

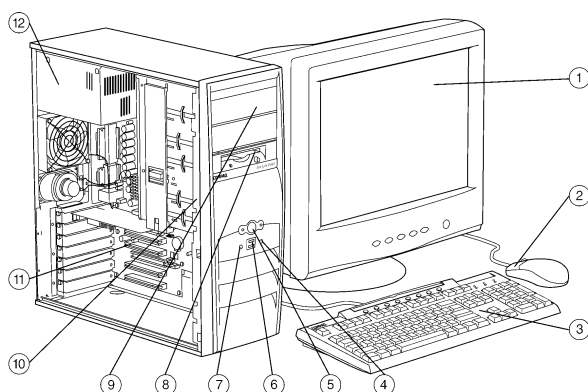
Overview

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

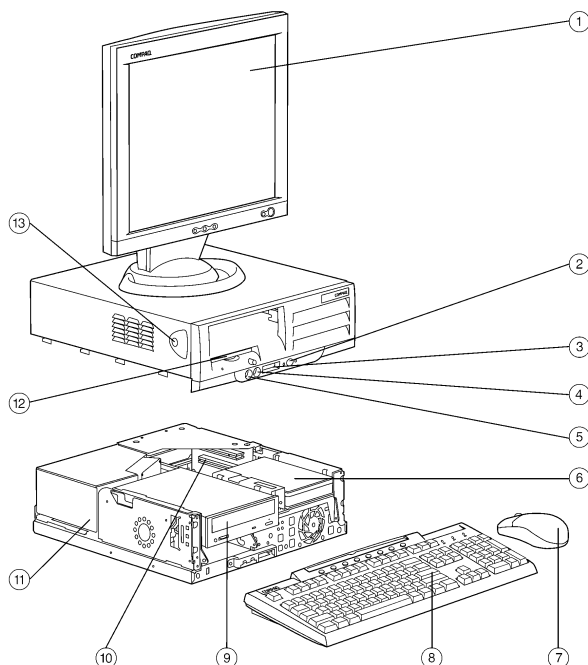
At A Glance

- 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
- Protected by Compaq Services, including a three-year, limited warranty – Terms and conditions vary by country. Certain restrictions and exclusions apply.



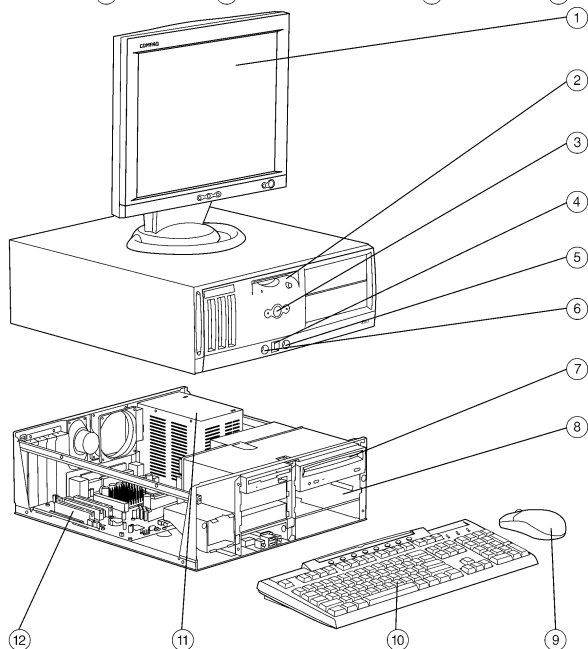
Convertible Minitower

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

Compaq Evo Desktop D500 Series with 845 chipset			
Pre-Configured Models	Model Key		
(Geos to localize with favorable configuration models and part numbers)	Example:	D5S/P1.5/20j/2/128c/vn	
		D5S =	Evo D500 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
		n =	Integrated Intel Pro/100 VM

Standard Features – Select Components

Compaq Evo Desktop D500 Series with 845 chipset

Processor and Speed <i>One of the following</i>	Intel Pentium 4 Processors 1.5-GHz 1.6-GHz 1.7-GHz	Standard L2 Cache Front Side Bus Maximum Memory	256-KB Integrated ECC 400-MHz 1.5-GB
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Note: All Compaq Evo Desktop D500 contain three DIMM slots, but can only be upgraded to a maximum of 3-GB when 1-GB PC133 SDRAM are available.

