Overview
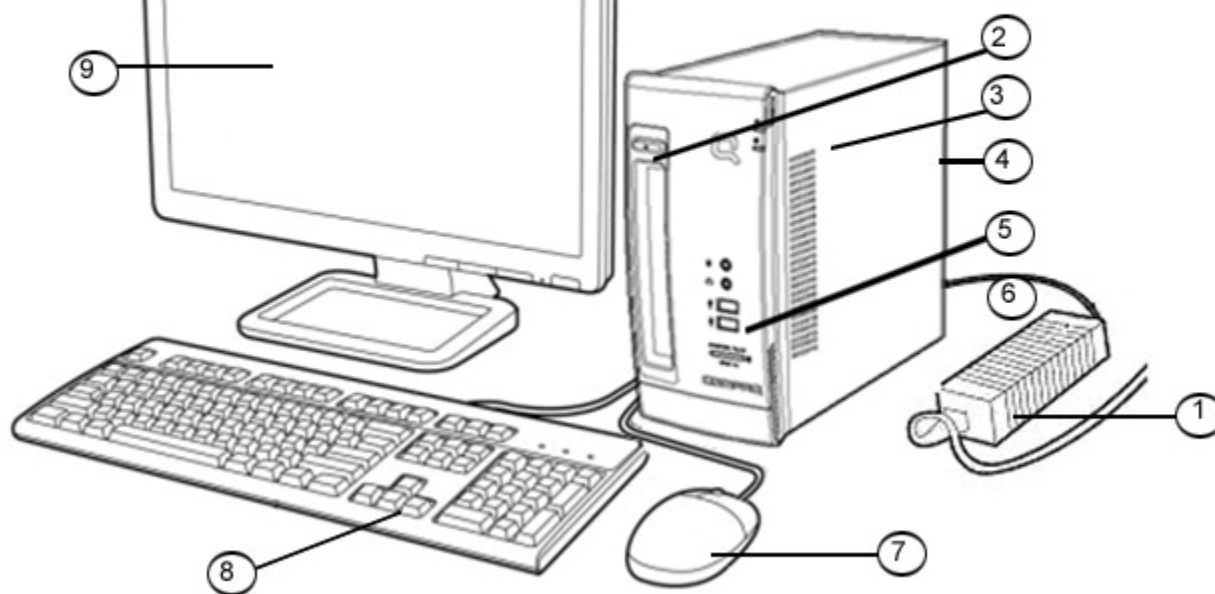

1. 65-watt power supply adapter
2. (1) external 5.25-inch bay for optical drive
3. (1) internal 3.5-inch bay for hard disk drive
4. Rear I/O includes (4) USB 2.0 ports, RJ-45 network port, VGA video port, audio in/out jacks, microphone jack
5. Front I/O includes (2) USB 2.0 ports, audio out and mic jacks, Media Card Reader

6. Half height expansion slot PCIe x1 slot
7. USB Optical Scroll Mouse
8. USB Standard Keyboard
9. Monitor (sold separately)

At A Glance

- Intel Atom Pineview D410
- Windows XP Home SP3 operating system
- Intel Pinetrail Chipset
- DDR2 SDRAM PC2-6400 (667/800 MHz) non-ECC system memory
- Intel I/O Controller NM10
- Integrated Intel Graphic Media Accelerator
- PCIex 1 slot
- Serial ATA controller
- USB 2.0 support
- Realtek ALC887 audio codec
- Realtek RTL8103EL 10/100 Fast Ethernet controller
- SATA 160 GB Hard drive
- SATA SuperMulti Light Scribe DVD writer drive
- Protected by HP Services. Terms and conditions vary by country. Certain restrictions and exclusions apply.

Standard Features and Configurable Components (availability may vary by country)

Operating Systems and Application Software (availability varies by region)	**Preinstalled** **Supported**	Windows XP Home SP3* Genuine Windows Vista Business 32** Windows XP Professional Genuine Windows 7 Home Premium Edition 32* Genuine Windows 7 Home Basic Edition 32* Genuine Windows 7 Starter*

* System may require upgraded and/or separately purchased hardware and/or a DVD drive to install the Windows 7 software and take full advantage of Windows 7 functionality.
See: http://www.microsoft.com/windows/windows-7/ for details.

