

Illustrated Parts & Service Map

HP Compaq 8200 Elite Business PC Convertible Minitower



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Key Specifications

Processor Type	Intel® Core i7, i5, i3
RAM Type	Non-ECC DDR3 PC3-10600 (1333 MHz) & PC3-8500 (1066 MHz)
Maximum RAM	16 GB
Expansion Slots	<ul style="list-style-type: none"> • (2) PCIe-x16 • (1) PCIe-x1 • (3) PCI
Chipset	Intel Q67 Express
Graphics Adapter	Integrated Intel HD graphics
Bays	<ul style="list-style-type: none"> • (3) external 5.25-inch • (3) internal 3.5-inch
I/O Interfaces	Front: (4) USB, microphone, headphone Rear: (6) USB, PS/2 keyboard and mouse, line in, line out, VGA, DisplayPort v1.1a, RJ-45, serial port, eSATA (optional), parallel (optional)
Preinstalled Operating Systems	<ul style="list-style-type: none"> • Windows® Vista • Windows 7 • FreeDos

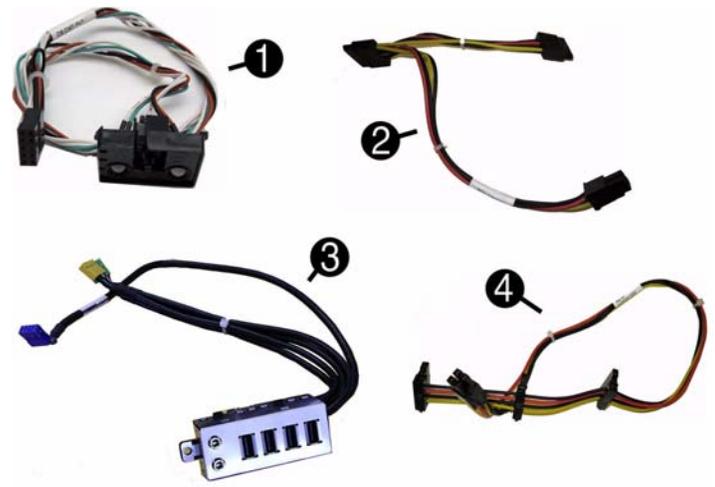
Spare Parts



System Unit

1	Access panel	646819-001
2	Front bezel	646822-001
3	Power supply, 320W, 90% efficient	613764-001
*	Power supply, 320W	613765-001
4	Chassis	not spared

* Not shown



Cables

1	Power switch/LED assembly	646820-001
2	SATA optical drive power cable	646832-001
3	Front USB, I/O assembly	646821-001
4	SATA hard drive power cable	646831-001
*	SATA cable, 18 inch, 1 straight end, 1 angled end (unlabeled)	639958-001
*	SATA cable, 18 inch, 1 straight end, 1 angled end (labeled)	646830-001
*	SATA cable, 17.7 inch, 2 straight ends	639959-001
*	DMS-59 to dual VGA cable	463023-001
*	Adapter, DisplayPort to VGA	603250-001
*	Adapter, DisplayPort to DVI	484156-001
*	Adapter, DisplayPort to HDMI	617450-001
*	DisplayPort cable	487562-001

*Not shown

Keyboards (not illustrated)

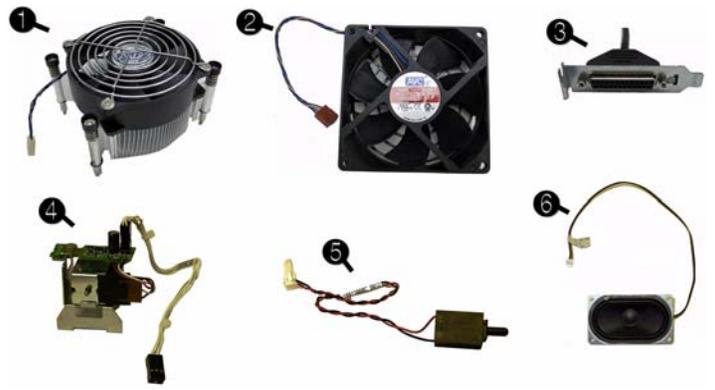
PS/2, Basic	537745-xx1		
USB, Basic	537746-xx1		
USB Mini (-001, -121 only)	535873-xxx		
Washable	613125-xxx		
Smartcard	631411-xx4		
Arabic	-17x	LA Spanish[b]	-16x
Belgian[b]	-18x	Norwegian[b]	-09x
Brazilian Portuguese[b]	-20x	People's Republic of China[b]	-AAx
Bulgaria [c]	-26x	Portuguese	-13x
Czech	-22x	Romanian [c]	-27x
Danish[b]	-08x	Russian	-25x
Finnish[a]	-35x	Saudi Arabia	-DEx
French[b]	-05x	Slovakian	-23x
French Canadian	-12x	South Korea[b]	-KDx
German[b]	-04x	Spanish[b]	-07x
Greek[b]	-15x	Swedish[b]	-10x
Hebrew	-BBx	Swiss	-11x
Hungarian	-21x	Taiwanese[b]	-ABx
International[b]	-37x	Thai[b]	-28x
International English[b]	-L3x	Turkish	-14x
Italian[b]	-06x	U.S.	-00x
Japanese[b]	-29x	U.K.[b]	-03x

