

# Illustrated Parts & Service Map

## HP Compaq 8300 Elite Business PC Microtower



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### Key Specifications

Processor Type	Intel® Core i7, i5, i3, Pentium®
RAM Type	Non-ECC DDR3 PC3-12800 (1600 MHz)
Maximum RAM	32 GB
Expansion Slots	<ul style="list-style-type: none"><li>• (2) PCIe-x16</li><li>• (1) PCIe-x1</li><li>• (1) PCI</li></ul>
Chipset	Intel Q77 Express
Graphics Adapter	Integrated Intel HD graphics
Bays	<ul style="list-style-type: none"><li>• (1) card reader</li><li>• (2) external 5.25-inch</li><li>• (2) internal 3.5-inch</li></ul>
I/O Interfaces	Front: (4) USB 2.0 ports, headphone jack, microphone jack Rear: (4) USB 3.0 ports, (2) USB 2.0 ports, DisplayPort 1.1a, VGA video, serial port, PS/2 mouse and keyboard, RJ-45 network interface, 3.5mm audio in/out jacks
Preinstalled Operating Systems	<ul style="list-style-type: none"><li>• Windows® 8</li><li>• Windows 7</li><li>• FreeLnx</li></ul>

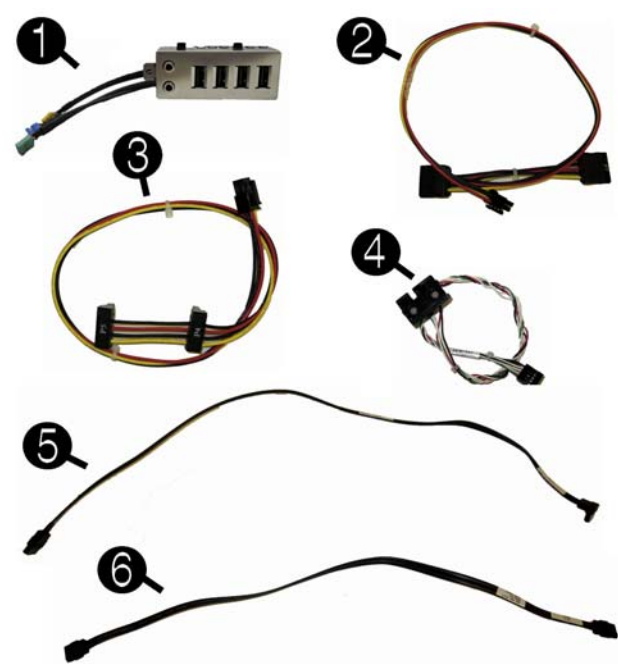
### Spare Parts



#### System Unit

1	Front bezel	689377-001
*	Front bezel for use in China	689378-001
2	Access panel	646825-001
3	Power supply, 320W, 90% efficient	613764-001
*	Power supply, 320W	613765-001
4	Chassis	not spared
*	5.25-inch bezel blank	570838-001
*	3.5-inch bezel blank	583653-001

\* Not shown



#### Cables

1	Front I/O assembly	646827-001
2	SATA optical drive power cable	646834-001
3	SATA hard drive power cable	646833-001
4	Power switch/LED assembly	646828-001
5	SATA cable, 18 inch, 1 straight end, 1 angled end (unlabeled)	639958-001
6	SATA cable, 17.7 inch, 2 straight ends	639959-001
*	SATA cable, 18 inch, 1 straight end, 1 angled end (labeled)	646830-001
*	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