+ Windows 7 Professional disk may also be included for future upgrade if desired. To qualify for this downgrade an end user must be a business (including governmental or educational institutions) and is expected to order annually at least 25 customer systems with the same custom image.

2007 Microsoft Office Ready PC

PDF Complete

CyberLink Power2Go

CyberLink LabelPrint

LightScribe Runtime

Internet Explorer 8

Internet Explorer Home Page

Microsoft Windows Live Toolbar

Hard Drives	160-GB Serial ATA 3.0-Gb/s NCQ, Smart IV (7200 rpm)

System Memory	1-GB DDR2 Synch DRAM 800-MHz Non-ECC (1 x 1GB)

Optical Drive	SATA SuperMulti LightScribe DVD Writer Drive

Input Devices	**Keyboard** USB Standard Keyboard **Mouse** USB Optical Scroll Mouse

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Audio	Realtek ALC887 High Definition audio codec 3D audio compliant and HD Audio compatible

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Communication	Integrated Realtek RTL8103EL 10/100 Ethernet Controller

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Graphics	Integrated Intel Graphics Media Accelerator

System Details

Base Unit		• One (1) drive bays and one PCI ex1 expansion slot
		• 92 x 92 x 25 mm chassis fan
		• System board with Intel Pineview CPU and NM10 Chipset, Intel GMA graphic controller, Realtek RTL8103EL 10/100 Fast Ethernet controller, Realtek ALC887 AUDIO codec, (1) PCI ex1 slot, 2 DDR2 SO- DIMM memory slots, (2) Serial ATA data connectors
		• PSU Adapter & Power cord
Slots	**PCI ex1**	One (1) half-height PCI ex 1 slot
	Memory Expansion	Two (2) DDR2 SO-DIMM slots (4 GB maximum memory support)
Bays	**External**	One (1) 5.25"
USB Support		EHCI high-speed USB 2.0 controller
		Two (2) front ports; Four (4) rear ports, Two (2) internal ports on system board
Interfaces		One (1) analog VGA video port
		One (1) rear line in; one (1) rear line out; one (1) rear mic in, (1) front mic in, (1) front headphone out
		One (1) RJ45 network port
Weight & Dimensions	**Chassis Dimensions (H x D x W)**	9.21 x 10.54 x 4.41 in 234 x 260 x 112 mm
	Packaged Dimensions (L x H x W)	19.48 x 12.99 x 8.50 in 495 x 330 x 216 mm
	System Weight	22.4 lb (10.2 kg)
	Shipping Weight	30.8 lb (14.0 kg)
Technology and Features	**Memory Type**	PC2-6400 DDR2 SO- DRAM (800 MHz) non-ECC Up to 4-GB maximum system memory supported
	Hard Drive Interfaces Supported	Serial ATA

System Details

Chassis		
	Front Panel	Power button Power On LED HDD Activity LED
	Cooling Solutions Supported	Active heatsink (variable speed) Chassis fan
	Slots Supported	One (1) half-height expansion slot
	Front I/O	Two (2) USB 2.0 ports
	Rear I/O	Four (4) USB 2.0 ports, one (1) RJ45, three (3) Audio (line in, line out, mic)
	Drive Bays	One (1) 5-1/4" external
	Internal Speaker	N/A
	Security	Padlock loop Kensington Lock Support
	Power Supply	65-watt AC Power Adapter

Unit Environment and Operating Conditions

General Unit Operating Guidelines

- Keep the computer away from excessive moisture, direct moisture and the extremes of heat and cold, to ensure that unit is operated within the specified operating range.
- Leave a 4 in (10.2 cm) clearance on all vented sides of the computer to permit the required airflow.
- Never restrict airflow into the computer by blocking any vents or air intakes.
- Do not stack computers on top of each other or place computers so near each other that they are subject to each other's re-circulated or preheated air.
- Occasionally clean the air vents on the front, back, and any other vented side of the computer. Lint, dust and other foreign matter can block the vents and limit the airflow.
- If the computer is to be operated within a separate enclosure, intake and exhaust ventilation must be provided on the enclosure, and the same operating guidelines listed above will still apply.

