

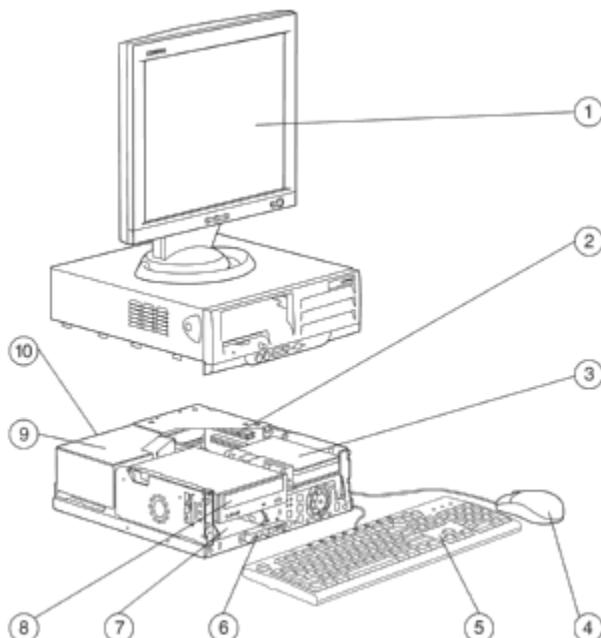
Overview

Compaq Evo D500 Desktop Series Evo D510 models with Intel 845G Chipset

HP recommends Microsoft® Windows® XP Professional

Small Form Factor

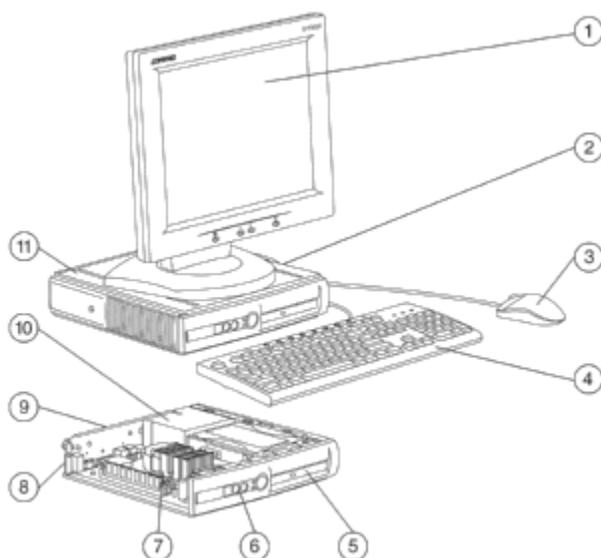
9.9 x 33.3 x 36.6 centimeters/3.9 x 13.1 x 14.4 inches



- | | |
|---|---|
| 1. Monitor Sold Separately | 6. 2 USB 2.0 Microphone and Headphone |
| 2. Expansion: 2 full-height PCI slots, 1 low-profile AGP 4x slots | 7. 1.44-MB Diskette Drive |
| 3. Ultra ATA/100 Hard Drive | 8. CD-ROM, DVD-ROM, CD-RW or Combo Drive |
| 4. 2-Button Scroll Mouse | 9. 175W Power Supply |
| 5. Easy Access Keyboard | 10. Rear I/O: 2 USB 2.0, 2 serial, 1 parallel, RJ-45, 2 PS2 |

Ultra-Slim Desktop

7 x 32 x 33 centimeters/2.7 x 12.4 x 12.8 inches



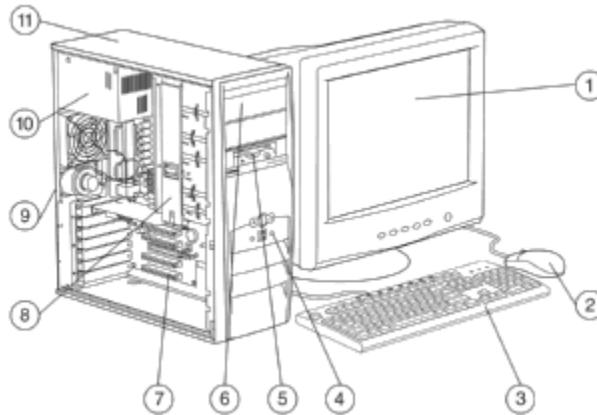
- | | |
|---|--|
| 1. Monitor Sold Separately | 7. Ultra ATA/100 Hard Drive |
| 2. Remarkably low acoustics and power requirements! | 8. Legacy free rear I/O: 4 USB 2.0, RJ-45 Option to support serial/parallel is available |
| 3. USB 2-Button Scroll Mouse | |

Overview

- 4. USB Easy Access Keyboard
- 5. Multibay supports CD-ROM, DVD-ROM, CD-RW, Combo Drive or HDD
- 6. 1 USB 2.0 Microphone and Headphone
- 9. Optional 802.11b and Bluetooth Multiport modules
- 10. 50W Power Supply
- 11. Can also be configured as a tower with optional tower stand!

Convertible Minitower

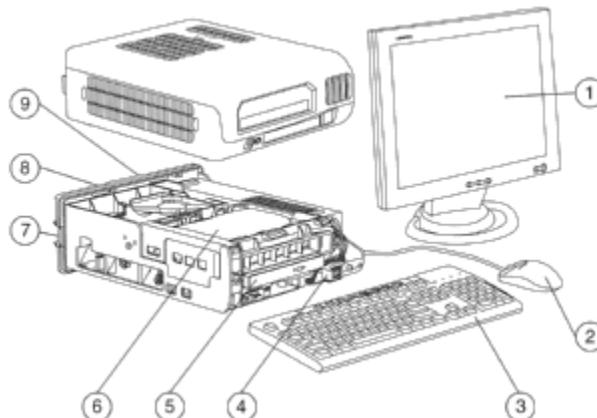
44.8 x 16.8 x 42.7 centimeters/17.7 x 6.6 x 16.8 inches



- 1. Monitor Sold Separately
- 2. 2-Button Scroll Mouse
- 3. Easy Access Keyboard
- 4. Optional front I/O: 2 USB 2.0, Microphone and Headphone
- 5. 1.44-MB Diskette Drive
- 6. CD-ROM, DVD-ROM, CD-RW or Combo Drive
- 7. 5 PCI slots and 1 AGP 4X slot for expansion
- 8. Ultra ATA/100 Hard Drive
- 9. Rear I/O: 4 USB 2.0, 2 serial, 1 parallel, RJ-45, 2 PS2
- 10. 220W Power Supply
- 11. Industry's only convertible minitower for easy configuration to desktop or minitower!

e-pc

9.7 x 25 x 31 centimeters/3.8 x 9.8 x 12.2 inches



- 1. Monitor Sold Separately
- 2. USB 2-Button Scroll Mouse
- 3. USB Easy Access Keyboard
- 4. 2 USB 2.0
- 5. Completely Secure! CD-ROM, DVD-ROM, CD-RW or Combo Drive can no be changed
- 6. Ultra ATA/100 Hard Drive
- 7. Can be wall-mounted!
- 8. Port control to limit access to rear I/O and for cable management
- 9. Legacy free rear I/O: 4 USB 2.0, audio, RJ-45 Option to support serial/parallel is available

Overview

At A Glance

- Intel® Pentium® 4 and Celeron® processors
- Intel 845G chipset with Intel Extreme integrated graphics
- Integrated Intel 10/100 NIC
- 400- and 533-MHz Front Side Bus
- SMART III Ultra/ATA Hard Drives
- Integrated audio with internal speaker
- Standard MultiPort for optional Wireless or Bluetooth connectivity on Ultra-slim Desktop
- Optional MultiBay Drive Adapter on Convertible Minitower and Small Form Factor
- Intelligent Manageability
- Energy Star compliant with energy-saving features
- Protected by Compaq Services, including a 3-3-3, standard warranty. Terms and conditions vary by country. Certain restrictions and exclusions apply.

Standard Features - Select Models

Compaq Evo D510 Models with Intel 845G Chipset

All D510's come with:

- Integrated Intel Extreme graphics
- Integrated Intel PRO/100 VM NIC
- Integrated Intel PRO/100 VE NIC (e-pc only)
- Integrated Intel Audio

Model Key

Example: **D5S/P1.5/20j/2/128c/vn**

D5S =	Evo D510 Small Form Factor
P1.8 =	Pentium 4 1.8-GHz processor
20 =	Hard Drive
P =	XP/2K dual install
128 =	Memory
c =	CD-ROM

Pre-Configured Models

Small Form Factor

470034- xxx	D5S/C1.7
470034- xxx	D5S/P1.8
470034- xxx	D5S/P1.8
470034- xxx	D5S/P2.0
470034- xxx	D5S/P2.0

Convertible Minitower

470033- xxx	D5C/P1.8
470033- xxx	D5C/P1.8
470033- xxx	D5C/P2.0

Ultra-slim Desktop

470033-xxx	D5U/P1.7
470033- xxx	D5U/P1.7

* Designates a configuration that is available globally.

Standard Features - Custom Components

Compaq Evo D510 Models with Intel 845G Chipset

	Custom Component			
	e-pc	USDT	SFF	CMT
Processor and Speed - One of the following				
Intel Celeron Processors with 400-MHz Front Side Bus, 128KB L2 cache				
1.7-GHz	*		*	*
1.8-GHz			*	*
2.0-GHz	*		*	*
2.2-GHz	*		*	*
Intel Pentium 4 Processors with 400-MHz Front Side Bus, 256KB L2 cache				
1.6-GHz			*	*
1.7-GHz			*	*
1.9-GHz			*	*
Intel Pentium 4 Processors with 400-MHz Front Side Bus, 512KB L2 cache				
1.7-GHz		*		
1.8-GHz	*		*	*
1.9-GHz		*		
2.0-GHz	*	*	*	*
2.2-GHz	*			
2.4-GHz	*			
2.5-GHz	*			
2.6-GHz	*			
Intel Pentium 4 Processors with 533-MHz Front Side Bus, 512KB L2 cache				
2.26-GHz			*	*
2.4-GHz			*	*
2.53-GHz			*	*
2.66-GHz			*	*
2.8-GHz			*	*

Hard Drives - One of the following

20-GB 5400 rpm SMART III Ultra ATA/100	*		*	*
20-GB 7200 rpm SMART III Ultra ATA/100	*	*	*	*
40-GB 5400 rpm SMART III Ultra ATA/100	*	*	*	*
40-GB 7200 rpm SMART III Ultra ATA/100	*	*	*	*
80-GB 5400 rpm SMART III Ultra ATA/100	*	*	*	*
80-GB 7200 rpm SMART III Ultra ATA/100	*	*	*	*
36-GB 10,000 rpm Ultra3 SCSI			*	*
Adaptec 29160 SCSI Controller			*	*

Standard Features - Custom Components

Standard Memory - One of the following

128-MB DDR Synch Dram PC2100 (266-MHz) Non ECC (1 x 128)	*	*	*	*
256-MB DDR Synch Dram PC2100 (266-MHz) Non ECC (1 x 256)	*	*	*	*
384-MB DDR Synch Dram PC2100 (266-MHz) Non ECC (1 x 128 + 1 x 256)	*	*	*	*
512-MB DDR Synch Dram PC2100 (266-MHz) Non ECC (1 x 512)	*	*	*	*
512-MB DDR Synch Dram PC2100 (266-MHz) Non ECC (2 x 256)	*	*	*	*
1-GB DDR Synch Dram PC2100 (266-MHz) Non ECC (1 x 1024)	*	*	*	*
1-GB DDR Synch Dram PC2100 (266-MHz) Non ECC (2 x 512)	*	*	*	*
2-GB DDR Synch Dram PC2100 (266-MHz) Non ECC (2 x 1024)	*	*	*	*

Removable Storage

1.44-MB Diskette Drive		*	*	*
MultiBay Drives (Requires Multibay Drive Adaptor to use)*		*	*	*
USB Disk-on-Key	*	*	*	*

NOTE: * Multibay Drive Adaptor is standard in Ultra-slim Desktop, optional on Convertible Minitower and Small Form Factor via MultiBay Drive Adapter.

Optical Storage

48X Max CD-ROM Drive (available on e-pc via USB option kit)	*		*	*
48X/12X/48X CD-RW Drive			*	*
16X/40X DVD-ROM with +R Read (reads DVD +R, +RW, -R, and - RW)			*	*
32X Combo CD-RW/DVD-ROM Drive			*	*
4.7 GB DVD+R/RW Drive			*	*

Slimline Optical Storage

Slimline 24X CD-ROM Drive	*
Slimline 8X DVD-ROM Drive with RAM Read	*
Slimline 16X CD-RW Drive	*
Slimline 16X Combo DVD-ROM and CD-RW Drive	*

Standard Features - Custom Components

MultiBay Drives

MultiBay 24X CD-ROM Drive	*	*	*
MultiBay 8X DVD-ROM Drive with RAM Read	*	*	*
MultiBay 24X CD-RW Drive	*	*	*
MultiBay 24X Combo DVD-ROM and CD-RW Drive	*	*	*
MultiBay 20-GB Hard Drive	*	*	*

NOTE: MultiBay Drive Adaptor is standard in Ultra-slim Desktop, optional on Convertible Minitower and Small Form Factor via MultiBay Drive Adapter.

Keyboard - One of the following

PS/2 Easy Access Keyboard	*	*	*
USB Easy Access Keyboard	*	*	
USB Smart Card Keyboard	*	*	*

Mouse - One of the following

PS/2 2-Button Scroll Mouse	*	*	*
USB 2-Button Scroll Mouse	*	*	

Miscellaneous

Legacy Module, supports parallel, serial, PS/2 keyboard and PS/2 mouse ports	*		
Legacy cable USB to serial and USB to parallel	*		

Modem

Lucent V.90 56K Win Modem		*	*
V.92 56K USB Modem	*		

Audio

Integrated Intel Audio with Premier Internal Speaker	*	*	*
Integrated Intel Audio (no internal speaker)	*		

NIC

Integrated Intel PRO/100 VM Network Connection	*	*	*
Integrated Intel PRO/100 VE Network Connection	*		
3COM 3C905C-TX Network Connection		*	*
Intel PRO/100 S Management Adapter		*	*
Broadcom NetXtreme Based 10/100/1000 Management Gb Adapter		*	*

Wireless Communications

Bluetooth MultiPort Module	*		
802.11b MultiPort Module	*		

Standard Features - Custom Components

Graphics

Intel Extreme Graphics (integrated with Intel 845G chipset)	*	*	*	*
NVIDIA GeForce2 MX200 64-MB with DVI-I			*	*
NVIDIA Quadro4 200NVS AGP Dual Monitor 64-MB			*	*
NVIDIA Quadro4 400NVS PCI Quad Monitor 64-MB			*	*
Intel DVI ADD Card			*	*

Operating System – One of the following

Microsoft Windows 2000 SP2	*	*	*	*
Microsoft Windows XP Professional SP1	*	*	*	*
Microsoft Windows XP Home SP1	*	*	*	*
Mandrake Linux 8.2 (only available on limited configurations)	*	*	*	*
TurboLinux 7.0 (limited configurations – China only)			*	*

NOTE: * Hyperthreading Support - Systems shipped after February 1st, 2003 will include support for Hyperthreading. To take advantage of Hyperthreading, the system must be configured with a minimum processor speed of 3.06GHz. HP has performed qualification testing under both Windows XP Home and Windows XP Professional. HP strongly recommends that customers upgrade to the latest version of the Microsoft Service Pack for these operating systems. This will ensure the best possible user experience.