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

Compaq Evo Desktop D500 Series with 845 chipset

Processor and Speed <i>One of the following</i>	Intel Pentium 4 Processors 1.5-GHz 1.6-GHz 1.7-GHz 1.8-GHz 1.9-GHz 2.0-GHz* 2.2-GHz*	Standard L2 Cache Front Side Bus Maximum Memory	256-KB Integrated ECC 400-MHz 1.5-GB
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Note: Intel Pentium 4 processors with speeds of 2.0-GHz or above have 512-KB L2 cache.

Note: All Compaq Evo Desktop D500 contain three DIMM slots, but can only be upgraded to a maximum of 3-GB when 1-GB PC133 SDRAM are available.

Hard Drives <i>One of the following</i>	20-GB 7200 rpm QSI SMART III Ultra ATA/100 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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Standard Memory <i>One of the following</i>	1.5-GB SDRAM (PC133) (3 x 512) 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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Removable Storage	1.44-MB Diskette Drive Iomega Zip 250 Drive
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Optical Storage	48X CD-ROM Drive 16X DVD-ROM with RAM Read 24X/10X/40X Drive 8X/4X/32X DVD/CD-RW Combo Drive
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Keyboard/Mouse	Easy Access Keyboard (<i>carbon</i>) Enhanced Keyboard (<i>carbon</i>) 2-Button Scroll Mouse (<i>carbon</i>)
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Audio	Integrated AC'97 Audio with Internal Speaker
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NIC	Integrated Intel PRO/100 VM Network Connection 3COM 3C920C-TX Network Connection
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Modem	Lucent V.90 56K PCI Modem
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Graphics	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

Operating System <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
Software	Microsoft Windows Office XP Professional
	Microsoft Windows Office XP Small Business
	Microsoft Windows Office XP Personal
	Norton AntiVirus 2002
Intelligent Manageability	Yes

Standard Features – Base Unit Details

Compaq Evo Desktop D500 Series with 845 chipset

	Desktop	Small Form Factor	Convertible Minitower
Expansion Capability			
Memory Expansion Slots	3 DIMM's	3 DIMM's	3 DIMM's
Slots			
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)
Bays			
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
Chassis Dimensions (H x W x D)			
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
Chassis Weight			
System Weight	25 lb/11.34 kg	20 lb/9.1 kg	26.0 lb/11.8 kg
Weight Supported	100 lb/45.5 kg	100 lb/45.5 kg	100 lb/45.5 kg
Box Dimensions (H x W x D)			
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	58.75x 33.02 x 57.15 centimeters
Box Weight	36.25 lb	34 lb	38 lb
System Memory			
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		
Supported Features			
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		
Intel Pentium 4			
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 D500 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 D500 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 D500 Small Form Factor)
	Password Clear Header	Yes
	Reset Header (Not Installed)	Yes
	Riser Connector	Yes on D500 Small Form Factor only
	SCSI LED Header	Yes (on riser on D500 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 D500 Series with 845 chipset

Serviceability Features of System Board	Dual Color Power and HD LED - To Indicate Normal Operations and Fault Conditions Blinking Diagnostic Keyboard LED Codes Diagnostic LED Label (see Illustrated Parts Map) at http://www.compaq.com/support/techpubs/illustrated_parts_map/ User Diagnostic Software Support Over-Temp Warning on Screen (Need Intelligent Manageability to work) Compaq Software Restore CD Flash ROM 3.3V Aux Power LED on System PCA Dual Function 5V Aux Power LED (ON) /PS_ON LED (OFF) on System PCA Processor Hot LED on System PCA Diagnostic Power Switch LED (Not needed onD500 Small Form Factor because power switch is on system board) Clear Password Jumper Clear CMOS Button
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Desktop Chassis	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	Silver/Carbon Standard uATX Variable Speed Power Supply Fan Variable Speed Processor Fan Heatsink Variable Speed Chassis Fan 3 Full Length, Full Height PCI Slots 1 Half Length, Full Height AGP Front Headphone, Mic, and 2 USB (Option) Standard ATX I/O Panel Yes 235-Watt Enhanced ATX PS Kensington Cable Lock Security Module (Solenoid Hood Lock and Hood Sensor) Lock Tab built into back of Chassis Yes
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Small Form Factor Chassis	Color System Board Form Factors Supported Cooling Solutions Supported (2 Fans) Slots Supported Front I/O Rear I/O Internal Speaker Custom Power Supply Security Locks Supported Power Switch/LED Cable	Silver/Carbon Custom SFF Variable Speed Power Supply Fan Variable Speed Chassis Fan 2 Half Length, Full Height PCI slots 1 Low Profile AGP Front Headphone, Mic, and 2 USB Standard Standard ATX I/O Connectors (Some Single Stacked) Yes 175-Watt Enhanced ATX Like PS Kensington Cable Lock Security Module (Solenoid Hood Lock and Hood Sensor) Compaq Lock Bracket – 173234 (chassis securement only, hood lock required to secure hood) No (on system board)
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Standard Features – Base Unit Details

