HP Vectra VL 5/xx and VE 5/xx Familiarization Guide

Overview and Features

PC Hardware Structure

Troubleshooting and Repair

Printed Manual Information

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Overview and Features

Introduction

This guide is for experienced HP Response Center personnel, CEs, and reseller technicians. That is, personnel who have already completed the HP Vectra PC family training course, or equivalent, and have at least six months of experience servicing the HP Vectra PCs.

It is a self-paced training guide designed to train you to install, configure, and repair the PC. You can follow it without having any equipment available.

After reading this chapter, you will be able to describe the features specific to these PCs.

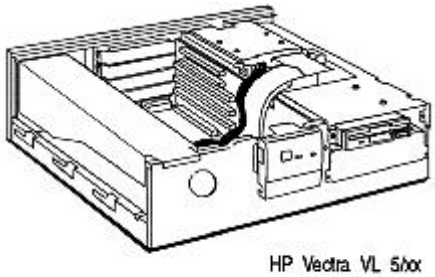
Vectra Products Comparison

The following table compares the new HP Vectra VL 5/xx Series 3 PCs with the new HP Vectra VE 5/xx PCs.

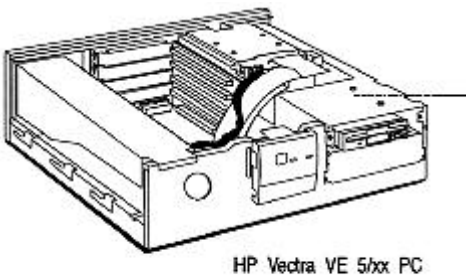
Component	HP Vectra VL 5/xx Series 3 (D339xA and D340xA series)	HP Vectra VE 5/xx (D339xA series)
Microprocessor	5/75: Pentium™ 75 MHz	5/75: Pentium™ 75 MHz
	5/90: Pentium™ 90 MHz	5/90: Pentium™ 90 MHz
	5/100: Pentium™ 100 MHz	
	5/120: Pentium™ 120 MHz*	
Math coprocessor	On the microprocessor	
Main Memory	32-bit (70 ns)	32-bit (70 ns)
Standard	8 MB (a pair of 4 MB modules) or 16 MB (a pair of 8 MB modules)	4 MB (one 4 MB module) or 8 MB (a pair of 4 MB modules)
Maximum	192 MB	128 MB
Sockets	Six	Four
Cache memory	8 KB for code, plus 8 KB for data (both caches on the microprocessor)	
2nd level cache	256 KB (Integrated on system board)	256 KB (Optional)
Sockets	None	One
Video Controller	Integrated 64-bit Ultra VGA on PCI bus (Cirrus Logic 5434)	Integrated 32-bit Ultra VGA on PCI bus (Cirrus Logic 5430)
Video Memory	1 MB (expandable to 2 MB)	1 MB
Upgrade Socket	One	None
Disk Controller	Fast IDE controller on PCI local bus	Fast IDE controller on PCI local bus
Mass storage	One front access 3.5-inch shelf	
	One front access 5.25-inch shelf	
	Two internal 3.5-inch shelves for hard disks	
Hard Disks	Fast IDE 420 MB	Fast IDE 270 MB
	Fast IDE 840 MB	Fast IDE 540 MB
Integrated ports	1 parallel port (bi-directional)	
	2 serial ports	
	VGA connector	
	Keyboard connector	
	Mouse connector	
Accessory slots	One 16-bit ISA (full-length)	Two 16-bit ISA (full-length)
	One 16-bit ISA (half-length)	Two 16-bit ISA (half-length)
	One PCI/ISA Combination (full-length)	
	One PCI (half-length)	
Network Interface	None	
Power supply	100 W (full range 90-264 VAC)	
Security	Power-on Password, mechanical cover lock, disk and port disabling.	
Passwords	User Password and System Administrator Password	User Password (may be set to **`Always`** or **`Setup Only`**)

Preinstalled software	MS-DOS 6.22, Windows for Workgroups 3.11, Dashboard, HP User Tool, Drivers
BIOS ROM	HP BIOS, Flash EEPROM
System ROM localization	English Only

*Future models.



HP Vectra VL 5/xx Series 3 PC



HP Vectra VE 5/xx PC

Product Features

Overview

The HP Vectra VL 5/xx Series 3 and HP Vectra VE 5/xx PCs are PENTIUM processor, ISA/PCI-based PCs. The whole platform consists of a system board and a backplane.

- The VL backplane has two ISA slots, one PCI slot, and one combination ISA/PCI slot for accessory boards.
- The VE backplane has four ISA slots for accessory boards.

The I/O connectors are located on the system board. The same mid-profile package is used as in the Vectra VL2 series PCs.

The main features of the system board are:

- A 64-bit host bus for PENTIUM processor and main memory (DRAM).
- A 32-bit Peripheral Component Interconnection (PCI) local bus for accessing the processor, video controller, and controller components.
- An industry-standard architecture (ISA) bus for ISA-compatible controllers.
- A security system that provides protection against unauthorized use of the PC.
- A flash BIOS updating facility.

Microprocessor

The Pentium microprocessors used in the HP Vectra VL 5/xx series 3 and HP Vectra VE 5/xx are the latest generation of the Intel family of microprocessors. These microprocessors use internal clock multiplication, similar to that used by the 486 DX2 processor. The microprocessor's internal clock is a multiple of the system clock. The Pentium 75, 90, and 100 MHz processor multiply the 50, 60, and 66 MHz system clock by a factor of 1.5. The Pentium 120 MHz processor doubles the 60 MHz system clock.

These new Pentium processors are powered by a power source of 3.3 V (see *Configuring the Processor Voltage Selection Jumper*). The previous generation of Pentium processors, Pentium 60 MHz and 66 MHz, used a 5 V power source. The two generations of processors are not pin compatible.

Cache Memory

The microprocessor has two 8 KB first-level caches: one for the instruction codes and the other for data.

- The HP Vectra VL 5/xx series 3 PC has 256 KB of second-level cache memory, which is soldered onto the system board.
- The HP Vectra VE 5/xx has a socket for a 256 KB second-level cache memory module.

When the optional second level cache is not installed in the VE, the cache socket protector must be installed in the empty cache. The role of the cache socket protector is to properly terminate the Pentium host bus.

DRAM Main Memory Modules

- The HP Vectra VL 5/xx series 3 PC has six sockets on the system board. 8 MB or 16 MB of memory is supplied as standard, expandable to 192 MB.
- The HP Vectra VE 5/xx has four sockets on the system board. 4 MB or 8 MB of memory is supplied as standard, expandable to 128 MB.

Each pair of sockets forms a bank. When two memory modules are installed within the same bank, they must be of the same size.

The PCs use 70 ns, 32-bit wide, memory modules. When additional memory modules are installed, the following rules must be applied to get the best performance:

1. Install two identical-size SIMMs in the same bank to enable 64-bit wide access to this bank.
2. Install four identical-size SIMMS in bank A and B to enable memory interleaving between the two banks.

The memory upgrades available are:

- 4 MB, 32-bit, 70 ns (D2690A) or 4 MB, 36-bit, 70 ns (D2974A)
- 8 MB, 32-bit, 70 ns (D2691A) or 8 MB, 36-bit, 70 ns (D2975A)
- 16 MB, 36-bit, 70 ns (D2297A)
- 32 MB, 36-bit, 70 ns (D2298A)

When 36-bit SIMMs are installed, it is possible to enable parity checking by enabling the parity switch (PARIT) on the system board.

