

HEWLETT-PACKARD

HP Vectra ES/12 Personal Computer

Data Sheet

Industry-Compatible Powerhouse

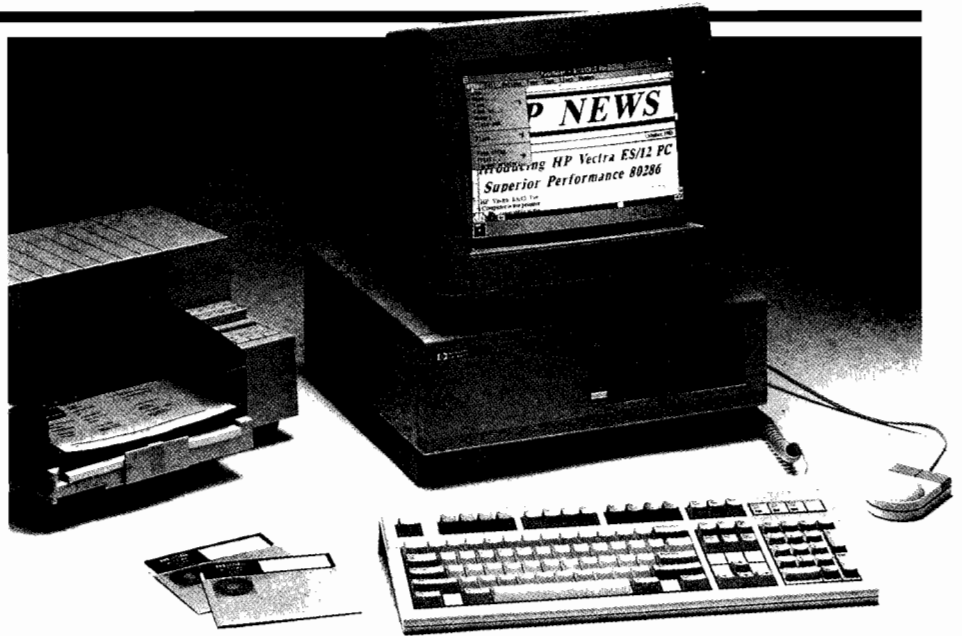
The HP Vectra ES/12 Personal Computer delivers superior performance in a desktop, 80286-based system. It has been designed to speed through your challenging office and technical applications by running them faster than many standard PC/AT compatible systems, and it has the capability to communicate easily with larger host computers.

In addition, the HP Vectra ES/12 PC offers versatility and the potential to grow as your needs grow, including the ability to run Microsoft's new OS/2 operating system.

The HP Vectra ES/12 PC is just one member of HP's product line of high-quality, industry-standard business workstations. The family includes a broad range of terminal and personal computer solutions for integrated computing environments.

Faster for Increased Productivity

The Vectra ES/12 PC is the ideal machine for your computation-intensive applications. Its 12 Megahertz 80286 microprocessor will make short work of your demanding tasks such as complex graphics, large databases, sophisticated spreadsheets, and desktop publishing. System



performance can be increased significantly by adding a numeric coprocessor, or the Vectra ES Expanded Memory Card. With this card, large spreadsheets and models can utilize up to 8 megabytes of high performance memory to handle sophisticated calculations quickly.

Compatibility with Growth Potential

With the HP Vectra ES/12 PC, you have a powerful, adaptable tool that can grow with you.

All models of the HP Vectra ES/12 PC include 640 Kbytes of memory, a serial and parallel interface, one standard 5.25 inch 1.2 Mbyte flexible disc drive, and a hard disc controller.

You can add a second 1.2 Mbyte drive, or HP's new 3.5 inch 1.44 Mbyte flexible disc drive. The 3.5 inch drive is ideal for data interchange with the HP Touchscreen PC or IBM's 3.5 inch drives. And the Vectra ES/12 comes in either 20 or 40 Mbyte models.