Temperature Range	**Operating**	32° to 104° F (0° to 40° C)
	Non-operating	-22° to 149° F (-30° to 65° C)
Relative Humidity	**Operating**	10% to 90% (non-condensing at ambient)
	Non-operating	5% to 95% (non-condensing at ambient)
Maximum Altitude (unpressurized)	**Operating**	10,000 ft (3048 m)
	Non-operating	30,000 ft (9000 m)

NOTE: Operating temperature is de-rated 1.0 deg C per 1000 ft (300 m) to 10,000 ft (3000 m) above sea level, no direct sustained sunlight. Maximum rate of change is 10 deg C/Hr. The upper limit may be limited by the type and number of options installed.

System Details

System Board		
	Processor	Intel Atom Pineview D410
	Chipset	Intel I/O Controller Hub NM10
	Super I/O	Intel I/O ITE 8758E1
	Front Side Bus Frequency	667MHz
	Memory	DDR2 S0-DIMM 2 x DIMM slots
	Clock Generator	SLG84516BTTR
	Integrated Graphics	Intel Graphics Media Accelerator (GMA)
	Audio	Realtek ALC887 HD Audio compatible codec with two channel audio 3D audio
	LOM	Realtek RTL8103EL 10/100 Fast Ethernet controller
	Storage	Two Serial ATA interfaces (hard drive and optical drive)
	Expansion Slots	1 x PCI ex 1 slot
	BIOS	SPI EEPROM
	Industrial Standard	USB 2.0
	Rear Side I/O Ports	4 x USB 2.0 ports 1 x RJ-45 10/100 port 1 x D-sub 15 pin analog VGA port 3 x audio ports
	On Board I/O Interfaces	1 x Front panel connector, Switch, LED (ON/Flash/OFF) 1 x Fan headers for chassis, with voltage/fan speed control 1 x header to support 2 USB 2.0 ports at front side 1 x header to support 2 front (Headphone/Mic) audio ports 1 x header to support USB media reader
	Board Size	PCB Size: 9.6 x 9.6 in (24.38 x 24.38 cm)
	Additional Features	• Bootable without keyboard, mouse or monitor • Keyboard/mouse/USB wake up • Support S3, S4 and S5 • ACPI status • Hardware monitor capability

Network Interface	**Integrated Realtek RTL8103EL 10/100 Fast Ethernet Controller**	**Hardware Highlights Features**	PCIe x1 interface
			10-Mbps and 100-Mbps operation Crossover detection and auto-correction Wake-on-Lan and remote Wake-up (Wake-on-LAN supported from S3, S4

Power Supply	
	• 65 Watt Power Adapter • 90 to 140VAC, or 180 to 264VAC operating voltage range • 100 to 127VAC, or 200 to 240VAC rated voltage range • 50-60 Hz rated line frequency • 47-63 Hz operating line frequency range

System Details

Power Conservation 'Energy Saver'	• APM 1.2 support • Screen blanking • Hard drive 'Idle' mode • System Idle mode • ~2 watt power consumption in ES mode - suspend to RAM (S3) (instantly available PC) • Processor/Cache memory power-down (S3) • Eup Lot 6 - less than 1W with BIOS setup option (Max power savings)

System Environmental Specs	• Values are subject to change without notification and are for reference only. • Performance of system, options, and ancillary equipment will vary depending on the system configuration. • Levels presented do not account for non-HP/Compaq installed hardware.	
	Ambient Air Temperature	
	Operating	32° to 104°F (0° to 40°C) at sea level with an altitude de-rating of 1.0°C per every 1000 ft (300 m) above sea level to a maximum of 8000 ft (2500 m), no direct sustained sunlight. Maximum rate of change is 77°F/Hr (25°C/Hr). The upper limit may be limited by the type and number of options installed.
	Storage	-22° to 149°F (-30° to 65°C) - Maximum rate of change: 410°F/Hr (210°C/Hr).
	Humidity	
	Operating	10% to 90% relative humidity (Rh), 86°F (30°C) maximum wet bulb temperature, non-condensing.
	Storage	10% to 95% relative humidity (Rh), 101.66°F (38.7°C) maximum wet bulb temperature, non-condensing.
	Altitude	
	Operating	0 to 10,000 feet (0 to 3048 meters) - This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 1,000 ft/min (304.8 m/min).
	Non-Operating	0 to 30,000 feet (0 to 9,144 meters) - Maximum allowable altitude change rate is 1200 ft/min (365.76 m/min).
	Shock	Listed are the levels of shock the product can withstand with NO damage being incurred. The values represent peak input acceleration during a 2 to 3 ms half-sine shock pulse, 11 ms trapezoidal shock pulse.
	Non-Operating	35G's (Half-sine Shock) 35G's (Trapezoidal Shock)
	Vibration	Listed are the levels of vibration the product can withstand with NO damage being incurred. The values represent a flat random vibration input acceleration profile across the given frequency range.
	Operating	Random vibration at 5Hz@0.00025G²/Hz, 10Hz@0.01G²/Hz, 100Hz@0.01G²/Hz, 300Hz@0.00001G²/Hz 5Hz to 300Hz, (0.25G's nominal).
	Non-Operating	Random vibration at 0.008G²/Hz, 10Hz to 500Hz, (2 Grms nominal).

