



*HP Vectra VL*

Personal Computer  
with Pentium® Processor with MMX™  
Technology

### **Best-Performing Value-Priced Pentium PC**

#### **PCs that deliver**

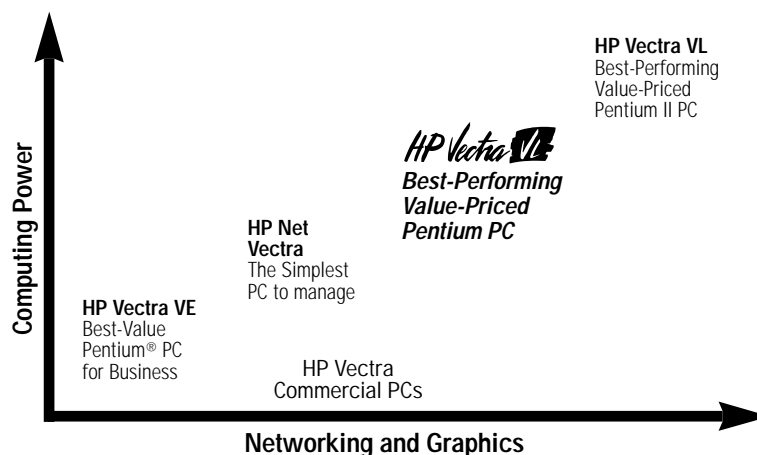
- Intel Pentium 166MHz, 200MHz, or 233MHz processor with MMX technology
- 64-bit S3 Trio64 V2 graphics controller
- Integrated 10/100Base-T LAN with HP NightDIRECTOR (on selected models)
- Ease of management with HP TopTOOLS
- Two stacked Universal Serial Bus (USB) connectors
- Windows® 95/Windows for Workgroups 3.11
- Windows NT® Workstation 4.0 bundles (on selected models)

## Standard Features

**Price, value, and performance.** Hewlett-Packard has designed a PC that combines value pricing with advanced performance and upgradability, along with a host of features tailored to suit all the office needs of your business: the HP Vectra VL PCs. These PCs feature Intel Pentium processors with MMX technology up to 233MHz, EDO DRAM for fast memory access, a standard 256- or 512-kilobyte pipeline-burst synchronous cache, and a PCI Bus Master controller for impressive performance in accessing the PC's 1.6, 2.5, or 4.0 gigabytes of SMART system hard disk. And graphics performance is superb, thanks to the S3 Trio64 V2 64-bit graphics engine on the PCI bus with 2 megabytes of video DRAM.

**Advanced manageability.** All HP Vectra VL PCs come with extras that make them easy to manage and use. HP TopTOOLS, a DMI standards-based desktop management application for end users and network administrators, enables remote and central inventory, troubleshooting, and access control. Selected models include built-in networking features such as an integrated 10/100Base-T Ethernet interface, multiprotocol boot ROM, extensive hardware and software compatibility testing, and an online administration guide with information on network setup and remote booting.

**HP quality.** Concerned that value pricing may mean compromised quality? Don't be. The HP Vectra VL PCs—like all HP Vectra PCs—are built to HP's unsurpassed standards, making them a fiscally sound choice for your business. And last but not least, they have HP's legendary quality, reliability, and support built right in. That's just one more reason why you should make it your business to consider the HP Vectra VL PC.



