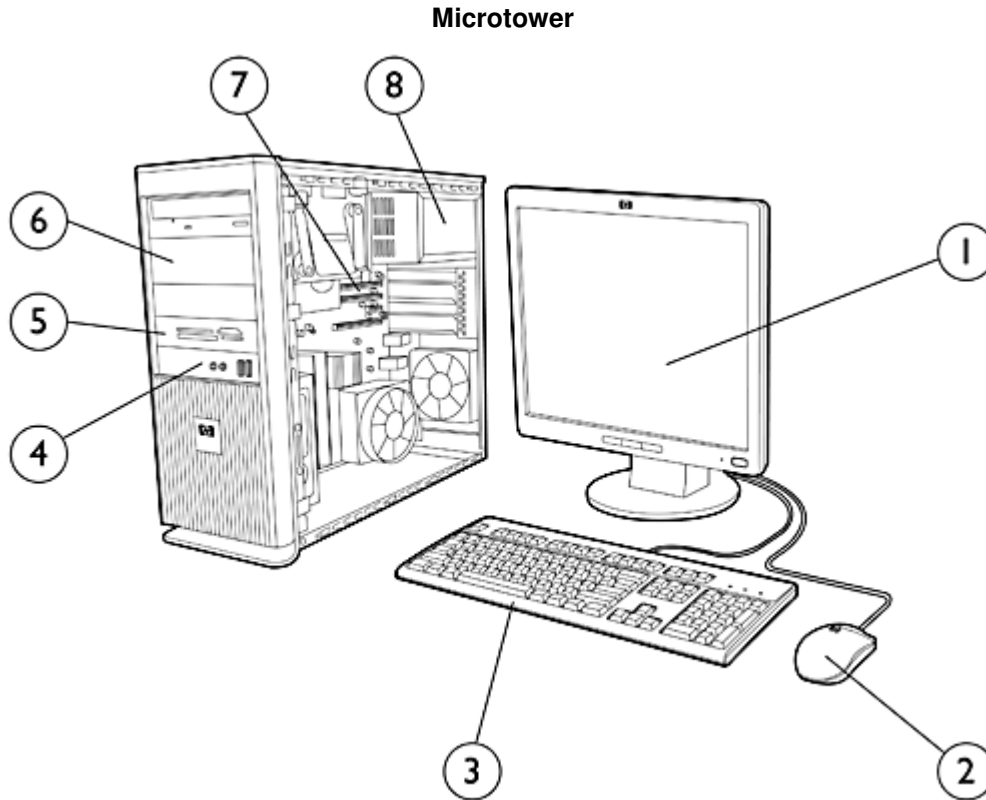


Overview

HP Compaq dx2290 Microtower Business PC

HP recommends
Windows Vista® Business



1. Monitor (sold separately)

2. PS/2 Scroll Mouse

3. HP Standard Keyboard

4. (2) USB 2.0 ports, audio ports

5. 15-n-1 Media Reader (optional)

6. (2) 5-1/4" optical drive bays

7. Full height expansion slots: (2) PCI, (1) PCI Express x1, & (1)

8. PCI Express x16

9. 250-watt max power supply

At A Glance

- Intel® Core™ 2 Duo processors, Intel Pentium® dual core, Intel Pentium® D processors, Intel Pentium 4 processors, or Intel Celeron® & Celeron® D processors
- Choice of operating systems:
 - Genuine Windows Vista Business 32
 - Genuine Windows Vista Home Basic 32
- Intel 945GC Express Chipset
- Intel I/O Controller Hub 7 (ICH7)
- Intel Graphics Media Accelerator 950
- PCI Express I/O bus
- Serial ATA controller
- (1) PATA connector
- (1) FDD connector
- Realtek RTL8101E 10/100Mbps Ethernet Controller
- Choice of hard drives and optical drives
- DDR2 SDRAM system memory (up to 566MHz)
- Protected by HP Services. Terms and conditions vary by country. Certain restrictions and exclusions apply.

