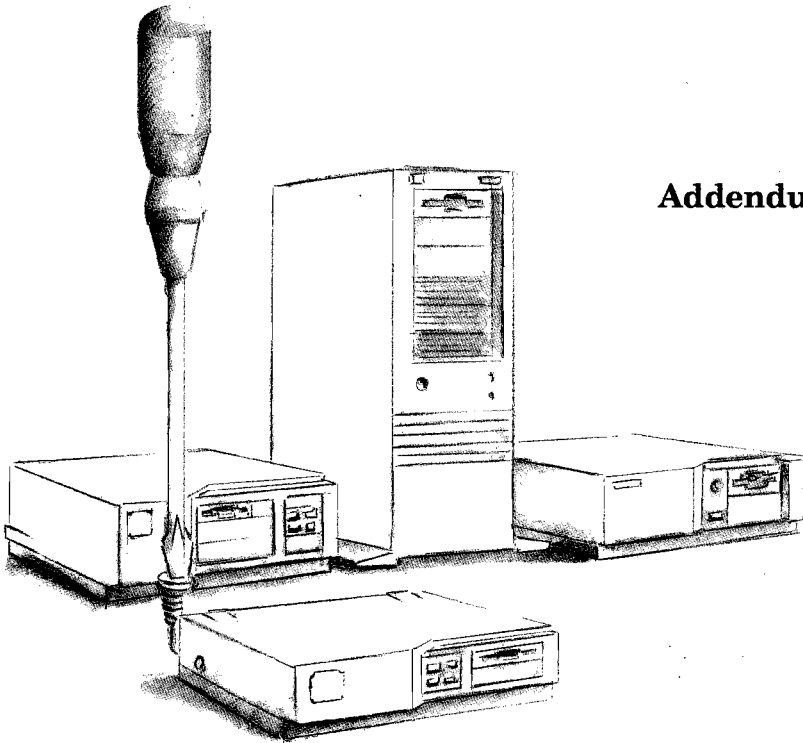


HP Vectra Product Line Service Handbook

Addendum



This addendum provides information on new PCs:

- HP Vectra 386/33N
- HP Vectra 386/33NI
- HP Vectra 486/25N
- HP Vectra 486/25NI
- HP Vectra 486s/33N
- HP Vectra 486s/33NI
- HP Vectra 486/33N
- HP Vectra 486/33NI
- HP Vectra 486/50N
- HP Vectra 486/66N

It also provides information on the following boards:

- HP Token-Ring ISA 16/4 Adapter Board (D2378-60003)
- HP Token-Ring ISA 16/4 Adapter Board (D2378-60001)
- HP EtherTwist Adapter Board/8 (HP 27245A)
- HP EtherTwist Adapter Board/16 (HP 27247A)
- HP EtherTwist Adapter Board/16 Plus (HP 27247B)

For information on:

Refer to:

Models

Chapter 1

System boards, memory, and accessories including
the Token-Ring adapter boards
and EtherTwist adapter boards

Chapter 2

Supported disk drives

Chapter 5

BIOS and utilities

Chapter 6

Part numbers

Chapter 7

HP Computer Museum
www.hpmuseum.net

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HP Vectra Product Line Service Handbook Addendum



HP Part No. 5961-4525
Printed in France January 1993

Addendum

What's New in this Addendum?

This addendum adds the HP Vectra 386/33N&NI and 486N&NI PC Series.

Bibliography

HP Vectra 386/33N&NI and 486N&NI PC Familiarization Guide	D27XX+ 49A-90001
HP Vectra 386/33N&NI PC Reference Manual Hardware and BIOS	5961-4523
HP Vectra 486N&NI PC Reference Manual Hardware and BIOS	5961-4524

HP Vectra Standard Model Configurations

HP Vectra 386/486N & NI PC Series Models

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	LAN
Vectra 386/33N&NI PC Series						
HP Vectra 386/33N PC (CPL: 02/92 ▶)						
D2701A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA (512 KB)	2 MB	None
D2702A		85 MB (D2329A)			4 MB	
D2707A ¹					2 MB	
HP Vectra 386/33NI PC (CPL: 02/92 ▶)						
D2703A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA (512 KB)	2 MB	Integrated Ethernet
D2704A		85 MB (D2329A)			4 MB	
Vectra 486N&NI PC Series						
HP Vectra 486/25N PC (CPL: 03/92 ▶)						
D2751A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA (512 KB)	4 MB	None
D2752A		120 MB (D1696A)				
D2753A		240 MB (D1697A)				
HP Vectra 486s/33N PC (CPL: 03/92 ▶)						
D2761A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA (512 KB)	4 MB	None
D2762A		120 MB (D1696A)				
D2763A		240 MB (D1697A)				