Compaq Evo Desktop D500 Series with 845 chipset

Convertible Minitower Chassis	Color	Silver/Carbon
	System Board Form Factors Supported	Standard uATX & Standard ATX
	Cooling Solutions Supported (3 Fans)	Variable Speed Power Supply Fan
		Variable Speed Processor Fan Heatsink
		Variable Speed Chassis Fan
	Slots Supported	6 Full Length, Full Height Slots (1 AGP and 5 PCI)
	Front I/O	Front Headphone, Mic, and 2 USB (Option)
	Rear I/O	Standard ATX I/O Panel
	Internal Speaker	Yes
	Custom Power Supply	250-Watt Enhanced ATX PS
	Security Locks Supported	Kensington Cable Lock
		Security Module (Solenoid Hood Lock and Hood Sensor)
		Compaq Lock Bracket – 173234 (chassis securement only, hood lock required to secure hood)
	Power Switch/LED Cable	Yes

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 D500 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-webserver.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 D500 Series with 845 chipset

ROM Features	Instantly Available PC (Suspend to RAM - S3) ROM Based F10 Setup Remote System Installation via F12 (PXE) Failsafe Boot Block ROM Emergency ROM Flash Recovery with Video CMOS Archive and CMOS Restore Save and Restore CMOS Setup via Diskette Auto Setup when New Hardware Installed Serial, Parallel, USB Enable/Disable Port Control Removable Media Write/Boot Control Remote Boot from Server Network Server Mode Power-On Password Setup Password Memory Change Alert (Need IM to work) Thermal Alert (Need IM to work) Cover Removal Alert (Need IM to work) Master Boot Record Security Remote ROM Flash Remote Wakeup Power Management ACPI Ready DMI BIOS (Desktop Management Interface)
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System Environmental Specs	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	10 G (positive and negative directions front to back on Small Form Factor)	
		Operating	Operating: Random vibration at 0.000215 G ² /Hz, 10Hz to 300Hz, (0.25G's nominal)
		Non-Operating	Random vibration at 0.0005 G ² /Hz, 10Hz to 500Hz, (0.5G's nominal).

Standard Features – Base Unit Details

Compaq Evo Desktop D500 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)
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
Intelligent Manageability Agent	Yes	Yes	Yes
Plug and Play Ready	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
Boot Support			
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

Compaq Evo Desktop D500 Series with 845 chipset

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
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
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)
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
Service and Support	On-site Warranty and Service Note 1: This three-year, limited warranty and service offering delivers three years of on-site, next business-day Note 2 service for parts and labor and includes free telephone support Note 3 24 x 7. Global coverage Note 2 ensures that any product purchased in one country and transferred to another, non-restricted country will remain fully covered under the original warranty and service offering. Note 1: Terms and conditions may vary by country. Certain restrictions and exclusions apply. Note 2: 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. Note 3: Technical telephone support applies only to Compaq-configured, Compaq and Compaq-qualified, third-party hardware and software. Toll-free calling and 24 x 7 support may not be available in some countries.