**HP Vectra VL**

Technical Data  
10/97-1  
Page 2 of 12

## PC System Features

<b>Package</b>	<ul style="list-style-type: none"> <li>• Expandable desktop and minitower models</li> <li>• HP Windows 95 Keyboard with additional keys and HP-exclusive instant-on StartKey</li> <li>• HP Mouse</li> </ul>
<b>Processor</b>	<ul style="list-style-type: none"> <li>• Intel Pentium 166MHz, 200MHz, or 233MHz processor with MMX technology</li> <li>• Intel 82 430 HX chipset</li> </ul>
<b>Cache</b>	<ul style="list-style-type: none"> <li>• <b>Desktop:</b> 256KB pipeline-burst synchronous</li> <li>• <b>Minitower:</b> 512KB pipeline-burst synchronous</li> </ul>
<b>Memory</b>	<ul style="list-style-type: none"> <li>• 16MB or 32MB 60ns EDO DRAM standard</li> <li>– Expandable to 192MB through six industry-standard SIMM slots<sup>1</sup></li> </ul>
<b>Operating system support and certification<sup>3</sup></b>	<ul style="list-style-type: none"> <li>• <b>HP-supported and -certified operating systems:</b> Windows 95, Windows for Workgroups 3.11, Windows NT Workstation 4.0, Windows NT Workstation 3.51, and OS/2 (v. 2.11, Warp 3.0, Warp 4.0)<sup>2</sup></li> </ul>
<b>Hard disk drive</b>	<ul style="list-style-type: none"> <li>• 1.6GB, 2.5GB, or 4.0GB Enhanced-IDE SMART (self-monitoring analysis and reporting technology)</li> </ul>
<b>Hard disk controller</b>	<ul style="list-style-type: none"> <li>• PCI Bus Master EIDE (DMA Mode 2) controller with PIO Mode 4 support</li> <li>• Up to four Fast-IDE devices supported</li> </ul>
<b>Floppy disk drive</b>	<ul style="list-style-type: none"> <li>• Third-height, 3.5-inch, 1.44MB floppy drive preinstalled</li> </ul>
<b>CD device</b>	<ul style="list-style-type: none"> <li>• HP 24X Max-speed IDE CD-ROM drive (selected models)</li> </ul>
<b>Audio subsystem<sup>4</sup></b>	<ul style="list-style-type: none"> <li>• 16-bit Sound Blaster Pro-compatible Plug-&amp;-Play sound card</li> <li>• Integrated, industry-leading, standards-based audio processor with compression/decompression algorithms</li> <li>• Built-in speaker and headphones</li> <li>• Advanced, software-based, real-time audio with automatic dynamic filtering for digital audio recording and playback</li> <li>• MPC-3-compliant, full-duplex audio</li> </ul>
<b>Built-in I/O</b>	<ul style="list-style-type: none"> <li>• One 25-pin parallel port (ECP/EPP bidirectional Centronics supporting IEEE 1284)</li> <li>• Two 9-pin serial ports (16550 UART)</li> <li>• Mini-DIN keyboard and mouse ports</li> <li>• One VESA feature connector for VGA pass-through</li> <li>• One 15-pin VGA connector</li> <li>• Two stacked Universal Serial Bus (USB) ports for easy reconfiguration, attachment, and hot swapping of external peripherals</li> <li>• One RJ-45 Ethernet connector (on LAN-ready models)</li> </ul>
<b>Mass storage shelves</b>	<ul style="list-style-type: none"> <li>• <b>Desktop—four shelves:</b> <ul style="list-style-type: none"> <li>– One front-accessible with standard, third-height, 3.5-inch floppy drive preinstalled</li> <li>– One front-accessible, half-height, 5.25-inch for floppy drive, CD-ROM drive, or tape backup</li> <li>– One front-accessible, third-height for 3.5-inch or 5.25-inch floppy drive, tape backup, PCMCIA drive, or internal second hard disk drive</li> <li>– One internal with standard, third-height, 3.5-inch hard disk drive preinstalled</li> </ul> </li> <li>• <b>Minitower—six shelves:</b> <ul style="list-style-type: none"> <li>– One front-accessible with standard, third-height, 3.5-inch floppy drive preinstalled</li> <li>– Three front-accessible, half-height, 5.25-inch for floppy drive, CD-ROM drive, or tape backup</li> <li>– Two internal, third-height for 3.5-inch hard disk drives (one preinstalled, one available)</li> </ul> </li> </ul>
<b>Total expansion slots</b>	<ul style="list-style-type: none"> <li>• <b>Desktop—four slots:</b> Three full-length (two PCI, one PCI/ISA); one short-length ISA</li> <li>• <b>Minitower—six slots:</b> Five full-length (two PCI, one PCI/ISA, two ISA); one short-length PCI/ISA</li> </ul>
<b>Upgradability</b>	<ul style="list-style-type: none"> <li>• Pentium processor with MMX technology support upgradability</li> <li>• ECC memory support</li> <li>• BIOS in flash EEPROM for convenient BIOS upgrades</li> <li>• Memory upgradable using pairs of 60ns EDO industry-standard SIMMs<sup>1</sup></li> <li>• Cache upgradable to 512KB</li> </ul>

<sup>1</sup> To achieve the maximum memory configuration, original SIMM modules must be replaced with 32MB SIMMs. HP recommends and supports only HP-supplied memory upgrade modules.

<sup>2</sup> Some models contain two Microsoft® operating systems: Windows 95 and Windows for Workgroups 3.11. You must make a one-time selection of the operating system you want to use. Once your selection is made, you may not change it unless you purchase a separate license.

<sup>3</sup> Certification may be pending at product release.

<sup>4</sup> Selected models.



## Graphics Subsystem

<b>Video graphics</b>	<ul style="list-style-type: none"> <li>• Integrated, 64-bit S3 Trio64 V2 video controller on PCI bus</li> <li>• Supports DDC2b for Plug-&amp;-Play detection of monitor</li> </ul>																								
<b>Memory</b>	<ul style="list-style-type: none"> <li>• 2MB 50ns DRAM standard</li> </ul>																								
<b>Resolutions</b>	<p>HP Ergonomic Modes support these non-interlaced resolutions for Windows 95, Windows for Workgroups, Windows NT, and OS/2:</p> <table border="1"> <thead> <tr> <th>Resolutions</th> <th>256 colors</th> <th>64K colors</th> <th>16.7M colors</th> </tr> </thead> <tbody> <tr> <td>640 × 480</td> <td>60–85Hz</td> <td>60–85Hz</td> <td>60–85Hz</td> </tr> <tr> <td>800 × 600</td> <td>60–85Hz</td> <td>60–85Hz</td> <td>60–85Hz</td> </tr> <tr> <td>1024 × 768</td> <td>60–85Hz</td> <td>60–85Hz</td> <td></td> </tr> <tr> <td>1280 × 1024</td> <td>60–85Hz</td> <td></td> <td></td> </tr> <tr> <td>1600 × 1200</td> <td>60Hz</td> <td></td> <td></td> </tr> </tbody> </table>	Resolutions	256 colors	64K colors	16.7M colors	640 × 480	60–85Hz	60–85Hz	60–85Hz	800 × 600	60–85Hz	60–85Hz	60–85Hz	1024 × 768	60–85Hz	60–85Hz		1280 × 1024	60–85Hz			1600 × 1200	60Hz		
Resolutions	256 colors	64K colors	16.7M colors																						
640 × 480	60–85Hz	60–85Hz	60–85Hz																						
800 × 600	60–85Hz	60–85Hz	60–85Hz																						
1024 × 768	60–85Hz	60–85Hz																							
1280 × 1024	60–85Hz																								
1600 × 1200	60Hz																								
<b>Available graphics drivers</b>	<ul style="list-style-type: none"> <li>• Windows 95 and Windows for Workgroups 3.11 drivers (preloaded); HP-tested OS/2 (v. 2.11, Warp 3.0, Warp 4.0), Windows NT 3.51, and Windows NT 4.0 drivers available from HP Vectra PC Support Web Site (<a href="http://www.hp.com/go/vectrasupport">www.hp.com/go/vectrasupport</a>), HP BBS Library, CompuServe™, and America Online</li> </ul>																								

