PC Service Handbook
Volume 2

286, 386 and 486 Vectra PCs
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PREFACE FOR VOLUME 2

This document provides quick reference information for the current HP Vectra product line. It is intended to be used by HP-qualified service personnel to help with the installation, servicing, and repair of HP Vectra personal computers.

HP Vectra products covered by this handbook are listed below:

286 Vectra PCs

- HP Vectra 286/12 PC

386 Vectra PCs

- HP Vectra QS PC Series
- HP Vectra 386/25 PC
- HP Vectra 386N PC Series
- HP Vectra 386/33N & NI PC Series
- HP Vectra 386s PC Series
- HP Vectra RS PC Series

486 Vectra PCs

- HP Vectra 486 & 486T PC Series
- HP Vectra 486ST PC Series
- HP Vectra 486s/20 PC
- HP Vectra 486U PC Series
- HP Vectra 486N PC Series
- HP Vectra 486N & NI PC Series
- HP Vectra 486N2 PC Series
- HP Vectra 486M & MI PC Series
- HP Vectra 486VL PC Series
- HP Vectra 486XM PC Series
- HP Vectra M2 PC Series
- HP Vectra VE 4/xx PC Series
- HP Vectra VL2 & VL2e PC Series
- HP Vectra XM2 PC Series

The Vectras listed below are beyond their guaranteed support life. Use the edition of the PC Service Handbook listed to find information about these PCs.

HP Vectra ES and ES/12 PCs	8th Edition (5963-6103)
HP Vectra QS/16	7th Edition (5963-3468)

WHAT'S IN VOLUME 1?

All Pentium and Pentium Pro based Vectra PCs are covered in Volume 1. For the detailed list of Vectras covered in Volume 1, refer to the back cover of Volume 1.

INFORMATION ON VECTRA 500 SERIES

For information on HP Vectra 500 Series PCs and accessories, refer to the Vectra 500 Service Handbook 5063-7985.

WHAT'S NEW IN THIS EDITION?

This edition is split into two separate volumes and has a completely new layout. This volume (Volume 2) contains the 286, 386 and 486 based based Vectra PCs. Volume 1 contains the Pentium™ and Pentium™ Pro based Vectra PCs.

For the list of Vectra PCs new in this edition, refer to Volume 1.

Each Vectra is described in its own chapter. The contents of each chapter are organized as follows:

- Models and Accessories
- System Board, BIOS/Setup and Memory
- Part Numbers

There are four appendices that contain information that applies to all Vectras in this volume.

A HP Vectra POST Routine and Error Codes
B HP Vectra Hardware IRQs and Memory Map
C HP Utilities and Operating System Quick Reference
D HP Vectra PC Service Notes

Service notes which have become inactive have been removed from this edition. For information on HP LAN Servers refer to their service documentation.

A revision bar indicates the changes made to the manual.

INTRODUCTION

This chapter provides information on the HP Bulletin Board System (BBS), the tools required for servicing HP Vectra PCs, and gives an overview of the Vectra PCs described in this volume. (To see which Vectras are described in each volume, refer to the quick reference lists on the back cover of each volume.)

A list of model numbers for the Vectras descibed in this volume is given in the last section of this chapter.

HP ELECTRONIC SERVICES

HP operates electronic services that can be accessed by HP Support personnel. These services include an electronic bulletin board system (BBS), a World Wide Web site, and an FTP site. The FTP site is accessible via the World Wide Web as well as through the Internet.

HP Electronic Services can be used to obtain patches, drivers, and system utilities. If a BIOS upgrade is available from HP Electronic Services, it is indicated in the handbook by 'Refer to HP Electronic Services' or 'Refer to HP internal BBS'. Contact your HP Support Organization for more information.

Connecting to the HP BBS:

Number:	+1 (208) 344-1691
Baud Rate:	300, 1200, 2400, 4800, 9600, 14400

Connecting to the HP World Wide Web:

World Wide Web:	www.hp.com/go/vectra

Connecting to the HP FTP site via the Internet:

Alias:	ftp-boi.external.hp.com
Name:	anonymous
Password:	<Enter your email address>

Connecting to the HP FTP site via a World Wide Web browser:

FTP site via WWW:	ftp://ftp.hp.com

TOOLS REQUIRED FOR SERVICING HP VECTRA PCS

The tools required to service the equipment described in this manual include:

- Electrically Conductive Field Service Kit (P/N 9300-1155)
- CE Peripheral Exerciser Disk Kit (45935-63210)
- Datacomm Test Hood, 9-Pin (24540-60010)
- Datacomm Test Hood, 25-Pin parallel (24540-60011)
- Datacomm Test Hood, 25-Pin serial (02620-60062)
- 1/4-Inch Flat Blade Screwdriver
- ACX-15 Torx Screwdriver
- PLCC IC Extractor (5041-2553)

OVERVIEW OF VECTRA PCS IN THIS VOLUME

286 Vectra PCs

Vectra Model	Micro-processor	Co-processor	Accessory Slots*	Disk Controller	Video Controller	Max. RAM
Classic Desktop Vectras (three shelves for disks)						
286/12 PC						
286/12	286-12	287-12	One 8-bit & four 16-bit ISA slots	ST-506 or IDE board	Integrated Super VGA (256 KB)	8 MB (on memory board)

*Accessory slots may be occupied by a disk controller board and a video board.

386 Vectra PCs

Vectra Model	Micro-processor	Co-processor	Accessory Slots*	Disk Controller	Video Controller	Max. RAM
Classic Desktop Vectras (three shelves for disks)						
QS PCs						
QS/16S	386SX-16	387SX-16 or 387SL	One 8-bit & six 16-bit ISA slots	ST-506, or IDE** or ESDI** board	VGA or Super VGA board	8 MB
QS/20	386DX-20	387DX-20				16 MB***
386/25 PC						
286/12	286-12	287-12	One 8-bit & four 16-bit ISA slots	ST-506 or IDE board	Integrated Super VGA (256 KB)	8 MB (on memory board)
Low-Profile Desktop Vectras (two shelves for disks)						
386/16N, 386/20N, 386/25N PCs						
386/16N	386SX-16	387SX-16 or 387SL	Three 16-bit ISA slots	Integrated IDE	Integrated Super VGA (256 KB)	16 MB
386/20N	386SX-20	387SX-20 or 387SL				
386/25N	386SX-25	387SX-25 or 387SL				

*Accessory slots may be occupied by a disk controller board and a video board.
**ST: Seagate Technology; IDE: Integrated Drive Electronics, also known as embedded AT; ESDI: Enhanced Small Device Interface.
***(8 MB on processor board and 8 MB on memory board).

386 Vectra PCs (continued)

Vectra Model	Micro-processor	Co-processor	Accessory Slots*	Disk Controller	Video Controller	Max. RAM
Low-Profile Desktop Vectras (two shelves for disks)						
386/33N & NI PC Series						
386/33N & NI**	386SX-33	387SL Cyrix®	Three 16-bit ISA slots	Integrated IDE	Integrated Ultra VGA+ (512 KB, upgradable to 1 MB)	16 MB
Full-Height Desktop Vectras (four shelves for disks)						
386s PC						
386s/20	386SX-20	387SX-20 or 387SL	Five 16-bit ISA slots	Integrated IDE	Integrated Super VGA (256 KB, upgradable to 512 KB)	16 MB
386s/25	386SX-25	387SX-25 or 387SL				
Deskside Vectras (six shelves for disks)						
RS PCs						
RS/16	386DX-16	387DX or Weitek 3167	Two 8-bit & six 16-bit ISA	ST-506, or ESDI, or high-perf ESDI, or IDE board	VGA board	16 MB
RS/20	386DX-20					
RS/25	386DX-25					
RS/33	386DX-33					

*Accessory slots may be occupied by a disk controller board and a video board.
**The Vectra 386/33NI system boards have an integrated LAN adapter.

486 Vectra PCs

Vectra Model	Micro-processor	Co-processor	Accessory Slots*	Disk Controller	Video Controller	Max. RAM
Deskside Vectras (six shelves for disks)						
486/25 PC and 486T PCs						
486/25	486DX-25	Integrated in 486DX processor. Plus Weitek4167 on 486/33T	Eight 32-bit EISA slots	Integrated IDE	None	64 MB
486/25T	486DX-25					
486/33T	486DX-33					
486ST PCs						
486/33ST	486DX-33	Integrated in 486DX processor	Eight 32-bit EISA slots	Integrated IDE	Integrated Ultra VGA+ (512 KB, upgradable to 1 MB)	64 MB
486/66ST	486DX2-66					
Full-Height Desktop Vectras (four shelves for disks)						
486s/20 PC						
486s/20	486SX-20	487SX-20	Five 32-bit EISA slots	Integrated IDE	Ultra VGA board	64 MB
486U PC Series						
486/25U	486SX-25	487SX-25	Five 32-bit EISA slots	Integrated IDE	Integrated Ultra VGA+ (512 KB, upgradable to 1 MB)	64 MB
486/33U	486DX-33	Integrated in 486DX processor				
486/50U						
486/66U						
Low-Profile Desktop Vectras (two shelves for disks)						
486N (D26xxA) 486N & NI (D27xxA) PC Series**						
486/25N & NI	486SX-25	487SX-25	Three 16-bit ISA slots	Integrated IDE	Integrated Ultra VGA+ (512 KB, upgradable to 1 MB)	48 MB
486s/33N & NI	486SX-33	487SX-33				
486/33N & NI	486DX-33	Integrated in 486DX processor				
486/50N	486DX2-50					
486/66N	486DX2-66					

*Accessory slots may be occupied by a disk controller board and a video board.
**The Vectra NI has an integrated LAN adapter.

486 Vectra PCs (Continued)

Vectra Model	Micro-processor	Co-processor	Accessory Slots*	Disk Controller	Video Controller	Max. RAM
Low-Profile Desktop Vectras (two shelves for disks)						
Vectra N2 PC Series						
4/25	486SX-25	None	Three full-length 16-bit ISA slots	Fast IDE Controller on Local Bus	Integrated Ultra VGA (1 MB, upgradable to 2 MB)	96 MB
4/25si**	486SX-25					
4/33s	486SX-33	None				
4/33si	486SX-33					
4/50	486DX-50	Integrated in micro-processor				
4/50i	486DX-50					
4/50s	486DX-50					
4/50si	486SX-50					
4/66	486DX-66					
4/66i	486DX-66					
4/100	486DX4-100					
4/100i	486DX4-100					
Medium-Profile Desktop Vectras (four shelves for disks)						
486M & MI PC Series						
486/25M & MI	486SX-25	487SX-25	Four 16-bit ISA slots	Integrated IDE	Integrated Ultra VGA+ (512 KB, upgradable to 1 MB)	48 MB
486s/33M & MI	486SX-33	487SX-33				
486/33M & MI	486DX-33	Integrated in 486DX micro-processor				
486/66M	486DX2-66					
486/66N	486DX2-66					

*Accessory slots may be occupied by a disk controller board and a video board.
**Vectra N2 model with integrated LAN adapter.

486 Vectra PCs (Continued)

Vectra Model	Micro-processor	Co-processor	Accessory Slots*	Disk Controller	Video Controller	Max. RAM
Medium-Profile Desktop Vectras (four shelves for disks)						
486VL PC Series						
486/25VL	486SX-25	487SX-25	Four 16-bit ISA slots	Integrated IDE	Integrated Ultra VGA (512 KB, upgradable to 1 MB)	32 MB no parity
486s/33VL	486SX-33	None				
486/33VL	486DX-33	Integrated in 486DX micro-processor				
486/66VL	486DX2-66					
486XM PC Series**						
486s/33XM	486SX-33	487SX-33	Four 16-bit ISA slots	Integrated IDE	Integrated Ultra VGA+ 2 (1 MB, upgradable to 2 MB)	64 MB
486/33XM	486DX-33	Integrated in 486DX micro-processor				
486/50XM	486DX2-50					
486/66XM	486DX2-66					
Vectra M2 PC Series						
4/33s	486SX-33	None	Three full-length 16-bit ISA slots, 1 combo (ISA or VL)	Fast IDE Controller on Local Bus	Integrated Ultra VGA (1 MB, upgradable to 2 MB)	96 MB
4/33si***	486SX-33					
4/50s	486SX-50					
4/50si	486SX-50					
4/50	486DX-50	Integrated in micro-processor				
4/50i	486DX-50					
4/66	486DX-66					
4/66i	486DX-66					
4/100	DX4-100					
4/100i	DX4-100					

*Accessory slots may be occupied by a disk controller board and a video board.
**The Vectra MI, XM, and XP have an integrated LAN adapter.
***Vectra M2 model with integrated LAN adapter.

486 Vectra PCs (Continued)

Vectra Model	Micro-processor	Co-processor	Accessory Slots*	Disk Controller	Video Controller	Max. RAM
Medium-Profile Desktop Vectras (four shelves for disks)						
Vectra VE 4/xx PC Series						
4/50 4/66 4/100	486DX2-50 486DX2-66 486DX4-100	Integrated in 486DX micro-processor	Two 16-bit ISA slots, 1 combo (ISA or PCI), 1 PCI	Integrated Fast IDE controller	Integrated Ultra VGA 2 PCI (1 MB, upgradable to 2 MB)	64 MB
Vectra VL2 PC Series						
4/25e 4/33se 4/50se 4/50e 4/66e	486SX-25 486SX-33 486 SX2-50 486 DX2-50 486 DX2-66	None Integrated in 486DX micro-processor	Four 16-bit ISA slots	ISA Bus IDE controller	Integrated Ultra VGA (512 KB, upgradable to 1 MB)	64 MB
4/33s 4/50s 4/50 4/66 4/100	486SX-33 486SX2-50 486DX2-50 486DX2-66 486DX4-100	None Integrated in 486DX microprocessor		Local Bus IDE controller	Integrated Ultra VGA (1 MB, standard)	
Vectra XM2 PC Series						
4/50 4/50i** 4/66 4/66i 4/100 4/100i	486DX2-50 486DX2-50 486DX2-66 486DX2-66 486DX4-100 486DX4-100	Integrated in 486DX microprocessor	Two 16-bit ISA slots, 1 combo (ISA or PCI), 1 PCI	Integrated Fast IDE controller	Integrated Ultra VGA 2 PCI (1 MB, upgradable to 2 MB)	96 MB

*Accessory slots may be occupied by a disk controller board and a video board.
**Vectra XM2 model with integrated LAN adapter.

SUMMARY OF HP VECTRA MODEL NUMBERS IN THIS VOLUME

Model Number	HP Vectra	Volume & Chapter
D1420A	**HP Vectra QS**	2
D1421A		
D1422A, D1422B		
D1424A, D1424B		
D1425A		
D1427A		
D1430A		
D1432A, D1432B		
D1434A, D1434B		
D1435A		
D1437A		
D1439A		
D1460A		
D1461B, D1461C		
D1462A, D1462B, D1462C		
D1464A, D1464B, D1464C		
D1465A		
D1470A		
D1472A, D1472B		
D1474A, D1474B		
D1475A		
D1477A		
D1481B, D1481C		
D1482B		
D1486B		
D1487B		
D1488B, D1488C		
D1489B, D1489C		
D1492B		
D1496B		
D1497B		
D1491B		
D1498B		
D1499B		

D1500A	**HP Vectra RS**	7
D1501A		
D1502A		
D1600A		
D1601A		
D1602A		
D1603A		
D1604A		
D1606B		
D2001A		
D2002A		
D2003A		
D2004A		
D2020A		
D2021A		
D2022A		
D2023A		
D2024A		
D2025A		
D2080A		
D2082A		
D2083A		
D2219C	**HP Vectra 486 & 486T**	8
D2220A, D2220C		
D2221A, D2221C		
D2222A, D2222C		
D2223A, D2223C		
D2236A		
D2237A		
D2238A		
D2239A		
D2240A		
D2260A	**HP Vectra 486s/20**	10
D2261A		
D2262A		
D2263A		
D2264A		
D2265A		

D2266A	**HP Vectra 486U**	11
D2268A, D2268B		
D2269A, D2269B		
D2272A		
D2274A, D2274B		
D2275A, D2275B		
D2278A		
D2280A, D2280B		
D2281A		
D2284A		
D2286A, D2286B		
D2287A		
D2360A	**HP Vectra 386/25**	3
D2361A		
D2362A		
D2363A		
D2364A		
D2371A		
D2460A	**HP Vectra 286/12**	1
D2461A		
D2462A		
D2463A		
D2464A		
D2467A		
D2470A	**HP Vectra 386/16N**	4
D2471A, D2471B		
D2472A		
D2473A, D2473B		
D2474A		
D2480A	**HP Vectra 386/20N**	4
D2481A, D2481B		
D2482A		
D2483A, D2483B		
D2484A		
D2486A		

D2490A	**HP Vectra 386/25N**	4
D2491A		
D2492A		
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D3255A	**HP Vectra VL2 and VL2e**	20
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1 HP VECTRA 286/12 PC

MODELS AND ACCESSORIES

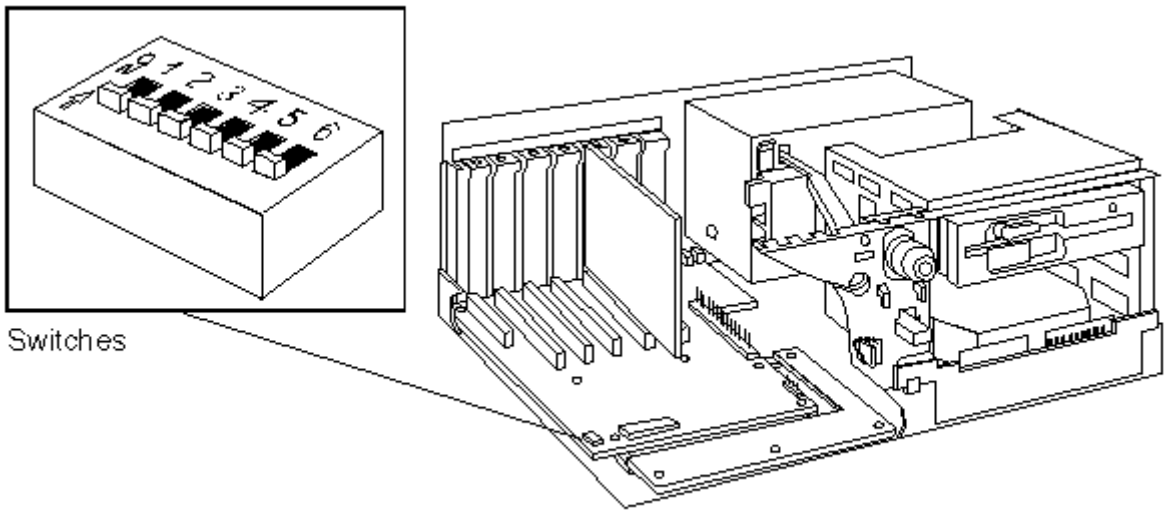
Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM
		Vectra 286/12 PC			
		HP Vectra 286/12 PC (CPL: 05/90; discontinued: 03/93)			
D2460A	1.2 MB (45812A)	None	IDE M-F Board (D2384-63031)	Integrated Super VGA (256 KB)	1 MB
D2461A	1.44 MB (D1667A)	20 MB (D1296A)	ST-506 F-F Board (45945-60013)		
D2462A					
D2463A	1.2 MB (45812A)	42 MB (D1665A)	IDE M-F Board (D2384-63031)		
D2464A **D2467A**	1.44 MB (D1667A)	None			

SUPPORTED ACCESSORIES

2 MB Main Memory Upgrade (2x1 MB modules) kit	D1354A
1 MB Main Memory Upgrade (2x256 KB modules) kit	D1640A
Main Memory Extension Board	D2401A
Intel 80C287Math Coprocessor (12MHz)	D2400A
Security Lock	45986A
Setup Kit (setting up manual and diskettes)	D2402B
Input Devices	
Mouse (PS/2, Microsoft)	C1413A
Keyboard	C1405A
Video Displays	
Monochrome Display	D1192A/B
VGA Color Display 14-inch	D1182A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A

Video Displays (continued)	
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A
Video Boards	
HP Intelligent Controller 20	A1083A
HP Intelligent Controller 10	A1086A
HP Intelligent Controller 10 Memory Board	A1087A
Multifunction Controller Boards	
HP IDE Multifunction Controller Board	D2384-60021
HP ST-506 Four-Function Controller Board	45945-60013
Mass Storage	
Flexible Disk 360 KB 5-1/4 inch	45811A
Flexible Disk 1.2 MB 5-1/4 inch	45812A
Flexible Disk 1.44 MB 3-1/2 inch	D1667A
ST-225 20 MB Hard Disk	D1296A
ST-251 40 MB Hard Disk	D1297A
ESDI 108 MB Hard Disk	D1445A
ESDI 152 MB Hard Disk	D1446A
IDE 42 MB Hard Disk	D1665A
IDE 84 MB Hard Disk	D1666A
IDE 120 MB Hard Disk	D1679A
IDE 168 MB Hard Disk	D1680A
Datacomm and LAN Boards	
Serial Parallel Board	24540B
Dual Serial Board	24541B
Modem 1200 baud	24550A
Modem 2400 baud	24551A
Ethertwist PC Link Adapter	27245A
Ethertwist Adapter/16	27247A
Ethertwist Adapter/16	27247B
HP ThinLAN Board	27250A
Terminal Multiplexor	D2040A

SYSTEM BOARD, BIOS, AND MEMORY



HP Vectra 286/12 PC System Board Switches

Switch		Function	Default
1	**OFF**	**Video interrupt IRQ 9 — disabled**	**OFF**
	ON	Video interrupt IRQ 9 — enabled	
2	**OFF**	**Built-in VGA controller — enabled**	**OFF**
	ON	Built-in VGA Controller — disabled (disable built-in video if another video board is used)	
3	**OFF**	**Mouse interrupt IRQ 12 — enabled**	**OFF**
	ON	Mouse interrupt IRQ 12 — disabled (disable mouse if an accessory board uses IRQ 12)	
4	**OFF**	**Power-on password — enabled**	**OFF**
	ON	Power-on password — disabled	
5	**OFF**	**Option ROMs on I/O backplane — enabled**	**OFF**
	ON	Option ROMs on memory extension board — enabled	
6	**OFF**	*Reserved* (leave at factory default setting)	**OFF**

SETUP AND BIOS HISTORY

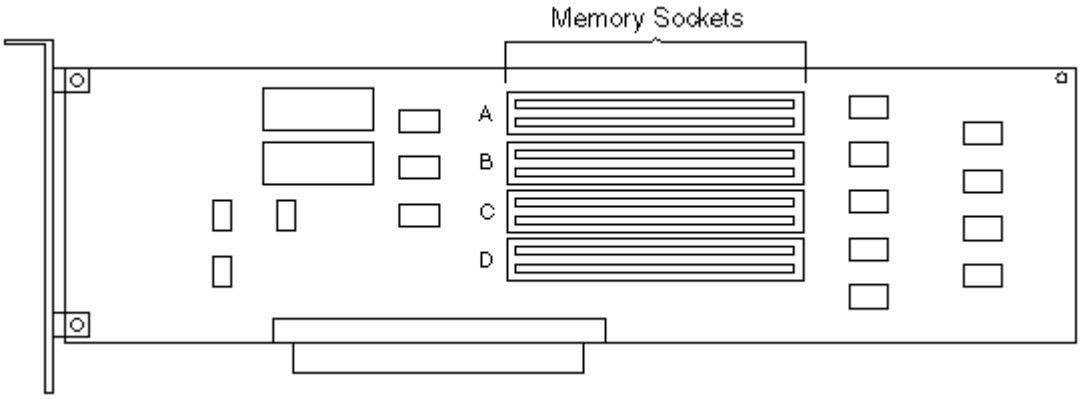
Setup version “C.xx.xx” is used on Vectra 286/12 PCs.

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
H.03.01	Mar 90	First release	-	C.02.00
H.03.02	Nov 90	Second release	-	
H.03.03	Dec 90	Support for floppy-less config & VMI video board	-	C.02.00
		Fix spelling error in an invalid Real Time Clock message		
H.03.04	Dec 91	Change to revision of video BIOS*	5062-1319	

*Vectra 286/12 video BIOS: refer to notes in appendix D.

MAIN MEMORY EXTENSION BOARD (D2401A)

The HP Vectra 286/12 PC system board has 1 MB of main memory. The HP D2401A Main Memory Extension Board can be installed in slot 6 to add up to8 MB of main memory to the HP Vectra 286/12 PC.



D2401A Vectra 286/12 Main Memory Extension Board

Main Memory Configuration

For a TOTAL mem of:	Install Memory Modules in these banks (each bank has two sockets):								Using This Kit(s):
	A	A	B	B	C	C	D	D	
2 MB					256 KB	256 KB	256 KB	256 KB	1 1-MB kit
3 MB					1 MB	1 MB			1 2-MB kit
5 MB					1 MB	1 MB	1 MB	1 MB	2 2-MB kits
6 MB*	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB			3 2-MB kits
8 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB	4 2-MB kits

*For 6 MB or 8 MB, the original 1 MB on the system board is automatically ignored.

HP VECTRA 286/12 PC 800×600 EXTENDED SUPER VGA MODE USERS

1. The new video BIOS version of the Vectra 286/12 PC (version 7.04) includes changes to the vertical refresh rate of the video display. This code is included in the BIOS ROM versions H.03.04 and higher.

   In this version, the refresh rate for 800x600 modes is now 60 Hz instead of 56 Hz. This requires displays capable of running a 38 KHz horizontal scan rate.

   As a result, some displays may no longer work. A known product having this problem is the NEC 2A monitor.

   For users experiencing this incompatibility, when changing the Vectra 286/12 BIOS ROM, two possible solutions may be used:

   * Keep the old BIOS ROM version (H.03.03) on the system board.
     or
   * Use the previous revision (2.75) of the ALTPARM.COM driver.

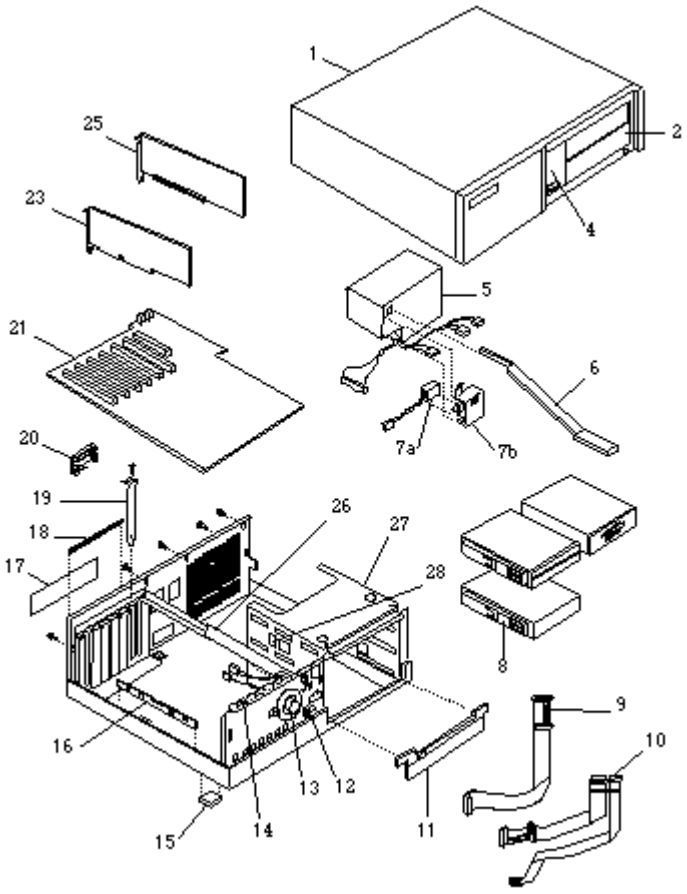
   The following table will help you understand the problem:

	BIOS rev H.03.03	**BIOS rev H.03.04**
ALTPARM.COM version 2.75	Always set to 56 Hz	Use 60 Hz if ALTPARM not loaded Use 56 Hz if ALTPARM loaded
ALTPARM.COM version 2.78	Use 56 Hz if ALTPARM not loaded Use 60 Hz if ALTPARM loaded	Always set to 60 Hz.

2 A known incompatibility exists between the new video BIOS, contained in ROM BIOS H.03.04 and above, and older revisions of the AUTOCAD super VGA driver. When using the new video BIOS and the old AUTOCAD driver (for AUTOCAD Rel 10 only), some colors may disappear.

   The solution to this problem is to use the newer AUTOCAD driver, supporting AUTOCAD Rel 10 and 11. This driver is available on HP internal PCG bulletin boards.

PART NUMBERS



Parts List for HP Vectra 286/12 PC

Item	Description	Replacement Part Number	Exchange Part Number
1	Top Cover-Bezel Assembly	5062-2654	—
2	Disk Drive Cover Plate	45935-40008	—
4	Front Bezel Insert	45935-40004	—
	Keylock Front Bezel Insert	5041-2533	—
5	Power Supply	0950-2190	—
6	Power Switch Shaft	5041-1057	—
7a	Battery	45935-60201	—
7b	Battery Bracket	45945-40006	—
8	5.25-inch Disk Mounting Tray 3.5-inch Disk Mounting Tray	D1445-60001 D1665-60003	— —
9	Flexible Disk Drive Cable, 3.5 & 5.25-inch disk	5181-5623	—
10	Hard Disk Cable:		
	Dual Hard Disk Cable (for ESDI/ST-506 drive)	5181-5646	—
	Hard Disk Cable (for 2nd ESDI/ST-506 drive)	5061-8981	—
	Hard Disk Cable (for IDE drive)	5181-5670	—
11	Drive Door	45945-40004	—
12	LED Assembly	D1173-60002	—
	LED Holder	1400-1461	—
13	Speaker Assembly	02620-60016	—
14	Board Guide	45945-40005	—
15	Bumper Foot	45935-40011	—
16	Side Panel Clip	45945-00011	—
17	Serial Label	5181-4805	—
18	Rear panel RFI clip	5181-0596	—
19	I/O Panel, Blank	45935-00004	—
20	Rear Panel Adapter (included with system board)	5001-4220	—
21	System Board	See PC's system board Parts list	
23	**Disk and I/O Controller Boards** (slot 5):		
	ST-506 Four-Function Controller Board	45945-60013	45945-69023
	IDE Multifunction Controller Board	D2384-63031	D2384-69021
25	**Optional Memory Board** (slot 6):		
	Memory Extension Board (D2401A)	D2401-63001	D2401-69001
26	Chassis Stiffener:	D1410-00003	—
27	Chassis Assembly and Base (includes Bumper Foot, Speaker, I/O Panel and Light Pipe)	5062-2650	—
28	Cable Clamp	1400-1365	—
	Power Connector Adapter Cable	5062-5550	—
	Nameplate: HP Vectra 286/12 Logo	D2460-40001	—
	Screws:		

Refer to Parts List for HP Vectra 386/25 PC, starting on page 3-6.

System Board Parts List for HP Vectra 286/12 PC

Description	Replacement Part Number	Exchange Part Number
System Board (includes integrated Super VGA controller):		—
Vectra 286/12 System Board	D2460-63001	D2460-69001
System Board Holder (bracket)	D1410-00001	—
Processor: 286 12 MHz	Processor not removable	
Math Coprocessor: 287 12 MHz	D2400-60001	—
System Memory Modules:*		
1 MB Main Memory Module	5062-2674	—
256 KB Main Memory Module	1818-4268	—
BIOS ROM Kit	5062-1319	—

*Caution: do not use 1 MB main memory modules 1818-4271 in the Vectra 286/12 PC.

Support Manuals for HP Vectra 286/12 PC

Familiarization Guide	D2460A+49A-90001
Service Manual	D2460-90001
Technical Reference Manual: Hardware and BIOS	D2460-90002

Part Numbers for HP Utility Diskettes

Description	Rev	Date Code	Part #	Info.
Vectra 286/12 Setup & Utilities Disks:				
3.5-inch disk 5.25-inch disk	A.02.01	3138	Available on HP PC Internal BBS	Setup version C.02.00

2 HP VECTRA QS PC SERIES

MODELS AND ACCESSORIES

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM
		Vectra QS PCs			
HP Vectra QS/16S PC (CPL: 05/89; discontinued: 05/92)					
D1470A	1.2 MB) (45812A	None	ST-506 F-F Board (45945-60013)	None	1 MB
D1472A		40 MB (D1297A)		VGA Board (D1180A)	
D1472B		42 MB (D1665A)	IDE* F-F Board (D2384-63031)		
D1474A	1.44 MB (D1667A)	40 MB (D1297A)	ST-506 F-F Board (45945-60013)		
D1474B		42 MB (D1665A)	IDE M-F Board* (D2384-63031)		
D1475A	1.2 MB (45812A)	108 MB (D1445A)	ESDI F-F Board (D1677A)	None	1 MB
D1477A	1.44 MB (D1667A)	None	ESDI F-F Board (D1677A)	None	
D1482B	1.2 MB (45812A)		IDE M-F Board (D2384-63031)		
D1486B		84 MB (D1666A)		VGA Board (D1180A)	
D1487B	1.44 MB (D1667A)				

*IDE: Integrated Drive Electronics, also known as embedded AT.
**M-F Board: Multifunction Controller Board.

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM
From May 90, all QS/16S products had new model numbers:					
D1460A	1.2 MB (45812A)	None	ST-506 F-F Board (45945-60013)	None	1 MB
D1461B	1.44 MB (D1667A)		IDE M-F Board (D2384-63031)		
D1461C					2 MB
D1462A	1.2 MB (45812A)	40 MB (D1297A)	ST-506 F-F Board (45945-60013)	VGA Board (D1180A)	1 MB
D1462B		42 MB (D1665A)	IDE M-F Board (D2384-63031)	VGA (D1180A) or Super VGA (D2382A)	
D1462C				Super VGA Board (D2382A)	2 MB
D1464A	1.44 MB (D1667A)	40 MB (D1297A)	ST-506 F-F Board (45945-60013)	VGA Board (D1180A)	1 MB
D1464B		42 MB (D1665A)	IDE M-F Board (D2384-63031)	VGA (D1180A) or Super VGA (D2382A)	
D1464C				Super VGA Board (D2382A)	2 MB
D1465A	1.2 MB (45812A)	108 MB (D1445A)	ESDI F-F Board (D1677A)	None	1 MB
D1481B		None	IDE M-F Board (D2384-63031)		
D1481C					2 MB
D1488B		84 MB (D1666A)		VGA (D1180A) or Super VGA (D2382A)	1 MB
D1488C				Super VGA Board (D2382A)	2 MB
D1489B	1.44 MB (D1667A)			VGA (D1180A) or Super VGA (D2382A)	1 MB
D1489C				Super VGA Board (D2382A)	2 MB

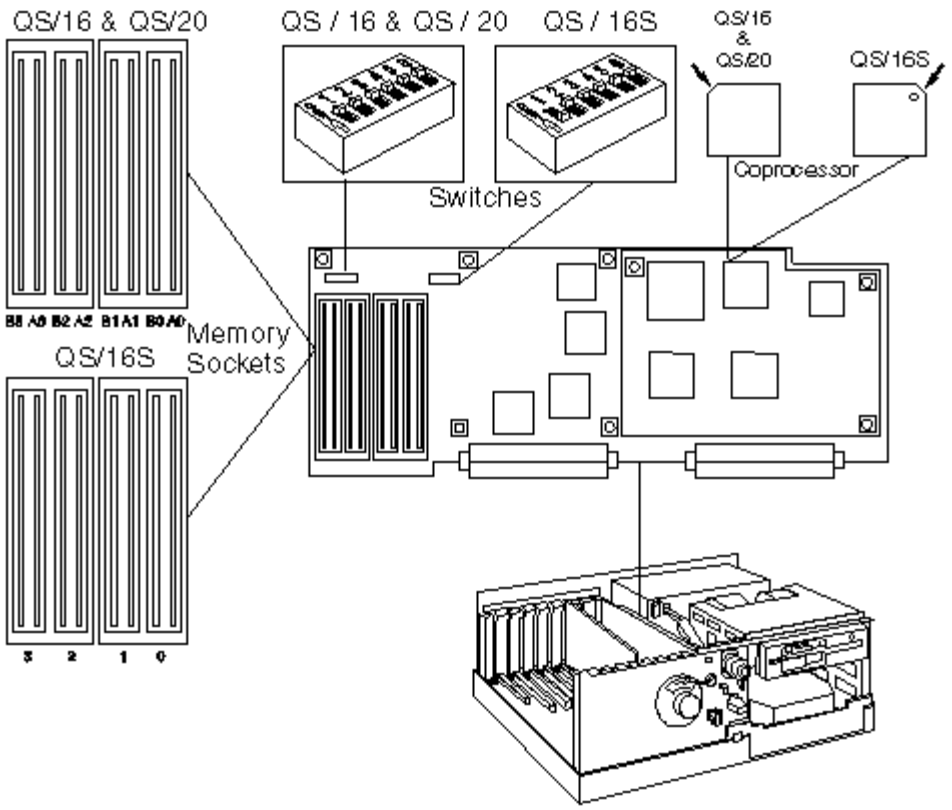
Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM
HP Vectra QS/20 PC (CPL: 03/89; discontinued: 05/92)					
D1430A	None	None	ESDI F-F Board (D1677A)	None	1 MB
D1432A	1.2 MB (45812A)	40 MB (D1297A)	ST-506 F-F Board (45945-60013)	VGA Board (D1180A)	
D1432B		42 MB (D1665A)	IDE M-F Board (D2384-63031)		
D1434A	1.44 MB (D1667A)	40 MB (D1297A)	ST-506 F-F Board (45945-60013)	VGA Board (D1180A)	
D1434B		(42 MB D1665A)	IDE M-F Board (D2384-63031)		
D1435A	1.2 MB (45812A)	108 MB (D1445A)	ESDI F-F Board (D1677A)	None	
D1437A	1.44 MB (D1667A)	None			
D1439A	1.2 MB (45812A)				
D1492B			IDE M-F Board (D2384-63031)		
D1496B		84 MB (D1666A)		VGA Board (D1180A)	
D1497B	1.44 MB (D1667A)				
From May 90, all QS/20 products had new model numbers:					
D1420A	1.2 MB (45812A)	None	ESDI F-F Board (D1677A)	None	1 MB
D1421B	1.44 MB (D1667A)		IDE M-F Board (D2384-63031)		
D1422A	1.2 MB (45812A)	40 MB (D1297A)	ST-506 F-F Board (45945-60013)	VGA Board (D1180A)	
D1422B		42 MB (D1665A)	IDE M-F Board (D2384-63031)	VGA D1180A or Super VGA (D2382A)	
D1424A	1.44 MB (D1667A)	40 MB (D1297A)	ST-506 F-F Board (45945-60013)	VGA Board (D1180A)	
D1424B		42 MB (D1665A)	IDE M-F Board (D2384-63031)	VGA (D1180A) or Super VGA (D2382A)	
D1425A	1.2 MB (45812A)	108 MB (D1445A)	ESDI F-F Board (D1677A)	None	1 MB
D1427A	1.44 MB (D1667A)	None			
D1491B	1.2 MB (45812A)		IDE M-F Board (D2384-63031)		
D1498B		84 MB (D1666A)		VGA (D1180A) or Super VGA (D2382A)	
D1499B	1.44 MB (D1667A)				

SUPPORTED ACCESSORIES

2 MB Memory Upgrade (2x1 MB modules) kit-QS/16S	D1354A
1 MB Memory Upgrade (4x256 KB modules) kit-QS/20	D1640A
4 MB Memory Upgrade (4x1 MB modules) kit-QS/20	D1642A
Main Memory Extension Board-QS/20	D1440A
Intel 80387SX-16 Math Coprocessor-QS/16S	D1453A
Intel 80387SL Math Coprocessor-QS/16S	D2408A
Intel 80387DX Math Coprocessor-QS/20	D2070A
Security Lock	45986A
Setup Kit (setting up manual and diskettes)	D1451C
Video Displays	
Monochrome Display	D1181A/W/G
VGA Color Display	D1182A/B
High Resolution Color Display	D1187A
High Resolution Color Display	D1188A
Monochrome Display	D1192A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A
Video Boards	
HP Intelligent Controller 20	A1083A
HP Intelligent Controller 10	A1086A
HP Intelligent Controller 10 Memory Board	A1087A
HP VGA Board	D1180A
HP Super VGA Board	D2382A
Multifunction Controller Boards	
HP IDE Multifunction Controller Board	D2384-60021
HP ST-506 Four-Function Controller Board	45945-60013
HP ESDI Four-Function Controller Board	D1677A

Mass Storage	
Flexible Disk 360 KB 5-1/4 inch	45811A
Flexible Disk 1.2 MB 5-1/4 inch	45812A
Flexible Disk 1.44 MB 3-1/2 inch	D1667A
ST-225 20 MB Hard Disk	D1296A
ST-251 40 MB Hard Disk	D1297A
ESDI 108 MB Hard Disk	D1445A
ESDI 152 MB Hard Disk	D1446A
IDE 42 MB Hard Disk	D1665A
IDE 84 MB Hard Disk	D1666A
IDE 120 MB Hard Disk	D1679A
IDE 168 MB Hard Disk	D1680A
Datacomm and LAN Boards	
Serial Parallel Board	24540B
Dual Serial Board	24541B
Modem 1200 baud	24550A
Modem 2400 baud	24551A
Ethertwist PC Link Adapter	27245A
Ethertwist Adapter/16	27247A
Ethertwist Adapter/16	27247B
HP ThinLAN Board	27250A
Terminal Multiplexor	D2040A
Input Devices	
HP-HIL Mouse	46060A
Keyboard	C1405A

SYSTEM BOARD, BIOS, AND MEMORY



HP Vectra QS Processor/Memory Board Switches

Switch #		Function	Default		
			QS/16	QS/20	QS/16S
1	ON	Coprocessor — disabled	**ON**	**ON**	**OFF**
	OFF	Coprocessor — enabled			
2	**ON**	**I/O channel speed — asynchronous 8 MHz**	**ON**	**ON**	**ON**
	OFF	I/O channel speed — synchronous 8 MHz QS/16S, 10 MHz QS/20			
3	**ON**	**Base memory — 640KB**	**ON**	**ON**	**ON**
	OFF	Base memory — 512KB			
4	**ON**	**Option ROMs — enabled**	**ON**	**ON**	**ON**
	OFF	Option ROMs — disabled			
5	**ON**	*Reserved* (leave at factory default setting)	**ON**	**ON**	**ON**
6	**ON**	**Coprocessor speed — synchronous 16 MHz QS/16S, 20 MHz QS/20**	**ON**	**ON**	**ON**
	OFF	Coprocessor speed — asynchronous 16 MHz QS/16S, 20 MHz QS/20			

SETUP AND BIOS HISTORY

Setup version “B.xx.xx” is used on Vectra QS PCs.

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
		Vectra QS PCs		
HP Vectra QS/16S PC				
F.02.00	Mar 89	First release	-	Any "B" version
F.02.01	-	Not available		
F.02.02	Nov 89	Provides product design fix for C & T chip set	-	
F.02.03	Nov 89	Same as D.02.03 (QS/20)	-	
F.02.04	Jun 90	Same as D.02.04 (QS/20)	-	
F.02.05	Oct 90	Same as D.02.05 (QS/20)	D1470-83005	
F.02.07	Feb 92	Same as D.02.06 (QS/20)	D1470-83006	
F.02.08	Aug 93	Same as D.02.07 (QS/20)	D1470-83007	

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
HP Vectra QS/20 PC				
D.02.01	Feb 89	First release	-	Any "B" version
D.02.02	Mar 89	Provides fixes for product line defects. One major fix is for Toshiba floppy drive	-	
D.02.03	Oct 89	Support for 3rd party disk drive and HP D1665A, D1666A, D1660A and D1661A Provides fix for system power up/reset to be compatible with IBM and Compaq	-	
D.02.04	Jun 90	Support for HP D1679A and D1680A hard disks to replace HP D1445A, D1446A, D1674A, D1675A, D1676A Add fix to support VMI video board	-	
D.02.05	Oct 90	Provides fixes for Western Digital hardcard 40 & the Ungermann-Bass Network interface board 2237A	D1430-83004	
D.02.06	Feb 92	Provides fixes for problems with: - Sigma L-View video boards - 387 intermittent hang Supports Hard disks greater than 528 MB	D1430-83005	
D.02.07	Aug 93	Adds support for: - Novell NE2100 board - Intel Rapid CAD	D1430-83006	

MAIN MEMORY

The QS/16S processor/memory board has eight sockets for main memory modules, for a maximum of up to 8 MB. Each pair of sockets (labeled 0, 1, 2, and 3) forms a bank.

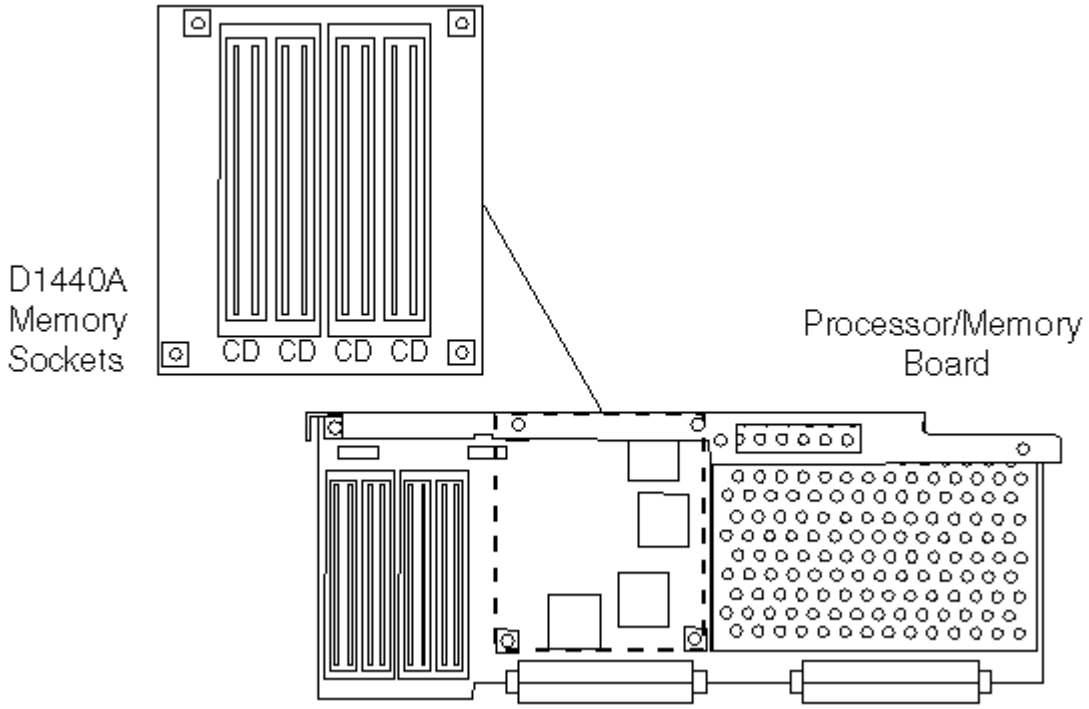
HP Vectra QS/16S PC Main Memory Configuration

For a TOTAL mem of:	Install Memory Modules in these banks (each bank has two sockets):							
	0	0	1	1	2	2	3	3
1 MB	256 KB	256 KB	256 KB	256 KB				
2 MB	256 KB	256 KB	256 KB	256 KB	256 KB	256 KB	256 KB	256 KB
2 MB	1 MB	1 MB						
3 MB*	256 KB	256 KB	256 KB	256 KB	1 MB	1 MB		
4 MB	1 MB	1 MB	1 MB	1 MB				
5 MB*	256 KB	256 KB	256 KB	256 KB	1 MB	1 MB	1 MB	1 MB
6 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB		
8 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB

*For 3 MB & 5 MB configurations, the 256 KB modules must be in banks 0 and 1.

The QS/20 processor/memory board has eight sockets for main memory modules, for a maximum of up to 8 MB. Each pair of sockets (labeled A0 to A3 and B0 to B3) forms a bank.

The main memory of the QS/20 can be expanded further by installing the HP D1440A Main Memory Extension Board (onto the processor/memory board). This board has eight main memory sockets, for a maximum of 8 MB, in two banks labeled C and D.

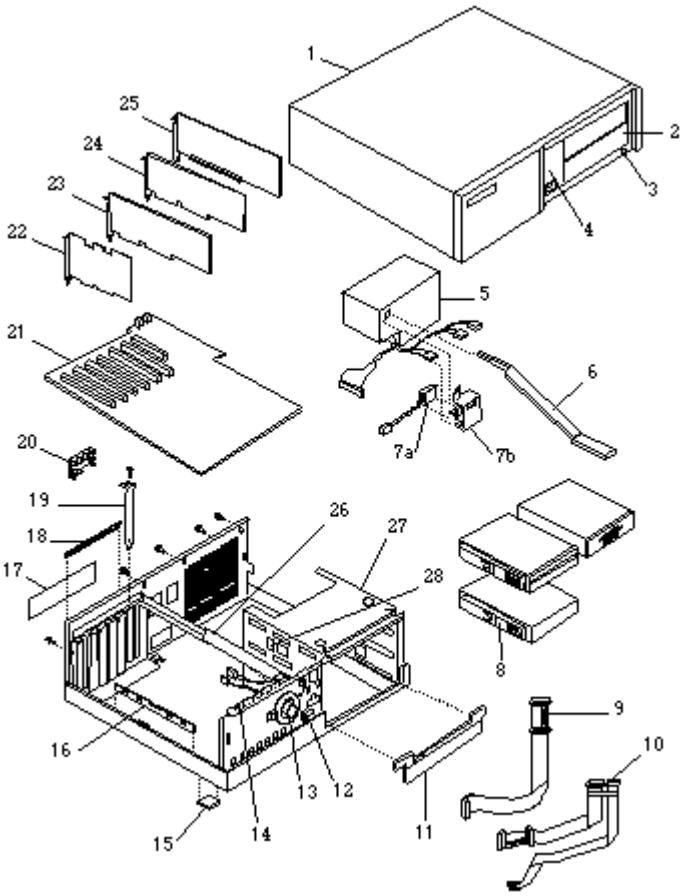


D1440A Vectra QS Main Memory Extension Board

HP Vectra QS/20 PCs Main Memory Configuration

For a TOTAL main memory of:	Install:	In these sockets:
1 MB	Four 256 KB modules	All A sockets
2 MB	Eight 256 KB modules	All A and B sockets
4 MB	Sixteen 256 KB modules	All A, B, C, and D sockets
4 MB	Four 1 MB modules	All A sockets
8 MB	Eight 1 MB modules	All A and B sockets
10 MB	Eight 256 KB modules	All A and B sockets
	and eight 1 MB modules	All C and D sockets
16 MB	Sixteen 1 MB modules	All A, B, C, and D sockets

PART NUMBERS



Parts List for HP Vectra QS/20, and QS/16S PCs

Item	Description	Replacement Part Number
1	Top Cover-Bezel Assembly*	45945-60214
2	Disk Drive Cover Plate	45935-40008
4	Front Bezel Insert	45935-40004
	Keylock Front Bezel Insert	5041-2533
5	Power Supply	0950-2190
6	Power Switch Shaft	5041-1057
7a	Battery	45935-60201
7b	Battery Bracket	45945-40006
8	5.25-inch Disk Mounting Tray 3.5-inch Disk Mounting Tray	D1445-60001 D1665-60003
9	Flexible Disk Drive Cable, 3.5 & 5.25-inch disk	5181-5623
10	Hard Disk Cable:	
	Dual Hard Disk Cable (for ESDI/ST-506 drive)	5181-5646
	Hard Disk Cable (for 2nd ESDI/ST-506 drive)	5061-8981
	Hard Disk Cable (for IDE drive)	5181-5670
11	Drive Door	45945-40004
12	LED Assembly	D1173-60002
	LED Holder	1400-1461
13	Speaker Assembly	02620-60016
14	Board Guide	45945-40005
15	Bumper Foot	45935-40011
16	Side Panel Clip	45945-00011
17	Serial Label	5181-4805
18	Rear panel RFI clip	5181-0596
19	I/O Panel, Blank	45935-00004
20	Rear Panel Adapter	5001-4221

*Includes the front bezel and computer cover.