After-Market Options

Communications	NICs	
	Intel 10/100S Management Adapter	212953-B21
	Intel 10/100S Management Adapter (20-pack)	212954-B21
Chassis Enhancements	Tower Stand (Desktop & Small Form Factor only)	234489-B22
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	<i>SMART III Ultra ATA/100 Hard Drives with Drive Protection System (DPS)</i>	
	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
	<i>SCSI Hard Drives</i>	
	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	<i>Keyboards</i>	
	Compaq Easy Access Keyboard (carbon)	202109-xx8
Memory (DIMMs)	<i>Mice</i>	
	Compaq 2-Button Scroll Mouse	170299-B22
Memory (DIMMs)	<i>133-MHz SDRAM DIMMs</i>	
	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
	<i>133-MHz SDRAM DIMMs ECC</i>	
	512-MB Memory Kit (1 x 256-MB SDRAM DIMM, 133 MHz)	254873-B21
	256-MB Memory Kit (1 x 128-MB SDRAM DIMM, 133 MHz)	254872-B21
	128-MB Memory Kit (1 x 64-MB SDRAM DIMM, 133 MHz)	254871-B21

After-Market Options

Monitors

TFTs

Compaq TFT8030 Monitor (18-inch, Two-tone)	234362-001
Compaq TFT8030 Monitor (18-inch, Baseless)	250199-001
Compaq TFT5030 Monitor (15-inch, Two-tone)	228134-001
Compaq TFT5030 Monitor (15-inch, Baseless)	250198-001
Compaq TFT5015 Monitor (15-inch, Opal)	234043-001
Compaq TFT5015 Monitor (15-inch, Two-tone)	234044-001

CRTs

Professional Series

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

Value Series

Compaq V720 CRT Monitor (17-inch, Opal)	232943-xxx
Compaq V720 CRT Monitor (17-inch, Two-tone)	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, Two-tone)	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, Two-tone)	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, Two-tone)	239287-xxx
Compaq M720 CRT Monitor (17-inch, Two-tone)	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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After-Market Options

Optical Drives	<i>DVD-ROM Drives</i>	
	16X/40X DVD-ROM Drive (carbon)	237495-B22
	<i>DVD-RAM Drives</i>	
	4.7-GB DVD-RAM Drive (carbon)	294415-B22
	<i>CD-ROM Drives</i>	
	48X Max CD-ROM Drive (carbon)	187217-B23
	<i>DVD-RW Drives</i>	
	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
	<i>CD-RW Drives</i>	
	16X/10X/40X CD-RW Drive (carbon)	240598-B22
	<i>Combo Drives</i>	
	8X Combo DVD-ROM and CD-RW Drive (carbon)	244885-B22
Removable Storage	<i>Floppy Drives</i>	
	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
	<i>Tape Drives</i>	
	TR5 10/20-GB Tape Drive (carbon)	294243-B21
	TR5 10/20-GB Media 3-Pack	125782-B21
Security	USB Biometric Identification Device	240238-B21
	Basic Smartcard Keyboard	115506-008

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 D500 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.

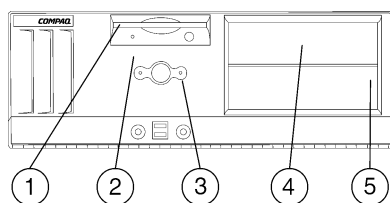
Memory		Slot		
		1	2	3
Standard	256 MB	256 MB	Empty	Empty
Current Maximum Memory	1.5-GB	512-MB	512-MB	512-MB
Maximum Memory when 1-GB available	3-GB	1-GB	1-GB	1-GB

Note: All Compaq Evo Desktop D500 contain three DIMM slots, but can only be upgraded to a maximum of 3-GB when 1-GB PC133 SDRAM are available.

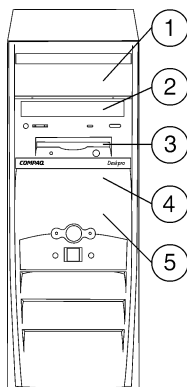
Note: 1-GB PC133 SDRAM not currently offered as after-market options.

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.