## Communication Features

<b>Ethernet LAN interface</b>	<ul style="list-style-type: none"> <li>• 32-bit PCI Bus Master 10/100Base-T Ethernet controller<sup>1</sup></li> <li>• LAN Remote Power On/Off support (in 10Base-T mode)</li> <li>• Low CPU usage releases resources for local user tasks</li> </ul>
<b>Preconfigured networking</b>	<ul style="list-style-type: none"> <li>• Ultra-fast installation</li> <li>• Media Access Control (MAC) address visible from PC configuration summary screen</li> <li>• Preconfigured Novell and Microsoft network clients</li> </ul>
<b>Boot ROM</b>	<ul style="list-style-type: none"> <li>• Integrated, multiprotocol boot ROM for Novell and Microsoft environments<sup>1</sup></li> </ul>
<b>Network administration guide</b>	<ul style="list-style-type: none"> <li>• Online information on remote booting and network setup in all supported environments</li> </ul>
<b>Easy driver updates</b>	<ul style="list-style-type: none"> <li>• Latest LAN information and drivers available from HP Vectra PC Support Web Site (<a href="http://www.hp.com/go/vectrasupport">www.hp.com/go/vectrasupport</a>), HP BBS Library, CompuServe, and America Online</li> </ul>
<b>Network client certification</b>	<ul style="list-style-type: none"> <li>• Certified to run as a client PC in Microsoft, Novell, Banyan VINES<sup>1</sup>, DEC PathWorks<sup>1</sup>, and IBM network operating system environments</li> </ul>
<b>Internet ready</b>	<ul style="list-style-type: none"> <li>• Microsoft Internet Explorer (Windows 95 and Windows NT Workstation 4.0 models)</li> </ul>
<b>Available LAN drivers</b>	<ul style="list-style-type: none"> <li>• Novell NetWare 3.x/4.x clients; Windows 95, Windows for Workgroups 3.11, Windows NT 4.0, and Windows NT 3.51 clients; IBM OS/2 Warp Connect</li> </ul>
<b>Other connections</b>	<ul style="list-style-type: none"> <li>• Optional HP Vectra Coax Module (D3979A)</li> <li>• Tested with leading Token Ring adapters</li> </ul>

<sup>1</sup> LAN models only.

## Cost of Ownership

<b>Ergonomic/ environmental design</b>	<ul style="list-style-type: none"> <li>• Low-noise fan for temperature control</li> <li>• Ergonomic video modes supporting non-interlaced resolutions up to 1280 × 1024 and refresh rates up to 85Hz</li> <li>• EPA ENERGY STAR®-certified (most systems and displays)</li> <li>• Blue Angel-certified</li> <li>• CFC-free manufacturing process; single plastic for easy recycling</li> <li>• On-board removable battery system to save setup time</li> <li>• Advanced Power Management (APM) 1.2 with “standby” and “suspend” modes for reduced power consumption</li> <li>• HP-exclusive Vectra Ergonomic Power Solution with HP Keyboard start and HP Soft Power Down</li> </ul>						
<b>Serviceability/ ease of setup and service</b>	<ul style="list-style-type: none"> <li>• Simplified service; all internal components easily accessible and replaceable:               <ul style="list-style-type: none"> <li>– Fast chassis removal; no screws</li> <li>– Fast removal of power supply for unobstructed access to system board; no screws</li> <li>– Fast slide-out of system board</li> </ul> </li> <li>• BIOS stored in flash EEPROM for fast and easy upgrades</li> <li>• Processor upgradable (when available)</li> <li>• Setup program in flash ROM</li> <li>• Automatic detection of major components at power-on</li> <li>• Power-on self test (POST) displays startup errors; suggests solutions</li> </ul>						
<b>Warranty</b>	<ul style="list-style-type: none"> <li>• Three-year limited warranty (1-year on-site, next-business-day; 2-year carry-in parts and labor)</li> <li>• Warranty upgrade to 3-year on-site service with 4-hour maximum response time available at an extra charge</li> </ul>						
<b>Support</b>	<ul style="list-style-type: none"> <li>• Industry-leading technical support program:               <ul style="list-style-type: none"> <li>– One year free phone support from HP's customer support center for questions covering PC setup and configuration, operating system and installation and configuration, and hardware diagnosis<sup>1</sup></li> <li>– Product and technical support information via HP FIRST (fax retrieval system), the HP Vectra PC Support Web Site (<a href="http://www.hp.com/go/vectrasupport">www.hp.com/go/vectrasupport</a>), and HP's free electronic bulletin board available 24 hours a day, 7 days a week</li> </ul> </li> </ul>						
<b>Preinstalled software</b>	<ul style="list-style-type: none"> <li>• Windows 95/Windows for Workgroups 3.11<sup>2</sup> or Windows NT Workstation 4.0</li> <li>• Easy-to-use Vectra Pack utilities:               <table style="width: 100%; border: none;"> <tr> <td style="padding-left: 20px;">– Dashboard 2.0 desktop organizer (WfW 3.11 only)</td> <td style="padding-left: 20px;">– HP TopTOOLS</td> </tr> <tr> <td style="padding-left: 20px;">– HP User Tool (WfW 3.11 only)</td> <td style="padding-left: 20px;">– HP-Lock</td> </tr> <tr> <td style="padding-left: 20px;">– Discover Your HP Vectra (Windows 95 only)</td> <td style="padding-left: 20px;">– HP-Off</td> </tr> </table> </li> </ul>	– Dashboard 2.0 desktop organizer (WfW 3.11 only)	– HP TopTOOLS	– HP User Tool (WfW 3.11 only)	– HP-Lock	– Discover Your HP Vectra (Windows 95 only)	– HP-Off
– Dashboard 2.0 desktop organizer (WfW 3.11 only)	– HP TopTOOLS						
– HP User Tool (WfW 3.11 only)	– HP-Lock						
– Discover Your HP Vectra (Windows 95 only)	– HP-Off						