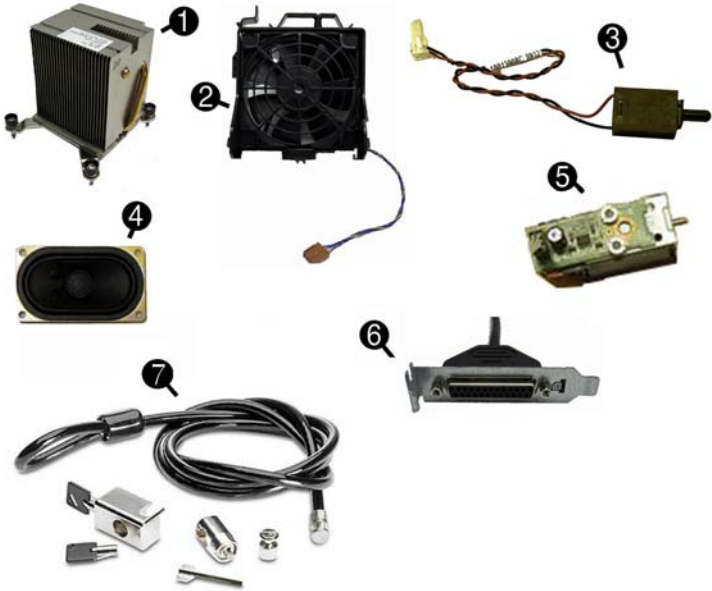
#### Keyboards (not illustrated)

PS/2 (standard/Windows 8)		537745-xx1/701428-xx1	
USB (standard/Windows 8)		537746-xx1/701424-xx1	
USB, silver/black (Windows 8)		701429-xx1	
Wireless (standard/Windows 8)		674314-xx1/701426-xx1	
Washable (standard/Windows 8)		613125-xx1/700510-xx1	
Smart card (standard/Windows 8)		631411-xx1/701427-xx1	
USB, hub		631913-xx1	
Arabic	-17x	LA Spanish	-16x
Belgian	-18x	Norwegian	-09x
Brazilian Portuguese	-20x	People's Republic of China	-AAx
Bulgaria	-26x	Portuguese	-13x
Czech	-22x	Romanian	-27x
Danish	-08x	Russian	-25x
Finnish	-35x	Saudi Arabia	-DEx
French	-05x	Slovakian	-23x
French Canadian	-12x	South Korea	-KDx
German	-04x	Spanish	-07x
Greek	-15x	Swedish	-10x
Hebrew	-BBx	Swiss	-11x
Hungarian	-21x	Taiwanese	-ABx
International	-37x	Thai	-28x
International English	-L3x	Turkish	-14x
Italian	-06x	U.S.	-00x
Japanese	-29x	U.K.	-03x

#### Mass Storage Devices (not illustrated)

16X SATA DVD-ROM drive	581599-001
16X SATA DVD±RW drive	660408-001
Blu-ray BD-RW SuperMulti DL Drive	656792-001
1 TB, 7200 rpm SATA hard drive	636930-001
500 GB, 7200 rpm SATA hard drive	636929-001
250 GB, 7200 rpm SATA hard drive	636927-001
256 GB Solid State Drive (SSD), self-encrypting (SED), SATA 6.0*	680020-001
180 GB Solid State Drive (SSD), SATA 6.0*	696622-001
160 GB Solid State Drive (SSD), SATA 3.0*	646809-001
128 GB Solid State Drive (SSD), SATA 2.0*	665961-001
120 GB Solid State Drive (SSD), SATA 2.0*	661841-001
20 GB Solid State Drive (SSD), SATA*	683305-001

\*2.5-inch solid-state drives require an adapter for installation.



Standard and Optional Boards

System boards (includes replacement thermal material)		
1	System board for use in models without Windows 8	657094-001
*	System board for use in models with Windows 8 Standard	657094-501
*	System board for use in models with Windows 8 Professional	657094-601
Memory modules (PC3-12800, CL11)		
*	8-GB	689375-001
*	4-GB	671613-001
*	2-GB	671612-001
Other boards		
*	nVidia Quadro NVS310 PCIe x16 graphics card, 512 MB	680653-001
*	nVidia Quadro NVS300 PCIe x16 graphics card, 512 MB	632486-001
*	AMD Radeon HD7450 PCIe x16 graphics card, 1 GB	682411-001
*	AMD Radeon HD6350 PCIe x16 graphics card, 512 MB	637995-001
*	AMD FirePro 2270 PCIe x16 graphics card, 512 MB	637213-001
*	Intel PRO/1000CT2 NIC, includes bracket	635523-001
*	HP FireWire / IEEE 1394a PCIe x1 Card	637591-001
*	HP WLAN 802.11 g/n 1x2 PCIe NIC	538048-001
Intel Core i7 processors (include thermal material)		
*	3770, 3.4 GHz, 8-MB L3 cache	688164-001
Intel Core i5 processors (include thermal material)		
*	3570, 3.4 GHz, 6-MB L3 cache	688162-001
*	3470, 3.2 GHz, 6-MB L3 cache	687943-001
Intel Core i3 processors (include thermal material)		
*	2130, 3.4 GHz, 3-MB L3 cache	665120-001
*	2120, 3.3 GHz, 3-MB L3 cache	638629-001
Intel Pentium processors (include thermal material)		
*	G870, 3.1 GHz, 3-MB L3 cache	691936-001
*	G860, 3.0 GHz, 3-MB L3 cache	665123-001
*	G640, 2.8 GHz, 3-MB L3 cache	691935-001

