

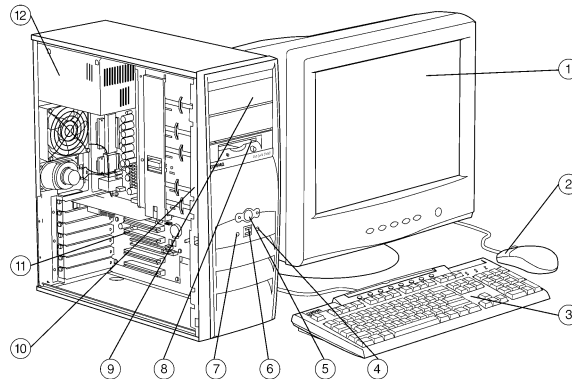
### Overview

#### What's New

- Intel® Pentium® 4 processors
- Intel® 845 chipset
- New *Evo* industrial design with carbon and silver color
- New Small Form Factor and Desktop chassis

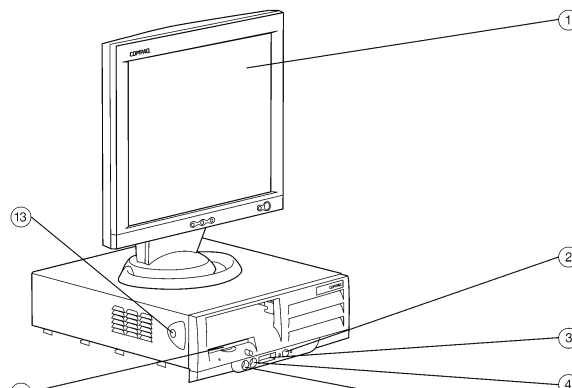
#### At A Glance

- Intel® Pentium® 4 processors with 400-MHz Front Side Bus
- Choice of three form factors
- Compaq Intelligent Manageability
- Energy Star compliant with energy-saving features
- Windows XP Ready
- D300s models pre-loaded with Microsoft Office XP SBE and Norton Antivirus
- Protected by Compaq Services, including a 3-1-1 limited warranty. Terms and conditions vary by country. Certain restrictions and exclusions apply. Three-year onsite and labor not available in all countries.



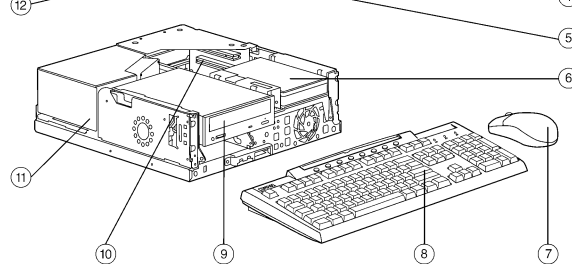
#### **Convertible Minitower**

1. CRT Monitor (sold separately)
2. 2-Button Scroll Mouse
3. Easy Access Keyboard
4. Microphone Connector (optional)
5. Dual-State Power Button
6. USB Connector (optional)
7. Headphone Connector (optional)
8. 1.44-MB Diskette Drive
9. 2 External Expansion Bays
10. SMART III Ultra ATA/100 Hard Drive
11. Expansion Slots
12. 250-Watt Power Supply



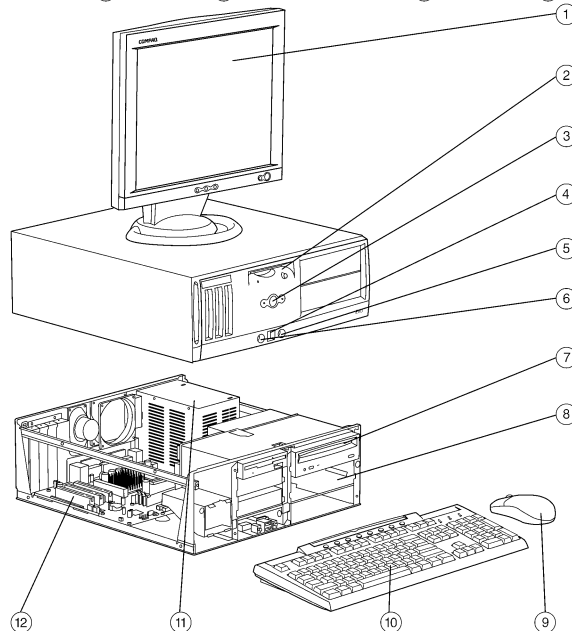
#### **Small Form Factor**

1. TFT Monitor (sold separately)
2. Dual-State Power Button
3. USB Connectors
4. Headphone Connector
5. Microphone Connector
6. SMART III Ultra ATA/100 Hard Drive
7. 2-Button Scroll Mouse
8. Easy Access Keyboard
9. CD-ROM Drive
10. Expansion Slots
11. 175-Watt Power Supply
12. 1.44-MB Diskette Drive
13. Quick Release Cover Latch



#### **Desktop**

1. TFT Monitor (sold separately)
2. 1.44-MB Diskette Drive
3. Dual-State Power Button
4. USB Connector (optional)
5. Microphone Connector (optional)
6. Headphone Connector (optional)
7. CD-ROM Drive
8. External Expansion Bay
9. 2-Button Scroll Mouse
10. Easy Access Keyboard
11. 235-Watt Power Supply
12. Expansion Slots



## Standard Features – Select Models

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### Compaq Evo Desktop D300 Series with 845 chipset

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#### Pre-Configured Models

*(Geos to localize with favorable  
configuration models and part  
numbers)*

#### Model Key

#### Example:

D5S/P1.5/20j/2/128c/vn

D5S =

Evo D300 Small Form Factor

P1.5 =

Pentium 4 1.5-GHz processor

20 =

Hard Drive

j =

845 chipset

2 =

Microsoft Windows 2000 SP2

128 =

Memory

c =

CD-ROM

6 =

NVIDIA Vanta 16-MB AGP graphics

g =

NVIDIA MX200 16-MB 4X

AGP graphics

n =

Integrated Intel Pro/100 VM

## Standard Features – Select Components

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### Compaq Evo Desktop D300 Series with 845 chipset

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<b>Processor and Speed</b> <i>One of the following</i>	<b>Intel Pentium 4 Processors</b> 1.5-GHz 1.6-GHz 1.7-GHz	<b>Standard L2 Cache</b> <b>Front Side Bus</b> <b>Maximum Memory</b>	256-KB Integrated ECC 400-MHz 1.5-GB
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Note: All Compaq Evo Desktop D300 contain three DIMM slots, but can only be upgraded to a maximum of 3-GB when 1-GB PC133 SDRAM are available.

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<b>Hard Drives</b>	20-GB 7200 rpm QSI SMART III Ultra ATA/100
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<b>Standard Memory</b> <i>One of the following</i>	256-MB SDRAM (PC133) 128-MB SDRAM (PC133)
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<b>Removable Storage</b>	1.44-MB Diskette Drive
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<b>Optical Storage</b>	48X CD-ROM Drive
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<b>Keyboard/Mouse</b>	Easy Access Keyboard 2-Button Scroll Mouse
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<b>Audio</b>	Integrated AC'97 Audio with Internal Speaker
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<b>NIC</b>	Integrated Intel PRO/100 VM Network Connection
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<b>Graphics</b>	NVIDIA Vanta 16-MB 4X AGP
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<b>Operating System</b> <i>One of the following</i>	Microsoft Windows 2000 SP2/Windows XP Professional Microsoft Windows 98 SE Microsoft Windows XP Professional Microsoft Windows XP Home
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<b>Intelligent Manageability</b>	Yes
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## Standard Features – Custom Components

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### Compaq Evo Desktop D300 Series with 845 chipset

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<b>Processor and Speed</b>	<b>Intel Pentium 4 Processors</b>	<b>Standard L2 Cache</b>	256-KB Integrated ECC
<i>One of the following</i>	1.5-GHz	<b>Front Side Bus</b>	400-MHz
	1.6-GHz	<b>Maximum Memory</b>	1.5-GB
	1.7-GHz		
	1.8-GHz		
	1.9-GHz		
	2.0-GHz*		
	2.2-GHz*		

Note: Intel Pentium 4 processors with speeds of 2.0-GHz or above have 512-KB L2 cache.

Note: All Compaq Evo Desktop D300 contain three DIMM slots, but can only be upgraded to a maximum of 3-GB when 1-GB PC133 SDRAM are available.

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<b>Hard Drives</b>	20-GB 7200 rpm QSI SMART III Ultra ATA/100
<i>One of the following</i>	20-GB 5400 rpm QSI SMART III Ultra ATA/100
	40-GB 7200 rpm QSI SMART III Ultra ATA/100
	40-GB 5400 rpm QSI SMART III Ultra ATA/100
	60-GB 7200 rpm QSI SMART III Ultra ATA/100
	36-GB 10,000 rpm Wide Ultra3 SCSI
	Ultra 29160N Controller

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<b>Standard Memory</b>	1.5-GB SDRAM (PC133) (3 x 512)
<i>One of the following</i>	1.0-GB SDRAM (PC133) (2 x 512)
	512-MB SDRAM (PC133)
	256-MB SDRAM (PC133)
	128-MB SDRAM (PC133)
	64-MB SDRAM (PC133)

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<b>Removable Storage</b>	1.44-MB Diskette Drive
	Imega Zip 250 Drive

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<b>Optical Storage</b>	48X CD-ROM Drive
	16X DVD-ROM with RAM Read
	24X/10X/40X CD-RW Drive
	8X/4X/32X DVD/CD-RW Combo Drive

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<b>Keyboard/Mouse</b>	Easy Access Keyboard ( <i>carbon</i> )
	Enhanced Keyboard ( <i>carbon</i> )
	2-Button Scroll Mouse ( <i>carbon</i> )

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<b>Audio</b>	Integrated AC'97 Audio with Internal Speaker
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<b>NIC</b>	Integrated Intel PRO/100 VM Network Connection
	3COM 3C920C-TX Network Connection

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<b>Modem</b>	Lucent V90 56K PCI Modem
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<b>Graphics</b>	NVIDIA Vanta 16-MB 4X AGP
	NVIDIA GeForce2 MX200 16-MB 4X AGP
	NVIDIA GeForce2 MX400 32-MB 4X AGP
	Matrox G450 Dual Head 32-MB AGP
	Matrox G200 MMS Quad Head 32-MB PCI
	Matrox G550 Dual DVI 32-MB AGP

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## Standard Features – Custom Components

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### Compaq Evo Desktop D300 Series with 845 chipset

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<b>Operating System</b> <i>One of the following</i>	Microsoft Windows 2000 SP2/Windows XP Professional Microsoft Windows NT 4.0 SP6a Microsoft Windows 98 SE Microsoft Windows 2000 SP2/ Windows NT 4.0 SP6a Microsoft Windows 2000 SP2 Microsoft Windows XP Professional Microsoft Windows XP Home
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<b>Software</b>	Microsoft Windows Office XP Professional Microsoft Windows Office XP Small Business Microsoft Windows Office XP Personal Norton AntiVirus 2002
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<b>Intelligent Manageability</b>	Yes
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## Standard Features – Base Unit Details