<sup>1</sup> Not available in all countries.

<sup>2</sup> This product contains two Microsoft operating systems. You must make a one-time selection of the operating system you want to use. Once your selection is made, you may not change it unless you purchase a separate license.

## PC Management Features<sup>1</sup>

### Desktop Management Interface (DMI)

- Industry's most comprehensive DMI implementation
- Allows access to 350+ PC attributes, providing detailed information on HP Vectra PC and its components
- Full implementation of DMI PC System Groups
- Instrumented DMI BIOS
- Implementation of DMI monitor and LAN interface card groups
- HP Vectra PC DMI extensions permit advanced management of inventory, configuration, passwords/password control, hardware security, power management, and health monitoring
- Preloaded DMI
- Remote DMI agents to enable remote PC management with HP OpenView

### HP TopTOOLS

- Integrated, easy-to-use desktop management application for efficient inventory, configuration, fault, and security management
- Fully DMI compliant
- Real-time local and remote monitoring and management of 350+ HP Vectra PC attributes
- Integrated into HP OpenView professional suite and HP OpenView Network Node Manager for Windows NT for real-time remote management of DMI-compliant PCs
- Network-wide administration, troubleshooting, and help desk support from central console
- End-user and network administrator alerting for potential errors and problems
- Local and remote editing of DMI "SET" attributes
- AssetTOOLS**—efficient inventory and asset management of more than 100 PC attributes
  - Complete inventory data for system, processor, hard drive, monitor, and network interface card, such as manufacturer, model, and serial number
  - Asset tag for system
  - System, video, and flash memory
  - Number of SIMM slots and number of SIMM slots used
  - Shows number of installed disk drives and ports
  - Tracks and edits user name, phone number, and PC location
  - PC serial number stored in non-volatile memory
  - Stores and edits customized asset label ("tattoo") of up to 80 characters
  - Explore PC retrieves information from any DMI-compliant PC in an easy-to-understand, explorer-style format
- ConfigTOOLS**—efficient configuration management and troubleshooting of more than 100 PC attributes
  - Comprehensive retrieval of configuration, such as BIOS manufacturer and version, operating system, system cache, logical memory, and hard disk characteristics
  - Remotely lock/unlock PC keyboard, mouse, and power-on/-off buttons simultaneously to prevent user interruption during update tasks
  - Enable/disable PC booting from remote server or floppy drive for remote configuration
  - Remote reboot capability to activate new configuration
- FlashTOOL**—allows administrator to remotely upgrade BIOS on multiple PCs simultaneously
  - Safe and secure in case of network problems
  - Prevents "flashing" wrong BIOS version to a PC
  - Also works locally for single PC
- SafeTOOLS**—permanent PC health monitoring and fault protection to prevent damage and data loss
  - SMART (self-monitoring analysis and reporting technology) system monitors hard disks and alerts to predict failures
  - Power-on-self-test (POST) error reporting
  - End-user and network administrator notification of potential problems, with suggestion for problem resolution or appropriate next steps
- ProtectTOOLS**—unauthorized PC access prevention, consistent security schema implementation
  - Local and remote monitoring and configuration of HP Vectra PC advanced security features
  - Remote security feature monitoring/configuration/administrator password changes on multiple PCs simultaneously
  - Remote control of keyboard, mouse, and power on/off buttons
  - Remote recovery from "I forgot my password" problem
  - View multiple-level password status and history

<sup>1</sup> On some models, HP TopTOOLS, DMI software, remote DMI agents, and the HP Microsoft SMS MIF generators are not preloaded but are available from HP Vectra PC Support Web Site ([www.hp.com/go/vectrasupport](http://www.hp.com/go/vectrasupport)), HP BBS Library, CompuServe, and America Online.

