

# Illustrated Parts & Service Map

## HP Compaq 6300 Pro Business PC Microtower



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### Key Specifications

<b>Processor Type</b>	Intel® Core i7, i5, i3, Pentium®, Celeron®
<b>RAM Type</b>	Non-ECC DDR3 PC3-12800 (1600 MHz)
<b>Maximum RAM</b>	32 GB
<b>Expansion Slots (Low profile)</b>	<ul style="list-style-type: none"> <li>• (1) PCIe-x16</li> <li>• (2) PCIe-x1</li> <li>• (1) PCI</li> </ul>
<b>Chipset</b>	Intel Q75 Express
<b>Graphics Adapter</b>	Integrated Intel HD graphics
<b>Bays</b>	<ul style="list-style-type: none"> <li>• (1) card reader or secondary hard drive</li> <li>• (2) external 5.25-inch</li> <li>• (2) internal 3.5-inch</li> </ul>
<b>I/O Interfaces</b>	Front: (4) USB 2.0 ports, headphone jack, microphone jack Rear: (4) USB 3.0 ports, (2) USB 2.0 ports, DisplayPort 1.1, VGA video, serial port, PS/2 mouse and keyboard, serial, RJ-45 network interface, 3.5mm audio in/out jacks
<b>Preinstalled Operating Systems</b>	<ul style="list-style-type: none"> <li>• Windows® 8</li> <li>• Windows 7</li> <li>• FreeLnx</li> </ul>

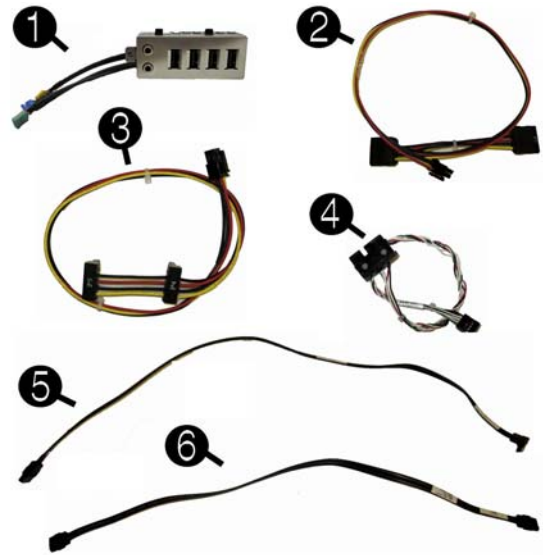
### Spare Parts



### 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, standard	613765-001
4	Chassis	not spared
*	5.25-inch bezel blank, optical drive	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	646830-001
6	SATA cable, 17.7 inch, 2 straight ends	639959-001
*	DMS-59 to dual VGA cable	463023-001
*	Adapter, DisplayPort to VGA	632484-001
*	Adapter, DisplayPort to DVI	662723-001
*	Adapter, DVI to VGA	657401-001
*	Adapter, DisplayPort to HDMI	617450-001
*	DisplayPort cable	487562-001
*	SATA power extension cable	633756-001

\*Not shown

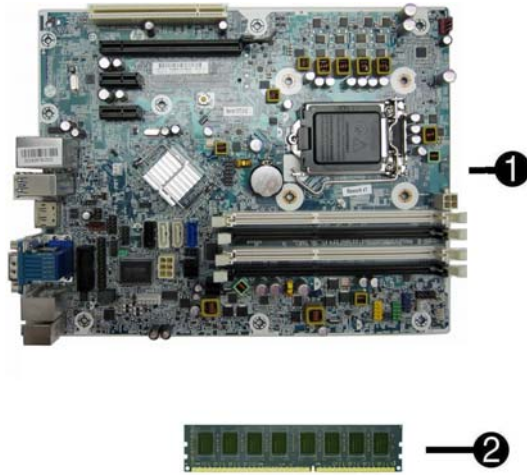
### Keyboards (not illustrated)