Standard and Configurable Features & Specifications

Processor and Speed One of the following	Intel Celeron Processor Intel Celeron 430 (1.8-GHz, 512-KB L2 cache, 800-MHz FSB) Intel Pentium D Processors Intel Pentium D 925 Processor (3.00-GHz, 4-MB L2 cache, 800-MHz FSB) Intel Core 2 Duo Processors Intel Core 2 Duo E4400 Processor (1.80-GHz, 2-MB L2 cache, 800-MHz FSB) NOTE: Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families.
Operating Systems and Application Software (availability varies by region)	Genuine Windows Vista Business 32* Genuine Windows Vista Home Basic 32* * Certain Windows Vista product features require advanced or additional hardware. See http://www.microsoft.com/windowsvista/getready/hardwarereqs.mspx and http://www.microsoft.com/windowsvista/getready/capable.mspx for details. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on your computer. To download the tool, visit http://www.windowsvista.com/upgradeadvisor . Microsoft Office Ready 2007 Roxio Easy Media Creator 9.0** Cyberlink DVD Play v2.3** ** Supporting software available with certain optical drive configurations
Hard Drives	80-GB Serial ATA 3.0-Gb/s Hard Drive (7200 rpm)
System Memory	512-MB DDR2 Synch DRAM PC2-4200 (DDR2-533) Non-ECC (1 x 512-MB) 1-GB DDR2 Synch DRAM PC2-4200 (DDR2-533) Non-ECC (1 x 1-GB) 2-GB DDR2 Synch DRAM PC2-4200 (DDR2-533) Non-ECC (2 x 1-GB)
Storage – One or more of the following (see Storage section below)	Media Reader (optional) HP 15-in-1 Media Reader Optical Drives (Serial ATA) SATA DVD-ROM Drive SATA DVD+/-RW (DL/DF) LightScribe Drive
Input Devices	Keyboard HP PS/2 Standard Keyboard Mouse PS/2 2-Button Scroll Mouse
Audio	Realtek ALC888 High Definition audio codec

3D audio compliant with AC'97 Rev. 2.3 and HD Audio compatible

Communication	Integrated Realtek RTL8101E 10/100Mbps Ethernet Controller	
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Graphics	Intel Graphics Media Accelerator 950	
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Base Unit	<ul style="list-style-type: none">• Micro ATX microtower chassis, including power supply and front bezel• Three (3) drive bays and four expansion slots• Active type heatsink• 92 x 92 x 25 mm chassis fan• System board with Intel 945GC Express chipset, Intel I/O Controller Hub 7 (ICH7), Realtek RTL8101E 10/100Mbps Ethernet Controller, Intel GMA 950 graphics, and Realtek audio, 2 full-height PCI 2.3 slot, 1 PCI Express x1 slots, 1 PCI Express x16 slot, 2 DDR2 DIMM memory slots supporting PC2-4200 (533MHz) memory DIMMs• (2) Serial ATA data connectors• (1) PATA connector• (1) FDD connector• Product documentation on CD• Power cord	
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Slots	PCI	Two (2) full-height PCI 2.3 slots on PCA One (1) full-height PCI Express x1 slots on PCA One (1) full-height PCI Express x16 slot on PCA (for graphic cards)
	Memory Expansion	Two (2) DDR2 SDRAM DIMM slots (2 GB maximum memory support)

Bays	Internal	One (1) 3.5"
	External	Two (2) 5.25"

USB Support	EHCI high-speed USB 2.0 controller Two (2) front ports; Four (4) rear ports, Two (2) internal ports on motherboard	
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Interfaces	One (1) PS/2 keyboard port One (1) PS/2 mouse port One (1) analog VGA video port One (1) line in; one (1) line out; one (1) mic in One (1) RJ45 network port	
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Weight and Dimensions	Chassis Dimensions	16.3 x 6.9 x 15.24 in (414 x 175 x 387 mm) (L x W x H)
	Packaged Dimensions	23 x 19.6 x 9.6 in (585 x 498 x 245 mm) (L x W x H)
	System Weight	27.29 lb (12.38 kg) (with packaging)

Technology and Features	Memory Type	<ul style="list-style-type: none">• PC2-4200 DDR2 SDRAM (533-MHz) non-ECC• Up to 2 GB system memory supported
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Hard Drive Interfaces Supported

- Serial ATA

Chassis

Front Panel

- Power button
- Power On LED
- HDD Activity LED

Cooling Solutions Supported

- Power Supply Fan (variable speed)
- Active heatsink (variable speed)
- Chassis fan (variable speed)

Slots Supported Four (4) full-height expansion slots

Front I/O Two (2) USB 2.0 ports

Rear I/O

- PS/2 keyboard and mouse ports
- (2) USB 2.0 ports
- (1) RJ45 network port
- (1) VGA video port
- Audio I/O ports

Drive Bays

- Two (2) 5-1/4" external
- One (1) 3-1/2" internal

Security Padlock loop

Power Supply 250-watt ATX Power Supply – PFC/non-PFC with a 115v/230v line switch (varies by country/region)

Unit Environment and Operating Conditions

General Unit Operating Guidelines

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

Temperature Range

- Operating: 50° to 95° F (10° to 35° C)
- Non-operating: –22° to 140° F (–30° to 60° C)

Relative Humidity

- Operating: 10% to 90% (non-condensing at ambient)
- Non-operating: 5% to 95% (non-condensing at ambient)

Maximum Altitude
(unpressurized)