## PC Management Features<sup>1</sup>

<b>Advanced security</b>	<ul style="list-style-type: none"> <li>• Configuration settings and passwords stored in non-erasable, serial EEPROM to protect against corruption and unauthorized modifications</li> <li>• Two-level password protection with maximum password length extended to 32 characters (meets C2-level security requirements)</li> <li>• Administrator password required to change configuration and security settings</li> <li>• Ability to limit password validity time and number of log-in retries</li> <li>• Password-protected I/O port and floppy and hard drive enable/disable options</li> <li>• Hard disk drive access control</li> <li>• Parallel and serial port usage control</li> <li>• Chassis keylock and security bracket</li> </ul>
<b>HP NightDIRECTOR</b>	<ul style="list-style-type: none"> <li>• Using LAN Remote Power technology, allows PCs to be remotely woken up from sleep and power-off modes for system administration during off-hours to minimize business disruption (LAN models in 10Base-T mode only)</li> <li>• Allows PC to be powered off or shut down after completion of management tasks (LAN models in 10Base-T only)</li> </ul>
<b>Management hardware</b>	<ul style="list-style-type: none"> <li>• Network-ready PCs with integrated Ethernet LAN, preconfigured networking, and preloaded LAN drivers to minimize installation time (LAN models only)</li> <li>• Integrated, multi-protocol boot ROM for Novell and Microsoft networks (LAN models only)</li> <li>• ROM socket for optional third-party TCP/IP boot ROM and virus protection firmware (LAN models only)</li> <li>• Flash EEPROM for convenient BIOS upgrades</li> <li>• Self-monitoring SMART system hard disks for predictive fault management</li> <li>• Surge-protected power supplies</li> </ul>
<b>Support software</b>	<p>Easy access to latest versions of drivers, BIOS, utilities, software patches, troubleshooting information, manuals, and technical documentation</p> <ul style="list-style-type: none"> <li>• HP Support Assistant CD-ROM subscription service</li> <li>• Free HP Vectra PC Support Web Site access</li> <li>• Free HP BBS Library access</li> <li>• Internet FTP</li> <li>• HP Forum on CompuServe</li> <li>• HP TopTOOLS, DMI software, remote DMI agents, and HP Microsoft SMS MIF generators available through above services</li> </ul>
<b>HP OpenView<sup>2</sup></b>	<p>Complete, remote administration of all manageable HP Vectra corporate PC attributes with HP OpenView professional suite or OpenView Network Node Manager for Windows NT (optional)</p> <ul style="list-style-type: none"> <li>• Common network management platform for all network devices</li> <li>• DMI and SNMP industry-standards-based management</li> <li>• Support for TCP/IP and IPX protocols</li> <li>• Consistent alarm management and paging</li> <li>• Alarm forwarding to HP OpenView for UNIX®</li> <li>• HP NightDIRECTOR integrated into HP OpenView professional suite to remotely power on/off HP Vectra PCs (LAN models in 10Base-T mode only)</li> <li>• Allows administrator to remotely: <ul style="list-style-type: none"> <li>– Auto-discover, lay out, and manage all DMI-compliant networked PCs</li> <li>– Retrieve and manage all DMI-supported PC attributes using HP TopTOOLS</li> <li>– Query multiple PCs, management groups, and attributes to create accurate inventory tables</li> <li>– Export data to spreadsheet programs and word processors</li> <li>– Repeatedly get and display data automatically</li> </ul> </li> </ul>
<b>LAN management application support</b>	<ul style="list-style-type: none"> <li>• Remote management by leading LAN management applications such as Asset Software International (ASI) AssetPRO, Intel LANdesk Management Suite, McAfee Saber LAN Workstation, Microsoft Systems Management Server, Symantec Norton Administrator for Networks, HP OpenView, HP AssetView, and IBM TME10 NetFinity</li> </ul>

<sup>1</sup> On some models, HP TopTOOLS, DMI software, remote DMI agents, and the HP Microsoft SMS MIF generators are not preloaded but are available from HP Vectra PC Support Web Site ([www.hp.com/go/vectrasupport](http://www.hp.com/go/vectrasupport)), HP BBS Library, CompuServe, and America Online.

<sup>2</sup> HP OpenView professional suite and Network Node Manager for Windows NT are not delivered with HP Vectra PCs.

## PC Management Features

### HP OpenView professional suite<sup>1</sup>

- HP OpenView plus the following HP network management tools and third-party management applications in one box to reduce the costs of heterogeneous network management:
  - HP OpenView for Windows Workgroup Node Manager—baseline view of your network through autodiscovery, mapping, polling, and alarm/trap status messages
  - HP AdvanceStack Assistant for Windows—SNMP-based application for advanced, network-wide traffic monitoring and management for HP hubs, switches, and bridges
  - HP JetAdmin printer management software—easy, remote installation, configuration, and management of network-connected HP printers and plotters
  - HP PowerWise Assistant—easy-to-use management tool for HP PowerWise UPS
  - HP TopTOOLS—real-time viewing, monitoring, and administration of DMI-compliant PCs
  - HP NetServer Assistant—management, monitoring, proactive alerting, and problem identification for HP server components
  - HP NetMetrix/Win—performance, traffic, and network status baselining to provide information on network health
  - HP Exposé by Symantec—proactive monitoring, control, and alerts for Novell NetWare and Windows NT network operating system management
  - Web Browser—allows you to use any browser to discover and manage http devices
  - Norton pcANYWHERE—fast, easy way to remotely access Windows 95 or Windows NT applications and data from a home or office PC
  - Saber LAN Workstation from McAfee—complete NetWare and Windows NT network management tool (license for one server and ten PC nodes)
  - Norton Administrator for Networks from Symantec—integrated set of tools for centrally administering desktop computers across a LAN (license for one server and ten PC nodes)
  - Notify! Connect from Ex Machina—paging to remotely notify network manager of network devices status changes

### Rollout desktop management services<sup>2</sup>

- HP's Computing Services and Support offers maximum flexibility for companies that want to supplement internal resources with external expertise while maintaining control of MIS. HP offers comprehensive support for the efficient rollout of desktop management in client/server environments, providing:
  - Systems management—management and operations outsourcing services for distributed client/server environments
  - Network management—flexible, secure network management and administration for networked environments
  - Enterprise desktop management services—integrated solutions for the entire desktop environment life cycle, including planning, acquisition, deployment, operational support, and technology refresh services
  - Business recovery—flexible services to keep businesses operating in case of a disaster
  - Technology financing—flexible plans to help put the latest technology to work without the expense or risk of owning it
  - Technology refresh—programs to help you find flexible ways to avoid getting locked into dated technology
  - Consulting—IT consulting, education, and systems integration support from HP Professional Services

<sup>1</sup> HP OpenView professional suite and Network Node Manager for Windows NT are not delivered with HP Vectra PCs.