Parts List for HP Vectra QS//20, and QS/16S PCs (continued)

Item	Description	Replacement Part Number	Exchange Part Number
21	**System Interface Boards:**		
	Vectra QS/20 System Interface Board	D1410-63002	D1410-69002
	Vectra QS/16S System Interface Board	D1470-63002	D1470-69002
	Vectra QS System Interface Board Extender	D1410-00001	
22	**Video Boards** (slot 1):		
	HP VGA Board (D1180A) See Vectra Accessories — Part numbers for Video Boards	—	—
	HP Super VGA Board (D2382A)	D2382-63004	D2382-69004
23	**Disk Controller Boards** (slot 7):		
	ST-506 Four-Function Controller Board	45945-60013	45945-69023
	ESDI Four-Function Controller Board (D1677A)	1150-1802	1150-1803
	IDE Multifunction Controller Board	D2384-63031	D2384-69021
24	**Processor/Memory Boards** (slot 8):		
	Vectra QS/16S Processor/Memory Board	D1470-63031	D1470-69031
	Vectra QS/20 Processor/Memory Board	D1430-63011	D1430-69001
25	**Memory Board** (processor/memory board):		
	QS/16, QS/20 Memory Extension Board (D1440A)	D1440-63001	
	Processors: (socketed)		
	386 20 MHz (Vectra QS/20 only)	1820-6054	
	Math Coprocessors:		
	387 16-33 MHz (Vectra QS/20)	1820-6295	
	387SL (Vectra QS/16S)	D2408-83001	
	Main Memory Modules: (available for QS/20 only)		
	256 KB Main Memory Module (QS/20)	1818-4268	
	1 MB Main Memory Module (QS/20)	5062-2674	
	BIOS ROM Kits:		
	Vectra QS/16S ROM Kit (BIOS F.02.08)	D1470-83007	
	Vectra QS/20 ROM Kit (BIOS D.02.07)	D1430-83006	
	Nameplates:		
	HP Vectra QS/16S Logo	D1470-80010	
	HP Vectra QS/20 Logo	D1430-80010	

Parts List for HP Vectra QS/16, QS/20, and QS/16S PCs

Item	Description	Replacement Part Number
26	Chassis Stiffener:	D1410-00003
27	Chassis Assembly and Base (includes Bumper Foot, Speaker, I/O Panel and Light Pipe)	5062-2650
28	Cable Clamp	1400-1365
	Screws	Refer to Vectra 386/25 Parts List
	RFI Clips	Refer to Vectra 386/25 Parts List
	Power Connector Adapter Cable	5062-5550

Support Manuals for HP Vectra QS/16, QS/20, and QS/16S PCs

Service Manual	D1410-90001
Technical Reference Manual: Hardware and BIOS	D1410-90002

Part Numbers for HP Utility Diskettes

Description	Rev	Date Code	Part #	Info.
Vectra QS Setup & Utilities Disks:				
3.5-inch disk 5.25-inch disk	C.01.03	3139	Available on HP PC Internal BBS	Setup version B.06.01

3 HP VECTRA 386/25 PC

MODELS AND ACCESSORIES

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM
		Vectra 386/25 PC			
HP Vectra 386/25 PC (CPL: 06/90; discontinued: 03/93)					
D2360A	1.2 MB (45812A)	None	IDE M-F Board (D2384-63031)	None	2 MB
D2361A	1.44 MB (D1667A)	84 MB (D1666A)		Super VGA Board (D2382A)	
D2362A		168 MB (D1680A)			
D2363A	1.2 MB (45812A)	84 MB (D1666A)			
D2364A		168 MB (D1680A)			
D2371A	1.44 MB (D1667A)	None		None	

SUPPORTED ACCESSORIES

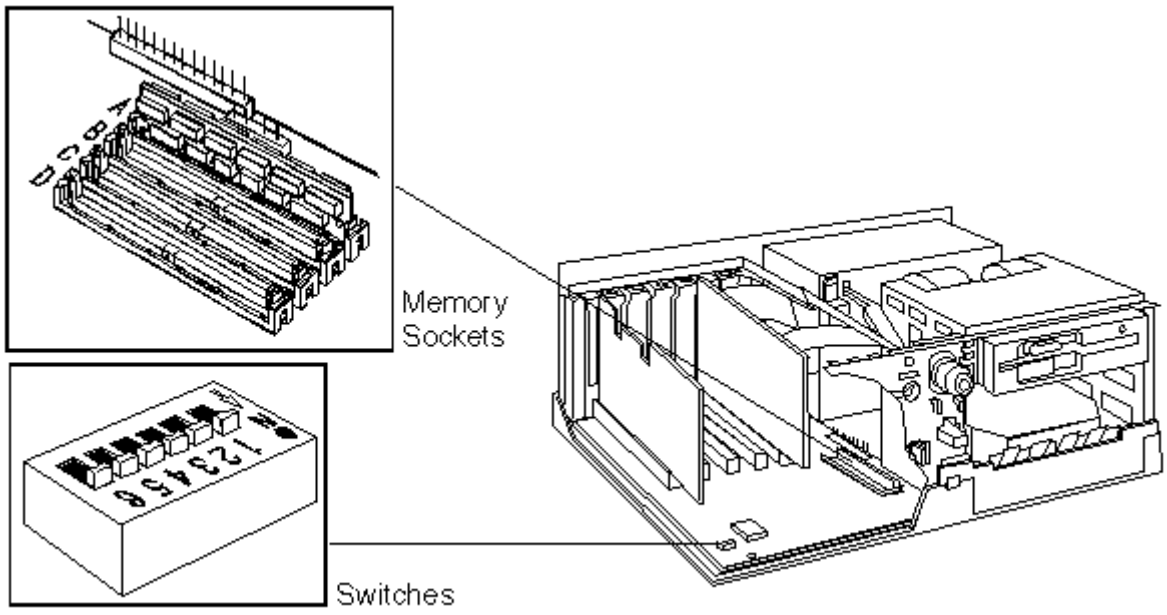
2-MB Main Memory Upgrade (1x2-MB modules) kit	D2381A
8-MB Main Memory Upgrade (1x8-MB modules) kit	D2152A
Intel 80387-25 Math Coprocessor	D2070A
Security Lock	45986A
Setup Kit (*Setting Up* manual and diskettes)	D2380A
Input Devices	
Mouse (PS/2, Microsoft)	C1413A
Keyboard	C1405A

Video Displays	
Monochrome Display	D1192A/B
VGA Color Display 14-inch	D1182A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A
Video Boards	
HP Intelligent Controller 20	A1083A
HP Intelligent Controller 10	A1086A
HP Intelligent Controller 10 Memory Board	A1087A
HP Super VGA Board	D2382A
Multifunction Controller Boards	
HP IDE Multifunction Controller Board	D2384-60021
Mass Storage	
Flexible Disk 360 KB 5-1/4 inch	45811A
Flexible Disk 1.2 MB 5-1/4 inch	45812A
Flexible Disk 1.44 MB 3-1/2 inch	D1667A
IDE 42 MB Hard Disk	D1665A
IDE 84 MB Hard Disk	D1666A
IDE 120 MB Hard Disk	D1679A
IDE 168 MB Hard Disk	D1680A

Datacomm and LAN Boards

Serial Parallel Board	24540B
Dual Serial Board	24541B
Modem 1200 baud	24550A
Modem 2400 baud	24551A
Ethertwist PC Link Adapter	27245A
Ethertwist Adapter/16	27247A
Ethertwist Adapter/16	27247B
HP ThinLAN Board	27250A
Terminal Multiplexor	D2040A

SYSTEM BOARD, BIOS, AND MEMORY



HP Vectra 386/25 PC System Board Switches

Switch		Function	Default
1	**ON**	**Power-on password — enabled**	**ON**
	OFF	Power-on password — disabled	
2	**ON**	**Option ROMs — enabled**	**ON**
	OFF	Option ROMs — disabled	
3	**ON**	**Cache memory — enabled**	**ON**
	OFF	Cache memory — disabled	
4	**ON**	**I/0 channel speed — synchronous 8.3 MHz**	**ON**
	OFF	I/O channel speed — asynchronous 8 MHz	
5	**ON**	**Mouse interrupt IRQ 12 — enabled**	**ON**
	OFF	Mouse interrupt IRQ 12 — disabled (disable mouse if an accessory board uses IRQ 12)	
6	**ON**	*Reserved* (leave at factory default setting)	**ON**

SETUP AND BIOS HISTORY

Setup version “C.xx.xx” is used on Vectra 386/25 PCs.

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
		Vectra 386/25 PC		
HP Vectra 386/25 PC				
J.03.00	May 90	First release		
J.03.01	Sep 90	Provides fixes for problems with: Banyan Vines Chip-set temperature	-	Any "C" version
J.03.02	Mar 91	Support for diskless config. Fix >16 MB Config error	-	C.02.00
J.03.03	Feb 92	Support for dual VGA board boot, 1024 cylinder drives, and improved POST error codes	D2360-83005	

MAIN MEMORY

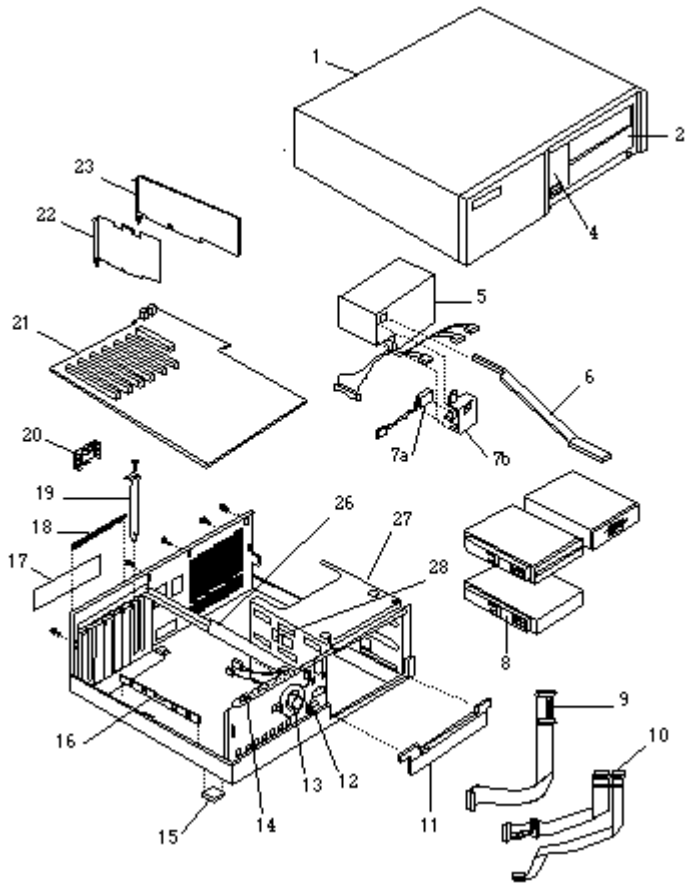
The Vectra 386/25 PC system board has four main memory sockets labeled A, B, C, and D.

Main Memory Configuration

For a TOTAL mem of:	Install Main Memory Modules in These Sockets:				Using this Upgrade Kit(s):
	A	B	C	D	
2 MB	2 MB				Standard
4 MB	2 MB	2 MB			One 2 MB kit
6 MB	2 MB	2 MB	2 MB		Two 2 MB kits
8 MB	2 MB	2 MB	2 MB	2 MB	Three 2 MB kits
or					
8 MB	8 MB				One 8 MB kit*
10 MB	8 MB	2 MB			One 8 MB kit**
12 MB	8 MB	2 MB	2 MB		One 8 MB kit and one 2 MB kit**
14 MB	8 MB	2 MB	2 MB	2 MB	One 8 MB kit and two 2 MB kits**
16 MB	8 MB	8 MB			Two 8 MB kits*
18 MB	8 MB	8 MB	2 MB		Two 8 MB kits**
20 MB	8 MB	8 MB	2 MB	2 MB	Two 8 MB kits and one 2 MB kit**
24 MB	8 MB	8 MB	8 MB		Three 8 MB kits*
26 MB	8 MB	8 MB	8 MB	2 MB	Three 8 MB kits**
32 MB	8 MB	8 MB	8 MB	8 MB	Four 8 MB kits*

*Remove the original 2 MB memory module in socket A.
**Move the original 2 MB memory module in socket A to another socket.

PART NUMBERS



Parts List for HP Vectra 386/25 PC

Item	Description	Replacement Part Number	Exchange Part Number
1	Top Cover-Bezel Assembly*	5062-2654	—
2	Disk Drive Cover Plate	5041-2532	—
4	Front Bezel Insert	5041-2531	—
	Keylock Front Bezel Insert	5041-2533	—
5	Power Supply	0950-2190	—
6	Power Switch Shaft	5041-1057	—
7a	Battery	45935-60201	—
7b	Battery Bracket	45945-40006	—
8	5.25-inch Disk Mounting Tray 3.5-inch Disk Mounting Tray	D1445-60001 D1665-60003	—
9	Flexible Disk Drive Cable, 3.5 & 5.25-inch disk	5181-5623	—
10	Hard Disk Cable:		—
	Dual Hard Disk Cable (for ESDI/ST-506 drive)	5181-5646	—
	Hard Disk Cable (for 2nd ESDI/ST-506 drive)	5061-8981	—
	Hard Disk Cable (for IDE drive)	5181-5670	—
11	Drive Door	45945-40004	—
12	LED Assembly	D1173-60002	—
	LED Holder	1400-1461	—
13	Speaker Assembly	02620-60016	—
14	Board Guide	45945-40005	—
15	Bumper Foot	45935-40011	—
16	Side Panel Clip	45945-00011	—
17	Serial Label	5181-4805	—
18	Rear panel RFI clip	5181-0596	—
19	I/O Panel, Blank	45935-00004	—
20	Rear Panel Adapter (Vectra 286/12 — included with system board)	5001-4220	—
21	System Board	See PC's System Board Parts list	
22	**Video Board** (slot 1):		
	HP Super VGA Board (D2382A)	D2384-63031	D2384-69021
23	**Disk Controller Board** (slot 6):		
	IDE Multifunction Controller Board	D2384-63031	D2384-69021
27	Chassis Assembly and Base (includes Bumper Foot, Speaker, I/O Panel and Light Pipe)	5062-2650	—
28	Cable Clamp	1400-1365	—
	Screws:		—
	Screw, Tapping	0624-0704	—
	Screw	0624-0719	—
	Screw, Plastite 8-16	2680-0310	—
	Screw, TORX/Flat 6-32, or	2680-0311	—

Item	Description	Replacement Part Number	Exchange Part Number
	RFI Clips:		—
	Power Supply Clip	5001-4213	—
	Flexible Disk Drive Clip	5001-4214	—
	Front Bezel Clip	5001-4215	—
	I/O Clip	5001-4216	—
	Hard Disk Drive Clip	5001-4217	—
	Keyboard Ground Clip	5001-4218	—
	Power Connector Adapter Cable	5062-5550	—
	Nameplate: HP Vectra 386/25 Logo	5041-6366	—

*Includes the front bezel and computer cover.

System Board Parts List for HP Vectra 386/25 PC

Description	Replacement Part Number	Exchange Part Number
System Board:		
Vectra 386/25 System Board	D2360-63018	D2360-69020
IDE Multifunction Controller Board	D2384-63031	D2384-69021
Processor: 386 25 MHz	1820-6294	
Math Coprocessor: 387 25 MHz	1820-6295	
Main Memory Modules:		
2-MB Main Memory Module	D2381-63001	
8-MB Main Memory Module (36-bit)	1818-4702	D2152-69001
BIOS ROM Kit	D2360-83005	
8042 Keyboard Controller	1821-0066	

Support Manuals for HP Vectra 386/25 PC

Familiarization Guide	D2360A+49A-90001
Service Manual	D2360-90001
Technical Reference Manual: Hardware and BIOS	D2360-90002

Part Numbers for HP Utility Diskettes

Description	Rev	Date Code	Part #	Info.
Vectra 386/25 Setup & Utilities Disks:				
3.5-inch disk 5.25-inch disk	A.02.01	3138	Available on HP PC Internal BBS	Setup version C.02.00

4 HP VECTRA 386N (D24XXX) PC SERIES

MODELS AND ACCESSORIES

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM
Vectra 386/16, 386/20N and 386/25N PC Series					
HP Vectra 386/16N PC (CPL: 10/91; discontinued: 12/92)					
D2470A	None	None	Integrated IDE Interface	Integrated Super VGA (256 KB)	2 MB
D2471A LAN					
D2472A	1.44 MB (D2035A)	52 MB (D1694A)			
D2473A LAN					
D2474A		None			
From June 92, the following 386/16N products had new model numbers					
D2471B LAN*	None	None	Integrated IDE Interface	Integrated Super VGA (256 KB)	2 MB
D2473B LAN	1.44 MB (D2035A)	52 MB (D1694A)			
HP Vectra 386/20N PC (CPL: 10/91; discontinued: 02/93)					
D2480A	None	None	Integrated IDE Interface	Integrated Super VGA (256 KB)	2 MB
D2481A LAN					
D2482A	1.44MB (D2035A)	52 MB (D1694A)			
D2483A LAN					
D2484A		120 MB (D1696A)			
D2486A		None			

*Models D2471B, D2473B, D2481B, and D2483B include an Ethernet LAN board (HP 27245A) and Vectra boot ROM (which supports Novell Netware and LAN Manager 2.1). Models D2471B and D2473B are not available in the U.S.

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM
From June 92, the following 386/20N products had new model numbers					
D2481B LAN*	None	None	Integrated IDE Interface	Integrated Super VGA (256 KB)	2 MB
D2483B LAN*	1.44 MB (D2035A)	52 MB (D1694A)			
HP Vectra 386/25N PC (CPL: 06/92; discontinued: 03/93)					
D2490A	None	None	Integrated IDE Interface	Integrated Super VGA (256 KB)	4 MB
D2491A LAN**					
D2492A	1.44 MB (D2035A)	85 MB (D2329A)			
D2493A LAN**					
D2494A		170 MB (D2330A)			
D2495A		None			2 MB
D2496A					4 MB
D2497A LAN***		85 MB (D2329A)			
D2498A		40 MB (D2328-60003)			2 MB

*Models D2471B, D2473B, D2481B, and D2483B include an Ethernet LAN board (HP 27245A) and Vectra boot ROM (which supports Novell Netware and LAN Manager 2.1). Models D2471B and D2473B are not available in the U.S.
**Models D2491A (not available in the U.S.) and D2493A include an Ethernet LAN board (HP 27247B).
***Model D2497A includes a Token-Ring LAN Adapter board (HP D2378A).

SUPPORTED ACCESSORIES

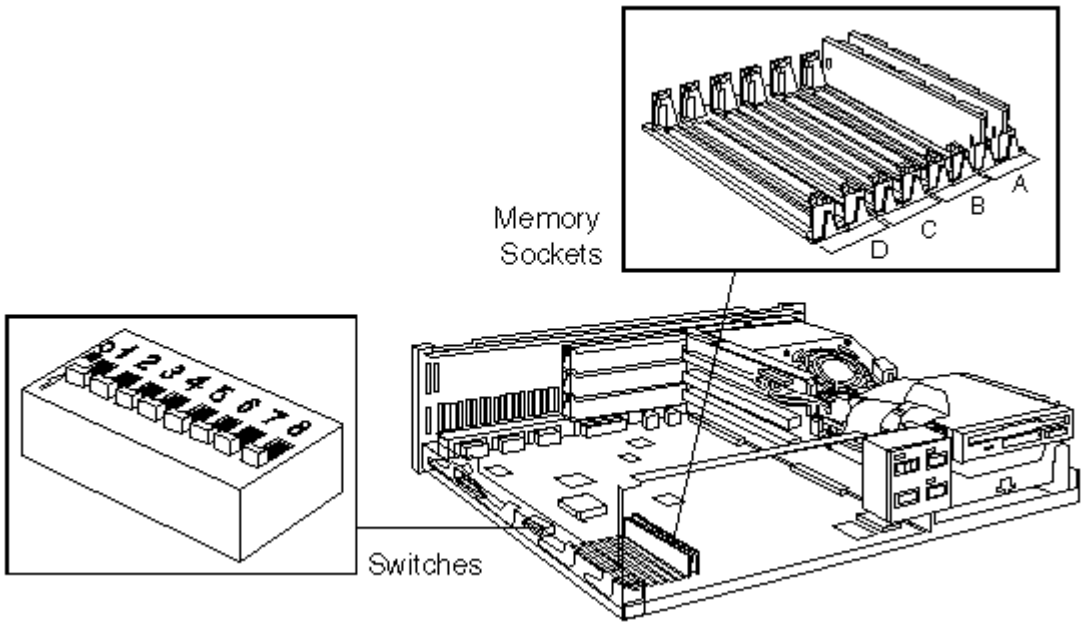
2 MB Main Memory Upgrade (2x1-MB modules) kit	D2406A
8 MB Main Memory Upgrade (2x4-MB modules) kit	D2404A
387SX-16 Math Coprocessor-Vectra 386/16N	D1453A
387SX-20 Math Coprocessor-Vectra 386/20N	D2403A
387SL Math Coprocessor-Vectra 386N	D2408A
Vectra LAN Boot ROM (pack of 6)	D2407B
Setting Up and Using Your HP 386/N-Series PC Manual	D2405B

System Board upgrades

386N PC Series Upgrade to 486/25N (D26xxA) PC	D2619A
386N PC Series Upgrade to 486/33N (D26xxA) PC	D2629A
386N PC Series Upgrade to 486/50N (D26xxA) PC	D2609A
386N PC Series Upgrade to 486/66N (D26xxA) PC	D2689A

Video Displays	
Monochrome Display	D1192A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A
Mass Storage	
Flexible Disk 1.44 MB 3-1/2 inch	D2035A
IDE 52 MB Hard Disk	D1694A
IDE 120 MB Hard Disk	D1696A
IDE 240 MB Hard Disk	D1697A
IDE 85 MB Hard Disk	D2329A
IDE 170 MB Hard Disk	D2330A
3.5-inch, h-h, Tray (5 pack) for non-HP Hard Disk Drives	D2037A
Datacomm and LAN Boards	
Serial Parallel Board	24540B
Dual Serial Board	24541B
Modem 1200 baud	24550A
Modem 2400 baud	24551A
Ethertwist PC Link Adapter	27245A
Ethertwist Adapter/16	27247A
Ethertwist Adapter/16	27247B
HP ThinLAN Board	27250A
Token-Ring Adapter	D2378A
Input Devices	
Mouse (PS/2, Microsoft)	C1413A
Keyboard	C1405B
Keyboard - new style (recommended)	C3756A

SYSTEM BOARD, BIOS, AND MEMORY



System Board Switches

Switch		Function	Default
1	**OFF**	**Mouse interrupt IRQ 12 — enabled**	**OFF**
	ON	Mouse interrupt IRQ 12 — disabled (disable mouse if an accessory board uses IRQ 12)	
2	**OFF**	**Video interrupt IRQ 9 — disabled**	**OFF**
	ON	Video interrupt IRQ 9 — enabled	
3	**OFF**	**Built-in VGA controller — enabled**	**OFF**
	ON	Built-in VGA Controller — disabled (disable built-in video if another video board is used)	
4	**OFF**	**Passwords — enabled**	**OFF**
	ON	Passwords — disabled (erased)	
5	**OFF**	**EEPROM stored config information — valid**	**OFF**
	ON	EEPROM stored config information — erased	
6	**OFF**	**Security mode — disabled**	**OFF**
	ON	Security mode — forced (configuration cannot be changed using Setup)	
7 & 8	**OFF**	***Reserved* (leave at factory default setting)**	**OFF**

SETUP AND BIOS HISTORY

Setup version “D.xx.xx” is used on Vectra 386N PCs.

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
		Vectra 386N (D24xxx) PC Series		
HP Vectra 386N (D24xxx) PC Series				
L.03.04	Sep 91	First release (for 386/16N and 20N).	-	D.01.00
L.03.05	Sep 91	Fixes third-party drive read/write problems (for 386/16N and 20N.)	-	
L.03.06	Jan 92	Fixes LED status and Administration Password problems. Adds support for 1024 cylinder drives (for 386/16N and 20N.)		
L.03.07	June 92	Adds support for 386/25N and SCSI BIOS shadowing, and fixes Mitsubishi memory module errors.	5062-2696*	D.02.00
L.03.08	Oct 92	Fixes Bad memory config. errors code 20CA on 386/25N	-	
L.03.09	Nov 92	Fixes parallel port errors on 386/25N	5063-0842	

*For boot ROM part numbers and revision history, refer to table below.

LAN Boot ROM Revisions-Part Numbers

Description	Rev	Date	Part #	Info.
First release. Supports Novell Netware on Ethernet	A.01.00	Sept 92	5062-2673	For Vectra 386/16N, 386/20N and 386s/20
Adds LAN Manager	A.02.00	Apr 92	5063-2697	For Vectra 386N (D24xxx) PC Series and 386s/20
Adds Novell Netware, LAN Manager, IBM PC Server, and IBM Server for Token-Ring	A.03.00	Aug 92	5063-0828	For Vectra 386N (D24xxx) PC Series and 386s PC Series

MAIN MEMORY

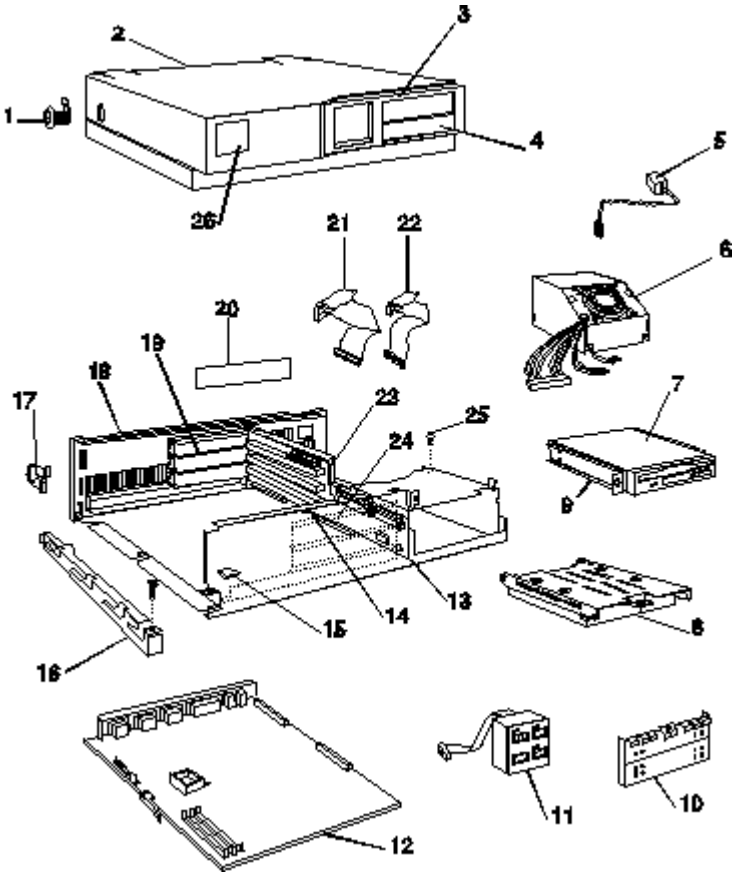
The PC has eight sockets for main memory modules. Each pair of sockets (labeled A, B, C, and D) forms a bank.

Main Memory Configuration

For a TOTAL memory of:	Install Main Memory Modules in These Banks (each bank has two sockets):				Using This Kit(s)	
	A	B	C	D	386/16N 386/20N	386/25N
2 MB	2x1 MB				Standard	-
4 MB	2x1 MB	2x1 MB			One 2 MB kit	Standard
6 MB	2x1 MB	2x1 MB	2x1 MB		Two 2 MB kits	One 2 MB Kit
8 MB	2x1 MB	2x1 MB	2x1 MB	2x1 MB	Three 2 MB kits	Two 2 MB kits
10 MB	2x1 MB	2x4 MB			One 8 MB kit	-
12 MB	2x1 MB	2x1 MB	2x4 MB		One 2 MB kit and one 8 MB kit	One 8 MB kit
14 MB	2x1 MB	2x1 MB	2x1 MB	2x4 MB	Two 2 MB kits and one 8 MB kit	One 2 MB kit and one 8 MB kit
16 MB*	2x4 MB	2x4 MB			Two 8 MB kits	Two 8 MB kits

*Remove the original 1 MB memory modules in banks A and B.

PART NUMBERS



Parts List for HP Vectra 386/16N, 386/20N, and 386/25N PC Series

Item	Description	Replacement Part Number	Exchange Part Number
1	Cover Lock Assembly	5062-5590	—
2	Top Cover-Bezel Assembly (includes items 1, 3, & 4)	5062-2682	—
3	Bezel Insert	5041-1062	—
4	Filler Panel	5041-2554	—
5	Battery	1420-0513	—
6	Power Supply Assembly	5063-0844	—
7	Flexible Disk Drive (3.5-inch)	D2035-63004	—
	Mounting Rails for 3.5-inch non-HP Disk Drives	5063-0309	—
8	Hard Disk Drive (standard)*		
	42 MB (D2328-6000x)	D1694-60003	D1694-69001
	52 MB	D1694-60003	D1694-69001
	85 MB	D2329-60003	D2329-69001
	120 MB	D1696-60007	D1696-69003
	170 MB	D2330-60003	D2330-69001
9	Mounting Rails for 3.5-inch non-HP Disk Drives	5063-0309	
10	Hard Drive RFI Assembly	5062-2694	—
11	Status (Control) Panel	5063-0815	—
12	System Board	See PC's system board parts list	
13	Chassis Assembly (Rear Bezel, Bumper Foot, Serial Label, Board Guide, CPU Guide, and Security Bracket)	5062-2681	—
14	System Board Guide	5041-1063	—
15	Bumper Foot	5181-0394	—
16	Side Panel	5001-4238	—
17	Security Bracket	5001-6869	—
18	Rear Bezel	5062-2680	—
19	I/O Panel, Blank	45935-00004	—
20	Serial Label	5181-0395	—
21	Short Flexible Disk Drive Cable, 3.5-inch disk	5181-9742	—
22	Short Hard Disk Cable (IDE drive)	5181-0385	—
23	Backplane Assembly	5063-0814	—
24	Board Guide Assembly	5041-1070	—
25	Screw, TORX/Flat, 6-32 or	2680-0311	—
	Screw, Machine 6-32 Pilot Point	2360-0514	—
	Nameplate:		
	HP Vectra 386/16N Logo	5041-1060	
	HP Vectra 386/20N Logo	5041-1072	
	HP Vectra 386/25N Logo	5041-2562	

System Board Parts List for HP Vectra 386/16N, 386/20N, and 386/25N PC Series

Description	Replacement Part Number	Exchange Part Number
System Board (includes integrated IDE disk and Super VGA controllers):		
Vectra 386/16N System Board	D2470-63002	D2470-69001
Vectra 386/20N System Board	D2480-63002	D2480-69001
Vectra 386/25N System Board	D2490-63002	D2490-69001
Processor: 386SX	Processor not removable	
386SL Math Coprocessor:		
(Vectra 386/16N, 286/20N, 386/25N PCs)	D2408-83001	
Main Memory Modules:		
1 MB Main Memory Module	5062-2670	
4 MB Main Memory Module	5062-2671	
BIOS ROM Kit	5063-0842	
LAN Boot ROM Kit	5063-0828	

Support Manuals for HP Vectra 386/16N, 386/20N, 386/25N PC Series

Familiarization Guide (Dealer version: D248xA+49A-61)	D248xA+49B-90001
Technical Reference Manual: Hardware and BIOS	5959-7793

Part Numbers for HP Utility Diskettes - (3.5-inch disks only)

Description	Rev	Date Code	Part #	Info.
Setup Disk	B.00.00	3211	Available via HP PC Internal BBS (bulletin board)	
Super VGA Disk	D.00.00	3238		
EtherTwist LAN Disk	E.00.00	3226		

5 HP VECTRA 386/33N & NI (D27XXA) PC SERIES

MODELS AND ACCESSORIES

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	LAN Interface
Vectra 386/33N NI (D27xxA) PC Series						
HP Vectra 386/33N (D27xxA) PC (CPL: 02/93; discontinued:11/94)						
D2701A **D2702A** **D2707A***	1.44 MB (D2035A)	None 85 MB (D2329A)	Integrated IDE controller	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	2 MB 4 MB 2 MB	None
HP Vectra 386/33NI (D27xxA) PC (CPL: 02/93; discontinued: 11/94)						
D2703A **D2704A**** **D2712A*****	1.44 MB (D2035A)	None 85 MB (D2329A)	Integrated IDE controller	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	2 MB 4 MB	Integrated Ethernet

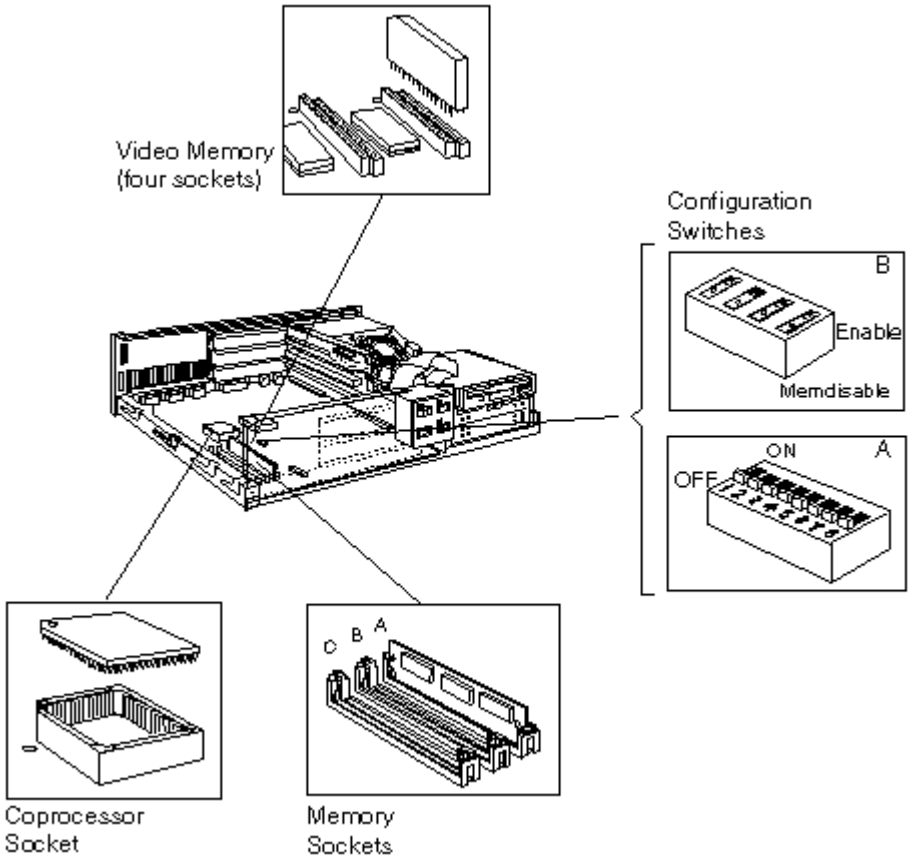
*D2707A includes D1197A color VGA display
**D2704A icnludes MS-Windows for Workgroups software
***D2712A includes MS-Windows software

SUPPORTED ACCESSORIES

512 KB Video Memory Upgrade kit	D2713A
2 MB Main Memory Upgrade kit	D2714A
8 MB Main Memory Upgrade kit	D2715A
Setting Up Your PC and *Using Your PC* manuals	D2711A
System Board upgrades	
Upgrade to 486N Kit	D2716A
Upgrade to 486NI Kit	D2718A
Coprocessor Upgrade	
Upgrade with Cyrix 387SL	Non-HP

Video Displays	
Monochrome Display	D1192A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A
Mass Storage	
Flexible Disk 1.44 MB 3-1/2 inch	D2035A
IDE 120 MB Hard Disk	D1696A
IDE 240 MB Hard Disk	D1697A
IDE 85 MB Hard Disk	D2329A
IDE 170 MB Hard Disk	D2330A
SCSI 430 MB Hard Disk	D1699A
3.5-inch, h-h, Tray (5 pack) for non-HP Hard Disk Drives	D2037A
Datacomm and LAN Boards	
Serial Parallel Board	24540B
Dual Serial Board	24541B
Ethertwist PC Link Adapter	27245A
Ethertwist Adapter/16	27247A
Ethertwist Adapter/16	27247B
HP ThinLAN Board	27250A
Token-Ring Adapter	D2378A
Coaxial LAN Adapter Board	D2746A
Input Devices	
Mouse (PS/2, Microsoft)	C1413A
Keyboard	C1405B
Keyboard - new style (recommended)	C3756A

SYSTEM BOARD, BIOS, AND MEMORY



System Board Switch Block SW-A

Switch		Function	Default
1	**OFF**	**Mouse interrupt IRQ12 — enabled**	**OFF**
	ON	Mouse interrupt IRQ12 — disabled (disable mouse if an accessory board uses IRQ12)	
2	**OFF**	**Video interrupt IRQ9 — disabled**	**OFF**
	ON	Video interrupt IRQ9 — enabled	
3	**OFF**	**Integrated Ultra VGA controller — enabled**	**OFF**
	ON	Integrated Ultra VGA Controller — disabled (disable built-in video if another video board is used)	
4	**OFF**	**Passwords — enabled**	**OFF**
	ON	Passwords — disabled (erased)	
5	**OFF**	**EEPROM stored configuration information — valid**	**OFF**
	ON	EEPROM stored configuration information — erased	
6	**OFF**	**Security mode — disabled**	**OFF**
	ON	Security mode — configuration cannot be changed using Setup	
7	**OFF**	**Flash ROM updates — enabled**	**OFF**
	ON	Flash ROM updates — disabled	
8	**OFF**	**Not used**	**OFF**

System Board Switch Block SW-B

Switch	Name	Function	Default
1 2 3 4	ENABLE MEMDISABLE	**Enables** and disables (MEMDISABLE) the **soldered 2 MB of main memory** Set *all four switches* to MEMDISABLE if you install 16 MB of main memory.	ENABLE

SETUP AND BIOS HISTORY

Setup version “D.xx.xx” is used on Vectra 386/33N & NI PCs.

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
		Vectra 386N & NI (D27xxA) PC Series		
HP Vectra 386N & NI (D27xxA) PC Series				
U.04.01	Feb 93	First release	—	—
U.04.02		Second release	Available on HP PC Internal BBS	N/A

VIDEO MEMORY

The PC is supplied with 512 KB of video memory for a resolution of up to 1024 x 768 in 16 colors. An additional 512 KB of video memory can be installed in four video sockets (to make a total of 1 MB) for a resolution of up to 1024 x 768 in 256 colors. If additional video memory is added, all four sockets must be filled.

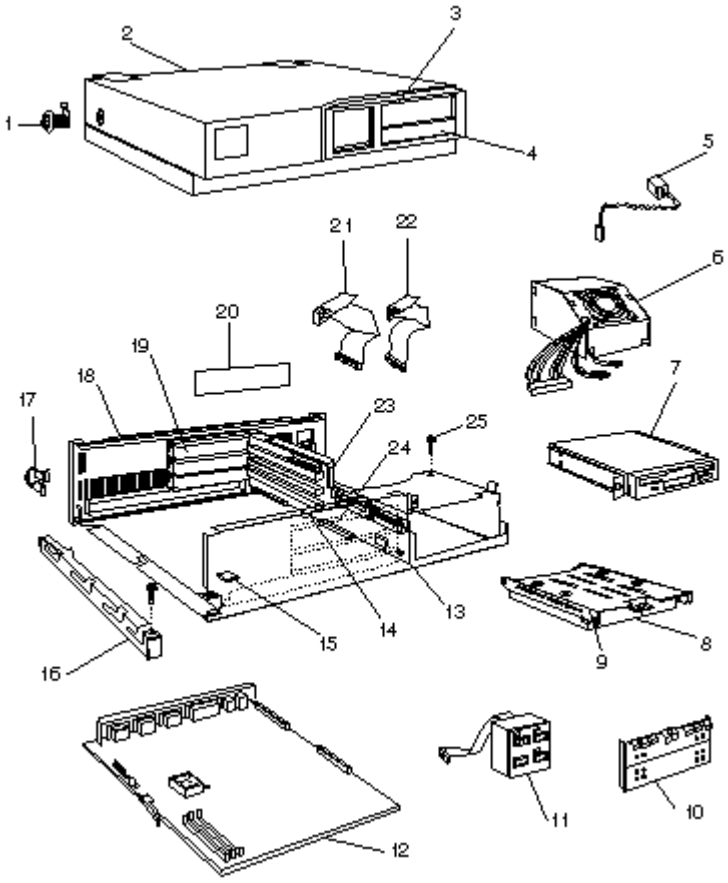
MAIN MEMORY

HP Vectra 386/33N & NI PCs have 2 MB of main memory soldered on the system board, and two banks of sockets on the system board labeled A and B. Each bank contains two sockets (numbered 0 and 1). Main memory modules can be installed, in pairs, up to a maximum of 16 MB.

The soldered 2 MB must be disabled if 16 MB of main memory is installed.

For a TOTAL memory of:	Install main memory modules in these banks:				Set Switch Block SW-B to:
	A		B		
2 MB	Soldered on the system board				ENABLE
4 MB	1 MB	1 MB	-	-	
6 MB	1 MB	1 MB	1 MB	1 MB	
10 MB	4 MB	4 MB	-	-	
12 MB	1 MB	1 MB	4 MB	4 MB	
16 MB	4 MB	4 MB	4 MB	4 MB	MEMDISABLE

PART NUMBERS



Parts List for HP Vectra 386/33N & NI PC Series

Item	Description	Replacement Part Number	Exchange Part Number
1	Cover Lock Assembly	5062-5590	—
2	Top Cover-Bezel Assembly (includes items 1, 3, & 4)	5062-2682	—
3	Bezel Insert	5041-1062	—
4	Filler Panel	5041-2554	—
5	Battery	1420-0513	—
6	Power Supply Assembly	5063-4538	—
7	Flexible Disk Drive	See disk drive parts list in *Accessory Service Handbook*	
8	Standard Hard Disk Drive: 815 MB	D2329-60003	D2329-69001
9	Mounting Rails kit for 3.5-inch non-HP Disk Drives	5063-0309	—
10	Hard Drive RFI Assembly	5062-2694	—
11	Status (Control) Panel	5063-0815	—
12	System Board	See PC's system board parts list	
13	Chassis Assembly (Rear Bezel, Bumper Foot, Serial Label, Board Guide, CPU Guide, and Security Bracket)	5062-2681	—
14	System Board Guide	5041-1063	—
15	Bumper Foot	5181-0394	—
16	Side Panel	5001-4238	—
17	Security Bracket	5001-6869	—
18	Rear Bezel	5062-2680	—
19	I/O Panel, Blank	45935-00004	—
20	Serial Label	5181-0395	—
21	Short Flexible Disk Drive Cable, 3.5-inch disk	5181-9742	—
22	Short Hard Disk Cable (IDE drive)	5181-0385	—
23	Backplane Assembly	5063-0814	—
24	Board Guide Assembly	5041-1070	—
25	Screw, TORX/Flat, 6-32	2680-0311	—
	Nameplate		
	HP Vectra 386/33N Logo	5181-9790	
	HP Vectra 386/33NI Logo	5181-9791	

System Board Parts List for HP Vectra 386/33N & NI PC Series

Description	Replacement Part Number	Exchange Part Number
System Board (includes integrated IDE disk and Ultra VGA+ controllers, and integrated Ethernet on NI models:		
Vectra 386/33N System Board	D2701-63001	D2701-69001
Vectra 386/33NI System Board	D2703-63001	D2703-69001
LAN Adapters:		
Coaxial Adapter Board (D2746A)	D2746-63001	
Processor: 386SX-33	Processor not removable	
Math Coprocessor: 387SX-33	Non-HP	
Main Memory Modules:		
1 MB Main Memory Module (60 ns)	D2714-83001	
4 MB Main Memory Module (60 ns)	D2715-83001	
Video Memory Modules:		
512 KB Video Memory kit (D2713A)	D2713-83001	

Support Manuals for HP Vectra 386/33N & NI PC Series

Familiarization Guide	D27xxA+49A-90001
Technical Reference Manual: Hardware and BIOS	5961-4523

Part Numbers for HP Utility Diskettes (3.5-inch disks only)

Description	Rev	Date Code	Part #	Info.
Windows & DOS Video Drivers	A.01.03	3338	Refer to HP Internal BBS	Kit
OS/2 Video Drivers	A.01.00	3301		
Lan Drivers for HP Integrated Ethernet Interface	A.02.00	3395		

6 HP VECTRA 386S PC SERIES

MODELS AND ACCESSORIES

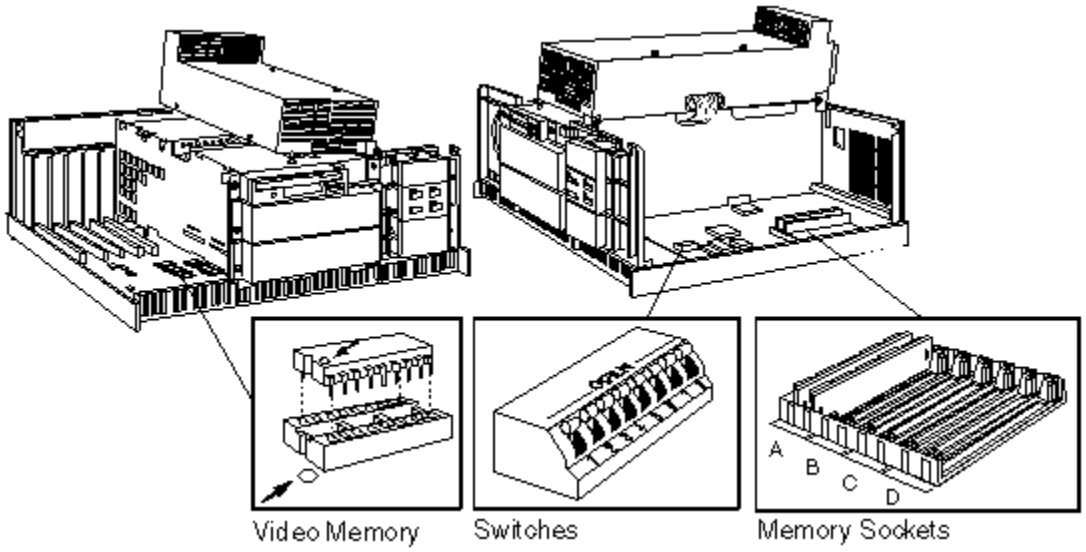
Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM
		Vectra 386s PCs			
HP Vectra 386s/20 PC (CPL: 02/92; discontinued: 12/92)					
D2512A	1.44 MB (D2035A)	52 MB (D1694A)	Integrated IDE Interface	Integrated Super VGA (256 KB, upgradeable to 512 KB)	2 MB
D2513A		120 MB (D1696A)			
D2514A	1.44 MB (D2035A)	None			
D2515A	1.2 MB (D2036A)				
HP Vectra 386s/25 PC (CPL: 06/92; discontinued: 04/93)					
D2570A	1.2 MB (D2036A)	85 MB (D2329A)	Integrated IDE Interface	Integrated Super VGA (256 KB, upgradeable to 512 KB)	4 MB
D2571A		170 MB (D2330A)			
D2572A	1.44 MB (D2035A)	85 MB (D2329A)			2 MB
D2574A		None			
D2575A	1.2 MB (D2036A)				
D2578A	1.44 MB (D2035A)	85 MB (D2329A)			4 MB
D2579A		170 MB (D2330A)			

SUPPORTED ACCESSORIES

256 KB Video Memory Upgrade kit (8x32 KB modules)	D2383B
2 MB Main Memory Upgrade (2x1 MB modules) kit	D2406A
8 MB Main Memory Upgrade (2x4 MB modules) kit	D2404A
387SX-20 Math Coprocessor-Vectra 386s/20 only	D2403A
387SL Math Coprocessor-Vectra 386s/20 & 386s/25	D2408A
Vectra LAN Boot ROM (pack of 6)	D2407B
Setting Up Your HP Vectra 386s Manual	D2565B
System Board Upgrade Kits (see 486U PC Series)	

Video Displays	
Monochrome Display	D1181A/W/G
VGA Color Display	D1182A/B
Monochrome Display	D1192A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A
Multifunction Controller Boards	
HP ISA SCSI-2 Host Adapter Board	D1682A
Mass Storage	
Flexible Disk 1.44 MB 3-1/2 inch	D2035A
Flexible Disk 1.2 MB 5-1/4 inch	D2036A
IDE 52 MB Hard Disk	D1694A
IDE 120 MB Hard Disk	D1696A
IDE 240 MB Hard Disk	D1697A
IDE 85 MB Hard Disk	D2329A
IDE 170 MB Hard Disk	D2330A
SCSI 430 MB Hard Disk	D1699A
Datacomm and LAN Boards	
Token-Ring Adapter	D2378A
Input Devices	
Mouse (PS/2, Microsoft)	C1413A
Keyboard - new style (recommended)	C3756A

SYSTEM BOARD, BIOS, AND MEMORY



System Board Switches

Switch #*		Function	Default
1	**OFF**	**Mouse interrupt IRQ 12 — enabled**	**OFF**
	ON	Mouse interrupt IRQ 12 — disabled (disable mouse if an accessory board uses IRQ 12)	
2	**OFF**	**Video interrupt IRQ 9 — disabled**	**OFF**
	ON	Video interrupt IRQ 9 — enabled	
3	**OFF**	**Built-in VGA controller — enabled**	**OFF**
	ON	Built-in VGA Controller — disabled (disable built-in video if another video board is used)	
4	**OFF**	**Passwords — enabled**	**OFF**
	ON	Passwords — disabled (erased)	
5	**OFF**	**EEPROM stored config information — valid**	**OFF**
	ON	EEPROM stored config information — erased	
6	**OFF**	**Security mode — disabled**	**OFF**
	ON	Security mode — forced (configuration cannot be changed using Setup)	
7 & 8	**OFF**	**Reserved (leave at factory default setting)**	**OFF**

*Switch: OFF = OPEN; ON = CLOSED

SETUP AND BIOS HISTORY

Setup version “D.xx.xx” is used on Vectra 386s PCs.

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
		Vectra 386s PC		
HP Vectra 386s PC				
N.03.00	Nov 91	First release	D2512-83001	D.01.00
N.03.01	Apr 92	Adds memory initialization delay to correct RAM error when using Mitsubishi memory modules	D2512-83002	
N.03.02	July 92	Adds support for 386s/25	5063-0822	D.02.01
N.03.04	Nov 92	—	5063-0860	D.02.01

LAN Boot ROM Revisions-Part Numbers

Description	Rev	Date	Part #	Info.
First release. Supports Novell Netware on Ethernet	A.01.00	Sept 92	5062-2673	For Vectra 386/16N, 386/20N and 386s/20
Adds LAN Manager	A.02.00	Apr 92	5063-2697	For Vectra 386N (D24xxx) PC Series and 386s/20
Adds Novell Netware, LAN Manager, IBM PC Server, and IBM Server for Token-Ring	A.03.00	Aug 92	5063-0828	For Vectra 386N (D24xxx) PC Series and 386s PC Series

VIDEO MEMORY

The PC is supplied with 256 KB of video RAM. An additional 256 KB of video RAM can be installed in eight video sockets (to make a total of 512 KB video memory). Four of the video sockets are located under the disk drive bridge.

MAIN MEMORY

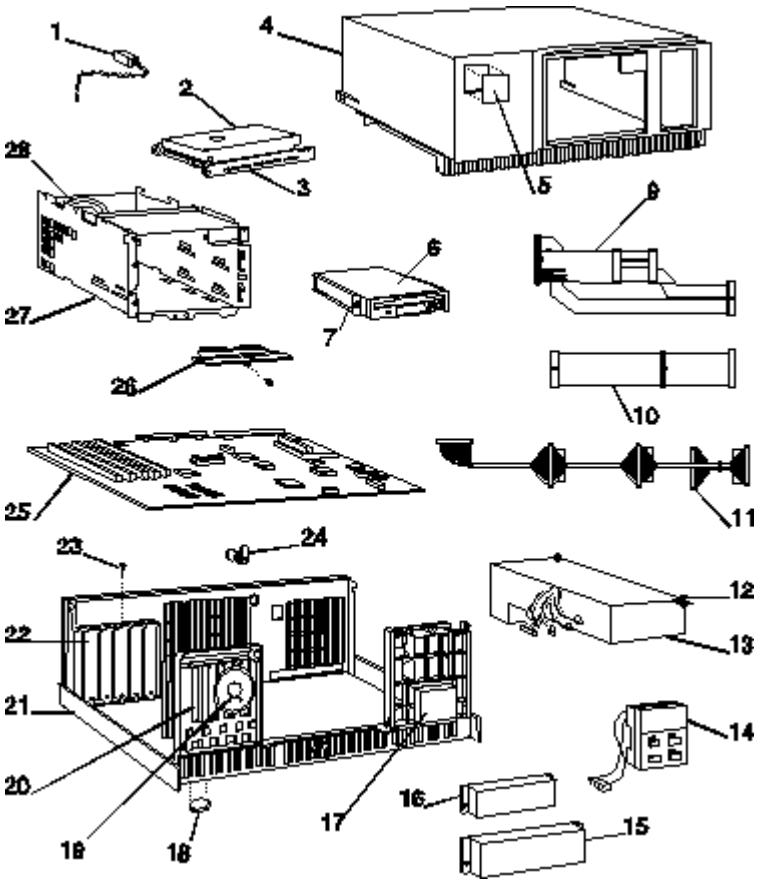
The PC has eight sockets for main memory modules. Each pair of sockets (labeled A, B, C, and D) forms a bank.