### Compaq Evo Desktop D300 Series with 845 chipset

	Desktop	Small Form Factor	Convertible Minitower
<b>Expansion Capability</b>			
Memory Expansion Slots	3 DIMM's	3 DIMM's	3 DIMM's
<b>Slots</b>			
PCI	3	2 (on Riser)	5 (3 on PCA, 2 via PCI Extender Card)
AGP	1 (1.5V AGP 4X)	1 Low Profile AGP (1.5V AGP 4X)	1 (1.5V AGP 4X)
<b>Bays</b>			
Internal	(2) HDD	(1) HDD	(2) HDD
External	(2) 5.25" 1/2 ht	(1) 5.25" 1/2 ht	(2) 5.25" 1/2 ht
	(1) Floppy	(1) Floppy	(1) Floppy
<b>Chassis Dimensions (H x W x D)</b>			
Inches	5.72 x 15.25 x 17.9 inches	3.9 x 13.1 x 14.4 inches	17.65 x 6.6 x 16.8 inches
Centimeters	14.5 x 38.7 x 45.5 centimeters	9.9 x 33.3 x 36.6 centimeters	44.8 x 16.8 x 42.7 centimeters
<b>Chassis Weight</b>			
System Weight	25 lb / 11.34 kg	20 lb / 9.1 kg	26.0 lbs / 11.8 kg
Weight Supported	100 lb / 45.5 kg	100 lb / 45.5 kg	100 lb / 45.5 kg
<b>Box Dimensions (H x W x D)</b>			
Inches	23.5 x 19.88 x 15.25 inches	13.0 x 20.5 x 18.13 inches	23.13 x 13.0 x 22.5 inches
Centimeters	59.69 x 50.5 x 38.74 centimeters	33.02 x 52.07 x 46.05 centimeters	58.75 x 33.02 x 57.15 centimeters
<b>Box Weight</b>			
	36.25 lb.	34 lb.	38 lb.
<b>System Memory</b>			
Type/Speed	SDRAM DIMM - PC133 Only		
Current Maximum Memory	1.5-GB		
Maximum Memory	3-GB (when 1-GB PC133 SDRAM are available)		
Memory Parity	Not Supported		
ECC Memory	Supported (Intel 845 chipset does not support mixing of Non-ECC and ECC PC133 memory)		
Serial Presence Detect Support	Mandatory as part of PC133 Spec		
<b>Supported Features</b>			
Processor	Intel Socket 478		
CPU Bus Speed Supported	400-MHz		
Memory Type Supported	SDRAM		
Memory Speed Supported	PC133 Only		
SPD Support	Yes		
Hard Drive Interfaces Supported	SMART Ultra ATA/100/66/33		
Hard Drive Controller (PCI) Interfaces Supported	SMART Ultra ATA/100/66/33		
<b>Intel® Pentium® 4</b>			
Coprocessor	Yes		
CPU Socket Type/Number	Surface Mount ZIF Socket - 478 Pins		
CPU Package	mPGA478B, FC-PGA2		
Front Side Bus Speed	400-MHz		
Standard L2 Cache	256K		
L2 Cache Architecture / Speed	Advanced Transfer Cache on Die with 8-way associativity and Error Correcting Code (ECC) / Full Speed of Processor		

## Standard Features – Base Unit Details

### Compaq Evo Desktop D300 Series with 845 chipset

System Board	Architecture	P4 / PCI / AGP 4X	
	Chipset	Intel 845 Chipset	
	I/O Controller	Super I/O 3	
	System Board Form Factor	Standard uATX on Desktop	
		Custom on Small Form Factor	
		Standard uATX + optional PCI Extender Board on Convertible Minitower	
	Processor Socket - 478 Pin ZIF	Yes	
	DIMM Connectors	Yes (3)	
	AGP Connector	Yes (1)	
	AGP Integrated	No	
	PCI Connectors	Desktop (3)	
		Small Form Factor (2 on Riser)	
		Convertible Minitower (3 standard + 2 additional via the optional PCI Extender Card)	
	Flash ROM	Yes	
	Audio (ADI 1885 - AC97)	Yes	
	CD ROM IN (Audio)	Yes	
	Clear CMOS Button	Yes	
	CPU Fan Header	Yes (not installed on D300 Small Form Factor)	
	Chassis Fan Header	Yes	
	Chassis Speaker Header	Yes	
	CMOS Battery Holder - Lithium	Yes	
	NIC	Yes	
	Wake-On-Lan®	Yes	
	Alert-On-LAN®	Yes	
	Power Supply Header	Yes	
	Power Switch, Power LED & HD LED Header	Yes (on systemboard on D300 Small Form Factor)	
	Password Clear Header	Yes	
	Reset Header (Not Installed)	Yes	
	Riser Connector	Yes on D300 Small Form Factor only	
	SCSI LED Header	Yes (on riser on D300 Small Form Factor)	
	Speaker Header	Yes	
	Boards that connect to System Board	Desktop	Solenoid Lock PCB (Option) Front I/O Board (Option)
		Small Form Factor	Solenoid Lock PCB (Option) Riser board - 2 PCI Slots
Convertible Minitower		Solenoid Lock PCB (Option) PCI Extender Board - 2 additional PCI Slots Front I/O Board (Option)	

## Standard Features – Base Unit Details

### Compaq Evo Desktop D300 Series with 845 chipset

<b>Serviceability Features of System Board</b>	<ul style="list-style-type: none"> <li>Dual Color Power and HD LED - To Indicate Normal Operations and Fault Conditions</li> <li>Blinking Diagnostic Keyboard LED Codes</li> <li>Diagnostic LED Label under Hood Cover</li> <li>User Diagnostic Software Support</li> <li>Over-Temp Warning on Screen (Need Intelligent Manageability to work)</li> <li>Compaq Software Restore CD</li> <li>Flash ROM</li> <li>3.3V Aux Power LED on System PCA</li> <li>Dual Function 5V Aux Power LED (ON) /PS_ON LED (OFF) on System PCA</li> <li>Processor Hot LED on System PCA</li> <li>Diagnostic Power Switch LED (Not needed on D300 Small Form Factor because power switch is on system board)</li> <li>Clear Password Jumper</li> <li>Clear CMOS Button</li> </ul>
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<b>Desktop Chassis</b>	<ul style="list-style-type: none"> <li>Color</li> <li>System Board Form Factors Supported</li> <li>Cooling Solutions Supported (3 Fans)</li> <li>Slots Supported</li> <li>Front I/O</li> <li>Rear I/O</li> <li>Internal Speaker</li> <li>Custom Power Supply</li> <li>Security Locks Supported</li> <li>Power Switch / LED Cable</li> </ul>	<ul style="list-style-type: none"> <li>Silver/Carbon</li> <li>Standard uATX</li> <li>Variable Speed Power Supply Fan</li> <li>Variable Speed Processor Fan Heatsink</li> <li>Variable Speed Chassis Fan</li> <li>3 Full Length, Full Height PCI Slots</li> <li>1 Half Length, Full Height AGP</li> <li>Front Headphone, Mic, and 2 USB (Option)</li> <li>Standard ATX I/O Panel</li> <li>Yes</li> <li>235-Watt Enhanced ATX PS</li> <li>Kensington Cable Lock</li> <li>Security Module (Solenoid Hood Lock and Hood Sensor)</li> <li>Lock Tab built into back of Chassis</li> <li>Yes</li> </ul>
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<b>Small Form Factor Chassis</b>	<ul style="list-style-type: none"> <li>Color</li> <li>System Board Form Factors Supported</li> <li>Cooling Solutions Supported (2 Fans)</li> <li>Slots Supported</li> <li>Front I/O</li> <li>Rear I/O</li> <li>Internal Speaker</li> <li>Custom Power Supply</li> <li>Security Locks Supported</li> <li>Power Switch / LED Cable</li> </ul>	<ul style="list-style-type: none"> <li>Silver/Carbon</li> <li>Custom SFF</li> <li>Variable Speed Power Supply Fan</li> <li>Variable Speed Chassis Fan</li> <li>2 Half Length, Full Height PCI slots</li> <li>1 Low Profile AGP</li> <li>Front Headphone, Mic, and 2 USB Standard</li> <li>Standard ATX I/O Connectors (Some Single Stacked)</li> <li>Yes</li> <li>175-Watt Enhanced ATX Like PS</li> <li>Kensington Cable Lock</li> <li>Security Module (Solenoid Hood Lock and Hood Sensor)</li> <li>Compaq Lock Bracket – 173234 (chassis securement only, hood lock required to secure hood)</li> <li>No (on system board)</li> </ul>
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## Standard Features – Base Unit Details

### Compaq Evo Desktop D300 Series with 845 chipset

<b>Convertible Minitower Chassis</b>	Color
	System Board Form Factors Supported
	Cooling Solutions Supported (3 Fans)
	Slots Supported
	Front I/O
	Rear I/O
	Internal Speaker
	Custom Power Supply
	Security Locks Supported
	Power Switch / LED Cable

Serviceability Features of Chassis	Desktop	Small Form Factor	Convertible Minitower
Dual Color Power and HD LED to Indicate Normal Operations and Fault Conditions	Yes	Yes	Yes
Diagnostic LED Label under Hood Cover	Yes	Yes	Yes
Security Module (Smart Cover Lock and Hood Sensor)	Optional	Optional	Optional
Front power switch	Yes	Yes	Yes
Green Pull Tabs, and Quick Release Latches for easy Identification	Yes	Yes	Yes
System memory can be upgraded without removing the system board or any internal components	Yes	Yes	Yes
Tool-less Hood Removal	Yes (with captive thumbscrew)	Yes (with side push buttons)	Yes (with captive thumbscrew)
Tool-less Hard Drive, CD & Floppy Removal	Yes	Yes	Yes
Tool-less System Board Removal	No	Yes	No
Industry Standard CD Bay	Yes	Yes	Yes
Towerable	Yes	Yes	Yes (Can also Rotate Drives)
Universal Tower Stand	Yes (Option)	Yes (Option)	No (Not needed)
Green Color Coded Latches & Cable Pull Tabs for Easy Identification	Yes	Yes	Yes

## Standard Features – Base Unit Details

### Compaq Evo Desktop D300 Series with 845 chipset

Interfaces	Desktop	Small Form Factor	Convertible Minitower
I/O Chip	Super IO 3	Super IO 3	Super IO 3
Serial Port / UART Type	Yes (2) / SN75185	Yes (2) / SN75185	Yes (2) / SN75185
Parallel Port	Yes	Yes	Yes
USB	2 USB 1.1 (Optional 2 Front USB)	4 USB 1.1	2 USB 1.1 (Optional 2 Front USB)
Infrared Port	No	No	No
Network	RJ-45 (with integrated LEDs)	RJ-45 (with integrated LEDs)	RJ-45 (with integrated LEDs)
Keyboard	Yes (PS/2)	Yes (PS/2)	Yes (PS/2)
Mouse	Yes (PS/2)	Yes (PS/2)	Yes (PS/2)
Video	Yes (AGP 4X 1.5V Bus)	Yes (AGP 4X 1.5V Bus)	Yes (AGP 4X 1.5V Bus)
Audio	Yes	Yes (Mic-In, Hphone Out, Line-In, Line-Out)	Yes

Power Supply	Desktop	Small Form Factor	Convertible Minitower
Full Ranging Input (No Line Select Switch)	Yes	Yes	Yes
Active Power Factor Correction (APFC) (Input Current is nearly ½ a non-APFC PS)	Yes	Yes	Yes
Operating Voltage Range	90 to 264VAC	90 to 264VAC	90 to 264VAC
Rated Voltage Range	100 to 240VAC	100 to 240VAC	100 to 240VAC
Rated Line Frequency	50-60 Hz	50-60 Hz	50-60 Hz
Rated Input Current	3.6A @ 100VAC	2.7A @ 100VAC	3.6A @ 100VAC
Maximum Rated Power	235W	175W	250W
Heat Dissipation	Max: 1,234 BTU/hr Nominal: 617 BTU/hr Max: 311 kg-cal/hr Nominal: 155 kg-cal/hr	Max: 920 BTU/hr Nominal: 460 BTU/hr Max: 232 kg-cal/hr Nominal: 116 kg-cal/hr	Max: 1,313 BTU/hr Nominal: 656 BTU/hr Max: 331 kg-cal/hr Nominal: 165 kg-cal/hr