1 D2707A includes D1197A color VGA display

HP Vectra 386/486N & NI PC Series

HP Vectra 386/486N & NI PC Series Models (continued)

Product Number	Flexible Drive A:	Hard Drive C:	Disk Controller	Video Controller	Std. RAM	LAN
HP Vectra 486/33N PC (CPL: 03/92 ▶)						
D2771A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA (512 KB)	4 MB	None
D2772A		120 MB (D1696A)				
D2773A		240 MB (D1697A)				
HP Vectra 486/50N PC (CPL: 03/92 ▶)						
D2781A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA (512 KB)	4 MB	None
D2783A		240 MB				
HP Vectra 486/66N PC (CPL: 03/92 ▶)						
D2791A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA (512 KB)	4 MB	None
D2793A		240 MB (D1697A)				
HP Vectra 486/25NI PC (CPL: 03/92 ▶)						
D2755A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA (512 KB)	4 MB	Integrated Ethernet
D2756A		120 MB (D1696A)				Token-Ring adapter board
D2758A						
HP Vectra 486s/33NI PC (CPL: 03/92 ▶)						
D2765A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA (512 KB)	4 MB	Integrated Ethernet
D2766A		120 MB (D1696A)				
HP Vectra 486/33NI PC (CPL: 03/92 ▶)						
D2775A	1.44 MB (D2035A)	None	Integrated IDE controller	Integrated Ultra VGA (512 KB)	4 MB	Integrated Ethernet
D2776A		120 MB (D1696A)				Token-Ring adapter board
D2778A						

HP System Boards, Memory, and Accessories

HP Vectra 386/33N & NI and 486N & NI PCs

Accessories

512 KB Video Memory Upgrade kit	D2713A
2 MB Memory Upgrade kit (386/33N & NI PCs)	D2714A
8 MB Memory Upgrade kit (386/33N & NI PCs)	D2715A
2 MB Memory Upgrade kit (486N & NI PCs)	D2381A
4 MB Memory Upgrade kit (486N & NI PCs)	D2156A
8 MB Memory Upgrade kit (486N & NI PCs)	D2152A
16 MB Memory Upgrade kit (486N & NI PCs)	D2676A
Mini-DIN Mouse	C1413A
Coaxial Adapter Board	D2746A
Token-Ring Adapter Board	D2378B
<i>Setting Up Your PC and Using Your PC manuals</i>	D2711A

System Board/Processor Upgrade Kits

System Board upgrade:

Upgrade to 486s/33N Kit	D2716A
Upgrade to 486/33N Kit	D2717A
Upgrade to 486s/33NI Kit	D2718A
Upgrade to 486/33NI Kit	D2719A

Coprocessor upgrade:

386/33N & NI PC with 387SX-33 Math Coprocessor	Non-HP
486/25N & NI PC with 487SX-25 Math Coprocessor	Non-HP
486s/33N & NI PC with 487SX-33 Math Coprocessor	Non-HP

Processor upgrades:

486N & NI Processor Upgrade to 486DX-33	D2169A
486N & NI Processor Upgrade to Overdrive/25	D2171A
486N & NI Processor Upgrade to Overdrive/33	D2172A