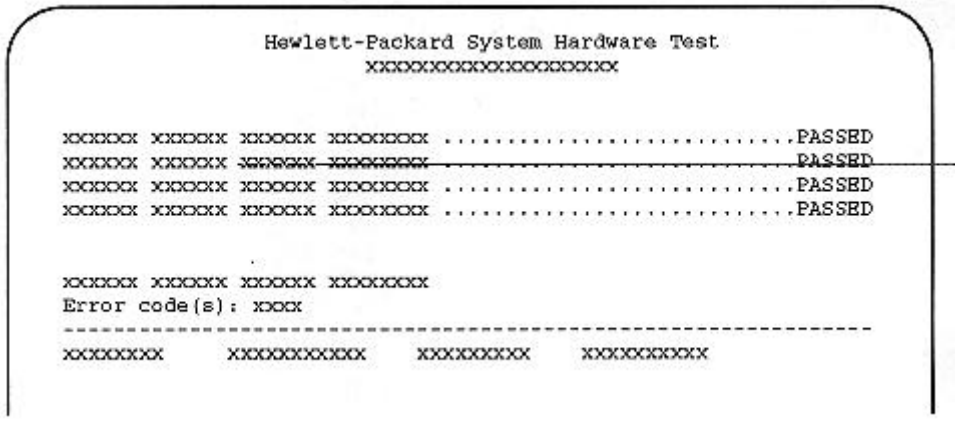
System ROM

The PCs have a system ROM that uses flash EEPROM technology. The flash ROM can be updated with the latest firmware using the HPROMinit program (HPINIT.EXE) supplied with the firmware upgrade. While updating the flash ROM, the power switch is disabled to prevent interruption of the flash programming process. A switch on the system board prevents unauthorized flash programming.

The system ROM contains:

- The HP BIOS
- A power-on system hardware test, which provides an error message utility that displays error diagnosis and corrective actions
- a SETUP program with context-sensitive help (in English only).

When the PC is started, the Power-On Self Test (POST) screen is displayed:



If the POST detects an error:

- Press **[ENTER]** to display a message describing the error and how to fix it
- Press **[F2]** to start SETUP to check the configuration
- Alternatively, press **[F1]** to continue.

SETUP Program

The HP Vectra VL 5/xx series 3 PC and the HP Vectra VE 5/xx PC have an integrated SETUP program (like the HP Vectra VL2 and XP PC series, but in English only).

SETUP is started by pressing when the message <Setup=F2 > appears.

Video Controller

- HP Vectra VL 5/xx series 3 PC

  The HP Vectra VL 5/xx series 3 PC has a 64-bit PCI video controller (Cirrus Logic 5434). The controller has 1 MB DRAM video memory as standard, upgradeable to 2 MB DRAM using the D3404A video memory upgrade kit (one module of 1 MB).

	Video Memory Required for these Colors and Refresh Rates			
Resolution	**16 Colors**	**256 Colors**	**64 K Colors Hi-Color**	**16.7 M Colors True-Color**
640 X 480	1 MB 60/72/75 Hz			1 MB 60 Hz 2 MB 60/72/75 Hz
800 X 600	1 MB 56/60/72/75 Hz		1 MB 56/60 Hz 2 MB 56/60/72/75 Hz	2 MB 56/60 Hz
1024 x 768	1 MB 87i*/60/70/75 Hz		2 MB 87i/60/70/ 75 Hz	Not Available
1280 x 1024	1 MB 87i Hz	2 MB 87i/ 60/ 72/ 75 Hz	Not Available	

*(i = Interlaced)

- HP Vectra VE 5/xx PC

  The HP Vectra VE 5/xx PC has a 32-bit PCI video controller (Cirrus Logic 5430). The controller has 1 MB DRAM video memory as standard.

	Number of Colors and Refresh Rates Supported			
Resolution	**16 Colors**	**256 Colors**	**64 K Colors Hi-Color**	**16.7 M Colors True-Color**
640 x 480	60/72/75 Hz			60 Hz
800 x 600	56/60/72/75 Hz		56/60 Hz	Not Available
1024 x 768	87i*/60/70/75 Hz			Not Available
1280 x 1024	87i Hz	Not Available		

*(i = Interlaced)

Preinstalled Software

Models with hard disk drives are supplied with preinstalled software:

Utilities and Drivers	Software
• HP User Tools • Mouse Control Center • Video Drivers • Disk Drivers (32-bit disk access) • Plug and Play (ICU) • Advanced Power Management • Desktop Management Interface	• MS-DOS 6.22 • MS-Windows for Workgroups 3.11 • Dashboard

The first time the PC is powered on, a software initialization program runs to allow the user to set up the preinstalled software for the display type and the printer.

On models without a hard disk drive, the utilities and drivers are supplied on diskettes.

Disk Controllers

- HP Vectra VL 5/xx series 3 PC

  The integrated flexible disk controller supports two flexible disk drives. The integrated Enhanced IDE hard disk controller is on the PCI bus and dedicated for hard disk drives. This is the grey connector on the system board. The cable has two connectors, allowing two Fast IDE hard disks to be connected.

The second IDE controller is on the ISA bus and is dedicated to CD-ROM drives. This is the red connector on the system board. The cable has one connector allowing one CD-ROM to be connected.

- HP Vectra VE 5/xx PC

  The integrated flexible disk controller supports two flexible disk drives. The integrated Enhanced IDE hard disk controller is on the PCI bus and dedicated for hard disk drives. This is the grey connector on the system board. The cable has two connectors, allowing two Fast IDE hard disks to be connected.

Front Accessible Mass Storage Shelves

- Slim top shelf (1-inch high) for 3.5-inch or 5.25-inch devices.
- Half-height middle shelf for 5.25-inch devices.

Internal Mass Storage Shelves

- Two internal shelves for 3.5-inch slim (1-inch) hard disks.

Supported Drives

- 3.5-inch, 1.44 MB flexible disk drive (D2035A)
- 5.25-inch, 1.2 MB flexible disk drive (D2881A)
- 3.5-inch, 270 MB IDE hard disk drive (D2388A)
- 3.5-inch, 540 MB IDE hard disk drive (D2389A)
- Double-speed (2x) IDE CD-ROM drive (D2889A)
- Double-speed (2x) SCSI CD-ROM drive with SCSI adapter (D2886B)

Control Panel

The PCs have the same control panel as the HP Vectra VL2 PC series and have the same features:

- A power on/off switch
- A power LED indicator (green)
- A hard disk access LED indicator.

Security Features

The PCs have the following security features:

- Power-on prompt, with user password
- Communications port protection (ports can be disabled in SETUP)
- Disk drive protection (disks can be disabled in SETUP)
- System configuration protection, using switches
- Cover lock and security bracket.

Communications Ports

The PCs have the following communications ports:

- One 25-pin parallel port (ECP/EPP bi-directional Centronics supporting IEEE 1284)
- Two 9-pin serial ports (16550-compatible)
- A power LED indicator (green)
- A hard disk access LED indicator.

Supported Operating Systems

- MS-DOS version 3.3, 4.x, 5.0, 6.0, 6.22 and above
- Microsoft Windows 95TM
- Microsoft Windows for Workgroups 3.11 and above
- Microsoft Windows 3.1 and above
- Microsoft Windows NT 3.1 and above
- OS/2 version 1.3 and above
- UNIX/386 System V from SCO version 3.2 V4.1

Documentation

Description	Part Number
HP Vectra VL 5/xx series 3 PC User's Guide	D3405A kit*
HP Vectra VE 5/xx PC User's Guide	D3402A kit*
HP Vectra PC Service Handbook	5963-6103 (8th Edition)
HP Vectra Accessory Service Handbook	5963-6104 (4th Edition)
HP Vectra VL 5/xx series 3 PC and HP VE 5/xx PC Technical Reference Manual: Hardware and BIOS	on-line edition only**
HP Vectra VL 5/xx series 3 PC and HP Vectra VE 5/xx PC Familiarization Guide	D339X+49A-90001

*Specify Language Option when ordering this kit.
**This printable file can be downloaded from the HP BBS.