Seven industry-compatible accessory slots are available to configure a wide range of system accessories and enhancements.

The HP Vectra ES/12 PC's adherence to industry standards will help to maintain the value of your investment. In particular, it will run Microsoft's "next generation" operating system, OS/2, and the new applications written to take advantage of special OS/2 features.

Easy Connectivity to Larger HP Systems

The HP Vectra ES/12 PC offers much more than superb desktop PC performance. Every unit includes terminal emulation software to provide the valuable link to HP minicomputers and host-based resources such as high-speed printers, and large databases. Even if you need information from another vendor's host computer, Hewlett-Packard provides the communications link to tap those resources as well.

For shared filing, printing, and communications in a local area network, you can choose pre-assembled HP Vectra ES/12 PC models with the HP StarLAN adapter and software included.

Quality for Lasting Value

The name Hewlett-Packard is synonymous with excellence. HP's engineering, extensive testing, and quality controls provide products of superior reliability, outstanding quality, and exceptional value. A worldwide service organization is dedicated to maintaining your equipment in first-rate condition. Skilled support professionals provide valuable technical assistance and advice. With all these advantages, it is understandable that in survey after survey, Hewlett-Packard has been consistently ranked first in customer satisfaction.

HP Vectra ES/12 PC Configurations

All HP Vectra ES/12 PCs come with 640 Kbytes of user memory, a flexible disc controller, a hard disc controller, a serial port, a parallel port, and a 1.2 Mbyte flexible disc drive.

Model	Hard Disc (Mbytes)	Video Adapter
Model 10 D1310A	Not Included	Not Included
Model 20 D1320A	20	Not Included
Model 21 D1321A	20	Multimode Monochrome
Model 22 D1322A	20	EGA Color
Model 40 D1340A	40	Not Included
Model 41 D1341A	40	Multimode Monochrome
Model 42 D1342A	40	EGA Color

Features

System Processing Unit

- Intel 80286 16-bit microprocessor running at 12 MHz clock rate, switchable to 8 MHz from the keyboard
- 640 Kbytes RAM standard
- Seven IBM PC/AT-compatible accessory slots:
 - Two 8-bit slots
 - Five 16-bit slots (one occupied by Four-Function Controller Card)
- HP Expanded Memory Slot for use with HP Vectra ES Expanded Memory Card
- Four-Function Controller Card: Includes ST-506 hard disc and flexible disc controller, one serial port and one parallel port
- Three half-height data storage shelves. Two shelves suitable for flexible disc drives, the third shelf for a hard disc drive
- Socket for Intel 80287 numeric coprocessor
- Sockets for two additional ROM chips.
- System clock/calendar/system configuration with CMOS Random Access Memory (RAM) and battery backup

- One HP-Human Interface Link (HP-HIL) port allows up to seven HP-HIL devices (such as a mouse, graphics tablet, barcode reader) to be connected simultaneously without using an accessory slot
- Optional keylock provides system security

Internal Memory

- 64 Kbytes of ROM
- 640 Kbytes of RAM
- Memory expandable to 8 Mbytes

Note: MS[®]-DOS 3.2 can directly address a maximum of 640 Kbytes of RAM. Many applications support the Lotus/Intel/Microsoft Expanded Memory Specification and can access more than 640 Kbytes with an HP Vectra ES Expanded Memory Card.

Keyboard

- Detachable, typewriter-style, 101-key IBM PC/AT Enhanced Keyboard layout with adjustable tilt
- Industry standard DIN cable connector
- Full-travel, step-sculptured keys with tactile feedback and color-coded legends
- Separate numeric and cursor keypads

HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

Data Storage

Internal:

- 5.25 inch 360 Kbyte inch flexible disc drive (HP 45811A)
- 5.25 inch 1.2-Mbyte flexible disc drive (HP 45812A)
- 3.5 inch 1.44 Mbyte flexible disc drive (HP 45813A)
- 20 Mbyte hard disc drive (HP 45896M)
- 40 Mbyte hard disc drive (HP 45897M)

