-2 port
10Base-T connector (RJ-45 UTP)
Coaxial Ethernet connector
Mini-DIN keyboard and mouse ports
15-pin VGA connector
VESA connector for VGA passthrough

Memory and Cache:

256 MB maximum memory
256 KB internal cache

Mass Storage:

Fast SCSI-2 hard disk drives
Integrated Ultra-SCSI host bus adapter for internal SCSI devices, SCSI-2 connector for external peripherals
PCI Master Enhanced IDE interface for up to four internal devices
Integrated quad-speed SCSI-2 CD-ROM drive

Video Subsystem:

Matrox Millennium PCI graphics card with 2-MB WRAM video memory, upgradeable to 4 MB (D3557A) (8-MB upgrade available from Matrox)
Maximum resolution with 2 MB: 1024 x 768 x 64000 colours
Maximum resolution with 4 MB: 1600 x 1200 x 64000 colours
Support of 16 million colours in up to 1024 x 768 with 2-MB WRAM upgrade
Maximum refresh rate: 100 Hz
Video drivers for Windows and CAD applications supplied on CD

Networking:

Pre-loaded DMI allows PC configuration from a remote console
100VG Selectable PCI adapter
Integrated boot protocols for Novell® NetWare® and Microsoft LAN Manager
MAC address visible and configurable Ethernet interface
LAN drivers on CD

Multimedia:

Integrated quad-speed SCSI-2 CD-ROM
On-board 16-bit Sound Blaster capability
Connectors for microphone, stereo line-in, line-out, joystickIDI, PC speaker and wavetable

Upgrades/Serviceability:

2 ZIF sockets; available socket accepts a second processor or future OverDrive processor
Memory upgrades on 72-bit DIMMs with support for Error Correcting Code
BIOS in flash ROM
Easy-to-access/service design
PCI local bus architecture auto-configures add-on PCI cards

Ergonomics/Environment:

Advanced cooling system
CFC-free manufacturing process
Single plastic for easy recycling
No "battery" system
Power-on from keyboard, software-controlled power-off

Security:

Chassis lock and security bracket
Power-on password
Network administrator password
Boot control and enabling/disabling of I/O ports and drives
Ultimate setup and password protection in EEPROM
Asset tracking with serial number and PC identification field

Warranty:

Three-year warranty (first year on-site)

Optional Accessories

		Pentium	Pentium Pro
Memory upgrades	4-MB 70ns Memory Module 1	D2690A	--
	4-MB 70ns Memory Module (20-pack) 1	D2897A	--
	8-MB 70ns Memory Module 1	D2691A	--
	8-MB 70ns Memory Module (20-pack) 1	D2898A	--
	16-MB 70ns Memory Module 1	D2899A	--
	32-MB 70ns Memory Module 1	D3578A	--
	16-MB 60ns ECC Memory Module	--	D3556A
	32-MB 60ns ECC Memory Module	--	D3555A
	64-MB 60ns ECC Memory Module	--	D3554A
Flexible discs	3.5-inch, 1.44-MB, third-height	D2035A	D2035B
	5.25-inch, 1.2-MB, half-height	D2036A	D2881B
	3.5-inch hard disk drive mounting trays (3-pack)	D2198A	--
	3.5-inch hard disk drive mounting trays (5-pack)	--	D2037A
	3.5-inch side mounting rails (5-pack)	--	D3566A
	5.25-inch mounting trays (3-pack)	D2199A	--
	5.25-inch mounting trays (5-pack)	--	D2880A
Hard disks	1-GB Fast SCSI-2	D2076B	D2920A
	2.1-GB Fast SCSI-2	D2077A	D2926A
CD-ROM	Quad-speed SCSI-2 CD-ROM drive	D2992B	--
Internal tape drives	HP Colorado 340-MB QIC-80	C4328Dx	C4328Dx
	HP Colorado 800-MB QIC-80 Travan	C4329Dx	C4329Dx
	HP Colorado 1.36-GB QIC-3020	C4330Dx	C4330Dx
Dual processor upgrade	Intel Pentium processor companion upgrade	D3509A	D3559A
Video	2-MB WRAM Upgrade Kit	D3557A	D3557A
	Compatible with all HP video monitors	Yes	Yes
Others	HP Vectra PC User Manual	D3080C	D3538A
	HP Keyboard	C3756A	C4725A

1 Must be added in pairs

Specifications

	Pentium	Pentium Pro
Dimensions (excluding keyboard) (height x width x depth)	17.0 cm x 44.0 cm x 41.0 cm (6.7 in x 17.3 in x 16.2 in)	41.5 cm x 21.0 cm x 40.5 cm (16.3 in x 8.3 in x 15.9 in)
Weight (excluding keyboard)	11.3 kg (24.8 lbs)	15.0 kg (33.0 lbs)
Input voltage	Autoranging worldwide power supply	Switch-selectable 110/240 W power supply
Power consumption	45 W (typical); 170 W (absolute maximum)	60 W (typical); 280 W (absolute maximum)

HP NetServer LC Series

Information subject to change without notice

Affordable servers that are easy to manage

Performance Thats Easy to Manage and Afford

Now theres a server thats right for your businessand your budget. The HP NetServer LC Series delivers the performance your small- to medium-sized workgroup needs right now, with expandability to make your investment last. Our entry-level servers are not only affordable; theyre remarkably easy to manage in todays complex multivendor networks.

- **Manageability**: To make them simpler to configure, install, and manage, the HP NetServer LC 5/75, 5/100, and 5/133 include HP NetServer Navigator, an easy-to-use toolset on CD-ROM. You also receive HP NetServer Assistant 2.2 software for proactive system alerting and problem resolution. For a powerful remote-management solution, choose the optional HP Remote Assistant.

-      **Availability**: The HP NetServer LC will restart without administrator intervention, thanks to built-in Automatic Server Restart (ASR). To maximise your uptime and protect your data, we offer a range of options such as the HP Disk System with hot-swap drives.
-      **Performance**: With support for the Pentium® 75MHz, 100MHz, and 133MHz processors, integrated PCI slots for increased I/O bandwidth, up to 192MB of RAM and a 256 KB write-back cache, these servers give you high performance at a low price.

HP NetServer LC Benefits and Features

Servers that are easy to manage
    HP NetServer Navigator bootable CD-ROM with easy-to-use configuration, installation and management tools for the HP Netserver LC
    HP NetServer Assistant server management software provides proactive alerting and problem resolution
    Remote Assistant card for remote diagnostics and environmental monitoring (optional)
    Rack mount solutions to save space in a multi-server environment (optional)
Servers that maximise system availability
    Temperature monitor notifies system administrator of extreme temperatures
    Automatic Server Restart (ASR) upon NOS hang gets server up and running quickly without system administrator's intervention
    Dual-channel Fast PCI and EISA SCSI-2 Disk Array with RAID levels 0, 1, 5 and 6 for superior data protection (optional)
    HP Disk System and Disk Array storage solutions available
    External hot swap allows continuous use of server during replacement of failed drive (optional)
    External hot spare allows instant, unattended initiation of data reconstruction on spare drive upon drive failure (optional)
    HP PowerWise UPS for maximum network protection (optional)
    Comprehensive service and support available directly from HP or authorised resellers
Servers that offer high performance
    Pentium 75 Mhz, 100 Mhz and 133 Mhz processors
    64-bit bus architecture
    256-KB external write-back cache
    Up to two PCI slots for increased I/O bandwidth

Integrated twin-channel EISA Fast SCSI-2 controller
Fast disks with <11 ms average seek time

Configurations and Models

	Model	Processor	Cache	Hard Disk	Memory	Product No.
HP NetServer 5/75 LC	1	Pentium 75 MHz	256KB	-	16MB	D3615A
	1050	Pentium 75 MHz	256KB	1.05GB SCSI-2	16MB	D3616A
HP NetServer 5/100 LC	1	Pentium 100 MHz	256KB	-	32MB	D3594A
	1050	Pentium 100 MHz	256KB	1.05GB SCSI-2	32MB	D3595A
HP NetServer 5/133 LC	1	Pentium 133 MHz	256KB	-	32MB	D3617A
	1050	Pentium 133 MHz	256KB	1.05GB SCSI-2	32MB	D3618A

All models shown above include:

CD-ROM drive	3.5-inch, 1.44-MB floppy disk drive	Video and mouse ports
Integrated twin-channel EISA Fast SCSI-2 controller	1 parallel and 2 serial ports	Keyboard
Integrated IDE controller	External SCSI-2 port	
Integrated Super VGA video controller	HP NetServer Navigator CD-ROM, including HP NetServer Assistant	

Product Features

Processor
  HP NetServer 5/75 LC   Intel Pentium 75 MHz
  HP NetServer 5/100 LC   Intel Pentium 100 MHz
  HP NetServer 5/133 LC   Intel Pentium 133 MHz
Upgrades
  Processor board upgrade to Pentium 133 Mhz (Available Q4/1995)
Cache
  256-KB write-back cache
Memory
  HP NetServer 5/75 LC   16 MB, expandable to 192 MB
  HP NetServer 5/100 LC   32 MB, expandable to 192 MB
  HP NetServer 5/133 LC   32 MB, expandable to 192 MB
  Support 4 MB, 8 MB, 16 MB and 32 MB (70 ns) industry-standard SIMMs (SIMMs must be added in pairs)
Expansion Slots
  Six I/O slots: one PCI, one shared PCI/EISA, and four EISA bus master slots
Video
  Integrated 1024x768, 16 colour noninterlaced
  512-KB standard video memory
  Super VGA drivers available with operating system or on HP electonic support services
SCSI
  Integrated twin-channel EISA Fast SCSI-2 controller
Mass Storage Shelves
  Three front-accessible, half-height shelves
  One 3.5-inch floppy drive shelf
Floppy Disk Drive
  3.5-inch, 1.44-MB standard
CD-ROM
  SCSI-2, tray-load, quad-speed, 190 ms average access time (full-stroke), included one all models
Hard Disk Drive
  1.05-GB Fast SCSI-2 (<11 ms seek time)
I/O Ports
  EISA Fast SCSI-2 external port
  One 25-pin parallel, two 9-pin serial ports
  Video port
  Mini-DIN keyboard and mouse connectors
HP NetServer Navigator CD-ROM
  Bootable CD-ROM with tools to configure, install and manage the HP NetServer LC; includes these "Assistant" products:
    HP Configuration Assistant   Automated, menu-driven installation and configuration application that helps you

	install, configure/reconfigure and optimise the performance of the HP NetServer LC
HP NetServer Assistant 2.21	Server management software that provides monitoring, proactive alerting and problem identification for subsystems such as SCSI controllers, hard disk drives, ECC memory and uninterruptible power supplies; includes HP **OpenView for Windows network management platform**
HP Information Assistant	Intelligent information retrieval system for quick access to information on HP NetServers and accessories, network operating system installation and tuning, and product service and support
HP Diagnostic Assistant	Easy-to-use diagnostic tool for system verification and rapid troubleshooting of hardware issues, such as incorrect SCSI cabling and termination

Supported Operating Systems
Banyan VINES®
IBM® OS/2® Warp and LAN Server
Microsoft® MS-DOS®
Microsoft Windows NT®™ Server
Novell® NetWare®; Novell NetWare SFT® III; Novell UnixWare®,
SCO® Open Server®
For details, see "HP NetServer OS/NOS Support", available via HP NetServer BBS/FTP/WWWeb

Security
Power-on password
Network server mode
Keyboard lock button with optional screen blanking
Power switch lock
EISA configuration and BIOS protection switches
Enable or disable serial and parallel ports, floppy drives, and write operations to the floppy drive
Provision for padlock

Designed-in Support Features
Extensive built-in self-tests
HP Diagnostic Assistant hardware test disk in cabinet
Temperature monitor notifies system administrator of extreme temperatures
Side door for easy access to internal components

Service and Support
3-year, next-business-day, on-site limited warranty from HP or authorised resellers (standard business hours)
Optional 4-hour response during standard business hours available as HP SupportPack from resellers
Free telephone support for basic setup, installation and troubleshooting in United States, Canada and Europe during warranty
Network phone-in support (advanced NOS and network support) available in United States, Canada, Europe and Australia as optional HP SupportPack from resellers
HP NetServer Compatibility Evaluation Guarantee

Easy Access to Technical Information
Drivers, utilities and technical tips and tricks available via HP Netserver BBS, CompuServe, FTP and WWWeb
Complete technical documentation and system-level information available through HP Support Assistant CD-ROM subscription

Optional Accessories *

Memory
D2974A	4-MB parity SIMM (70 ns)
D3577A	8-MB parity SIMM (70 ns)
D2297A	16-MB parity SIMM (70 ns)
D3578A	32-MB parity SIMM (70 ns)

Storage Devices
D2036A	5.25-inch, 1.2-MB floppy disk drive
D2918A	540 MB IDE hard disk (must order D2198Amounting tray)
D2076B	1.05-GB Fast SCSI-2 hard disk
D2077A	2.1-GB Fast SCSI-2 hard disk
D3340A	2.1-GB Fast SCSI-2 hard disk (7200 RPM)
D3341A	4.2-GB Fast SCSI-2 hard disk
D2992B	CD-ROM (internal SCSI-2, tray load, quad-speed, 190ms average access time)
C1528F	HP SureStore Tape 6000i Internal Tape Drive

C1526F   HP SureStore Tape 5000i Internal Tape Drive
C1525F   HP SureStore Tape 2000i Internal Tape Drive
D2198A   3.5 inch hard disk drive mounting tray (3-pack)
D2199A   Tape/DAT/CD-ROM mounting tray (3-pack)

SCSI-2 Controller
D2078B   EISA Fast SCSI-2 Controller Adapter

Disk Array Controller
C3610A   HP PCI Disk Array Controller Adapter with dual Fast and Wide SCSI-2 channelsD
C3609A   HP EISA Disk Array Controller Adapter with dual Fast SCSI-2 channelsD

External Storage Solutions
D3611A   HP Disk System: five pluggable bays
C3305A   1.0 GB hot-swap Fast SCSI-2 disk module
C3306A   2.0 GB hot-swap Fast SCSI-2 disk module

Processor Board Upgrades (Available Q4/1995)
D3601A   Pentium 133 Mhz processor board upgrade

Monitors
D2804A   HP SuperVGA Display, 14-inch
D2801B   HP Monochrome VGA Display 14-inch

Network Cards
J2585A   HP 10/100VG Selectable PDI Adapter
J2577A   HP 10/100VG Selectable EISA Adapter

HP Remote Assistant
EISA server management card for remote diagnostics and environmental monitoring
D2968B   For U.S./Canada/Latin American countries (includes modem)
D2967B   For other countries (no modem)

HP PowerWise UPS (Available in North America and Europe only)
C4277B   HP PowerWise UPS 1000VA
C4278B   HP PowerWise UPS 2100VA
C4778B   HP PowerWise UPS L900
C4777B   HP PowerWise UPS L600
Refer to HP PoweWise UPS Data Sheets (5963-7004, 5963-7005) for software and accessory information

HP NetServer Packs and Accessories
J1450A   2 metre rack with side panels and rear doors
J1450A option AXH   2 metre rack only
J1460A   8-port HP Console Switchbox

For additional information on HP NetServer Rack solutions, refer to the HP NetServer Rack Solutions Data Sheet (5963-7003)

Service Documentation
D3310-90001 Service Manual (also on HP NetServer Navigator CD-ROM)

 * Please see the HP NetServer Configuration Guide for important technical information with choosing your accessories

Other Specifications

Operating Temperature
5° to 35° C (41° to 95° F)
Operating Humidity
20% to 80% non-condensing
Acoustic Emissions
Sound Level (LpA): <44 dB (A)
Power Supply
Switch-selectable input range: 100 to 127 VAC, 5.0A; or 200 to 240 VAC, 2.85A at 50/60 Hz
Power   Availability
200 W continuous; 224 W peak
Power to backplane I/O connector slots: EISA: 17 A at 5 V, 1.3 A at 12 V, 0.3 A at -5 V, 0.3 A at -12 V; PCI: 9.2 A at 3.3 V
Power Consumption
301/291 W maximum with 115/230 V supply
351/337 W peak with 115/230 V supply
Recommended UPS size: 600 VA

System Dimensions
    425 mm high x 235 mm wide x 448 mm deep (16.7 x 9.3 x 17.6 in)
System Weight
    16-21 kg (35-46 lbs) depending on configuration

Regulatory Compliance

Electromagnetic Compliance
    CISPR 22 Class B (International)
    EN 55022 Class B (EU Countries)
    EN50082-1, Generic Immunity (EU Countries), incl.:
        IEC 801-2, ESD
        IEC 801-3, RI
        IEC 801-4, FT
    FCC Class B Verified (USA)
    M of C Class A (Korea)
    VCCI Class 2 (Japan)
Safety Compliance
    CSA Certified (Canada, File LR37427)
    EN 60950 Compliance (International)
    TÜV Certified (Germany)
    UL Listed (USA, File E139742)
Datacomm Compliance
    Sweden

For Additional Information

HP WWWeb server
    http://www.hp.com
HP NetServer FTP server
    ftp.netserver.hp.com
HP NetServer BBS
    1-408-553-3500
CompuServe
    GO HPSYS

HP NetServer LH Series

HP NetServer 5/75 LH   HP NetServer 5/100 LH
HP NetServer 5/133 LH HP NetServer 5/100 LH2
Information subject to change without notice
Servers that deliver maximum uptime with optimised price/performance

Servers That Stand Up to Todays Demanding Networks And Tomorrows

If your organisations computing needs range from sharing files and resources to running processor-intensive applications, theres no better choice for your network than Hewlett-Packards optimised price/performance serversthe HP NetServer LH Series. Weve designed these servers from the inside out to deliver high levels of:

- **Manageability**: HP NetServer Navigator provides you with easy-to-use tools for quick configuration and installation and efficient management of your server. Combined with the built-in manageability features of the HP NetServer LH, these tools help you get your server up quickly and keep it running.

- **Availability**: For an extra measure of protection, the HP NetServer LH includes an innovative hot-swap subsystem with a dual SCSI backplane for internal disk duplexing and for replacing failed disks without shutting down the system. To further ensure data integrity, ECC memory automatically checks, corrects and reports memory errors.
- **Performance**: To meet the performance requirements of a wide range of business applications, these servers are scalable from Pentium™ 75 MHz to dual Pentium 133 MHz processors. With these processors, plus a next-generation PCI architecture and two inte-grated PCI SCSI controllers, theHP NetServer LH Series delivers exceptional I/O bandwidth andsystem performance.