\* Not shown

Miscellaneous Parts

1	Heat sink	645326-001
2	Front fan assembly	585884-001
3	Hood sensor	638816-001
4	Speaker, 40mm x 70mm	645330-001
5	Solenoid lock	641498-001
6	Printer port, PCI card	638817-001
7	Clamp lock, includes universal cable (plate not included)	508987-001
*	Rear chassis fan	638817-001
*	Fan duct assembly	646824-001
*	Serial port, PCI card	638815-001
*	2.5-in drive adapter	586721-001
*	Hard drive conversion bracket	397117-001
*	Antenna, WLAN	583345-001
*	Grommet, hard drive isolation, blue	594220-001
*	Card reader, 22-in-1	636166-001
*	USB powered speakers	636917-001
*	Mouse, PS2, optical, jack black	537748-001
*	Mouse, USB, HP Elite	674318-001
*	Mouse, washable	619580-001
*	Mouse, wireless, HP Elite	674317-001
*	Mouse, USB, optical, jack black	537749-001
*	eSATA port assembly, PCI card	645558-001
*	HP Business Digital Headset	642738-001
*	External USB Webcam	609252-001
*	Foot kit	370708-001

\*Not shown

Common POST Error Messages

Screen Message	Probable Cause	Recommended Action
101-Option ROM Error	1. System ROM checksum error.  2. Expansion board option ROM checksum	1. Verify ROM, reflash if required 2. Remove suspected card, reboot 3. Clear CMOS memory, reboot 4. Replace system board
103-System Board Failure	DMA, timers	1. Clear CMOS memory. 2. Remove expansion boards. 3. Replace system board.
164-Memory Size Error and 201-Memory Error	Incorrect memory configuration	1. Run Setup (F10). 2. Check DIMMs for proper seating, type, and HP compatibility. 3. Remove DIMMs singularly and reboot to isolate faulty DIMM. 4. Replace system board.
214-DIMM Configuration Warning	Populated DIMM configuration is not optimized	Rearrange the DIMMs so that each channel has the same amount of memory.
301-, 304-Keyboard error	Keyboard failure.	Check keyboard connection or keys. Check connector for bent or missing pins. Replace keyboard. If 304, possible system board problem.
501-Display Adapter Failure	Graphics display controller.	1. Reseat graphics card. 2. Clear CMOS. 3. Check monitor connection. 4. Replace graphics card.
1720-SMART Hard Drive Detects Imminent Failure	Hard drive is about to fail.	1. Determine if hard drive is giving correct error message. Enter Computer Setup and run the Drive Protection System test under <b>Storage &gt; DPS Self-test</b> . 2. Apply hard drive firmware patch if applicable. 3. Back up contents and replace hard drive.

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

System Setup and Boot

Access the Setup Utility during computer boot by pressing the **F10** key. If you do not press **F10** at the appropriate time, you must restart the computer and again press **F10** when the monitor light turns green. NOTE: Not all settings are available for all models.