HP Vectra 386/486N & NI PC Series

2 Video Memory Upgrades

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

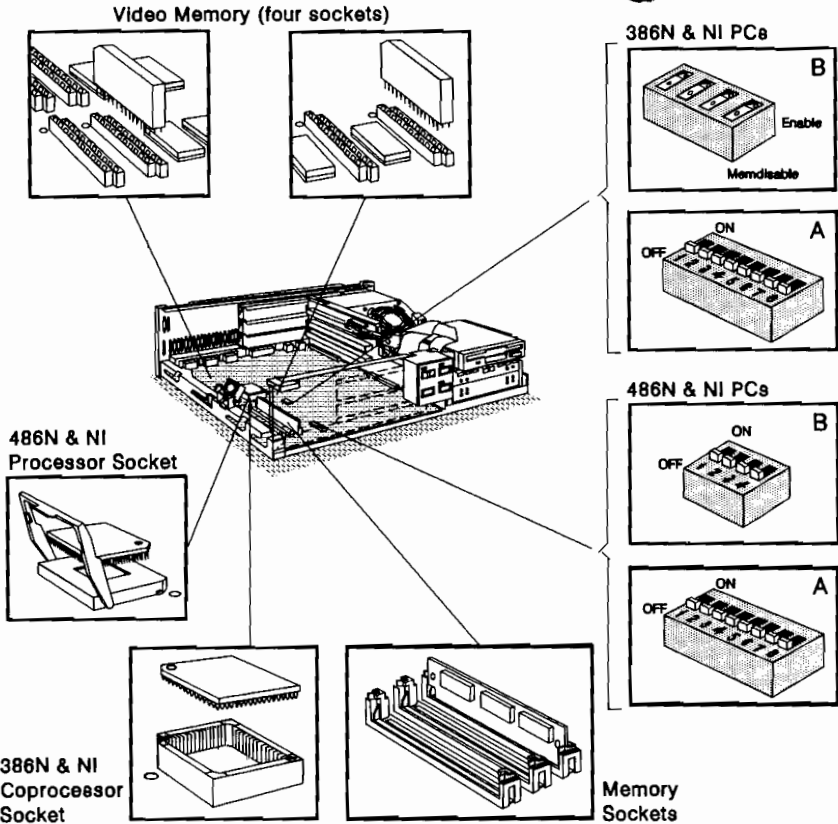
Memory Configuration

HP Vectra 386/33N & NI PCs have 2 MB of 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). Memory modules can be installed, in pairs, up to a maximum of 16 MB.

For a TOTAL memory of:	Install 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

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

System Board



386/33N & NI PCs Switch Block SW-B

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

HP Vectra 386/486N & NI PC Series

2

486N & NI PCs Switch Block SW-B

Switch	Name	Function	
1	RESERVE	Not used (OFF)	
2	IO399	Sets the super I/O controller's ¹ index and data addresses (hex): OFF: Index address 399, data address 398 (default) ON: Index address 26F, data address 36E	
3	MHZ-2	OFF	OFF
4	MHZ-1	OFF	ON
		25 MHz	33 MHz
		MHZ-1 and MHZ-2 set the speed of the processor's external clock.	
		Setting a speed higher than the processor's rated bus speed could damage the processor	

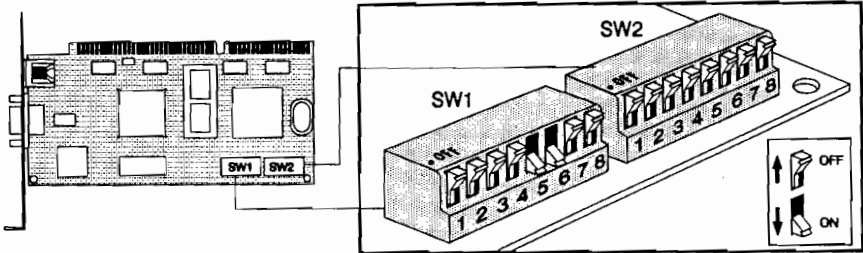
1 super I/O controller: the integrated parallel port controller, serial port controller, flexible disk controller, and IDE hard disk interface

386/33N & NI and 486N & NI PCs 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

HP Token Ring Adapter (D2378-60003/69002)

The D2378B Token-Ring Adapter has two switch blocks, "SW1" and "SW2".



Token-Ring ISA 16/4 Adapter Board (D2378B) Switches

Token-Ring Adapter Switch Block SW1

Switch	Name	Function	Default
Ring Speed (in millions of bits per second)			
1	SP	OFF: 4 Mps (default) ON: 16 Mps	OFF
I/O Address Selection			
2	AO	Default: A20-A23 and A30-A3F hex. See table below for other settings.	OFF
3	A1		OFF
Switches that are not used			
4	13	Leave at default setting.	OFF
5	14		ON
6	15		ON
7	16		OFF
8	EN RPL		OFF

LAN Adapter Boards

I/O Address Selection (SW1)

Address (hex) ¹	Switch 2	Switch 3
A20-A23 and A30-A3F	OFF	OFF
A24-A27 and A40-A4F	ON	OFF
A50-A53 and A60-A6F	OFF	ON
A54-A57 and A70-A7F	ON	ON

1 On standard ISA PCs, address Axx is interpreted as address 2xx

Token-Ring Adapter Switch Block SW2

Switch	Name	Function	Default
IRQ (Interrupt level) Selection			
1	I0	Default: IRQ9. See table below for other settings.	OFF
2	I1		OFF
3	I2		OFF
DMA Channel Selection			
4	D0	Default: DMA 5. See table below for other settings.	OFF
5	D1		OFF
6	D2		OFF
Switches that are not used			
7	-	Leave at default setting.	OFF
8	-		OFF

IRQ Selection (SW2)

IRQ	Switch 1	Switch 2	Switch 3
IRQ3	ON	OFF	ON
IRQ5	OFF	ON	ON
IRQ7	ON	ON	ON
IRQ9	OFF	OFF	OFF
IRQ10 ¹	ON	OFF	OFF
IRQ11 ¹	OFF	ON	OFF
IRQ12 ¹	ON	ON	OFF
IRQ15 ¹	OFF	OFF	ON