[a] not for 537745
[b] not for 613125

[c] not for 631411

Mass Storage Devices (not illustrated)

16X SATA DVD±RW drive with LightScribe	581600-001
16X SATA DVD-ROM drive	581599-001
Blu-ray BD-RW SuperMulti DL Drive with LightScribe	617030-001
1 TB, 7200 rpm SATA hard drive	636930-001
750 GB, 7200 rpm SATA hard drive	632938-001
500 GB, 7200 rpm SATA hard drive	636929-001
320 GB, 7200 rpm SATA hard drive, 2.5-inch	634824-001
300 GB, 10000-RPM SATA3 hard drive	639695-001
300 GB, 10000-RPM SATA2 hard drive	648963-001
250 GB, 7200 rpm SATA hard drive	636927-001
160 GB, 10000-RPM SATA hard drive	639694-001
160 GB, 10000-RPM SATA hard drive, 2.5-inch	508312-001
160 GB Solid State Drive (SSD)	646809-001
80 GB Solid State Drive (SSD)	607817-001



Miscellaneous Parts

1	Fan sink	643907-001
2	Chassis fan, 92mm x 92mm	643908-001
3	Printer port, PCI card	638817-001
4	Solenoid lock	641498-001
5	Hood sensor	638816-001
6	Speaker, 40mm x 70mm	645330-001
*	Serial port, PCI card	638815-001
*	Grommet, hard drive isolation, blue	594220-001
*	Card reader, 22-in-1	636166-001
*	USB powered speakers	571536-001
*	Mouse, PS2, optical, jack black	537748-001
*	Mouse, USB, BFR-PVC	590270-001
*	Mouse, washable	619580-001
*	Mouse, optical, jack black	444740-001
*	Mouse, laser, jack black	570580-001
*	USB 3.0 port, PCIe x1 card	616610-001
*	eSATA port assembly, PCI card	645558-001
*	Hard drive conversion bracket	397117-001
*	Clamp lock, includes universal cable (plate not included)	508987-001

*Not shown

Standard and Optional Boards

System boards with thermal grease, alcohol pad, and CPU socket cover

1	System board	611835-001
*	System board, does not include Trusted Platform Module (TPM)	649742-001

Memory modules (PC3-10600, CL9)

2	1 GB	635802-001
*	2 GB	635803-001
*	4 GB	585157-001

Other boards

*	HP WLAN 802.11 b/g/n	538048-001
*	Antenna for use with 538048-001	583345-001
*	nVidia Quadro NVS295 PCIe x16 graphics card, 256 MB	641462-001
*	nVidia Quadro NVS300 PCIe x16 graphics card, 512 MB	632486-001
*	nVidia GF405, DVI/VGA PCIe x16 graphics card, 512 MB	641732-001
*	ATI Radeon HD6350 PCIe x16 graphics card, 512 MB	637995-001
*	ATI Radeon HD6450 PCIe x16 graphics card, 512 MB	637996-001
*	ATI Radeon HD6570 PCIe x16 graphics card, 1 GB	637997-001
*	AMD FirePro 2270 PCIe x16 graphics card, 512 MB	637213-001
*	Intel PRO/1000CT NIC, includes bracket	635523-001
*	HP FireWire / IEEE 1394a PCIe x1 Card	637591-001