Benefits and Features

Servers that are easy to manage
    HP NetServer Navigator bootable CD-ROM with easy-to-use tools to configure, install and manage the HP NetServer LH
    HP NetServer Assistant server management software for proactive alerting and problem resolution
    Optional HP Remote Assistant card for comprehensive remote diagnostics and environmental monitoring
    Optional rack mount solutions to save valuable space in a multi-server environment
Servers that maximise system availability
    HP Dual-channel PCI Disk Array (Fast and Wide SCSI-2) for superior data protection
    Hot-swap feature allows continuous use while replacing failed drive
    Dual SCSI backplane for internal disk duplexing
    ECC memory for automatically checking, correcting and reporting memory errors
    Unattended, automatic reset and reboot upon NOS hang, to get system back up and running quickly
    Comprehensive service and support available directly from HP or authorised
Servers that offer high performance
    Scalable to dual Pentium 100 MHz symmetric multiprocessing (SMP)
    256 KB external write-back cache (512 KB for dual Pentium/100)
    Advanced PCI bus with two PCI Fast SCSI-2 controllers integrated on system board for

faster I/O

Configurations and Models

	Model	Processor	Cache	Hard Disk	Disk Array	Memory	Product No.
HP NetServer 5/75 LH	1	Pentium 75MHz	256KB	-	-	16 MB ECC	D3353A
	1050	Pentium 75MHz	256KB	1.05GB hot-swap	-	16 MB ECC	D3354A
	1-Array	Pentium 75MHz	256KB	-	PCI Disk Array Controller	16 MB ECC	D3355A
HP NetServer 5/100 LH	1	Pentium 100MHz	256KB	-	-	32 MB ECC	D3356A
	1050	Pentium 100MHz	256KB	1.05-GB hot-swap	-	32 MB ECC	D3357A
	1-Array	Pentium 100MHz	256KB	-	PCI Disk Array Controller	32 MB ECC	D3358A
HP NetServer 5/100 LH2	1	Dual Pentium 100 MHz	512KB	-	-	32 MB ECC	D3570A
	1-Array	Dual Pentium 100 MHz	512KB	-	PCI Disk Array Controller	32 MB ECC	D3571A
HP NetServer 5/133 LH	1	Pentium 133MHz	256KB	-	-	32 MB ECC	D3620A
	1-Array	Pentium 133MHz	256KB	-	PCI Disk Array Controller	32 MB ECC	D3621A

All models also include:

Hot-swap disk subsystem	3.5-inch, 1.44-MB floppy disk drive	Keyboard
Quad speed CD-ROM drive	1 parallel and 2 serial ports	HP NetServer Navigator CD-ROM,
Two integrated PCI Fast SCSI-2 controllers	Video and mouse ports	including HP NetServer Assistant
Integrated IDE controller	External SCSI port (with array models only)	

Product Features

Processor

HP NetServer 5/75 LH	Intel Pentium 75MHz
HP NetServer 5/100 LH	Intel Pentium 100MHz
HP NetServer 5/133 LH	Intel Pentium 133MHz
HP NetServer 5/100 LH2	Dual Intel Pentium 100MHz

Processor Upgrade

Processor board upgradeable to dual Pentium/100 processors

Cache

256 KB write-back (512 KB write-back shared cache on dual 5/100 models)

Memory

32 MB ECC (16 MB ECC on 5/75 LH), expandable to 192 MB

Expansion Slots

Up to 9 bus master slots (4 PCI, 4 EISA, 1 shared PCI/EISA)

HP Disk Array (with Model 1-Array)

PCI Disk Array Controller Adapter with dual Fast and Wide SCSI-2 channels (takes one PCI slot), based on i960 processor with 4 MB cache

Hot-swap and hot-spare capabilities

Support for RAID 0, 1, 5, 6 (logical combination of RAID 0 and 1)

SCSI

Two PCI Fast SCSI-2 controllers integrated on system board

Mass Storage Shelves

Nine front-accessible shelves

- 1 for CD-ROM (included)
- 1 standard half-height
- 6 hot-swap (must use hot-swap drives)
- One 3.5 inch flexible disk drive

Flexible Disk Drive

3.5 inch, 1.44 MB included on all models

CD-ROM

SCSI-2, tray-load, quad-speed, 190 ms average access time (full-stroke); included on all models

Hot-Swap Drives

1.05 GB (standard on Model 1050), 2.1 GB, 4.2 GB Fast SCSI-2 disk module

Built-in I/O Ports

External Fast SCSI-2 (included with array models only)

One 25-pin parallel; two 9-pin serial RS-232

Video; mini-DIN keyboard and mouse

Video

Integrated 1024x768, 16-color, non-interlaced

512 KB standard video memory
Super VGA drivers available with operating system or from HP electronic support services

HP NetServer Navigator CD-ROM
Bootable CD-ROM with tools to configure, install and manage the HP NetServer LH; includes these Assistant products:

HP Configuration Assistant
Automated, menu-driven installation and configuration application that helps you install, configure/reconfigure and optimise the performance of the HP NetServer LH

HP NetServer Assistant 2.2
Server management software that provides monitoring, proactive alerting and problem identification for subsystems such as SCSI controllers, hard disk drives, ECC memory and uninterruptible power supplies; includes HP OpenView for Windows™ network management platform and full DMI support

HP Information Assistant
Intelligent information retrieval system for quick access to information on HP NetServers and accessories, network operating system installation and tuning, and product service and support

HP Diagnostic Assistant
Easy-to-use diagnostic tool for system verification and rapid troubleshooting of hardware issues, such as incorrect SCSI cabling and termination

Supported Operating Systems *
Banyan VINES
Microsoft Windows NT Server
IBM OS/2 Warp and LAN Server
Novell NetWare, Novell NetWare SFT III, Novell UnixWare
Microsoft MS-DOS
SCO Open Desk/Open Server, SCO UNIX
* For details, see "HP NetServer OS/NOS Support" available via HP NetServer BBS/FTP/WWWeb.

Supported SMP Operating Systems
IBM OS/2 SMP and LAN Server, Microsoft Windows NT Server, Novell UnixWare and SCO MPX

HP Advanced Cooling System
Dual fans provide extra cooling for internal components; superior air-flow design

Security
Startup password
Network server mode
Keyboard lock button with optional screen blanking
Server case lock
EISA configuration protection password
Enable or disable serial port, flexible disk drives and write operations to flexible disk drive

Service and Support
3-year, next-business-day, on-site limited warranty from HP or authorised resellers (standard business hours)
Optional 4 hour response during standard business hours or 7 days/week, 24 hours/day available as HP SupportPack from resellers
Free telephone support for basic setup, installation and troubleshooting in U.S., Canada and Europe during warranty
Network phone-in support (advanced NOS and network support) available in U.S., Canada, Europe and Australia as optional HP SupportPack from resellers
HP NetServer Compatibility Evaluation Guarantee

Easy Access to Technical Information
Drivers, utilities and technical tips and tricks available via HP NetServer BBS, CompuServe, FTPand WWWeb
Complete technical documentation and system-level information available through HP Support Assistant CD-ROM subscription

Optional Accessories 1

Memory
D2974A   4-MB parity SIMM (70 ns)
D3577A   8-MB parity SIMM (70 ns)

D2297A	16-MB parity SIMM (70 ns)
D3578A	32-MB parity SIMM (70 ns)
D3597A	8-MB manageable ECC SIMM (70 ns)
D3592A	16-MB manageable ECC SIMM (70 ns)
D3593A	32-MB manageable ECC SIMM (70 ns)

Storage Devices

D2036A	5.25 inch, 1.2 MB floppy disk drive
D3581A	1.05 GB hot-swap Fast SCSI-2 disk module
D3582A	2.1 GB hot-swap Fast SCSI-2 disk module
D3583A	4.2 GB hot-swap Fast SCSI-2 disk module
D2992B	CD-ROM (internal SCSI-2, tray-load, quad-speed, 190 ms average access time)
C1528F	HP SureStore Tape 6000i Internal DAT Drive
C1526G	HP SureStore Tape 5000i Internal DAT Drive
C1525G	HP SureStore Tape 2000i Internal DAT Drive
D2198A	3.5 inch hard disk drive mounting trays (3 packnot hot-swap)
D2199A	Tape/DAT/CD-ROM mounting trays (3 packno front panel)
D3349A	Hot-swap hard disk mounting tray (for selected non-HP drives only; refer to HP electronic services for supported drives)
D3638A	External SCSI Cable Kit, 50-pin

SCSI-2 Controller

D2078B	EISA Fast SCSI-2 Controller Adapter

Array Controller

C3610A	HP PCI Disk Array Controller Adapter with dual Fast and Wide SCSI-2 channels
C3609A	HP EISA Disk Array Controller Adapter with dual Fast SCSI-2 channels

External Storage Solutions

D3604A	HP NetServer Storage System/6

Processor Board Upgrades 2

D3590A	Pentium 100 Processor Kit
D3596A	Dual-ready Pentium 100 (Includes one Pentium 100 processor and 512 KB cache)

Monitors

D2804A	HP Super VGA Display,14-inch
D2801B	HP Monochrome VGA Display,14-inch

Network Cards

J2585A	HP 10/100VG Selectable PCI Adapter
J2577A	HP 10/100VG Selectable EISA Adapter

HP Remote Assistant

EISA server management card for remote diagnostics and environmental monitoring:
- D2968B   For U.S./Canada/Latin American countries (includes modem)
- D2967B   For other countries (no modem)

HP PowerWise UPS 3

C4277B	HP PowerWise UPS 1000VA (230V)
C4278B	HP PowerWise UPS 2100VA (230V)
C4778B	HP PowerWise UPS 900VA (230V)

Refer to HP PowerWise UPS Data Sheets (5964-4000) for software and accessory information

HP NetServer Racks and Accessories

J1450A	2 metre rack with side panels and rear doors
J1450A option AXH	2 metre rack only
J1460A	8-port HP Console Switchbox
J1461A	4-port HP Console Switchbox
J1454A	NetServer Storage System Rack Kit
J1451B	HP NetServer LH Rack Mount Kit

ServiceDocumentation

D3353-90001 Service Manual (also on HP NetServer Navigator CD-ROM)

1 Please see the HP NetServer Configuration Guide for important technical information when choosing accessories

2 To upgrade from 5/75 LH to 5/100 LH2, order D3596A and D3590A

   To upgrade from 5/100 LH to 5/100 LH2, order D3596A

3 Available in North America and Europe only

Other Specifications

Operating Temperature
   5 to 35 degrees C (41 to 95 degrees F)
Operating Humidity
   20% to 80% non-condensing
Acoustic Emissions
   Sound Level (LpA): <58 dB (A)
Power Supply
   Auto-ranging 90 to 132 VAC, or 180 to 264 VAC at 47-63Hz
Power Availability
   350W continuous, 386W peak
Power Consumption
   499/479W maximum with 110/220V supply;551/528W peak with 110/220V supply
System Dimensions
   49 cm x 34.8 cm x 46 cm (19.3 inches high x 13.7 inches wide x 18.1 inches deep)
System Weight
   22.7-31.8 kg (50-70 lbs), depending on configuration

Regulatory Compliance

Electromagnetic Compliance
CISPR 22 Class B (International)
EN 55022 Class B (EU Countries)
EN50082-1, Generic Immunity (EU Countries), incl.:
   IEC 801-2, ESD
   IEC 801-3, RI
   IEC 801-4, FT
FCC Class B Verified (USA)*
M of C Class A (Korea)
VCCI Class 2 (Japan)
FCC Class B grant pending (FCC ID: B94HPLS103)
Safety Compliance
CSA Certified (Canada, File LR374270)
EN 60950 Compliance (International)
NOM (Mexico)
TÜV Certified (Germany)
UL Listed (USA, File E139742)
Datacomm Compliance
   Sweden

For Additional Information

HP WWWeb server
   http://www.hp.com
HP NetServer FTP server
   ftp.netserver.hp.com
HP NetServer BBS
   1-408-553-3500

HP NetServer LS Series

Information subject to change without notice

Scalable servers for mission-critical applications

Next-Generation Servers On Which Your Business Can Depend

Does your network run databases, messaging, groupware, high-end file services, or other applications that are critical to your business? If so, you cant afford to take a chance on server downtime. Now, with Hewlett-Packards new, scalable, fault-tolerant HP NetServer LS, you dont have to. Because weve designed this high-end server from the bottom up to deliver high levels of manageability, availability and performanceor MAPthe capabilities that complex, mission-critical environments require.

- Manageability: For easy installation, configuration and administration, the HP NetServer LS comes standard with HP NetServer Navigator, a family of advanced server setup and management tools on a bootable CD-ROM.

- Availability: All models of the HP NetServer LS offer a new hot-swap disk subsystem with a dual SCSI backplane for internal disk duplexing. This subsystem can also be used with the new HP dual-channel PCI Disk Array Controllerenabling you to replace failed disks without compromising the availability of mission-critical applications.
- Performance: Incorporating the industry-leading XXpress architecture and support for up to four-way symmetric multiprocessing, this server is optimised for performance in mission-critical environments.

HP NetServer LS Benefits and Features

Servers that are easy to manage
    HP NetServer Navigator bootable CD-ROM with configuration, installation and management tools; includes HP NetServer Assistant server management software for proactive alerting and problem resolution
    Optional HP Remote Assistant card for remote diagnostics and environmental monitoring
    Optional rack mount solutions to save space in a multi-server environment
Servers that maximise system availability
    HP Dual-channel PCI Disk Array (Fast and Wide SCSI-2) for superior data protection
    "Hot-swap" feature allows continuous use while replacing failed drive
    Dual SCSI backplane for internal disk duplexing
    ECC memory for checking, correcting and reporting memory errors
    Unattended, automatic reset and reboot upon NOS hang, to get system back up and running quickly
    Optional HP PowerWise UPS for maximum network protection
    Service and support available from HP or authorised resellers
Servers that offer high performance
    Support for up to four-way symmetric multiprocessing on Pentium/100 and Pentium/133
    XXpress architecture with clock-independent 64 bit system bus, dual PCI peer buses, and concurrent bus operation, eliminates performance bottlenecks
    512 KB, and 1 MB external write-back caches
    Integrated Dual PCI Fast and Wide SCSI-2 controllers
    Fast disks and network cards for maximum I/O throughput

Configurations and Models

	Model	Processor	Cache	Hard Disk	Disk Array	ECC Memory	Product No.
HP NetServer 5/100 LS	Model 1	Pentium 100MHz	512KB	-	-	32 MB	D3334A
	Model 2100	Pentium 100MHz	512KB	2.1-GB	-	32 MB	D3336A
	Model 1-Array	Pentium 100MHz	512KB	-	PCI Disk Array Controller	32 MB	D3337A
	Model 4200A	Pentium 100MHz	512KB	2x2.1 GB	PCI Disk Array Controller	64 MB	D3626A
	Model 8400A	Pentium 100MHz	512KB	2-4.2 GB	PCI Disk Array Controller	64 MB	D3627A
HP NetServer 5/100 LS2	Model 1	Dual Pentium 100 MHz	2x1MB	-	-	64 MB	D3338A
	Model 1-Array	Dual Pentium 100 MHz	2x1MB	-	PCI Disk Array Controller	64 MB	D3339A
HP NetServer 5/100 LS4	Model 1	Quad Pentium 100 MHz	4x1MB	-	-	64 MB	D3338A+ D3575A (1)
	Model 1-Array	Quad Pentium 100 MHz	4x1MB	-	PCI Disk Array Controller	64 MB	D3339A+ D3575A*
HP NetServer 5/133 LS	Model 1	Pentium 133MHz	512KB	-	-	32 MB	D3605A
	Model 1-Array	Pentium 133MHz	512KB	-	PCI Disk Array Controller	32 MB	D3607A
	Model 4200A	Pentium 133MHz	512KB	2x2.1 GB	PCI Disk Array Controller	64 MB	D3628A
	Model 8400A	Pentium 133MHz	512KB	2-4.2 GB	PCI Disk Array Controller	64 MB	D3629A
HP NetServer 5/133 LS2	Model 1	Dual Pentium 133 MHz	2x1MB	-	-	64 MB	D3608A
	Model 1-Array	Dual Pentium 133 MHz	2x1MB	-	PCI Disk Array Controller	64 MB	D3609A
HP NetServer 5/133 LS4	Model 1	Quad Pentium 133 MHz	4x1MB	-	-	64 MB	D3608A + D3614A (1)
	Model 1-Array	Quad Pentium 133 MHz	4x1MB	-	PCI Disk Array Controller	64 MB	D3609A + D3614A (1)

(1) Order an HP NetServer LS2 system and an equivalent-speed customer-installable Dual Pentium SMP processor board

Product Features

Processor
HP NetServer 5/100 LS	Intel Pentium 100MHz
HP NetServer 5/100 LS2	Intel Pentium 100MHz Dual SMP card
HP NetServer 5/100 LS4	2 Intel Pentium 100MHz Dual SMP cards
HP NetServer 5/133 LS	Intel Pentium 133MHz
HP NetServer 5/133 LS2	Intel Pentium 133MHz Dual SMP card
HP NetServer 5/133 LS4	2 Intel Pentium 133MHz Dual SMP cards

Processor Upgrade Slots
Two processor card slots to accommodate Pentium/100, Dual Pentium/100 SMP, Pentium/133 and Dual Pentium/133,processor boards and board upgrades

ECC Memory
32 MB on 5/100 LS and 5/133 LS models 1 and 1-Array; 64 MB on 5/100 LS2, 5/133 LS2, 5/100 LS Model 4200 and 5/100 LS Model 8400, expandable to 768 MB with industry-standard 32 MB SIMMs

Cache
HP NetServer 5/100 LS	512 KB write-back
HP NetServer 5/100 LS2	2 MB (1 MB write-back for each processor)
HP NetServer 5/100 LS4	4 MB (1 MB write-back for each processor)
HP NetServer 5/133 LS	512 KB write-back
HP NetServer 5/133 LS2	2 MB (1 MB write-back for each processor)
HP NetServer 5/133 LS4	4 MB (1 MB write-back for each processor)

Expansion Slots
Up to 9 bus master slots (3 PCI, 4 EISA and 2 shared) when one processor slot used
Up to 8 bus master slots (2 PCI, 4 EISA, and 2 shared) when two processor slots used

HP Disk Array (with Model 1-Array)
PCI Disk Array Controller with dual Fast and Wide SCSI-2 channels, based on i960

processor with 4 MB cache
Hot-swap and hot-spare capabilities
Support for RAID 0, 1, 5, 6 (logical combination of RAID 0 and 1)

Video
Integrated 1024x768, 16-color, non-interlaced
512 KB standard video memory (upgradeable to 1 MB)
Super VGA drivers available with operating system or from HP electronic support services

SCSI
Two PCI Fast and Wide SCSI-2 controllers, integrated on system board

Mass Storage Shelves
Eight front-accessible, half-height shelves
- 1 for CD-ROM (included)
- 1 standard half-height
- 6 hot-swap shelves (must use hot-swap drives)
One 3.5 inch flexible disk drive

Flexible Disk Drive
3.5 inch, 1.44 MB included on all models

CD-ROM
SCSI-2, tray-load, quad-speed, 190 ms average access time (full-stroke); included on all models

Built-in I/O Ports
External PCI Fast and Wide SCSI-2 port (included on Model 1-Array only)
One 25-pin parallel port
Two 9-pin RS-232 serial ports
Video port
Mini-DIN keyboard and mouse

HP NetServer Navigator CD-ROM
Bootable CD-ROM with tools to configure, install and manage the HP NetServer LS; includes these *Assistant* products:

HP Configuration Assistant	Automated, menu-driven installation and configuration application that helps you install, configure/reconfigure and optimise the performance of the HP NetServer LS
HP NetServer Assistant 2.2	Server management software that provides monitoring, proactive alerting and problem identification for subsystems such as SCSI controllers, hard disk drives, ECC memory and uninterruptible power supplies; includes HP OpenView for Windows network management platform
HP Information Assistant	Intelligent information retrieval system for quick access to information on HP NetServers and accessories, network operating system installation and tuning, and product service and support
HP Diagnostic Assistant	Easy-to-use diagnostic tool for system verification and rapid troubleshooting of hardware issues, such as incorrect SCSI cabling/termination

Supported Operating Systems*
Banyan VINES
IBM OS/2 Warp and LAN Server
Microsoft MS-DOS
Microsoft Windows NT Server
Novell NetWare, Novell NetWare SFT III, Novell UnixWare
SCO Open Desk/Open Server, SCO UNIX
* For details, see "HP NetServer OS/NOS Support", available via HP NetServer BBS/FTP/WWWeb.