NOTE: Microsoft Windows NT 4.0 and Windows 98 SE are not available on system, but Softpaq drivers are downloadable from Compaq.com.
(not available on e-pc)

Software

Norton Internet Security/Norton AntiVirus 2002	*	*	*	*
Microsoft Office XP Small Business Edition	*	*	*	*
Microsoft Office XP Professional	*	*	*	*
Microsoft Office XP Personal	*	*	*	*
Roxio CD Creator	*	*	*	*
Intervideo DVD Player	*	*	*	*

Intelligent Manageability

For information about Intelligent Manageability visit: http://www.compaq.com/im	*	*	*	*
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Standard Features - Base Unit Details

Base Unit Contents	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Chassis	*	*	*	*
Intel processor / heatsink	*	*	*	*
Systemboard with Intel 845G Chipset with Integrated 4X AGP	*	*	*	*
Cables	ATA Cable	ATA Cable	2 ATA Cables	2 ATA Cables
Optical Media	Slimline Bay	Multibay and Multiport	Diskette with Cable	Diskette with Cable
Quick Setup Poster	*	*	*	*
Product Documentation on CD	Available on web	*	*	*
Compaq OS CD	*	*	*	*
Compaq Restore CD	*	*	*	*
Power Cord	*	*	*	*
Keyboard	*(USB)	*(USB)	*(USB)	*(USB)
Mouse	*(USB)	*(USB)	*(USB)	*(USB)
Other	One Security Screw Tamper Resistant T15 Security Wrench, Port Control System	Tower Stand, Two Security Screws, Tamper Resistant T15 Security Wrench		

Expansion Capability

Memory Expansion Slots (Non-ECC)	2 DIMM's - DDR Synch Dram PC2100 (266-MHz)			
Maximum Memory	2-GB	2-GB	2-GB	2-GB

NOTE: Intel 845G Chipsets support DDR Synch Dram PC2100 (266-MHz) and DDR Synch Dram PC1600 (200-MHz) Non-ECC Memory only. Compaq PCs ship with DDR Synch Dram PC2100 (266-MHz) Non-ECC Memory.

Slots

PCI	None	None	2 full-height half-length slots on riser board.	3 full-height slots on PCA (2 additional slots available via optional PCI Extender Card)
AGP	None	None	1 AGP 4X, 1.5V (Low Profile)	1 AGP 4X, 1.5V

Bays	Total Bays = 2	Total Bays = 2	Total Bays = 3	Total Bays = 5
Internal	(1) 3.5 inch ATA Hard Drive	(1) 3.5 inch ATA Hard Drive	(1) 3.5 inch ATA Hard Drive	(2) 3.5 inch ATA Hard Drive
External	(1) IDE for Slim ODD	(1) MultiBay	(1) 5.25 inch half-height	(2) 5.25 inch half-height
Floppy	None	None	(1) 3.5 inch Diskette Drive	(1) 3.5 inch Diskette Drive

Standard Features - Base Unit Details

Wireless Support	None	MultiPort Slot supports optional 802.11b & Bluetooth Multiport modules	PCI card or external USB	PCI card or external USB
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USB Support

Front USB 2.0 ports	2	1	2	2 (optional)
Rear USB 2.0 ports	4	4	2	4

Interfaces (Legacy)

Parallel Port	Optional with USB adapter	Optional *	1	1
Serial Port	Optional with USB adapter	Optional *	2	2
PS/2 Keyboard	None	Optional *	1	1
PS/2 Mouse	None	Optional *	1	1
VGA Adapter	1	1	1	1

NOTE: Optional Legacy Module for Ultra-slim Desktop supports parallel, serial, PS/2 Keyboard and PS/2 mouse ports.

Chassis

Dimensions (H x W x D)	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Centimeters	9.7 x 25 x 31 centimeters	7 x 32 x 33 centimeters	9.9 x 33.3 x 36.6 centimeters	44.8 x 16.8 x 42.7 centimeters
Inches	3.8 x 9.8 x 12.2 inches	2.72 x 12.4 x 12.83 inches	3.9 x 13.1 x 14.4 inches	17.65 x 6.6 x 16.8 inches

Chassis Weight

System Weight	4.5 kilograms/9.9 pounds	5.04 kilograms/11.2 pounds	9.1 kilograms/20 pounds	11.8 kilograms/26.0 pounds
Weight Supported	Will not support monitor	45.5 kilograms/100 pounds	45.5 kilograms/100 pounds	45.5 kilograms/100 pounds

System Memory

Type/Speed	DDR Synch Dram PC2100 (266-MHz) Non-ECC			
Maximum Memory	2-GB*	2-GB*	2-GB*	2-GB*
Memory Parity	Not Needed for non-ECC			
ECC Memory	Not Supported by chipset			
Serial Presence Detect Support	Supported	Supported	Supported	Supported

NOTE: Maximum memory of 2-GB DDR Synch Dram can be achieved when 1-GB memory modules become available.

Standard Features - Base Unit Details

Supported Features

Processor	Intel Pentium 4 Socket N - 478	Intel Pentium 4 Socket N - 478 (low power only)	Intel Pentium 4 Socket N - 478	Intel Pentium 4 Socket N - 478
CPU Bus Speed Supported	400-MHz	400-MHz	400-MHz / 533-MHz FSB	400-MHz / 533-MHz FSB
Memory Type Supported	DDR (ECC not supported by Chipset)			
Memory Speed Supported	DDR Synch DRAM PC1600 (200-MHz) and PC2100 (266-MHz) Non-ECC	DDR Synch DRAM PC1600 (200-MHz) and PC2100 (266-MHz) Non-ECC	DDR Synch DRAM PC1600 (200-MHz) and PC2100 (266-MHz) Non-ECC	DDR Synch DRAM PC1600 (200-MHz) and PC2100 (266-MHz) Non-ECC
SPD Support	Yes	Yes	Yes	Yes
Hard Drive Interfaces Supported	SMART III Ultra ATA/100/66/33			
Hard Drive Controller (PCI) Supported	SMART III Ultra ATA/100/66/33			

Intel® Pentium® 4

Coprocessor	Integrated	Integrated	Integrated	Integrated
CPU Socket Type/Number	Socket N 478 pin	Socket N 478 pin	Socket N 478 pin	Socket N 478 pin
CPU Package	FC-PGA2	FC-PGA2	FC-PGA2	FC-PGA2
Front Side Bus Speed	400-MHz	400-MHz	400-MHz or 533-MHz	400-MHz or 533-MHz
Standard L2 Cache	256-KB ECC or 512-KB ECC depending on processor speed	512-KB ECC	256-KB ECC or 512-KB ECC depending on processor speed	256-KB ECC or 512-KB ECC depending on processor speed
L2 Cache Architecture / Speed	Full core clock speed	Full core clock speed	Full core clock speed	Full core clock speed
Cache Upgradeable	Not upgradeable – Integrated into Processor	Not upgradeable – Integrated into Processor	Not upgradeable – Integrated into Processor	Not upgradeable – Integrated into Processor

Intel Celeron®

Coprocessor	Integrated	N/A	Integrated	Integrated
CPU Socket Type/Number	Socket N 478 pin	N/A	Socket N 478 pin	Socket N 478 pin
CPU Package	FC-PGA2	N/A	FC-PGA2	FC-PGA2
Front Side Bus Speed	400-MHz	N/A	400-MHz	400-MHz
Standard L2 Cache	128-KB ECC depending on processor speed	N/A	128-KB ECC depending on processor speed	128-KB ECC depending on processor speed
L2 Cache Architecture / Speed	Full core clock speed	N/A	Full core clock speed	Full core clock speed
Cache Upgradeable	Not upgradeable – Integrated into Processor	N/A	Not upgradeable – Integrated into Processor	Not upgradeable – Integrated into Processor

System Board	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitor
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Standard Features - Base Unit Details

Architecture	P4 / Legacy Free /AGP 4X (Integrated Only)	P4 / Legacy Free /AGP 4X (Integrated Only)	P4 / PCI / AGP 4X	P4 / PCI / AGP 4X
Chipset	Intel 845G Chipset	Intel 845G Chipset	Intel 845G Chipset	Intel 845G Chipset
I/O Controller	None	Super I/O 3	Super I/O 3	Super I/O 3
System Board Form Factor	Custom	Custom USDT	Custom SFF	Standard uATX + optional PCI Extender Board
Processor Socket - 478 Pin ZIF	*	*	*	*
DIMM Connectors (2.5V)	*(2)	*(2)	*(2)	*(2)
AGP Connector (1.5V)	x	x	*(1)	*(1)
Integrated AGP Graphics	*	*	*	*
PCI Connectors (5.0V)	x	x	*(2 on Riser)	?(3 on motherboard + 2 additional via the optional PCI Extender Card)
Flash ROM	*	*	*	*
Audio (Integrated Intel)	*	*	*	*
CD ROM IN (Audio)	x	x	*	*
Clear CMOS Button	*	*	*	*
CPU Fan Header	x	x	x	*
Chassis Fan Header	*	x	*	*
Chassis Speaker Header	x	*	*	*
CMOS Battery Holder - Lithium	*	*	*	*
Hood Lock Header	x	x	*	*
Hood Sense Header	x	x	*(Switch on Riser)	*
Multibay Header	x	*	*	*
Multiport Header	x	*	x	x
NIC (PRO/100 VM)	*(PRO/100 VE)	*	*	*
Wake-On-Lan®	*	*	*	*
Alert-On-LAN®	x	*	*	*
Power Supply Header	*	*	*	*
Power Switch, Power LED & Hard Drive LED Header	x (Directly mounted on motherboard)	*	x (on system board)	*
Password Clear Header	*	*	*	*
Riser Connector	x (No PCI Connectors)	x (No PCI Connectors)	*	x (not needed – PCI connectors on system board)
SCSI LED Header	x	x	*(on Riser)	*
Speaker Header	x	*	*	*
Boards that connect to System Board	None	Multibay (Standard)	Solenoid Lock PCB (Optional)	Solenoid Lock PCB (Optional)

Standard Features - Base Unit Details

	Mutiport (USB Bus) (Standard)	Riser Board – 2 PCI slots (standard)	PCI Extender Board – 2 additional PCI slots (optional)
	Power Button, Hard Drive & Power LEDs, USB, Headphone, Microphone board (Standard)	Multibay Drive Adapter (Optional)	Front I/O Board – USB, Microphone and Headphone (Optional)
	Legacy Module (Parallel & Serial Port, PS/2 Keyboard & Mouse) (Optional)		Multibay Drive Adapter (Optional)

Chassis	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Color	Carbon/Silver	Carbon/Silver	Carbon/Silver	Carbon/Silver
System Board Form Factors Supported	Custom e-pc Desktop	Custom Ultra-slim Desktop	Custom SFF	Standard uATX and Standard ATX
Flash ROM	*	*	*	*
Cooling Solutions Supported	*	*	*	*
Power Supply Fan (Variable Speed)	*	*	*	*
Processor Fan-Heatsink (Variable Speed)	x	x	x	*
Chassis Fan Slots Supported	* (variable)	x	*	*
AGP Slot	x	x	2 Full-height, Half-length PCI slots	5 Full-height, Full-length PCI slots
Front I/O	2 USB	Front Headphone, Microphone and 1 USB Standard	1 Low Profile AGP	1 AGP
Rear I/O	Legacy free, 4 USB, Audio	Front Headphone, Microphone, and 2 USB Standard	2 Rear USB	Front Headphone, Microphone, and 2 USB (option)
Internal Speaker	4 USB, VGA and Legacy Module connector	*	4 Rear USB	*
Power Supply	x	Custom Power Supply with PFC and line select switch	Custom Power Supply – Non-PFC Full Ranging (No line select)	Custom Power Supply – Full-ranging Active PFC (No line select)
Security Locks Supported	Custom Power Supply – ATX Power Supply – PFC with in 230V mode (115v/230V line switch)	Kensington Cable Lock Provision (Lock not included)	Kensington Cable Lock Provision (Lock not included)	Kensington Cable Lock Provision (Lock not included)
	Hood Cover Security Screw (Cover can be locked using the Security Screw)	Hood Cover Security Screw including Multibay Ejection Lever Security Screw (Cover can be locked using the Security Screw)	Hood Cover Security Loop (Lock not included)	Hood Cover Security Loop (Lock not included)
	Front USB ports can be disabled via F2		Smart Cover Lock (option) – Locking solenoid controlled via F10 setup (failsafe key)	Smart Cover Lock (option) – Locking solenoid controlled via F10 setup (failsafe key)

Standard Features - Base Unit Details

Port control system
(front and rear ports can
be locked)

Interfaces

I/O Chip	x	Super IO 3	Super IO 3	Super IO 3
Serial Port	Optional with USB adapter	1 w/ optional Legacy Module	2	2
Parallel Port	Optional with USB adapter	1 w/ optional Legacy Module	1	1
PS/2s	x	2 with optional Legacy Module (1 Keyboard and 1 Mouse)	1 Keyboard and 1 Mouse	1 Keyboard and 1 Mouse
USB (2.0)	6 USB 2.0	5 ports (4 rear/1 front)	4 ports (2 rear/2 front)	4 ports (4 rear/2 optional front)
Infrared Port	x	x	x	x
RJ-45 Network	*	*	*	*
Keyboard	*	*	*	*
	(USB only)	(USB or PS/2 with Legacy Module)	(PS2)	(PS2)
Mouse	*	*	*	*
	(USB only)	(USB or PS/2 with Legacy Module)	(PS2)	(PS2)
Multibay	x	*	CTO Option - Multibay Drive Adapter	CTO Option - Multibay Drive Adapter
Multiport	x	*	x	x
Video (VGA)	*	*	*	*
Audio	*	*	*	*

Power Supply	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Power Supply	Custom Power Supply with PFC and line select switch	Custom Power Supply – Non-PFC Full Ranging (No line select)	Custom Power Supply – Full-ranging Active PFC (No line select)	ATX Power Supply – PFC With in 230V (115v/230V line switch)
Full Ranging Input (No Line Select Switch)	x	*	*	x
Active Power Factor Correction (APFC) (Input Current is nearly 1/2 a non-APFC PS)	x	x	*	x
Passive Power Factor Correction (PFC)	*	x	x	*
				(with line switch set to 230v - No PFC in 115v line switch position)
Power Supply Fan	50mm fan integrated in power supply - variable speed for optimum acoustics	60mm fan integrated in power supply - variable speed for optimum acoustics	80mm fan integrated in power supply - variable speed for optimum acoustics	92mm fan integrated in power supply - variable speed for optimum acoustics
Processor Fan	x	x	x	Variable speed fan
Operating Voltage Range	90 to 132VAC and 180 to 264VAC	90 to 264VAC (full ranging)	90 to 264VAC (full ranging)	90 to 132VAC, or 180 to 264VAC