- Operating: 10,000 ft (3048 m)
- Non-operating: 30,000 ft (9000 m)

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

System Board	Processor	<ul style="list-style-type: none"> • Socket T; LGA775 industry standard Micro ATX form factor • Support single Intel Core 2 Duo, Pentium D, Pentium 4 or Celeron D
	PWM	<ul style="list-style-type: none"> • Intersil 6312 3 phase
	Chipset	<ul style="list-style-type: none"> • Intel 945GC Express • Intel I/O Controller Hub 7 (ICH7)
	Super I/O	<ul style="list-style-type: none"> • ITE IT 8718F-S
	Front Side Bus Frequency	<ul style="list-style-type: none"> • 533/800 MHz
	Memory	<ul style="list-style-type: none"> • DDR2 SDRAM • 2 x DIMM slots
	Clock Generator	<ul style="list-style-type: none"> • ICS954119DLFS
	Integrated Graphics	<ul style="list-style-type: none"> • Intel Graphics Media Accelerator (GMA) 950
	Audio	<ul style="list-style-type: none"> • Realtek ALC888 HD Audio compatible codec with two channel audio 3D audio compliant with AC'97 rev. 2.3
	LOM	<ul style="list-style-type: none"> • Realtek RTL8101E 10/100Mbps Ethernet Controller
	IDE	<ul style="list-style-type: none"> • Support all PIO modes • 1 x IDE ports support up to 2 devices • Support Ultra ATA 33/66/100
	Serial	<ul style="list-style-type: none"> • Two Serial ATA interfaces
	Expansion Slots	<ul style="list-style-type: none"> • 2 x PCI 2.3 slot • 1 x PCI Express x1 slots • 1 x PCI Express x16 slot
	BIOS	<ul style="list-style-type: none"> • LPC EEPROM
	Industrial Standard	<ul style="list-style-type: none"> • PCI 2.3 compliant • USB 2.0
	Rear Side I/O Ports	<ul style="list-style-type: none"> • 1 x PS/2 keyboard port • 1 x PS/2 mouse port • 2 x USB 2.0 ports • 1 x RJ-45 10/100 port • 1 x DB 15 pin analog VGA port • 3 x audio ports
	On Board I/O Interfaces	<ul style="list-style-type: none"> • 1 x ATX power connector • 1 x +12V power connector

- 1 x Floppy connector
- 1 x Front panel connector, Switch, LED (ON/Flash/OFF)
- 2 x Fan headers for CPU, chassis, with voltage/fan speed control
- 1 x ATAPI headers-CD IN
- 1 x header to support 2 USB 2.0 ports at front side
- 1 x header to support USB media reader

Board Size

- Micro-ATX, PCB Size: 9.6 x 9.0 in (24.38 x 22.86 cm)
- 4-layer PCB with green color

Additional Features

- Bootable without keyboard, mouse or monitor
- Keyboard/mouse/USB wake up
- Support S1, S3, S4 and S5
- ACPI status
- Hardware monitor capability
- CPU fan speed control

Network Interface

Realtek RTL8101E 10/100Mbps Ethernet Controller

Hardware Highlights

- PCI-E interfaces

Features

- 10-Mbps and 100-Mbps operation

Power Supply

- ATX Power Supply - Passive PFC/non-PFC with a 115v/230v line switch
- Passive Power Factor Correction (PFC) - with line switch set to 230V - No PFC in 115V line switch position
- 90 to 140VAC, or 180 to 264VAC operating voltage range
- 100 to 127VAC, or 200 to 240VAC rated voltage range
- 50-60 Hz rated line frequency
- 47-63 Hz operating line frequency range
- 250 watt maximum rated power
- 80-mm power supply fan - variable speed for optimum acoustics
- LED on real side - indication working status

**Power Conservation
'Energy Saver'**

- APM 1.2 support
- Screen blanking
- Hard drive 'Idle' mode
- System Idle mode
- ~2 watt power consumption in ES mode - suspend to RAM (S3) (instantly available PC)
- Processor/Cache memory power-down (S3)

**System Environmental
Specs**

- Values are subject to change without notification and are for reference only.
- Performance of system, options, and ancillary equipment will vary depending on the system configuration.
- Levels presented do not account for non-HP/Compaq installed hardware.