**Environmental and Mechanical Engineering Support Center** <http://env-websvr.ccm.cpqcorp.net/EMESC/default.htm>

Power Conservation 'Energy Saver'	Desktop	Small Form Factor	Convertible Minitower
Energy Star Compliant	Yes	Yes	Yes
Blue Angel Compliant (<5w in S5-Power Off)	Yes	Yes	Yes
Power Consumption in ES Mode - Suspend to RAM (S3) (Instantly Available PC)	TBD	~2W	TBD
APM Support	Yes	Yes	Yes
Screen Blanking	Yes	Yes	Yes
Hard Disk 'Idle' Mode	Yes	Yes	Yes
System Idle Mode	Yes	Yes	Yes
Processor/Cache Memory Power-Down (S3)	Yes	Yes	Yes
CD-Rom Spins Down when not in use	Yes	Yes	Yes

## Standard Features – Base Unit Details

### Compaq Evo Desktop D300 Series with 845 chipset

<b>ROM Features</b>	<ul style="list-style-type: none"> <li>Instantly Available PC (Suspend to RAM - S3)</li> <li>ROM Based F10 Setup</li> <li>Remote System Installation via F12 (PXE)</li> <li>Failsafe Boot Block ROM</li> <li>Emergency ROM Flash Recovery with Video</li> <li>CMOS Archive and CMOS Restore</li> <li>Save and Restore CMOS Setup via Diskette</li> <li>Auto Setup when New Hardware Installed</li> <li>Serial, Parallel, USB Enable/Disable Port Control</li> <li>Removable Media Write / Boot Control</li> <li>Remote Boot from Server</li> <li>Network Server Mode</li> <li>Power-On Password</li> <li>Setup Password</li> <li>Memory Change Alert (Need IM to work)</li> <li>Thermal Alert (Need IM to work)</li> <li>Cover Removal Alert (Need IM to work)</li> <li>Master Boot Record Security</li> <li>Remote ROM Flash</li> <li>Remote Wakeup</li> <li>Power Management</li> <li>ACPI Ready</li> <li>DMI BIOS (Desktop Management Interface)</li> </ul>
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<b>System Environmental Specs</b>	Operating Temperature	50° to 95°F/10° to 35° C (Derating of 1.0°C per 300m (1000ft) to 3000m (10,000ft), no direct sustained sunlight)		
	Non-operating Temperature	-22° to 140° F -30° to 60° C (Maximum rate of change is 20°C/Hr.)		
	Relative Humidity (non-condensing)	Operating	10% to 90% (28°C maximum wet bulb temperature)	
	Relative Humidity (non-condensing)	Non-Operating	5% to 95% (38.7°C maximum wet bulb temperature)	
	Max Altitude (unpressurized)	Operating	10,000 ft 3,048 m (Maximum allowable altitude change rate is 1500 ft/min)	
	Max Altitude (unpressurized)	Non-Operating	30,000 ft 9,144 m (Maximum allowable altitude change rate is 1500 ft/min)	
	Acoustics	Desktop	W2000 Idle (HDD spinning but not seeking) = 32.7 DB	
		Small Form Factor	W2000 Idle (HDD spinning but not seeking) = 31.5 DB	
		Convertible Minitower	W2000 Idle (HDD spinning but not seeking) = 31.1 DB	
	Shock	Operating	5 G	
		Non-Operating	20 G	
	Vibration	Operating	10 G (positive and negative directions front to back on Small Form Factor) Operating: Random vibration at 0.000215 G <sup>2</sup> /Hz, 10Hz to 300Hz, (0.25G's nominal)	
		Non-Operating	Random vibration at 0.0005 G <sup>2</sup> /Hz, 10Hz to 500Hz, (0.5G's nominal).	

## Standard Features – Base Unit Details

### Compaq Evo Desktop D300 Series with 845 chipset

#### Software

Preinstalled Software	Desktop	Small Form Factor	Convertible Minitower
Microsoft Windows 98 SE	Yes	Yes	Yes
Microsoft Windows NT 4. SP6a	Yes	Yes	Yes
Microsoft Windows 2000 SP2	Yes	Yes	Yes
Microsoft Windows XP Pro	(when available from Microsoft)	(when available from Microsoft)	(when available from Microsoft)
Microsoft Windows XP Home	(when available from Microsoft)	(when available from Microsoft)	(when available from Microsoft)
Microsoft Windows XP SBE	No	No	Yes (D300s models only)
Norton Antivirus	No	No	Yes (D300s models only)
Computer Setup Utility via F10 (ROM Based)	Yes	Yes	Yes
Diagnostics for Windows	Yes	Yes	Yes
Diagnostics for DOS	No	No	No
Microsoft Internet Explorer	Yes	Yes	Yes
<b>Intelligent Manageability Agent</b>	Yes	Yes	Yes
<b>Plug and Play Ready</b>	Yes	Yes	Yes
Windows 98	Yes	Yes	Yes
Windows 2000	Yes	Yes	Yes
Windows XP Pro	Yes	Yes	Yes
Windows XP Home	Yes	Yes	Yes
Windows NT 4.0	Plug and Play not supported in Windows NT 4.0	Plug and Play not supported in Windows NT 4.0	Plug and Play not supported in Windows NT 4.0
<b>Boot Support</b>			
Local Diskette Boot	Yes	Yes	Yes
Local CD Boot	Yes	Yes	Yes
Remote Boot	Yes	Yes	Yes
Network Boot	Yes	Yes	Yes

**Intelligent Manageability** Information downloadable from: <http://www.compaq.com/im>

**Initial Configuration and Deployment** Intelligent Manageability Home Page  
Altiris eXpress  
PC Transplant / PC Transplant PRO  
System Software Management  
Novel ZenWorks 2.0  
Insight Manager  
Support Software CD  
Compaq Software Restore CD

**Asset Control** Asset Tag  
DIMM Serial Presence Detect  
Hard drive serial number, model, & manufacturer  
Monitor serial number, model & manufacturer  
System serial number, model, & manufacturer  
ROM revision levels  
System board revision level  
Compaq Fingerprint Identification Technology (Optional)  
DMI BIOS  
Memory Change Alert (Intelligent Manageability needed to work)  
Ownership Tag  
Smart Cover Lock (Optional)  
Kensington Lock Support  
Smart Cover Sensor (Optional)

## Standard Features – Base Unit Details

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### Compaq Evo Desktop D300 Series with 845 chipset

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#### Standard Security Features

Asset Tracking and Security Home Page <http://www.compaq.com/im/ats.html>  
Optional Smart Cover Lock  
Mechanical Security Provision  
Cable Lock Provision  
Power-On Password  
Serial, Parallel, USB Enable/Disable  
Removable Media Write / Boot Control  
Power-On Password  
Setup Password

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#### Software Updating and Management

Software Updating and Management Home Page <http://www.compaq.com/im/sum.html>  
Remote ROM Flash  
ROM Based Setup(F10)and Start-up Diagnostics  
Support Software CD & WWW Site

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#### Fault Notification and Recovery

Fault Management Home Page <http://www.compaq.com/im/fnr.html>  
DMI BIOS  
SMART Hard Drives, Fault Notification, & Prefailure Warranty  
Proactive Backup  
ATA RAID Controller Option  
ECC Memory, Fault Notification, and Pre-failure Warning  
Processor Fault Notification and Prefailure Warranty (Not supported by P4 processor)  
Surge Tolerant Full Ranging Power Supply  
Thermal Sensor  
Ultra ATA Integrity Monitoring (CRC Checking)

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#### Other Features

ACPI-Ready Hardware  
Compaq Insight Manager LC and XE Agents  
Altiris agent  
Compaq Management Solutions Partners Program  
Dual-State Power Button  
Compaq Management Solutions Partners Program  
Wired for Management Support

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#### Service and Support

On-site Warranty <sup>Note 1</sup>: This three-year, limited warranty covers all parts for three years and provides free, next-business-day <sup>Note 2</sup> service (parts and labor) for the first year and includes free telephone support <sup>Note 3</sup> 24 hours a day, 7 days a week. The customer may extend or upgrade the warranty to provide labor and/or on-site service for the second and third years. Global coverage <sup>Note 2</sup> ensures that any product purchased in one country and transferred to another non-restricted country will remain fully covered under the original warranty.

<sup>Note 1</sup>: Terms and conditions may vary by country. Certain restrictions and exclusions apply.

<sup>Note 2</sup>: On-site service may be provided pursuant to a service contract between Compaq and an authorized Compaq third-party provider, and is not available in certain countries. Global service response times are based on commercially reasonable best effort and may vary by country.

<sup>Note 3</sup>: Technical telephone support applies only to Compaq-configured Compaq and third-party Compaq-qualified hardware and software. Toll-free calling and 24 x 7 support may not be available in some countries.

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## After-Market Options

Graphics	NVIDIA GeForce2 MX200 16-MB AGP	251954-B21
	NVIDIA GeForce2 MX400 32-MB AGP	227003-B21
	Matrox G550 32-MB AGP VGA	250227-B21
	Matrox G550 32-MB AGP DVI	251435-B21
	Matrox G200 MMS PCI Quad with DVI Cables	179597-B21
	Matrox G200 MMS PCI Quad Analog Cables	159513-B21
	DVI Cables for the G200 MMS PCI Quad	170840-B21

Hard Drives	<b><i>SMART III Ultra ATA/100 Hard Drives with Drive Protection System (DPS)</i></b>	
	120-GB 7200 rpm SMART III Ultra ATA Quiet Seek and Idle Hard Drive with DPS (worldwide)	250021-B21
	80-GB 7200 rpm SMART III Ultra ATA Quiet Seek and Idle Hard Drive with DPS (worldwide)	250020-B21
	40-GB 7200 rpm SMART III Ultra ATA Quiet Seek and Idle Hard Drive with DPS (worldwide)	201066-B21
	20-GB 7200 rpm SMART III Ultra ATA Quiet Seek and Idle Hard Drive with DPS (worldwide)	251974-B21
	Ultra ATA RAID Card	238051-B21
	<b><i>SCSI Hard Drives</i></b>	
	72-GB 10K rpm 1.0" Ultra3 (Ultra 160) SCSI Hard Drive	250023-B21
	36-GB 15K rpm Ultra3 (Ultra 160) SCSI Hard Drive	250022-B21
	18.2-GB 10K rpm Ultra3 (Ultra 160) SCSI Hard Drive	159764-B21
	18.2-GB 15K rpm Ultra3 (Ultra 160) SCSI Hard Drive	191188-B21
	Adaptec 29160N Ultra160 (Ultra3) SCSI Controller	157810-B21

Input/Output Devices	<b><i>Keyboards</i></b>	
	Compaq Easy Access Keyboard (carbon)	202109-xx8
	<b><i>Mice</i></b>	
	Compaq 2-Button Scroll Mouse	170299-B22

Memory (DIMMs)	<b><i>133-MHz SDRAM DIMMs</i></b>	
	256-MB Memory Kit (1 x 256-MB SDRAM DIMM, 133 MHz)	174225-B21
	128-MB Memory Kit (1 x 128-MB SDRAM DIMM, 133 MHz)	174224-B21
	64-MB Memory Kit (1 x 64-MB SDRAM DIMM, 133 MHz)	174223-B21