Supported SMP Operating Systems
IBM OS/2 SMP and LAN Server,
Microsoft Windows NT Server,
Novell UnixWare
SCO MPX

HP Advanced Cooling System
Dual fans provide extra cooling for internal components; superior air-flow design

Security
Startup password

Network server mode
Keyboard lock button with optional screen blanking
Timed keyboard, power, and reset switch lock
EISA configuration protection password
Enable or disable serial port, flexible disk drives and write operations to flexible disk drive
Provision for padlock or cable lock

Service and Support

3-year, next-business-day, on-site limited warranty from HP or authorised resellers (standard business hours)
Optional 4 hour response during standard business hours available as HP SupportPack from resellers
Free telephone support for basic setup, installation and troubleshooting in U.S., Canada and Europe during warranty
Network phone-in support (advanced NOS and network support) available in U.S., Canada, Europe and Australia as optional HP SupportPack from resellers
HP NetServer Compatibility Evaluation Guarantee

Easy Access to Technical Information

Drivers, utilities and technical tips and tricks available via HP NetServer BBS, CompuServe, FTPand WWWeb
Complete technical documentation and system-level information available via HP Support Assistant
CD-ROM subscription

Optional Accessories

Memory

D2974A	4 MB SIMM (70 ns)
D3577A	8 MB SIMM (70 ns)
D2297A	16 MB SIMM (70 ns)
D3578A	32 MB SIMM (70 ns)
D2971B	ECC Memory Expansion card (12 SIMM sockets)

Storage Devices

D3581A	1.05 GB hot-swap Fast SCSI-2 disk module
D3582A	2.1 GB hot-swap Fast SCSI-2 disk module
D3583A	4.2 GB hot-swap Fast SCSI-2 disk module
D2992B	CD-ROM (internal SCSI-2, tray-load, quad-speed, 190 ms average access time)
C1528F	HP SureStore Tape 6000i Internal DAT Drive
C1526F	HP SureStore Tape 5000i Internal DAT Drive
C1525F	HP SureStore Tape 2000i Internal DAT Drive
D2198A	3.5 inch hard disk drive mounting trays (3 packnot hot-swap)
D2199A	Tape/DAT/CD-ROM mounting trays (3 packno front panel)
D3349A	Hot-swap hard disk mounting tray (for selected non-HP drives only; refer to HP electronic services for supported drives)
D3330-60010 SCSI Cable Kit	

SCSI-2 Controller

D2078B	EISA Fast SCSI-2 Controller

Disk Array Controller

C3610A	PCI Disk Array Controller Adapter with dual Fast and Wide SCSI-2 channels
C3609A	HP EISA Disk Array Controller Adapter with dual Fast SCSI-2 Channels

External Storage Solutions

D3611A	Disk System Cabinet (disk modules not included)
C3305A	1.0 GB hot-swap Fast SCSI-2 disk module
C3306A	2.0 GB hot-swap Fast SCSI-2 disk module

Processor Board Upgrades

D3574A	Pentium/100
D3575A	Dual Pentium/100 SMP
D3613A	Pentium/133
D3614A	Dual Pentium/133 SMP

Monitors

D2804A	HP Super VGA Display,14-inch

D2801B   HP Monochrome VGA Display,14-inch

Network Cards
J2585A   HP 10/100VG Selectable PCI Adapter
J2577A   HP 10/100VG Selectable EISA Adapter

HP Remote Assistant
EISA server management card for remote diagnostics and environmental monitoring:
- D2967B   For non US countries (no modem)

HP PowerWise UPS (*Available in North America and Europe only*)
C4277B   HP PowerWise UPS 1000VA (230V)
C4278B   HP PowerWise UPS 2100VA (230V)
C4778B   HP PowerWise UPS 900VA (230V)
Refer to HP PowerWise UPS Data Sheets (5963-7004, 5963-7005) for software and accessory information

HP NetServer Racks and Accessories
J1450A   2 metre rack with side panels and rear doors
J1450A opt. AXH   2 metre rack only
J1460A   8-port HP Console Switchbox
J1451B   HP NetServer LS Rack Mount Kit
For additional information on HP NetServer Rack solutions, refer to HP NetServer Rack Solutions Data Sheet (5963-7003)

ServiceDocumentation
D3330-90001 Service Manual (also on HP NetServer Navigator CD-ROM)
D3330-60004 Video Training Kit

Other Specifications

Operating Temperature
5 to 35 degrees C (41 to 95 degrees F)
Operating Humidity
20% to 80% non-condensing
Acoustic Emissions
Sound Level (LpA): <60 dB (A)
Power Supply
Auto-ranging 90 to 135 VAC, or 180 to 265 VAC at 50-60Hz
Power Availability
470W continuous, 530W peak
Power Consumption
723W maximum with 110/220V supply; 815W peak with 110/220V supply
System Dimensions
49 cm x 34.8 cm x 46 cm (19.3 inches high x 13.7 inches wide x 18.1 inches deep)
System Weight
22.7-31.8 kg (50-70 lbs), depending on configuration

Regulatory Compliance

Electromagnetic Compliance
CISPR 22 Class B (International)
EN 55022 Class B (EU Countries)
EN50082-1, Generic Immunity (EU Countries), incl.:
    IEC 801-2, ESD
    IEC 801-3, RI
    IEC 801-4, FT
FCC Class B Verified (USA)*
M of C Class A (Korea)
VCCI Class 2 (Japan)
FCC Class B grant pending (FCC ID: B94HPLS104)
Safety Compliance
CSA Certified (Canada, File LR374270)
EN 60950 Compliance (International)

NOM (Mexico)
TÜV Certified (Germany)
UL Listed (USA, File E139742)
Datacomm Compliance
Sweden

For Additional Information

HP WWWeb server
http://www.hp.com
HP NetServer FTP server
ftp.netserver.hp.com
HP NetServer BBS
1-408-553-3500

HP OmniBook 600

Configuration for:
HP OmniBook 600C 4/75
HP OmniBook 600CT 4/75
Information subject to change without notice

A small, light, powerful-colour Notebook PC

PCs that deliver:
Unconscious portability
Immediate use, data security
Exceptional comfort for the user
Connectivity convenience
Mainstream performance

The days when you needed to choose between the functionality of a desktop and the mobility of a portable are gone. Hewlett-Packard   notebook computers quite simply give you both. Our Desktop-to-go models combine top-end PC functionality and power with light weight. Their unique combination of features makes them an efficient travelling companion, ready to work for as long as you are. Our Work-on-the-go models offer a combination of unique features designed to take the hassle out of being on the road without compromising on power or screen quality. Hewlett-Packard -- we go a long way to let you work anywhere, anyhow, any time.

OmniBook 600

The HP OmniBook 600 notebooks are the lightest around, without being weak. The Intel® i486 DX4/75 processor makes the OmniBook 600 one of the most powerful notebooks on the market. You won't miss out on computing power when you're carrying one of these, despite the fact that it weighs a mere 1.7 kilos (3.8 lb) and measures only just over 18 x 28 cm (7 x 11 in).

You don't need to close an application before switching off your OmniBook 600. Simply turn it off. When you switch it back on again, even a week later, you're right back where you left off. This feature, called instant-on, gives you access to your information within seconds.

The DSTN display and full-sized keyboard make the OmniBook 600 very comfortable to use. The 9.4" TFT display makes it even more attractive. Its patented pop-up mouse is like none you've ever seen, yet it works just the way you'd expect. Press the mouse-eject button and the mouse pops out of its storage area, ready for action. You don't even need a flat surface as the mouse can operate in mid-air.

The OmniBook 600 has a range of convenient connectivity features, including an infra-red link and two free PCMCIA slots. The OmniBook comes with either 260 or 340 MB PCMCIA hard disk drives, which are more reliable than standard 2.5 inch disk drives. You can transform your OmniBook into a desktop within seconds by plugging it into the enhanced port replicator. It gives you instant access to peripherals such as a printer, SVGA monitor, SCSI devices (hard disk or CD-ROM) and network connection.

An external 3.5 inch floppy disk drive comes standard with the OmniBook 600, so you can easily load any software you like. Though with MS-DOS 6.2 Windows for Workgroups 3.11, LapLink Remote AccessTM and PIM software already installed, you can also get started straight away. Even when the OmniBook 600 is turned off, its appointment software will wake up and remind you of appointments. It carries your to-do list, phone list and calendar. No need to carry a separate calculator. With the OmniBook 600 you carry all your time management tools together in one place -- with you all the time.

The CT model offers Windows sound and two 16-bit speakers. With the IRDA print driver you can now connect to the newest HP printers using the infrared technology.

The OmniBook 600 is a complete solution. The AC adapter will recharge your batteries while you work and a

range of accessories includes an automobile adapter and an external battery charger allowing several batteries to charge at once.

Whichever model of OmniBook you choose, you'll benefit from HP's legendary quality and support-backed by a three-year   warranty.

Models and Configurations

HP OmniBook 600	Model	Processor	Hard Disk	Memory	Screen	Product Number
600 C 4/75	340	i486 DX4/75	340 MB	8 MB	8.5 DSTN*	F1113A
600 CT 4/75	340	i486 DX4/75	340 MB	8 MB	9.4 TFT**	F1115A

*   Dual-Scan Supertwisted Nematic (passive matrix).
** Thin Film Transistor

Technical Specifications

· **Size Closed:**
- 18.49 x 28.24 x 3.99 cm (7.28 x 11.12 x 1.57 in)

· **Weight:**
- 1.72 kg (3.8 lb)
- Travelling weight (including adapter and power cable) 2.10 kg (4.64 lb)

· **Processors:**
- 75 MHz IntelDX4TM

· **Display:**
- 640 x 480 backlit colour VGA
- 8.5 inch diagonal DSTN
- VGA-out supports VGA and SVGA monitors (up to 1024 x 768 x 256 colours)
- Accelerated local bus video with 1-MB VRAM

· **Power:**
- 600C: 9.6 V DC rechargeable NiMH battery
- 600CT: 7.2 V DC rechargeable Lithium ion battery
- AC adapter 100 to 240 V AC (50 to 60 Hz) input; 12 V DC, 2.5 A output
- Instant-on maintains computer in ready-to-work state for months on a charge. Turn it on again, and you're instantly back where you were.

Battery	Battery life/Recharge time
NiMH 9.6 V	3.5 hours/2 hours
Lithium Ion 7.2 V	4.0 hours/3.5 hours

· **Operating Environment:**
- Operating temperature: 0 to 40°C (32 to 104°F)
- Storage temperature with data retention: 0 to 55°C (32 to 131°F)
- Operating and storage humidity: 90% relative humidity at 40°C (104°F) maximum

· **Mass Storage:**
- Shock resistant 260 or 340 MB PCMCIA Type III hard disk drive 16 ms average seek time

· **RAM:**
- 8 MB 70-ns burst mode DRAM on motherboard expandable to 32 MB

· **Keyboard and Mouse:**
- 85 keys

- Touch-type keyboard, industry-standard full-sized key spacing
- Embedded numeric keypad
- 12 (Fn) keys
- Built-in pop-up mouse with two position height to reduce hand strain

· **Security:**
- Kensington lock slot
- System password

· **Input/Output:**
- 9-pin, 115,200-baud, RS-232 port
- 25-pin bidirectional parallel port
- VGA-out (up to 1024 x 768 x 256 colours)
- 115,200-baud, bidirectional infra-red
- Enhanced port replicator connector
- Floppy drive port
- External speaker output
- Microphone

· **Expandability:**
- One Type III PCMCIA slot (or use as two Type II slots)
- External ultra-thin floppy disk drive 1.44 MB (included with product)
- Enhanced port replicator with parallel, serial, VGA-out   (up to 1024 x 768), keyboard, PS/2 or Microsoft mouse, and SCSI ports, external floppy connector and optional HP EtherTwist LAN card slot.

· **Pre-installed Software:**
- Microsoft® WindowsTM for Workgroups 3.11
- MS-DOS® 6.2
- Upgrade easily to Windows 95 (includes "Plug and Play" BIOS)
- Setup program in ROM
- BIOS stored in flash EEPROM
- Automatic detection of PCMCIA devices, external monitor and external floppy drive without booting
- LapLink Remote AccessTM. Easy connection to your desktop PC, network and desktop printers. Works via cable or infra-red
- HP Financial Calculator. Basic arithmetic, time value of money, amortization, business percentages and unit/currency conversions
- Phone Book
- IRDA printing (on TFT model only)

· **Environmental design:**
- EPA Energy StarTM certification
- CFC-free plastic parts
- Recyclable package printed with acid-free inks

· **Ergonomic design:**
- Integrated hand grips
- Automatic printing utility for function key labels
- Integrated business card holder

· **Warranty:**
- Three-year warranty

Enhanced Port Replicator

· **Replicated ports:**
- Power-in port
- 9-pin, 115Kb/s, RS-232 port
- 25-pin bidirectional EPP parallel port
- SVGA-out (up to 1024 x 768 x 256 colours)

- Floppy drive port

· **Additional ports:**

- SCSI-2 port
- Internal slot for optional HP EtherTwist LAN card
- 2 mini-DIN keyboard and   mouse ports

Optional Accessories

· **Memory upgrades:**

- 4 MB, 70-ns DRAM expansion (F1054A)
- 8 MB, 70-ns DRAM expansion (F1055B)
- 16 MB, 70-ns DRAM expansion (F1123A) on TFT model only
- 24 MB, 70-ns DRAM expansion (F1124A) on TFT model only

· **Data Storage:**

- 170 MB PCMCIA hard disk drive (F1068A)
- 260 MB PCMCIA hard disk drive (F1069A)
- 340 MB PCMCIA hard disk drive (F1070A)
- 5 MB PCMCIA flash RAM disk (F1012B)
- 10 MB PCMCIA flash RAM disk (F1013B)
- 20 MB PCMCIA flash RAM disk (F1014B)

· **External monitors:**

- Compatible with full range of standard and ergonomic HP video monitors

· **Power:**

- AC Adapter (F1044B)
- NiMH Battery Pack (F1058A)
- Lithium ion Battery Pack (F1121A)
- PowerClip External Battery Charger (F1063B)
- Automobile Adapter (F1064A)

· **Port replicator:**

- Enhanced Port Replicator (F1071A)
- 100 VG LAN Adapter (J2573A) (requires F1071A)
- 16-bit 10Base-T LAN Adapter (27247B) (requires F1071A)

· **Miscellaneous:**

- Pop-up Mouse (F1049A)
- 3.5 inch External Flexible Disk Drive (F1059B)

· **Warranty:**

- One year limited warranty on accessories.

HP OmniBook 5000 portable power

HP OmniBook 5000CTS 5/120
HP OmniBook 5000CT/CTS 5/90
HP OmniBook 5000C/CT VL 5/90
HP OmniBook 5000C VL 5/75
Information subject to change without notice

A full-function Desktop-to-go PC

PCs that deliver:
Desktop power on the move - Pentium PCI
Full PC functionalities
Modularity and flexibility over time
Exceptional comfort for the user
Connectivity convenience

Hewlett-Packard Notebook Computers

The days when you needed to choose between the functionality of a desktop and the mobility of a portable are gone.

Hewlett-Packard notebook computers quite simply give you both. Our Desktop-to-go models combine top-end PC functionality and power with light weight. Their unique combination of features makes them an efficient travelling companion, ready to work for as long as you are. Our Work-on-the-go models offer a combination of unique features designed to take the hassle out of being on the road without compromising on power or screen quality. Hewlett-Packard we go a long way to let you work anywhere, anyhow, any time.

The Hewlett-Packard Omnibook 5000: with you in the right place at the right time

The Hewlett-Packard OmniBook 5000 notebook is a best-in-its-class for fast-moving people who need all the functionality of a true desktop PC in their briefcase. A powerful 75-, 90- or 120-MHz Pentium processor and a high-speed PCI bus puts the OmniBook 5000 on the same footing as the most powerful desktops on the market today. When it comes to mobility, however, the OmniBook 5000 will leave every desktop standing   it lets you use your computing power wherever you most need it.

The OmniBook 5000 is extremely easy to use, due to its 85-key, touch-type keyboard, embedded numeric keypad and large, centered trackball.Both the VGA and SVGA TFT 10.4-inch colour screens give exceptional quality. And if you choose the latter youll have up to 800 x 600 resolution with which to impress your clients. Both screens feature the wide-angle viewing and razor-sharp resolution that are indispensable for on-the-road presentations.

If you want multimedia, youll appreciate the built-in, 16-bit Sound Blaster TM -compatible sound system with stereo speakers and microphone. You can use high-speed video, too. The Omnibook 5000s 32-bit PCI bus brings you lightening-fast, crisp, clear images. When youre out on the road, its important to keep in touch. The OmniBook 5000s provides an array of easy-to-use connectivity features, including two PCMCIA slots, an infra-red link and a SCSI-2 port to interface with CD-ROM and tape drives. You can even output presentations to a television via the NTSC/PAL video-out port. And for really easy, single-step link-up to networks, external monitors, keyboards, printers and other peripherals, our optional docking system provides one-slot connection through its combination of PCI and ISA slots.

The eight different configurations of the OmniBook 5000 were designed to allow you to choose exactly the combination of features you need. The configuration you choose can evolve over time with your needs, because all the OmniBook 5000 configurations are modular. For example, you can choose from 540 MB to 1.2 GB of

hard-disk storage and from 8 to 16 MB of standard RAM, expandable up to 64 MB. Dont need a floppy drive? Just slide it out, and replace it with a second Lithium-Ion battery to double your autonomy.

Two features of the OmniBook 5000 are definitely not modular, and these are Hewlett -Packards legendary quality and support. Every Omnibook 5000 comes with a worldwide, limited warranty for up to 3 years. We never let you down, wherever you are. Which is why PC Magazine readers rated Hewlett-Packard as leader for notebook service and support in January 1995

Models and Configurations

HP OmniBook 5000	Model	Processor	Hard Disk	Memory	Screen	Product Number
Premium Models						
5000CTS 5/120	1200	Intel Pentium 120-MHz	1.2 GB	16 MB	10.4 SVGA TFT	F1198A
5000CTS 5/90	1200	Intel Pentium 90-MHz	1.2 GB	16 MB	10.4 SVGA TFT	F1131A
5000CT 5/90	1200	Intel Pentium 90-MHz	1.2 GB	8 MB	10.4 VGA TFT	F1130A
5000CT 5/90	810	Intel Pentium 90-MHz	810 MB	8 MB	10.4 VGA TFT	F1341A
VL Models						
5000CT VL 5/90	1200	Intel Pentium 90-MHz	1.2 GB	8 MB	10.4 VGA TFT	F1129A
5000C VL 5/90	810	Intel Pentium 90-MHz	810 MB	8 MB	10.4 VGA DSTN	F1127A
5000C VL 5/75	810	Intel Pentium 75-MHz	810 MB	8 MB	10.4 VGA DSTN	F1340A
5000C VL 5/75	540	Intel Pentium 75-MHz	540 MB	8 MB	10.4 VGA DSTN	F1126A

Premium models also come with 256 KB second-level cache, a lithium ion battery, a built-in SCSI interface and a three-year warranty. VL models have a NiMH battery and a one-year warranty.