Computer Setup Menu	
Heading	Option/Description
File	System Information - Lists the following main system specifications: <ul style="list-style-type: none"><li>Product name</li><li>SKU number (some models)</li><li>Processor type/speed/stepping</li><li>Cache size (L1/L2/L3)</li><li>Installed memory size/speed/ch</li><li>Integrated MAC Address</li><li>System BIOS</li><li>Chassis serial number</li><li>Asset tracking number</li><li>ME firmware version</li><li>ME management mode</li></ul>
	About - Displays copyright notice.
	Set Time and Date - Allows you to set system time and date.
	Replicated Setup - Allows you to save or restore system configuration to/from a USB flash drive.
	Default Setup - Allows you to save current settings as default or restore factory settings as default.
	Apply Defaults and Exit - Applies the selected default settings and clears any established passwords.
	Ignore Changes and Exit - Exits Computer setup without saving changes.
	Save Changes and Exit - Saves changes to system configuration or default settings and exits Computer Setup.
Storage	Device Configuration - Lists all installed BIOS-controlled storage devices. The following options are available: <ul style="list-style-type: none"><li>CD-ROM</li><li>Hard Disk</li><li>Default Values</li><li>Translation Mode</li><li>SSD Life Used</li><li>SMART (ATA disks only)</li><li>Diskette</li><li>SATA Defaults</li></ul>
	Storage Options - Allows you to set: <ul style="list-style-type: none"><li>eSATA Port - Set SATA port as eSATA port for use with external drive.</li><li>SATA Emulation - Choose how the SATA controller and devices are accessed by the OS. SATA Emulation choices are AHCI, RAID, or IDE.</li><li>Removable Media Boot - Enables/disables ability to boot the system from removable media.</li><li>Max eSATA Speed - Allows you to choose 1.5 Gbps or 3.0 Gbps as the maximum eSATA speed. By default, the speed is limited to 1.5 Gbps for maximum reliability.</li></ul>
	DPS Self-Test - Execute self-tests on ATA hard drives capable of performing the Drive Protection System (DPS) self-tests.
	Boot Order - Specify boot order for UEFI and legacy boot sources. Also specify hard drive boot order. <ul style="list-style-type: none"><li>Shortcut to Temporarily Override Boot Order</li></ul>
Security	Setup Password - Set and enable the setup (Admin) password.
	Power-On Password - Set and enable power-on password.
	Password Options - Allows to you enable/disable: <ul style="list-style-type: none"><li>Lock Legacy Resources</li><li>Setup Browse Mode</li><li>Password prompt on F9 &amp; F12</li><li>Network Server Mode</li></ul>
	Smart Cover - Allows you to lock/unlock the smart cover and set the cover removal sensor to disable/notify user/setup password.
	Device Security - Set Device Available/Device Hidden for: embedded security device, system audio, network controller, USB controller, serial/parallel ports, and SATA ports.
	USB Security - Set Device Available/Device Hidden for front USB ports, rear USB ports, internal USB ports, accessory USB ports.
	Slot Security - Disable the PCI, PCIe, and Mini Card slots.
	Network Boot - Enables/disables boot from OS (NIC models only).
	System IDs - Allows you to update asset tag, ownership tag, UUID, key-board locale setting.
	Master Boot Record Security - enables/disables MBR.
	System Security - Allows you to set: <ul style="list-style-type: none"><li>Data Execution Prevention (enable/disable)</li><li>SVM CPU Virtualization (enable/disable).</li><li>Virtualization Technology (VTx) (enable/disable)</li><li>Virtualization Technology/Directed IO (VTd) (enable/disable)</li><li>Trusted Execution Technology (enable/disable)</li><li>Embedded Security Device (enable/disable)</li><li>Reset to Factory Settings (Do not reset/Reset)</li><li>Measure boot variables/devices to PCR1 (enable/disable)</li><li>OS management of Embedded Security Device (enable/disable)</li><li>Reset of Embedded Security Device through OS (enable/disable)</li><li>No PPI provisioning (Windows 8 only; enable/disable)</li><li>Allow PPI policy to be changed by OS (enable/disable)</li></ul>
	DriveLock Security - Allows you to assign or modify a master or user password for hard drives.
	Secure Boot Configuration (Windows 8 only) <ul style="list-style-type: none"><li>Legacy Support (enable/disable)</li><li>Secure Boot (enable/disable).</li><li>Key Management (enable/disable)</li><li>Fast Boot (enable/disable)</li></ul>
Power	OS Power Management - Allows you to enable/disable Runtime Power Management, Idle Power Savings, Unique Sleep State Blink Rates.
	Hardware Power Management - Enable/disable SATA power management, S5 maximum power savings., PCI slots, network controller, USB 3.0 controller
	Thermal - Control minimum fan speed.
Advanced	Power-On Options - Allows you to set: <ul style="list-style-type: none"><li>POST mode (QuickBoot, Clear Memory, FullBoot, or FullBoot Every x Days)</li><li>POST messages (enable/disable)</li><li>Press the ESC key for Startup Menu (enable/disable)</li><li>Option ROM Prompt (enable/disable)</li><li>After Power Loss (off/on/previous state)</li><li>POST Delay (none, 5, 10, 15, 20, or 60 seconds)</li><li>Remote Wakeup Boot Source (remote server/local hard drive)</li><li>Factory Recovery Boot Support (enable/disable)</li><li>Bypass F1 Prompt on Configuration Changes (enable/disable)</li></ul>
	BIOS Power-On - Set the computer to turn on at a preset time.