Standard Features - Base Unit Details

Rated Voltage Range	100 to 127 VAC, or 200 to 240VAC	100 to 127 VAC, or 200 to 240VAC	100 to 127 VAC, or 200 to 240VAC	100 to 127 VAC, or 200 to 240VAC
Rated Line Frequency	47-66 Hz	50-60 Hz	50-60 Hz	50-60 Hz
Operating Line Frequency Range	47-66 Hz	47-66 Hz	47-66 Hz	47-66 Hz
Rated Input Current	4A @ 100-127VAC / 2A @ 200-240VAC	1.7A @ 100VAC/0.85A @ 200VAC	2.7A @ 100VAC/1.35A @ 200VAC	6A @ 100VAC/3A @ 200VAC
Maximum Rated Power	145W	50W	175W	220W
Heat Dissipation	<ul style="list-style-type: none"> • Max (223W input): 761 BTU/hr • Typical (65W input): 222 BTU/hr • Max (223W input): 192 kg-cal/hr • Typical (65W input): 56 kg-cal/hr 	<ul style="list-style-type: none"> • Max (75W input): 256 BTU/hr • Typical (50W input): 171 BTU/hr • Max (75W input): 65 kg-cal/hr • Typical (50W input): 43 kg-cal/hr 	<ul style="list-style-type: none"> • Max (269W input): 920 BTU/hr • Typical (65W input): 222 BTU/hr • Max (269W input): 232 kg-cal/hr • Typical (65W input): 56 kg-cal/hr 	<ul style="list-style-type: none"> • Max (338W input): 1061 BTU/hr • Typical (65W input): 222 BTU/hr • Max (269W input): 267 kg-cal/hr • Typical (65W input): 56 kg-cal/hr

Power Conservation 'Energy Saver'

Energy Star Compliant	*	*	*	*
Power Management	*	*	*	*
Screen Blanking	*	*	*	*
Hard Disk 'Idle' Mode	*	*	*	*
System Idle Mode	*	*	*	*
Cache Memory Power-Down	x	x	x	x
Blue Angel Compliant (<5w in S5-- Power Off)	*	*	*	*
Power Consumption in ES Mode - Suspend to RAM (S3) (Instantly Available PC)	2.5W	~2W	~2W	~2W
Processor/Cache Memory Power -Down (S3)	*	*	*	*
CD-ROM Spins Down when not in use	*	*	*	*
Environmental and Mechanical Engineering Support Center	http://env-webserver.ccm.cpqcorp.net/EMESC/default.htm			

Standard Features - Base Unit Details

Software	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Preinstalled Software				
Windows 3.1	x	x	x	x
Windows 95	x	x	x	x
Windows 98	x	x	x	x
			(drivers available on web - Softpaqs Only)	(drivers available on web - Softpaqs Only)
Windows NT 4.X	x	x	x	x
		(drivers available on web - Softpaqs Only)	(drivers available on web - Softpaqs Only)	(drivers available on web - Softpaqs Only)
Windows 2000 SP2/ Windows XP Pro	x	*	*	*
Windows 2000 SP2	*	*	*	*
Windows XP Pro	*	*	*	*
Windows XP Home	*	*	*	*
Computer Setup Utility	*	*	*	*
Diagnostics for Windows	*	*	*	*
Microsoft Internet Explorer	*	*	*	*

Intelligent Manageability

Intelligent Manageability Home Page	http://www.compaq.com/im			
Altiris Agents (Aclient, Nsclient)	*	*	*	*
Insight Management Agent	*	*	*	*

Plug and Play Ready

Windows 2000	*	*	*	*
Windows XP Pro	*	*	*	*
Windows XP Home	*	*	*	*

Boot Support

Local Diskette Boot	*	*	*	*
	(Windows 95, Windows 98, DOS) – Requires USB floppy	(Windows 95, Windows 98, DOS) – requires Multibay 1.44 Floppy	(Windows 95, Windows 98, DOS)	(Windows 95, Windows 98, DOS)
Network Boot	*	*	*	*
Disk-on-Key Boot	*	*	*	*

ROM Features	Description	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Instantly Available PC (Suspend to RAM - S3)	Allows for very low power consumption with quick resume time.	*	*	*	*

Standard Features - Base Unit Details

ROM Based F10 Setup	Allows for reviewing and customizing BIOS settings.	*	*	*	*
Remote System Installation via F12 (PXE)	Allows a new or existing system to boot over the network and download software, including the operating system, that is stored on a management server	*	*	*	*
Emergency ROM Flash Recovery with Video	Allows for recovery of corrupted system BIOS.	*	*	*	*
CMOS Archive and CMOS Restore	Saves and restores BIOS settings to diskette in human-readable file.	x	*	*	*
Auto Setup when New Hardware Installed	System automatically detects addition of new hardware (e.g. memory, floppy, etc.)	*	*	*	*
Serial, Parallel, USB Enable/Disable Port Control	Allows the user to enable or disable serial, parallel or USB ports	*(front USB ports via F2)	*	*	*
Removable Media Write / Boot Control	Prevents the computer from being booted from removable media (and can disable writes to media)	*(boot only)	*	*	*
Remote Boot from Server	Allows a new or existing system to boot over the network and download software, including the operating system, that is stored on a management server	*	*	*	*
Network Server Mode	Allows for keyboard-less operation	*	*	*	*
Power-On Password	Prevents an unauthorized person from booting up the computer	*	*	*	*
Setup Password	Prevents an unauthorized person from changing the system configuration	*	*	*	*
Memory Change Alert (Requires Insight Management Agent)	Alerts management console if memory is removed or changed	x	*	*	*
Thermal Alert (Requires Insight Management Agent)	<ul style="list-style-type: none"> Monitors the temperature within the chassis. There are three operational states that a computer can experience: <p>NORMAL – operating under normal temperature ranges</p> <p>ALERTED - operation when excessive temperatures are detected. Will raise a flag so that appropriate action can be taken to avoid shutdown or provide for a smoother system shutdown</p> <p>SHUTDOWN – when excessive temperatures are encountered. Will automatically shutdown the computer without warning before hardware component damage occurs</p> 	x (Only non-connected fan is detected)	*	*	*

ROM Features	Description	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
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Standard Features - Base Unit Details

Cover Removal Alert (Requires Insight Management Agent)	<ul style="list-style-type: none"> Assists with asset security and control by notifying the Network Administrator and end user when the cover has been removed without authorization. Is an electronic switch residing inside the computer which can be set to any one-of-three modes depending on the amount of control desired: DISABLED - the network administrator does not want to be made aware of the computer hood removal NOTIFY USER - notifies network administrator that the hood has been removed, but no administrator action required before re-booting the computer UP PASSWORD – notifies network administrator that the hood has been removed and administrator password is required before re-booting the computer 	x	x	*	*	with optional security module
Master Boot Record Security	Allows for detection of changes to MBR and optional restoration, useful in protecting from viruses	x	*	*	*	
Remote ROM Flash	Provides secure, fail-safe ROM image management from a central network console	*	*	*	*	
Remote Wakeup	<ul style="list-style-type: none"> Allow a system administrator to power on, restart, and power off a client computer from a remote location. This enables cost-effective power consumption when the administrator needs to distribute software, perform security management, or update the ROM. 	*	*	*	*	
ACPI Power Management	<ul style="list-style-type: none"> Advanced Configuration and Power Management Interface (ACPI). It allows the system to wake from a low power mode. It controls system power consumption, making it possible to place individual cards and peripherals in a low-power or powered-off state without affecting other elements of the system 	*	*	*	*	
SMBIOS	System Management BIOS, previously known as DMI BIOS, for system management information	*	*	*	*	

Standard Features - Base Unit Details

System	Description	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Environmental Specs					
Acoustics: Advanced Power Management - On	----	Idle (HDD spinning but not seeking) = 25 dB	Idle (HDD spinning but not seeking) = 19 dB	Idle (HDD spinning but not seeking) = 26 dB	Idle (HDD spinning but not seeking) = 22 dB
Shock					
Operating (*Using 11ms half-sine shock pulse)	----	5 G's* (with NO damage being incurred)			
Non-Operating (*Using 11ms half-sine shock pulse)	----	20 G's* (with NO damage being incurred)	20 G's* (with NO damage being incurred)	20 G's* (with NO damage being incurred)	10 G's*, positive and negative directions front to back axis: 20 G's* in all other axes.
Vibration					
Operating	----	Random vibration at 0.000215 G ² /Hz, 10Hz to 300Hz, (0.25G's nominal).	Random vibration at 0.000215 G ² /Hz, 10Hz to 300Hz, (0.25G's nominal).	Random vibration at 0.000215 G ² /Hz, 10Hz to 300Hz, (0.25G's nominal).	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).	Random vibration at 0.0005 G ² /Hz, 10Hz to 500Hz, (0.5G's nominal).	Random vibration at 0.0005 G ² /Hz, 10Hz to 500Hz, (0.5G's nominal).	Random vibration at 0.0005 G ² /Hz, 10Hz to 500Hz, (0.5G's nominal).
Relative Humidity					
Operating (maximum wet bulb temp., non-condensing)	----	10% to 90% relative humidity (Rh), 28°C			
Non-operating (maximum wet bulb temp., non-condensing)	----	5% to 95% relative humidity (Rh), 38.7°C			
Altitude Max (un-pressurized)					
Operating	----	0 to 3,048 meters/10,000 feet - This value may be limited by the type and number of options installed. Maximum	0 to 3,048 meters/10,000 feet - This value may be limited by the type and number of options installed. Maximum	0 to 3,048 meters/10,000 feet - This value may be limited by the type and number of options installed. Maximum	0 to 3,048 meters/10,000 feet - This value may be limited by the type and number of options installed. Maximum

Standard Features - Base Unit Details

		allowable altitude change rate is 1500 ft/min.			
Non-operating (Maximum allowable altitude change rate is 1500 ft/min)	----	0 to 30,000 ft / 9,144 m -	0 to 30,000 ft / 9,144 m -	0 to 30,000 ft / 9,144 m -	0 to 30,000 ft / 9,144 m -

Initial Configuration and Deployment	Description	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
HP/Compaq Client Manager (free)	A FREE solution that provides asset tracking, alerting, diagnostics, and SoftPaq distribution for Compaq business desktops, notebooks, and workstations. Compaq Client Manager "plugs" into the Altiris eXpress infrastructure to provide value-add Compaq specific information that can be leveraged by all Altiris eXpress solutions delivering cost saving features	*	*	*	*
Altiris eXpress Solutions (30-day trial version)	A suite of solutions that focus on business needs in four areas, saving time and freeing resources to address other crucial issues: <ul style="list-style-type: none"> • Deployment & Migration • Software & Operations Management • Inventory & Asset Management • Help Desk & Problem Resolution 	*	*	*	*
PC Transplant Pro (30-day trial version)	Makes transferring the files and settings that make your PC unique - its personality - a quick and intuitive process	*	*	*	*
System Software Manager (free)	A utility that automatically detects and updates BIOS, device drivers, and management agent versions on your networked PCs	*	*	*	*
Insight Manager	----	*	*	*	*
Support Software CD	----	*	*	*	*
Compaq Software Restore CD	Allows the computer to be restored to its original factory shipping image	*	*	*	*

Standard Features - Base Unit Details

Asset Tracking	Description	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Asset Tag	<ul style="list-style-type: none"> Intended to be used as a repository for storing company-specific property asset numbers for easy tracking Initially set equal to the system serial number Stored in a protected section of non-volatile memory which can be accessed and modified with the F10 Setup program 	x	*	*	*
DIMM Serial Presence Detect	----	*	*	*	*
Hard drive serial number, model, and manufacturer	Hard drive manufacturer, model, and serial number is stored in the hard drive firmware	*	*	*	*
Monitor serial number, model & manufacturer	----	*	*	*	*
System serial number, model, & manufacturer	System serial number, model, & manufacturer stored in a non-volatile memory and can be retrieved with management SW	*	*	*	*
ROM revision levels	<ul style="list-style-type: none"> System ROM revision levels are identified by the date of release Date is stored in an industry standard memory location so that management SW applications can use and report this information 	*	*	*	*
System board revision level	<ul style="list-style-type: none"> Allows management SW to read the revision level of the system board Revision level is digitally encoded into the hardware and cannot be modified 	*	*	*	*
Memory Change Alert	Alerts management console if memory is removed or changed	x	*	*	*
Ownership Tag	----	x	*	*	*

Standard Security Features	Description	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Smart Cover Lock	Remote operated system lock <ul style="list-style-type: none"> Assists with asset security and control by notifying the Network Administrator and end user when the cover has been removed without authorization. Is an electronic switch residing inside the computer which can be set to any one-of-three modes depending on the amount of control desired: 	x	x	Optional	Optional
Smart Cover Sensor	<input type="radio"/> DISABLED - the network administrator does not want to be made aware of the	x	x	*	Optional

Standard Features - Base Unit Details

		computer hood removal				
		○ NOTIFY USER - notifies network administrator that the hood has been removed, but no administrator action required before re-booting the computer				
		○ UP PASSWORD – notifies network administrator that the hood has been removed and administrator password is required before re-booting the computer				
Mechanical Hood Security Provision	----		*	*	*	*
Kensington Lock Support	----		*	*	*	*
Cable Lock Provision	Allows the user to physically secure computer hardware from theft		*	*	*	*
Serial, Parallel, USB Enable/Disable	Allows the user to enable or disable serial, parallel or USB ports		*	*	*	*
Port Control	Device which attaches to back of chassis covering external ports and thereby preventing unauthorized access; also aids in cable management		*	X	X	X
Removable Media Write / Boot Control	Prevents the computer from being booted from removable media (and can disable writes to media)	** (Boot only, Booting from USB device can be disabled by BIOS)	** (Booting from USB device can be disabled by BIOS)	** (Booting from USB device can be disabled by BIOS)	*	(Booting from USB device can be disabled by BIOS)
Power-On Password	Prevents an unauthorized person from booting up the computer		*	*	*	*
Other	----	Security screw to lock cover, USB ports can be blocked	Security screws to lock MultiBay, cover and legacy module	Hood Cover Security Loop	Hood Cover Security Loop	
Setup Password	Prevents an unauthorized person from changing the system configuration		*	*	*	*
F10 Setup Password	----		*	*	*	*
Smartcard Reader	Security device that prevents system access unless the user has the appropriate Smartcard		X	X	Optional	Optional
Fingerprint Reader	Security device that restricts system access based on fingerprint		Optional	Optional	Optional	Optional