Technical Specifications

Size Closed:
- 29.5 x 22.5 x 4.9 cm (11.6 x 8.8 x 1.93 in)

Weight:
- STFT: 3.27 kg (7.2 lb) with NiMH, (6.8 lb) with lithium ion battery

Processors:
- 32-Bit PCI Bus
- Intel Pentium® 75-, 90-, or 120-MHz with 256K External L2 Cache*

Display:
- 10.4 inch diagonal VGA or SVGA TFT or VGA DSTN
- VGA TFT (CT): 640 x 480 x 65,536 colours
- SVGA TFT (CTS): 800 x 600 x 256 colours
- VGA DSTN (C): 640 x 480 x 256 colours
- PCI local bus video; 1.5-MB video RAM

Power:
- 14.4 Vdc rechargeable lithium ion* or NiMH battery pack
- The battery recharge time is less than 4 hours for lithium ion batteries and in less than 2.5 hours for NiMH battery
- 2-minute low-battery warning
- Instant-on maintains computer in ready-to-work state for up to 1 month on a charge. Turn it on again, and youre instantly back where you were.
- Battery life (approximate withone battery per industry-standard run-down test):
Lithium ion: 2.5-3.5 hrs

NiMH: 2-3 hrs
- AC adapter 100 to 240 Vac (50 to 60 Hz) input; 12 Vdc, 3.3 A output

Removable Modules:

- Floppy disk drive (can bereplaced with a second battery for double battery life)
- Hard disk drive
- Battery

Operating Environment:

- Temperature:TFT: 10° to 40°C (50° to 104°F)DSTN 5° to 40°C (41° to 104°F)
- 90% relative humidity at 40°C (104°F) maximum storage environment

Mass Storage: (removable)

- 540, 810 or 1.2-GB hard disk 12ms average seek time

RAM:

- RAM Upgradable to 64-MB
- 8-, 16-, 32-MB RAM models

Audio:

- 16-bit, Sound Blaster-compatible stereo sound via two built-in stereo speakers

Keyboard and Trackball:

- 85 key touch-type keyboard
- Embedded numeric keypad
- 12 (Fn) keys
- Large 25-mm trackball

Input/Output:

- RS-232 serial port (UART 16550)
- EPP and ECP parallel port
- SVGA-out (up to 1024 x 768 x 256 colours)
- 115-baud, bidirectional infrared port
- Expansion bus connector for Mini Dock
- SCSI-II Port*
- NTSC/PAL Output
- Mini-DIN mouse or keyboard port; Y adapter to connect both keyboard and mouse
- Headphone/stereo-out port
- Microphone port
- MIDI/Joystick port with joystick adapter
- Stereo-in port

Expandability:

- One Type III PCMCIA slot (or use as two Type II slots) - 3.3V/5V support
- Optional Docking Station (see overleaf)

Pre-installed Software:

- Microsoft® WindowsTM for Workgroups 3.11 or WindowsTM 95 (one-time selection)
- MS-DOS® 6.22
- Plug and Play BIOS
- HP PIM

Security:

- Kensington lock slot
- 2-level system password
- PC identification (tattooing)

Environmental design:
- EPA Energy StarTM certification
- Recyclable package printed with recyclable inks

Ergonomic design:
- Touch-type keyboard
- Built-in, large 25-mm centered trackball for ease of use
- Wrist rest

Ease of setup:
- Preloaded Windows for Workgroups 3.11 or Windows 95
- Automatic detection of PCMCIA devices
- Plug & Play-ready

Supportability:
- BIOS stored in flash EEPROM
- Industry-leading technical support program

Warranty:
- 3-year warranty on Premium models
- 1 year warranty on VL models

* only on Premium models.*

Docking Station (F1189A)

Replicated ports:
- SVGA-out (up to 1024 x 768 x 256 colors)
- Port parallel   EPP and ECP
- RS-232 port serial (UART 16550)
- PS/2 keyboard and mouse ports
- AC adapter port
- SCSI-2 port
- MIDI/joystick port
- Audio ports, including two stereo-in ports

Docking:
- Motorized VCR style
- Hot docking supported under docking-enabled operating systems such as Windows 95

Slots:
- Two full-lenght ISA slots
- One half size PCI slot

Monitor stand
- Supports up to 17"-monitor

Convenience:
- Full access to notebooks PCMCIA slots while docked
- 5° tilt feet
- Indicators: hard drive activity, floppy activity, password enable, docked, power
- Switches: power, undocked, reset
- Stand   raises dock above an external keyboard, providing access to notebook

Security

- Secure motorized connection to HP OmniBook
- Kensington lock slot
- Optional user-defined password to undock

Power:
- AC adapter port provides power to the docking system
- Docking system comes bundled with 60-watt AC adapter that automatically charges internal battery

Optional Accessories

Memory upgrades:
- 8 MB, 70-ns memory module upgrade (F1134A)
- 16 MB, 70-ns memory module upgrade (F1135A)
- 32 MB, 70-ns memory module upgrade (F1136A)

Data storage:
- 170 MB PCMCIA hard disk drive (F1068A)
- 260 MB PCMCIA hard disk drive (F1069A)
- 340 MB PCMCIA hard disk drive (F1070A)
- 540 MB hard disk drive (F1156A)
- 810 MB hard disk drive (F1138A)
- 1.2 GB hard disk drive (F1139A)
- 5 MB PCMCIA flash RAM disk (F1012B)
- 10 MB PCMCIA flash RAM disk (F1013B)
- 20 MB PCMCIA flash RAM disk (F1014B)

External monitors:
- Super VGA 1024i 14-inch monitor (up to 1024 x 768) (D2804A)*
- Ergo Super VGA 1024 14-inch monitor (up to 1024 x 768) (D2805B)*
- Ergo Ultra VGA 15-inch monitor (up to 1024 x 768) (D2806B)*
- Ergo Ultra VGA 1280 17-inch monitor (up to 1024 x 768 at 75-Hz) (D2817A)*

Keyboard:
- HP keyboard (101-keys) (C3756A)*

Mouse:
- HP mouse with mini-DIN interface (C3751B)

Power:
- AC Adapter (F1044B)
- Lithium ion Battery Pack (F1137A)
- NiMH Battery Pack (F1073A)
- External Battery Charger (F1074A)
- Automobile Adapter (F1064A)

Miscellaneous:
- 3.5 inch flexible disk drive module (F1079A)

Warranty:
- One year limited warranty on accessories

must also order language option.

HP 200LX Palmtop PC

Information subject to change without notice

A powerful tool for modern living

Manage your world with the world's most powerful palmtop PC. The HP 200LX is designed for people who need to travel light, who are on the job when away from their office ... and who perform best when they stay in touch.

Put 300 grammes (11oz) of PC power in your pocket. Manage your personal finances with Pocket Quicken wherever you go, and access sales reports or client investment portfolios on the spot with Lotus® 1-2-3®.

Link up with your own PC software and desktop PC files. Track your calendar and assignments and access your electronic mail with the most productive and well-integrated system of organiser software available anywhere.

With the 200LX you can take it all with you ... easily.

Technical Data

Features:

HP F1060A (1-MB RAM)
HP F1061A (2-MB RAM)

Includes:
- User's Guide
- Quick Start Guide
- Two AA and one CR2032 batteries

Physical Specifications
- 16 x 8.64 x 2.54 cm (6.3 x 3.4 x 1 in)
- 312 g (11 oz) with batteries

Memory
- 3-MB ROM
- 1-MB RAM (HP F1060A)
- 2-MB RAM (HP F1061A)
- PCMCIA version 2.0 card slot
- Read and write to flash disk cards

Standard PC Architecture and Central Processing Unit (CPU)
- IBM PC architecture
- Intel 80C186 CPU 7.91 MHz

Display
- CGA-compatible FTN liquid crystal
- 80 columns by 25 rows; 640 x 200 pixels
- Zoom option

Keyboard Layout
- Familiar QWERTY layout
- Separate numeric keypad
- 10 function keys and 8 software application access keys

Input/Output
- Built-in 9-wire serial interface for connection   to RS-232 devices
- Built-in infra-red transmitter/receiver up to 115K bps for HP 200LX to HP 200LX and other wireless communications.
- Built-in printer drivers supporting the following serial printer types: HP LaserJet, Epson FX-80, IBM ProPrinter
- PCMCIA version 2.0 plug-in card slot for running PC software and expanding I/O memory
- Optional HP F1021B DOS-based Connectivity Pack for 200LX to PC file transfer

Power
- Two 1.5-V AA batteries (rechargeable   NiCd optional)
- One 3-V CR2032 coin cell backup battery
- Optional adapter: HP F1011A for powering and recharging
- Normal usage: 60 hours battery life

Operating Requirements
- Operating temperature: 0° to 40°C (32° to 104°F)
- Storage Temperature: 0° to 60°C (32° to 140°F)
- Humidity: 90% relative humidity at 40°C (104°F) maximum.

Software Built into ROM

MS-DOS® 5.0
- Runs a wide variety of MS-DOS software (must be CGA screen-compatible and fit into available memory)

Pocket Quicken®
- Enter and edit transactions in checking, savings, credit card, and cash accounts
- Review account balances and registers
- Reconcile accounts
- Create and print financial reports
- Share data with desktop versions of Quicken

Lotus 1-2-3 Release 2.4
- Large worksheets: from 1 to 256 columns, 1 to 8,192 rows
- Graphics
- Database commands
- Macro creation and execution
- File linkage
- @ functions from @ABS to @YEAR

cc:Mail® and Data Communications
- cc:Mail Remote for the HP 200LX
- Transfer messages or files via modem
- VT-100, ANSI, and tty terminal emulation
- Kermit, ASCII text, and X, Y, Z MODEM file transfer
- File capture capability saves data from information services

Appointment Book
- Week-at-a-glance, month-at-a-glance, and   six-month calendar
- Daily, weekly, monthly and yearly schedule with alarms, repeating appointments and events
- To-do list with automatic carryover of   past-due items
- Archive feature for appointments and lists

Phone Book
- Search and sort on any field
- Create multiple or subset phone books
- Business card screen layout

Memo Editor with Outliner

- Text entry and editing including block cut/copy/paste, search and replace, bold, and underline
- ASCII file format

HP Financial Calculator
- General and technical math functions
- Time-value-of-money
- HP Solve equation-writing capability plus equation plotting
- Links to Lotus 1-2-3 including: backsolve to a desired result, store/recall numbers to a worksheet, send amortization schedule to a worksheet
- Currency and unit conversions
- Algebraic or RPN data entry.
- Cash flow analyses (IRR, NPV) and statistics functions, both with plotting capability

Notetaker
- Create, save and edit notes
- Database of notes
- Title, categorise and search capabilities

Database
- Create and modify database templates
- Add, delete, and edit records
- Search by field or text

World Time and Stopwatch
- Local and worldwide time, world map and custom city list
- Timer and stopwatch

Filer
- Create, rename, copy, view, and move files and directories
- RAM-disk backup
- Plug-in RAM card formatting
- DOS program execution
- Split-screen file transfer feature

· **Application Manager**
- Manages all HP 200LX system applications whether built-in, plug-in, or RAM-based
- Application key assignment, application RAM use, status, current drive, and files

Setup Utility
- Display contrast, memory allocation, and beeper volume
- Printer and communications port configuration
- Battery status and NiCd recharging

Accessories from Hewlett Packard:

Memory: Flash disk cards
- HP F1012B 5-MB/12V
- HP F1013B 10-MB/12V
- HP F1014B 20-MB/12V

Connectors
- Connectivity Pack
  HP F1021B - English
  HP F1021C - Multilingual
- HP F1015A DOS-compatible cable
- HP F1016A MAC-compatible cable
- HP F1023A Connector/Adapter Kit

Power
- HP F1011A AC/DC adapters

HP OmniGo 100 Organiser Plus

Information subject to change without notice

Now with the HP OmniGo 100, business professionals have the perfect handheld organiser to access immediatly their schedules and personal information, as well as HP financial tools, anytime, anywhere.Thanks to the GEOSTM operating system, you can enter your data using either pen or keyboard *it is an intuitive tool*.The OmniGo 100 provides you with sophisticated financial features and all personal information management tools you need *it becomes your unique everyday business companion.*

An intuitive, professional, handheld organiser, featuring:

Personal information management
- Appointment book
- Phone book
- Notepad
- Database
- Worldtime

Financial analysis
- HP Calculator
- Finance tools (12C, TVM, Cash Flows, Business % solver, statistics, conversions, Date Calcs, etc)
- Spreadsheet

Pen input (in addition to the keyboard)
- Pen "navigation"
- "Digital Ink" across applications
- Graffiti handwriting character recognition
- Jotter ("Capture first, organise later")
- GEOS Pen-OS

Technical SpecificationsHP F1310A

Includes:
- Users Guide
- Two AA and one CR2032 backup batteries
- Accessory guidel

Physical specifications
- 15,3 x 9,5 x 2,6 cm
- 360 g with batteries

Memory
- 1 MB SRDRAM, 3 MB ROM
- PCMCIA version 2.0 Type II Card Slot

CPU
- 80186 16 Mhz

Display
- 360 hinge, "rotatable" display, "portrait" and landscape modes
- 240 x 240 FSTN LCD

Data entry
- Familiar QWERTY keyboard layout
- 5 function keys

- Digitising overlay with pen

Input/Output
- 1 RS232C Serial interface
- PCMCIA version 2.0 Type II plug-in card slot for running PC software and expanding memory

Power
- Two 1.5 V AA batteries
- One 3 V CR2032 coin cell backup battery

Accessories from Hewlett-Packard

PC communication
- HP F1311A* Connectivity Pack to PC file transfer and synchronisationl

* English version: replace A with D for German, E for Spanish, F for French.

Clip & Go Software
- HP F1312A(English),
   HP F1312B(German, Italian),
   HP F1312C(Spanish, Portuguese),
   HP F1312D(French)
- Copy/cut/paste from OmniGo 100 to PC windows applications

Strategy games software
- HP F1313A(English),
   HP F1313B(German, Italian),
   HP F1313C(Spanish, Portuguese),
   HP F1313D(French)

Additional pens
- HP F1314A(pack of 3)

Cable and connector for DOS PC to HP Palmtop
- HP F1015A

Connector/Adaptor Kit
- HP F1023A

Free on-line support in most of European countries

One year warranty

Calculators for Math, Science and Engineering

Information subject to change without notice

Hewlett-Packard Scientific and Graphic Calculators

The advantages of Hewlett-Packard products are almost incalculable.

Engineers, teachers, students and other people who depend on their calculators depend on Hewlett-Packard, the leader in calculator technology. Our complete line of scientific and graphic calculators exceeds the need for functionality and performance, and offer advantages that you wont find anywhere else. And of course youll also find the quality and durability youve come to expect from Hewlett-Packard.

Choose from among the easiest to use and most powerful scientific and graphic calculators made:

- HP 20S Scientific Calculator
- HP 32SII RPN Programmable Scientific Calculator
- HP 38G Graphic Calculator
- HP 48G RPN Graphic Calculator
- HP 48GX RPN Expandable Graphic Calculator
- Take your pick; youll be choosing the best.

HP 20S Scientific Calculator for science students and professionals

The scientific calculator with a built-in library.

This affordable calculator meets the high quality standards that our customers have come to expect. With exclusive features like the built-in program library, the HP 20S is the complete scientific calculator

Features:

- **Powerful, built-in program library with over 100 scientific and mathematical functions**. No need to input frequently-used functions such as root finder, Simpsons Rule integration, complex number operations, 3x3 matrix operations, quadratic formula and curve fitting programs.

- E**ssential trig and math functions for scientific applications.** Use sine, cosine and tangent, or exponential, natural log and antilog functions to name a few.
- **Base conversions and arithmetic.** Includes English/metric conversions, and fast conversions for mass, distance, volume and temperature.
- **Easy-to-use algebraic entry system**. Enter data in algebraic notation, just as you would on paper.
- **Keystroke programming.**

HP 32S II RPN Programmable Scientific Calculator for engineers

The calculator that sets the engineering standard.

The HP 32SII is equipped with all the features that engineering professionals need. It has 384 bytes of memory for programs, equations and data. It allows you to enter, display and see results of calculations as fractions. And it does it all fast.

Features:

- **Over 100 built-in scientific and mathematical functions,** such as hyperbolics, trigonometrics, hours/degrees

conversions and more!

- **Powerful HP Solve saves time.** Solve for any variable without rewriting your equation.
- **Efficient data entry using RPN** (Reverse Polish Notation). Reduces the number of keystrokes.
- **Keystroke programming.**

HP 38G Graphic Calculator for high school math students

The only graphic calculator with ApLets !

The HP 38G is the first HP calculator with the power of a high-end graphic calculator made easy for high school math. View equations numerically, graphically or symbolically on its large graphic display. And, with ApLets, learning math has never been more easy and fun.

Features:

- **ApLets.** These small applications, packaged as electronic lessons, can be adapted from textbooks and other sources. Add variables, pictures and graphs, then interact and work in new ways at your own pace.

- **Dynamic Split Screen**. View math relationships in two displays on one screen for side-by-side comparison.
- **Interactive history of calculations.** To recall and reuse   solutions previously created.
- **Notes and Sketches.** Use for easier illustration of problems.
- **Impact-resistant sliding hard cover.** The unique cover protects the display and keys. Just flip it over and slide into place!

HP 48G RPN Graphic Calculator for science and math students

Science and math power like never before.

Now the power of 3-D graphing, charts, and lists are in an RPN graphic calculator. The HP 48G helps you work through complicated equations quickly and easily. Use the pre-created forms to input your data fast. The HP 48G gives you the functionality of a high-powered graphic calculator in an easy-to-use system.

Features

- **32 KB of RAM and an equation library built in.** More than 300 commonly used formulas and scientific constants.

- **Object-oriented programming.** Create applications quickly and easily.
- **HP MatrixWriter application.** View, enter and manipulate arrays.
- **HP EquationWriter application.** View equations and formulas just as you would in a textbook or on paper.
- **HP Solve application.** Solve for any variable without re-writing your equation.
- **Infrared Communications.** Send files between HP 48G/GX calculators, and to the infrared printer (optional).
- **Connect to your Mac or PC** with an optional connectivity kit.

HP 48GX RPN Expandable Graphic Calculator for engineering students and professionals

The most powerful RPN graphic calculator available.

With the HP 48GX, you can take on the toughest equations from the classroom or lab and make sense of them. And since its memory and functions are expandable with plug-in cards, the possibilities are virtually endless.

Features:

- **Customizable with plug-in cards.** Expand the HP 48GXs memory from 128KB up to 1.256 MB, or select from a wealth of third-party applications

- **Built-in equation library.** More than 300 scientific and engineering equations.
- **Object-oriented programming**. Create applications quickly and easily.
- **HP MatrixWriter application**. View, enter and manipulate arrays.
- **HP EquationWriter application.** View equations and formulas just as you would in a textbook or on paper.
- **HP Solve application.** Solve for any variable without re-writing your equation.
- **Infrared Communications**. Send files between HP 48G/GX calculators, and to the infrared printer (optional).
- **Connect to your Mac or PC** with an optional connectivity kit.