PC Hardware Structure

Introduction

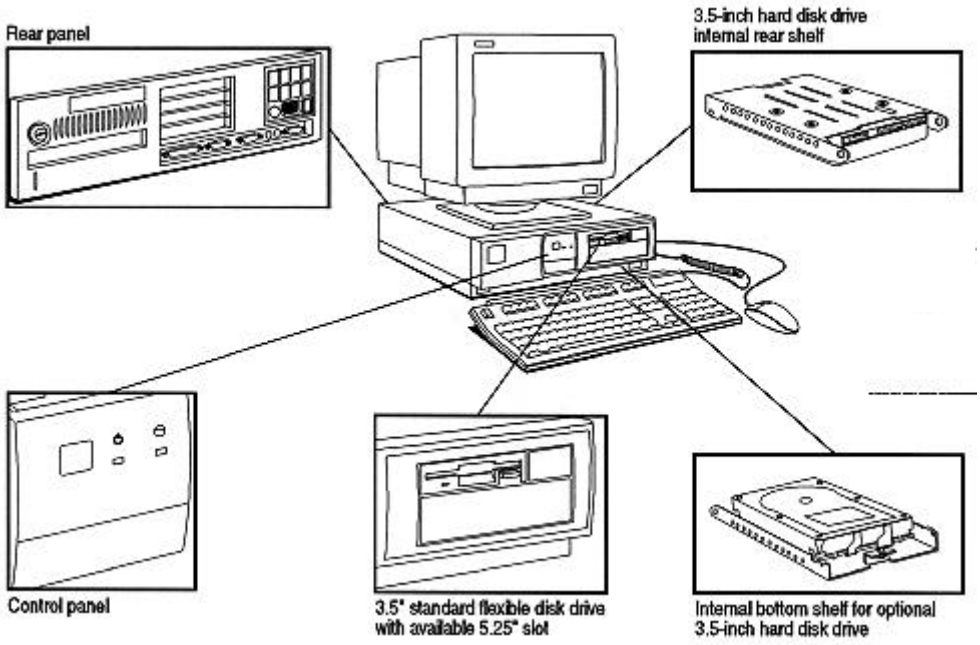
After reading this chapter, you will be familiar with the PC's package and hardware assembly.

Packaging

The HP Vectra VL 5/xx series 3 PC and the HP Vectra VE 5/xx PC use the same mid-profile package as the HP Vectra VL2 series.

The main external features are:

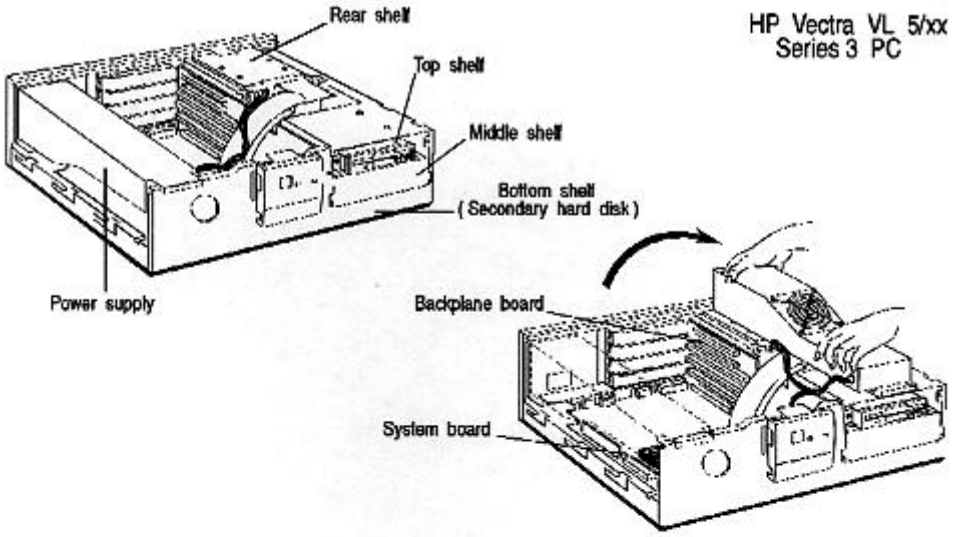
- four accessory board slots for accessories, for example, an audio board
- connectors for I/O devices on the rear panel
- four shelves for 3.5-inch or 5.25-inch devices
- control panel and name plate.

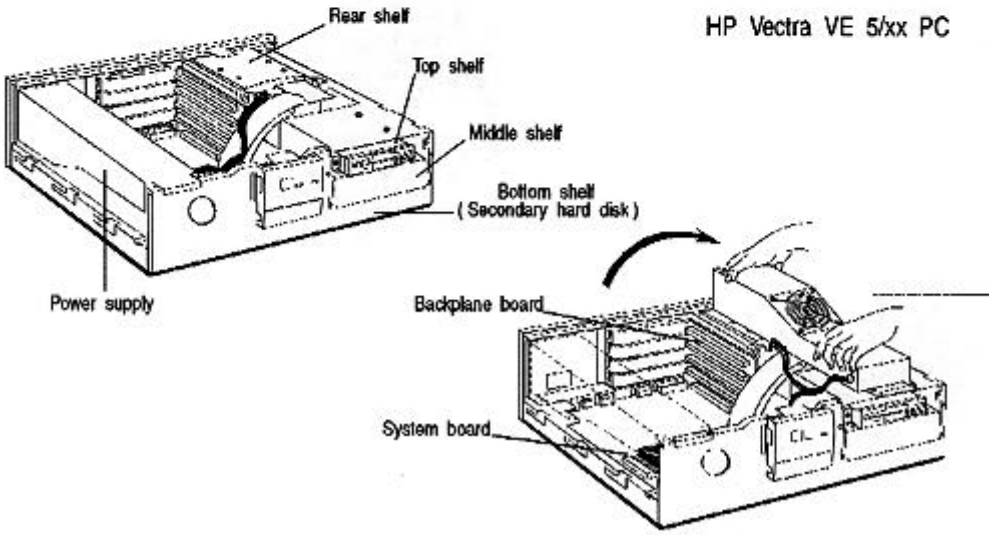


Internal Component Location

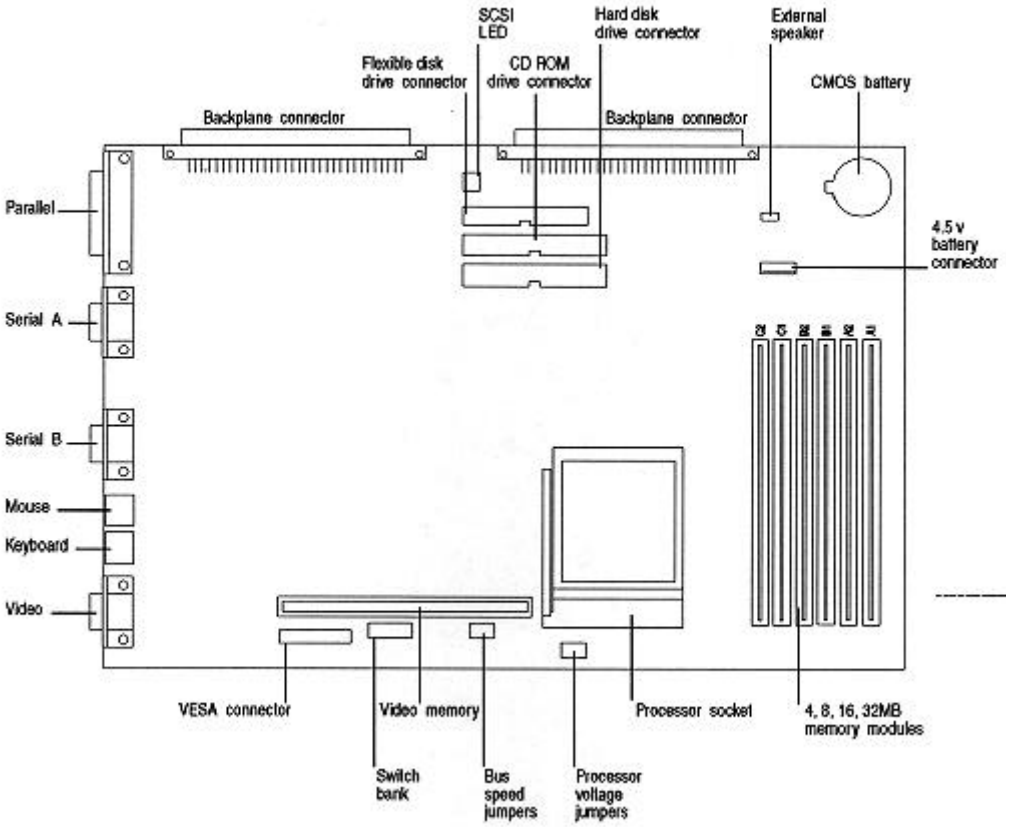
The location of the main internal components is shown below.

WARNING Care must be taken to ensure that all connectors are unplugged before removing the system board from the PC.

