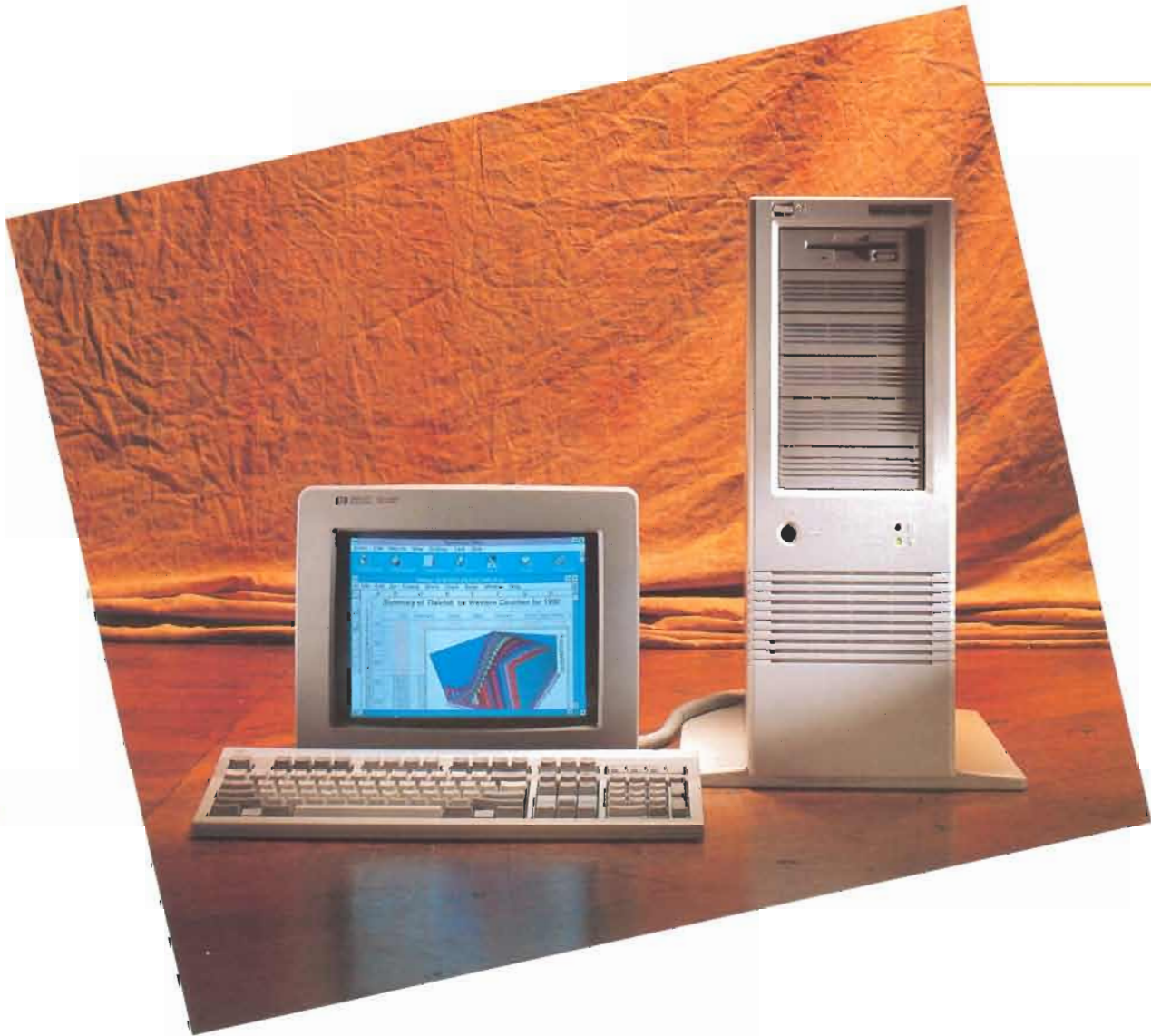

HP Vectra 486/25T PC

Technical Data



Mainframe Power at Your Desk

Built for mission-critical applications, this machine performs for the most advanced power user—processing at levels previously reserved only for minicomputers.