Features common to all HP Scientific Calcs: HP 20S, HP32SII

Math Features
 Standard mathematical operators +,-,*,/ ....etc
 yx, log (x), 10x, x2, %, pi, n!
 Trigonometric functions and inverses
 Numeric integration
 Complex number functions

Scientific Features
 Accurate mat, 12-digits with a 10+-499 exponent range
 Decimal hours/hours minutes seconds conversions
 Polar/rectangular conversions
 Angle conversions
 Base conversions and arithmetic
 Unit conversions

Statistical Features
 Sample standard deviation, mean
 Linear regression
 Combinations, permutations
 Weighted mean
 One and two variable statistics

Real Number Functions
 Probability functions (Combinations, Permutations and factorials)

Customization
 Keystroke programming

Vector Operations
 Matrix operations

Low End Scientific Calcs

Physical Features	20s	32sII
Display Type	Segment	Alpha
Display Size	1-line* 12 chars	1-line * 12 chars
Operating Features		
Entry logic	Algebraic	RPN
Menu Driven	No	Yes
Alpha Messages	No	Yes

Configuration		
RAM/number of variables(bytes/reg)	99 steps/10	384 mem/33 vars
Math Features		
Hyperbolic functions	No	Yes
Fractions	No	Yes
Vector Operations		
Rectangular/Polar	No	Yes
Statistical Features		
Population standard deviation	No	Yes
Curve fit (LIN,LOG,EXP,POW)	Yes	No
Customizing		
Number of programs/formulas	16	27
Level of subroutines	4	7
Flags	No	12
Built in programs	6	1
HP Solve	1	Yes

Features common to all HP Graphic Calculators: HP 38G, HP48G and HP48GX

Numeric Precision
- Internal Digits -15
- Displayed digits-real numbers - 12
- Displayed digits-complex numbers - 12
- Mantissa - ±499

Algebra
- Quadratic root finder
- Taylor polynomials
- Isolate a variable in question
- Equation evaluation
- Any variable equation solver
- Symbolic evaluation of expressions (EVAL on 38G)
- Fraction Calculations
- Simultaneous equations (linear)

Calculus
- Symbolic integration
- Numeric integration
- Symbolic differentiation
- Numeric differentiation

Complex Numbers
- Add, subtract, multiply, divide
- Square, square root, inverse
- Absolute value, round, sign
- Sine, cosine, tangent
- Arcsine, Arccosine, Arctangent
- Hyperbolic sine, Hyperbolic cosine, Hyperbolic tangent
- Arc hyperbolic sine, Arc hyperbolic cosine, Arc hyperbolic tangent
- 10x LOG, ex, LN
- Imaginary, real parts

Constants & Equations
- User defined constants - By variables

Input-Output - Wired & IR
    Calculator to Calculator
    Calculator to IBM
    Calculator to Macintosh
    Transfer data
    Infrared interface

Matrices & vectors
    Matrix editor
    Insert & delete columns & rows
    Max. real matrix size - Limited by memory
    Max. complex matrix size - Limited by memory
    Redimension existing matrix

Memory Management
    Clear all variables
    List variables
    Clear one variable

Plotting and Graphics
    2-D Plot types: Function, Polar, Parametric
    Autoscale plot
    Zoom box
    Scaled zoom
    Set axis intersection
    Specify x- & y-axis display range
    Set spacing between plotted points
    Set axis tick spacing
    Adjust center of plot
    Trace a plot
    Display cursor coordinates
    Set connected or disconnected mode
    Set simultaneous or sequential plot mode
    Store & recall plot image
    Find: - Intersections, Extremums, Roots
            - Value of the derivative of a point (slope),
            - Area under a curve, value of a function
    Shade below or above line
    Plot labellingLabel axes
    Turn axes on & off
    Graphs-rectangular co-ordinates

Sketch
    Draw line
    Draw circle
    Draw box
    Draw axes
    Turn pixels on & off

Printing
    Print one line
    Print display (wired only)
    Print variable

Program Branching
    Do loop
    For-next loop
    If-then statement
    If-then-else statement

Repeat-until loop
While loop

Program Control

Error trapping
Clear display
Display message and prompt for user input
Clear display
Display message and wait for input

Real Numbers functions

Percent
Percent change, percent of total
Add, subtract, multiply, divide
Square, square root, xth root of y
10x, LOG, exponentials, LN
Raise a number to a power
Sine, cosine, & tangent
Arcsine, Arccosine, & Arctangent
Hyperbolic Arcsine, Arcosine, & Arctangent
Absolute value, round
Floor, ceilingConvert degrees to radians & radians to degrees
Convert decimal to fraction & fraction to decimal
Integer & fractional part of a number
Maximum & minimum of two numbers
Reciprocal of a number
Modulo functionSign of a numberEnter numeric constant e

Statistics & Probability

Create, name, edit, delete data sets
1-VAR Standard deviation
2-VAR Regression Analysis
Summary statistics (X, etc)
Maximum & minimum of all variables
Total of all variablesFactorial
Plot bar chart
Plot histogram
Plot scatter diagram

Constants

Enter numeric pi
Enter symbolic pi
Set degrees, radians, or grads mode

Physical

Dimensions -3.2"x7.1"x1.1", 81x180x20 mm
Infrared Port
Infrared Printer Supported
PC/MAC connectivity available
1 year warranty

Graphing Calculators Differences

	38G	**48G**	**48GX**
Display 8 lines*22 chars (all models)			
Entry Logic	Algebraic	RPN	RPN
Total Memory/Max Memory	32Kbyte	32KByte	128KB/1.256MB

Base number calculations			
Bin/Oct/Hex	No	Yes	Yes
Programming subroutines	No	Yes	Yes
Polynomial equations	Yes	Yes	Yes
Matrix calculations	Yes (10 limit)	Yes	Yes
ApLets Support	Yes	No	No
Expansion ports	No	No	Yes x2
Equation library	No	Yes	Yes
3-D graphing	No	Yes	Yes
Graphs differential equations	No	Yes	Yes
2D plot - Sequence	Yes	No	No
Case Included	Sliding hard cover	Soft	Soft
I/O Port	10-pin serial	4-pin serial	4-pin serial
Split Screen	Yes	No	No
3rd party application cards	No	No	Yes
Traditional Directory Structure	Virtual Directories	Yes	Yes
Time management	No	Yes	Yes
Advanced math functions	No	Yes	Yes

Other Exclusive Calculator Features

Infrared: a brighter way to communicate between calculators.

Our HP 38G, HP 48G series calculators let you transfer data and problems. Just point a calculator at another, about two inches away, and beam the data across. No wires or cables necessary!

Helpful menus.

You can access the functions in our scientific and graphic calculators through menus, so theres no more keystroke memorization.

The calculator-computer connections.

Print out graphs, charts, programs, notes, equations, lists and more with the battery-operated HP Infrared Printer (sold separately.) It weighs only 16 ounces, and no cables or wires are required!Connect your HP 38G or 48G series calculator to your Macintosh or PC with an optional connectivity kits (sold separately).

If youre thinking of buying a calculator, think seriously about Hewlett-Packard, the leader in calculator technology. Think about reliable calculators that wont let you down. Think about support that is always there for you. Think about advanced features that allow you to work the way you do now. Think HP.

HP quality and support.

Hewlett-Packard is the leader in calculator technology.   To prove it, we offer a limited warranty and technical support, just a phone call away.

HP PC Video Solutions

Information subject to change without notice

Expand your range of vision

With today's demanding graphics applications - and today's concerns for ergonomics - selecting PC video products is just as important as selecting your PC. From simple windows applications to graphics-intensive environments such as CAD and desktop publishing, Hewlett-Packard can help you complete your computing solution with a wide range of video monitors. All at competitive prices, because high-quality video is not a luxury - it's a necessity.

See the difference

Together, HP PCs and monitors create high-quality solutions that enhance your work with fast video processing, the ability to fit more information on the screen, crystal-clear displays, and colours that make reading a pleasure.

Plus HP helps create a more comfortable computing environment by alleviating eyestrain with stable images, and offering tilt and swivel bases for optimised viewing comfort.

Display products designed with user comfort in mind

HP offers a choice of ergonomic displays which comply with the latest MPRII guidelines from the Swedish National Board for Measurement and Testing for upper limits of electrical and electrostatic emissions. In addition, our new displays have been designed to meet ISO 9241-3 standards.

Whats more, the latest HP displays meet the VESA Display Plug and Play standard, making configuration and asset management a breeze.

Energy-efficient displays to reduce power consumption

All our displays conform to the U.S. Environment Protection Agency's Energy Star programme, ie their power consumption can be reduced to less than 30 watts when used with an HP Vectra PC equipped with a Display Power Management system. This power-saving mode is achieved simply by pressing the keyboard lock button on the PC or by defining the automatic display power-saving mode in the PC's setup menu. Savings can be as important as 90%!

Three-year warranty

One of the most important qualities of all HP video solutions isn't written in the specifications. It's HP quality and reliability - and it's built into every product we make, so you can depend on every part of an HP computing solution.

We've learned that there's no such thing as random failure.   So we subject all our video products

to unrealistically extreme test conditions in order to identify and systematically eliminate the cause of any failure.

As a result, HP displays carry the same warranty conditions as HP PC systems, as long as they are both purchased at the same time.   In most cases this means that your HP display comes with a **full three-year warranty!**

The HP range of standard monitors

From industry-standard 14-inch   monochrome VGA to 15-inch Ergonomic Super VGA, there is a display in HP's range of standard monitors to meet your needs.

Entry-level displays for cost-conscious users

The HP Monochrome VGA display offers industry-standard VGA resolution on an easy-to-read, page-white screen.   It is ideal for applications for which colour is not required, and is an excellent choice for most server applications.

The HP Super VGA 1024i display is the HP monitor to start with for Windows environments, with Ergonomic VGA resolution and the possibility to display Super VGA at 60 Hz refresh rate.

Monitors that offer that bit more

HP's 1024 Low-Emissions 14-inch and 15-inch displays have been designed to help you work better: reduced eyestrain through stable Ergonomic Super VGA resolution, reduced electrical and electrostatic emissions due to MPRII compliance, and reduced power consumption with up to 90% savings.

And these monitors feature Display Plug and Play, which means they can be easily configured and managed directly from your PC.

The state-of-the-art multimedia monitor

The newly-introduced HP 1024 Low-Emissions Multimedia Display (D2809A) is the ultimate monitor for multimedia applications.   This 15-inch display (13.8-inch viewable) offers VGA and SVGA resolutions in ergonomic refresh rates, as well as Ultra VGA non-interlaced mode (60 Hz refresh rate).

It comes standard with an audio input/output capability integrated in the tilt and swivel base. The frontal location of the microphone and 2 x 3-Watt loudspeakers guarantees optimal sound input and restitution.

A full range of advanced displays

All monitors in HP's advanced line have features to meet the needs of the most demanding users.

Ergonomics at the highest level

From 14-inch to 21-inch, all our advanced displays support a wide range of resolutions in high ergonomic refresh rates, thus ensuring the most stable image for intensive work environments.

A second important feature in such environments, MPRII compliance on all products ensures that electrical and electrostatic emissions are kept to a very low level.

Easy to use, easy to configure

All displays are microprocessor- controlled to allow precise image positioning and geometric correction, and all support full scan to make use of the entire viewable area.   The Ultra VGA 1280 17-inch and Ultra VGA 1600 21-inch displays also come with on-screen menus for greater ease of use.

Minimised power consumption

The power consumption of all HP's advanced monitors can be reduced to less than 8 Watts when used with an HP Vectra PC equipped with display power management system, leading to savings of up to 95%.

The solution for high-end graphic display needs

With a 0.25mm super-fine dot pitch tube, the HP Ultra VGA 1600 Display is the new state-of-the-art display solution for high-end graphics users who require a maximum of information on their screen.

Its high-resolution set (up to Ultra VGA 2 - 1600 x 1200) makes it the perfect match for graphics- intensive applications such as desktop publishing, engineering and design (CAD, CAE), and image- processing applications.

It is the ideal match for Hewlett-Packard's high-end Vectra PCs

D2803A, D2815A, D2808A, D2809A, D2805B, D2806B, D2817A and D2800A are in the new HP colours.

Glossary

DDC Display Plug and Play

A VESA-defined communication standard (Display Data Channel) that enables suitably equipped PCs to receive information from the display. This covers the monitor type, manufacturer and serial number, as well as the supported resolutions and refresh rates. Connected to a DDC-compliant PC, the monitor will automatically identify itself and will be configured to the appropriate ergonomic resolution.

Dot Pitch

In colour displays, the distance between adjoining phosphor triads (red, green and blue phosphor dots arranged in a triangle). The distance is generally expressed in millimetres (mm). The smaller the distance, the sharper the image appears.

Interlaced scanning

A method in which all the odd scan lines of an image are drawn first, followed by all the even scan lines. This technique effectively reduces the image flicker on broadcast television images, but is much less effective in the precisely-ruled images in computer displays. For instance, in 1024 x 768 interlaced resolution, 87 Hz is the line refresh rate, but 43.5 Hz is the actual frame refresh rate, to be compared to standard 60 Hz and ergonomic 72/75 Hz.

MPRII

A standard initiated by the Swedish government. The first criterion is related to ergonomics and is now covered by the European ISO 9241-3 standard. The second is related to emissions.

Refresh rate

Video display images are not generated continuously, but are rather redrawn between 50 and 100 times per second (Hz) in a process called screen refresh. A higher refresh rate means a more stable image. Rates greater than 72 Hz are said to be ergonomic refresh rates.

HP PC Video Features

PC Video Solutions

Monitors	HP Monochrome VGA 14" Display D2801B	HP Super VGA 1024i 14" Display D2803A/D2804A	HP 1024 Low-Emissions 14" Display D2815A	HP 1024 Low-Emissions 15" Displays D2808A and D2809A
Features				
Picture Tube	14" flat screen (11.5" viewable) Paper-white phosphor 64 shades of grey	14" (12.8" viewable) P22 phosphor Tri-sync colour	14" (13.2" viewable) P22 medium-short persistence Multi-sync colour	15" (13.8" viewable) P22 medium-short persistence Multi-sync colour
Anti-Glare Surface	Non-glare; dark tinted glass	Silica-coated + ESF	Silica-coated	Silica-coated
Dot Pitch	N/A	0.28 mm	0.28 mm	0.28 mm
Integrated Tilt and Swivel	Yes	Yes	Yes	Yes
Contrast and Brightness Controls	Yes	Yes	Yes	Yes
Image Controls	No	Positioning	Positioning + full scan	Positioning + full scan + geometry
Horizontal Scan Rate	31.5 KHz	31.5, 35.2, 35.5 and 37.9 KHz	31.5-48.4 KHz	31-50 KHz
Vertical Scan Rate	60/70 Hz	60/72/87 Hz	50-100 Hz	50-100 Hz
Audio Input/Output	No	No	No	D2808A: No; D2809A: Yes
Specifications				
Input Signals	Analogue 15-pin Mini D-SUB	RGB Analogue 15-pin Mini D-SUB	RGB Analogue 15-pin Mini D-SUB	RGB Analogue 15-pin Mini D-SUB
Display Plug and Play	No	No	Yes	Yes
Power Supply	AC 220/240 V, 50-60 Hz, 40 W (25 W in power-saving mode)	AC 100-240 V, 47-63 Hz, 70 W max (15 W in power-saving mode)	AC 100-240 V, 47-63 Hz, 70 W max (12 W in power-saving mode)	AC 100-240 V, 50-60 Hz, 70 W max (5 W in power-saving mode)
Weight	8 kg	D2803A: 10.6 kg; D2804A: 11.5 kg	11 kg	D2808A: 13 kg; D2809A: 14 kg
Dimensions (H x W x D)	346 x 333 x 340 mm	D2803A: 368 x 354 x 380 mm D2804A: 365 x 354 x 388 mm	370 x 356 x 388 mm	D2808A: 385 x 364 x 400 mm D2809A: 461 x 364 x 400 mm
Regulations				
RFI and Safety	EN60950, GS Mark TUV, PTB X-ray approval	IEC950, EN60950, UL, CSA, NOM, GS Mark TUV, IAA, NEMKO, FIMKO, PTB X-ray approval, DHHS 21	IEC950,EN60950, UL, CSA, NOM, GS Mark TUV, IAA, NEMKO, PTB X-ray approval, DHHS 21	IEC950,EN60950, UL, CSA, NOM, GS Mark TUV, IAA, NEMKO, SETI, PTB X-ray approval, DHHS 21, IAA
Electro-Magnetic Compatibility	EN55022 Class B, EN50082-1	CISPR22 Class B, EN55022 Class B, FCC Class B, VCCI Class II, RRL, EN50082-1	CISPR22 Class B, EN55022 Class B, FCC Class B, VCCI Class II, RRL, EN50082-1	CISPR22 Class B, EN55022 Class B, FCC Class B, VCCI Class II, RRL, EN50082-1
Ergonomics	ZHI/618, GS Mark TUV	ZHI/618, GS Mark TUV, ISO 9241-3	ZHI/618, GS Mark TUV, ISO 9241-3	ZHI/618, GS Mark TUV, ISO 9241-3
MPRII	No	No	Yes	Yes

HP PC Video Features (2)

PC Video Solutions

Monitors	HP Ergo 1024 14" Display D2805B	HP Ergo Ultra VGA 15" Display D2806B	HP Ultra VGA 1280 17" Display D2817A	HP Ultra VGA 1600 21" Display D2800A
Features				
Picture Tube	14" (13.3" viewable) P22 medium-short persistence Multi-sync colour	15" flat square screen (13.8" viewable) P22 medium-short persistence Multi-frequency colour	17" flat square screen (15.8" viewable) B22E medium-short persistence Multi-sync colour	21" (19.7" viewable) P22 medium-short persistence Multi-sync colour
Anti-Glare Surface	Silica-coated + direct	Silica-coated + ESF	K-coating	K-coating

	etching			
Dot Pitch	0.28 mm	0.28 mm	0.28 mm	0.25 mm
Integrated Tilt and Swivel	Yes	Yes	Yes	Yes
Contrast and Brightness Controls	Yes	Yes	Yes	Yes
Image Controls	Positioning + full scan + geometry	Positioning + full scan + geometry + degauss	Positioning + full scan + geometry + colour + degauss (on-screen menu)	Positioning + full scan + geometry + colour + degauss (on-screen menu)
Horizontal Scan Rate	31.5-62 KHz	31.5-64 KHz	30-64 KHz	30-82 KHz
Vertical Scan Rate	50-100 Hz	50/60/70/72 Hz	50-90 Hz	50-160 Hz
Audio Input/Output	No	No	No	No
Specifications				
Input Signals	RGB Analogue 15-pin Mini D-SUB	RGB Analogue 15-pin Mini D-SUB	RGB Analogue 15-pin Mini D-SUB	RGB Analogue 5 BNC connectors and 15-pin Mini D-SUB
Display Plug and Play	No	Yes (DCC 1)	Yes	Yes
Power Supply	AC 100-240 V, 47-63 Hz, 80 W max (5 W in power-saving mode)	AC 100-240 V, 47-63 Hz, 85 W max (5 W in power-saving mode)	AC 100-240 V, 50-60 Hz, 130 W max (8 W in power-saving mode)	AC 100-240 V, auto-ranging, 50-60 Hz, 150 W max (8 W in power-saving mode)
Weight	12.5 kg	14 kg	17.7 kg	28 kg
Dimensions (H x W x D)	368 x 356 x 380 mm	366 x 354 x 400 mm	438 x 422 x 410 mm	478 x 505 x 510 mm
Regulations				
RFI and Safety	IEC950, EN60950, UL, CSA, NOM, GS Mark TUV, IAA, NEMKO, SETI, PTB X-ray approval, DHHS 21	IEC950, EN60950, UL, CSA, NOM, GS Mark TUV, IAA, NEMKO, SETI, PTB X-ray approval, DHHS 21	IEC950, EN60950, UL, CSA, NOM, GS Mark TUV, NEMKO, SEMKO, DEMKO, SETI, PTB X-ray approval, DHHS 21	IEC950, EN60950, UL, CSA, NOM, GS Mark TUV, NEMKO, PTB X-ray approval, DHHS 21
Electro-Magnetic Compatibility	CISPR22 Class B, EN55022 Class B, FCC Class B, VCCI Class II, RRL, EN50082-1	CISPR22 Class B, EN55022 Class B, FCC Class B, VCCI Class II, RRL, EN50082-1	CISPR22 Class B, EN55022 Class B, FCC Class B, VCCI Class II, EN50082-1	CISPR22 Class B, EN55022 Class B, FCC Class B, VCCI Class II, EN50082-1
Ergonomics	ZHI/618, GS Mark TUV, ISO 9241-3	ZHI/618, GS Mark TUV, ISO 9241-3	ZHI/618, GS Mark TUV, ISO 9241-3	ZHI/618, GS Mark TUV, ISO 9241-3
MPRII	Yes	Yes	Yes	Yes

Video Graphic Resolutions Compatibility Matrix

PC Video Solutions

Standard range

Modes	Resolution	Refresh Rate Hz	HP Monochrome VGA 14" Display D2801B	HP Super VGA 1024i 14" Display D2803A/D2804A	HP 1024 Low-Emissions 14" Display D2815A	HP 1024 Low-Emissions 15" Displays D2808A and D2809A
Standard VGA	640 × 480	60	X	X	X	X
Ergonomic VGA	640 × 480	72		X	X	X
Ergonomic VGA	640 × 480	75			X	X
Super VGA	800 × 600	60		X	X	X
Ergonomic Super VGA	800 × 600	72			X	X
Ergonomic Super VGA	800 × 600	75			X	X
Ultra VGA Interlaced	1024 × 768i	87		X	X	X
Ultra VGA	1024 × 768	60			X	X
Ergonomic Ultra VGA	1024 × 768	70				
Ergonomic Ultra VGA	1024 × 768	75				
Ultra VGA 2 Interlaced	1280 × 1024i	87				
Ultra VGA 2	1280 × 1024	60				
Ergonomic Ultra VGA 2	1280 × 1024	75				
Ultra VGA 1600	1600 × 1200	60				

Video Graphic Resolutions Compatibility Matrix

Advanced range

Modes	Resolution	Refresh Rate Hz	HP Ergo 1024 14" Display D2805B	HP Ergo Ultra VGA 15" Display D2806B	HP Ultra VGA 1280 17" Display D2817A	HP Ultra VGA 1600 21" Display D2800A
Standard VGA	640 × 480	60	X	X	X	X
Ergonomic VGA	640 × 480	72	X	X	X	X
Ergonomic VGA	640 × 480	75	X	X	X	X
Super VGA	800 × 600	60	X	X	X	X
Ergonomic Super VGA	800 × 600	72	X	X	X	X
Ergonomic Super VGA	800 × 600	75	X	X	X	X
Ultra VGA Interlaced	1024 × 768i	87	X	X	X	X
Ultra VGA	1024 × 768	60	X	X	X	X
Ergonomic Ultra VGA	1024 × 768	70	X	X	X	X
Ergonomic Ultra VGA	1024 × 768	75	X	X	X	X
Ultra VGA 2 Interlaced	1280 × 1024i	87		X	X	X
Ultra VGA 2	1280 × 1024	60		X	X	X
Ergonomic Ultra VGA 2	1280 × 1024	75				X
Ultra VGA 1600	1600 × 1200	60				X

HP Network Connectivity Products
Quick Reference Guide
The Advanced Solution in 10Base-T and 100VG-AnyLAN Networking Products
AdvanceStack Hubs & Accessories   Ethertwist Hubs & Accessories   PC LAN Adapters   Routers
 Bridges Switches   Network Management   Product Warranties   Configuration Tips   Training   Literature
Information subject to change without notice

HP AdvanceStack Hubs & Accessories

HP J2410A AdvanceStack 100VG Hub-15
15 100Mbit/s RJ-45 ports, 1 up-link port, 1 transceiver slot, 1 RS-232 console port, and in/out distributed management port; High-speed, 10Base-T compatible, stackable hub.