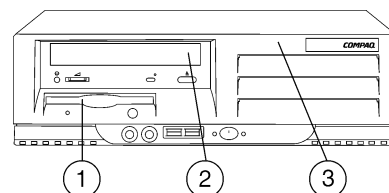
Storage



Desktop Configuration



Convertible Minitower Configuration



Small Form Factor Configuration

EVO DESKTOP D500 DRIVE SUPPORT

	Quantity Supported	Position Supported	Controller
DESKTOP			
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	Manufacturer	Intel		
	Interface	Intel SingleDriver™ technology (10/100-Mbps support)		
	Connector	RJ-45		
	Expansion bus architecture	PCI 2.2		
	Configuration	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	
	OS driver support	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		
	Software support	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		
	Remote wakeup	Alert On LAN (tx alerting)—PME # AND WAKE signals; no cable required on 810 or 820 chipset platforms		
	Boot PROM support	Yes, Intel PRO/100 Boot Agent (PXE 2.0, RPL)		
	Special features	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)		
	Proactive alert technology	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		
	F12 BIOS support	Yes		
	Environmental requirements	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)	
	Power	300 mW typical in active transmit mode; reduced power in unplugged mode (<50 mW); 3.3 V device		
Power management	ACPI 1.0			
Flash package	48-pin Shrink Small Outline Package (SSOP)			
Network management	PCI 2.2			
LED indicators	Three-port support (speed, link, and activity)			
Standards compliance	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

3COM 3C920C-TX Network Connection	Manufacturer	3ComOL	
	Connector	RJ-45	
	Expansion bus architecture	PCI 2.2	
	Configuration	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
	Standards compliance	IEEE 802.3 (10-Mbps Ethernet), IEEE 802.3u (100-Mbps Ethernet)	
	OS driver support	Microsoft Windows 95, Microsoft Windows 98, Microsoft Windows 2000, Microsoft Windows NT 3.5/x and 4.0,	
	Remote wakeup	Yes, WAKE signal	
	Proactive alert technology	No	
	Environmental operating requirements	Temperature	32° to 131° F (0° to 55° C)
		Humidity (non-condensing)	10% to 90%
	Power management	ACPI	
	Network management	DMI 2.0, WfM 2.x, PCI 2.2	
	Power	+3.3 V, 340 mA	
	LED indicators	100-Mbps link, 10-Mbps link, activity	
	Dimensions	4.7 x 2.2 in/12.0 x 5.6 cm	
	Certifications	CE Mark, FCC Class B, VCCI Class B, CISPR 22 Class B	