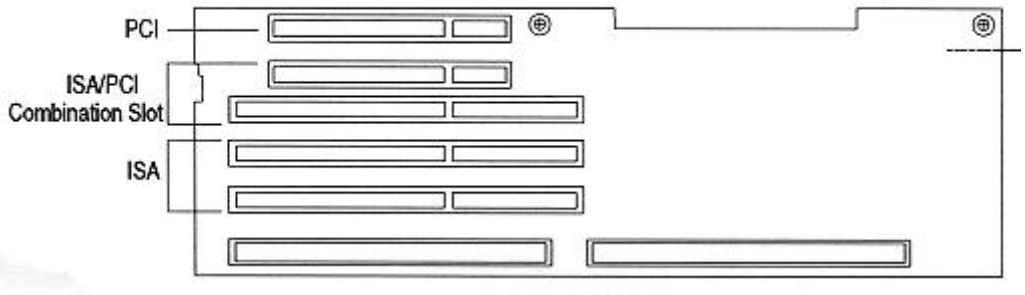




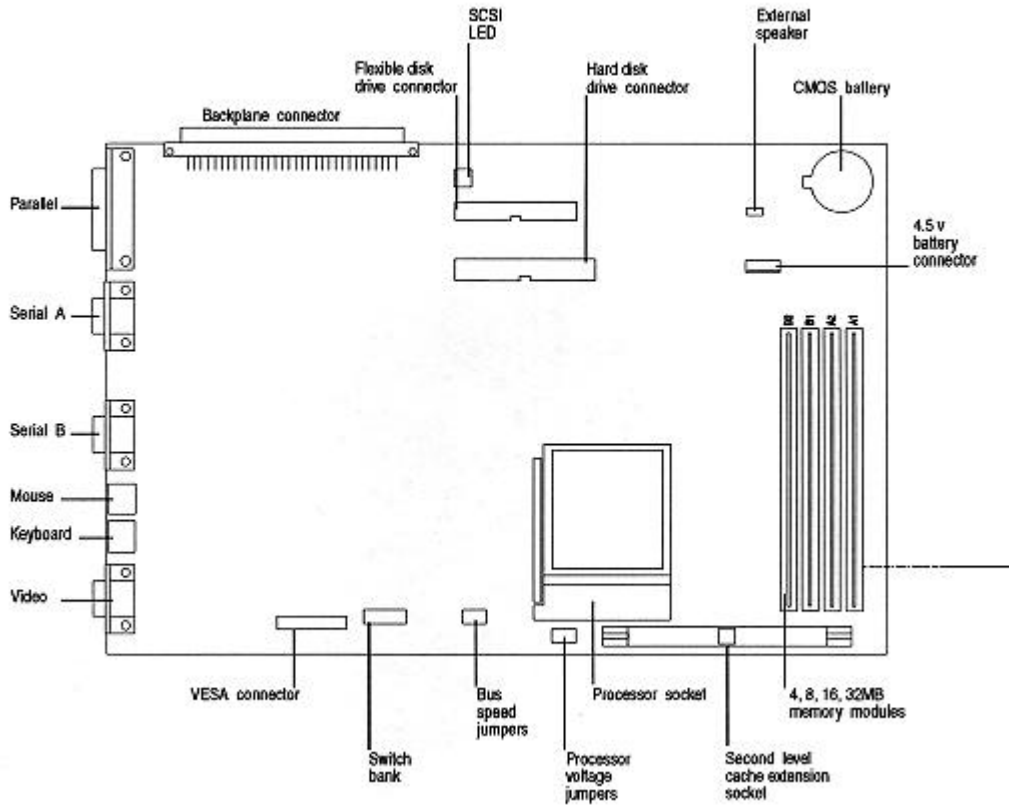
VL 5/xx System Board



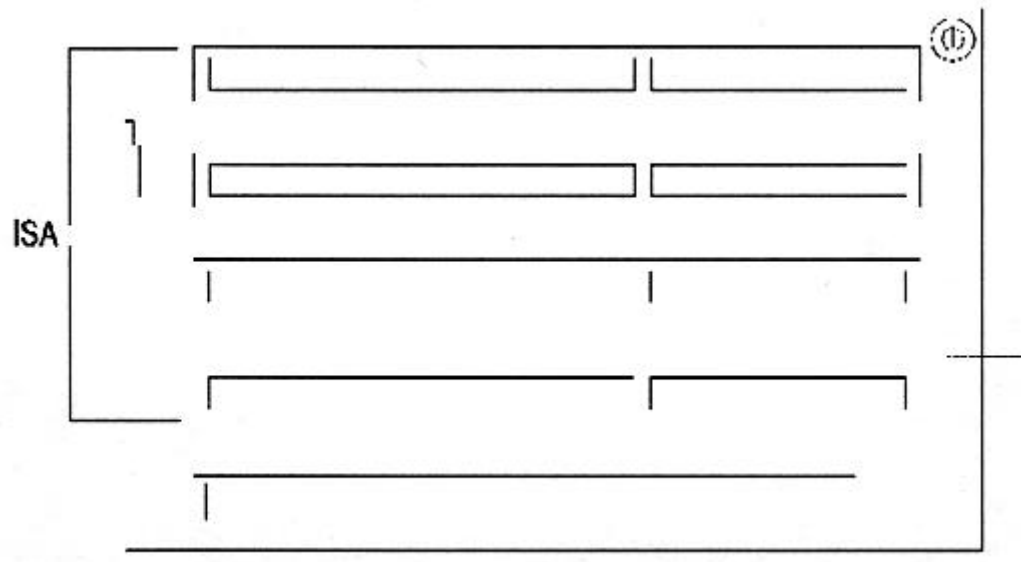
VL 5/xx Backplane



VE 5/xx System Board



VE 5/xx Backplane



Installing Accessories

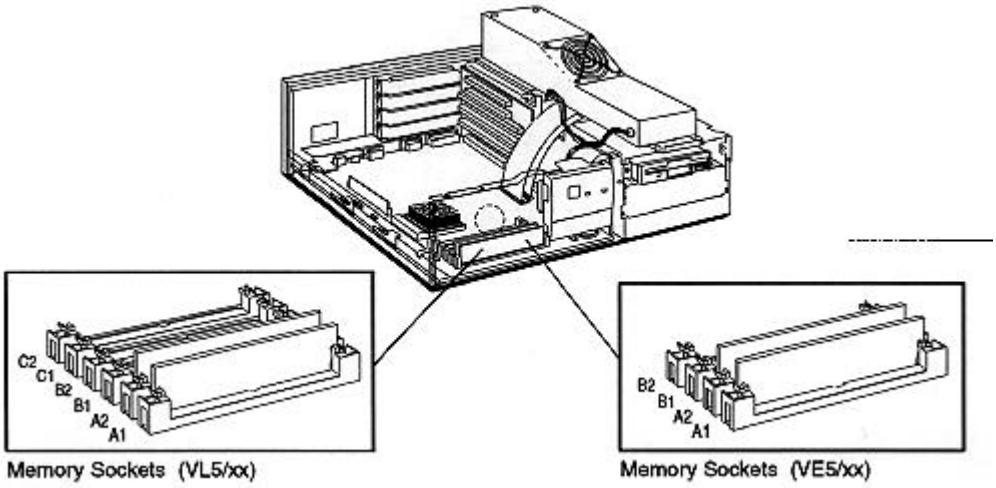
Installing Main Memory

- HP Vectra VL 5/xx series 3 PC

  The HP Vectra VL 5/xx series 3 PC has six sockets on the system board, labeled A1, A2, B1, B2, C1, and C2 in the diagram below. Each pair of memory sockets forms a bank. Slots A1 and A2 form bank 1, slots B1 and B2 form bank 2, and slots C1 and C2 form bank 3. For the best performance, the memory modules should be installed in pairs (modules of the same size) in the same bank. A maximum of 192 MB may be installed.

- HP Vectra VE 5/xx PC

  The HP Vectra VE 5/xx PC has four sockets on the system board, labeled A1, A2, and B1, B2 in the diagram below. Each pair of memory sockets forms a bank. Slots A1 and A2 form bank 1, and slots B1 and B2 form bank 2. For the best performance, the memory modules should be installed in pairs (modules of the same size) in the same bank. A maximum of 128 MB may be installed.