HP J2414A AdvanceStack 100VG SNMP/Bridge Module
When installed in an expansion slot of 100VG Hub-15, adds SNMP network management, and bridging to 10Mbit/s Ethernet networks; Only one module required for SNMP management of 16 AdvanceStack hubs.

HP J2610A HP AdvanceStack 10Base-T Hub-8U
8 RJ-45 ports, slots for optional management J2612B and transceiver modules; upgradable, easy-to-use;

HP J2611A HP AdvanceStack 10Base-T Hub-16U
16 RJ-45 ports, slots for optional management J2612B and transceiver modules;

HP J2600A HP AdvanceStack 10Base-T Hub-12
12 RJ-45 ports and 1 BNC, 1 transceiver slot, 1 RS-232 console port, and in/out distributed management port;

HP J2601B HP AdvanceStack 10Base-T Hub-24
24 ports via 2 Telco connectors, 1 BNC, 2 Telco/RJ-45 adapters and 1 AUI Port Module; Ideal for medium- sized workgroup LANs. Can be connected to redundant power supply (RPS) for maximum uptime.

HP J2602B HP AdvanceStack 10Base-T Hub-48
48 ports via 4 Telco connectors, 1BNC, 4Telco/RJ-45 adapters and 1 AUI Port Module; Ideal for medium and large-sized workgroup LANs. Can be connected to redundant power supply (RPS) for maximum uptime.

HP J2962A Redundant Power Supply (RPS)
Allows connection of up to 4 x HP AdavanceStack 24- or 48- ports hubs and provide constant power for maximum uptime.

HP J2603B HP AdvanceStack 10Base-T SNMP Module
When installed in an expansion slot of an AdvanceStack Hub, adds SNMP network management and security; Only one module required for SNMP management of 16 hubs or 784 users.

HP J2606A Fiber-Optic Transceiver Module When installed in transceiver slot of an AdvanceStack Hub, adds a fiber-optic port (ST connectors)

HP J2607A Twisted Pair Transceiver Module When installed in transceiver slot of an AdvanceStack Hub, adds an RJ-45 port

HP J2608A ThinLAN Transceiver Module When installed in transceiver slot of an AdvanceStack Hub, adds a BNC port

HP J2609A AUI Port Module
When installed in transceiver slot of an AdvanceStack Hub, adds an AUI port (included with J2601A and J2602A hubs)

HP J2612B HP AdvanceStack Distributed Management Module
When installed in the distributed management slot of an AdvanceStack Hub-8U, adds management

HP J2630A HP AdvanceStack Hub-12 bundle
(J2600A) with 10Base-T SNMP Module (J2603B)

HP J2631B HP AdvanceStack Hub-24 bundle
(J2601B) with 10Base-T SNMP Module (J2603B)

HP J2632B HP AdvanceStack Hub-48 bundle
(J2602B) with 10Base-T SNMP Module (J2603B).

HP EtherTwist Hubs & Accessories

HP 28688B EtherTwist Hub Plus
Managed, 1 Telco connector (12 TP ports), 1 BNC, 1 AUI port,1 RS232, 1 RJ-45 modular adapter (28638A); Standard hub for small workgroup LANs

HP 28692A ThinLAN Hub Plus
Managed, 9 BNC, 1 AUI port; Multiport hub for thin coaxial LANs or backbones

HP 28682A Fiber-Optic Hub Plus
Managed, 8 FO, 1 BNC, 1 AUI port; Multiport hub for fiber-optic backbone application (9 FO ports using FO transceiver 28683A)

HP 28685B EtherTwist Transceiver
1 AUI port, 1 TP port; Compact device for adapting an AUI port to twisted- pair cable

HP 28641B ThinLAN Transceiver
1 AUI port, 1 BNC port; Compact device for adapting an AUI port to thin coaxial cable

HP 28683A Fiber-Optic Transceiver
1 AUI port, 1 FO port (Tx and Rx); Compact device for adapting an AUI port to fiber-optic cable (ST connectors)

HP LAN Adapters

HP J2573A 10/100VG Selectable ISA Adapter
HP J3005A 10/100VG Selectable ISA Adapter, 6-pack
HP J3006A 10/100VG Selectable ISA Adapter, 24-pack
HP J2577A 10/100VG Selectable EISA Adapter
HP J3007A 10/100VG Selectable EISA Adapter, 6-pack
HP J3008A 10/100VG Selectable EISA Adapter, 24-pack
HP J2585A 10/100VG Selectable PCI Adapter
HP J3009A 10/100VG Selectable PCI Adapter, 6-pack
HP J3010A 10/100VG Selectable PCI Adapter, 24-pack
High-performance adapters for use with AdvanceStack 100VG Hub-15; 2 RJ-45 connectors, 10Mbit/s or 100Mbit/s (I6NORC) operation

HP J2405A PC LAN Adapter NC/16 TP
16-bit ISA client card, 1 TP port; Pipelined bus-master DMA for market-leading performance

HP J2406A PC LAN Adapter NC/16 TP 6-pack
HP J2407A PC LAN Adapter NC/16 TP 24-pack

HP 27247B PC LAN Adapter/ 16 TP Plus
16-bi t ISA, 1 TP port, 1 AUI port; High- performance adapter for ISA 386 and 486 servers and clients

HP 27269B PC LAN Adapter/ 16 TP Plus 6-Pack
HP J2427B PC LAN Adapter/ 16 TP Plus 24-Pack

6-pack contents: 6 adapters, 1 manual, 1drivers disk
24-pack contents: 4 x 6 packs: 24 adapters, 4 manuals, 4 drivers disks

HP 27252A PC LAN Adapter/ 16 TL Plus
16-bit ISA, 1 BNC port, 1 AUI port For use with thin coaxial LAN cable

Network boot ROM available as follows:

ForAdapter	Novell Netware
Card	boot ROM
HP27252A	HP27260A

Note: Drivers are compatible with all major Network Operating Systems.

HP AdvanceStack Routers and Accessories

HP J2624A AdvanceStack Dial-A-LAN 4A Module Easy to use, remote dial-up access Ethernet server providing network services to mobile and remote clients.

HP J2634A AdvanceStack Dial-A-LAN 4A and SNMP Module (HP J2603B) bundle Same as J2624A, but adds SNMP capability to Dial-A-LAN module.

HP J2430A AdvanceStack Router 650 4 available slots for interfaces, supports a variety of network and WAN protocols,* spanning tree protocol bridging; Chassis-based router for the most demanding central site requirements

HP J2434A 4-port WAN Interface for Router 650 Sync. connections for V.35, RS-232, X.21, RS-449/422 at speeds of 9.6 Kbps to 2.048 Mbps

HP J2435A 4-port Ethernet/IEEE 802.3 Interface for Router 650 Comes standard with 4 integrated ThinLAN transceiver modules, can accept 10Base-T, Fiber or AUI transceiver modules

HP J2436A 1-port FDDI Interface for Router 650 Provides 100 Mbit/s support. Supports Class A Dual Attachment Stations (DAS), Class B Single Attachment Stations (SAS), and dual homing.

HP J2437A 4-port Token Ring Interface for Router 650
Provides 4 and/or 16 Mbps support via 9-pin connector

HP J2438A Single-port 100VG Interface for Router 650
Connects the Router 650 to a 100VG switch or hub as a slave, via a standard RJ-45 connector. Provides 100 Mbits/s routing between 100VG and Ethernet, Token Ring or FDDI.

HP J2443A 8MB Memory Upgrade for Router 650
Increases base system memory to 16MB

HP J2446A Redundant Power Supply for Router 650
Ensures maximum uptime

HP J2540B (formerly Router PR) **AdvanceStack Router 230**
1 AUI or BNC, 1 WAN port, supports TCP/IP (RIP) and Novell IPX, spanning tree protocol bridging; Single WAN providing Ethernet remote field site to central site point-to-point connection

HP J2543A (formerly Router TFR) **AdvanceStack Router 245**

1 TR, 1 WAN port, supports a variety of network and WAN protocols,* spanning tree protocol bridging; Single WAN providing Token Ring remote field site to central site connection

HP J2628A AdvanceStack Router 210
Router module for AdvanceStack 10Base-T Hub-12, Hub-24, or Hub-48 ; adds router 240 capabilities when installed in expansion slot

HP 27289B (formerly Router FR) **AdvanceStack Router 240**
1 AUI or BNC, 1 WAN port, supports a variety of network and WAN protocols,* spanning tree protocol bridging; Single WAN providing Ethernet remote field site to central site connection

HP 27288A (formerly Router SR) **AdvanceStack Router 430**
1 AUI or BNC, 3 WAN ports, supports a variety of network and WAN protocols,* spanning tree protocol bridging; Multiport WAN providing Ethernet central site to field site connections

HP 27285A (formerly Router ER) **AdvanceStack Router 440**
2 AUI, 2 WAN ports, supports a variety of network and WAN protocols,* spanning tree protocol bridging; Router for Ethernet networks supporting primary and secondary WAN links

HP 27286A (formerly Router TR) **AdvanceStack Router 445**
1 AUI, 1 TR, 2 WAN ports, supports a variety of network and WAN protocols,* spanning tree protocol bridging; Router for mixed Ethernet/Token Ring networks supporting primary and secondary WAN links

Note: WAN cables for all HP routers are included at no additional charge. One option must be ordered with each HP router * TCP/IP (RIP/OSPF), DECnet IV, Xerox XNS, Novell IPX and AppleTalk II, plus X.25, Frame Relay and SMDS. **TCP/IP (RIP/OSPF), DECnet IV, Xerox XNS, Novell IPX and AppleTalk II.

Part	Product #
V.35 WAN Cable	J2950A
RS-232 WAN Cable	J2951A
X.21 WAN Cable	J2952A
RS-442 WAN Cable	J2953A

HP Bridges and Switches

HP 28681A 10:10 LAN Bridge LB
Unmanaged, 1 AUI or BNC port, 1 AUI-only port; Low-cost local bridge for uncomplicated networks of medium size

HP 28673A 10:10 LAN Bridge MB
Managed, STP, 1 AUI or BNC port, 1 AUI-only port; High-performance, local, spanning tree bridge for large fault-tolerant networks

HP 28674B Remote Bridge RB
Managed, STP, 1 AUI or BNC port, 1 WAN port, includes WAN cable; High-performance, spanning tree bridge for multisite networks

HP J2980A 10/100 LAN Switch-16
16 x 10Base-T/AUI ports (port #1 auto-selectable), 15 x RJ-45 ports. High-speed switching device. provides FDDI and 100 VG connectivity to LAN servers and hosts.

HP Network Management

HP 27256G Interconnect Manager/OpenView Windows Bundle
SNMP applications for HP hubs and bridges, as well as multivendor SNMP devices. HP 27256G includes HP Openview 7.2 Workgroup Node Manager.

Option OCZ: deletes HP OpenView 7.2 Workgroup Node Mgr for customers who already have the platform.

HP J2567G Interconnect Manager/OpenView Windows Windows
Standalone SNMP management application for HP AdvanceStack 100VG & 10Base-T hubs, bridges & switches. HP J2567G does not include HP OpenView 7.2 Workgroup Node Manager.

HP J2564A Router Manager for OpenView Windows
SNMP manager applications for HP routers, requires HP OpenView 7.2.

HP 27361G OpenView Interconnect & Router/UX
SNMP manager applications for HP routers, hubs and bridges, as well as, multivendor SNMP devices ; includes HP Openview Network Node Manager 3.3.

HP J2347B OpenView History Analyzer/UX
Multivendor capacity planning based on historic network utilization

HP J2348B OpenView Traffic Expert/UX
Visualizes network traffic and recommends actions to optimize network performances

HP J2535A Traffic Probe
Standalone sampling device to provide network traffic management benefits to networks without HP hubs, bridges or routers

HP J2561A OpenView Traffic Monitor/Windows
Multivendor, multi-protocol traffic analysis with automatic guidance to problem sources

HP J2562A Openview Traffic Monitor/UX
Multivendor, multi-protocol traffic analysis with automatic guidance to problem sources

Upgrades from earlier Network Management Software: HP J2568G Interconnect Manager/OpenView Windows Revision Upgrade:
Customers upgrading from any of the qualifying products listed below can purchase this product. It provides the same functionality as the HP 27256G. The HP J2568G software must be installed over a qualifying product and will verify that a qualifying product is already installed.

Qualifying products:

 HP OpenView Interconnect Manager/Windows: 27256G, 27256E HP OpenView Workgroup Manager/Windows: 28286E

Customers with other Interconnect, Workgroup, Hub, or Bridge Manager products should purchase the HP 27256G product.

Product Warranties

HP offers market-leading warranties on the following products:
- LAN adapters, tranceivers, and AdvanceStack Hub-8U and AdvanceStack accessories: lifetime+
- AdvanceStack Hub-15, Hub-12, Hub-24 and Hub-48 : lifetime*
- Bridges, Switches and Routers: three-year, on-site
- Router 210 : Five-Year, on-site
- Network Management: 90 days
- Traffic Probe: one-year
*Five-year on-site service; after five years, the warranty is extended by registered owners to lifetime (return-to-HP), covering product, except for power supply and fan.
+Five-year return-to-HP or reseller service; after five years, the warranty is extended by registered owners to lifetime (return-to-HP).

Configuration Tips

Twisted-pair connectors

 HP Hubs have Telco connectors directly, or 4-pair cables (RJ-45 connectors) via modular adapter (HP 28638A). Use one adapter for each 12-port connector. (1 adapter comes with each 12-port EtherTwist or AdvanceStack hub, 2 with each 24-port hub, and 4 with each 48-port hub.)

Cables

 The following cable can be ordered from HP Support Materials Europe.
 Router-to-Router Test Cable (5061-2556) 62 DB-62 DB, RS-422/449. This cable is used for connecting two HP routers via their WAN ports for testing. The cable is 5 meters long and terminated with 62-pin DB connectors, and simulates an RS-449/422 link.
 One wide-area newtork interface cable per wide-area port is included with each HP Router or HP Remote Bridge purchase:

Part	Product #
V.35 WAN Cable	J2950A
RS-232 WAN Cable	J2951A
X.21 WAN Cable	J2952A
RS-442 WAN Cable	J2953A

Training

AdvanceStack sales and technical training

Basic Training
Consist of 1 or 2 days, depending on the country, and is given in the local language. Contact your country CPO Networking Program Manager to register.
Topics include:
- Introduction to the AdvanceStack family
- LAN workgroup
- LAN topology
- Network Management

Advanced Training
Provides a review of the AdvanceStack product family, introduces any new products on the way, and furnishes specific technical information concerning the high-tech routers and their role with network management.

Topics include:
- Day 1: Advanced workgroup and site
- Day 2, 3, and 4: Advanced multisite routers
- Day 5: Avanced network management Advanced training consist of 1 week at the European Training Center in Isle d'Abeau, France. The course is in English. Your local Program manager has more course details and the exact course dates.
- 1 week on Network Management
UNIX (ICM/RM/HA/Traffic Expert). For dates/agenda please ask your local network program manager.

Self-paced training kits
- HP Managed Workgroup (NP111E)
- HP LAN/WAN Routing (NP211E)
- 100VG-AnyLAN networks (NP411E)
*Cost of training is reimbursed, in most instances, through HP Advantage Program

Literature

To order literature
* Contact your local HP Network Program Manager for information on availability and ordering procedure.

Products Documents
- HP AdvanceStack Internetworking Products Brochure, "Wherever your busines goes, your work should follow!" --
  part no. 5963-5100EN
- HP AdvanceStack 100VG Hub Products Brochure, "100VG Full Speed Ahead" -- part no. 5963-5101EN
- HP Network Connectivity Product Catalog - part no. 5962-9489EN
- HP AdvanceStack Products Poster -- part no. 5962-8325E
- HP Connections Newsletter -- Europe (no part no.)
- HP AdvanceStack Training/Promotion VideoStack to the Future -- part no. 5962-7224EUS
- HP AdvanceStack Product Sales Brochure "Stack to the Future" -- part no 5962-7223 E, FR, SP, GE, IT
- HP AdvanceStack Ad Reprint Stack to the Future-- part no. 5962-8421EUS, FR, SP, GE, IT.
- HP Instant Reference Guide (HP portable, PC, network connectivity, and server products) -- part no. 5963-3671
EUS.
- HP AdvanceStack Hubs DataSheet -- part no 5962-8058EN, FR, SP, GE, IT
- HP J2610A AdvanceStack 10Base-T Hub-8U-- part no 5963-3957EN, FR, SP, GE, IT.
- HP J2611A AdvanceStack 10Base-T Hub-16U data sheet -- part no. 5963-6880, on PPGE Marcom Server
- HP J2410A AdvanceStack 100VG Hub-15, HP 100VG 10-Mbit/100-Mbit Selectable PC LAN Adapters DataSheet
-part no 5963-2022EN, FR, SP, GE, IT
- HP AdvanceStack J2430A Router 650 -- part no. 5963-2023 EN, FR, SP, GE, IT (5963-6842 updated with J2585A
PCI LAN Adapter on PPGE Marcom Server)
- HP J2543A AdvanceStack Router 245 -- part no. 5963-3394EN, FR, SP, GE, IT. (5963-6841EN updated with
J2436A FDDI Module on PPGE Marcom Server)
- HP AdvanceStack Router 210/SNMP Bundle J2629A -- part no. 5963-5099EN, FR, SP, GE, IT
- HP J2624/34A DIAL-A-LAN Module data sheet, part no. 5963-6879 (on PPGE Marcom Server)
- HP J2561A OpenView Traffic Monitor/Windows and HP J2562A OpenView Traffic Monitor/HP-UX - part no
5963-3395EN, FR, SP, GE, IT.

White Papers
- HP White Paper/100VG-AnyLAN -- part no. 5091-9910E
- HP White Paper/Guide to Wide Area Networking -- part no. 5091-8875E
- HP White Paper/Network Management -- part no. 5091-8881E
- HP White Paper/Network Security -- part no. 5091-8873E
- HP White Paper/Improving Ethernet Performance with Ethernet Switching -- part no. 5091-9724E
- HP White Paper/Using compression with HP Router products (no part no.)

Technical Documents
- HP Network Management Reference Guide--part no. 272256-90003 -- *Note: This book must be ordered directly
from SMO (phone : 800-227-8164)*
- 100VG-AnyLAN Application Note -- part no. 5962-7222E
- HP OpenView Technical Evaluation Guide part no. 5091-5134E
- Designing HP AdvanceStack Workgroup Networks -- part no. 5962-7968E
- Planning and Designing High-Speed Networks Using 100VG-AnyLAN -- *Note: This book must be ordered
directly from Prentice Hall, the publisher (phone: 1 512-284-6761.*ISBN# 0-13-168685-2, 1994

Other Literature
 - HP Network Connectivity Products Visual Identity Guidelines - part no 5963-2297E

HP NetServer Rack Solutions

Information subject to change without notice

Designed to Protect Your HP NetServer Investment

Now you can consolidate your Hewlett-Packard NetServer towers and other desktop HP network components in an attractive, professional-looking cabinet *and* conserve valuable floor space - with HPs new rack system.