Monitors	<b><i>TFTs</i></b>	
	Compaq TFT8030 Monitor (18-inch, Carbon/Silver)	234362-001
	Compaq TFT8030 Monitor (18-inch, Baseless)	250199-001
	Compaq TFT5030 Monitor (15-inch, Carbon/Silver)	228134-001
	Compaq TFT5030 Monitor (15-inch, Baseless)	250198-001
	Compaq TFT5015 Monitor (15-inch, Opal)	234043-001
	Compaq TFT5015 Monitor (15-inch, Carbon/Silver)	234044-001

## After-Market Options

### Monitors (continued)

#### CRTs

##### Professional Series

Compaq P1220 CRT Monitor (21-inch, Carbon/Silver)	244374-xxx
Compaq P1210 CRT Monitor (21-inch, Opal)	210290-001
Compaq P1210 CRT Monitor (21-inch, Carbon/Silver)	230538-001
Compaq P920 CRT Monitor (19-inch, Carbon/Silver)	244375-xxx
Compaq P910 CRT Monitor (19-inch, Opal)	210254-001
Compaq P910 CRT Monitor (19-inch, Carbon/Silver)	230535-001
Compaq P710 CRT Monitor (17-inch, Opal)	210189-001
Compaq P720 CRT Monitor (17-inch, Carbon/Silver)	244373-xxx

##### Value Series

Compaq V720 CRT Monitor (17-inch, Opal)	232943-xxx
Compaq V720 CRT Monitor (17-inch, Carbon/Silver)	232944-xxx
Compaq V710 CRT Monitor (17-inch, Opal)	187895-001
Compaq V510 CRT Monitor (15-inch, Opal)	228114-xxx
Compaq V510 CRT Monitor (15-inch, Carbon/Silver)	228113-xxx

##### Standard Series

Compaq S910 CRT Monitor (19-inch, Opal)	138485-001
Compaq S920 CRT Monitor (19-inch, Opal)	240325-xxx
Compaq S920 CRT Monitor (19-inch, Carbon/Silver)	240326-xxx
Compaq S710 CRT Monitor (17-inch, Opal)	152991-001
Compaq S710 CRT Monitor (19-inch, Carbon)	154499-002
Compaq M710 CRT Monitor (19-inch, Opal)	154499-005
Compaq S720 CRT Monitor (17-inch, Opal)	239286-xxx
Compaq S720 CRT Monitor (17-inch, Carbon/Silver)	239287-xxx
Compaq M720 CRT Monitor (17-inch, Carbon/Silver)	238994-xxx
Compaq M720 CRT Monitor (17-inch, Opal)	240759-xxx
Compaq S510 CRT Monitor (15-inch, Carbon)	168636-002
Compaq M510 CRT Monitor (15-inch, Opal)	168636-005

### Multimedia

Labtec Spin-22 Speakers (carbon)	246637-001
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### Optical Drives

#### DVD-ROM Drives

16X/40X DVD-ROM Drive (carbon)	237495-B22
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#### DVD-RAM Drives

4.7-GB DVD-RAM Drive (carbon)	294415-B22
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#### CD-ROM Drives

48X Max CD-ROM Drive (carbon)	187217-B21
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#### DVD-RW Drives

4.7-GB DVD-RW Drive (carbon)	246625-B22
4.7-GB DVD-R Media (5-pack)	239405-001
4.7-GB DVD-RW Media	249142-001

#### CD-RW Drives

16X/10X/40X CD-RW Drive	240598-B22
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#### Combo Drives

8X Combo DVD-ROM and CD-RW Drive (carbon)	244885-B22
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## After-Market Options

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### Removable Storage

#### *Floppy Drives*

ZIP 100 High-Capacity Floppy Drive (carbon)	294402-B22
ZIP 100 Media 3-Pack	127591-001
ZIP 250 High-Capacity Floppy Drive (carbon)	294416-B22
ZIP 250 Media 3-Pack	217896-B21

#### *Tape Drives*

TR5 10/20-GB Tape Drive (carbon)	294243-B21
TR5 10/20-GB Media 3-Pack	125782-B21
35/70-GB AIT SCSI Tape Drive (carbon)	246626-B22

### Security

USB Biometric Identification Device	240238-B21
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## Memory

845 chipset (128-MB)

### 133-MHz SDRAM DIMM MEMORY

#### STANDARD MEMORY

128-MB DIMM Standard

#### MAXIMUM MEMORY

Intel 845 Chipset supports up to 3-GB of PC133 SDRAM. Platform can utilize 3-GB of memory when 1-GB DIMMs are available with the installation of optional SDRAM Memory Kits.

Memory		Slot		
		1	2	3
Standard	128-MB	128-MB	Empty	Empty
Current Maximum Memory	1.5-GB	512-MB	512-MB	512-MB
Maximum Memory when 1-GB available	3-GB	1-GB	1-GB	1-GB

Note: All Compaq Evo Desktop D300 contain three DIMM slots, but can only be upgraded to a maximum of 3-GB when 1-GB PC133 SDRAM are available.

Note: 1-GB PC133 SDRAM not currently offered as after-market options.

Note: It is not necessary to add memory in pairs or kits. Memory upgrades are accomplished by adding single or multiple DIMMs of the same or varied sizes. This chart does not represent all possible memory configurations.

845 chipset (256-MB)

### 133-MHz SDRAM DIMM MEMORY

#### STANDARD MEMORY

256-MB DIMM Standard

#### MAXIMUM MEMORY

Intel 845 Chipset supports up to 3-GB of PC133 SDRAM. Platform can utilize 3-GB of memory when 1-GB DIMMs are available with the installation of optional SDRAM Memory Kits.

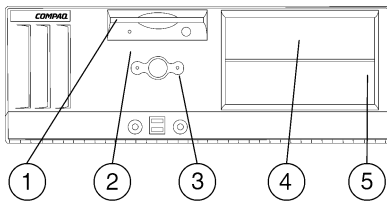
Memory		Slot		
		1	2	3
Standard	256 MB	256 MB	Empty	Empty
Current Maximum Memory	1.5-GB	512-MB	512-MB	512-MB
Maximum Memory when 1-GB available	3-GB	1-GB	1-GB	1-GB

Note: All Compaq Evo Desktop D300 contain three DIMM slots, but can only be upgraded to a maximum of 3-GB when 1-GB PC133 SDRAM are available.

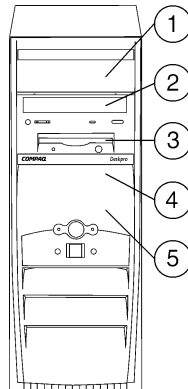
Note: 1-GB PC133 SDRAM not currently offered as after-market options.

Note: It is not necessary to add memory in pairs or kits. Memory upgrades are accomplished by adding single or multiple DIMMs of the same or varied sizes. This chart does not represent all possible memory configurations.

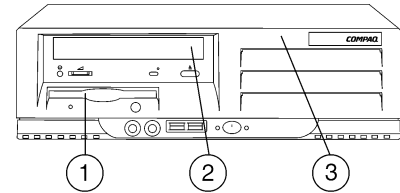
## Storage



Desktop Configuration



Convertible Minitower Configuration



Small Form Factor Configuration

## EVO DESKTOP D300 DRIVE SUPPORT

	Quantity Supported	Position Supported	Controller
<b>DESKTOP</b>			
Diskette Drives	1	1	Floppy
Tape Drives	2	4,5	IDE
CD-ROM Drives	2	4,5	IDE
DVD-ROM Drives	2	4,5	IDE
CD-RW Drives	2	4,5	IDE
SMART III Ultra ATA Hard Drives	Up to 2	2,3	Ultra ATA
SCSI Hard Drives	Up to 2	2,3	SCSI

## CONVERTIBLE MINITOWER

Diskette Drives	1	3	Floppy
Tape Drives	2	1,2	IDE
CD-ROM Drives	2	1,2	IDE
DVD-ROM Drives	2	1,2	IDE
CD-RW Drives	2	1,2	IDE
SMART III Ultra ATA Hard Drives	Up to 2	4,5	Ultra ATA
SCSI Hard Drives	Up to 2	4,5	SCSI

## SMALL FORM FACTOR

Diskette Drives	1	1	Floppy
Tape Drive	1	2	IDE
CD-ROM Drives	1	2	IDE
DVD-ROM Drives	1	2	IDE
SMART III Ultra ATA Hard Drives	1	3	IDE

## Technical Specifications – Audio

Integrated AC '97 Audio with Internal Speaker	Card Type	Integrated
	Plug and Play	Yes
	Stereo Codec	Yes
	OPL3 FM Synthesis	Yes
	Sound Blaster Compatibility	Yes
	Ports	Microphone-in (10-Kohm Minimum) Line-in (10-Kohm Minimum) Headphone/Line-out (16-ohm Minimum)
	Sampling	7 kHz to 48 kHz
	Compression	ADPCM, ESPCM
	OS support	Windows 98 S.E. Windows 2000
	Wavetable Syntheses (software)	Yes

## Technical Specifications – Communications

Integrated Intel PRO/100 VM Network Connection with WOL	<b>Manufacturer</b>	Intel®		
	<b>Interface</b>	Intel SingleDriver™ technology (10/100-Mbps support)		
	<b>Connector</b>	RJ-45		
	<b>Expansion bus architecture</b>	PCI 2.2		
	<b>Configuration</b>	Network transfer rate	10BASE-T (Half-Duplex) 10 Mbps 10BASE-T (Full-Duplex) 20 Mbps 100BASE-TX (Half-Duplex) 100 Mbps 100BASE-TX (Full-Duplex) 200 Mbps	
		Data interface	PCI, 32-bit bus mastering	
		I/O address	Integrated connectivity with Intel I/O Controller Hub (ICH2)-based platforms	
	<b>OS driver support</b>	Microsoft Windows NT 3.51 and 4.0, Microsoft Windows 95 and 98, Microsoft Windows 2000, Beta Novell® NetWare® 3.11, 3.12, and 4.1x, 5 Server Sun Solaris™, SCO UnixWare OpenDesktop and OpenServer		
	<b>Software support</b>	Instrumentation support for CIM/WBEM SNMP, DMI, PXE 2.0, Intel PROSet utility for installation and configuration, Alert on LAN Software Developer Kit and same code		
<b>Remote wakeup</b>	Alert On LAN (tx alerting)—PME # AND WAKE signals; no cable required on 810 or 820 chipset platforms			
<b>Boot PROM support</b>	Yes, Intel PRO/100 Boot Agent (PXE 2.0, RPL)			
<b>Special features</b>	Digital adaptive equalization control, link status interrupt capability, boundary scan support, 3-port LED support (speed, link, activity), 10BASE-T auto polarity correction, diagnostic loopback mode, 1:1 transmit transformer ratio support, automatic detection of unplugged mode, remote monitoring (alerting)			
<b>Proactive alert technology</b>	Alert on LAN (transmit functionality only)—requires Management Console software such as HP OpenView and requires alert utilities for the management console, proxy client software, client configuration software			
<b>F12 BIOS support</b>	Yes			
<b>Environmental requirements</b>	Operating temperature	32° to 131° F (0° to 55° C)		
	Operating humidity (non-condensing)	85% at 131° F (55° C)		
	Altitude	10,000 feet (3,048 meters)		
	Non-operating temperature	-40° to 158° F (-40° to +70° C)		
	Altitude	5,000 feet (15,240 meters)		
<b>Power</b>	300 mW typical in active transmit mode; reduced power in unplugged mode (<50 mW); 3.3 V device			
<b>Power management</b>	ACPI 1.0			
<b>Flash package</b>	48-pin Shrink Small Outline Package (SSOP)			
<b>Network management</b>	PCI 2.2			
<b>LED indicators</b>	Three-port support (speed, link, and activity)			
<b>Standards compliance</b>	IEEE VLAN support (802.1A), IEEE 802.2, IEEE 802.3 and IEEE 802.3u, (100-Mbps ethernet), IEEE Intel Priority Packet (801.1p), SCO UnixWare OpenDesktop and OpenServer, PC'99			