<b>PS/2 (standard/Windows 8)</b>	<b>537745-xx1/701423-xx1</b>		
<b>USB (standard/Windows 8)</b>	<b>537746-xx1/701424-xx1</b>		
<b>USB, silver/black Windows 8)</b>	<b>701429-xx1</b>		
<b>Wireless (standard/Windows 8)</b>	<b>674314-xx1/701426-xx1</b>		
<b>Washable (standard/Windows 8)</b>	<b>613125-xx1/700510-xx1</b>		
<b>Smart card (standard/Windows 8)</b>	<b>631411-xx1/701427-xx1</b>		
Arabic	-17x	Japanese	-29x
F Arabic	-DE1	LA Spanish	-16x
BHCSY	-B41	Norwegian	-09x
Belgian	-18x	People's Republic of China	-AAx
Brazilian Portuguese	-20x	Portuguese	-13x
Bulgaria	-26x	Romanian	-27x
Czech	-22x	Russian	-25x
Danish	-08x	Saudi Arabia	-DEx
Finnish	-35x	Slovakian	-23x
French	-05x	South Korea	-KDx
French Canadian	-12x	Spanish	-07x
German	-04x	Swedish	-10x
Greek	-15x	Swiss	-11x
Hebrew	-BBx	Taiwanese	-ABx
Hungarian	-21x	Thai	-28x
India	-D61	Turkish	-14x
International	-37x	U.S.	-00x
International English	-L3x	U.K.	-03x
Italian	-06x		

### Mass Storage Devices (not illustrated)

16X SATA DVD-ROM drive	581599-001
16X SATA DVD±RW drive	660408-001
Blu-ray BD-RW DL drive	656792-001
Blu-ray BD-Writer XL drive	682219-001
1 TB, 7200 rpm hard drive	636930-001
500 GB, 10000 rpm hard drive	683923-001
500 GB, 7200 rpm, 2.5-inch, self-encrypting (SED), hard drive	696442-001
500 GB, 7200 rpm hard drive	636929-001
320 GB, 7200 rpm, 2.5 inch, self-encrypting (SED), hard drive	634824-001
250 GB, 10000 rpm hard drive	683922-001
250 GB, 7200 rpm hard drive, SATA	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

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



### Standard and Optional Boards

System board (includes replacement thermal material)		
1	System board for use in models without Windows 8	657239-001
*	System board for use in models with Windows 8 Standard	657239-501
*	System board for use in models with Windows 8 Professional	657239-601
*	System board for use in models with NetClone	710095-001
Memory modules (PC3-12800, CL11)		
*	8-GB	689375-001
*	4-GB	671613-001
2	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 (not for use with Windows 8)	632486-001
*	nVidia Quadro NVS300 PCIe x16 graphics card, 512 MB (for use with Windows 8)	700578-001
*	nVidia GeForce GT630 PCIe x16 graphics card, 2 GB (not for use with Windows 8)	684591-001
*	nVidia GeForce GT630 PCIe x16 graphics card, 2 GB (for use with Windows 8)	702084-001
*	nVidia GF505 PCIe x16 graphics card, 512 MB (for use only in China)	702648-001
*	AMD Radeon HD7450 PCIe x16 graphics card, 1 GB (not for use with Windows 8)	682411-001
*	AMD Radeon HD7450 PCIe x16 graphics card, 1 GB (for Windows 8; use only in China)	702646-001
*	AMD Radeon HD7450 PCIe x16 graphics card, 1 GB (for Windows 8; not fur China)	702647-001
*	AMD Radeon HD6350 PCIe x16 graphics card, 512 MB (not for use with Windows 8)	637995-001
*	AMD Radeon HD6350 PCIe x16 graphics card, 512 MB (for use with Windows 8)	697246-001
*	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 (turbo up to 3.9 GHz), 8-MB L3 cache	688164-001
*	2600, 3.4 GHz (turbo up to 3.8 GHz), 8-MB L3 cache	638632-001
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
*	2400, 3.1 GHz, 6-MB L3 cache	638630-001
Intel Core i3 processors (include thermal material)		
*	3240, 3.4 GHz, 3-MB L3 cache	688951-001
*	3225, 3.3 GHz, 3-MB L3 cache	689578-001
*	3220, 3.3 GHz, 3-MB L3 cache	688950-001
*	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)		
*	G2120, 3.1 GHz, 3-MB L3 cache	703282-001
*	G870, 3.1 GHz, 3-MB L3 cache	691936-001
*	G860, 3.0 GHz, 3-MB L3 cache	665123-001
*	G850, 2.9 GHz, 3-MB L3 cache	665973-001
*	G645, 2.9 GHz, 3-MB L3 cache	704228-001
*	G640, 2.8 GHz, 3-MB L3 cache	691935-001
*	G630, 2.7 GHz, 3-MB L3 cache	665122-001
Intel Celeron processors (include thermal material)		
*	G555, 2.7 GHz, 2-MB L3 cache	704227-001
*	G550, 2.6 GHz, 2-MB L3 cache	691934-001
*	G540, 2.5 GHz, 2-MB L3 cache	665119-001
*	G530T, 2.0 GHz, 2-MB L3 cache	665118-001
*	G465, 1.9 GHz, 1.5-MB L3 cache	706883-001
*	G460, 1.8 GHz, 1-MB L3 cache	682410-001