Main Memory Configuration

For a TOTAL mem of:	Install Memory Modules in these banks (each bank has two sockets):								Using This Kit(s):
	A	A	B	B	C	C	D	D	
2 MB	1 MB	1 MB							Standard
4 MB	1 MB	1 MB	1 MB	1 MB					One 2 MB kit
6 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB			Two 2 MB kits
8 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB	Three 2 MB kits
10 MB	1 MB	1 MB	4 MB	4 MB					One 8 MB kit
12 MB	1 MB	1 MB	1 MB	1 MB	4 MB	4 MB			One 2 MB kit and one 8 MB kit
14 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB	4 MB	4 MB	Two 2 MB kits and one 8 MB kit
16 MB	4 MB	4 MB	4 MB	4 MB					Two 8 MB kits*

*Remove the original 2 MB (2x1 MB modules) from bank A.

PART NUMBERS



Parts List for HP Vectra 386s PC

Item	Description	Replacement Part Number	Exchange Part Number
1	Battery	1420-0513	—
2	Hard Disk Drive (standard):		
	52 MB	D1694-60003	D1694-69001
	85 MB	D2329-6003	D2329-69001
	120 MB	D1697-60007	D1697-69001
	170 MB	D2330-60003	D2330-69001
3	3.5-inch, h-h, Tray (5 pack) for non-HP hard disk drives	Order D2037A (bottom & rear positions) D2198A (front) includes HDD activity light	
4	Top Cover-Bezel Assembly	5062-5593	—
5	Nameplate		
	HP Vectra 386s/20 Logo	5041-2552	—
	HP Vectra 386s/25 Logo	5041-2574	—
6	3.5-inch Flexible Disk Drive	D2035-63021	—
7	Mounting Rails for 3.5-inch non-HP Disk Drives	5063-0309	—
9	Flexible Disk Drive Cable, 3.5 & 5.25-inch	5181-0391	—
10	Hard Disk Cable (IDE drive)	5181-0392	—
11	Hard Disk Cable (SCSI drive)	5181-0397	—
	SCSI Disk Activity Light Cable (supplied with SCSI drive)	5181-5684	—
12	Snap Fastener	1390-0882	—
13	Power Supply Assembly	5063-0339	—
14	Status (Control) Panel	5062-5600	—
15	Filler Panel, 5.25-inch	5062-5597	—
16	Filler Panel, 3.5-inch	5062-5595	—
17	Control Panel Filler Assembly	5063-0303	—
18	Bumper Foot	5181-0394	—
19	Speaker Assembly	02620-60016	—
20	Board Guide Assembly	5041-1066	—
21	Base	5062-5592	—
22	I/O panel, Blank	45935-00004	—
23	Screw, 6-32 Pilot Point	0624-0727	—
24	Keylock Assembly	5062-5599	—
25	System Board	See PC's system board parts list	
26	Retainer Assembly (Bottom Disk)	5001-6853	—
27	Bridge/Lid Assembly	5063-0306	—
28	Fan Assembly	5063-0307	—

System Board Parts List for HP Vectra 386s PC

Description	Replacement Part Number	Exchange Part Number
System Board (includes integrated IDE disk and Super VGA controller):		
Vectra 386s/20 System Board	D2512-63005	D2512-69005
Vectra 386s/25 System Board	D2573-63005	D2573-69005
Disk Controller Boards (slot 4):		
HP ISA SCSI Host Adapter (D1682A)	1150-1837	1150-1887
D1682A SCSI Board Jumpers	1258-0209	—
Processor: 386SX 20 MHz and 386SX 25 MHz	Processors not removable	
Coprocessor:		
387SL (Vectras 386s/20 and 386s/25)	D2408-83001	—
Main Memory Modules:		
1 MB Main Memory Module	5062-2670	—
4 MB Main Memory Module	5062-2671	—
Video Memory Modules: 256 KB kit	8 1818-5235	—
BIOS ROM Kit	5063-0822	—
LAN Boot ROM Kit	5063-0828	—

Support Manuals for HP Vectra 386s PC

Familiarization Guide	D2951+49B-90001
Technical Reference Manual: Hardware and BIOS	D2512-90001

Part Numbers for HP Utility Diskettes

Description	Rev	Date Code	Part #	Info.
3.5-inch disk	C.00.00	3224	Available on HP	Kit
	B.00.00	3224	PC Internal BBS	Setup Disk
	D.00.00	3238		Video Disk
5.25-inch disk	C.00.00	3224	Available on HP	Kit
	B.00.00	3224	PC Internal BBS	Setup Disk
	D.00.00	3238		Video Disk

7 HP VECTRA RS PC SERIES

MODELS AND ACCESSORIES

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM
		Vectra RS PCs			
HP Vectra RS/16 PC (CPL: 03/88; discontinued: 03/89)					
D1500A	1.2 MB (45812A)	40 MB (D1297A)	ST-506 F-F Board (45945-60013)	None	1 MB
D1501A		103 MB (D1674A)	ESDI F-F Board (D1677A)	VGA Board (D1180A)	2 MB
D1502A				None	
HP Vectra RS/20 PC (CPL: 03/88; discontinued: 03/89)					
D1600A	1.2 MB (45812A)	40 MB (D1297A)	ST-506 F-F Board (45945-60013)	None	1 MB
D1601A		103 MB (D1674A)	ESDI F-F Board (D1677A)	VGA Board (D1180A)	2 MB
D1602A				None	
D1603A		155 MB (D1675A)			
D1604A		310 MB (D1674A)			
D1606B	1.2 MB (45812A) *and* 1.44 MB (D1667A)	610370 MB (D1674A)		VGA Board (D1180A) (512 KB)	4 MB
HP Vectra RS/20C PC (CPL: 01/89; discontinued: 10/90)					
D2001A	1.2 MB (45812A)	None	ESDI F-F Board (D1677A)	None	1 MB
D2002A		103 MB (D1674A)			
D2003A		155 MB (D1675A)			
D2004A					4 MB
HP Vectra RS/25 PC (CPL: 01/89; discontinued: 08/92)					
D2021A	1.2 MB (45812A)	None	ESDI F-F Board (D1677A)	None	1 MB
D2022A		103 MB (D1674A)			
D2023A		155 MB (D1675A)			
D2024A					4 MB
D2025A		310 MB (D1674A)			

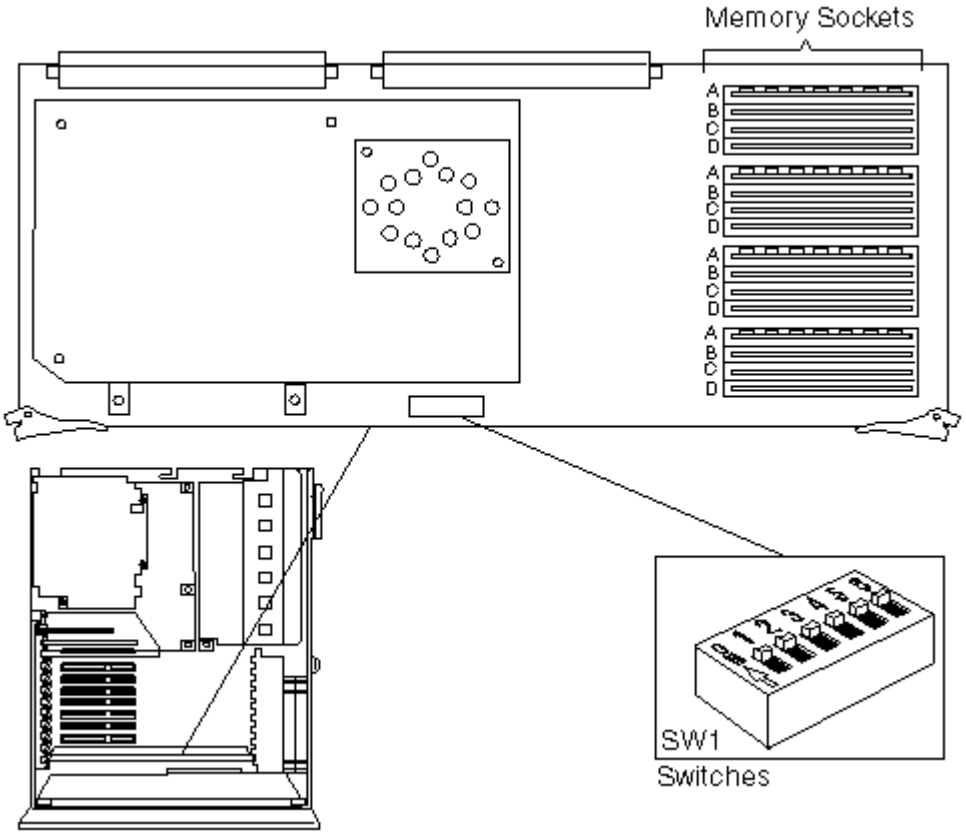
Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM
	From April 91, all RS/25C products have new model numbers:				
D2020A	1.2 MB (45812A)	None	IDE M-F Board (D2384-63031)	None	4 MB
D2080A	1.44 MB (D1667A)	168 MB (D1680A)			
D2082A					
D2083A		330 MB (D1660A)	IDE M-F Board (D2384-63031) *and* ESDI Board (D1664A)		

SUPPORTED ACCESSORIES

1 MB Main Memory Upgrade (4x256 KB modules) kit	D1640A
8 MB Main Memory Upgrade (8x1 MB modules) kit	D1641A
4 MB Main Memory Upgrade kit (4x1 MB modules) kit	D1642A
Intel 80387DX Match Coprocessor	D2070A
Flexible Disk Expander Board	D1678A
Setup Kit (*Setting Up* manual and diskettes)	D2053B
Input Devices	
HP-HIL Mouse	46060A
Keyboard	C1405A
Video Boards	
HP VGA Board	D1180A
HP Super VGA Board	D2382A
Video Displays	
Monochrome Display	D1181A/W/G
VGA Color Display	D1182A/B
Monochrome Display	D1192A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A

Multifunction Controller Boards	
HP IDE Multifunction Controller Board	D2384-60021
HP ST-506 Four-Function Controller Board	45945-60013
HP ESDI High Performance Controller Board	D1664A
HP ESDI Four-Function Controller Board	D1677A
Mass Storage	
Flexible Disk 360 KB 5-1/4 inch	45811A
Flexible Disk 1.2 MB 5-1/4 inch	45812A
Flexible Disk 1.44 MB 3-1/2 inch	D1667A
ST-225 20 MB Hard Disk	D1296A
ST-225 40 MB Hard Disk	D1297A
ESDI 108 MB Hard Disk	D1445A
ESDI 152 MB Hard Disk	D1446A
ESDI 330 MB Hard Disk	D1660A
ESDI 670 MB Hard Disk	D1661A
ESDI 103 MB Hard Disk	D1674A
ESDI 155 MB Hard Disk	D1675A
ESDI 310 MB Hard Disk	D1676A
IDE 42 MB Hard Disk	D1665A
IDE 84 MB Hard Disk	D1666A
IDE 120 MB Hard Disk	D1679A
IDE 168 MB Hard Disk	D1680A
IDE Dual 168 MB Hard Drives	D1688A
Datacomm and LAN Boards	
Serial Parallel Board	24540B
Dual Serial Board	24541B
Modem 1200 baud	24550A
Modem 2400 baud	24551A
Ethertwist PC Link Adapter	27245A
Ethertwist Adapter/16	27247A
Ethertwist Adapter/16	27247B
HP ThinLAN Board	27250A
Terminal Multiplexor	D2040A
Token-Ring Adapter	D2378A

SYSTEM BOARD, BIOS, AND MEMORY



Processor/Memory Board Switches

Switch		Function	Default
1	**ON**	**Coprocessor — enabled**	**ON**
	OFF	Coprocessor — disabled	
2	**ON**	**I/O channel speed — asynchronous 8 MHz**	**ON**
	OFF	I/O channel speed* — synchronous 8 MHz RS/16, 10 MHz RS/20 and RS/20C, 12.5 MHz RS/25C	
3	**ON**	**Base memory — 640 KB**	**ON**
	OFF	Base memory — 512 KB	
4	**ON**	**Option ROMs — enabled****	**ON**
	OFF	Option ROMs — disabled	
5	**ON**	***Reserved* (leave at factory default setting)**	**ON**
6	ON	*Reserved* (leave at factory default setting)	**ON**

*I/O speed: only use 10 MHz or 12.5 MHz if all the accessory boards can use these speeds.
**Option ROMs: leave switch 4 ON even if no option ROMs are installed. (On boards with a serial # <2947, if switch 4 is set to OFF and there are no option ROMs, the PC will not boot.)

SETUP AND BIOS HISTORY

Setup version "B.xx.xx" is used on Vectra RS PCs.

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
		Vectra RS PCs		
HP Vectra RS/16 PC				
C.02.01	Mar 88	First release	ROM 0: 1818-4390 ROM 1: 1818-4391	Any "B" version
HP Vectra RS/20 PC				
C.02.01	Jun 90	First release	ROM 0: 1818-4388 ROM 1: 1818-4389	Any "B" version
HP Vectra RS/20C PC				
E.02.00	Dec 88	First release	-	Any "B" version
E.02.02	Oct 89	Same as D.02.02 and D.02.03 of the QS/20	D2010-83002	
HP Vectra RS/25C PC				
E.02.00	Dec 88	First release	-	Any "B" version
E.02.01	Aug 89	Same as D.02.02 (QS/20)	-	
E.02.02	Aug 89	Same as D.02.03 (QS/20)	-	
E.02.03	Jun 90	Same as D.02.04 (QS/20)	-	
E.03.04	-	Not released	-	
E.03.05	-	Not released	-	
E.02.06	Feb 91	Same as D.02.05 (QS/20) Support hard-disk volumes larger than 528 MB	D2060-83006	
E.02.07	Mar 92	Fixes Coprocessor test hang problems with Cyrix Coprocessor	D2060-83007	

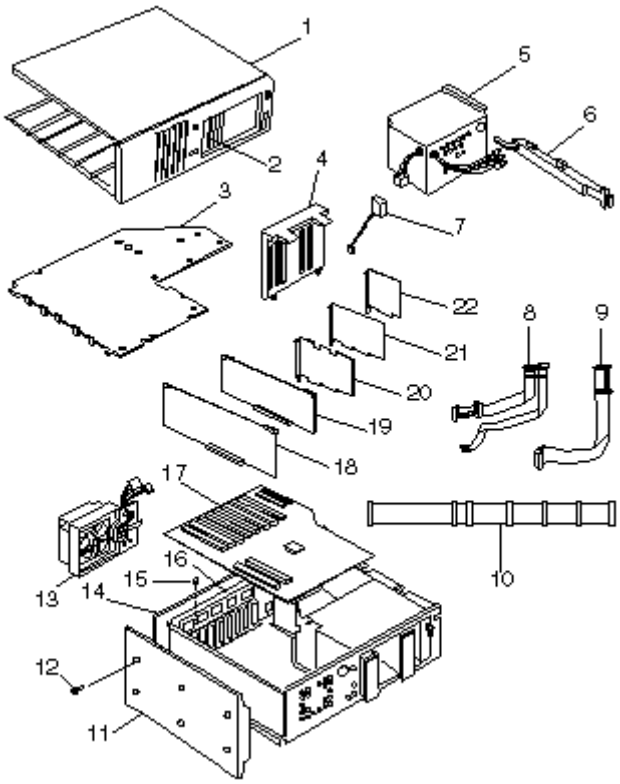
MAIN MEMORY

The HP RS system board has sixteen sockets for main memory modules in four banks labeled A, B, C and D.

Main Memory Configurations

For a TOTAL memory of:	Install:	In these banks:
1 MB	Four 256 KB modules	All A banks
2 MB	Eight 256 KB modules	All A and B banks
4 MB	Sixteen 256 KB modules	All A, B, C, and D banks
4 MB	Four 1 MB modules	All A banks
8 MB	Eight 1 MB modules	All A and B banks
10 MB	Eight 256 KB modules and eight 1 MB modules	All A and B banks All C and D banks
16 MB	Sixteen 1 MB modules	All A, B, C and D banks

PART NUMBERS



Parts List for HP Vectra RS/16, RS/20, RS/20C and RS/25C PCs

Item	Description	Replacement Part Number	Exchange Part Number
1	Top Cover	5062-6927	—
2	Small Front Bezel Insert:	D1612-40005	
	Large Front Bezel Insert	D1612-40011	—
3	RFI Shield Assembly	D1612-60011	—
4	Board Guide	45945-40005	—
5	Power Supply	0950-2019	D1612-69010*
6	Power Switch Shaft	D1612-40008	—
7	Battery Pack	1420-0368	—
8	Hard Disk Cable:		
	Dual Hard Disk cable	D1612-80013	—
	Dual Hard Disk cable (Vectra RS/25C with serial number above #0191)	5181-5646	—
	Hard Disk Cable (for 2nd ESDI/ST-506 drive)	5061-8981	—
	Hard Disk Cable (for IDE drive)	5181-5670	—
9	Flexible Disk Drive Cable, 3.5 & 5.25-inch	5181-5623	—
10	Hard Disk Cable (SCSI drive)**	5062-5579	—

Parts List for HP Vectra RS/16, RS/20, RS/20C and RS/25C PCs (contd.)

Item	Description	Replacement Part Number	Exchange Part Number
11	Base (486T)	D1612-40003	—
	Base (Vectra 486ST)	D2635-60021	—
12	10 - 32 Base Screws	2680-0099	—
13	Fan/Speaker/Keylock Assembly	5063-0308	—
14	Rear Bezel Assembly	5062-2659	—
15	Accessory Slot Screw	2680-0311	—
16	Vectra RS Chassis Assembly	D1612-60006	—
19	Memory Board	See PC's system board parts list	
	Nameplates:		
	HP Vectra RS/16 Logo	D1510-00001	—
	HP Vectra RS/20 Logo	D1612-00010	—
	HP Vectra RS/20C Logo	D2010-00010	—
	HP Vectra RS/25C Logo	D2060-00010	—

*Vectra RS Power Supply: D1612-69010 for Europe only
**The SCSI disk activity light cable is built into the computer

System Board Parts List for HP Vectra RS/16, RS/20, RS/20C and RS/25C PCs

17	**System Board**		
	Vectra RS System Interface Board	D1612-63002	D1612-69002
18	**Processor/Memory Boards:**		
	Vectra RS/16, RS/20, and RS/20C Processor/ Memory Board	D2010-63005	D2010-69005
	Vectra RS/25C Processor/Memory Board	D2060-63025	D2060-69005
	Vectra RS/20C Cache Memory Board	D2010-63023	D2010-69023
	Vectra RS/25C Cache Memory Board	D2060-63026	D2060-69026
	Vectra RS/16 and RS/20 Processor/Memory Board RFI Shield	D1612-00007	—
	Vectra RS/20C and RS/25C Cache Memory Board Bottom Shield Assembly	D2010-60020	—
	Vectra RS/20C and RS/25C Cache Memory Board Top Shield Assembly	D2010-60010	—
	Board Guide (left)	D1612-40001	—
	Board Guide (right)	D1612-40002	—
	Video Board (any slot):		
	HP VGA Board (D21180A) See Vectra Accessories — Part numbers for Video Boards	—	—
	HP Super VGA Board (D2382A)	D2382-63004	D2382-69004

System Board Parts List for HP Vectra RS/16, RS/20, RS/20C and RS/25C PCs (contd.)

Item	Description	Replacement Part Number	Exchange Part Number
20	**Disk Controller Boards** (slot 8):		
	ST-506 Four-Function Controller Board	45945-60013	45945-69013
	ESDI Four-Function Controller Board (D1677A)	1150-1802	1150-1803
	ESDI High-Performance controller Board (D1664A)	1150-1884	1150-1885
	IDE Controller	D2384-63031	—
	Flexible Disk Expander Board	D1678-60001	—
	Flexible Disk Expander Cable	D1678-80002	—
21	**Datacomm Controller Board** (slot 9):		
	Input Device Connector Board	D1612-60001	—
	Processors:		
	386 16 MHz (Vectra RS/16)	1820-6055	—
	386 20 MHz (Vectra RS/20)	1820-8487	—
	386 20 MHz (Vectra RS/20C)	1820-6054	—
	386 25 MHz (Vectra RS/25C)	1820-6294	—
	Math Coprocessor:		
	387 16-33 MHz (all Vectra RS PCs)	1820-6295	—
	Oscillators:		
	32 MHz (Vectra RS/16)	1813-0622	—
	40 MHz (Vectra RS/20C and RS/20)	1813-0119	—
	50 MHz (Vectra RS/25C)	1813-0725	—
	Main Memory Modules:		
	256 KB Main Memory Module	1818-4268	—
	1 MB Main Memory Module	1881-4271	—
	BIOS ROM:		
	Vectra RS/16 ROM 0	1818-4390	—
	Vectra RS/16 ROM 1	1818-4391	—
	Vectra RS/20 ROM 0	1818-4388	—
	Vectra RS/20 ROM 1	1818-4389	—
	Vectra RS/20C ROM 0	1818-4762	—
	Vectra RS/20C ROM 1	1818-4763	—
	Vectra RS/20C ROM Kit	D2010-83002	—
	Vectra RS/25C ROM 0	1818-5244	—
	Vectra RS/25C ROM 1	1818-5245	—
	Vectra RS/25C ROM Kit	D2060-8307	—
	8042 Keyboard Controller	1820-5550	—

Support Manuals for HP Vectra RS/16, RS/20, RS/20C and RS/25C PCs

Service Manual	5958-7599
Technical Reference Manual: Hardware and BIOS	5958-7598

Part Numbers for HP Utility Diskettes

Description	Rev	Date Code	Part #	Info.
Vectra RS Setup & Utilities Disks:				
3.5-inch disk 5.25-inch disk	C.01.03	3139	Available on HP PC Internal BBS	Setup version B.06.01

8 HP VECTRA 486 & 486T PC SERIES

MODELS AND ACCESSORIES

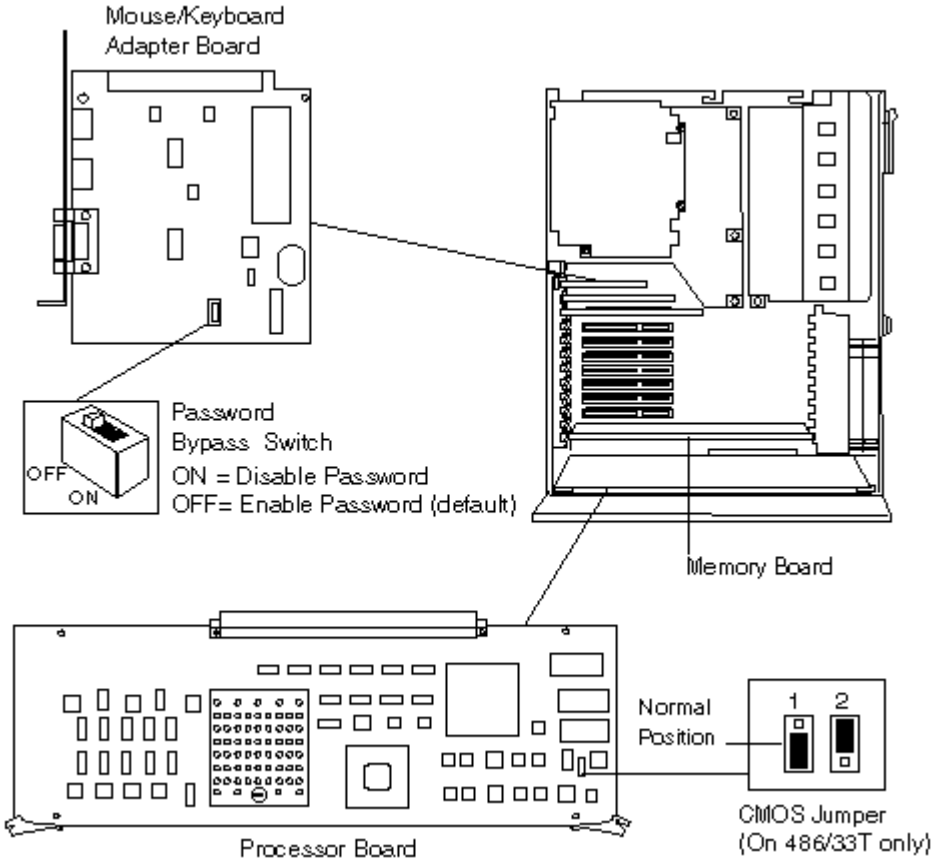
Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM
		Vectra 486 PCs			
HP Vectra 486 PC (CPL: 02/90; discontinued: 02/91)					
D2220A	1.2 MB (45812A)	None	Integrated IDE Interface	None	2 MB
D2221A		152 MB (D1446A)	ESDI Controller Board (D1664A)		
D2222A		330 MB (D1660A)			
D2223A		670 MB (D1661A)			
		Vectra 486T PCs			
HP Vectra 486/25T PC (CPL: 02/91; discontinued: 08/92)					
D2219C	1.44 MB (D1667A)	None	Integrated IDE Interface	None	4 MB
D2220C	1.2 MB (45812A)				
D2221C	1.44 MB (D1667A)	168 MB (D1680A)			
D2222C		440 MB (D1685A)	SCSI-2 Host Adapter (D1681A)		
D2223C		670 MB (D1686A)			
HP Vectra 486/33T PC (CPL: 02/91; discontinued: 12/92)					
D2236A	1.44 MB (D1667A)	None	Integrated IDE Interface	None	4 MB
D2237A	1.2 MB (45812A)				
D2238A	1.44 MB (D1667A)	168 MB (D1680A)			
D2239A		440 MB (D1685A)	SCSI-2 (D1681A)		
D2240A		1000 MB (D1687A)			

SUPPORTED ACCESSORIES

1 MB Main Memory Upgrade kit	D2150A
2 MB Main Memory Upgrade kit	D2381A
4 MB Main Memory Upgrade kit (Vectra 486/25T only)	D2151 A
4 MB Main Memory Upgrade kit	D2156A
8 MB Main Memory Upgrade kit	D2152A
Setup Kit (*Setting Up* manual and diskettes)	D2161A
Video Displays	
Monochrome Display	D1181A/W/G
VGA Color Display	D1182A/B
Monochrome Display	D1192A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A
Input Devices	
Mouse (PS/2, Microsoft)	C1413A
Keyboard	C1405B
Video Boards	
HP Super VGA Board	D2382A
HP Ultra VGA Board	D2325A/B
Multifunction Controller Boards	
HP ESDI High Performance Controller Board	D1664A
HP EISA SCSI-2 Host Adapter	D1681A
HP ISA SCSI-2 Host Adapter Board	D1682A

Mass Storage	
Flexible Disk 360 KB 5-1/4 inch	45811A
Flexible Disk 1.2 MB 5-1/4 inch	45812A
Flexible Disk 1.44 MB 3-1/2 inch	D1667A
Flexible Disk 1.44 MB 3-1/2 inch	D2035A
ESDI 108 MB Hard Disk	D1445A
ESDI 152 MB Hard Disk	D1446A
ESDI 330 MB Hard Disk	D1660A
ESDI 670 MB Hard Disk	D1661A
ESDI 103 MB Hard Disk	D1674A
ESDI 155 MB Hard Disk	D1675A
ESDI 310 MB Hard Disk	D1676A
IDE 42 MB Hard Disk	D1665A
IDE 84 MB Hard Disk	D1666A
IDE 120 MB Hard Disk	D1679A
IDE 168 MB Hard Disk	D1680A
IDE Dual 168 MB Hard Drives	D1688A
SCSI 440 MB Hard Disk	D1685A
SCSI 670 MB Hard Disk	D1686A
SCSI 1000 MB Hard Disk	D1687A
SCSI 430 MB Hard Disk	D1699A
Datacomm and LAN Boards	
Serial Parallel Board	24540B
Dual Serial Board	24541B
Modem 1200 baud	24550A
Modem 2400 baud	24551A
Ethertwist PC Link Adapter	27245A
Ethertwist Adapter/16	27247A
Ethertwist Adapter/16	27247B
HP ThinLAN Board	27250A
Terminal Multiplexor	D2040A
Token-Ring Adapter	D2378A

SYSTEM BOARD, BIOS, AND MEMORY



PASSWORD BYPASS SWITCH

The password bypass switch is located on the mouse/keyboard adapter board.

Password Bypass Switch

Switch #		Function	Default
1	ON	Passwords — disabled To disable the password, set the switch to ON.	**OFF**
	OFF	**Passwords — enabled** To enable (or re-enable) the password, set the switch to OFF and run EASY CONFIG to enter a new password.	

HP VECTRA 486/33T PROCESSOR BOARD CLEAR CMOS JUMPER

The clear CMOS jumper is located on the Vectra 486/33T processor board.

Clear CMOS Jumper

Position		Function	Default
1	**1**	**Preserves contents of CMOS** To disable the password, set the switch to ON.	**1**
	2	Clears the CMOS To clear the contents of CMOS RAM: 1. Switch off the computer. 2. Move the jumper to position 2 for about 30 seconds. 3. Move the jumper back to position 1. 4. Switch on the computer. 5. Reconfigure computer with EASY CONFIG (use saved SCI file if available).	

SETUP AND BIOS HISTORY

EASY CONFIG version “A.xx.xx” is used on Vectra 486T PCs.

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
		Vectra 486 & 486T PCs		
HP Vectra 486 and 486/25T PCs				
G.03.01	Feb 90	First release	—	EC* version A.02.01
G.03.02	Jun 90	Support for HP D1679A & D1680A	—	
		Support for VMI video board		
		Fixes problems with IBM monochrome board, INT 15 Mouse drive and memory count which does not display on the correct row		
G.03.03	Sep 90	Provides fixes for:	—	
		Banyan Vines/386 network software		
		TI “Cezanne” Hi Res video board, Matrox video board & Western Digital 8514A Hi Res video board		
		Western Digital Filecard		
G.03.04	-	Not available	—	
G.03.05	Feb 91	Supports larger than 528 MB volumes on 670 MB internal ESDI hard-disk.	—	
		Fixes Quadtel EMM driver and Memory miss-compare POST errors due to incomplete EISA initialization		
G.03.06	May 91	Fixes boot failures during POST due to coprocessor hanging	D2226-83004	
G.03.07	Nov 91	Supports D1681A shipped from Nov 15, 91 and the new versions of HPMM.SYS and RELOCATE.SYS which does not load if DOS 5.0 is found.	D2226-83005	
G.03.09	Jun 92	Fixes problems associated with coprocessor, EISA ports, 8042 keyboard, and improves hard disk R/W Access.	D2226-83006	

*EC: EASY CONFIG on Vectra 486T PCs.

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
		HP Vectra 486/33T PC		
K.03.01	Feb 91	Not available	—	EC* version A.02.01
K.03.02	Apr 91	Supports hard-disk volumes larger than 528 MB on the 670 MB internal ESDI hard-disk Fixes problems with HP-HIL board and coprocessor hanging.	D2237-83001	
K.03.03	Nov 91	Supports D1681A shipped from Nov 15, 91 and new versions of HPMM.SYS and RELOCATE.SYS which does not load if DOS 5.0 is found.	D2237-83002	
K.03.05	June 92	Same as G.03.09 (486 and 486/25T)	D2237-83003	

*EC: EASY CONFIG on Vectra 486T PCs.

MAIN MEMORY

The HP Vectra 486 & 486T Series PCs have eight sockets for main memory modules located on the memory board.

2 MB and 8 MB Double-Density Main Memory Configurations

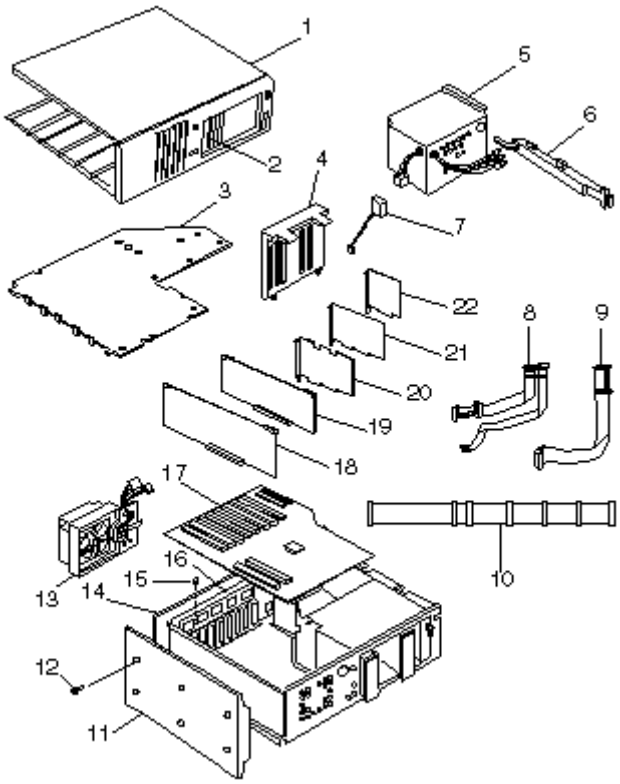
For a TOTAL mem of:	Install Memory Modules in these banks:							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
4 MB	2 MB	2 MB						
8 MB	2 MB	2 MB	2 MB	2 MB				
12 MB	2 MB	2 MB	2 MB	2 MB	2 MB	2 MB		
16 MB or **16MB**	2 MB 8 MB	2 MB 8 MB	2 MB	2 MB	2 MB	2 MB	2 MB	2 MB
20 MB	8 MB	8 MB	2 MB	2 MB				
24 MB	8 MB	8 MB	2 MB	2 MB	2 MB	2 MB		
28 MB	8 MB	8 MB	2 MB	2 MB	2 MB	2 MB	2 MB	2 MB
32 MB	8 MB	8 MB	8 MB	8 MB				
36 MB	8 MB	8 MB	8 MB	8 MB	2 MB	2 MB		
40 MB	8 MB	8 MB	8 MB	8 MB	2 MB	2 MB	2 MB	2 MB
48 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB		
52 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB	2 MB	2 MB
64 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB

1 MB and 4 MB Single-Density Main Memory Configurations

For a TOTAL mem of:	Install Memory Modules in these banks							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
2 MB	1 MB	1 MB						
4 MB	1 MB	1 MB	1 MB	1 MB				
6 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB		
8 MB	1MB	1M	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB
or								
8 MB	4 MB	4 MB						
10 MB	4 MB	4 MB	1 MB	1 MB				
12 MB	4 MB	4 MB	1 MB	1 MB	1 MB	1 MB		
14 MB	4 MB	4 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB
16 MB	4 MB	4 MB	4 MB	4 MB				
18 MB	4 MB	4 MB	4 MB	4 MB	1 MB	1 MB		
20 MB	4 MB	4 MB	4 MB	4 MB	1 MB	1 MB	1 MB	1 MB
24 MB	4 MB	4 MB	4 MB	4 MB	4 MB	4 MB		
26 MB	4 MB	4 MB	4 MB	4 MB	4 MB	4 MB	1 MB	1 MB
32 MB	4 MB	4 MB	4 MB	4 MB	4 MB	4 MB	4 MB	4 MB

NOTE If you change the main memory configuration, run EASY CONFIG and verify that the new configuration has been detected, then save configuration.

PART NUMBERS



Parts List for HP Vectra 486, 486/25T and 486/33T PCs

Item	Description	Replacement Part Number	Exchange Part Number
1	Top Cover	5062-6927	—
2	Front Bezel Insert:		
	Small Insert	D1612-40005	
	Large Insert	D1612-40011	
3	RFI Shield Assembly	5062-6964	
4	Board Guide	45945-40005	
5	Power Supply	0950-2194	5062-6978
6	Power Switch Shaft	D1612-40008	
7	Battery Pack	1420-0368	
8	Hard Disk Cable:		
	Vectra 486T Dual hard disk cable	5181-5646	
	Hard Disk Cable (for 2nd ESDI/ST-506 drive)	5061-8981	
	Hard Disk Cable (for IDE drive)	5181-5670	
9	Flexible Disk Drive Cable, 3.5 & 5.25-inch	5181-5623	
10	Hard Disk Cable (SCSI drive)*	5062-5579	
	Vectra 486ST Hard Disk Cable** (SCSI drive)	D2635-60026	
11	Vectra 486T Base	D1612-40003	
12	10 - 32 Base Screws	2680-0099	
13	Fan/Speaker/Keylock Assembly	5061-8891	
14	Rear Bezel Assembly	5062-6967	
15	Accessory Slot Screw	2680-0311	
16	Chassis Assembly	5061-8890	
17	System Board	See PC’s system board parts list	
18	Processor Board	See PC’s system board parts list	
19	Memory Board	See PC’s system board parts list	
20	Disk Controller Board	See PC’s system board parts list	
	Datacomm Controller Boards:		
21	Parallel/Serial Board	See PC’s system board parts list	
22	Mouse/Keyboard Board	See PC’s system board parts list	
	Nameplate		
	HP Vectra 486/25T Logo	5181-5619	
	HP Vectra 486/33T Logo	D2237-80006	

*The SCSI disk activity light cable is built into the computer.
**Terminated cable used for non-terminated devices.

System Board Parts List for HP Vectra 486, 486/25T and 486/33T PCs

Description	Replacement Part Number	Exchange Part Number
System Board (486/25T and 486/33T include integrated IDE disk controller):		
Vectra 486 and 486/25T System Board	5061-8889	5062-6955
Vectra 486/33T System Board	5062-6937	5062-6955
Processor Boards:		
Vectra 486 and 486/25T Processor Board	5062-6935	5062-6954
Vectra 486/33T Processor Board	D2237-63002	D2237-69002
Video Board (slot 1):		
HP Super VGA Board (D2382A)	D2382-63004	D2382-69004
HP Ultra VGA Board (D2325A/B)	D2325-63009	
Memory Boards (above processor board):		
Vectra 486 and 486/25T Memory Board	5062-6934	5062-6924
Vectra 486/33T Memory Board	5062-6957	5062-6956
Disk Controller Boards (slot 8):		
ESDI High Performance Controller Board (D1664A)	1150-1884	1150-1885
HP EISA SCSI Host Adapter (D1681A)	1150-1920	1150-1921
HP ISA SCSI Host Adapter (D1682A)	1150-1837	1150-1887
D1682A SCSI Board Jumpers	1258-0209	
Datacomm Controller Boards:		
Parallel/Serial Board (slot 9)	5062-6975	
Mouse/Keyboard/Serial Board (slot 10)	5062-6976	
Processors:		
486 25 MHz (486 and 486/25T)	1820-6749	
486 33 MHz (486/33T)	1820-7615	
Main Memory Modules:		
1 MB Main Memory Module	1818-4709	D2150-69001
2 MB Main Memory Module	D2381-63001	
4 MB Main Memory Module	1818-4703	D2156-69001
8 MB Main Memory Module (36-bit)	1818-4702	D2152-69001
BIOS ROM:		
Vectra 486 and 486/25T ROM 0	1818-5287	
Vectra 486 and 486/25T ROM 1	1818-5288	
Vectra 486/33T	1818-5286	
8042 Keyboard Controller	1821-0061	

Support Manuals for HP Vectra 486, 486/25T and 486/33T PCs

Service Manual	5960-0746
486/25T Technical Reference Manual: Hardware and BIOS	5959-5094
486/33T Technical Reference Manual: Hardware and BIOS	5960-0748

Part Numbers for HP Utility Diskettes

Description	Rev	Date Code	Part #	Info.
Vectra 486, 486/25T and 486/33T EASY CONFIG Disks:				
3.5-inch disk	A.02.01	3102	5063-0314	Easy Config version B.06.01
5.25-inch disk			5063-0313	

9 HP VECTRA 486ST PC SERIES

MODELS AND ACCESSORIES

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM
		Vectra 486ST PCs			
HP Vectra 486/33ST PC (CPL: 10/92; discontinued: 11/93)					
D2635A	1.44 MB (D1667A)	None	Integrated IDE Interface	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB
D2636A		240 MB (D2643A)			
D2637A		430 MB (D2644A)	SCSI-2 (D2649A)*		16 MB
D2638A		1000 MB (D2645A)			
D2646A**		430 MB (D2644A)			

*Same as the D1681A but includes the Vectra ST PC's SCSI terminated cable.
**These models include Novell Netware 3.11, DOS 5.0 HP Ethertwist EISA LAN adapter. D2646A=20 users, D2647A=50 users, D26438A=100 users.

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM
HP Vectra 486/66ST PC (CPL: 10/92; discontinued: 11/93)					
D2639A	1.44 MB (D1667A)	None	Integrated IDE Interface	Integrated Ultra VGA+ (512 KB upgradeable to 1 MB)	4 MB
D2640A		240 MB (D2643A)*			
D2641A		430 MB (D2644A)	SCSI-2 (D2649A)**		16 MB
D2642A		1000 MB (D2645A)			
D2647A***					
D2648A***					

*Same as the D1697A but includes the mounting hardware for use in the Vectra ST PC.
**Same as the D1681A but includes the Vectra ST PC's SCSI terminated cable.
***These models include Novell Netware 3.11, DOS 5.0 HP Ethertwist EISA LAN adapter. D2646A=20 users, D2647A=50 users, D26438A=100 users.

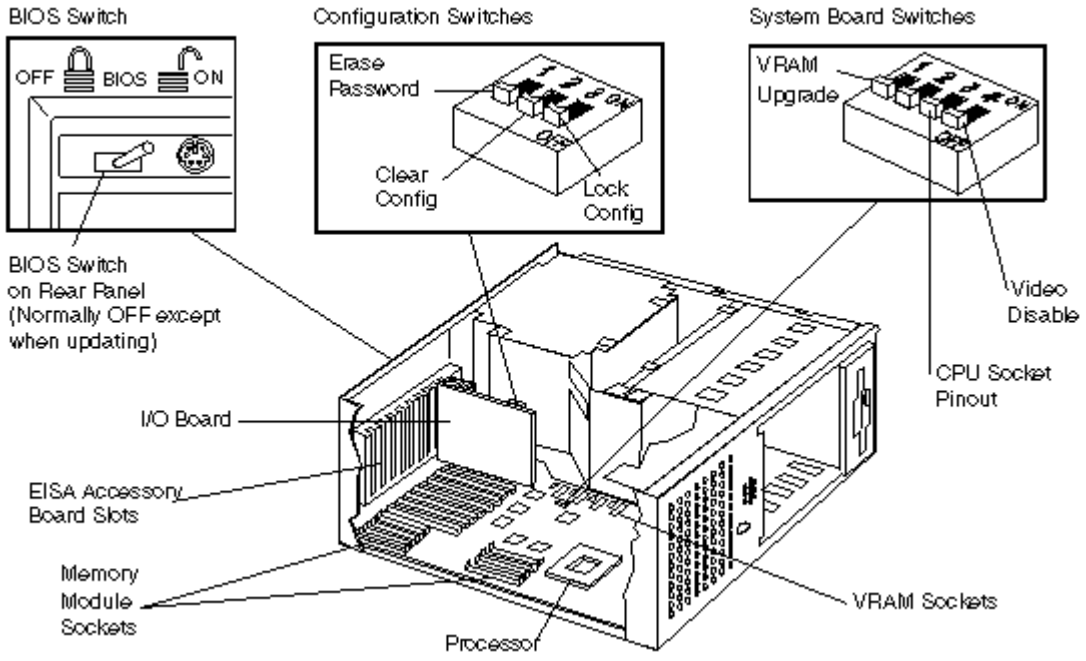
SUPPORTED ACCESSORIES

512 KB Video Memory Upgrade kit	D2326A
2 MB Main Memory Upgrade kit	D2381A
8 MB Main Memory Upgrade kit	D2152A
Setup Kit (non-SCSI, includes manuals and diskettes)	D2635-90027
Setup Kit (SCSI, includes manuals and diskettes)	D2637-90007
Processor Upgrade	
486ST Processor Upgrade to OverDrive/33 (486DX2-66)	D2172A
Mass Storage	
Flexible Disk 360 KB 5-1/4 inch	45811A
Flexible Disk 1.2 MB 5-1/4 inch	45812A
Flexible Disk 1.44 MB 3-1/2 inch	D1667A
Flexible Disk 1.44 MB 3-1/2 inch	D2035A
IDE 240 MB Hard Disk	D2643A
SCSI 430 MB Hard Disk	D1699A
SCSI 430 MB Hard Disk	D2644A
SCSI 1000 MB Hard Disk	D2645A
SCSI 1000 MB Hard Disk	D2653A
SCSI 535 MB Hard Disk	D2075A
SCSI 1035 MB Hard Disk	D2076A
Multifunction Controller Boards	
HP EISA SCSI-2 Host Adapter	D1681A
Datacomm and LAN Boards	
Token-Ring Adapter	D2378A
Input Devices	
Mouse (PS/2, Microsoft)	C1413A
Keyboard	C1405A

Video Displays

Monochrome Display	D1181A/W/G
VGA Color Display	D1182A/B
Monochrome Display	D1192A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A

SYSTEM BOARD, BIOS, AND MEMORY



System Board Switches

System Board Switches

Switch #*		Function	Default
1	**OFF**	**Specifies 512 KB Video Memory installed**	**OFF**
	ON	specifies 1 MB Video Memory installed	
2	**OFF**	**Reserved — do not use**	**OFF**
	ON	Reserved — do not use	
3	**OFF**	**Sets processor socket pinout for:** 486DX-33 486DX2-66 DX OverDrive/33 (ODPR 486DX-33)	**OFF**
	ON	Sets processor socket pinout for: SX OverDrive/33 (ODP 486SX-33) DX OverDrive/33 (ODP 486DX-33)	
4	**OFF**	**Enables built-in video**	**OFF**
	ON	Disables built-in video	

Configuration Switches

Switch #		Function	Default
1	**OFF**	**Enables password**	**OFF**
	ON	Clears password	
2	**OFF**	**Enables configuration** (validates configuration in memory)	**OFF**
	ON	Clears configuration (invalidates configuration in memory)	
3	**OFF**	**Unlocks configuration** (allows changes)	**OFF**
	ON	Locks configuration (prevents changes)	

BIOS Switch

Switch #		Function	Default
1	**OFF**	**Locks BIOS** (no write)	**OFF**
	ON	Unlocks BIOS (writable) for updates	

SETUP AND BIOS HISTORY

SAM version “D.xx.xx” is used on Vectra 486ST PCs

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
HP Vectra 486ST PC				
R.01.00	Aug 92	First release	D2635-89011	SAM* version R.01.00
R.04.01	Feb 93	Second release	Available on HP PC BBS	

*System Administrator Manager on Vectra 486ST PCs.

VIDEO MEMORY

The HP Vectra 486ST PC Series is supplied with 512 KB of video memory for 1024 x 768 in 16 colors. An additional 512 KB of video memory can be installed in four video sockets (to make a total of 1 MB video memory). If additional video memory is added, all four sockets must be filled.

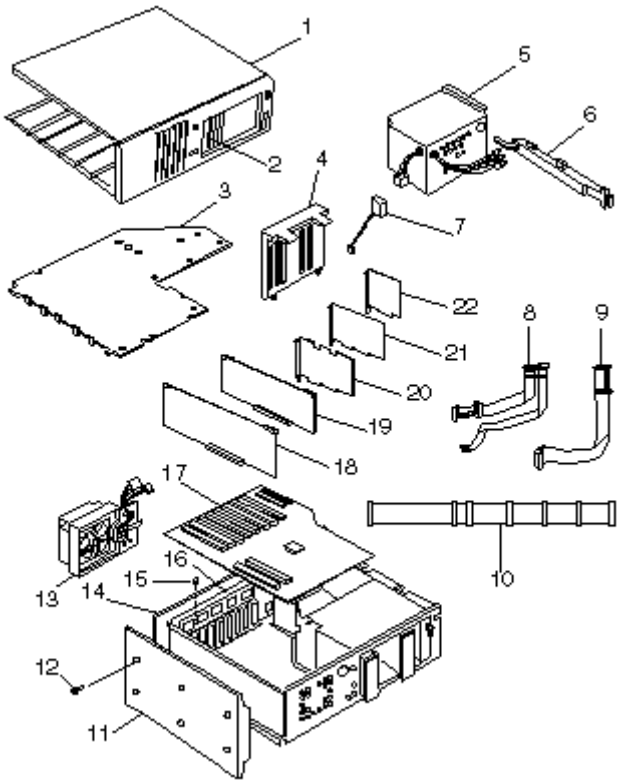
MAIN MEMORY

The HP Vectra 486ST PC Series have eight sockets for main memory modules (labeled 1 through to 8). The main memory modules must be installed as shown in the main memory configuration table.

Main Memory Configuration

For a TOTAL mem of:	**Install Memory Modules in these banks (each bank has two sockets):**							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
4 MB	2 MB	2 MB						
8 MB	2 MB	2 MB	2 MB	2 MB				
12 MB	2 MB	2 MB	2 MB	2 MB	2 MB	2 MB		
16 MB	2 MB	2 MB	2 MB	2 MB	2 MB	2 MB	2 MB	2 MB
or								
16 MB	8 MB	8 MB						
20 MB	8 MB	8 MB	2 MB	2 MB				
24 MB	8 MB	8 MB	2 MB	2 MB	2 MB	2 MB		
28 MB	8 MB	8 MB	2 MB	2 MB	2 MB	2 MB	2 MB	2 MB
32 MB	8 MB	8 MB	8 MB	8 MB				
36 MB	8 MB	8 MB	8 MB	8 MB	2 MB	2 MB		
40 MB	8 MB	8 MB	8 MB	8 MB	2 MB	2 MB	2 MB	2 MB
48 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB		
52 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB	2 MB	2 MB
64 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB

PART NUMBERS



Parts List for HP Vectra 486/33ST and 486/66ST PCs

Item	Description	Replacement Part Number	Exchange Part Number
1	Top Cover	D2635-60014	—
2	Front Bezel Insert:		
	Small Insert	D1612-40005	
	Large Insert	D1612-40011	
3	RFI Shield Assembly	D2635-60031	
4	Board Guide	45945-40005	
5	Power Supply	0950-2194	5062-6978
6	Power Switch Shaft	D1612-40008	
7	Battery Pack	1420-0513	
8	Hard Disk Cable:		
	Hard Disk Cable (for 2nd ESDI/ST-506 drive)	5061-8981	
	Hard Disk Cable (for IDE drive)	D2635-60024	
9	Flexible Disk Drive Cable, 3.5 & 5.25-inch	5181-5623	
10	Hard Disk Cable (SCSI drive)*	5062-5579	
	Vectra 486ST Hard Disk Cable** (SCSI drive)	D2635-60026	
11	Vectra 486ST Base	D2635-60021	
12	10 - 32 Base Screws	2680-0099	
13	Fan/Speaker/Keylock Assembly	D2635-60017	

14	Rear Bezel Assembly	D2635-40005
15	Accessory Slot Screw	2680-0311
16	Chassis Assembly	D2635-60015
17	System Board	See PC's system board parts list
18	Processor Board	See PC's system board parts list
19	Memory Board	See PC's system board parts list
20	Disk Controller Board	See PC's system board parts list
	Datacomm Controller Boards:	
21	Parallel/Serial Board	See PC's system board parts list
22	Mouse/Keyboard Board	See PC's system board parts list
	Nameplates	
	HP Vectra 486/33ST Logo	D2635-80013
	HP Vectra 486/66ST Logo	D2635-80014

*The SCSI disk activity light cable is built into the computer.
**Terminated cable used for non-terminated devices.

System Board Parts List for HP Vectra 486/33ST and 486/66ST PCs

Description	Replacement Part Number	Exchange Part Number
System Board (includes integrated IDE disk and Ultra VGA+ controller):		
Vectra 486ST System Board	D2635-68005	
I/O Board	D2535-65023	
Disk Controller Boards (slot 8):		
HP EISA SCSI Host Adapter (D2649A)	1150-1920	1150-1921
Processors:		
486 33 MHz (486/33ST)	1820-7615	
486 66 MHz (486/66ST)	1821-0859	
Main Memory Modules:		
2 MB Main Memory Module	D2381-63001	
8 MB Main Memory Module (36-bit)	1818-4702	D2152-69001
Video Memory Modules:		
512 KB Video Memory kit (D2326A)	41818-5183	
BIOS ROM:	D2635-89011	

Support Manuals for HP Vectra 486/33ST and 486/66ST PCs

Familiarization Guide	D2635+49A-90001
Technical Reference Manual: Hardware and BIOS	D2635-90002

Part Numbers for HP Utility Diskettes (3.5-inch disks only)

Description	Rev	Date Code	Part #	Info.
SAM, EISA-CONFIG, HPVIEW disk	D.01.00	-	Refer to HP Internal BBS	Kit
EXMODE, PRINTCFG disk	B.00.04			
HPUpdate disk	Ver. 1-2		Refer to HP Internal BBS	
DOS, NetWare utilities				Kit
Ultra VGA+ drivers			Refer to HP Internal BBS	Kit

10 HP VECTRA 486S/20 PC

MODELS AND ACCESSORIES

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM
			Vectra 486s PC		
HP Vectra 486s/20 PC (CPL: 11/91; discontinued: 03/93)					
D2260A	1.44 MB (D2035A)	None	Integrated IDE Interface	Ultra VGA Board (D2325A)	4 MB
D2261A	1.2 MB (D2036A)				
D2262A	1.44 MB (D2035A)	120 MB (D1696A)			
D2263A		240 MB (D1697A)			
HP Vectra 486s/20 PC (CPL: 11/91; discontinued: 03/93)					
D2264A	1.44 MB (D2035A)	430 MB (D1699A)	SCSI-2 Host Adapter D1681A	Ultra VGA Board (D2325A)	4 MB
D2265A Turbo*		120 MB (D1696A)	Integrated IDE Interface		

*Model D2265A includes a 487SX math coprocessor.