Standard Features - Base Unit Details

Fault Notification and Recovery	Description	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
SMART Hard Drives, Fault Notification, & Prefailure Warranty	<ul style="list-style-type: none"> Allows hard drives to monitor their own health and to raise flags if imminent failures were predicted Predicts failures before they occur. Tracks fault prediction and failure indication parameters such as re-allocated sector count, spin retry count, calibration retry count By helping users avoid actual hard drive failures, SMART hard drives act as "insurance" against unplanned user downtime and potential data loss from hard drive failure 	*	*	*	*
Proactive Backup	<ul style="list-style-type: none"> Initiates an automatic backup of the computers SMART hard (to a local tape device for example) when an imminent failure is predicted Prevents data loss and end-user down time due to a failing hard drive 	*	*	*	*
Surge Tolerant Full Ranging Power Supply	Withstands power surges up to 2000V	*	*	*	*
Thermal Sensor	<ul style="list-style-type: none"> Monitors the temperature within the chassis. There are three operational states that a computer can experience: <ul style="list-style-type: none"> NORMAL – operating under normal temperature ranges ALERTED - operation when excessive temperatures are detected. Will raise a flag so that appropriate action can be taken to avoid shutdown or provide for a smoother system shutdown SHUTDOWN – when excessive temperatures are encountered. Will automatically shutdown the computer without warning before hardware component damage occurs 	*	*	*	*
Ultra ATA Integrity Monitoring (CRC Checking)	<ul style="list-style-type: none"> Provides data transfer verification. Provides proactive notification of hard drive data transmission problems and recommendations for enhancing system performance Detects all the following errors types: <ul style="list-style-type: none"> single bit errors double bit errors an odd number of errors error bursts up to 32-bits long 	*	*	*	*

Standard Features - Base Unit Details

System Software Updating	Description	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Product Change Notification	<ul style="list-style-type: none"> • Program to proactively communicate Product Change Notifications (PCNs) and Customer Advisories by email to customers, based on a user-defined profile. • PCNs provide advance notification of hardware and software changes to be implemented in the factory providing time to plan for transition. • Customer Advisories provide concise, effective problem resolution, greatly reducing the need to call technical support 	http://www.compaq.com/notification			
Active Update	<ul style="list-style-type: none"> • Advanced web-based application that provides proactive notification and automatic download of software updates for most Compaq commercial products • Updates may be deployed using Compaq or third-party deployment tools • Software subscription filters automatically identify and download only relevant content based on the user-defined subscription information 	http://www.compaq.com/activeupdate			
Remote ROM Flash	Provides secure, fail-safe ROM image management from a central network console	*	*	*	*
Remote Wakeup / Remote Shutdown	<ul style="list-style-type: none"> • Allow a system administrator to power on, restart, and power off a client computer from a remote location. • This enables cost-effective power consumption when the administrator needs to distribute software, perform security management, or update the ROM. 	*	*	*	*
ROM Based Setup (F10) and Start-up Diagnostics		*	*	*	*
Support Software CD & WWW		*	*	*	*

Standard Features - Base Unit Details

Other Features	Description	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
ACPI-Ready Hardware	<ul style="list-style-type: none"> Advanced Configuration and Power Management Interface (ACPI). It allows the system to wake from a low power mode. It controls system power consumption, making it possible to place individual cards and peripherals in a low-power or powered-off state without affecting other elements of the system 	*	*	*	*
SMBIOS	System Management BIOS, previously known as DMI BIOS, for system management information	*	*	*	*
Wired for Management Support	Intel-driven, industry-wide initiative to make Intel architecture-based PCs, servers and mobile computers more inherently manageable right out of the box and over the network	*	*	*	*
Dual-State Power Button	Power button acts as both an on/off button and suspend-to-sleep button	*	*	*	*

Serviceability Features - System	Description	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Dual Color Power LED on Front of Computer (Indicates Normal Operations and Fault Conditions)	----	X	*	*	*
Blinking Diagnostic Keyboard LED Codes	Allows for easy problem resolution	X	*	*	*
Diagnostic LED Explanation Table	----	Diagnostics available through e-buzzer beep codes	*See Illustrated Parts Maps: http://wws1pro.compaq.com/support/home/index.asp		
Compaq Diagnostic for Windows Software	----	*	*	*	*
Compaq Configuration Record SW	----	*	*	*	*
Over-Temp Warning on Screen (Requires IM Agents)	----		*	*	*
Compaq OS CD (Restore OS CD)	Allows the computer to be restored to its original factory shipping image	*	*	*	*
Compaq Restore CD	Allows the computer to be restored to its original factory shipping image	*	*	*	*
Flash ROM	----	*	*	*	*
3.3V Aux Power LED on System PCA	----	X	*	*	*

Standard Features - Base Unit Details

Dual Function 5V Aux Power LED (ON) / PS_ON LED (OFF) on System PCA	----	x	*	*	*
Diagnostic Power Switch LED on board	----	x	**On when power switch pushed)	x(Not needed because power switch is on system board)	*On when power switch pushed)
Clear Password Jumper	----	*	*	*	*
Clear CMOS Button		*	*	*	*
CMOS Battery Holder for easy Replacement	----	*	*	*	*
Processor ZIP Socket for easy Upgrade	----	*	*	*	*
DIMM Connectors for easy Upgrade	----	*	*	*	*
NIC LEDs (integrated) (Green & Amber)	Used to determine NIC status	*	**	**	**
			Green On = Network Activity Amber On = 100Base-TX Amber Off = 10Base-TX	Green On = Network Activity Amber On = 100Base-TX Amber Off = 10Base-TX	Green On = Network Activity Amber On = 100Base-TX Amber Off = 10Base-TX

Serviceability Features of Chassis	Description	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Dual Color Power and HD LED - To Indicate Normal Operations and Fault Conditions	----	x	*	*	*
Diagnostic LED Explanation Table	----	x	*	(See Illustrated Parts Maps: http://wwss1pro.compaq.com/support/home/index.asp)	
Smart Cover Sensor	<ul style="list-style-type: none"> Assists with asset security and control by notifying the Network Administrator and end user when the cover has been removed without authorization. Is an electronic switch residing inside the computer which can be set to any one-of-three modes depending on the amount of control desired: <ul style="list-style-type: none"> DISABLED - the network administrator does not want to be made aware of the computer hood removal NOTIFY USER - notifies network administrator that the hood has been removed, 	x	x	*on riser)	*Option)

Standard Features - Base Unit Details

- but no administrator action required before re-booting the computer
- UP PASSWORD – notifies network administrator that the hood has been removed and administrator password is required before re-booting the computer

Smart Cover Lock	Remote operated system lock	x (Cover can be locked using the Security Screw)	x (Cover can be locked using the Security Screw)	* (Option)	* (Option)
Front power switch	-----	*	*	*	*
Green Pull Tabs, and Quick Release Latches for easy Identification	-----	*	*Green Pull Tabs on Cables)	*	*
System memory can be upgraded without removing the system board or any internal components	Eases memory upgrading	*	*	*	*
Tool-less Hood Removal	Eases entry to the chassis without use of special tools		*with captive thumbscrews)	*with side push buttons)	*with captive thumbscrews)

	Description	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Tool-less Hard Drive, CD & Diskette Removal	-----	*	Hard Drive is tool-less. Multibay Drives are hot-swappable and ejectable.	*	*
Tool-less System Board Removal	No special tools required for system board removal or maintenance	x	x	*	x
Towerable	Product can be oriented as a tower (in addition to desktop orientation)	*	*	*	*(Can also Rotate Drives in External Bays)
Universal Tower Stand	Necessary to safely orient as a tower	x (Not needed – chassis easily converts to either position)	*Standard)	*Option)	x (Not needed - Chassis is easily converted to either desktop or tower)

Standard Features - Base Unit Details

Serviceability Features – Hard Drives

Drive Self Tests (DPS)	<ul style="list-style-type: none"> ● Drive Protection System ● A diagnostic hard drive self test. It scans critical physical components and every sector of the hard drive for physical faults and then reports any faults to the user. 	*	*	*	*
DPS Access through F10 Setup during Boot	<ul style="list-style-type: none"> ● Running independently of the operating system, it can be accessed through a Windows-based diagnostics utility or through the computer's setup procedure. It produces an evaluation on whether the hard disk drive is the source of the problem and needs to be replaced. 	X	*	*	*
DPS Access through Diagnostics for Windows	<ul style="list-style-type: none"> ● The system expands on the Self-Monitoring, Analysis, and Reporting Technology (SMART), a continuously running systems diagnostic that alerts the user to certain types of failures 	*	*	*	*
SMART Technology	<ul style="list-style-type: none"> ● Allows hard drives to monitor their own health and to raise flags if imminent failures were predicted 	*	*	*	*
(Self-Monitoring, Analysis and Reporting Technology)	<ul style="list-style-type: none"> ● Predicts failures before they occur. ● Tracks fault prediction and failure indication parameters such as re-allocated sector count, spin retry count, calibration retry count 	*	*	*	*
SMART I - Drive Failure Prediction	<ul style="list-style-type: none"> ● By helping users avoid actual hard drive failures, SMART hard drives act as "insurance" against unplanned user downtime and potential data loss from hard drive failure 	*	*	*	*
SMART II - Off-Line Data Collection		*	*	*	*
SMART III - Off-Line Read Scanning with Defect Reallocation		*	*	*	*

Other Features

Support Home - Help for Drivers, ROM, and Software, Documentation	http://www.compaq.com/support/home/
Software & Drivers	http://www.compaq.com/support/home/
Ask Compaq	http://www.compaq.com/support/home/
Reference Library (Product Documents)	http://www.compaq.com/support/home/
Forums and Communities	http://www.compaq.com/support/home/
Warranty Information	http://www.compaq.com/support/home/
Your System Hardware: Look up your Hardware, Auto Serial Number Detect	http://www3.compaq.com/support/parts/
Support Tools	http://www3.compaq.com/support/tools/
Contact Support	http://www3.compaq.com/support/parts/
Compaq Active Update Support	http://www.compaq.com/products/servers/management/activeupdate/
End User Replaceable Parts Program	http://www.compaq.com/support/eurp/
Product Change Notification (PCN)	http://web14.compaq.com/pcn/pcnbridge.asp
ActiveUpdate	http://web14.compaq.com/pcn/pcnbridge.asp



Standard Features - Base Unit Details

- 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

		e-pc	USDT	SFF	CMT		
Communications	Modems						
					*	*	239137-xxx
						*	259032-B24
		*	*				228141-xxx
	NICs						
					*	*	266997-B21
					*	*	212953-B21
					*	*	212954-B21
					*	*	254626-B21
				*	*	*	191810-B21
					*	*	191809-B21
	Other						
				*			228057-B21
			*			233412-B21	
Chassis Enhancements					*	271027-B21	
				*		271028-B21	
					*	302480-B21	
					*	271030-B21	
				*		234489-B22	
			*			229038-B23	
		*				304099-B21	
		*				304096-B21	
Graphics	2D Graphics						
				*	*	283016-B21	
				*	*	283015-B21	
				*	*	301087-B21	
	2D Multi-Display Graphics						
				*	*	250227-B21	
				*	*	273304-B21	
				*	*	273305-B21	
	Cables						
				*	*	284281-B21	
			*	*	284282-B21		

After-Market Options

Hard Drives & Controllers

SMART III Ultra ATA/100 Hard Drives with Drive Protection System (DPS)

120-GB 7200 rpm SMART III Ultra AT/100 Hard Drive with DPS	*	*			250021-B21
80-GB 7200 rpm SMART III Ultra ATA/100 Hard Drive with DPS	*	*	*	*	250020-B21
40-GB 7200 rpm SMART III Ultra ATA/100 Hard Drive with DPS	*	*	*	*	201066-B21
20-GB 7200 rpm SMART III Ultra ATA/100 Hard Drive with DPS	*	*	*	*	251974-B21
Promise FastTrak100 TX2 RAID Card	*	*			238051-B21

SCSI Hard Drives – U320

146-GB 10K rpm Ultra3 (Ultra 160) SCSI Hard Drive	*	*			272674-B21
72-GB 10K rpm Ultra3 (Ultra 160) SCSI Hard Drive	*	*			269022-B21
36-GB 15K rpm Ultra3 (Ultra 320) SCSI Hard Drive	*	*			272673-B21
36-GB 10K rpm Ultra3 (Ultra 320) SCSI Hard Drive	*	*			269021-B21
18.2-GB 15K rpm Ultra3 (Ultra 320) SCSI Hard Drive	*	*			272672-B21
18.2-GB 10K rpm Ultra3 (Ultra 320) SCSI Hard Drive	*	*			269020-B21
Adaptec 39320D Ultra320 SCSI Controller	*	*			272675-B21

SCSI Hard Drives – U160

72-GB 10K rpm Ultra3 (Ultra 160) SCSI Hard Drive	*	*			250023-B21
36-GB 15K rpm Ultra3 (Ultra 160) SCSI Hard Drive	*	*			250022-B21
36-GB 10K rpm Ultra3 (Ultra 160) SCSI Hard Drive	*	*			191189-B21
18-GB 15K rpm Ultra3 (Ultra 160) SCSI Hard Drive	*	*			191188-B21
18-GB 10K rpm Ultra3 (Ultra 160) SCSI Hard Drive	*	*			159764-B21
Adaptec 29160N Ultra160 SCSI Controller	*	*			157810-B21

Note. Ultra3 SCSI Hard Drives are not supported on Windows 98.