\* Not shown

### Miscellaneous Parts

1	Heat sink	645326-001
2	Chassis fan with guard	585884-001
3	Hood sensor	638816-001
4	Speaker	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	636922-001
*	Fan duct assembly	646824-001
*	Serial port, PCI card	638815-001
*	2.5-in drive adapter	586721-001
*	Hard drive conversion bracket	397117-001
*	Grommet, hard drive isolation, blue	450712-001
*	Card reader, 22-in-1	636166-001
*	USB powered speakers	636917-001
*	Mouse, PS2, optical, jack black (non-ECO)	609250-001
*	Transceiver for use with wireless mouse and keyboard	674319-001
*	Mouse, washable	619580-001
*	Mouse, wireless	674317-001
*	Mouse, USB, optical, jack black (non-ECO)	537749-001
*	Mouse, USB, laser (non-ECO)	570580-001
*	eSATA port assembly, PCI card	645558-001
*	HP Business Digital Headset	642738-001
*	External USB Webcam	609252-001
*	Foot	336445-001
*	Screw Kit - misc screws	330458-001
*	Screw Kit - tamper resistant screws	393956-001

\*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, 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 kybd connection or keys. Check connector for bent or missing pins. Replace kybd. 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 giving correct error message. Enter Computer Setup and run Drive Protection System test under DPS Self-test in F2 Diagnostics. 2. Apply hard drive firmware patch if applicable. 3. Back up contents and replace hard drive.

## 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>SMART (ATA disks only)</li> <li>Diskette</li> </ul>
		Storage Options - Allows you to set: <ul style="list-style-type: none"> <li>SATA Emulation - Choose how the SATA controller and devices are accessed by the OS. SATA Emulation choices are AHCI or IDE.</li> <li>Removable Media Boot - Enables/disables ability to boot the system from removable media.</li> </ul>
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, keyboard 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 (continued)	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>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**.