SUPPORTED ACCESSORIES

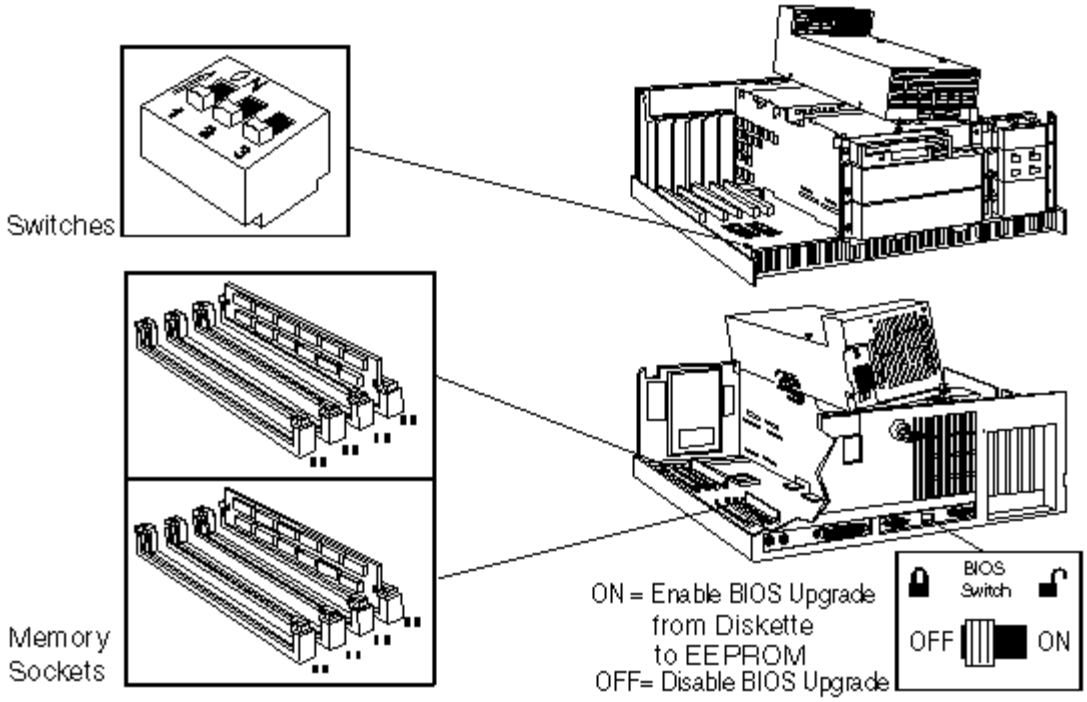
1 MB Main Memory Upgrade kit	D2150A
2 MB Main Memory Upgrade kit	D2381A
4 MB Main Memory Upgrade kit	D2156A
8 MB Main Memory Upgrade kit	D2152A
Setup Kit (*Setting Up* manual and diskettes)	D2165A
486s/20 PC OverDrive/20 Processor Upgrade (40 MHz) ***Note:*** *Upgrade BIOS to M.03.01 before installing Overdrive processor*	D2170A*
System Board Upgrade Kits (see 486U PCs)	

Video Displays	
Monochrome Display	D1181A/W/G
VGA Color Display	D1182A/B
Monochrome Display	D1192A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A
Video Boards	
HP Ultra VGA Board	D2325A/B
Multifunction Controller Boards	
HP EISA SCSI-2 Host Adapter	D1681A
Mass Storage	
Flexible Disk 1.44 MB 3-1/2 inch	D2035A
Flexible Disk 1.2 MB 5-1/4 inch	D2036A
IDE 52 MB Hard Disk	D1694A
IDE 120 MB Hard Disk	D1696A
IDE 240 MB Hard Disk	D1697A
IDE 85 MB Hard Disk	D2329A
IDE 170 MB Hard Disk	D2330A
SCSI 430 MB Hard Disk	D1699A
SCSI 535 MB Hard Disk	D2075A
SCSI 1035 MB Hard Disk	D2076A
3.5-inch, h-h, Tray (5 pack) for non-HP hard disk drives (bottom & rear positions)	D2037A
3.5-inch, h-h, Tray (5 pack) for non-HP hard disk drives (front, includes HDD activity light)	D2198A
5.25-inch, h-h, Tray (t pack) for non-HP, flexible disk and tape drives	D2199A

Datacomm and LAN Boards	
Token-Ring Adapter	D2378A
Input Devices	
Mouse (PS/2, Microsoft)	C1413A
Keyboard	C1405B

*Upgrade BIOS to M.03.01 before installing OverDrive processor.

SYSTEM BOARD, BIOS, AND MEMORY



HP Vectra 486s/20 PC System Board Switches

Video Switches

Switch #		Function	Default
1	**OFF**	**CMOS stored config information — valid**	**OFF**
	ON	CMOS stored config information — erased	
2	**OFF**	**Power-on password — enabled**	**OFF**
	ON	Power-on password — disabled	
3	**OFF**	**Security mode — enabled**	**OFF**
	ON	Security mode — disabled	

SETUP AND BIOS HISTORY

SAM version “B.xx.xx” is used on Vectra 486s/20 PC.

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
		Vectra 486s PC		
HP Vectra 486s/20 PC				
M.03.00	Oct 91	First release	1818-5383	SAM* version B.00.01
M.03.01	Jun 92	Fixes disk and hang problems		

*System Administration Manager on Vectra 486S and 486U PC Series.

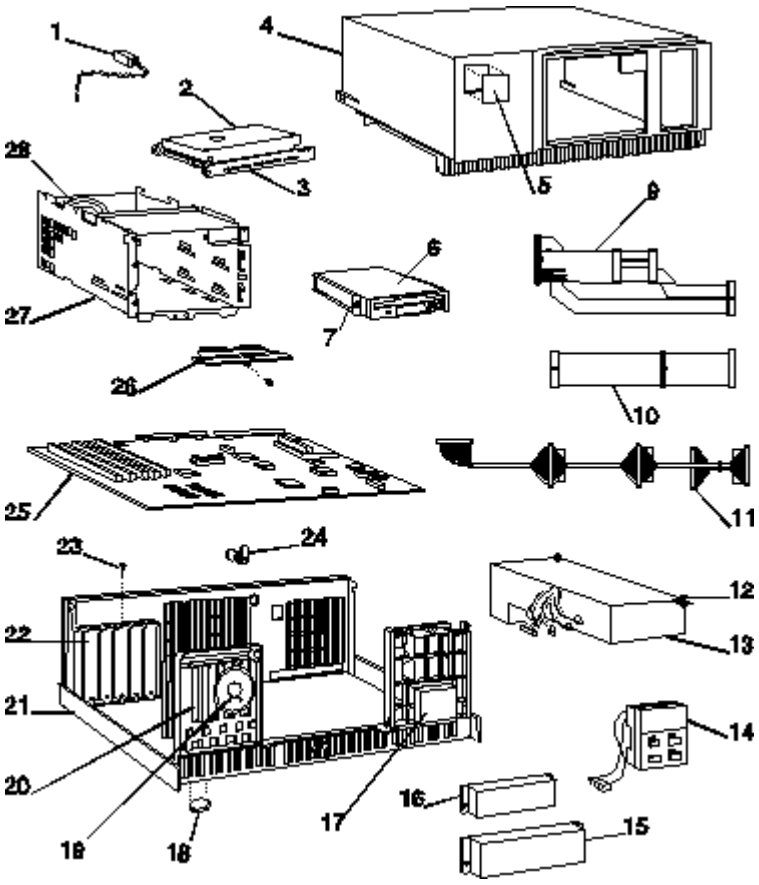
MAIN MEMORY

TOTAL mem of:	Install Memory Modules in:	Using These modules:
4 MB	A1, A2	Two 2 MB modules (standard)
6 MB	A1, A2 B1, B2	Two 2 MB modules *and* two 1 MB modules
8 MB	A1, A2, B1, B2, B3, B4	Two 2 MB modules *and* four 1 MB modules
or 8 MB	A1, A2, A3, A4	Four 2 MB modules
10 MB	A1, A2, A3, A4, B1, B2	Four 2 MB modules *and* two 1 MB modules
12 MB	A1, A2, A3, A4, B1, B2	Six 2 MB modules
or 12 MB	A1, A2, A3, A4, B1, B2, B3, B4	Four 2 MB modules *and* four 1 MB modules
or 12 MB*	A1, A2 B1, B2	Two 4 MB modules *and* two 2 MB modules
16 MB	A1, A2, A3, A4, B1, B2, B3, B4	Eight 2 MB modules
or 16 MB*	A1, A2 B1, B2, B3, B4	Two 4 MB modules *and* four 2 MB modules
20 MB*	A1, A2, A3, A4 B1, B2	Four 4 MB modules *and* two 2 MB modules
or 20 MB*	A1, A2, B1, B2	Two 8 MB modules *and* two 2 MB modules
24 MB*	A1, A2, A3, A4 B1, B2, B3, B4	Four 4 MB modules *and* four 2 MB modules
or 24 MB*	A1, A2 B1, B2, B3, B4	Two 8 MB modules *and* four 2 MB modules
or 24 MB**	A1, A2, A3, A4, B1, B2	Six 4 MB modules
32 MB**	A1, A2, A3, A4, B1, B2, B3, B4	Eight 4 MB modules
or 32 MB**	A1, A2 B1, B2, B3, B4	Two 8 MB modules *and* four 4 MB modules
36 MB*	A1, A2, A3, A4 B1, B2	Four 8 MB modules *and* two 2 MB modules
40 MB	A1, A2, A3, A4, B1, B2, B3, B4	Eight 8 MB modules
or 40 MB**	A1, A2, A3, A4 B1, B2,	Four 8 MB modules *and* two 4 MB modules

TOTAL mem of:	Install Memory Modules in:		Using These modules:
48 MB**	A1, A2, A3, A4 B1, B2, B3, B4		Four 8 MB modules *and* four 4 MB modules
or 48 MB**	A1, A2, A3, A4,	B1, B2	Six 8 MB modules
64 MB**	A1, A2, A3, A4,	B1, B2, B3, B4	Eight 8 MB modules

*Move the original 2 MB modules in A1 and A2 to another bank.
**Remove the original 2 MB modules in A1 and A2.

PART NUMBERS



Parts List for HP Vectra 486x/20 PC

Item	Description	Replacement Part Number	Exchange Part Number
1	Battery	1420-0513	—
2	Hard Disk Drive		
	120 MB	D1696-60007	D1696-69003
	240 MB	D1697-60009	D1697-69007
	430 MB	D1699-60002	D1699-69001
3	3.5-inch, h-h, Tray (5 pack) for non-HP hard disk drives:		
	Bottom & rear positions	Order product number D2037A	
	Front, with HDD activity light	Order product number D2198A	
4	Top Cover-Bezel Assembly	5062-5593	—
5	Nameplate		
	HP Vectra 486s/20 Logo	5041-1064	—
6	3.5-inch 1.44 MB Flexible Disk Drive	See disk drive parts list	
7	Mounting Rails for 3.5-inch non-HP Disk Drives	5063-0309	—
7	Middle External Flexible Disk Drive	See disk drive parts list	
8	5.25-inch, h-h, Tray (5 pack) for non-HP, flexible disk and tape drives	Order product number D2199A (updated version of D2038A)	
9	Flexible Disk Drive Cable, 3.5 & 5.25-inch	5181-0391	—
10	Hard Disk Cable (IDE drive)	5181-0392	—
11	Hard Disk Cable (SCSI drive)	5181-0397	
	SCSI Disk Activity Light Cable (supplied with SCSI drive)	5181-5684	
12	Snap Fastener	1390-0882	
13	Power Supply Assembly	5063-0339	
14	Status (Control) Panel	5062-5600	
15	Filler Panel, 5.25-inch	5062-5597	
16	Filler Panel, 3.5-inch	5062-5595	
17	Control Panel Filler Assembly	5063-0303	
18	Bumper Foot	5181-0394	
19	Speaker Assembly	02620-60016	
20	Board Guide Assembly	5041-1066	
21	Base	5062-5592	
22	I/O panel, Blank	45935-00004	
23	Screw, 6-32 Pilot Point	0624-0727	
24	Keylock Assembly	5062-5599	
25	System Board	See PC's system board parts list	
26	Retainer Assembly (Bottom Disk)	5001-6853	
27	Bridge/Lid Assembly	5063-0306	
28	Fan Assembly	5063-0307	

System Board Parts List for HP Vectra 486s/20 PC

Description	Replacement Part Number	Exchange Part Number
System Board (includes integrated IDE disk controller):		
Vectra 486S/20 System Board	D2260-63001	D2260-69001
Video Board (slot 5): Ultra VGA (D2325A/B)	D2325-63009	
Disk Controller Boards (slot 4):		
HP EISA SCSI Host Adapter (D1681A)	1150-1920	1150-1921
Processor: 486SX 20 MHz	1820-8911	
Processor Upgrade:		
OverDrive/20 (486 DX2/40) upgrade kit	D2170A	
Coprocessor: 487SX 20 MHz	1820-8912	
Main Memory Modules:		
1 MB Main Memory Module	1818-4709	D2150-69001
2 MB Main Memory Module	D2381-63001	-
4 MB Main RAM Memory Module	1818-4703	D2156-69001
8 MB Main RAM Memory Module (36-bit)	1818-4702	D2152-69001
BIOS ROM Kit	1818-5383	
BIOS Update (Utility kit)	D2165-60001	

Support Manuals for HP Vectra 486s/20 PC

Familiarization Guide (Dealer version: D2260-49A-0)	D2260+49A-60001
Technical Reference Manual: Hardware and BIOS	D2166-90001

Part Numbers for HP Utility Diskettes

Description	Rev	Date Code	Part #	Info.
3.5-inch disk SAM, EISA-CONFIG HPUpdate, BIOS ver	 B.00.02 M.03.01		D2165-60001	Kit
5.25-inch disk SAM, EISA-CONFIG HPUpdate			D2165-60002	Kit

11 HP VECTRA 486U PC SERIES

MODELS AND ACCESSORIES

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM
		Vectra 486U PC Series			
HP Vectra 486/25U PC (CPL: 06/92)					
D2266A **D2268A*** **D2268B**** **D2269A*** **D2269B2**	1.44 MB (D2035A)	None 120 MB (D1696A) 240 MB (D1697A)	Integrated IDE Interface	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB
HP Vectra 486/33U PC (CPL: 06/92)					
D2272A **D2274A*** **D2274B**** **D2275A*** **D2275B****	1.44 MB (D2035A)	None 120 MB (D1696A) 240 MB (D1697A)	Integrated IDE Interface	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB
HP Vectra 486/50U PC (CPL: 06/92)					
D2278A **D2280A*** **D2280B**** **D2281A**	1.44 MB (D2035A)	None 240 MB (D1697A) 430 MB (D1699A)	Integrated IDE Interface SCSI-2 Host Adapter (D1681A)	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB
HP Vectra 486/66U PC (CPL: 10/92)					
D2284A **D2286A*** **D2286B**** **D2287A**	1.44 MB (D2035A)	None 240 MB (D1697A) 430 MB (D1699A)	Integrated IDE Interface SCSI-2 Host Adapter (D1681A)	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB

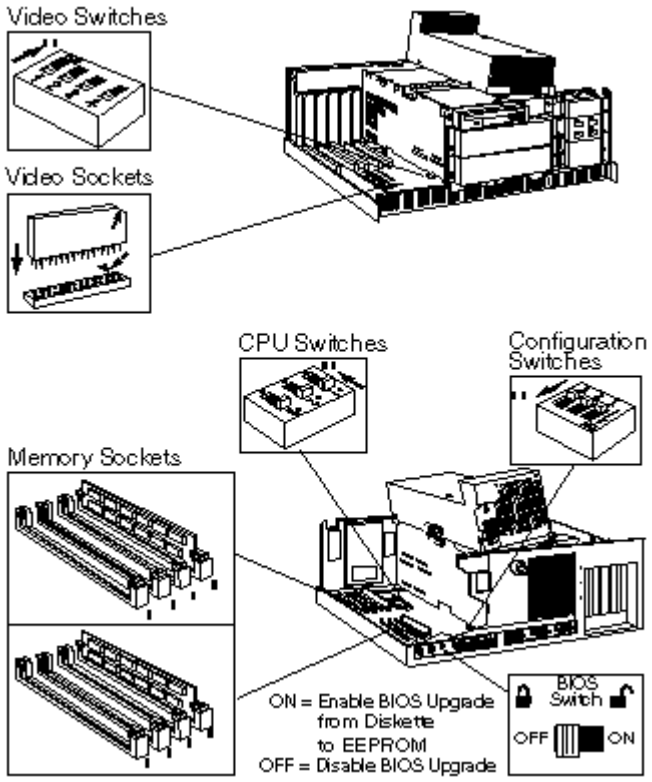
*Discontinued: 1/93
**Models D22xxB include DOS 5.0, Windows 3.1, and HP Dashboard

SUPPORTED ACCESSORIES

2 MB Main Memory Upgrade kit	D2381A
8 MB Main Memory Upgrade kit	D2152A
512 KB Video Memory Upgrade kit	D2326A
Setup Kit (setting up manual and diskettes)	D2071A
System Board upgrades	
386s PC or 486s/20 PC System Board Upgrade to 486/25U	D2173A
386s PC or 486s/20 PC System Board Upgrade to 486/33U	D2174A
386s PC or 486s/20 PC System Board Upgrade to 486/50U	D2175A
386s PC or 486s/20 PC System Board Upgrade to 486/66U	D2176A
Processor upgrade	
486U Processor Upgrade to 486DX/33 (33 MHz)	D2169A
Input Devices	
Mouse (PS/2, Microsoft)	C1413A
Keyboard	C1405B
Video Displays	
Monochrome Display	D1181A/W/G
VGA Color Display	D1182A/B
Monochrome Display	D1192A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A
Multifunction Controller Boards	
HP EISA SCSI-2 Host Adapter	D1681A
Multimedia Products	
HP Sound DSP 16	D2941A
HP Integrated Office	D2887A

Mass Storage	
Flexible Disk 1.44 MB 3-1/2 inch	D2035A
Flexible Disk 1.2 MB 5-1/4 inch	D2036A
IDE 52 MB Hard Disk	D1694A
IDE 120 MB Hard Disk	D1696A
IDE 240 MB Hard Disk	D1697A
IDE 85 MB Hard Disk	D2329A
IDE 170 MB Hard Disk	D2330A
SCSI 430 MB Hard Disk	D1699A
SCSI 535 MB Hard Disk	D2075A
SCSI 1035 MB Hard Disk	D2076A
3.5-inch, h-h, Tray (5 pack) for non-HP hard disk drives	D2037A
5.25-inch, h-h, Tray (5 pack) for non-HP, flexible disk and tape drives	D2038A
Datacomm and LAN Boards	
Token-Ring Adapter	D2378A

SYSTEM BOARD, BIOS, AND MEMORY



HP Vectra 486U PC Series System Board Switches

Video Switches

Switch #		Function	Default
1	**OFF**	**Specifies 512 NKB Video Memory installed**	**OFF**
	ON	Specifies 1 MB Video Memory installed	
2/3	**OFF**	**Reserved — do not use**	**OFF**
	ON	Reserved — do not use	
4	**OFF**	**Enables built-in video**	**OFF**
	ON	Disables built-in video	

Configuration Switches

Switch #		Function	Default
1	**OFF**	**Enables configuration (validates configuration in memory)**	**OFF**
	ON	Clears configuration (invalidates configuration in memory)	
2	**OFF**	**Enables password**	**OFF**
	ON	Clears password	
3	**OFF**	**Unlocks configuration (allows changes)**	**ON***
	ON	Locks configuration (prevents changes)	

BIOS Switch

Switch #		Function	Default
1	**OFF**	**Locks BIOS (no write)**	**OFF**
	ON	Unlocks BIOS (writable) should always be locked except to update	

CPU Switches see next table

Switch #		Function	Default
1	**OFF**	**Sets upgrade socket for 487SX type pinout**	**OFF**
	ON	Sets upgrade socket for 486DX/DX2 type pinout	
2	**OFF**	**Enables Primary Processor except when an SX type processor is installed in the upgrade socket**	**OFF**
	ON	Disables Primary processor	
3	**OFF**	**25 MHz Local Bus Speed**	**OFF****
	ON	33 MHz Local Bus speed	

*Leave in the ON position except when making configuration changes.
**CPU Switch 3 determines the speed for both processor sockets (switches 1 and 2 determine the active processor).

CPU Switches-settings for Processor Upgrades

To install this upgrade processor:	Set the CPU Switches to:			You will have upgraded this computer to:
	1	2	3	
487SX Coprocessor (Vectra 486/25U only)	OFF	OFF	OFF	Vectra 486/25U with coprocessor
486DX-33	ON	ON	ON	Vectra 486/33U
486DX2-50 (A80486DX2-50)	ON	ON	OFF	Vectra 486/50U
486DX2-66 (A80486DX2-66)	ON	ON	ON	Vectra 486/66U
SX OverDrive/25 (ODP 486SX-25)	OFF	ON	OFF	Vectra 486/50U
SX OverDrive/33 (ODP 486SX-33)	OFF	ON	ON	Vectra 486/66U
DX OverDrive/25 (ODPR 486DX-25)	ON	ON	OFF	Vectra 486/50U
DX OverDrive/33 (ODPR 486DX-33)	ON	ON	ON	Vectra 486/66U
DX Overdrive/33 (ODP 486DX-33)	OFF	ON	ON	Vectra 486/66U

SETUP AND BIOS HISTORY

SAM version “C.xx.xx” is used on Vectra 486U PCs.

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
		Vectra 486U PC Series		
HP Vectra 486U PC Series				
P.04.00	June 92	First release	Available on HP PC Internal BBS	SAM* version C.00.02
P.04.02	Jun 92	Fixes disk and hang problems		
P.04.04	Feb 93	Fixes security problems		

*System Administration Manager on Vectra 486S and 486U PC Series.

VIDEO MEMORY

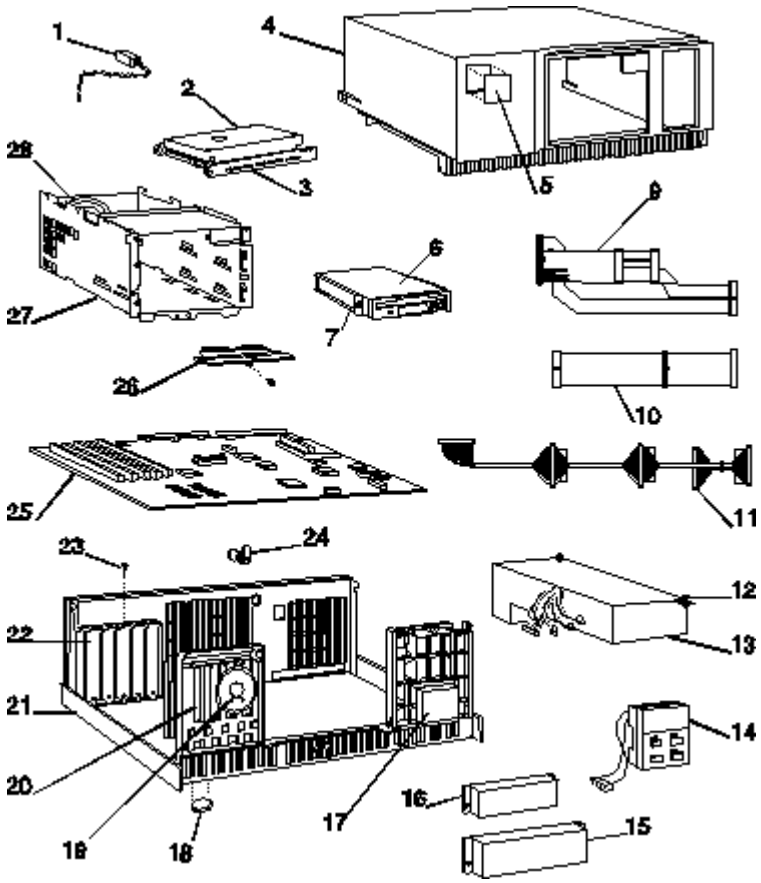
The HP Vectra 486U PC Series is supplied with 512 KB of video RAM for 1024 x 768 in 16 colors. An additional 512 KB of video RAM can be installed in four video sockets (to make a total of 1 MB Video Memory). If additional memory is added, all four sockets must be filled.

MAIN MEMORY

The HP Vectra 486U Series PC has eight sockets for memory modules (labeled 1 through to 8). The modules must be installed as shown in the memory configuration table.

For a TOTAL MEM. of:	Install Memory Modules in These Banks:							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
4 MB	2 MB	2 MB						
8 MB	2 MB	2 MB	2 MB	2 MB				
12 MB	2 MB	2 MB	2 MB	2 MB	2 MB	2 MB		
16 MB	2 MB	2 MB	2 MB	2 MB	2 MB	2 MB	2 MB	2 MB
or								
16 MB	8 MB	8 MB						
20 MB	8 MB	8 MB	2 MB	2 MB				
24 MB	8 MB	8 MB	2 MB	2 MB	2 MB	2 MB		
28 MB	8 MB	8 MB	2 MB	2 MB	2 MB	2 MB	2 MB	2 MB
32 MB	8 MB	8 MB	8 MB	8 MB				
36 MB	8 MB	8 MB	8 MB	8 MB	2 MB	2 MB		
40 MB	8 MB	8 MB	8 MB	8 MB	2 MB	2 MB	2 MB	2 MB
48 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB		
52 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB	2 MB	2 MB
64 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB

PART NUMBERS



Parts List for HP Vectra 486U PC Series

Item	Description	Replacement Part Number	Exchange Part Number
1	Battery (optional on 486U)	1420-0513	—
2	Hard Disk Drive (standard):		
	120 MB	D1696-60007	D1696-69003
	240 MB	D1697-60009	D1697-69007
	430 MB	D1699-60002	D1699-69001
3	3.5-inch, h-h, Tray (5pack) for non-HP hard disk drives	Order product number D2037A	
4	Top Cover-Bezel Assembly	5062-5593	—
5	Nameplate (logo)	See PC's parts list	
6	3.5-inch 1.44 MB Flexible Disk Drive	D2035-63021	—
7	Mounting Rails for 3.5-inch non-HP Disk Drives	5063-0309	—
8	5.25-inch, h-h, Tray (5 pack) for non-HP, flexible disk and tape drives	Order product number D2038A	
9	Flexible Disk Drive Cable, 3.5 & 5.25-inch	5181-0391	—
10	Hard Disk Cable (IDE drive)	5181-0392	—

Parts List for HP Vectra 486U PC Series (contd.)

Item	Description	Replacement Part Number	Exchange Part Number
11	Hard Disk Cable (SCSI drive)	5181-0397	—
	SCSI Disk Activity Light Cable (supplied with SCSI drive)	5181-5684	—
13	Power Supply Assembly	5063-0339	—
14	Status (Control) Panel	5062-5600	—
15	Filler Panel, 5.25-inch	5062-5597	—
16	Filler Panel, 3.5-inch	5062-5595	—
17	Control Panel Filler Assembly	5063-0303	—
18	Bumper Foot	5181-0394	—
19	Speaker Assembly	02620-60016	—
20	Board Guide Assembly	5041-1066	—
21	Base	5062-5592	—
22	I/O panel, Blank	45935-00004	—
23	Screw, 6-32 Pilot Point	0624-0727	—
24	Keylock Assembly	5062-5599	—
25	System Board	See PC's system board parts list	
26	Retainer Assembly (Bottom Disk)	5001-6853	—
27	Bridge/Lid Assembly	5063-0306	—
28	Fan Assembly	5063-0307	—
	Snap Fastener for Fan Assembly	1390-0882	—
	Nameplate		
	HP Vectra 486/25U Logo	5041-6376	
	HP Vectra 486/33U Logo	5041-6377	
	HP Vectra 486/50U Logo	5041-6372	
	HP Vectra 486/66U Logo	5041-6373	

System Board Parts List for HP Vectra 486U PC Series

Description	Replacement Part Number	Exchange Part Number
System Board (includes integrated IDE disk and Ultra VGA controller):		
Vectra 486/25U System Board	D2266-63001	D2266-69001
Vectra 486/33U System Board	D2272-63001	D2272-69001
Vectra 486/50U System Board	D2272-63001	D2272-69001
Vectra 486/66U System Board	D2272-63001	D2272-69001
Disk Controller Boards (slot 4):		
HP EISA SCSI-2 Host Adapter (D1681A)	1150-1920	1150-1921
Processors:		
486DX 33 MHz	1820-7615	
486SX 25 MHz	1821-0304	
486DX2 50 MHz	1821-0303	
486DX2 66 MHz	1821-0859	
Processor Filter Board (486/66U)	D2284-60002	

System Board Parts List for HP Vectra 486U PC Series (contd.)

Description	Replacement Part Number	Exchange Part Number
Coprocessor: 487SX 25 MHz (486/25U)	No HP part available	
DRAM Memory Modules:		
2 MB Memory Module	D2381-63001	
8 MB RAM Memory Module (36 bit)	1818-4702	D2152-69001
VRAM Memory Modules:		
512 KB kit (D2326A)	41818-5183	
BIOS ROM Kit	1818-5434	
BIOS Update disks*		
Heatsink (486/50U & 486/66U only)	1205-0855	
Heatsink Clip	1205-0854	
8742 Keyboard Controller	1821-0269	

*BIOS update disks available on HP PC BBS.

Support Manuals for HP Vectra 486U PC Series

Familiarization Guide	D2266A+49A-60001
Technical Reference Manual: Hardware and BIOS	D2168-90001

Part Numbers for HP Utility Diskettes

Description	Rev	Date Code	Part #	Info.
Vectra 486U PC Series Kits (3.5-inch disks only):				
SAM, EISA-CONFIG, HPVIEW disk			Refer to HP Internal BBS	
EXMODE, PRINTCFG disk				
HPUpdate disk				
Vectra 486U PC Series UVGA Disk (3.5-inch disks only):				
Ultra VGA Drivers	A.01.00	3218	D2325-13004 D2325-13005 D2325-13006	UVGA #1 UVGA disk #2 SCO UNIX disk

12 HP VECTRA 486N (D26XXA) PC SERIES

MODELS AND ACCESSORIES

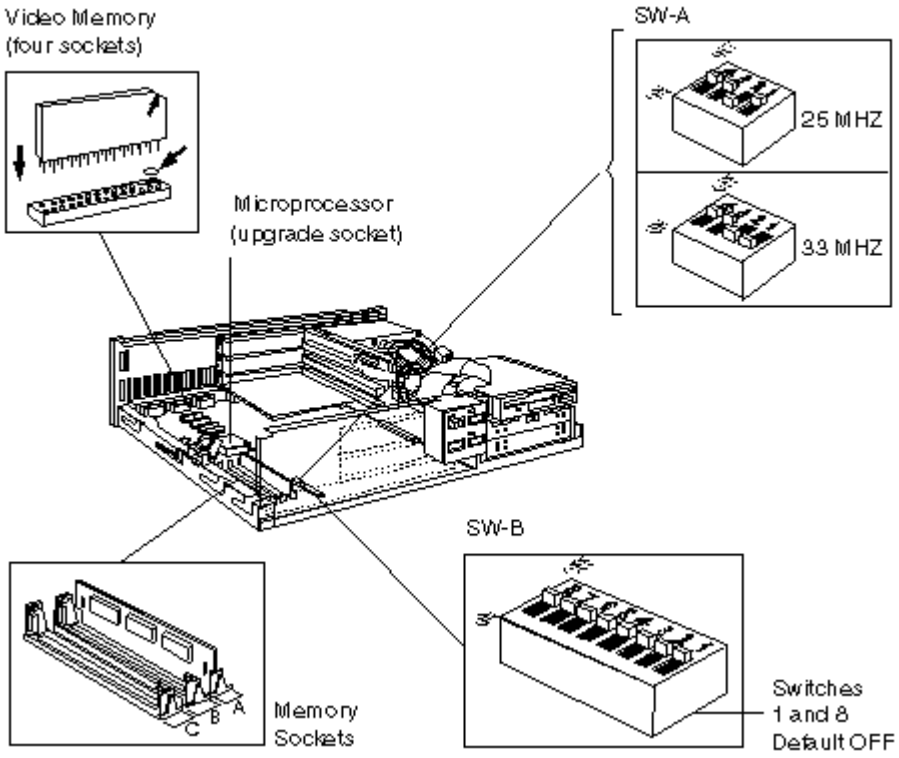
Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	LAN Interface
Vectra 486N (D26xxA) PC Series						
HP Vectra 486/25N (D26xxA) PC (CPL: 10/92; discontinued: 07/93)						
D2610A	None	None	Integrated IDE Interface	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB	None
D2611A	1.44 MB (D2035A)	85 MB (D2329A)				
D2612A		170 MB (D2330A)				
D2613A						
D2614A LAN		85 MB (D2329A)				Token-Ring board (HP D2378A)
D2615A LAN						Ethernet board (HP D27247B)
HP Vectra 486/33N (D26xxA) PC (CPL: 10/92; discontinued: 07/93)						
D2620A	None	None	Integrated IDE Interface	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB	None
D2621A	1.44 MB (D2035A)	85 MB (D2329A)				
D2622A						
D2623A		170 MB (D2330A)				
D2624A LAN		85 MB (D2329A)				Token-Ring board (HP D2378A)
D2625A LAN						Ethernet board (HP D27247B)
HP Vectra 486/50N (D26xxA) PC (CPL: 10/92; discontinued: 07/93)						
D2631A	1.44 MB (D2035A)	None	Integrated IDE Interface	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB	None
D2633A		170 MB (D2330A)				
HP Vectra 486/66N (D26xxA) PC (CPL: 10/92; discontinued: 07/93)						
D2681A	1.44 MB (D2035A)	None	Integrated IDE Interface	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB	None
D2683A		170 MB (D2330A)				

SUPPORTED ACCESSORIES

512 KB Video Memory Upgrade kit	D2326A
2 MB Main Memory Upgrade kit	D2381A
4 MB Main Memory Upgrade kit	D2156A
8 MB Main Memory Upgrade kit	D2152A
16 MB Main Memory Upgrade kit	D2676A
Setting Up Your HP Vectra 486N PC manual and *Using Your HP Vectra 486N PC* manual	D2675A
Coprocessor upgrade (a processor fan 5063-0813 must be installed)	
486/25N (D26xxA) PC with 487SX-25 Math Coprocessor	Non-HP
Processor upgrade	
Processor Upgrade to 486DX-33 (33 MHz)	D2169A
Video Displays	
Monochrome Display	D1192A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A
Mass Storage	
Flexible Disk 1.44 MB 3-1/2 inch	D2035A
IDE 120 MB Hard Disk	D1696A
IDE 240 MB Hard Disk	D1697A
IDE 85 MB Hard Disk	D2329A
IDE 170 MB Hard Disk	D2330A
IDE 170 MB Hard Disk	D2330B
IDE 210 MB Hard Disk	D2387A
IDE 450 MB Hard Disk	D2884A
IDE 340 MB Hard Disk	D2890A
SCSI 430 MB Hard Disk	D1699A

Datacomm and LAN Boards	
Serial Parallel Board	24540B
Dual Serial Board	24541B
Ethertwist PC Link Adapter	27245A
Ethertwist Adapter/16	27247A
Ethertwist Adapter/16	27247B
HP ThinLAN Board	27250A
Token-Ring Adapter	D2378A
Coaxial LAN Adapter Board	D2746A
Input Devices	
Mouse (PS/2, Microsoft)	C1413A
Keyboard	C1405B
Keyboard - new style (recommended)	C3756A

SYSTEM BOARD, BIOS, AND MEMORY



System Board Switches - SW-A

Switch		Function	Default
1	MHZ-1	Selects the speed of the processor's clock (see Frequency Selection table below)	-
2	MHZ-2		-
3	**OFF**	**Sets the super I/O controller* I/O port address to 398-399 (hex).**	**OFF**
	ON	Sets the super I/O controller* I/O port addresses to 26E-26F (hex).	
4	**OFF**	**System ROM can be updated using HPROMInit diskette.**	**OFF**
	ON	System ROM cannot be updated.	

*Super I/O controller: the integrated parallel port controller, serial port controller, flexible disk controller, and IDE hard disk interface.

Frequency Selection (SW-A(1) & SW-A(2))

MHZ-1	MHZ-2	Processor External Clock Speed	Used on
OFF	ON	25 MHz	HP Vectra 486/25N and 486/50N
ON	ON	33 MHz	HP Vectra 486/33N and 486/66N

System Board Switches - SW-B

Switch #		Function	Default
1	**OFF**	**Mouse interrupt IRQ 12 — enabled**	**OFF**
	ON	Mouse interrupt IRQ 12 — disabled (disable mouse if an accessory board uses IRQ 12)	
2	**OFF**	**Video interrupt IRQ 9 — disabled**	**OFF**
	ON	Video interrupt IRQ 9 — enabled	
3	**OFF**	**Built-in VGA controller — enabled**	**OFF**
	ON	Built-in VGA Controller — disabled (disable built-in video if another video board is used)	
4	**OFF**	**Passwords — enabled**	**OFF**
	ON	Passwords — disabled (erased)	
5	**OFF**	**EEPROM stored config information — valid**	**OFF**
	ON	EEPROM stored config information — erased	
6	**OFF**	**Security mode — disabled**	**OFF**
	ON	Security mode — configuration cannot be changed using Setup	
7	**OFF**	**If only 512KB of video is available**	**OFF**
	ON	If the second 512KB of video memory is installed	
8	**OFF**	**The first microprocessor — enabled**	**OFF**
	ON	If a second microprocessor is installed	

SETUP AND BIOS HISTORY

Setup version “D.xx.xx” is used on Vectra 486N PCs.

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
		Vectra 486N (D26xxA) PC Series		
HP Vectra 486N (D26xxA) PC Series				
T.04.02	Aug 92	First release	—	D.03.00
T.04.03	Dec 92	Second release	5010-8722*	
T.04.04	April 93	Third release	Available on HP PC Internal BBS	

*HPROMInit backup diskette (US Version) for Vectra 486N PC Series.

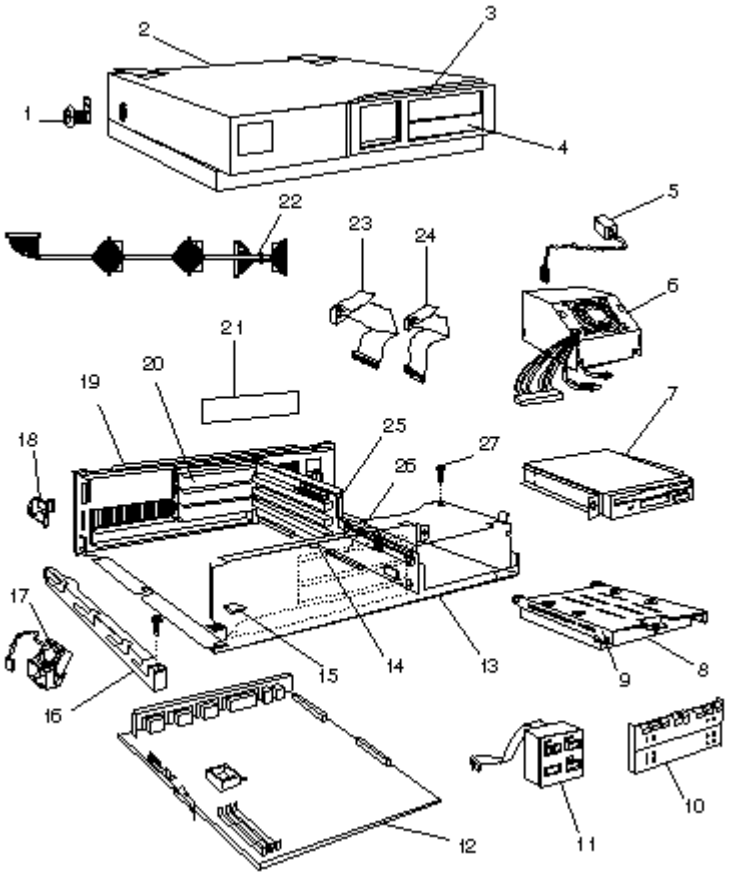
VIDEO MEMORY

The HP Vectra 486N (D26xxA) PC Series is supplied with 512 KB of video RAM for 1024 x 768 in 16 colors. An additional 512 KB of video RAM can be installed in four video sockets (to make a total of 1 MB). for 1024 x 768 in 256 colors If additional video memory is added, all four sockets must be filled.

MAIN MEMORY

The HP Vectra 486N (D26xxA) PC Series has three sockets for main memory modules (labeled A, B, and C). The modules can be installed in *any combination in any of the three sockets.*

PART NUMBERS



Parts List for HP Vectra 486N (D26xxA) PC Series

Item	Description	Replacement Part Number	Exchange Part Number
1	Cover Lock Assembly	5062-5590	—
2	Top Cover-Bezel Assembly (includes items 1, 3, & 4)	5062-2682	—
3	Bezel Insert	5041-1062	—
4	Filler Panel	5041-2554	—
5	Battery	1420-0513	—
6	Power Supply Assembly	5063-4538	—
7	3.5-inch Disk Drive 1.44 MB	D2035-63021	—
	Mounting Rails for 3.5-inch non-HP Disk Drives	5063-0309	—
8	Hard Disk Drive (standard)		
	85 MB	D2329-60003	D2329-69001
	170 MB	D2330-69003	D2330-69001
9	3.5-inch, h-h, Tray (5 pack) for non-supported hard disk drives	Order product number D2037A	
10	Hard Drive RFI Assembly	5062-2694	—

Parts List for HP Vectra 486N (D26xxA) PC Series (contd.)

Item	Description	Replacement Part Number	Exchange Part Number
11	Status (Control) Panel	5063-0815	—
12	System Board	See PC's system board parts list	
13	Chassis Assembly (Rear Bezel, Bumper Foot, Serial Label, Board Guide, CPU Guide, and Security Bracket)	5062-2681	—
14	System Board Guide	5041-1063	—
15	Bumper Foot	5181-0394	—
16	Side Panel	5001-4238	—
17	Fan — on 486N (D26xxA) and 486N & NI (D27xxA) only	5063-0813	—
18	Security Bracket	5001-6869	—
19	Rear Bezel	5062-2680	—
20	I/O Panel, Blank	45935-00004	—
21	Serial Label	5181-0395	—
22	Hard Disk Cable (SCSI drive)	5181-0397	—
23	Short Flexible Disk Drive Cable, 3.5-inch disk	5181-9742	—
24	Short Hard Disk Cable (IDE drive)	5181-0385	—
25	Backplane Assembly	5063-0814	—
26	Board Guide Assembly	5041-1070	—
27	Screw, TORX/Flat, 6-32 or	2680-0311	—
	Screw, Machine 6-32 Pilot Point	2360-0514	—
	Nameplate		
	HP Vectra 486/25N Logo	5041-2565	
	HP Vectra 486s/33N Logo	5041-2599	
	HP Vectra 486/33N Logo	5041-2566	
	HP Vectra 486/50N Logo	5041-2571	
	HP Vectra 486/66N Logo	5041-2569	

System Board Parts List for HP Vectra 486N (D26xxA) PC Series

Description	Replacement Part Number	Exchange Part Number
System Board (includes integrated IDE disk and Ultra VGA+ controllers):		
Vectra 486N Series PC	D2600-63001	D2600-69001
Processor:		
486SX-25	1821-0304	—
486SX-33	5063-0865	—
486DX-33	1820-7615	—
486DX2-50	5063-0303	—
486DX2-66	5063-4584	—
Math Coprocessor: 487SX-25	non-HP	—
Processor Upgrade kit:		
486DX-33 OverDrive25 (486DX2-50) OverDrive33 (486DX2-66)	Order the replacement processor listed above	
Main Memory Modules:		
2 MB Main Memory Module kit	D2381-63001	
4 MB Main Memory Module kit (36-bit)	1818-4703	D2156-69001
8 MB Main Memory Module kit (36-bit)	1818-4702	2152-69001
16 MB Main Memory Module kit	D2676-83001	
Video Memory Modules:		
512 KB Video Memory kit (D2326A)	41818-5183	

Support Manuals for HP Vectra 486N (D26xxA) PC Series

Familiarization Guide	D267xA+49A-90001
Technical Reference Manual: Hardware and BIOS	5960-5879

Part Numbers for HP Utility Diskettes

Description	Rev	Date Code	Part #	Info.
3.5-inch disk Utilities Kit Includes: 	A.01.00 A.04.0 A.01.00	- 3308 3304	Available on HP PC Internal BBS	**Utilities Kit** Video Disk DOS Video Disk OS/2
3.5-inch disk Start Up Kit (English version) Includes: 	- T.04.03 A.00.00	- 3249 3231	Available on HP PC Internal BBS	**Start up Kit** HPROMInit Disk Guided Tour Disk

13 HP VECTRA 486N & NI (D27XXA) PC SERIES

MODELS AND ACCESSORIES

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	LAN Interface
Vectra 486N & NI (D27xxA) PC Series						
HP Vectra 486/25N (D27xxA) PC (CPL: 04/93; discontinued: 07/94)						
D2751A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB	None
D2752A		120 MB (D1696A)				
D2752B		170 MB (D2330B)				
D2753A		240 MB (D1697A)				
HP Vectra 486s/33N (D27xxA) PC (CPL: 04/93; discontinued: 07/94)						
D2761A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB	None
D2762A		120 MB (D1696A)				
D2762B		170 MB (D2330B)				
D2763A		240 MB (D1697A)				
HP Vectra 486/33N (D27xxA) PC (CPL: 04/93; discontinued: 07/94)						
D2771A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB	None
D2772A		120 MB (D1696A)				
D2772B		170 MB (D2330B)				
D2773A		240 MB (D1697A)				
HP Vectra 486/66N (D27xxA) PC (CPL: 04/93; discontinued: 07/94)						
D2793A	1.44 MB (D2035A)	240 MB (D1697A)	Integrated IDE controller	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB	None
HP Vectra 486/25NI (D27xxA) PC (CPL: 04/93; discontinued: 07/94)						
D2755A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB	Integrated Ethernet
D2756A*		120 MB (D1696A)				
D2756B*		170 MB (D2330B)				
D2757A**		120 MB (D1696A)				
D2757B**		170 MB (D2330B)				

*D2756A, D2756B, D2766A, D2776A, an D2776B include Microsoft® Windows for Workgroups.
**D2757A, D2757B, D2767A, D2777A, and D2777B include Microsoft® Windows.

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	LAN Interface
HP Vectra 486s/33NI (D27xxA) PC (CPL: 04/93; discontinued: 07/94)						
D2765A **D2766A1** **D2767A2**	1.44 MB (D2035A)	None 120 MB (D1696A)	Integrated IDE controller	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB	Integrated Ethernet
HP Vectra 486/33NI (D27xxA) PC (CPL: 04/93; discontinued: 07/94)						
D2775A **D2776A*** **D2776B*** **D2777A**** **D2777B****	1.44 MB (D2035A)	None 120 MB (D1696A) 170 MB (D2330B) 120 MB (D1696A) 170 MB (D2330B)	Integrated IDE controller	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB	Integrated Ethernet

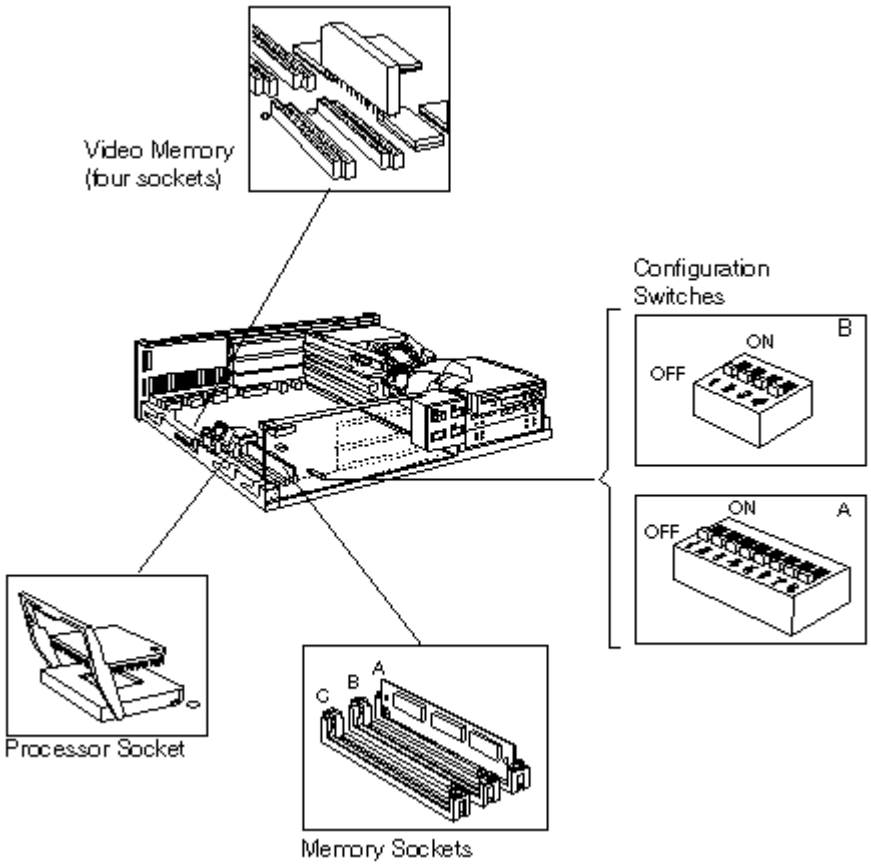
*D2756A, D2756B, D2766A, D2776A, an D2776B include Microsoft® Windows for Workgroups.
**D2757A, D2757B, D2767A, D2777A, and D2777B include Microsoft® Windows.

SUPPORTED ACCESSORIES

512 KB Video Memory Upgrade kit	D2713A
2 MB Main Memory Upgrade kit	D2381A
4 MB Main Memory Upgrade kit	D2156A
8 MB Main Memory Upgrade kit	D2152A
16 MB Main Memory Upgrade kit	D2676A
Setting Up Your PC and *Using Your PC* manuals	D2711A
Coprocessor upgrades	
486/25N & NI (D27xxA) PC with 487SX-25 Coprocessor	Non-HP*
486x/33N & NI (D27xxA) PC with 487SX-33 Coprocessor	Non-HP*
Processor upgrades	
Processor Upgrade to 486DX-33 (33 MHz)	D2169A*
*Order fan part number 5063-5716 if upgrading either a D275xA or D276xA.	
Input Devices	
Mouse (PS/2, Microsoft)	C1413A
Mouse (PS/2, Logitech)	C3751A
Keyboard	C1405B
Keyboard - new style (recommended)	C3756A

Video Displays	
Monochrome Display	D1192A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A
Mass Storage	
Flexible Disk 1.44 MB 3-1/2 inch	D2035A
IDE 120 MB Hard Disk	D1696A
IDE 240 MB Hard Disk	D1697A
IDE 170 MB Hard Disk	D2330A
IDE 170 MB Hard Disk	D2330B
IDE 210 MB Hard Disk	D2387A
IDE 450 MB Hard Disk	D2884A
IDE 340 MB Hard Disk	D2890A
SCSI 430 MB Hard Disk	D1699A
Datacomm and LAN Boards	
Serial Parallel Board	24540B
Dual Serial Board	24541B
Ethertwist PC Link Adapter	27245A
Ethertwist Adapter/16	27247A
Ethertwist Adapter/16	27247B
HP ThinLAN Board	27250A
Token-Ring Adapter	D2378A
Coaxial LAN Adapter Board	D2746A

SYSTEM BOARD, BIOS, AND MEMORY



System Board Switch Block SW-A

Switch		Function	Default
1	**OFF**	**Mouse interrupt IRQ12 — enabled**	**OFF**
	ON	Mouse interrupt IRQ12 — disabled (disable mouse if an accessory board uses IRQ12)	
2	**OFF**	**Video interrupt IRQ9 — disabled**	**OFF**
	ON	Video interrupt IRQ9 — enabled	
3	**OFF**	**Integrated Ultra VGA controller — enabled**	**OFF**
	ON	Integrated Ultra VGA Controller — disabled (disable built-in video if another video board is used)	
4	**OFF**	**Passwords — enabled**	**OFF**
	ON	Passwords — disabled (erased)	
5	**OFF**	**EEPROM stored configuration information — valid**	**OFF**
	ON	EEPROM stored configuration information — erased	
6	**OFF**	**Security mode — disabled**	**OFF**
	ON	Security mode — configuration cannot be changed using Setup	
7	**OFF**	**Flash ROM updates — enabled**	**OFF**
	ON	Flash ROM updates — disabled	
8	**OFF**	**Not used**	**OFF**

System Board Switch Block SW-B

Switch	Name	Function		
1	Reserved	Not used (OFF)		
2	IO399	Sets the super I/O controller's* I/O port addresses (hex):		
		OFF: 398 — 399 (default)		
		ON: 26E — 26F		
3	MHZ-2	OFF	OFF	MHZ-1 and MHZ-2 set the speed of the processor's external clock — Set to 25 MHz for Overdrive/25 (50 MHz internal clock) and 33 MHz for Overdrive/33 (66 MHz internal clock).
4	MHZ-1	OFF	ON	
		25 MHz	33 MHz	Setting a speed higher than the processor's rated bus speed could damage the processor

*Super I/O controller: the integrated parallel port controller, serial port controller, flexible disk controller, and IDE hard disk interface.