System Details

Service and Support

On-site Warranty[Note 1]: One year warranty delivers one year 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. One-year onsite and labor are not available in all countries.

NOTE 1: Terms and conditions may vary by country. Certain restrictions and exclusions apply. Other warranty variations may be offered in your region.

NOTE 2: On-site service may be provided pursuant to a service contract between HP and an authorized HP 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 HP-configured Compaq and third-party HP-qualified hardware and software. Toll-free calling and 24 x 7 support may not be available in some countries.

Memory

DDR SYNCH DRAM NON-ECC MEMORY

The Intel Pinetrail chipset supports non-ECC DDR2 PC2-6400 (800-MHz). Memory upgrades are accomplished by adding single or dual DIMMs of the same or varied sizes. This chart does not represent all possible memory configurations.

CAUTION: You must shut down the computer and **disconnect the power cord** before adding or removing memory modules. Regardless of the power-on state, voltage is always supplied to the memory modules as long as the computer is plugged in to an active AC outlet. Adding or removing memory modules while voltage is present may cause irreparable damage to the memory modules or system board.

HP recommends dual-channel symmetric configurations for maximum performance.
For best performance, add the same amount of total memory to each channel and do not mix speeds. For dual-channel symmetric performance, the total amount of memory in each channel must be equal. If speeds are mixed, speed will default to the slowest DIMM.

STANDARD MEMORY
1-GB, 2-GB, 3-GB or 4-GB DDR2 SYNCH DRAM

OPTIONAL MEMORY UPGRADES
Supports up to 4 GB of DDR2 SYNCH DRAM. Not all memory configurations possible are represented below.
NOTE: For systems configured with more than 3 GB of memory and a 32-bit operating system, all memory may not be available due to system resource requirements. Addressing memory above 4 GB requires a 64-bit operating system.

DIMM Size	Slot 1	Slot 2
1-GB	1-GB	
2-GB (dual-channel symmetric)	1-GB	1-GB
3-GB	1-GB	2-GB
3-GB	2-GB	1-GB
4-GB (dual-channel symmetric)	2-GB	2-GB

Storage
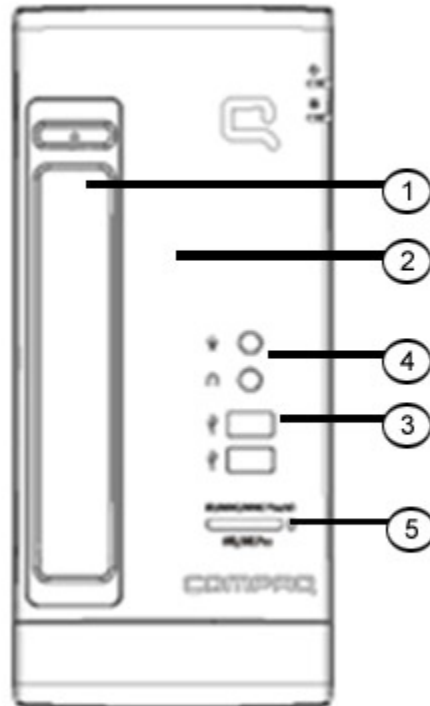
	Maximum Quantity Supported	Controller
1. Optical Drive	1	SATA
2. 3.5" Serial ATA Hard Drive	1	SATA
3. USB Ports	2	Internal USB 2.0
4. Audio	5	Realtek
5. Media Card Reader	1	