It's HP's Vectra 486/25T PC—offering you an i486 processor on an EISA-based PC. So you have backward compatibility with 80286 and 386 PC/AT (ISA) environments. And you have the option to increase its performance at your own pace.

But power and unmatched expandability aren't worth much without reliability. And that's what makes this PC so special. It comes from a technology leader with an unblemished reputation for reliability and engineering excellence.

What's more, the HP Vectra 486/25T PC holds up to 64 Mbytes of RAM, has minicomputer-sized hard disk storage capacity, and is ideal as a LAN server—supporting up to 64 users in any computing capacity. And with HP's high-resolution graphics controller, combined with the speed of the i486 processor, it's the ideal CAD system as well. All of this—places the HP Vectra 486/25T PC in quite a different personal computing realm.

Product Specific Features/Benefits

Features	Benefits
32-bit, 25 MHz, i486 processor with integrated coprocessor	Provides outstanding power and speed for demanding computer applications
EISA 32-bit I/O bus	Dramatically improves I/O performance while assuring full compatibility with thousands of industry-standard I/O cards
Full compatibility with MS-DOS [®] , Novell [®] NetWare [®] , OS/2, SCO [™] UNIX, and SCO Xenix	Enables you to use thousands of existing and future software applications
HP's custom burst-mode memory controller; memory is expandable from 4 to 64 Mbytes	Provides excellent performance and ample memory for the most demanding applications
Bus-mastered EISA SCSI-2 host bus adapter with SCSI-2 disk drives	Offers unparalleled performance in demanding multiuser or multitasking environments; excellent expandability and connectivity to SCSI peripherals
Choice of internal disk drives from 84- to 1,000-Mbyte storage capacity; SCSI, ESDI, and AT-embedded interfaces; 5¼ and 3½ inch form factors; optional external SCSI disk storage	Assures flexibility to meet all data storage requirements
Eight EISA accessory slots and six half-height mass-storage shelves	Meets future expansion requirements
2 serial and 1 parallel port(s)	Allows immediate hookup to peripherals (such as the industry-leading HP LaserJet printers) and host computers
Integrated mini-DIN keyboard and mouse ports	Provides industry-standard hardware compatibility and increases expandability. Allows you to connect a mouse (or other input device) without using up a slot on your PC
50-year tradition of quality products	Delivers PC products you can depend on for your mission-critical computing environment

Standard HP Vectra 486/25T PC Configurations

Model	Flexible Disk	Hard Disk	Controller/Host Adapter	Product Number
1	3½ inch, 1.44 Mbytes	None	None	D2219C
1	5¼ inch, 1.2 Mbytes	None	None	D2220C
170	3½ inch, 1.44 Mbytes	170 Mbyte AT	Embedded-AT	D2221C
440*	3½ inch, 1.44 Mbytes	440 Mbyte SCSI-2	EISA SCSI-2	D2222C
670*	3½ inch, 1.44 Mbytes	670 Mbyte SCSI-2	EISA SCSI-2	D2223C

*Available April 1991

Standard Features

System Processing Unit

- Intel i486 32-bit, 25-MHz microprocessor with integrated 8-Kbyte memory cache and coprocessor
- Eight Extended Industry Standard Architecture (EISA) I/O slots accepting 8-, 16-, or 32-bit add-on cards, including thousands of existing ISA cards
- Six 5¼ inch, half-height, front-access mass storage shelves
- Two serial RS-232C ports; one parallel Centronics port
- Clock/calendar and system configuration in CMOS RAM with battery backup
- PS/2-type mini-DIN connectors for keyboard and mouse
- Dual locks for system, keyboard, and mouse security
- Power-on password

Internal Memory

- HP burst-mode memory controller with 64-bit wide data path in main memory and zero-wait-state performance
- 4 Mbytes base memory, expandable to 64 Mbytes
- Shadow RAM accelerates BIOS-coded operations
- 64 Kbytes of ROM for BIOS; two sockets for additional 64 Kbytes of ROM