SETUP AND BIOS HISTORY

Setup version "D.xx.xx" is used on Vectra 486N & NI, PCs

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
		Vectra 486N & NI (D27xxA) PC Series		
		HP Vectra 486N & NI (D27xxA) PC Series		
V.04.04	April 93	First release	—	N/A
V.04.08	May 94	Current release	Available on HP PC Internal BBS	N/A

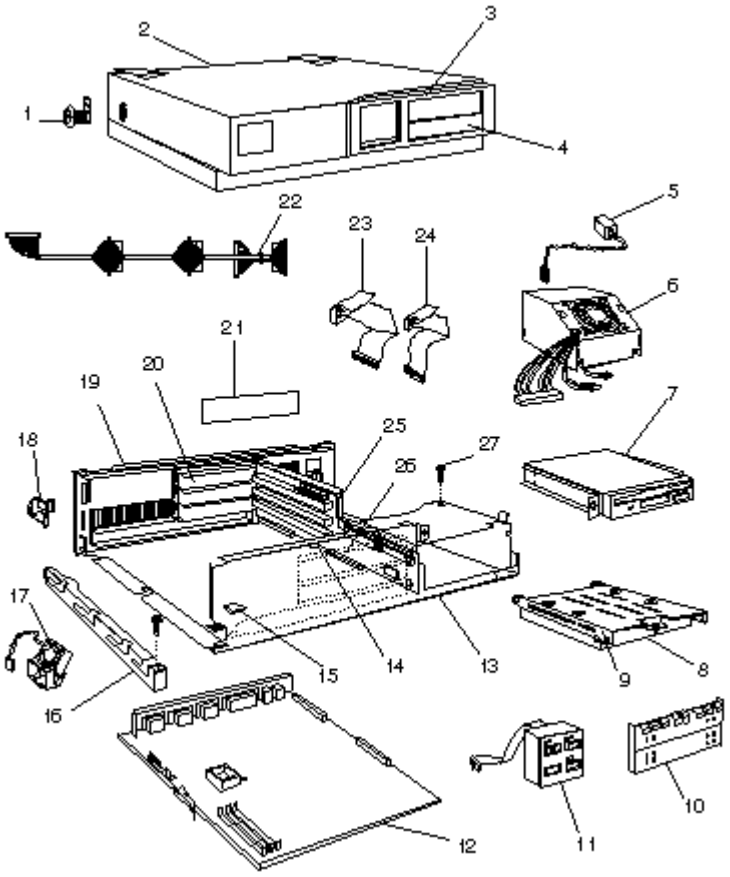
VIDEO MEMORY

The PC is supplied with 512 KB of video memory for a resolution of up to 1024 x 768 in 16 colors. An additional 512 KB of video memory can be installed in four video sockets (to make a total of 1 MB) for a resolution of up to 1024 x 768 in 256 colors. If additional video memory is added, all four sockets must be filled.

MAIN MEMORY

HP Vectra 486N & NI (D27xxA) PCs have three sockets on the system board labeled A, B, and C. Main memory modules can be installed in any combination in *any of the three sockets* up to a maximum of 48 MB.

PART NUMBERS



Parts List for HP Vectra 486N & NI (D27xxA) PC Series

Item	Description	Replacement Part Number	Exchange Part Number
1	Cover Lock Assembly	5062-5590	
2	Top Cover-Bezel Assembly (includes items 1, 3, & 4)	5062-2682	—
3	Bezel Insert	5041-1062	—
4	Filler Panel	5041-2554	—
5	Battery	1420-0513	—
6	Power Supply Assembly	5063-4538	—
7	3.5-inch Flexible Disk Drive 1.44 MB	D2035-63021	
	Mounting Rails for 3.5-inch non-HP Disk Drives	5063-0309	—
8	Hard Disk Drive (standard):		
	120 MB	D1696-60007	D1696-69003
	170 MB	D2330-60003	D2330-69001
	240 MB	D1697-60009	D1697-69007
9	3.5-inch, h-h, Tray (5 pack) for non-supported hard disk drives	Order product number D2037A	
10	Hard Drive RFI Assembly	5062-2694	—

Parts List for HP Vectra 486N & NI (D27xxA) PC Series (contd.)

Item	Description	Replacement Part Number	Exchange Part Number
11	Status (Control) Panel	5063-0815	—
12	System Board	See PC's system board parts list	
13	Chassis Assembly (Rear Bezel, Bumper Foot, Serial Label, Board Guide, CPU Guide, and Security Bracket)	5062-2681	—
14	System Board Guide	5041-1063	—
15	Bumper Foot	5181-0394	—
16	Side Panel	5001-4238	—
17	Fan — on D277xA & D279xA only*	5063-0813	—
18	Security Bracket	5001-6869	—
19	Rear Bezel	5062-2680	—
20	I/O Panel, Blank	45935-00004	—
21	Serial Label	5181-0395	—
22	Hard Disk Cable (SCSI drive)	5181-0397	—
23	Short Flexible Disk Drive Cable, 3.5-inch disk	5181-9742	—
24	Short Hard Disk Cable (IDE drive)	5181-0385	—
25	Backplane Assembly	5063-0814	—
26	Board Guide Assembly	5041-1070	—
27	Screw, TORX/Flat, 6-32 or	2680-0311	—
	Screw, Machine 6-32 Pilot Point	2360-0514	—
	Nameplate		
	HP Vectra 486/25N Logo	5041-2565	
	HP Vectra 486/25NI Logo	5182-0324	
	HP Vectra 486s/33N Logo	5041-2599	
	HP Vectra 486s/33NI Logo	5182-0326	
	HP Vectra 486/33N Logo	5041-2566	
	HP Vectra 486/33NI Logo	5182-0328	
	HP Vectra 486/50N Logo	5041-2571	
	HP Vectra 486/66N Logo	5041-2569	

*No fan used on 486/25N or 286s/33N (D275xA or D276xA).

System Board Parts List for HP Vectra 486N & NI (D27xxA) PC Series

Description	Replacement Part Number	Exchange Part Number
System Board (integrated IDE disk, Ultra VGA+ controllers, and Ethernet on NI models):		
Vectra 486/25N	—	D2751-69002
Vectra 486/25NI	—	D2755-69002
Vectra 486s/33N	—	D2761-69002
Vectra 486s/33NI	—	D2765-69002
Vectra 486/33N	D2771-63002*	D2771-69002*
Vectra 486/33NI	D2775-63002*	D2775-69002*
Vectra 486/50N	D2771-63002*	D2771-69002*
Vectra 486/66N	D2771-63002*	D2771-69002*
Processors:		
486SX-25 'SL'	5063-4561	—
486SX-33 'SL'	5063-4554	—
486DX-33	1820-7615	—
486DX2-50 'SL'	5063-4583	—
486DX2-66 'SL'	5063-4584	—
Math Coprocessors:		
487SX-25	non-HP	—
487SX-33	non-HP	—

*New D2771-63003 and D2775-63003 system boards do not have a processor.

System Board Parts List for HP Vectra 486N & NI (D27xxA) PC Series

Description	Replacement Part Number	Exchange Part Number
Main Memory Modules:		
2 MB Main Memory Module kit	5063-5722	
4 MB Main Memory Module kit (36-bit)	1818-4703	D2156-69001
4 MB Main Memory Module (32-bit)	5182-1033	
8 MB Main Memory Module kit (36-bit)	1818-4702	D2152-69001
8 MB Main Memory Module (32-bit)	5063-0890	
16 MB Main Memory Module kit	D2676-83001	
Video Memory Modules:		
512 KB Video Memory kit (D2713A)	D2713-83001	
LAN Adapters:		
Coaxial Adapter Board (D2746A)	D2746-63001	

Support Manuals for HP Vectra 486N & NI (D27xxA) PC Series

Familiarization Guide	D27xxA+49A-90001
Technical Reference Manual: Hardware and BIOS	5961-4524

Part Numbers for HP Utility Diskettes

Description	Rev	Date Code	Part #	Info.
Vectra 486N & NI Kits (3.5-inch disks only):				
Windows & DOS Video Drivers	A.01.03	3338	Refer to HP Internal BBS	Kit
OS/2 Video Drivers	A.01.00	3301		
Lan Drivers for HP Integrated Ethernet Interface	A.02.00	3395		

14 HP VECTRA N2 PC SERIES

MODELS AND ACCESSORIES

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	Integ. LAN	L 2 Cache
			Vectra N2 PC Series				
HP Vectra N2 4/25s PC (CPL: 06/94; discontinued: 02/95)							
D3186A	1.44 MB (D2035A)	None	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	4 MB	Yes	None
D3187A		106 MB					
D3188A		170 MB (D2330B)					
HP Vectra N2 4/25si PC (CPL: 06/94; discontinued: 02/95)							
D3189A	1.44 MB (D2035A)	170 MB (D2330B)	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	4 MB	Yes	None
HP Vectra N2/33s PC (CPL: 06/94; discontinued: 02/95)							
D3141A	1.44 MB (D2035A)	None	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	None	Opt.
D3142A		210 MB (D2387A)					
D3180A		340 MB (D2890A)					
HP Vectra N2/33si PC (CPL: 03/94; discontinued: 02/95)							
D3143A	1.44 MB (D2035A)	210 MB (D2387A)	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	Yes	Opt.
HP Vectra N2/50 PC (CPL: 06/94)							
D3144A	1.44 MB (D2035A)	None	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	None	Opt.
D3145A		210 MB (D2387A)					
D3145B		270 MB (D2388A)					
D3181A		340 MB (D2890A)					
D3181B		540 MB (D2389A)					
HP Vectra N2/50i PC (CPL: 03/94)							
D3146A	1.44 MB (D2035A)	210 MB (D2387A)	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	Yes	Opt.
D3146B		270 MB (D2388A)					
HP Vectra N2 4/50s PC (CPL: 06/94; discontinued: 05/95)							
D3370A	1.44 MB (D2035A)	None	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	None	Opt.
D3371A		270 MB (D2388A)					

HP Vectra N2 4/50si PC (CPL: 06/94; discontinued: 05/95)

D3372A	1.44 MB (D2035A)	270 MB (D2388A)	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	Yes	Opt.

HP Vectra N2 4/66 PC (CPL: 06/94)

D3148A	1.44 MB (D2035A)	None	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	None	Opt.
D3149A		340 MB (D2890A)					
D3376A		540 MB (D2389A)					

HP Vectra N2 4/66i PC (CPL: 04/95 **)**

D3377A	1.44 MB (D2035A)	540 MB (D2389A)	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	Yes	Opt.

HP Vectra N2 4/100 PC (CPL: 04/95 **)**

D3307A	1.44 MB (D2035A)	None	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	None	Opt.
D3308A		540 MB (D2389A)					

HP Vectra N2 4/100i PC (CPL: 04/95 **)**

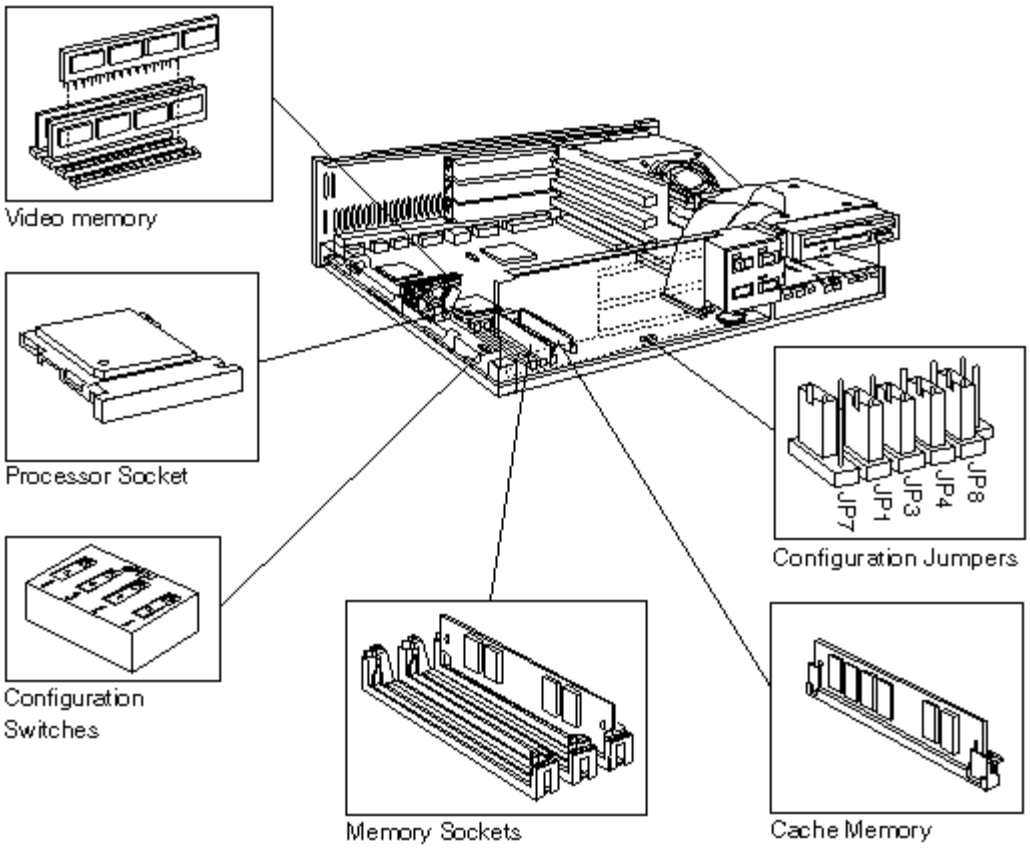
D3309A	1.44 MB (D2035A	540 MB (D2389A)	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	Yes	Opt.

SUPPORTED ACCESSORIES

512 KB Video Memory Upgrade Kit	D3169A
128 KB Cache Memory Upgrade Kit	D3168A
256 KB Cache Memory Upgrade Kit	D2944A
4 MB Main Memory Upgrade Kit	D2974A
8 MB Main Memory Upgrade Kit	D2975A
16 MB Main Memory Upgrade Kit	D2297A
32 MB Main Memory Upgrade Kit	D2298A
Vectra N2 *User's Guide* manual	D3140A

Video Displays	
Monochrome Display	D1192A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A
Multimedia Products	
HP Sound DSP 16	D2941A
HP Integrated Office	D2887A
Mass Storage	
Flexible Disk 1.44 MB 3-1/2 inch	D2035A
Flexible Disk 1.2 MB 5-1/4 inch	D2881A
IDE 170 MB Hard Disk	D2330B
IDE 210 MB Hard Disk	D2387A
IDE 270 MB Hard Disk	D2388A
IDE 270 MB Hard Disk	D2894A/B
IDE 450 MB Hard Disk	D2884A
IDE 340 MB Hard Disk	D2890A
IDE 540 MB Hard Disk	D2389A
IDE 540 MB Hard Disk	D2891A/B
1 GB SCSI-2 Hard Disk Drive	D2076B
SCSI CD-ROM Drive	D2886B
3.5-inch, h-h, Tray (5 pack) for non-HP hard disk drives	D2037A
Input Devices	
Keyboard	C1405B
Keyboard - new style (recommended)	C3756A
Mouse (PS/2, Logitech)	C3751A

SYSTEM BOARD, BIOS, AND MEMORY



N2 Configuration Jumpers

Jumper	Setting	Function	Default
JP1	1-2	PENTIUM Overdrive: Level-one cache write through mode.	**2-3**
	2-3	**PENTIUM Overdrive: Level-one cache write back mode.**	
JP2	**9-10**	**Select IRQ 7 for LPT1**	**9-10**
	11-12	Select IRQ 5 for LPT2	
JP3*	1-2	Select 33 MHz processor speed	
	2-3	Select 25 MHz processor speed	
JP4	1-2	Select > 33 MHz processor speed	**2-3**
	2-3	**Select 25/33 MHz processor speed**	
JP7	**1-2**	**VESA ID bit (CPU speed <= 33 MHz)**	**1-2**
	2-3	VESA ID bit (CPU speed > 33 MHz)	
JP8*	1-2	Intel DX4 processor	
	2-3	Other processor	

*Default setting dependent on model

N2 System Board Switches

Switch #		Function	Default
1 SECUR	**CLOSED**	**Enables security mode to prevent changes to the PC's configuration**	**CLOSED**
	OPEN	Disables security mode to allow changes to the PC's configuration	
2 VGAEN	**OPEN**	**Enables VGA**	**OPEN**
	CLOSED	Disables VGA	
3 CONFIG	**OPEN**	**Retain the configuration stored in CMOS**	**OPEN**
	CLOSED	Clear the configuration stored in CMOS. Switch to CLOSED if you need to clear the PC's configuration information, for example, if the configuration is corrupted.	
4 PSWRD	**OPEN**	**Enables the passwords to be set and stored in CMOS.**	**OPEN**
	CLOSED	Disables the passwords Switch to CLOSED if you need to clear the current password.	

IRQs and I/O Addresses

IRQ	Function	I/O Port Hex
IRQ 3	Serial Port B (COM2) or LAN	3F8-3FF
IRQ 4	Serial Port A (COM1) or LAN	2F8-2FF
IRQ 6	Flexible Disk Controller	3F0-3F7
IRQ 7 (5)*	Parallel Port 1 (LPT1)	378-37F
IRQ 14	IDE Hard Disk Controller	1F0-1F7
-	Video controller	3B0-3DF

*Numbers in brackets indicate alternate IRQ selected by jumper on the system board. See the Configuration Jumper table for details.

SETUP AND BIOS HISTORY

The HP BIOS includes a SETUP program. See the *HP Vectra N2 Familiarization Guide* for details.

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
		Vectra N2 PC Series		
HP Vectra N2 PC Series				
GB.04.03	June 94	First release	N/A	N/A

CACHE MEMORY

HP Vectra N2 PCs have one cache memory socket, allowing a 128 KB or 256 KB second-level cache memory kit to be installed.

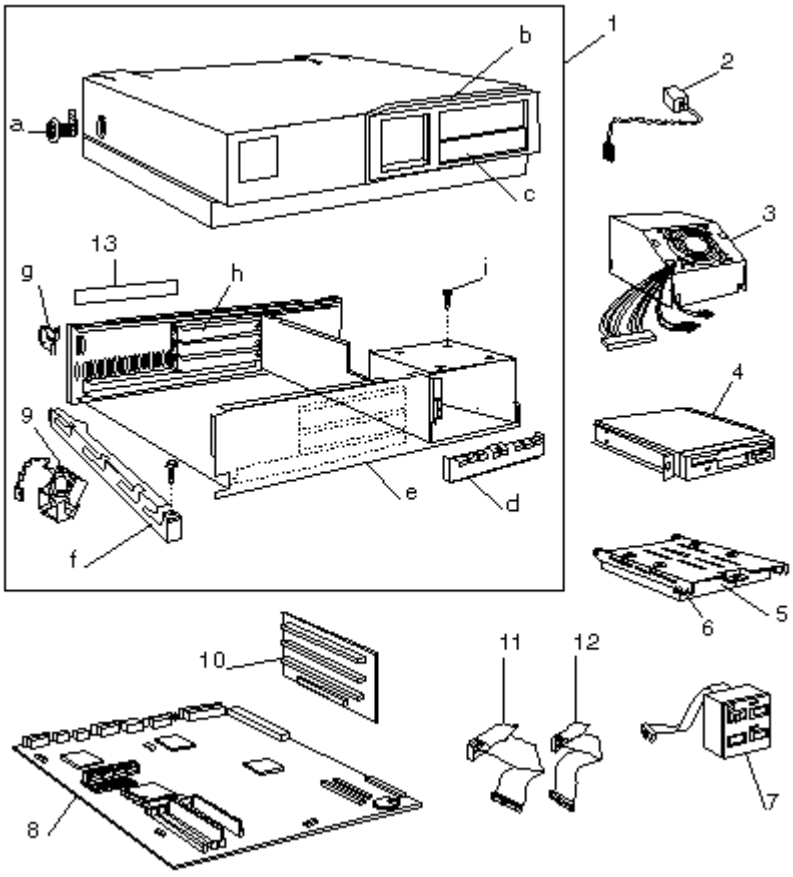
VIDEO MEMORY

The PC is supplied with 1 MB of video memory for 1024 x 768 in 256 colors. An additional 1 MB of video memory (two 512 KB video memory modules) can be installed in the video memory sockets (to make a total of 2 MB for 1024 x 68 in 64 K colors).

MAIN MEMORY

HP Vectra N2 PC has three sockets on the system board, and are supplied with 4 MB or 8 MB main memory standard, depending on the model. 4 MB, 8 MB, 16 MB, and 36 MB, 36-bit main memory modules can be installed in *any combination* in the two sockets up to a maximum of 96 MB.

PART NUMBERS



Parts List for HP Vectra N2 PC Series

Item	Description	Replacement Part Number	Exchange Part Number list
1	Box Assembly:	5063-5714	—
	a. Cover Lock Assembly	5062-5590	
	b. Bezel Insert	5041-1062	
	c. Filler Panel	5041-2554	
	d. Hard Drive RFI Assembly	—	
	e. Chassis Assembly	5062-2681	
	f. Side Panel	5001-4238	
	g. Security Bracket	5001-6869	
	h. I/O Panel	45935-00004	
	i. Screw, TORX/Flat, 6-32 or Screw, Machine, 6-32 Pilot Point	2680-0311 2360-0514	
2	3 V Battery	1420-0535 *	—
	4.5 V Battery (optional accessory)	1420-0513	
3	Power Supply Assembly	5063-5719	—
4	Flexible Disk Drive, 3.5-inch	D2035-63004	—
5	Hard Disk Drive		
	106 MB	D3032-63031	—
	170 MB	D2330-63021	D2330-69021
	210 MB	D2387-63001	D2387-69001
	270 MB	D2388-63001	D2388-69001
	340 MB	D2890-63021	D2890-69021
	540 MB	D2389-63001	D2389-69001
6	3.5-inch, h-h, Tray (5 pack) for non-supported hard disk drives	Order product number D2037A	
7	Status (Control) Panel	5063-5715	—
8	System Board	See PC's system board parts list	
9	Optional Fan	5063-5716	—
10	Backplane Assembly	5036-5717	—
11	Flexible Disk Drive Cable	5182-1087	—
12	Hard Disk Cable (IDE drive)	5182-1086	—
13	Rear Bezel Label	5042-0558	—
	Nameplate		
	HP Vectra N2 4/25 Logo	5042-0588	—
	HP Vectra N2 4/25i Logo	5042-0589	—
	HP Vectra N2 4/33s Logo	5042-0527	—
	HP Vectra N2 4/33si Logo	5042-0528	—
	HP Vectra N2 4/50s Logo	5042-1118	—
	HP Vectra N2 4/50si Logo	5042-1119	—
	HP Vectra N2 4/50 Logo	5042-0529	—
	HP Vectra N2 4/50i Logo	5042-0539	—
	HP Vectra N2 4/66 Logo	5042-0531	—
	HP Vectra N2 4/66i Logo	5042-1120	—
	HP Vectra N2 4/100 Logo	5042-1152	—
	HP Vectra N2 4/100i Logo	5042-1153	—

*Replace the batteery with a Panasonic/Rayovac BR2335 battery, available from most local stores, or its equivalent HP battery using this number from your dealer or HP Sales and Service Office. Return the old battery to the supplier.

System Board Parts List for HP Vectra N2 PC Series

Description	Replacement Part Number	Exchange Part Number
System Board (includes integrated IDE disk and Ultra VGA+ controllers):*		
Vectra N2 4/XX and Vectra N2 4/XXs	D3151-630011	D3151-69001*
Vectra N2 4/XXi and Vectra N2 4/XXsi	D3153-630011	D3153-69001*
Vectra N2 4/100	D3185-630011	D3185-69001*
Vectra N2 4/100i	D3189-630011	D3189-69001*
Processors:		
486SX-25	5063-4561	—
486SX-33	5063-4554	—
486SX2-50 (Vectra N2 4/50s and Vectra N2 4/50si)	5063-5730	—
486DX2-50 (Vectra N2 4/50 and Vectra N2 4/50i)	5063-4583	—
486DX2-66	5063-4584	—
486DX4-100	5063-4598	—
Second Level Cache Memory Modules:		
128 KB Cache Memory Module kit (D3168A)	D3168-63001	—
256 KB Cache Memory Module kit (D2944A)	5063-0880	—
Main Memory Modules: (70 ns)		
4 MB Main Memory Module kit, 36-bit (D2974A)	D2974-63001	—
8 MB Main Memory Module kit, 36-bit (D2975A)	D2975-63001	—
16 MB Main Memory Module kit, 36-bit (D2297A)	D2297-63001	D2297-69001
32 MB Main Memory Module kit, 36-bit (D2298A)	D2298-63001	D2298-69001
Video Memory Modules:		
512 KB Video Memory kit (D3169A)	D3169-83001	—

*These assemblies are supplied without main memory modules.

Support Manuals for HP Vectra N2 PC Series

Familiarization Guide	D314x+49A-90001
Technical Reference Manual: Hardware and BIOS	None*

*Electronic file only.

Part Numbers for HP Utility Diskettes

Description	Rev	Date Code	Part #	Info.
Windows & DOS Video Drivers			5063-4532	Kit

15 HP VECTRA 486M & MI PC SERIES

MODELS AND ACCESSORIES

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	LAN Interface
Vectra 486M & MI PC Series						
HP Vectra 486/25M PC (CPL: 06/93; discontinued: 07/94)						
D2851A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB	None
D2855A		120 MB (D1696A)				
D2852A		170 MB (D2330A)				
D2853A		240 MB (D1697A)				
HP Vectra 486s/33M PC (CPL: 06/93; Discontinued: 07/94**)**						
D2861A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB	None
D2865A		120 MB (D1696A)				
D2862A		170 MB (D2330A)				
D2863A		240 MB (D1697A)				
HP Vectra 486/33M PC (CPL: 06/93; Discontinued: 07/94)						
D2871A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB	None
D2872A		170 MB (D2330A)			8 MB	
D2872B*						
D2873A		240 MB (D1697A)			4 MB	
D2873B					8 MB	
HP Vectra 486/66M PC (CPL: 11/93)						
D2892A	1.44 MB (D2035A)	240 MB (D1697A)	Integrated IDE controller	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	8 MB	None
D2893A		450 MB (D2884A)				
HP Vectra 486/25MI PC (CPL: 06/93)						
D2857A	1.44 MB (D2035A)	170 MB (D2330A)	Integrated IDE controller	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB	Integrated Ethernet
D2857B		240 MB (D1697A)				
D2859B**						
HP Vectra 486s/33MI PC (CPL: 06/93)						
D2867A	1.44 MB (D2035A)	170 MB (D2330A)	Integrated IDE controller	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB	Integrated Ethernet

*CPL date for the D2872B and D2873B models was 11/93
**Includes: HP OpenView PC client software and D2886A CD-ROM kit

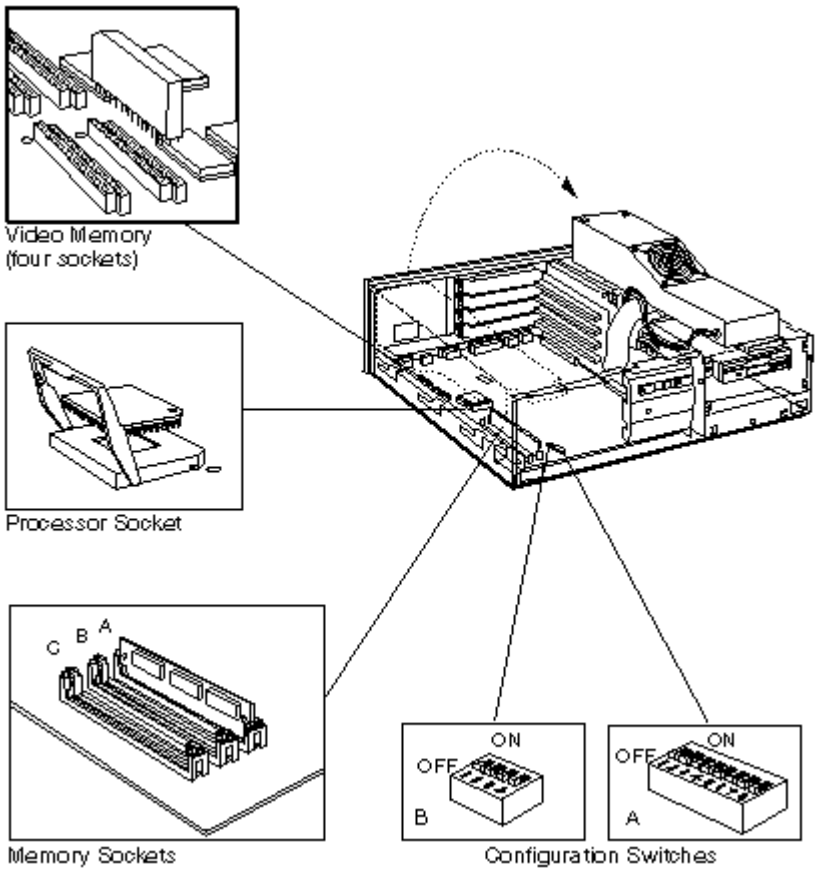
Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	LAN Interface
HP Vectra 486/33MI PC (CPL: 06/93)						
D2877A	1.44 MB (D2035A)	170 MB (D2330A)	Integrated IDE controller	Integrated Ultra VGA+ (512 KB, upgradeable to 1 MB)	4 MB	Integrated Ethernet
D2877B		240 MB (D1697A)			8 MB	

SUPPORTED ACCESSORIES

512 KB Video Memory Upgrade kit	D2713A
2 MB Main Memory Upgrade kit (486M & MI PCs)	D2381A
4 MB Main Memory Upgrade kit (486M & MI PCs)	D2156A
8 MB Main Memory Upgrade kit (486M & MI PCs)	D2152A
16 MB Main Memory Upgrade kit (486M & MI PCs)	D2676A
Setting Up Your PC and *Using Your PC* manuals	D2850A
Processor upgrades	
486M & MI Processor Upgrade to 486DX-33 (33 MHz)	D2169A
Coprocessor upgrades	
486M & MI PC with 487SX-25 Math Coprocessor	Non-HP
486M & MI PC with 487SX-33 Math Coprocessor	Non-HP
Input Devices	
Mouse (PS/2, Microsoft)	C1413A
Keyboard	C1405B
Keyboard - new style (recommended)	C3756A
Mouse (PS/2, Logitech)	C3751A
Video Displays	
Monochrome Display	D1192A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A

Multimedia Products	
HP Sound DSP 16	D2941A
HP Integrated Office	D2887A
Mass Storage	
Flexible Disk 1.44 MB 3-1/2 inch	D2035A
Flexible Disk 1.2 MB 5-1/4 inch	D2881A
IDE 120 MB Hard Disk	D1696A
IDE 240 MB Hard Disk	D1697A
IDE 170 MB Hard Disk	D2330A
IDE 170 MB Hard Disk	D2330B
IDE 210 MB Hard Disk	D2387A
IDE 450 MB Hard Disk	D2884A
IDE 340 MB Hard Disk	D2890A
SCSI 430 MB Hard Disk	D1699A
SCSI CD-ROM Drive	D2886A/B
3.5-inch, h-h, Rails (5 pack) for non-HP disk drives	D3566A
Datacomm and LAN Boards	
Serial Parallel Board	24540B
Dual Serial Board	24541B
Ethertwist PC Link Adapter	27245A
Ethertwist Adapter/16	27247A
Ethertwist Adapter/16	27247B
HP ThinLAN Board	27250A
Token-Ring Adapter	D2378A
Coaxial LAN Adapter Board	D2746A

SYSTEM BOARD, BIOS, AND MEMORY



System Board Switch Block SW-A

Switch		Function	Default
1	**OFF**	**Mouse interrupt IRQ12 — enabled**	**OFF**
	ON	Mouse interrupt IRQ12 — disabled (disable mouse if an accessory board uses IRQ12)	
2	**OFF**	**Video interrupt IRQ9 — disabled**	**OFF**
	ON	Video interrupt IRQ9 — enabled	
3	**OFF**	**Integrated Ultra VGA controller — enabled**	**OFF**
	ON	Integrated Ultra VGA Controller — disabled (disable built-in video if another video board is used)	
4	**OFF**	**Passwords — enabled**	**OFF**
	ON	Passwords — disabled (erased)	
5	**OFF**	**EEPROM stored configuration information — valid**	**OFF**
	ON	EEPROM stored configuration information — erased	
6	**OFF**	**Security mode — disabled**	**OFF**
	ON	Security mode — configuration cannot be changed using Setup	
7	**OFF**	**Flash ROM updates — enabled**	**OFF**
	ON	Flash ROM updates — disabled	
8	**OFF**	**Not used**	**OFF**

System Board Switch Block SW-B

Switch	Name	Function		
1	Reserved	**Not used (OFF)**		
2	IO399	Sets the super I/O controller's* I/O port addresses (hex): **OFF: 398 — 399 (default)** ON: 26E — 26F		
3	MHZ-2	OFF	OFF	MHZ-1 and MHZ-2 set the speed of the processor's external clock — Set to 25 MHz for Overdrive/25 (50 MHz internal clock) and 33 MHz for Overdrive/33 (66 MHz internal clock). Setting a speed higher than the processor's rated bus speed could damage the processor
4	MHZ-1	OFF 25 MHz	ON 33 MHz	

*Super I/O controller: the integrated parallel port controller, serial port controller, flexible disk controller, and IDE hard disk interface.

SETUP AND BIOS HISTORY

Setup version "D.xx.xx" in used on Vectra 486M & MI PCs.

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
		Vectra 486M & MI PC Series		
HP Vectra 486M & MI PC Series				
W.04.04	April 93	First release	Available on HP PC Internal BBS	N/A

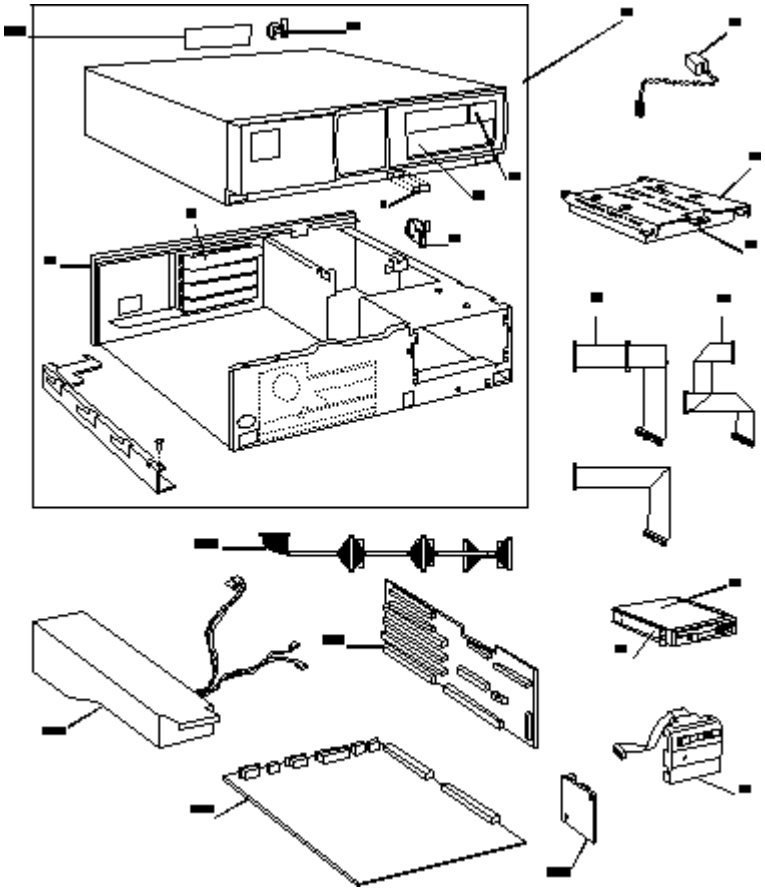
VIDEO MEMORY

The PC is supplied with 512 KB of video memory for 1024 x 768 in 16 colors. An additional 512 KB of video memory can be installed in four video sockets (to make a total of 1 MB) for 1024 x 768 in 256 colors. If additional video memory is added, all four sockets must be filled.

MAIN MEMORY

HP Vectra 486M & MI PCs have three sockets on the system board labeled A, B, and C. Main memory modules can be installed in any combination *in any of the three sockets* up to a maximum of 48 MB.

PART NUMBERS



Parts List for HP Vectra 486M & MI PC Series

Item	Description	Replacement Part Number	Exchange Part Number
1	Box Assembly	5063-4597	—
	a Rear Bezel	-	
	b Security Bracket	-	
	c I/O Panel Blank	45935-00004	
	d Filler Panel 5.25 inch	5041-2578	
	e Filler panel 1.75 inch	5063-0877	
	f Infrared Cap	5042-0505	
	g Cover lock Assembly	5062-5590	
2	Battery	1420-0513	—
3	3.5-inch, h-h, Tray (5 pack) for non-supported hard disk drives	Order product number D2037A	
4	Hard Disk Drive (standard):		
	120 MB	D1696-60007	D1696-69003
	170 MB	D2330-60003	D2330-69001
	240 MB	D1697-60009	D1697-69007
	450 MB	D2884-63003	D2884-69003
5	Hard Disk Cable (IDE drive)	5182-0311	—

6	Flexible Disk Drive Cable	5182-1089	—
7	3.5-inch Flexible Disk Drive 1.44 MB	D2035-63021	—
8	Mounting Rails for 3.5-inch non-HP Disk Drives	5063-0309	—
	Mounting Rails kit for 5.25-inch and 3.5-inch non-HP Disk Drives	5063-7922	—
9	Status (Control) Panel	5063-0876	—
10	Infrared Assembly	5063-0850*	—
11	Backplane Assembly	5063-0849	—
12	System Board	See PC's system board parts list	
13	Power Supply Assembly	5063-4553	—
14	Hard Disk Cable, round (SCSI)	5181-0397	—
	Hard Disk Cable, flat (SCSI)	5181-1045	—
15	Serial Label	5181-0395	—
	486 MI Rear Bezel (Serial/LAN)	5041-2589	—
	486 M Rear Bezel (Dual Serial)	5042-1177	—
	Nameplate		
	HP Vectra 486/25M Logo	5041-2593	
	HP Vectra 486/25MI Logo	5042-0501	
	HP Vectra 486s/33M Logo	5041-2594	
	HP Vectra 486s/33MI Logo	5042-0502	
	HP Vectra 486/33M Logo	5041-2595	
	HP Vectra 486/33MI Logo	5042-0503	

*This assembly is not supported by the HP Vectra 486M & MI PCs.

System Board Parts List for HP Vectra 486M & MI PC Series

Description	Replacement Part Number	Exchange Part Number
System Board (includes integrated IDE disk and Ultra VGA controllers, and integrated Ethernet on MI models):		
Vectra 486/25M		D2751-69002
Vectra 486/25MI		D2755-69002
Vectra 486s/33M		D2761-69002
Vectra 486s/33MI		D2765-69002
Vectra 486/33M	D2771-63002*	D2771-69002*
Vectra 486/33MI	D2775-63002*	D2775-69002*
LAN Adapters:		
Coaxial Adapter Board (D2746A)	D2746-63001	
Math Coprocessors:		
487SX-25	non-HP	
487SX-33	non-HP	
Processors:		
486SX-25 'SL'	5063-4561	
486SX-33 'SL'	5063-4554	
486DX-33	1820-7615	

*These replacement assemblies are supplied without a processor chip.

Main Memory Modules:		
2 MB Main Memory Module kit	5063-5722	
4 MB Main Memory Module kit (36-bit)	1818-4703	D2156-69001
4 MB Main Memory Module (32-bit)	5182-1033	
8 MB Main Memory Module kit (36-bit)	1818-4702	D2152-69001
8 MB Main Memory Module (32-bit)	5063-0890	
16 MB Main Memory Module kit	D2676-83001	
Video Memory Modules:		
512 KB Video Memory kit (D2713A)	D2713-83001	

Support Manuals for HP Vectra 486M & MI PC Series

Familiarization Guide	D28xxA+49A-900001
Technical Reference Manual: Hardware and BIOS	5961-4524

Part Numbers for HP Utility Diskettes

Description	Rev	Date Code	Part #	Info.
Vectra 486M & MI Kits (3.5-inch disks only):				
Windows & DOS Video Drivers	A.01.03	3338	5063-4599	Refer to HP Internal BBS
OS/2 Video Drivers	A.01.00	3301		
Lan Drivers for HP Integrated Ethernet Interface	A.02.02	3995	5063-4535	

16 HP VECTRA 486VL PC SERIES

MODELS AND ACCESSORIES

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	L 2 Cache	Add-on
			Vectra 486VL PC Series				
HP Vectra 486/25VL PC (CPL: 07/93)							
D3021A	1.44 MB (D2035A)	120 MB (D1696A)	Integrated IDE controller	Integrated Ultra VGA (512 KB, upgradeable to 1 MB)	4 MB	None	None
D3021B		170 MB (D2330A)					
D3022A		240 MB (D1697A)					
D3024A*		170 MB (D2330A)					Multi-media
D3031A*		None					None
D3032A		106 MB (D3032-60003)			2 MB		
D3036A							
HP Vectra 486s/33VL PC (CPL: 07/93)							
D3033A	1.44 MB (D2035A)	170 MB (D2330A)	Integrated IDE controller	Integrated Ultra VGA (512 KB, upgradeable to 1 MB)	4 MB	Opt.	None
D3039A		240 MB (D1697A)					

*HP Sound DSP 16 includes: CD-ROM drive, audio/SCSI board, audio cable, SCSI cable, headphones, audio software and drivers, Kodak CD, and Users Guide.

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	L 2 Cache	Add-on
HP Vectra 486/33VL PC (CPL: 07/93)							
D3025A	1.44 MB (D2035A)	120 MB (D1696A)	Integrated IDE controller	Integrated Ultra VGA (512 KB, upgradeable to 1 MB)	4 MB	Opt.	None
D3025B		170 MB (D2330A)					
D3026A		240 MB (D1697A)					
D3035A		None					
HP Vectra 486/66VL PC (CPL: 07/93)							
D3028A	1.44 MB (D2035A)	240 MB (D1697A)	Integrated IDE controller	Integrated Ultra VGA (512 KB, upgradeable to 1 MB)	4 MB	Opt.	None
D3037A		None					
D3038A		450 MB (D2884A)					

SUPPORTED ACCESSORIES

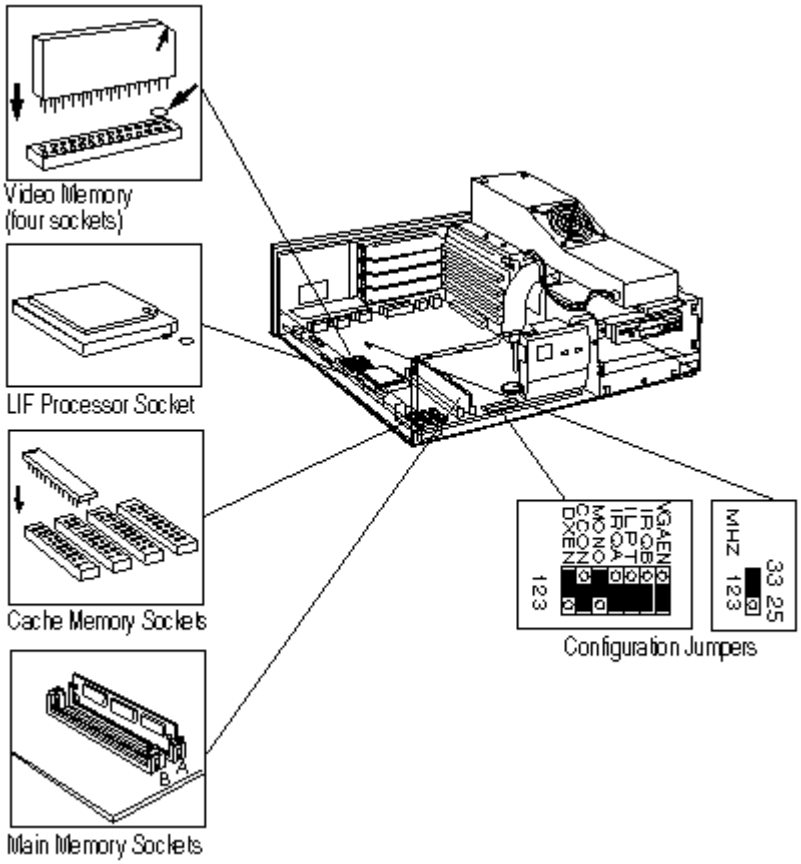
128 KB Second-Level Cache Memory Upgrade kit	D3029A
512 KB Video Memory Upgrade kit	D2713A
2 MB Main Memory Upgrade kit	D2381A
4 MB Main Memory Upgrade kit	D2156A
8 MB Main Memory Upgrade kit	D2152A
16 MB Main Memory Upgrade kit	D2676A
Vectra 486VL *User's Guide* manual	D3020A
Processor upgrades	
486VL Processor Upgrade to 486DX-33 (33 MHz)	D2169A

When you upgrade the processor, check the part number of the new processor and set the MHZ and DXGEN jumpers as described in the processor upgrade jumper configuration table.

Video Displays	
Monochrome Display	D1192A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A
Multimedia Products	
HP Sound DSP 16	D2941A
Mass Storage	
Flexible Disk 1.44 MB 3-1/2 inch	D2035A
Flexible Disk 1.2 MB 5-1/4 inch	D2881A
IDE 120 MB Hard Disk	D1696A
IDE 240 MB Hard Disk	D1697A
IDE 170 MB Hard Disk	D2330A
IDE 450 MB Hard Disk	D2884A
SCSI CD-ROM Drive	D2886A/B

3.5-inch, h-h, Rails (5 pack) for non-HP flexible disk drives	D3566A
5.25-inch, h-h, Rails (5 pack) for non-HP hard disk drives	D2880A
3.5-inch, h-h, Tray (5 pack) for non-HP hard disk drives	D2037A
Datacomm and LAN Boards	
Ethertwist PC Link Adapter	27245A
Ethertwist Adapter/16	27247B
Token-Ring Adapter	D2378A
Input Devices	
HP Logitech-type Mouse	C3751A
Keyboard	C3756A

SYSTEM BOARD, BIOS, AND MEMORY



486VL Configuration Jumpers (7-way Block)

Jumper	Setting	Function	Default
VGAEN	1-2	Disables the integrated VGA.	**2-3**
	2-3	**Enables the integrated VGA.** (disable if a video board is installed)	
IRQB	1-2	Sets the IRQ for serial port 2 to IRQ15.	**2-3**
	2-3	**Sets the IRQ for serial port 2 to IRQ3.**	
ILPT	1-2	Sets the IRQ for the parallel port to IRQ5.	**2-3**
	2-3	**Sets the IRQ for the parallel port to IRQ7**	
IRQA	1-2	Sets the IRQ for serial port 1 to IRQ9.	**2-3**
	2-3	**Sets the IRQ for serial port 1 to IRQ4.**	
MONO	**1-2**	**Selects color video output.**	**1-2**
	2-3	Selects the monochrome video output.	
CCON	1-2	Clears the configuration stored in CMOS. Clear the PC's configuration information if, for example, the configuration is corrupted.	**2-3**
	2-3	**Retains the configuration information stored in CMOS.**	
DXEN	1-2	Selects pinouts for the processor in the upgrade socket. (See Processor upgrades.)	SX-type
	2-3		**DX-type**

486VL Clock Selection Jumper (1-way Block)

Jumper	Setting	Function	Default
MHZ	1-2	Sets the bus speed of the processor board.	**486/33VL** **486/66VL**
	2-3		**486/25VL**

Processor Upgrade - Jumper Configuration

Microprocessor Type	Jumper Setting	
	MHZ	**DXGEN**
486DX-33	1-2	2-3
486DX2-50	2-3	2-3
DX OverDrive/25	2-3	2-3
SX OverDrive/25	2-3	1-2
486DX2-66	1-2	2-3
SX OverDrive/33	1-2	1-2
DX OverDrive/33, Intel ODPR486DX-33 (DX pinouts)	1-2	2-3
DX OverDrive/33, Intel ODP486DX-33 (SX pinouts)	1-2	1-2

IRQS AND I/O ADDRESSES FOR THE 486VL

IRQs and I/O addresses for the HP Vectra 486VL

IRQ	Function	I/O Port Hex
IRQ 3 (15)*	Serial Port 1 (COM2)	2F8-2FF
IRQ 4 (9)*	Serial Port 0 (COM1)	3F8-3FF
IRQ 6	Flexible Disk Controller	1F0-1F7
IRQ 7 (5)*	Parallel Port 0 (LPT1)	378-37F
-	Video	3B0-3DF

*Numbers in brackets indicate alternate IRQ selected by jumper on the system board. See the Configuration Jumpers table for details.

SETUP AND BIOS HISTORY

AMI BIOS includes a new SETUP program used on Vectra 486VL PCs. See the HP Vectra 486VL Familiarization guide for details.

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
		Vectra 486VL PC Series		
HP Vectra 486VL PC Series				
AA.05.00	July 93	First release	N/A	N/A
AA.05.01	Oct 93	Support new video controller chip	N/A	N/A
AA.05.02	Oct 93	Improves memory area use on AA.05.01 versions only	N/A	N/A

BEEP CODES FOR HP VECTRA 486VL ONLY

No. of beeps	Error	Suspect Component*
1	Memory refresh Failure	System board / Main memory module
3	Base 32KB Memory Failure	Main memory module
4	Timer Not Operational	System board
5	Processor Error	Processor chip / System board
6	8042 Gate-A20 Failure	System board
7	Processor Exception Interrupt Error	Processor chip / System board
8	Display Memory R/W error	VRAM / System board / Add-in video adapter, if any
9	ROM Checksum error	ROM / System board
10	CMOS Shutdown Register R/W Error	System board

*Most likely component listed first.

ERROR MESSAGES FOR HP VECTRA 486VL ONLY

Error Message	Suspect Component*
8042 Gate-A20 Error	Keyboard controller / System board / Keyboard
Address line short	System board
C:Drive Error	HDD Cable / HDD set-up / HDD / System board
C:Drive Failure	HDD Cable / HDD set-up / HDD
Cache Memory Bad Do Not Enable Cache!	System board
CH-2 Timer Error	
CMOS Battery State Low	Battery**
CMOS Checksum failure	Wrong set-up, run set-up program / Battery
CMOS Display Type Mismatch	
CMOS Memory Size Mismatch	
CMOS System Options Not Set	
CMOS Time And Date Not Set	
D:Drive Error	HDD Cable / HDD set-up / HDD / System board
D:Drive Failure	HDD cable / HDD set-up / HDD
Diskette Boot Failure	Corrupted diskette / FDD
Display Switch Not Proper	Wrong MONO jumper position on system board
DMA #1 Error	System board
DMA #2 Error	
DMA Error	
FDD Controller Failure	FDD Cable / System board
HDD Controller Failure	HDD Cable / System board
INTR #1 Error	System board
INTR #2 Error	
Invalid Boot Diskette	Wrong diskette
KB/Interface Error	Loose cable or connector / Keyboard / System board
Keyboard Error	Loose cable or connector / Keyboard
No ROM BASIC	HDD Cable / HDD set-up / HDD

*Most likely component listed first.
**Customers are advised to change the battery on a yearly basis.

CACHE MEMORY

128 KB of second-level cache memory may be installed (except in the 486/25VL). All four chips must be installed.

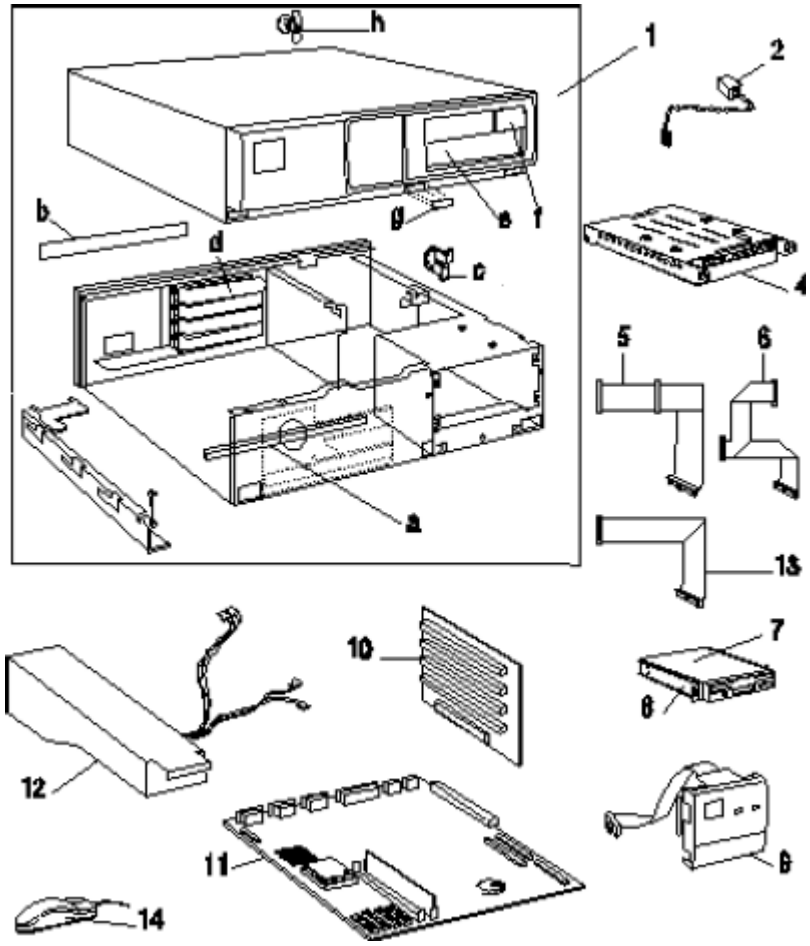
VIDEO MEMORY

If additional video memory is added, all four sockets must be filled.