Intel Core i7 processors (include thermal material)

*	2600, 3.4 GHz, 8-MB L3 cache, 95W	638632-001
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Intel Core i5 processors (include thermal material)

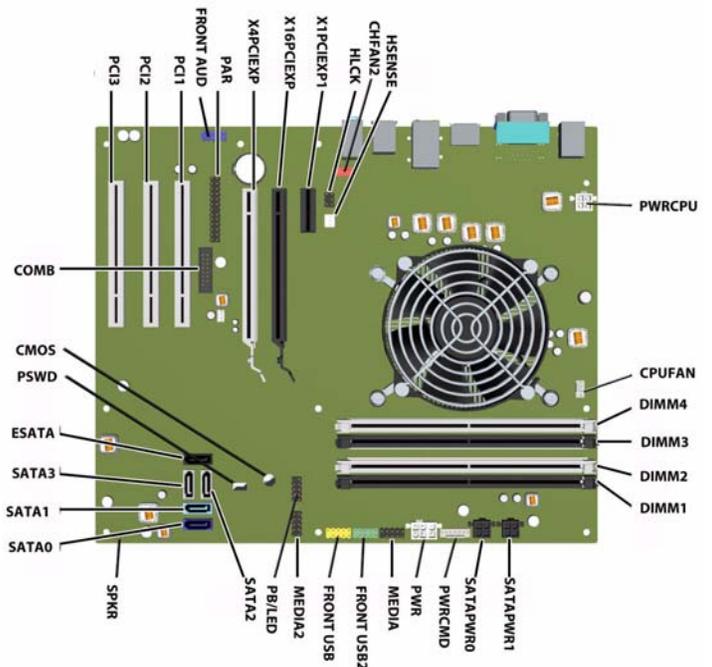
*	2500, 3.3 GHz, 6-MB L3 cache, 95W	638631-001
*	2400, 3.1 GHz, 6-MB L3 cache, 95W	638630-001

Intel Core i3 processors (include thermal material)

*	2120, 3.3 GHz, 3-MB L3 cache, 65W	638629-001
*	2100, 3.1 GHz, 3-MB L3 cache, 65W	638628-001

* Not shown

System Board



System Board Connectors and Jumpers (component location may vary)

PCI3	PCI slot 3	PWR CMD	Power connector
PCI2	PCI slot 2	PWR	Main power connector
PCI1	PCI slot 1	MEDIA	Media card reader connector
FRNT AUD	Front panel connector	FRONT_USB2	2nd USB connector
PAR	Parallel port connector	FRONT_USB	1st USB connector
X4PCIEXP	PCI Express x16 downshifted to a x4	MEDIA2	Media card reader connector
X16PCIEXP	PCIe X16 slot	PB/LED	Power switch connector
X1PCIEXP1	PCIe X1 slot	SATA2	2nd SATA hard drive
HLCK	Hood lock connector	SPKR	Speaker connector
CHFAN2	System fan connector	SATA0	1st hard drive (SATA3.0)
HSENSE	Hood sensor connector	SATA1	2nd hard drive (SATA 3.0)
PWRCPU	CPU power connector	SATA3	2nd ODD, or 1st ODD if a 3rd HDD exists (SATA 2.0)
CPUFAN	CPU/heat sink fan connector	ESATA	eSATA connector, or 2nd ODD if a 3rd HDD exists
DIMM1-4	Memory sockets	PSWD	Password header
SATA PW1	Hard drive power connector	CMOS	CMOS header
SATA PW0	Optical drive power connector	COMB	Serial port

System Setup and Boot

Access the Setup Utility during the computer boot sequence by pressing the **Esc** key while “Press the ESC key for Startup Menu” message is displayed at the bottom of the screen, and then pressing the **F10** key. If you do not press **Esc** at the appropriate time, you must restart the computer and again press **Esc** when the monitor light turns green to access the utility.