Cables

2 Device IDE Cable	*	*			260626-B21
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After-Market Options

Input/Output Devices	Keyboards					
	Compaq PS/2 Easy Access Keyboard (carbon/silver)		*	*	*	267145-008
	Compaq USB Easy Access Keyboard (carbon/silver)	*	*	*	*	267146-008
	Compaq USB Smart Card Keyboard (carbon/silver)	*	*	*	*	267147-008
	Wireless keyboard with wireless optical mouse		*	*	*	300403-xx8
	Mice					
	Compaq PS/2 Scroll Mouse (carbon)		*	*	*	170299-B22
	Compaq USB Scroll Mouse (carbon)	*	*	*	*	195255-B25
	Compaq USB Optical Scroll Mouse (carbon/silver)	*	*	*	*	265985-B21
	Metrostar Wireless/Optical mouse			*	*	301991-B21
	Other					
	Hi Speed USB 2.0 PCI card			*	*	287696-B21
	IEEE1394 Firewire PCI card			*	*	277824-B21

Memory (DIMMs)	266-MHz (PC2100) DDR DIMMs Non-ECC					
	1-GB DDR Synch Dram PC2100 (266-MHz) Non-ECC	*	*	*	*	282436-B21
	512-MB DDR Synch Dram PC2100 (266-MHz) Non-ECC	*	*	*	*	282435-B21
	256-MB DDR Synch Dram PC2100 (266-MHz) Non-ECC	*	*	*	*	282434-B21
	128-MB DDR Synch Dram PC2100 (266-MHz) Non-ECC	*	*	*	*	282433-B21

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, Two-tone)					234044-001
	CRTs					
	Professional Series					
	Compaq P1220 CRT Monitor (21-inch, Two-tone)					244374-xxx
	Compaq P1210 CRT Monitor (21-inch, Two-tone)					230538-001
	Compaq P920 CRT Monitor (19-inch, Two-tone)					244375-xxx

After-Market Options

Compaq P910 CRT Monitor (19-inch, Two-tone)	230535-001
Compaq P720 CRT Monitor (17-inch, Two-tone)	244373-xxx
Value Series	
Compaq V720 CRT Monitor (17-inch, Two-tone)	232944-xxx
Compaq V510 CRT Monitor (15-inch, Two-tone)	228113-xxx
Standard Series	
Compaq S920 CRT Monitor (19-inch, Two-tone)	240326-xxx
Compaq S710 CRT Monitor (19-inch, Carbon)	154499-002
Compaq S720 CRT Monitor (17-inch, Two-tone)	239287-xxx
Compaq M720 CRT Monitor (17-inch, Two-tone)	238994-xxx
Compaq S510 CRT Monitor (15-inch, Carbon)	168636-002

Multimedia

Labtec Spin-22 Speakers (carbon)	*	*	*	*	246637-001
PC Comm station (no keyboard or mouse)	*	*	*	*	304251-008
PC Comm station pro (with wireless keyboard and optical mouse)	*	*	*	*	302002-xxx
* can be supported only when CTO-able front IO panel is chosen					

Optical Drives

DVD-ROM Drives					
16X/40X DVD-ROM w/ +R read (carbon)	*	*			303123-B22
CD-ROM Drives					
48X Max CD-ROM Drive (carbon)	*	*			187217-B22
DVD/RW Drives and Media					
4.7-GB DVD+RW Drive (carbon)	*	*			287189-B22
CD-RW Drives					
40X/12X/40X CD-RW Drive (carbon)	*	*			268985-B22
48X/12X/48X CD-RW Drive (carbon)	*	*			303125-B22
Combo Drives					
16X Combo DVD-ROM/CD-RW Drive (carbon)	*	*			273504-B22
32X Combo DVD-ROM/CD-RW Drive (carbon)	*	*			303124-B22

After-Market Options

MultiBay Drive Storage	e-pc	USDT	SFF	CMT	
MultiBay Drive Adapter			*	*	274141-B22
Multibay 20-GB Hard Drive **		*	*	*	250826-B21
Multibay 1.44-MB Floppy Drive **		*			226935-B25
MultiBay 24X CD-ROM Drive **		*	*	*	165864-B21
MultiBay 16X CD-RW Drive **		*	*	*	273837-B21
MultiBay 24X Combo DVD-ROM/CD-RW Drive (carbon) **		*	*	*	274073-B21
MultiBay 8X DVD-ROM Drive with RAM read **		*	*	*	238401-B21

NOTE ** D510 SFF/CMT Systems using MultiBay drives must be configured with the MultiBay Drive Adapter

Rack Options	All-in-2 integration kit (new e-pc and L1520 or L1720 LCD panel)	*			304255-B21
	e-pc mounting brackets	*			304254-B21

Removable Storage	<i>Diskette Drives and Media</i>				
	ZIP 250 Drive (carbon)		*	*	294416-B22
	ZIP 250 Media 3-Pack		*	*	217896-B21
	8-MB Disk-on-Key		*	*	249552-B25
	32-MB Disk-on-Key	*	*	*	301933-B21
	USB 1.44-MB External Diskette Drive (carbon)	*			304707-B21
	<i>Tape Drives and Media</i>				
	33/66-GB VXA-1 SCSI Tape Drive (carbon)		*	*	237108-B22
	33/66-GB VXA-1 IDE Tape Drive (carbon)		*	*	237109-B22
	33/66-GB VXA-1 Media 2-Pack		*	*	237111-B21
	VXA-1 Cleaning Cartridge		*	*	237110-B21
	TR5 10/20-GB IDE Tape Drive (carbon)		*	*	294243-B21
	TR5 10/20-GB Media 3-Pack		*	*	125782-B21

Security	Covadis USB Enhanced Smartcard Reader (Off-white)	*		*	*	240154-B21
	Identix BioTouch USB Fingerprint Reader (Carbon)	*	*	*	*	240238-B21
	Solonoid Lock (Convertible Minitower)				*	252076-B21
	Solonoid Lock (Small Form Factor – Celeron)			*		252076-B22
	Solonoid Lock (Small Form Factor – P4)			*		252076-B23
	Compaq Kensington Security Lock Ind (All)	*	*	*	*	294316-B21

e-pc Options	USB to parallel adapter	*				304099-B21
	USB to serial adapter	*				304096-B21

Memory

Compaq Evo D510 Models with Intel 845G Chipset

DDR SYNCH DRAM DIMM Non-ECC Memory

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.

Maximum Memory

Intel 845G Chipset supports up to 2-GB of DDR SYNCH DRAM.

Possible Memory Configurations

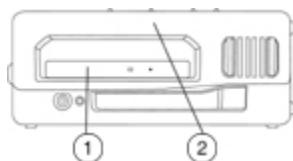
Memory	Slot	
TOTAL	1	2
128-MB	128-MB	Empty
256-MB	256-MB	Empty
512-MB	256-MB	256-MB
512-MB	512-MB	Empty
1-GB	512-MB	512-MB
1-GB	1-GB	Empty
2-GB - Maximum Memory	1-GB	1-GB

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.

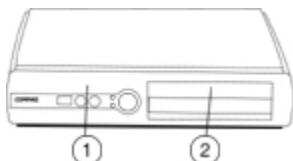
Storage

Storage

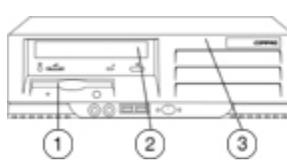
e-pc Desktop



Ultra-slim Desktop



Small Form Factor



Convertible Minitower



Quantity Supported

Position Supported

Controller

	Quantity Supported	Position Supported	Controller
e-pc			
Slimline Storage Drive Bay	1	1	IDE
SMART III Ultra ATA Hard Drives	1	2	IDE
Ultra-slim Desktop			
Hot-swappable MultiBay Drive	1	1	IDE
SMART III Ultra ATA Hard Drives	2	1, 2	IDE
Small Form Factor			
Diskette Drives	1	1	Diskette
Storage Drive Bay	1	2	IDE
SMART III Ultra ATA Hard Drives	1	3	IDE
MultiBay Drive (optional)	1	2	IDE
Convertible Minitower			
Diskette Drives	1	3	Diskette
Tape Drives	2	1,2	IDE
Storage Drive Bay	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
MultiBay Drive (optional)	2	1,2	IDE

TechSpecs - Audio

Integrated ADI 1981A Audio (SFF only)	Type	Integrated
	AC '97 Stereo Codec	Yes
	OPL3 FM Synthesis Support	Yes
	Sound Blaster Compatibility	Yes
	Audio Jacks	Mic-In (20-K ohm Input Impedance) Line-In (12-K ohm Input Impedance) Line-Out * (less than 800 ohms Output Impedance, expects at least a 10-K ohm load) Headphone-Out (2.5 Ohms Output Impedance, expects at least a 32 ohm load)
	NOTE: *Internal Speaker Amplifier is for Internal Speaker only. External Speakers need to be powered externally.	
	Sampling	7KHz-48KHz
	Compression	ADPCM, ESPCM
	Wavetable Syntheses (software)	Yes
	3D Positional Sound	No
	Analog Audio:	
	Number of Channels on Line-Out (mono/stereo)	Stereo (Left & Right channels)
	Internal Audio Speaker Power Rating	3W
Internal Speaker	Yes	
External Speaker Jack (Line-Out)	Yes	

Integrated ADI 1981A Audio (CMT, USDT and e-pc)	Type	Integrated
	AC '97 Stereo Codec	Yes
	OPL3 FM Synthesis Support	Yes
	Sound Blaster Compatibility	Yes
	Audio Jacks	Mic-In (20-K ohm Input Impedance) Line-In (12-K ohm Input Impedance) Headphone-Out / Line-Out * (2.5 Ohms Output Impedance, expects at least a 32 ohm load)
	NOTE: *Internal Speaker Amplifier is for Internal Speaker only. External Speakers need to be powered externally.	
	Sampling	7KHz-48KHz
	Compression	ADPCM, ESPCM
	Wavetable Syntheses (software)	Yes
	3D Positional Sound	No
	Analog Audio:	

TechSpecs - Audio

Number of Channels on Line-Out (mono/stereo) Stereo (Left & Right channels)

Internal Audio Speaker Power Rating 3W

Internal Speaker * Yes

Internal Tuned Port Speaker No

Hardware Equalizer for Internal Speaker No

External Speaker Jack (Line-Out) Yes

NOTE: *Internal speaker not available for e-pc

TechSpecs - 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	<table border="0"> <tr> <td style="vertical-align: top;">Network transfer rate</td> <td>10BASE-T (Half-Duplex) 10 Mbps</td> </tr> <tr> <td></td> <td>10BASE-T (Full-Duplex) 20 Mbps</td> </tr> <tr> <td></td> <td>100BASE-TX (Half-Duplex) 100 Mbps</td> </tr> <tr> <td></td> <td>100BASE-TX (Full-Duplex) 200 Mbps</td> </tr> <tr> <td style="vertical-align: top;">Data interface</td> <td>PCI, 32-bit bus mastering</td> </tr> <tr> <td style="vertical-align: top;">I/O address</td> <td>Integrated connectivity with Intel I/O Controller Hub (ICH2)-based platforms</td> </tr> </table>	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
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													
	Remote wakeup	PME through PCI 2.2, no cable required												
	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 Altiris, alert utilities for the management console, proxy client software, client configuration software												
	F12 BIOS support	Yes												
	Environmental requirements	<table border="0"> <tr> <td style="vertical-align: top;">Operating temperature</td> <td>32° to 131° F (0° to 55° C)</td> </tr> <tr> <td style="vertical-align: top;">Operating humidity (non-condensing)</td> <td>85% at 131° F (55° C)</td> </tr> <tr> <td style="vertical-align: top;">Altitude</td> <td>10,000 feet (3,048 meters)</td> </tr> <tr> <td style="vertical-align: top;">Non-operating temperature</td> <td>-40° to 158° F (-40° to +70° C)</td> </tr> <tr> <td style="vertical-align: top;">Altitude</td> <td>5,000 feet (15,240 meters)</td> </tr> </table>	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)		
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 802.2, IEEE 802.3 and IEEE 802.3u, (100-Mbps ethernet), SCO UnixWare OpenDesktop and OpenServer, PC'99												

TechSpecs - Communications

Integrated Intel PRO/100 VE Network Connection with WOL	Manufacturer	Intel®	
	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
	Remote wakeup	Yes (Wake signal)	
	Proactive alert technology	No	
	F12 BIOS support	Yes	
Environmental requirements	Operating temperature	50° to 95° F (10° to 35° C)	
		Non operating Temperature	-4° to 140° F (-20° to 60° C)
	Humidity Operating	20° to 80° F	
	Humidity Non operating	10° to 90° F	
Standards compliance	IEEE 802.2 (10 Mb/s Ethernet) IEEE 802.3u (100 Mb/s Ethernet)		

3COM 3C905C-TX Network Connection	Manufacturer	3Com		
	Connector	RJ-45		
	Bus	32-bit PCI		
	Media	10BASE-T/100BASE-TX		
	System requirements	Computer running on 486, Intel® Pentium®, or Intel Pentium II, Intel Pentium III and Intel Pentium 4 processor; available PCI slot		
	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	PCI 2.2, PC'99, DMI 2.0, WfM 2.0, ACPI 1.0, PXE, RWU		
Remote wakeup	Yes, WAKE signal			
Operating distance	10BASE2 up to 607 feet (185 meters); 10BASE5 up to 1,639 feet (500 meters); 10BASE-T/100BASE-TX up to 328 feet (100 meters)			
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		

TechSpecs - Communications

Network management	Any SNMP management medium including 3Com Transcend® Network Supervisor, 3Com DynamicAccess® boot services, and 3Com DynamicAccess Managed PC Boot Agent
Power	+ 3.3 V, 340 mA
LED indicators	100-Mbps link, 10-Mbps link, activity
Dimensions	4.7 x 2.2 inches (12.0 x 5.6 cm)
Certifications	CE Mark, FCC Class B, VCCI Class B, CISPR 22 Class B

Lucent V.90 56K PCI Win Modem

Data Transmission	V.90/K56flex technology speeds: 56,000 Kbps maximum downstream data, controllerless
	NOTE: 56 Kbps technology refers to download speeds only and requires compatible modems at server sites. Other conditions may limit modem speed. FCC limitations allow a maximum of 53 Kbps during download transmissions.
Data Speeds	(Upload only) 33,600 / 31,200 / 28,800 / 26,400 / 21,600 / 19,200 / 16,800 / 14,400 / 12,000 / 9,600 / 7,200 / 4,800 / 2,400 / 1,200 / 300
Data Standards	ITU V.90, ITU-T, V.34bis, V.22bis, V.22bis, V.21, V.23, Bell 212A, and Bell 103
Fax speeds	14,400 / 12,000 / 9,600 / 7,200 / 4,800 / 2,400 / 1,200 / 300 b/s
Fax mode capabilities	Group3 FAX, V. 17, V.29, V.27ter, and V.21 Channel 2, Class 1
Error Correction and Data Compression	V.44 (software upgradeable), 4.2bis, V.42 and MNP2-5
Power Management	APM and ACPI states D0, D1, D2, and D3; meets PCI 2.2 requirements and PC'99 requirements
Upgradability	Software driver upgradeable for v.92 and future enhancements
Video	ITU-T V.80 video ready interface
Other	TIA/EIA 602 standard AT command set Integrated DTE interface with speeds of up to 115.2 Kbps, parallel 16550a UART-compatible interface Optional ring wakeup signal
Operating temperature	32° to 104° F/0° to 40° C
Operating humidity	20% to 80%, non-condensing
Power	Requires a 3.3-V auxiliary power rail on PCI bus Uses only one PCI load (i.e., one grant/request pair), one shared IRQ, one electrical load
Chipset	Agere Systems 1648C (Mars 3.2)—Integrated PCI interface with 5-V tolerant buffers and CardBus support
Dimensions (L X H)	Complies with PCI low profile specifications—6.7 x 2.3 inches (17.0 x 5.8 cm) and supports high- and low-profile brackets
Connection	Dual, parallel RJ-11 support with auxiliary Tip/Ring connector
Other features	Digital line protection, call progress monitoring via on-board piezo device, transformer-based DAA design, support for high profile and low profile brackets, PnP ID supports via external EEPROM
Safety	UL recognized to UL 1950, 3rd edition (U.S. and Canada); IEC 950 (TUV, NEMKO, DEMKO, SEMKO); CE Mark, EC 950 (TUV, NEMKO, DEMKO, SEMKO, CE mark)
EMC	FCC Part 15, IC ES003, EN 55022, 3rd edition, EN 55024, annex A, EN 61000-4-6, EN 61000-4-8
Telecom	FCC Part 68, IC-CS-03 (Canada); Worldwide PTT approvals
Health	Bare PCB material compliant to 94V-0 or better (marked as such), Microsoft Windows Me health compliant