1 IRQ10, IRQ11, IRQ12 and IRQ15: only available in 16-bit slots. IRQ12 used by mouse.

LAN Adapter Boards

DMA Selection (SW2)

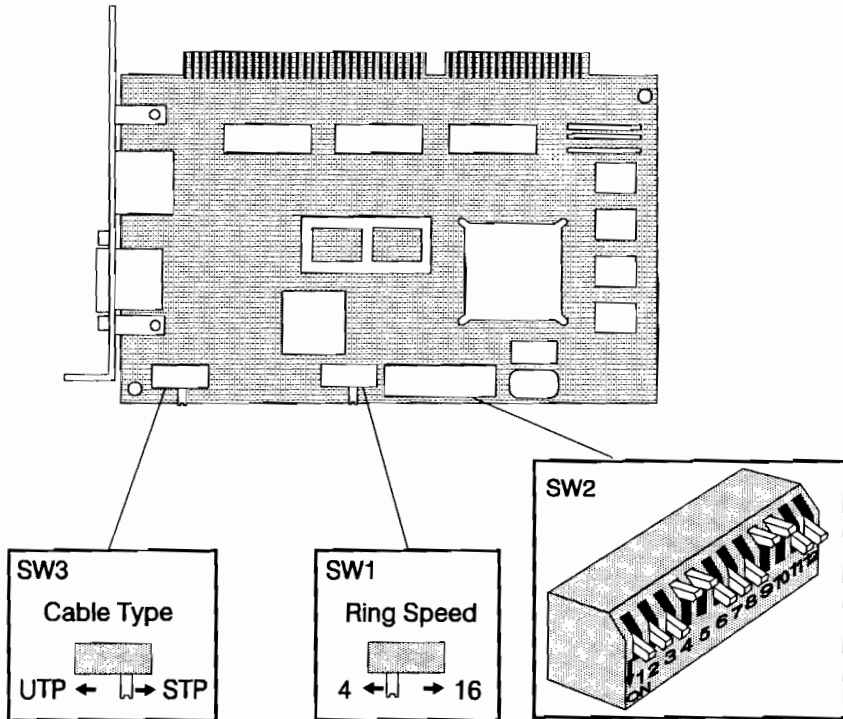
2

DMA	Switch 4	Switch 5	Switch 6
DMA 0	ON	ON	OFF
DMA 1	OFF	OFF	ON
DMA 3	ON	OFF	ON
DMA 5	OFF	OFF	OFF
DMA 6	ON	OFF	OFF
DMA 7	OFF	ON	OFF

LAN Adapter Boards

2 HP Token Ring Adapter (D2378-60001/69001)

The D2378A Token-Ring Adapter has three switch blocks, "SW1", "SW2", and "SW3".



Token-Ring ISA 16/4 Adapter Board (D2378A) Switches

Ring Speed Selection Switch SW1

Function	Position	Default
Ring Speed (in millions of bits per second)	4	4
	16	

LAN Adapter Boards

Cable Selection Switch SW3

Function	Position	Default
Cable type	STP ¹	STP
	UTP ²	

1 Shielded twisted pair (IBM type 3).

2 Unshielded twisted pair (IBM type 1 and 6).

Switch Block SW2

Switch	Name	Function	Default
Switches that are not used			
1	EN	Leave at default setting.	ON
2	17		ON
3	16		ON
4	15		OFF
5	14		OFF
6	13		ON
IRQ (Interrupt level) Selection			
7	I1	Default: IRQ9. See table below for other settings.	ON
8	I0		ON
I/O Address Selection			
9	A1	Default: A20-A23 and A30-A3F. See table opposite for other settings.	OFF
10	A0		OFF
DMA Channel Selection			
11	D1	Default: DMA 5. See table opposite for other settings.	ON
12	D0		ON

IRQ Selection (SW2)

IRQ	Switch 7	Switch 8
IRQ3	ON	OFF
IRQ9	ON	ON
IRQ10 ¹	OFF	ON
IRQ11 ¹	OFF	OFF

1 IRQ10 and IRQ11: only available in 16-bit slots

LAN Adapter Boards

I/O Address Selection (SW2)

2

Address (hex) ¹	Switch 9	Switch 10
A20-A23 and A30-A3F	OFF	OFF
A24-A27 and A40-A4F	ON	OFF
A50-A53 and A60-A6F	OFF	ON
A64-A67 and A70-A7F	ON	ON