HPs 20 years of racked systems design experience results in an approach that allows more *flexibility* - you can use the same HP NetServer in either a standalone or rack-mounted configuration, depending on your needs. Our rack systems also *protect your investment* by letting you rack mount your *existing* HP NetServers. Simply remove your HP NetServers feet and install it in the rack using our hardware kit - theres no need to purchase a more expensive server designed only for rack mounting. Our racks also can accommodate your existing HP monitors and uninterruptible power supplies. We even provide standard shelves for mounting odd-shaped devices.

Economical, Easy to Configure, Fully Equipped

HP racks save you time and money in a number of ways: they come pre-assembled, are competitively priced, and have many standard features. Our basic, two-meter rack cabinets come with easy-to-remove side panels; a locking rear door; a vented top with concealed lifting hooks; three-inch, heavy-duty, smooth-rolling casters; sturdy screw levelers; and retractable, anti-tip feet. And because theyre made of heavy-gauge metal and built to HPs high quality standards, they can easily be moved without damaging their contents - even when fully loaded.

Weve designed our rack system with enough flexibility, options, and accessories to enable you to tailor a solution for your particular system configuration. Our two-meter rack cabinet - which can hold up to three HP NetServer LM or LF units - provides a generous 41 Electronic Industry Association (EIA) units*(1)* of vertical space for system components, an additional ten centimeters of internal space at the rear of the cabinet for power distribution units, and space for cable routing out the bottom of the rack.

A variety of optional components and accessories that work together and fit neatly into our racks are available from authorized HP resellers. These include:
- Four- and eight-port switch-boxes, which let you use one master console with a single monitor, mouse, and keyboard to control four or eight servers - saving you time and space (you can even "piggyback" switchboxes to control up to 64 servers from one location)
- HP 1000 VA and 2100 VA UPSs and UPS rack-mounting kits
- A variety of HP power distribution units (PDUs)
- HP Keyboard/mouse unit*(2)* and retractable keyboard tray
- HP 200-cfm (342-cmh) cooling fan units
- Plexiglas front door with lock
- Filler panels for a neat, finished appearance
- Light-duty, fixed-support shelf to hold components of odd shapes and sizes

(1) Internal vertical space is measured in EIA units (one EIA unit equals 1.75 inches [44.5 mm]). Each HP NetServer and accessory occupies a specific number of EIAs, as shown under Optional Accessories. To determine total vertical space requirements, add up the EIA units for each piece of equipment.
(2) Cannot be used with Plexiglas front door.

Multi-Bay Configurations

If you want to combine cabinets to create a multi-bay configur-ation, you can order one of our standalone rack cabinets, remove the side panels from the rack, and order the additional bare racks, tie-together kits, and cabinet rear doors you need to complete your configuration. This flexibility lets you mix and match our rack products and reduces your costs - since you dont pay for parts you wont use.

We make it easy to assemble multi-cabinet solutions and install system components. But if you need assistance, one of our authorized rack resellers would be happy to help.

Specifications

Material
Frame/columns: 13 Ga. cold-rolled steel
Side panels: 18 Ga. cold-rolled steel

Finish
Frame: HP corporate black
Sides, top, and trim strips: HP parchment white (spray paint part number 6010-1148)

Rack Dimensions

Rack	Dimensions		
	A	**B**	**C**
J1450A	71.75 inches (1,822.45 mm) (41EIA)	5.19 inches (131.81 mm)	79.53 inches (2,020 mm)

Rack Weight

Description (Part Number)	Weight Empty (Without Packaging)	Weight Empty (With Packaging)	Caster Rating	Lift Hook Rating
Two-meter rack (J1450A)	255 lbs (116 kg)	378 lbs (172 kg)	700 lbs (318 kg) each	500 lbs (227 kg) each
Two-meter rack without side panels or rear door (J1450A Option AXH)	165 lbs (75 kg)	288 lbs (131 kg)	700 lbs (318 kg) each	500 lbs (227 kg) each

Optional Accessories

Product Category	Part Number	EIA(1)	Description
Rack	J1450A	41	Two-meter rack with sides and rear door
	J1450A Option AXH	41	Two-meter rack only
	J1460A(2)	2	8-port console switch
	J1461A	2	4-port console switch
	J1462A	N/A	7-foot (2.0 m) switch-to-server cable kit (one cable kit required per server)
	J1463A	N/A	12-foot (3.5 m) switch-to-server cable kit (one cable kit required per server)
Rack Mount Kits	J1451B	11	HP NetServer LM/LF Mount Kit
	E4473A	8	Mount Kit for HP D2802A or D2804A 14" monitor
	E4474A	8	Mount Kit for HP D2805A 14" monitor
	E4475A	8	Mount Kit for HP D2806A 15" monitor
	E4078A	9	Mount Kit for HP D2807A 17" monitor
	E3900A	1	Mount Kit for Keyboard/mouse
	12131A	2	Mount Kit for retractable keyboard tray
	C4631A	6	Mount Kit for HP C4275A or C4276A UPS and batteries
	E3666A	1	Standard fixed shelf
HP Vectra Rack Mount Kits	E3904A	4	386S, 486S, 486U, XU Kit
	E3906A	3	386N, 486N, N, Ni, N2, N2i Kit
	E3909A	3	486M, 486XM, M, Mi, XM, XP, VL, VL2, M2, M2i, XM2, XM2i Kit
Rack Accessories	E4457A(3)	N/A	200240V PDU (International)
	8120-1860(3)	N/A	IEC-320 60-inch (1.5 m) Power Cable (male/female)
	8120-1575	N/A	IEC-320 30-inch (0.75 m) Power Cable (male/female)
	5181-8787	N/A	IEC-320 Male Power Cable Adapter
	E4471A	N/A	200240V Fan
	E4472A(3)	N/A	PDU Installation Kit
	E4463A(4)	N/A	Plexiglas Front Door with lock

	C2790A	N/A	Ballast Weight Kit
Filler Panels	40101A	1	1 EIA-unit Filler Panel
	40102A	2	2 EIA-unit Filler Panel
	40103A	3	3 EIA-unit Filler Panel
	40104A	4	4 EIA-unit Filler Panel
	40105A	5	5 EIA-unit Filler Panel
	40106A	6	6 EIA-unit Filler Panel
	40107	7	7 EIA-unit Filler Panel
Option AXH Accessories	E4459A	N/A	Side Panel (for either side)
	E4478A	N/A	Rear Door
	E4469A	N/A	Two-meter Rack Tie-together Kit

(1) Accessories with N/A for EIA requirement do not use vertical cabinet space.
(2) Available April 1995.
(3) Maximum of two Power Distribution Units (PDUs) per rack. One PDU Installation kit (E4472A) required per rack with PDUs. 8120-1860 Power Cable required for each server plugged into E4457A PDU. E4457A PDU: Maximum current 16 amp; receptacle type (10) IEC-320; no plug.
(4) Front door requires E4471A Fan for proper cooling. A PDU is required to connect the fans IEC-320 power plug.

HP PowerWise 1000 and 2100 VA UPS

HP PowerWise UPS
Information subject to change without notice

The Intelligent UPS Designed Specifically for Networks

    High reliability and performance
    Integrated network connectivity and management
    Flexibility to meet evolving needs
    Unsurpassed HP service and support

Superior Power Protection for Your Mission-Critical Network

Distributed, networked systems are rapidly replacing large, centralised computing systems for mission-critical applications. But networked systems are inherently more vulnerable than centralised systems to power quality problems that can cause data loss, equipment failure, and system hangups. To limit the impact of these failures, its critical to protect your nodes, servers, and applications against power fluctuations or loss of power with the most reliable, easy-to-manage, and flexible power protection products on the market Hewlett-Packards intelligent, on-line Uninterruptible Power Supplies (UPS), Power Manage- ment Software, and SNMP Interface.

HPs power protection products are specifically designed to handle complex network power problems. In the event of a total power loss, these integrated power protection products work together to keep your system running and provide a safe, orderly, unattended network shutdown.

How to Select the Right UPS to Optimise Your Network Runtime

MIS managers have widely varying requirements for network runtimethat is, the amount of time a system must keep running for an orderly shutdown after a loss of facility power. With a bigger system and longer runtime requirements, youll need a higher-capacity UPS and more batteries. Thats why we built our intelligent, on-line HP 1000 VA UPS and HP 2100 VA UPS with expandable battery capacity. Each comes with a standard battery pack and can easily be expanded to match your runtime requirements by plugging in up to five additional packs. To make sure you pick the right UPS and number of battery packs:

1.   List the equipmenttypically computers, monitors, external disk drives, hubs, routers, and bridgesyou need to protect.

2.   Multiply the maximum name- plate voltage and amperage for each piece of equipment to obtain VA. If the equipment is specified only in watts, divide the watts by 0.7 to obtain VA before matching it to the table.

3.   Add the individual VA require- ments to obtain the total system VA requirement.

4.   Find the first row that meets or exceeds the total system VA under the Maximum Load (VA) column on the table below.

5.   Move across to the first column that indicates an accept- able runtime in minutes. Then move up the table to find the appropriate HP UPS model and number of additional battery packs required. In certain cases, either HP UPS will work if you use the appropriate number of battery packs.

Note: This procedure will work with most computer equipment; however, there is a trend toward power-factor-

corrected equip- ment. If your equipment is power-
factor-corrected, the nameplate will indicate the power factor. If the power factor is not 0.7, you will have to adjust your total VA result before matching it to the table. Multiply your total VA by the specified power factor and then divide by 0.7 before matching your VA to the table.

HP UPS Run Times

Number of Battery Packs MAXIMUM LOAD (VA)	HP 1000 VA UPS						HP 2100 VA UPS					
	STD	1	2	3	4	5	STD	1	2	3	4	5
50	363	842	1377	1953	2562	3196						
100	156	363	594	842	1104	1377	332	771	1262	1789	2346	2928
200	67	156	256	363	476	594	143	332	544	771	1011	1262
300	41	96	156	222	291	363	88	203	332	471	618	771
400	29	67	110	156	205	256	62	143	234	332	436	544
500	22	51	84	119	156	195	47	109	179	253	332	415
600	18	41	67	96	125	156	38	88	143	203	266	332
700	15	34	56	79	104	130	31	73	119	168	221	276
800	13	29	48	67	88	110	27	62	101	143	188	234
900	11	25	41	58	77	96	23	53	88	124	163	203
1000	10	22	36	51	67	84	20	47	77	109	143	179
1200							16	38	62	88	115	143
1700							11	27	44	62	81	101
2100							9	20	33	47	62	77

HP UPS runtime in minutes with a typical 0.7 power factor load.

Why HPs no-compromise UPS technology offers superior protection:

Because its the most reliable technology available today.

On-line UPS precludes network component crashes during UPS switchover and UPS-induced surges. Since the HP UPS continuously provides regulated power, there are *no* power transfer periods or current surges when line power fails. Your network has maxi-mum power protection reliability with HPs on-line technology.

Because it provides the ultimate in line conditioning

With HPs UPS, your network compo-nents continuously receive the highest-quality, conditioned, surge-protected, and regulated sine-wave power. Your server, bridge, and hub are never overstressed or subjected to pass-through disturbances.

Because additional reliability features are built in.

The condition of key components in the HP UPS is continuously monitored. So if service is needed, youre automatically notified. But even in the unlikely event of a sudden, internal power component failure, the HP UPS will keep your system running without interruption. Thats because its automatic bypass provides an alternate power path if a power component fails.
With this level of consistent, reliable, high-quality power, your network components will perform at their best, and your system data integrity will be assured during power failures.

Designed for Network Reliability

Benefits	Features
Reliable power protection to keep your network up and running	True, on-line UPS technology continuously conditions and corrects power fluctuations and disturbances
	Proactive monitoring and alert for UPS and power problems
	Continuous monitoring of critical UPS components and automatic bypass upon fault
	HP Battery Advisor uses a sophisticated algorithm to constantly monitor batteries and predict wearout
	Hot-swap battery packs without system interruption
Complete network interface, control, and communication	Optional, integrated HP UPS SNMP Ethernet interface for network connectivity
	Continuous communication between SNMP and UPS, even with UPS shutdown
	Direct UPS-to-server serial connection, in addition to network connection
	HP UPS management utility for seamless integration with HP NetServer Assistant
Easy integration into your network environment	Easy-to-install HP UPS Power Management Software that is compatible with all major NOS platforms, including:

Novell® NetWare®	SCO™ UNIX®
IBM® OS/2® LAN Server	UnixWare®
Windows NT™ and NT Advanced Server	Sun® Solaris®
HP-UX	IBM AIX™

Benefits	Features
Full HP UPS and system power management from your server or desktop	HP UPS Power Management Software constantly monitors network power and provides
	automatic, orderly, unattended server shutdown
	Scheduled network power down and restart optimise network operation and conserve power
	Real-time graphical view of power quality, load usage, and battery charge
	Full event and power-quality logging and historical data display
	Customisable user messages
Flexible and upgradeable to keep pace with new technology	Flash ROM on HP UPS SNMP card and standard I/O slot permit easy adaptation to changing communication standards
	Add on batteries as your network grows to extend runtime during power loss
	Optional rack-mounting shelf
Low-maintenance, self-diagnosing HP UPS protects your network	Built-in self-diagnostics notify you when service is needed
	Remote diagnosis from anywhere on the network
	Two-year unit Exchange warranty
	Unparalleled HP service and support

Specifications

HP Uninterruptible Power Supplies Parameter	**HP PowerWise 1000 VA UPS (HP C4277B)**	**HP PowerWise 2100 VA UPS (HP C4278B)**
Electrical Input		
Voltage Rating (on-line operation)	220/230/240 Vac	220/230/240 Vac
Frequency Rating	50 Hz ±5%	50 Hz ±5%
Operating Voltage Range (including tolerance)	200276 Vac	200276 Vac
On-battery Voltage Threshold	<180 Vac	<180 Vac
Power Factor	>0.92 at full load	>0.92 at full load
Circuit Breaker	8 A	15 A
Connections	IEC 320 male coupler with detachable line cord (C14)	IEC 320 male coupler with detachable line cord (C14)
Electrical Output		
Maximum VA and Power	1000 VA; 700 W	2100 VA; 1500 W
Crest Factor	Up to 3:1	Up to 3:1
Load Power Factor	0.4 to 1.0 lead or lag	0.4 to 1.0 lead or lag
Nominal Voltage	220/230/240 Vac	220/230/240 Vac
Rms Voltage Regulation	±3%, under all load and line conditions	±3%, under all load and line conditions
Wave Form	Sine wave	Sine wave
Peak Current	13 A	28 A
Frequency	50 Hz ±1 Hz locked to ac line; ±0.5 Hz free-running	50 Hz ±1 Hz locked to ac line; ±0.5 Hz free-running
Distortion	£3% at full load, PF=1 £5% at full load, PF=0.7	£3% at full load, PF=1 £5% at full load, PF=0.7
Efficiency	85% typical at full load	85% typical at full load
Overload Protection	If 105% to 150% of rating, shuts down after 10 seconds	If 105% to 150% of rating, shuts down after 10 seconds

	If >150% of rating, shuts down in 0.5 seconds or less	If >150% of rating, shuts down in 0.5 seconds or less
Connections	3IEC 320 receptacles (C13)	3IEC 320 receptacles (C13)
Surge Let-through	<0.7% of peak (typical)	<0.7% of peak (typical)
Battery Units		
Standard Battery	Internal	External
Battery Voltage and Type	48 V, 7 Amp-hours, sealed lead acid	96 V, 7 Amp-hours, sealed lead acid
Typical Run Time	Full load: 10 min.; Half load: 22 min.	Full load: 9 min.; Half load: 20 min.
Battery Recharge Time	2 to 4 hours typical for single-battery system	2 to 4 hours typical for single-battery system
Physical		
Operating Temperature	10°C to 40°C (50°F to 104°F)	10°C to 40°C (50°F to 104°F)
Altitude	3,050 m	3,050 m
Humidity	095%, operating non-condensing at 40°C (104°F)	095%, operating non-condensing at 40°C (104°F)
Audible Noise at three meters	40 dbA	52 dbA
Dimensions	Width = 203 mm; Height = 230 mm; Depth = 529 mm	Width = 203 mm; Height = 230 mm; Depth = 529 mm
Unit Weight	22 kg (48 lbs) (with internal battery)	14 kg (30 lbs) (without external battery). See below for external battery dimensions.

Battery Pack Units		
Parameter	**For HP PowerWise 1000 VA UPS (HP C4621A)**	**For HP PowerWise 2100 VA UPS (HP C4622A)**
Dimensions	Width = 203 mm; Height = 121 mm; Depth = 529 mm	Width = 203 mm; Height = 121 mm; Depth = 529 mm
Weight	16 kg (35 lbs)	26 kg (57 lbs)

Regulatory Compliance
UL 1778
CSA 22.2 No. 107.1
FCC Class A; 47CFR, Part 15

HP Power Protection Products

Ordering Information	**Product Number/Description**	
1. Choose the power level required by your system.	HP C4277B HP PowerWise 1000 VA UPS Standard battery internal (included)	HP C4278B HP PowerWise 2100 VA UPS Standard battery external (included)
2. Specify up to five additional, extended-run battery packs.	For HP PowerWise 1000 VA UPS: HP C4621A Add-on battery pack	For HP PowerWise 2100 VA UPS: HP C4622A Add-on battery pack
3. Select the HP PowerWise Assistant power management software for your network operating system (documentation, interface cables, and diskettes included).	HP C4623B (HP OpenView and NetServer Assistant Utility included)	Novell NetWare 3.12, 4.01, 4.1
	HP C4624B HP C4625B HP C4626B	IBM® OS/2® LAN Server Windows NT, NTAS 3.5 SCO UNIX 3.2v4.2 UnixWare 1.1
	HP C4627B (includes DAT media)	HP-UX 9.05 IBM AIX 3.2 Sun Solaris 2.2, 2.3, 2.4
4. Specify optional accessories.	HP C4620A	SNMP Ethernet Interface Card for 10Base-T
	HP C4692A	SNMP Ethernet Interface Card for 10Base-T and ThinLAN
	HP C4628B	Cable Kit for Windows NT
	HP C4629B	Cable Kit for IBM AS/400
	HP C4630B	Cable Kit for Banyan VINES®

HP PowerWise UPS

L600 and L900 Uninterruptible Power Supply

Configuration guide for: Parameter   Ordering Information   Positioning
HP PowerWise UPS
Information subject to change without notice

Reliable and manageable power protection for networks

The HP PowerWise L600 and HP PowerWise L900 Uninterruptible Power Supplies offer reliable and manageable   power protection for workgroup and entry-level PC servers.   Network availability and reliability are absolute necessities for any network, whatever its size. HP is committed to providing cost-effective, fully-integrated   network solutions to its customers. This HP PowerWise L Series brings intelligent power management within the reach of all network administrators.