<sup>2</sup> HP's rollout desktop management services are not delivered with HP Vectra PCs.



## Optional Accessories

<b>Memory upgrades<sup>1</sup></b>	<ul style="list-style-type: none"> <li>• <b>Available EDO SIMMs</b> (192MB maximum EDO DRAM):             <ul style="list-style-type: none"> <li>– 8MB (2 × 4MB), 60ns EDO SIMMs (D3646B)</li> <li>– 16MB (2 × 8MB), 60ns EDO SIMMs (D3647B)</li> <li>– 32MB (2 × 16MB), 60ns EDO SIMMs (D3648B)</li> <li>– 64MB (2 × 32MB), 60ns EDO SIMMs (D4543A)</li> </ul> </li> <li>• <b>Available ECC SIMMs:</b> <ul style="list-style-type: none"> <li>– 16MB (1 × 16MB), FPM-60ns ECC SIMMs (D4891A)<sup>2</sup></li> <li>– 32MB (1 × 32MB), FPM-60ns ECC SIMMs (D4892A)<sup>2</sup></li> </ul> </li> <li>• 512KB pipeline-burst synchronous cache (D4599A)</li> </ul>
<b>Data storage</b>	<ul style="list-style-type: none"> <li>• <b>Mounting devices:</b> <ul style="list-style-type: none"> <li>– Set of five 3.5-inch side-mounting rails for non-HP devices (D3566A)</li> <li>– Set of five 5.25-inch DAT/CD-ROM mounting rails for non-HP devices (D2880A)</li> </ul> </li> <li>• <b>Supported hard disk drives:</b> <ul style="list-style-type: none"> <li>– 1.6GB 5400rpm Ultra ATA/33 (D2679A)</li> <li>– 2.5GB 5400rpm Ultra ATA/33 (D2678A)</li> <li>– 4.3GB 5400rpm Ultra ATA/33 (D2677A)</li> </ul> </li> </ul>
<b>Video monitors</b>	<ul style="list-style-type: none"> <li>• Full range of standard and ergonomic HP video monitors</li> </ul>
<b>LAN accessories</b>	<ul style="list-style-type: none"> <li>• HP 10/100Base-T NightDIRECTOR/10 Ethernet card (bulk pack of 10) (D3998A)</li> </ul>
<b>Setup and user guides</b>	<ul style="list-style-type: none"> <li>• HP Vectra VL Desktop PC User Manual (D4550A)</li> <li>• HP Vectra VL Minitower PC User Manual (D4570A)</li> </ul>
<b>Archiving/backup devices</b>	<ul style="list-style-type: none"> <li>• <b>High-capacity floppy disk drive:</b> <ul style="list-style-type: none"> <li>– 100MB Iomega ZIP drive (D4390A)</li> </ul> </li> <li>• <b>Internal tape drive:</b> <ul style="list-style-type: none"> <li>– HP Colorado T1000 800MB Travan Tape Drive (C4329DA)</li> </ul> </li> </ul>
<b>Input devices</b>	<ul style="list-style-type: none"> <li>• HP Keyboard (C4725A)</li> <li>• HP Mouse (D3751B)</li> </ul>
<b>Multimedia accessories</b>	<ul style="list-style-type: none"> <li>• HP 8X-speed IDE CD-ROM drive (D4381A)</li> <li>• HP 24X Max-speed IDE CD-ROM drive (D4383A)</li> <li>• HP Audio kit (D5183A)<sup>3</sup></li> <li>• HP Multimedia Sound kit (includes 16-bit audio card and HP 24X Max-speed IDE CD-ROM drive (D5182A)</li> </ul>

<sup>1</sup> Memory must be installed in pairs.

<sup>2</sup> All EDO memory must be removed before adding ECC memory.

<sup>3</sup> Available to HP authorized resellers only.