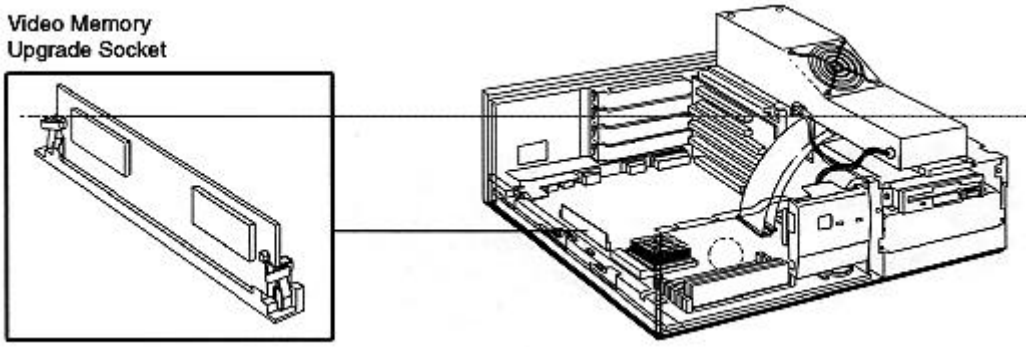


Installing Video Memory

HP Vectra VL 5/xx series 3 PC

The HP Vectra VL 5/xx series 3 PC is shipped with 1 MB of video memory which can be expanded to 2 MB for resolutions of up to 1024 5 768 in 64K colors (see resolutions supported under Video Controller in "Product Overview and Features.")

The upgrade kit (D3404A) comprises one module of 1 MB.

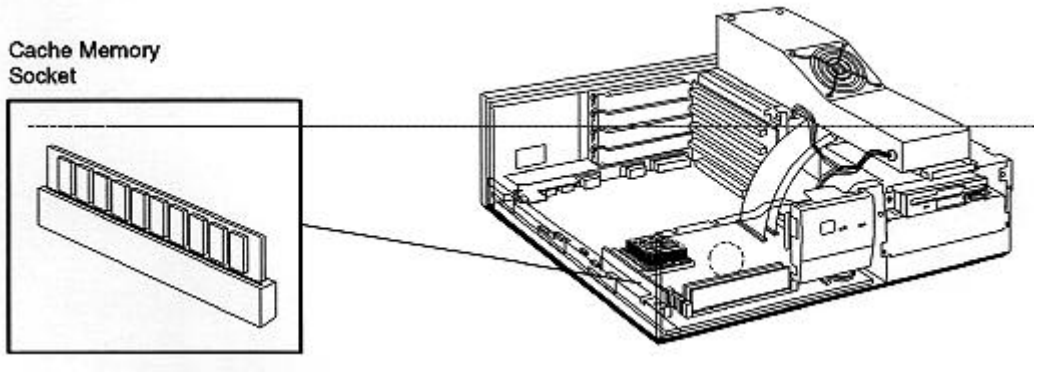


Installing Cache Memory

HP Vectra VE 5/xx PC

The HP Vectra VE 5/xx PC has a socket for an optional 256 KB second-level cache memory module.

The upgrade kit (D3403A) comprises one module of 256 KB.

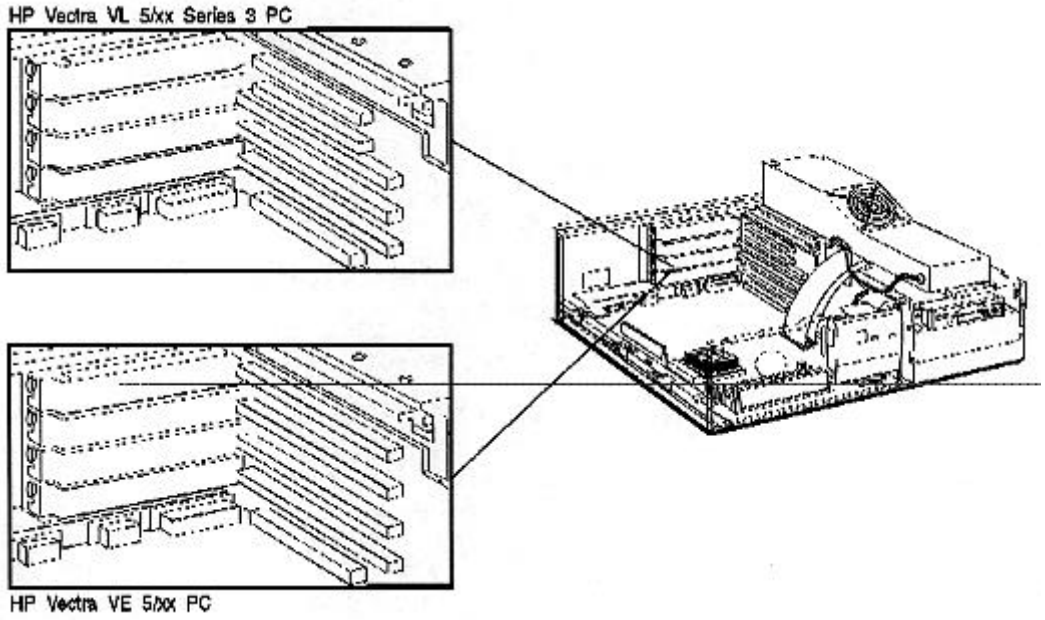


Installing an Accessory Board

HP Vectra VL 5/xx series 3 PC

The HP Vectra VL 5/xx series 3 PC has four slots that can be used for installing accessory boards:

- the top slot can be used for a half-length PCI accessory board
- the second slot can be used for either a full-length PCI or ISA board
- the third slot can be used for a full-length 8- or 16-bit ISA board
- the fourth (bottom) slot can be used for a half-length 8- or 16-bit ISA board.



HP Vectra VE 5/xx PC

The HP Vectra VE 5/xx PC has four slots that can be used for installing accessory boards:

- the top slot can be used for a full-length 8- or 16-bit ISA board
- the second slot can be used for a full-length 8- or 16-bit ISA board
- the third slot can be used for a full-length 8- or 16-bit ISA board
- the fourth (bottom) slot can be used for a half-length 8- or 16-bit ISA board.

Accessory boards may have preferred locations and special installation instructions – refer to the manual supplied with the board.

The PC supports Plug and Play through the ISA Configuration Utility and the Configuration Manager driver in CONFIG.SYS.

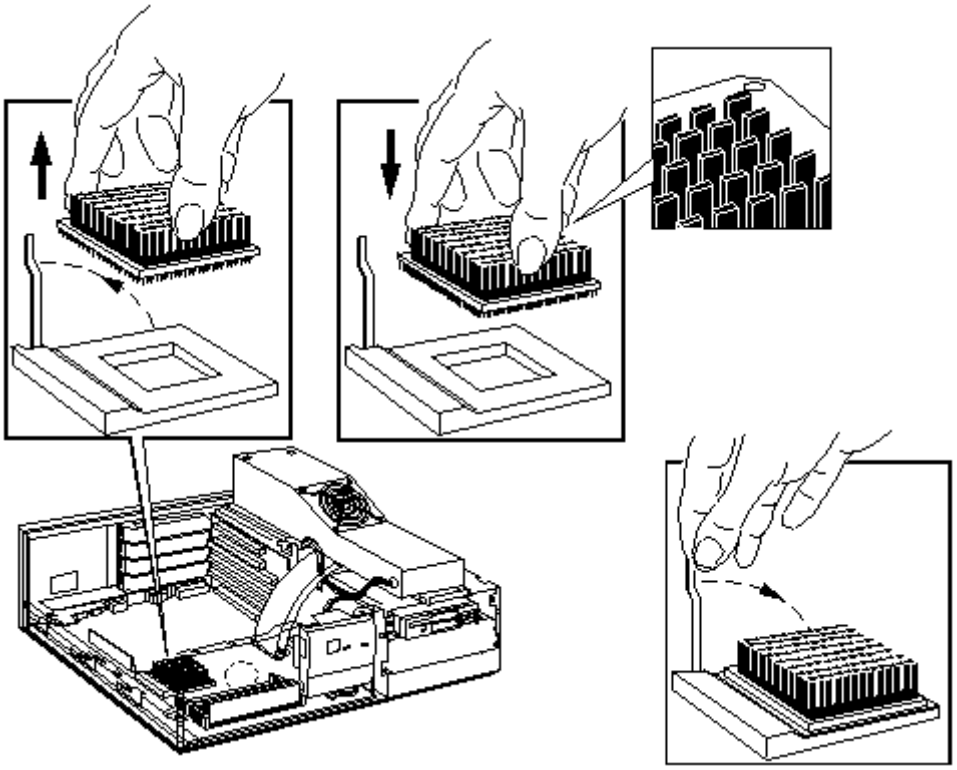
NOTE Remember to check that the IRQ, DMA, and I/O addresses for the accessory board are free - you may have to change the board's settings. Always run SETUP after installing an accessory board.