## Technical Specifications – Communications

<b>3COM 3C920C-TX Network Connection</b>	<b>Manufacturer</b>	3ComOL		
	<b>Connector</b>	RJ-45		
	<b>Expansion bus architecture</b>	PCI 2.2		
	<b>Configuration</b>	Network transfer rate	10BaseT (half-duplex) 10 Mbps 10BaseT (full-duplex) 20 Mbps 100BaseTX (half-duplex) 100 Mbps 100BaseTX (full-duplex) 200 Mbps	
		Data interface	PCI, 32-bit bus mastering	
		I/O address	Automatic I/O address	
		Interrupt level	Automatic IRQ setup	
	<b>Standards compliance</b>	IEEE 802.3 (10-Mbps Ethernet), IEEE 802.3u (100-Mbps Ethernet)		
	<b>OS driver support</b>	Microsoft Windows 95, Microsoft Windows 98, Microsoft Windows 2000, Microsoft Windows NT 3.5/x and 4.0,		
	<b>Remote wakeup</b>	Yes, WAKE signal		
	<b>Proactive alert technology</b>	No		
	<b>Environmental operating requirements</b>	Temperature	32° to 131° F (0° to 55° C)	
		Humidity (non-condensing)	10% to 90%	
	<b>Power management</b>	ACPI		
<b>Network management</b>	DMI 2.0, WfM 2.x, PCI 2.2			
<b>Power</b>	+3.3 V, 340 mA			
<b>LED indicators</b>	100-Mbps link, 10-Mbps link, activity			
<b>Dimensions</b>	4.7 x 2.2 inches (12.0 x 5.6 cm)			
<b>Certifications</b>	CE Mark, FCC Class B, VCCI Class B, CISPR 22 Class B			

## Technical Specifications – Communications

Lucent V.90 56K PCI Win Modem	<b>Data Transmission</b>	V.90/K56flex technology speeds: 56,000 Kb/s maximum downstream data; controllerless
	<b>Data Speeds</b>	(upload only): 33,600; 31,200; 28,800; 26,400; 21,600; 19,200; 16,800; 14,400; 12,000; 9600; 7200; 4800; 2400; and 300 b/s
	<b>Data Standards</b>	ITU V.90, ITU-T, V.34, V.32 (bis), V.22bis, V.22, V.21, V.23, and Bell 212A, and Bell 103.
	<b>Fax speeds</b>	14400; 12000; 9600; 7200; 4800; 2400; 1200; 300 b/s
	<b>Fax mode capabilities</b>	Group 3 FAX: V.17, V.29, V.27ter, and V21 Channel 2., Class 1 interface, TIA/EIA-578
	<b>Error Correction and Data Compression</b>	ITU-T recommended V.42 error correction, V.42 error correction (LAPM and MNP), V.42bis and MNP Class 5 data compression, ITU-T V.42bis data compression
	<b>Power Management</b>	APM and ACPI states D0, D1, D2, and D3, Meets PCI 2.2 requirements and PC 99 requirements
	<b>Upgradability</b>	Software driver upgradable for future enhancements
	<b>Video</b>	ITU-T V.80 video ready interface
	<b>Other</b>	TIA/EIA 602 standard AT command set Built-in DTE interface with speeds up to 115.2 Kb/s, parallel 16550a UART-compatible interface Optional Ring wake signal
	<b>Operating temperature</b>	32° to 104° F/0° to 40° C
	<b>Operating humidity</b>	20% to 80%, non-condensing
	<b>Operating System Driver Support</b>	Microsoft Windows 98, 98SE, NT4.0, Windows 2000

## Technical Specifications – Graphics

NVIDIA Vanta16-MB AGP Graphics Controller	<b>Form factor</b>	Half-size ATX
	<b>Bus type</b>	AGP 4X
	<b>Memory support</b>	16-MB SDRAM (64-bit frame buffer interface)
	<b>Memory clock</b>	125 MHz
	<b>RAMDAC</b>	250 MHz
	<b>Internal clock</b>	100 MHz
	<b>Data path</b>	64-bit
	<b>Process</b>	0.22 $\mu$
	<b>Pipelines</b>	2 (bilinear)
	<b>Fill rate</b>	200 M pixels per second
	<b>Triangle rate</b>	8 M triangles per second
	<b>Video overlay filter</b>	2 x 2
	<b>MPEG support (software)</b>	CSC IDCT
	<b>Color space conversion</b>	Yes
	<b>Scaling</b>	Yes
	<b>Quick draw support</b>	Yes
	<b>DCI and Microsoft DirectX video playback</b>	Yes
	<b>Microsoft DirectX support</b>	Yes
	<b>3-D support</b>	Yes
	<b>Engine acceleration</b>	Basic video color conversion and scaling 100% hardware triangle setup engine
	<b>Dual monitor support</b>	With additional PCI controller only
	<b>OS support</b>	Microsoft Windows 98, Microsoft Windows 2000, Microsoft Windows NT 4.0, Microsoft Windows Me
	<b>Other</b>	Optimized for Direct3D acceleration with support for Microsoft DirectX 5.0 and 6.0 128-bit TwiN-Textel (TNT) architecture Two texture-mapped, lit pixels per clock Single pass multi-texture rendering 32-bit rendering with destination alpha 24-bit Z-buffer, 8-bit stencil buffer Anisotropic filtering (superior to trilinear MIP-mapping) High-performance, 128-bit 2-D/GUI/DirectDraw acceleration Transparent BLT, stretch BLT, points, lines, polylines, polygons, fills, patterns, arbitrary clipping and fast text rendering; pipeline optimized for multiple color depths including 8, 16, and 24 bits per pixel Video acceleration for DirectShow, MPEG-1, MPEG-2 and Intel Indeo® Fast 32-bit VGA/SVGA Triple 8-bit, 250-MHz palette DAC

Resolutions Supported	Colors	Real-Time 3-D Gouraud Shading	Refresh Rates
1920 x 1200	256, 65K, 16.7M	256, 65K	60 to 75 Hz depending on color depth
1920 x 1080	256, 65K, 16.7M	256	60 to 85 Hz depending on color depth
1600 x 1200	256, 65K, 16.7M	256	60 to 85 Hz depending on OS and color depth
1280 x 1024	256, 65K, 16.7M	256, 65K	60 to 100 Hz
1152 x 864	256, 65K, 16.7M	256, 65K	60 to 85 Hz depending on color depth
1024 x 768	256, 65K, 16.7M	256, 65K, 16.7M	60 to 85 Hz
800 x 600	256, 65K, 16.7M	256, 65K, 16.7M	60 to 85 Hz
640 x 480	256, 65K, 16.7M	256, 65K, 16.7M	60 to 85 Hz

## Technical Specifications – Graphics

NVIDIA GeForce2 MX 16- and 32-MB AGP Graphics Controllers	Vertical frequency	60-85 Hz		
	Graphics controller	NVIDIA GeForce2 MX 200 and MX400		
	Bus type	AGP 4X		
	RAMDAC	Integrated 350 MHz RAMDAC		
	Memory type	SDRAM		
	Memory amount	16, 32 or 64-MB unified frame buffer and texture memory (16-MB on GeForce2 MX 200)		
	Memory speed	166 MHz		
	Data path	256-bit		
	Controller clock speed	GeForce2 MX 200—175 MHz GeForce2 MX 400—200 MHz GeForce2 32MB MX 400 w/ TV-Out—175 MHz (consumer models only) GeForce2 64MB MX 400 w/ TV-Out—175 MHz (consumer models only)		
	Maximum vertical refresh rate	85-Hz		
	Maximum pixel clock	350-MHz		
	Graphics API support	DirectX 7, DirectX 8		
	Operating systems support	Microsoft® Windows® 2000, Microsoft Windows NT 4.0, and Microsoft Windows 98		
	Buffer	96-bit (per pixel)		
	Image planes	24-bit double-buffered		
	Z-buffer	32-bit (24-bit with stencil planes)		
	Overlay	Supported		
	Stencil planes	8-bit (maximum)		
	Alpha planes	8-bit		
	External interface	Analog video output port; the video port (female, 15-pin, D-SUB connector) provides connection to an analog display		
<b>Resolutions Supported</b>				
		<b>Refresh Rate (Hz)</b>	<b>Max Refresh Rate (Hz)</b>	<b>Max Refresh Rate (Hz)</b>
<b>Resolution</b>		<b>8-bit Color</b>	<b>16-bit Color</b>	<b>32-bit Color</b>
1920 x 1440		85, 75	85, 75	85, 75
1920 x 1200		85	85	85
1920 x 1080		85	85	85
1600 x 1200		85	85	85
1280 x 1024		85	85	85
1152 x 864		85	85	85
1024 x 768		85	85	85
800 x 600		85	85	85
640 x 480		85	85	85