Technical Specifications – Communications

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

Technical Specifications – Graphics

NVIDIA Vanta16-MB AGP Graphics Controller	Form factor	Half-size ATX		
	Bus type	AGP 4X		
	Memory support	16-MB SDRAM (64-bit frame buffer interface)		
	Memory clock	125 MHz		
	RAMDAC	250 MHz		
	Internal clock	100 MHz		
	Data path	64-bit		
	Process	0.22μ		
	Pipelines	2 (bilinear)		
	Fill rate	200 M pixels per second		
	Triangle rate	8 M triangles per second		
	Video overlay filter	2 x 2		
	MPEG support (software)	CSC IDCT		
	Color space conversion	Yes		
	Scaling	Yes		
	Quick draw support	Yes		
	DCI and Microsoft DirectX video playback	Yes		
	Microsoft DirectX support	Yes		
	3-D support	Yes		
	Engine acceleration	Basic video color conversion and scaling 100% hardware triangle setup engine		
	Dual monitor support	With additional PCI controller only		
	OS support	Microsoft Windows 98, Microsoft Windows 2000, Microsoft Windows NT 4.0, Microsoft Windows Me		
	Other	Optimized for Direct3D acceleration with support for Microsoft DirectX 5.0 and 6.0		
		128-bit TwiN-Texel (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		
	Resolutions Supported			
	Resolution	Refresh Rate (Hz) 8-bit Color	Max Refresh Rate (Hz) 16-bit Color	Max Refresh Rate (Hz) 32-bit Color
	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	Form Factor	ATX	
	Bus type	AGP 1X, 2X, 4X: PCI Rev 2.2 bus specification	
	Standard memory	AGP: 32 MB/PCI: 16 MB	
	DAC speed	360 MHz (secondary DAC: 200 MHz)	
	Data path	64-bit DDR External/256-bit Internal	
	Internal bus width	256-bit DualBus	
	Memory interface	64-bit DDR Memory	
	Frame buffer	AGP: 32 MB/PCI: 16 MB	
	Two integrated RAMDACs	Yes	
	Engine acceleration	3 ROP bitBLT, line draw, text, color expansion, basic video color conversion and scaling, triangle setup engine	
	Other	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	
	3D Features	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
	DualHead Display Features	Multi-Display Mode, DVD Max Mode, DualHead Zoom Mode, DualHead Clone Mode, Single Chip Multi-Monitor support	
	Supported Modes	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.	
	Primary CRT Color Depths	Color Depths (bpp)	Refresh Rates
	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
	Secondary CRT Color Depths	Color Depths (bpp)	Refresh Rates
	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	Interface	PCI	
	Standard Memory	32MB SGRAM (8MB per port)	
	DAC Speed	250MHz	
	Data Path	128-bit Internal/64-bit External	
	Color Space Conversion	Yes	
	Scaling	Yes	
	Quick Draw Support	Yes	
	DCI & DirectX Video Playback	Yes	
	Direct3D Support	Yes	
	Engine Acceleration	3 ROP bitBLT	
		Line Draw	
		Text	
		Color Expansion	
		Basic Video Color Conversion and Scaling	
		Triangle Setup Engine	
	Output	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
	OS Support	Windows NT 4.0	
	Other	PCI bus mastering	
		Texture mapping support	
		Flat and Gouraud shading	
		Anisotropic Filter	
		Perspective texture	
		Specular highlighting	
		Dithering	
		Full scene anti-aliasing	
		Vertex fog	
	Refresh Rate (per display)		
Aspect Ratio	Resolution	Vertical	Horizontal
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
	1800 x 1440	60-70Hz	89-104KHz
16:9/16:10	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	Form factor	Low profile (LP) board with ATX bracket attached (kit also includes a Small Form Factor (SFF) bracket)	
	Bus type	AGP 4X, AGP 2X, and AGP 1X	
	Standard memory	32-MB, high-speed DDR	
	DAC speed	360-MHz RAMDAC; secondary 230-MHz RAMDAC	
	Data path	64-bit DDR external bus to frame buffer memory/256-bit internal	
	Internal bus width	256-bit DualBus	
	Memory interface	64-bit DDR memory	
	Frame buffer	32 MB	
	Operating systems supported	Microsoft Windows 2000, Microsoft Windows 98, Microsoft Windows NT 4.0	
	Two integrated RAMDACs	Yes	
	3-D engine acceleration	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	
		*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)	
	3-D features	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
	DualHead 3-D display features	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	
	Other 3-D features	Alpha blending, fogging, specular highlighting, environment mapping, stencil buffering, triple buffering, AGP texturing	
	Other	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	
	Kit contents	Matrox G550 graphics card with standard ATX bracket, DVI digital cable, VGA analog cable, Small Form Factor bracket, CD containing software drivers and documentation	
	Optional software bundles (not included)	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)

DualHead configurations	Digital flat panel + digital flat panel, VGA monitor/analog flat panel + VGA monitor/analog flat panel
DualHead 2-D display features	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
DualHead display technology chip specifications	Multiple independent displays with a single AGP card: digital flat panel/digital flat panel; analog flat panel (RGB monitor)/analog flat panel (RGB monitor)

Resolutions Supported	Maximum Colors Supported	Refresh Rates
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
Secondary Resolutions Supported	Maximum Color Depths (bpp)	Refresh Rates
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 60-GB Hard Drives

Capacity	60,000 MB	
Rotational Speed	7200 rpm	
Interface	Ultra ATA/100	
Height	1 in/25.4 mm	
Width	3.5 in/88.9 mm	
Transfer Rate Synchronous (Maximum)	100 MB/s	
Seek Time (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)
Physical Configuration	Logical Blocks	78,165,360
Operating Temperature	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

Capacity	40,000 MB	
Rotational Speed	7200 rpm	
Interface	Ultra ATA/100	
Height	1 in/25.4 mm	
Width	3.5 in/88.9 mm	
Transfer Rate Synchronous (Maximum)	100 MB/s	
Seek Time (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)
Physical Configuration	Logical Blocks	78,165,360
Operating Temperature	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