QuickSpecs

Technical Specifications - Audio

Integrated Realtek ALC887 Audio	**Type**	Integrated
	HD Audio compatible codec	Yes 5:1 channel
	Sampling	Supports 48/96 KHz
	Audio Jacks	Mic-In
		Line-In
		Line-Out / Headphone Out
	Power Support	Digital: 3.3V
		Analog: 5V
	Other	Meets performance requirements for audio on PC99/2001 systems High-performance DACs with 97dB SNR(A-Weighting) ADCs with 90dB NR(A-Weighting)

Technical Specifications - Communications

Integrated Realtek RTL8103EL 10/100 Fast Ethernet Controller		
	Controller	8103E
	Memory	N/A
	Data rates supported	2.5GHz data rate with X1 link width
	Compliance	IEEE802.3, IEEE 802.3u, IEEE 802.3ab
	Bus architecture	PCIexpress 1.1
	Data transfer mode	Half/Full Duplex Operation
	Hardware certifications	MS NDIS5, IPv4, Ipv6, TCP, UDP
	Boot ROM support	EEPROM, 1Kb, 2Kb
	Network transfer rate	10/100Mbps over CAT.5
		10Mbps over CAT.3
	Dimensions	9mm x 9mm
	Management capabilities	ACPI rev 2.0, PM rev 1.1, ASPM v1.0a

Technical Specifications - Graphics

Integrated Intel Graphic Media Accelerator (GMA)		
3D/2D Controller	DX9 Graphics Processor	
VGA Controller	Single Display with Integrated DAC	
Bus Type	PCIex16	
RAMDAC	300 MHz RAMDAC	
Memory	Up to 256MB of System Memory	
Controller Clock Speed	Internal 400MHz	
Maximum Color Depth	1600 x 900	
Maximum Vertical Refresh Rate	75Hz	
Multi-display Support	No	
Graphics/Video API Support	OpenGL 1.4	

Resolutions Supported[1]	Resolution	Maximum Refresh Rate (Hz)	
		Analog Connection	**Digital Connection**
	640 X 480	75,73,70	60,59
	800 x 600	75,72	60
	1024 x 768	75, 70	60
	1152 x 864	75	60
	1280 x 720	75	60
	1280 x 768	75	60
	1600 x 900		

[1] Modes listed are supported with a single active display. The supported mode list for multiple active displays is a subset of this list. Not all modes will support video playback and some supported modes may use software MC (motion compensation) rather than hardware MC. Not all modes will support 3D acceleration depending on the system configuration (e.g., resolution selected, size of frame buffer, number of installed memory modules, etc.).
NOTE: Other resolutions and refresh rates may be selectable but are not recommended.

Technical Specifications - Input Devices

USB Standard Keyboard	Physical characteristics	Keys	104, 105, 106, 107, 109 layout (depending upon country)
		Dimensions (L x W x H)	18.14 x 1.07 x 6.02 in (46.1 x 2.74 x15.3 cm)
		Weight	1.3lb(0.6 kg) minimum
	Electrical	**Operating voltage**	+ 5VDC ± 5%
		Power consumption	50-mA maximum (with three LEDs ON)
		ESD	CE level 4, 12.5-kV air discharge
		EMI - RFI	Conforms to FCC rules for a Class B computing device
		Microsoft PC 99 - 2001	Functionally compliant
	Mechanical	**Languages**	40 available
		Keycaps	Silm design
		Switch actuation	60-g nominal peak force with tactile feedback
		Switch life	10 million keystrokes (using Hasco modified tester)
		Switch type	Contamination-resistant switch membrane
		Key-leveling mechanisms	N/A
		Cable length	1.5 m
		Microsoft PC 99 - 2001	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	40g,six surfaces
		Non-operating shock	80g,six surfaces
		Operating vibration	2-g peak acceleration
		Non-operating vibration	4-g peak acceleration
		Drop (out of box)	30 in (76 cm) on carpet, 5-drop sequence
		Drop (in box)	30 in (76 cm) on rigid surface, 10-drop sequence
	Approvals		ULcUL, FCC, CE, TUV/Bauart, VCCI, BSMI, C-Tick, KCC
	Ergonomic compliance		N/A