## Technical Specifications – Graphics

Matrox Millennium G450 Dual Head AGP and PCI Graphics Controllers	<b>Form Factor</b>	ATX	
	<b>Bus type</b>	AGP 1X, 2X, 4X: PCI Rev 2.2 bus specification	
	<b>Standard memory</b>	AGP: 32 MB / PCI: 16 MB	
	<b>DAC speed</b>	360 MHz (secondary DAC: 200 MHz)	
	<b>Data path</b>	64-bit DDR External/256-bit Internal	
	<b>Internal bus width</b>	256-bit DualBus	
	<b>Memory interface</b>	64-bit DDR Memory	
	<b>Frame buffer</b>	AGP: 32 MB / PCI: 16 MB	
	<b>Two integrated RAMDACs</b>	Yes	
	<b>Engine acceleration</b>	3 ROP bitBLT, line draw, text, color expansion, basic video color conversion and scaling, triangle setup engine	
	<b>Other</b>	PCI bus mastering, texture mapping support, flat and Gouraud shading, direct 3-D support, Anisotropic Filter, perspective texture, specular highlighting, wireframe, dithering, full scene anti-aliasing, vertex fog, dual texture mapping, Plug-and-Play AGP 2X and AGP 4X, 0.18-micron technology (lower heat/power consumption), high-quality DVD playback with full access to Microsoft Windows, Color Space Conversion, Quick Draw support, DCI and DirectX video playback, MS DirectDraw support	
	<b>3D Features</b>	Single cycle multi-texturing	Yes
		Environment-mapped bump mapping	Yes
		Internal rendering	32-bit
	Source textures	Up to 32-bit	
	Maximum texture size	2048 X 2048	
	Hardware non-power-of- 2 textures	Yes	
	32-bit color output	Yes	
	32-bit independent Z-buffer	Yes	
	Stencil buffering	Yes	
	AGP texturing	Yes	
	Trilinear filtering	Yes	
	DirectX support	Yes	
	OpenGL support	Yes	
<b>DualHead Display Features</b>	Multi-Display Mode, DVD Max Mode, DualHead Zoom Mode, DualHead Clone Mode, Single Chip Multi-Monitor support		
<b>Supported Modes</b>	This list assumes setup to be DualHead multi-display running Microsoft Windows 98. If using Microsoft Windows NT 4.0 or Microsoft Windows 2000 while in multi-display, primary CRT is limited to modes supported by 2nd CRT.		
<b>Primary CRT Color Depths</b>	<b>Color Depths (bpp)</b>	<b>Refresh Rates</b>	
640 x 480	8, 16, 24, 32	60 Hz, 72 Hz, 75 Hz, 85 Hz	
800 x 600	8, 16, 24, 32	60 Hz, 72 Hz, 75 Hz, 85 Hz	
1024 x 768	8, 16, 24, 32	60 Hz, 70 Hz, 75 Hz, 85 Hz	
1152 x 864	8, 16, 24, 32	75 Hz	
1280 x 960	8, 16, 24, 32	60 Hz, 75 Hz, 85 Hz	
1280 x 1024	8, 16, 24, 32	60 Hz, 75 Hz, 85 Hz	
1600 x 1200	8, 16, 24, 32	60 Hz, 65 Hz, 70 Hz, 75 Hz (85 Hz available in single monitor configuration only)	
1800 x 1440	8, 16, 24	60 Hz, 72 Hz, 75 Hz, 85 Hz	
1856 x 1392	8, 16, 24	60 Hz, 75 Hz, 85 Hz	
1920 x 1440	8, 16, 24	60 Hz, 75 Hz, 85 Hz	
2048 x 768	8, 16	60 Hz, 75 Hz	
<b>Secondary CRT Color Depths</b>	<b>Color Depths (bpp)</b>	<b>Refresh Rates</b>	
640 x 480	16, 32	60 Hz, 72 Hz, 75 Hz, 85 Hz	
800 x 600	16, 32	60 Hz, 72 Hz, 75 Hz, 85 Hz	
1024 x 768	16, 32	60 Hz, 70 Hz, 75 Hz, 85 Hz	
1152 x 864	16, 32	75 Hz	
1280 x 960	16, 32	60 Hz, 75 Hz, 85 Hz	
1280 x 1024	16, 32	60 Hz, 75 Hz, 85 Hz	
1600 x 1200	16, 32	60 Hz, 65 Hz, 70 Hz, 75 Hz, 85 Hz	

## Technical Specifications – Graphics

Matrox G200 MMS Quad Head 32-MB PCI Graphics Controller	<b>Interface</b>	PCI		
	<b>Standard Memory</b>	32MB SGRAM (8MB per port)		
	<b>DAC Speed</b>	250MHz		
	<b>Data Path</b>	128-bit Internal/64-bit External		
	<b>Color Space Conversion</b>	Yes		
	<b>Scaling</b>	Yes		
	<b>Quick Draw Support</b>	Yes		
	<b>DCI &amp; DirectX Video Playback</b>	Yes		
	<b>Direct3D Support</b>	Yes		
	<b>Engine Acceleration</b>	3 ROP bitBLT Line Draw Text Color Expansion Basic Video Color Conversion and Scaling Triangle Setup Engine		
	<b>Output</b>	The Matrox G200 Quad MMS controller features two output ports, which require 2 adapter cables to connect analog or digital output displays		
		Analog Display Support	2 RGB cables support two DB-15 analog displays per cable	
		DVI (Digital Visual Interface) Display Support	DVI cable option kit provides two DVI cables for connecting two DVI compliant displays per cable	
		Display options supported	Four analog displays via two RGB cables Four DVI displays via two DVI cables Two analog displays via one RGB cable and two DVI displays via one DVI cable	
<b>OS Support</b>	Windows NT 4.0			
<b>Other</b>	PCI bus mastering Texture mapping support Flat and Gouraud shading Anisotropic Filter Perspective texture Specular highlighting Dithering Full scene anti-aliasing Vertex fog			
<b>Refresh Rate (per display)</b>				
<b>Aspect Ratio</b>	<b>Resolution</b>	<b>Vertical</b>	<b>Horizontal</b>	
4:3/5:4	640 x 480	60-200Hz	31-102KHz	
	800 x 600	60-200Hz	38-114KHz	
	1024 x 768	60-140Hz	48-113KHz	
	1152 x 864	60-120Hz	54-110KHz	
	1280 x 1024	60-100Hz	64-107KHz	
	1600 x 1200	60-90Hz	75-113KHz	
16:9/16:10	1800 x 1440	60-70Hz	89-104KHz	
	856 x 480	60-200Hz	30-108KHz	
	1280 x 720	60-100Hz	44-76KHz	
	1600 x 1024	60-100Hz	64-108KHz	
	1920 x 1080	60-80Hz	70-94KHz	
	1920 x 1200	60-76Hz	75-95KHz	

With DVI digital flat panel displays, the maximum display resolution is 1280 x 1024

Maximum refresh rates may not be attainable at the highest display resolutions with 24 or 32-bit color palettes

## Technical Specifications – Graphics

Matrox G550 Dual DVI 32-MB AGP Graphics Controller	<b>Form factor</b>	Low profile (LP) board with ATX bracket attached (kit also includes a Small Form Factor (SFF) bracket)	
	<b>Bus type</b>	AGP 4X, AGP 2X, and AGP 1X	
	<b>Standard memory</b>	32-MB, high-speed DDR	
	<b>DAC speed</b>	360-MHz RAMDAC; secondary 230-MHz RAMDAC	
	<b>Data path</b>	64-bit DDR external bus to frame buffer memory/256-bit internal	
	<b>Internal bus width</b>	256-bit DualBus	
	<b>Memory interface</b>	64-bit DDR memory	
	<b>Frame buffer</b>	32 MB	
	<b>Operating systems supported</b>	Microsoft Windows 2000, Microsoft Windows 98, Microsoft Windows NT 4.0	
	<b>Two integrated RAMDACs</b>	Yes	
	<b>3-D engine acceleration</b>	<p>Matrox HeadCasting* engine, two dual-textured 3-D pixels/clock for fast 3-D game play, dual pixel pipelines with dual texturing units per pipeline, floating point 3-D setup engine with dynamically re-allocatable resources; Microsoft DirectX Environment-Mapped Bump Mapping; Vibrant Color Quality rendering; bilinear, 8-sample-per-pixel trilinear, and anisotropic filtering; Microsoft DirectX and OpenGL® alpha blending modes; Z-buffer support</p> <p><i>*Note: System recommendations for HeadCasting and DVD—450-MHz or higher computer; 128 MB RAM; 56-K or higher modem with minimum 40-K connection, microphone, and DVD-ROM; Internet Explorer 5.5 or higher, Microsoft PowerPoint 2000 or Microsoft PowerPoint XP (for Matrox Virtual Presenter)</i></p>	
	<b>3-D features</b>	Single cycle multi-texturing	Yes
		Environment-mapped bump mapping	Yes
	Internal rendering	32-bit	
	Source textures	Up to 32-bit	
	Maximum texture size	2048 x 2048	
	32-bit color output	Yes	
	32-bit independent Z-buffer	Yes	
	Stencil buffering	Yes	
	AGP texturing	Yes	
	Trilinear filtering	Yes	
	Microsoft DirectX support	Yes	
	OpenGL support	Yes, through Matrox	
<b>DualHead 3-D display features</b>	HeadCasting, Microsoft DirectX compliant, dual texturing units per pixel pipeline, two pixel pipelines, single-cycle multi-texturing, environment-mapped bump mapping, 32-bit internal rendering precision, up to 32-bit source textures, 32-bit color output, bilinear, trilinear and anisotropic 3-D filtering, 32-bit independent Z-buffer, OpenGL support		
<b>Other 3-D features</b>	Alpha blending, fogging, specular highlighting, environment mapping, stencil buffering, triple buffering, AGP texturing		
<b>Other</b>	Texture mapping support; true color RGB, flat, and Gouraud shading; Direct3-D support; anisotropic filter; perspective-correct texture mapping; specular highlighting (any color); hardware dithering (including dithering of LUT textures); sort-dependent antialiasing; vertex and table fogging; dual texture mapping; Plug-and-Play; 0.18-micron technology (lower heat/power consumption); high-quality DVD playback with DVDMax; color space conversion; QuickDraw supported DCI and Microsoft DirectX and OpenGL blend modes; Microsoft DirectDraw support; support for picture-in-picture and multiple video windows; Unique Motion Video Rendering support		
<b>Kit contents</b>	Matrox G550 graphics card with standard ATX bracket, DVI digital cable, VGA analog cable, Small Form Factor bracket, CD containing software drivers and documentation		
<b>Optional software bundles (not included)</b>	Matrox Virtual Presenter for Microsoft PowerPoint; Digimask™ System, HeadFone™ by LipSinc; The Matrox Software DVD Player; eDualHead browser enhancements (PageWrap, PageLog, and PageJump); Matrox PowerDesk		

## Technical Specifications – Graphics

**Matrox G550 Dual DVI 32-MB AGP  
Graphics Controller** *(continued)*

<b>DualHead configurations</b>	Digital flat panel + digital flat panel , VGA monitor/analog flat panel + VGA monitor/analog flat panel
<b>DualHead 2-D display features</b>	DualHead Multi-Display support; DualHead Browser Enhancement Suite, DualHead DVDMax, DualHead Zoom, DualHead Clone, DVDMax, DualHead MultiDesk, DualHead TV-out, DualHead Snapshot, Dual DVI support, True Multi-Display support with Microsoft Windows 2000
<b>DualHead display technology chip specifications</b>	Multiple independent displays with a single AGP card: digital flat panel/digital flat panel; analog flat panel (RGB monitor)/analog flat panel (RGB monitor)

<b>Resolutions Supported</b>	<b>Maximum Colors Supported</b>	<b>Refresh Rates</b>
640 x 480	16 million	200 Hz vertical
800 x 600	16 million	200 Hz vertical
1024 x 768	16 million	160 Hz vertical
1152 x 864	16 million	150 Hz vertical
1280 x 1024	16 million	120 Hz vertical
1600 x 1200	16 million	100 Hz vertical
1800 x 1440	16 million	90 Hz vertical
1920 x 1200	16 million	100 Hz vertical
2048 x 1536	16 million	85 Hz vertical
<b>Secondary Resolutions Supported</b>	<b>Maximum Color Depths (bpp)</b>	<b>Refresh Rates</b>
640 x 480	16 million	200 Hz vertical
800 x 600	16 million	200 Hz vertical
1024 x 768	16 million	160 Hz vertical
1152 x 864	16 million	150 Hz vertical
1280 x 1024	16 million	120 Hz vertical
1600 x 1200	16 million	85 Hz vertical
1920 x 1200	16 million	65 Hz vertical

## Technical Specifications – Hard Drives

7200 rpm SMART III Ultra ATA/100 Hard Drives	60-GB	<b>Capacity</b>	60,000 MB	
		<b>Rotational Speed</b>	7200 rpm	
		<b>Interface</b>	Ultra ATA/100	
		<b>Height</b>	1 in/25.4 mm	
		<b>Width</b>	3.5 in/88.9 mm	
		<b>Transfer Rate Synchronous (Maximum)</b>	100 MB/s	
		<b>Seek Time</b> (typical reads, including settling)	Single Track	1.2 ms (2.7 ms quiet seek)
			Average	8 ms (10.1 ms quiet seek)
			Full-Stroke	18 ms (21.1 ms quiet seek)
		<b>Physical Configuration</b>	Logical Blocks	78,165,360
	<b>Operating Temperature</b>	41° to 131°F/5° to 55°C		

Note: 60-GB capacity points include Quiet Idle technology, which reduces acoustic levels approximately 5 decibels, and ship worldwide.