1 On standard ISA PCs, address Axx is interpreted as address 2xx

DMA Channel Selection (SW2)

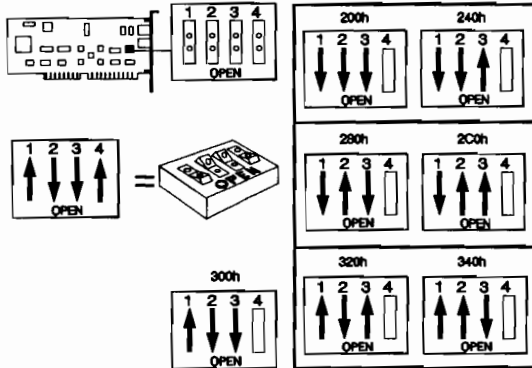
DMA	Switch 11	Switch 12
DMA 5	ON	ON
DMA 6	ON	OFF
DMA 7	OFF	ON
Programmed I/O ¹	OFF	OFF

1 If the board is in an 8-bit slot, programmed I/O is used automatically.

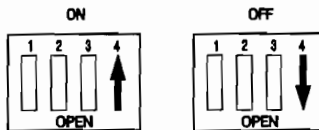
HP EtherTwist Adapter Board/8 (HP 27245A) and HP EtherTwist Adapter Board/16 (HP 27247A)

The HP 27245A board may have DIP switches or a rotary switch. The HP 27247A board has DIP switches only.

1. If the board has DIP switches—HP 27245A or HP 27247A—select:
 - The I/O base address on switches 1, 2, and 3 (default: 300 hex).



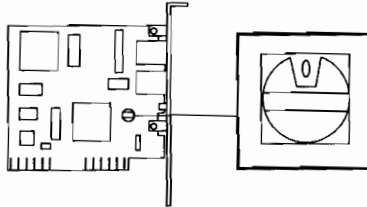
- The link beat on switch 4 (default: ON).



LAN Adapter Boards

2

2. On the HP 27245A board with a rotary switch, select the I/O base address and link beat as shown below:



Switch Position:	Link Beat ON using I/O Base Address:
0	300 hex (default)
1	340 hex
2	320 hex
3	300 hex
4	2C0 hex
5	280 hex
6	240 hex
7	200 hex

Switch Position:	Link Beat OFF using I/O Base Address:
8	300 hex
9	340 hex
A	320 hex
B	300 hex
C	2C0 hex
D	280 hex
E	240 hex
F	200 hex

HP EtherTwist Adapter Board/16 Plus (HP 27247B)

The HP 27247B is configured using the HPLANSET utility supplied on the LAN Adapter Board/16 Plus's support diskette.