Keyboard

- Industry-standard 101-key layout with adjustable tilt
- Ergonomic keys with adjustable audio feedback and color-coded legends

Software

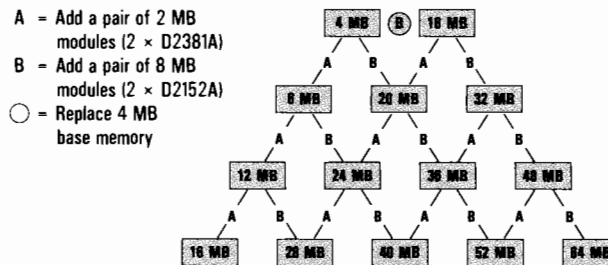
- EASY CONFIG. Advanced setup and configuration utility. Automatically configures EISA boards and certain ISA boards. Facilitates system setup. Includes configuration files for key I/O boards; and Dealer Configuration File Creation Guide for creating files not included.
- HP Memory Manager Program, which supports
 - Lotus®/Intel/Microsoft® (LIM) 4.0
 - Extended Memory Specification (XMS) 2.0
 - Microsoft Windows 3.0 386 Enhanced Mode
- HP EXMODE for changing SPU speed, adjusting keyboard click volume, and turning memory cache on and off

Optional Accessories

Memory

1-, 2-, 4-, and 8-Mbyte memory expansion kits, must be added in pairs; see Figure 1 for upgrade paths

Figure 1. HP Vectra 486/25T PC Memory Upgrade Path



Data Storage

Configurations: supports six internal data storage devices; up to four hard disks or up to four flexible disk devices, including 120-Mbyte tape backup

- Supported flexible disks
 - 5¼ inch, 1.2 Mbytes (45812A)
 - 3½ inch, 1.44 Mbytes (D1667A)
- Supported embedded AT hard disks (all 3½ inch with embedded controllers)
 - 84 Mbytes, 19 ms average seek time (D1666A)
 - 120 Mbytes, 17 ms average seek time (D1679A)
 - 168 Mbytes, 17 ms average seek time (D1680A)
- Supported ESDI hard disks (all 5¼ inch, full height)
 - 330 Mbytes, <17 ms average seek time (D1660A)
 - 670 Mbytes, <17 ms average seek time (D1661A)
- Supported SCSI-2 hard disks
 - 440 Mbytes, 16 ms average seek time, 5¼ inch, half height (D1685A)
 - 670 Mbytes, 12 ms average seek time, 5¼ inch, full height (D1686A)
 - 1 Gbyte, 15 ms average seek time, 5¼ inch, full height (D1687A)
- Supported tape drives
 - 120 Mbyte (D2045A)
 - 525 Mbyte SCSI tape drive (D2034A). Available Q3 1991.
- Supported controller and host bus adapters
 - EISA SCSI-2 single-ended host bus adapter (D1681A)
 - ISA SCSI single-ended host bus adapter (D1682A)
 - High-performance ESDI controller, 20 Mbit/sec (D1664A)
- HP external storage system (C2269A). Connects through external cable directly to Model 440 and Model 1000, or accessory host bus adapters. Supports:
 - 332 Mbyte, 664 Mbyte, 1 Gbyte SCSI disk drives (C2220A,* C2221A,* C2222A*)
 - 1.3 Gbyte DAT tape drive (C2224A*)
 - 590 Mbyte rewritable optical disk drive (C2227A*)

Super VGA Video

- HP Super VGA controller (D2382A), supports 640 × 480 IBM standard VGA resolution; MDA, CGA, EGA, Hercules graphic video standards; Super VGA mode (800 × 600); and 1024 × 768 high-resolution mode (interlaced). Standard 256-Kbyte video memory supports resolutions of:
 - 320 × 200 with 16 colors
 - 640 × 200 with 16 colors
 - 640 × 350 with 16 colors
 - 640 × 400 with 256 colors
 - 640 × 480 with 16 colors
 - 800 × 600 with 16 colors
 - 1024 × 768 with 4 colors (interlaced)
 - 132-column text mode
- Video memory upgrade kit (D2383A) adds 256 Kbytes of memory to HP Super VGA controller, supporting resolutions of 640 × 480 with 256 colors and 1024 × 768 with 16 colors (interlaced)

* For external storage system only, see above for internal mass storage accessories.