TechSpecs - Communications

Other PC'99 compliant, PCI version 2.2, WHQL approved; support for ACPI revision 1.1,

V.92 56K USB Modem (Ultra-slim Desktop and e-pc only)	Data Transmission	V.90/K56flex technology speeds
	Data Speeds	14400bps send and receive fax modem with automatic fallback to 12000, 9600, 7200, 4800, 2400bps. · 33600bps data modem with automatic fallback.
	Data Standards	V.90, V.92 (software upgradeable), K56 Flex V1.2, V.34 w/extended rates, V.32bis, V.32, V.23, V.22, V.22bis, and V.21; Bell 212A and 103
	Fax speeds	V.29, V.17
	Fax mode capabilities	ITU-T V.17, V.29, V.27
	Error Correction and Data Compression	MNP class 2-4 Microcom error correction. ITU-T Recommended V.42 error correction MNP 5 Mirocom data compression, ITU-T V.42bis data compression.
	Power Management	Full Compliance with the Universal Serial Bus Specification Revision 1.1
	Other	Support k56flex/V.90 56kbps for highest internet connection rates. 14400bps send and receive fax modem with automatic fallback to 12000, 9600, 7200, 4800 and 2400bps. Automode detection allows the modem to connect with a modem that is configured for differing connection modes. Support Plug & Play function

Broadcom NetXtreme Based 10/100/1000 Management Gb Adapter	Connector	RJ-45
	Controller	Broadcom 5702 PCI LAN Controller
	Memory	Integrated 96Kb frame buffer memory
	Data rates supported	10/100/1000 Mbps
	Compliance	IEEE 802.1A, 802.1P, 802.1P, 802.1Q, 802.2, 802.3, 802.3AB and 802.3u compliant, 802.3x flow control
	Bus architecture	PCI 2.2
	Data path width	32-bit, 33/66 MHz bus interface
	Data transfer mode	Bus-master DMA
	Hardware certifications	FCC, B, CE, TUV- cTUVus Mark Canada and United States, TUV- GS Mark for European Union
	Power requirement	1.48 watts @ +3.3V AUX supply with 5V tolerance
	Boot ROM support	Yes
	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 1000Base-T, 1000Mbps
	Environmental	Operating temperature 32° to 131° F (0° to 55° C) Operating humidity 85% at 131° F (55° C)
	Dimensions	4.721 x 2.0 x 0.08 in (12.02 x 5.09 x 1.9 cm)
	Management capabilities	ACPI, WOL and DMI 2.0, PXE 2.0, WfM 2.0, Broadcom management utility

TechSpecs - Graphics

NVIDIA GeForce2 MX200 64MB with DVI-I	Vertical frequency	60-85 Hz
	Graphics controller	NV11
	Bus type	AGP 4X
	RAMDAC	Integrated 350 MHz RAMDAC
	Memory type	SDRAM
	Memory amount	64 MB unified frame buffer and texture memory
	Maximum memory	64 MB
	Memory speed	166 MHz
	Data path	256-bit
	Controller clock speed	175 MHz
	Maximum vertical refresh rate	85 Hz
	Maximum pixel clock	350 MHz
	Graphics API support	OpenGL 1.2, DirectX 5, 6, 7, & 8.1
	Operating systems support	Microsoft Windows XP, Microsoft Windows 2000 (preinstalled) Microsoft Windows NT 4.0, and Microsoft Windows 98 (supported via SoftPaqs)
	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	DVI-I; an included DVI to VGA adapter provides an analog video output port (female, 15-pin, D-SUB connector) for connection to an analog display.

Resolutions supported (DVI)	Resolution	Refresh Rate/Hz	High Color	True Color
	1600 x 1200	60	Yes	Yes
	1600 x 900	60	Yes	Yes
	1280 x 1024	60	Yes	Yes
	1280 x 960	60	Yes	Yes
	1152 x 864	60	Yes	Yes
	1024 x 768	60	Yes	Yes
	960 x 720	60	Yes	Yes
	800 x 600	60	Yes	Yes
	640x 480	60	Yes	Yes

TechSpecs - Graphics

Resolutions supported (VGA)	Resolution	Refresh Rate/Hz	High Color	True Color
	1920 x 1440	75	Yes	Yes
	1920 x 1200	85	Yes	Yes
	1920 x 1080	85	Yes	Yes
	1600 x 1200	85	Yes	Yes
	1600 x 900	85	Yes	Yes
	1280 x 1024	85	Yes	Yes
	1280 x 960	85	Yes	Yes
	1152 x 864	85	Yes	Yes
	1024 x 768	85	Yes	Yes
	960 x 720	85	Yes	Yes
	800 x 600	85	Yes	Yes
	640x 480	85	Yes	Yes

Intel Extreme Graphics Bus Type

(Integrated with Intel 845G chipset)

Integrated

AGP Interface

Supports a single 1.5v Accelerated Graphics Port Interface, Specification 2.0 compliant device
Supports 1x/2x/4x data transfers and 2x/4x fast writes
32-deep AGP request queue
AGP signals multiplexed with two DVO ports
Supports ADD (AGP Digital Display) cards

Core frequency

200-Mhz

3D setup and render engine

Discrete Triangles, Strips, and Fans support
Indexed vertex and flexible vertex formats
Pixel accurate fast scissoring and clipping operation
Backface culling support
Supports D3D and OGL pixelization rules
Anti-aliased lines support
Sprite points support

High quality texture engine

Per pixel perspective corrected texture mapping
Single pass texture compositing (multi-textures) at rate
12 levels of detail MIP map sizes from 1x1 to 2Kx2K
All texture formats including 32-bit RGBA
Alpha and luminance maps
Texture chroma-keying
Bilinear, trilinear and anisotropic MIP-mapped filtering
Cubic environment reflection mapping
Embossed bump-mapping
DOT3-based bump-mapping
DXTn texture decompression
FXT1 texture decompression

3D graphics rasterization enhancements

200 megapixel / sec fill rate
Flat and Gouraud shading
Color alpha blending for transparency
Vertex and programmable pixel fog and atmospheric effects
Color specular lighting
Z Bias support
Dithering
Anti-Aliasied lines
16 and 24 bit Z buffering
16 and 24 bit W buffering
8 bit stencil buffering
Double and triple render buffer support

TechSpecs - Graphics

2D Graphics	<ul style="list-style-type: none"> 16 and 32 bit color Destination alpha Maximum 3D resolution supported 1600 x 1200 x 32 @ 85Hz Fast clear support Optimized 256 bit BLT (Block Transfer) Engine GDI+ feature support Alpha stretch blitter Anti aliased lines 32-bit alpha blended cursor Programmable 3-color transparent cursor Color space conversion 8, 16, and 32 bit color ROP support
Video DVD / PC-VCR	<ul style="list-style-type: none"> Dynamic Bob and Weave support for video streams Synclock display and TV out to video source Source resolution up to 720 x 480 with 2 vertical taps Software DVD at 30 fps (frames per second), full screen
Video Overlay	<ul style="list-style-type: none"> Single scalable overlay Multiple overlay functionality provided via stretch blitter (PIP, video conferencing, etc.) 5 tap horizontal, 2 tap vertical filtered scaling Independent gamma correction Independent brightness / contrast / saturation Independent tint / hue support Destination color keying Source chroma keying Maximum source resolution: 720 x 480 (576) Maximum overlay display resolution: 1600 x 1200 x 32 @ 60Hz, 1280 x 1024 x 32 @ 85hz.
Display	<ul style="list-style-type: none"> Analog display support 350Mhz integrated 24-bit RAMDAC Up to 2048 x 1536 @ 60Hz refresh Hardware color cursor support DD2CB compliant interface Multiplexed digital display channel Two channels multiplexed with AGP 165Mhz dot clock on each 12 bit interface Can combine two 12 bit channels to form one 24 bit channel Supports flat panels up to 2048 x 1536 @ 60Hz or dCRT / HDTV @ 1920 x 1080 @ 85Hz. Supports hot plug and display Supports LVDS, TMDS transmitters or TV-out encoders ADD card utilizes AGP connector Three Display Control Interfaces (I2C/DDC) multiplexed on AGP

Refresh Rate with Memory Indicated

Resolution (Horizontal x Vertical)	Color Depth (Bits per Pixel)	Refresh Rate (Hz)
640 x 480	8,16 and 32	85, 85 and 85
800 x 600	8,16 and 32	85, 85 and 85
1024 x 768	8,16 and 32	85, 85 and 85
1280 x 1,024	8,16 and 32	85, 85 and 85
1600 x 1200	8,16 and 32	85, 85 and 85
1900 x 1440	8,16 and 32	75, 75 and N/A

TechSpecs - Hard Drives

7200 rpm SMART III Ultra ATA/100 Hard Drives

120-GB	Capacity	120,000 MB
	Rotational Speed	7200 rpm
	Interface	Ultra ATA/100
	Height	1 in (25.4 mm)
	Width	3.5 in (88.9 mm)
	Transfer Rate	100 MB/s
	Synchronous (Maximum)	
	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 234,441,648
	Operating Temperature	41° to 131° F (5° to 55° C)

80-GB	Capacity	80,000 MB
	Rotational Speed	7200 rpm
	Interface	Ultra ATA/100
	Height	1 in (25.4 mm)
	Width	3.5 in (88.9 mm)
	Transfer Rate	100 MB/s
	Synchronous (Maximum)	
	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 157,278,240
	Operating Temperature	41° to 131° F (5° to 55° C)

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	100 MB/s
	Synchronous (Maximum)	
	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)

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	100 MB/s
	Synchronous (Maximum)	

TechSpecs - Hard Drives

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-, 40, and 80-GB capacity points include Quiet Idle technology, which reduces acoustic levels approximately 5 decibels, and ship worldwide. 20-GB 7200 rpm drives shipping in EMEA with Quiet Seek also have Quiet Idle technology, which reduces acoustic levels by approximately 5 decibels.

5400 rpm SMART III Ultra ATA/100 Hard Drives

80-GB	Capacity	80,000 MB	
	Rotational Speed	5400 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)	
	40-GB	Capacity	40,000 MB
		Rotational Speed	5400 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	1.5 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	
	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	1.5 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

TechSpecs - Hard Drives

Operating Temperature 41° to 131° F (5° to 55° C)

10,000 rpm Wide Ultra3 36.4-GB SCSI Hard 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	160 MB/s	
Synchronous (Maximum)		
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)		

MultiBay and Slimline 20-GB Hard Drive

Capacity	20 GB	
Height	1 in (25.4 mm)	
Width	3.5 in (88.9 mm)	
Interface	Ultra ATA/100	
Transfer Rate	100 MB/s	
Synchronous (Maximum)		
Seek Time (typical reads, including settling)	Single Track	1.2 ms (2.7 ms quiet seek)
	Average	8 ms (14.3 ms quiet seek)
	Full-Stroke	18.0 ms (24.1 ms quiet seek)
Rotational Speed	7200 rpm	
Logical Blocks	39,102,336	
Operating Temperature 41° to 131° F (5° to 55° C)		

TechSpecs - Input/Output Devices

Compaq Easy Access Keyboard (PS/2 or USB)	Dimensions (HxWxD)	1.4 x 18.3 x 6.3 in (36 x 465 x 160 mm)	
	Weight	Approximately 2 lbs (0.9 kg)	
	Electrical	Operating Voltage	+ 5VDC ± 5%
		Power Consumption	50 mA maximum (with 3 LEDs on)
		System Interface	PS/2 mini-din connector
	Mechanical	ESD	CE level 4, 15 kV air discharge
		EMI-RFI	Conforms to FCC rules for a Class B computing device
		PC98	Functionally compliant
		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
	Environmental	PC98-99	Mechanically compliant
		Acoustics	50 dBA maximum sound pressure level
		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		

USB SmartCard Keyboard	Dimensions (HxWxD)	18.2 x 6.3 x 1.3 in (463 x 161 x 33 mm)	
	Weight	2 pounds (0.9 kg) minimum	
	Electrical	Operating Voltage	+ 5VDC ± 5%
		Power Consumption	100-mA maximum (with four LEDs ON)
		System Interface	USB Type A plug connector
	Mechanical	ESD	CE level 4, 15-kV air discharge
		EMI-RFI	Conforms to FCC rules for a Class B computing device
		PC98	Functionally compliant
		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

TechSpecs - Input/Output Devices

Environmental	Microsoft PC 99 - 2001	Mechanically compliant
	Acoustics	43-dBA maximum sound pressure level
	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
	Drop (out of box)	26 inches (66 cm) on carpet, six-drop sequence
	Drop (in box)	42 inches (107 cm) on concrete, 16-drop sequence
Approvals	CE-Mark, UL, CSA, FCC, CE Mark, TUV, TUV GS, VCCI, BSMI, C-Tick, MIC	
Ergonomic compliance	ANSI HFS 100, ISO 9241-4, and TUVGS	

Compaq 2-Button Scroll Mouse (PS/2 or USB)

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	
Mechanical	PC98	Functionally compliant	
	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	

TechSpecs - Optical Storage

48X Max CD-ROM Drive Interface	ATAPI IDE	
Data Buffer	16.6 Mbps	
Data Transfer Rate	Sustained—150 Kbps	Variable (CD)—3,000 to 7,200 Kbps
	minimum (audio)	
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 (H x W x D, maximum)	1.7 x 5.9 x 8.2 inches (4.3 x 15.0 x 20.8 cm)	
Weight	2.6 pounds (1200 g)	
MPEG Playback Graphics Solution Support	None	

48X/12X/48X CD-RW Drive	Orientation	Either horizontal or vertical
	Disc Loading Mechanism	Half-height, tray load
	Interface Type	ATAPI IDE
	Dimensions—external (W x H x D)	203 x 149.5 x 43.5 mm (7.99 x 5.88 x 1.71 inches)
	Weight	1.2 kg (2.6 pounds)
	Disc Diameter	12 cm, 8 cm
	Disc Thickness	1.2 mm
	Track Pitch	1.6 mm
	Disc Center Hole Diameter	15 mm
	Reference Scanning Velocity	1.2 m/s