HP Disk Drives

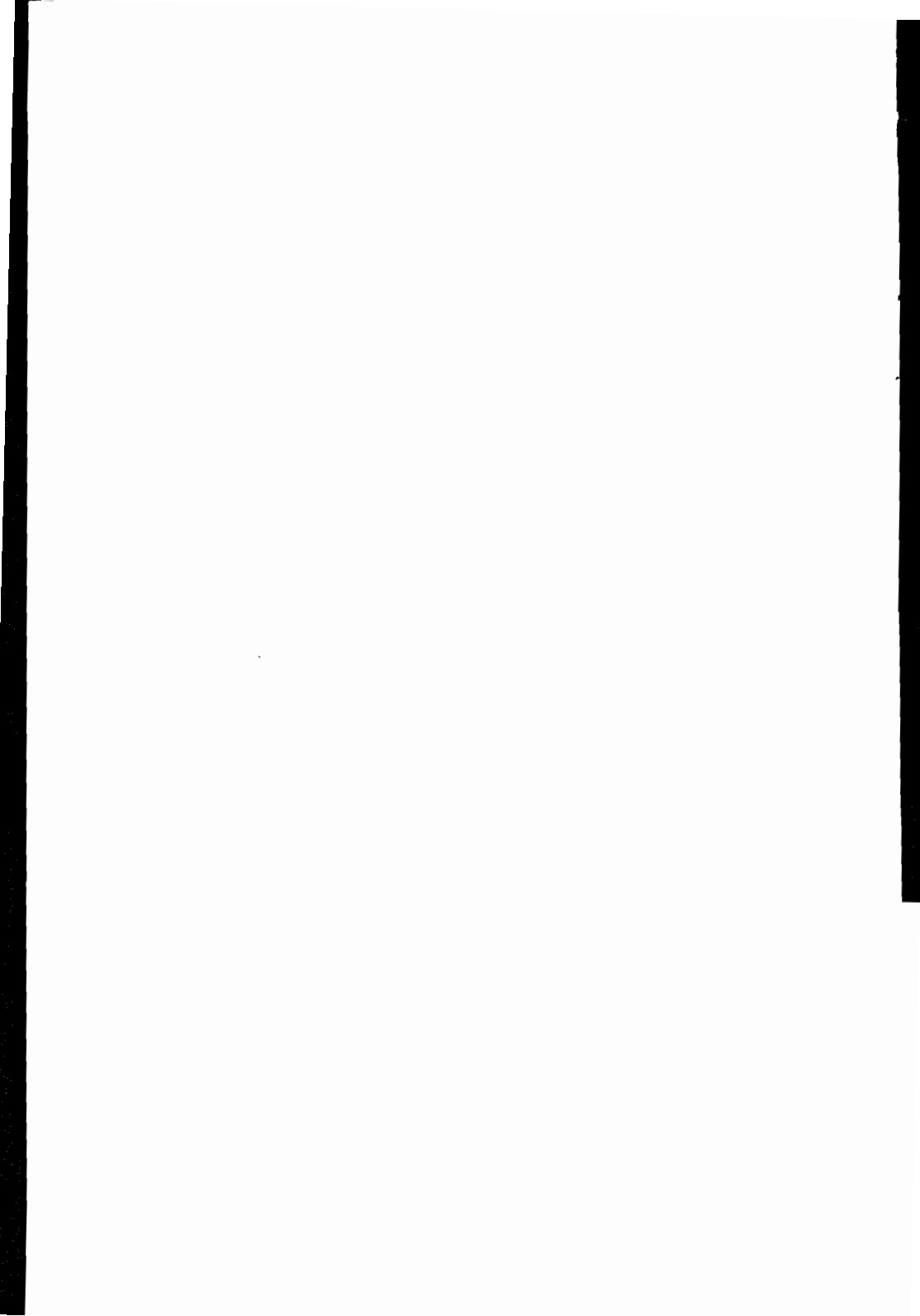
HP Vectra Hard Disk and ROM BIOS Matrix

Vectra 386/33N & NI PC Series Minimum ROM BIOS Version

HP Disk	ROM BIOS
D2329A, 85 MB	U.04.00 (Feb 1,93)
D1696A, 120 MB	
D2330A, 170 MB	
D1697A, 240 MB	
D1699A, 430 MB	

Vectra 486N & NI PC Series Minimum ROM BIOS Version

HP Disk	ROM BIOS
D2329A, 85 MB	V.04.00 (Mar 1,92)
D1696A, 120 MB	
D2330A, 170 MB	
D1697A, 240 MB	
D1699A, 430 MB	





BIOS and Utilities Quick Reference

HP Vectra BIOS ROM and Setup History

Low-Profile Desktop Vectra Models

BIOS Ver.	Date	Description	Kit Part No.	Min Setup
Vectra 386/33N & NI PC Series				
U.04.00	Feb 92	First release	Available on HP PC Internal BBS	N/A
Vectra 486N & NI PC Series				
V.04.00	Mar 92	First release	Available on HP PC Internal BBS	N/A

Utilites

HPROMInit Utility

The HPROMInit utility is supplied with HP Vectra 386/33N & NI and HP Vectra 486N & NI 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:

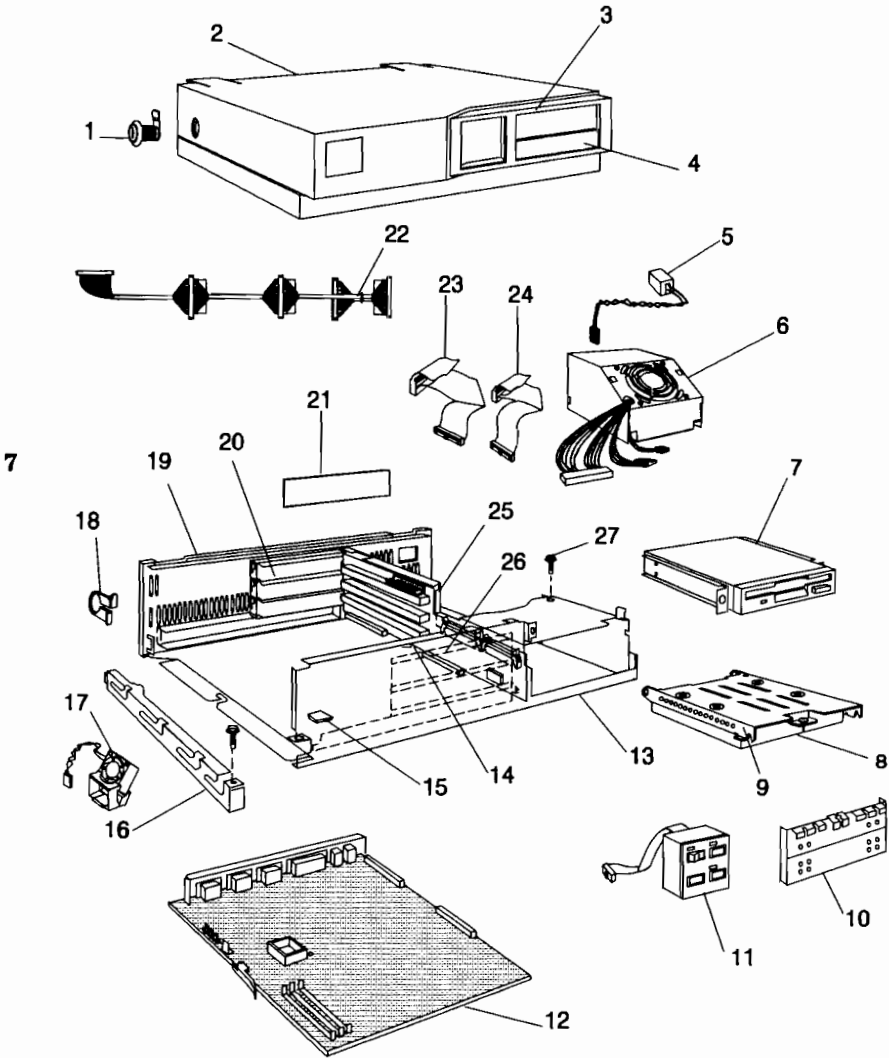
1. If the HPROMInit utility is on the hard disk drive, copy it onto a "bootable" diskette as follows:
 - a. Insert a diskette in drive A, and type:
FORMAT A: /S
 - b. When the formatting has finished, type:
COPY C:\HPUTILS\HPINIT*. * A:
2. Insert the HPROMInit diskette in drive A.
3. Press . Wait for the ROM initialization procedure to finish.
4. Remove the HPROMInit diskette.
5. Switch the PC OFF and then ON to initialize the system ROM.

HP Vectra Part Numbers

This chapter provides part numbers for:

- Vectra 386/33N & NI
- Vectra 486N & NI
- Memory modules
- Diagnostic tools
- Setting up manuals

Low-Profile Desktop Vectra Box



Part Numbers for Vectra 386/486N & NI PC Series

Common Parts List for Low-Profile Desktop Box

Item	Description	Repl. 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 (75W)	5063-0808	-
	Power Supply Assembly (63W)	5063-0844	-
7	Flexible Disk Drive	See disk drive parts list	
	Mounting Rails for 3.5-inch non-HP flexible disk drives	5063-0309	-
8	Hard Disk Drive	See disk drive parts list	
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	-
11	Control (Status) Panel	5063-0815	-
12	System Board	See PC's 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 (486 PCs 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	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	-

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Vectra 386/486N & NI PC Series

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

Description	Repl. Part Number	Exchange Part Number
System Board (includes integrated IDE disk and Ultra VGA controller, and integrated Ethernet on NI models, except Token-Ring 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	-
Tbken Ring Adapter Board (D2378B)	D2378-63002	D2378-69002
Processor: 386SX-33	Processor not removable	
Math Coprocessor: 387SX-33	Non-HP	
DRAM Memory Modules:		
1 MB Memory Module	D2714-83001	-
4 MB Memory Module	D2715-83001	-
Video Memory Modules:		
512 KB kit (D2713A)	D2713-83001	-
Nameplate:		
HP Vectra 386/33N Logo	5181-9790	-
HP Vectra 386/33NI Logo	5181-9791	-

Parts List for HP Vectra 486N & NI PC Series

Description	Repl. Part Number	Exchange Part Number
System Board (includes integrated IDE disk and Ultra VGA controller, and integrated Ethernet on NI models, except Token-Ring models):		
Vectra 486/25N	D2771-63001	D2751-69001
Vectra 486/25NI	D2775-63001	D2755-69001
Vectra 486s/33N	D2771-63001 ¹	D2761-69001
Vectra 486s/33NI	D2775-63001 ¹	D2765-69001
Vectra 486/33N	D2771-63001	D2771-69001
Vectra 486/33NI	D2775-63001	D2775-69001
Vectra 486/50N	D2771-63001	D2771-69001
Vectra 486/66N	D2771-63001	D2771-69001