Replacing the Microprocessor

The system board has a ZIF – Zero Insertion Force – “universal” socket to allow the microprocessor to be easily changed.

Removing and Installing the Microprocessor

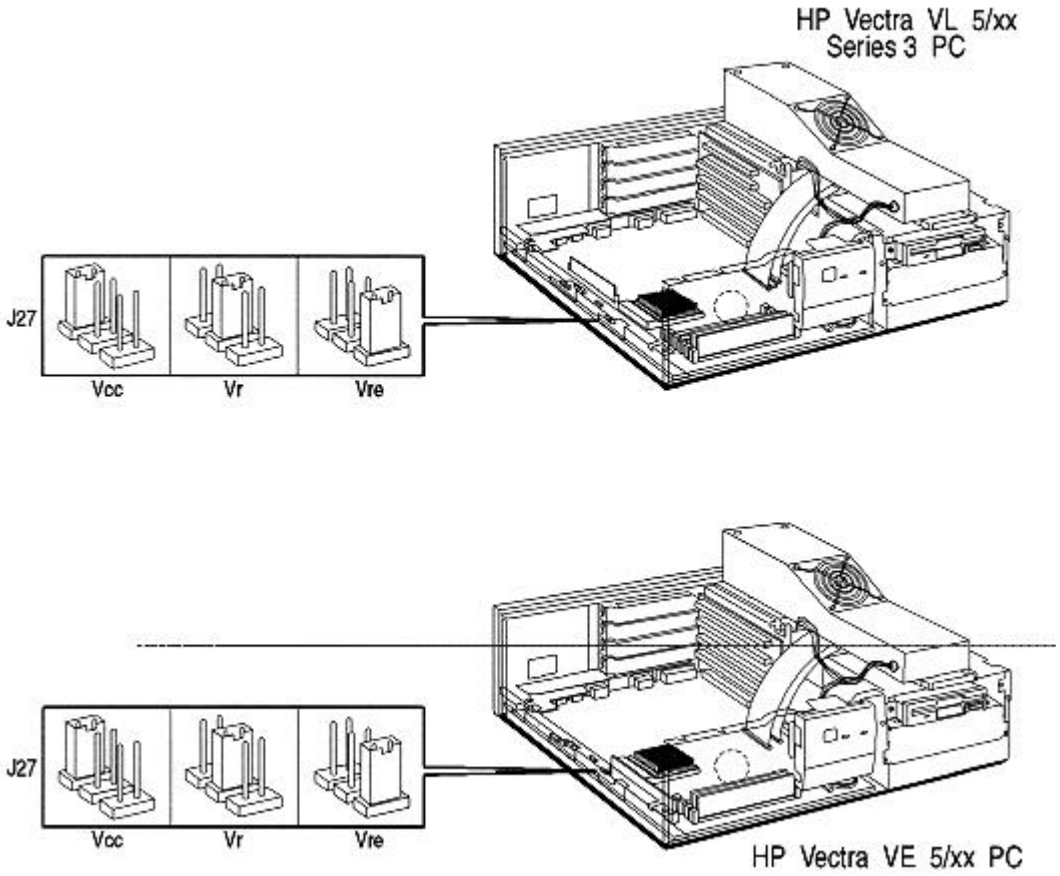
Move the lever and lift out the microprocessor:



Place the microprocessor in the ZIF socket with the corner marker (a dot or a broken corner) aligned with the white dot marked on the system board and return the lever to its original position.

Configuring the Processor Voltage Selection Jumper

Change the processor voltage selection jumper (J27) to correspond with the new processor. Refer to the documentation supplied with the upgrade processor for more details about the processor voltage requirement.



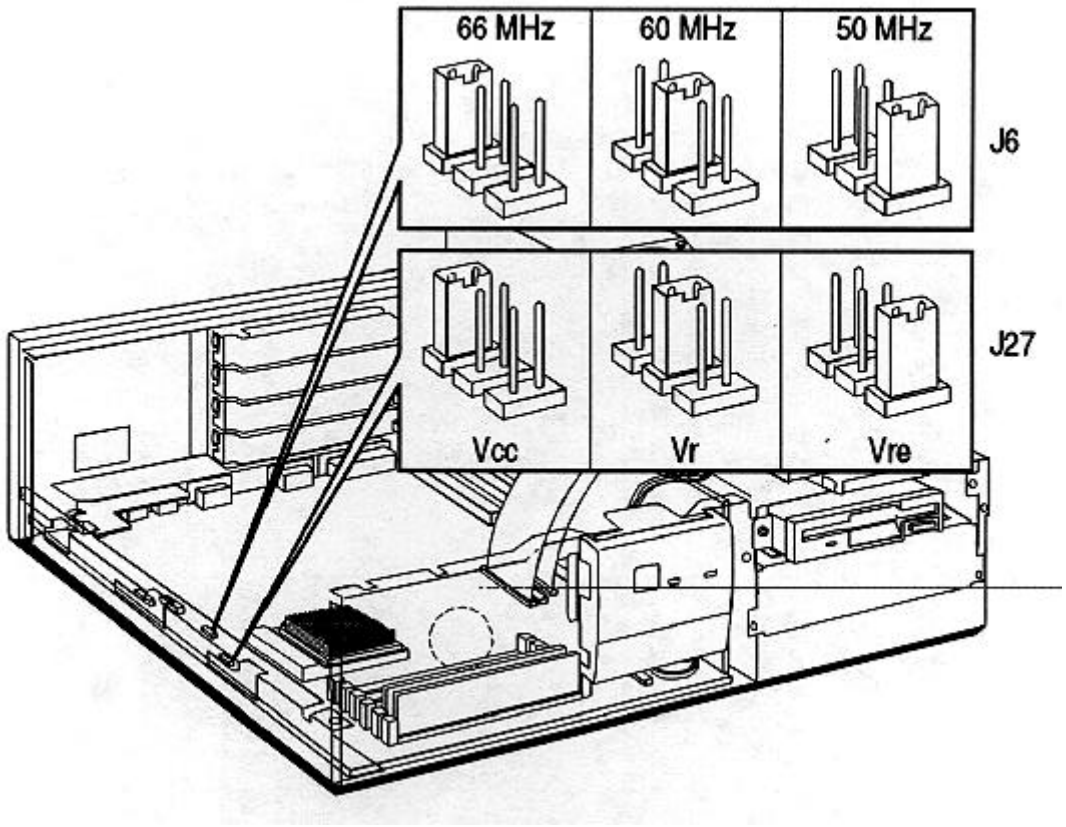
Jumper	Function
Position VCC	Select the VCC (3.3 V) voltage for an upgrade processor
Position VR	Select the VR (3.38 V) voltage for an upgrade processor — DEFAULT
Position VRE	Select the VRE (3.52 V) voltage for an upgrade processor

NOTE If you replace a processor, make sure the jumper is set for the correct voltage.

System Board Jumpers

Replacing the System Board

When replacing the system board, the bus speed jumper and processor voltage jumper must be configured to correspond with the installed processor.