## Configurations and Models<sup>1</sup>

Name/Processor	RAM	Cache	Hard		CD-ROM		Video RAM	LAN Interface	Operating System <sup>3,4</sup>	Product Number <sup>5</sup>
			Disk <sup>2</sup>		Device	Audio				
<b>Desktop models</b>										
Pentium MMX <sup>6</sup> 166MHz	16MB	256KB	1.6GB EIDE	—	—	S3 Trio64 V2	2MB DRAM	—	W95/WfW 3.11	D4592A
	16MB	256KB	1.6GB EIDE	—	—	S3 Trio64 V2	2MB DRAM	10/100Base-T	W95/WfW 3.11	D5630A
	16MB	256KB	2.5GB EIDE	—	—	S3 Trio64 V2	2MB DRAM	—	W95/WfW 3.11	D4593A
	16MB	256KB	2.5GB EIDE	24X	Yes	S3 Trio64 V2	2MB DRAM	—	W95/WfW 3.11	D4594B
	32MB	256KB	2.5GB EIDE	—	—	S3 Trio64 V2	2MB DRAM	—	WNT WS 4.0	D5632N
Pentium MMX <sup>6</sup> 200MHz	16MB	256KB	2.5GB EIDE	—	—	S3 Trio64 V2	2MB DRAM	—	W95/WfW 3.11	D4595A
	16MB	256KB	2.5GB EIDE	—	—	S3 Trio64 V2	2MB DRAM	10/100Base-T	W95/WfW 3.11	D5631A
	32MB	256KB	2.5GB EIDE	24X	Yes	S3 Trio64 V2	2MB DRAM	—	W95/WfW 3.11	D4596B
Pentium MMX <sup>6</sup> 233MHz	32MB	256KB	2.5GB EIDE	—	—	S3 Trio64 V2	2MB DRAM	—	W95/WfW 3.11	D5222A
<b>Minitower models</b>										
Pentium MMX <sup>6</sup> 166MHz	16MB	512KB	2.5GB EIDE	—	—	S3 Trio64 V2	2MB DRAM	—	W95/WfW 3.11	D4597A
	16MB	512KB	2.5GB EIDE	24X	Yes	S3 Trio64 V2	2MB DRAM	—	W95/WfW 3.11	D5220B
Pentium MMX <sup>6</sup> 200MHz	32MB	512KB	2.5GB EIDE	24X	Yes	S3 Trio64 V2	2MB DRAM	—	W95/WfW 3.11	D5221B
	32MB	512KB	2.5GB EIDE	—	—	S3 Trio64 V2	2MB DRAM	—	WNT WS 4.0	D5633N
Pentium MMX <sup>6</sup> 233MHz	32MB	512KB	4.0GB EIDE	24X	Yes	S3 Trio64 V2	2MB DRAM	—	W95/WfW 3.11	D5223B

<sup>1</sup> Model availability may vary from country to country. Check with your reseller for details.

<sup>2</sup> EIDE = Enhanced-IDE.

<sup>3</sup> Certain models come preloaded with two Microsoft operating systems: Windows 95 and Windows for Workgroups 3.11. You must make a one-time selection of the operating system you want to use. Once your selection is made, you may not change it unless you purchase a separate license.

<sup>4</sup> W95 = Windows 95. WfW = Windows for Workgroups. WNT WS = Windows NT Workstation.

<sup>5</sup> Language option must be specified; for example, "ABA" for U.S. English.

<sup>6</sup> Pentium MMX = Pentium processor with MMX technology.



# Specifications

## Physical Characteristics

### Desktop

**System Dimensions** (without keyboard): 16.5 inches wide × 15.3 inches deep × 4.9 inches high (42.0 cm × 39.0 cm × 12.5 cm)

**System Weight** (without keyboard): 24.8 lb (11.3 kg)

### Minitower

**System Dimensions** (without keyboard): 7.6 inches wide × 17.3 inches deep × 17.2 inches high (19.2 cm × 44.0 cm × 43.8 cm)

**System Weight** (without keyboard): 28.7 lb (13 kg)

**Keyboard Dimensions:** 18.3 inches wide × 7.0 inches deep × 1.3 inches flat (2.0 inches standing) (46.4 cm × 17.8 cm × 3.3 cm [5.1 cm])

## Acoustic Emission

Sound level (LwA): ≤40 dBA

- Sound pressure at operator position (LpA): <34 dB

## Environmental Conditions

- Operating temperature: 40° to 104° F (5° to 40° C)
- Nonoperating temperature: -40° to 158° F (-40° to 70° C)
- Operating humidity: 15% to 80% RH (noncondensing) at 104° F (40° C)
- Operating altitude: 10,000 ft (3,100 m)
- Nonoperating altitude: 40,000 ft (12,200 m)

Note: Operating temperature and humidity range may vary with data storage device.

## Input Voltage

### Desktop

- Auto-ranging, worldwide power supply: 100 to 240 VAC over 47 Hz to 63 Hz

### Minitower

- Manual input selection
- 100 to 127 VAC and 176 to 264 VAC over 47 Hz to 63 Hz

## Power Consumption

### Desktop

- 30 W to 40 W (typical)
- EPA-compliant in sleep mode

### Minitower

- 30 W to 40 W (typical)
- EPA-compliant in sleep mode

## Power Availability

### Desktop

- 100 W continuous
- For four accessory cards: 3.3 V at 6 A; 5 V at 13.5 A (total cumulative 13.5 A); -5 V at 0.1 A; +12 V at 4.5 A; -12 V at 0.3 A
- Continuous output on combined 5 V and 3.3 V; 65 W maximum

### Minitower

- 160 W continuous; 200 W maximum peak output
- For six accessory cards: 5 V at 20 A; 3.3 V at 12 A (total cumulative 20 A); -5 V at 0.2 A; +12 V at 4.4 A; -12 V at 0.5 A
- Continuous output on combined 5 V and 3.3 V; 100 W maximum

## Regulatory Compliance and Approvals

### Electromagnetic Compatibility

- FCC Part 15 Subpart J Class B (USA)
- CRC c1374 Class B (Canada)
- European EMC Directive 89/336/EEC amended by Directive 93/68/EEC
- IEC 801.2, IEC 801.3, IEC 801.4, IEC 555-2, IEC 1000-3-3
- GB 9254-88 (China)
- VCCI Class B (Japan)
- RRL Class B (Korea)
- AS/NZS3548 (Australia/New Zealand)
- BCIQ (Taiwan)
- CISPR 22: 1985 (International)