External:

- 67 Mbyte ¼-inch Cartridge Tape Drive (HP 9144A)

Video

- 12-inch Monochrome Monitor (HP 35731A; HP 45981A Multi-mode Video Adapter required)
- 12-inch Monochrome Plus Monitor (HP 35731D; HP 35732A Monochrome Plus Video Adapter required)
- 13-inch HP Enhanced Graphics Display color monitor (HP 35741A; HP 45983A Enhanced Graphics Adapter required)

System Software

- Vectra Disc Operating System with MS-DOS 3.2, Personal Applications Manager, File Manager, Multiple Character Set Utilities, and Multi-Voluming Utility (HP 45951B).
- Microsoft® Windows for the HP Vectra PC (HP 45954B, 5.25 inch discs)

Terminal Emulation

- HP Terminal Program included with each HP Vectra ES and ES/12 PC
- HP Terminal ROM Card (Available 1st half, 1988)

Documentation

- HP Vectra ES PC Technical Reference Manuals (Available in Spring, 1988)
 - Hardware Manual 45945-90011 (Available in Spring, 1988)
 - Firmware Manual 45945-90012
- Microsoft MS-DOS 3.2 Programmer's Reference Manual (HP 5061-8971)

New Accessories

HP Vectra ES Expanded Memory Card (HP 45944A)

80287 Numeric Coprocessor (HP D1387A)

- Intel 80287 numeric coprocessor
- 8 MHz operation in HP Vectra ES PC or Vectra ES/12 PC
- Fits into socket on CPU board

40 Mbyte Hard Disc Drive (HP 45897M)

3.5 Inch Internal Flexible Disc Drive (HP 45813A)

HP-HIL Input Devices

- HP Mouse (HP 46060A)
- HP Touch Accessory (HP 35723A)
NOTE: For use with Monochrome monitor HP 35731A only
- HP-HIL Extension module (HP 46080A)
- Bar Code Reader (HP 92916A)
- A-Size Digitizer (HP 46087A)
- B-Size Digitizer (HP 46088A)
- HP Graphics Tablet, 11 in. × 11 in. tablet (HP 45911A)



Within the U.S.A., for the location of your nearest dealer or HP sales office, call: (800) 752-0900

Physical Characteristics

System Dimensions: (without keyboard) 16.7 in. wide × 15.4 in. deep × 6.3 in. high (42.5 cm × 39.0 cm × 16.0 cm)

System Footprint: 1.8 sq. ft. (0.17 m²), without keyboard

System Weight: (Not including keyboard or monitor) 30.5 lbs. (13.9 kg)

Keyboard Dimensions: 18.4 in. wide × 7.8 in. deep × 1.4 in. (2.2 in.) flat (standing) position (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: -40° to 158°F (-40° to 70°C)
- Humidity: 15% to 80% (noncondensing)
- 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 media.

Input Voltage

- Auto-ranging power supply
- 90 to 132V lower range over 47 to 63 Hz
- 198 to 264V upper range over 47 to 63 Hz

Power Consumption

- 465W (487W) maximum with 110V (220V) convenience outlet used at 150W

Heat

- 710 BTUs/hour maximum

Power Availability

- 176W peak for 10 sec. duration, 134W continuous
- Accessory cards: 9.0A at 5V; 0.39A at 12V; 0.25A at -5V; 0.25A at -12V

Regulatory Compliance

Radio Frequency Interference

- FCC Class B
- FTZ1046/84 LEVEL B (VDE Radio Protection Mark - Pending)
- SABS approval
- VCCI approval

Safety Approvals

- UL Listed
- CSA, TUV, Certified
- Nemko, FEI, Pending
- IEC 380/435 Compliance

Datacomm

- Germany, Belgium, UK and Nordic Network - Pending
- Australian Telecom Category A License

Ergonomics

- Complies with German Standard ZH1/618.

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