MAIN MEMORY

2 MB, 4 MB, 8 MB, and 16 MB 32-bit main memory modules can be installed in *any combination* in the two sockets up to a maximum of 32 MB.

PART NUMBERS



Parts List for HP Vectra 486VL PC Series

Item	Description	Replacement Part Number	Exchange Part Number
1	Box Assembly	5063-4597	—
	a System Board Guide	5042-0507	
	b Rear Bezel Connector Label	5042-1177	
	c Security Bracket	-	
	d I/O Panel Blank	45935-00004	
	e Filler Panel 5.25 inch	5041-2578	
	f Filler panel 1.75 inch	5063-0877	
	g Infrared Filler Cap	5042-0505	
	h Cover lock Assembly	5062-5590	
2	Battery*	1420-0513	—

4	Hard Disk Drive (standard)**		
	106 MB (D3032-60003)	D1696-60007	D1696-69003
	120 MB	D1696-60007	D1696-69003
	170 MB	D2330-60003	D2330-69001
	240 MB	D1697-60009	D1697-69007
	450 MB	D2884-63003	D2884-69003
5	Hard Disk Cable (IDE drive)	5182-1036	—
6	Flexible Disk Drive Cable	5182-1037	—
7	Flexible Disk Drive (3.5-inch)	D2035-63004	
8	Mounting Rails kit for 3.5-inch and 5.25-inch non-HP Disk Drives	5063-7922	—
9	Status (Control) Panel	5063-0889	—
10	Backplane Assembly	5063-0887	—
11	System Board	See PC's system board parts list	
12	Power Supply Assembly	5063-0888	—
13	Hard Disk Cable, flat (SCSI)	5182-1045	—
14	Mouse	C3751-60101	—
	Nameplate		
	HP Vectra 486/25VL Logo	5042-0506	
	HP Vectra 486s/33VL Logo	5042-0522	
	HP Vectra 486/33VL Logo	5042-0508	
	HP Vectra 486/66VL Logo	5044-0509	

*Optional enhancement on 486VL (ensures longer lifespan than onboard button cell).
**For optional disk drive information, see the *Accessory Service Handbook*.

System Board Parts List for HP Vectra 486VL PC Series

Description	Replacement Part Number	Exchange Part Number
System Board (includes integrated IDE disk and Ultra VGA+ controllers):		
Vectra 486/25VL	D3021-63003*	D3021-69002*
Vectra 486s/33VL, 486/33VL, and 486/66VL	D3025-63002**	D3025-69002**
System Board Battery	1420-0314***	
Math Coprocessor:		
487SX-25	non-HP	
Processor:		
486SX-25 'SL'	5063-4561	
486SX-33 'SL'	5063-4554	
486DX-33	1820-7615	
486DX2-66 'SL'	1821-4584	
Second Level Cache Memory Modules:		
128 KB Cache Memory Module	D3029A	
Main Memory Modules:		
2 MB Main Memory Module kit	5063-5722	
4 MB Main Memory Module kit (32-bit)	5182-1033	
Video Memory Modules:		
512 KB Video Memory kit (D2713A)	D2713-83001	

*These assemblies are supplied without main memory modules.
**These assemblies are supplied with main memory modules or processors.
***Replace the battery with a Panasonic/Rayovac BR2325 battery, available from most local stores, or its equivalent HP battery using this number from your dealer or HP Sales and Service Office. Return the old battery to the supplier.

Support Manuals for HP Vectra 486VL PC Series

Familiarization Guide	D302x+49A-900001
Technical Reference Manual: Hardware and BIOS	None

Part Numbers for HP Utility Diskettes

VL2 Drivers and Utilities kit (For Windows and AutoCad) (v. 1.41)	5063-5768

17 HP VECTRA 486XM PC SERIES

MODELS AND ACCESSORIES

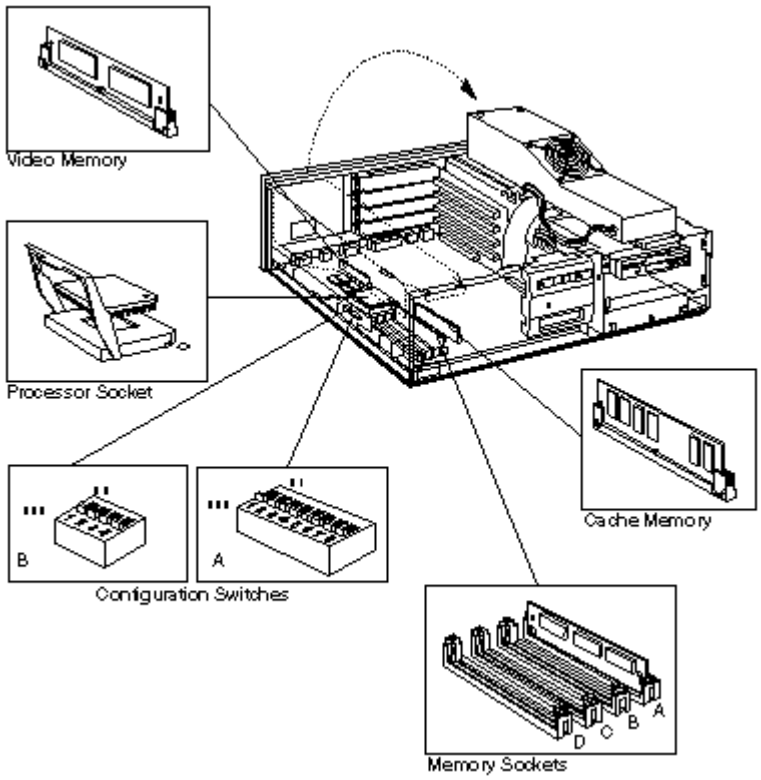
Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	Integ. LAN	L 2 Cache
			Vectra 486XM PC Series				
HP Vectra 486s/33XM PC (CPL: 07/93; discontinued: 08/94)							
D2901A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA 2 (1 MB, upgradeable to 2 MB)	4 MB	Yes	None (opt.)
D2902A		170 MB (D2330A)					
D2903A		240 MB (D1697A)					
HP Vectra 486/33XM PC (CPL: 07/93; Discontinued: 08/94)							
D2911A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA 2 (1 MB, upgradeable to 2 MB)	4 MB	Yes	128 KB
D2911B					8 MB		
D2912A		170 MB (D2330A)			4 MB		
D2913A		240 MB (D1697A)			8 MB		
D2913B							
D2914A		450 MB (D2884A)					
HP Vectra 486/50XM PC (CPL: 07/93; Discontinued:08/94)							
D2921A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA (1 MB, upgradeable to 2 MB)	4 MB	Yes	256 KB
D2921B					8 MB		
D2923A		240 MB (D1697A)					
D2924A		450 MB (D2884A)					
HP Vectra 486/66XM PC (CPL: 07/93)							
D2931A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA 2 (1 MB, upgradeable to 2 MB)	4 MB	Yes	256 KB
D2931B					8 MB		
D2933A		240 MB (D1697A)			8 MB		
D2934A		450 MB (D2884A)			16 MB		
D2935A							

SUPPORTED ACCESSORIES

128 KB Second-Level Cache Memory Upgrade kit	D2943A
256 KB Second-Level Cache Memory Upgrade kit	D2944A
1 MB Video Memory Upgrade kit	D2942A
2 MB Main Memory Upgrade kit	D2381A
4 MB Main Memory Upgrade kit	D2156A
8 MB Main Memory Upgrade kit	D2152A
16 MB Main Memory Upgrade kit	D2676A
Setting Up Your PC and *Using Your PC* manuals	D2900A
Coprocessor upgrade	
486XM PC with 487SX-33 Math Coprocessor	Non-HP
Processor upgrades	
486XM Processor Upgrade to 486DX-33 (33 MHz)	D2169A
Input Devices	
Mouse (PS/2, Microsoft)	C1413A
Keyboard	C1405B
Keyboard - new style (recommended)	C3756A
Mouse (PS/2 / Logitech)	C3751A
Video Displays	
Monochrome Display	D1192A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A
Multimedia Products	
HP Sound DSP 16	D2941A
HP Integrated Office	D2887A

Mass Storage	
Flexible Disk 1.44 MB 3-1/2 inch	D2035A
Flexible Disk 1.2 MB 5-1/4 inch	D2881A
IDE 120 MB Hard Disk	D1696A
IDE 240 MB Hard Disk	D1697A
IDE 170 MB Hard Disk	D2330A
IDE 170 MB Hard Disk	D2330B
IDE 210 MB Hard Disk	D2387A
IDE 450 MB Hard Disk	D2884A
IDE 340 MB Hard Disk	D2890A
IDE 540 MB Hard Disk	D2891A/B
IDE 270 MB Hard Disk	D2894A/B
SCSI 430 MB Hard Disk	D1699A
SCSI CD-ROM Drive	D2886A/B
3.5-inch, h-h, Rails (5 pack) for non-HP flexible disk drives	D3566A
5.25-inch, h-h, Rails (5 pack) for non-HP hard disk drives	D2880A
3.5-inch, h-h, Tray (5 pack) for non-HP hard disk drives	D2037A
Datacomm and LAN Boards	
Serial Parallel Board	24540B
Dual Serial Board	24541B
Ethertwist PC Link Adapter	27245A
Ethertwist Adapter/16	27247A
Ethertwist Adapter/16	27247B
HP ThinLAN Board	27250A
Token-Ring Adapter	D2378A
Coaxial LAN Adapter Board	D2746A

SYSTEM BOARD, BIOS, AND MEMORY



486XM PC Switch Block SW-A

Switch		Function	Default
1	**OFF**	**Mouse interrupt IRQ12 — enabled**	**OFF**
	ON	Mouse interrupt IRQ12 — disabled (disable mouse if an accessory board uses IRQ12)	
2	**OFF**	**Video interrupt IRQ9 — disabled**	**OFF**
	ON	Video interrupt IRQ9 — enabled	
3	**OFF**	**Integrated Ultra VGA controller — enabled**	**OFF**
	ON	Integrated Ultra VGA Controller — disabled (disable built-in video if another video board is used)	
4	**OFF**	**Passwords — enabled**	**OFF**
	ON	Passwords — disabled (erased)	
5	**OFF**	**EEPROM stored configuration information — valid**	**OFF**
	ON	EEPROM stored configuration information — erased	
6	**OFF**	**Security mode — disabled**	**OFF**
	ON	Security mode — configuration cannot be changed using Setup	
7	**OFF**	**Flash ROM updates — enabled**	**OFF**
	ON	Flash ROM updates — disabled	
8	**OFF**	**Not used**	**OFF**

486XM PC Switch Block SW-B

Switch	Name	Function		
1	Reserved	**Not used (OFF)**		
2	IO399	Sets the super I/O controller's* I/O port addresses (hex):		
		OFF: 398 — 399 (default) ON: 26E — 26F		
3	MHZ-2	OFF	OFF	MHZ-1 and MHZ-2 set the speed of the processor's external clock — Set to 25 MHz for Overdrive/25 (50 MHz internal clock) and 33 MHz for Overdrive/33 (66 MHz internal clock). Setting a speed higher than the processor's rated bus speed could damage the processor
4	MHZ-1	OFF 25 MHz	ON 33 MHz	

*Super I/O controller: the integrated parallel port controller, serial port controller, flexible disk controller, and IDE hard disk interface.

SETUP AND BIOS HISTORY

Setup version "D.xx.xx" is used on Vectra 486XM PCs.

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
		Vectra 486XM PC Series		
HP Vectra 486XM PC Series				
W.04.01	June 93	First release	Available on HP PC Internal BBS	N/A

CACHE MEMORY

HP Vectra 486XM PC has a second-level cache memory socket. A 128 KB second-level cache memory module or a 256 KB second-level cache memory module may be installed.

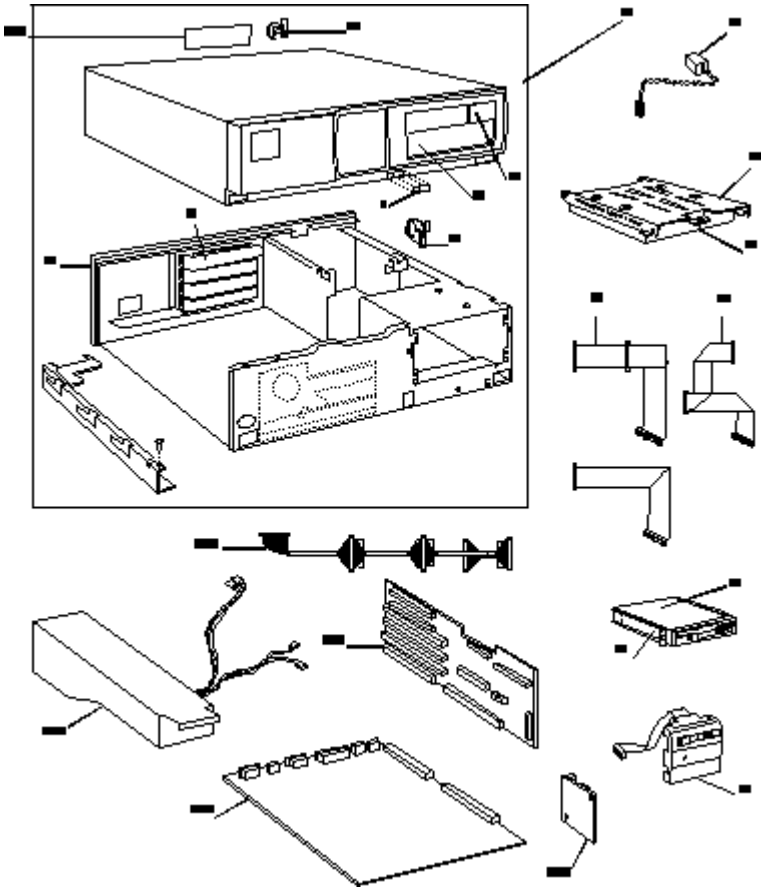
VIDEO MEMORY

The PC is supplied with 1 MB of video memory for 1280 x 1024 in 256 colors. An additional 1 MB video memory module can be installed in a video memory socket (to make a total of 2 MB) for 1280 x 1024 in 64 K colors.

MAIN MEMORY

HP Vectra 486XM PC has four sockets on the system board labeled A, B, C, and D. Main memory modules can be installed in any combination *in any of the four sockets* up to a maximum of 64 MB.

PART NUMBERS



Parts List for HP Vectra 486XM PC Series

Item	Description	Replacement Part Number	Exchange Part Number
1	Box Assembly	5063-4597	—
	a Rear Bezel	5041-2589	
	b Security Bracket	-	
	c I/O Panel Blank	45935-00004	
	d Filler Panel 5.25 inch	5041-2578	
	e Filler panel 1.75 inch	5063-0877	
	f Infrared Filter/Cap*	-	
	g Cover lock Assembly	5062-5590	
	Rear Bezel (Serial/LAN)	5041-2589	—
2	Battery	1420-0513	—
3	3.5-inch, h-h, Tray (5 pack) for non-supported hard disk drives	Order product number D2037A	
4	Hard Disk Drive (standard):		
	120 MB	D1696-60007	D1696-69003
	170 MB	D2330-60003	D2330-69001
	240 MB	D1697-60009	D1697-69007
	450 MB	D2884-63003	D2884-69003

5	Hard Disk Cable (IDE drive)	5182-0311	—
6	Flexible Disk Drive Cable	5182-1089	—
7	3.5-inch Flexible Disk Drive 1.44 MB	D2035-63021	—
8	Mounting Rails for 3.5-inch non-HP Disk Drives	5063-0309	—
9	Status (Control) Panel	5063-0876	—
10	Infrared Assembly	5063-0850	—
11	Backplane Assembly	5063-0849	—
12	System Board	See PC's system board parts list	
13	Power Supply Assembly 75W	5063-4553	—
14	Hard Disk Cable, flat (SCSI)	5181-1045	—
15	Serial Label	5181-0395	—
	Mounting Rails for 5.25-inch non-HP Disk Drives	Order product number D2880A	
	Nameplate		
	HP Vectra 486s/33XM Logo	5041-2588	
	HP Vectra 486/33XM Logo	5041-2596	
	HP Vectra 486/50XM Logo	5041-2597	
	HP Vectra 486/66XM Logo	5041-2598	

*The XM PCs have a filter P/N 5042-0504 for the integrated infrared adapter.

System Board Parts List for HP Vectra 486XM PC Series

Description	Replacement Part Number	Exchange Part Number
System Board (includes integrated IDE disk and Ultra VGA 2 controllers, and integrated Ethernet):		
Vectra 486s/33XM	D2902-63001*	D2902-69001*
Vectra 486/33XM	D2912-63001*	D2912-69001*
Vectra 486/50XM	D2912-63001*	D2912-69001*
Vectra 486/66XM	D2912-63001*	D2912-69001*
LAN Adapters:		
Coaxial Adapter Board (D2746A)	D2746-63001	
Math Coprocessor:		
487SX-33	non-HP	
Processor:		
486DX-33	1820-7615	
486DX2-50 'SL'	5063-4583	
486DX2-66 'SL'	5063-4584	
Cache Memory Modules:		
128 KB 2nd Cache Memory Module (D2943A)	5063-0879	
256 KB 2nd Cache Memory Module (D2944A)	5063-0880	

*These replacement assemblies are supplied without a processor chip.

Main Memory Modules:		
2 MB Main Memory Module kit	5063-5722	
4 MB Main Memory Module kit (36-bit)	1818-4703	D2156-69001
4 MB Main Memory Module (32-bit)	5182-1033	
8 MB Main Memory Module kit (36-bit)	1818-4702	D2152-69001
8 MB Main Memory Module (32-bit)	5063-0890	
16 MB Main Memory Module kit (36-bit)	D2676-83001	
Video Memory Modules:		
1 MB Video Memory Module kit (D2942A)	5063-0881	

Support Manuals for HP Vectra 486XM PC Series

Familiarization Guide	D29xxA+49A-900001
Technical Reference Manual: Hardware and BIOS	5961-4589

Part Numbers for HP Utility Diskettes

Description	Rev	Date Code	Part #	Info.
Windows & DOS Video Drivers	A.01.05	3345	5063-4534	Refer to HP Internal BBS
OS/2 Video Drivers	A.01.00	3321		
Lan Drivers for HP Integrated Ethernet Interface	A.02.02	3345	5063-4535	

18 HP VECTRA M2 PC SERIES

MODELS AND ACCESSORIES

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	Integ. LAN	L 2 Cache
			Vectra M2 PC Series				
HP Vectra M2 4/33s PC (CPL: 06/94; discontinued: 02/95)							
D3151A	1.44 MB (D2035A)	None	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	None	None (opt.)
D3152A		210 MB (D2387A)					
D3182A		340 MB (D2890A)					
HP Vectra M2 4/33si PC (CPL: 06/94; discontinued: 02/95)							
D3153A	1.44 MB (D2035A)	210 MB (D2387A)	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	Yes	None (opt.)
HP Vectra M2 4/50 PC (CPL: 06/94)							
D3158A	1.44 MB (D2035A)	None	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	None	None (opt.)
D3159A		210 MB (D2387A)					
D3159B		270 MB (D2388A)					
D3183A		340 MB (D2890A)					
D3183B		540 MB (D2389A)					
HP Vectra M2 4/50i PC (CPL: 06/94)							
D3157A	1.44 MB (D2035A)	210 MB (D2387A)	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	Yes	None (opt.)
D3157B		270 MB (D2388A)					
HP Vectra M2 4/50s PC (CPL: 06/94; discontinued: 05/95)							
D3380A	1.44 MB (D2035A)	None	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	None	None (opt.)
D3381B		270 MB (D2388A)					
HP Vectra M2 4/50si PC (CPL: 06/94; discontinued: 05/95)							
D3382A	1.44 MB (D2035A)	270 MB (D2388A)	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	Yes	None (opt.)

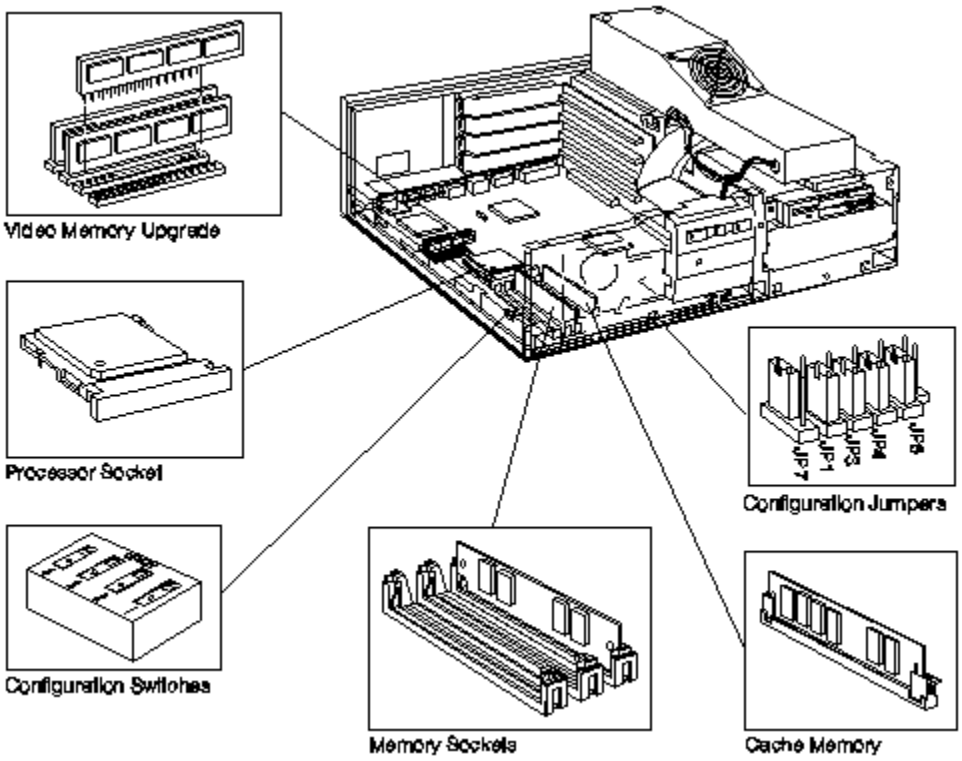
Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	Integ. LAN	L 2 Cache
HP Vectra M2 4/66 PC (CPL: 06/94)							
D3161A	1.44 MB (D2035A)	None	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	None	None (opt.)
D3162A		340 MB (D2890A)					
D3386A		540 MB (D2389A)					
HP Vectra M2 4/66i PC (CPL: 06/94)							
D3387A	1.44 MB (D2035A)	540 MB (D2389A)	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	None	None (opt.)
HP Vectra M2 4/100 PC (CPL: 06/94)							
D3185A	1.44 MB (D2035A)	None	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	None	256 KB
D3164A		340 MB (D2890A)					
D3388A		540 MB (D2389A)					
HP Vectra M2 4/100i PC (CPL: 06/94)							
D3389A	1.44 MB (D2035A)	540 MB (D2389A)	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	8 MB	None	256 KB

SUPPORTED ACCESSORIES

512 KB Video Memory Upgrade Kit	D3169A
128 KB Cache Memory Upgrade Kit	D3168A
256 KB Cache Memory Upgrade Kit	D2944A
4 MB Main Memory Upgrade Kit	D2974A
8 MB Main Memory Upgrade Kit	D2975A
16 MB Main Memory Upgrade Kit	D2297A
32 MB Main Memory Upgrade Kit	D2298A
Input Devices	
Keyboard - new style (recommended)	C3756A
Mouse (PS/2 / Logitech)	C3751A

Video Displays	
Monochrome Display	D1192A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A
Multimedia Products	
HP Sound DSP 16	D2941A
HP Integrated Office	D2887A
Mass Storage	
Flexible Disk 1.44 MB 3-1/2 inch	D2035A
Flexible Disk 1.2 MB 5-1/4 inch	D2881A
IDE 170 MB Hard Disk	D2330B
IDE 210 MB Hard Disk	D2387A
IDE 450 MB Hard Disk	D2884A
IDE 340 MB Hard Disk	D2890A
IDE 540 MB Hard Disk	D2389A
IDE 270 MB Hard Disk	D2388A
SCSI CD-ROM Drive	D2886A/B
3.5-inch, h-h, Rails (5 pack) for non-HP disk drives	D3566A
5.25-inch, h-h, Rails (5 pack) for non-HP disk drives	D2880A
3.5-inch, h-h, Tray (5 pack) for non-HP disk drives	D2037A

SYSTEM BOARD, BIOS, AND MEMORY



M2 Configuration Jumpers

Jumper	Setting	Function	Default
JP1	1-2	PENTIUM Overdrive: Level-one cache write through mode.	2-3
	2-3	**PENTIUM Overdrive: Level-one cache write back mode.**	
JP2	**9-10**	**Select IRQ 7 for LPT**	9-10
	11-12	Select IRQ 5 for LPT	
JP3*	1-2	Select 33 MHz processor speed	
	2-3	Select 25 MHz processor speed	
JP4	1-2	Select > 33 MHz processor speed	2-3
	2-3	**Select 25/33 MHz processor speed**	
JP7	**1-2**	**VESA ID bit (CPU speed <= 33 MHz)**	1-2
	2-3	VESA ID bit (CPU speed > 33 MHz)	
JP8*	1-2	IntelDX4 processor	
	2-3	Other processor	

*Default setting dependent on model.

M2 System Board Switches

Switch #		Function	Default
1 SECUR	**CLOSED**	**Enables security mode to prevent changes to the PC's configuration**	**CLOSED**
	OPEN	Disables security mode to allow changes to the PC's configuration	
2 VGAEN	**OPEN**	**Enables VGA**	**OPEN**
	CLOSED	Disables VGA	
3 CONFIG	**OPEN**	**Retain the configuration stored in CMOS**	**OPEN**
	CLOSED	Clear the configuration stored in CMOS Switch to CLOSED if you need to clear the PC's configurationinformation, for example, if the configuration is corrupted.	
4 PSWRD	**OPEN**	**Enables the passwords to be set and stored in CMOS**	**OPEN**
	CLOSED	Disables the passwords Switch to CLOSED if you need to clear the current password.	

IRQS AND I/O ADDRESSES

IRQ	Function	I/O Port Hex
IRQ 3	Serial Port B (COM2) or LAN	3F8-3FF
IRQ 4	Serial Port A (COM1) or LAN	2F8-2FF
IRQ 6	Flexible Disk Controller	3F0-3F7
IRQ 7 (5)*	Parallel Port 1 (LPT1)	378-37F
IRQ 14	IDE Hard Disk Controller	1F0-1F7
-	Video controller	3B0-3DF

*Numbers in brackets indicate alternate IRQ selected by jumper on the system board. See the Configuration Jumpers table for details.

SETUP AND BIOS HISTORY

The HP BIOS includes a SETUP program.

See the HP Vectra M2 *Familiarization Guide* for details.

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
		Vectra M2 PC Series		
HP Vectra M2 PC Series				
GB.04.03	June 94	First release	N/A	N/A

CACHE MEMORY

HP Vectra M2 PCs have one cache memory socket. A 128 KB or 256 KB second-level cache memory kit may be installed in all HP Vectra M2 PCs except the HP Vectra 4/100. The HP Vectra 4/100 PC has 256 KB second-level cache memory as standard.

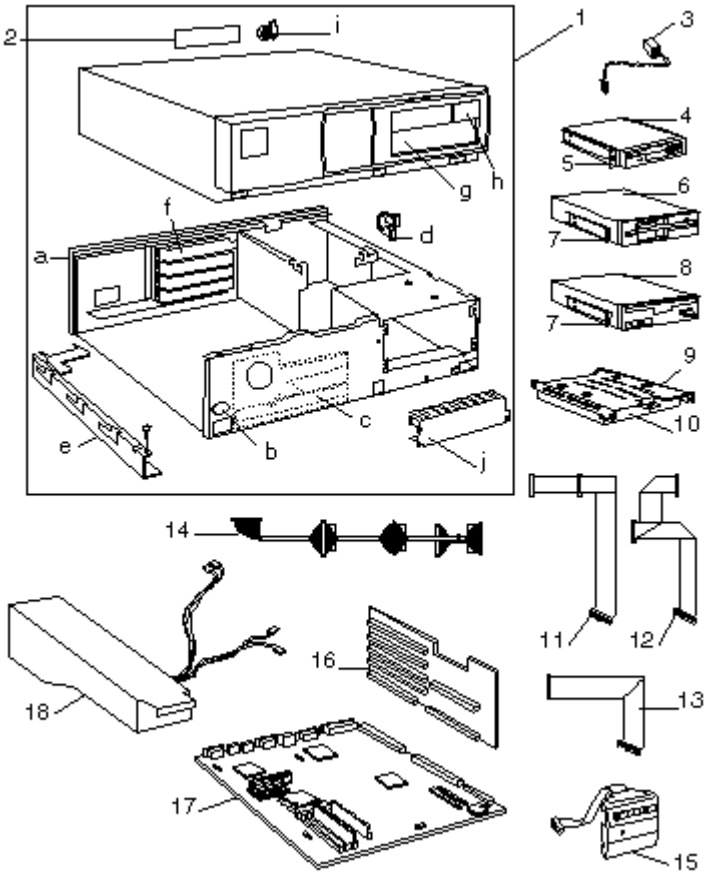
VIDEO MEMORY

The PC is supplied with 1 MB of video memory for 1024 x 768 in 256 colors. An additional 1 MB of video memory (two 512 KB video memory modules) can be installed in the video memory sockets (to make a total of 2 MB for 1024 x 768 in 64 K colors).

MAIN MEMORY

The HP Vectra M2 PC has three sockets on the system board and is supplied with 8 MB main memory as standard. Main memory modules (36-bit) of 4 MB, 8 MB, 16 MB, and 32 MB can be installed in *any combination* in the sockets, up to a maximum of 96 MB.

PART NUMBERS



Parts List for HP Vectra M2 PC Series

Item	Description	Replacement Part Number	Exchange Part Number
1	Box Assembly	5063-4597	—
	a Rear Bezel	-	
	b Bumper Foot	-	
	c System Board Guide	-	
	d Security Bracket	-	
	e Side Panel	-	
	f I/O Panel Blank		
	g Filler Panel 5.25 inch	5041-2578	
	h Filler panel 1.75 inch	5063-0877	
	i Cover lock Assembly	5062-5590	
	j RFI filler panel	-	
2	Rear Bezel label	5042-0558	—
3	3 V Battery 4.5 V Battery (optional accessory)	1420-0535* 1420-0513	—
4	Flexible Disk Drive, 3.5-inch	D2035-63004	—
5	Mounting Rails for 3.5-inch non-HP Disk Drives	5063-0309	—
7	Mounting Rails for 5.25-inch devices	5063-7922	—
8	CD-ROM drive	See disk drive parts list in *Accessory Service Handbook*	
10	Hard Disk Drive		
	210 MB	D2387-63001	D2387-69001
	270 MB	D2388-63001	D2388-69001
	340 MB	D2890-63021	D2890-69021
	540 MB	D2389-63001	D2389-69001
11	Hard Disk Cable (IDE drive)	5182-1090	—
12	Flexible Disk Drive Cable	5181-1091	—
13	Hard disk cable, flat (SCSI)	5181-1045	—
14	Hard disk cable, round (SCSI)	5181-0397	—
15	Status (Control) Panel	5063-5705	—
16	Backplane Assembly	5063-5718	—
17	System Board	See PC's system board parts list	
18	Power Supply Assembly	5063-4553	—

*Replace the batteery with a Panasonic/Rayovac BR2335 battery, available from most local stores, or its equivalent HP battery using this number from your dealer or HP Sales and Service Office. Return the old battery to the supplier.

Parts List for HP Vectra M2 PC Series

Item	Description	Repl. Part Number	Exchange Part Number list
	Nameplates		
	HP Vectra M2 4/33s Logo	5042-0533	—
	HP Vectra M2 4/33si Logo	5042-0534	—
	HP Vectra M2 4/50 Logo	5042-0541	—
	HP Vectra M2 4/50i Logo	5042-0536	—
	HP Vectra M2 4/50s Logo	5042-1121	—
	HP Vectra M2 4/50si Logo	5042-1122	—
	HP Vectra M2 4/66 Logo	5042-0537	—
	HP Vectra M2 4/66i Logo	5042-1123	—
	HP Vectra M2 4/100 Logo	5042-0542	—
	HP Vectra M2 4/100i Logo	5042-1124	—

System Board Parts List for HP Vectra M2 PC Series

Description	Replacement Part Number	Exchange Part Number
System Board (includes integrated IDE disk and Ultra VGA+ controllers):*		
Vectra M2 4/XX and Vectra M2 4/XXs	D3151-63001*	D3151-69001*
Vectra M2 4/XXi and Vectra M2 4/XXsi	D3153-63001*	D3153-69001*
Vectra M2 4/100	D3185-63001*	D3185-69001*
Vectra M2 4/100i	D3189-63001*	D3189-69001*
Processor:		
486SX-33 ‘SL’	5063-4554	
486DX2-50 ‘SL’	5063-4583	
486DX2-66 ‘SL’	5063-4584	
486DX4-100 ‘SL’	5063-4598	
Second Level Cache Memory Modules:		
128 KB Cache Memory Module kit (D3168A)	D3168-63001	
256 KB Cache Memory Module kit (D2944A)	5063-0880	
Main Memory Modules (70 ns):		
4 MB Main Memory Module kit, 36-bit (D2974A)	D2974-63001	
8 MB Main Memory Module kit, 36-bit (D2975A)	D2975-63001	
16 MB Main Memory Module kit, 36-bit (D2297A)	D2297-63001	D2297-69001
32 MB Main Memory Module kit, 36-bit (D2298A)	D2298-63001	D2298-69001
Video Memory Modules:		
512 KB Video Memory kit (D3169A)	D3169-83001	

*These assemblies are supplied without main memory modules.

Support Manuals for HP Vectra M2 PC Series

Familiarization Guide	D314x+49A-900001
Technical Reference Manual: Hardware and BIOS	None*

*Electronic File only.

Part Numbers for HP Utility Diskettes

Description	Rev	Date Code	Part #	Info.
Windows & DOS Video Drivers		—	5063-4532	Kit

19 HP VECTRA VE 4/XX PC SERIES

MODELS AND ACCESSORIES

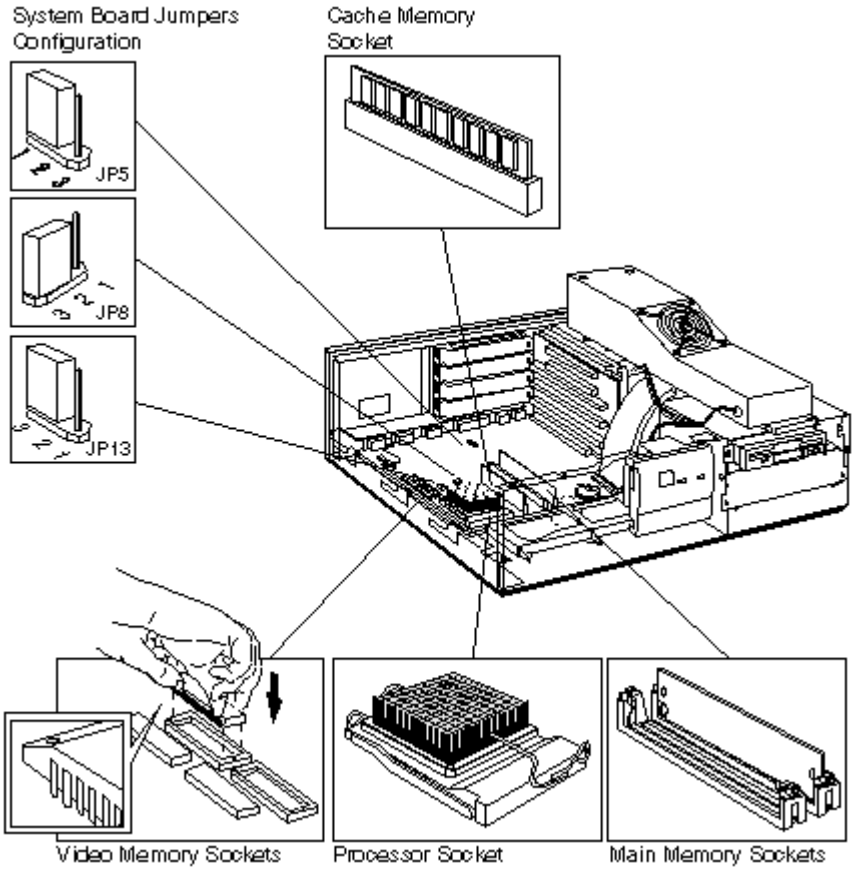
Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	L 2 Cache
HP Vectra VE 4/xx PC Series						
HP Vectra VE 4/50 PC (CPL: 07/95)						
D3491A	1.44 MB (D2035B)	None	Integrated Enhanced IDE controller on PCI bus	Integrated Ultra VGA (1 MB upgradeable to 2 MB)	4 MB	Opt.
D3492A		270 MB (D2390)			8 MB	
D3493A		420 MB (D2906)				
HP Vectra VE 4/66 PC (CPL: 07/95)						
D3494A	1.44 MB (D2035B)	None	Integrated Enhanced IDE controller on PCI bus	Integrated Ultra VGA (1 MB upgradeable to 2 MB)	4 MB	Opt.
D3495A		270 MB (D2390)				
D3496A		420 MB (D2906)			8 MB	
D3497A		840 MB (D2393)				
D3498A						
D3499A					16 MB	
HP Vectra VE 4/100 PC (CPL: 07/95)						
D3501A	1.44 MB (D2035B)	None	Integrated Enhanced IDE controller on PCI bus	Integrated Ultra VGA (1 MB upgradeable to 2 MB)	4 MB	Opt.
D3502A		420 MB (D2906)			8 MB	
D3503A		840 MB (D2393)				

SUPPORTED ACCESSORIES

1 MB Video Memory Upgrade Kit	D3500A
256 KB Cache Memory Upgrade Kit	D2465A
4 MB Main Memory Upgrade Kit (32 bit, no parity)	D2690A
4 MB Main Memory Upgrade Kit (36 bit, parity)	D2974A
8 MB Main Memory Upgrade Kit (32 bit, no parity)	D2691A
8 MB Main Memory Upgrade Kit (36 bit, parity)	D2975A
16 MB Main Memory Upgrade Kit	D2297A
32 MB Main Memory Upgrade Kit	D2298A
Vectra VE 4/xx User's Guide	D3490A

Video Displays	
Monochrome VGA 14-inch Display	D2801B
Entry-level Super VGA 14-inch	D2802A
Super VGA 1024i .28 14-inch	D2804B
Super VGA 1024i .28 MPRII 14-inch	D2814A
Ergo VGA 1024 14-inch	D2805A
Ergo Ultra VGA 15-inch	D2806B
Ultra VGA 1280 17-inch	D2807B
Ultra VGA 1600 21-inch	D1199A
Note: Part number suffix B relates to new color scheme except D2801B.	
Multimedia Products	
HP Audio/CD Accessory	D2941A
HP Integrated Office (Fax/Modem/Sound Board)	D2887A
Mass Storage	
Flexible Disk 1.44 MB 3-1/2 inch	D2035B
Flexible Disk 1.2 MB 5-1/4 inch	D2881B
IDE 270 MB Hard Disk	D2388A
IDE 540 MB Hard Disk	D2389A
IDE 840 MB Hard Disk	D2925A
5.25-inch Rail Kit	D2880A
IDE CD-ROM Drive	D2889A
3.5-inch, h-h, Rails (5 pack) for non-HP disk drives	D3566A
5.25-inch, h-h, Rails (5 pack) for non-HP disk drives	D2880A
3.5-inch, h-h, Tray (5 pack) for non-HP disk drives	D2037A
Note: Part number suffix B indicates new color scheme.	
Datacomm and LAN Boards	
HP LAN Adapter NC/16 TP (single)	J2405A
HP LAN Adapter 16 TP Plus	27247B
HP LAN Adapter 16 TL Plus	27252A
HP 10/100VG Selectable ISA Adapter	J2573A
Input Devices	
HP Logitech-type Mouse	C3751B
Keyboard	C3757B
Note: Part number suffix B indicates new color scheme.	

SYSTEM BOARD, BIOS, AND MEMORY



VIDEO MEMORY UPGRADE

The upgrade is achieved by installing two chips into surface mount technology sockets. The chips must be installed with the bevelled edge on each component aligned to the back of the PC. You will need the PLLC Extractor Tool (part number 5041-2553) to remove the chips.

IDE CONNECTORS

Two IDE connectors are present. Any IDE compatible device can be attached to any connector.

VE 4/xx Configuration Jumpers

Jumper	Setting	Function	Default
JP5	**1-2**	**Enable CMOS configuration**	1-2
	2-3	Clear CMOS	
JP8	1-2	486DX2 or DX4 with write-back internal cache (called P24D and P24C)	See footnote*
	2-3	486DX2 or DX4 standard internal cache	
JP13	1-2	33 MHz processor speed selection	See footnote**
	2-3	25 MHz processor speed selection	

*Default setting dependent on model: I-2 for VE 4/50 and VE 4/66, 2-3 for VE 4/100.
**Default setting dependent on model: I-2 for VE 4/660 and VE 4/100, 2-3 for VE 4/50.

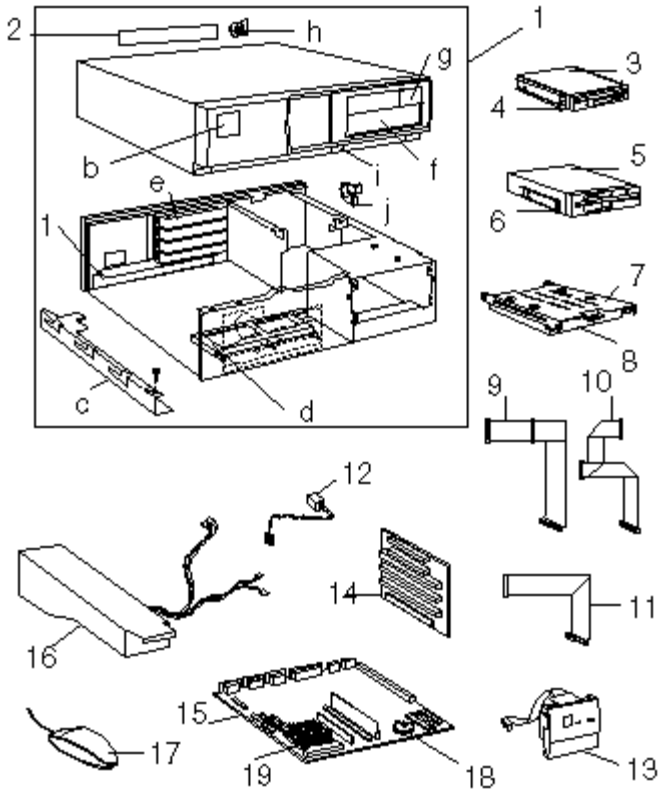
VE 4/xx IRQs and I/O Addresses

IRQ	Function	I/O Port Hex
IRQ 3	Serial Port A (COM1)	3F8-3FF
IRQ 4	Serial Port B (COM2)	2F8-2FF
IRQ 5	Parallel Port 2 (LPT2)	378-37F
IRQ 6	Flexible Disk Controller	3F0-3F7
IRQ 7	Parallel Port 1 (LPT1) Parallel Port 3 (LPT3)	3BC-3BE 278-27F
IRQ 14	IDE Hard Disk Controller	1F0-1F7
-	Video Controller	3B0-3DF

BIOS HISTORY

BIOS Ver.	Date	Description	Kit Part No.
		Vectra VE 4/xx PC Series	
GP.05.00	April 95	First release	Available on HP BBS
GP.05.01	May 95	Fixes bug with mouse when leaving sleep mode in Windows 3.11	
GP.05.02	June 95	Fixes bug with mouse that hangs system when loading QuatroPro in DOS	
GP.05.03	Aug 95	Added support for AMD microprocessor (requires D3501-630020). Added activation options for PnP boards. Improves DDC1 detection for D2815A display.	
GP.05.04	Sept 95	Fixes bugs in Windows 95: – with LBA formatted HDD – with Plug and Play code Fixes bug with Plug and Play ROM allocation for token ring LAN boards.	
GP.05.05	Oct 95	Improves 840 MB HDD detection.	
GP.05.06	Nov 95	Fixes bugs: – with Siemens 8 MB memory modules – with Intel Etherxpress board – with DEC LAN DE205 board – detection of disabled FDD in Windows 95	

PART NUMBERS



Parts List for HP Vectra VE 4/xx PC Series

Item	Description	Replacement Part Number	Exchange Part Number
1	Box Assembly:	5063-7025	
	a. Rear Bezel	5042-1177	
	b. Nameplate with logo	-	
	(HP Vectra VE 4/50)	5042-1146	
	(HP Vectra VE 4/66)	5042-1147	
	(HP Vectra VE 4/100)	5042-1148	
	d. System Board Side Guide	5042-1138	
	e. I/O Panel Blank	45935-00004	
	f. Filler Panel 5.25 inch	5042-1178	
	g. Filler panel 1.75 inch	5042-1179	
	h. Cover Lock Assembly	5062-5590	
	i. Infrared Cap	5042-1176	
	j. Security Bracket		
2	Serial Label		
3	Flexible Disk Drive 3.5-inch	D2035 - 63121	
4	Mounting Rails for 3.5-inch non-HP Flexible Disk Drives	5063 - 0309	

8	Hard Disk Drive (standard)		
	270 MB	D2390-63001	D2390-69001
	420 MB	D2906-63001	D2906-69001
	840 MB	D2393-63001	D2393-69001
9	Hard Disk Cable (IDE drive)	5182-1036	
10	Flexible Disk Drive Cable	5182-1037	
11	IDE Standard Cable	5182-1865	
12	4.5V Battery (5 year life)	1420-0513	
13	Status (Control) Panel	5063-7016	
14	Backplane Assembly	5063-7017	
15	System Board	See next table	
16	Power Supply Assembly	5063-4553	
17	Mouse	C3751-60201	
18	System Board Battery (See warning which follows)	1420-0314	
19	Processor	See next table for Replacement P/Ns	

WARNING There is a danger of explosion if the battery is incorrectly installed. For your safety, never attempt to recharge, disassemble or burn, the old battery. In order to protect the environment, do not disdpose of batteries in household waste. Please return used batteries to the shop from which you bought them, or to the dealer from whom you purchased your PC, or to HP, so that they can be either recycled or disposed of in an environmentally sound way. After removing the old battery, install a replacement battery (order 1420-0312) or an external battery (order 1420-0513).

System Board Parts List for HP Vectra VE 4/xx PC Series

Description	Replacement Part Number	Exchange Part Number
System Board:*		
HP Vectra VE 4/xx PC	D3501-63001	D3501-69001
Processor:		
486DX2-50 'SL' P24 Write-back	5063-7014	
486DX2-66 'SL' P24 Write-back	5063-7015	
DX4-100 'SL' A5 Version	5063-7938	
Heatsink with Clip	5063-5740	
Second Level Cache Memory Modules:		
256 KB Cache Memory Module kit (D2465A)	D2465-63001	
Main Memory Modules: (70 ns)		
4 MB Main Memory Module kit, 32-bit	5063-4548	
8 MB Main Memory Module kit, 32-bit	5063-4549	
16 MB Main Memory Module kit, 36-bit (D2297A)	D2297-63001	D2297-69001
Video Memory Modules :		
1 MB Video Memory kit (D3500A)	D3500-63001	

*These assemblies are supplied without main memory modules or processor. Includes integrated IDE disk and Ultra VGA+ controller.

Support Manuals for HP Vectra VE 4/xx PC Series

Familiarization Guide	D349x+49A-90001
Technical Reference Manual: Hardware and BIOS	None*

*Electronic file only.

Part Numbers for HP Utility Diskettes

Description	Rev	Date Code	Part #	Info.
Drivers & Utilities disk kit			5063-5795	**Kit**
– Windows video driver	A.01.01	3522		
– Quick IDE drivers	A.01.00	3522		
– Plug and Play utility	1.21	3505		
– Usertool utility	A.01.20	3522		
– Moux driver	6.44	3536		
– DMI utility	A.01.06	3522		
– Power Management tools	4.0	3536		
PLCC Video Chip Extractor			5041-2553	

20 HP VECTRA VL2 & VL2E PC SERIES

MODELS AND ACCESSORIES

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	L 2 Cache	Multi-media
			Vectra VL2e PC Series				
HP Vectra VL2e 4/25e PC (CPL: 03/94)							
D3131A	1.44 MB (D2035A)	None	Integrated IDE controller on ISA bus	Integrated Ultra VGA (512 KB, upgradeable to 1 MB)	4 MB	None	None
D3121A		106 MB			2 MB		
D3124A							
D3122A		170 MB (D2330B)			4 MB		
D3122B		210 MB (D2387A)			4 MB		
HP Vectra VL2e 4/33se PC (CPL: 03/94)							
D3125A	1.44 MB (D2035A)	None	Integrated IDE controller on ISA bus	Integrated Ultra VGA (512 KB, upgradeable to 1 MB)	4 MB	None	None
D3123A		170 MB (D2330B)					
D3123B		210 MB (D2387A)					
D3042A		170 MB (D2330B)					Yes*
D3042B		210 MB (D2387A)					
D3251A		340 MB (D2890A)					None

*Includes HP Sound DSP 16 (Audio board, audio control panel, and SCSI CD-ROM drive).

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	L 2 Cache	Multi-media
			Vectra VL2e PC Series				
HP Vectra VL2e 4/50se PC (CPL: 07/94)							
D3195A	1.44 MB (D2035A)	210 MB (D2387A)	Integrated IDE controller on ISA bus	Integrated Ultra VGA (512 KB, upgradeable to 1 MB)	4 MB	None	None
D3196A							
D3252A		340 MB (D2890A)					
D3045A		210 MB (D2387A)					Yes*
HP Vectra VL2e 4/50e PC (CPL: 07/94)							
D3111A	1.44 MB (D2035A)	None	Integrated IDE controller on ISA bus	Integrated Ultra VGA (512 KB, upgradeable to 1 MB)	4 MB	None	None
D3112A		210 MB (D2387A)					Yes*
D3113A		340 MB (D2890A)					None

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	L 2 Cache	Multi-media
HP Vectra VL2e 4/66e PC (CPL: 07/94)							
D3114A	1.44 MB (D2035A)	None	Integrated IDE controller on ISA bus	Integrated Ultra VGA (512 KB, upgradeable to 1 MB)	4 MB	None	None
D3115A		210 MB (D2387A)					
D3116A		340 MB (D2890A)					
HP Vectra VL2e 4/33s PC (CPL: 03/94)							
D3126A	1.44 MB (D2035A)	None	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	4 MB	Opt.	None
D3127A		210 MB (D2387A)					
D3128A		340 MB (D2890A)					
D3129A		210 MB (D2387A)			8 MB		Yes*
D3191A							None
D3191B		270 MB (D2388A)					
D3192A		340 MB (D2890A)					
D3192B		540 MB (D2389A)					

*Includes HP Sound DSP 16 (Audio board with SCSI CD-ROM drive).

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	L 2 Cache	Multi-media
			Vectra VL2 PC Series				
HP Vectra VL2 4/50 PC (CPL: 03/94)							
D3135A	1.44 MB (D2035A)	None	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	4 MB	Opt.	None
D3133A		210 MB (D2387A)					
D3136A		340 MB (D2890A)					
D3193A		210 MB (D2387A)			8 MB		
D3193B		270 MB (D2388A)					
D3194A		340 MB (D2890A)					
D3194B		540 MB (D2389A)					
D3034A		340 MB (D2890A)			4 MB		Yes*
D3041A							Yes**

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	L 2 Cache	Multi-media
HP Vectra VL2 4/50s PC (CPL: 08/94)							
D3255A	1.44 MB (D2035A)	None	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	4 MB	Opt.	None
D3258A		270 MB (D2388A)			8 MB		
D3259A		540 MB (D2389A)					
HP Vectra VL2 4/66 PC (CPL: 03/94)							
D3137A	1.44 MB (D2035A)	None	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	4 MB	Opt.	None
D3138A		340 MB (D2890A)			8 MB		
D3138B		540 MB (D2389A)					
D3139A		210 MB (D2387A)					
D3139B		270 MB (D2388A)					
D3043A		340 MB (D2890A)					Yes*** Yes*
D3054A D3055A		540 MB (D2389A)					Yes**
HP Vectra VL2 4/100 PC (CPL: 03/94)							
D3172A	1.44 MB (D2035A)	None	Integrated Fast IDE controller on local bus	Integrated Ultra VGA (1 MB, 60 ns)	4 MB	Opt.	None
D3173A		340 MB (D2890A)			8 MB		
D3173B		540 MB (D2389A)					
D3174A		210 MB (D2387A)					
D3174B		270 MB (D2388A)					
D3048A D3056B		540 MB (D2389A)					Yes*** Yes**

*Available in U.S. only. Includes HP Integrated Office (U.S. approved Fax/Modem and Audio board.)
**Available in U.S. only. Includes HP Integrated Office (U.S. approved Fax/Modem, Audio board, and SCSI CD-ROM drive.)
***Includes HP Sound DSP 16 (Audio board, audio control panel, and SCSI CD-ROM drive).