Manageable

HP PowerWise Assistant power management software provides
- Safe, unattended shutdown of your network during prolonged power-cuts
- A real-time graphical view of power quality, utility power, load usage, and battery charge, to assist in problem identification and resolution
- Scheduled self-test, shutdown and restart features, which   provide uptime assurance and server security
- Continual monitoring UPS status and warning in the case of problems

Intelligent local power management
- Has a communication   port directly connected to the server, providing safe, unattended shutdown
- Is compatible with the leading network operating systems

Reliable

Power protection that keeps networks up and running, with
- Advanced line interactive design for brownout and blackout protection
- Automatic voltage regulation to boost low-line voltages back to acceptable limits, conserving battery power
- Built-in surge suppression and EMI/RFI filtering to prevent hardware damage or "glitches" to server operation
- Sine wave output to reduce stress on critical computer components, and extend their life

Network uptime assurance, through
- Power-on self-test, which checks UPS, is operating when needed
- Front panel indicators and audible alarms to alert the user of power and UPS problems
- Replace battery indicator to give warning of battery problems
- Site-wiring check to alert the user of outlet wiring problems
- Standard two-year unit exchange warranty
- World-class HP service and support

Parameter

PARAMETER	HP POWERWISE L600 UPS (HP C4777B)	HP POWERWISE L900 UPS (HP C4778B)

Electrical Input		
Voltage and Frequency	187-264 Vac/47-53 Hz	187-264 Vac/47-53 Hz
Connections	1 - IEC 320 male coupler	1 - IEC 320 male coupler
Electrical Output		
Maximum VA/Power	600 VA; 400 W	900 VA; 600 W
Load Power Factor	0.67	0.67
Boost Capability (line mode)	Input voltage between 187 to 264 Vac will have output voltage 198 to 264 Vac. Boost increases output voltage 12% above input voltage if 187 to 196 Vac.	Input voltage between 187 to 264 Vac will have output voltage 198 to 264 Vac. Boost increases output voltage 12% above input voltage if 187 to 196 Vac.
Efficiency (line mode)	95% typical at full load	95% typical at full load
Nominal Voltage	230 Vac	230 Vac
Voltage Regulation	230 Vac +/- 5%	230 Vac +/- 5%
Frequency	50 Hz +/- 0.1 Hz	50 Hz +/- 0.1 Hz
Connections	IEC 320 receptacles	IEC 320 receptacles
Physical		
Noise Level	<45 dBA	<45 dBA
Operating Temperature	00C to 350C (320F to 950 F)	00C to 350C (320F to 950 F)
Relative Humidity	0 to 90%, non-condensing	0 to 90%, non-condensing
Dimensions	Width= 122mm Height=196mm Depth=342mm	Width=165mm Height=242mm Depth=445mm
Weight	13kg (28 lbs)	22kg (48 lbs)
Battery		
Battery Type	Sealed lead acid	Sealed lead acid
Battery Recharge Time	4 to 5 hours typical	4 to 5 hours typical
Typical Battery Run Time	Full load; 6 minutes	Full load; 10 minutes

Agency Compliance   UL 1778, CSA, 22.2 No. 107.1, FCC class A

Ordering Information

ORDERING INFORMATION	PRODUCT NUMBER / DESCRIPTION	
	HP C4777B(600 VA)	HP C4778B(900 VA)
1. Choose the power level required by your system	HP PowerWise L600 UPS	HP PowerWise L900 UPS
2. Select the HP PowerWise Assistant power management software for your network operating system (documentation, interface cables, and diskettes included).	HP C4623B	Novell® Netware® 3.12, 4.01
	HP C4624B	IBM® OS/2® LAN Server 2.1
	HP C4625B	Windows NT™, NTAS 3.5
	HP C4626B	SCO™ UNIX® 3.2v4.2, UnixWare®
	HP C4627B (includes DAT media)	HP-UX 9.05, IBM® AIX 3.2, Sun Solaris 2.2, 2.3, 2.4
3. Specify optional accessories	HP C4628B	Cable Kit for Windows NT™
	HP C4629B	Cable Kit for IBM® AS/400
	HP C4630B	Cable Kit for Banyan Vines©

HP NetServer Management Products

Information subject to change without notice

Reducing the Cost of Ownership Over the Life of Your Server

HP NetServer Navigator
    HP Configuration Assistant
    HP NetServer Assistant 2.2
    HP Diagnostic Assistant
    HP Information Assistant
HP Remote Assistant Card
HP Support Assistant
HP PowerWise Assistant

For an HP NetServer, life begins when you open the box. HPs new manageability suite helps control your costs from then on.

According to the Gartner Group, 84 percent of LAN costs occur after your initial equipment purchase. Your server is a complex system made up of numerous subsystems and components that need to be customised to accommodate your specific applications and business environment. A servers life cyclefrom hardware and software insta-llation, configuration, testing, and configuration verification through ongoing monitoring and administration, planning, and reconfigurationstarts when you take it out of the box.Given the complexity and costs associated with managing servers, doesnt it make sense to look for ways to reduce the costs? At HP, we believe it does. Thats why weve designed the complete set of management tools, or "assistants", described belowto make it easier and less costly to manage your servers over their lives:

- **HP NetServer Navigator** [1]

A bootable CD-ROM solution that drastically reduces configuration time; delivers the latest drivers to ensure smooth installation; automates predictive component failure monitoring, problem identification, and alerting; and provides fast, convenient access to a comprehensive HP NetServer reference library and intelligent troubleshooting capabilities.HP NetServer Navigator delivers all these capabilities through these assistants:

    HP Configuration Assistant
Makes it easy to install and configure your HP NetServer and drastically reduces configuration time.
    HP NetServer Assistant 2.2 [2]
Provides monitoring, proactive alerting, and problem identification for up to 100 devices on a network.[3]
    HP Information Assistant
Enables easy, task-oriented retrieval of information on the HP NetServer family through powerful search capabilities.
    HP Diagnostic Assistant
Throughout the life of your HP NetServer, this utility confirms the presence of system components and tests for the most common, real-world problems related to processors, system boards, memory, I/O ports, hard drives, SCSI buses, and other components.

- **HP Remote Assistant Card**

  Computer on an EISA card for remote management and trouble-shooting, including console redirection, reboot, monitoring, alerting, and recovery.

- **HP Support Assistant**

  A CD-ROM-based support tool that provides information on a wide range of HP products, including servers, PCs, printers, and networking equipment.

- **HP PowerWise Assistant** [4]

Software that monitors your HP Uninterruptible Power Supplies and alerts you of power loss via your HP OpenView

management console or pager, and gracefully shuts down your HP NetServer.

Comprehensive Toolset Simplifies Management, Cuts Costs

With HPs proactive management tools, youll identify and resolve problems before users start calling.

SAVE SPACE AND SANITY
T H E   C H A L L E N G E
Your bookshelves are loaded with server manuals, technical specs, and floppy disksbut you have no idea whats on the disks or whether the materials are up-to-date.
T H E   S O L U T I O N
On one compact, bootable CD-ROM, HP **NetServer Navigators** assistants make it easy to manage your servers. For example, to save your shelf spaceand your sanity**HP Information Assistant** offers online manuals, technical specifications, and other information designed to simplify server management.

SETUP - FROM START TO FINISH
T H E   C H A L L E N G E
You just opened the box containing your new HP NetServer. You need to set it up quickly but are concerned youll skip some important steps.
T H E   S O L U T I O N
Let HP Configuration Assistant step in and automatically guide you through installation and configuration, from A through Z.

WHICH WAY DO I GO?
T H E   C H A L L E N G E
Youve become accustomed to seeing phrases such as "some assembly required" or finding three manuals that say "read me first" when you open a box. How should you proceed?
T H E   S O L U T I O N
HP NetServer Navigator and its roadmap clearly delineate the steps for ensuring that the life of your server gets off to a successful start.

DISCOVER YOUR SERVERS
T H E   C H A L L E N G E
Youve been assigned responsibility for managing all the servers at your site. But no one seems to know how many there are, where theyre located, or what their model numbers or versions are.
T H E   S O L U T I O N
Just use HP NetServer Assistants "NetServers-at-a-Glance" function to easily and quickly discover all your servers and key information about them. You can customise this function and use it on a regular basis to keep tabs on your newly adopted family.

NEXT BEST THING TO BEING THERE
T H E   C H A L L E N G E
Youve done an excellent job man-aging the servers at your site. Recognising your accomplishments, your boss has asked you to manage the servers at your companys remote locations, too.
T H E   S O L U T I O N
Dont panic: HP Remote Assistant is everywhere you cant be. The key to managing more servers at remote locations is to let them manage themselvesand alert you if theres a problem. The award-winning HP Remote Assistant card permits lights-out server management, allowing you to connect with remote servers even when theyre down.

SWIFT TROUBLESHOOTING
T H E   C H A L L E N G E
Your predecessor underestimated the demands that would be placed on your HP NetServers. You need to reconfigure the servers, then verify your work.
T H E   S O L U T I O N
Use HP Diagnostic Assistant to comprehensively test and verify your system and subsystem components. Its great

for trouble-shooting, too.

A Suite of Assistants to Reduce Your Cost of Ownership

HP Configuration Assistant

Simplifies HP NetServer configuration
- Standard on HP NetServer Navigator
- User-friendly application that automatically guides you through the configuration process
- Integrated on-line help and key utilities ensure smooth configuration
- Express Mode automatically guides user through configuration using default variables and settings; Custom Mode allows user to select specific configuration steps
- Graphically summarises HP NetServer resources allocated to configured expansion cards
- Graphically displays HP NetServer expansion slots and cards that have been installed and configured
- Creates partition on the hard disk to store key utilities for future troubleshooting and support activities
- Provides suggestions for NOS installation and automatically creates customised diskette with NOS drivers and configuration files
- Automatically updates HP NetServers BIOS if not as current as BIOS on HP NetServer Navigator CD-ROM

HP NetServer Assistant 2.2

HP OpenView-based server management

Proactive Monitoring and Alerting
- Disk capacity threshold alert and usage tracking
- SCSI controller and device failure notification, co-developed with Adaptec®
- Predictive disk problem warning backed by HP proactive warranty replacement
- PC LAN adapter card performance statistics, configuration, and problem information[5]
- Error alerting and identification for servers Power-On Self Tests   HP ECC memory, HP Disk Array, HP PowerWise UPS management software[5] (available in North America and Europe only), and HP Remote Assistant card include management agents with event notification integrated into HP NetServer Assistant/HP OpenView alarm log
- Over-the-network temperature monitoring[6]

Easy-to-Use Troubleshooting Tools
- Intuitive error log messages for monitored subsystems
- HP Support Assistant floppy disk included
- View critical server information, such as BIOS version, EISA and PCI slot contents, SMP information, serial and parallel ports, and security status from a single network management console[8]
- HP NetServer "at-a-glance" utility for easy-to-view information on multiple servers[8]

HP OpenView 7.2 (100-node versionincluded with HP NSA 2.2)
- Autodiscovery and layout for IP/IPX devices
- Integrates common network devices
- SNMP management and MIB browser
- Consistent alarm and trap management
- Up/down status polling of servers and other network devices
- Data export (e.g., to spreadsheets)
- Three security levels

Customisable
- Control of management console from a remote PC, allowing the same features to be used at a local management console or non-network-connected remote PC
- Available tools list reflects selected server and its NOS

- Easy launch of third-party MS-DOS®/Windows™ utilities, such as American Power Conversions PowerChute plus®, or Cheyenne ARCserve, or Microsoft® Systems Management Server
- HP NSA Extensions can be added for advanced network management

HP NetServer Assistant Extensions

- This add-on product upgrades your HP NetServer Assistants OpenView 7.2 console to full HP Workgroup Node Manager functionality. (For proper instal-lation, HP NetServer Assistant 2.2 and HP OpenView 7.2 must be loaded.)
- Unlimited network discovery (extends 100-node limit of HP NSA 2.2)
- Integrated TCP/IP stack (Windows Sockets- and WinSNMP-compliant) with FTP, TFTP, ping, Telnet, SLIP, and PPP utilities
- Alarm forwarding to an HP OpenView for UNIX® consoles event log
- Paging and e-mail notification for HP OpenView alarms
- Visual Basic Custom Controls for creating SNMP management applications without programming

New in HP NSA 2.2!

- HP OpenView 7.2 enhancements, such as improved autodiscovery and layout for Banyan VINES® and other nodes; efficient, memory-saving FTP stack; and easy installation
- SCO™ UNIX server agents
- Enhanced voltage and temperature agents
- Now manages hot-swap and Fast and Wide SCSI drives9
- New SNMP NetWare® Server agents for browsing by Novell® NMS or HP OpenView-UX consoles
- Easy installation via HP Navigator CD-ROM
- HP NetServer "at-a-glance" utility

Supported Environments

- Supported across HP NetServer product line; standard on HP NetServer LF and LM (floppy version [D2333D]); included on HP NetServer Navigator, which is standard on HP NetServer LH, LS, and LC 5/100
- Management Console: HP OpenView for Windows 7.2 is included and runs on Windows 3.1, Windows for Workgroups 3.11, and Windows NT™ 3.5 (the Windows 16-bit API)
- NOS: Server agents for:
  Novell NetWare 3.12, 4.01, 4.02 (excluding SFT III)
  Windows NT Server 3.5 (including SMP)
  IBM® LAN Server and OS/2® 2.1, 2.11 (SMP) with IBM TCP/IP 2.0 or later; OS/2 Warp 3.0
  SCO™ UNIX® Release 3.2 v4.2
  Except where indicated in footnotes

HP Information Assistant

On-line HP NetServer reference library
Standard on HP NetServer Navigator
Easy-to-view, search, and print HP NetServer, NOS, and accessory information
Library of HP NetServer release notes, technology papers, and product catalogs
HP NetServer and NOS optimisation/tuning guidelines and suggestions

HP Diagnostic Assistant

Hardware verification and troubleshooting
- Standard on HP NetServer Navigator
- Tests SCSI subsystem to detect marginal cabling and termination
- Conducts rapid tests (less than two minutes) or continuous overnight or burn-in tests with error logging for entire HP NetServer or selected subsystems; each test shows estimated completion time
- User-friendly interface shows recom-mended replaceable units
- Can be controlled remotely through HP Remote Assistant card

HP Remote Assistant Card

Computer on an EISA card for remote control of server

Powerful Remote Control

- Access to server regardless of its state through on-board intelligence and battery backup
- Console redirection of servers monitor and keyboard to remote PC/workstation
- Remote reboot, power cycle, and shutdown
- Ability to remotely run the systems EISA Configuration Utility[7]

Hardware Monitoring and Alerting

- Continual temperature and voltage monitoring
- Bus utilisation tracking of high-usage peaks and averages
- Warning and critical threshold settings for monitored components
- Configurable paging for thresholds and events via external modem
- In-band information through SNMP MIB/traps and preconfigured alarm forwarding to HP NetServer Assistant[5]

Easy and Secure Access

- Robust security, including password and dial-back protection and notification of repeated illegal login attempts
- Remote PC access to card through terminal emulation (optimised Windows-based software included)
- 9-pin serial port for external connection

Automated Recovery and Troubleshooting Tools

- Graceful system shutdown on overheat
- Automatic Server Restart (ASR) and last screen dump saved on a system hang [7]
- DOS-level file transferring [7]
- Intuitive error and event messages saved in on-board memory
- QAPlus™ diagnostic tools included for remote [7] or local hardware troubleshooting, memory and interrupt maps, and performance testing

Supported Environments

- Supported across HP NetServer product line
- Management Console: Terminal emulator on Windows, Windows NT, HP-UX; can be launched within Novell NMS or HP NetServer Assistant
- Server NOS: Most functionality is independent of the NOS and has been tested on Novell NetWare, Windows NT, IBM LAN Server and OS/2, Microsoft LAN Manager and OS/2, SCO UNIX, and Banyan VINES, except where indicated in footnotes
- ASR drivers: Supported on Novell NetWare, Windows NT, and IBM OS/2 versions listed above for NSA 2.2; Microsoft LAN Manager; OS/2 1.3; SCO UNIX 3.2 v4.2; andSCO MPX 3.0

HP Support Assistant

On-line support information on HP products

- Looks and works like Windows help
- Fast text-search capabilities, keyword searches, and hotlinks among related topics
- Text and graphics can be printed
- This subscription service provides up-to-date information on HP NetServer, Vectra, LaserJet, and other networking products.

HP PowerWise Assistant[4]

Software for monitoring HP UPS

- Proactively monitors network power and provides automatic, orderly, unattended server shutdown
- Scheduled network power down and restart optimise network operation and conserve power
- Real-time graphical view of power quality, load usage, and battery charge
- Full event and power-quality logging and historical data display
- Customisable user messages
- Integrated HP OpenView and HP NetServer Assistant management applications

1 HP NetServer Navigator comes standard with HP NetServer LH, LS, and LC 5/100 models (LC 5/100 available Q4/95).
2 HP NetServer Assistant 2.2 comes standard on the HP NetServer Navigator CD-ROM and is also provided separately on 3.5-inch floppy disks, standard with HP NetServer LF and LM models and optional with other models.
3 For paging capabilities or to manage more than 100 network nodes, add the HP NetServer Assistant Extensions accessory (D3347B).
4 Available in North America and Europe only.
5 Available on NetWare and Windows NT at this time.
6 Temperature monitor built into HP NetServer LC, LH, and LS systems. Other HP NetServers support temperature monitoring if using an HP Remote Assistant card.
7 Banyan does not support a bootable DOS partition. Also, no Banyan ASR agent is available at this time.
8 Available with Novell NetWare, Windows NT, and OS/2, but not with SCO UNIX.
9 SCSI FLT (Fault) does not currently support Wide SCSI.

Technical Specifications

Ordering Information

HP NetServer Assistant 2.2	D2333D
(licenses use on one network management console and up to 100 servers)	
HP NSA 2.2 Extensions	D3347B
HP Remote Assistant	D2967B
HP PowerWise Assistant	
Novell NetWare 3.12, 4.01, 4.1	C4623B
IBM OS/2 LAN Server	C4624B
Windows NT, NT AS 3.5	C4625B
SCO UNIX 3.2 v4.2	C4626B
UnixWare 1.1	
HP-UX 9.05	C4627B
IBM AIX 3.2	
Sun Solaris 2.2, 2.3, 2.4	

System Requirements

		HP NetServer Assistant 2.2	HP Remote Assistant
Server	Hardware	HP NetServer connected to a LAN 500 KB max. of disk space (HP NSA 2.2 agent)	HP NetServer 3 MB max. of disk space (DOS partition) 200 KB max. of disk space (NOS) External modem 10 or connection through RS-232
	Software	(see page 2 for NOS versions)	MS-DOS 3.1 or later (bootable DOS partition) (see page 3 for NOS support)
Management Console	Hardware	386 or faster PC (486/33 or faster recommended), connected to a LAN with a CD-ROM drive accessible (optional 10) 10 MB max. of disk space 8 MB min. of RAM Modem to use Remote Console Control feature (optional)	Requirements for using bundled communication software 11 (optional): 386 or faster PC 2 MB max. of hard disk space Modem (9600 bps or faster recommended) or RS-232 connection
	Software	(see page 2 for NOS versions) Network client software (one or both): Novell NetWare NETX shell v3.26 or	MS Windows 3.1 or later 12 (optional) HP NetServer Assistant 2.1 or later uses in-band alarm feature (optional)

Novell NetWare VLM client v1.1
TCP/IP package using Windows
Socketsand preferably WinSNMP; HP
NSA Extensions include these
capabilities

HP NetServer Product Line

HP NetServer model	HP NetServer Navigator CD-ROM included	HP NetServer Assistant 2.2 floppy disks included
LC	--	optional
LC 5/100	yes	--
LF	--	yes
LM	--	yes
LH	yes	--
LS	yes	--

HP Remote Assistant Hardware Specifications

On-Board Features	32-bit EISA bus master cardoccupies single slot
	External 9-pin RS-232 connector
	Rear panel power-down reset switch
	80C186 12.5-MHz, 16-bit microprocessor
	256 KB 85ns Static RAM memory
	128 KB Flash ROM memory (firmware is customer-upgradeable)
	8 KB of nonvolatile (EEPROM) memory
Power Consumption	2 A at +5 V (10 W maximum)
	250 mA at +12 V (3 W maximum for trickle battery charge)
	1 A at +12 V (12 W maximum for fast battery charge)
Battery	Custom NiCad rechargeable 5-cell battery
	6 V, 1100 mAh
	Provides at least one hour of continuous card/modem usage

For additional information, please request the data sheets for HP NetServer systems, HP Service and Support, HP OpenView for Windows 7.2, and Workgroup Node Manager from an HP authorised reseller. Or call the HP FIRST fax retrieval system at 1-208-344-4809 from a fax machine outside the U.S. Or refer to the WWWeb at www.hp.com.

10 External modem should be AT-compatible with hardware flow control, and preferably 9600 bps or faster
11 CD-ROM drive required on network to use the HP Support Assistant CD-ROM that comes with HP NetServer Assistant.
12 HP Remote Assistant bundled communication software requirement. Or use any ANSI X3.64-compatible terminal emulator with a modem or RS-232 connection. For best results, use an ANSI color terminal that supports 25-line mode and IBM PC character set (as does HP Remote Assistant communication software).