TechSpecs - Optical Storage

Recording/Playing Time	80 minutes with CD-R media
Read Only Disc Parameters	<p>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</p> <p>Capacity 185 MB (Mode 2, 8cm); 540 MB (Mode 1, 12 cm); 650 MB (Mode 2, 12 cm); 700 MB (Mode 2, 12 cm)</p> <p>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</p>
Writeable Disc Parameters	<p>Disc Type CD-R and CD-RW</p> <p>Write Methods Disc at Once, Track at Once, Session at Once Variable Packet, Fixed Packet</p> <p>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</p> <p>Capacity 185 MB (Mode 2, 8cm); 540 MB (Mode 1, 12 cm); 650 MB (Mode 2, 12 cm); 700 MB (Mode 2, 12 cm)</p> <p>Block Size Mode 1—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</p>
Access Times (typical)	<p>Random < 120 ms</p> <p>Full Stroke < 200 ms</p>
Data Transfer Rates	<p>Sustained CD-R write—1,800 KB/s (12X) CD-R write—2400 KB/s (16X) CD-RW write (1-4X media) —600 KB/s (4X) CD-RW write (4-10X media) —1,500 KB/s (10X) CD-RW write (4-12X media) —1,800 KB/s (12X) CD-RW read—3,600 KB/s (24X) Digital audio extraction (minimum) —7,200 KB/s (48X)</p> <p>Variable CD-RW write—2,400 to 3,600 KB/s (16X to 24X) CD-RW write—2,400 to 4,800 KB/s (16X to 32X) CD-RW write—2,400 to 6,000 KB/s (16X to 40X) CD-RW write—2,400 to 7,200 KB/s (16X to 48X) CD-ROM, CD-R read—1,500 to 7,200 KB/s (10X to 48X)</p>
Data Transfer Modes	ATA PIO mode 4 (16.7MB/s) ; ATA multi-word DMA mode 2 (16.7 MB/s); ATA UltraDMA mode 0 (16.7 MB/s) ;ATA UltraDMA mode 1 (24 MB/s) ; ATA UltraDMA mode 2 (33 MB/s) – default.
Cache Buffer	2 MB (minimum)

TechSpecs - Optical Storage

Start-up Time (single)	< 7 seconds typical
Start-up Time (multi-session)	< 30 seconds typical
Stop Time	< 4 seconds
Power	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 VCD < 1A (typical) < 1200 mA (maximum)
	12 VCD < 600 mA (typical) < 1.2A (maximum)
	Total Drive Power (Standby mode) < 2.5 watt
Audio Output Level	0.7 Vrms
Configuration Jumper Block	Master, slave and cable select modes
Data Interface Connector	50-pin IDE interface
Environmental (all conditions, non-condensing)	Temperature (operating) Operating 41° to 122° F (5° to 50° C)
	Relative Humidity (operating) 10% to 90%
	Maximum Wet Bulb Temperature (operating) 84° F (29° C)
Certifications, Requirements	ACA AS/NZS 3548, ANSI C63.4–1992, CB Test Certificate for IEC 950, CE Mark, CFR 47 part 15, CNS 13438, CSA C22.2 No. 60950, DHHS/FDA - 1040, EN60825, EN55022:1998, EN55024, EN60950:2000, ICES-003 class B, IEC 61000 4-2 – 4-11, Nordic EN60 950, TUV or VDE EN60 950, UL 60950, C.I.S.P.R. Publication 22 Class B, BSMI, Microsoft P2001, Microsoft Logo for Windows XP, 2000, NT4, ME, 98
Operating Systems Supported	Microsoft® Windows® XP, Microsoft Windows 2000, Microsoft Windows NT® 4.0
Option Kit Contents	CD-RW drive, CD-R media, High-Speed CD-RW media, Roxio™ Easy CD Creator, Dantz Retrospect Express Backup for CD-RW, audio cable and installation guide.

32X Combo CD-RW/ DVD-ROM Drive

Tray load	5.25-inch, half-height, tray-load
Orientation	Either horizontal or vertical
Interface Type	ATAPI
Dimensions—external, excluding bezel (W x H x D)	5.77 x 1.71 x 7.36 inches (146.5 x 43.5 x 187 mm)
Disc Diameter	12 cm, 8 cm
Disc Thickness	1.2mm (0.05 inch)
Track Pitch	1.6 μ m (CD), 0.74 μ m (DVD)
Disc Center Hole Diameter	15mm (0.6 inch)
Reference Scanning Velocity	1.2 m/s (CD); 3.49 m/s (DVD SL); 3.84 m/s (DVD DL)

TechSpecs - Optical Storage

Read Only Disc Parameters	Formats and Modes Supported	CD-ROM—Mode 1; CD-ROM XA—Mode 2 (forms 1 and 2); CD-Bridge; 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; DVD-RW; DVD-RW Multi-Border; DVD+R; DVD+R Multi-Session , and DVD+RW
	Capacity	180 MB (mode 2, 8 cm); 540 MB (mode 1, 12 cm); 650 MB (mode 2, 12 cm); 700 MB (Mode 2, 12 cm); 4.7 GB (DVD-5); 8.54 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 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; CD-Bridge; Video CD
	Capacity	180 MB (mode 2, 8 cm); 540 MB (mode 1, 12 cm); 650 MB (mode 2, 12 cm); 700 MB (mode 2, 12 cm);
	Block Size	CD-DA—2,352 bytes; mode 0— 2,336 and 2,352 bytes; mode 1—2,048 and 2,352 bytes; mode 2—2,336 and 2,352; mode 2, form 1—2,048 and 2,352 bytes; mode 2, form 2—2,324 and 2,352 bytes
Access Times (typical reads, including settling)	Random DVD	< 130 ms (typical)
	Random CD	< 90 ms, (typical)
	Full Stroke DVD	< 210 ms (seek)
	Full Stroke CD	< 160 ms (seek)
Data Transfer Rates	Sustained — CD-R write	600 KB/s (4X), 1800 KB/s (12X)
	Sustained — CD-RW write	600 KB/s (4X, 1-4X media), 1500 KB/s (10X, 4-10X media)
	Sustained — CD-RW read	3600 KB/s (24X)
	Sustained — Digital audio extraction (minimum)	6000 KB/s (40X)
	Variable — CD-R write	2400 KB/s (16X), 3600 KB/s (24X), 4800 KB/s (32X)
	Variable — CD-ROM, CD-R read	1500 – 6000 KB/s (10X to 40X)
	Variable — DVD ROM	8112 - 21,632 KB/s (6X - 16X)
	Variable — DVD Video	1352 – 3268 KB/s (2.4X)
	Variable — DVD-R, DVD-RW	1352 – 3268 KB/s (2.4X)

TechSpecs - Optical Storage

	Variable — DVD+R, DVD-RW	1352 – 3268 KB/s (2.4X)
Data Transfer Modes	ATA PIO mode 4 (16.7 MB/s); ATA Multi-word DMA mode 2 (16.7 MB/s); ATA UltraDMA mode 0 (16.7 MB/s); ATA UltraDMA mode 1 (24 MB/s), mode 2 (33 MB/s); ATA UltraDMA Mode 3 44 Mbytes/s (default)	
	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 \pm 5%—100 mV ripple p-p 12 VDC \pm 5%—200 mV ripple p-p
	DC Current	5 VDC (< 1000 mA typical, < 1600 mA maximum) 12 VDC (< 600 mA typical, < 1400 mA 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 122° F (5° to 50° C)
	Relative humidity (operating)	10% to 90%
	Maximum wet bulb temperature (operating)	86° F (30° C)
Certifications, Requirements	MPC-3 compliant, multi-read requirements, ACA AS/NZS 3548, ANSI C63.4–1992, ATAPI Spec SFF-8020, ATA Spec X3T9.2, CB Bulletin No. 92A, CSA C22.2 No. 950-1995, C.I.S.P.R. Pub 22, EMKO-TSE 207/94, TUV or VDE EN60 950, EN60825-1, Microsoft PC2001 certification, Microsoft Logo for Windows XP, 2000, and NT4	

16X/40X DVD-ROM with Height +R Read Drive	5.25-in, half-height	
	Interface Type	ATAPI
	Dimensions— External, Excluding Bezel (W x H)	5.88 x 1.71 in (149.5 x 43.5 mm)
	Disc Diameter	12 cm, 8 cm
	Disc Thickness	1.2 mm
	Track Pitch	1.6 μ m (CD), 0.74 μ m (DVD)
	Disc Center Hole Diameter	15 mm
	Disc Formats	DVD-ROM (single and dual layer); DVD-video; DVD-R version 1.0 and 2.0; DVD-RW version 1.0 and 1.1; DVD-R multi-border; DVD+RW; DVD+R ; CD-ROM Mode 1 and 2; CD-DA; CD-ROM XA Mode 2, Form 1 and 2; CD-extra; CD-text; CD-I Mode 2, Form 1 and 2; CD-I ready; video CD, CD-bridge; PhotoCD (single and multi-session); CD-R; CD-RW

TechSpecs - Optical Storage

Disc Capacity	DVD-ROM	4.7 GB (DVD-5), 8.54 GB (DVD-9), 9.4 GB (DVD-10), 3.95 GB (DVD-R version 1.0), 4.7 GB (DVD-R version 2.0), 4.7 GB (DVD-RW version 1.0 and 1.1), 4.7 GB (DVD+RW), 4.7G (DVD+R)
	CD-ROM	540 MB (Mode 1, 12 cm), 640 MB (Mode 2, 12 cm), 700 MB (80 minimum CD-R and CD-RW), 180 MB (8 cm)
Block Size (bytes)	DVD-ROM – 2048; CD-ROM Mode 0 – 2352; CD-ROM Mode 1 – 2352, 2340, 2336, 2048; CD-ROM Mode 2 – 2352, 2340, 2336, 2048	
Access Times (typical reads, including settling)	DVD-ROM Single Layer < 120 ms CD-ROM Mode 1 < 90 ms Full Stroke DVD < 240 ms (seek) Full Stroke CD < 160 ms (seek)	
Data Transfer Rates	2600 – 6000 KB/s (40X CAV CD-ROM mode) 8100 – 21,600 KB/s (16X CAV DVD-ROM mode)	
Data Transfer Modes	PIO Mode 4 (16.6 MB/s); Multi-word DMA mode 2 (16.6 MB/s); UltraDMA Mode 3 (44.4 MB/s)	
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 – <800 mA typical, < 1000 mA maximum 12 VDC – < 870 mA typical
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 122° F (5° to 50° C)
	Relative Humidity (operating)	10% to 85%
	Maximum Wet Bulb Temperature (operating)	86° F (30° C)
Certifications, Approvals	MMC II support, multi-read certification, Microsoft WHQL certification, ACA AS/NZS 3548 class B, CNS 13438, C.I.S.P.R. Pub 22, TUV or VDE EN60950, EN 55022, EN55024, SEMKO, NEMKO, DEMKO, FIMKO, EN 60825-1, UL 60950, and CSA C22.2 60950-2000.	
Operating Systems Supported	Microsoft Windows NT, Microsoft Windows 2000, and Microsoft Windows XP.	
Kit Contents	16X/40X DVD-ROM Drive, InterVideo™ WinDVD™ MPEG Movie Playback software, CD-R media, high-speed CD-RW media, audio cable, and installation guide.	

TechSpecs - Optical Storage

4.7 GB DVD+R/RW Drive	Recording Method	Disc-at-once and incremental write; re-recordable
	Interface	ATAPI ATA/ATAPI-5 and SFFC INF8090 Version 5
	Disc Recording Capacity	4.7 GB
	Write Support	DVD-R (4.7 GB for general disc only), DVD-RW, CD-R, CD-RW
	Read Support	DVD-ROM (single- and dual-layer), DVD-R (all types), CD-ROM Mode 1, CD-ROM XA (Mode 2, forms 1 and 2), CD TEXT, Photo CD (single- and multi-session), CD-DA (Audio CD), CD-Extra, CD-R, CD-RW (supports AM2)
	Write Speed	DVD-R 2X CLV (2.8 Mbps), 1X CLV (1.4 Mbps) DVD-RW 1X CLV (1.4 Mbps) CD-R 8X CLV (1.4 Mbps), 4X CLV (0.7 Mbps) CD-RW 4X CLV (0.7 Mbps)
	Read Speed	DVD-ROM 6X (single) Maximum CAV (5.5 Mbps) DVD-ROM (dual) 2X CLV (2.8 Mbps) DVD-R, DVD-RW 2X CLV (2.8 Mbps) CD-ROM Maximum 24X CAV (4.2 Mbps) CD-R 24X, CD-RW 16X Maximum CAV (2.8 Mbps) CD-Audio Maximum 10X CAV (1.8 Mbps) Video CD 4X CLV (0.7 Mbps)
	Data Buffer	Read 2 MB Write 2 MB
	Access Time (random average)	DVD—200 Msec; CD—180 Msec (when DVD-ROM single layer disc and CD-ROM Mode 1 disc are used)
	System Configuration	Intel® Pentium® III Processor or later with 128 MB of memory (required); 256 MB recommended 2-D or 3-D graphics cards on primary disk drive for operating system and application software; second disk drive for audio and video data
	Operating System Support	Microsoft® Windows® 2000 and XP
	Mounting Orientation	Horizontal and vertical
	Power Requirement	+ 5V, + 12V/1.2A, 0.9A
	Power Consumption	23.8 watts maximum
	Size	Fits standard 5.25 in drive bay
	Front Panel Features	Disc loading tray, forced eject hole, headphone jack, volume control, ventilation holes, disc indicator, read/write indicator, eject button
	Rear Panel Features	ATAPI interface, digital audio output 1, analog audio output, device configuration jumper, DC input
	Regulatory Approvals	UL, CSA, CB Report, FIMKO, SEMKO, FCC Class B, FDA, CE Marking, C-Tick, CISPR-229, Korean EMC, Taiwan EMC
	Kit Contents	DVD-RW drive, Sonic DVDit! authoring software, CD-R/CD-RW mastering software, and DVD-R and DVD-RW media
	Optional Kit	Compaq DV Option Kit Part Number 22996-0xx for digital video editing on Compaq workstations

TechSpecs - Optical Storage

MultiBay and Slimline 8X DVD-ROM Drive with Ram Read	Form Factor	12.7 mm MultiBay		
	Center Hole Diameter	0.59 in (0.39 cm)		
	Disc Diameter	12 cm/8 cm		
	Disc Thickness	1.2 mm		
	Track Pitch	0.74 μ m		
	Access Times (typical reads, including settling)	Random	< 180 ms	
		Full-Stroke	< 300 ms	
	Audio Output Level	Line out	0.7 Vrms	
	Cache Buffer	128 KB/s (minimum)		
	Data Transfer Rate (typical, including settling)	Sustained (16X) CD-ROM	2.4 MB/s	
		Sustained 8X DVD	10.08 MB/s	
		Normal PIO Mode 4 (single burst)	16.6 MB/s	
	Start-up Time	< 15 sec		
Stop Time	< 4 sec			