Capacity	20,000 MB	
Rotational Speed	7200 rpm	
Interface	Ultra ATA/100	
Height	1 in/25.4 mm	
Width	3.5 in/88.9 mm	
Transfer Rate Synchronous (Maximum)	100 MB/s	
Seek Time (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)
Physical Configuration	Logical Blocks	39,102,336
Operating Temperature	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 40-GB Hard Drives

Capacity	40,000 MB	
Rotational Speed	5400 rpm	
Interface	Ultra ATA/100	
Transfer Rate Synchronous (Maximum)	66 MB/s	
Height	1 in/25.4 mm	
Width	3.5 in/88.9 mm	
Seek Time (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)
Physical Configuration	Logical Blocks	39,102,336
Operating Temperature	41° to 131°F/5° to 55°C	

20-GB

Capacity	20,000 MB	
Rotational Speed	5400 rpm	
Interface	Ultra ATA/100	
Transfer Rate Synchronous (Maximum)	66 MB/s	
Height	1 in/25.4 mm	
Width	3.5 in/88.9 mm	
Seek Time (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)
Physical Configuration	Logical Blocks	39,102,336
Operating Temperature	41° to 131°F/5° to 55°C	

10,000 rpm Wide Ultra3 SCSI Hard 36.4-GB Drives

Capacity	36,400 MB	
Rotational Speed	10,000 rpm	
Height	1 in/25.4 mm	
Width	3.5 in/88.9 mm	
Interface	Ultra3 (Ultra160) SCSI	
Transfer Rate Synchronous (Maximum)	160 MB/s	
Seek Time (typical reads, including settling)	Single Track	0.6 ms
	Average	4.7 ms
	Full-Stroke	12 ms
Logical Blocks	71,132,000	
Operating Temperature	50° to 95°F/10° to 35°C	

Technical Specifications – Input/Output Devices

Compaq Easy Access Keyboard	Dimensions (HxWxD)	18.3 x 6.3 x 1.4 in/465 x 160 x 36 mm		
	Weight	Approximately 2 lb/0.9 kg		
	Electrical	Operating Voltage	+5VDC ± 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	
		Mechanical	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	
	Environmental	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	Scroll Wheel	8 mm		
	Maximum Rotation Speed	30 mm/s		
	Switch Type	Light force micro-switch		
	Switch Life	1 million operations		
	Mechanical Life	Minimum 200,000 revolutions		
	Environmental	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	
	Electrical	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	
	Mechanical	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	
	Regulatory Approvals	UL, CSA, FCC, CE Mark, TUV, TUV GS, VCCI, BCIQ, C-Tick		

Technical Specifications – Optical Storage

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

Technical Specifications – Optical Storage

24X/10X/40X CD-RW Drive		
Interface	ATAPI IDE	
Media formats written	CD-R and CD-RW	
Media capacity	650 MB	
Write methods	Disc-at-once, track-at-once, session-at-once, fixed packet, and variable packet	
Recording/playing time	74 minutes	
Data transfer rates	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)
Data transfer modes	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)	
Media formats read	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	
Access times	Random	<120 ms typical
	Full stroke	<200 ms typical
Rotational speed	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
Start-up time	Single	<7 seconds typical
	Multi-session	<30 seconds typical
Stop time	<4 seconds	
Block size	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	
Disc diameter	120 mm or 80 mm	
Track pitch	1.6 μm	
Disc loading mechanism	Half-height, tray load	
Operating conditions	Temperature	41° to 113° F (5° to 45° C) operating; -4° to 140° F
	Humidity	10% to 80%
Mounting orientation	Horizontal or vertical	
Dimensions	Fits in a standard 5.25-inch drive bay	
Weight	2.6 pounds (1.2 kg)	
Approvals/environmental	UL 94 and 1950, CSA, CE, FDA, FCC	
Operating systems supported	Microsoft Windows 98, Microsoft Windows NT 4.0, Microsoft Windows 2000	