	40-GB	<b>Capacity</b>	40,000 MB	
		<b>Rotational Speed</b>	7200 rpm	
		<b>Interface</b>	Ultra ATA/100	
		<b>Height</b>	1 in/25.4 mm	
		<b>Width</b>	3.5 in/88.9 mm	
		<b>Transfer Rate Synchronous (Maximum)</b>	100 MB/s	
		<b>Seek Time</b> (typical reads, including settling)	Single Track	1.2 ms (2.7 ms quiet seek)
			Average	8 ms (10.1 ms quiet seek)
			Full-Stroke	18 ms (21.1 ms quiet seek)
		<b>Physical Configuration</b>	Logical Blocks	78,165,360
	<b>Operating Temperature</b>	41° to 131°F/5° to 55°C		

Note: 40-GB capacity points include Quiet Idle technology, which reduces acoustic levels approximately 5 decibels, and ship worldwide.

	20-GB	<b>Capacity</b>	20,000 MB	
		<b>Rotational Speed</b>	7200 rpm	
		<b>Interface</b>	Ultra ATA/100	
		<b>Height</b>	1 in/25.4 mm	
		<b>Width</b>	3.5 in/88.9 mm	
		<b>Transfer Rate Synchronous (Maximum)</b>	100 MB/s	
		<b>Seek Time</b> (typical reads, including settling)	Single Track	1.2 ms (2.7 ms quiet seek)
			Average	8 ms (10.1 ms quiet seek)
			Full-Stroke	18 ms (21.1 ms quiet seek)
		<b>Physical Configuration</b>	Logical Blocks	39,102,336
	<b>Operating Temperature</b>	41° to 131°F/5° to 55°C		

Note: 20-GB 7200rpm drives shipping in EMEA with Quiet Seek also have Quiet Idle technology, which reduces acoustic levels by approximately 5 decibels.

## Technical Specifications – Hard Drives

5400 rpm SMART III Ultra ATA/100 Hard Drives	40-GB	<b>Capacity</b>	40,000 MB	
		<b>Rotational Speed</b>	5400 rpm	
		<b>Interface</b>	Ultra ATA/100	
		<b>Transfer Rate Synchronous (Maximum)</b>	66 MB/s	
		<b>Height</b>	1 in/25.4 mm	
		<b>Width</b>	3.5 in/88.9 mm	
		<b>Seek Time</b> (typical reads, including settling)	Single Track	1.5 ms (2.9 ms quiet seek)
			Average	10.5 ms (12.4 ms quiet seek)
			Full-Stroke	23 ms (23 ms quiet seek)
		<b>Physical Configuration</b>	Logical Blocks	39,102,336
	<b>Operating Temperature</b>	41° to 131°F/5° to 55°C		
	20-GB	<b>Capacity</b>	20,000 MB	
		<b>Rotational Speed</b>	5400 rpm	
		<b>Interface</b>	Ultra ATA/100	
		<b>Transfer Rate Synchronous (Maximum)</b>	66 MB/s	
		<b>Height</b>	1 in/25.4 mm	
		<b>Width</b>	3.5 in/88.9 mm	
		<b>Seek Time</b> (typical reads, including settling)	Single Track	1.5 ms (2.9 ms quiet seek)
			Average	10.5 ms (12.4 ms quiet seek)
			Full-Stroke	23 ms (23 ms quiet seek)
		<b>Physical Configuration</b>	Logical Blocks	39,102,336
		<b>Operating Temperature</b>	41° to 131°F/5° to 55°C	
10,000 rpm Wide Ultra3 SCSI Hard Drives	36.4-GB	<b>Capacity</b>	36,400 MB	
		<b>Rotational Speed</b>	10,000 rpm	
		<b>Height</b>	1 in/25.4 mm	
		<b>Width</b>	3.5 in/88.9 mm	
		<b>Interface</b>	Ultra3 (Ultra160) SCSI	
		<b>Transfer Rate Synchronous (Maximum)</b>	160 MB/s	
		<b>Seek Time</b> (typical reads, including settling)	Single Track	0.6 ms
			Average	4.7 ms
			Full-Stroke	12 ms
		<b>Logical Blocks</b>	71,132,000	
	<b>Operating Temperature</b>	50° to 95°F/10° to 35°C		

## Technical Specifications – Input/Output Devices

<b>Compaq Easy Access Keyboard</b>	<b>Dimensions (HxWxD)</b>	18.3 x 6.3 x 1.4 in/465 x 160 x 36 mm		
	<b>Weight</b>	Approximately 2 lbs/0.9 kg		
<b>Electrical</b>	Operating Voltage	+5VDC $\pm$ 5%		
	Power Consumption	50 mA maximum (with 3 LEDs on)		
	System Interface	PS/2 mini-din connector		
	ESD	CE level 4, 15 kV air discharge		
	EMI-RFI	Conforms to FCC rules for a Class B computing device		
	PC98	Functionally compliant		
	<b>Mechanical</b>	Languages	30+ available	
		Keycaps	Low-profile design	
		Switch Actuation	55 g nominal peak force with tactile feedback	
		Switch Life	20 million keystrokes (using Hasco modified tester)	
Switch Type		Contamination resistant membrane		
Key Leveling Mechanism		For all double wide and greater length keys		
Cable Length		6 ft/1.8 m		
PC98-99		Mechanically compliant		
Acoustics		50 dBA maximum sound pressure level		
<b>Environmental</b>		Operating Temperature	50° to 122° F/10° to 50° C	
	Non-operating Temperature	–22° to 140° F/–30° to 60° C		
	Operating Humidity	10% to 90% (non condensing at ambient)		
	Non-operating Humidity	20% to 80% (non condensing at ambient)		
	Operating Shock	40 g, 6 surfaces		
	Non-operating Shock	80 g, 6 surfaces		
	Operating Vibration	2 g peak acceleration		
	Non-operating Vibration	4 g peak acceleration		

## Technical Specifications – Input/Output Devices

Compaq 2-Button Scroll Mouse	<b>Scroll Wheel</b>	8 mm		
	<b>Maximum Rotation Speed</b>	30 mm/s		
	<b>Switch Type</b>	Light force micro-switch		
	<b>Switch Life</b>	1 million operations		
	<b>Mechanical Life</b>	Minimum 200,000 revolutions		
	<b>Environmental</b>	Operating Temperature	50° to 122° F/10° to 50° C	
		Non-operating Temperature	–22° to 140° F/–30° to 60° C	
		Operating Humidity	10% to 90% (non condensing at ambient)	
		Non-operating Humidity	20% to 80% (non condensing at ambient)	
		Operating Shock	40 g, 6 surfaces	
		Non-operating Shock	80 g, 6 surfaces	
		Operating Vibration	2 g peak acceleration	
		Non-operating Vibration	4 g peak acceleration	
		<b>Electrical</b>	Operating Voltage	+5VDC ± 10%
			Power Consumption	15mA
	System Consumption		PS/2 mini-din connector	
	ESD		CE level 4, 15 kV air discharge	
	EMI-RFI		Conforms to FCC rules for a Class B computing device	
	PC98		Functionally compliant	
	<b>Mechanical</b>	Resolution	400 ± 20% DPI	
		Tracking Speed	10 in/s maximum	
		Acceleration	100 in/s	
		Switch Actuation	85 g nominal peak force	
Switch Life		1,000,000 operations (using Hasco modified tester)		
Cable Length		2 m		
PC98-99		Mechanically compliant		
<b>Regulatory Approvals</b>	UL, CSA, FCC, CE Mark, TUV, TUV GS, VCCI, BCIQ, C-Tick			



## Technical Specifications – Optical Storage

48X CD-ROM Drive	<b>Interface</b>	ATAPI IDE		
	<b>Data buffer</b>	16.6 Mbps		
	<b>Data transfer rate</b>	Sustained—150 Kbps minimum (audio)	Variable (CD)—3,000 to 7,200 Kbps	
	<b>Disk rotation technology</b>	CAV (Constant Angular Velocity)		
	<b>Access time (ms)</b>	Random: <100 ms	Full-stroke seek: <150 ms	
	<b>Average access time</b>	< 80 ms		
	<b>Cache buffer (standard/maximum)</b>	128 KB		
	<b>Disk formats read</b>	Multi-session Photo CD, multi-read CD-ROM, CD text, audio CD, CD-I, CD-RW, CD-R, CD-Extra, CD-ROM XA		
	<b>Disk formats written</b>	None		
	<b>Disk capacity (CD)</b>	650 MB		
	<b>Block size</b>	Mode 1—2,048 bytes Mode 2—2,340 / 2,336 bytes CD-DA—2,352 bytes CD-XA—2,328 bytes		
	<b>Diameter</b>	12 cm; 8 cm		
	<b>Thickness</b>	1.2 mm		
	<b>Track pitch</b>	1.6 µm		
	<b>Audio output level</b>	Line-out—0.7 V @ 47 Kohm	Headphone—0.6 V @ 32 ohm	
	<b>Startup time</b>	<7 seconds (typical); < 30 seconds with multi-session		
	<b>Operating conditions</b>	Temperature	41° to 113° F (5° to 45° C)	
		Relative humidity	10% to 80%	
	<b>Dimensions (HxWxD, maximum)</b>	1.7 x 5.9 x 8.2 inches (4.3 x 15.0 x 20.8 cm)		
	<b>Weight</b>	2.6 pounds (1200 g)		
	<b>Operating systems supported</b>	Microsoft Windows 98/98SE, Microsoft Windows 2000, and Microsoft Windows NT 4.0 SP4 or later		
<b>MPEG playback graphics solution support</b>	None			

## Technical Specifications – Optical Storage

24X/10X/40X CD-RW Drive	<b>Interface</b>	ATAPI IDE		
	<b>Media formats written</b>	CD-R and CD-RW		
	<b>Media capacity</b>	650 MB		
	<b>Write methods</b>	Disc-at-once, track-at-once, session-at-once, fixed packet, and variable packet		
	<b>Recording/playing time</b>	74 minutes		
	<b>Data transfer rates</b>	Sustained	CD-R write—2,400 Kbps (16X) CD-RW write (1-4X media) —1,500 Kbps (4X) CD-RW write (4-10X media) —1,500 Kbps (10X) CD-RW read—1,500 Kbps (10X) Digital audio extraction (minimum) —1,500 Kbps (10X)	
		Variable	CD-ROM, CD-R read—1,500 to 6,000 Kbps (10X to 40X)	
	<b>Data transfer modes</b>	ATA PIO mode 4—16.7 Mbps ATA multi-word DMA mode 2—16.7 Mbps ATA UltraDMA mode 0—16.7 Mbps (mandatory and default setting) ATA UltraDMA mode 1—24 Mbps (optional); mode 2—33 Mbps (optional)		
	<b>Media formats read</b>	CD-audio, CD-ROM (modes 1 and 2), CD-ROM XA (mode 2, forms 1 and 2), single- or multi-session photo CD, CD-I, video CD, CD-text		
	<b>Access times</b>	Random	< 120 ms typical	
		Full stroke	<200 ms typical	
	<b>Rotational speed</b>	17X—40X CAV	8,350 RPM, constant	
		16X CLV	3,424—7,952 RPM	
		10X CLV	2,140—4,970 RPM	
		8X CLV	1,712—3,976 RPM	
		4X CLV	856—1,988 RPM	
	<b>Start-up time</b>	Single	<7 seconds typical	
		Multi-session	<30 seconds typical	
	<b>Stop time</b>	<4 seconds		
	<b>Block size</b>	Mode 1—2,048 / 2,352 bytes Mode 2, Form 1—2,048 / 2,328 / 2,336 / 2,340 / 2,352 bytes Mode 2, Form 2—2,328 / 2,336 / 2,340 / 2,352 bytes CD-DA—2,352 / 2,368 bytes		
<b>Disc diameter</b>	120 mm or 80 mm			
<b>Track pitch</b>	1.6 µm			
<b>Disc loading mechanism</b>	Half-height, tray load			
<b>Operating conditions</b>	Temperature	41° to 113° F (5° to 45° C) operating; -4° to 140° F		
	Humidity	10% to 80%		
<b>Mounting orientation</b>	Horizontal or vertical			
<b>Dimensions</b>	Fits in a standard 5.25-inch drive bay			
<b>Weight</b>	2.6 pounds (1.2 kg)			
<b>Approvals/environmental</b>	UL 94 and 1950, CSA, CE, FDA, FCC			
<b>Operating systems supported</b>	Microsoft Windows 98, Microsoft Windows NT 4.0, Microsoft Windows 2000			