Optional Accessories (cont.)

Super VGA Video (cont.)

- Extended mode drivers for HP Super VGA controller: AutoCAD®; AutoShade, Lotus 1-2-3®; Symphony®; GEM/3, Generic CADD, P-CAD, Ventura Publisher, VersaCAD, Windows 286/386/3.0, WordPerfect, WordStar®
- HP Video Graphics Color Display, 14-inch (D1182A for 110 V and D1182B for 220 V), for use with HP Super VGA controller
- HP Monochrome Video Graphics Display, 14-inch (D1181W), a white-phosphor, monochrome VGA display for use with HP Super VGA controller
- Recommended high-resolution, interlaced displays (not supported): NEC Multisync 3D (14-inch), Seiko CM-1430 (14-inch)

High-Resolution Video

- HP Intelligent Graphics Controller (IGC) Model 10 (A1086A), supports resolutions up to 1024 × 768 with 16 or 256 colors
- HP IGC Model 20 (A1083A), supports resolutions of 1024 × 768 and 1280 × 1024 with 16 or 256 colors
- Both HP IGCs support VGA pass-through and include AutoCAD rel 9, 10, 11; AutoCAD/386 rel 10, 11; TIGA; DGIS; Windows 286/386/3.0; GEM, and CGI software drivers
- Standard VRAM: 0.5 Mbyte on HP IGC 10 and 1 Mbyte on HP IGC 20; 0.5-Mbyte VRAM Upgrade Kit (A1084A) for HP IGC 10 and 20
- 0.5-Mbyte DRAM Upgrade Kit (A1085A) for HP IGC 10 and 20 (on HP IGC 10, extension module A1087A required for DRAM above 0.5 Mbyte)
- HP High-Resolution Color Displays, 20-inch (D1187A) and 16-inch (D1188A): multi-sync capability provides resolutions ranging from 640 × 480 (VGA, 31.5 KHz) to 1280 × 1024 (64 KHz) in non-interlaced mode; used with A1083A and A1086A HP IGCs or with D2382A HP Super VGA controller (D1191A cable required with this controller)

System Software

- Microsoft MS-DOS 4.01: includes DOS Shell, Personal Applications Manager (PAM), and HP Vectra Disk Cache (D1151A** for 5¼ inch disks; D1151B** for 3½ inch disks)
- MS-DOS 3.3: includes PAM, Volume Expansion utilities, and disk-caching utility (45951D for 5¼ inch disks; 45951E for 3½ inch disks)
- Microsoft Operating System/2 (OS/2) 1.2 (D1302D** includes 5¼ inch and 3½ inch disks); requires at least 2.5 Mbytes RAM; 4 Mbytes recommended
- SCO UNIX System V/386 release 3.2.2 multiuser run-time operating system (D2046C** for 5¼ inch disks; D2046D** for 3½ inch disks)
- SCO VP/ix™ Integrated DOS Environment (D2052A**); requires SCO UNIX

Networking

- HP EtherTwist Network Adapter Cards
 - HP EISA 32-bit adapter card (27248A)
 - HP ISA 16-bit adapter card (27247A); HP ISA 8-bit adapter card (27245A)
- A full range of HP EtherTwist hubs, bridges, and transceivers; and HP network printer products