SUPPORTED ACCESSORIES

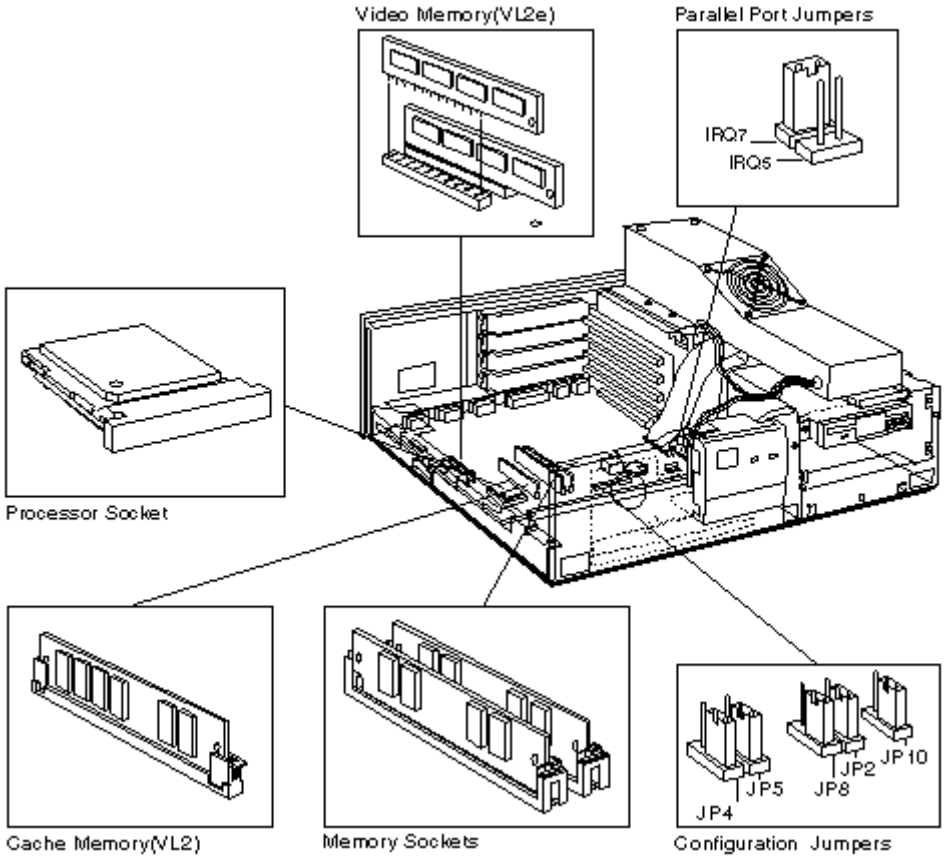
512 KB Video Memory Upgrade Kit (VL2e only)	D3169A
128 KB Cache Memory Upgrade Kit (VL2 only)	D3168A
256 KB Cache Memory Upgrade Kit (VL2 only)	D2944A
4 MB Main Memory Upgrade Kit	D2974A
8 MB Main Memory Upgrade Kit	D2975A
16 MB Main Memory Upgrade Kit	D2297A
32 MB Main Memory Upgrade Kit	D2298A
Vectra VL2 & VL2e *User's Guide* manual	D3130B
Processor upgrades	
VL2e Processor Upgrade to 486DX-33 (33 MHz)	D2169A

When you upgrade the processor, check the part number of the new processor and set the JP4 jumper as described in the processor upgrade jumper configuration table. Note that the PCs power management capability is lost after a processor upgrade.

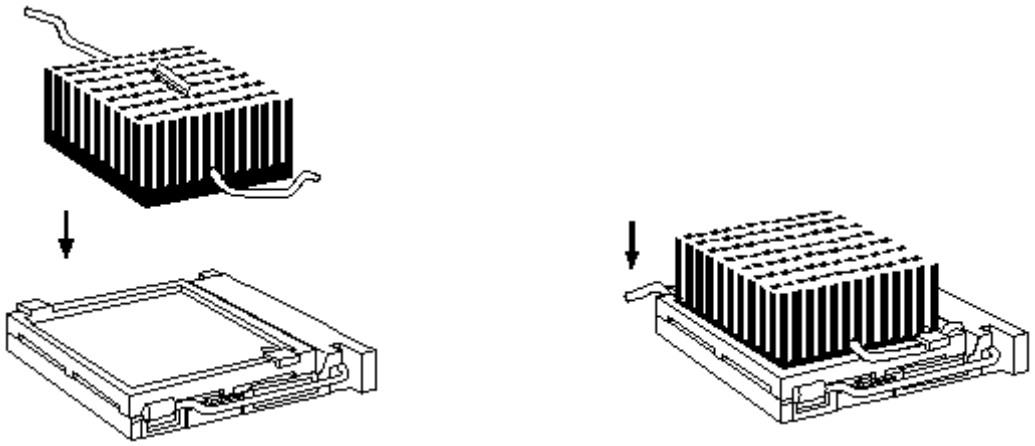
Video Displays	
Monochrome Display	D1192A/B
UltraVGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super Vga Color Display 15-inch	D1195A
Ergo Ultra VGA Color Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGAQ 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A
Multimedia Products	
HP Sound DSP 16	D2941A
HP Integrated Office	D2887A

Mass Storage	
Flexible Disk 1.44 MB 3-1/2 inch	D2035A
Flexible Disk 1.2 MB 5-1/4 inch	D2881A
IDE 240 MB Hard Disk	D1697A
IDE 170 MB Hard Disk	D2330B
IDE 210 MB Hard Disk	D2387A
IDE 450 MB Hard Disk	D2884A
IDE 340 MB Hard Disk	D2890A
IDE 540 MB Hard Disk	D2388A
IDE 270 MB Hard Disk	D2389A
CD-ROM Drive	D2886A/B
3.5-inch, h-h, Rails (5 pack) for non-HP disk drives	D3566A
5.25-inch, h-h, Rails (5 pack) for non-HP disk drives	D2880A
3.5-inch, h-h, Tray (5 pack) for non-HP disk drives	D2037A
Datacomm and LAN Boards	
Ethertwist PC Link Adapter	27245A
Ethertwist Adapter/16	27247B
Token-Ring Adapter	D2378A
Input Devices	
HP Logitech-type Mouse	C3751A
Keyboard - new style (recommended)	C3756A

SYSTEM BOARD, BIOS, AND MEMORY



The 486DX2 and 486DX4 processors require a heatsink assembly, which is clipped on top of the processor.



VL2 & VL2e Configuration Jumpers

Jumper	Setting	Function	Default
JP10	1-2	Select P24T write through mode.	**2-3**
	2-3	**Select P24T write back mode.**	
JP2	1-2	Clears CMOS RAM Configuration.	**2-3**
	2-3	**Enables CMOS RAM Configuration.**	
JP8	1-2	Disables on board VGA circuitry.	**2-3**
	2-3	**Enables on board VGA circuitry.**	
JP5	-	Reserved for factory use - do not move.	
JP4*	1-2	33 MHz processor speed selection.	
	2-3	25 MHz processor speed selection.	
JP12		(VL2 DX4 models only) Reserved for factory use - do not move.	
IRQ7		Parallel port 1.	**yes**
IRQ5		Alternative parallel port 1.	**no**

*Default setting dependent on model.

IRQs and I/O Addresses for the VL2 & VL2e

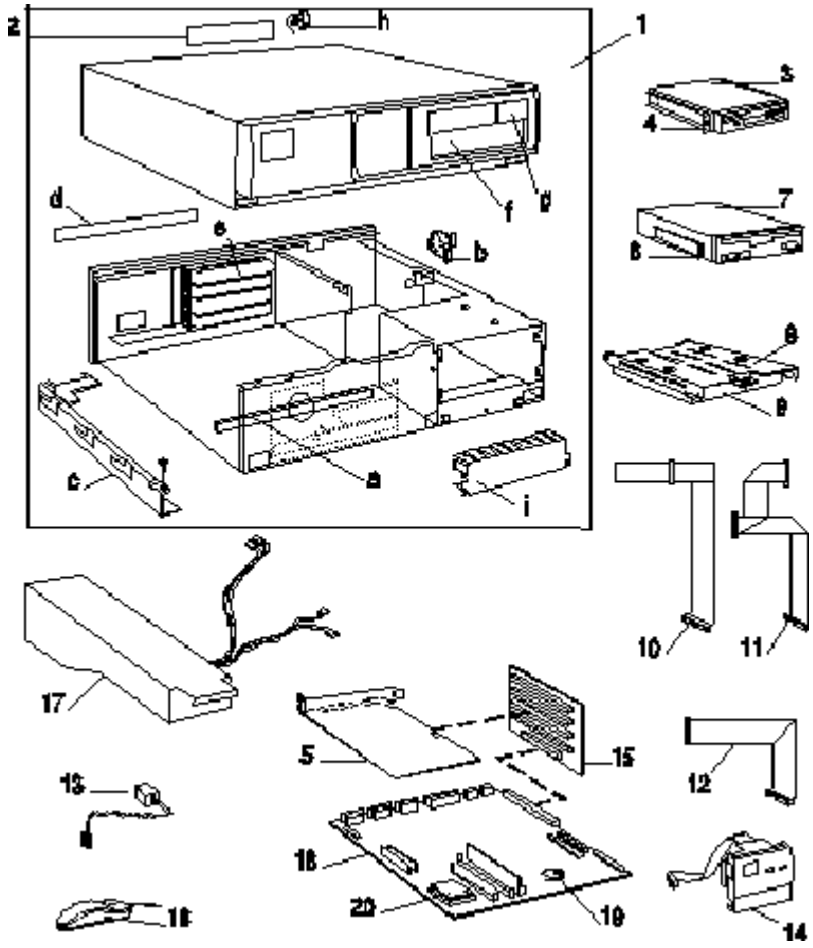
IRQ	Function	I/O Port Hex
IRQ 3	Serial Port A (COM1)	3F8-3FF
IRQ 4	Serial Port B (COM2)	2F8-2FF
IRQ 6	Flexible Disk Controller	3F0-3F7
IRQ 7 (5)*	Parallel Port 1 (LPT1)	378-37F
IRQ 14	IDE Hard Disk Controller	1F0-1F7
—	Video controller	3B0-3DF

*Numbers in brackets indicate alternate IRQ selected by jumper on the system board. See the Configuration Jumper table for details.

BIOS HISTORY

BIOS Ver.	Date	Description	Kit Part No.
		Vectra VL2 & VL2e PC Series	
HP Vectra VL2 & VL2e PC Series			
GA.04.02	March 94	First release	N/A
SGA.04.02	May 94	Second “Special” release	N/A
GA.04.04	May 94	Third release	N/A
GA.04.05	June 94	Fourth release	5063-5739
GA.04.06	Aug. 94	Fifth release	5063-5753
GA.04.07	N/A	Not released	N/A
GA.04.08	N/A	Not released	N/A
GA.04.09	N/A	Not released	N/A
GA.04.10	1995	Sixth release	N/A
GA.04.11	July 1995	Seventh release	5063-7934

PART NUMBERS



Parts List for HP Vectra VL2 & VL2e PC Series

Item	Description	Replacement Part Number	Exchange Part Number
1	Box Assembly	5063-4597	—
	a System Board Side Guide	-	
	b Security Bracket	5042-0507	
	c Side Panel	-	
	d Rear Bezel Connector Label	5042-0510	
	e I/O Panel Blank	45935-00004	
	f Filler Panel 5.25 inch	5041-2578	
	g Filler Panel 1.75 inch	5063-0877	
	h Cover Lock Assembly	5062-5590	
	i Hard Disk Drive I/R cover panel	-	
2	Serial Label	—	—
3	Flexible Disk Drive 3.5-inch	D2035-63004	—
4,6	Mounting Rails Kit (for 1x3.5-inch, 1x5.25-inch non-HP Disk Drives	5063-7922	—
5	HP Sound DSP 16 SCSI Board * and Audio cable*	5063-4506 5182-1067	—
	or		
	US Fax Modem+ SCSI Board* and Telephone cable*	D2887-63001 5182-1067	
7	5.25-inch SCSI CD-ROM Drive*	D2886-60103	—
8	3.5-inch, h-h, Tray (5 pack) for non-supported hard disk drives	5063-0309	—
9	Hard Disk Drive (standard)**		
	VL2:		
	210 MB	D2387-63001	D2387-69001
	270 MB	D2388-63001	D2388-69001
	340 MB	D2890-63021	D2890-69021
	540 MB	D2389-63001	D2389-69001
	VL2e:		
	106 MB	D3032-63031	—
	170 MB	D2330-63021	D2330-69021
	210 MB	D2387-63001	D2387-69001
	340 MB	D2890-63101	D2890-69101
10	Hard Disk Cable (IDE drive)	5182-1036	—
11	Flexible Disk Drive Cable	5182-1037	—
12	SCSI Flat Cable*	5182-1045	—
13	4.5V Battery (5 year life)	1420-0513	—
14	Status (Control) Panel Status Panel for Multimedia	5063-0889	—
15	Backplane PCA	5063-0887	—
16	System Board	See PC's system board parts list	
17	Power Supply Assembly	5063-4553	—
18	Mouse	C3751-60101	—
19	System Board Battery	1420-0314***	—
20	Processor	See PC's system board parts list	

Nameplate		
Vectra VL2 4/25e Logo	5042-0543	—
Vectra VL2 4/33se Logo	5042-0524	—
Vectra VL2 4/33s Logo	5042-0544	—
Vectra VL2 4/50se Logo	5042-1104	—
Vectra VL2 4/50e Logo	5042-1105	—
Vectra VL2 4/66e Logo	5042-1106	—
Vectra VL2 4/50s Logo	5042-1112	—
Vectra VL2 4/50 Logo	5042-0540	—
Vectra VL2 4/66 Logo	5042-0526	—
Vectra VL2 4/66 Communicator Logo	5042-1131	—
Vectra VL2 4/100 Logo	5042-0567	—
Vectra VL2 4/100 Communicator Logo	5042-1132	—

*Multimedia or Communicator models.
**For optional disk drive information, see the *Accessory Service Handbook.*
**Replace the battery with a Panasonic/Rayovac BR2325 battery, available from most local stores, or its equivalent HP battery using this number from your dealer or HP Sales and Service Office. Return the old battery to the supplier.

System Board Parts List for HP Vectra VL2 & VL2e PC Series

Description	Replacement Part Number	Exchange Part Number
System Board (includes integrated IDE disk and Ultra VGA+ controllers):*		
Vectra VL2e	D3121-630011	D3121-69001*
Vectra VL2	D3126-630011	D3126-69002*
Vectra VL2 DX4-100	D3172-630011	D3172-69002*
Processor:		
486SX-25 'SL'	5063-4561	
486SX-33 'SL'	5063-4554	
486SX2-50 'SL'	5063-5730	
486DX2-50 'SL'	5063-4583	
486DX2-66 'SL'	5063-4584	
DX4-100 'SL' (VL2 4-100 only)	5063-4598	
Heatsink kit for 486DX2 and 486DX4 processors	5063-5740	
Main Memory Modules: (70 ns)		
2 MB Main Memory Module kit, 32-bit	5063-5722	
4 MB Main Memory Module kit, 32-bit	5063-4548	
8 MB Main Memory Module kit, 32-bit	5063-4549	
Video Memory Modules (VL2e only):		
512 KB Video Memory kit (D3169A)	D3169-83001	
Cache Memory Modules: (VL2 only)		
128 KB Cache Memory Module kit (D3168A)	D3168-63001	
256 KB Cache Memory Module kit (D2944A)	5063-0880	

*These assemblies are supplied without main memory modules or processor.

Support Manuals for HP Vectra VL2 & VL2e PC Series

Familiarization Guide	D312x+49A-900001
Technical Reference Manual: Hardware and BIOS	None*

*Electronic File only.

Part Numbers for HP Utility Diskettes

Description	Rev	Date Code	Part #	Info.
BIOS Kit	GA.04.06		5063-5753	Kit
Drivers and Utilities disk kit	A.01.01	3442	5063-5768	

21 HP VECTRA XM2 PC SERIES 3

MODELS AND ACCESSORIES

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	Integ. LAN
			Vectra XM2 PC Series 3			
HP Vectra XM2 4/50 PC (CPL: 07/94; discontinued; 04/95)						
D3210A **D3211A**	1.44 MB (D2035A)	None 210 MB (D2387A)	Integrated IDE Controller	Integrated Ultra VGA 2 (1 MB, upgradeable to 2 MB)	8 MB	None
HP Vectra XM2 4/50i PC (CPL: 07/94; discontinued; 04/95)						
D3212A **D3213A**	1.44 MB (D2035A)	210 MB (D2387A) 340 MB (D2890A)	Integrated IDE Controller	Integrated Ultra VGA 2 (1 MB, upgradeable to 2 MB)	8 MB	Yes
HP Vectra XM2 4/66 PC (CPL: 07/94)						
D3220A **D3221A** **D3221B** (CPL: 4/95)	1.44 MB (D2035A)	None 270 MB (D2894A) 360 MB (D2394A)	Integrated IDE Controller	Integrated Ultra VGA 2 (1 MB, upgradeable to 2 MB)	8 MB	None
HP Vectra XM2 4/66i PC (CPL: 07/94)						
D3222A **D3222B** (CPL: 4/95) **D3224A** **D3224B** (CPL: 4/95)	1.44 MB (D2035A)	270 MB (D2894B) 360 MB (D2394A) 540 MB (D2891B) *or* (D2395A) 720 MB (D2396A)	Integrated IDE Controller	Integrated Ultra VGA 2 (1 MB, upgradeable to 2 MB)	8 MB	Yes
HP Vectra XM2 4/100 PC (CPL: 07/94)						
D3230A **D3231A** **D3231B** (CPL: 4/95)	1.44 MB (D2035A)	None 270 MB (D2894A) 360 MB (D2394A)	Integrated IDE Controller	Integrated Ultra VGA 2 (1 MB, upgradeable to 2 MB)	8 MB	None

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	Integ. LAN
HP Vectra XM2 4/100i PC (CPL: 07/94)						
D3232A	1.44 MB (D2035A)	270 MB (D2894B)	Integrated IDE Controller	Integrated Ultra VGA 2 (1 MB, upgradeable to 2 MB)	8 MB	Yes
D3232B (CPL: 4/95)		360 MB (D2394A)				
D3233A		540 MB (D2891B) *or* (D2395A)				
D3233B (CPL: 4/95)		720 MB (D2396A)				

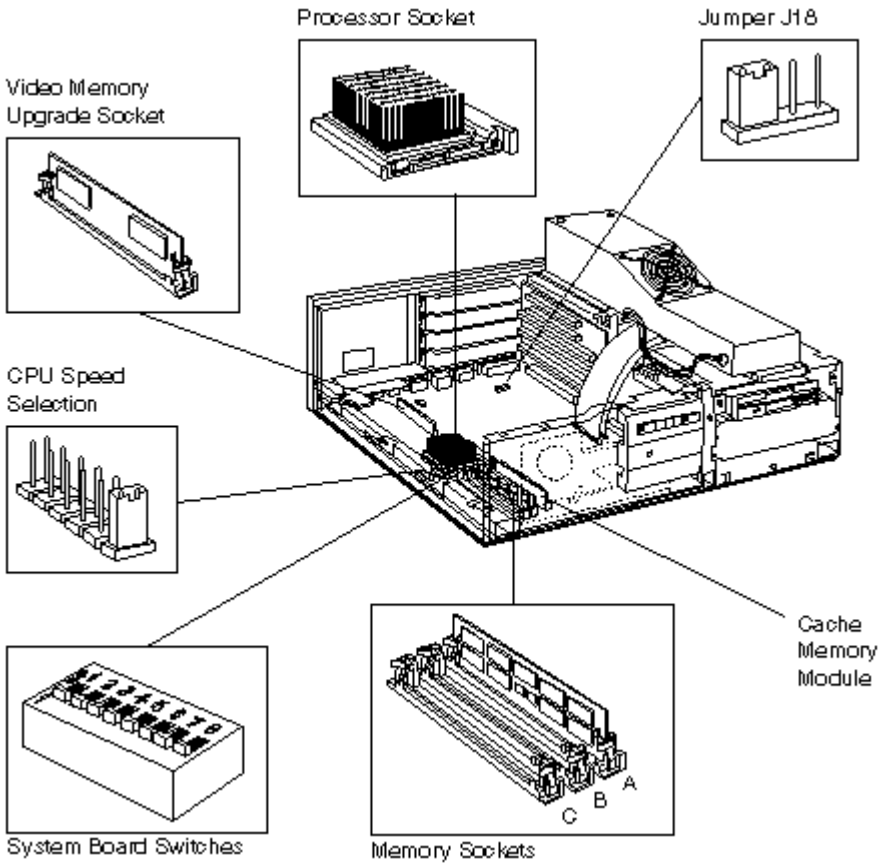
NOTE The HP Vectra XM2 PC Series 3 has 256 KB of level-two cache memory.

SUPPORTED ACCESSORIES

1 MB Video Memory Upgrade kit	D3241A
4 MB Main Memory Upgrade kit	D2974A
8 MB Main Memory Upgrade kit	D2691A
16 MB Main Memory Upgrade kit	D2297A
32 MB Main Memory Upgrade kit	D2298A
Setting Up Your PC and *Getting Started* manuals	D3240A
Multimedia Products	
HP Sound DSP 16	D2941A
Input Devices	
Mouse (PS/2, Microsoft)	C1413A
Mouse (PS2, Logitech)	C3751A
Keyboard	C1405B
Keyboard - new style (recommended)	C3756A

Video Displays	
Monochrome Display	D1192A/B
Ultra VGA Color Display 17-inch	D1193A
Super VGA Color Display 14-inch	D1194A
Ergo Super VGA Color Display 15-inch	D1195A
Ergo Ultra VGA Dolor Display 15-inch	D1196A
Color VGA Display	D1197A
Ultra VGA 1600 Display	D1199A
Monochrome VGA 14-inch Display	D2801A/B
Entry-Level SVGA 14-inch Display	D2802A
Super VGA 1024i 14-inch Display	D2804A
Ergo 1024 14-inch Display	D2805A
Ergo Ultra VGA 15-inch Display	D2806A
Ultra VGA 1280 17-inch Display	D2807A
Super VGA 14-inch Display (Low Emissions)	D2814A
Mass Storage	
Flexible Disk 1.44 MB 3-1/2 inch	D2035A
Flexible Disk 1.2 MB 5-1/4 inch	D2881A
IDE 170 MB Hard Disk	D2330B
IDE 210 MB Hard Disk	D2387A
IDE 240 MB Hard Disk	D1697A
IDE 270 MB Hard Disk	D2388A
IDE 270 MB Hard Disk	D2894A/B
IDE 340 MB Hard Disk	D2890A
IDE 450 MB Hard Disk	D2884A
IDE 540 MB Hard Disk	D2389A
IDE 540 MB Hard Disk	D2891A/B
SCSI 430 MB Hard Disk	D1699A
CD-ROM Drive	D2886A/B
3.5-inch, h-h, Rails (5 pack) for non-HP disk drives	D3566A
5.25-inch, h-h, Rails (5 pack) for non-HP disk drives	D2880A
3.5-inch, h-h, Tray (5 pack) for non-HP disk drives	D2037A
Datacomm and LAN Boards	
Serial Parallel board	24540B
Dual Serial Board	24541B
Ethertwist PC Link Adapter	27245A
Ethertwist Adapter/16	27247A
Ethertwist Adapter/16	27247B
HP Thin LAN Board	27250A
Token-Ring Adapter	D2378A
Coaxial LAN Adapter Board	D2746A

SYSTEM BOARD, BIOS, AND MEMORY



Jumper J18

This jumper is used to select a synchronous connection between the PCI bus and the processor bus. This jumper must not be changed from the factory default setting shown above.

System Board Switches

Switch		Function	Default
1	**OFF**	**Onboard VGA controller — enabled** (if a plug & play video card is installed - disabled)	**OFF**
	ON	Onboard VGA controller — disabled	
2	**OFF**	**Security mode - disabled**	**OFF**
	ON	Security mode - configuration cannot be changed using Setup	
3	**OFF**	**EEPROM stored configuration information - valid**	**OFF**
	ON	EEPROM stored configuration information - erased	
4	**OFF**	**Passwords — enabled**	**OFF**
	ON	Passwords — disabled (erased)	
5	**OFF**	**Flash ROM updates - enabled**	**OFF**
	ON	Flash ROM updates - disabled	
6	**OFF**	Not used	**OFF**
7	**OFF**	Not used	**OFF**
8	**OFF**	Not used	**OFF**

SETUP AND BIOS HISTORY

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
		Vectra XM2 PC Series 3		
HP Vectra XM2 PC Series 3				
GD.05.14	Sept. 94	First release	Available on HP PC Internal BBS	N/A
GD.05.17	Dec. 94	Fixes blank monitor screen bug		
GD.05.19	Jan. 95	Fixes an APM bug under OS2: no possible standby without a password. Adds support for HP D2394/5/6A Fast IDE HDDs in mode 3		
GD.05.20	Mar 95	Adds support for HP D2394/5/6A Fast IDE HDDs in mode 3+		
GD.05.22	May 95	Fixes failure with 3C619B 3COM LAN card. Fixes bug when playing 16-bit wav sound files with 32-bit Soundblaster card		

CACHE MEMORY

The PC has 256 KB of integrated level-two cache memory.

VIDEO MEMORY

The PC is supplied with 1 MB of video memory for 1280 x 1024 in 256 colors. An additional 1 MB of video memory can be installed in a video memory socket (to make a total of 2 MB). for 1280 x 1024 in 64K colors.

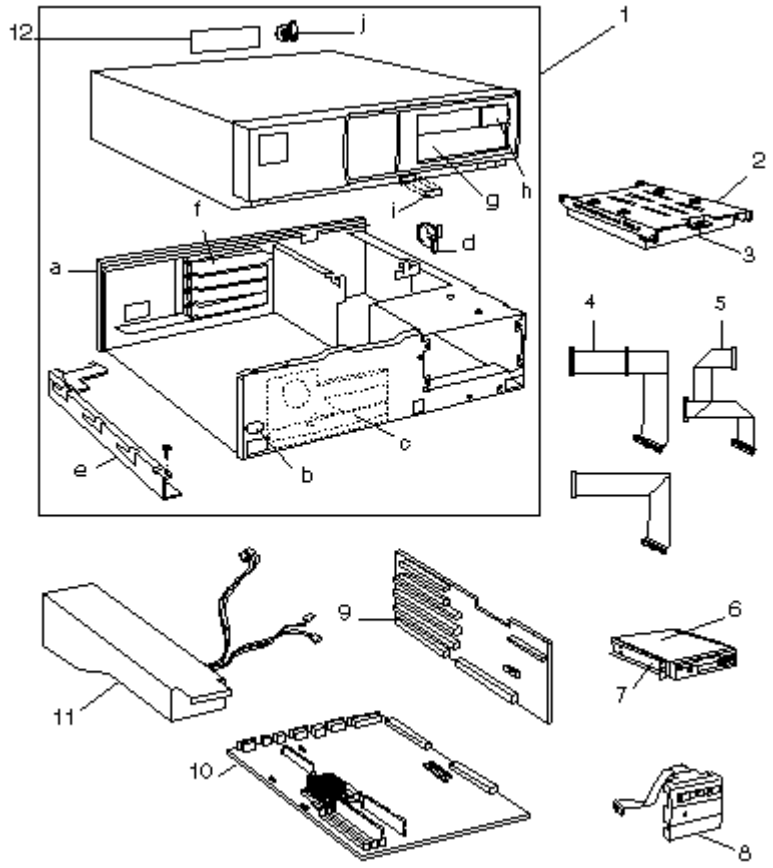
MAIN MEMORY

The HP Vectra XM2 PC has three sockets on the system board labeled A, B, and C. Main memory modules can be installed up to a maximum of 96 MB.

Typical Memory Configurations

For a TOTAL memory of:	Install memory modules in these banks:		
	Bank A	**Bank B**	**Bank C**
4 MB	4 MB	-	-
8 MB	4 MB	4 MB	-
8 MB	**8 MB**	-	-
12 MB	4 MB	4 MB	4 MB
12 MB	4 MB	8 MB	-
16 MB	4 MB	4 MB	8 MB
16 MB	8 MB	8 MB	-
16 MB	16 MB	-	-
20 MB	4 MB	8 MB	8 MB
20 MB	4 MB	16 MB	-
24 MB	4 MB	4 MB	16 MB
24 MB	8 MB	8 MB	8 MB
32 MB	8 MB	8 MB	16 MB
32 MB	16 MB	16 MB	-
36 MB	4 MB	16 MB	16 MB
40 MB	4 MB	4 MB	32 MB
48 MB	16 MB	16 MB	16 MB
48 MB	8 MB	8 MB	32 MB
64 MB	16 MB	16 MB	32 MB
64 MB	32 MB	32 MB	-
96 MB	32 MB	32 MB	32 MB

PART NUMBERS



Parts List for HP Vectra XM2 PC Series 3

Item	Description	Replacement Part Number	Exchange Part Number
1	Box Assembly	5063-4597	—
	a Rear Bezel	-	
	b Bumper Foot	-	
	c System Board Side Guide	-	
	d Security Bracket	-	
	e Side Panel	--	
	f I/O Panel Blank		
	g Filler Panel 5.25 inch	5041-2578	
	h Filler Panel 1.75 inch	5063-0877	
	i Infrared Filter/Cap	5042-0504	
	j Cover Lock Assembly	5062-5590	
	Infrared Module Support	5063-5707	—

3	Hard Disk Drive (standard)*		
	210 MB	D2387-63001	D2387-69001
	270 MB	D2894-63003	D2894-69003
	340 MB	D2890-63021	D2890-69021
	360 MB	D2394-63001	D2394-69001
	540 MB	D2395-63001	D2395-69001
	720 MB	D2396-63001	D2396-69001
4	Hard Disk Cable (IDE drive)	5182-0311	—
5	Flexible Disk Drive Cable	5182-1805	—
6	Flexible Disk Drive, 3.5-inch	D2035-63004	—
7	Mounting Rails for 3.5-inch non-HP Disk Drives	5063-0309	—
8	Status (Control) Panel	5063-5705	—
9	Backplane Assembly	5063-5704	
10	System Board	See PC's system board parts list	
11	Power Supply Assembly	5063-4553	—
12	Serial Label	5181-0395	—
	Mounting Rails for 5.25-inch non-HP Disk Drives	Order product number D2880A	

Parts List for HP Vectra XM2 PC Series

Item	Description	Replacement Part Number	Exchange Part Number
	Nameplate:		
	HP Vectra XM2 4/50 Logo	5042-0552	—
	HP Vectra XM2 4/50i Logo	5042-0553	—
	HP Vectra XM2 4/66 Logo	5042-0554	—
	HP Vectra XM2 4/66i Logo	5042-0555	—
	HP Vectra XM2 4/100 Logo	5042-0556	—
	HP Vectra XM2 4/100i Logo	5042-0557	—

System Board Parts List for HP Vectra XM2 PC Series 3

Description	Replacement Part Number	Exchange Part Number
System Board (includes integrated IDE disk and Ultra VGA2 controllers)*		
Vectra XM2	D3201-63001*	D3201-69001*
Vectra XM2i (Integrated Ethernet)	D3202-63001*	D3202-69001*
Important: When replacing the system board, make sure you have a heatsink and frame assembly (5063-5772) since processor socket may not have the necessary heatsink attachment.		
LAN Adapters:		
Coaxial Adapter board (D2746A)	D2746-63001	—
Processors:		
Intel 486DX-50	5063-4583	—
Intel 486DX2-66	5063-4584	—
Intel 486DX4-100	5063-5371	—
Heatsink and Frame Assembly	5063-5772	—
Heatsink with Clip to ZIP socket	5063-5740	—
Cache Memory Modules:		
256 KB level-two Cache Memory module (D2944A)	5063-0880	—
Main Memory Modules:		
8 MB DRAM kit, 70 ns, 32 bits	5063-4549	—
Video Memory Modules:		
1 MB Video Memory Module kit (D3241A)	5063-5710	—

*These replacement assemblies are supplied without a processor chip.
**Parity not supported for XM2.

Support Manuals for HP Vectra XM2 PC Series 3

Familiarization Guide	D3201A+49A-900001
Technical Reference Manual: Hardware and BIOS	5962-3416*

*Electronic File only.

A HP VECTRA POST ROUTINE AND ERROR CODES

POST (POWER-ON SELF-TEST) ROUTINE

This appendix details POST and error messages common to most Vectra PCs. Certain models of the HP Vectra may have a slightly different POST. If the POST of a Vectra is very different, the error messages are provided in the chapter describing that Vectra. See the chapter contents list for error code entries.

POST No.	Power-On Self-Test Name
1	LED Test
2	Processor Test
3	System (BIOS) ROM Test
4	RAM Refresh Timer Test
5	Interrupt RAM Test
6	Shadow the System ROM BIOS
7	CMOS RAM Test
8	Internal Cache Memory Test
9	Initialize the Video Card
10	Test External Cache
11	Shadow Option ROMs
12	Memory Subsystem Test
13	Initialize EISA/ISA Hardware
14	8042 Self-Test
15	Timer 0/Timer 2 Test
16	DMA Subsystem Test
17	Interrupt Controller Test
18	RAM Address Line Independence Test
19	Size Extended Memory
20	Real-Mode Memory Test (First 640 K)
21	Shadow RAM Test
22	Protected Mode RAM Test (Extended RAM)
23	Real-Time Clock Test
24	Keyboard Test
25	Mouse Test
26	Hard Disk Test
27	LAN Test
28	Flexible Disk Controller Subsystem Test
29	Internal Numeric Coprocessor Test
30	Weitek Coprocessor Test
31	Clock Speed Switching Test
32	Serial Port Test
33	Parallel Port Test

For more information on the POST routines, refer to the PCs' reference manual.

ERROR CODES

Error Code (hex):	Description:
000F	Microprocessor error
001X	BIOS ROM Error
008X	Video ROM Error
009X	Option ROM Error while testing address range C800-DFFFh
00AX	
00BX	
00CX	Option ROM Error while testing address range E000-EFFFh
00DX	
011X	RTC Error while testing the CMOS register
0120	RTC Error
0130	RTC/System Configuration Error
0240	CMOS Memory/System Configuration Error
0250	Invalid Configuration
0241	CMOS Memory Error
0280	
02C0	EEPROM Error
02C1	
02D0	Serial # not present
030X	Keyboard/Mouse Controller Error
0311	
0312	
032X	
033X	
03E0	
03E1	
03E2	
03E3	
03E4	
03EC	
034X	Keyboard Test Failure
035X	
03E5	Mouse Test Failure
03E6	
03E7	
03E8	
03E9	
03EA	
03EB	
0401	Protected Mode Failure
050X	Serial Port Error
0510	
0520	
0543	Parallel Port Error
0545	
0506	Datacomm Conflict
0546	
06XX	Keyboard Key Stuck
07XX	Processor speed error

0800	Boot ROM Conflict
0801	Boot ROM Not Found
081X	Integrated Ethernet Interface Errors
0900	Fan Error
110X	Timer Error
1200	
1201	
20XA	Memory Mismatch
21XX	DMA Error
22XX	
30XX	HP-HIL Error*
4XXX	RAM Error
5XXX	
61XX	Memory Address Line Error
62XX	RAM Parity Error/memory Controller Error
630X	RAM Test Error
6400	
6500	BIOS ROM Shadow Error
6510	Video BIOS Shadowing Error/system ROM Error
6520	Option ROM Shadowing Error
65A0	Shadow Error probably caused by system board memory
65B0	
65C0	
65D0	
65E0	
65F0	
66XX	Shadow Error probably caused by memory on accessory board
7XXX	Interrupt Error
8003	Bad Drive Configuration
8005/6	
8004	CMOS Drive/System Configuration Error
8007	
8X0D	Controller Busy/Controller Error
8X10	
8X12	
8X20	
8X21	
8X38	
8X3C	
8X40	
8X45	

*Only for HP-HIL PCs (ES, QS and RS)

8X0E	Hard Disk Error
8X0F	Hard Disk Drive Mismatch
8X11	Hard Disk Drive Control Error
8X13	
8X30	
8X39	
8X3A	
8X3B	
8X41	
8X42	
8X43	
8X44	
8X49	
8X4B	
8X28	Hard Disk Drive Splitting Error
8048	Hard Disk Drive Identity Error
804A	
8050	Hard Disk Drive Controller Conflict
84XX	Bad Boot Sector
9XXX	Flexible Disk Drive Error
9X0A	Flexible Disk Drive Conflict
9X10	
A00X	Numeric Coprocessor Error
B300	Cache Controller Error
B320	Memory Cache Module Error
CXXX	Extended RAM Error*
EXXX	Bus Memory Error

B HP VECTRA HARDWARE IRQS AND MEMORY MAP

HP VECTRA INTERRUPTS (IRQS) AND I/O ADDRESSES

These Interrupts and I/O addresses are common to most HP Vectras. The exceptions for each Vectra are described in the Vectras individual chapter. For example, the HP Vectra 486VL is described in Chapter 6.

Interrupt Vector # Hex	Interrupt Vector Address Hex	IRQ	Typical Function	I/O Port Hex
08	20-23	IRQ 0	Timer	040-043
09	24-27	IRQ 1	Keyboard controller chip	060, 064
0A	28-2B	IRQ 2	Cascade from INTC2*	-
0B	2C-2F	IRQ 3**	Serial Port 1*** (COM2)	2F8-2FF
0C	30-33	IRQ 4	Serial Port 0*** (COM1)	3F8-3FF
0D	34-37	IRQ 5**	Parallel Port 1**** (LPT2)	278-27F
0E	38-3B	IRQ 6	Flexible Disk Controller	3F0 — 3F7
0F	3C-3D	IRQ 7	Parallel Port 0**** (LPT1)	378-37F

*INTC2: interrupt controller 2, also known as PIC #2 (programmable interrupt controller 2).
**Be default the network software may configure your LAN board to use IRQ3. If Serial port 1 is being used by a printer/plotter, then the LAN board must be reconfigured to use IRQ5 (if this is available).
***The BIOS references serial ports as Serial Port 0 to Serial Port 3. MS-DOS references the serial ports as COM1 to COM4. In addition, MS-DOS only counts the serial ports that are present. For example, if Serial Ports 0, 1 and 2 are present, MS-DOS calls them COM1, COM2, and COM3 respectively. If only Serial Port 3 is present, MS-DOS calls it COM1.
****The BIOS references parallel ports as Parallel Port 0 and Parallel Port 1. MS-DOS references the parallel ports as LPT1 and LPT2. In addition, MS-DOS only counts the parallel ports that are present. For example, if Parallel Ports 0 and 1 are present, MS-DOS calls them LPT1 and LPT2 respectively. If only Parallel Port 0 is present, MS-DOS calls it LPT1.

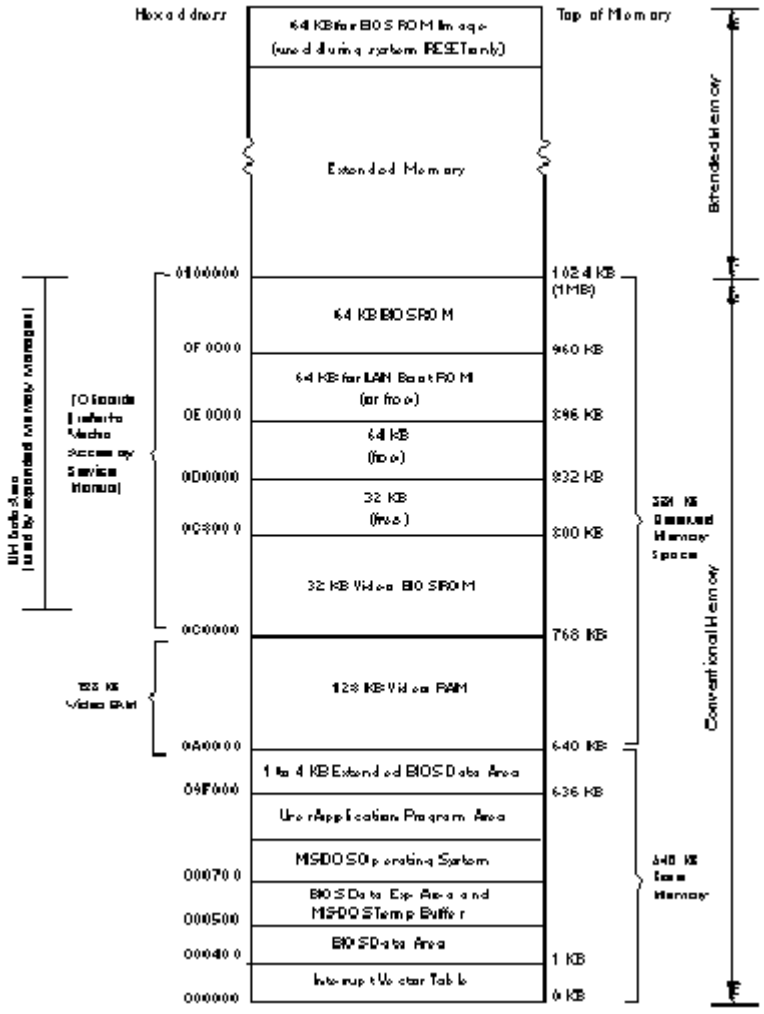
Interrupt Vector # Hex	Interrupt Vector Address Hex	IRQ	Typical Function	I/O Port Hex
70	1C0-1C3	IRQ 8	Real-time Clock	070-071
71	1C4-1C7	IRQ 9	VGA controller	
72	1C8-1CB	IRQ 10	Serial Port 2 (COM3)	3E8-3EF
73	1CC-1CF	IRQ 11	Serial Port 3 (COM4)	2E8-2EF
74	1D0-1D3	IRQ 12	mini-DIN Mouse or HIL	Mouse: 060, 064 HP-HIL: 068, 06C to 06F
75	1D4-1D7	IRQ 13	Math coprocessor	0F0-0FF
76	1D8-1DB	IRQ 14	Hard Disk Controller	1F0-1F7
77	1DC-1DF	IRQ 15	Reserved	-

For more information on a PC's address space, memory map, a list of the interrupts, the IRQ numbers and I/O addresses currently used by a PC you can use the Microsoft Diagnostic utility supplied with Windows version 3.1, MS-LAN Manager version 2.10 or more recently MS-DOS version 6.0.

To start the utility, type **MSD** [ENTER].

For more information about the Microsoft diagnostic utility (MSD.EXE), refer to Appendix C of this handbook.

HP VECTRA MEMORY MAP



C HP UTILITIES AND DOS QUICK REFERENCE

OVERVIEW

This chapter provides information on some useful MS-DOS commands and HP utilities. For the latest information about commands for your version of MS-DOS refer to the *MS-DOS User Reference* manual.

MICROSOFT DIAGNOSTIC UTILITY

(MS-DOS 6.0, MS-Windows 3.1, MS-LAN Manager 2.10 and above)

The Microsoft diagnostic utility provides detailed technical information about the PC under the following categories.

Computer	Displays computer manufacturer, processor type, and bus type; ROM BIOS manufacturer, version and date; keyboard type; DMA controller configuration; and math coprocessor status.
Memory	Displays a map of the upper memory area (UMA)-the memory region from 640K to 1024K.
Video	Shows your video card manufacturer, model, and type; video BIOS version and date; and current video mode.
Network	Displays network-specific configuration information.
Operating System	Displays the operating system version, location of MS-DOS in memory, the drive the computer was started from, the current environment settings, and the path from which MSD was run.
Mouse	Shows the MS-DOS mouse driver version, mouse type, mouse interrupt request line (IRQ) number, and other information specific to the configuration of the mouse.
Other Adapters	Displays the game card status for up to two game devices or joysticks.
Disk Drives	Displays the size and number of bytes free on local and remote drives.
LPT Ports	Displays the port addresses of all installed parallel ports, and displays the status of each port.
COM Ports	Displays the port addresses and current communications parameters of all installed serial ports, and displays the status of each port.
IRQ Status	Displays the configuration of the hardware IRQs.
TSR Programs	Displays the name, location in memory, and size of each program loaded in memory at the time MSD was run.
Device Drivers	Displays the names of all device drivers installed at the time MSD was run.

Starting the diagnostic utility

If you want to examine some technical information about the PC, start the diagnostic utility by typing the following at the command prompt:

MSD [ENTER]

The utility has an interface that makes it easy for you to access detailed technical information about the PC.

Creating a report

If you want to create a file called REPORT.TXT that contains a detailed technical report about the PC. To do this, you could type the following at the command prompt:

MSD /P REPORT.TXT [ENTER]

If you want to create a detailed report about the PC and you wanted the report to include such information as your name, company, address, and phone number, you would type the following at the command prompt:

MSD /F REPORT.TXT [ENTER]

MSD.EXE Switches	Description
/I	Specifies that MSD does not initially detect hardware. Use the /I switch if you are having problems starting MSD or if MSD is not running properly.
/F[drive:][path]filename	Prompts you for name, company, address, country, phone number, and comments, then writes a complete MSD report to the file you specify.
/P[drive:][path]filename	Writes a complete MSD report to the file you specify, without prompting you for information.
/S[drive:][path]filename	Writes a summary MSD report to the file you specify, without prompting you for information. If you do not specify any of the parameters, MSD writes the report to the screen.
/B	Runs MSD in black and white instead of color. Use the /B switch when you have a monitor that does not correctly display MSD in color.

DIAGNOSTIC UTILITY (HP)

The HP Vectra PC diagnostic utility is a low-level DOS-based hardware diagnostic utility. The following table summarizes which tests can be used on which PCs. Note that the diagnostic utility will not test third party accessories.

PC *	Flex. Disk	Hard Disk	SCSI	Tape	Data-comm	Video	Memory	SPU	Key-board**	LAN
Classic Desktop Vectras* **										
ES	Y	Y		Y						
QS	Y	Y		Y	Y	Y	Y	Y		
286/12	Y	Y		Y	Y	Y	Y	Y	Y	
386/25	Y	Y		Y	Y	Y	Y	Y	Y	
Low-Profile Desktop Vectras** **										
386N	Y	Y	Y		Y	Y	Y	Y	Y	Y
386/33 N & NI	Y	Y	Y		Y	Y	Y	Y	Y	Y
486N & NI	Y	Y	Y		Y	Y	Y	Y	Y	Y
N2	Y	Y	Y		Y	Y	Y	Y	Y	Y
Medium-Profile Desktop Vectras** **										
486M & MI	Y	Y	Y		Y	Y	Y	Y	Y	Y
486XM	Y	Y	Y		Y	Y	Y	Y	Y	Y
486VL	Y	Y	Y		Y	Y	Y	Y	Y	Y
XP	Y	Y	Y		Y	Y	Y	Y	Y	Y
XM2	Y	Y	Y		Y	Y	Y	Y	Y	Y
VL2	Y	Y	Y		Y	Y	Y	Y	Y	Y
M2	Y	Y	Y		Y	Y	Y	Y	Y	Y
Full-Height Desktop Vectras										
386s	Y	Y	Y		Y	Y	Y	Y	Y	Y
486S/20	Y	Y	Y	Y	Y	Y	Y	Y	Y	
XU	Y	Y	Y		Y	Y	Y	Y	Y	Y
Deskside Vectras										
RS	Y	Y	Y *****	Y	Y	Y	Y	Y		
486	Y	Y	Y	Y	Y	Y	Y	Y	Y	

*Vectra 486U and 486ST tests are not available. Use a third party test.

**Keyboard interface test only (keyboard itself is not tested).

***Tests for these Vectras are included with the Diagnostic Utility 5.25-inch diskette Rev: A.03.06 P/N 5063-0843.

****Tests for these PCs are included with the Vectra Diagnostic Utility Rev: B.00.03 (available June '94 on HP Support BBS).

*****SCSI tests are only available on the RS/25C.

PART NUMBERS FOR DIAGNOSTIC TOOLS

Description	Part Number
HP Vectra PC Diagnostic Utility Kit (ver. B.00.03)	Available on HP internal BBS
9-pin Datacomm Test Hood	24540-60010
25-pin Serial Datacomm Test Hood	02620-60062
25-pin Parallel Datacomm Test Hood	24540-60011
Memory Module Extractor Tool (Vectra 386/25)	5181-4810
Peripheral Exerciser Disk Kit	45935-63210
Electrically Conductive Field Service Grounding Kit	9300-1609
Vectra RS Cache Memory Board Removal Tool	D2010-40001
PLCC IC extractor tool	5041-2553
486 Microprocessor Removal Tool	8710-1944

DOS HELP (MS-DOS 5.0 AND ABOVE)

For information on MS-DOS 5.0 command syntax, type HELP command.

For example, for help on the format command, type HELP FORMAT.

(For more information relevant to your version of MS-DOS, refer to the *MS-DOS User Reference* manual.)

EASY CONFIG — FOR DESKSIDE EISA PCS (HP)

EASY CONFIG is used on HP Vectra 486, 486/25T and 486/33T EISA-bus computers. When you install boards and options in an EISA computer, or change the amount of memory installed, you must reconfigure the computer with the EASY CONFIG utility.

EASY CONFIG examines the details of all the boards and options installed, to determine the best conflict-free configuration. This configuration is saved in a file called SYSTEM.SCI.
To run EASY CONFIG, enter either

SD [ENTER]

or

CF [ENTER]

Running CF bypasses the main EASY CONFIG menu and jumps directly to:
Configure computer - advanced method

Advanced method allows you to add, remove, or move all types of boards, to change the functions and resources on these boards, and to look at more detailed information about them.

EASY CONFIG options

/B	this option should be used with any non-standard display.
/E	sets Easy Configuration mode - only works with CF.
/F	sets Fast Configuration mode - only works with CF.
/H	displays hi-resolution text on EGA and VGA displays.
/K	disables the mouse during EASY CONFIG sessions.
/M	enables monochrome display of EASY CONFIG screens.
/N	runs EASY CONFIG in “Modeling Mode”. This mode can be used to create an alternative SYSTEM.SCI system configuration file. This only works with CF.
/T	displays a detailed view of the present configuration. This only works with CF.

FORMAT COMMAND (MS-DOS)

FORMAT is an external DOS command used to prepare a disk for use.
FORMAT drive /1 /4 /8 /N:sectors /T:tracks /V:label /S
FORMAT drive /1 /B /N:sectors /T:tracks
FORMAT drive /V:label /F:size /S
DOS 5.0: *FORMAT drive /V:label [/Q] [/U] /F:size [BVS]*

/1	formats 5.25-inch diskettes as single-sided (160/180 KB single-sided and 320/360 KB double-sided diskettes only).
/4	formats 5.25-inch single- and double-sided diskettes in a high density (1.2 MB) drive (160/180 KB single-sided and 320/360 KB double-sided diskettes only).
/8	formats a diskette with only eight sectors per track (160/180 KB single-sided and 320/360 KB double-sided diskettes only).
/N:sectors	specifies number of sectors per track. Specify 80 for a 3.5-inch 720 KB diskette. Always use /T: *tracks* with /N: *sectors*. (When possible, use /F instead of /T.)
/T:tracks	specifies number of tracks per side. Specify 80 for a 3.5-inch 720 KB diskette. Always use /T: *tracks* with /N: *sectors*. (When possible, use /F instead of /T.)
/V:label	assigns "label" as the volume label for the diskette (or disk).
/F:size	specifies the size of the diskette to format. *Size* can be one of the following: 160 KB, 180 KB, 320 KB, 720 KB, 1.2 MB or 1.44 MB; and for DOS 5.0, 2.8 MB 3.5-inch. /T: *tracks* and /N: *sectors* cannot be used with this parameter.
/B	formats a disk with eight sectors per track and reserves space for DOS bootstrap information to be written to it using the SYS command. This parameter provides backward compatibility for earlier versions of MS-DOS. Do not use /B and /S together.
/S	writes system bootstrap information to the disk when the format has completed.
/Q	(DOS 5.0) quick format — deletes the file allocation table but does not check the disk for bad sectors.
/U	(DOS 5.0) unconditional formatting — destroys existing data on the disk.

(For more information relevant to your version of MS-DOS, refer to the MS-DOS User Reference manual.)