These two jumpers must be configured as follows:

HP Vectra VL 5/xx series 3 PC

Vectra Model:	VL 5/75	VL 5/90	VL 5/100	VL 5/120
Processor Voltage Jumper Selection:	Vcc	Vr	Vre	Vre
Bus Speed Jumper Selection:	50 MHz	60 MHz	66 MHz	60 MHz

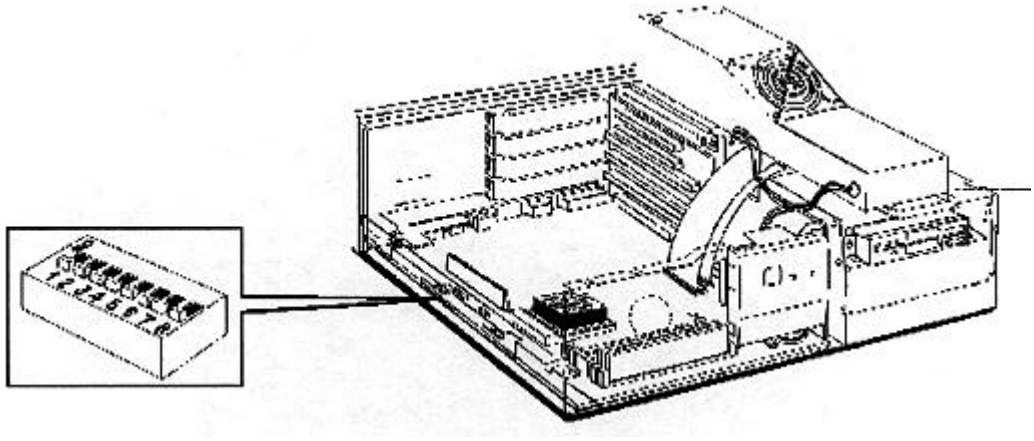
HP Vectra VE 5/xx PC

Vectra Model:	VE 5/75	VE 5/90
Processor Voltage Jumper Selection:	Vcc	Vr

Bus Speed	50 MHz	60 MHz
Jumper Selection:		

System Board Switches

The PC has one system board switch block to configure the PC. Note that an HP Vectra VL 5/xx series 3 PC is shown here. The location of the system board switch block is the same for the HP Vectra VE 5/xx PC.



Switch:	Function:
1–FLASH	Enable or prevent system ROM updates using the HPROMInit utility: • OFF to enable system updates — DEFAULT • ON to disable system updates.
2–RESERVED	Always OFF (not used)
3–CONFG	Retain or clear the configuration stored in EEPROM: • OFF to retain configuration — DEFAULT • ON to clear configuration.
4–PSWRD	Enable or clear (and disable) User and System Administrator Passwords stored in EEPROM: • OFF to enable passwords — DEFAULT • ON to clear passwords.
5–PARIT	Enable or disable parity for the main memory modules: • OFF to disable parity for the main memory modules — DEFAULT • ON to enable parity for the main memory modules.
6–PROCESSOR	The selected speed must correspond with the speed of the installed processor: • OFF to select 75 MHz, 90 MHz, and 100 MHz • ON to select 120 MHz.
7–RESERVED	Always OFF (not used)
8–RESERVED	Always OFF (not used)

Troubleshooting and Repair

Overview

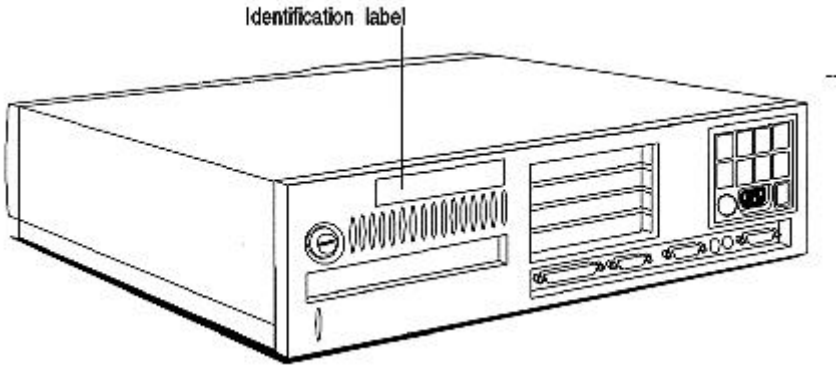
After reading this chapter, you will know which subassemblies can be replaced and understand the main features of the diagnostic diskette.

Product Identification

The rear of the computer has an identification label that shows the:

- product name, for example, HP Vectra VL 5/xx
- system (product) number, for example, D3393A
- serial number
- 5 x 5 system number, for example, D3393-60101.

This information may be required when ordering sub-assemblies for the PC.



Warranty

The PCs are covered by a one-year on-site warranty and two years return-to-HP warranty.

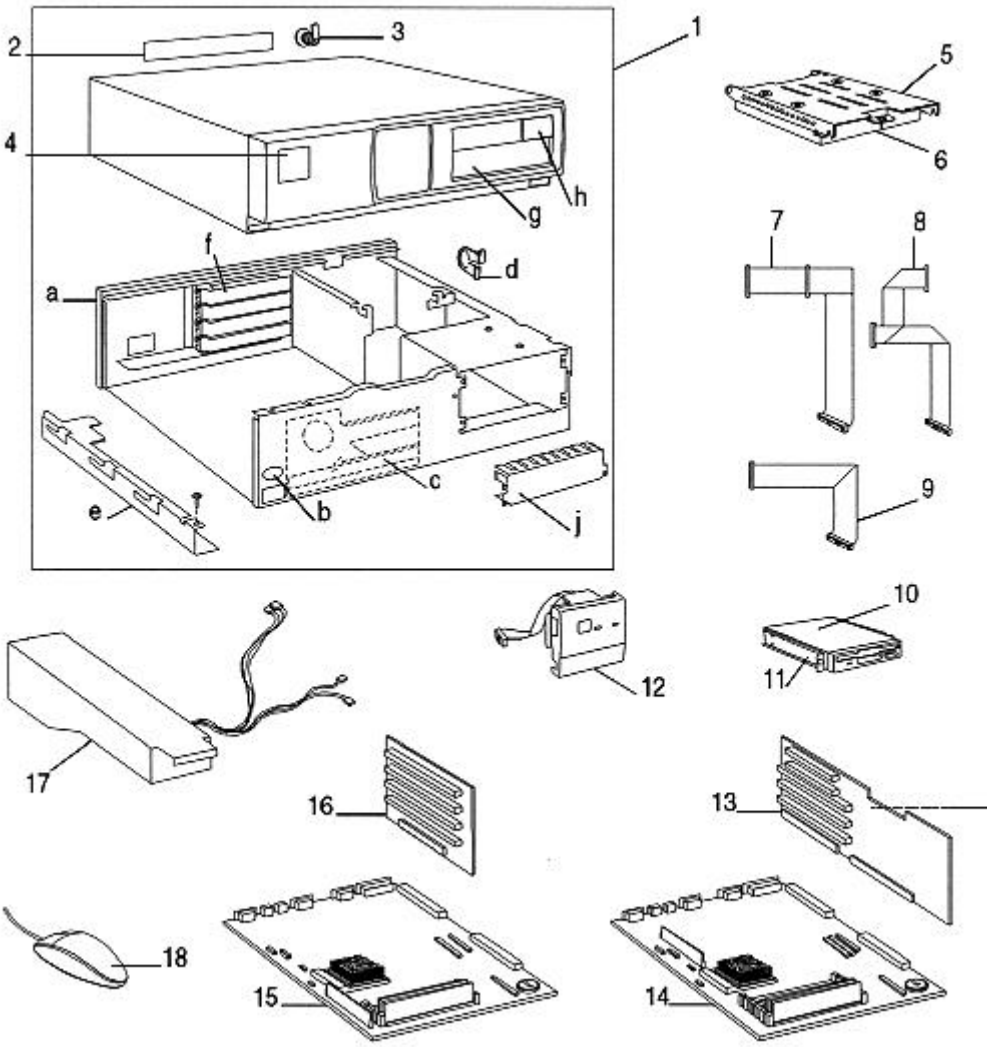
Customers are responsible for owning master copies of preinstalled software.

For preinstalled software and utilities, the customer can make master diskettes or order master diskettes of software (for ordering procedure refer to the software license certificate included with the PC).

If the customer has a software failure, the software should be reinstalled from the master copies.

For more details on support services and support conditions, refer to the support plan.