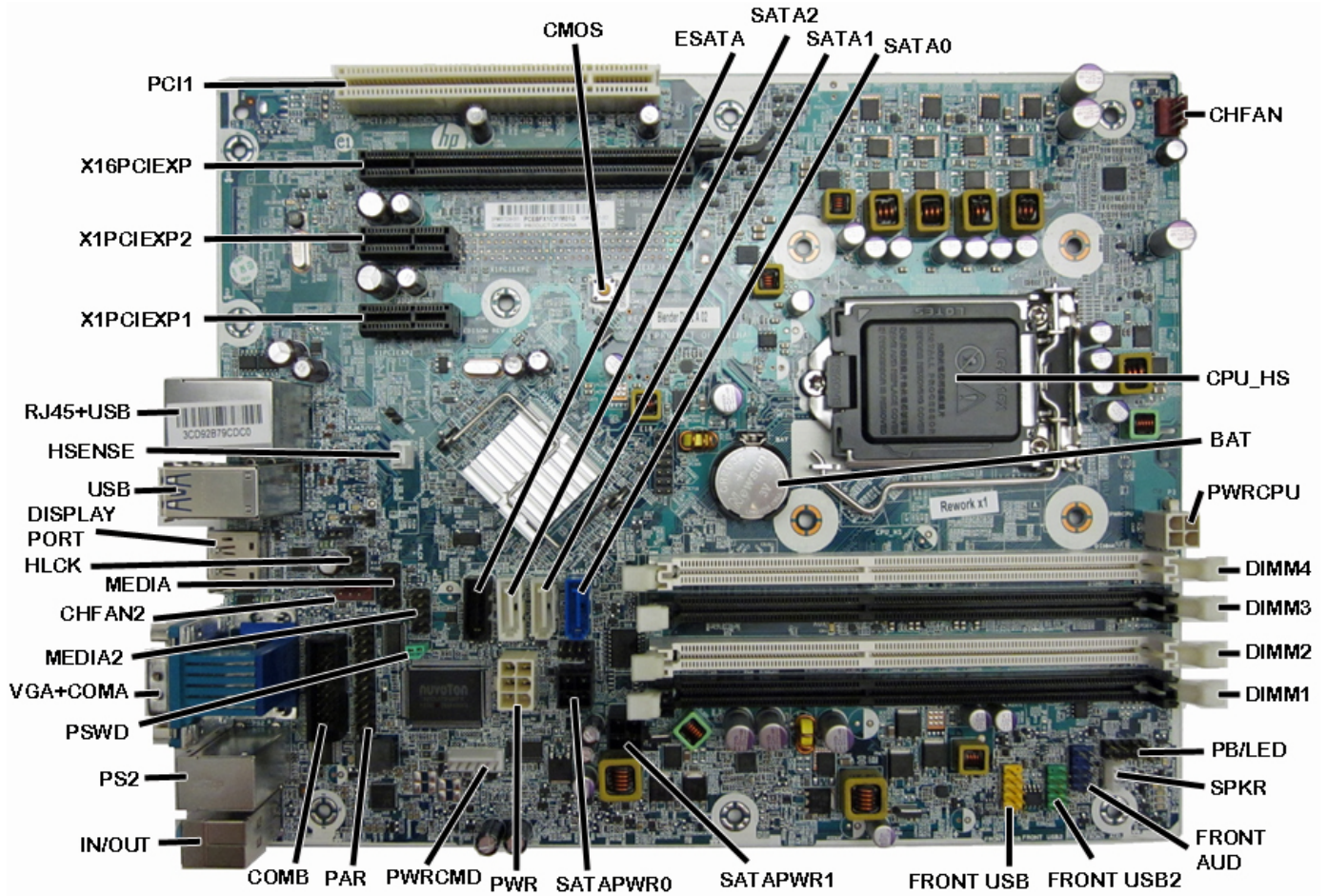
### Clearing CMOS

- 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.

### 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 Board



**System Board Connectors and Jumpers (component location may vary)**

CMOS	CMOS header	PWR	Main power connector
ESATA	eSATA connector or 2nd ODD	PWR CMD	Power connector
SATA2	1st optical drive (SATA 2.0)	PAR	Parallel port connector
SATA1	2nd hard drive, or 2nd ODD if ESATA Adapter Cable exists (SATA 2.0)	COMB	Serial port
SATA0	1st hard drive (SATA3.0)	IN/OUT	Audio in/Audio out
CHFAN	Fan connector	PS2	PS/2 keyboard + mouse connector
CPU/HS	Processor socket	PSWD	Password header
BAT	RTC battery socket	VGA+COMA	Monitor connector+serial port
PWRCPU	CPU power connector	MEDIA2	USB Device (Media card reader)
DIMM1	Memory socket - Channel B	CHFAN2	System fan connector
DIMM2	Memory socket - Channel B	MEDIA	USB Device (Media card reader)
DIMM3	Memory socket - Channel A	HLCK	Hood lock connector
DIMM4	Memory socket - Channel A	DISPLAYPORT	DisplayPort connector
PB/LED	Power switch connector	USB	USB connectors
SPKR	Speaker connector	HSENSE	Hood sensor connector
FRNT AUD	Front panel connector	RJ45+USB	Network+USB connectors
FRONT_USB2	2nd USB connector	X1PCIEXP1	PCIe X1 slot
FRONT_USB	1st USB connector	X1PCIEXP2	PCIe X1 slot
SATA_PWR1	Optical drive power connector	X16PCIEXP	PCIe X16 slot
SATA_PWR0	Hard drive power connector	PC11	PCI slot