Computer Setup Menu

Heading	Option/Description
File	<p>System Information - Lists the following main system specifications:</p> <ul style="list-style-type: none"> Product name SKU number (some models) Processor type/speed/stepping Cache size (L1/L2/L3) Installed memory size/speed/chan Integrated MAC Address System BIOS Chassis serial number Asset tracking number ME firmware version ME Management mode <p>About - Displays copyright notice.</p> <p>Set Time and Date - Allows you to set system time and date.</p> <p>Flash System ROM - Allows you to select a drive containing a new BIOS.</p> <p>Replicated Setup - Save to Rmvble Media and Restore from Rmvble Media</p> <p>Default Setup</p> <ul style="list-style-type: none"> Save Current Settings as Default Restore Factory Settings as Default <p>Apply Defaults and Exit - Applies the selected default settings and clears any established passwords.</p> <p>Ignore Changes and Exit - Exits Computer setup without saving changes.</p> <p>Save Changes and Exit - Saves changes to system configuration or default settings and exits Computer Setup.</p>
Storage	<p>Device Configuration - Lists all installed BIOS-controlled storage devices. The following options are available:</p> <ul style="list-style-type: none"> CD-ROM - Let you view drive size, model, firmware version, serial number, connector color. Hard Disk - Let you view drive size, model, firmware version, serial number, connector color, SMART. Also lets you set Translation Mode (Automatic, Bit-Shift, LBA Assisted, User, and Off). Diskette Drive - model and firmware version. SATA Defaults - lets you set Translation Mode (Automatic, Bit-Shift, LBA Assisted, User, and Off). eSATA port - Allows you to set a SATA port as an eSATA port for use with an external drive. SATA Emulation - IDE, RAID (not for USDT), or AHCI. Removable Media Boot - Enables/disables ability to boot the system from removable media. Max eSATA Speed - Allows you to choose 1.5 Gbps or 3.0 Gbps as the maximum eSATA speed. <p>DPS Self-Test - Allows you to execute self-tests on ATA hard drives.</p> <p>Boot Order - Allows you to specify boot order.</p> <ul style="list-style-type: none"> Shortcut to Temporarily Override Boot Order
Security	<p>Setup Password - Allows you to set and enable the setup (Admin) password.</p> <p>Power-On Password - Allows you to set and enable power-on password.</p> <p>Password Options - When any password exists allows you to lock legacy resources, enable/disable Setup Browse Mode, set password prompt, enable/disable network server mode, specify password requirement for warm boot, and set stringent passwords.</p> <p>Smart Cover (some models) - Allows you to lock/unlock cover lock and set status of cover removal sensor.</p> <p>Device Security - Allows you to set Device Available/Device Hidden for: embedded security devices, serial and parallel ports, system audio, network controller, and SATA ports.</p> <p>USB Security - Allows you to set Device Available/Device Hidden for front USB ports 1-4, rear USB ports 1-6, accessory USB ports 1-4.</p> <p>Slot Security - Allows you to disable any PCI or PCI Express slot.</p> <p>Network Boot - Enables/disables boot from OS (NIC models only).</p> <p>System IDs - Allows you to set Asset tag, Ownership tag, Chassis serial number or UUID, and keyboard locale setting.</p> <p>System Security (some models) - Allows you to enable/disable:</p> <ul style="list-style-type: none"> Data Execution Prevention (enable/disable) Virtualization Technology (VTx) (enable/disable) Virtualization Technology Directed I/O (VTD) (enable/disable) Intel TXT (LT) (enable/disable) Embedded Security Device Support (enable/disable) OS management of Embedded Security Device (enable/disable) Reset of Embedded Security Device through OS (enable/disable) <p>DriveLock Security - Allows you to assign or modify a master or user password for hard drives.</p>
Power	<p>OS Power Management - Allows you to enable/disable Runtime Power Management, Idle Power Savings, Unique Sleep State Blink Rates.</p> <p>Hardware Power Management - Allows you to enable/disable SATA bus power management and S5 maximum power savings.</p> <p>Thermal - Allows you to control minimum fan speed.</p>
Advanced	<p>Power-On Options - Allows you to set:</p> <ul style="list-style-type: none"> POST mode-QuickBoot, FullBoot, Clear Memory, FullBoot every x days POST messages - Enable/disable Press the ESC key for Startup Menu - Enable/disable Option ROM prompt - Enable/disable After Power Loss - Off/on/previous state POST Delay - None, 5, 10, 15, or 20 seconds System Recovery Boot Support - Enable/disable Remote Wakeup Boot Source - Remote server/local hard drive Bypass F1 Prompt on Configuration Changes - Enable/disable <p>BIOS Power-On - Allows you to set the computer to turn on at a preset time.</p> <p>Onboard Devices - Allows you to set resources or disable Legacy devices.</p> <p>Bus Options (some models) - Allows you to enable/disable PCI SERR# Generation and PCI VGA palette snooping.</p> <p>Device Options - Allows you to set:</p> <ul style="list-style-type: none"> Turbo Mode - enable/disable Printer Mode - Bi-Directional, EPP & ECP, Output Only Num Lock State at Power-on - off/on Integrated Video - enable/disable Internal Speaker - enable/disable NIC Option ROM Download - enable/disable Multi-Processor - enable/disable Hyper-threading - enable/disable