MEMORY MANAGERS

MEMMAKER (DOS 6.0 AND ABOVE)

For PCs with DOS 6.0 and above use MemMaker to optimize extended memory. This automatically detects the available memory and modifies the CONFIG.SYS, AUTOEXEC.BAT and WIN.INI files make the best use of it.

The MemMaker syntax is:

MEMMAKER [/B] [/BATCH] [/T] [/UNDO] [W:*n,m*]

For example, to run MemMaker in batch mode and direct it not to reserve any upper memory for Windows translation buffers, use the following command.

MEMMAKER /BATCH /W:0,0

If you wish to return to the previous configuration before running MemMaker, use the following command.

MEMMAKER /UNDO

(For more information relevant to your version of MS-DOS, refer to the MS-DOS User Reference manual.)

EMM386.EXE (DOS 5.0 AND ABOVE)

EMM386.EXE is the MS-DOS 5.0 expanded memory manager for 386 and 486 PCs. It converts extended memory to expanded memory for programs that need expanded memory. If it is on the hard disk, it can be activated by including these default commands in the CONFIG.SYS file:

DEVICE=HIMEM.SYS
DEVICE=EMM386.EXE

Once activated it can be turned on/off by typing: EMM386.EXE [ON/OFF]

You will need to customize the EMM386.EXE syntax if you have an accessory board that uses reserved memory address space (such the ScanJet board). The EMM386.EXE syntax is:

DEVICE= [*drive*:] [*path*] EMM386.EXE [ON/OFF/AUTO] [*MEMORY*] [W=ON/W=OFF] [M*x*|FRAME=*address*|/*Pmmmm*] [P*n*=*address*] [X=*mmmm-nnnn*] [I=*mmmm-nnnn*] [B=*address*] [L=*minXMS*] [A=*altregs*] [H=*handles*] [D=*nnn*] [RAM] [NOEMS]

The RAM and NOEMS options allow you to use lost upper memory bytes.

For more information relevant to your version of MS-DOS, refer to the MS-DOS User Reference manual.

HIMEM.SYS (DOS 5.0 AND ABOVE)

HIMEM.SYS is the MS-DOS 5.0 extended memory manager. If it is on the hard disk, it can be activated by including this default command in the CONFIG.SYS file:

DEVICE=HIMEM.SYS

HIMEM.SYS must be the first driver that uses extended or expanded memory in your CONFIG.SYS file.

The HIMEM.SYS syntax is:

DEVICE=[*drive*:] [*path*] HIMEM.SYS [/HMAMIN=*m*] [/ NUMHANDLES=*n*] [/INT15=*xxxx*]
[/MACHINE:*xxxx*] [/A20CONTROL:ON|OFF]
[/SHADOWRAM:ON/OFF] [/CPUCLOCK:ON|OFF]

For more information relevant to your version of MS-DOS, refer to the MS-DOS User Reference manual.

HPMM.SYS (DOS 4.0 AND EARLIER)

It is recommended that you install EMM386.EXE in preference to HPMM.SYS.

HPMM.SYS is HP's expanded memory manager supplied with 386- and 486-based PCs.

If HPMM.SYS is on the hard disk, it can be activated by including this default command in the CONFIG.SYS file: DEVICE=HPMM.SYS

The HPMM.SYS syntax is:

DEVICE=[*drive*:] [*path*] HPMM.SYS [*size*] [*state*] [FRAME=*nnnn*] [W=*on*|*off*]
[INCLUDE=*xxxx-yyyy*] [EXCLUDE=*zzzz-aaaa*] [EXT=*nnnn*] [DMA=*nnn*] [NOXRAM]
[AMRS=*xx*] [NOHMA] [HMAMIN=*nn*] [RELOCATE=*xxxx-yyyy*]

You will not be able to run Windows 3.0 in 386 Enhanced Mode if the Weitek FPA support is enabled with W=ON.

For more information, refer to the documentation that came with the PC.

HPEMM.SYS (VECTRA 286/12 PC)

HPEMM.SYS is HP's Expanded Memory Manager supplied with the HP Vectra 286/12 PC. If it is on the hard disk, it can be activated by including this default command in the CONFIG.SYS file: DEVICE=HPEMM.SYS

The HPEMM.SYS syntax is:

DEVICE=[*drive*:] [*path*] HPEMM.SYS [FRAME=*nnnn*] [INCLUDE=*xxxx-yyyy*]
[EXCLUDE=*zzzz-aaaa*] [EXT=*nnnn*] [NOXRAM] [TEST] [HANDLES=*nn*]
[CONTEXTS=*nnn*] [DEPTH=*nn*] [AUTOSIZE]

For more information, refer to the documentation that came with the PC.

HPEMM386.SYS (VECTRA RS AND QS PCS)

It is recommended that you install EMM386.EXE in preference to HPEMM386.SYS.
HPEMM386.SYS is HP's original Expanded Memory Manager for the HP Vectra RS and QS PCs. If it is on the hard disk, it can be activated by including this default command in the CONFIG.SYS file: DEVICE=HPEMM386.SYS

The HPEMM386.SYS syntax is:

DEVICE=[*drive*:] [*path*] HPEMM386.SYS [*size*] [*state*] [FRAME=*nnnn*] [W=*on*|*off*] [INCLUDE=*xxxx-yyyy*] [EXCLUDE=*zzzz-aaaa*] [EXT=*nnnn*] [DMA=*nnn*] [NOXRAM] [AMRS=*xx*] [LOWFRAME] [REBOOT] [NOHMA] [NOWARMBOOT] [NUMHANDLES=*nn*] [HMAMIN=*nn*]

For more information, refer to the documentation that came with the PC.

HPMODE UTILITY (VECTRA QS AND RS PCS)

HPMODE is supplied with PCs equipped with an HP-HIL interface.

HPMODE can be used to temporarily change the processor speed, cache memory, or the HP-Human Interface Link (if the EX-BIOS is present).

HPMODE SPE speed
speed is the PC speed: *LOW* 8 MHz *HIGH* highest speed of the computer AUTO "HIGH" with automatic switch to "LOW" for flexible disk access If no speed is specified, the current setting is displayed.
HPMODE MEM setting
setting is the state of the cache memory, when applicable. Can be *ON* or *OFF*.
HPMODE HIL setting
setting
setting can be *ON* or *OFF*.

HPROMINIT UTILITY (HP)

The HPROMInit utility is supplied with HP Vectra 386/33N & NI, HP Vectra 486N & NI PCs, HP Vectra 486M & MI PCs and HP 486XM PCs.

It is used to update the system ROM and set the language for SETUP, the error message utility, and system error messages.

To re-initialize the system ROM:

1. If the HPROMInit utility is on the hard disk drive, copy it onto a "bootable" diskette as follows:

   a. Insert a diskette in drive A, then type:

      `FORMAT A: /S` [ENTER]

   b. When the formatting has finished, type:

      `COPY C:\HPUTILS\HPINIT\*.* A`: [ENTER]

2. When the copying has finished, leave the diskette in drive A and press the Reset button. Wait for the ROM initialization procedure to finish.
3. Remove the HPROMInit diskette.
4. Switch the PC OFF and then ON.

HPUPDATE UTILITY (HP)

HPUpdate is supplied on the Vectra HPUpdate diskette shipped with the HP Vectra 486s/20, 486U PC Series, and 486ST PCs.

HPUpdate can be used to update (flash) the BIOS into the FLASH ROM of the Vectra 486s/20, 486U PC Series, and 486ST PCs.

HPUVGA UTILITY (HP)

HPUVGA is supplied on the Vectra 486s/20, 486U PC Series, and 486ST PCs.

It can be used to manage UVGA on the 486s/20 and UVGA+ on the 486U PC Series and 486ST. For example, it can be used to identify the type of video, the amount of video memory, and the video BIOS version of the PC. It can also select a display, compatibility model, and resolution.

HPVIEW UTILITY (HP)

HPVIEW is supplied on the Vectra diskette #1 shipped with the HP Vectra 486U PC Series and 486ST PCs. It can be used to display and print out the PC's configuration.

MEM COMMAND (MS-DOS)

MEM is an external DOS command, available since DOS 4.0, that displays the amount of used and free memory, lists allocated memory and free memory, and lists programs loaded.

MEM /P[*ROGRAM*]	displays status of programs loaded in memory
MEM /D[*EBUG*]	displays status of programs and internal drivers, and other information
MEM /C[*LASSIFY*]	lists the size of programs and amount of memory used, and lists largest memory block used

For more information relevant to your version of MS-DOS, refer to the MS-DOS User Reference manual.

MODE COMMAND (MS-DOS)

MODE is an external DOS command that sets the parameters for displaying device status, video display, serial communication, parallel printers, parallel output redirection, keyboard auto-repeat rate, and code page switching modes.

Serial Communication Mode

MODE COM*n* : BAUD=*b* PARITY=*p* DATA=*d* STOP=*s* RETRY=*ra*

n	Serial port number COM1, COM2, COM3, or COM4
b	Baud rate — 110, 150, 300, 600, 1200, 2400, 4800, 9600, or 19200 (only the first two digits of any value are required). Default: 2400.
p	Parity — N (no), O (odd) or E (even). Default: E
d	Data bits — 5, 6, 7, or 8. Default: 7
s	Stop bits — 1, 1.5, or 2. Default: 1
ra	Retry action (do not use *ra* if MODE is used over a network):

E return error from busy port
B return busy from busy port, continuously retry
R return ready from busy port
NONE no retry action is taken
Default: *E*

Parallel Printer Mode

MODE LPTn: COLS=c LINES=l RETRY=ra

n	Parallel printer device — LPT1, LPT2 or LPT3
c	Horizontal spacing — 80 or 132 characters per line.
l	Vertical spacing — 6 or 8 lines per inch
ra	Retry action (do not use *ra* if MODE is used over a network): *E* return error from busy port *B* return busy from busy port, continuously retry *R* return ready from busy port *NONE* no retry action is taken Default: *E*

For more information relevant to your version of MS-DOS, refer to the *MS-DOS User Reference* manual.

PRINTCFG — FOR DESKTOP EISA PCS (HP)

PrintCFG is an HP Utility that lets you view information about which board a configuration (CFG) file is associated with. PrintCFG is supplied on the Vectra diskette #2 shipped with the HP Vectra 486s/20, 486U PC Series, and 486ST PCs.

To run PrintCFG, enter:

PRINTCFG [*drive*:] [*path*] [*filename.cfg*] [>PRN]

filename.cfg	is the name of the CFG file. You must use the CFG extension.
>PRN	sends the information to the printer.

SAM — FOR DESKTOP EISA PCS (HP)

EISA Configuration with System Administration Manager

The System Administration Manager is supplied on the Vectra diskette #1, shipped with the HP Vectra 486s/20, 486U PC Series, and 486ST PCs.

The HP Vectra 486s/20, 486U PC Series, and 486ST are EISA-bus PCs. When you install boards and options, or change the amount of memory installed, you must reconfigure the PC using the System Administration Manager utility.

System Administration Manager examines the details of all the boards and options installed to determine the best conflict-free configuration. This configuration is saved in a file called SYSTEM.SCI.

To run System Administration Manager, boot the Vectra #1 diskette.

SAM options

/A	this option selects the advanced/dealer mode. It is used to display features that are not available when running the EISA Configuration Utility in normal mode.
/B	this option should be used with any non-standard display.
/H	displays hi-resolution text on EGA and VGA displays.
/K	disables the mouse during EASY CONFIG sessions.
/M	enables Monochrome display of EASY CONFIG screens.

SETUP UTILITY (VERSIONS B AND C)

Setup is an HP utility on the Vectra Setup and Utilities Disk supplied with the HP Vectra ES, QS, RS, 286/12, and 386/25. It can be used to change the configuration information stored in CMOS RAM and initialize ST-506 hard disks. Some of the Setup command line options described below are not available on all Vectras.

Setup options

/BAK	makes a backup disk of the Setup master disk. This option creates a backup Setup work disk from the Setup and Utilities Disk.
/C	specifies the drive characteristics for an “unknown” hard disk drive type.
/D	manually marks hard disk defects. This option allows you to manually enter hard disk defects. A list of known defects is usually supplied with the hard disk.
/E	re-initialize ESDI drive types 39, 40, 41, 42, 43, 45, 46 or 47. These drives are normally pre-initialized.
/F	fast initialization. This option performs an initialization only, without a media scan or surface analysis. This option *does not* mark defects on a hard disk.
/GBS	enables/disables global BIOS shadowing (Vectra 286/12 only).
/H	displays all available options. This option displays all of the Setup command line options available for the Vectra on which Setup is running.
/I	sets the hard disk interleave factor. (Do not change this value unless you understand the reasons for doing so.)
/M	displays the Setup screens in monochrome.
/MEM	enables/disables cache memory.
/ORS	enables/disables option ROM shadowing (Vectra 286/12 and 386/25 only).
/SA	saves a system configuration to a file. This option saves the present Setup configuration (stored in CMOS RAM) to a file.
/R	loads a system configuration from a file.
/S	loads the Setup shell. This option displays the main menu of the Setup program.
/T	displays the disk drive type table (from version B.06.00)
/VBS	enables/disables video BIOS shadowing (Vectra 286/12 and 386/25 only). Enabling video BIOS shadowing copies the video BIOS to RAM.
/X	scans the hard disk to list marked defects. This option confirms that any defects found on the disk at the factory have been marked on the disk as defective.

SETUP (VERSION D)

Setup version D is a menu-driven utility with context-sensitive help built into the HP Vectra 386s, 386N & NI, 486N & NI, 486M & MI, and 486XM PC Series. It can be used to change the configuration information stored in CMOS RAM.

Setup is started by pressing the **[F2]** key after the PC completes its power-on self-test.

SSTOR.SYS UTILITY (DOS 5.0 AND ABOVE)

You cannot use the Volume Expansion disk partitioning utility HARDRIVE.SYS (which was designed for MS-DOS 3.3) to partition your hard disk when you are running MS-DOS 5.0.

If, however, you have already partitioned the hard disk drive using the partitioning utility, you can still use the hard disk drive partitions with MS-DOS 5.0. To do this, you must add the following command to the CONFIG.SYS file:

DEVICE=[*drive*:]:\[*DOS5.0 path*]\SSTOR.SYS

For example, DEVICE=C:\DOS\SSTOR.SYS

UNDELETE COMMAND (DOS 5.0 AND ABOVE)

The UNDELETE command attempts to restore files previously deleted using the DEL command.

UNDELETE [*drive*:] [*path*] [*filename*] [/list|all] [/dos|dt]

list	lists the deleted files available for recovery but does not recover any files.
all	recovers deleted files without asking for confirmation.
dos	recovers files deleted by DOS, prompts for confirmation.
dt	recovers files listed in the deletion-tracking file produced by the mirror command.

WHATIS UTILITY (VECTRA 386S AND 386N PC SERIES)

The WHATIS utility (located in the \EU directory of the Vectra 386N PC Series and 386s PC setup disk) displays information on the POST error codes. Type:

`WHATIS [xxxx]`

where *xxxx* is the four-digit hex error code.

D HP VECTRA PC SERVICE NOTES

OVERVIEW

This appendix contains the current Service Notes for the HP Vectra product line in product/chronological order.

The Service Notes are available on a System Support Division server that is updated fortnightly. To access this server from a connected DOS-based Vectra using MS LAN Manager, type the following:

```
C:\ ADDNAME WCSOLMX 15.24.176.18 [ENTER]
C:\ NET USE J: \\WCSOLMX\SNOTES [ENTER]
```

The new J: drive contains an index and subdirectories for the service note issues. There are only a limited number of connections to the server. So copy the information you require and then disconnect by typing:

```
C:\ NET USE J: /D [ENTER]
```

This will free the connection for someone else.

Unix users can use the FTP protocol to log onto the server. When you make the connection type SNOTES and press the carriage return key as the password.

NOTE	FTP from DOS does not work because of password restrictions.

To print the Service Note

Use the DOS copy command to print the service note. For example,

C:\ COPY *notename.*C00 LPT1 /B where *notename.*C00 is the service note laserjet image.

SERVICE NOTE SUMMARY

All Vectras

Problem:	Service Note:
Hard Disk error 8311 — troubleshooting tips	—

Vectras in the Low-profile Desktop Box:

Problem:	Service Note:
Vectra 486N & NI (D27xxA) PC Series	
Monitor intermittently flickers or goes blank.	D27xxA-01, D28xxA-01
New video drivers revision 3.17F availableNew system BIOS Version V.04.08 available	D27xxA-01, D28xxA-01
Vectra 486N (D26xxA) PC Series	
New Windows 3.1 video drivers available	D26xxA-01
Vectra 386/33N & NI PC Series	
System board and coprocessor socket marked incorrectly	D270xA-01
Vectra N2 & M2 PC Series	
Shorter than expected battery life	D30xxA-02, D31xxA-02, D33xxA-02, D3185A-01, D338xA-01
Vectra N2 PC Series	
Shorter than expected life for 3 V coin battery on system board	D31xxA-03, D31xxB-03, D33xxA-03
Vectra N2 PC Series	
Shorter than expected battery life.	D31xxA-03 D33xxA-03

Vectras in the Medium-profile Desktop Box:

Problem:	Service Note:
Vectra 486M & MI PC Series	
Flexible disk drive cable problem	
Monitor intermittently flickers or goes blank.	
New video drivers revision 3.17F availableNew system BIOS Version V.04.08 available	D27xxA-01, D28xxA-01
Vectra 486XM PC Series	
Flexible disk drive cable problem	D28xxA-02, D29xxA-01
Vectra 486VL PC Series	
Adding support of EGA monochrome add-on cards	D302xA-01
Vectra XP/60 PC Series	
Loss of precision on Pentium processor's floating point unit	D300xA-01A, D3003B-01A
Vectra VL2 5/60 PC Series	
Loss of precision on Pentium processor's floating point unit	D317xA-01A
Vectra XM2 PC Series	
Incorrect BIOS release installed	D322xA-03, D323xA-03
Vectra XM2 PC Series	
Corrupted video caused by 1 MB video memory upgrade	D32xxA-04, D32xxB-04

Vectras in the Full-Height Desktop Box:

Problem:	Service Note:
Vectra 386s/20 PCs	
Vectra 386s/20 LMSI CD-ROM cannot be accessed through CM50 or CM153	D251xA-02
New power supply assembly	D251x-03
Vectra 386s/25 PCs	
Error detected during Power-On test for a nonexistent memory module	D257xA-01
New power supply assembly	D257xA-02
Vectra XU PC Series	
Loss of precision on Pentium processor's floating point unit	D30xxA-01A

SERVICE NOTES

Service Note: Hard Disk 8311 Error

HP Vectra PCs — All Models SUPERSEDES: None

Hard Disk Error 8311

Situation:

This information has been prepared to assist you in troubleshooting HP Vectrahard disk drive failures. The first troubleshooting tree focuses on hard diskdrive error 8311, which is the most common problem. The second tree is usefulwith most other hard disk drive failures.

In investigating hard disk errors, we have seen many customer service orders (CSOs) and have noticed that often the components replaced were not faulty.

We feel that these troubleshooting trees will help to cut down the time spent in fault finding.

Refer to the *HP Vectra Accessory Service Handbook* for details on the hard disk drive jumper settings wheninstalling HP disk drives.

DATE: 10 May 1991

ADMINISTRATIVE INFORMATION

Service note classification:

INFORMATION ONLY

Author: AG Entity: 4200 **Additional information:**

Service Note: D28xxA-02 D29xxA-01

HP Vectra 486M & MI Personal Computer Series SUPERSEDES: None
HP Vectra 486XM Personal Computer Series

Product Serial Numbers:

- 0000F00000 / 3344F99999
- 0000S00000 / 3344S99999

Symptoms:

The system failed the Power-On Self Test for the Flexible drive A: and/or for the System Configuration

To be Performed by: HP-qualified personnel

Parts Affected:

Flexible disk drive cable

Problem Description:

When the flexible disk cable is not connected to a drive, the exposed connector could touch the chassis.

DATE: 19 November 1993

ADMINISTRATIVE INFORMATION

Service note classification:

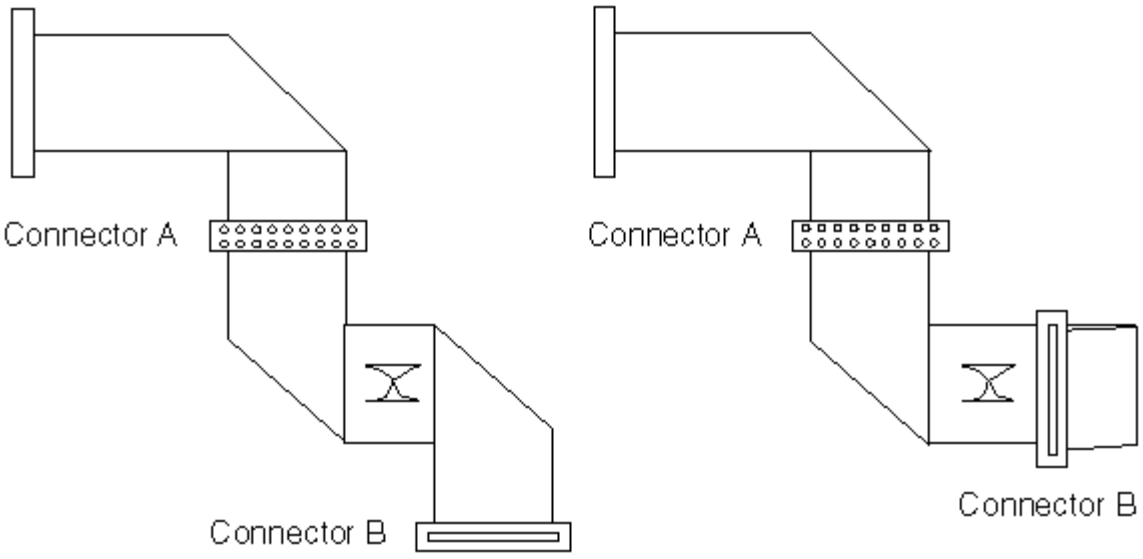
MODIFICATION RECOMMENDED

Action category:	• immediately • on specified failure • agreeable time	Standards:		Labor: 0.5 hours	
Location category:	• customer installable • on-site • HP location	Service inventory	• return • scrap • see text	Used parts:	• return • scrap • see text
Availability:	Product's support life	Responsible entity:	6300	Until:	1 Nov 1995
Author: JV	Entity: 6300	Additional information: The CSO must refer to this service note.			

Solution/Action:

The problem is caused by the twists placed in the cable at manufacture. The solution is to unfold the 90× fold nearest connector B and make a 180× bend to avoid it touching the chassis.

See the illustration below:



Old Cable

New Cable

This modification is recommended during any SPU repair.

Permanent Solution:

The flexible drive cable has been changed at manufacturing. The old cable part number 5182-0312 has been replaced with a new cable part number 5182-1089.

Service Note: D27xxA-01 D28xxA-01

HP Vectra 486N & NI (D27xxA) and
HP Vectra 486M & MI
Personal Computer Series (All models)

SUPERSEDES: None

Product Serial Numbers:

3351F00000 / 3408F99999

Symptoms:

Display intermittently flickers or goes blank. Only a very small quantity of easily identifiable System Boards are affected.

Situation:

A very small quantity of N & NI and M & MI PCs have been shipped with a bad video chip. The bad S3 chip is marked 1xx2-0002. Boards marked 1xx1-0002or 1xU2-0002 are OK.

Solution/Action:

Replace the system board. NB only system boards with video chip marked1xx2-0002 are covered by this service note. This solution is to be used ON SPECIFIED FAILURE ONLY. Pro-active intervention, or intervention fordefects other than that specified is not supported by this service note.

DATE: 17 March 1994

ADMINISTRATIVE INFORMATION

Service note classification:

MODIFICATION RECOMMENDED

Action category:	• immediately • on specified failure • agreeable time	Standards:		Labor: 0.5 hours	
Location category:	• customer installable • on-site • HP location	Service inventory	No action	Used parts:	• return • scrap • see text
Availability:	Product's support life	Responsible entity:	6300		
Author: BP	Entity: 6300	Additional information: Service Note Number on CSO.			

Service Note: D27xxA-01 D28xxA-01

HP Vectra 486N & NI (D27xxA) and
HP Vectra 486M & MI
Personal Computer Series (All models)

SUPERSEDES:
D27xxA-01, D28xxA-01

Product Serial Numbers:

- 0000F00000 / 3412F99999
- 0000S00000 / 3412S99999
- 0000Y00000 / 3412Y99999

New Video Drivers revision: 3.17F
(Supersedes revision A.02.11. Requires BIOS V.04.08.)

New System BIOS version: V.04.08
(Supersedes revision V.04.07)

Situation:

The new drivers eliminate character loss when using TrueType fonts on DeskJet (and certain other printers).

Solution/Action:

Drivers and BIOS are available on hppcgelo.grenoble.hp.com, or via local Response Centers.

DATE: 6 May 1994

ADMINISTRATIVE INFORMATION

Service note classification:

MODIFICATION RECOMMENDED

Action category:	• immediately • on specified failure • agreeable time	• performance enhancement • service/reliability enhancement	
Location category:	• customer installable • on-site • HP location	Available until:	Product Support Life
Author: BP	Entity: 6300	Additional information:	

FSI Information. When installing exchange boards following a hardware failure, it is recommended to update the BIOS and video drivers during the same intervention.

Exchange boards (D27xx-69002), with date-code greater than or equal to 3413 contain the latest version of video drivers and US BIOS. When installing exchange boards with date-codes earlier than 3413, it is recommended to update the video drivers and BIOS, using the latest versions obtainable as mentioned.

Service Note: D26xxA-01

HP Vectra 486N (D26xxA) Personal Computer Series SUPERSEDES: None

Product Serial Numbers:
0000A00000 / 9999Z99999

New Windows 3.1 Drivers

A new and improved version of the Windows 3.1 driver set for the 486N (D26xxA) PC Series Models has been released.

DATE: 5 November 1993

ADMINISTRATIVE INFORMATION

Service note classification:

MODIFICATION RECOMMENDED

Action category:	• immediately • on specified failure • agreeable time	• performance enhancement • service/reliability enhancement			
Location category:	• customer installable • on-site • HP location	Responsible entity:	6300	Until:	Product support life
Author: JPB	Entity: 6300	Additional information:			

Situation

This new driver set eliminates the “snowy screen” syndrome which has been reported by some customers. Because of its very low occurrence, it has mainly been observed on site with a large installed base.

The fully documented standard Windows video driver installation process must be followed and can be performed by the end-user at his/her convenience.

Local HP Response Centers should be contacted to obtain the revised driver set.

Service Note: D2701A-01 D2702A-01 D2703A-01 D2704A-01 D2707A-01 D2712A-01

HP Vectra 386/33N & NI Personal Computers
D2701A D2702A D2703A D2704A D2707 D2712A

SUPERSEDES: None

Product Serial Numbers:

- 0000F00000 / 3312F99999
- 0000S00000 / 3312S99999
- 0000Y00000 / 3312Y99999

Parts affected:

System board D2701-69001 and D2703-69001.
Third party coprocessor accessory: Cyrix™ 387SL

Symptoms

The PC does not work after coprocessor installation.

ADMINISTRATIVE INFORMATION

Service note classification:

MODIFICATION RECOMMENDED

Action category:	• immediately • on specified failure • agreeable time	Standards:		Parts Only: 5182-1026	
Location category:	• customer installable • on-site • HP location	Service inventory	• return • scrap • see text	Used parts:	• return • scrap • see text
Availability:	Product's support life	Responsible entity:	6300	Until:	May 1995
Author: PG	Entity: 6300	Additional information: Please reference service note number on the CSO.			

Description

Units belonging to the above indicated date code range, may not have the coprocessor socket beveled corner, that indicates pin 1, aligned with the silk-screened index dot on the system board.

The Setting Up manual supplied with each PC correctly instructs the user to align the corner marker on the coprocessor with the corner marker on the system board itself (a large white dot). The coprocessor manufacturer's documentation also warns the user against wrongly inserting and refers him/her to the PC manual in case of doubt.

Because previous designs had a systematic coincidence of the socket and board markings, some users may install the coprocessor (Cyrix™ 387SL or 387SX/33), aligning its beveled corner with socket's one. In the above units, this will result in destruction of the coprocessor.

Problem fix:

Provide a replacement coprocessor to the user with instructions to refer to the Vectra N & NI PC Series Setting Up manual for correct installation. (White dot marking on the system board should match the beveled corner of the coprocessor.)

Coprocessor socket corner marker is aligned with the system board marker on production units after date code 3312.

Service inventory

In order to replace damaged customer components, the Cyrix™ 387SL (Also referred to as Cyrix™ 387SX/33) coprocessor has been made available on the HP parts price list, via part centers, under P/N 5182-1026.

Proof of purchase of the original component should be provided to HP personnel to claim for replacement (either the bill or the damaged component itself).

Service Note: D251xA-03 D257xA-02

HP Vectra 386s/20 Personal Computers and
HP Vectra 386s/25 Personal Computers (all models)

SUPERSEDES: None

Product Serial Numbers:

- 0000F00000/3312F00000
- 0000S00000/3310S00000
- 0000Y00000/3311Y00000

Parts affected:

Power Supply

Field replacement p/n: 5063-0319; 5063-0333

New Mfg. p/n: 0950-2175; 0950-2388

Situation:

This service note documents a new power supply assembly for use in supporting the HP Vectra 386s/20, and 386s/25 series PCs.

New Field Replacement P/N will be: 5063-0339
New Mfg P/N will be: 0950-2701

DATE: 5 November 1993

ADMINISTRATIVE INFORMATION

Service note classification:

MODIFICATION RECOMMENDED

Action category:	• immediately • on specified failure • agreeable time	Standards:		Parts Only: 5182-1026	
Location category:	• customer installable • on-site • HP location	Service inventory	• return • scrap • see text	Used parts:	• return • scrap • see text
Availability:	Product's support life	Responsible entity:	6300	Until:	1 Nov 1995
Author: JV	Entity: 6300	Additional information: The CSO must refer to this servicenote number.			

Reason:

The existing power supply is experiencing a higher than normal failure rate due to an intermittently unreliable diode failure. As a result, some small quantities of power supplies have been reported to have failed leaving the PC inoperable.

This failure does NOT cause any other cards in the system to fail NOR is it a safety problem.

Symptoms are:

Fails on power up. The fan is not turning and the power supply is dead!

Service Note: D2512A-02 D2513A-02 D2514A-02 D2515A-02 D2516A-02 D2517A-02

HP Vectra 386s/20 Personal Computers SUPERSEDES: None

D2512A, D2513A, D2514A, D2515A, D2516A, D2517A

Product Serial Numbers:

- 0000F00000/323F99999

Parts affected:

System Board D2512-60005 and D2512-69005

Symptoms:

LMSI CD-ROM Drive Cannot Be Accessed Through a CM50 or CM153 Controller Board in DMA Mode.

Description:

The problem is due to the duration of a signal from the DMA controller of the system board (D2512A-6x005), which is not compatible with the DMA controller of theCM153.

DATE: 9 October 1992

ADMINISTRATIVE INFORMATION

Service note classification:

MODIFICATION RECOMMENDED

Action category:	• immediately • on specified failure • agreeable time	Standards:		Parts Only: 5182-1026	
Location category:	• customer installable • on-site • HP location	Service inventory	• return • scrap • see text	Used parts:	• return • scrap • see text
Availability:	Product's support life	Responsible entity:	6300	Until:	October 1994
Author: JVA	Entity: 6300	Additional information:			

Solution:

A new system board, P/N D2513-69005, was introduced on 1 July 1992. The part has been updated and an FSI recall has been implemented to replace all support boards with the new revision.

The D2512-6x005 system boards have been replaced with P/N D2513-6x005, as follows:

Defective Part	Status	Replacement Part
D2512-60005	New	
D2512-69005	Board Exchange	D2513-69005
D2513-60005	New	
D2513-69005	New	

Service Note: D2570A-01 D2571A-01 D2572A-01 D2574A-01 D2575A-01 D2578A-01 D2579A-01

HP Vectra 386s/25 Personal Computers
D2570A D2571A D2572A D2574A D2575A
D2578A D2579A

SUPERSEDES: None

Product Serial Numbers:

- 0000F00000 / 3249F99999
- 0000S00000 / 3249S99999
- 0000Y00000 / 3249Y99999

Parts affected:

System BIOS, version L.03.02

Symptoms:

" Bad Memory Configuration" message:

From time to time, during its execution the Power-On self test detects a bad memory configuration and displays the error message: 20XA (two memory modulesof different size in same bank). But in fact, there are no memory modules in this bank.

DATE: 24 December 1992

ADMINISTRATIVE INFORMATION

Service note classification:

MODIFICATION RECOMMENDED

Action category:	• immediately • on specified failure • agreeable time	Standards:		Parts Only: 5182-1026	
Location category:	• customer installable • on-site • HP location	Service inventory	• return • scrap • see text	Used parts:	• return • scrap • see text
Availability:	Product’s support life	Responsible entity:	6300	Until:	November 1994
Author: PG	Entity: 6300	Additional information:			

Problem Description:

The Power-On self test algorithm used to identify the system memory configuration may not be compatible with some signals on the system board (D2490-6x005). The timing for the test is near the limits for certain signals in the system board, resulting in intermittent failures on a small percentage of products.

Problem fix:

A new revision of the system BIOS, version N.03.04 or higher, fixes the problem by changing the memory identification process.

The BIOS, version N.03.04 (P/N 5063-0860) replaces the first version N.03.02 (P/N 5063-0822).

Note for service inventory:

Old BIOS kit version L.03.04 (P/N 5063-0822) is still usable on Vectra 386s/20. This part is therefore "Use Till Gone" for those models.

Service Note: D3021A-04 D3022A-04 D3025A-04 D3026A-04 D3028A-04

HP D302xA Vectra 486/VL Personal Computer SUPERSEDES: None

Product Serial Numbers:

- 0000A00000/3335A99999
- 0000F00000/3339F99999

and

- 3336A00000/3342A99999 if BIOS revision is AA.05.01
- 3340F00000/3349F99999 if BIOS revision is AA.05.01

Adding Support of EGA Monochrome Add-On Cards

Parts Required:

D3021-69002	CPU PCA 486SX-25 CPU PCA
D3025-69002	486 33 and MHZ

Parts Affected:

D3021-69001	CPU PCA 486SX
D3025-69001	CPU PCA 486DX

DATE: 15 April 1994

ADMINISTRATIVE INFORMATION

Service note classification:

MODIFICATION RECOMMENDED

Action category:	• immediately • on specified failure • agreeable time	• performance enhancement • service/reliability enhancement	
Location category:	• customer installable • on-site • HP location	Available Until:	January 1996
Author: DPL	Entity: 6300	Additional information:	

Situation:

The system board part numbers of the Vectra 486/VL are changing for both exchange and replacement parts.

The reason for the change is to give visibility to the BIOS change for specific configurations.

Starting with BIOS revision AA.05.01, and going on with BIOS revision AA.05.02, the following feature has been added to the HP Vectra 486/VL:

* Support of CGA/EGA/Hercules monochrome add-on video cards

HP Vectra 486VL PCs with serial numbers listed above don’t work with CGA/EGA/Hercules monochrome add-on video cards.

New version of replacement and exchange parts are shipped with AA.05.02 BIOS.

BIOS And System Board Identification Procedure

The BIOS revision level appears in the system configuration screen each time the Vectra 486/VL is powered on.

Service Inventory

D3021-69001 and D3025-69001 can be use-till-gone as it is expected that a very low percentage of Vectra 486/VL is used with add-on monochrome cards.

WARNING:	**Use of the newer D3021-69002 or D3025-69002 is mandatory when the customer configuration includes a monochrome CGA/ EGA/Hercules add-on board.**

Limitation of Warranty

Extended warranty is granted to customers that install a monochrome CGA/EGA/Hercules add-on card on an HP Vectra 486/VL having an AA.05.00 revision of BIOS in the serial number range defined in this service note.

The warranty location corresponds to the normal PC warranty conditions :

first year after purchase is on-site
beyond first year until January ’96 is return to HP.

Service Note: D3001A-01A D3002A-01A D3003A-01A D3003B-01A D3085A-01A D3086A-01A D3087A-01A D3091A-01A D3092A-01A D3094A-01A D3175A-01A D3176A-01A D3177A-01A D3178A-01A

HP Vectra XP/60 Personal Computers
D3001A D3002A D3003A D3003B

HP Vectra XU/90 Personal Computers
D3085A D3086A D3087A D3091A D3092A D3094A

HP Vectra VL2 5/60 Personal Computers
D3175A D3176A D3177A D3178A

SUPERSEDES:
D3001A-01 D3002A-01
D3003A-01 D3003B-01
D3085A-01 D3086A-01
D3087A-01 D3091A-01
D3092A-01 D3094A-01
D3175A-01 D3176A-01
D3177A-01 D3178A-01

Product Serial Numbers:

- All above listed PC models with Dxxxx-60x01 part numbers.

Parts affected:

Intel Pentium 60 and Pentium 90 processors, early stepping versions.

Symptoms:

Loss of precision for floating point operations:

The first stepping levels of the Intel Pentium 60 and Pentium 90 processors demonstrate a loss of precision for floating point divisions on certain operand pairs. Most PC applications are not affected.

DATE: 15 March 1995

ADMINISTRATIVE INFORMATION

Service note classification:

MODIFICATION RECOMMENDED

Action category:	• immediately • on specified failure • agreeable time	Standards:		Labor: 0.5 hours	
Location category:	• customer installable • on-site • HP location	Service inventory	• return • scrap • see text	Used parts:	• return • scrap • see text
Availability:	Product's support life, from Intel	Responsible entity:	6300	Until:	February 1996
Author: MB	Entity: 6300	Additional information:			

Problem Description:

The first stepping levels of the Intel Pentium processors show a loss of precision for floating point divides on a few specific operand pairs. Due to the rarity of these operand pairs, and the fact that the loss of precision only starts from the fourth place after the decimal point, most PC applications are not affected.

Problem fix:

Intel has released new steppings of the Pentium that do not have the problem, and has set up a replacement program. HP customers who want the new steppings of the chip will have to call Intel hot lines and request a replacement chip. Intel hot lines can be contacted at these phone numbers:

United States	1-800-628-8686
France	05 90 81 79
Germany	0130 818921
Netherlands	0602 24939
Italy	1670 10475
Spain	(91) 3082552
UK	01 793 696 776
Rest of Europe	44 1 793 696 776
Australia	+61-2-975-3300
Singapore	+65-735-3811
Hong Kong	852-844--4555
Taiwan	886-2-514-4200
India	91-80-2215065
PRC	86-1-505-0386
Japan	0120-868686, 298-47-1841
Rest of World	1-916-356-3551

A few customers are requesting on-site replacement. For these customers, HP will pay for CE labor and Travel under conditions stated below:

* Many customers will have to wait up to 60 days
* Escalations and hot-lines are not accepted
* Internal HP customers are requested not to place orders until July 1995.

Note for service inventory: It is critical that the field support organization return the defective chip back to SMO in the prepaid mailer, in order for HP to be reimbursed by Intel.

Service Note: D3186A-02 D3187A-02 D3188A-02 D3189A-02 D3141A-02 D3142A02 D3143A-02 D3144A-02 D3145A-02 D3146A-02 D3180A-02 D3370A-02 D3371A-02 D3372A-02 D3145B-02 D3146B-02 D3181A-02 D3148A-02 D3149A-02 D3376A-02 D3377A-02 D3151A-02 D3152A-02 D3153A-02 D3182A-02 D3380A-02 D3381A-02 D3382A-02 D3158A-02 D3159A-02 D3157A-02 D3159B-02 D3157B-02 D3183A-02 D3044A-02 D3161A-02 D3162A-02 D3386A-02 D3387A-02 D3046A-02 D3047A-02 D3185A-01 D3388A-01 D3389A-01

HP Vectra N2 and M2 Personal Computers: SUPERSEDES: None

D3186A D3187A D3188A D3189A D3141A D3142A D3143A D3144A D3145A D3146A D3180A D3370A D3371A D3372A D3145B D3146B D3181A D3148A D3149A D3376A D3377A D3151A D3152A D3135A D3182A D3380A D3381A D3382A D3158A D3159A D3157A D3159B D3157B D3183A D3044A D3161A D3162A D3386A D3387A D3046A D3047A D3185A D3388A D3389A

Product Serial Numbers:

- Lower than 3450A, or 3450S, or 3450Y, or 3502F

Parts affected:

Battery life limited.

Symptoms:

The clock operates too slowly or date and time are lost. Impact limited to this. (System configuration is **not** lost).

DATE: 6 February 1995

ADMINISTRATIVE INFORMATION

Service note classification:

MODIFICATION RECOMMENDED

Action category:	• immediately • on failure • agreeable time	Billing to responsible division: 1 travel charge per site of up to 30 units. 10 minutes labor per updated unit. 1 CSO per updated unit.			
Location category:	• customer installable • on-site • HP location	Service inventory	• return • scrap • see text	Used parts:	• return • scrap • see text
Availability:	Support life of product	Responsible entity:	6300	Until:	January 1996
Author: UB	Entity: 6300	Additional information:			

Problem Description

The on-board coin battery life will be shorter than expected in units in the listed serial number range if they are switched off for more than 14 hours per day. Problem will not manifest on units which are switched on 24 hours per day. Units on which the pre-loaded power management tools are activated will be affected less.

Problem Reason

The power requirement of the real-time clock component is too high for the capacity of the on-board battery.

Problem Fix

If the battery is dead, replace the on-board coin battery with a BR 2335 coin battery AND an external long-life battery. This will ensure a satisfactory battery life. Order the following parts:

P/N 1420-0513 4.5V long life external battery

and

P/N 1420-535 BR2335 coin battery.

You must make the exchange in the following order or the clock will operate too quickly:

1. take out the old coin battery
2. put in the new coin battery
3. install external long-life battery.

Changing the system board will not solve the problem.

All units with serial number prefixes equal to, or greater than 3450, have been reworked so that the battery life will be normal.

When one unit has failed, the same modification should be made to other units on the same site which have the same serial number range.

No preventive action is required on customer sites where no unit has failed.

Service Note: D3186A-03 D3187A-03 D3188A-03 D3189A-03 D3141A-03 D3142A-03 D3143A-03 D3180A-03 D3370A-03 D3371A-03 D3372A-03 D3144A-03 D3145A-03 D3146A-03 D3145B-03 D3146B-03 D3181A-03 D3148A-03 D3149A-03 D3376A-03 D3377A-03

HP Vectra N2 Personal Computers SUPERSEDES: None

D3186A D3187A D3188A D3189A D3141A D3142A D3143A D3180A D3370A D3371A D3372A D3144A D3145A D3146A D3145B D3146B D3181A D3148A D3149A D3376A D3377A

Product Serial Numbers:

- All serial numbers greater than 3501 and less than 3507.

Parts affected:

3 V coin battery on system board (life time shorter than expected).

Symptoms:

Clock operates too slowly or loss of date and time.

DATE: 15 March 1995

ADMINISTRATIVE INFORMATION

Service note classification:

MODIFICATION RECOMMENDED

Action category:	• immediately • on specified failure • agreeable time	Billing to responsible division: 1 travel charge per site of up to 30 units. 10 minutes labor per updated unit. 1 CSO per updated unit.			
Location category:	• customer installable • on-site • HP location	Service inventory	• return • scrap • see text	Used parts:	• return • scrap • see text
Availability:	Product's support life	Responsible entity:	6300	Until:	March 1998
Author: UB	Entity: 6300	Additional information:			

Problem Description:

On units in the listed serial number range, the on-board 3 V coin battery life time will be shorter than expected because the power consumption of the real time clock component is too high for the battery. The problem will not show up on units which are always powered-on, or on units which have the preloaded power management tools activated.

Problem fix:

Replace the battery. You cannot put in a new coin battery and an external battery as described in service note D3168A-02, as it is not possible to use an external battery.

Note for service inventory:

Use the BR2335 coin battery, part number 1420-0535.

Service Note: D3210A-04 D3211A-04 D3212A-04 D3213A-04 D3220A-04 D3221A-04 D3221B-04 D3222A-04 D3222B-04 D3224A-04 D3224B-04 D3230A-04 D3231A-04 D3231B-04 D3232A-04 D3232B-04 D3233A-04 D3233B-04

HP Vectra XM2 Personal Computers SUPERSEDES: None
D3210A D3211A D3212A D3213A D3220A D3221A D3221B D3222A D3222B D3224A D3224B D3230A D3231A D3231B D3232A D3232B D3233A D3233B

Product Date Codes:

- 3507, 3508, 3509.

Parts affected:

1MB video upgrade accessory (D3241A) for the XM2 causing corrupted video problems.

Symptoms:

Video corruption immediately when upgrade accessory is installed (display looks as if using an unsuitable video driver).

DATE: 11 April 1995

ADMINISTRATIVE INFORMATION

Service note classification:

MODIFICATION RECOMMENDED

Action category:	• immediately • on specified failure • agreeable time	Standards:	Part: 5063-5710 Veido Simm Only Labor: 0.2 hours (average time for exceptional cases as customers have to conform to the standard Return-to-HP accessory Warranty, and not call for a CE on-site.		
Location category:	• customer installable • on-site • HP location	Service inventory	• none	Used parts:	• return • scrap • see text
Availability:	Product's support life	Responsible entity:	6300	Until:	1 May 1998
Author: CTE	Entity: 6300	Additional information:			

Problem Description:

Corrupted display at power on following installation of upgrade accessory HP D3241A. Some D3241A accessories have been loaded with the wrong memory chips.

This only applies to accessories purchased after February 15th,1995.

Before changing the CPU board, make sure that the video problem is not caused by a faulty DRAM in the video upgrade SIMM accessory. To identify a defective video upgrade SIMM accessory, look for the date-code on the label of the accessory packaging. The code is below the HP Part Number. The date codes are either 34xx or 35xx. Codes 34xx are not affected.

Codes 3507, 3508 and 3509 are suspect. Codes 3510, 3511 and higher are not affected.

Or, if the accessory packaging has been discarded, peel off the paper label on the DRAM chip. Codes MT4C16270DJ-7 is good, but **MT4C16257DJ-6 is faulty**.

Problem fix:

Replace accessory with Part Number 5063-5710. If you do not have a replacement accessory, as a temporary solution, you can remove the defective accessory and work can be continued with the standard on-board 1MB video memory.

Only change the video upgrade SIMM accessory. Do not change the CPU board.

If you observe this failure while on site with a customer, you should also check any other XM2 platforms in which the customer has installed additional video memory so that you can change all suspect video memory SIMM accessories at one time.

IMPORTANT	No XM2 was sold with this accessory bundled, therefore you need only check XM2 platforms in which the customer has installed additional video memory.

Service Note: D3221A-03 D3222A-03 D3224A-03 D3232A-03 D3233A-03

HP Vectra XM2 Personal Computers SUPERSEDES: None
D3221A D3222A D3224A D3232A D3233A

Product Serial Numbers:

- 3446F50481/3446F62343 if BIOS revision is GD.05.14

Parts affected:

System BIOS, release GD.05.14.

Symptoms:

The PC boots, but the display screen remains blank.

DATE: 27 January 1995

ADMINISTRATIVE INFORMATION

Service note classification:

INFORMATION ONLY

Author: BP Entity: 6300 Additional information:

Problem Description:

Approximately 325 Vectra XM2 PCs were shipped with the previous (not the latest) release of software. The BIOS (GD.05.14) does not support the new video RamDac on the system board. Only European shipments are affected.

Problem fix:

Reflash the machine with the latest BIOS release. To do this when the display is not operating, create a bootable diskette with the latest BIOS release and the *hpinit.exe* utility. Modify the diskette's autoexec.bat file by adding the following statement:

HPINIT/M

Booting from this diskette will then reflash the machine automatically.

Do not change the system board.

Service Note: D3186A-03 D3187A-03 D3188A-03 D3189A-03 D3141A-03 D3142A-03 D3143A-03 D3144A-03 D3145A-03 D3146A-03 D3180A-03 D3370A-03 D3371A-03 D3372A-03 D3148A-03 D3149A-03 D3376A-03 D3377A-03

HP Vectra N2 Personal Computers:
D3186A D3187A D3188A D3189A D3141A
D3142A D3143A D3144A D3145A D3146A
D3180A D3370A D3371A D3372A D3148A
D3149A D3376A D3377A

SUPERSEDES: None

Product Serial Numbers:

- Lower than 3450A, or 3450S, or 3450Y, or 3502F

Parts affected:

Battery life limited.

Symptoms:

The clock operates too slowly or date and time are lost. Impact limited to this. (System configuration is not lost)

DATE: 6 February 1995

ADMINISTRATIVE INFORMATION

Service note classification:

MODIFICATION RECOMMENDED

Action category:	• immediately • on failure • agreeable time	Billing to responsible division: 1 travel charge per site of up to 30 units. 10 minutes labor per updated unit. 1 CSO per updated unit.			
Location category:	• customer installable • on-site • HP location	Service inventory	• return • scrap • see text	Used parts:	• return • scrap • see text
Availability:	Support life of product	Responsible entity:	6300	Until:	January 1996
Author: UB	Entity: 6300	Additional information:			

Problem Description

The on-board coin battery life will be shorter than expected in units in the listed serial number range if they are switched off for more than 14 hours per day. Problem will not manifest on units which are switched on 24 hours per day. Units on which the pre-loaded power management tools are activated will be affected less.

Problem Reason

The power requirement of the real-time clock component is too high for the capacity of the on-board battery.

Problem Fix

If the battery is dead, replace the on-board coin battery with a BR 2335 coin battery AND an external long-life battery. This will ensure a satisfactory battery life. Order the following parts:

P/N 1420-0513 4.5V long life external battery

and

P/N 1420-535 BR2335 coin battery.

You must make the exchange in the following order or the clock will operate too quickly:

1. take out the old coin battery
2. put in the new coin battery
3. install external long-life battery.

Changing the system board will not solve the problem.

All units with serial number prefixes equal to, or greater than 3450, have been reworked so that the battery life will be normal.

When one unit has failed, the same modification should be made to other units on the same site which have the same serial number range.

No preventive action is required on customer sites where no unit has failed.

VECTRA 486T TROUBLESHOOTING

The following table lists some common workarounds for the Vectra 486T PCs:

Symptom(s)	Problem	Workaround (fix)
Memory Parity Error	Samsung memory modules	Replace Samsung memory modules with HP qualified modules (i.e. Toshiba)
Configuration: • ISA Master Board i.e. HP 1540 or CMS equivalent • Samsung memory modules	No evidence of Data corruption	Make sure that the memory modules are 80ns types
System does not boot from SCSI disk driveSystem does not recognize boards in lower numbered slots	EISA Bus Loading	Install all EISA boards starting from the lower numbered slots, working up, installing ISA boards last.
Failures occur in boards in lower numbered slots (slots 1, 2, & 3) Configuration: • Out-of-spec EISA boards in upper slots (slots 6, 7, or 8)		Put the HP 1740 Board(s) in the lowest slot (slots 1 or 2) Avoid placing EISA boards in upper slots (i.e. slots 7 & 8) Slots 3 & 5 cannot be used for EISA bus Master Boards
Intermittent Hard Disk Errors (i.e. 83xx errors)	Current Back-flow drains CMOS	Connect external device into the system's built-in parallel ports

Configuration: • ESDI Controller or S/P board • Laserjet or externally powered mass storage device	Any externally powered device (such as Laserjet) that is connected to the system through: • Extra parallel port (HP 2454A board) • Other interface board connected to the backplane	Power-up system first, before external device(s) Power-down peripheral if system is being powered off for an extended period

NOTE: HP VECTRA 286/12 PC 800X600 EXTENDED SUPER VGA MODE USERS

1. The new video BIOS version of the Vectra 286/12 PC (version 7.04) includes changes to the vertical refresh rate of the video display. This code is included in the BIOS ROM versions H.03.04 and higher.

   In this version, the refresh rate for 800x600 modes is now 60 Hz instead of 56 Hz. This requires displays capable of running a 38 KHz horizontal scan rate.

   As a result, some displays may no longer work. A known product having this problem is the NEC 2A monitor.

   For users experiencing this incompatibility, when changing the Vectra 286/12 BIOS ROM, two possible solutions may be used:

   Keep the old BIOS ROM version (H.03.03) on the system board.
   or
   Use the previous revision (2.75) of the ALTPARM.COM driver.

The following table will help you understand the problem:

	BIOS rev H.03.03	**BIOS rev H.03.04**
ALTPARM.COM version 2.75	Always set to 56 Hz	Use 60 Hz if ALTPARM not loaded Use 56 Hz if ALTPARM loaded
ALTPARM.COM version 2.78	Use 56 Hz if ALTPARM not loaded Use 60 Hz if ALTPARM loaded	Always set to 60 Hz.

2. A known incompatibility exists between the new video BIOS, contained in ROM BIOS H.03.04 and above, and older revisions of the AUTOCAD super VGA driver. When using the new video BIOS and the old AUTOCAD driver (for AUTOCAD Rel 10 only), some colors may disappear.

   The solution to this problem is to use the newer AUTOCAD driver, supporting AUTOCAD Rel 10 and 11. This driver is available on HP internal PCG bulletin boards.