PC Multiuser

- Terminal Multiplexor Kit (D2040A): includes ISA interface card, 8-port terminal concentrator, host cable, and terminal cable
- Terminal Concentrator Kit (D2041A): includes 8-port terminal concentrator, host cable, and terminal cable
- HP 700/43 Entry-Level ASCII Terminal: amber (C1006A**), green (C1006G**), or soft-white (C1006W**) phosphor
- HP 700/44 PC-Terminal with industry-standard PC keyboard, sends either ASCII codes or PC key scancodes to host: amber (C1007A**), green (C1007G**), or soft-white (C1007W**) phosphor
- HP 700/32 VT320-compatible ANSI terminal: amber (C1017A**), green (C1017G**), or soft-white (C1017W**) phosphor

Other Accessories

- HP mouse with mini-DIN interface (C1413A)
- Serial/parallel interface card (24540B)
- Dual serial interface RS/232/422 card (24541B)

** Language option must be specified; for example, option ABA for U.S. English.

Documentation & Specifications

Technical Documentation

- HP Vectra 486 PC Hardware Technical Reference Manual (5958-5094)
- HP Vectra 486 PC System BIOS Technical Reference Manual (5959-5097)
- HP Vectra 486 PC Configuration and Service Manual (5959-5069)
- HP Vectra 486 PC Service and Configuration Self-Paced Training Kit—US VHS-format videotape (D2226-60001), includes Configuration and Service Manual

Physical Characteristics

System Dimensions (upright)

8.3 inches wide × 20 inches deep × 24 inches high (21 cm × 50 cm × 60 cm)

System Base Dimensions

14 inches wide × 20 inches deep (36 cm × 50 cm)

System Footprint

1.9 sq. ft. (0.18m²)

System Weight

(not including keyboard and monitor) 60 lbs (27 kg)

Keyboard Dimensions

18.4 inches wide × 7.8 inches deep × 1.4 inches flat (2.2 inches standing) (46.8 cm × 19.8 cm × 3.4 cm [5.5 cm])

Keyboard Weight

4.2 lbs (1.9 kg)

Environmental Conditions

- Operating temperature: 41° to 104°F (5° to 40°C)
- Non-operating temperature: -15° to 158°F (-40° to 70°C)
- Operating humidity: 15% to 80% over specified operating temperature range
- Operating altitude: 15,000 ft (4.6 km)
- Non-operating altitude: 50,000 ft (15.2 km)

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

Input Voltage

- Auto-ranging worldwide power supply
- 90 to 132 V AC at 47 to 63 Hz or 198 to 264 V AC at 47 to 63 Hz

Power Consumption

- 408 W maximum with 110 V supply
- 392 W maximum with 220 V supply
- 588 W peak with 110 V supply
- 539 W peak with 220 V supply

Heat

- 1392 BTUs/hour maximum peak

Power Availability

- 360 W peak for 30 sec duration, 264 W continuous
- 6 connectors for mass storage devices
- Power to backplane I/O connector slots on system board: 16.0 A at 5 V, 1.5 A at 12 V, 0.3 A at -5 V, 1.0 A at -12 V (maximum total for current slots)

Regulatory Compliance

Radio Frequency Interference

- FCC Class B (USA)
- FTZ 1046/84 Level B (Manufacturer's Declaration) (Germany)
- SABS approval
- VCCI approval class 2 (Japan)

Safety Approvals

- UL listed (USA)
- CSA certified (Canada)
- NEMKO (Norway)
- TUV certified (Germany)
- IEC 65/950 International Compliance

Datacomm

- Germany (FTZ) and United Kingdom—pending

Ergonomics

- Complies with German standard ZH1/618

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The Best Choice for Your Personal Computing Needs

The HP Vectra 486/25T PC is part of Hewlett-Packard's broad line of high-performance 286-, 386-, and i486-based PCs. For reliability, performance, and support, we're convinced it offers the best choice of i486-based PCs to handle your mission-critical personal computing needs.

And with our extensive network of authorized dealers—backed by more than 410 HP sales and service facilities around the world—you're assured of assistance or advice wherever, or whenever, you need it.

For more information or a demonstration, just contact the authorized dealer nearest you.

And we'll show you there really is a better way.

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