Field Replaceable Parts



No.	Description	Replacement Part Number	Exchange Part Number
1	Box assembly	5063–4597	–
2	Rear Bezel Label	5182–1847	–
3	Key Lock Assembly	5062–5590	–
4	Logo VE 5/75	5042–1114	–
	Logo VE 5/90	5042–1181	
	Logo VL 5/75	5042–1115	
	Logo VL 5/90	5042–1116	
	Logo VL 5/100	5042–1117	
	Logo VL 5/120	5042–1183	
5	3.5–inch, h–h, Tray (5 pack) for non-supported hard disk drives	Order product number D2037A	

6	3.25–inch Hard Disk Drives		
	270 MB Fast IDE Hard Disk Drive (D2388A)	D2388–63001	D2388–69001
	420 MB Fast IDE Hard Disk Drive (D2392A)	D2392–63001	D2392–69001
	540 MB Fast IDE Hard Disk Drive (D2389A)	D2389–63001	D2389–69001
	840 MB Fast IDE Hard Disk Drive (D2393A)	D2393–63001	D2393–69001
7	Hard Disk IDE Drive cable	5182–1862	
8	Flexible Disk Drive cable	5182–1805	
9	Standard IDE Drive cable	5182–1856	
10	Flexible Disk Drive	D2035–63004	
11	Mounting Rails for 3.5–inch, non–HP Disk Drives	5063–0309	
12	Status (Control) Panel	5063–0889	
13	VL 5/xx Backplane Assembly	5063–5765	
14	VL 5/75 System Board (75 MHz)	D3393–63001	D3393–69001
	VL 5/90 & 5/120 System Board (90 MHz and 120 MHz)	D3396–63001	D3396–69001
	VL 5/100 System Board (100 MHz)	D3399–63001	D3399–69001
15	VE 5/xx System Board	D3390–63001	D3390–69001
16	VE 5/xx Backplane Assembly	5063–0887	
17	Power Supply Assembly	5063–4553	
18	Mouse	C3751–60101	
	Main Memory Modules:		
	4 MB DRAM kit (D2974A)	D2974–63001	
	4 MB DRAM kit – no parity (D2690A)	5063–4548	
	8 MB DRAM kit (D2975A)	D2975–63001	
	8 MB DRAM kit – no parity (D2691A)	5063–4549	
	16 MB DRAM kit (D2297A)	D2297–63001	D2297–69001
	32 MB DRAM kit (D2298A)	D2298–63001	D2298–69001
	Pentium Processors:		
	Pentium 75 MHz (Vcc)	5063–7022	
	Pentium 90 MHz (Vr)	5063–7023	
	Pentium 100 MHz (Vre)	5063–7024	
	Pentium 120 MHz (Vre)	5063–7089	
	VE 5/xx Cache Socket Protector (cache terminator module)	D3390–63002	–
	VE 5/xx Cache Memory module: 256 KB Cache Memory module kit	5063–7055	–
	VL 5/xx Video Memory module: 1 MB Video memory Module kit	5063–7056	–

Refer to the HP Vectra PC Service Handbook, 8th Edition, (5963-6103) for more information.

Using SETUP to Configure the PC

Field Name	Purpose	Options	Remarks
Date	To set date and time	YYYY/MM/DD	
Time		HH:MM:SS	
User Preferences	Allows you to set:		
	User Password (Vectra VL)	Set/Not set	
	Password (vectra VE)	Set/Not set	
	Keyclick volume	0 to 10	
	Character repeat speed	2 – 30 per second	
	Auto repeat delay	0.25 – 1 second	
	Numlock on/off at power up	On/Off	
Processor Computer speed Coprocessor	Shows the type of processor in the PC. Shows the computer speed. Shows the tpye of coprocessor in the PC.		Automatically detected.
Memory Size	State the memory size of: Base, on system board Reserved Extended Total		Confirm that SETUP has detected and configured the memory size fields. Ensure that the TOTAL field is correct.
Memory Cache	Controls level-one and level-two memory cache.	On/Off	For maximum performance set to On.
Power Management			
Standby	Enable or disable "Standby" mode.	On/Off	
Sleep At	Enable or disable the "Sleep At" power management feature.	On/Off	
Hard Disk Drives			Shows capacity of the hard disk drive if one was detected.
Drive 1 Drive 2	Allows you to configure the primary and secondary hard disk drives.	None or SCSI Custom	
Interface	To define if t he integrated IDE controller is used for the IDE hard disk drive.	Enabled/Disabled	Configure any controller board according to its manual.
SCSI BIOS ROM Address	View the SCSIBIOS ROM address for an HP SCSI adapter.	Enabled/None	
SCSI BIOS Shadowing	To shadow the SCSI BIOS inf aster RAM for HP SCSI adapters.	Enabled/Disabled	

Flexible Disk Drives: Drive 1 Drive 2	Defines the first and second flexible disk drives.	None, 3.5-inch 1.44 MB, or 5.25-inch 1.2 MB	
Bootable Drive	Define which flexible disk drive is the bootable drive.	Drive 1/Drive 2	Configure any controller board according to its manual.
Interface	To define if the flexible disk drive controller is integrated.	Integrated/ Controller board	
Security Features:			
System Administrator			
Password (HP Vectra VL 5/xx only)			
Start with Keyboard Locked	Keyboard locked until Password is entered.	Set/Not Set	Enable when the PC is used as a Network Server.
Start From Flexible Disk		Enabled/Disabled	
Start From Hard Disk		Enabled/Disabled	
Flexible Disk Drives		Enabled/Disabled	
Hard Disk Drives		Enabled/Disabled	
Writing on Flexible Disks		Enabled/Disabled	
Parallel Port		Select a combination of I/O address and IRQ channel.	Disable the parallel port to resolve an address conflict, prevent access to your system, or free an IRQ or I/O resource.
Parallel Port Mode		Centronics, ECP, or EPP.	
Serial Port A Serial Port B		Select a combination of I/O address and IRQ channel.	Disable a serial port to resolve an address conflict, prevent access to your system, or free an IRQ or I/O resource.
Video Primary Adapter	Select which video adapter mode is used by the integrated video controller.	EGA/VGA or similar, Monochrome, CGA/ Multimode 80, CGA/ Multimode 40	
Video BIOS Shadowing	Enables or disables the copying of the video BIOS on ISA video boards into RAM.	Enabled/Disabled	
VGA Enhanced/ Ergonomic Modes	Select ergonomic refresh rates.	Different refresh rates may be selected for different screen resolutions.	

IRQ Map for Accessory Boards: IRQ 9 IRQ 10 IRQ 11 IRQ 15	View available IRQ channels and select which IRQs are used by installed accessory boards.	HP Vectra VL: Available for PCI/ Usedby an ISA Board HP Vectra VE: Not used by an ISA Board/Used by an ISA Board

Power-on System Hardware Tests

When the PC is switch on or reset, a power-on hardware test is performed.

Updating the System ROM

The System ROM is updated by running the HPROMinit utility (supplied with BIOS upgrades).

Diagnostic Utility

The HP Vectra Diagnostic Utility is common to the HP Vectra product line. It is available from the HP Bulletin Board System.

To use the Diagnostic Utility:

1. Insert a 1.44 MB 3.5-inch diskette in drive A, and type:

   FORMAT A: /S [ENTER]

2. When the formatting has completed, type:

   DEL A:\COMMAND.COM [ENTER]

3. Leave the diskette in drive A.
4. Download the ZIP file of the Diagnostic Utility to a directory on your hard disk.
5. Uncompress the ZIP file.
6. Copy all the files, except the ZIP file, to the diskette in drive A.
7. Print out the READ.ME file provided with the Diagnostic Utility files.
8. Follow the README.WRI file instructions to use the Diagnostic Utility.

The Diagnostic Utility has a menu-driven graphical interface for selecting tests for the HP Vectra VL 5/xx series 3 and the HP Vectra VE 5/xx. The Diagnostic Utility contains:

- in-depth Power-On-Self-Tests
- tests for accessory boards
- an inspection utility to view low-level configuration informaton
- a memory module locator utility to decode memory test errors and indicate which memory module has failed
- an error code display utility to explain error codes and indicate the probable cause of the error.

New revisions of the Diagnostic Utility are available on the HP BBS.