Technical Specifications - Input Devices

USB 2-Button Optical Scroll Mouse		
Scroll Wheel	24	
Maximum Rotation Speed	48 rats/sec	
Switch Type	wheel	
Switch Life	Button - 1,000,000 Wheel - 200,000 times	
Environmental	**Operating Temperature**	32° to 104° F (0° to 40° C)
	Non-operating Temperature	-4° to 140° F (-20° 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, six surfaces
	Non-operating Shock	80 g, six surfaces
	Operating Vibration	2-g peak acceleration
	Non-operating Vibration	4-g peak acceleration
Electrical	**Operating Voltage**	4.35V-5.25V DC
	Power Consumption	<100mA
	MTBF	> 150,000 hrs
	ESD	IEC-61000-4-2 criteria B, Contact discharge: +/- 4kV, Air discharge: +/- 8kV
	EMI-RFI	FCC Class B
	PC98	PC 99 Compliant
Mechanical	**Resolution**	500±10% DPI
	Tracking Speed	25 cm/sec
	Acceleration	0.5mm
	Switch Actuation	0.6N (60gf)
	Switch Life	Button - 1,000,000 Wheel - 200,000 times
	Cable Length	1.8m
	PC98-99	PC99 compliant
Regulatory Approvals	ULcUL, FCC, CE, TUV/GS, VCCI, BSMI, C-Tick, MIC	

Technical Specifications - Hard Drives

Serial ATA Hard Drives 160 GB (7200 rpm)			
	Capacity	160,041,885,696 bytes	
	Height	1 in (2.54 cm)	
	Width	Media diameter: 3.5 in (8.9 cm) Physical size: 4 in (10.2 cm)	
	Interface	Serial ATA (3.0 Gb/s)	
	Synchronous Transfer Rate (Maximum)	Up to 3 Gb/s	
	Buffer	8 MB	
	Seek Time (typical reads, includes controller overhead, including settling)	**Single Track**	2.0 ms
		Average	11 ms
		Full-Stroke	21 ms
	Rotational Speed	7,200 rpm	
	Logical Blocks	312,581,808	
	Operating Temperature	41° to 131° F (5° to 55° C)	

Technical Specifications - Optical Storage

HP SATA SuperMulti LightScribe DVD Writer Drive			
	Height	5.25-inch, half-height, tray-load	
	Orientation	Either horizontal or vertical	
	Interface type	SATA/ATAPI	
	Disc capacity	8.5 GB DL or 4.7 GB standard	
	Dimensions (W x H x D)	5.9 x 1.7 x 8.0 in (15.0 x 4.4 x 20.3 cm)	
	Weight (max)	2.6 lb (1.2 kg)	
	Write speeds	**DVD-RAM**	Up to 12X
		DVD+R	Up to 16X
		DVD+RW	Up to 8X
		DVD+R DL	Up to 8X
		DVD-R DL	Up to 8X
		DVD-R	Up to 16X
		DVD-RW	Up to 6X
		CD-R	Up to 48X
		CD-RW	Up to 32X
	Read speeds	**DVD-RAM**	Up to 12X
		DVD+R/-R/+RW/ -RW/+R DL /-R DL	Up to 8X
		DVD-ROM DL	Up to 8X
		DVD-ROM, DVD+R, DVD-R	Up to 16X
		CD-ROM, CD-R	Up to 48X
		CD-RW	Up to 32X
	Access times (typical reads, including setting)	**Random**	DVD: < 140 ms (typical), CD: < 125 ms (typical)
		Full Stroke	DVD: < 250 ms (seek), CD: < 210 ms (seek)
	Power	**Source**	SATA 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 - <1000 mA typical, < 1600 mA maximum 12 VDC -< 600 mA typical, < 1400 mA maximum
	Environmental (all conditions non-condensing)	**Temperature**	41° to 122° F (5° to 50° C)
		Relative Humidity	10% to 90%
		Maximum Wet Bulb Temperature	86° F (30° C)

Technical Specifications - Environmental Data

Eco-Label Certifications and declarations	This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks: • US ENERGY STAR ® • IT ECO declaration • EPEAT Silver where HP registers commercial desktop products. See http://www.epeat.net for registration status in your country.