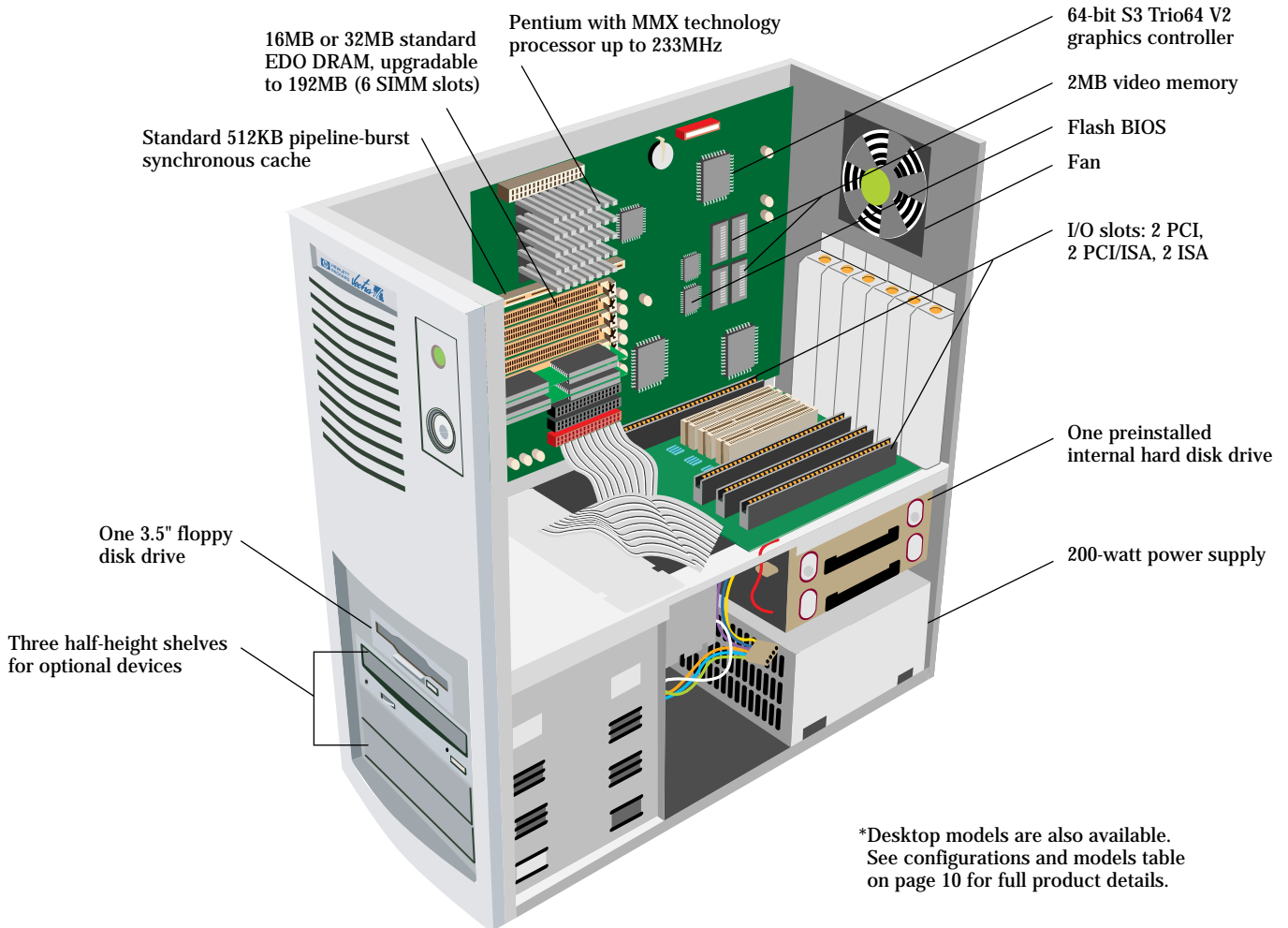
### Safety Approvals

- CSA C22.2 No. 950-M89 (Canada)
- UL 1950 listed (USA)
- NOM-019-SCFI-1993 (Mexico)
- SASO (Saudi Arabia)
- BS6301 (General Approval) (UK)
- IEC 950: 1991 + A1 + A2 + A3 + A4
- 73/23/EEC Low Voltage Directive amended by Directive 93/68/EEC
- EN 60950: 1992 + A1 + A2 + A3 (European Countries)
- TÜV (Germany)
- SAS (Singapore)
- GB4943 (China)
- European Eastern Countries compliance (Russia, Hungary, Czech Republic, Poland, Slovenia)

### Ergonomics

- ZH1/618 Compliance (Germany)

## Minitower Model\*



\*Desktop models are also available. See configurations and models table on page 10 for full product details.



All certifications may not be completed at product introduction. Please check with your HP reseller for certification status.

In a continuing effort to improve the quality of our products, technical and environmental information in this document is subject to change without notice.

As an ENERGY STAR Partner, HP has determined that these products meet the ENERGY STAR guidelines for energy efficiency.

© Copyright Hewlett-Packard Company 1997. All Rights Reserved. Reproduction, adaptation, or translation without prior written permission is prohibited except as allowed under the copyright laws.

CompuServe is a U.S. trademark of CompuServe, Inc. ENERGY STAR is a U.S. registered service mark of the United States Environmental Protection Agency. MS-DOS, Microsoft, Windows, and Windows NT are U.S. registered trademarks of Microsoft Corporation. Pentium and the Intel Inside logo are U.S. registered trademarks of Intel Corporation. MMX is a U.S. trademark of Intel Corporation. UNIX is a registered trademark in the United States and other countries, licensed exclusively through X/Open Company Limited.

For the latest information on HP Vectra PCs, visit HP's World Wide Web site at



<http://www.hp.com/go/vectra>