Technical Specifications – Optical Storage

16X/40X DVD-ROM Drive with RAM Read	Bus	Ultra DMA 33	
	Data transfer rate (1 KB = 1024 bytes)	Sustained	DVD = 8.1 Mbps to 21.6 Mbps CD-ROM = 2.55 Kbps to 6.00 Kbps
	Disc rotation technology	DVD—CAV (Constant Angular Velocity) CD—CAV	
	Access time (ms)	Random	DVD = <100 ms; CD-ROM = < 80 ms
		Full stroke seek	DVD = <240 ms; CD-ROM = <160 ms
	Cache buffer standard/max	512 KB	
	ATAPI interface	ATAPI	
	Disc formats read	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	
	Disc formats written	None	
	Disc	Capacity	CD—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)
		Audio output level	Line out 0.7± 0.1 Vrms
			Headphones 0.45 ± 0.2 Vrms
	Operating conditions	Temperature	41° to 113° F (5° to 45° C)
		Humidity	5% to 85% relative humidity
	Dimensions (HxWxD)	1.67 x 5.83 x 8.18 in/4.23 x 14.81 x 20.75 cm	
	Weight	2.22 lb (1 kg)	
	Agency approvals/environmentals	UL, CSA, TUV, FDA, FCC, CE, EMI	
	OS support	Microsoft Windows 98/98SE, Microsoft Windows Me, Microsoft Windows 2000, and Microsoft Windows NT 4.0 <i>Note: MPEG video playback is not supported on Microsoft Windows NT.</i>	
	MPEG video playback compatibility	Refer to the platform for support	
	RPC2 (Regional Protection Control)	Yes	
	Minimum CPU supported	Intel Pentium II 400 MHz or Intel Celeron™ 466 MHz	
	Mounting orientation	Operates in horizontal or vertical position	

Technical Specifications – Optical Storage

8X/4X/32X DVD/CD-RW Combo Drive	Orientation	Either horizontal or vertical	
	Tray load	5.25 inch half-height	
	Interface type	ATAPI	
	Dimensions—external, excluding bezel (W x H x D)	5.8 x 1.7 x 7.7 in (146.5 x 42.1 x 196 mm)	
	Disc diameter	5 in, 3 in (12 cm, 8 cm)	
	Disc thickness	0.05 in (1.2 mm)	
	Track pitch	1.6 μ m (CD), 0.74 μ m (DVD)	
	Disc center hole diameter	0.6 inch (15 mm)	
	Reference scanning velocity	1.2 m/s (CD); 3.5 m/s (DVD SL); 3.8 m/s (DVD DL)	
	Read only disc parameters	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
	Writeable disc parameters	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
	Access times (typical reads, including settling)	Random	< 130 ms (typical)
		Full stroke	< 240 ms (typical)
	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 CAV)	Digital audio extraction (minimum)
		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

Technical Specifications – Optical Storage

8X/4X/32X DVD/CD-RW Combo Drive (continued)	Data transfer modes	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	
	Power	Source	Four-pin, DC power receptacle	
		DC power requirement	5 VDC ± 5%—100 mV ripple p-p	
			12 VDC ± 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	
	Audio output level	0.7 Vrms (typical)		
	Configuration jumper block	Master, slave, and cable select modes		
	Data interface connector	40-pin, shrouded and keyed, flat ribbon		
	Environmental (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)	
	Certifications, requirements	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		
	Operating systems supported	Microsoft Windows 98, Microsoft Windows NT 4.0, Microsoft Windows 2000 Note: MPEG video playback is not supported on Microsoft Windows NT.		
	Option kit contents	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	Diskette Size	3.5 in.
	LED Indicators (front panel)	Green
	Read/Write Capacity per diskette (high/low density)	1.44 MB/720 KB
	Drive Supported	One
	Drive Height	One-third
	Drive Rotation	300 rpm
	Transfer Rate (high/low)	500/250 Kb/s
	Bytes/Sector	512
	Sectors/Track (high/low)	18/9
	Tracks/Side (high/low)	80/80
	Access Times	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	Interface	ATAPI IDE
	Media format supported	Zip disk
	Media capacity	250 MB
	Access time	29 ms (average)
	Drive rotational speed	2,941 rpm
	Size	Fits into a 5.25-inch bay (with bracket)
	Data transfer rate	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)
		11.1 Mbps
	Operating conditions	Temperature 50° to 125° F (10° to 51.5° C)
		Humidity 20% to 80%
	Compatible operating system	Microsoft Windows 98/98SE, Microsoft Windows 2000, and Microsoft Windows NT 4.0 SP4 or later

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