Ambient Air

Operating

50° to 95°F (10° to 35°C) at sea level with

Temperature		an altitude de-rating of 1.0°C per every 1000 ft (300 m) above sea level to a maximum of 8000 ft (2500 m), no direct sustained sunlight. Maximum rate of change is 77°F/Hr (25°C/Hr). The upper limit may be limited by the type and number of options installed.
	Storage	-22° to 140°F (-30° to 60°C) - Maximum rate of change: 410°F/Hr (210°C/Hr).
Humidity	Operating	10% to 90% relative humidity (Rh), 86°F (30°C) maximum wet bulb temperature, non-condensing
	Storage	10% to 95% relative humidity (Rh), 101.66°F (38.7°C) maximum wet bulb temperature, non-condensing
Altitude	Operating	0 to 10,000 feet (0 to 3048 meters) - This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 1,000 ft/min (304.8 m/min).
	Non-Operating	0 to 30,000 feet (0 to 9,144 meters) - Maximum allowable altitude change rate is 1200 ft/min (365.76 m/min).
Shock		Listed are the levels of shock the product can withstand with NO damage being incurred. The values represent peak input acceleration during an 2~3 ms half-sine shock pulse, 11 ms trapezoidal shock pulse.
	Non-Operating	35G's (Half-sine Shock) 30G's (Trapezoidal Shock)
Vibration		Listed are the levels of vibration the product can withstand with NO damage being incurred. The values represent a flat random vibration input acceleration profile across the given frequency range.
	Operating	Random vibration at 5Hz@0.00025G ² /Hz, 10Hz@0.01G ² /Hz, 100Hz@0.01G ² /Hz, 300Hz@0.00001G ² /Hz 5Hz to 300Hz, (0.25G's nominal).
	Non-Operating	Random vibration at 0.008G ² /Hz, 10Hz to 500Hz, (2 Grms nominal).
Acoustic Noise		Listed are the declared A-WEIGHTED SOUND POWER LEVELS (LWAd) and declared average desktop seated operator position A-WEIGHTED SOUND PRESSURE LEVELS (LpAm) when the product is operating in a 73.4°F (23°C) ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).
	IDLE (Fixed disk drive spinning)	LWAd = 4.3 Bels, Desktop Average LpAm = 32 dBA
	FIXED DISK (Random write)	LWAd = 4.8 Bels, Desktop Average LpAm = 37dBA
	CD-ROM (Sequential Reads)	LWAd = 5.0 Bels, Deskside Average LpAm = 39dBA

Service and Support On-site Warranty^{Note 1}: One-year (1-1-1) limited warranty delivers one year of on-site, next business-day^{Note 2} service for parts and labor and includes free telephone support^{Note 3} 24 x 7. Global coverage^{Note 2} ensures that any product purchased in one country and transferred to another non-restricted country will remain fully covered under the original warranty and service

offering. One-year onsite and labor are not available in all countries.

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

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

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

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Technical Specifications - Environmental Data

Eco-Label Certifications & declarations

This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:

- US Energy Star*
- US Federal Energy Management Program (FEMP)
- Taiwan Green Mark
- China Energy Conservation Program
- IT ECO declaration
- EPEAT
- Korea Ecolabel

* Compliant with Energy Star 3.0; not compliant with Energy Star 4.0 when those requirements take effect

Longevity and Upgrading

This product is designed to be upgraded, possibly extending its useful life by several years. Spare parts are available throughout the warranty period and for up to 15 months after the end of production. Upgradeability features contained in the product include:

- 4 external USB ports
- 2 internal USB ports
- 2 external 5.25" drive bays
- 2 external 3.5" drive bay
- 2 internal 3.5" drive bay
- 2 empty standard PCI slot
- 1 empty standard PCIe x1 slots
- 1 empty standard PCIe x16 slot
- 2 memory slots

Spare parts are available throughout the warranty period and for up to 3 years after the end of production.

Batteries

This product complies with ISO standards:

- EU Directive 91/ 157/ EEC
- EU Directive 93/ 86/ EEC
- EU Directive 98/ 101/ EEC

Batteries used in the product do not contain:

- Mercury greater the 5ppm by weight
- Cadmium greater than 10ppm by weight

- Lead greater than 4000ppm by weight.

Battery size: CR2032 (coin cell)

Battery type: Lithium

Additional Information

- This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2002/95/EC.
- This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).
- This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive - 2002/96/EC.
- This product is in compliance with the IEEE 1680 (EPEAT) standard at the Silver level, see <http://www.epeat.net>
- Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043.
- This product contains 0% recycled materials (by wt.)
- This product is >90% recyclable when properly disposed of at end of life.

The corrugated paper packaging materials contains at least 80% recycled content.

RoHS Compliance

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

Material Usage

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

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

Packaging

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

- Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in

packaging materials.

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

End-of-life Management and Recycling

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

Hewlett-Packard Corporate Environmental Information

For more information about HP's commitment to the environment:

Global Citizenship Report

<http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html>

Eco-label certifications

<http://www.hp.com/hpinfo/globalcitizenship/environment/productdesign/ecolabels.html>

ISO 14001 certificates:

<http://www.hp.com/hpinfo/globalcitizenship/environment/operations/envmanagement.html>

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