Advanced <i>(continued)</i>	Bus Options - Allows you to enable/disable PCI SERR# Generation and PCI VGA palette snooping.
	Onboard Devices - Allows you to set resources for or disable on-board system devices.
	Device Options - Allows you to set: <ul style="list-style-type: none"><li>Printer mode (Bi-Directional, EPP + ECP, Output Only)</li><li>Num Lock State at Power-on (off/on)</li><li>Integrated Video (enable/disable)</li><li>Integrated Graphics (Auto/Disable/Force)</li><li>Internal Speaker (enable/disable)</li><li>NIC PXE Option ROM Download (enable/disable)</li><li>SATA RAID Option ROM Download (enable/disable)</li><li>Multi-Processor (enable/disable)</li><li>Hyper-threading (enable/disable)</li><li>Turbo Mode (enable/disable)</li></ul>
	VGA Configuration - Allows you to specify which VGA controller is the “boot”/primary. Displayed only if add-in video card installed.
	AMT Configuration - Allows you to set: <ul style="list-style-type: none"><li>AMT (enable/disable)</li><li>Unconfigure AMT/ME (enable/disable)</li><li>Hide Unconfigure ME Confirmation Prompt (enable/disable)</li><li>Watchdog Timer (enable/disable)</li></ul>

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

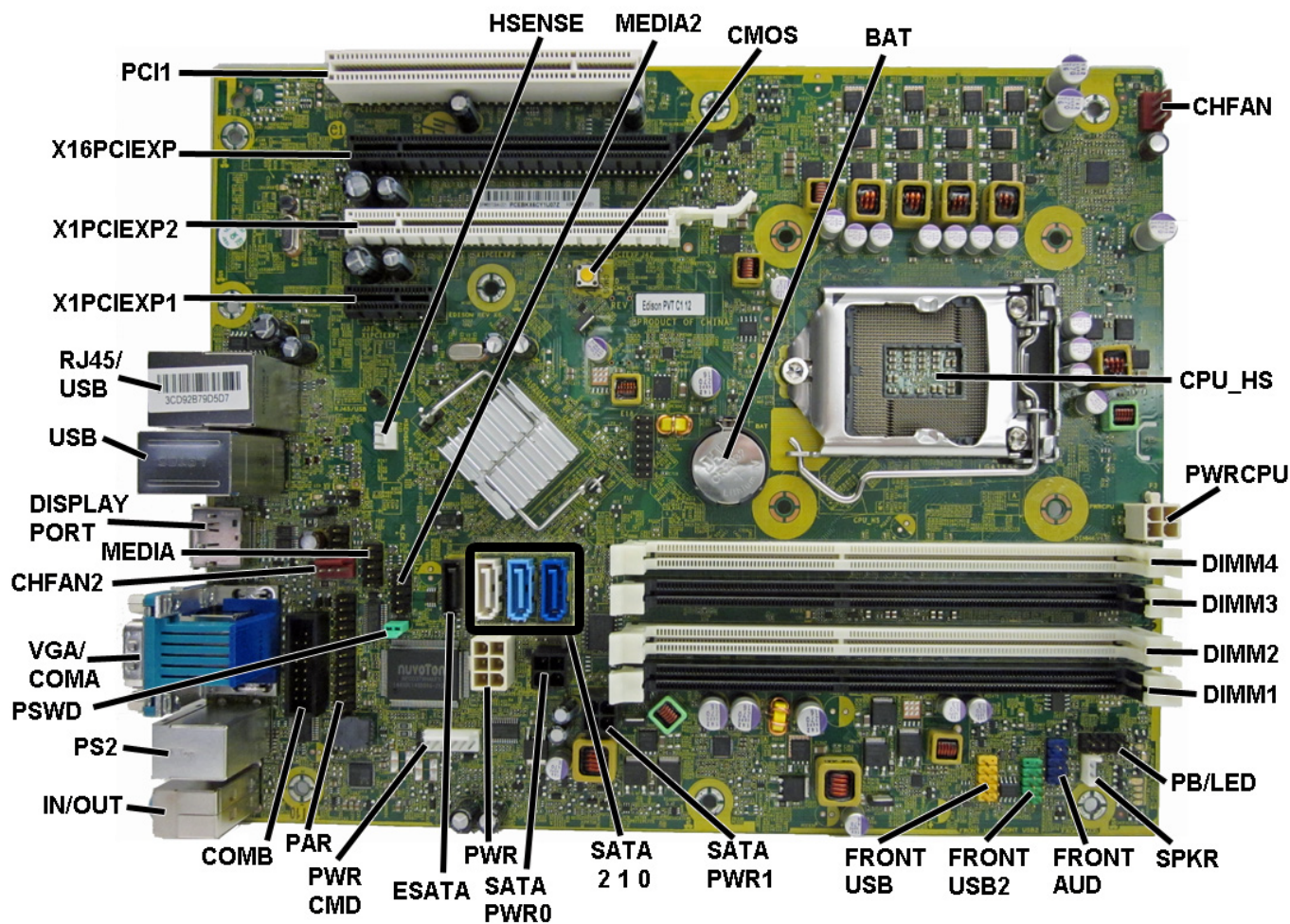
- Turn on or restart the computer.
- To delete the Setup password, go to step 2.  
To delete the Power-On password, go to step 3.
- To change the Setup password, as soon as the computer turns on:
  - Press the **Esc** key while “Press the ESC key for Startup Menu” message is displayed.
  - Press the **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.



System Board



System Board Connectors and Jumpers (component location may vary)

HSENSE	Hood sensor connector	SATA PWR0	Optical drive power connector
MEDIA2	Media card reader connector	PWR	Main power connector
CMOS	CMOS header	ESATA	eSATA connector or 2nd ODD
BAT	RTC battery socket	PWR CMD	Power connector
CHFAN	Fan connector	PAR	Parallel port connector
CPU/HS	Processor socket	COMB	Serial port
PWRCPU	CPU power connector	IN//OUT	Audio connectors
DIMM4	Memory socket - Channel A	PS2	PS/2 keyboard/mouse connectors
DIMM3	Memory socket - Channel A	PSWD	Password header
DIMM2	Memory socket - Channel B	VGA/COMA	Monitor connector/serial port
DIMM1	Memory socket - Channel B	CHFAN2	System fan connector
PB/LED	Power switch connector	MEDIA	Media card reader connector
SPKR	Speaker connector	DISPLAYPORT	DisplayPort connector
FRNT AUD	Front panel connector	USB	USB connectors
FRONT_USB2	2nd USB connector	RJ45/USB	Network/USB connectors
FRONT_USB	1st USB connector	X1PCIEXP1	PCIe X1 slot
SATA PWR1	Hard drive power connector	X1PCIEXP2	PCIe X1 slot
SATA2	1st optical drive (SATA 2.0)	X16PCIEXP	PCIe X16 slot
SATA1	2nd hard drive, or 2nd ODD if ESATA Adapter Cable exists (SATA 3.0)	PCI1	PCI slot
SATA0	1st hard drive (SATA3.0)		