MultiBay and Slimline 24X CD-ROM Drive	MultiBay Drive	Dimensions (H x W x D)	0.5 x 5.2 x 5.0 inches (1.3 x 13.3 x 12.6 cm)		
		Weight	0.47 pounds (215.0 grams)		
	Applicable Disk	CD-ROM (Modes 1, 2 and 3), CD-XA ready (Modes 2, Form 1 and 2), CD-I ready (Mode 2, Forms 1 and 2), CD-R (read only), CD Plus, Photo CD (Single and Multi-session), CD-Extra, Video CD, CD-WO (fixed packets only), CD-Bridge			
	Center Hole Diameter	0.6 inch (15 mm)			
	Disk Diameter	4.7 inches (12 cm), 3.2 inches (8 cm)			
	Disk Thickness	0.05 inch (1.2 mm)			
	Track Pitch	1.6 μ m			
	Access Times (typical reads, including settling)	Random	< 150 ms		
		Full-Stroke	< 300 ms		
	Audio Output Level	Line-out	0.7 Vrm		
	Cache Buffer	128 KB			
	Data Transfer Rate (typical, including settling)	Sustained (16X)	2400 Kbps (sustained)		
		Variable	1500 to 3600 Kbps (10X to 24X)		
		Normal PIO Mode 4 (single burst)	16.7 Mbps		
	Start-up Time	< 8 seconds			
Stop Time	< 4 seconds				

TechSpecs - Optical Storage

Slimline 16X CD-RW Drive	Dimensions (H x W x D)	0.5 x 5.22 x 4.96 in (1.27 x 13.25 x 12.61 cm)		
	Weight	0.772 lb (350 g)		
	Transfer Rates	Write	Up to 10X (CD-RW) Up to 16X (CD-R)	
		Read	Up to 10X (CD-RW) Up to 24X (CD-R)	
	Controller	IDE		
	Buffering	2MB		
	Encoding Method	EFM		
	Format and ECC Standard	Red, Yellow (Mode 1 and Mode 2), Orange, Green (Mode 2, Form 1 and Mode 2, Form 2) books		
	Loading Mechanism	Drawer load		
	Logical Recording Format	UDF and ISO 9660		
	Write Methods	Disc at Once, Track at Once, Session at Once, Variable Packet, Fixed Packet		
	Write Verification	Automatic power control to dynamically adjust laser write power Data read-after-write verification by host-initiated procedures		
	Operating System Support	Microsoft® Windows® 2000, Windows XP Professional, Windows XP Home		
	Option Kit Contents	CD-RW Drive, 1 CD-R disc, 1 CD-RW disc, Roxio™ Easy CD Creator, Dantz® Retrospect Express, and documentation		

Multibay 24X CD-RW/DVD-ROM Combo Drive	Drive	
	Orientation	Manual tray-load
	Interface Type	Horizontal or vertical
	Dimensions—external (W x H x D)	ATAPI
	Disc Diameter	5.23 x 0.5 x 5.46 in (132.8 x 12.7 x 138.8 mm)
	Disc Thickness	12 cm, 8 cm
	Track Pitch	1.2 mm
	Disc Center Hole Diameter	1.6 µm (CD-ROM); 0.74 µm (DVD-ROM)
	Reference Scanning Velocity	15 mm
	Read Only Disc Parameters	1.2 m/s (CD); 3.49 m/s (DVD SL); 3.84 m/s (DVD DL)
	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 doublelayer); DVD-R 3.95 GB; DVD-R 4.7 GB; DVD-RW 4.7 GB; DVD+RW 4.7 GB
	Capacity	550 MB (Mode 1, 12 cm); 650 MB (Mode 1, 12 cm); 630 MB (Mode 2, 12 cm); 740 MB (Mode 2, 12 cm); 700 MB (CD-ROM 80 min); 180 MB (CD-ROM 8 cm) 4.7 GB (DVD-5); 8.54 GB (DVD-9); 9.4 GB (DVD-10)

TechSpecs - Optical Storage

Writeable Disc Parameters	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
	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	550 MB (Mode 1, 12 cm); 650 MB (Mode 1, 12 cm); 630 MB (Mode 2, 12 cm); 740 MB (Mode 2, 12 cm); 700 MB (CD-ROM 80 min); 180 MB (8 cm)
Access Times (typical)	Block Size	Mode 1—2,048 bytes; mode 2, form 1—2,048 and 2,352 bytes; mode 2, form 2—2,352 bytes; CD-DA ---2,353 bytes
	Random DVD	< 130 ms
	Random CD	< 110 ms
	Full Stroke DVD	< 225 ms
	Full Stroke CD	< 210 ms
Data Transfer Rates	Maximum — CD-R Write	3600 KB/s (24X CAV)
	Sustained — CD-RW Write	1500 KB/s (10X CLV)
	Minimum — CD-R Read	3600 KB/s (24X ZCLV)
	Minimum — CD-ROM Read	3600 KB/s (24X CAV)
	Minimum — DVD-ROM Read	10800 KB/s (8X CAV)
Data Transfer Modes	Minimum — Digital Audio Extraction	1200 KB/s (8X CLV)
Bus Rate	ATA PIO mode 4 (16.7 MB/s); ATA Multi-word DMA mode 2 (16.7 MB/s)	
Cache Buffer	16.6 MB/s (burst) with DMA support	
Startup Time (single)	2 MB (minimum)	
Startup Time (multi-session)	< 9 seconds (typical)	
Stop Time	< 30 seconds (typical)	
Power	< 6 seconds	
	Source	Four-pin, DC power receptacle
	DC power requirement	5 VDC ± 5%—100 mV ripple p-p
	DC current	< 800 mA read (typical at Outer Diameter)
		< 900 mA write (typical at Outer Diameter)
	< 1600 mA (maximum excluding spike current)	
	< 1 ms duration)	
	< 100 mA (low power mode)	
	< 70 mA (sleep mode)	
Audio Output Level	Total drive power (standby mode)	<70 mA

TechSpecs - Optical Storage

Configuration Jumper Block	0.7 – 0.9 Vrms
Data Interface Connector	Cable select mode
Environmental (all conditions non-condensing)	68-pin interface connector Temperature (operating) 41° to 122° F (5° to 50° C) Relative humidity (operating) 10% to 80%
Certifications, requirements	Maximum wet bulb temperature (operating) 84° F (29° C)
Operating systems supported	Multi-read requirements, ACA AS/NZS 3548, ANSI C63.4–1992 CB Test Certificate for IEC 60950, CFR 47 part 15, CSA C22.2 No. 60950, DHSS/FDA - 1040, EN55022, EN55024, EN60 950:2000, IEC 68, 908, 61000-4, ISO 9660, 10149, 13346, TUV or VDE EN60 950, Microsoft PC2001 certification, UL 60950, ICES-003 class B, CE Mark

MultiBay and Slimline 24X CD-RW Drive	Dimensions (H x W x D) 0.5 x 5.22 x 4.96 in (1.27 x 13.25 x 12.61 cm)
	Weight 0.772 lb (350 g)
	Transfer Rates Write: Up to 10X (CD-RW) Write: Up to 24X (CD-R) Read: Up to 10X (CD-RW) Read: Up to 24X (CD-R)
	Controller IDE
	Buffering 2MB
	Encoding Method EFM
	Format and ECC Standard Red, Yellow (Mode 1 and Mode 2), Orange, Green (Mode 2, Form 1 and Mode 2, Form 2) books
	Loading Mechanism Drawer load
	Logical Recording Format UDF and ISO 9660
	Write Methods Disc at Once, Track at Once, Session at Once, Variable Packet, Fixed Packet
	Write Verification Automatic power control to dynamically adjust laser write power Data read-after-write verification by host-initiated procedures

TechSpecs - Optical Storage

MultiBay 8X DVD-ROM Drive With RAM Read	Form Factor	12.7 mm MultiBay	
	Center Hole Diameter	0.59 in/0.39 cm	
	Disc Diameter	12 cm/8 cm	
	Disc Thickness	1.2 mm	
	Track Pitch	0.74 μ m	
	Access Times (typical reads, including settling)	Random	< 150 ms
		Full-Stroke	< 350 ms
	Audio Output Level	Line out	0.8 Vrms
	Cache Buffer	128 KB/s (minimum)	
	Data Transfer Rate (typical, including settling)	Sustained 24X CD-ROM	3.6 MB/s
		Sustained 8X DVD	10.08 MB/s
	Start-up Time	< 15 sec	
	Stop Time	< 4 sec	
	Operating system support	Microsoft® Windows® 2000, Windows XP Professional, Windows XP Home	
Option kit contents	DVD Drive, software, documentation		

TechSpecs - Removable Storage

1.44-MB Diskette Drive	Diskette Size	3.5 in (8.9 cm)	
	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	

MultiBay and Slimline 1.44 MB Diskette Drive	Dimensions (L x W x H)	5.4 x 5.2 x 0.5 in (13.8 x 13.3 x 1.3 cm)
	Weight	0.57 lb (260 g)
	Transfer Rates	250 to 500 Kb/sec
	Media Supported	1.44 MB and 720 KB diskettes
	Access Times	Track-to-track: 3 ms
		Average: 79 ms
		Settling time: 15 ms
Operating Conditions	Temperature: 41° to 122° F (5° to 50° C)	
	Humidity: 20% to 80% RH	

USB Disk on Key	Dimensions (L x W x H)	0.9 x 0.6 x 3.2 inches (2.3 x 1.5 x 8.2 cm)
	Weight	0.05 pounds (0.02 kg)
	USB Specification	1.1
	Transfer Rate	Read-1023 KB/Sec; Write-850 KB/Sec
	Storage Media	Solid state flash memory, no moving parts
	Power Supply	USB Bus-powered, no external power required
	Capacity	8MB, 16MB, and 32MB

Wireless Communications

Bluetooth MultiPort Module (USDT only)	Form Factor Bluetooth Dimensions Weight Temperature Humidity Altitude Plug and Play Frequency Band Number of Available Channels Data Rates and throughput Antenna type Range Profile Support Usage Models	Compaq "MultiPort" 1.1 Compliant 56 mm x 167 mm x 14 mm 100 grams (maximum) 10° C to 40° C, Operating -20° C to 60° C, Non-operating 10 to 90% operating 5 to 95% non operating Operating 0 to 10,000 ft (3,048 m) Non-operating 0 to 30,000 ft (9,144 m) USB 1.1 compliant Windows Plug and Play compliant 2,4000 to 2.4835 GHz 79 (1 MHz) available channels 1 Mbps Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Asynchronous Connection Less links 723.2kbps/57.6 Kb/s asymmetric or 433.9 kb/s symmetric Internally integrated within module (with special polarization diversity) 100 meters General Access Profile Service Discovery Application Profile Serial Port Profile Generic Object Exchange Profile File Transfer Profile Synchronization Profile Dial-Up Networking Profile LAN Access Profile Object Push Profile Service Discovery (determine what Bluetooth devices are within range and support authorization). Synchronization: PDAs to PCs Portable to Desktop File Transfer: File and directory browsing and navigation on another Bluetooth device. File copying Object manipulation – including add, delete, create new folders etc. Wireless link to Corporate LAN using several Bluetooth devices sharing the same Access Point: Corporate email, network neighborhood, access to LAN applications, file transfer, ftp, Internet browsing, etc, using TCP/IP Wireless link to WAN thru cell phone GSM/SMS, PCS, PHS, DECT, RAM, ARDIS, CDPD, etc. Agnostic to WAN technology Send/receive SMS messages Wireless link to Printer Adhoc peer to peer networking (two computers) or Personal Area Networking (PAN) using NDIS (<7 computers). Adhoc Bluetooth Pico-networking (point to multi-point) Object Push – Business card or appointment exchange
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Wireless Communications

Transmit Power	<20 dBm (Bluetooth Class 1)
Receive Sensitivity	Better than -70 dBm at 0.1% raw bit error rate
Link Topology	Point to Point, Multipoint Pico Nets up to 7 slaves
Security	Full support of Bluetooth Security Provisions
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Points Required)
Power Requirement	Peak Average <1500mW Standby <500mW <250mW
Power Management	Windows ACPI, and USB Bus Support Keystrokes Fn+F2 Power On/Off control Self configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff
Protocols Supported	TCP/IP IPX/SPX UDP
LED Activity	Solid Blue LED – On LED Off – Power Off
Certifications	All necessary regulatory approvals for countries we support including FCC (47 CFR) Part 15C, Section 15.247&15.249 ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark

802.11b MultiPort Module (USDT only)

Form Factor	Compaq "MultiPort"
Weight	100 grams (maximum)
Operating Temperature	-10° C to 65° C, operating
Storage Temperature	-40° C to 80° C, non-operating
Humidity	10 to 90% operating 5 to 95% non operating
Altitude	15,000 feet, operating 40,000 feet, non-operating
Plug and Play	USB 1.1 compliant Windows Plug and Play compliant
RF Network Standard	IEEE 802 Part 11b (802.11b)
Frequency Band	2,4000 to 2.4835 GHz 2,4465 to 2.4835 GHz (France) 2,4000 to 2,4697 GHz (Japan)
Number of Selectable Sub-channels	Worldwide Certification United States (FCC) 11 France (FR) 4 Japan (JP) 14 Other countries 13
Data Rates	1, 2, 5.5, 11 Mbps



Wireless Communications

Antenna type	Internally integrated within module (with special polarization diversity)	
WEP Security	64 bit encryption keys compliant to IEEE 802.11 128 bit encryption key compliant to IEEE 802.11 Ability to enter keys manually or via pass-phrase	
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Points Required)	
Modulation Technique	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK	
Receiver Sensitivity – Bit Error Rate (1E-5)	11 Mbps: -85 dBm 5.5 Mbps: -87 dBm 2 Mbps: -91 dBm 1 Mbps: -94 dBm	
Maximum Receive Level	-4 dBm	
Output Power (approx)	18 dBm	
Operating Voltage	5V power operation	
Power Management	Keystroke Fn+F2 Power On/Off control	
Power Consumption	Transfer mode: <600 mA, maximum Receive mode: >400 mA, maximum Standby 1mA maximum	
Transmit Power	10 to 100mW. It is preferable to have the user configurable output power to save battery life for laptop users or in high AP coverage areas.	
Power Saving Option	802.11 Compliant Power Saving Power Saving Mode selectable through the configuration utility ACPI compliant power management	
Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK	
Protocols Supported	TCP/IP IPX/SPX UDP	
LED Activity	Flashing LED – AP Search Mode Solid LED – On LED Off – Power Off	
Throughput, Data Rate and Operating Distance		
Throughput	Data Rate	Operating Distance
> 4.5 Mbps	11 Mbps	<ul style="list-style-type: none"> ● 1000 feet – Open sight 100 feet – Closed space (Steel Space)
>2 Mbps	5.5 Mbps	<ul style="list-style-type: none"> ● 1100 feet – Open sight 200 feet – Closed space (Steel Space)
>700 Kbps		

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