1 New D2771-63001 and D2775-63001 system board assemblies do not have a processor

Vectra 386/486N & NI PC Series

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

Description	Repl. Part Number	Exchange Part Number
LAN Adapters:		
Coaxial Adapter Board (D2746A)	D2746-63001	-
Token Ring Adapter Board (D2378B)	D2378-63002	D2378-69002
Math Coprocessor:		
487SX-25	non-HP	-
487SX-33	non-HP	-
Processor:		
486SX-25	1821-0304	-
486SX-33	5063-0865	-
486DX-33	1820-7615	-
486DX2-50	1821-0303	-
486DX2-66	1821-0470	-
DRAM Memory Modules:		
2 MB Memory Module kit	D2381-63001	-
4 MB Memory Module kit	1818-4703	D2156-69001
8 MB Memory Module kit	1818-4702	D2152-69001
16 MB Memory Module kit	D2676-83001	-
Video Memory Modules:		
512 KB kit (D2713A)	D2713-83001	-
Nameplate:		
HP Vectra 486/25N Logo	5041-2565	-
HP Vectra 486/25NI Logo	5182-0324	-
HP Vectra 486s/33N Logo	5182-0325	-
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	-

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Vectra Accessories

Part Numbers for Memory Modules

Part Numbers for DRAM Memory Modules

Module Size and Type	Repl. Part Number	Module Used on Vectra	# ¹	Module Used in Kit
256 KB 100 ns, 9-bit single density	1818-4268	ES, ES/12, QS/16S, 286/12	2	D1640A 1 MB kit ² (4×256 KB modules)
		QS/16	4	
256 KB 80 ns, 9-bit single density	1818-4268	ES, ES/12, QS/16S, 286/12	2	
		QS/16, QS/20, RS/16, RS/20, RS/20C, RS/25C	4	
1 MB 80 ns, 9-bit single density	5062-2674 or 1818-4271	ES, ES/12, QS/16S, 286/12 ³	2	D1354A 2 MB kit (2×1 MB modules)
		QS/16, QS/20, RS/16, RS/20, RS/20C, RS/25C	4	D1642A 4 MB Kit (4×1 MB modules)
				D1641A 8 MB kit (8×1 MB modules)
1 MB 60 ns, 9-bit single density	D2714-83001	386/33N and 386/33NI PC Series	2	D2714A 2 MB kit (2×1 MB modules)
1 MB 80 ns, 9-bit single density	5062-2670	386/16N, 20 N & 25N PC Series, 386s/20, 386s/25	2	D2406A 2 MB kit (2×1 MB modules)
1 MB 80 ns, 36-bit double density	D2150-69001	486s/20, 486T	2	D2150A 1 MB kit (1×1 MB module)
2 MB 80 ns, 36-bit double density	D2381-63001	386/25, 486N Series, 486N & NI Series	1	D2381A 2 MB kit (1×2 MB module)
		486s/20, 486U, 486, 486ST	2	
4 MB 60 ns, 9-bit single density	D2715-83001	386/33N and 386/33NI PC Series	2	D2715A 8 MB kit (2×4 MB modules)

1 # Number of modules mounted at a time

2 D1640A uses 80 ns memory modules

3 Use only 1 MB memory modules 5062-2674 in the Vectra 286/12 (see Service Note D2460A-06)

Vectra Accessories

Part Numbers for DRAM Memory Modules (continued)

Module Size and Type	Repl. Part Number	Module Used on Vectra	# ¹	Module Used in Kit
4 MB 80 ns, 9-bit single density	5062-2671	386/16N, 20N & 25N Series, 386s/20, 386s/25	2	D2404A 8 MB kit (2x4 MB modules)
4 MB 80 ns, 36-bit double density	D2156-69001	486N Series and 486N & NI Series	1	D2156A 4 MB kit (1x4 MB module)
		486s/20	2	
8 MB 80 ns, 36-bit double density	D2152-69001	386/25, 486N & NI Series	1	D2152A 8 MB kit (1x8 MB module)
		486s/20, 486U, 486ST	2	
16 MB 80 ns, 36-bit single density	D2676-83001	486N Series and 486N & NI Series	1	D2676A 16 MB kit (1x16 MB module)

Part Numbers for Diagnostic Tools

Description	Part Number
Diagnostic Utility Kit ¹	5063-0843
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 (Vectra 486T)	8710-1944

1 Diagnostic kit: 3.5-inch diskette (B.00.00), and 5.25-inch diskette (A.03.06).
Not used on 486U PC Series and 486ST PCs.

Part Numbers for Setting Up Manuals

PC	US Manual	Setup Kit
HP Vectra 386/33N & NI Series and HP Vectra 486N & NI Series	<i>Using Your PC</i> (printed 01/93) <i>Setting Up Your PC</i> (printed 01/93)	D2711A + language option