Computer Setup Menu (continued)

Heading	Option/Description
Advanced (cont)	VGA Configuration - Displayed only if there are multiple PCI video adapters in the system. Allows you to specify which VGA controller will be the “boot” or primary VGA controller.
	<p>AMT Configuration - Allows you to set:</p> <ul style="list-style-type: none"> AMT-enable/disable functions of the embedded Management Engine (ME) such as Active Management Technology (AMT). Unconfigure AMT/ME-unconfigure any provisioned management settings for AMT. Watchdog Timer-set amount of time for a operating system and BIOS watchdog alert to be sent if the timers are not deactivated.

Password Security

Establishing a Setup or Power-On password:

- Turn on or restart the computer.
- As soon as the computer turns on, press the **Esc** key while “Press the ESC key for Startup Menu” message is displayed at the bottom of the screen.
- Press the **F10** key to enter Computer Setup.
- To establish Setup password, select **Security > Setup Password** and follow the instructions.
 - or -
 - To establish a Power-On password, select **Security > Power-On Password** and follow the instructions on the screen
- Before exiting, click **File > Save Changes and Exit**.

Changing a Setup or Power-On password:

- Turn on or restart the computer.

To change the Setup password, go to step 2.

To change the Power-on password, go to step 3.

- To change the Setup password, as soon as the computer turns on:
 - Press the **Esc** key while “Press the ESC key for Startup Menu” message is displayed.
 - Press the **F10** key to enter Computer Setup.
- When the key icon appears, type your current password, a slash (/) or alternate delimiter character, your new password, another slash (/) or alternate delimiter character, and your new password again as shown:

current password/new password/new password.

NOTE: Type the new password carefully since the characters do not appear on the screen.
- Press **Enter**.

The new password will take effect the next time the computer is restarted.

Deleting a Power-On or Setup password

- Turn on or restart the computer.

To delete the Setup password, go to step 2.

To delete the Power-On password, go to step 3.

- To change the Setup password, as soon as the computer turns on:
 - Press the **Esc** key while “Press the ESC key for Startup Menu” message is displayed.
 - Press the **F10** key to enter Computer Setup.
- When the key icon appears, type your current password followed by a slash (/) or alternate delimiter character as shown. Example: *currentpassword/*
- Press **Enter**.

Clearing CMOS

- Turn off the computer and disconnect the power cord from the power outlet.
- Remove the access panel.
- On the system board, press and hold the CMOS button for 5 seconds.
- Replace the chassis access panel and reconnect the power cord.
- Turn on the computer and allow it to start.

Diagnostic LEDs

LED	Color	LED Activity	State/Message
Power	Green	On	Computer on
Power	Green	1 blink every 2 seconds	Normal Suspend Mode
Power	Red	1 blink every second followed by a 2 second pause	CPU thermal shutdown
Power	Red	3 blinks, 1 blink every second followed by a 2 second pause	Processor not installed
Power	Red	4 blinks, 1 blink every second followed by a 2 second pause	Power failure (power supply overload)
Power	Red	5 blinks, 1 blink every second followed by a 2 second pause	Pre-video memory error
Power	Red	6 blinks, 1 blink every second followed by a 2 second pause	Pre-video graphics error
Power	Red	7 blinks, 1 blink every second followed by a 2 second pause	System board failure (ROM)
Power	Red	8 blinks, 1 blink every second followed by a 2 second pause	Invalid ROM based on Checksum
Power	Red	9 blinks, 1 blink every second followed by a 2 second pause	System powers on but is unable to boot
Power	Red	10 blinks, 1 blink every second followed by a 2 second pause	Bad option card
Power	Red	11 blinks, 1 blink every second followed by a 2 second pause	Current processor does not support a feature previously enabled.
none	none	System does not power on and LEDs are not flashing	System unable to power on