## Technical Specifications – Optical Storage

<b>16X/40X DVD-ROM Drive with RAM Read</b>	<b>Bus</b>	Ultra DMA 33
	<b>Data transfer rate</b> (1 KB = 1024 bytes)	Sustained DVD = 8.1 Mbps to 21.6 Mbps CD-ROM = 2.55 Kbps to 6.00 Kbps
	<b>Disc rotation technology</b>	DVD—CAV (Constant Angular Velocity) CD—CAV
	<b>Access time</b> (ms)	Random Full stroke seek DVD = <100 ms; CD-ROM = < 80 ms DVD = <240 ms; CD-ROM = <160 ms
	<b>Cache buffer standard / max</b>	512 KB
	<b>ATAPI interface</b>	ATAPI
	<b>Disc formats read</b>	DVD-RAM, DVD-ROM, DVD-video, DVD-R, DVD-RW, DVD-RAM, Photo CD/multi-session, CD-ROM, CD text, audio CD, CD-I, CD-RW, CD-R, CD-DA, video CD, CD Extra, CD-ROM XA, MPEG, MPC level
	<b>Disc formats written</b>	None
	<b>Disc</b>	Capacity DVD—650 MB DVD—4.7 GB Block size Mode 0—2,352 (bytes) Mode 1—2,352 / 2,340 / 2,336 / 2,048 (bytes) Mode 2—2,352 / 2,340 / 2,336 / 2,048 (bytes) DVD—2,048 (bytes) Diameter 12 cm, 8 cm Thickness 1.2 mm (CD-ROM) 1.2 mm (DVD) Track pitch 1.6 µm (CD-ROM) 0.74 µm (DVD)
	<b>Audio output level</b>	Line out Headphones 0.7± 0.1 Vrms 0.45 ± 0.2 Vrms
	<b>Operating conditions</b>	Temperature Humidity 41° to 113° F (5° to 45° C) 5% to 85% relative humidity
	<b>Dimensions</b> (HxWxD)	1.67 x 5.83 x 8.18 inches (4.23 x 14.81 x 20.75 cm)
	<b>Weight</b>	2.22 pounds (1 kg)
	<b>Agency approvals / environmental</b>	UL, CSA, TUV, FDA, FCC, CE, EMI
	<b>OS support</b>	Microsoft Windows 98/98SE, Microsoft Windows Me, Microsoft Windows 2000, and Microsoft Windows NT 4.0 Note: MPEG video playback is not supported on Microsoft Windows NT.
	<b>MPEG video playback compatibility</b>	Refer to the platform for support
	<b>RPC2</b> (Regional Protection Control)	Yes
	<b>Minimum CPU supported</b>	Intel® Pentium® II 400 MHz or Intel Celeron™ 466 MHz
	<b>Mounting orientation</b>	Operates in horizontal or vertical position

## Technical Specifications – Optical Storage

8X/4X/32X DVD/CD-RW Combo Drive	<b>Orientation</b>	Either horizontal or vertical	
	<b>Tray load</b>	5.25 inch half-height	
	<b>Interface type</b>	ATAPI	
	<b>Dimensions—external, excluding bezel (W x H x D)</b>	5.8 x 1.7 x 7.7 inches (146.5 x 42.1 x 196 mm)	
	<b>Disc diameter</b>	5 inches, 3 inches (12 cm, 8 cm)	
	<b>Disc thickness</b>	0.05 inch (1.2 mm)	
	<b>Track pitch</b>	1.6 $\mu$ m (CD), 0.74 $\mu$ m (DVD)	
	<b>Disc center hole diameter</b>	0.6 inch (15 mm)	
	<b>Reference scanning velocity</b>	1.2 m/s (CD); 3.5 m/s (DVD SL); 3.8 m/s (DVD DL)	
	<b>Read only disc parameters</b>	Formats and modes supported	CD-ROM—Mode 1; CD-ROM XA—Mode 2 (forms 1 and 2); CD digital audio; CD Extra; CD-I—Mode 2 (forms 1 and 2) and CD-I-Ready; Photo CD (single and multi-session); video CD; DVD (single- and double-layer); DVD-R (3.95-GB); DVD-R (4.7-GB)
		Capacity	540 MB (CD— mode 1, 12 cm); 650 MB (CD— mode 2, 12 cm); 700MB (CD-ROM—80 minutes); 180 MB (CD-ROM—8 cm); 4.7 GB (DVD-5); 8.5 GB (DVD-9); 9.4 GB (DVD-10)
		Block size	Mode 1—2,048 and 2,352 bytes; mode 2, form 1—2,048, 2,328, 2,336, 2,340 and 2,352 bytes; mode 2, form 2—2,328, 2,336, 2,340 and 2,352 bytes; CD-DA—2,352 and 2,368 bytes; DVD—2,048 bytes
	<b>Writeable disc parameters</b>	Disc type	CD-R and CD-RW
		Write methods	Disc at Once, Track at Once, Session at Once, Variable Packet, Fixed Packet
Format and modes supported		CD-ROM (mode 1); CD-ROM XA (mode 2, forms 1 and 2); CD digital audio, CD-I (mode 2, forms 1 and 2); video CD	
Capacity		540 MB (mode 1, 12 cm); 650 MB (mode 2, 12 cm); 700 MB (CD-ROM, 80 minutes); 180 MB (CD-ROM, 8 cm)	
Block size		Mode 1 Disc type—2,048 bytes; mode 2, form 1—2,048 and 2,352 bytes; mode 2, form 2—2,352 bytes; CD-DA—2,352 bytes	
<b>Access times (typical reads, including settling)</b>	Random	< 130 ms (typical)	
	Full stroke	< 240 ms (typical)	

## Technical Specifications – Optical Storage

8X/4X/32X DVD/CD-RW Combo Drive (continued)	Data transfer rates	Sustained—1,200 KB/s (8X) CD-R write
		Sustained—600 KB/s (4X) CD-RW
		Sustained—1,200 KB/s (8X) Digital audio extraction (minimum) CAV)
		Variable—1,500 to 4,800 KB/s (10X to 32X) CD-ROM, CD-R read, CD-RW read
		Variable—2,705 to 10,820 KB/s (2X to 8X) DVD read
<b>Data transfer modes</b>		ATA PIO mode 4 (16.7 Mbps); ATA Multi-word DMA mode 2 (16.7 Mbps); ATA UltraDMA mode 0 (16.7-Mbps—default setting if UDMA supported); ATA UltraDMA mode 1 (24 Mbps, optional), mode 2 (33 Mbps, optional)
	Cache buffer	2 MB (minimum)
	Startup time (single)	< 7 seconds (typical)
	Startup time (multi-session)	< 30 seconds (typical)
	Stop time	< 4 seconds
<b>Power</b>		Source Four-pin, DC power receptacle
	DC power requirement	5 VDC $\pm$ 5%—100 mV ripple p-p 12 VDC $\pm$ 5%—200 mV ripple p-p
	DC current	5 VDC (< 1 A typical, < 1.5 A maximum) 12 VDC (< 1 A typical, < 1.5 A maximum)
	Total drive power (standby mode)	< 2.5 watt
<b>Audio output level</b>		0.7 Vrms (typical)
<b>Configuration jumper block</b>		Master, slave, and cable select modes
<b>Data interface connector</b>		40-pin, shrouded and keyed, flat ribbon
<b>Environmental</b> (all conditions non-condensing)		Temperature (operating) 41° to 113°F (5° to 45°C)
	Relative humidity (operating)	10% to 85%
	Maximum wet bulb temperature (operating)	86°F (30°C)
<b>Certifications, requirements</b>		MPC-3 compliant, multi-read requirements, PC'99 certified, ACA AS/NZS 3548, ANSI C63.4-1992, ATAPI Spec SFF-8020, ATA Spec X3T9.2791D, Australian Communications Authority, CB Bulletin No. 92A1, CFR 21, Part 1040, CSA C22.2 No. 950, C.I.S.P.R. Pub 22, ECMA 74, EEC/93/68, EEC/73/23, EEC/99/5, EMKO-TSE (74SEC) 207/94
<b>Operating systems supported</b>		Microsoft Windows 98, Microsoft Windows NT 4.0, Microsoft Windows 2000 <b>Note:</b> MPEG video playback is not supported on Microsoft Windows NT.
<b>Option kit contents</b>		8X Combo CD-RW/DVD-ROM Drive, Roxio™ EasyCD Creator, InterVideo™ WinDvd™ 2000, Dantz Retrospect Express for RW, CDR media, CD-RW media, audio cable, and installation guide

## Technical Specifications – Removable Storage

1.44-MB Diskette Drive	<b>Diskette Size</b>	3.5 in.		
	<b>LED Indicators (front panel)</b>	Green		
	<b>Read/Write Capacity per diskette (high/low density)</b>	1.44 MB/720 KB		
	<b>Drive Supported</b>	One		
	<b>Drive Height</b>	One-third		
	<b>Drive Rotation</b>	300 rpm		
	<b>Transfer Rate (high/low)</b>	500/250 Kb/s		
	<b>Bytes/Sector</b>	512		
	<b>Sectors/Track (high/low)</b>	18/9		
	<b>Tracks/Side (high/low)</b>	80/80		
	<b>Access Times</b>	Track-to-Track (high/low)	3/6 ms	
		Average (high/low)	169/94 ms	
		Settling Time	15 ms	
Latency Average		100 ms		

Zip 250 Drive	<b>Interface</b>	ATAPI IDE		
	<b>Media format supported</b>	Zip disk		
	<b>Media capacity</b>	250 MB		
	<b>Access time</b>	29 ms (average)		
	<b>Drive rotational speed</b>	2,941 rpm		
	<b>Size</b>	Fits into a 5.25-inch bay (with bracket)		
	<b>Data transfer rate</b>	Maximum sustained	2.4 Mbps	
			1.4 Mbps	
			1.4 Mbps (100 MB), 2.4 MB/s (250 MB)	
			0.3 Mbps (100 MB), 2.4 MB/s (250 MB)	
<b>Operating conditions</b>	Temperature	50° to 125° F (10° to 51.5° C)		
	Humidity	20% to 80%		
	<b>Compatible operating system</b>	Microsoft Windows 98/98SE, Microsoft Windows 2000, and Microsoft Windows NT 4.0 SP4 or later		

### Compaq PCs use genuine Microsoft® Windows®

[www.Microsoft.com/piracy/howtotell](http://www.Microsoft.com/piracy/howtotell)

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