Energy Consumption	**115 VAC**	**230 VAC**	**100 VAC**
Normal Operation	21.290 W	21.288 W	21.398 W
Sleep (Energy Star low power mode)	1.381 W	1.420 W	1.385 W
Off	0.902 W	0.940 W	0.903 W
Heat Dissipation*	**115 VAC**	**230 VAC**	**100 VAC**
Normal Operation	73 BTU/hr	73 BTU/hr	73 BTU/hr
Sleep	5 BTU/hr	5 BTU/hr	5 BTU/hr
Off	3 BTU/hr	3 BTU/hr	3 BTU/hr

* Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.

Declared Noise Emissions
(in accordance with ISO 7779 and ISO 9296)

System Fan Off	**Sound Power** (LWAd, bels)	**Sound Pressure** (LpAm, decibels)
Idle	3.4	24.1
Fixed Disk (random writes)	3.54	33.1

Batteries	This battery(s) in this product comply with EU Directive 2006/66/EC Batteries used in the product do not contain: • Mercury greater the 5ppm by weight • Cadmium greater than 10ppm by weight Battery size: CR2032 (coin cell) Battery type: Li Ion

Additional Information	• This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2002/95/EC.
	• This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive - 2002/96/EC.
	• This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).
	• This product is in compliance with the IEEE 1680 (EPEAT) standard at the Silver where HP registers commercial desktop products. See http://www.epeat.net for registration status in your country.
	• Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043.
	• This product contains 0% post consumer recycled plastic (by wt.)
	• This product is 90% recyclable when properly disposed of at end of life.
	
	Packaging Materials
	
	• External:
	  ○ Corrugated 980 g
	•
	  ○

Technical Specifications - Environmental Data

- Internal:
  - Polystyrene 1202 g
  - Polyethylene Low density foam 40 g
- The Corrugated packaging material is made from 80% recycled content.
- The Polystyrene packaging material is made from 80% recycled content.
- The Polyethylene Low density foam packaging material is made from 80% recycled content.

RoHS Compliance

Hewlett-Packard is committed to compliance with all applicable environmental laws and regulations, including the European Union Restriction of Hazardous Substances (RoHS) Directive. HP's goal is to exceed compliance obligations by meeting the requirements of the RoHS Directive on a worldwide basis. By July 1, 2006, RoHS substances will be virtually eliminated (virtually = to levels below legal limits) for all HP electronic products subject to the RoHS Directive, except where it is widely recognized that there is no technically feasible alternative (as indicated by an exemption under the EU RoHS Directive).

Material Usage

This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at: http://www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen_specifications.html):

- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants - may not be used as flame retardants in plastics
- Cadmium
- Chlorinated Hydrocarbons
- Chlorinated Paraffins
- Formaldehyde
- Halogenated Diphenyl Methanes
- Lead carbonates and sulfates
- Lead and Lead compounds
- Mercuric Oxide Batteries
- Nickel - finishes must not be used on the external surface designed to be frequently handled or carried by the user.
- Ozone Depleting Substances
- Polybrominated Biphenyls (PBBs)
- Polybrominated Biphenyl Ethers (PBBEs)
- Polybrominated Biphenyl Oxides (PBBOs)
- Polychlorinated Biphenyl (PCB)
- Polychlorinated Terphenyls (PCT)
- Polyvinyl Chloride (PVC) - except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)

Packaging

HP follows these guidelines to decrease the environmental impact of product packaging:

- Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.
- Eliminate the use of ozone-depleting substances (ODS) in packaging materials.
- Design packaging materials for ease of disassembly.
- Maximize the use of post-consumer recycled content materials in packaging materials.
- Use readily recyclable packaging materials such as paper and corrugated materials.
- Reduce size and weight of packages to improve transportation fuel efficiency.
- Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.

End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly

Technical Specifications - Environmental Data

instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/recyclers. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

Hewlett-Packard Corporate Environmental Information

For more information about HP's commitment to the environment:
Global Citizenship Report
http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html
Eco-label certifications
http://www.hp.com/hpinfo/globalcitizenship/environment/productdesign/ecolabels.html
ISO 14001 certificates:
http://www.hp.com/hpinfo/globalcitizenship/environment/operations/envmanagement.html